

Annex 1: Measurement diagrams to  
Partial TEST REPORT  
No.: 16-1-0120001T01a

According to:  
**FCC Regulations**  
Part 15.247  
Part 15.205  
Part 15.209

**ISED-Regulations**  
RSS-247, Issue 2  
RSS-Gen, Issue 5

for  
Actia Nordic AB

**VCM**

**FCC: 2AGKKVCM**  
**ISED: 20839-VCM**  
**PMN=VCM**  
**HVIN= VCM**  
**FVIN=IP21**

Laboratory Accreditation and Listings



Accredited EMC-Test Laboratory

accredited according to DIN EN ISO/IEC 17025

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Laboratory Accreditation and Listings

## Table of contents

<b>1. CONDUCTED MEASUREMENTS .....</b>	<b>3</b>
1.1. RF-Peak Power measurements on antenna port.....	3
1.2. Conducted 6dB bandwidth .....	4
<b>2. RADIATED FIELD STRENGTH MEASUREMENTS .....</b>	<b>11</b>
2.1. Magnetic field strength measurements in the range 9 kHz to 30 MHz.....	11
2.2. Field strength measurements 30MHz <f <1GHz .....	17
2.3. Field strength measurements 1GHz <f <18GHz .....	23
2.4. Field strength measurements 18GHz <f <25GHz .....	29
<b>3. RADIATED BAND-EDGE MEASUREMENTS ACCORD. §15.209 &amp; §15.205 (§15.247) .....</b>	<b>32</b>
3.1. Channel 1 (left band edge).....	32
3.2. Channel 11 (right band edge).....	38

## 1. Conducted measurements

### 1.1. RF-Peak Power measurements on antenna port

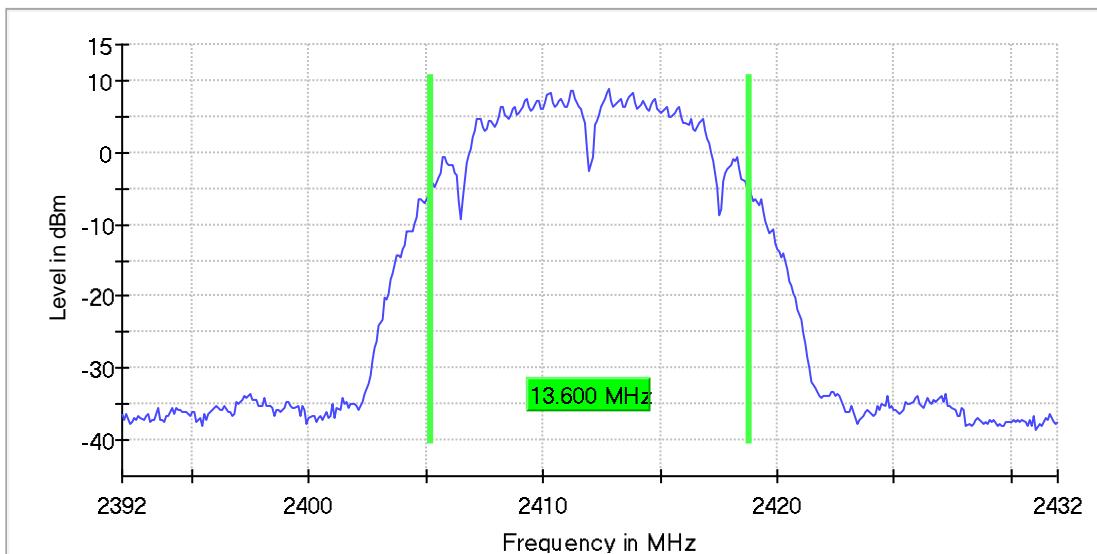
b-mode		Channel no. / [dBm]			Max-Value / [dBm]
Data rate	Modulation	1	6	11	
1MBit		17,80	17,43	17,85	17,99
2Mbit		17,77	17,99	17,67	
5.5Mbit		17,01	16,78	17,15	
11MBit		17,85	17,81	17,58	
g-Mode		Channel no. / [dBm]			Max-Value / [dBm]
Data rate	Modulation	1	6	11	
6Mbit		15,6	16,13	16,9	16,90
9Mbit		15,45	16,52	16,76	
12Mbit		15,38	16,01	16,77	
18Mbit		15,21	16,13	15,9	
24Mbit		15,36	16,05	15,62	
36Mbit		15,26	15,55	16,41	
48Mbit		15,35	16,15	16,4	
54MBit		15,42	15,81	16,01	
n-Mode HT20 (1 spatial stream: 1SS)		Channel no. / [dBm]			Max-Value / [dBm]
Data rate	Modulation	1	6	11	
MCS0 - 6.5Mbps	BPSK	15,6	16,27	16,86	17,04
MCS1 - 13Mbps	QPSK	16,07	16,65	16,85	
MCS2 - 19.5Mbps	QPSK	15,95	16,49	16,7	
MCS3 - 26Mbps	QAM16	15,9	16,5	16,7	
MCS4 - 39Mbps	QAM16	15,95	16,69	16,86	
MCS5 - 52Mbps	QAM64	16,05	16,38	17,04	
MCS6 - 58.5Mbps	QAM64	15,38	16,36	16,68	
MCS7 - 65Mbps	QAM64	15,85	16,43	16,65	

**1.2. Conducted 99% occupied bandwidth**

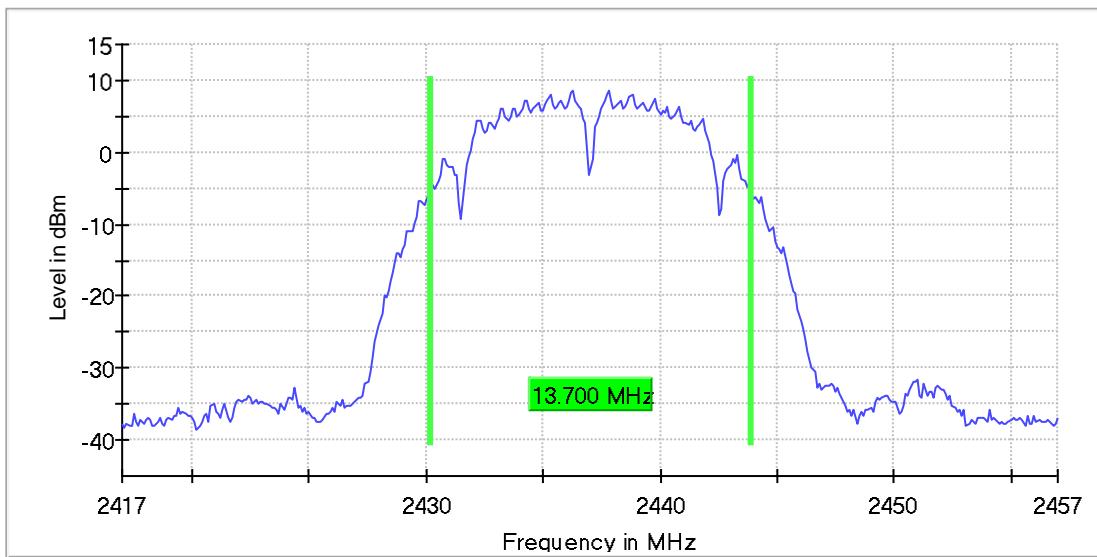
2.4GHz	2412	2437	2462
b	13,6	13,7	13,8
g	16,60	16,7	16,6
n	17,8	17,9	17,9

## 1.2.1. b Mode 2Mbit

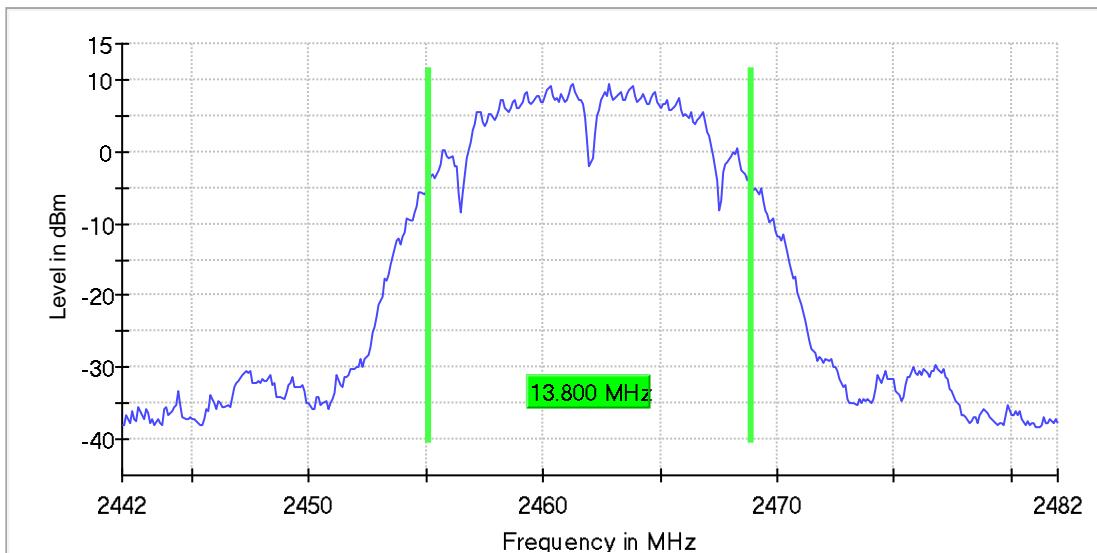
DUT Frequency (MHz)	Channel	Max Level (dBm)	Bandwidth (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2412.000000	1	8.8	13.6	2405.200000	2418.800000



DUT Frequency (MHz)	Channel	Max Level (dBm)	Bandwidth (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2437.000000	6	8.6	13.7	2430.200000	2443.900000

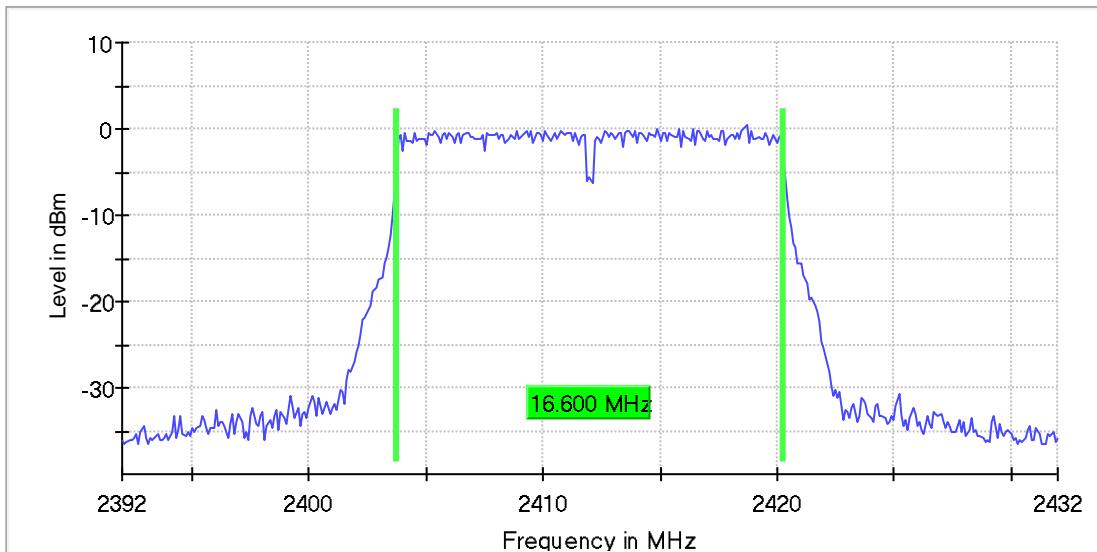


DUT Frequency (MHz)	Channel	Max Level (dBm)	Bandwidth (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2462.000000	11	9.5	13.8	2455.100000	2468.900000

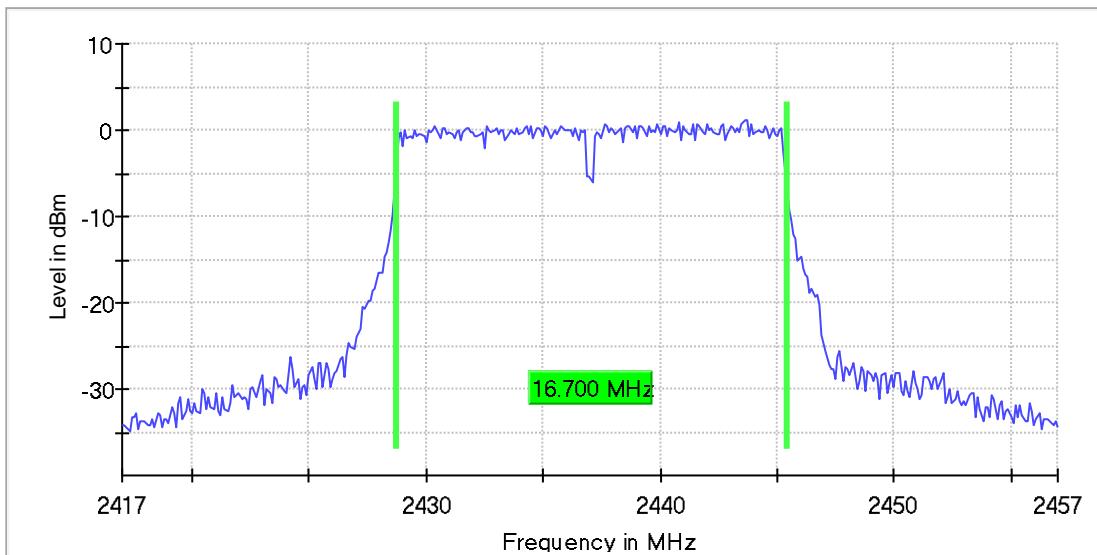


## 1.2.2. g Mode 6Mbit

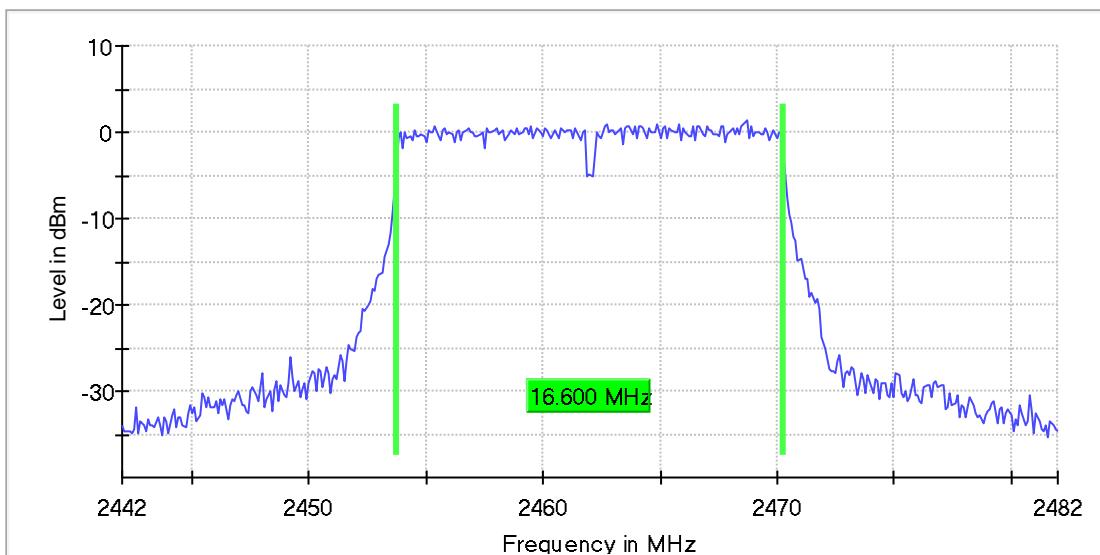
DUT Frequency (MHz)	Channel	Max Level (dBm)	Bandwidth (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2412.000000	1	0.4	16.6	2403.700000	2420.300000



DUT Frequency (MHz)	Channel	Max Level (dBm)	Bandwidth (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2437.000000	6	1.2	16.7	2428.700000	2445.400000

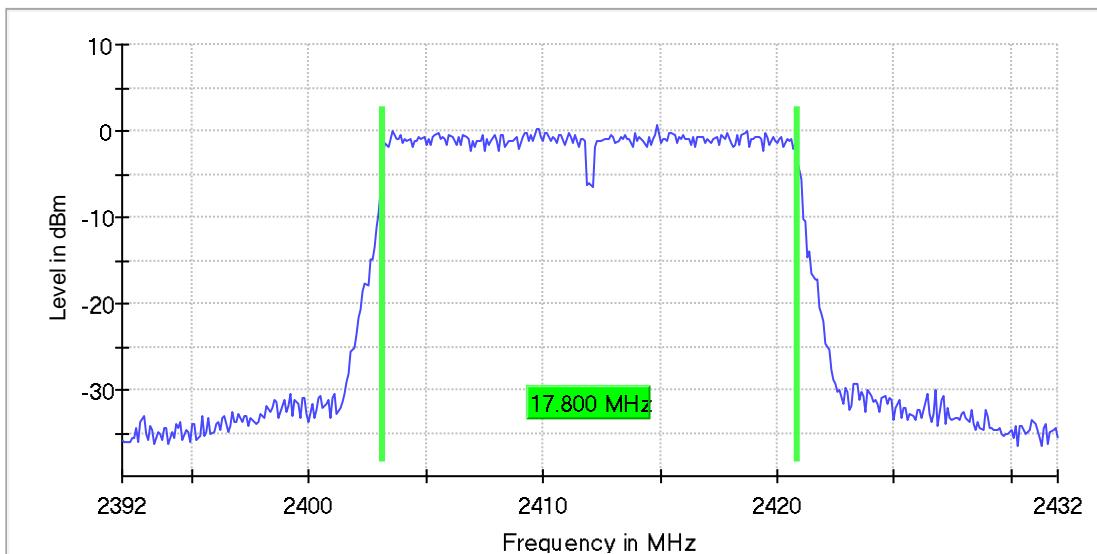


DUT Frequency (MHz)	Channel	Max Level (dBm)	Bandwidth (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2462.000000	11	1.3	16.6	2453.700000	2470.300000

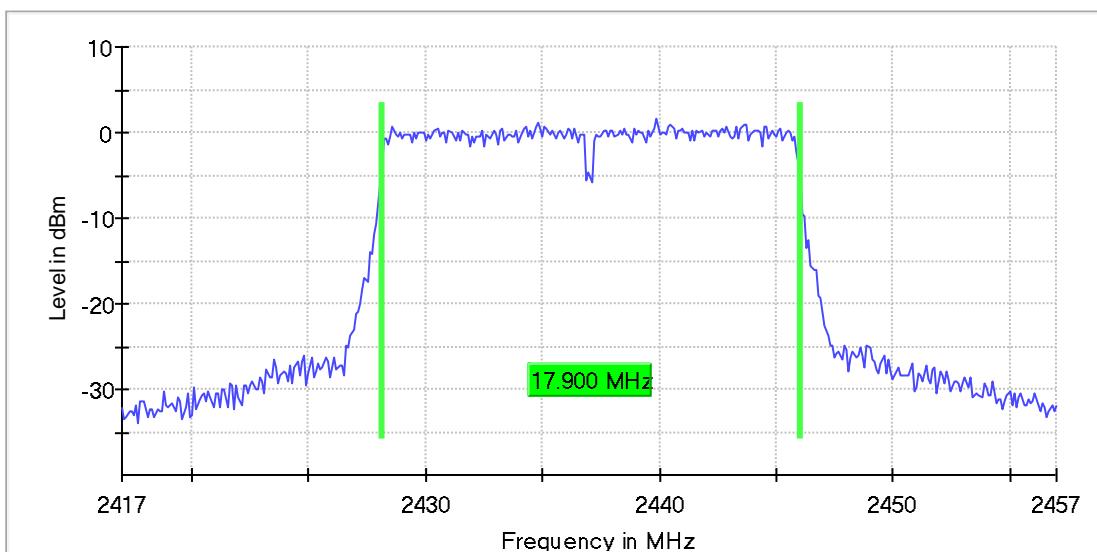


## 1.2.3. n Mode MCS0

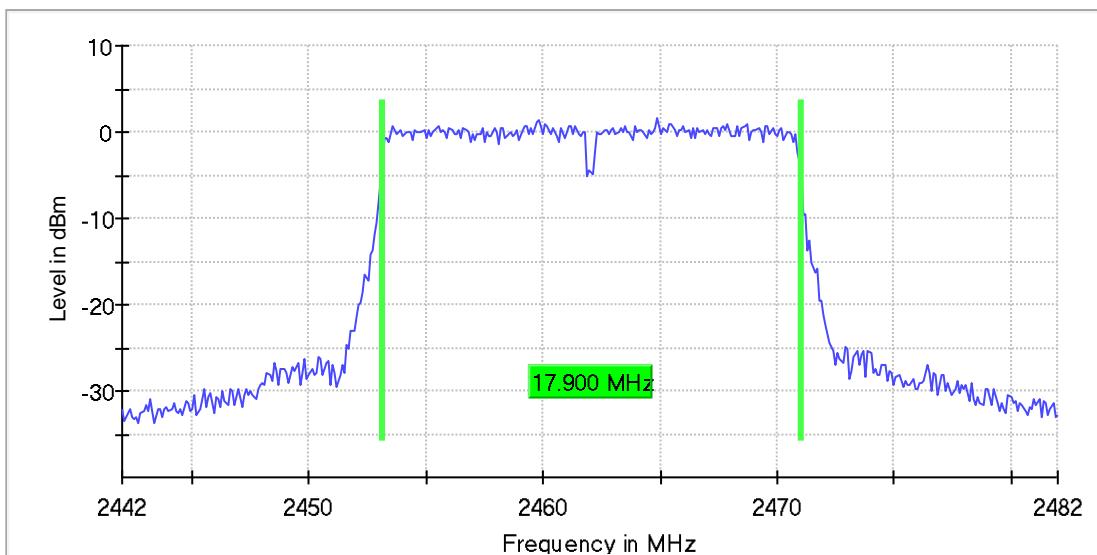
DUT Frequency (MHz)	Channel	Max Level (dBm)	Bandwidth (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2412.000000	1	0.7	17.8	2403.100000	2420.900000



DUT Frequency (MHz)	Channel	Max Level (dBm)	Bandwidth (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2437.000000	6	1.6	17.9	2428.100000	2446.000000



DUT Frequency (MHz)	Channel	Max Level (dBm)	Bandwidth (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2462.000000	11	1.7	17.9	2453.100000	2471.000000



## 2. Radiated field strength measurements

### 2.1. Magnetic field strength measurements in the range 9 kHz to 30 MHz

#### 2.01a\_b Mode\_2Mbit\_CH1\_BW\_20MHz\_laying

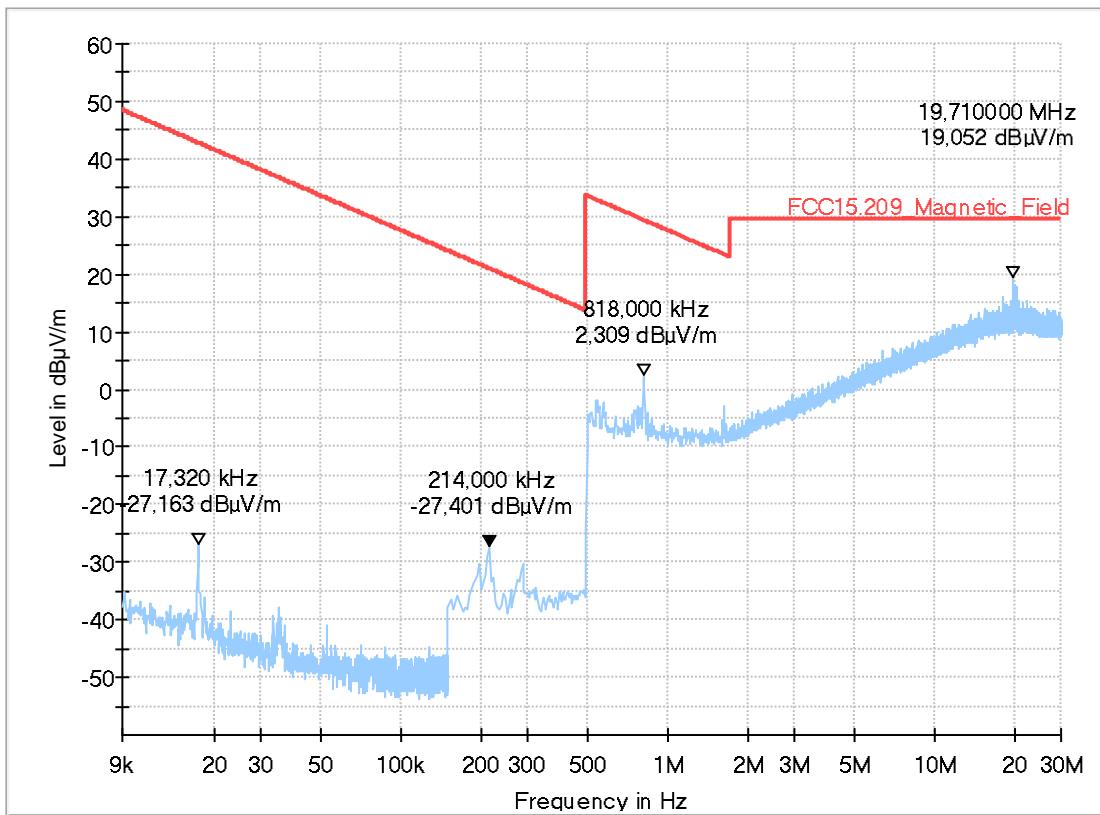
##### Common Information

Test Description: Magnetic Field Strength Measurement related to 30/300 m distance  
 Test site and distance: Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3 m measurement distance  
 Version of Testsoftware: EMC32 V9.25.0  
 Distance correction: used accord. table, pls. see test report  
 Technical Data: Please see page 2 for detailed data of measurement setup  
 Rec. antenna (pre-scan): height 1.00 m, parallel and 90° to EUT polarisation  
 Used filter: bypass  
 Test specification: FCC 15.205 § 15.209; RSS-Gen: Issue 4  
 Operating mode: WLAN\_TX\_b Mode\_2Mbit\_CH1\_BW\_20MHz\_Antenna  
 Operating Conditions: Humidity: 42% rH; Temperature: 22°C  
 Operator Name: KMo  
 Power during tests: 12V DC

##### EUT Information

Manufacturer: ACTIA Nordic AB  
 Model: VCM  
 HW version: 31444563  
 SW version: tbd1  
 Serial number: 10093027  
 Power Supply: 12VDC

Full Spectrum



## 2.01b\_b Mode\_2Mbit\_CH1\_BW\_20MHz\_standing

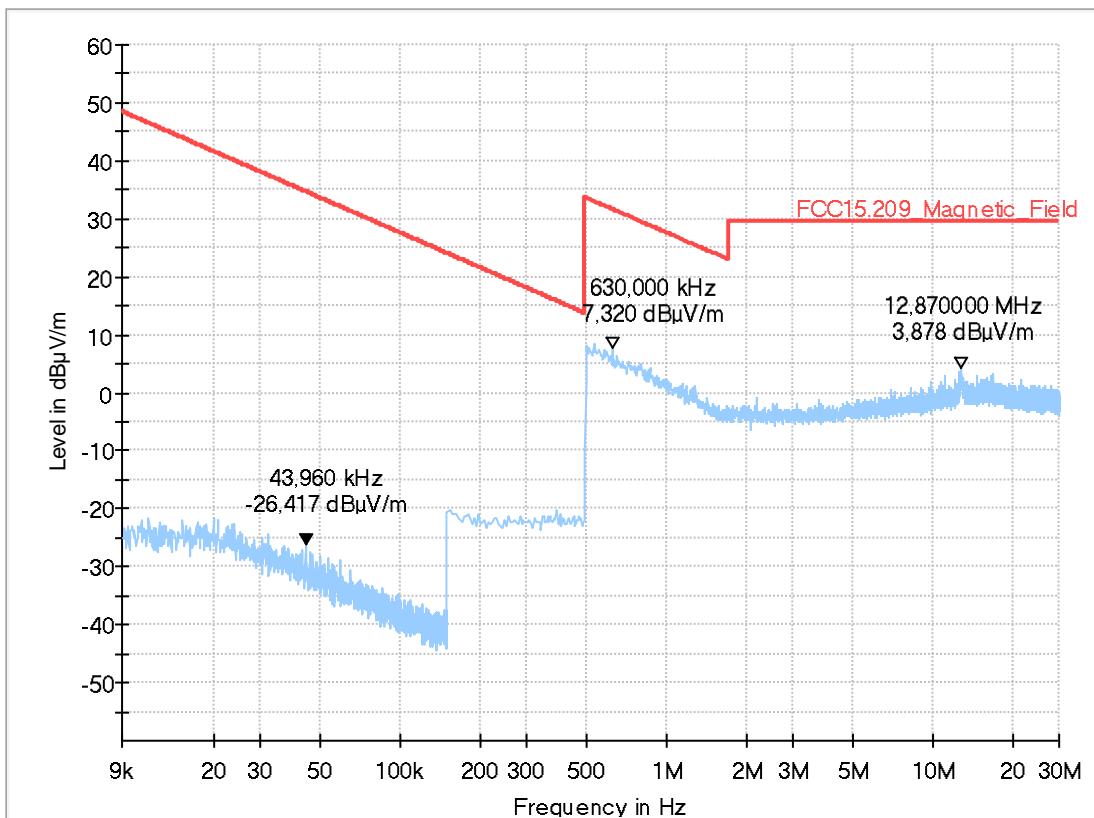
### Common Information

Test Description: Magnetic Field Strength Measurement related to 30/300 m distance  
 Test site and distance: Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3 m measurement distance  
 Version of Testsoftware: EMC32 V9.25.0  
 Distance correction: used accord. table, pls. see test report  
 Technical Data: Please see page 2 for detailed data of measurement setup  
 Rec. antenna (pre-scan): height 1.00 m, parallel and 90° to EUT polarisation  
 Used filter: bypass  
 Test specification: FCC 15.205 § 15.209; RSS-Gen: Issue 4  
 Operating mode: WLAN\_TX\_b Mode\_2Mbit\_CH1\_BW\_20MHz\_Antenna  
 Operating Conditions: Humidity: 42%rH; Temperature: 22°C  
 Operator Name: MBe  
 Power during tests: 12V DC

### EUT Information

Manufacturer: ACTIA Nordic AB  
 Model: VCM  
 HW version: 31444563  
 SW version: tbd1  
 Serial number: 10093027  
 Power Supply: 12VDC

Full Spectrum



## 2.02a\_g Mode\_6Mbit\_CH6\_BW\_20MHz\_laying

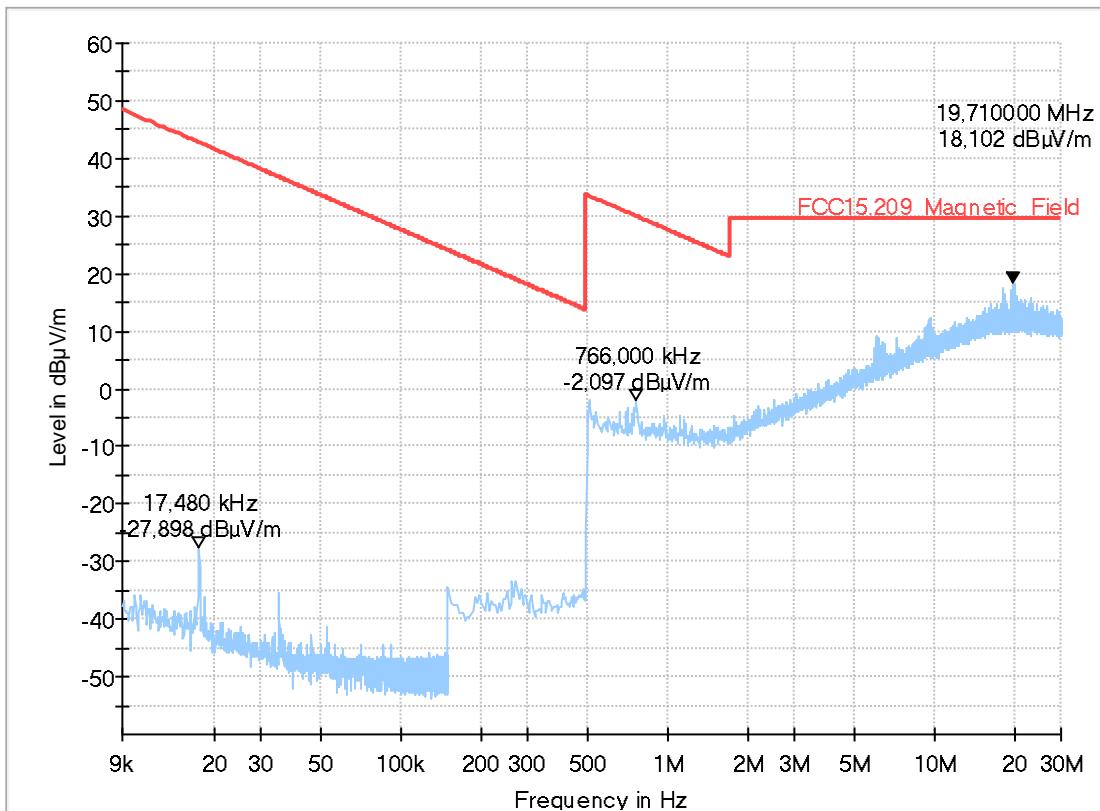
### Common Information

Test Description: Magnetic Field Strength Measurement related to 30/300 m distance  
Test site and distance: Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3 m measurement distance  
Version of Testsoftware: EMC32 V9.25.0  
Distance correction: used accord. table, pls. see test report  
Technical Data: Please see page 2 for detailed data of measurement setup  
Rec. antenna (pre-scan): height 1.00 m, parallel and 90° to EUT polarisation  
Used filter: bypass  
Test specification: FCC 15.205 § 15.209; RSS-Gen: Issue 4  
Operating mode: WLAN\_TX\_g Mode\_6Mbit\_CH6\_BW\_20MHz\_Antenna  
Operating Conditions: Humidity: 42%rH; Temperature: 22°C  
Operator Name: KMo  
Power during tests: 12V DC

### EUT Information

Manufacturer: ACTIA Nordic AB  
Model: VCM  
HW version: 31444563  
SW version: tbd1  
Serial number: 10093027  
Power Supply: 12VDC

Full Spectrum



## 2.02b\_g Mode\_6Mbit\_CH6\_BW\_20MHz\_standing|

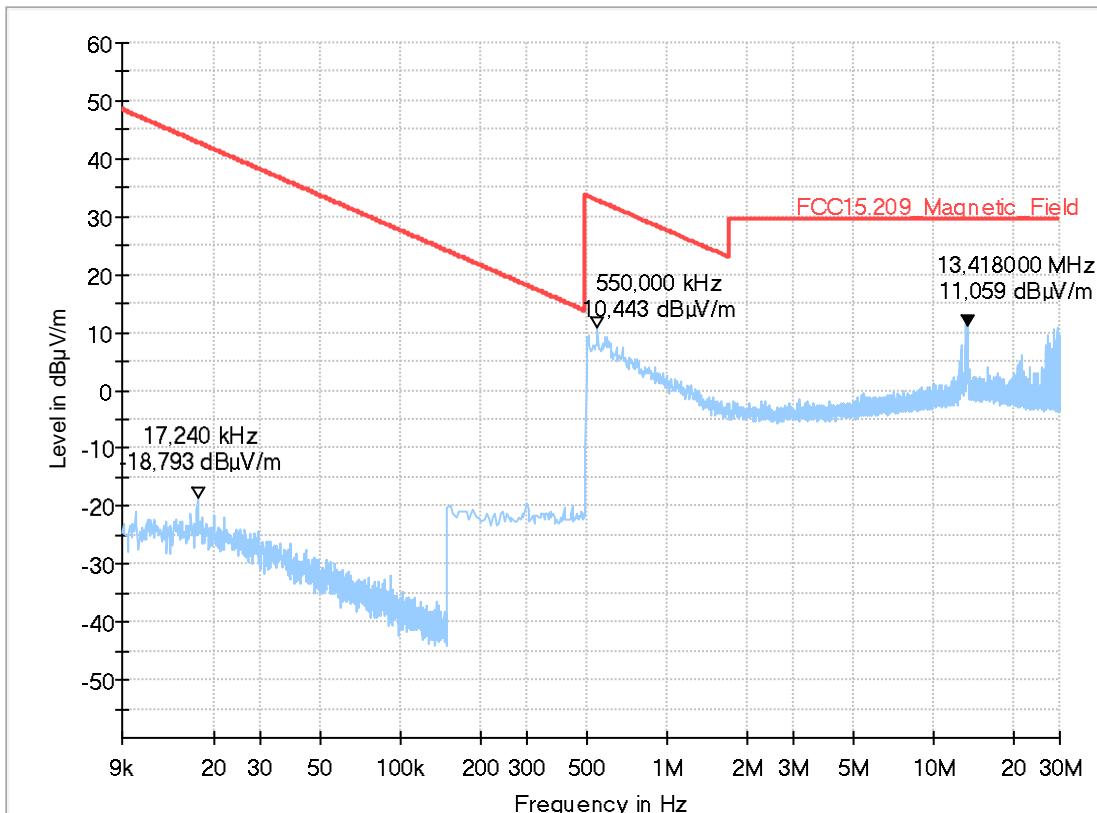
### Common Information

Test Description: Magnetic Field Strength Measurement related to 30/300 m distance  
Test site and distance: Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3 m measurement distance  
Version of Testsoftware: EMC32 V9.25.0  
Distance correction: used accord. table, pls. see test report  
Technical Data: Please see page 2 for detailed data of measurement setup  
Rec. antenna (pre-scan): height 1.00 m, parallel and 90° to EUT polarisation  
Used filter: bypass  
Test specification: FCC 15.205 § 15.209; RSS-Gen: Issue 4  
Operating mode: WLAN\_TX\_g Mode\_6Mbit\_CH6\_BW\_20MHz\_Antenna  
Operating Conditions: Humidity: 42%rH; Temperature: 22°C  
Operator Name: MBe  
Power during tests: 12V DC  
Comment: standing

### EUT Information

Manufacturer: ACTIA Nordic AB  
Model: VCM  
HW version: 31444563  
SW version: tbd1  
Serial number: 10093027  
Power Supply: 12VDC

Full Spectrum



## 2.03a\_n Mode\_MCS5\_CH11\_BW\_20MHz\_laying

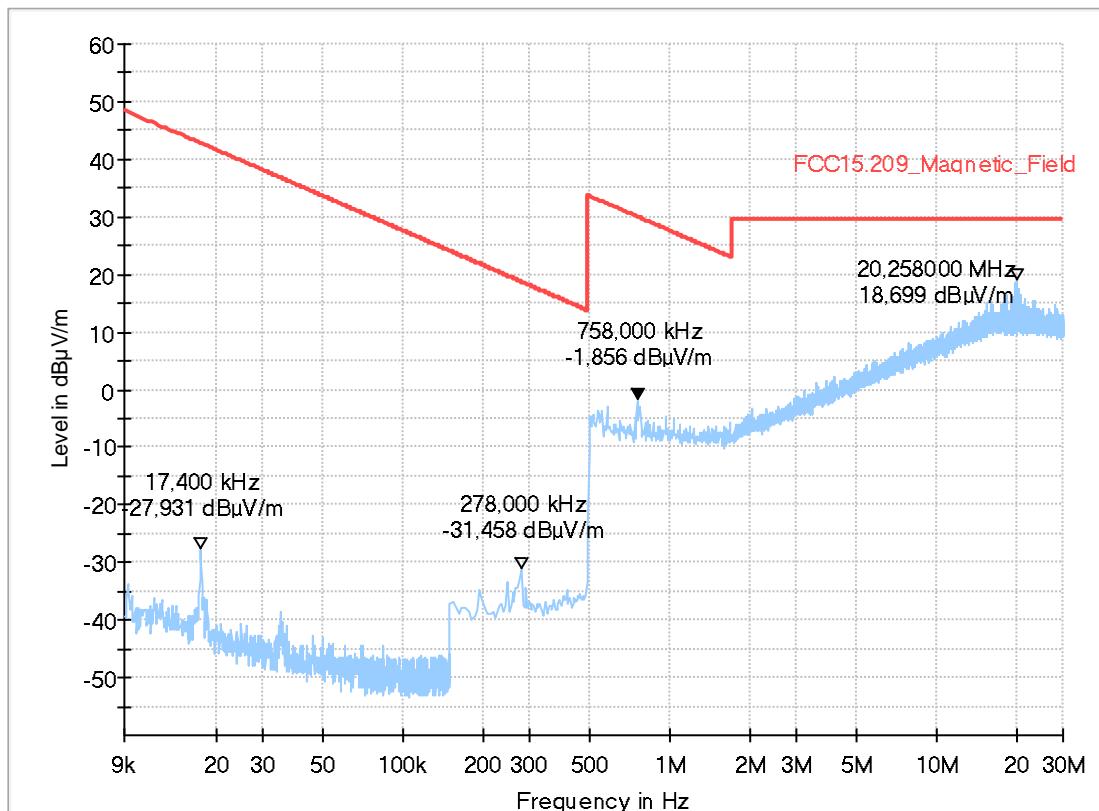
### Common Information

Test Description: Magnetic Field Strength Measurement related to 30/300 m distance  
Test site and distance: Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3 m measurement distance  
Version of Testsoftware: EMC32 V9.25.0  
Distance correction: used accord. table, pls. see test report  
Technical Data: Please see page 2 for detailed data of measurement setup  
Rec. antenna (pre-scan): height 1.00 m, parallel and 90° to EUT polarisation  
Used filter: bypass  
Test specification: FCC 15.205 § 15.209; RSS-Gen: Issue 4  
Operating mode: WLAN\_TX\_n Mode\_MCS5\_CH11\_BW\_20MHz\_Antenna  
Operating Conditions: Humidity: 42% rH; Temperature: 22°C  
Operator Name: KMo  
Power during tests: 12V DC

### EUT Information

Manufacturer: ACTIA Nordic AB  
Model: VCM  
HW version: 31444563  
SW version: tbd1  
Serial number: 10093027  
Power Supply: 12VDC

Full Spectrum



## 2.03b\_n Mode\_MCS5\_CH11\_BW\_20MHz\_standing||

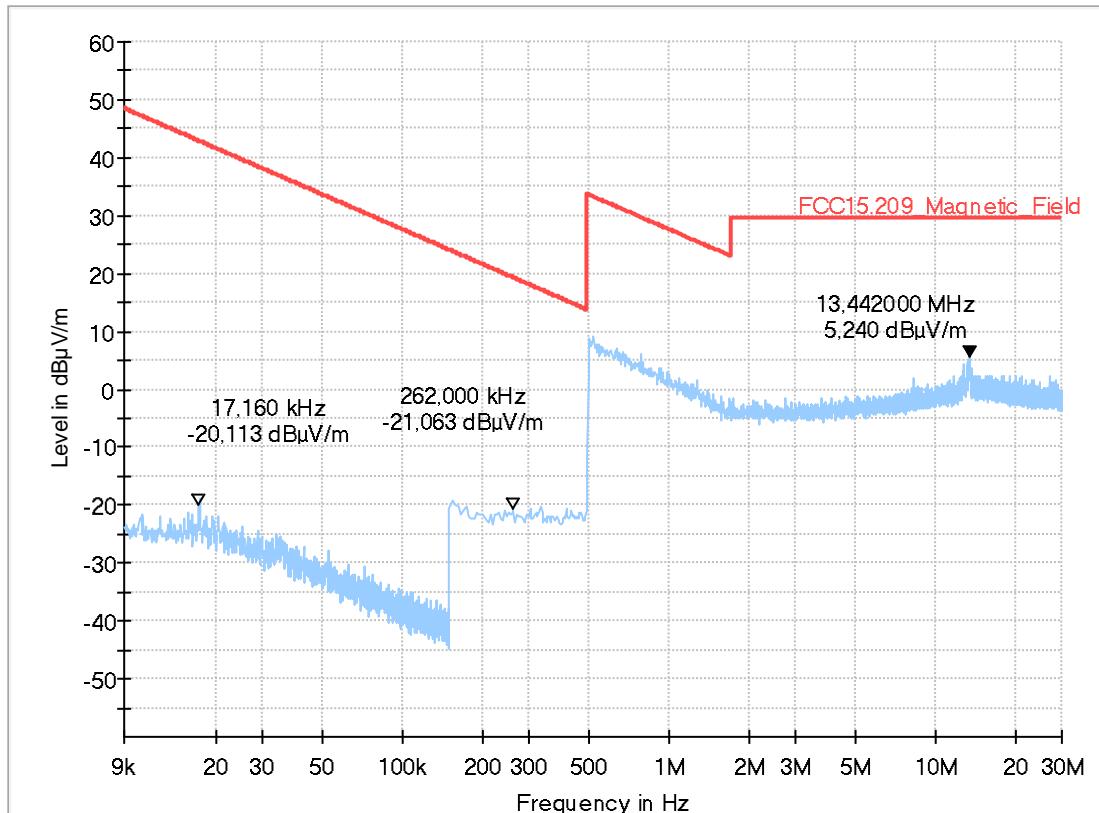
### Common Information

Test Description: Magnetic Field Strength Measurement related to 30/300 m distance  
 Test site and distance: Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3 m measurement distance  
 Version of Testsoftware: EMC32 V9.25.0  
 Distance correction: used accord. table, pls. see test report  
 Technical Data: Please see page 2 for detailed data of measurement setup  
 Rec. antenna (pre-scan): height 1.00 m, parallel and 90° to EUT polarisation  
 Used filter: bypass  
 Test specification: FCC 15.205 § 15.209; RSS-Gen: Issue 4  
 Operating mode: WLAN\_TX\_n Mode\_MCS5\_CH11\_BW\_20MHz\_Antenna  
 Operating Conditions: Humidity: 42% rH; Temperature: 22°C  
 Operator Name: MBe  
 Power during tests: 12V DC

### EUT Information

Manufacturer: ACTIA Nordic AB  
 Model: VCM  
 HW version: 31444563  
 SW version: tbd1  
 Serial number: 10093027  
 Power Supply: 12VDC

Full Spectrum



## 2.2. Field strength measurements 30MHz < f < 1GHz

### 3.01a\_b Mode\_2Mbit\_CH1\_BW\_20MHz\_hor

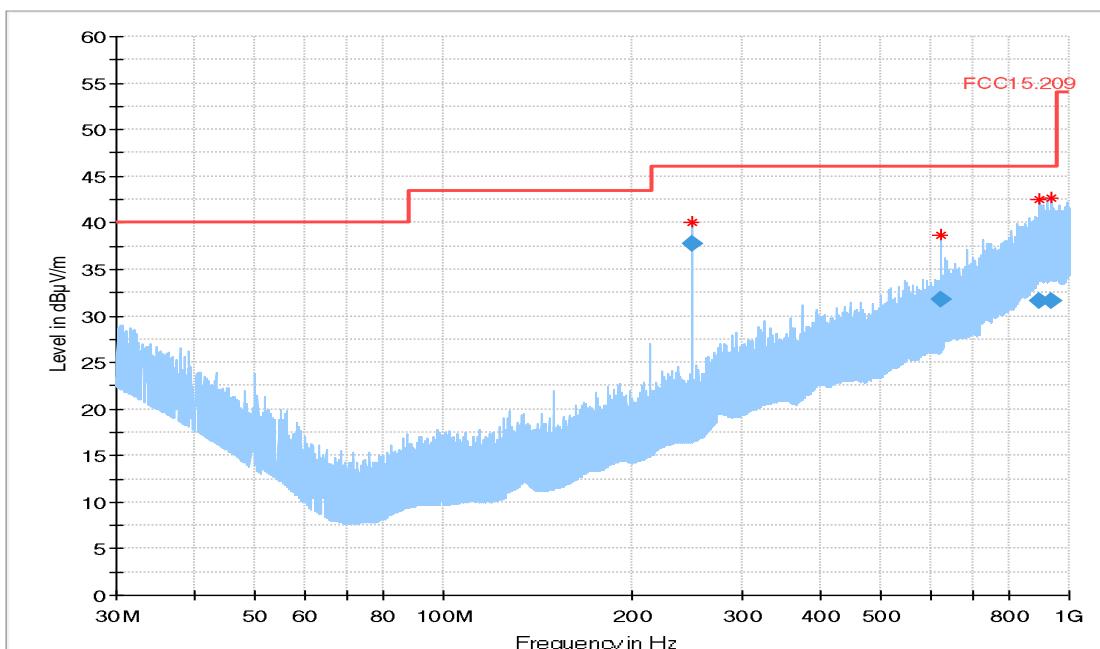
#### Common Information

Test description: Electric Field Strength Measurement  
 Test site and distance: Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3 m measurement distance  
 Version of Testsoftware: EMC32 V9.25.0  
 Test specification.: FCC 15.209; RSS-Gen: Issue 4  
 Operating conditions: Humidity: 42%RH; Temperature: 22°C  
 Operator: KM0  
 Operating conditions: WLAN\_TX\_b Mode\_2Mbit\_CH1\_BW\_20MHz\_Antenna  
 Power during tests: 12V DC

#### EUT Information

Manufacturer: ACTIA Nordic AB  
 Model: VCM  
 HW version: 31444563  
 SW version: tbd1  
 Serial number: 10093027  
 Power Supply: 12VDC

Full Spectrum



#### Final Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	MARGIN (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)
249.980000	37.70	46.00	8.30	1000.0	120.000	113.0	H	113.0	0.0	13.0
624.950000	31.83	46.00	14.17	1000.0	120.000	230.0	V	183.0	0.0	22.2
892.570000	31.62	46.00	14.38	1000.0	120.000	167.0	V	27.0	0.0	26.7
934.610000	31.62	46.00	14.38	1000.0	120.000	238.0	V	216.0	0.0	26.9

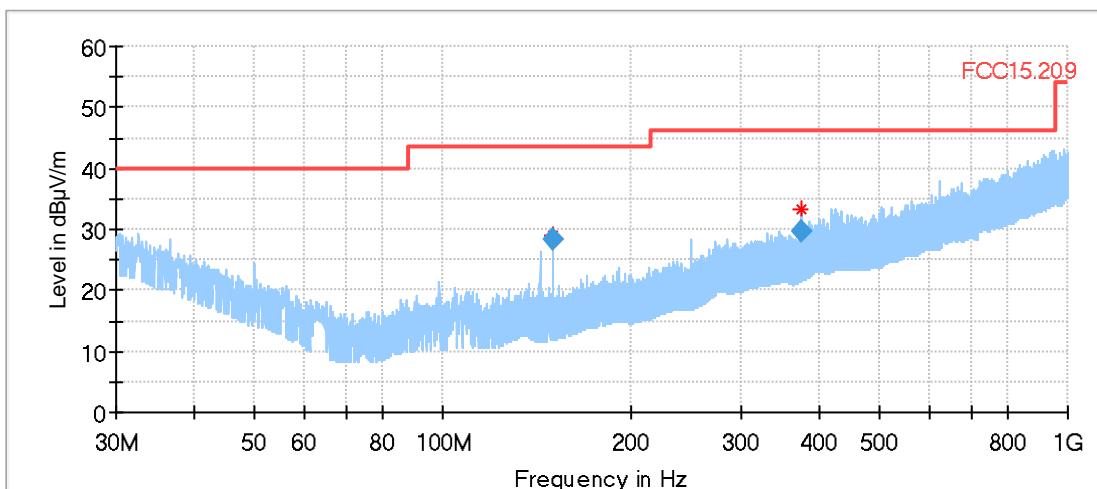
### 3.01b \_b Mode\_2Mbit\_CH1\_BW\_20MHz\_ver

#### Common Information

Test description: Electric Field Strength Measurement  
 Test site and distance: Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3 m measurement distance  
 Version of Testsoftware: EMC32 V9.25.0  
 Test specification.: FCC 15.209; RSS-Gen: Issue 3  
 Operating conditions: Humidity: 42%rH; Temperature: 22°C  
 Operator: MBe  
 Operating conditions: WLAN\_TX\_b Mode\_2Mbit\_CH1\_BW\_20MHz\_Antenna  
 Power during tests: 12V DC  
 Comment: Standing

#### EUT Information

Manufacturer: ACTIA Nordic AB  
 Model: VCM  
 HW version: 31444563  
 SW version: tbd1  
 Serial number: 10093027  
 Power Supply: 12VDC



#### Final Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)
150.000000	28.41	43.50	15.09	1000.0	120.000	105.0	V	40.0	0.0	8.6
374.970000	29.53	46.00	16.47	1000.0	120.000	105.0	H	162.0	0.0	17.0

### 3.02a\_g Mode\_6Mbit\_CH6\_BW\_20MHz\_hor

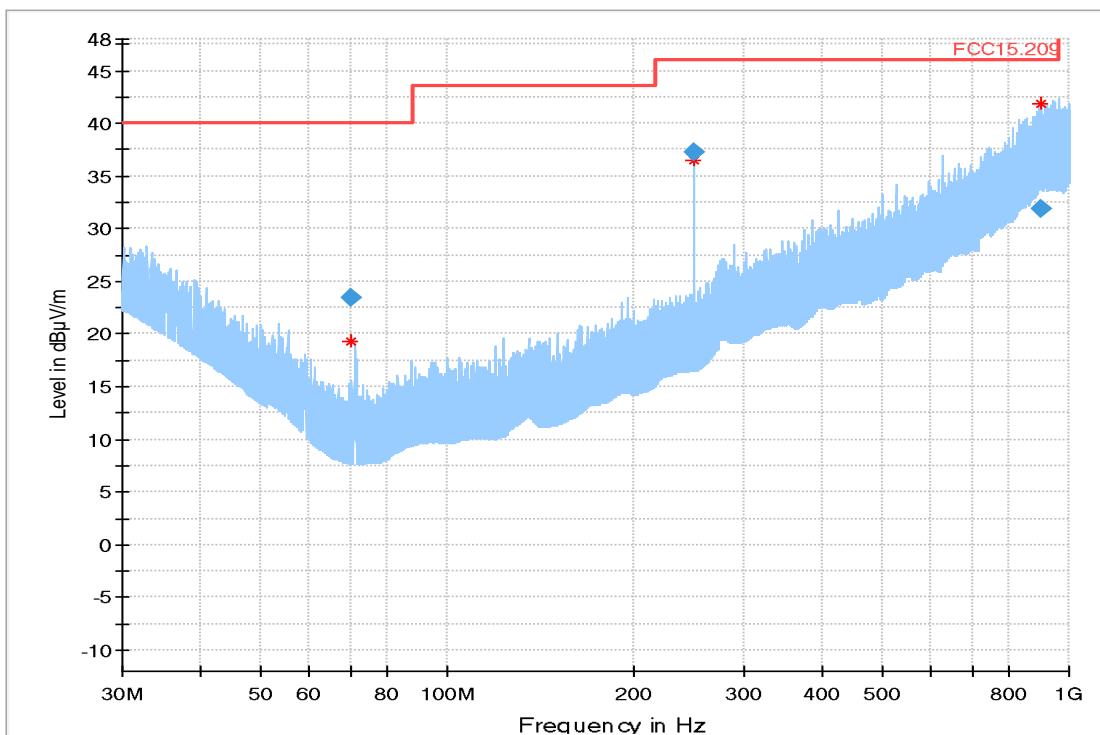
#### Common Information

Test description: Electric Field Strength Measurement  
 Test site and distance: Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3 m measurement distance  
 Version of Testsoftware: EMC32 V9.25.0  
 Test specification.: FCC 15.209; RSS-Gen: Issue 4  
 Operatingmode: WLAN\_TX\_g Mode\_6Mbit\_CH6\_BW\_20MHz\_Antenna  
 Operator: KMo  
 Operating conditions: Humidity: 42% rH; Temperature: 22°C  
 Power during tests: 12V DC

#### EUT Information

Manufacturer: ACTIA Nordic AB  
 Model: VCM  
 HW version: 31444563  
 SW version: tbd1  
 Serial number: 10093027  
 Power Supply: 12VDC

Full Spectrum



#### Final Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
70.220000	23.49	40.00	16.51	1000.0	120.000	291.0	H	359.0	6.6
249.990000	37.32	46.00	8.68	1000.0	120.000	123.0	H	117.0	13.0
900.430000	31.90	46.00	14.10	1000.0	120.000	219.0	V	271.0	26.7

### 3.02b\_g Mode\_6Mbit\_CH6\_BW\_20MHz\_ver

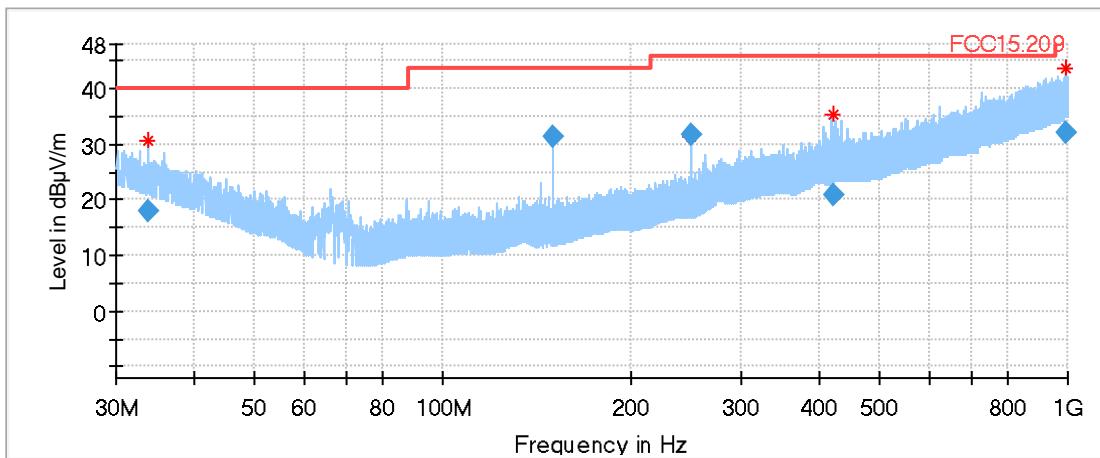
#### Common Information

Test description: Electric Field Strength Measurement  
 Test site and distance: Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3 m measurement distance  
 Version of Testsoftware: EMC32 V9.25.0  
 Test specification.: FCC 15.209; RSS-Gen: Issue 3  
 Operatingmode: WLAN\_TX\_g Mode\_6Mbit\_CH6\_BW\_20MHz\_Antenna  
 Operator: HEI  
 Operating conditions: Humidity: 42%rH; Temperature: 22°C  
 Power during tests: 12V DC

#### EUT Information

Manufacturer: ACTIA Nordic AB  
 Model: VCM  
 HW version: 31444563  
 SW version: tbd1  
 Serial number: 10093027  
 Power Supply: 12VDC

Full Spectrum



#### Final Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	MARGIN (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimut h (deg)	Corr. (dB)
33.730000	18.09	40.00	21.91	1000.0	120.000	316.0	V	189.0	19.8
149.990000	31.54	43.50	11.96	1000.0	120.000	194.0	H	229.0	8.6
249.980000	31.88	46.00	14.12	1000.0	120.000	162.0	H	192.0	13.0
420.190000	20.85	46.00	25.15	1000.0	120.000	213.0	V	48.0	18.8
994.920000	32.24	54.00	21.76	1000.0	120.000	262.0	H	322.0	27.8

### 3.03a\_n Mode\_MCS5\_CH11\_BW\_20MHz\_hor

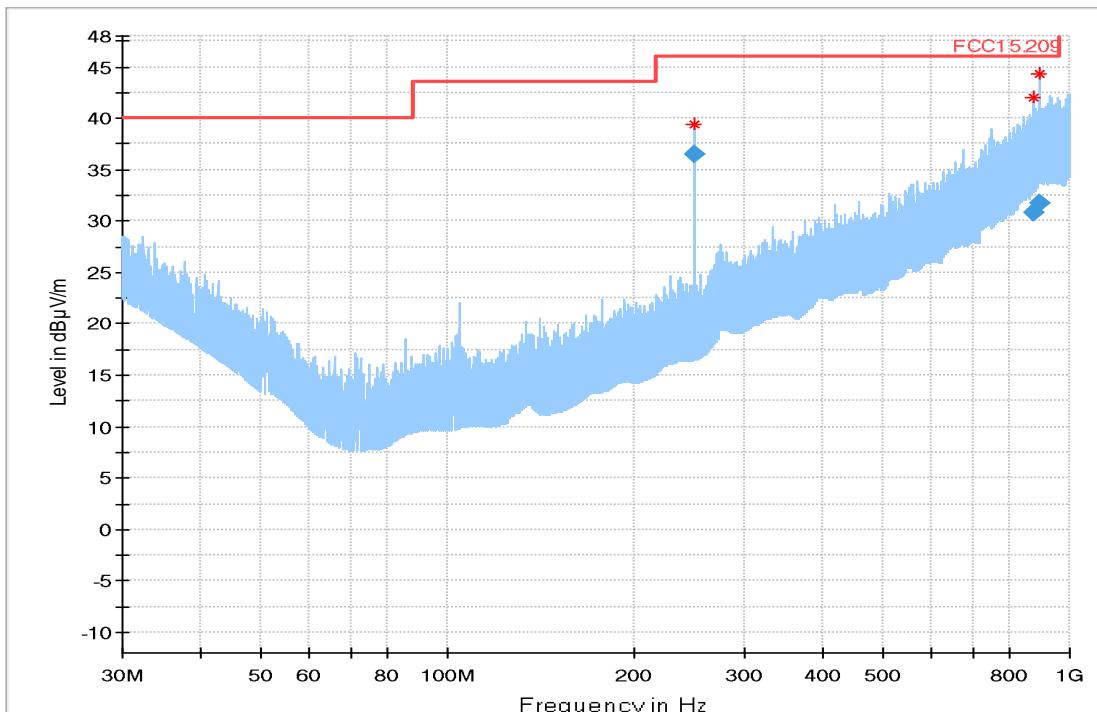
#### Common Information

Test description: Electric Field Strength Measurement  
 Test site and distance: Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3 m measurement distance  
 Version of Testsoftware: EMC32 V9.25.0  
 Test specification.: FCC 15.209; RSS-Gen: Issue 4  
 Operatingmode: WLAN\_TX\_n Mode\_MCS5\_CH11\_BW\_20MHz\_Antenna  
 Operator: KMo  
 Operating conditions: Humidity: 42%rH; Temperature: 22°C  
 Power during tests: 12V DC

#### EUT Information

Manufacturer: ACTIA Nordic AB  
 Model: VCM  
 HW version: 31444563  
 SW version: tbd1  
 Serial number: 10093027  
 Power Supply: 12VDC

Full Spectrum



#### Final Result

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
249.980000	36.46	46.00	9.54	1000.0	120.000	105.0	H	117.0	13.0
874.560000	30.79	46.00	15.21	1000.0	120.000	109.0	V	61.0	26.2
893.310000	31.77	46.00	14.23	1000.0	120.000	200.0	V	167.0	26.8

### 3.03b. n Mode\_MCS5\_CH11\_BW\_20MHz\_ver

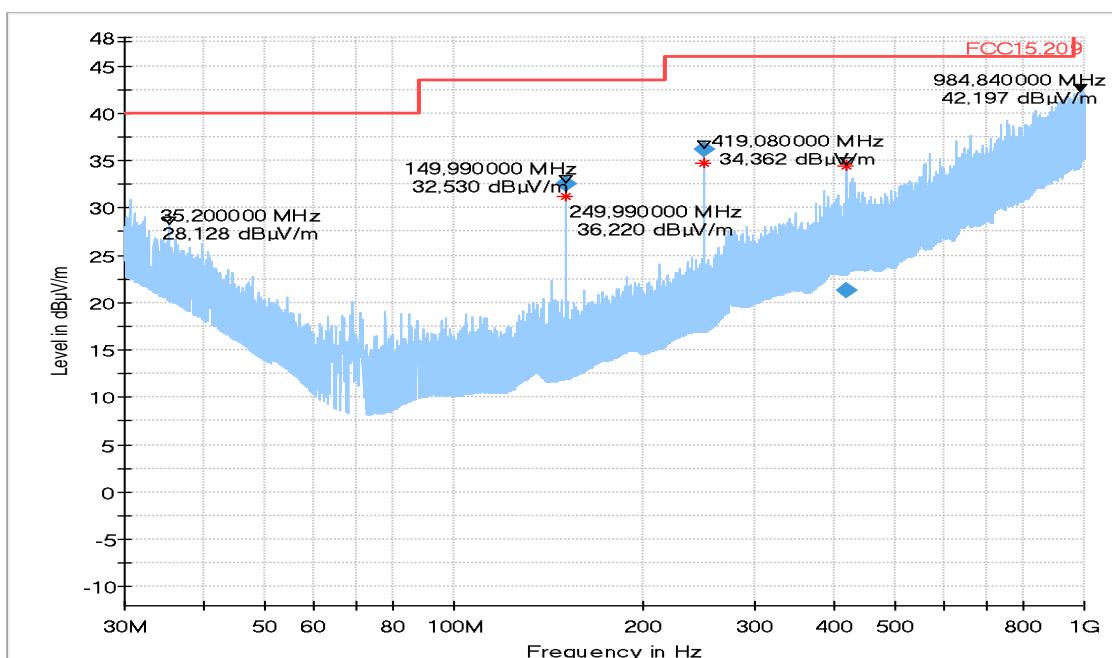
#### Common Information

Test description: Electric Field Strength Measurement  
 Test site and distance: Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3 m measurement distance  
 Version of Testsoftware: EMC32 V9.25.0  
 Test specification.: FCC 15.209; RSS-Gen: Issue 3  
 Operatingmode: WLAN\_TX\_n Mode\_MCS5\_CH11\_BW\_20MHz\_  
 Operator: HEI  
 Operating conditions: Humidity: 42%rH; Temperature: 22°C  
 Power during tests: 12V DC

#### EUT Information

Manufacturer: ACTIA Nordic AB  
 Model: VCM  
 HW version: 31444563  
 SW version: tbd1  
 Serial number: 10093027  
 Power Supply: 12VDC

Full Spectrum



#### Final Result

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	MARGIN (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
149.990000	32.53	43.50	10.97	1000.0	120.000	205.0	H	227.0	8.6
249.990000	36.22	46.00	9.78	1000.0	120.000	153.0	H	220.0	13.0
419.750000	21.23	46.00	24.77	1000.0	120.000	360.0	V	344.0	18.8

## 2.3. Field strength measurements 1GHz <f <18GHz

### 4.01a\_TX\_bmode\_2Mbit\_CH01\_hor\_

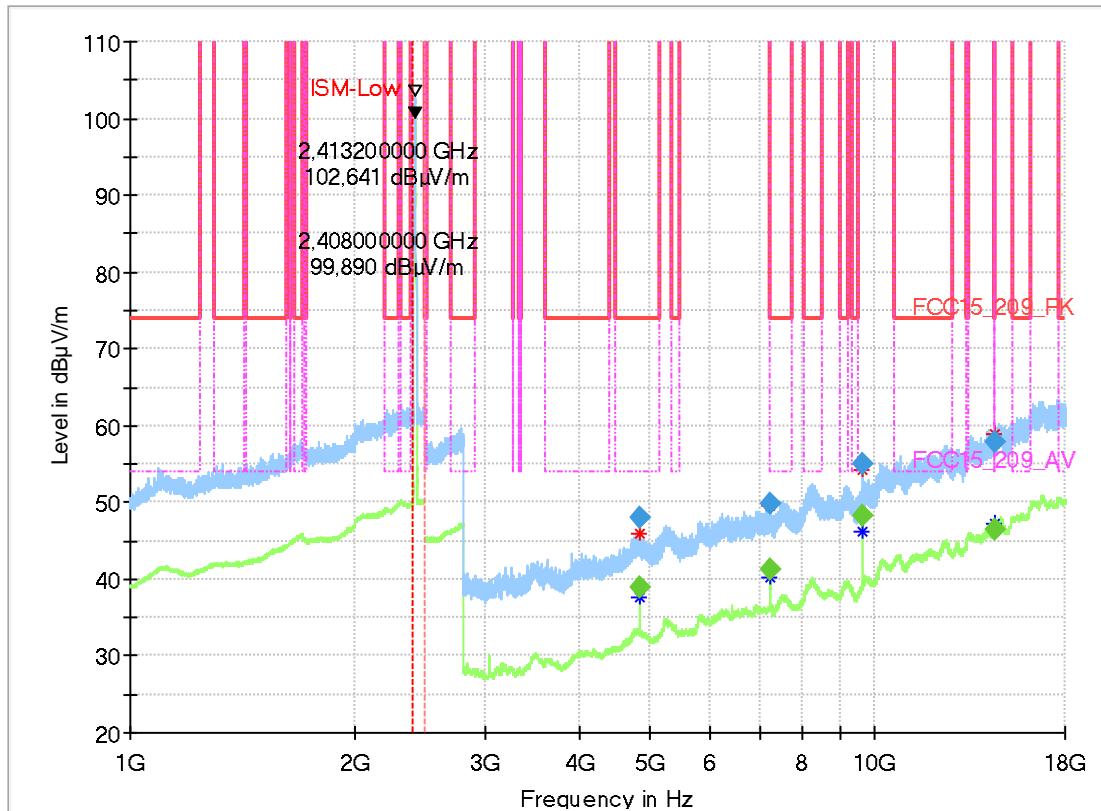
#### Common Information

Test Description: Band-Edge: Radiated Field Strength Emissions Emissions in 3m distance  
 Test Site: CETECOM GmbH Essen  
 Test Standard: FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 4  
 Antenna polarisation: horizontal/vertical  
 Operation mode: WLAN 802.11b-mode, BW 20 MHz channel 1; Data rate 2Mbit Power 18 dBm  
 Operator Name: KMo

#### EUT Information

Manufacturer: ACTIA Nordic AB  
 Model: VCM  
 HW version: 31444563  
 SW version: tbd1  
 Serial number: 10093027  
 Power Supply: 12VDC

Full Spectrum



Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
4823.960000	47.96	---	74.00	26.04	100.0	1000.000	155.0	H	105.0	4.8
4823.960000	---	39.05	54.00	14.95	100.0	1000.000	155.0	H	107.0	4.8
7234.640000	49.75	---	150.00	100.25	100.0	1000.000	155.0	H	253.0	10.8
7236.720000	---	41.37	150.00	108.63	100.0	1000.000	155.0	H	144.0	10.8
9647.960000	---	48.21	150.00	101.79	100.0	1000.000	155.0	H	128.0	14.2
9647.960000	55.07	---	150.00	94.93	100.0	1000.000	155.0	H	128.0	14.2
14471.880000	57.84	---	74.00	16.16	100.0	1000.000	155.0	H	90.0	22.2
14472.080000	---	46.44	54.00	7.56	100.0	1000.000	155.0	V	188.0	22.2

## 4.01b\_TX\_bmode\_2Mbit\_CH01\_ver

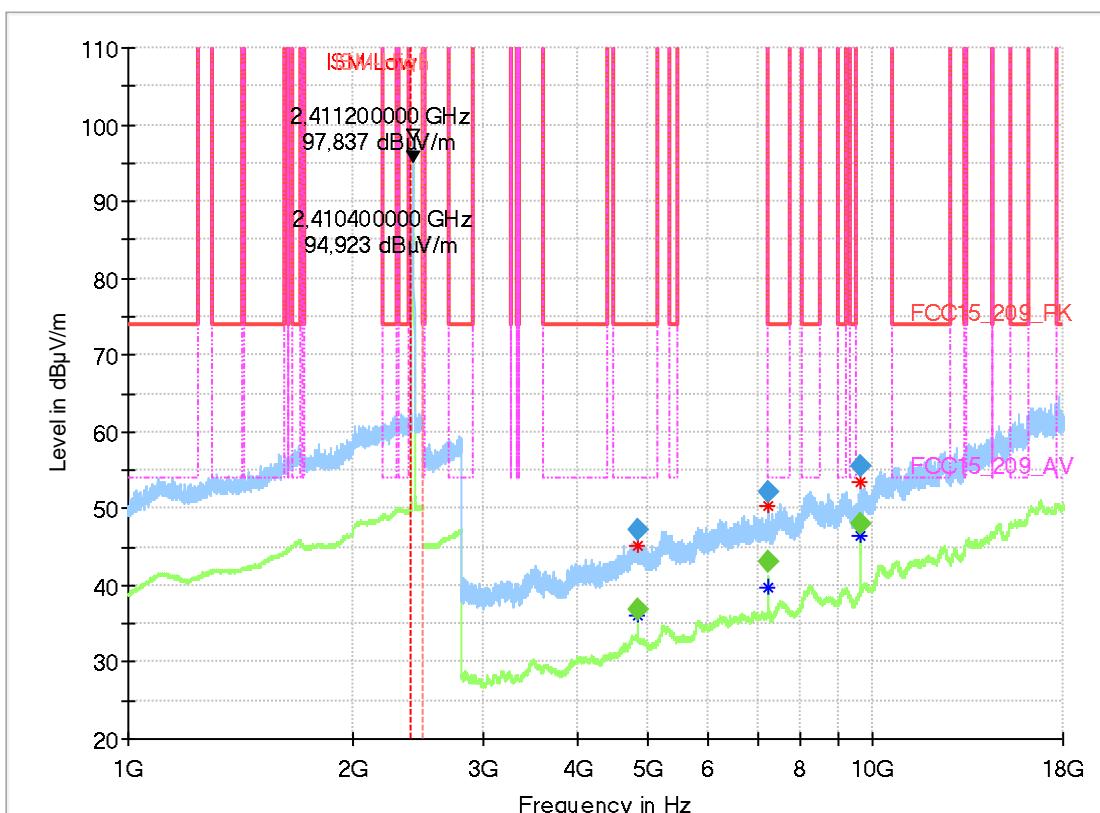
### Common Information

Test Description: Band-Edge: Radiated Field Strength Emissions Emissions in 3m distance  
 Test Site: CETECOM GmbH Essen  
 Test Standard: FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 4  
 Antenna polarisation: vertical  
 Operation mode: WLAN 802.11b-mode, BW 20 MHz channel 1; Data rate 2Mbit Power 18 dBm  
 Operator Name: KMo

### EUT Information

Manufacturer: ACTIA Nordic AB  
 Model: VCM  
 HW version: 31444563  
 SW version: tbd1  
 Serial number: 10093027  
 Power Supply: 12VDC

Full Spectrum



### Final Result

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
4823.960000	47.15	---	74.00	26.85	100.0	1000.000	155.0	V	82.0	4.8
4824.000000	---	36.79	54.00	17.21	100.0	1000.000	155.0	V	81.0	4.8
7233.400000	---	43.00	150.00	107.00	100.0	1000.000	155.0	V	126.0	10.8
7238.200000	52.19	---	150.00	97.81	100.0	1000.000	155.0	V	125.0	10.8
9647.960000	---	48.11	150.00	101.89	100.0	1000.000	155.0	V	144.0	14.2
9647.960000	55.47	---	150.00	94.53	100.0	1000.000	155.0	V	144.0	14.2

## 4.02a\_TX\_gmode\_6Mbit\_CH06\_hor

### Common Information

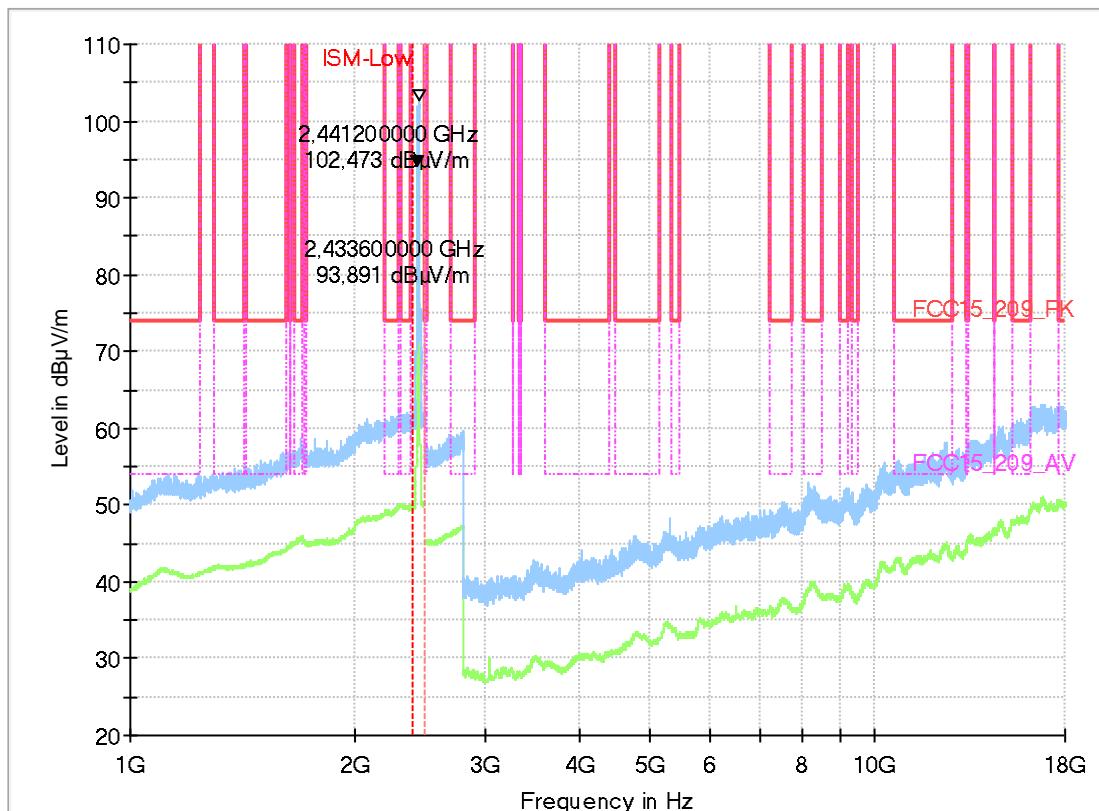
Test Description: Band-Edge: Radiated Field Strength Emissions Emissions in 3m distance  
Test Site: CETECOM GmbH Essen  
Test Standard: FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 4  
Antenna polarisation: horizontal/vertical

Operation mode: WLAN 802.11g-mode, BW 20 MHz channel 6; Data rate 6Mbit Power 15 dBm  
Operator Name: KMo  
Remarks: no kipp, EUT Standing

### EUT Information

Manufacturer: ACTIA Nordic AB  
Model: VCM  
HW version: 31444563  
SW version: tbd1  
Serial number: 10093027  
Power Supply: 12VDC

Full Spectrum



## 4.02b\_TX\_gmode\_6Mbit\_CH06\_ver

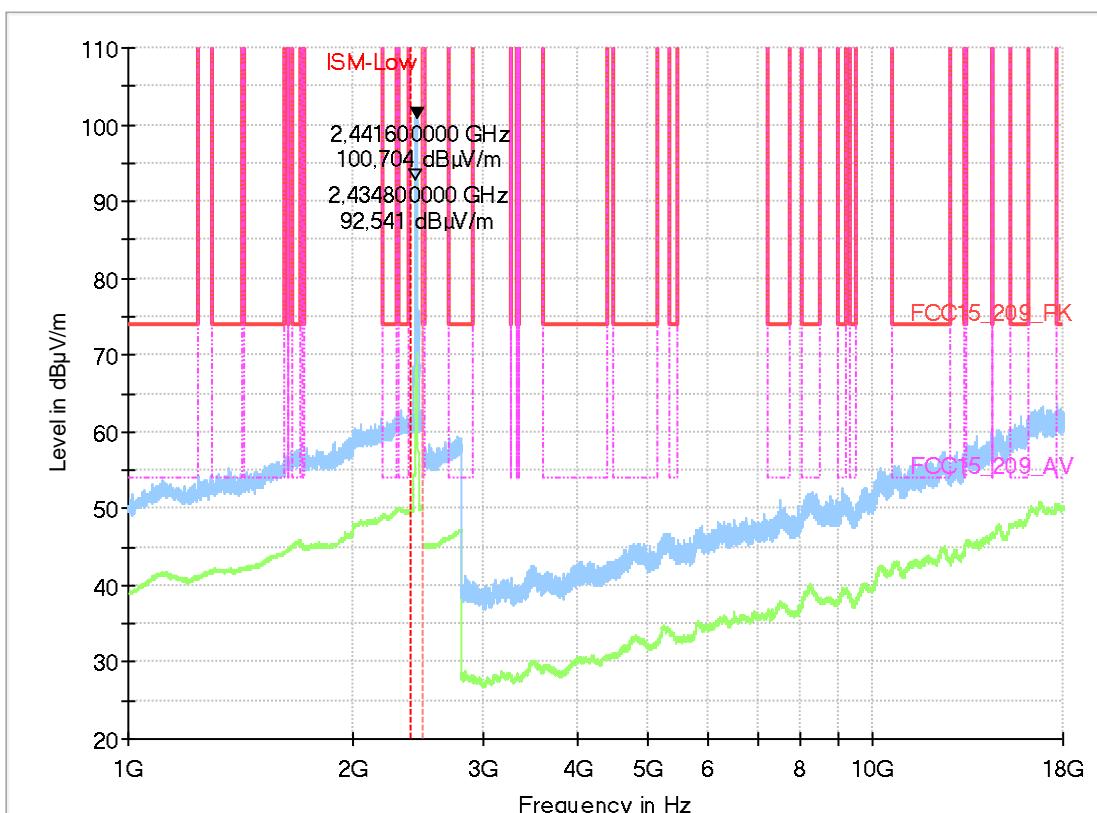
### Common Information

Test Description: Band-Edge: Radiated Field Strength Emissions Emissions in 3m distance  
 Test Site: CETECOM GmbH Essen  
 Test Standard: FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 4  
 Antenna polarisation: horizontal/vertical  
 Operation mode: WLAN 802.11g-mode, BW 20 MHz channel 6; Data rate 6Mbit Power 15 dBm  
 Operator Name: KMo

### EUT Information

Manufacturer: ACTIA Nordic AB  
 Model: VCM  
 HW version: 31444563  
 SW version: tbd1  
 Serial number: 10093027  
 Power Supply: 12VDC

Full Spectrum



## 4.03a\_TX\_nmode\_MCS5\_CH11\_hor

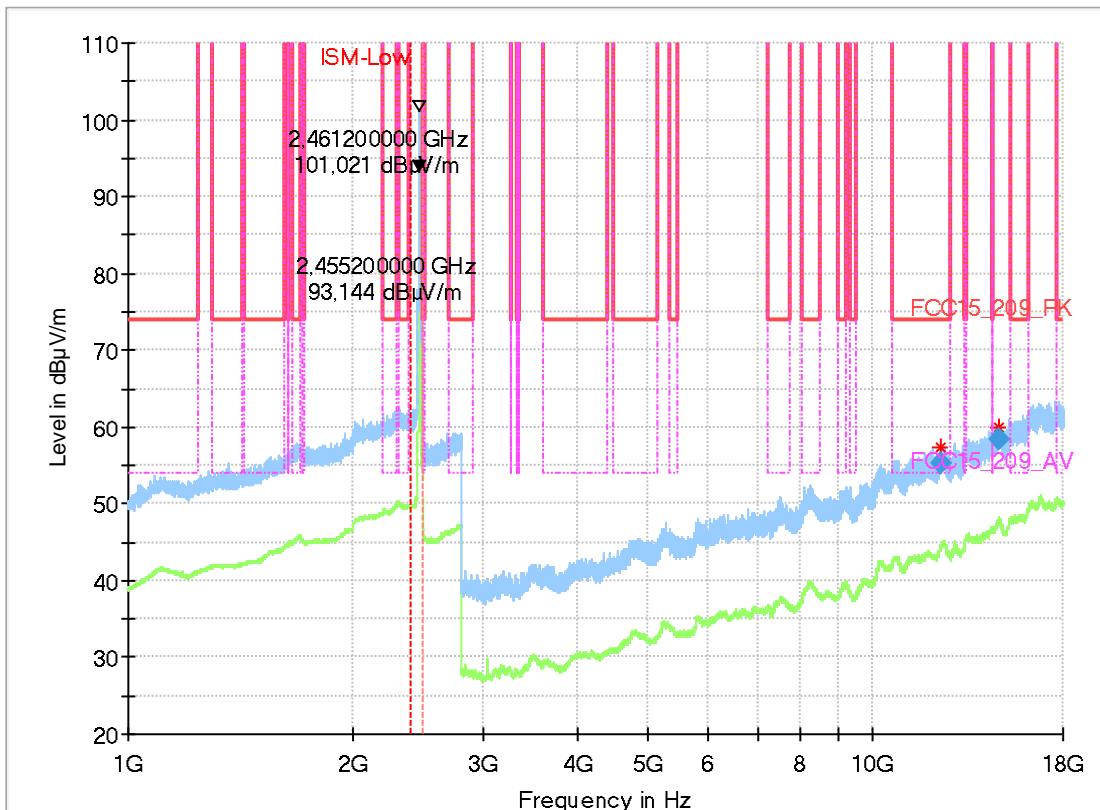
### Common Information

Test Description: Band-Edge: Radiated Field Strength Emissions Emissions in 3m distance  
Test Site: CETECOM GmbH Essen  
Test Standard: FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 4  
Antenna polarisation: horizontal/vertical  
Operation mode: WLAN 802.11n-mode,BW 20 MHz channel 11; Data rate MCS5 Power 15 dBm  
Operator Name: KM  
Remarks: no kipp, EUT Standing

### EUT Information

Manufacturer: ACTIA Nordic AB  
Model: VCM  
HW version: 31444563  
SW version: tbd1  
Serial number: 10093027  
Power Supply: 12VDC

Full Spectrum



## 4.03b\_TX\_nmode\_MCS5\_CH11\_ver

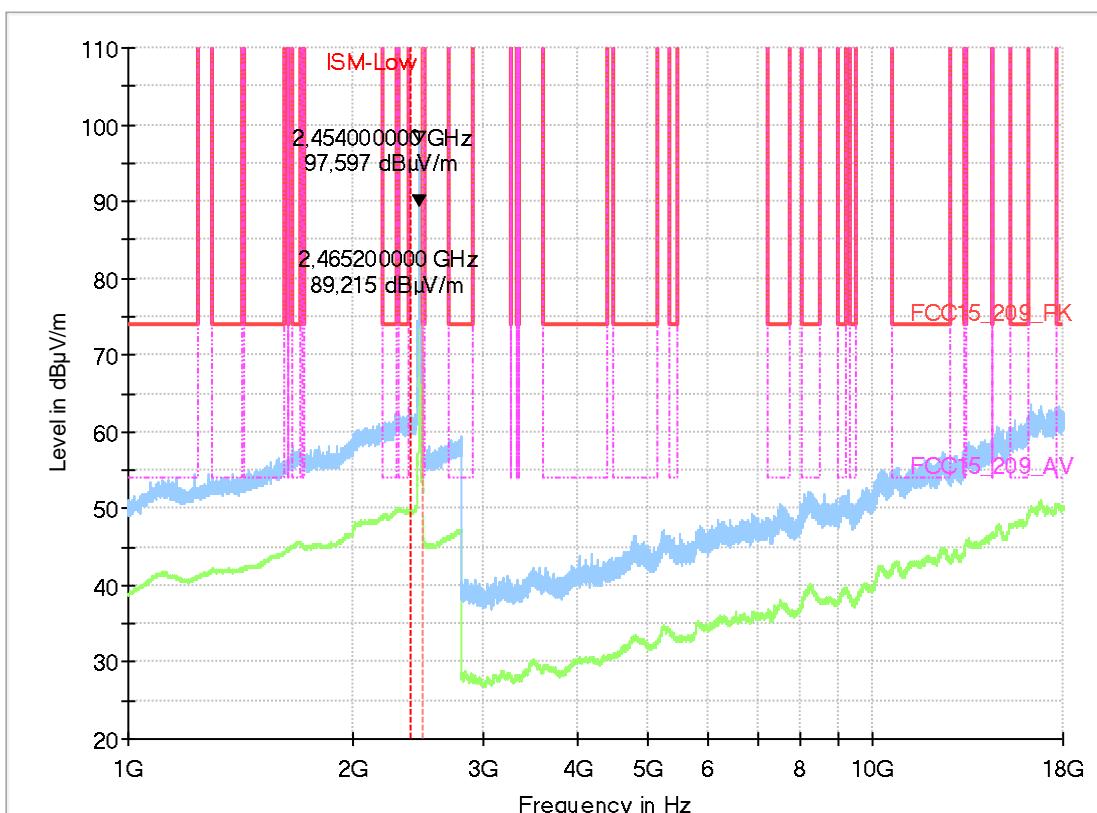
### Common Information

Test Description: Band-Edge: Radiated Field Strength Emissions Emissions in 3m distance  
 Test Site: CETECOM GmbH Essen  
 Test Standard: FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 4  
 Antenna polarisation: horizontal/vertical  
 Operation mode: WLAN 802.11n-mode, BW 20 MHz channel 11; Data rate MCS5 Power 15 dBm  
 Operator Name: KMo

### EUT Information

Manufacturer: ACTIA Nordic AB  
 Model: VCM  
 HW version: 31444563  
 SW version: tbd1  
 Serial number: 10093027  
 Power Supply: 12VDC

Full Spectrum



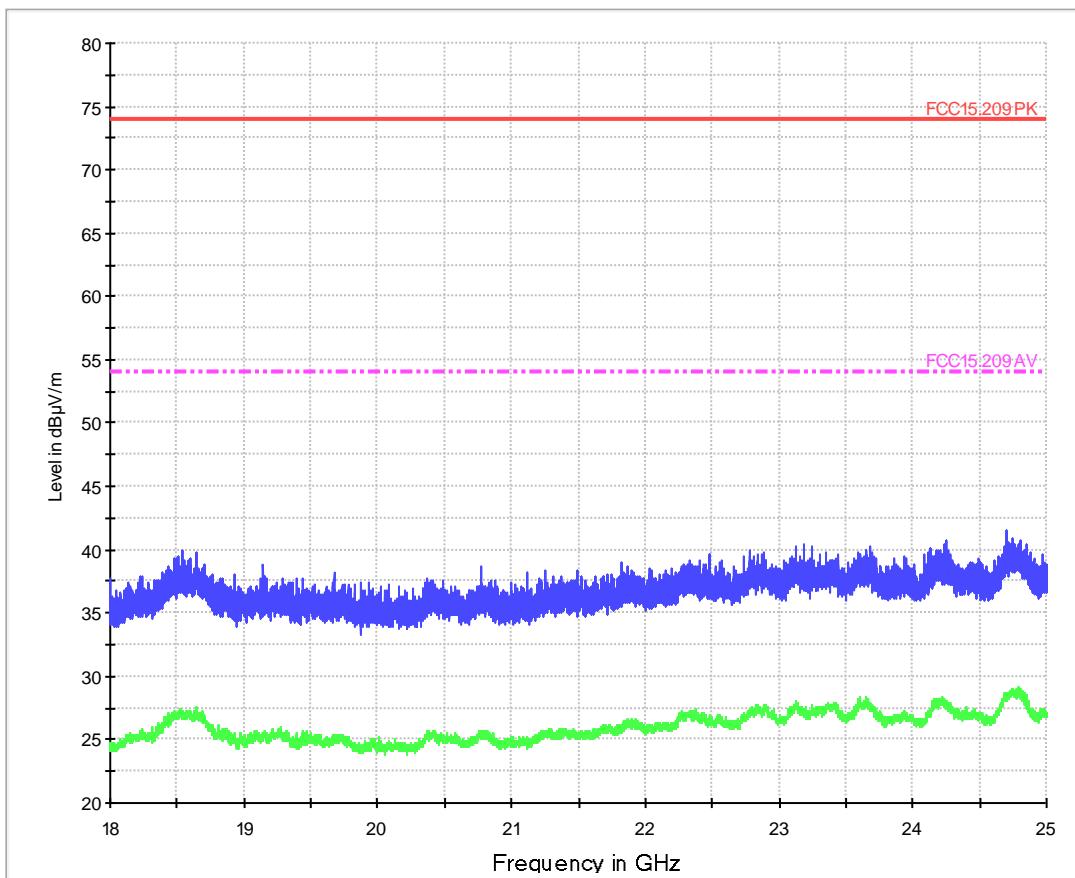
**2.4. Field strength measurements 18GHz <f <25GHz****4.01c\_TX\_bmode\_2Mbit\_CH01\_****Common Information**

Test Description: Band-Edge: Radiated Field Strength Emissions Emissions in 3m distance  
Test Site: CETECOM GmbH Essen  
Test Standard: FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 4  
Antenna polarisation: horizontal/vertical  
Operation mode: WLAN 802.11b-mode, BW 20 MHz channel 1; Data rate 2Mbit  
Operator Name: TFR  
Remarks: no kipp, EUT Standing

**EUT Information**

Manufacturer: ACTIA Nordic AB  
Model: VCM  
HW version: 31444563  
SW version: tbd1  
Serial number: 10093027  
Power Supply: 12VDC

EMI Scan\_18\_25GHz\_Pre



## 4.02c\_TX\_gmode\_6Mbit\_CH06

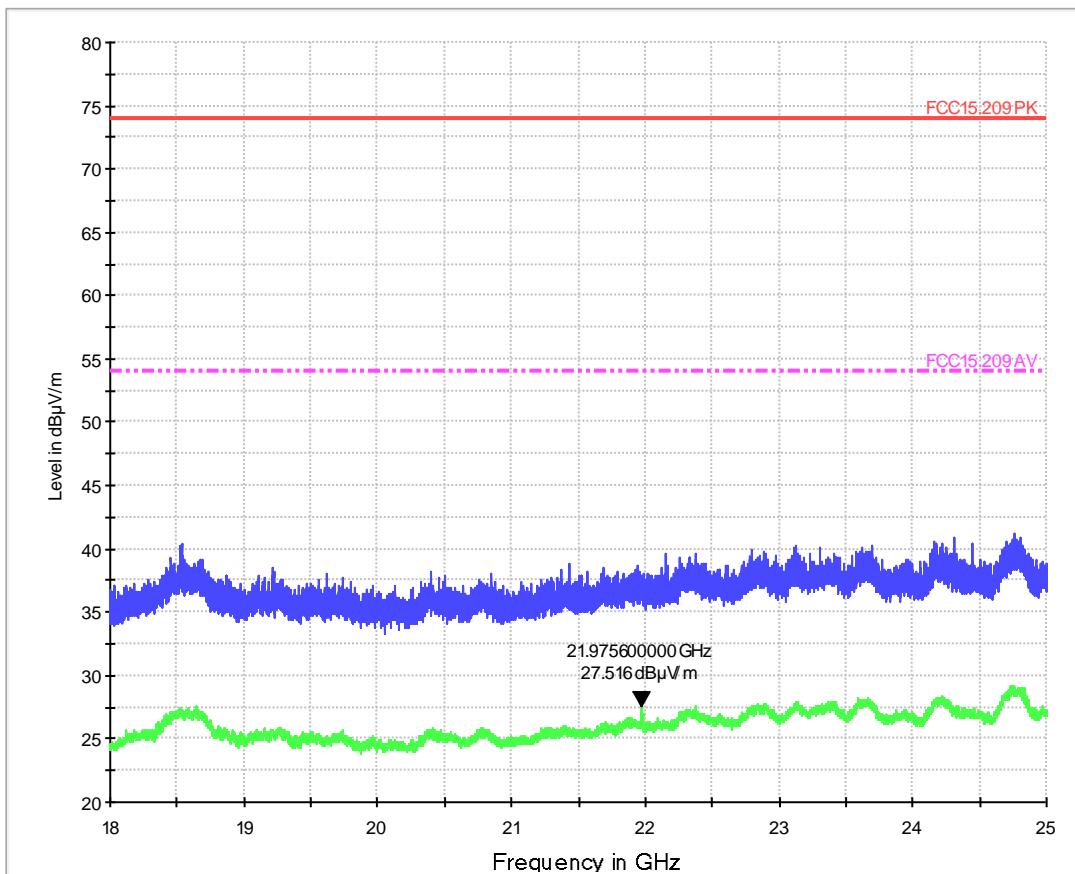
### Common Information

Test Description: Radiated Field Strength Emissions Emissions in 3m distance  
Test Site: CETECOM GmbH Essen  
Test Standard: FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 4  
Antenna polarisation: horizontal/vertical  
Operation mode: WLAN 802.11b-mode, BW 20 MHz channel 6; Data rate 6Mbit  
Operator Name: TFR  
Remarks: Horizontal/vertical EUT position,

### EUT Information

Manufacturer: ACTIA Nordic AB  
Model: VCM  
HW version: 31444563  
SW version: tbd1  
Serial number: 10093027  
Power Supply: 12VDC

EMI Scan\_18\_25GHz\_Pre



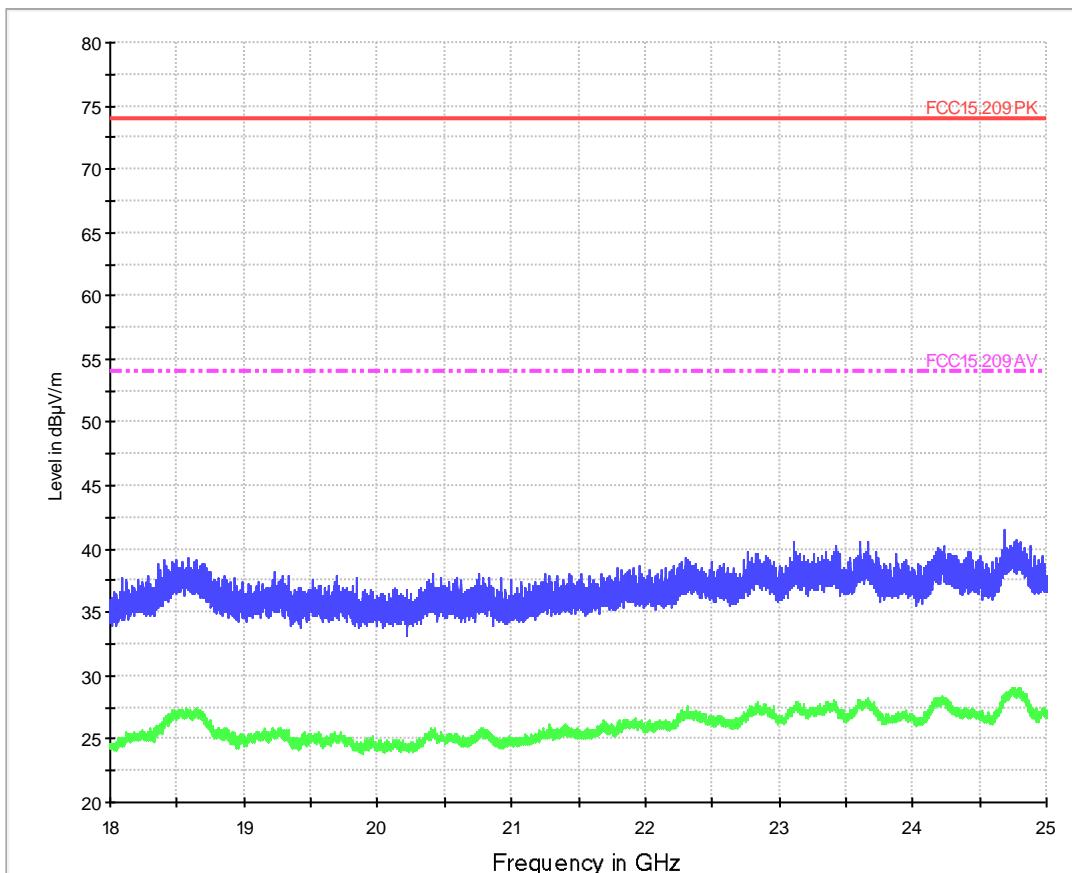
**4.03c\_TX\_nmode\_MCS5\_CH11\_****Common Information**

Test Description: Band-Edge: Radiated Field Strength Emissions Emissions in 3m distance  
Test Site: CETECOM GmbH Essen  
Test Standard: FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 4  
Antenna polarisation: horizontal/vertical  
Operation mode: WLAN 802.11n-mode, BW 20 MHz channel 11; Data rate MCS5 Power 15 dBm  
Operator Name: TFR  
Remarks: Horizontal/vertical EUT position,

**EUT Information**

Manufacturer: ACTIA Nordic AB  
Model: VCM  
HW version: 31444563  
SW version: tbd1  
Serial number: 10093027  
Power Supply: 12VDC

EMI Scan\_18\_25GHz\_Pre



### 3. Radiated band-edge measurements accord. §15.209 & §15.205 (§15.247)

#### 3.1. Channel 1 (left band edge)

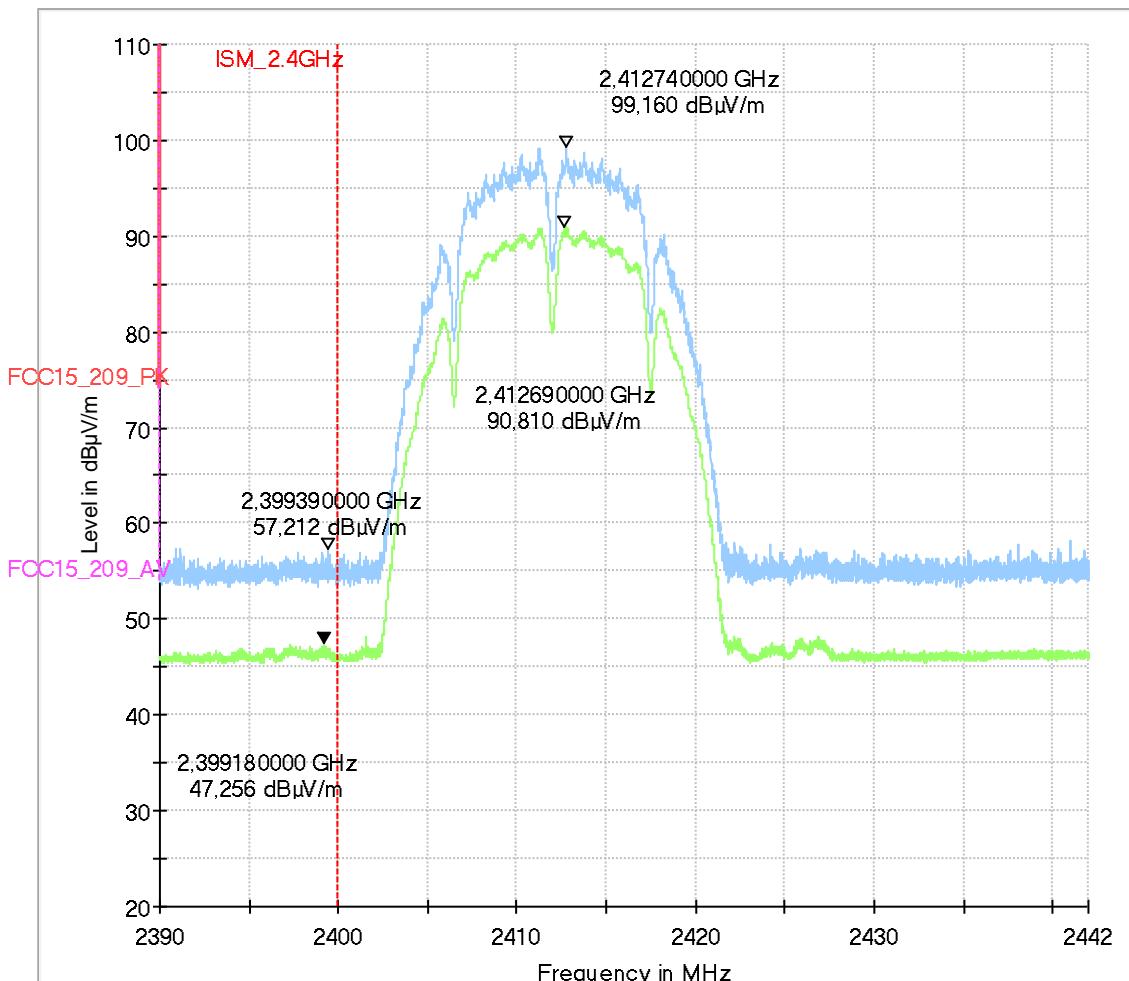
##### 9.01a\_b\_Mode\_2Mbit\_CH1\_BW\_20MHz\_\_Antenna\_HOR\_18dBm

###### Common Information

Test Description: Band-Edge: Radiated Field Strength Emissions Emissions in 3m distance  
 Test Site: CETECOM GmbH Essen  
 Test Standard: FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 4  
 Antenna polarisation: horizontal/vertical  
 Operation mode: TX, continuous  
 Operator Name: KIV  
 Comment: Channel 1. low  
 Comment2: Modulation Type: b Mode Data Rate: 2Mbit Power 18dbm

###### EUT Information

Manufacturer: ACTIA Nordic AB  
 Model: VCM  
 HW version: 31444563  
 SW version: tbd1  
 Serial number: 10093027  
 Power Supply: 12VDC

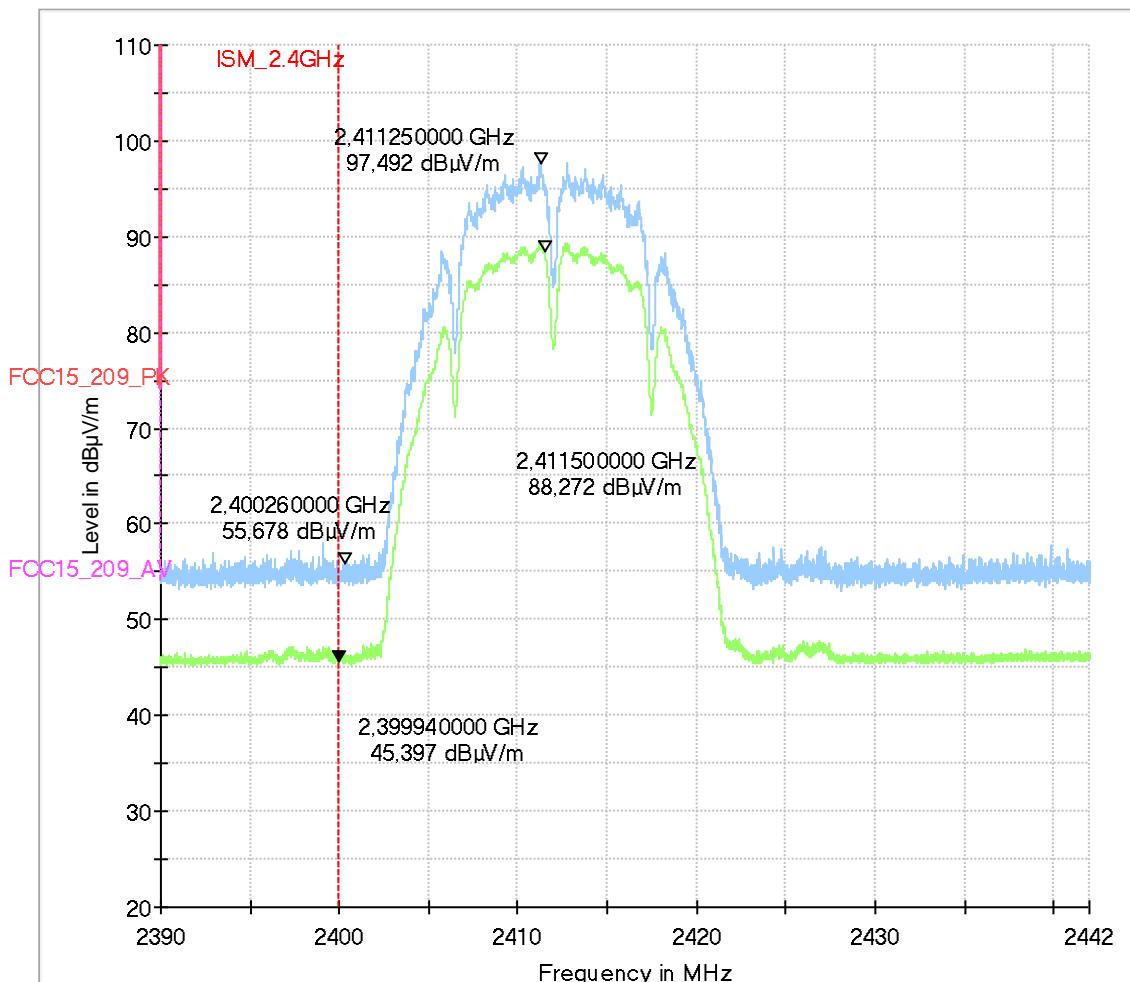


**9.01b\_b\_Mode\_2Mbit\_CH1\_BW\_20MHz\_\_Antenna\_VER\_18dBm****Common Information**

Test Description: Band-Edge: Radiated Field Strength Emissions Emissions in 3m distance  
Test Site: CETECOM GmbH Essen  
Test Standard: FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 4  
Antenna polarisation: horizontal/vertical  
Operation mode: TX, continuous  
Operator Name: KIV  
Comment: Channel 1. low  
Comment2: Modulation Type: b Mode Data Rate: 2Mbit Power 18dbm

**EUT Information**

Manufacturer: ACTIA Nordic AB  
Model: VCM  
HW version: 31444563  
SW version: tbd1  
Serial number: 10093027  
Power Supply: 12VDC

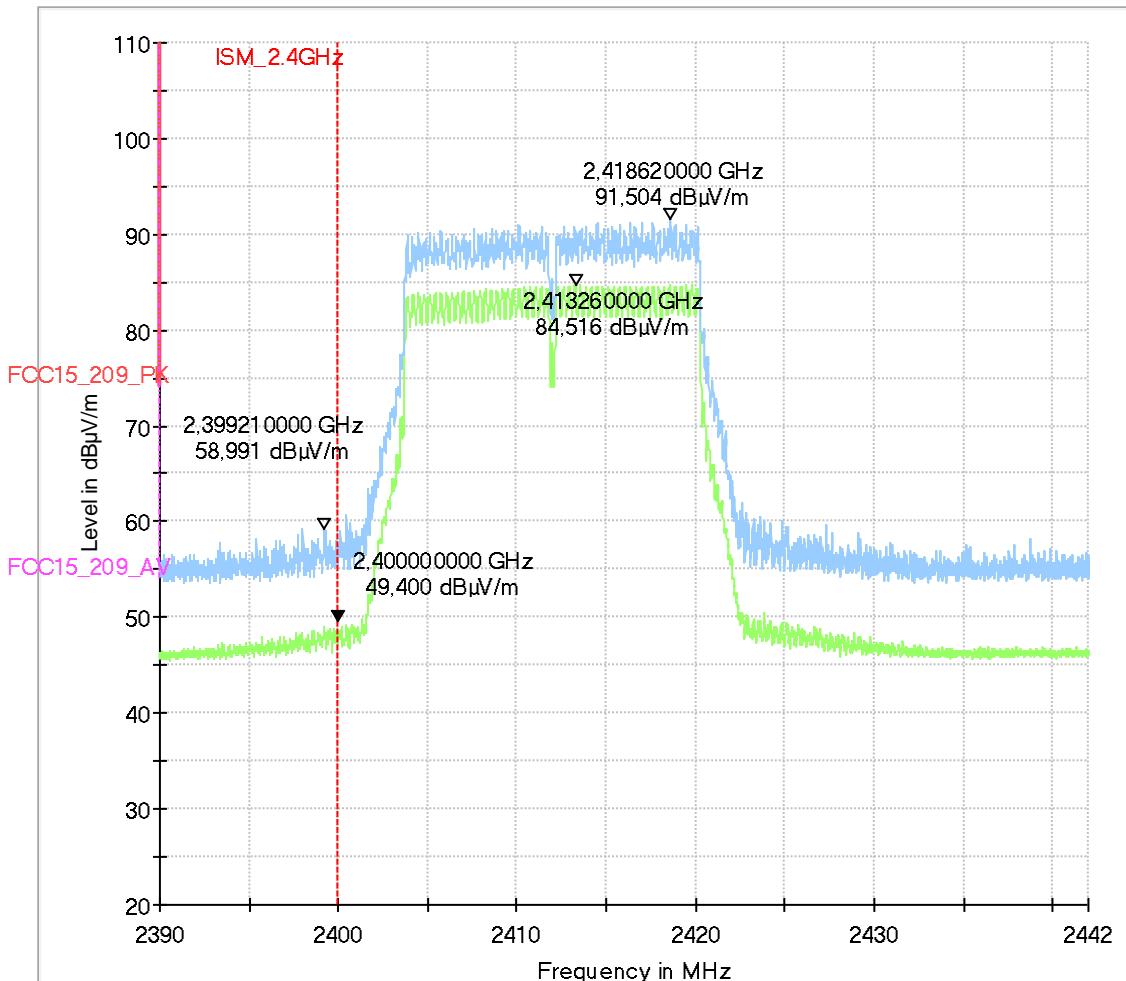


**9.02a\_g\_Mode\_6Mbit\_CH1\_BW\_20MHz\_Antenna\_HOR\_****Common Information**

Test Description: Band-Edge: Radiated Field Strength Emissions Emissions in 3m distance  
Test Site: CETECOM GmbH Essen  
Test Standard: FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 4  
Antenna polarisation: horizontal/vertical  
Operation mode: TX, continuous  
Operator Name: KIV  
Comment: Channel 1. low  
Comment2: Modulation Type: g Mode Data Rate: 6Mbit Power

**EUT Information**

Manufacturer: ACTIA Nordic AB  
Model: VCM  
HW version: 31444563  
SW version: tbd1  
Serial number: 10093027  
Power Supply: 12VDC

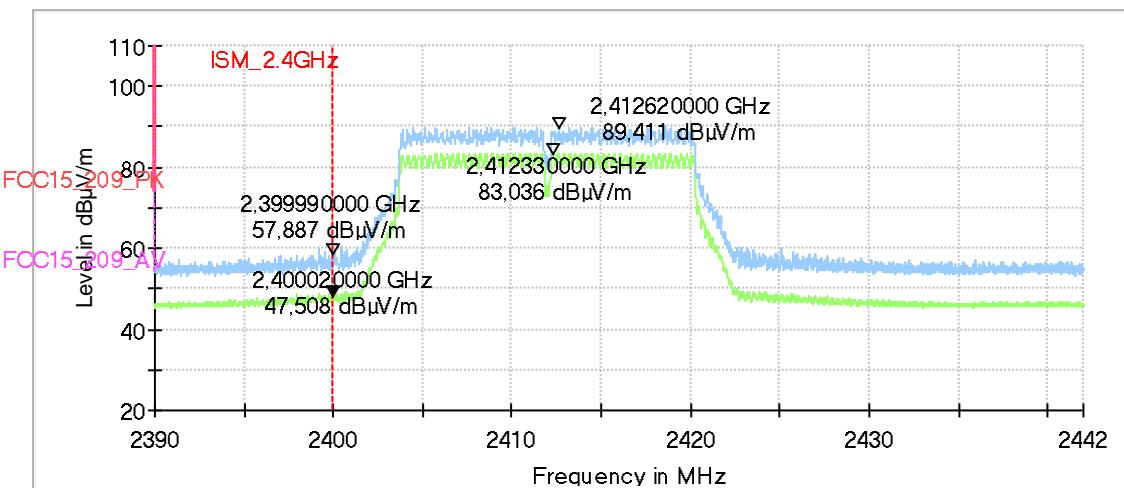


**9.02b\_g\_Mode\_6Mbit\_CH1\_BW\_20MHz\_Antenna\_VER\_****Common Information**

Test Description: Band-Edge: Radiated Field Strength Emissions Emissions in 3m distance  
Test Site: CETECOM GmbH Essen  
Test Standard: FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 4  
Antenna polarisation: horizontal/vertical  
Operation mode: TX, continuous  
Operator Name: KIV  
Comment: Channel 1. low  
Comment2: Modulation Type: g Mode Data Rate: 6Mbit Power

**EUT Information**

Manufacturer: ACTIA Nordic AB  
Model: VCM  
HW version: 31444563  
SW version: tbd1  
Serial number: 10093027  
Power Supply: 12VDC



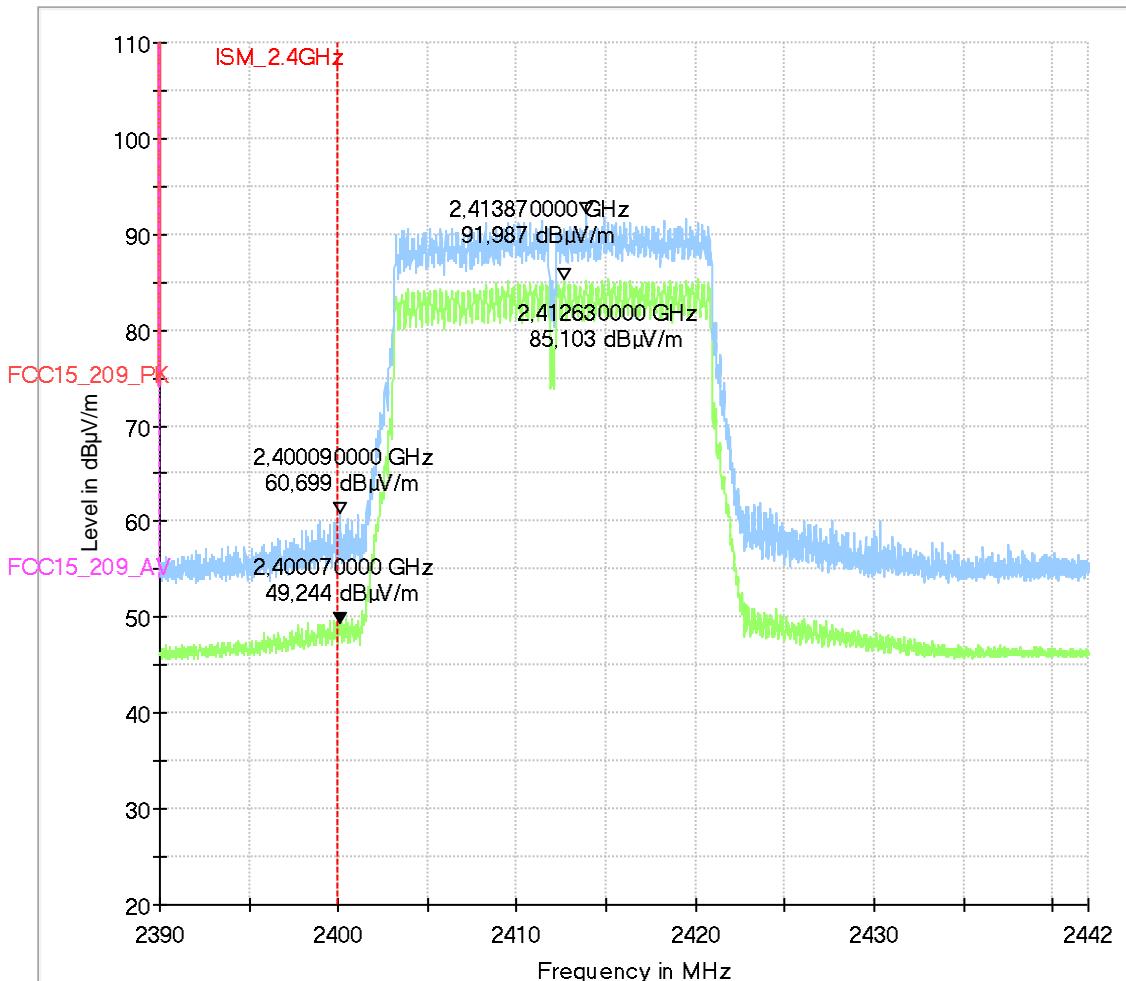
## 9.03a\_n\_Mode\_MCS5\_CH1\_BW\_20MHz\_Antenna\_HOR

### Common Information

Test Description: Band-Edge: Radiated Field Strength Emissions Emissions in 3m distance  
 Test Site: CETECOM GmbH Essen  
 Test Standard: FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 4  
 Antenna polarisation: horizontal/vertical  
 Operation mode: TX, continuous  
 Operator Name: KIV  
 Comment: Channel 1. low  
 Comment2: Modulation Type: n\_Mode\_MCS5 Power

### EUT Information

Manufacturer: ACTIA Nordic AB  
 Model: VCM  
 HW version: 31444563  
 SW version: tbd1  
 Serial number: 10093027  
 Power Supply: 12VDC

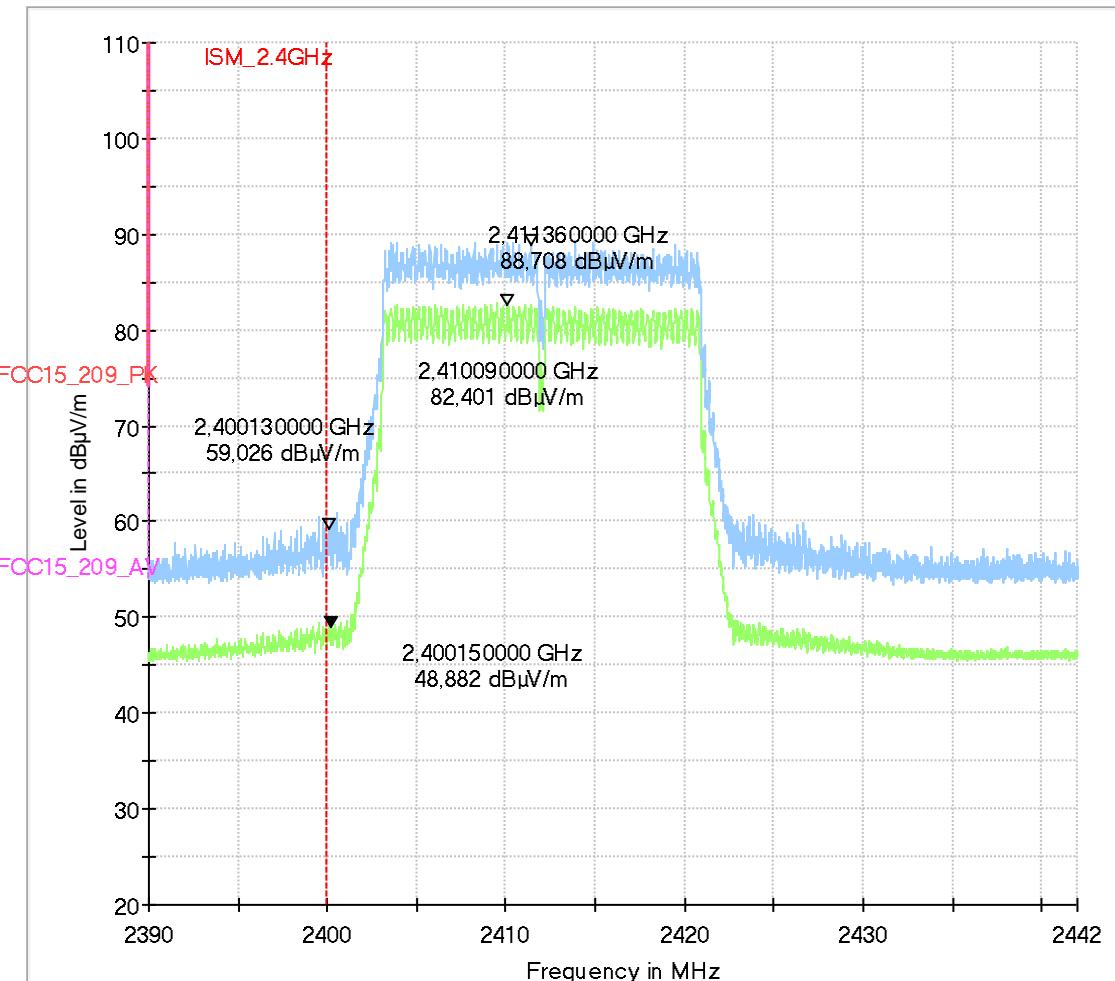


**9.03b\_n\_Mode\_MCS5\_CH1\_BW\_20MHz\_Antenna\_VER\_****Common Information**

Test Description: Band-Edge: Radiated Field Strength Emissions Emissions in 3m distance  
Test Site: CETECOM GmbH Essen  
Test Standard: FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 4  
Antenna polarisation: horizontal/vertical  
Operation mode: TX, continuous  
Operator Name: KIV  
Comment: Channel 1. low  
Comment2: Modulation Type: n-mode Data Rate: MCS0

**EUT Information**

Manufacturer: ACTIA Nordic AB  
Model: VCM  
HW version: 31444563  
SW version: tbd1  
Serial number: 10093027  
Power Supply: 12VDC



### 3.2. Channel 11 (right band edge)

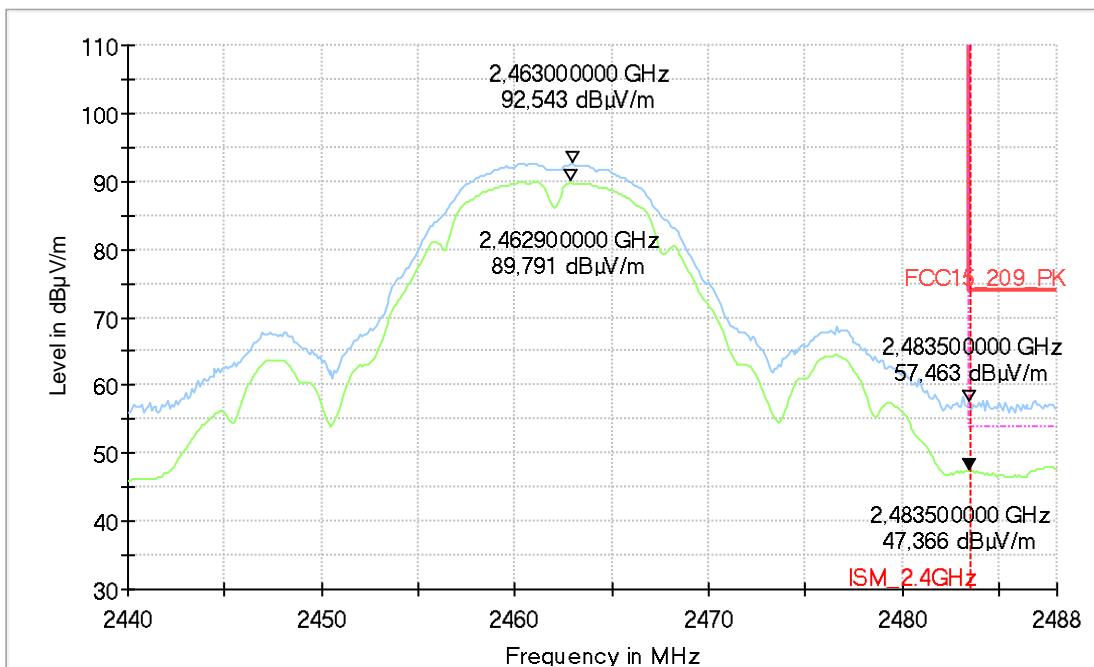
#### 9.04a\_BE\_bMode\_2Mbit\_Ch11\_Ant\_horizontal

##### Common Information

Test Description: Band-Edge: Radiated Field Strength Emissions Emissions in 3m distance  
Test Site: CETECOM GmbH Essen  
Test Standard: FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 4  
Antenna polarisation: horizontal/vertical  
Operation mode: TX, continuous  
Operator Name: Lor  
Comment: Channel no. high  
Comment2: Modulation Type: b-Mode Data Rate: 2Mbit

##### EUT Information

Manufacturer: ACTIA Nordic AB  
Model: VCM  
HW version: 31444563  
SW version: tbd1  
Serial number: 10093027  
Power Supply: 12VDC



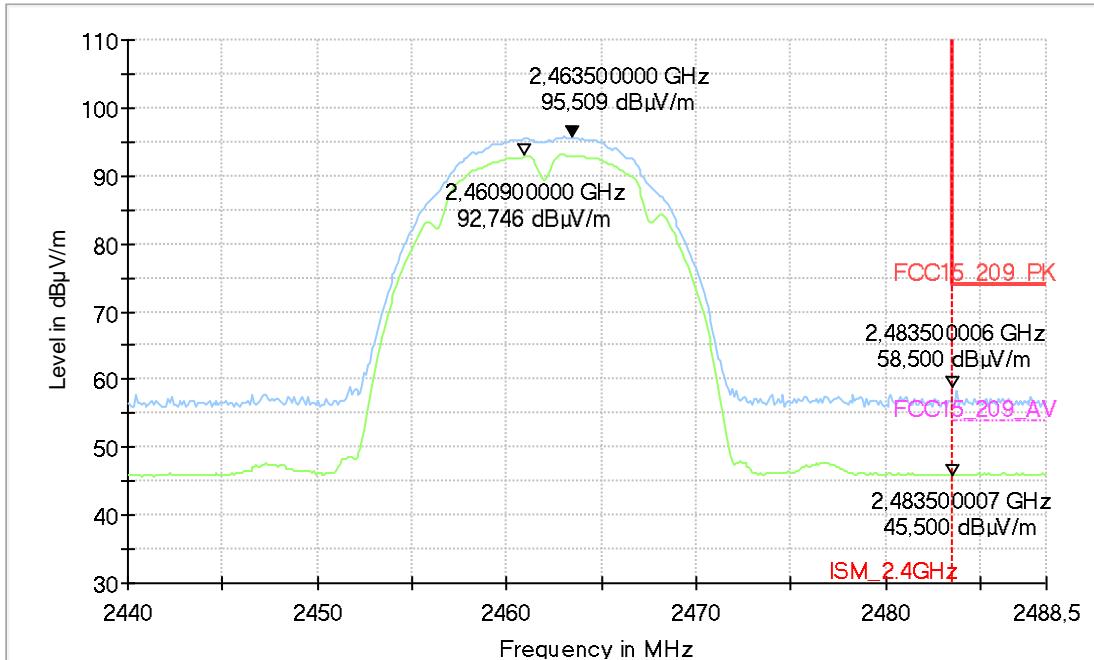
## 9.04b\_BE\_bMode\_2Mbit\_Ch11\_Ant\_vertical

### Common Information

Test Description: Band-Edge: Radiated Field Strength Emissions Emissions in 3m distance  
 Test Site: CETECOM GmbH Essen  
 Test Standard: FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 4  
 Antenna polarisation: horizontal/vertical  
 Operation mode: TX, continuous  
 Operator Name: Lor  
 Comment: Channel no. high  
 Comment2: Modulation Type: b-mode Data Rate: 2Mbit

### EUT Information

Manufacturer: ACTIA Nordic AB  
 Model: VCM  
 HW version: 31444563  
 SW version: tbd1  
 Serial number: 10093027  
 Power Supply: 12VDC

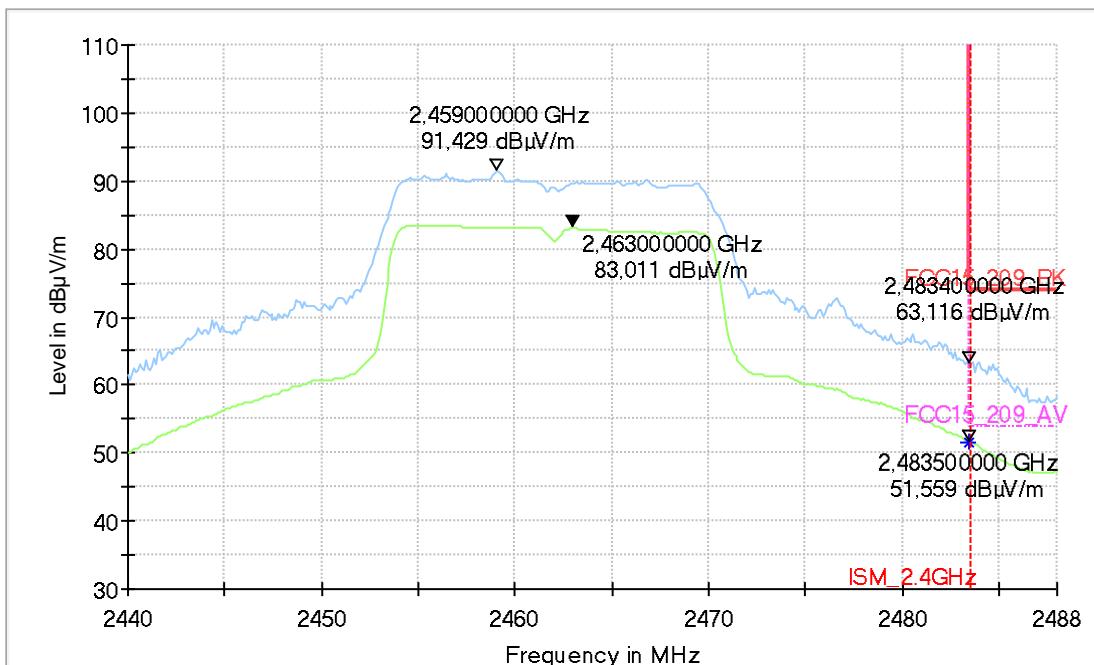


**9.05a\_BE\_gMode\_6Mbit\_Ch11\_Ant\_vertical****Common Information**

Test Description: Band-Edge: Radiated Field Strength Emissions Emissions in 3m distance  
Test Site: CETECOM GmbH Essen  
Test Standard: FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 4  
Antenna polarisation: horizontal/vertical  
Operation mode: TX, continuous  
Operator Name: Lor  
Comment: Channel no. high  
Comment2: Modulation Type: g-Mode Data Rate: 6Mbit

**EUT Information**

Manufacturer: ACTIA Nordic AB  
Model: VCM  
HW version: 31444563  
SW version: tbd1  
Serial number: 10093027  
Power Supply: 12VDC



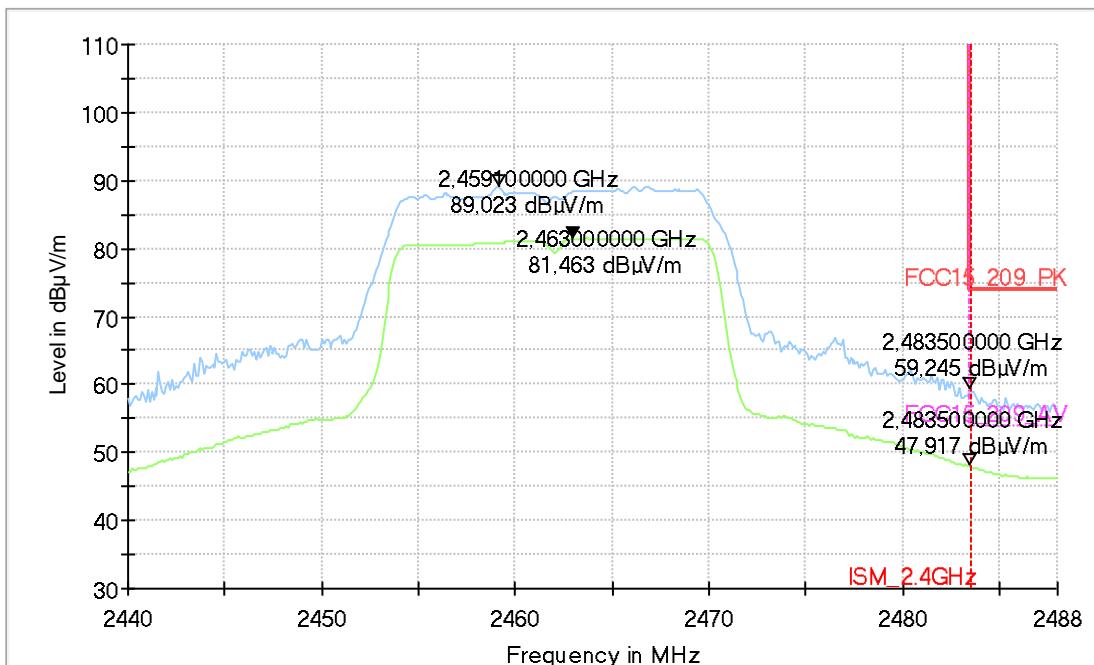
## 9.05b\_BE\_gMode\_6MBit\_Ch11\_Ant\_horizontal

### Common Information

Test Description: Band-Edge: Radiated Field Strength Emissions Emissions in 3m distance  
Test Site: CETECOM GmbH Essen  
Test Standard: FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 4  
Antenna polarisation: horizontal/vertical  
Operation mode: TX, continuous  
Operator Name: Lor  
Comment: Channel no. low/high  
Comment2: Modulation Type: g-Mode Data Rate: 6Mbit

### EUT Information

Manufacturer: ACTIA Nordic AB  
Model: VCM  
HW version: 31444563  
SW version: tbd1  
Serial number: 10093027  
Power Supply: 12VDC



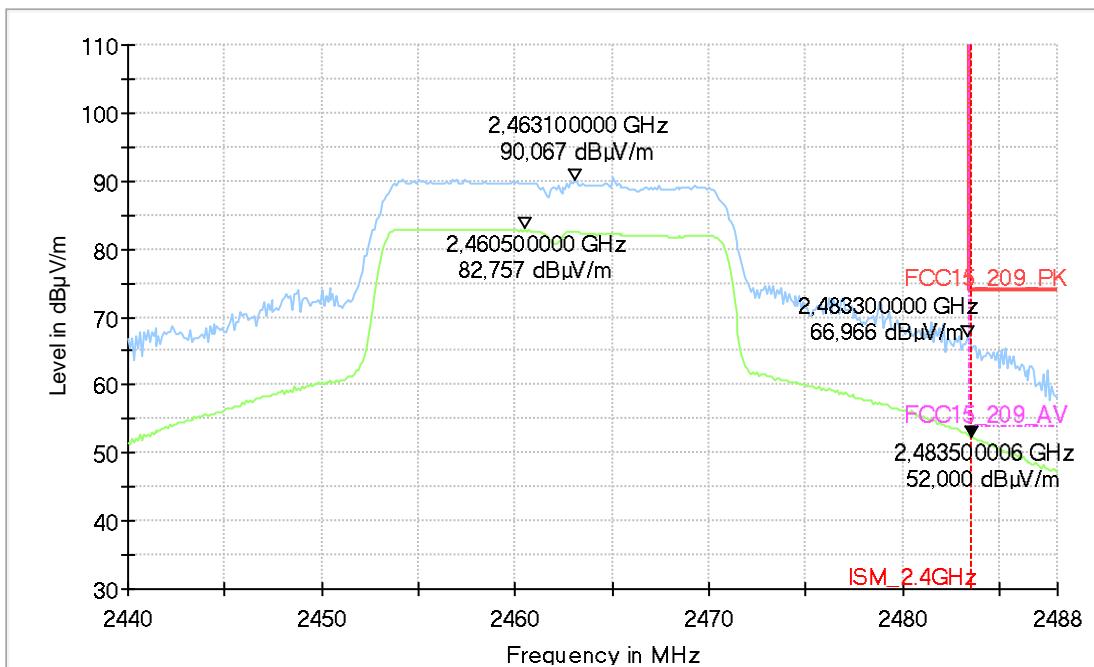
## 9.06a\_BE\_nMode\_MCS5\_Ch11\_Ant\_vertical

### Common Information

Test Description: Band-Edge: Radiated Field Strength Emissions Emissions in 3m distance  
Test Site: CETECOM GmbH Essen  
Test Standard: FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 4  
Antenna polarisation: horizontal/vertical  
Operation mode: TX, continuous  
Operator Name: Lor  
Comment: Channel no. high  
Comment2: Modulation Type: n-Mode Data Rate: MCS5

### EUT Information

Manufacturer: ACTIA Nordic AB  
Model: VCM  
HW version: 31444563  
SW version: tbd1  
Serial number: 10093027  
Power Supply: 12VDC



**9.07b\_BE\_nMode\_MCS5\_Ch11\_Ant\_horizontal****Common Information**

Test Description: Band-Edge: Radiated Field Strength Emissions Emissions in 3m distance  
Test Site: CETECOM GmbH Essen  
Test Standard: FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 4  
Antenna polarisation: horizontal/vertical  
Operation mode: TX, continuous  
Operator Name: Lor  
Comment: Channel no. high  
Comment2: Modulation Type: n-Mode Data Rate: MCS5

**EUT Information**

Manufacturer: ACTIA Nordic AB  
Model: VCM  
HW version: 31444563  
SW version: tbd1  
Serial number: 10093027  
Power Supply: 12VDC

