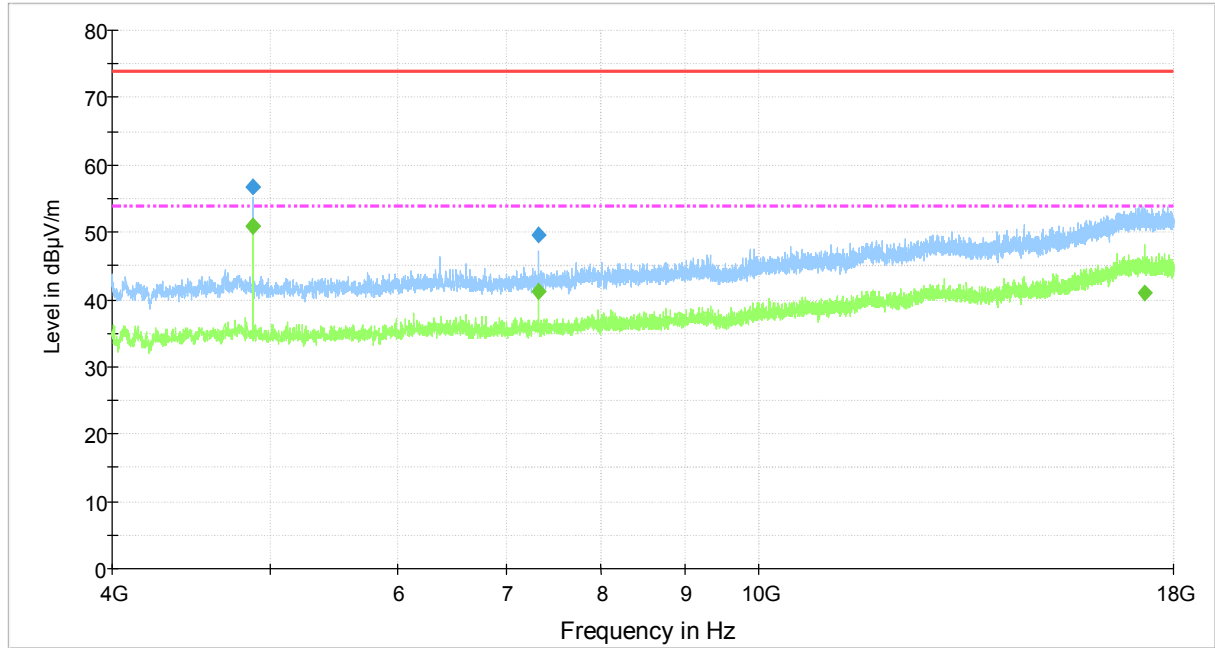


FCC Part 15 Class B Spurious Emission 4-18GHz 3m



— FCC Part 15 Class B Electric Field Strength 3 m PK.LimitLine — FCC Part 15 Class B Electric Field Strength 3 m AV.LimitLine
— Preview Result 1-PK+ — Preview Result 2-AVG
◆ Final Result 1-PK+ ◆ Final Result 2-AVG

Figure 32. Measured curve with peak- and average detector. 1 Mbps Channel MID.

Final measurements from the worst frequencies

Table 29. Final Max Peak results.

Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time 15x(ms)	Bandwidth (kHz)	Height (cm)	Pol.	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
4882.400000	56.7	1000.0	1000.000	122.0	V	285.0	10.4	17.2	73.9	
7323.200000	49.6	1000.0	1000.000	114.0	H	56.0	12.3	24.3	73.9	

Table 30. Final Average results.

Frequency (MHz)	Average (dBµV/m)	Meas. Time 15x(ms)	Bandwidth (kHz)	Height (cm)	Pol.	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
4882.000000	50.9	1000.0	1000.000	133.0	V	285.0	10.4	3.0	53.9	
7323.000000	41.2	1000.0	1000.000	105.0	H	65.0	12.3	12.7	53.9	
17265.800000	40.9	1000.0	1000.000	100.0	V	30.0	25.1	13.0	53.9	

FCC Part 15 Class B Spurious Emission 4-18GHz 3m

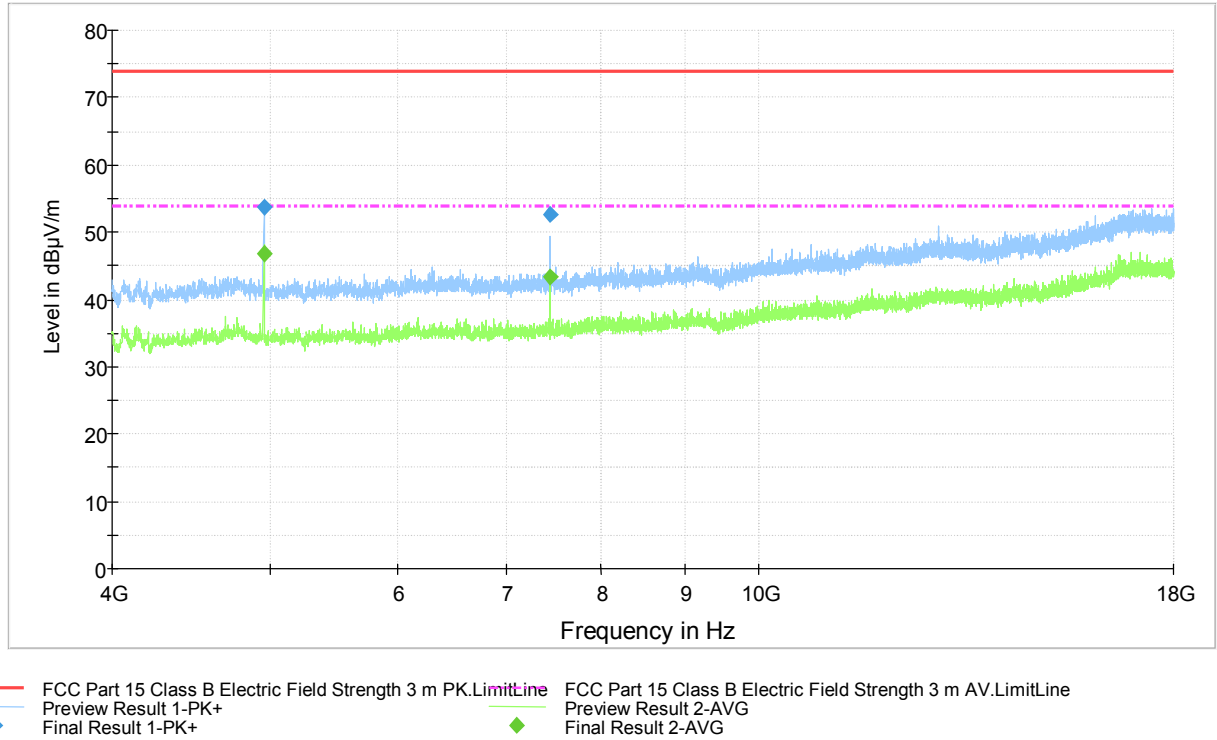


Figure 33. Measured curve with peak- and average detector. 1 Mbps Channel HIGH.

Final measurements from the worst frequencies

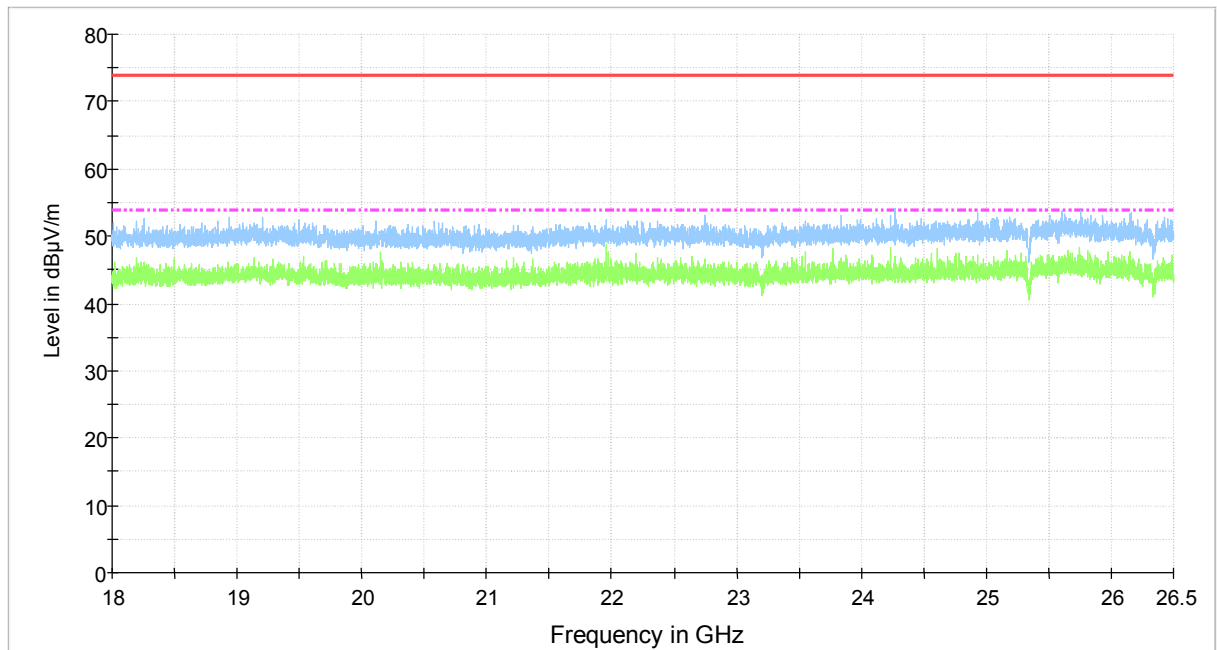
Table 31. Final Max Peak results.

Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time 15x(ms)	Bandwidth (kHz)	Height (cm)	Pol.	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
4960.400000	53.6	1000.0	1000.000	179.0	H	66.0	10.3	20.3	73.9	
7439.600000	52.6	1000.0	1000.000	100.0	V	25.0	12.5	21.3	73.9	

Table 32. Final Average results.

Frequency (MHz)	Average (dBµV/m)	Meas. Time 15x(ms)	Bandwidth (kHz)	Height (cm)	Pol.	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
4960.000000	46.8	1000.0	1000.000	130.0	V	285.0	10.3	7.1	53.9	
7440.000000	43.3	1000.0	1000.000	100.0	V	26.0	12.5	10.6	53.9	

FCC Part 15 Class B Spurious Emission 18-26.5GHz 3m



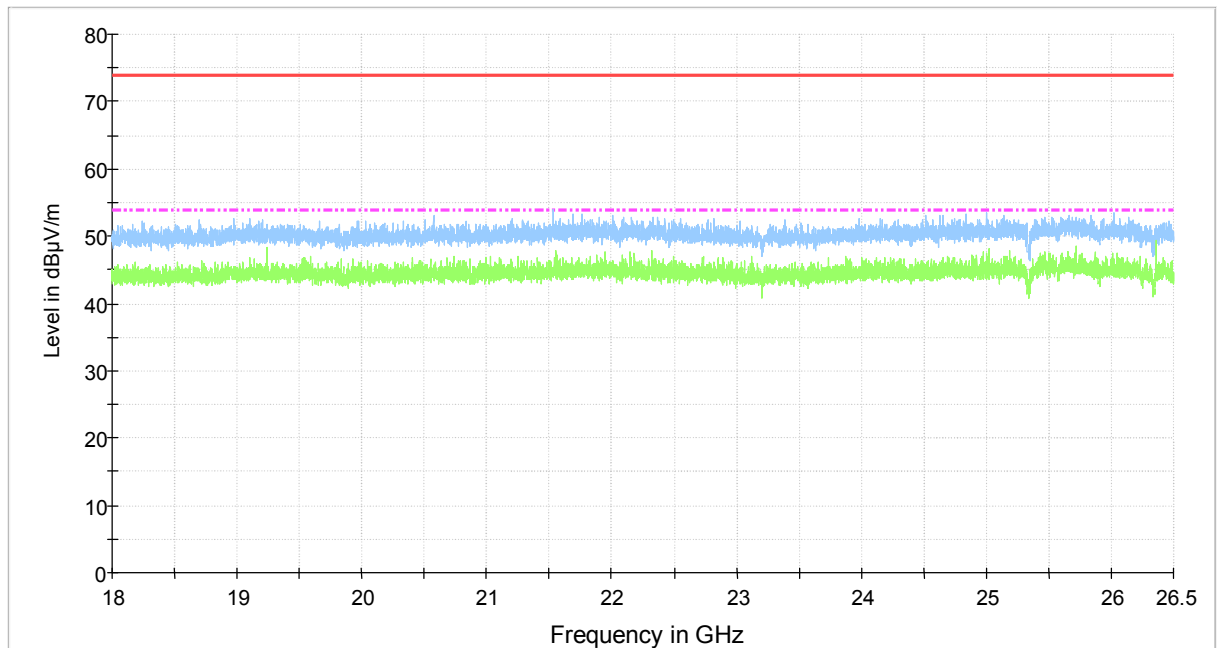
— FCC Part 15 Class B Electric Field Strength 3 m PK.LimitLine
 - - - FCC Part 15 Class B Electric Field Strength 3 m AV.LimitLine
— Preview Result 1-PK+
 — Preview Result 2-AVG
◆ Final Result 2-AVG

Figure 34. Measured curve with peak- and average detector. 1 Mbps Channel LOW.

Final measurements from the worst frequencies

Due to the low emission level no final measurements were made.

FCC Part 15 Class B Spurious Emission 18-26.5GHz 3m



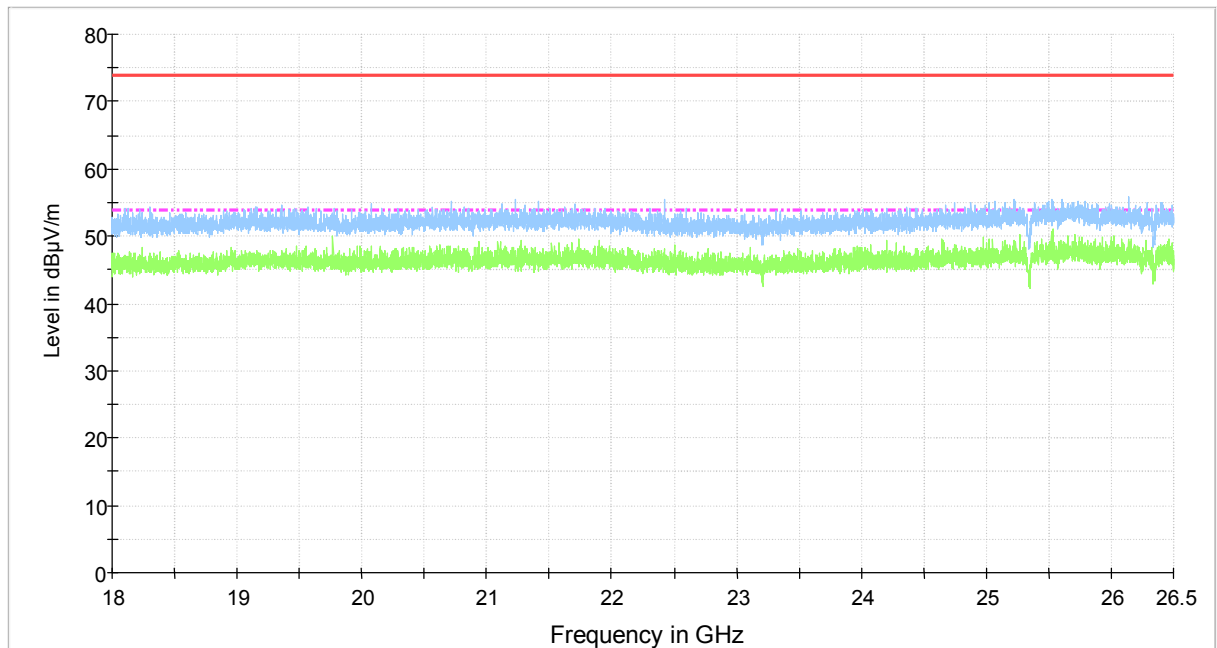
- FCC Part 15 Class B Electric Field Strength 3 m PK.LimitLine
- FCC Part 15 Class B Electric Field Strength 3 m AV.LimitLine
- ◆ Preview Result 1-PK+
- ◆ Preview Result 2-AVG
- ◆ Final Result 1-PK+
- ◆ Final Result 2-AVG

Figure 35. Measured curve with peak- and average detector. 1 Mbps Channel MID.

Final measurements from the worst frequencies

Due to the low emission level no final measurements were made.

FCC Part 15 Class B Spurious Emission 18-26.5GHz 3m



— FCC Part 15 Class B Electric Field Strength 3 m PK.LimitLine — FCC Part 15 Class B Electric Field Strength 3 m AV.LimitLine
— Preview Result 1-PK+ — Preview Result 2-AVG
◆ Final Result 1-PK+ ◆ Final Result 2-AVG

Figure 36. Measured curve with peak- and average detector. 1 Mbps Channel HIGH.

Final measurements from the worst frequencies

Due to the low emission level no final measurements were made.

Receiver Radiated Emissions 30 MHz to 26.5 GHz

Standard:	ANSI C63.10	(2009)
Tested by:	RRE	
Date:	6.2.- 24.4.2013	
Temperature:	18 - 20 °C	
Humidity:	20 - 30 % RH	
Measurement uncertainty	± 4.51 dB	Level of confidence 95 % (k = 2)

FCC Rule: 15.109

The EUT was in a receiving mode and measurement was performed on middle channel only.

The correction factor in the final result table contains the sum of the transducers (antenna + amplifier + cables).

The result value is the measured value corrected with the correction factor.

Test results with integrated antenna

FCC Part 15 Class B Spurious Emission 30-1000MHz 3m

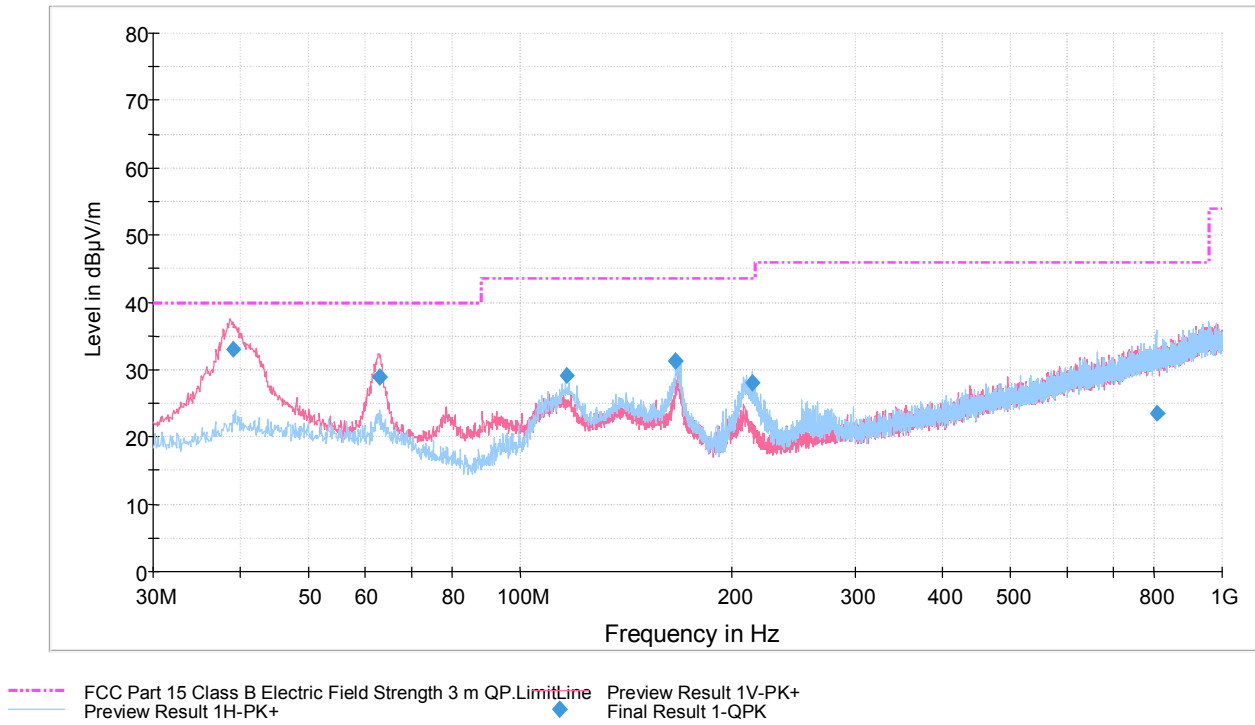


Figure 37. Measured curve with peak-detector.

Final measurements from the worst frequencies

Table 33. Final Quasi Peak results.

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time 15x(ms)	Bandwidth (kHz)	Height (cm)	Pol.	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
38.996000	32.9	1000.0	120.000	100.0	V	3.0	15.1	7.1	40.0	
62.986000	28.8	1000.0	120.000	100.0	V	273.0	14.1	11.2	40.0	
116.559000	29.1	1000.0	120.000	161.0	H	163.0	12.8	14.4	43.5	
166.504000	31.4	1000.0	120.000	182.0	H	97.0	14.7	12.1	43.5	
214.454000	28.0	1000.0	120.000	166.0	H	89.0	11.8	15.5	43.5	
805.398000	23.5	1000.0	120.000	362.0	H	257.0	24.9	22.5	46.0	

FCC Part 15 Class B Spurious Emission 1-18GHz 3m Rx

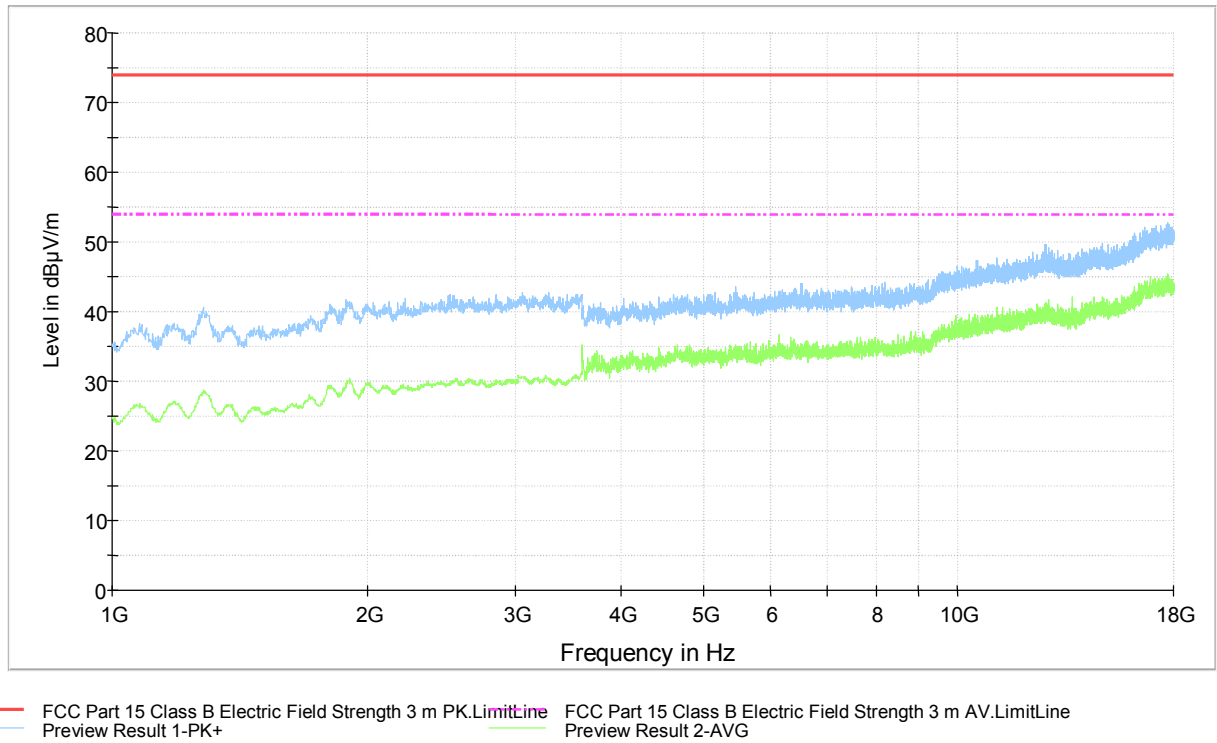
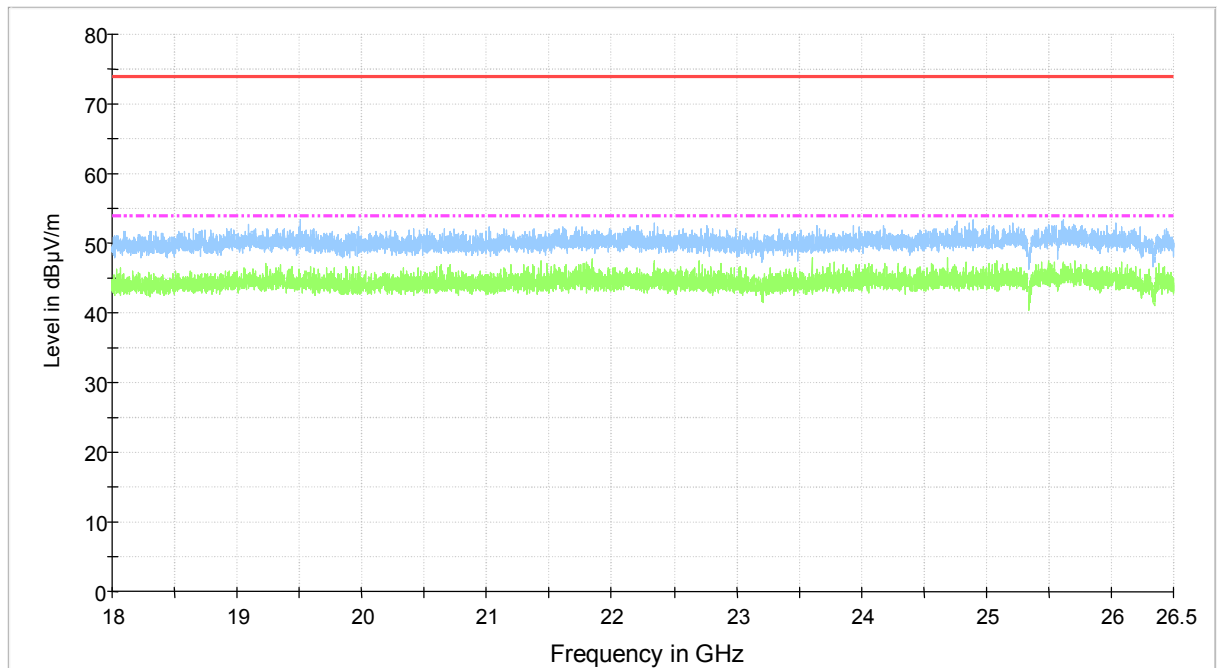


Figure 38. Measured curve with peak- and average detector.

Final measurements from the worst frequencies

Due to the low emission level no final measurements were made.

FCC Part 15 Class B Spurious Emission 18-26.5GHz 3m



— FCC Part 15 Class B Electric Field Strength 3 m PK.LimitLine
 - - - FCC Part 15 Class B Electric Field Strength 3 m AV.LimitLine
— Preview Result 1-PK+
 — Preview Result 2-AVG

Figure 39. Measured curve with peak-and average detector.

Final measurements from the worst frequencies

Due to the low emission level no final measurements were made.

Test results with external antenna

FCC Part 15 Class B Spurious Emission 30-1000MHz 3m

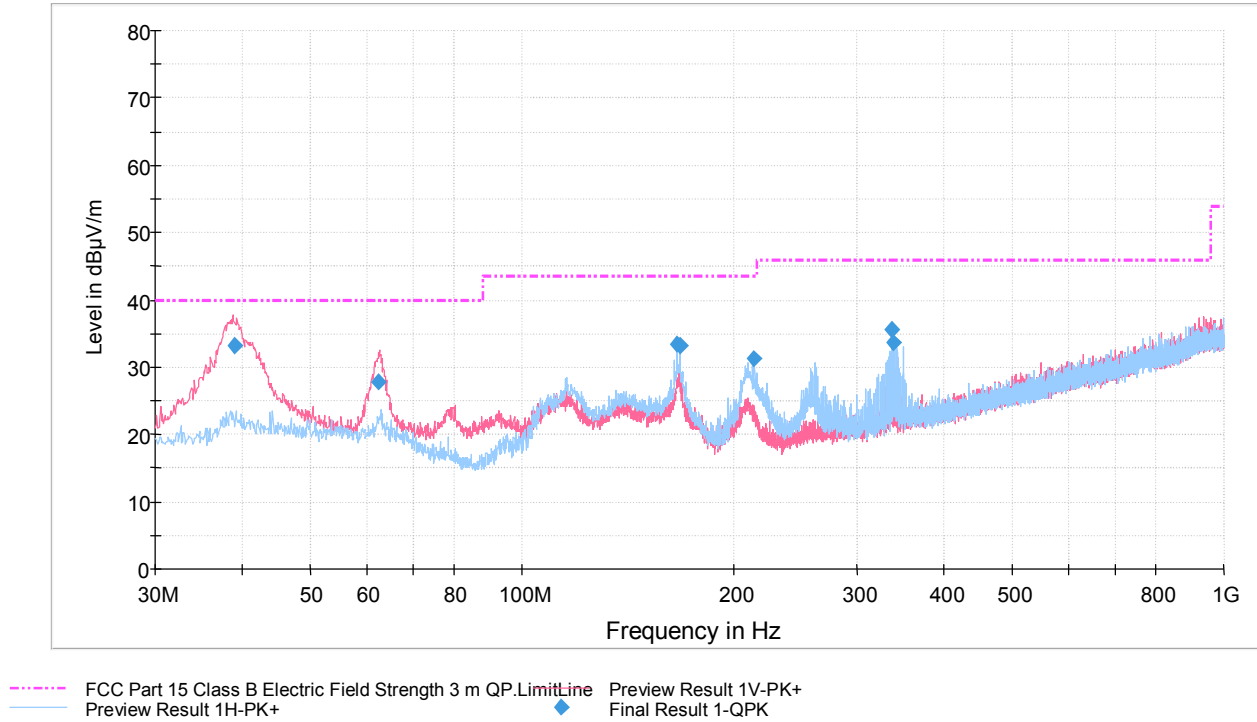


Figure 40. Measured curve with peak-detector.

Table 34. Final Quasi Peak results.

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time 15x(ms)	Bandwidth (kHz)	Height (cm)	Pol.	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
38.950000	33.1	1000.0	120.000	100.0	V	56.0	15.1	6.9	40.0	
62.312000	27.7	1000.0	120.000	100.0	V	298.0	14.1	12.3	40.0	
166.479000	33.3	1000.0	120.000	172.0	H	81.0	14.7	10.2	43.5	
168.014000	33.2	1000.0	120.000	166.0	H	102.0	14.6	10.3	43.5	
214.454000	31.3	1000.0	120.000	149.0	H	96.0	11.8	12.2	43.5	
335.975000	35.5	1000.0	120.000	100.0	H	149.0	16.1	10.5	46.0	
337.470000	33.6	1000.0	120.000	100.0	H	137.0	16.1	12.4	46.0	

FCC Part 15 Class B Spurious Emission 1-18GHz 3m

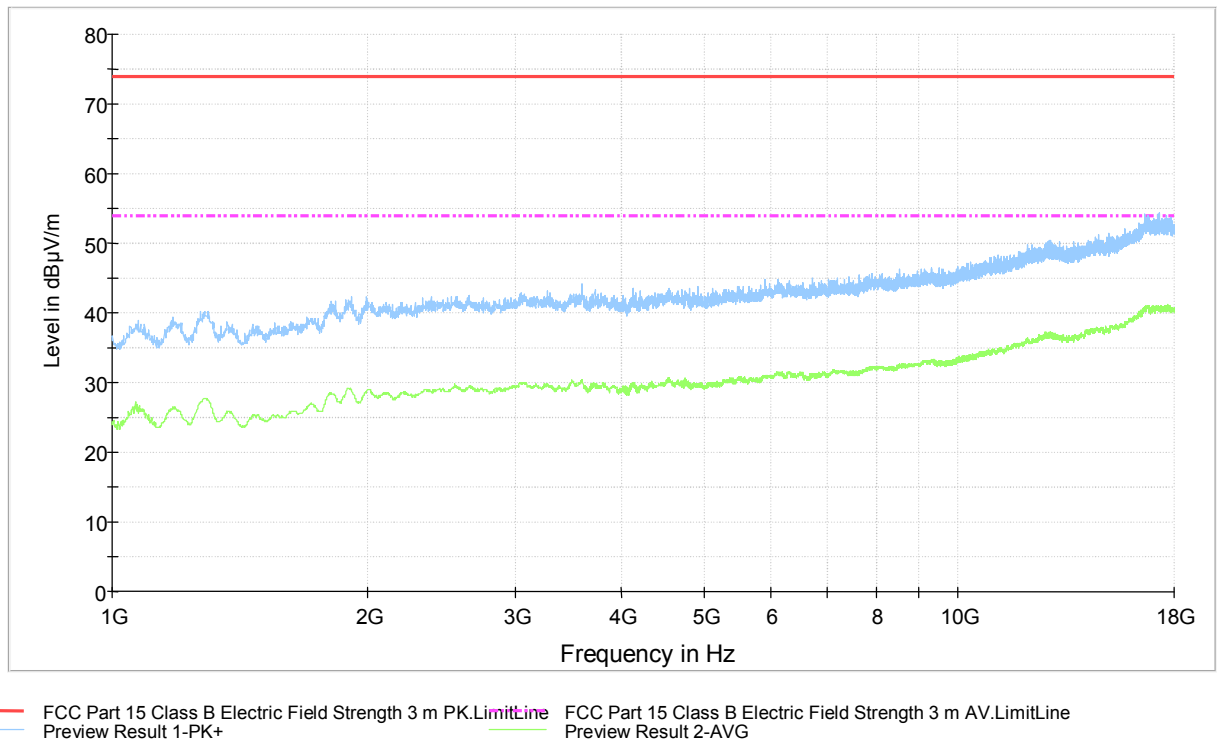
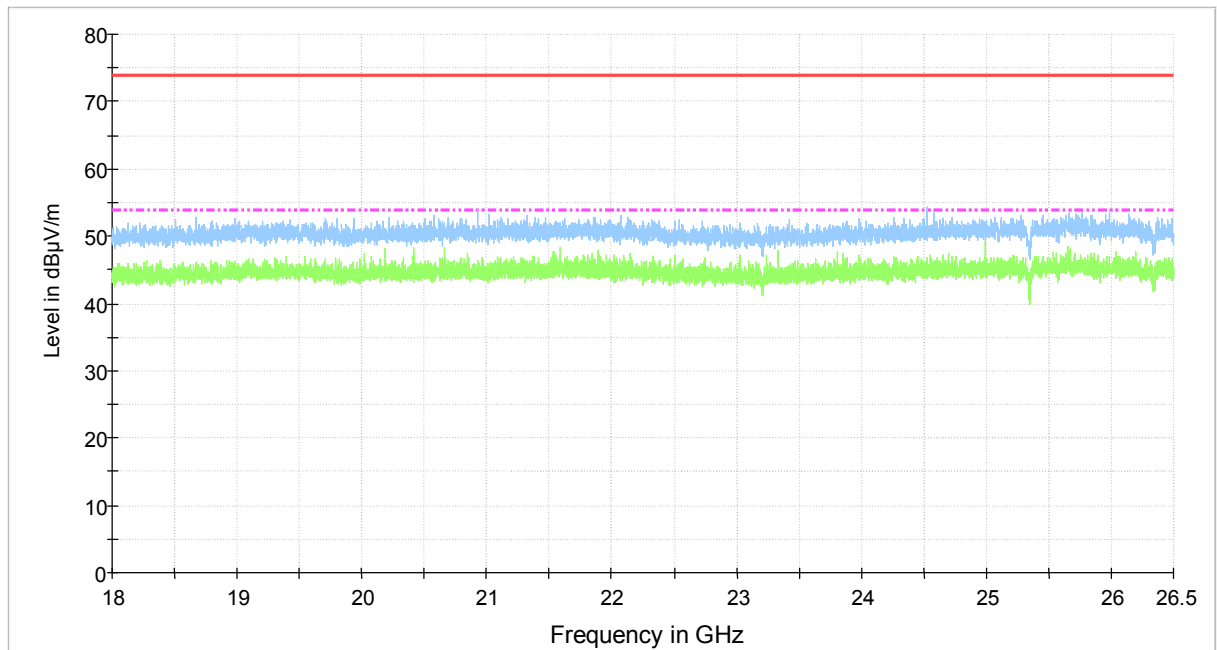


Figure 41. Measured curve with peak- and average detector.

Final measurements from the worst frequencies

Due to the low emission level no final measurements were made.

FCC Part 15 Class B Spurious Emission 18-26.5GHz 3m



— FCC Part 15 Class B Electric Field Strength 3 m PK.LimitLine
 - - - FCC Part 15 Class B Electric Field Strength 3 m AV.LimitLine
— Preview Result 1-PK+
 — Preview Result 2-AVG

Figure 42. Measured curve with peak-and average detector.

Final measurements from the worst frequencies

Due to the low emission level no final measurements were made.

Conducted Spurious Emission 30 MHz to 26.5 GHz and Band Edge

Conducted Spurious Emissions 30 MHz to 26.5 GHz and Band Edge

Standard: ANSI C63.10 (2009)
 Tested by: RRE
 Date: 6.5.2013
 Temperature: 22 °C
 Humidity: 20 % RH

FCC Rule: 15.247 (d)

Data rate 1 Mbps

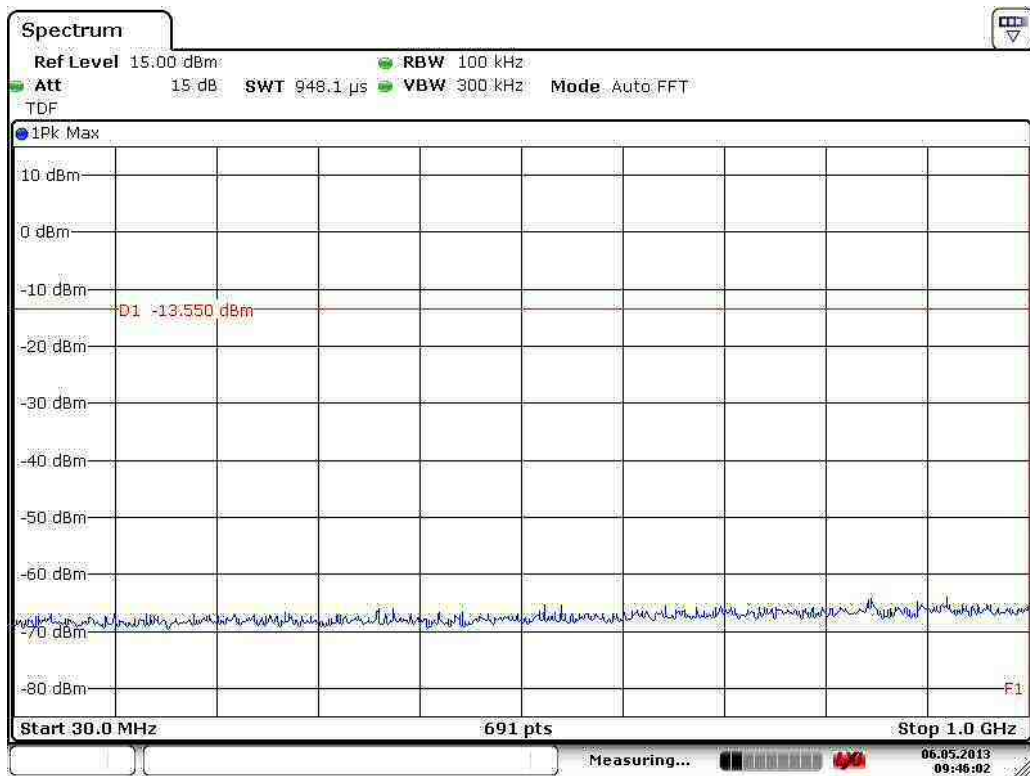
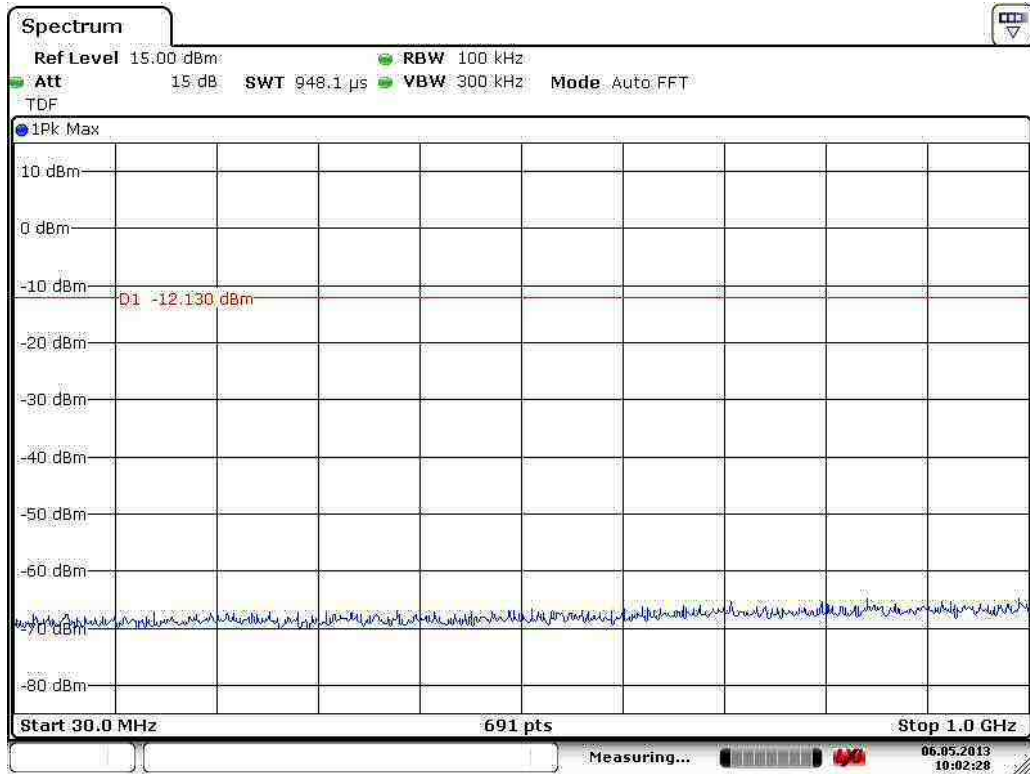


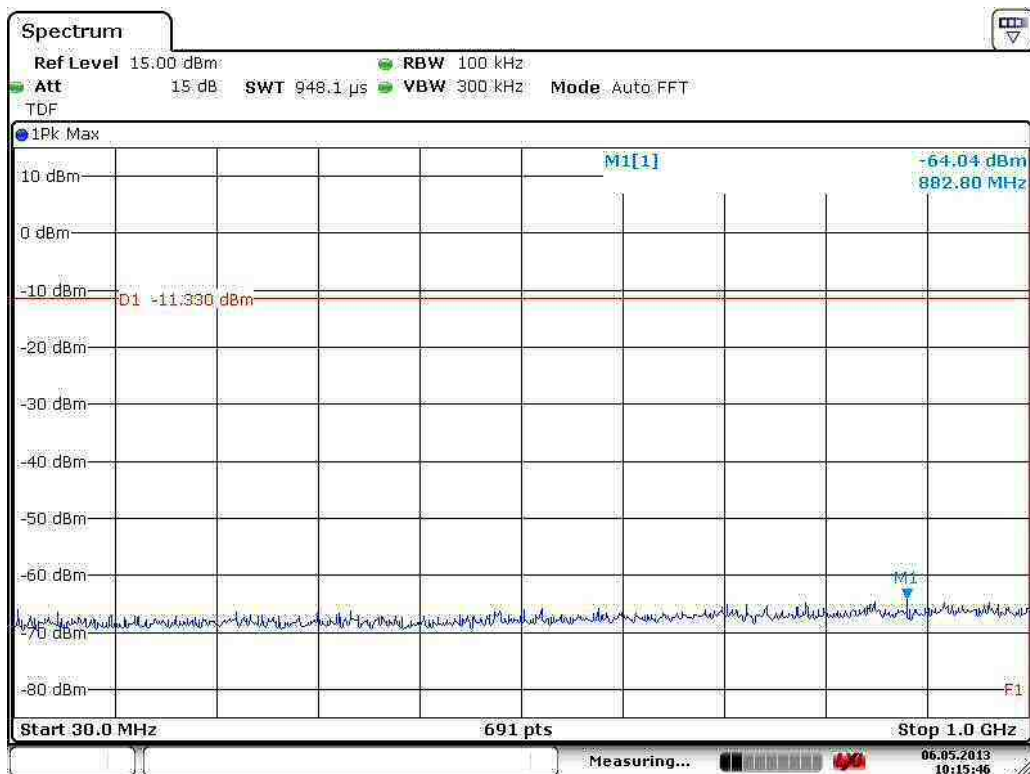
Figure 43. Low channel conductive emission 30 MHz to 1000 MHz (1 Mbps).

Conducted Spurious Emission 30 MHz to 26.5 GHz and Band Edge



Date: 6.MAY.2013 10:02:27

Figure 44. Mid channel conductive emission 30 MHz to 1000 MHz (1 Mbps).



Date: 6.MAY.2013 10:15:45

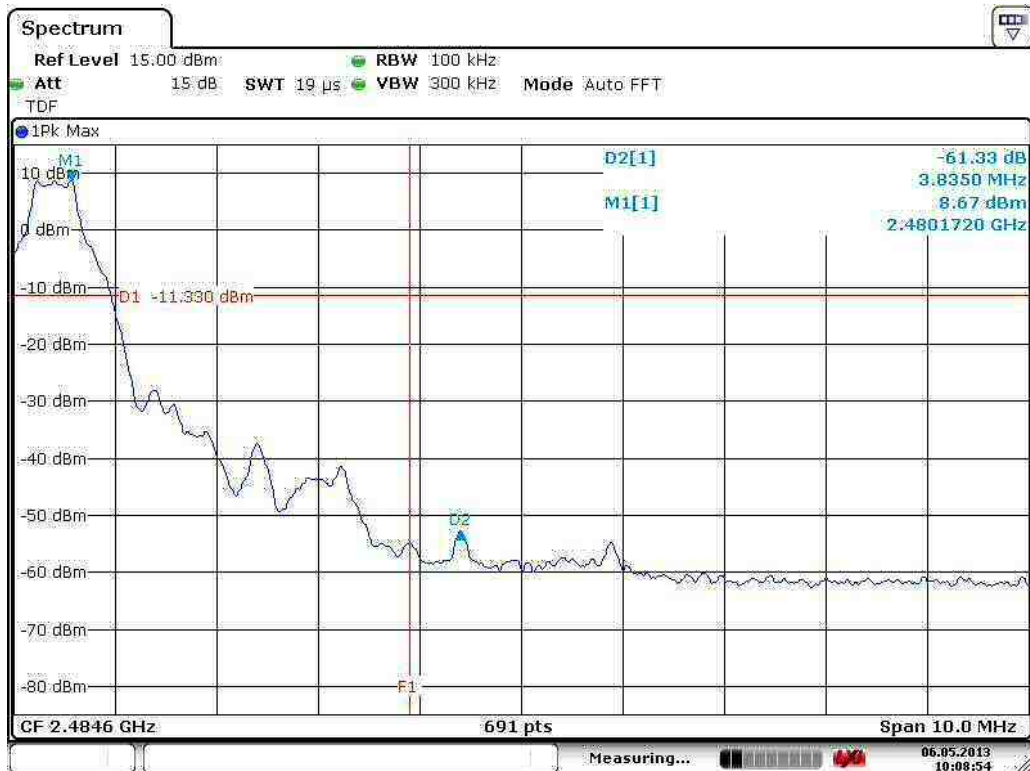
Figure 45. High channel conductive emission 30 MHz to 1000 MHz (1 Mbps).

Conducted Spurious Emission 30 MHz to 26.5 GHz and Band Edge



Date: 6.MAY.2013 09:44:13

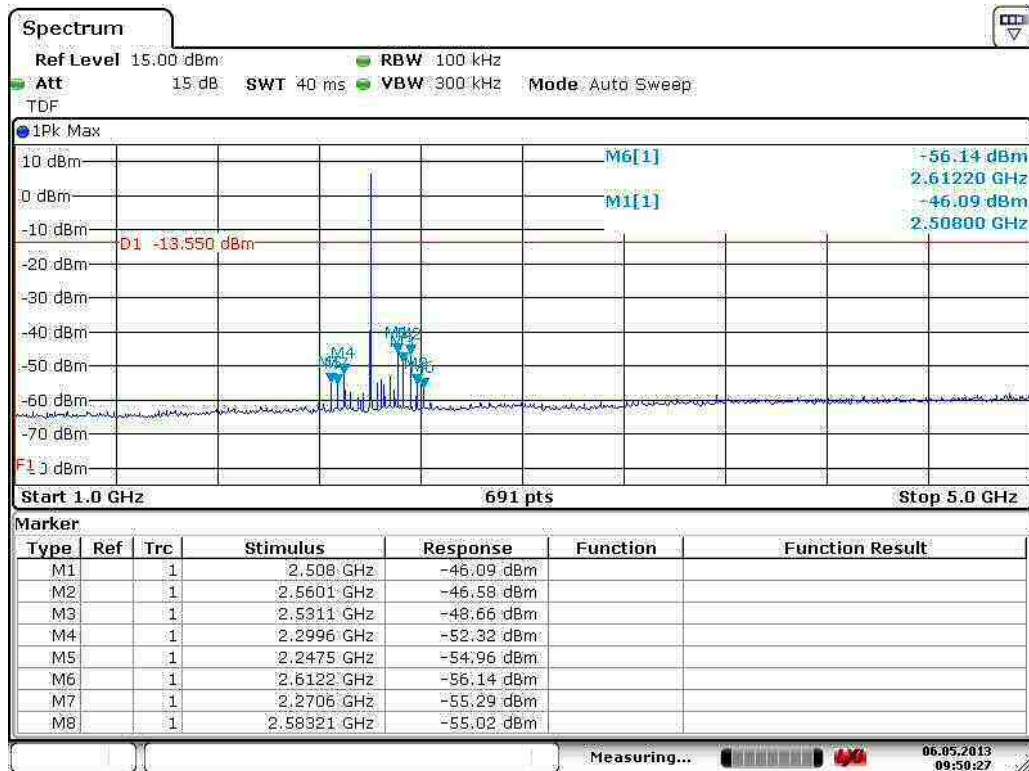
Figure 46. Low channel conductive emission at low band edge (1 Mbps).



Date: 6.MAY.2013 10:08:53

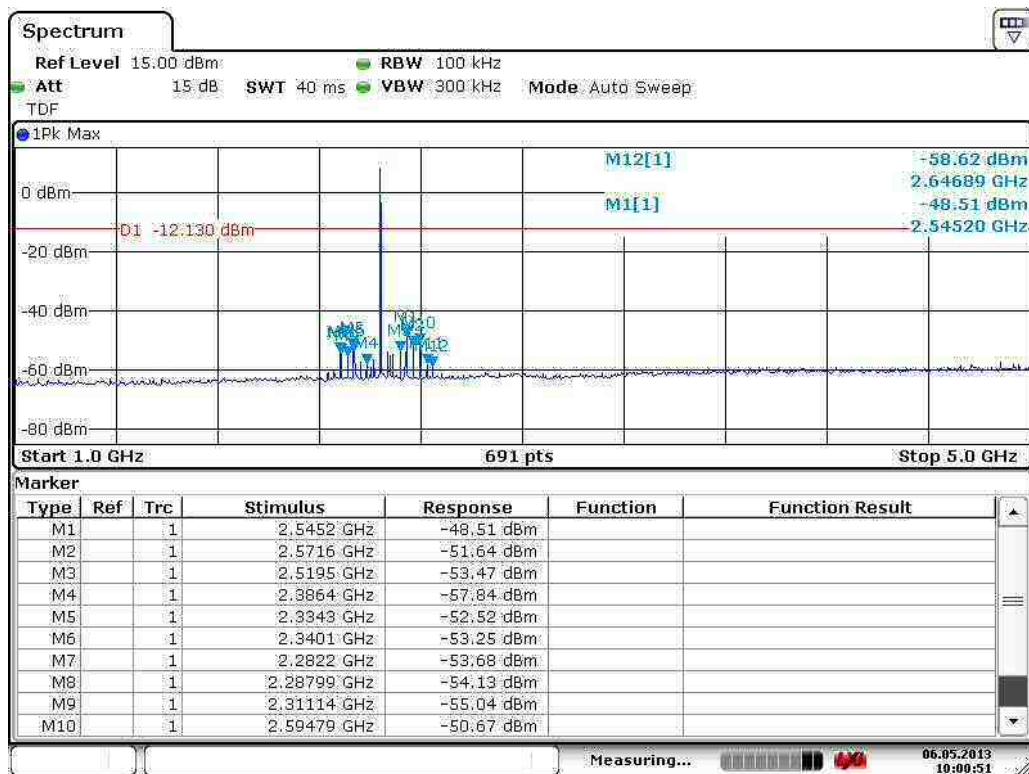
Figure 47. High channel conductive emission at high band edge (1 Mbps).

Conducted Spurious Emission 30 MHz to 26.5 GHz and Band Edge



Date: 6.MAY.2013 09:50:26

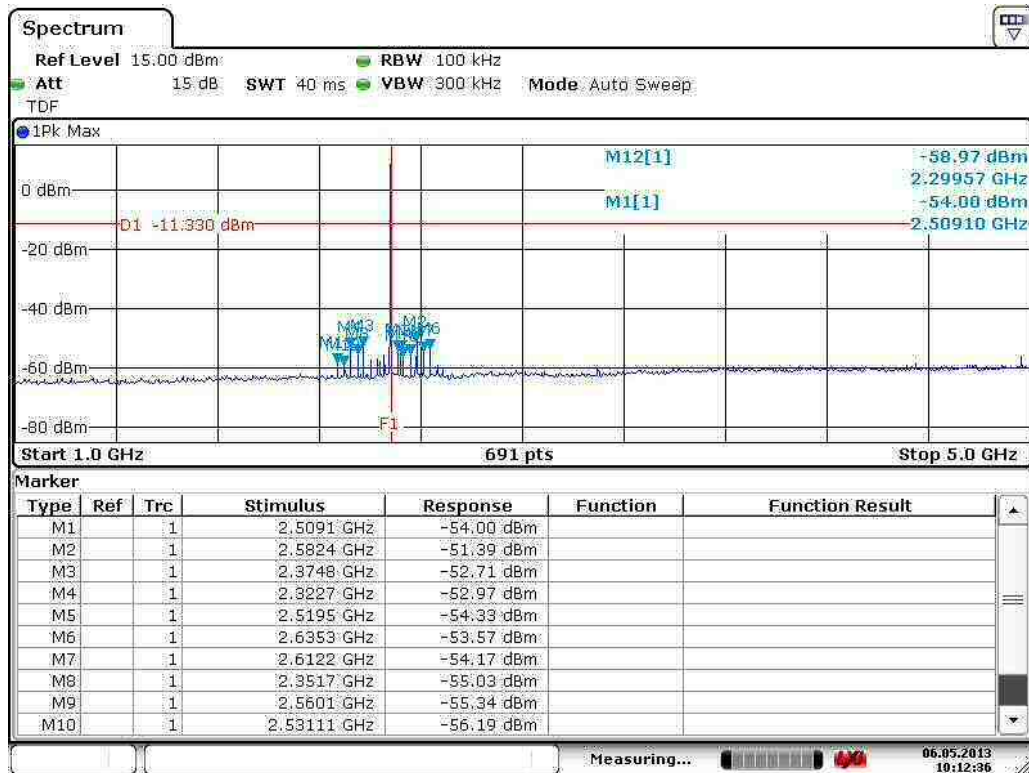
Figure 48. Low channel conductive emission 1 GHz to 5 GHz (1 Mbps).



Date: 6.MAY.2013 10:00:50

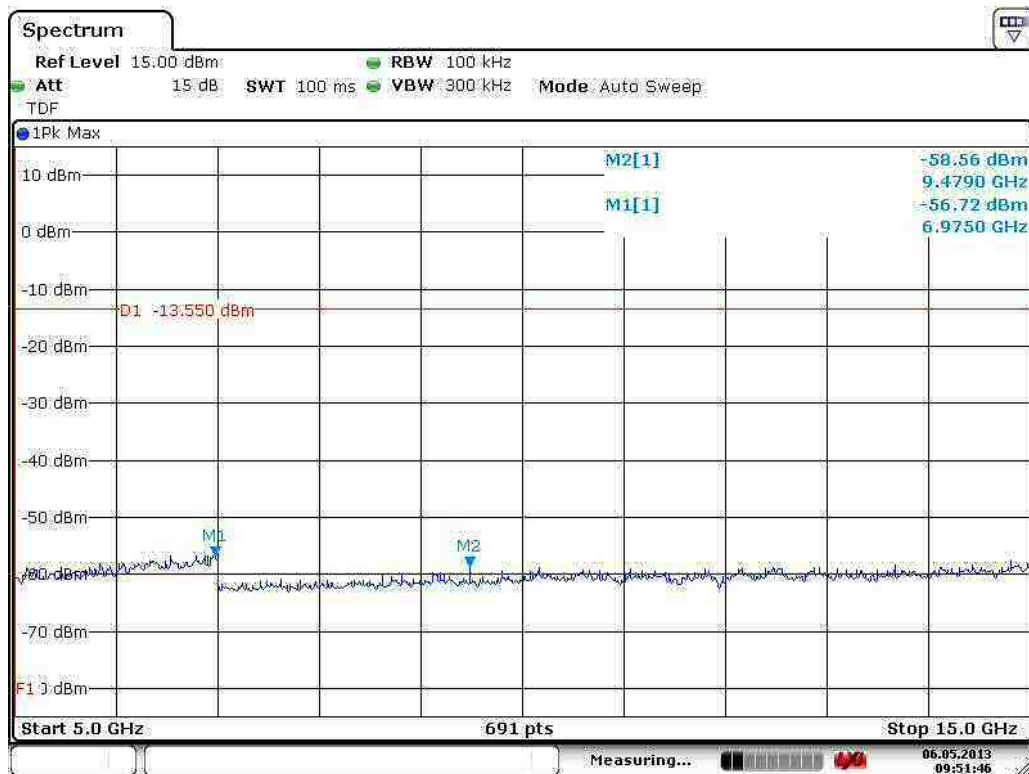
Figure 49. Mid channel conductive emission 1 GHz to 5 GHz (1 Mbps).

Conducted Spurious Emission 30 MHz to 26.5 GHz and Band Edge



Date: 6.MAY.2013 10:12:35

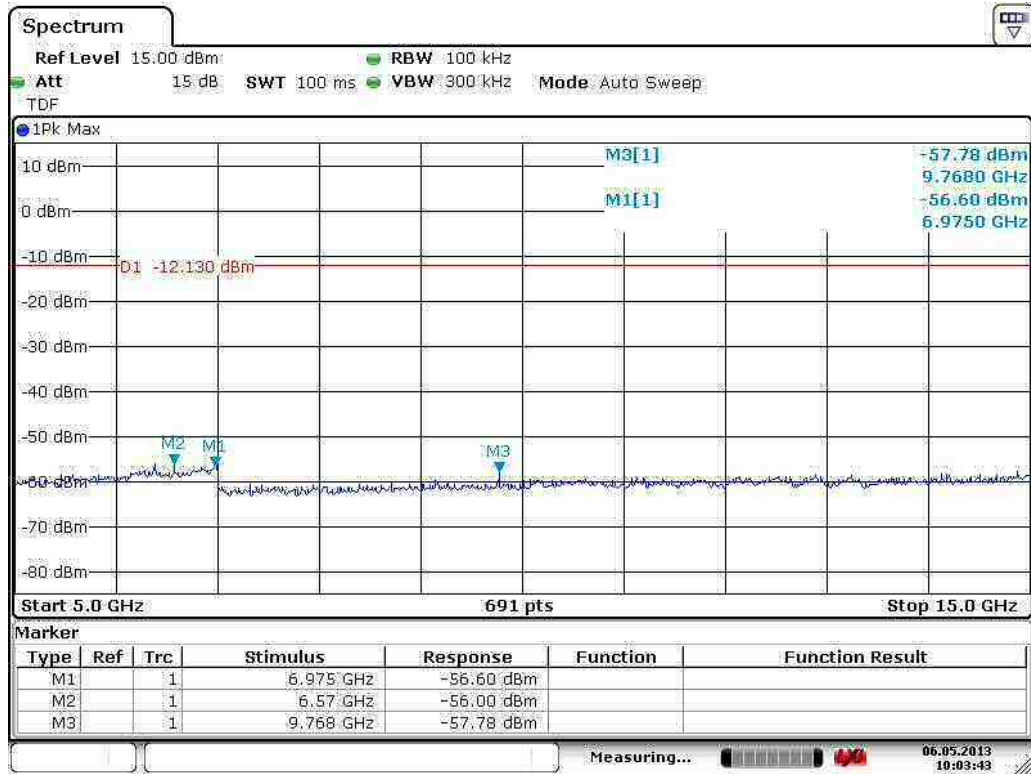
Figure 50. High channel conductive emission 1 GHz to 5 GHz (1 Mbps).



Date: 6.MAY.2013 09:51:45

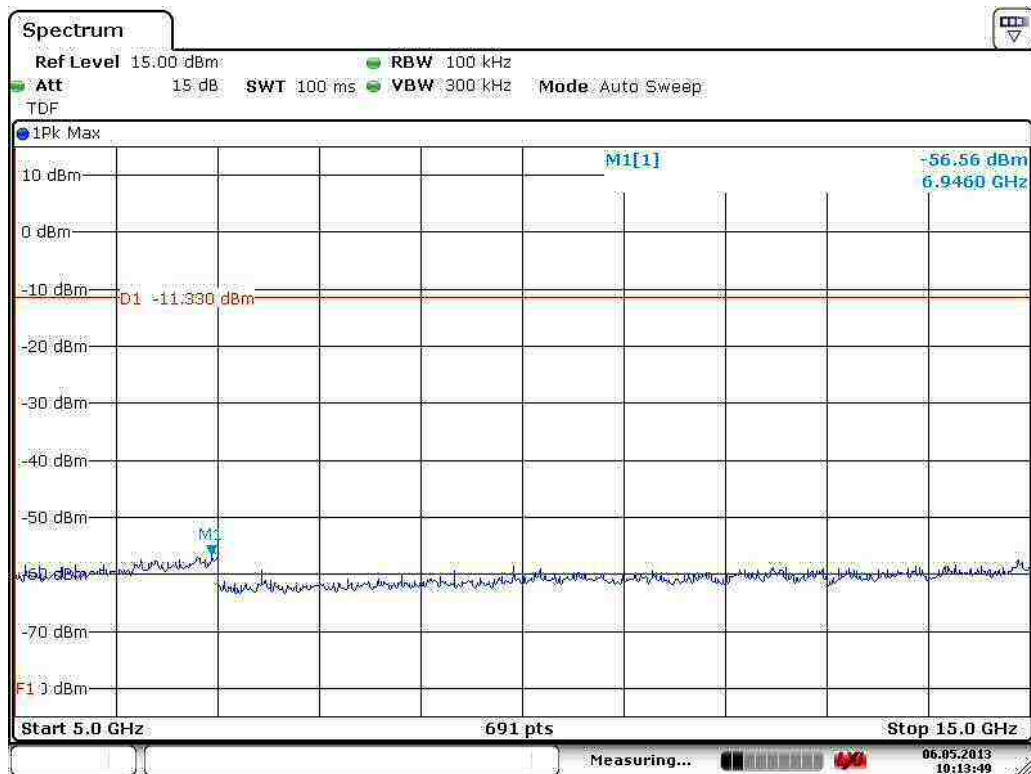
Figure 51. Low channel conductive emission 5 GHz to 15 GHz (1 Mbps).

Conducted Spurious Emission 30 MHz to 26.5 GHz and Band Edge



Date: 6.MAY.2013 10:03:43

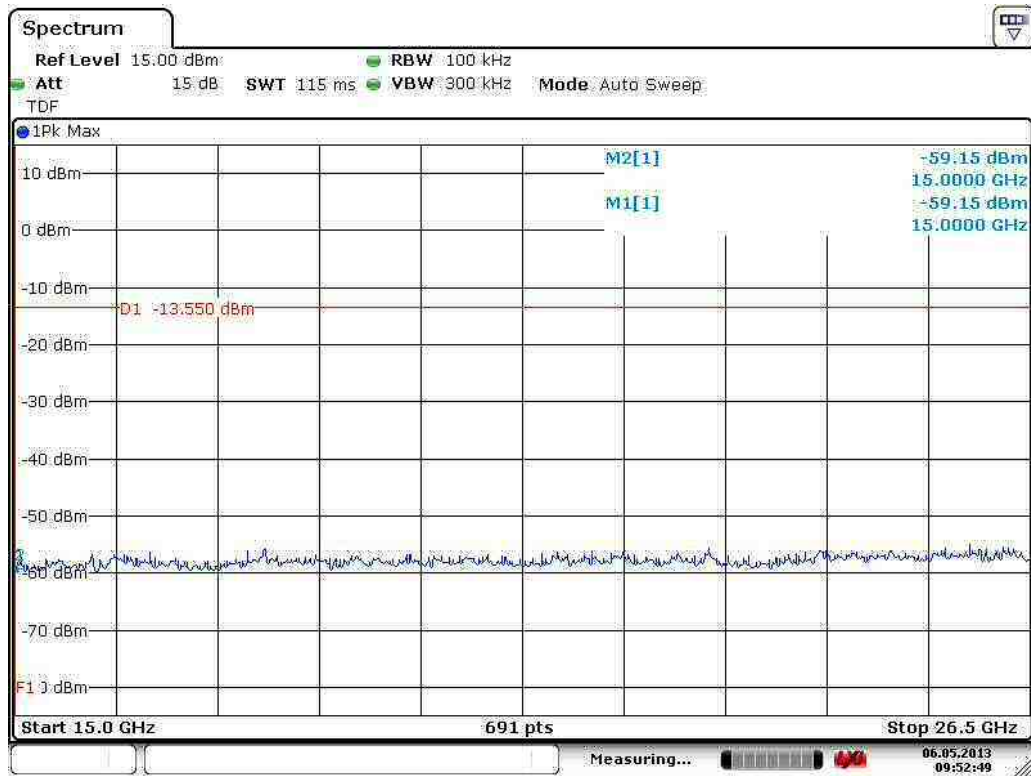
Figure 52. Mid channel conductive emission 5 GHz to 15 GHz (1 Mbps).



Date: 6.MAY.2013 10:13:49

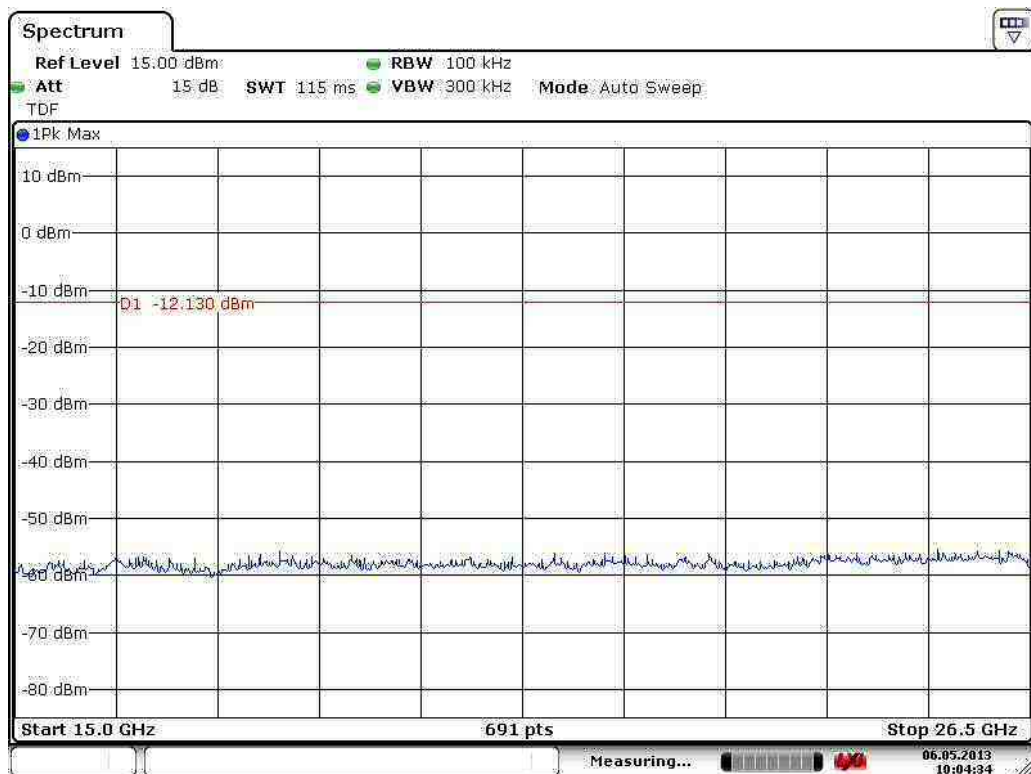
Figure 53. High channel conductive emission 5 GHz to 15 GHz (1 Mbps).

Conducted Spurious Emission 30 MHz to 26.5 GHz and Band Edge



Date: 6.MAY.2013 09:52:49

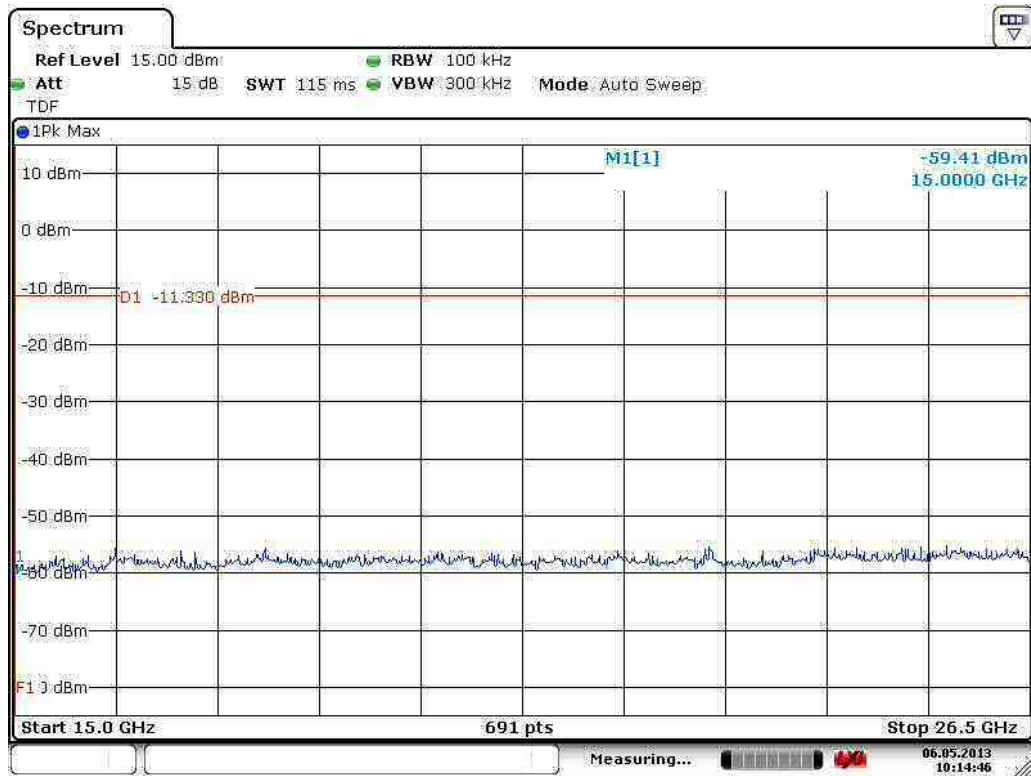
Figure 54. Low channel conductive emission 15 GHz to 26.5 GHz (1 Mbps).



Date: 6.MAY.2013 10:04:33

Figure 55. Mid channel conductive emission 15 GHz to 26.5 GHz (1 Mbps).

Conducted Spurious Emission 30 MHz to 26.5 GHz and Band Edge

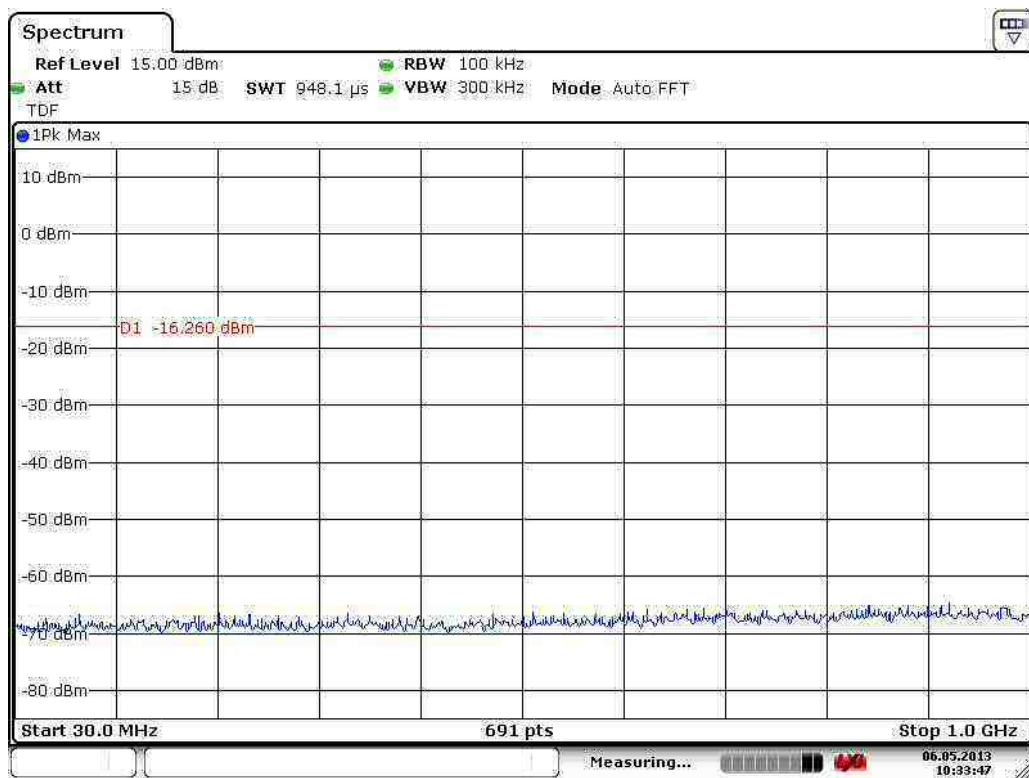


Date: 6.MAY.2013 10:14:46

Figure 56. High channel conductive emission 15 GHz to 26.5 GHz (1 Mbps).

Conducted Spurious Emission 30 MHz to 26.5 GHz and Band Edge

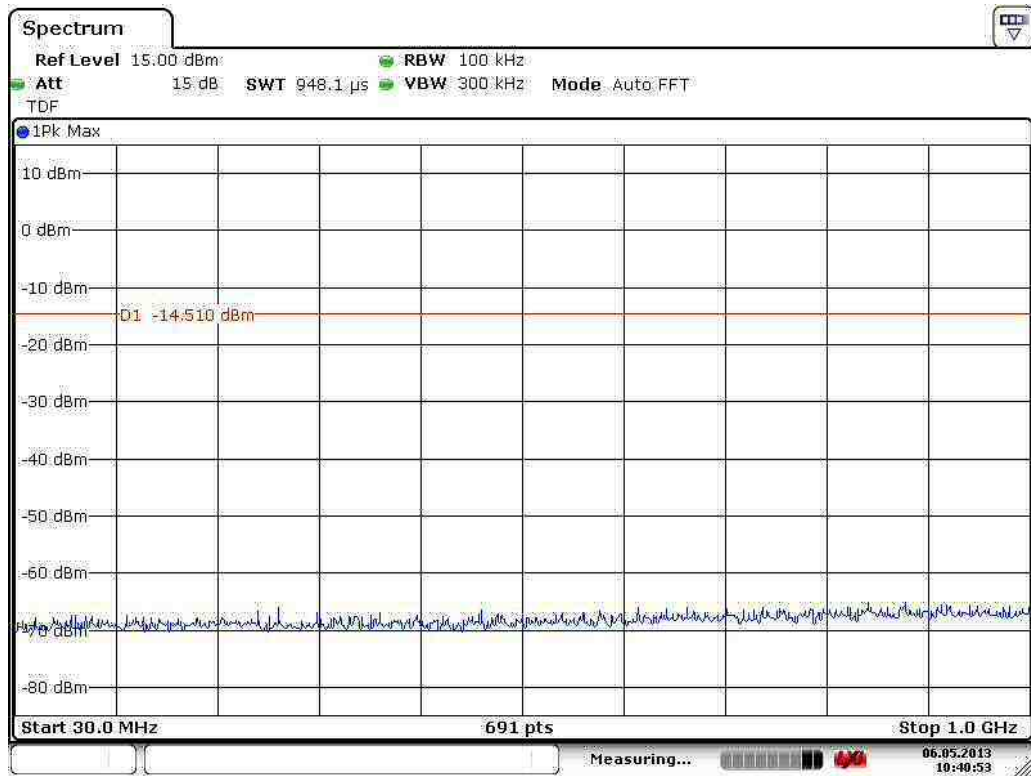
Data rate 2 Mbps



Date: 6.MAY.2013 10:33:46

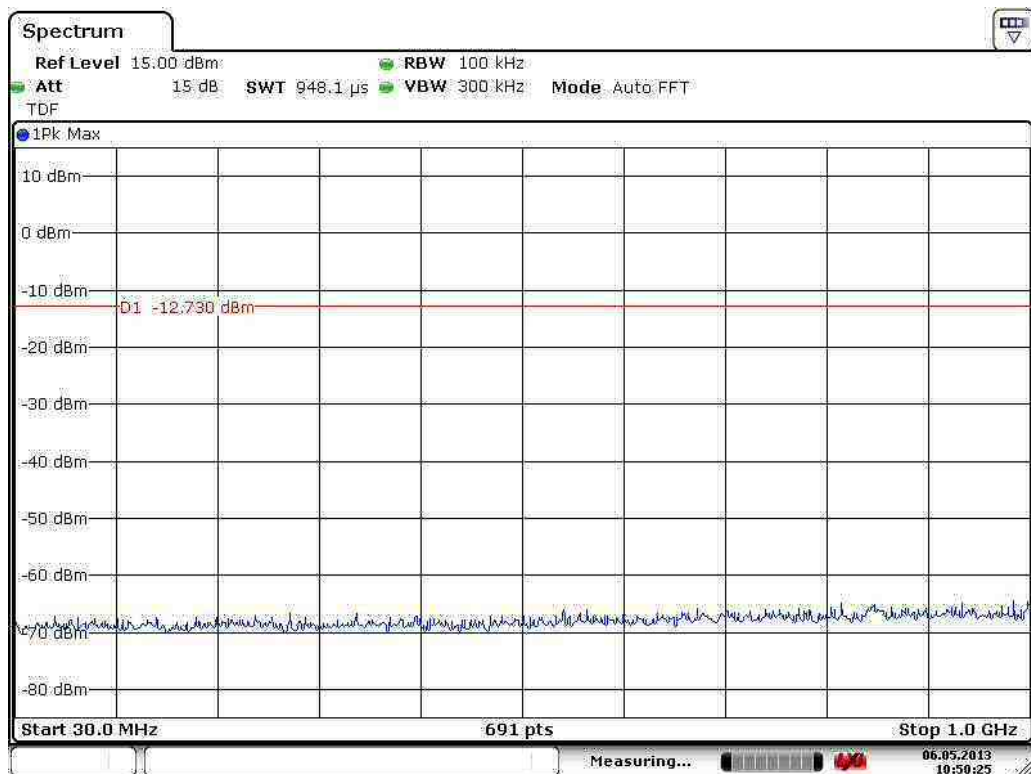
Figure 57. Low channel conductive emission 30 MHz to 1000 MHz (2 Mbps).

Conducted Spurious Emission 30 MHz to 26.5 GHz and Band Edge



Date: 6.MAY.2013 10:40:52

Figure 58. Mid channel conductive emission 30 MHz to 1000 MHz (2 Mbps).



Date: 6.MAY.2013 10:50:24

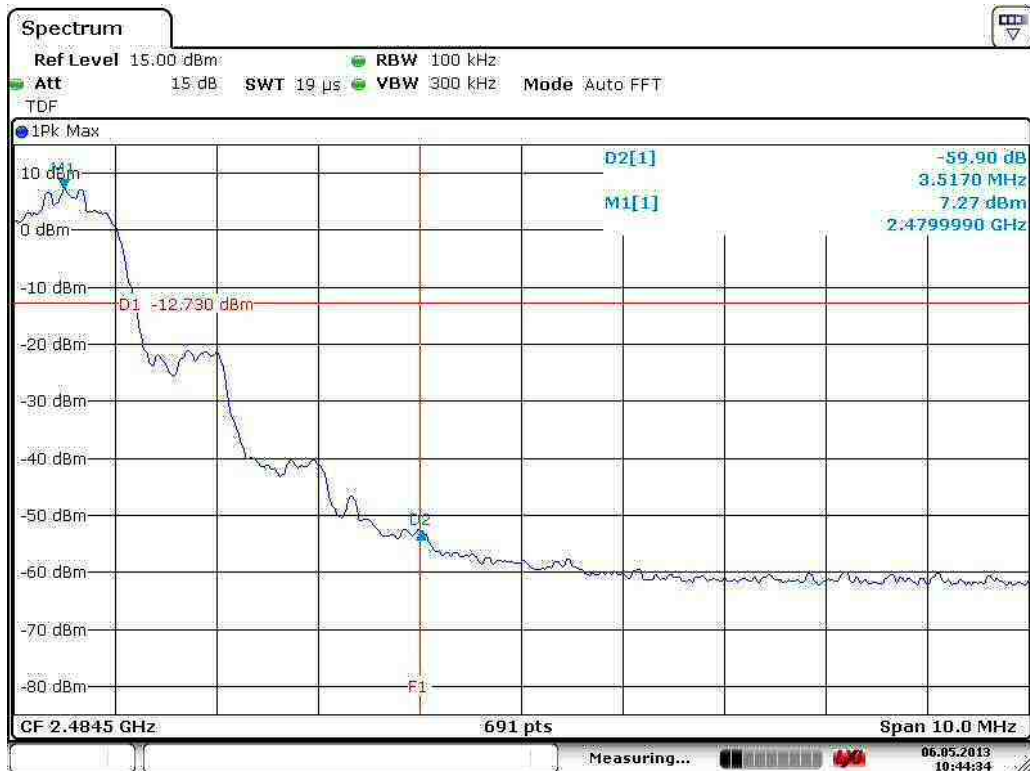
Figure 59. High channel conductive emission 30 MHz to 1000 MHz (2 Mbps).

Conducted Spurious Emission 30 MHz to 26.5 GHz and Band Edge



Date: 6.MAY.2013 10:27:54

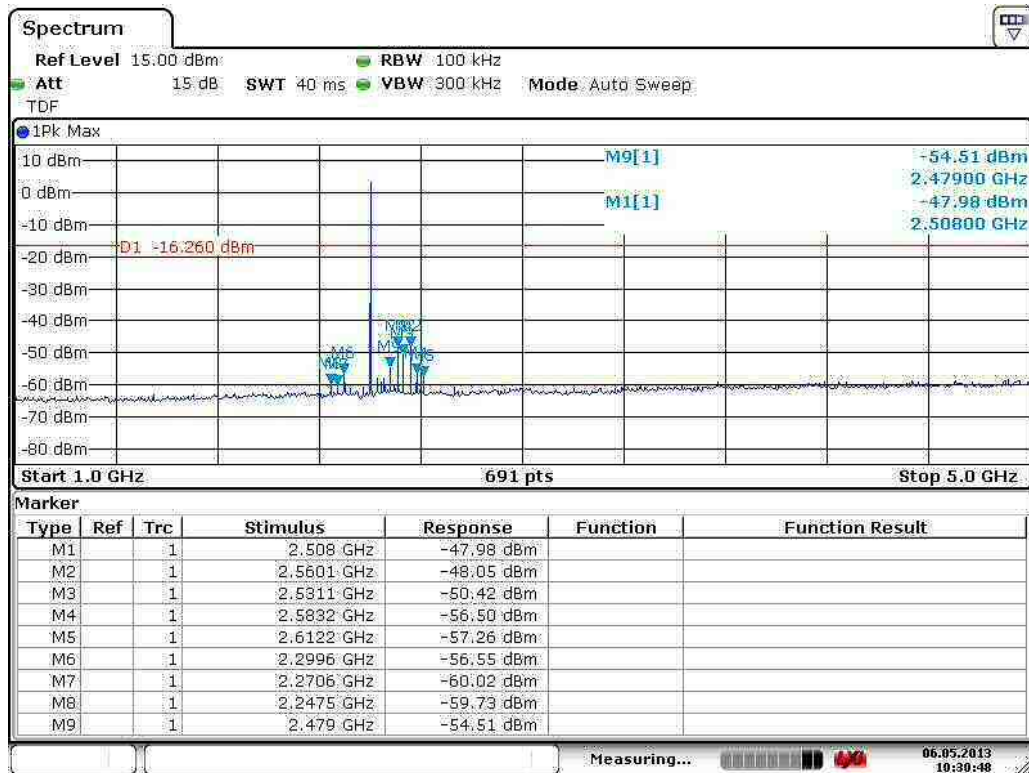
Figure 60. Low channel conductive emission at low band edge (2 Mbps).



Date: 6.MAY.2013 10:44:34

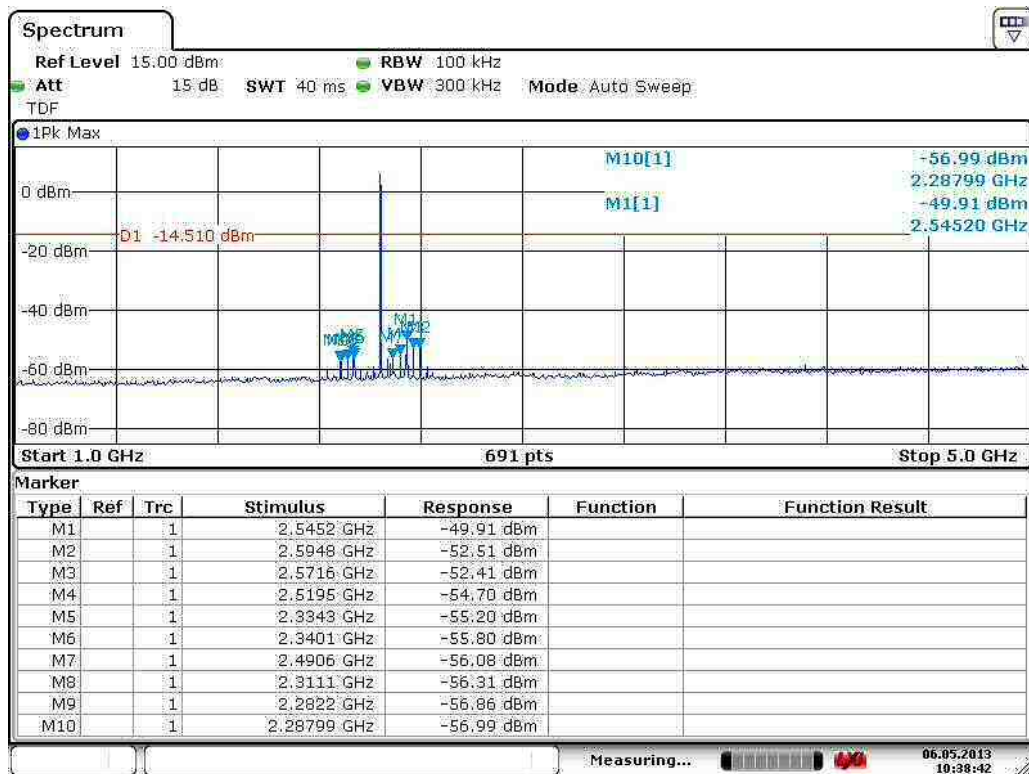
Figure 61. High channel conductive emission at high band edge (2 Mbps).

Conducted Spurious Emission 30 MHz to 26.5 GHz and Band Edge



Date: 6.MAY.2013 10:30:47

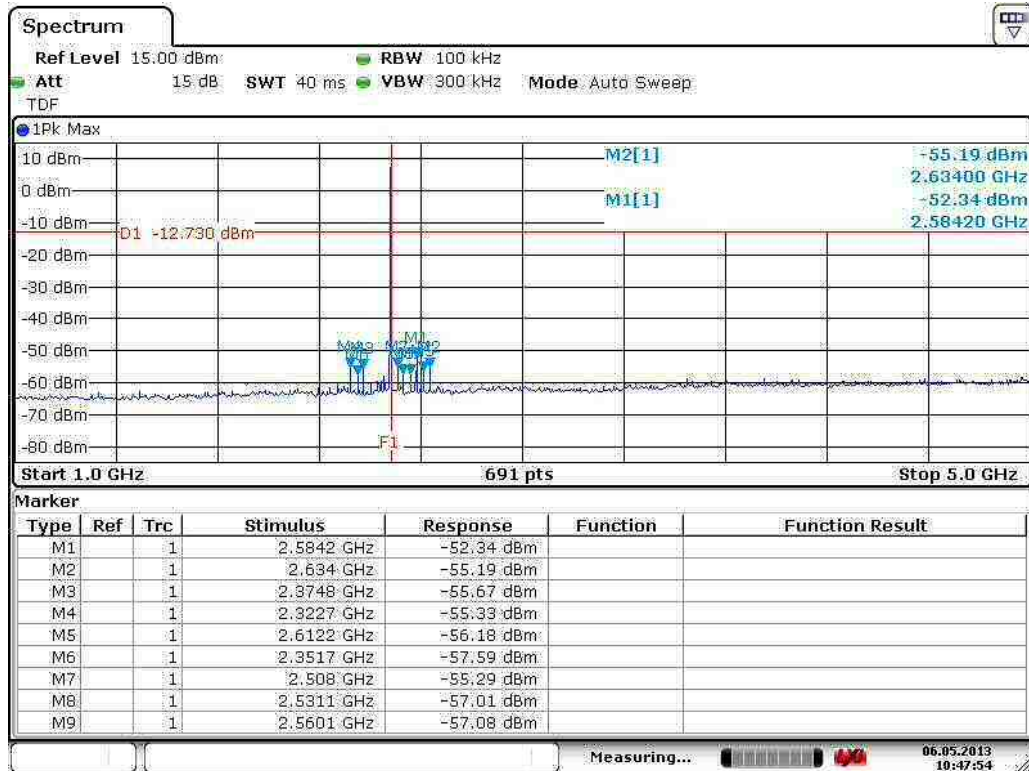
Figure 62. Low channel conductive emission 1 GHz to 5 GHz (2 Mbps).



Date: 6.MAY.2013 10:38:42

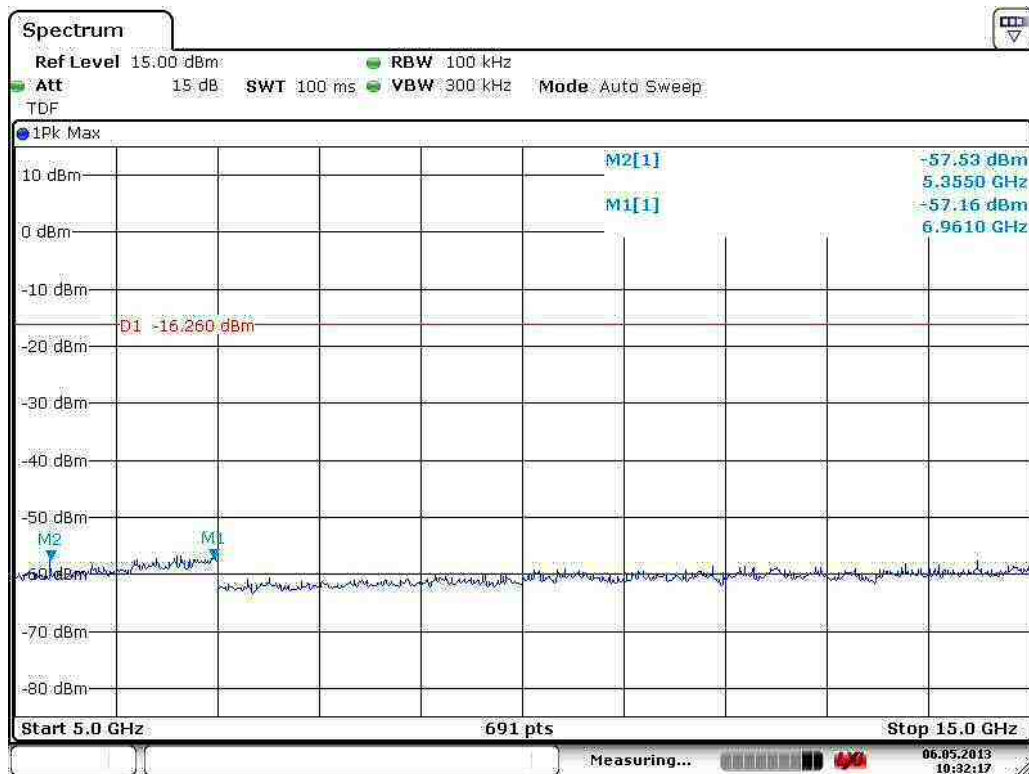
Figure 63. Mid channel conductive emission 1 GHz to 5 GHz (2 Mbps).

Conducted Spurious Emission 30 MHz to 26.5 GHz and Band Edge



Date: 6.MAY.2013 10:47:53

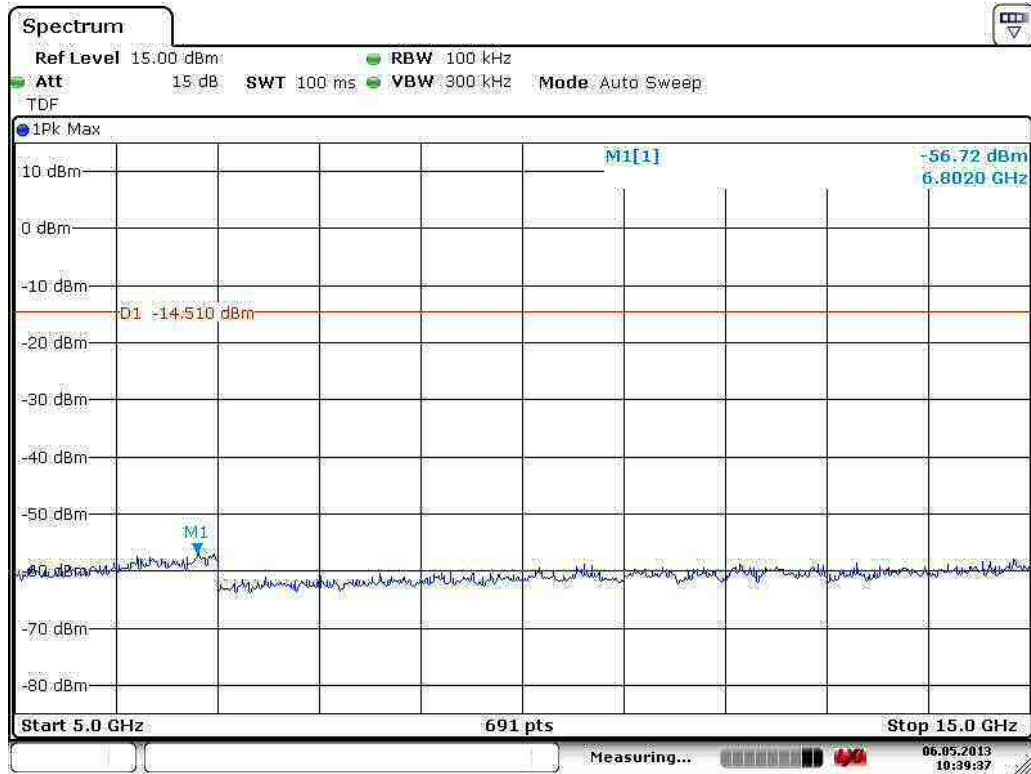
Figure 64. High channel conductive emission 1 GHz to 5 GHz (2 Mbps).



Date: 6.MAY.2013 10:32:16

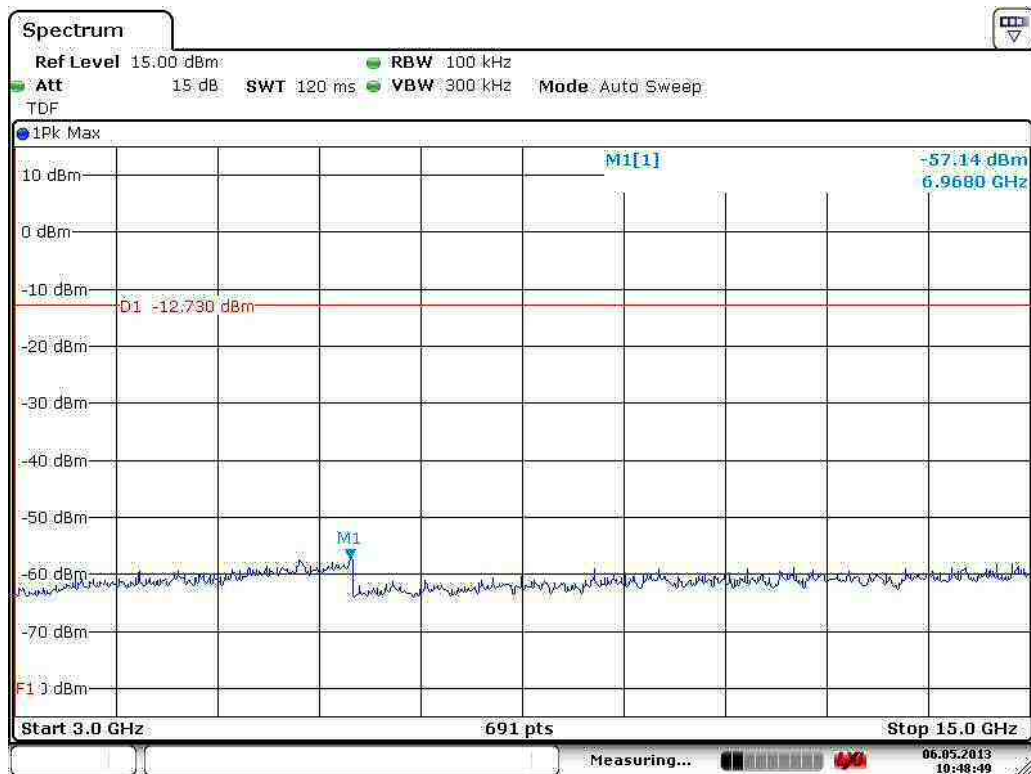
Figure 65. Low channel conductive emission 5 GHz to 15 GHz (2 Mbps).

Conducted Spurious Emission 30 MHz to 26.5 GHz and Band Edge



Date: 6.MAY.2013 10:39:36

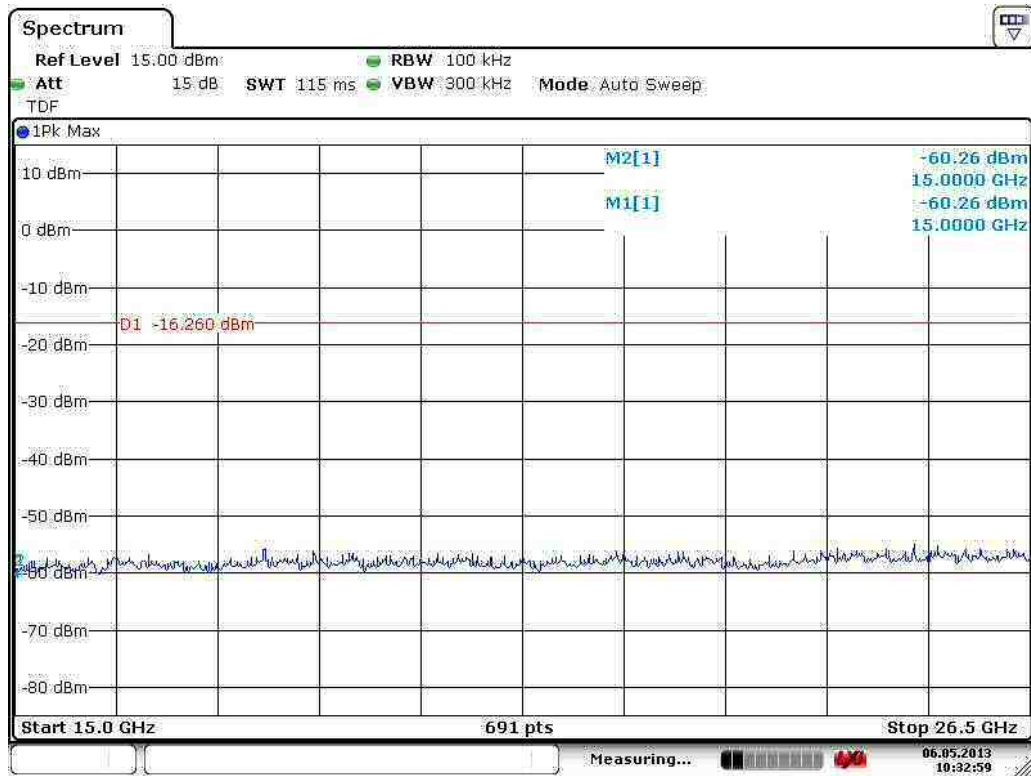
Figure 66. Mid channel conductive emission 5 GHz to 15 GHz (2 Mbps).



Date: 6.MAY.2013 10:48:49

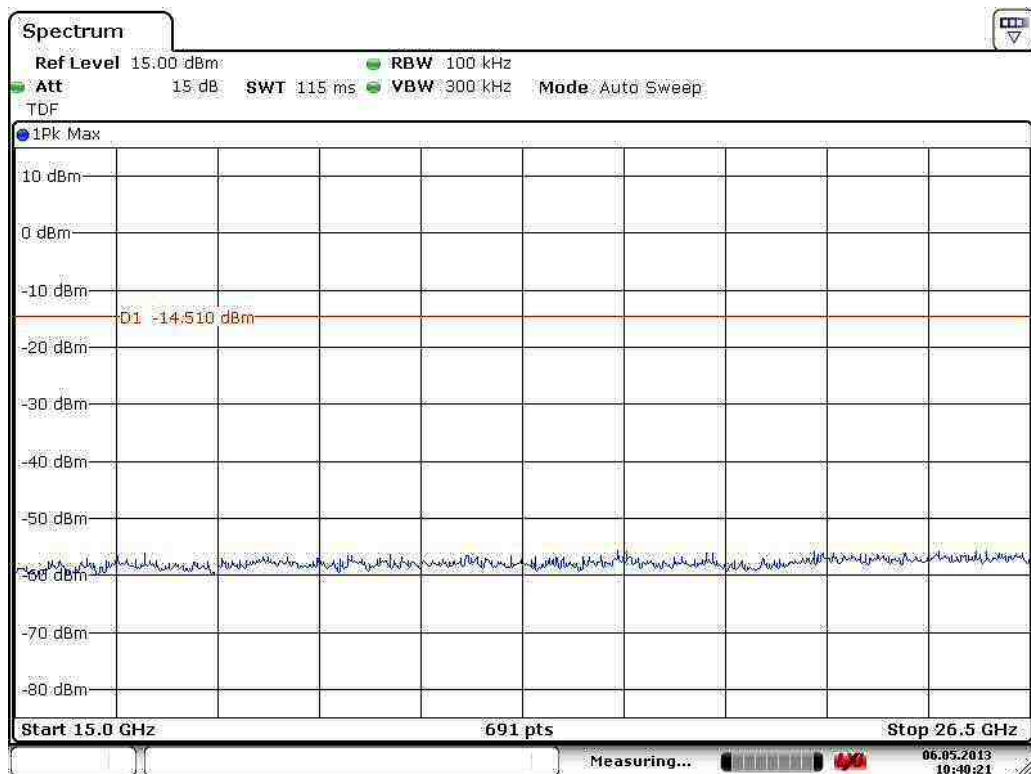
Figure 67. High channel conductive emission 5 GHz to 15 GHz (2 Mbps).

Conducted Spurious Emission 30 MHz to 26.5 GHz and Band Edge



Date: 6.MAY.2013 10:32:58

Figure 68. Low channel conductive emission 15 GHz to 26.5 GHz (2 Mbps).



Date: 6.MAY.2013 10:40:20

Figure 69. Mid channel conductive emission 15 GHz to 26.5 GHz (2 Mbps).