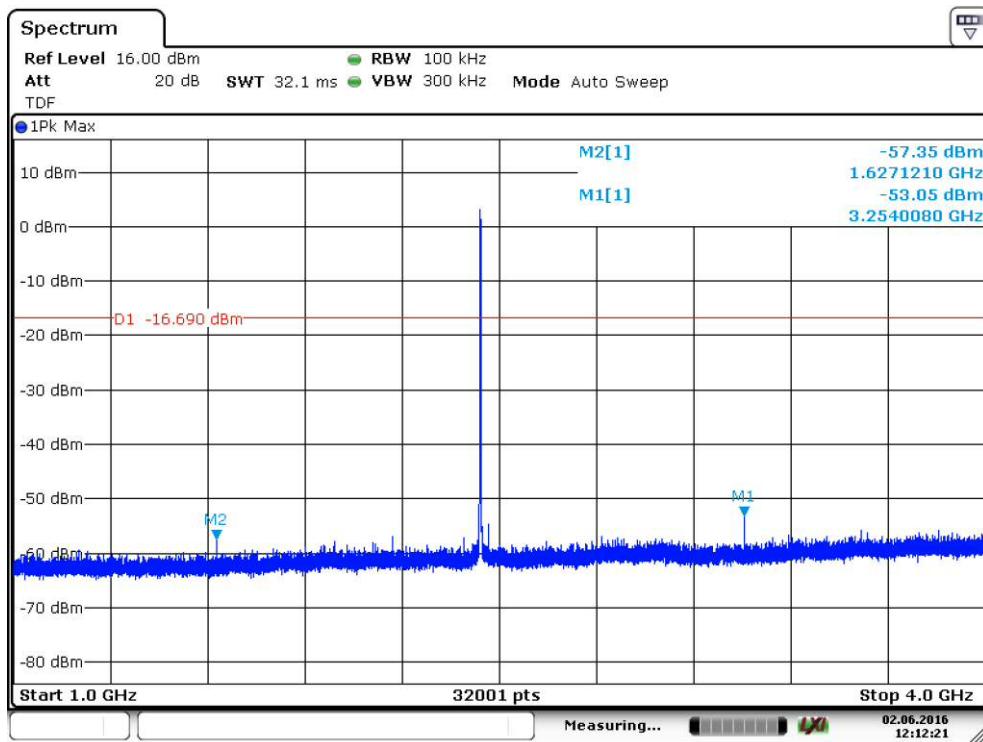
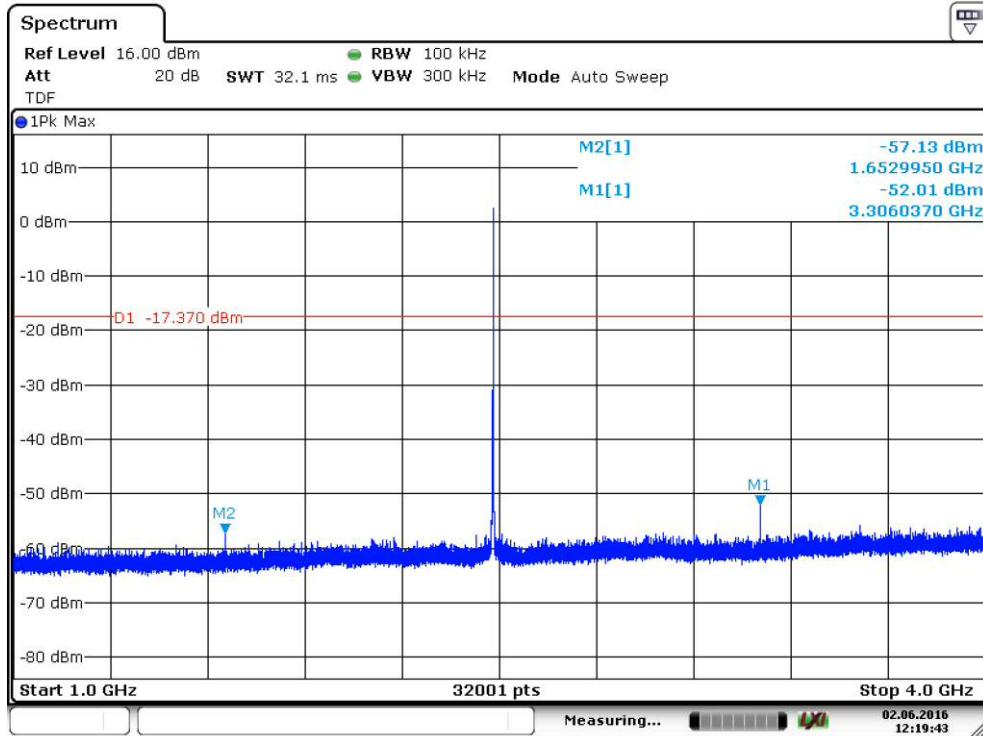


Conducted Spurious Emission 30 MHz to 26.5 GHz and Band Edge



Date: 2.JUN.2016 12:12:21

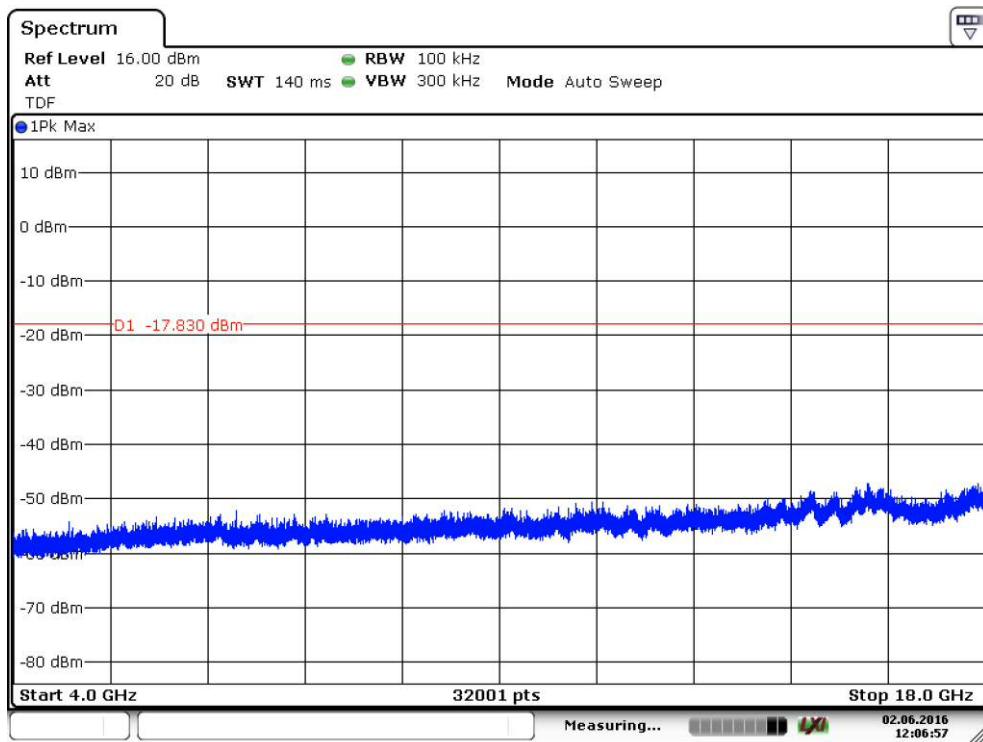
Figure 45. Mid channel conducted emission 1 GHz to 4 GHz (2 Mbps).



Date: 2.JUN.2016 12:19:44

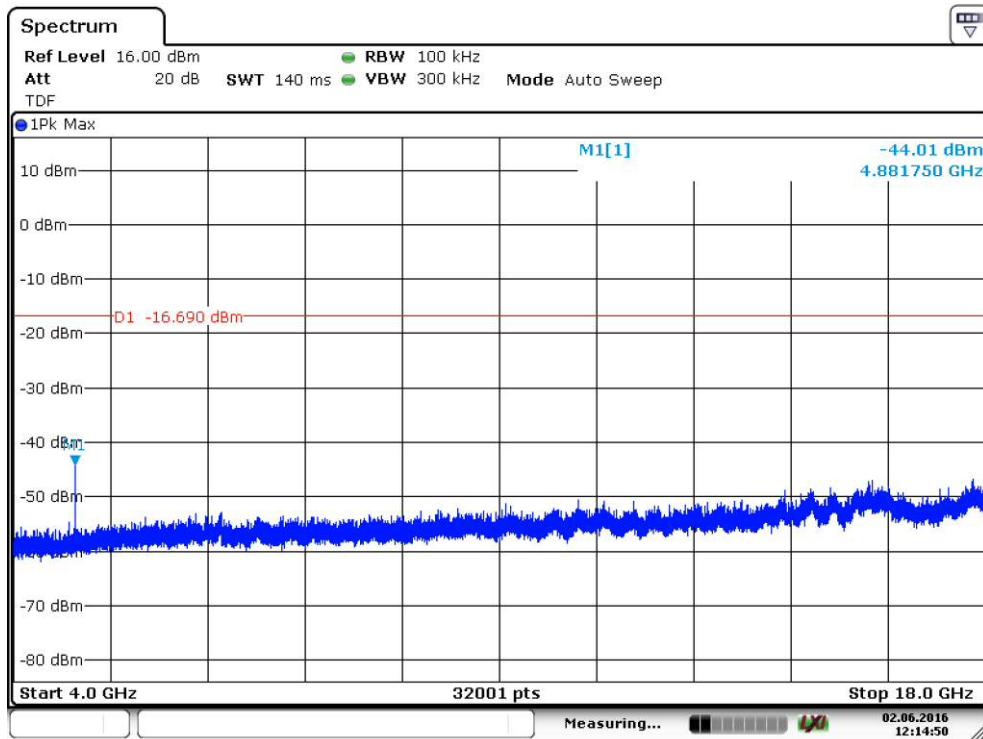
Figure 46. High channel conducted emission 1 GHz to 4 GHz (2 Mbps).

Conducted Spurious Emission 30 MHz to 26.5 GHz and Band Edge



Date: 2.JUN.2016 12:06:57

Figure 47. Low channel conducted emission 4 GHz to 18 GHz (2 Mbps).



Date: 2.JUN.2016 12:14:50

Figure 48. Mid channel conducted emission 4 GHz to 18 GHz (2 Mbps).

Conducted Spurious Emission 30 MHz to 26.5 GHz and Band Edge

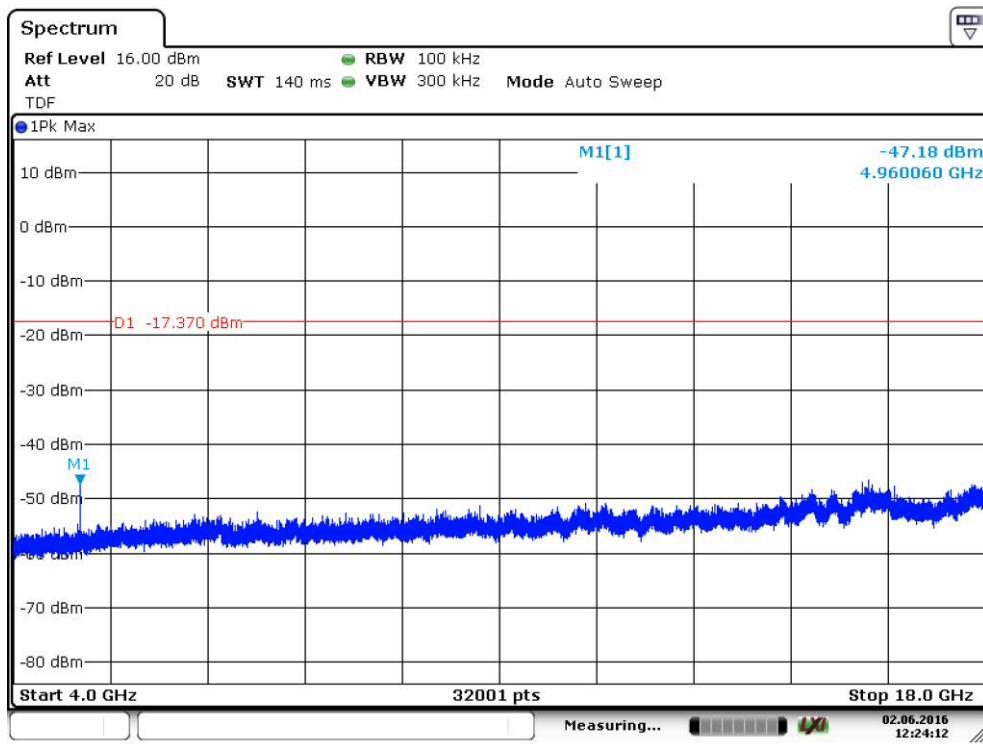


Figure 49. High channel conducted emission 4 GHz to 18 GHz (2 Mbps).

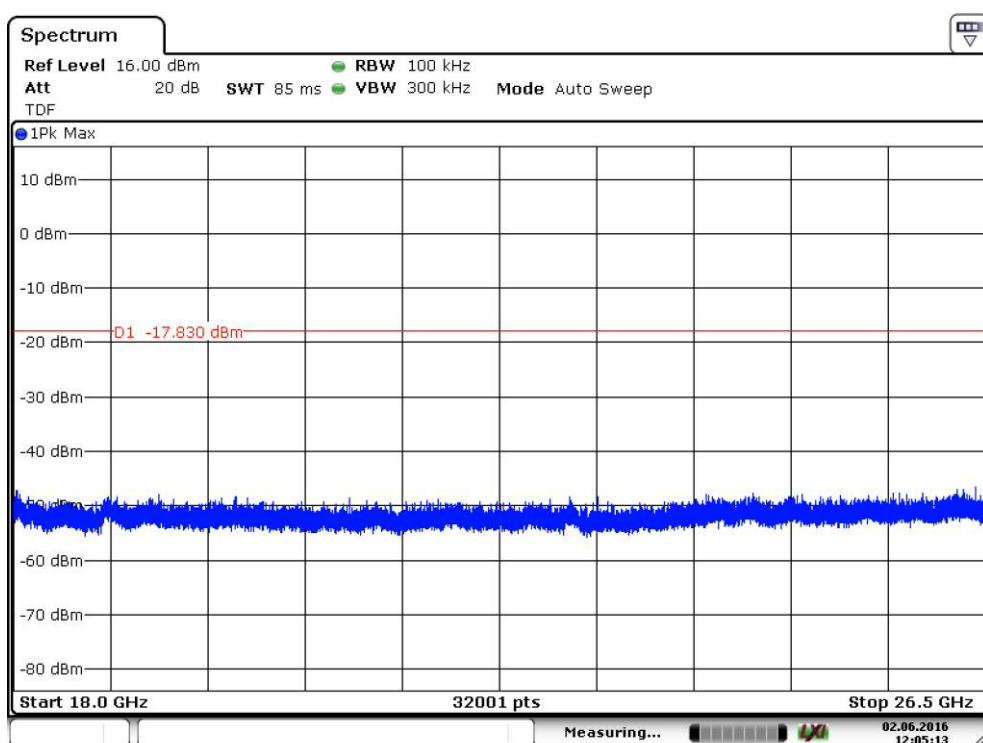


Figure 50. Low channel conducted emission 18 GHz to 26.5 GHz (2 Mbps).

Conducted Spurious Emission 30 MHz to 26.5 GHz and Band Edge

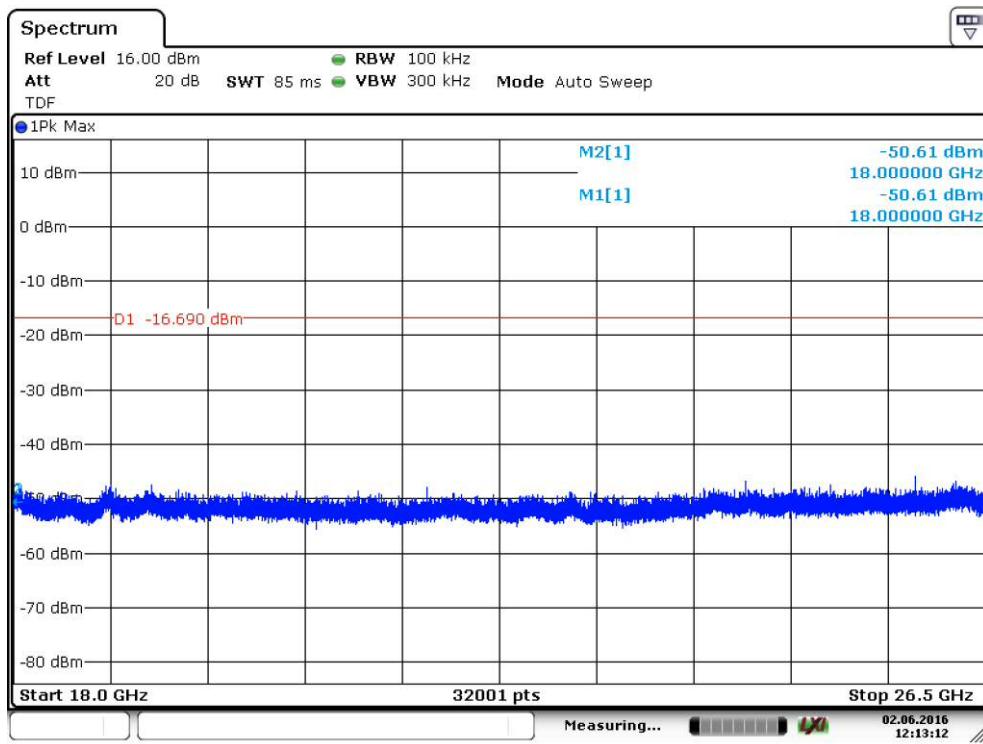


Figure 51. Mid channel conducted emission 18 GHz to 26.5 GHz (2 Mbps).

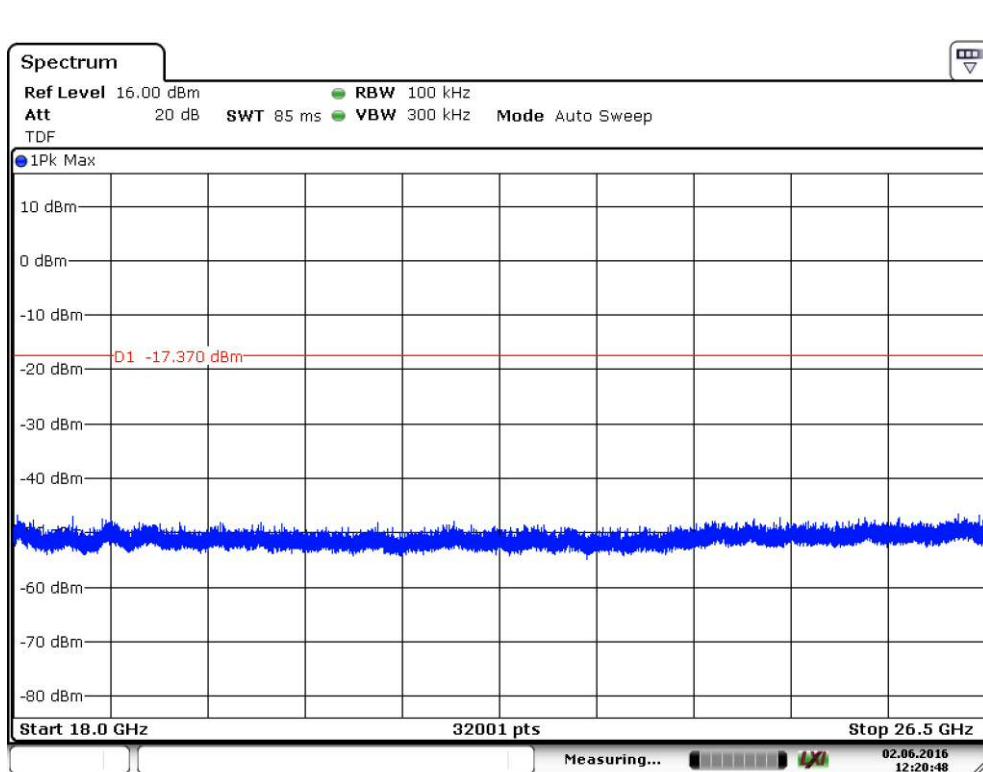
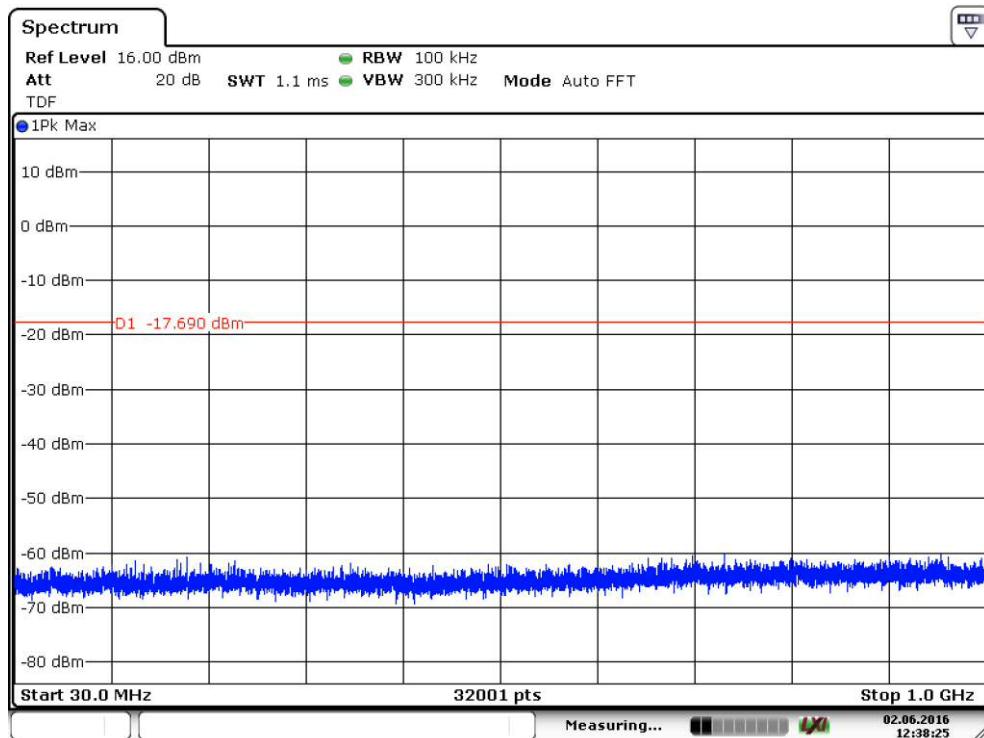


Figure 52. High channel conducted emission 18 GHz to 26.5 GHz (2 Mbps).

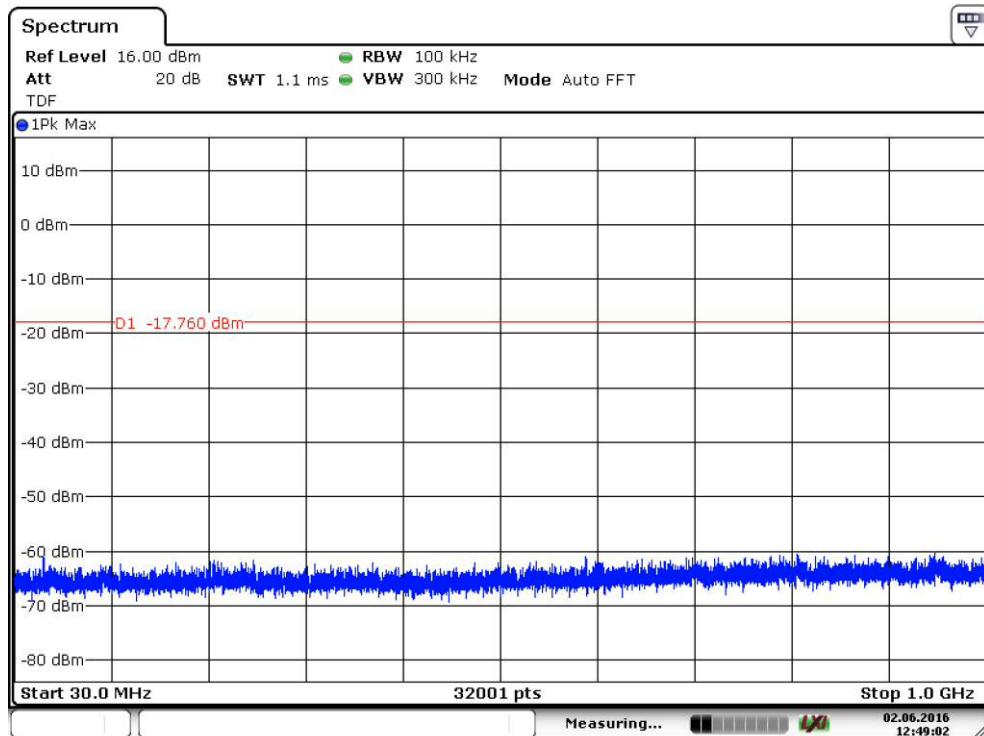
Conducted Spurious Emission 30 MHz to 26.5 GHz and Band Edge

Data rate 3 Mbps



Date: 2.JUN.2016 12:38:26

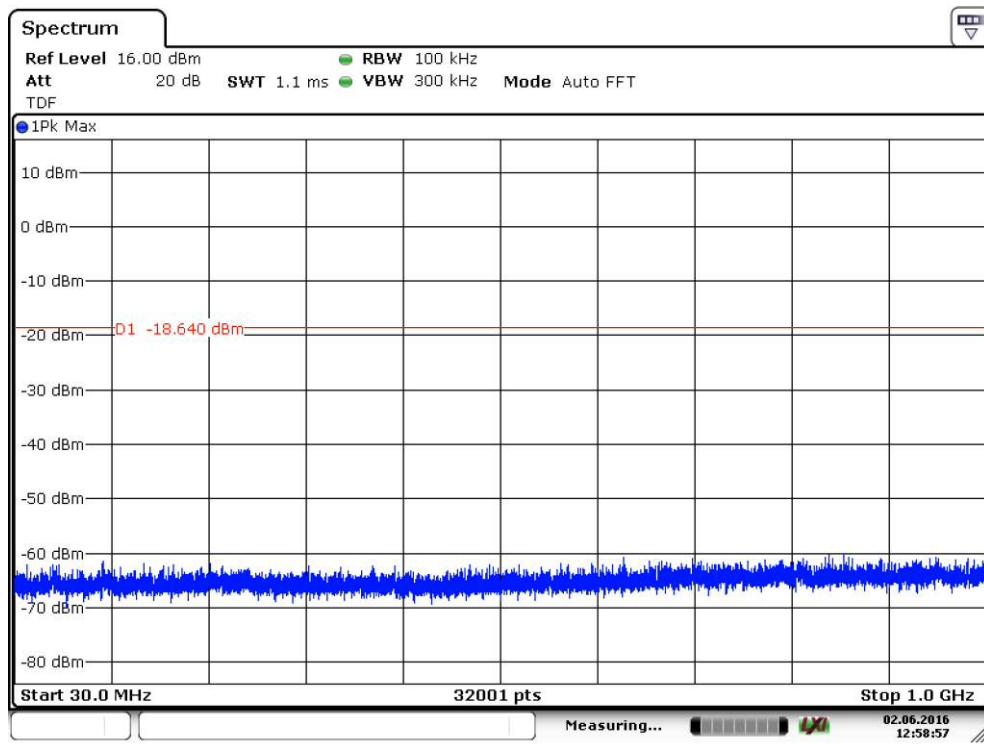
Figure 53. Low channel conducted emission 30 MHz to 1000 MHz (3 Mbps).



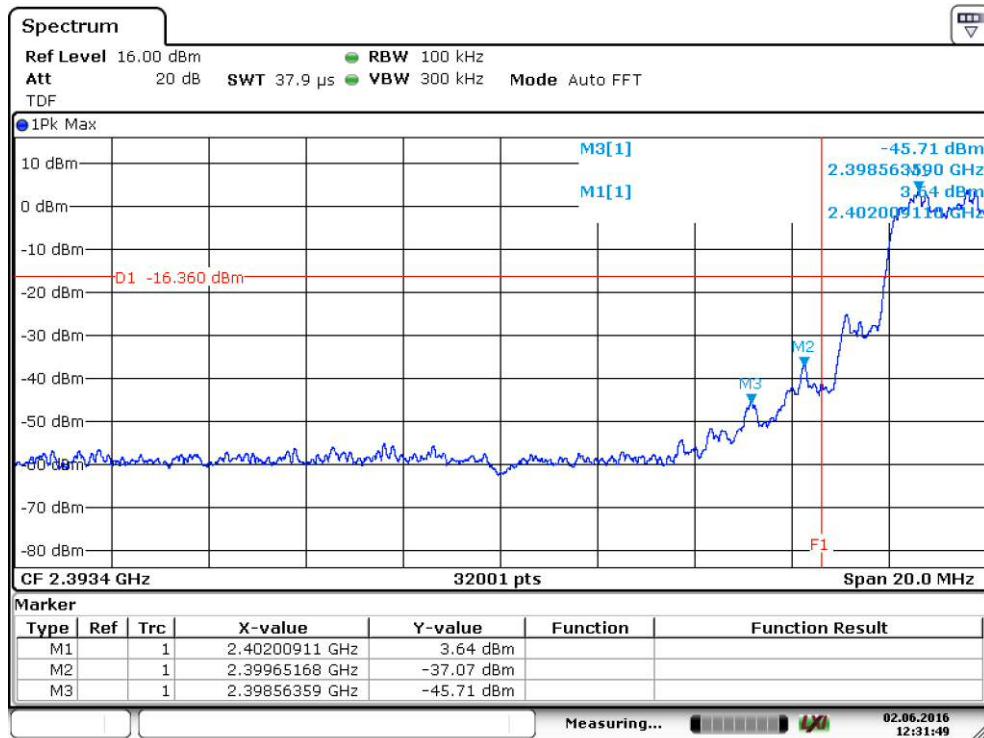
Date: 2.JUN.2016 12:49:02

Figure 54. Mid channel conducted emission 30 MHz to 1000 MHz (3 Mbps).

Conducted Spurious Emission 30 MHz to 26.5 GHz and Band Edge



Date: 2.JUN.2016 12:58:57

Figure 55. High channel conducted emission 30 MHz to 1000 MHz (3 Mbps).**Figure 56.** Low channel conducted emission at low band edge hopping enabled (3 Mbps).

Conducted Spurious Emission 30 MHz to 26.5 GHz and Band Edge

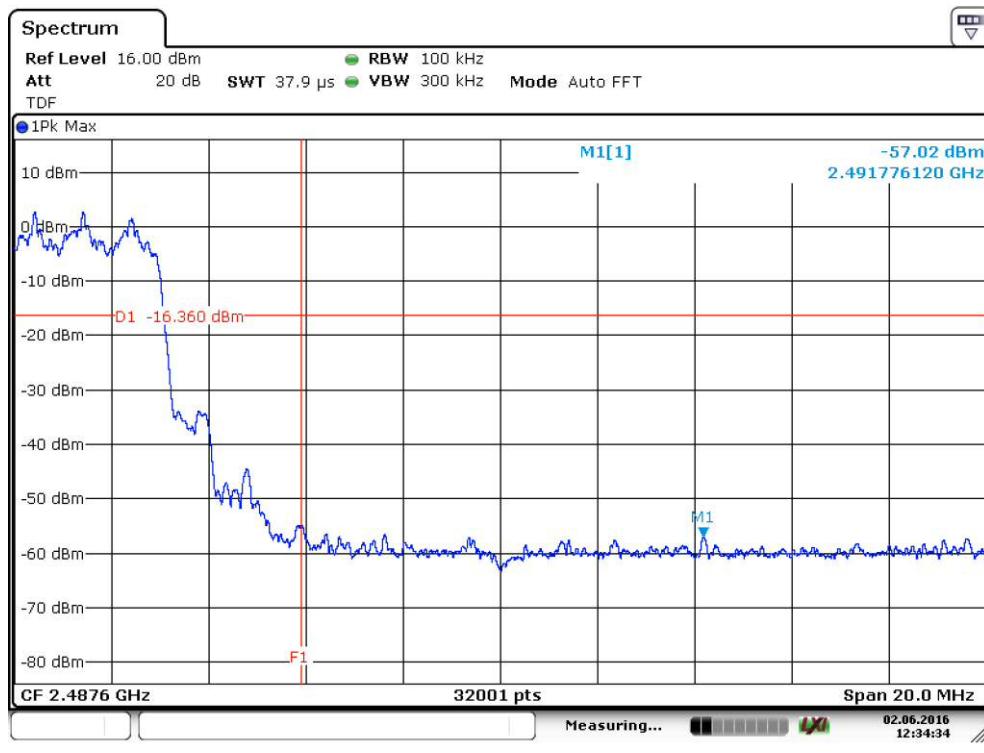


Figure 57. High channel conducted emission at high band edge hopping enabled (3 Mbps).

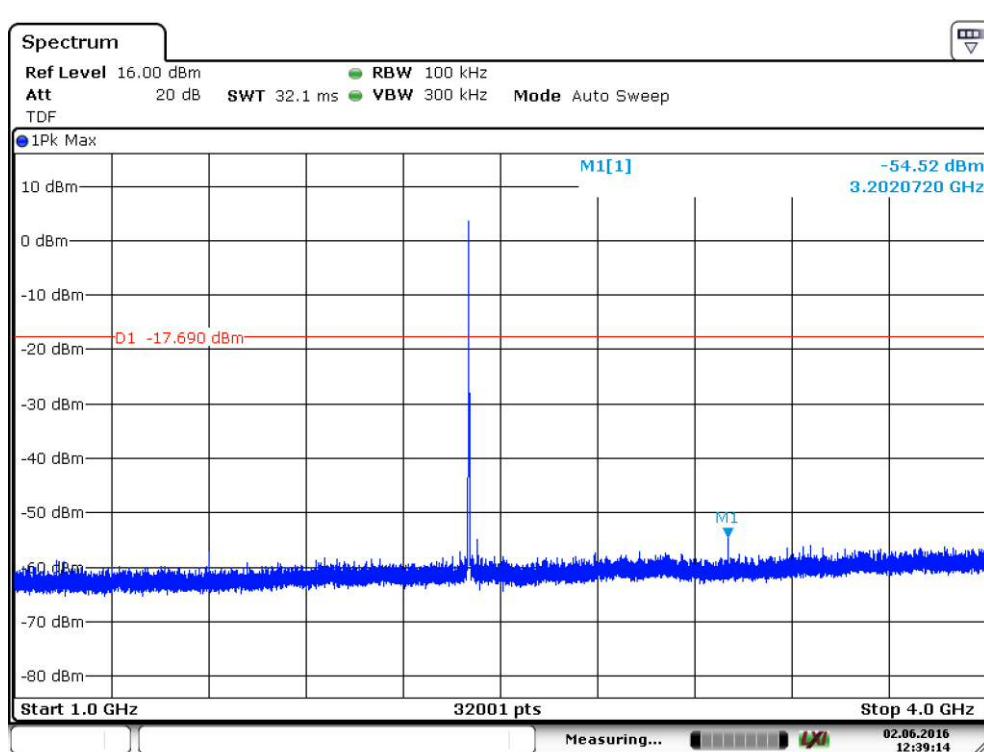
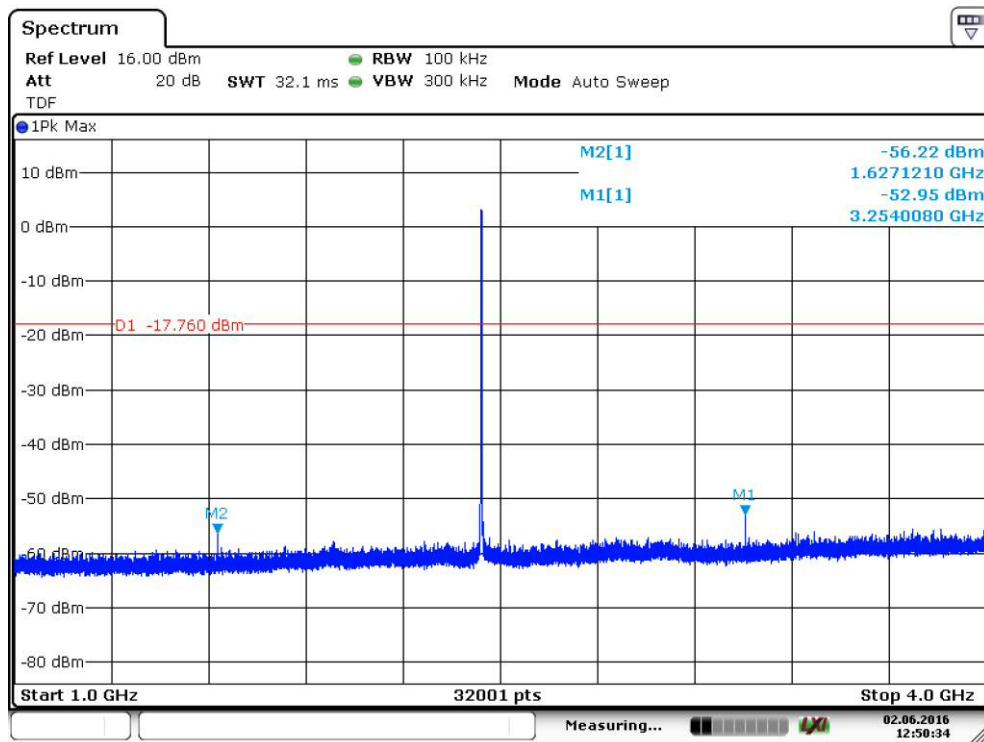


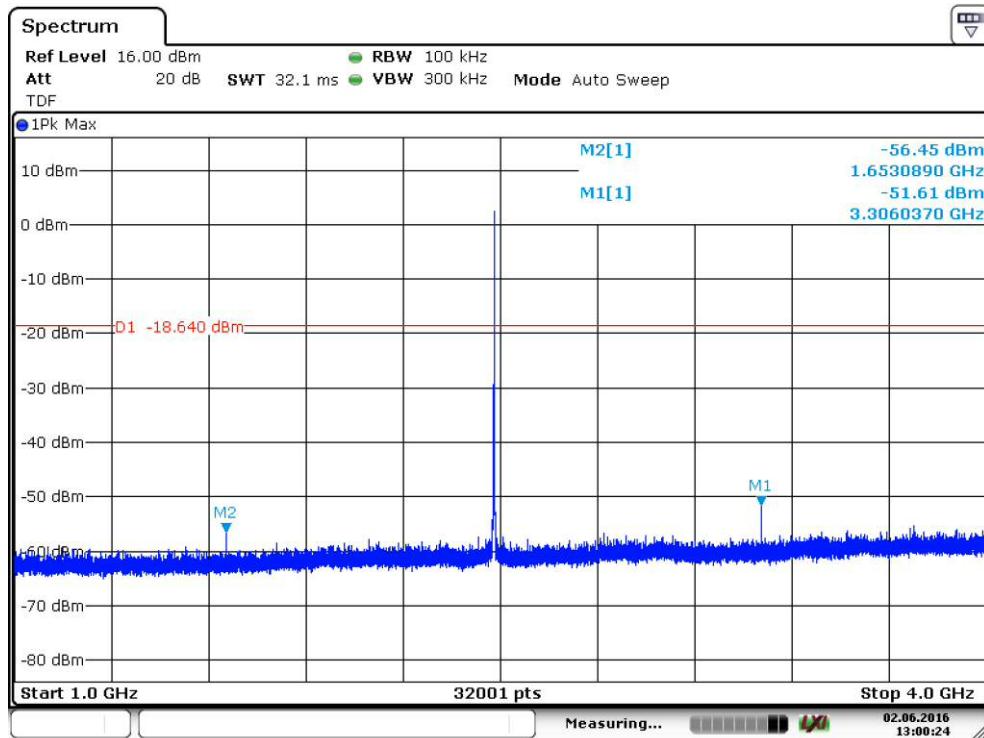
Figure 58. Low channel conducted emission 1 GHz to 4 GHz (3 Mbps).

Conducted Spurious Emission 30 MHz to 26.5 GHz and Band Edge



Date: 2.JUN.2016 12:50:34

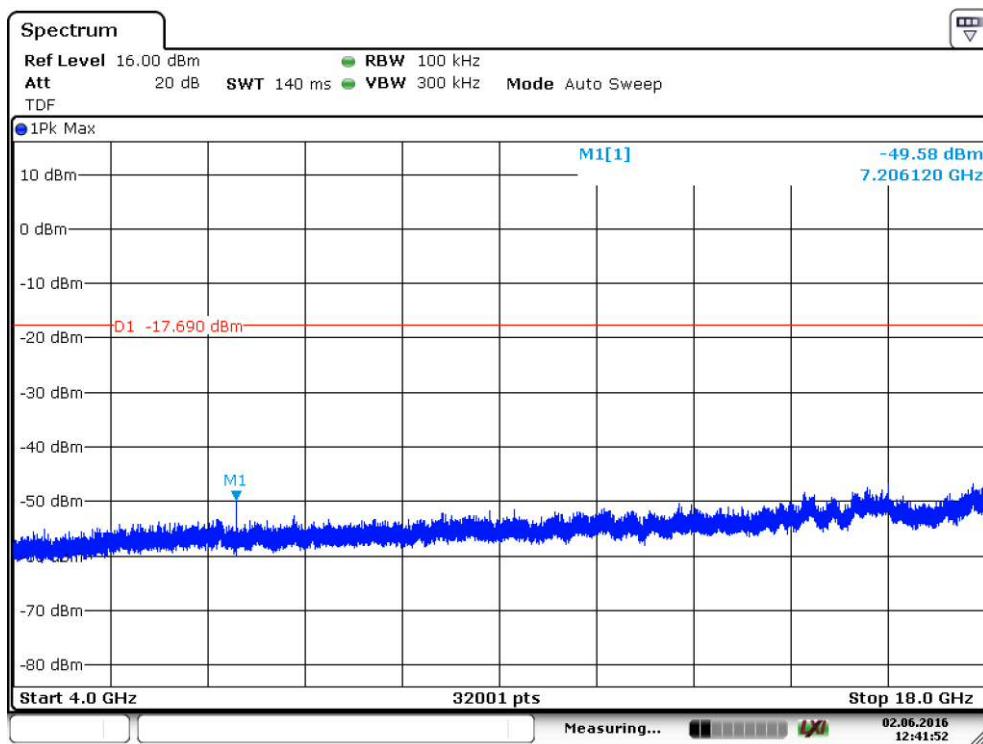
Figure 59. Mid channel conducted emission 1 GHz to 4 GHz (3 Mbps).



Date: 2.JUN.2016 13:00:24

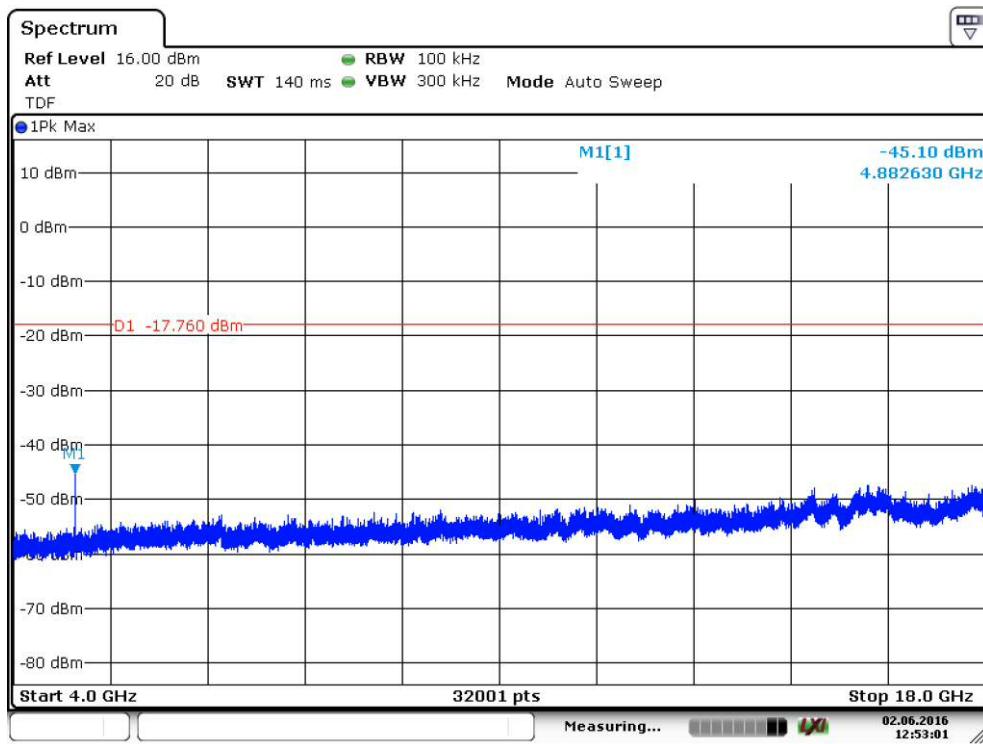
Figure 60. High channel conducted emission 1 GHz to 4 GHz (3 Mbps).

Conducted Spurious Emission 30 MHz to 26.5 GHz and Band Edge



Date: 2.JUN.2016 12:41:52

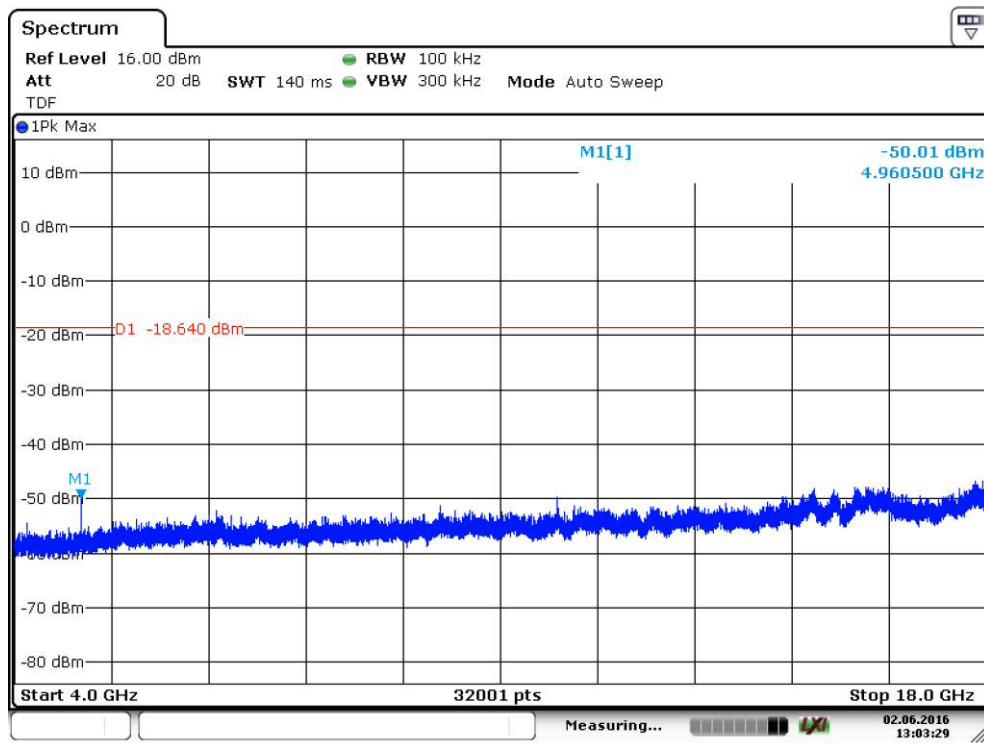
Figure 61. Low channel conducted emission 4 GHz to 18 GHz (3 Mbps).



Date: 2.JUN.2016 12:53:01

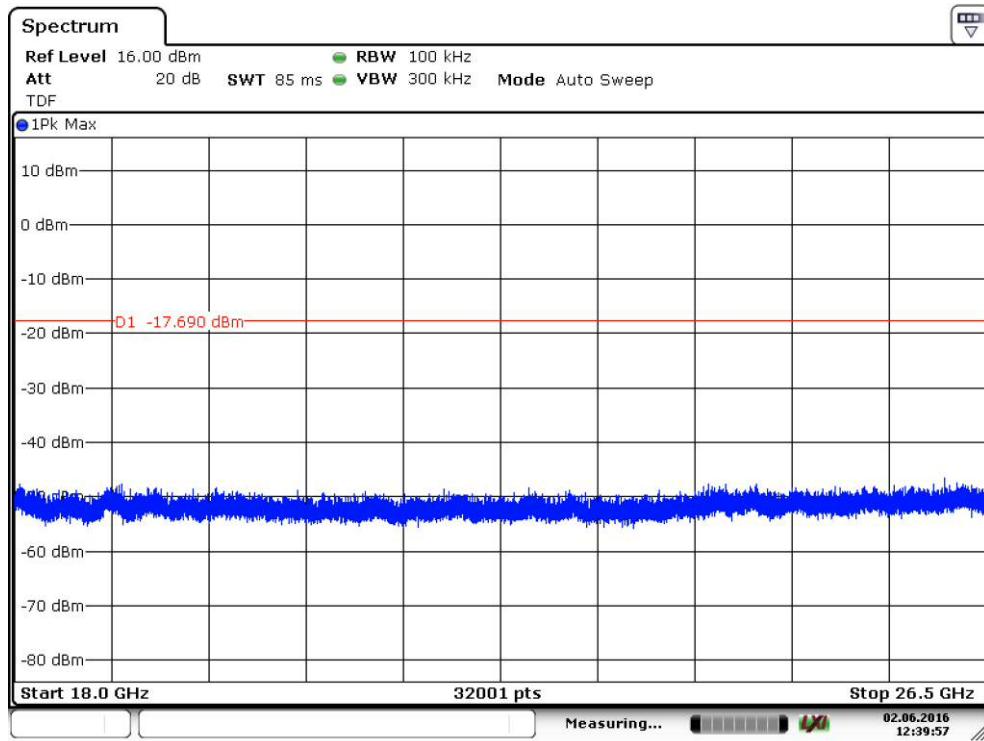
Figure 62. Mid channel conducted emission 4 GHz to 18 GHz (3 Mbps).

Conducted Spurious Emission 30 MHz to 26.5 GHz and Band Edge



Date: 2.JUN.2016 13:03:29

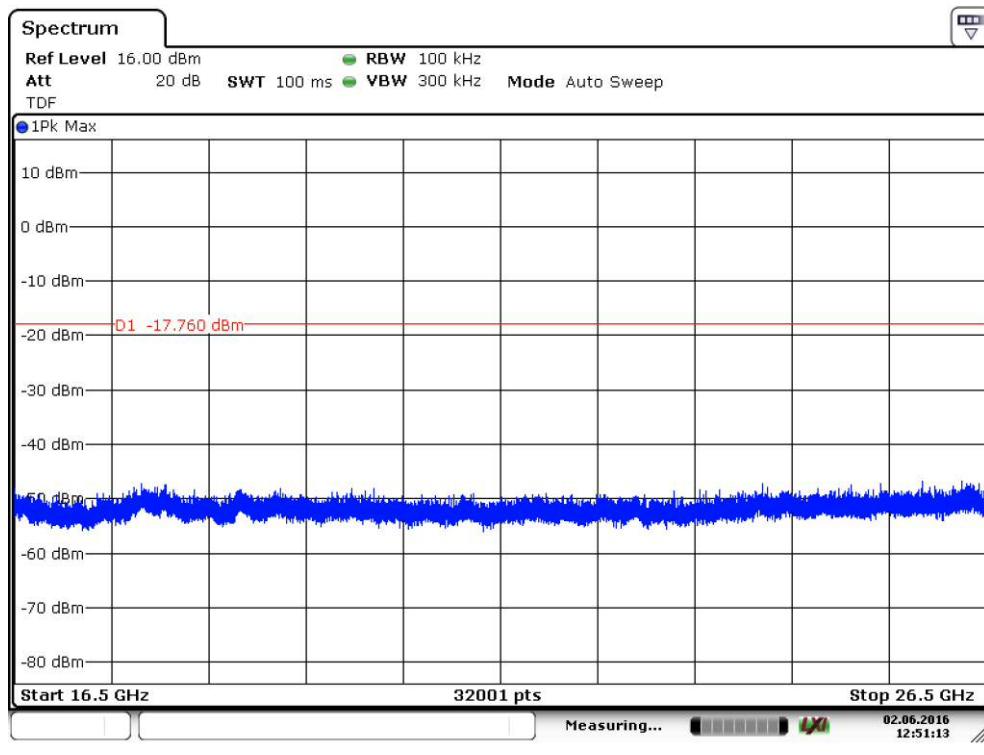
Figure 63. High channel conducted emission 4 GHz to 18 GHz (3 Mbps).



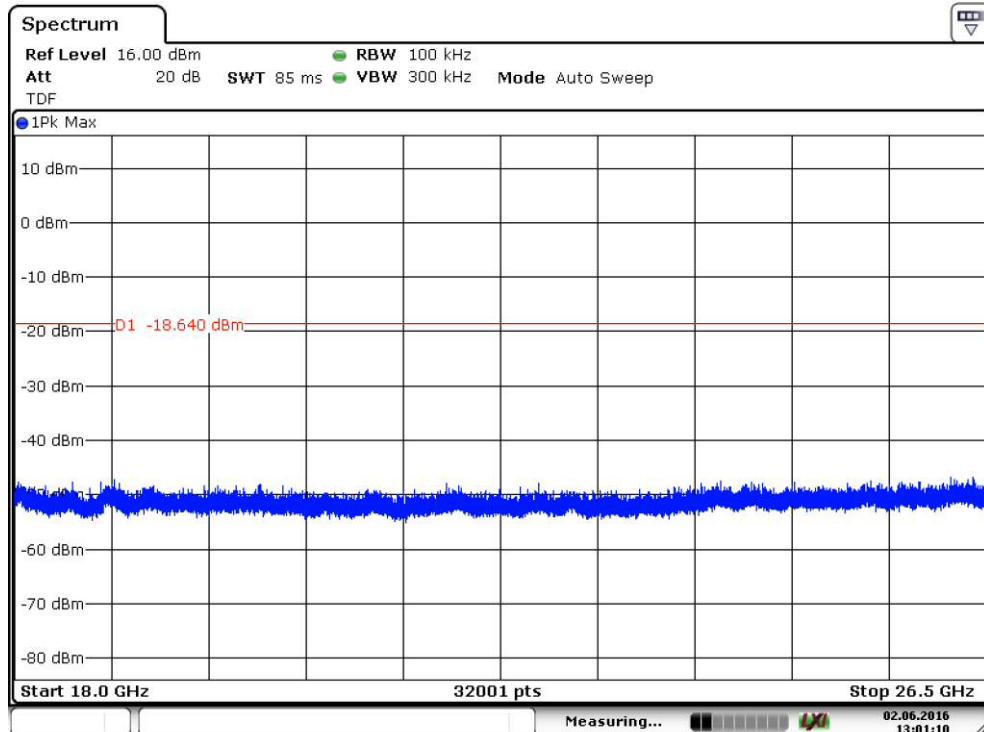
Date: 2.JUN.2016 12:39:57

Figure 64. Low channel conducted emission 18 GHz to 26.5 GHz (3 Mbps).

Conducted Spurious Emission 30 MHz to 26.5 GHz and Band Edge



Date: 2.JUN.2016 12:51:14

Figure 65. Mid channel conducted emission 18 GHz to 26.5 GHz (3 Mbps).

Date: 2.JUN.2016 13:01:10

Figure 66. High channel conducted emission 18 GHz to 26.5 GHz (3 Mbps).

20 dB Bandwidth of the Hopping Channel**20 dB Bandwidth of the Hopping Channel**

Standard: ANSI C63.10 (2013)
Tested by: RRE
Date: 2 June 2016
Temperature: 23 °C
Humidity: 37 % RH

FCC Rule: §15.247(a)(1)
RSS-247 5.1(2)

Results:**1 Mbps****Table 15.** 20 dB bandwidth test results 1 Mbps.

| Channel | 20 dB BW [kHz] |
|---------|----------------|
| Low | 1117.2 |
| Mid | 1111.4 |
| High | 1117.2 |

2 Mbps**Table 16.** 20 dB bandwidth test results 2 Mbps

| Channel | 20 dB BW [kHz] |
|---------|----------------|
| Low | 1400.9 |
| Mid | 1395.1 |
| High | 1395.1 |

3 Mbps**Table 17.** 20 dB bandwidth test results 3 Mbps

| Channel | 20 dB BW [kHz] |
|---------|----------------|
| Low | 1406.7 |
| Mid | 1400.9 |
| High | 1395.1 |

20 dB Bandwidth of the Hopping Channel

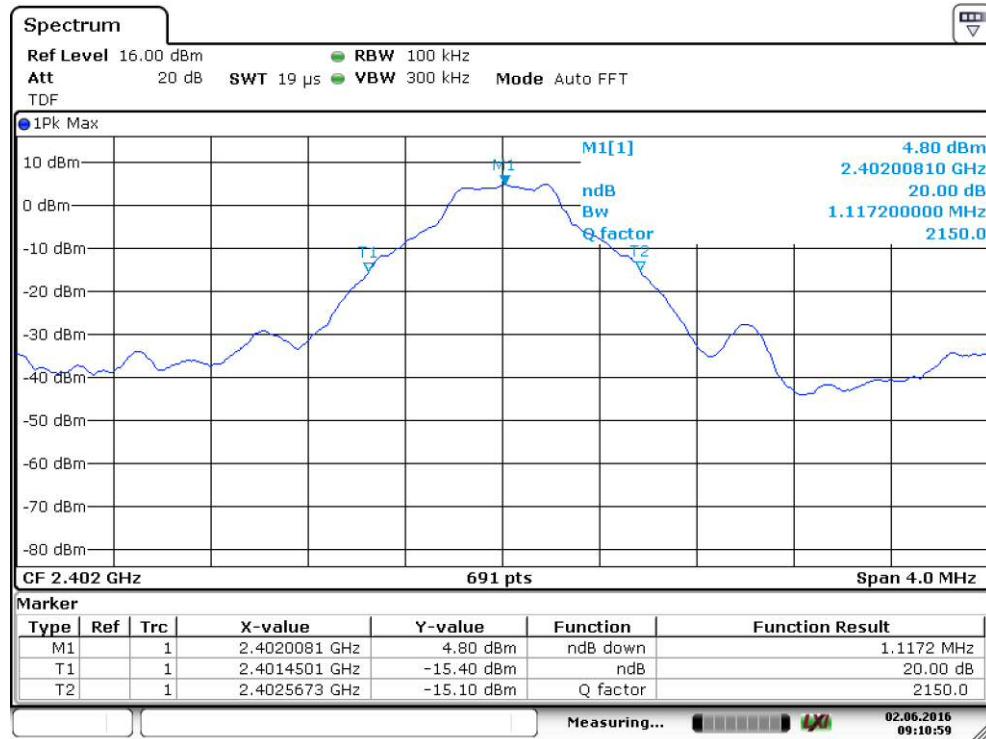


Figure 67. 20 dB channel BW. 1 Mbps Channel LOW.

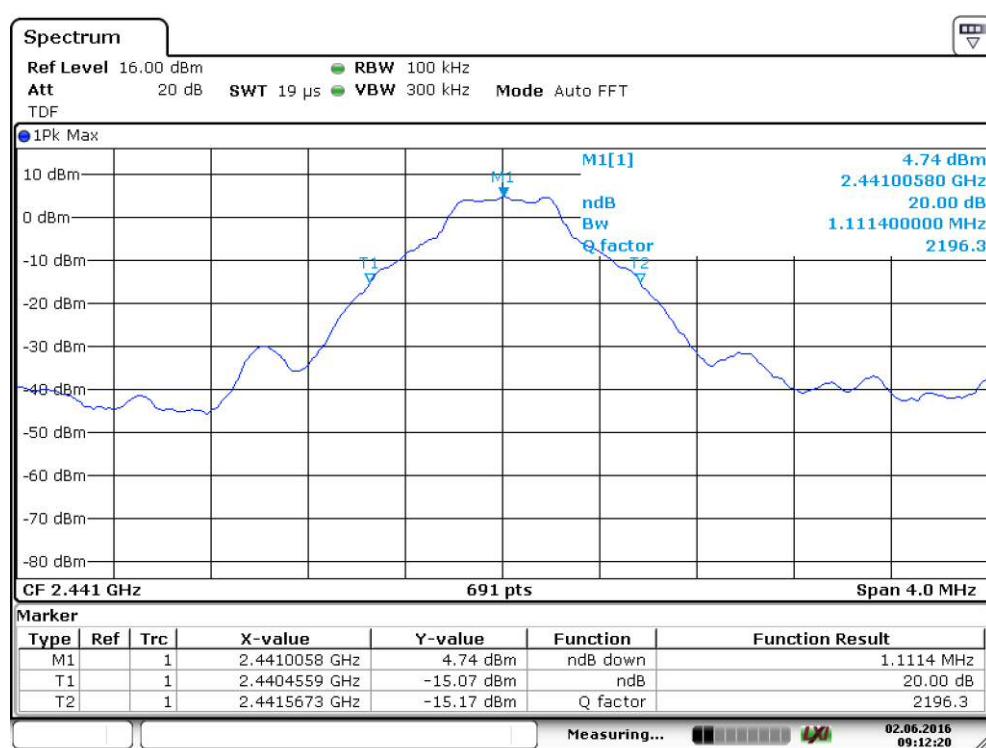


Figure 68. 20 dB channel BW. 1 Mbps Channel MID.

20 dB Bandwidth of the Hopping Channel

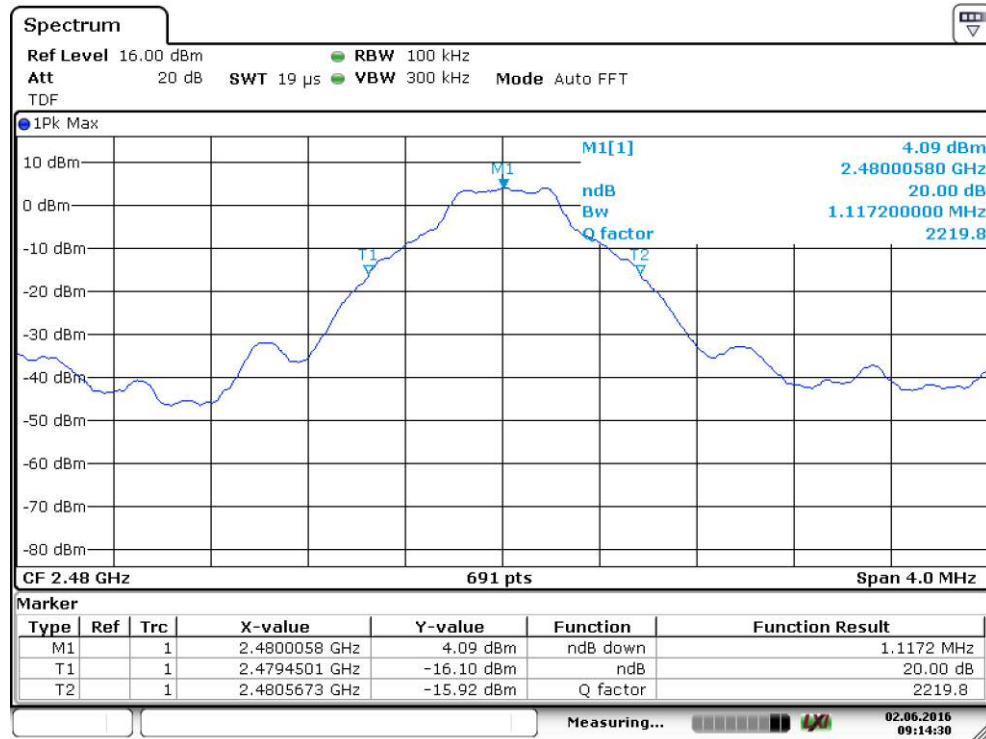


Figure 69. 20 dB channel BW. 1 Mbps Channel HIGH.

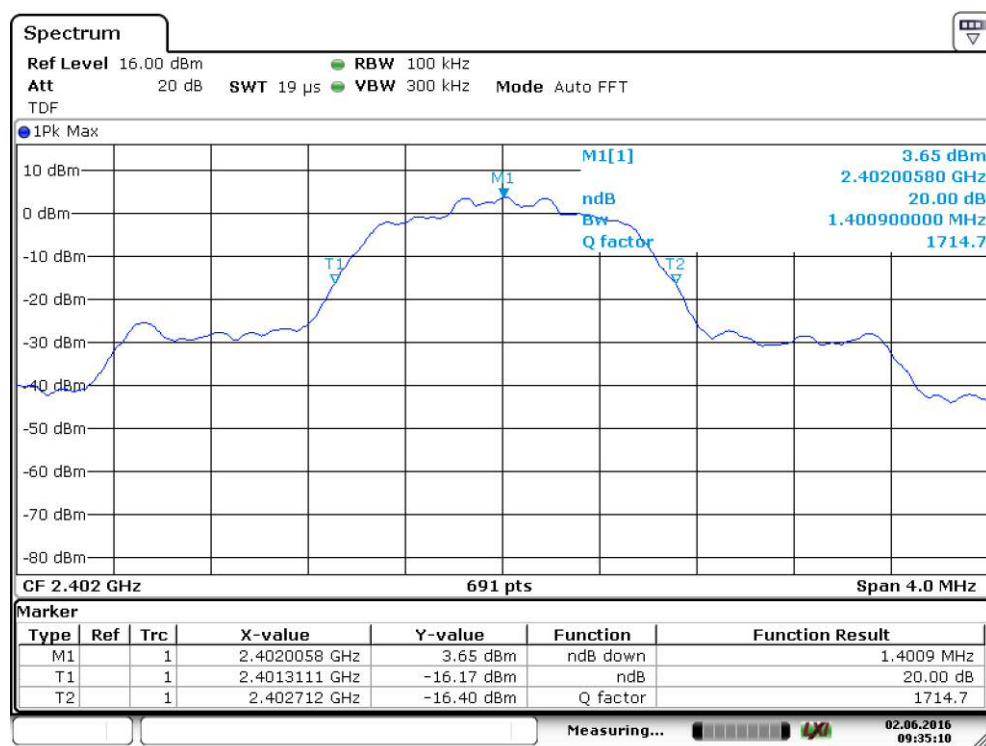
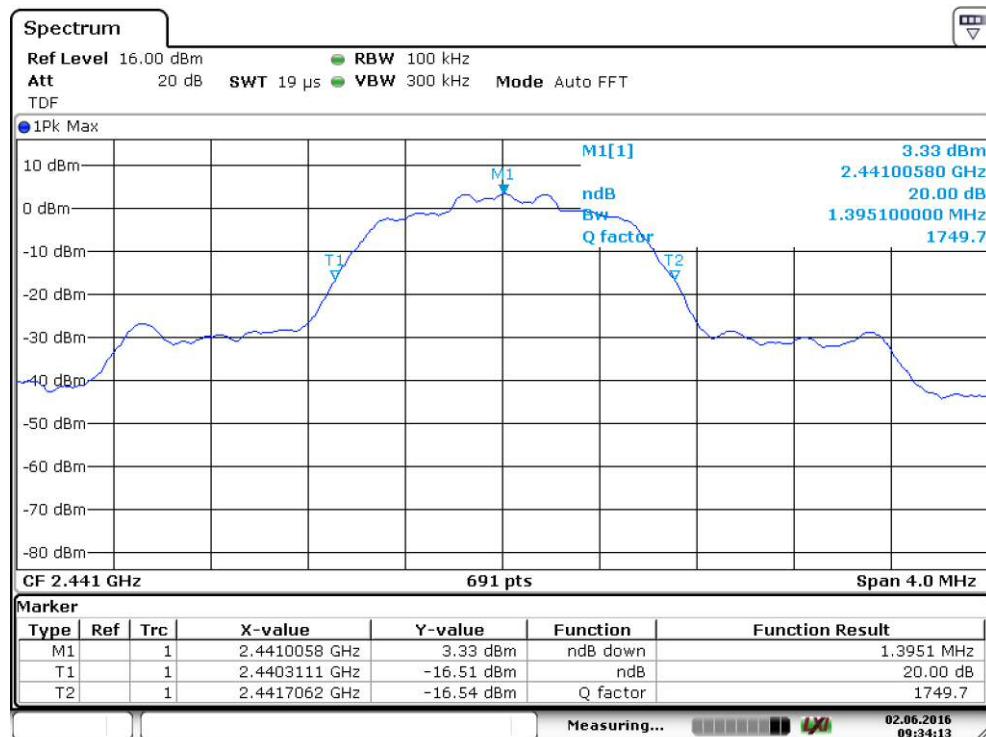


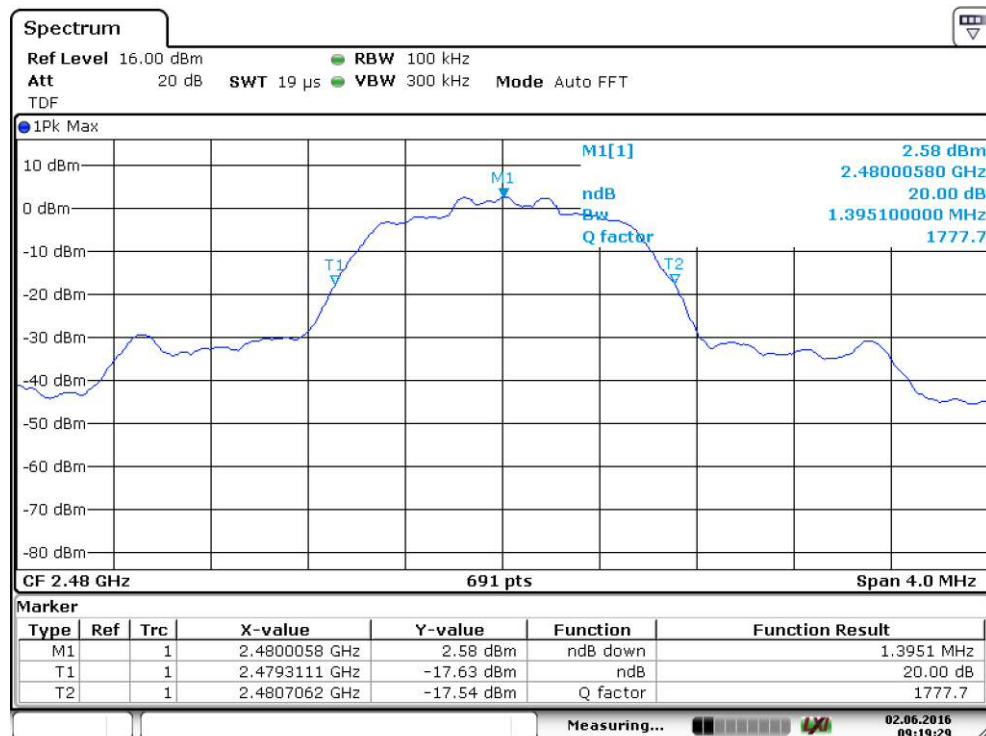
Figure 70. 20 dB channel BW. 2 Mbps Channel LOW.

20 dB Bandwidth of the Hopping Channel



Date: 2.JUN.2016 09:34:13

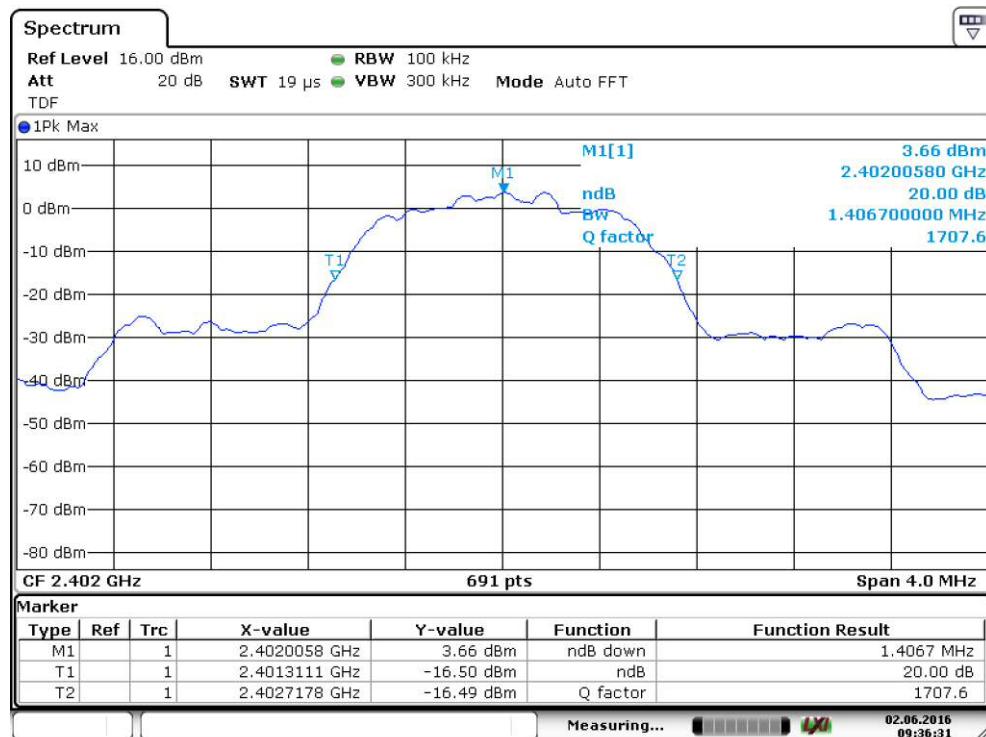
Figure 71. 20 dB channel BW. 2 Mbps Channel MID.



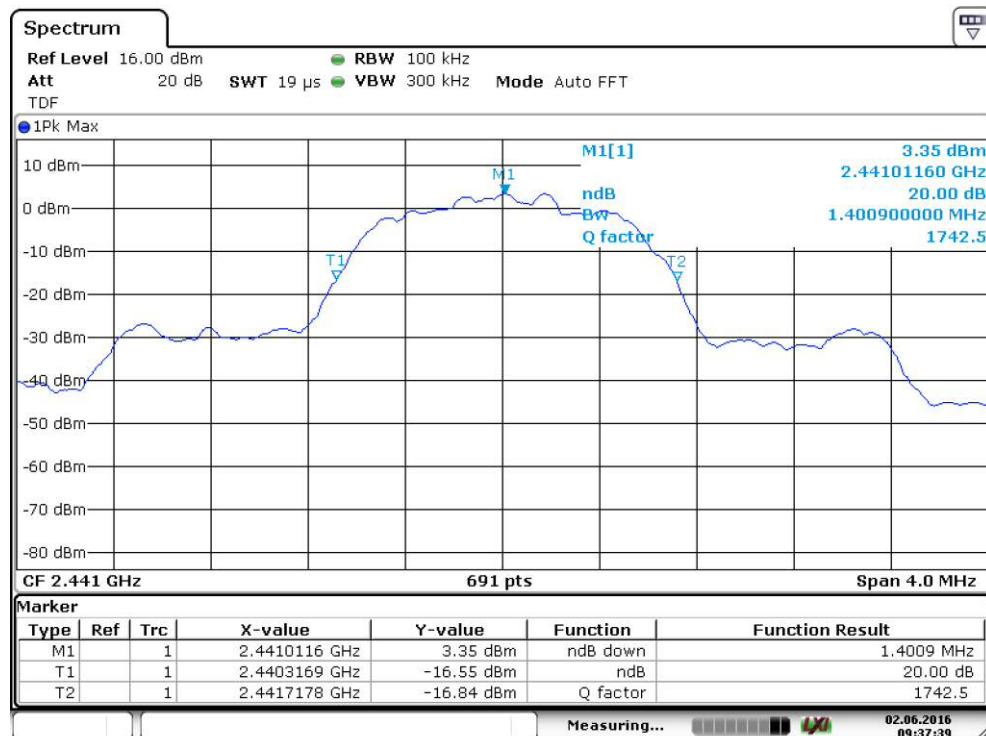
Date: 2.JUN.2016 09:19:29

Figure 72. 20 dB channel BW. 2 Mbps Channel HIGH.

20 dB Bandwidth of the Hopping Channel

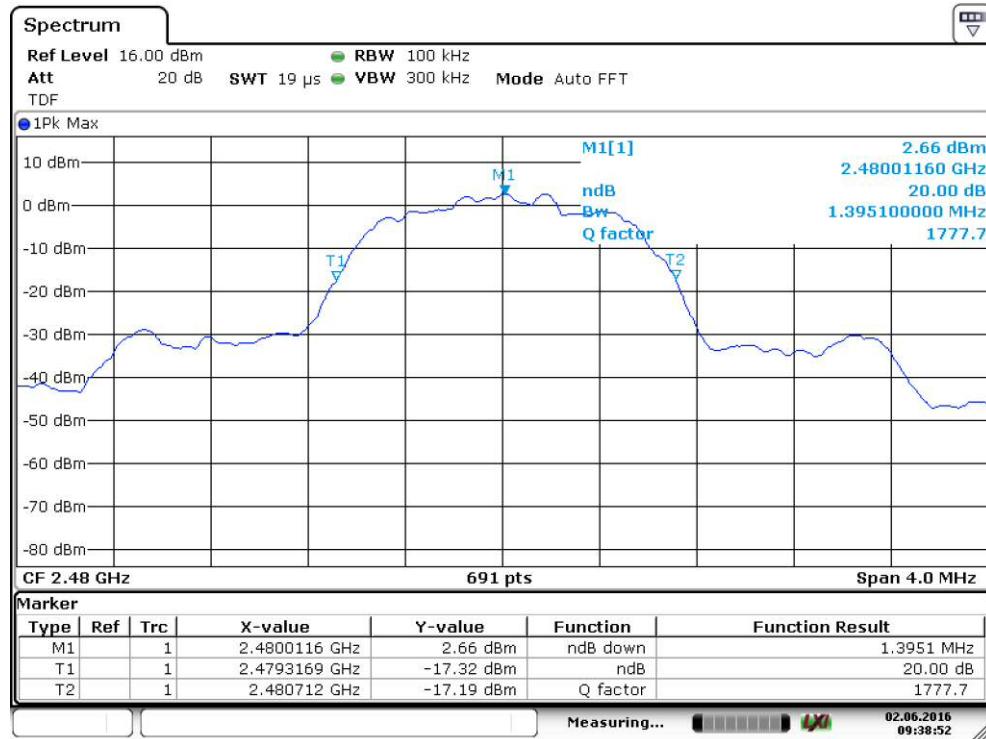


Date: 2.JUN.2016 09:36:31

Figure 73. 20 dB channel BW. 3 Mbps Channel LOW.

Date: 2.JUN.2016 09:37:40

Figure 74. 20 dB channel BW. 3 Mbps Channel MID.

20 dB Bandwidth of the Hopping Channel**Figure 75.** 20 dB channel BW. 3 Mbps Channel HIGH.

Hopping Channel Carrier Frequencies Separation

Standard: ANSI C63.10 (2013)
Tested by: RRE
Date: 2 June 2016
Temperature: 23 °C
Humidity: 37 % RH

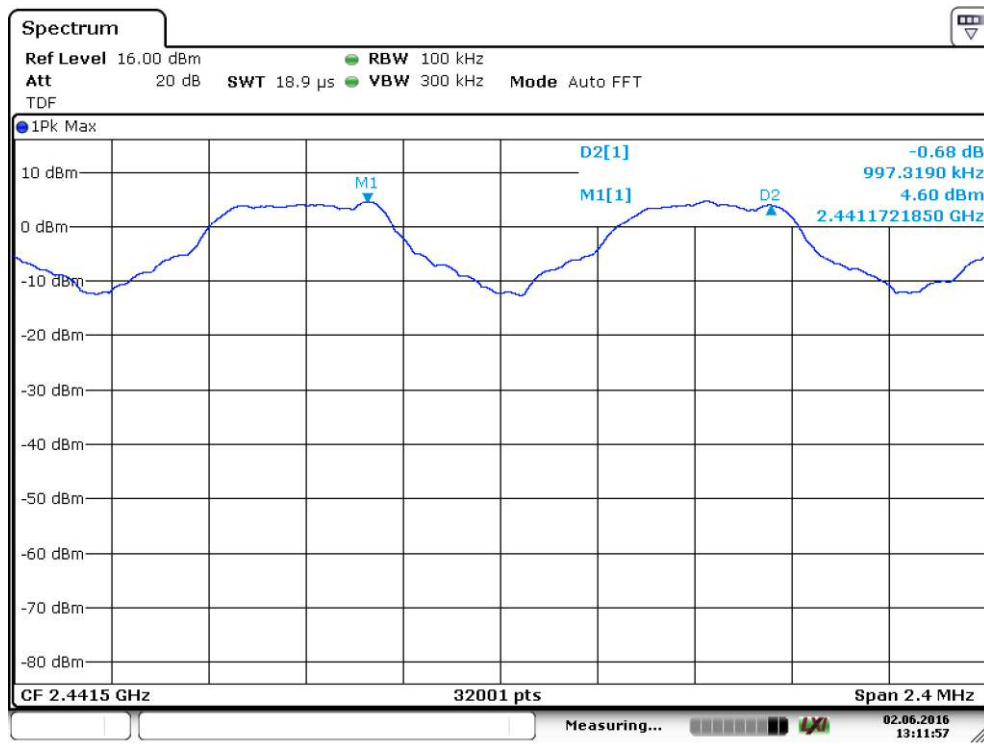
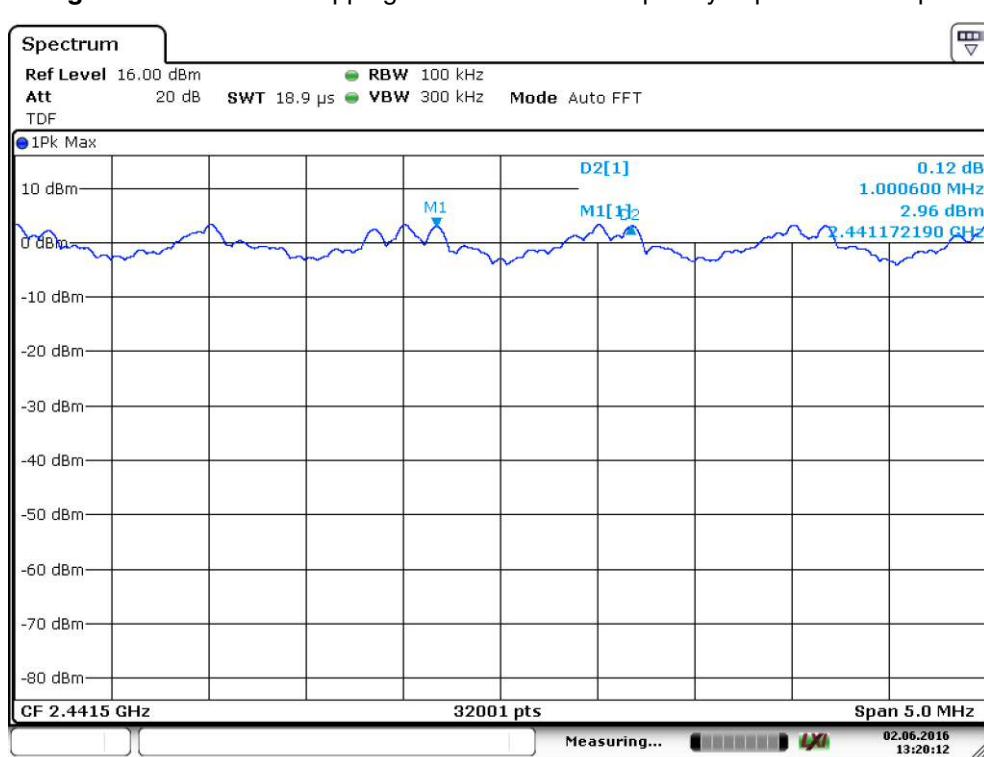
FCC Rule: §15.247(a)(1)
RSS-247 5.1(2)

Frequency hopping systems with an output power less than 125mW shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or 2/3 of the 20 dB bandwidth of the hopping channel, whichever is greater.

Test result**Table 18.** Hopping channel carrier frequencies separation test result.

| Data rate | Measured separation | Limit | Result |
|-----------|---------------------|------------|--------|
| 1 Mbps | 997.32 kHz | 930.07 kHz | PASS |
| 2 Mbps | 1000.60 kHz | 740.93 kHz | PASS |
| 3 Mbps | 999.08 kHz | 933.93 kHz | PASS |

Hopping Channel Carrier Frequencies Separation

**Figure 76.** Measured hopping channels carrier frequency separation 1 Mbps.**Figure 77.** Measured hopping channels carrier frequency separation 2 Mbps.

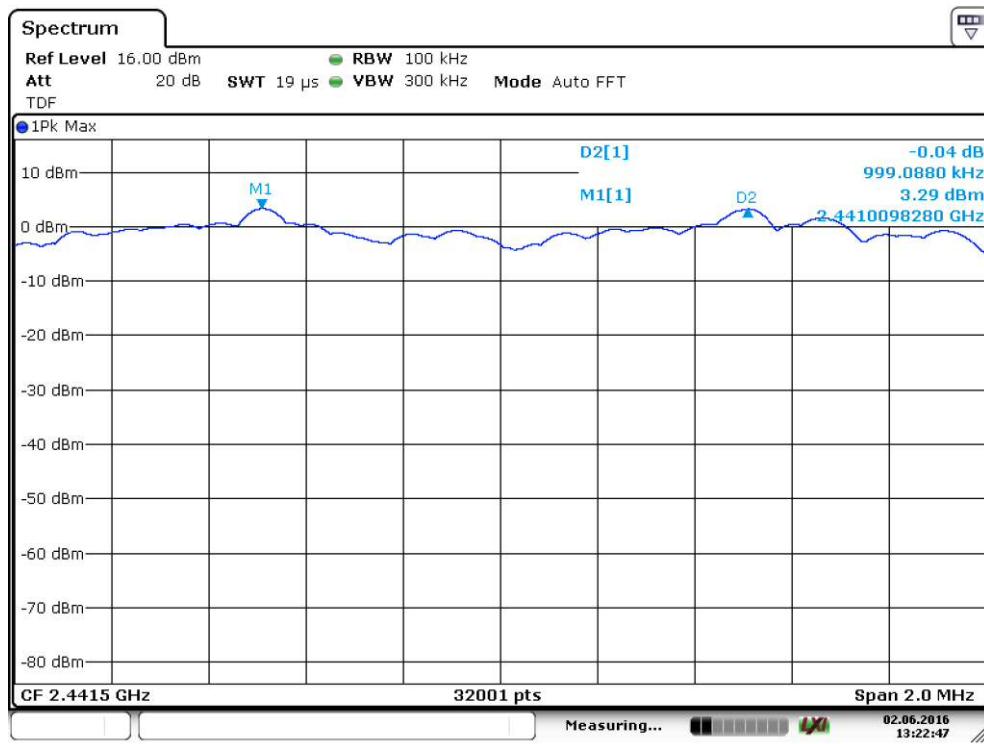
Hopping Channel Carrier Frequencies Separation

Figure 78. Measured hopping channels carrier frequency separation 3 Mbps.

Number of Hopping Channels**Number of Hopping Channels**

Standard: ANSI C63.10 (2013)
Tested by: RRE
Date: 2 June 2016
Temperature: 23 °C
Humidity: 37 % RH

FCC Rule: §15.247(a)(1)(iii)
RSS-247 5.1(4)

For frequency hopping systems operating in the 2400 – 2483.5 MHz band shall use at least 15 channels.

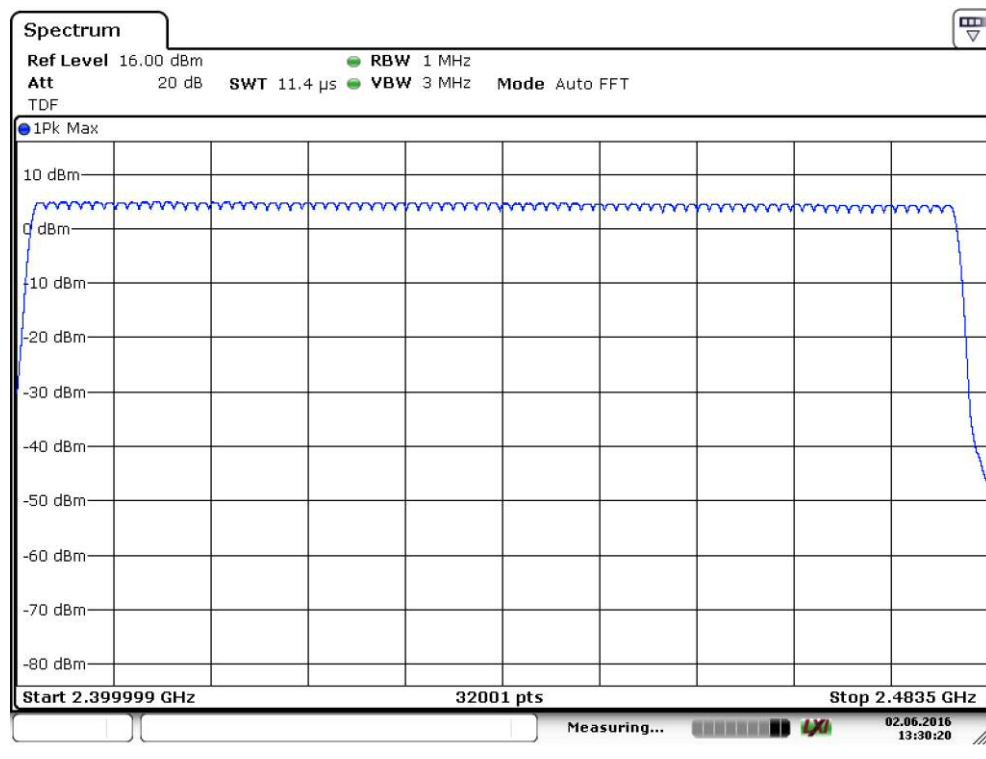
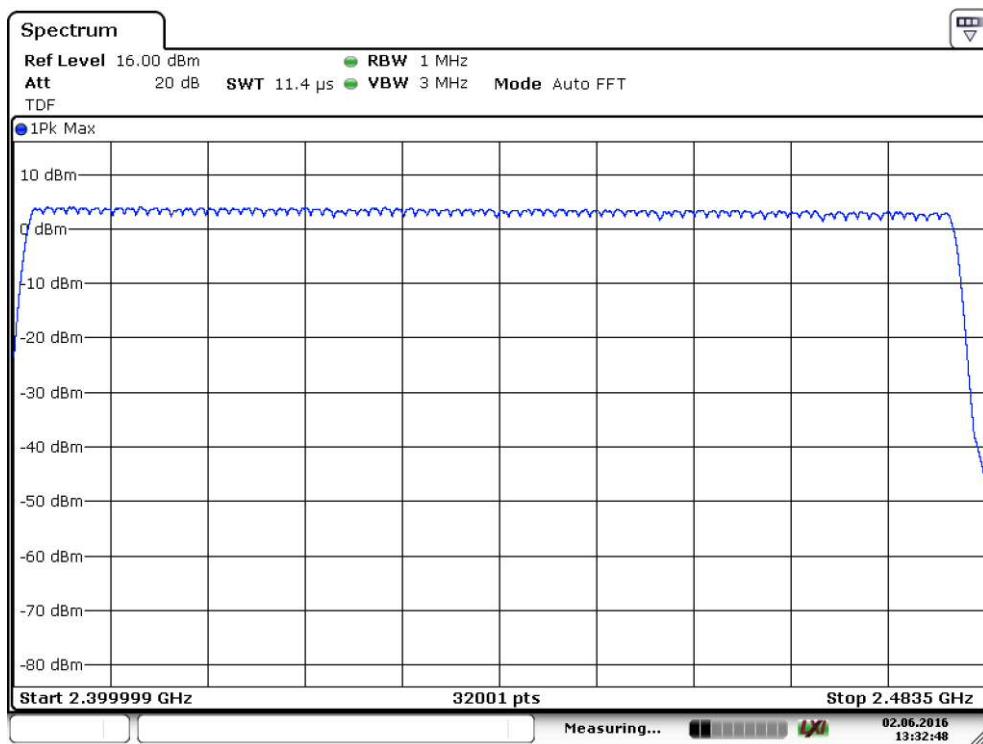


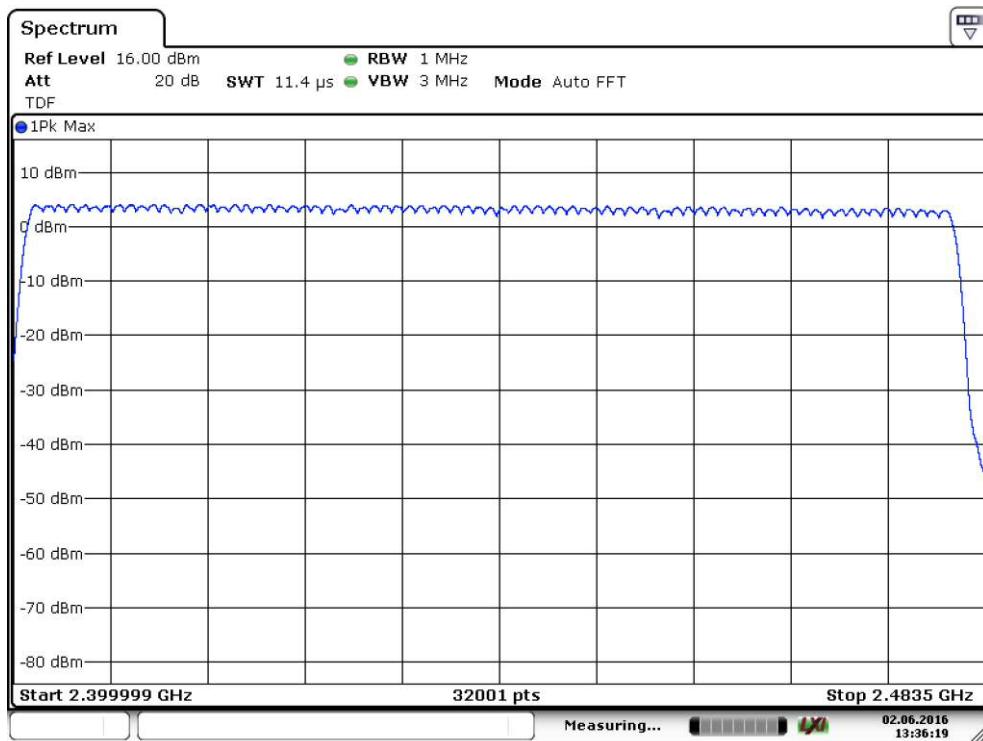
Figure 79. 79 hopping channels 1 Mbps.

Number of Hopping Channels



Date: 2.JUN.2016 13:32:48

Figure 80. 79 hopping channels 2 Mbps.



Date: 2.JUN.2016 13:36:20

Figure 81. 79 hopping channels 3 Mbps.

Average Time of Occupancy of Hopping Frequency**Average Time of Occupancy of Hopping Frequency**

Standard: ANSI C63.10 (2013)
Tested by: RRE
Date: 2 June 2016
Temperature: 23 °C
Humidity: 37 % RH

FCC Rule: §15.247(a)(1)(iii)
RSS-247 5.1(4)

The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.

Test was performed in each data rate mode to insure that the all modes are identical.

Time of occupancy calculation:

Number of channels = 79

Measurement period = 0.4 s x 79 = 31.6 s

One channel occupancy time = 303.9 ms

Number of transmission cycles in measurement period = 31.6 / 0.30348 = 104.1

Time of occupancy = (single duration) x (repetition) = 2.926175 ms x 104.1 times = 304.7 ms

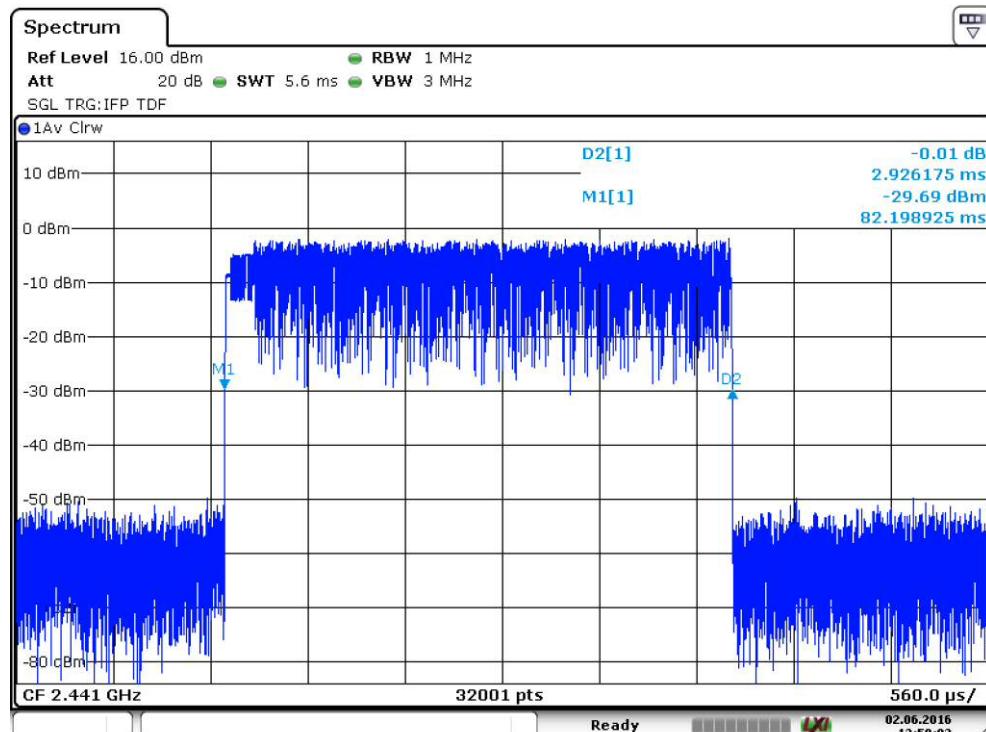


Figure 82. One channel dwell time.

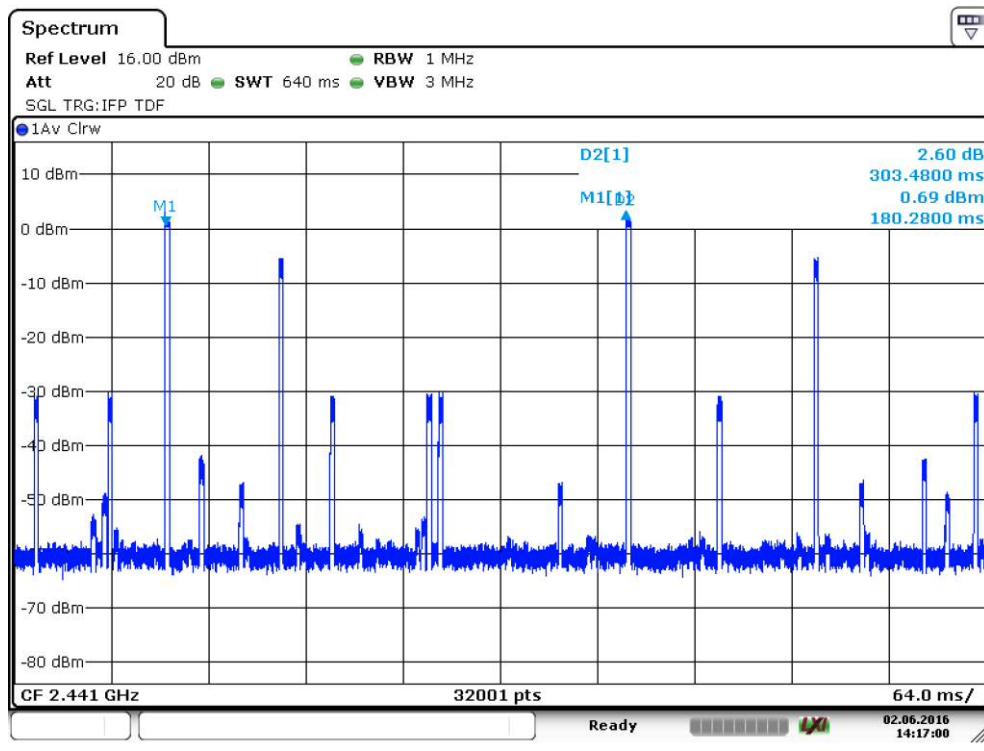
Average Time of Occupancy of Hopping Frequency

Figure 83. Measured repetition of the channel occupancy

99% Occupied Power Bandwidth**99% Occupied Power Bandwidth**

Standard: RSS-GEN (2014)
Tested by: RRE
Date: 2 June 2016
Temperature: 23 °C
Humidity: 37 % RH

RSS-GEN 6.6**Table 19.** Data rate 1 Mbps

| Channel | 99% BW [MHz] | Limit | Result |
|---------|----------------|-------|--------|
| Low | 0.969609261940 | - | PASS |
| Mid | 0.969609261940 | - | PASS |
| High | 0.969609261940 | - | PASS |

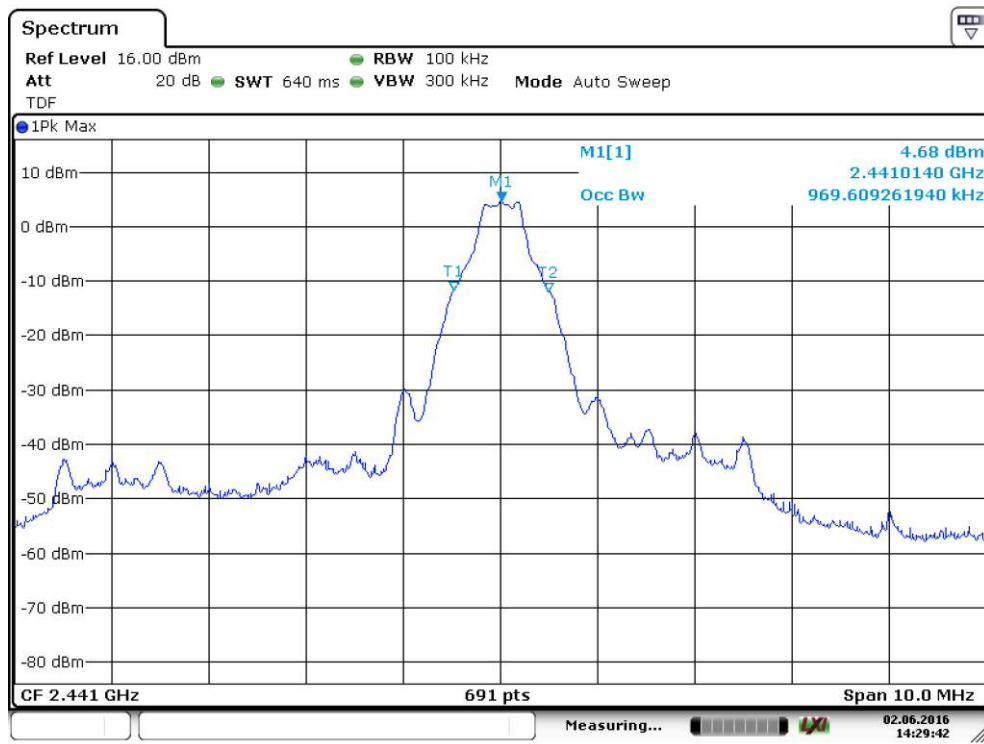
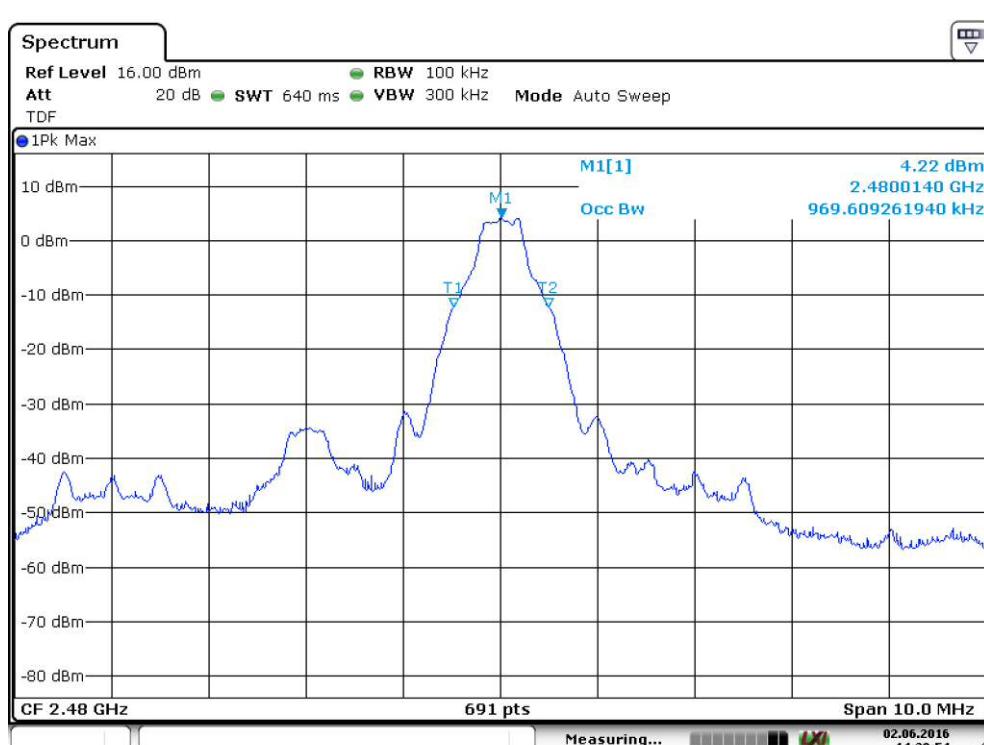
Table 20. Data rate 2 Mbps

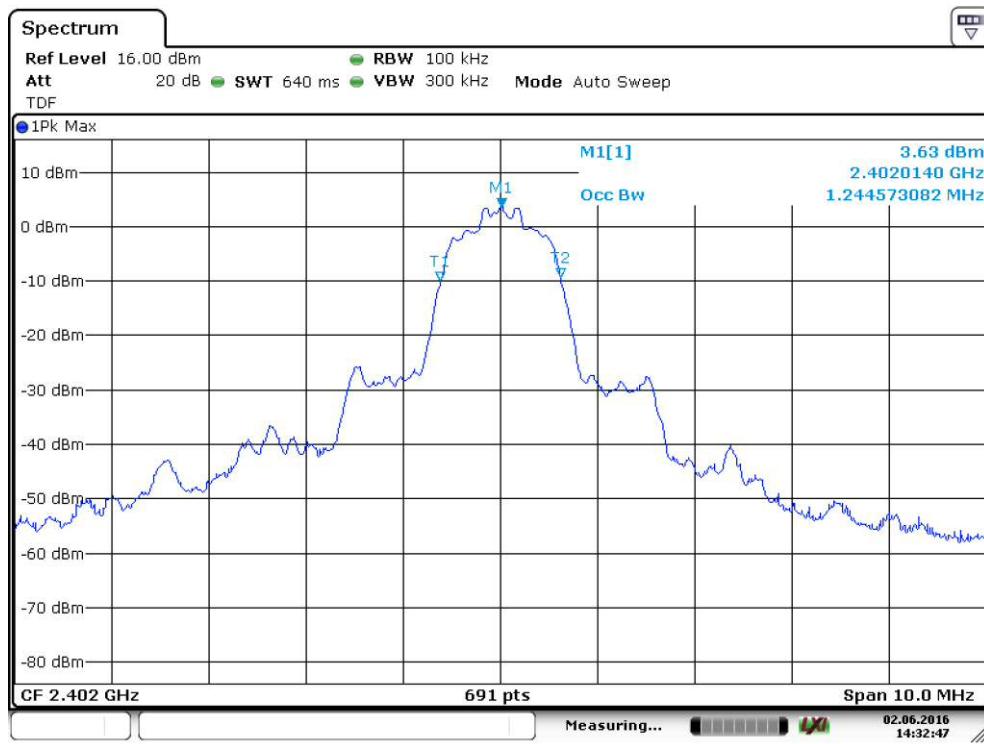
| Channel | 99% BW [MHz] | Limit | Result |
|---------|--------------|-------|--------|
| Low | 1.244573082 | - | PASS |
| Mid | 1.244573082 | - | PASS |
| High | 1.230101302 | - | PASS |

Table 21. Data rate 3 Mbps

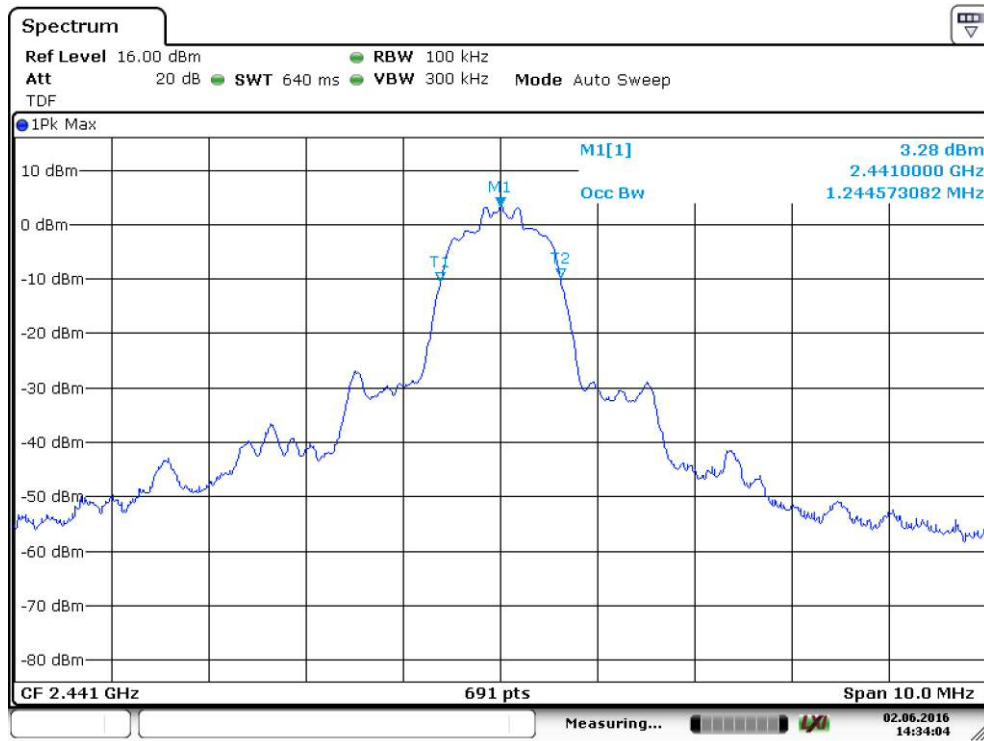
| Channel | 99% BW [MHz] | Limit | Result |
|---------|--------------|-------|--------|
| Low | 1.259044863 | - | PASS |
| Mid | 1.244573082 | - | PASS |
| High | 1.230101302 | - | PASS |

**Figure 84.** Low channel 99% Occupied Power Bandwidth (1 Mbps).

99% Occupied Power Bandwidth**Figure 85.** Mid channel 99% Occupied Power Bandwidth (1 Mbps).**Figure 86.** High channel 99% Occupied Power Bandwidth (1 Mbps).

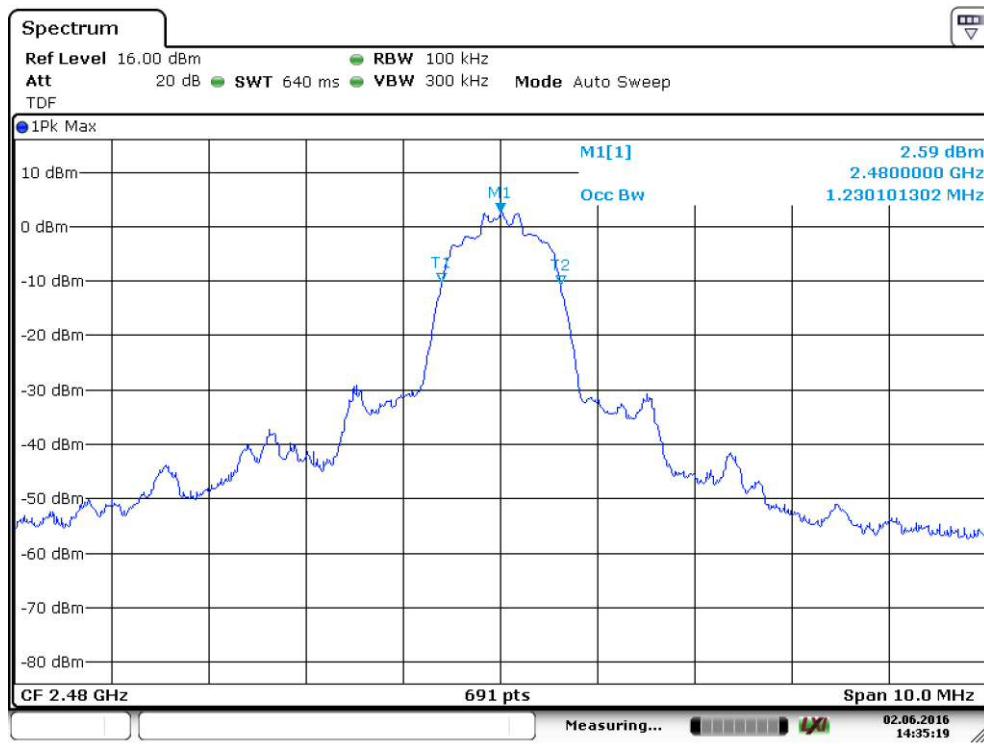
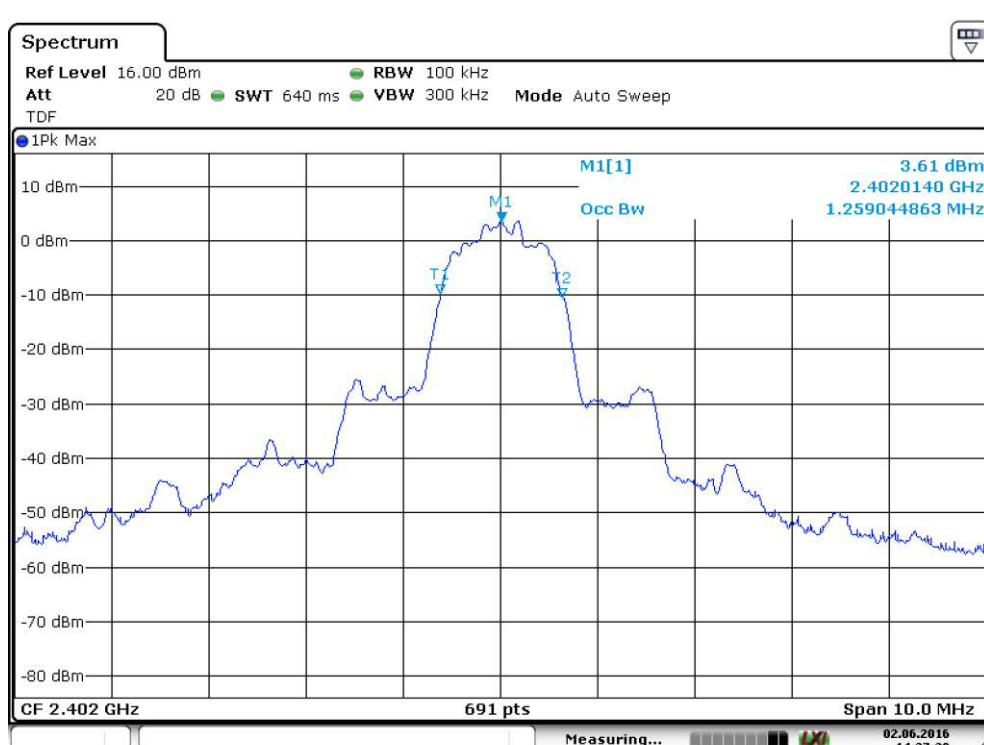
99% Occupied Power Bandwidth

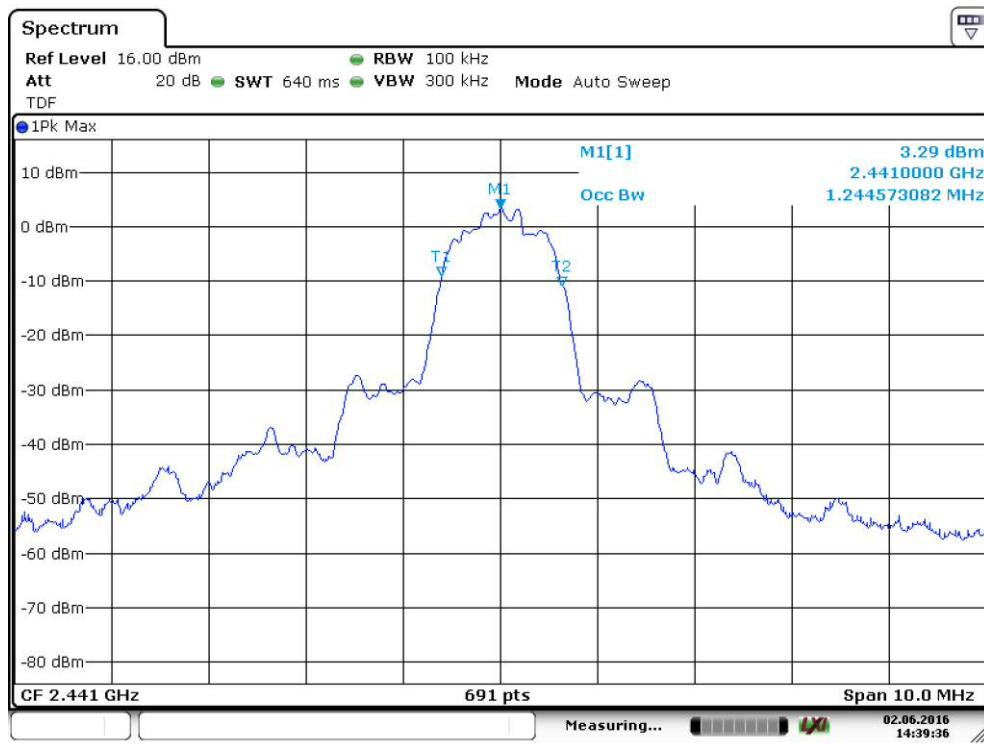
Date: 2.JUN.2016 14:32:47

Figure 87. Low channel 99% Occupied Power Bandwidth (2 Mbps).

Date: 2.JUN.2016 14:34:04

Figure 88. Mid channel 99% Occupied Power Bandwidth (2 Mbps).

99% Occupied Power Bandwidth**Figure 89.** High channel 99% Occupied Power Bandwidth (2 Mbps).**Figure 90.** Low channel 99% Occupied Power Bandwidth (3 Mbps).

99% Occupied Power Bandwidth**Figure 91.** Mid channel 99% Occupied Power Bandwidth (3 Mbps).**Figure 92.** High channel 99% Occupied Power Bandwidth (3 Mbps).

TEST EQUIPMENT**RF-Test Equipment**

| Equipment | Manufacturer | Type | Inv or serial | Prev Calib | Next Calib |
|----------------------------------|-------------------|------------------|---------------------------|------------|------------|
| MONITORING ANTENNA | A.H. SYSTEMS | SAS-200/518 | inv:7873 | - | - |
| MONITORING SPECTRUM ANALYZER | AGILENT | E7405A | inv:9746 | 2016-01-07 | 2018-01-07 |
| TURNTABLE | DEISEL | DS 430 | sn:430/447/97 | - | - |
| MAST & TURNTABLE CONTROLLER | DEISEL | HD-100 | sn:100/544 | - | - |
| MAST & TURNTABLE CONTROLLER | MATURO | NCD | inv:10183 | - | - |
| ANTENNA MAST | DEISEL | MA 240 | inv:7896 | - | - |
| ANTENNA | EMCO | 3117 | inv:7293 | 2016-03-16 | 2018-03-06 |
| ANTENNA | EMCO | 3160-09 | inv:7294 | 2016-03-16 | 2017-03-16 |
| PREAMPLIFIER | HEWLETT PACKARD | 83017A (25 dB) | inv:5226 | 2016-02-03 | 2017-02-03 |
| BLUETOOTH TEST SET | ROHDE & SCHWARZ | CMU200 | inv:9237 | 2013-02-27 | - |
| BLUETOOTH TEST SET | ROHDE & SCHWARZ | CBT | ID:1153.9000K35-100868-xL | - | - |
| TEST SOFTWARE | ROHDE & SCHWARZ | EMC-32 | - | - | - |
| EMI TEST RECEIVER | ROHDE & SCHWARZ | ESU 26 | inv:8453 | 2015-07-01 | 2016-07-01 |
| SIGNAL ANALYZER | ROHDE & SCHWARZ | FSV40 | inv:9093 | 2015-07-01 | 2016-07-01 |
| ANTENNA | SCHWARZBECK | VULB 9168 | inv:8911 | 2014-11-04 | 2016-11-04 |
| HIGH PASS FILTER | WAINWRIGHT | WHKX4.0/18G-10SS | sn:10 | 2016-01-22 | 2017-01-22 |
| ATT SMAM/F 50 Ω 18 GHZ 10 DB 1 W | HUBER&SUHNER | 6610.19.AA | sn:RF ATTEN 07 | 2016-02-02 | 2017-02-02 |
| POWER SOURCE | CALIFORNIA INSTR. | 500i-400 | inv:9489 | - | - |
| LISN | ROHDE & SCHWARZ | ENV216 | inv:9611 | 2016-02-24 | 2017-02-24 |