

Annex 1: Measurement diagrams to
TEST REPORT
 No.: 2-0004-11-18-1b

According to:
FCC Regulations
 Part 15.207
 Part 15.109 & 15.209
 Part 15.247
IC Regulations
 RSS-Gen, Issue 3
 RSS-210: Issue 8

for

Sony Ericsson Communications AB

Mobile Phone AAD-3880121-BV

Laboratory Accreditation and Listings			
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1. Measurement diagrams

1.1. Maximum peak conducted power

Following table show measured values for the maximum peak conducted power for different modulation types and channels. All units are referred to unit dBm.

Modulation	Data Rate [Mbit]	Low channel	Middle channel	High channel	Maximum value for each modulation [dBm]	Absolute maximum value [dBm]	
		Ch 1=2412MHz [dBm]	Ch 6=2437MHz [dBm]	Ch 11=2462MHz [dBm]			
DBPSK	1	18,30	17,72	17,73	18,64		
DQPSK	2	18,64	17,62	17,72			
CCK/PBCC	5.5	18.42	17,46	17,52			
CCK/PBCC	11	18.45	17,40	17,55			
BPSK	6	23,64	22,86	22,69	23,98		
	9	23,98	22,80	22,68			
QPSK	12	23,50	22,51	22,33			
	18	23,46	22,71	22,34			
16QAM	24	23,62	22,83	22,38			
	36	23,51	22,66	22,45			
64QAM	48	23,57	22,87	22,43			
	54	23,51	22,86	22,48			
n (Preamble=3)							
MCS0		23,86	22,96	22,72	23,86		
MCS1		23,42	22,55	22,39			
MCS2		23,35	22,67	22,48			
MCS3		23,38	22,43	22,30			
MCS4		23,41	22,39	22,45			
MCS5		23,38	22,30	22,38			
MCS6		23,24	22,39	22,38			
MCS7		23,29	22,12	22,19			
n (Preamble=4)							
MCS0		23,70	23,07	22,77	23,72		
MCS1		23,56	22,54	22,54			
MCS2		23,42	22,73	22,58			
MCS3		23,38	22,51	22,42			
MCS4		23,36	22,55	22,47			
MCS5		23,55	22,50	22,37			
MCS6		23,72	22,48	22,33			
MCS7		23,31	22,46	22,22			

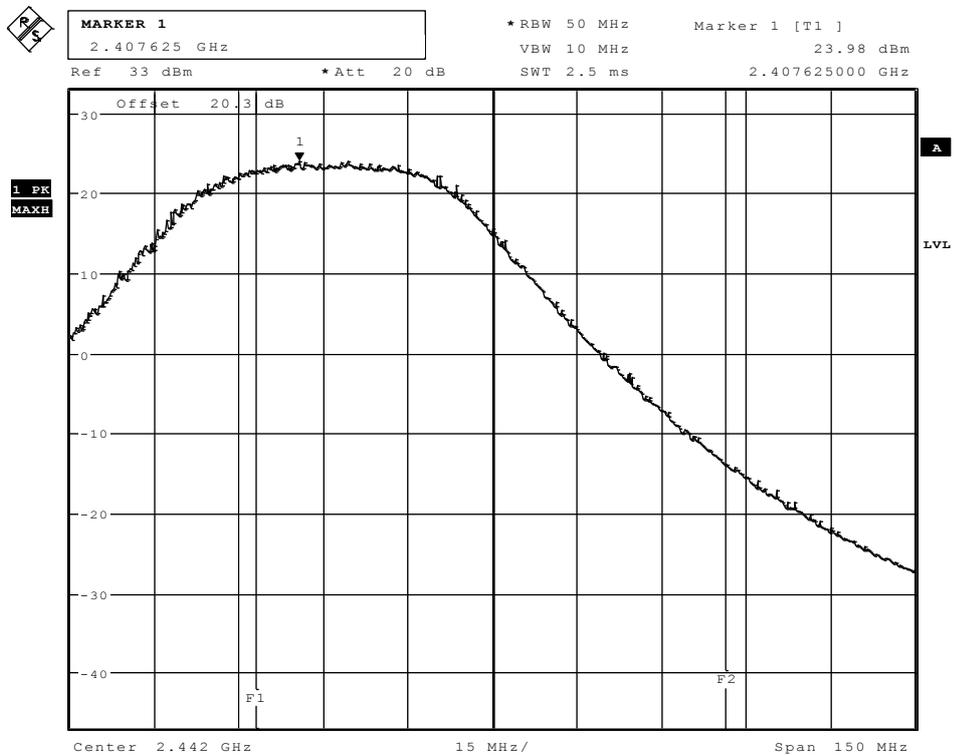
Maximum Value: 23.98 dBm Peak detector = 250.03 mW at channel 1, g-Mode, 9MBit

Below also some diagrams showing the maximum value for different modulation types:



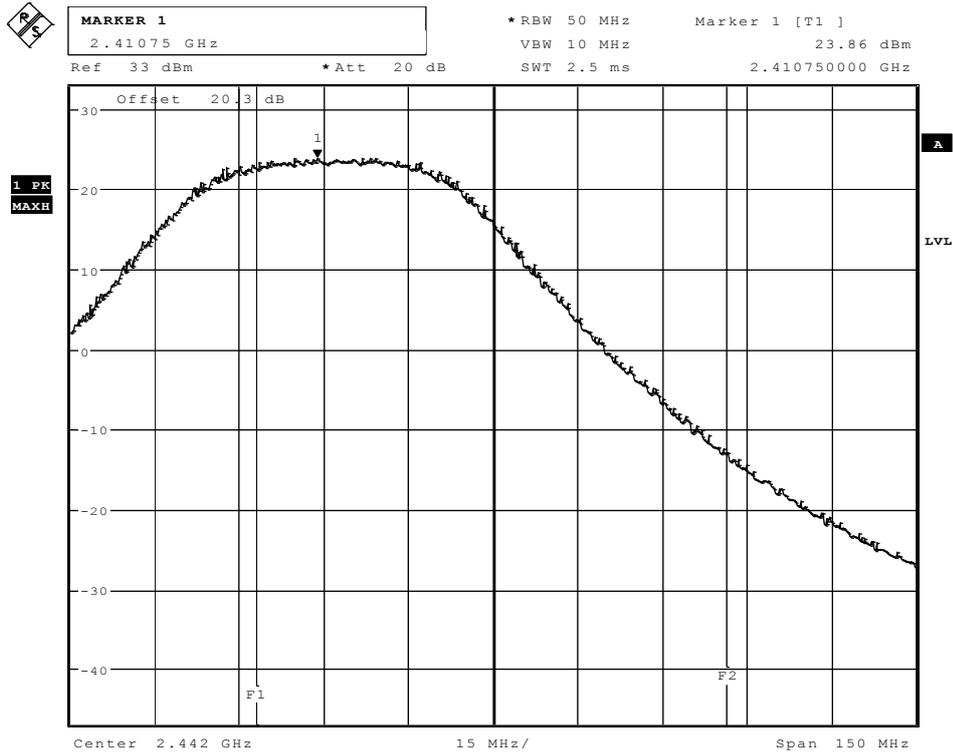
Date: 10.AUG.2011 11:23:49

DQPSK Modulation, 2MBit, Channel 1



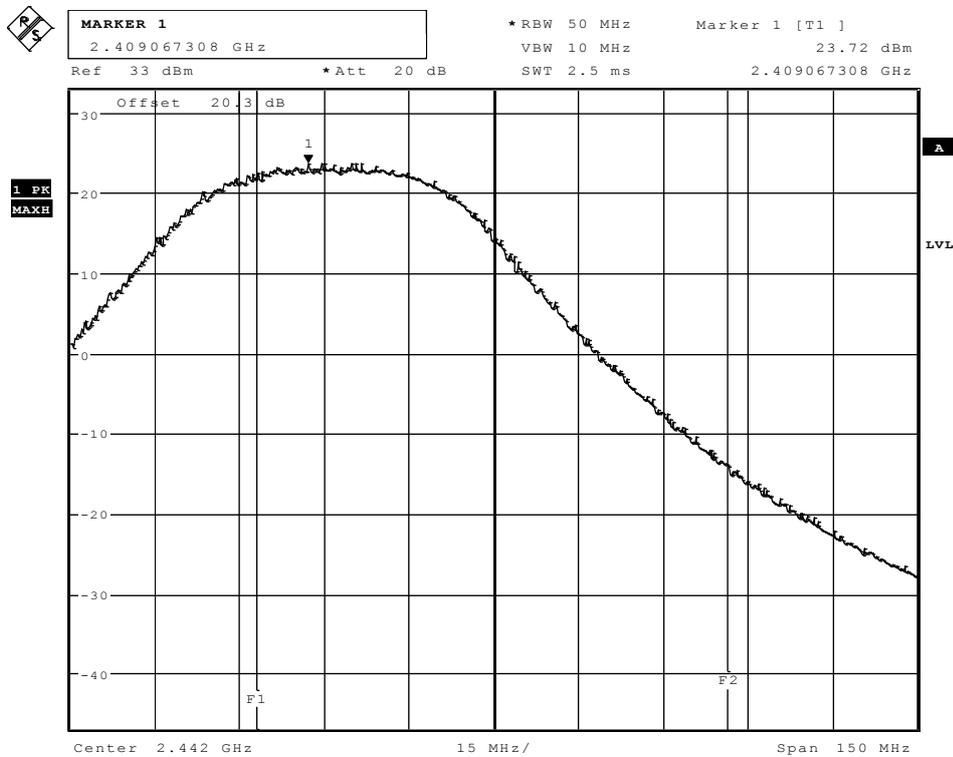
Date: 10.AUG.2011 11:44:51

BPSK Modulation, 9MBit, Channel 1-> absolute maximum value between modulation/data rates



Date: 10.AUG.2011 13:09:00

MCS0, Preámble = 3 (OFDM), Channel 1



Date: 10.AUG.2011 14:30:25

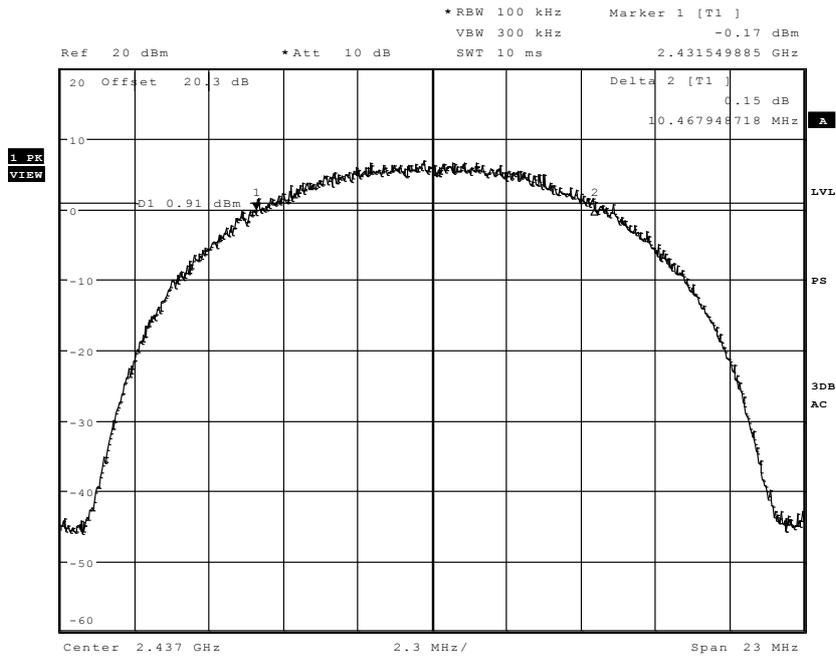
MCS6, Preámble = 4 (OFDM), Channel 1

1.2. 6dB bandwidth

Following table show measured values for the 6dB bandwidth for different modulation types and channels. Minimum and Maximum data rates were tested for each mode. All values are referred to unit MHz.

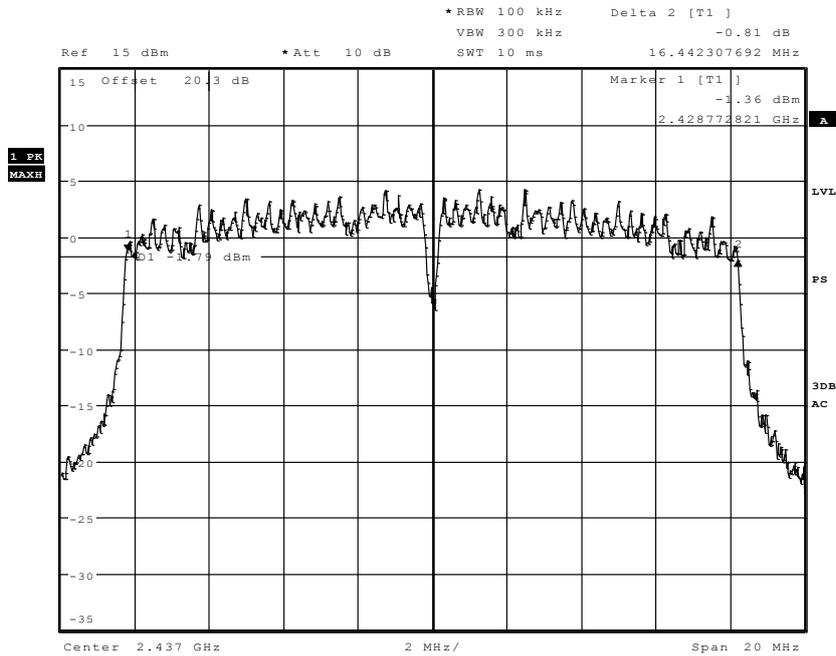
Modulation Type	Data Rate [Mbit]	Ch 1=2412MHz	Ch 6=2437MHz	Ch 11=2462MHz	Max. Value [MHz]
b-Mode					[MHz]
DBPSK	1MBit	9,0673	9,0673	9,5833	
DQPSK	2MBit	9.6950	--	--	10,4679
CCK/PBCC	5.5MBit	--	--	--	
CCK/PBCC	11MBit	9,3622	10,4679	9,3254	
g-Mode					
BPSK	6	15,80128	15,83333	15,7051	
	9	16,1850	--	--	
QPSK	12	--	--	--	16,4423
	18	--	--	--	
16QAM	24	--	--	--	
	36	--	--	--	
64QAM	48	--	--	--	
	54	16,4103	16,4423	16,4423	
n-Mode					
n preamb 3					
MCS0		15,962	15,70512	15,7051	
MCS4		--	--	--	17,57615
MCS7		17,20153	17,43589	17,5762	
n Preamb 4					
MCS0		15,73717	15,53487	15,39461	
MCS4		--	--	--	17,5641
MCS7		17,25358	17,5641	17,33974	

Below also some diagrams showing the maximum value for 3 channels and different modulation types.



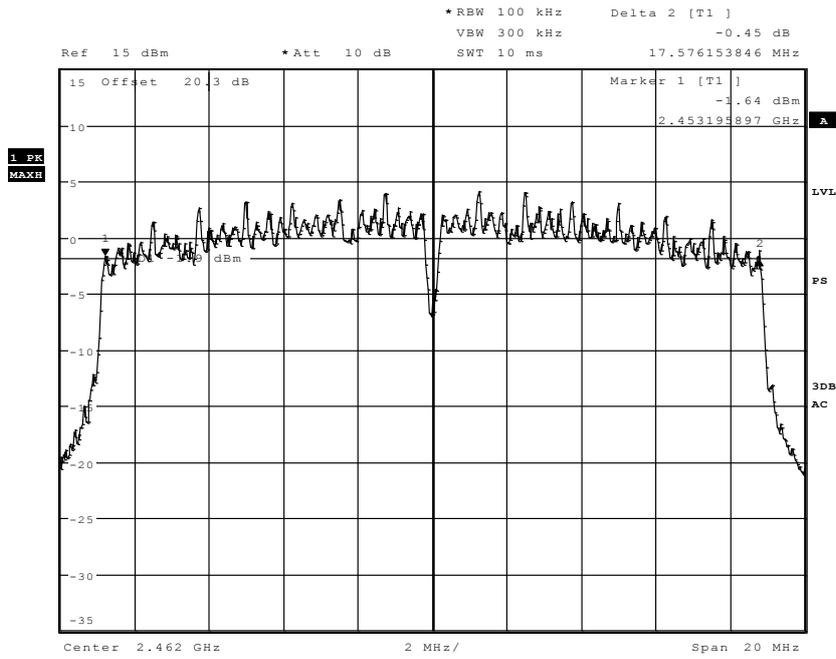
Date: 25.AUG.2011 09:56:21

CCK/PBCC Modulation, 11MBit, Channel 6



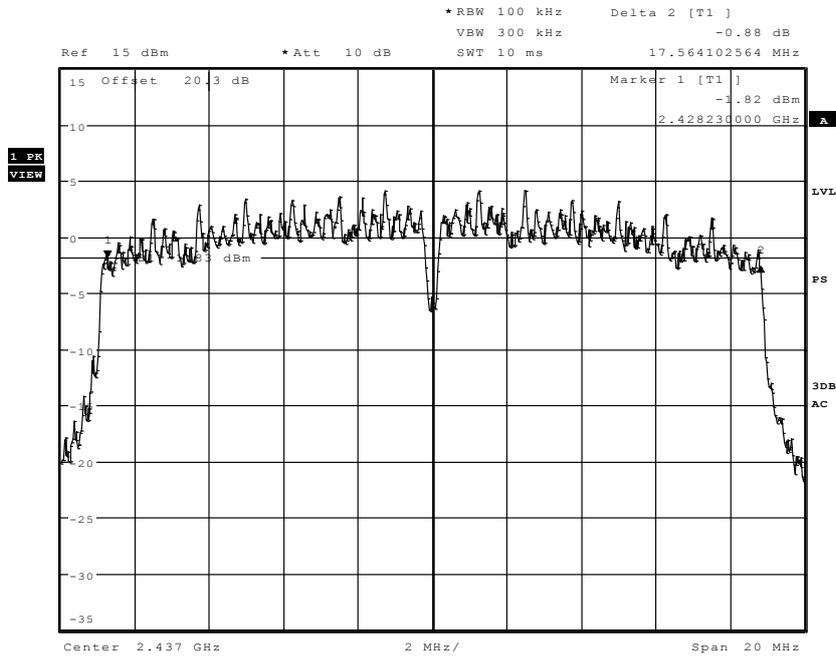
Date: 25.AUG.2011 10:39:23

BPSK Modulation, 54MBit, Channel 6



Date: 25.AUG.2011 11:05:26

MCS7, Preamb 3, Modulation OFDM, Channel 11 Maximum value



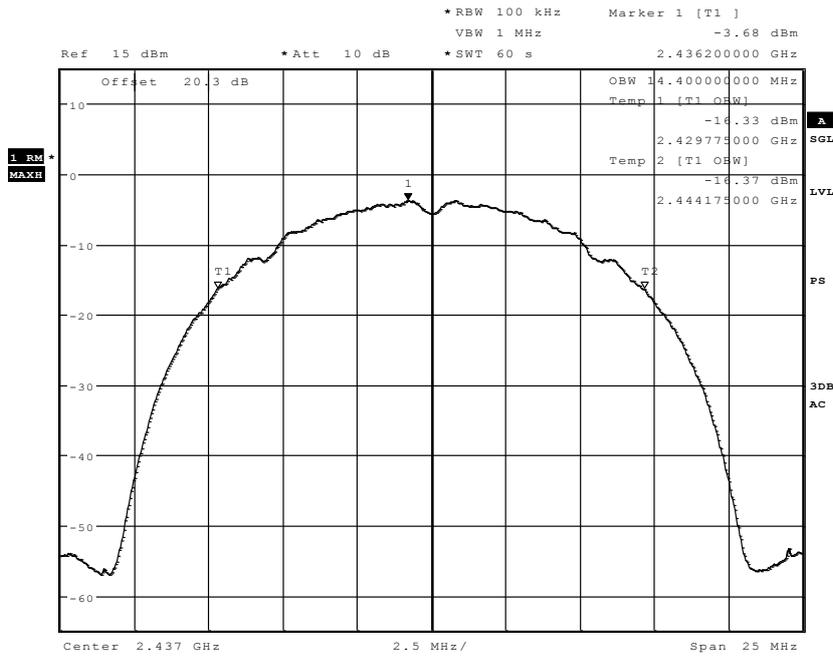
Date: 25.AUG.2011 11:38:13

MCS0, Preamb 4, Modulation OFDM, Channel 6

1.3. 99% Occupied bandwidth

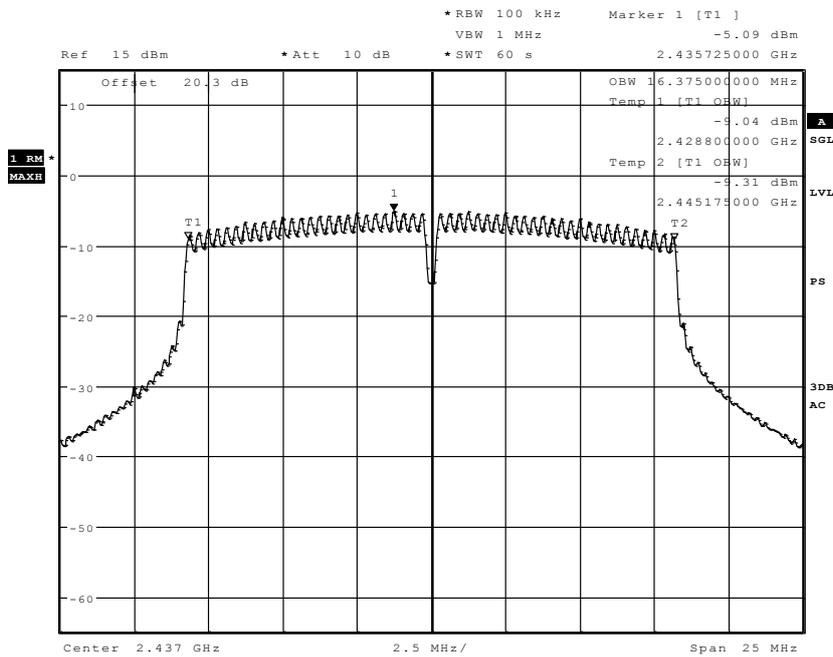
99% occupied bandwidth values were measured for worst-case (maximum values) modulation regarded to the 6dB bandwidth.

Modulation Type	Data Rate [Mbit]	Ch 1=2412MHz	Ch 6=2437MHz	Ch 11=2462MHz	Max. Value [MHz]
b-Mode					
DBPSK	1MBit			13,8750	
DQPSK	2MBit				
CCK/PBCC	5.5MBit				
CCK/PBCC	11MBit		14,4000		
g-Mode					
BPSK	6		16,375		
	9				
QPSK	12				
	18				
16QAM	24				
	36				17,575
64QAM	48				
	54		16,3250		
n-Mode					
n preamb 3					
MCS0		17,575			
MCS4					
MCS7				17,5250	
n Preamb 4					
MCS0		17,575			
MCS4					
MCS7			17,55		



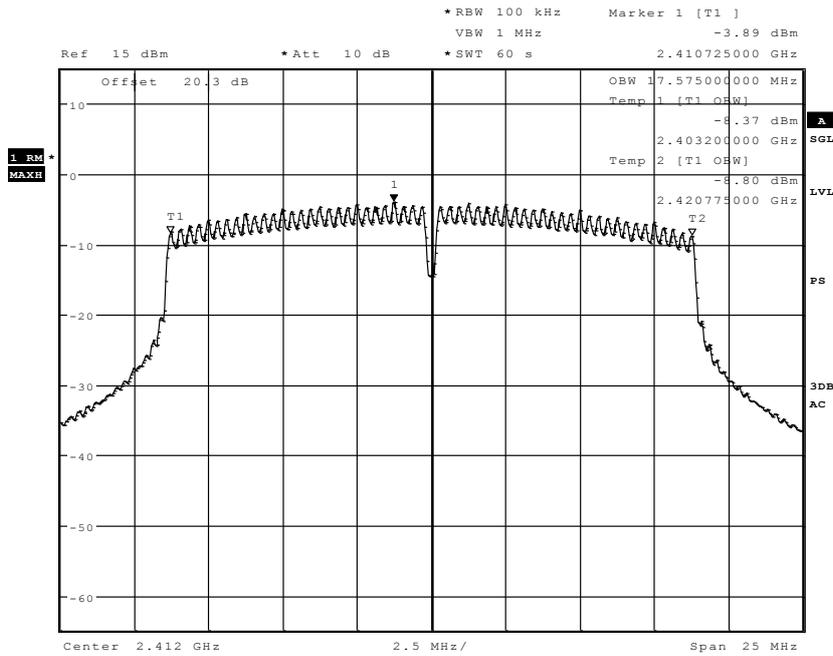
Date: 25.AUG.2011 12:59:57

CCK/PBCC Modulation, 11Mbit, Channel 6



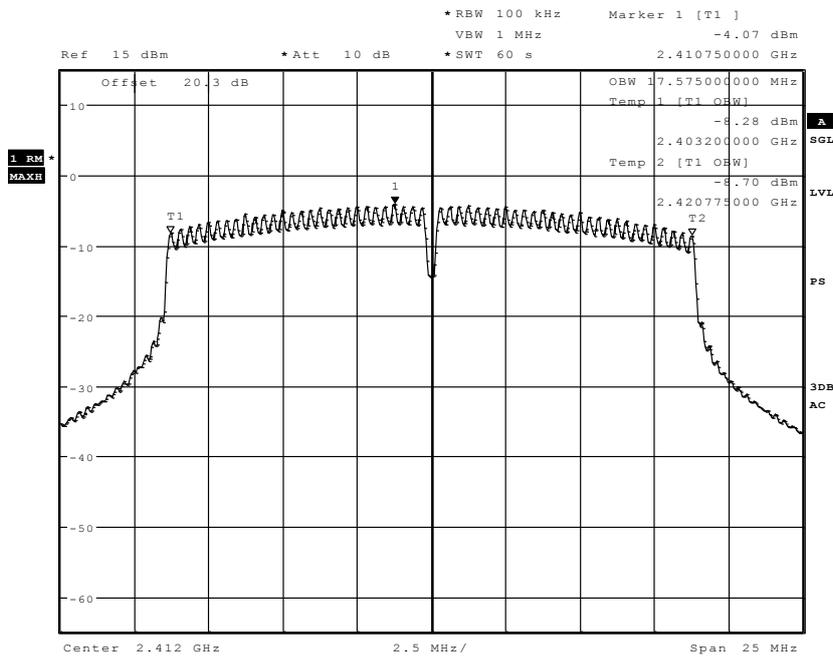
Date: 25.AUG.2011 13:07:24

BPSK Modulation, 6MBit, Channel 6



Date: 25.AUG.2011 13:10:19

MCS0, Preamb3, Modulation OFDM, Channel 1



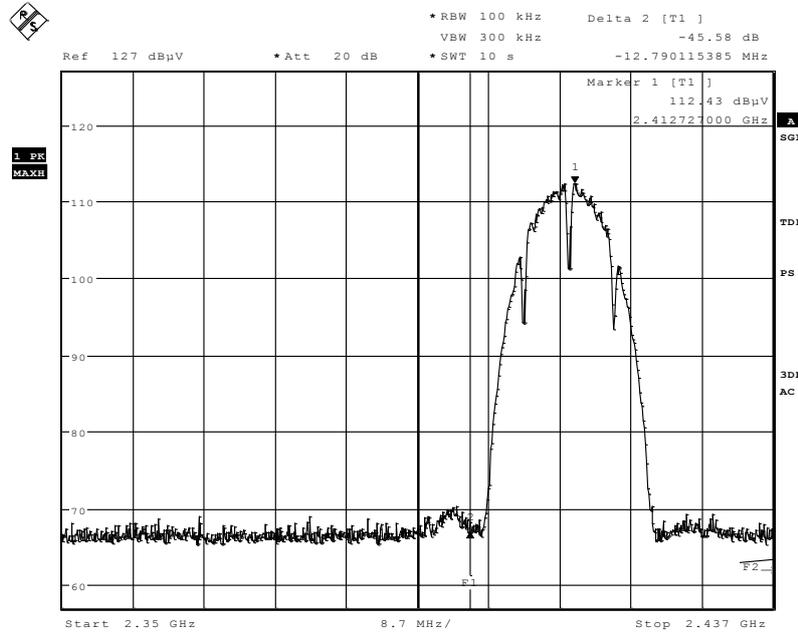
Date: 25.AUG.2011 13:15:44

MCS0, Preamb4, Modulation OFDM, Channel 1

1.4. 20dBc conducted emissions

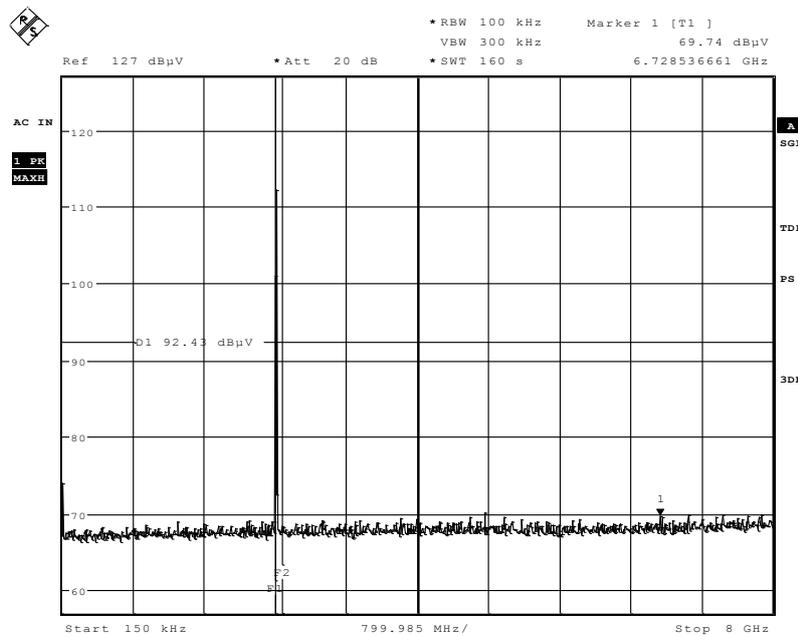
Tests have been performed at maximum measured power level of each modulation type. Pls. compare chapter conducted power for each worst-case. In addition the lowest and highest channel was checked against 20dBc compliance at the relevant band-edge.

1.4.1. IEEE 802.11 b-Mode, , 2Mbit, channel 1



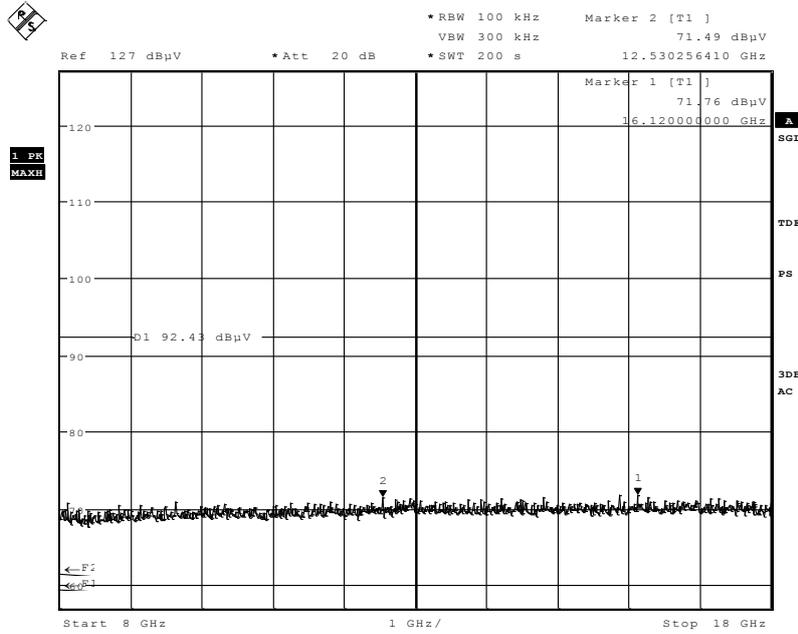
Date: 26.AUG.2011 09:54:20

In-BAND reference value for channel 1 and Band-Edge



Date: 26.AUG.2011 10:01:49

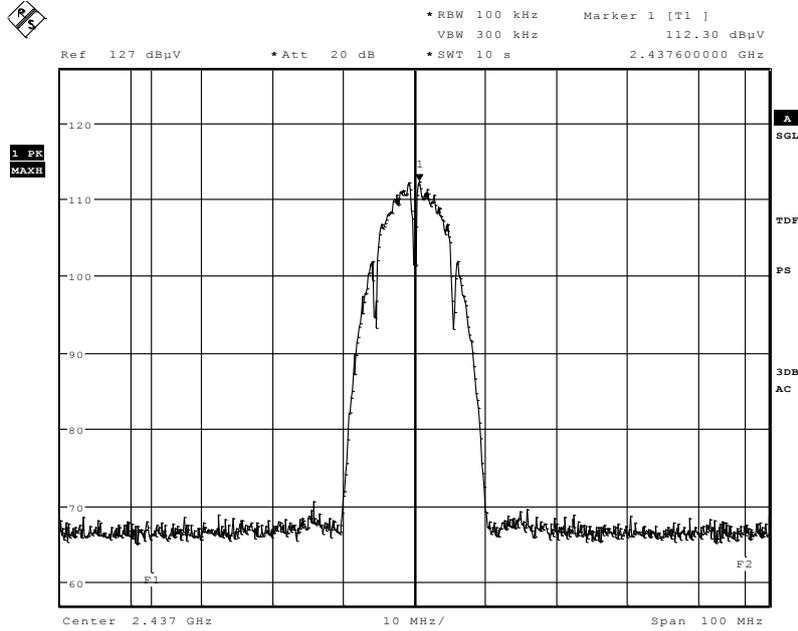
Sweep 1: Channel 1 (150kHz to 8GHz)



Date: 26.AUG.2011 10:08:30

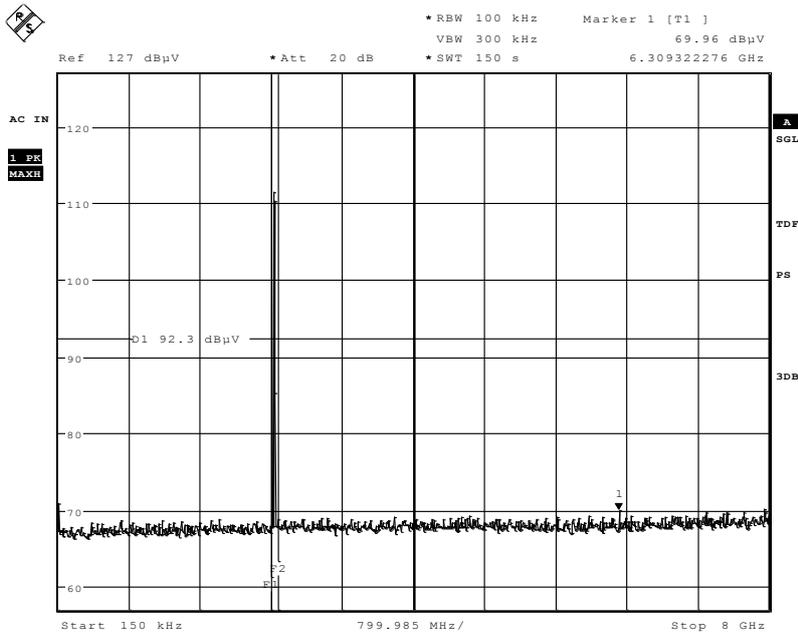
Sweep 2: Channel 11 (8GHz to 18GHz)

1.4.2. IEEE802.11 b-Mode, 2MBit, channel 6



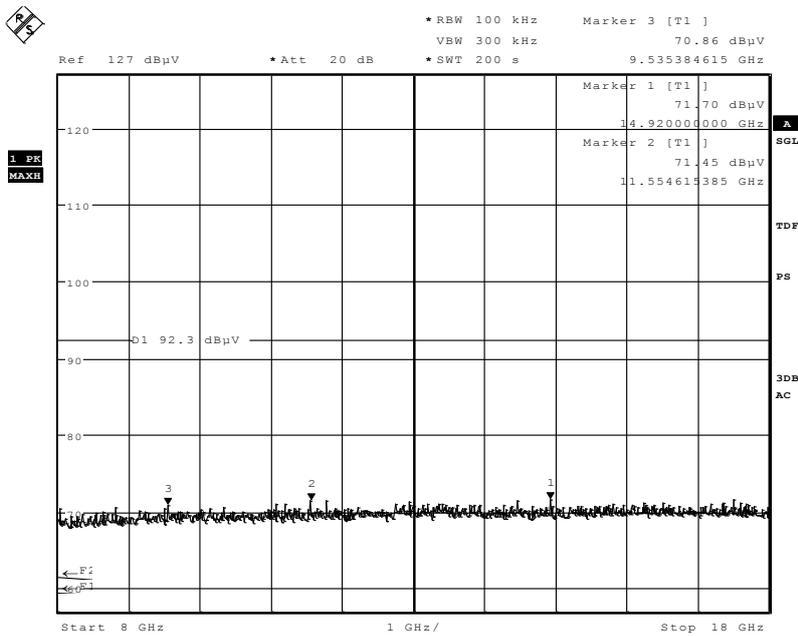
Date: 26.AUG.2011 10:10:57

In-BAND reference value for channel 6



Date: 26.AUG.2011 10:16:17

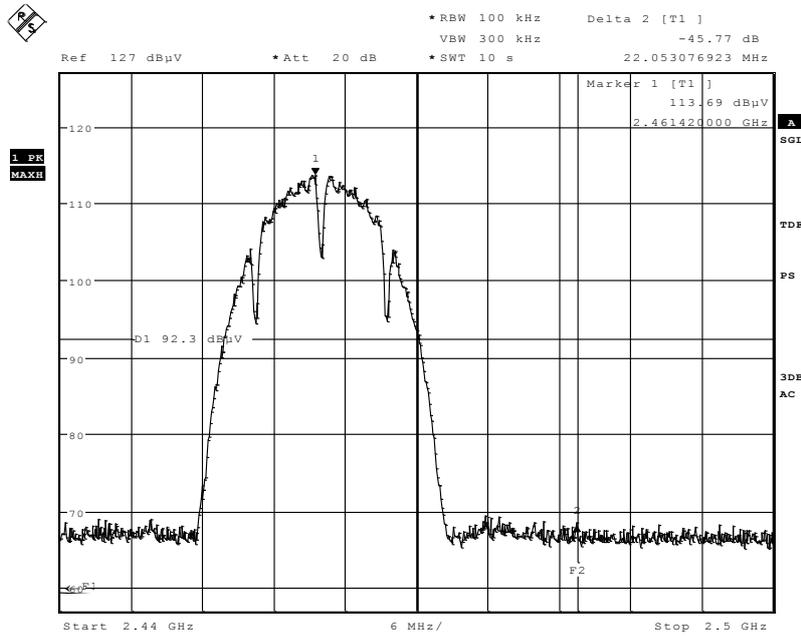
Sweep 1: Channel 6 (150kHz to 8GHz)



Date: 26.AUG.2011 10:23:49

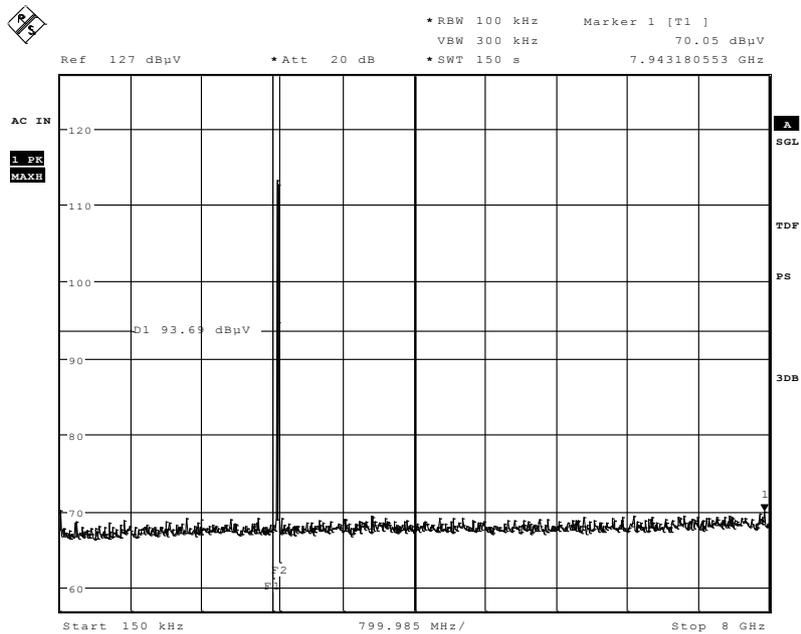
Sweep 2: Channel 6 (8GHz to 18GHz)

1.4.3. IEEE802.11 b-Mode, 2MBit, channel 11



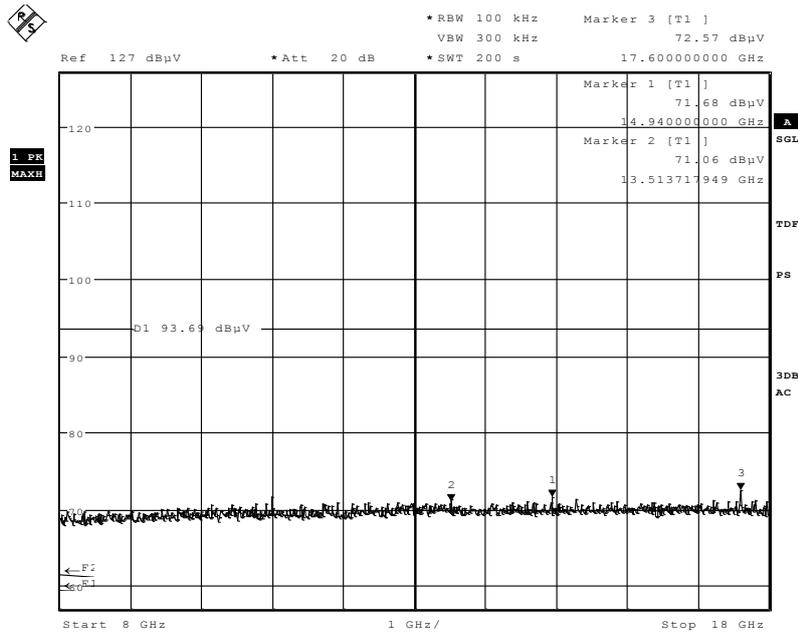
Date: 26.AUG.2011 10:25:16

In-BAND reference value for channel 11 and Band-Edge



Date: 26.AUG.2011 10:48:48

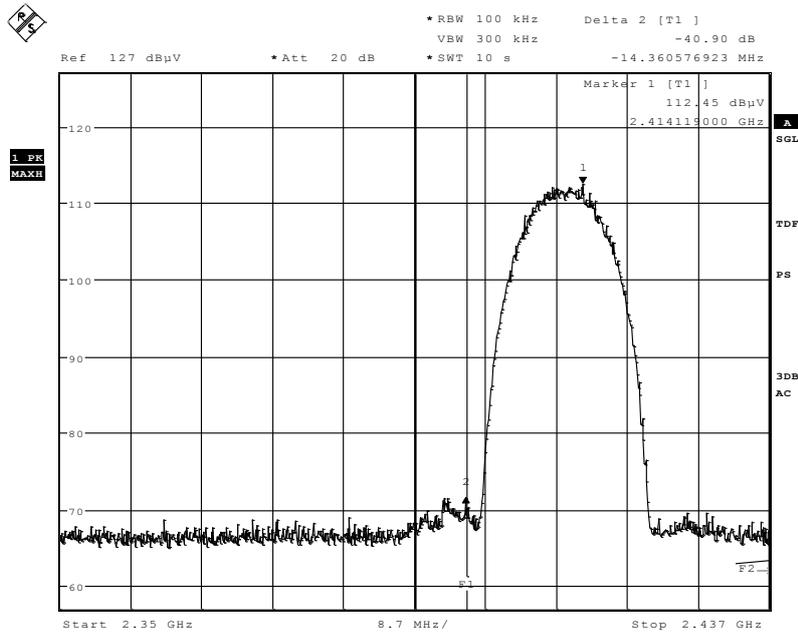
Sweep 1: Channel 11 (150kHz to 8GHz)



Date: 26.AUG.2011 10:45:34

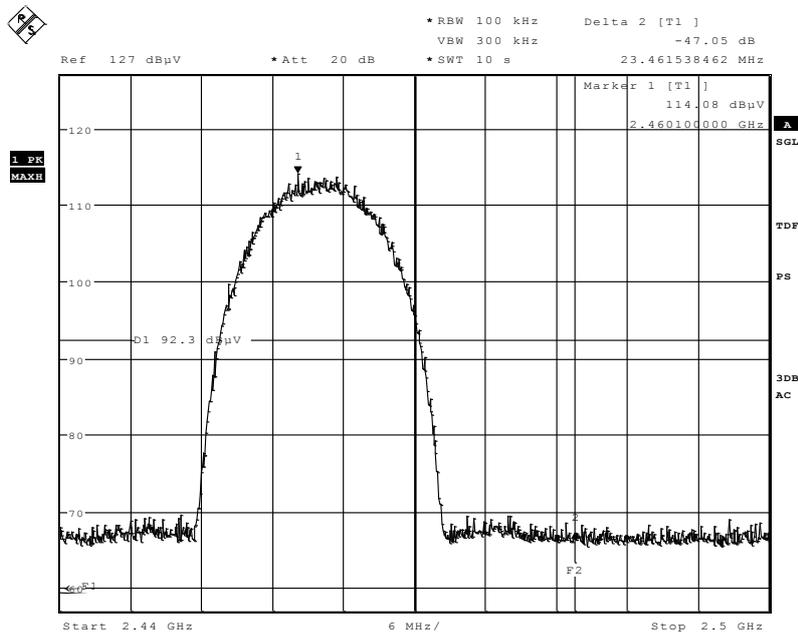
Sweep 2: Channel 11 (8GHz to 18GHz)

1.4.4. IEEE802.11 b-Mode, 11MBit, channel 1&11, Band-Edge 20dBc



Date: 26.AUG.2011 09:57:20

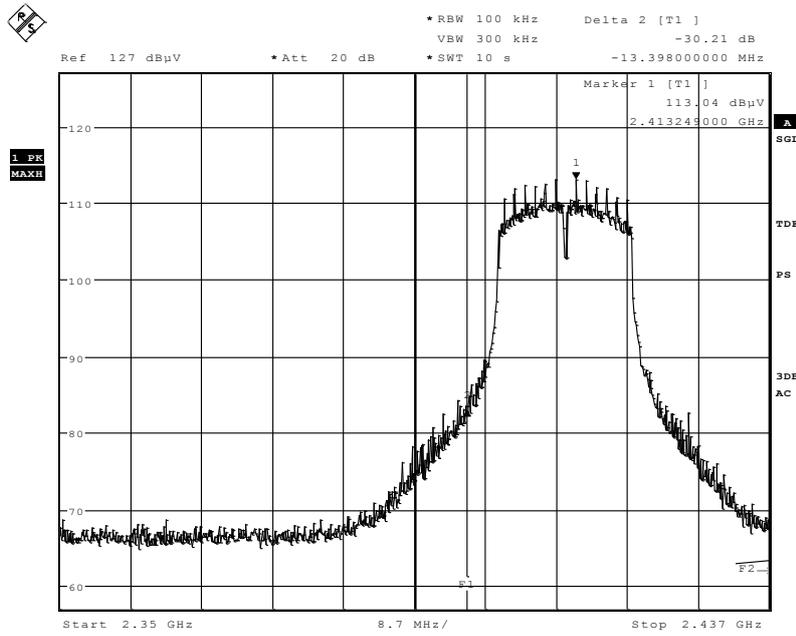
Band-Edge left, channel 1, b-Mode, 11Mbit



Date: 26.AUG.2011 10:26:53

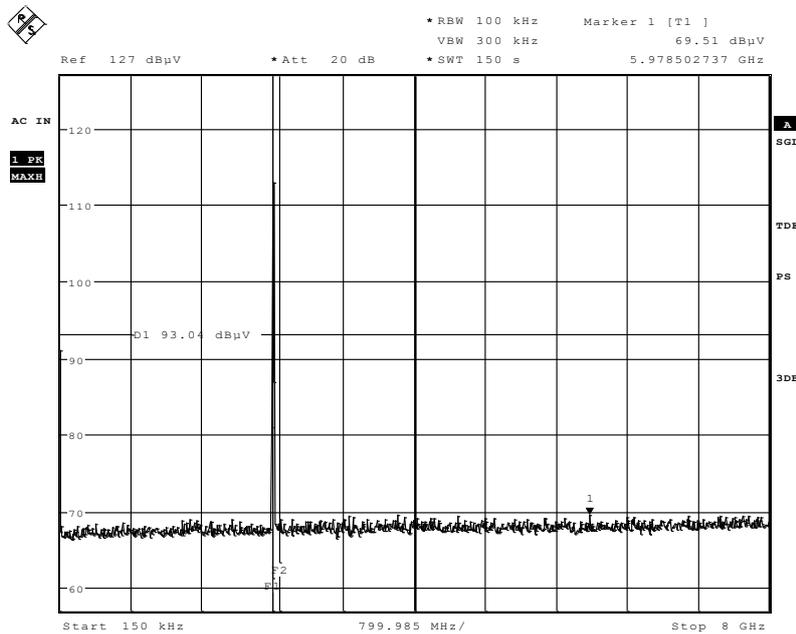
Band-Edge right, channel 11, b-Mode, 11Mbit

1.4.5. IEEE802.11 g-Mode, 9Mbit, channel 1



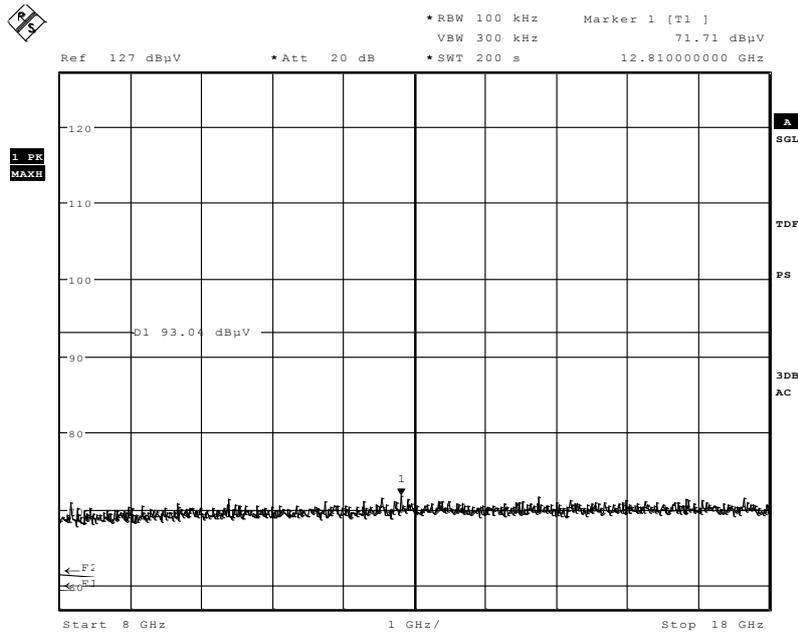
Date: 26.AUG.2011 10:54:05

In-Band Reference Value for channel 1 (9 Mbit) + Band-Edge left



Date: 26.AUG.2011 11:01:39

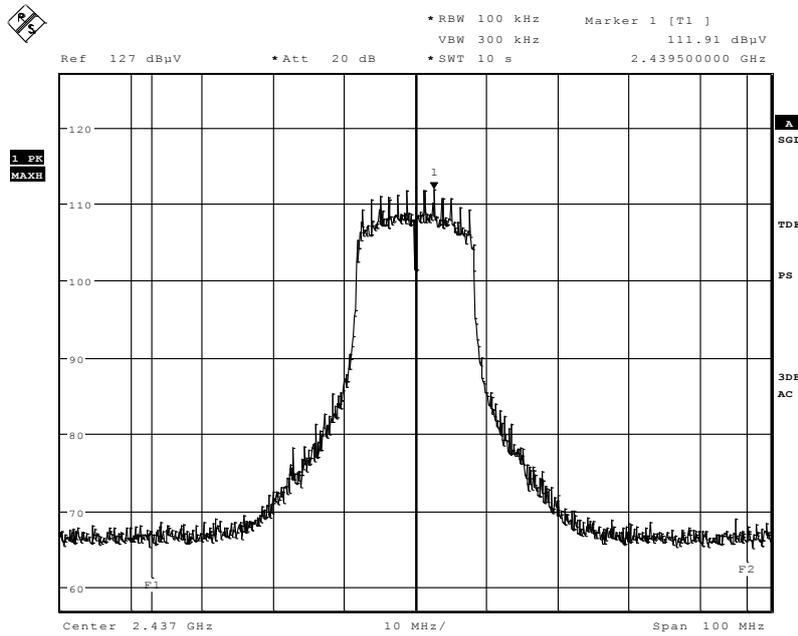
Sweep 1: Channel 1 (150kHz to 8GHz)



Date: 26.AUG.2011 11:06:37

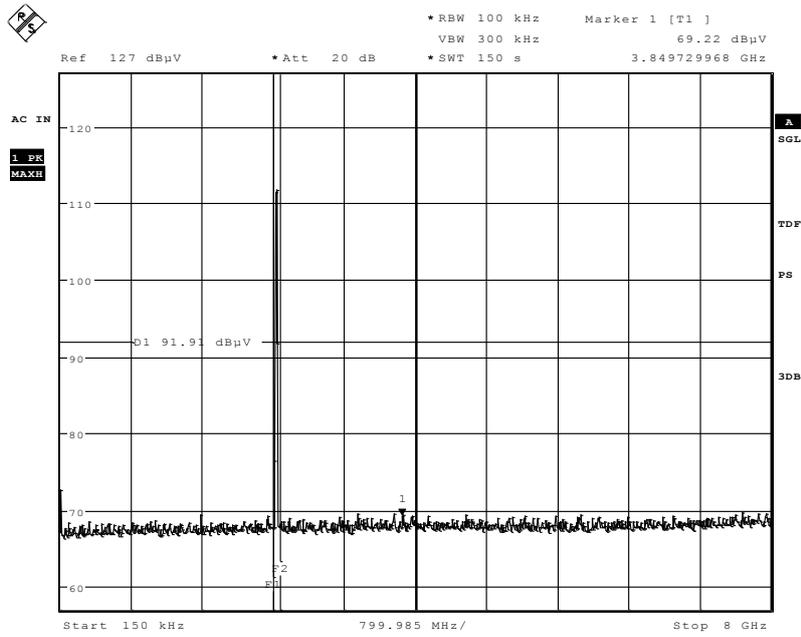
Sweep 2: Channel 1 (8GHz to 18GHz)

1.4.6. IEEE802.11 g-Mode, 9Mbit, channel 6



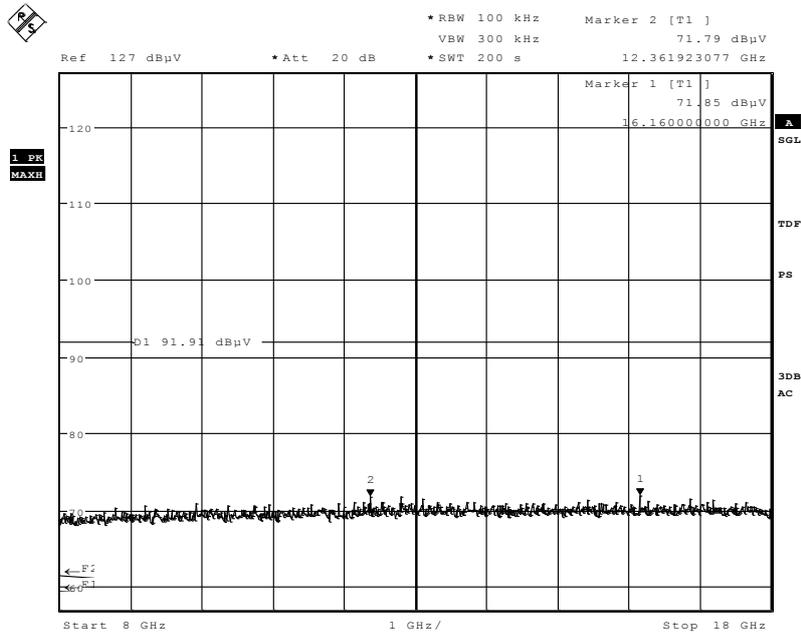
Date: 26.AUG.2011 11:08:26

In-Band Reference Value for channel 6 (9 Mbit)



Date: 26.AUG.2011 11:13:00

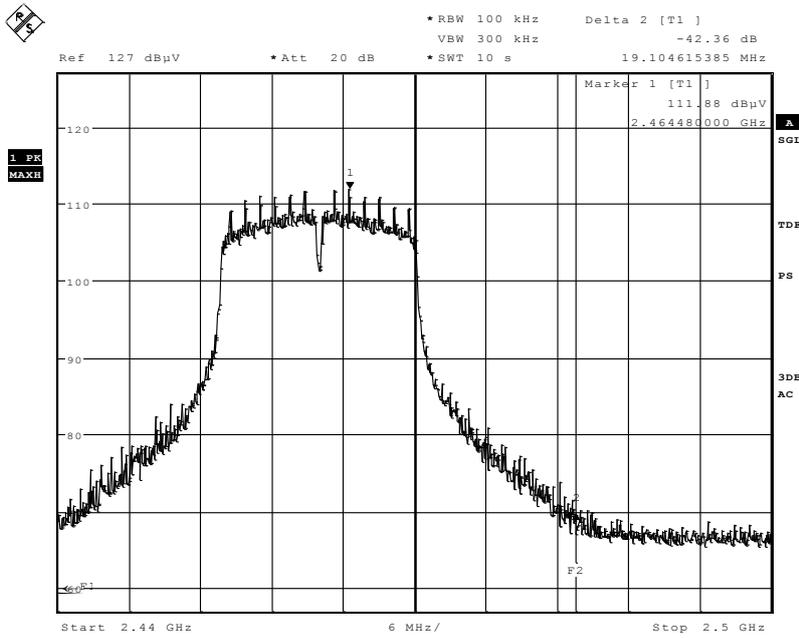
Sweep 1: Channel 6 (150kHz to 8GHz)



Date: 26.AUG.2011 11:17:05

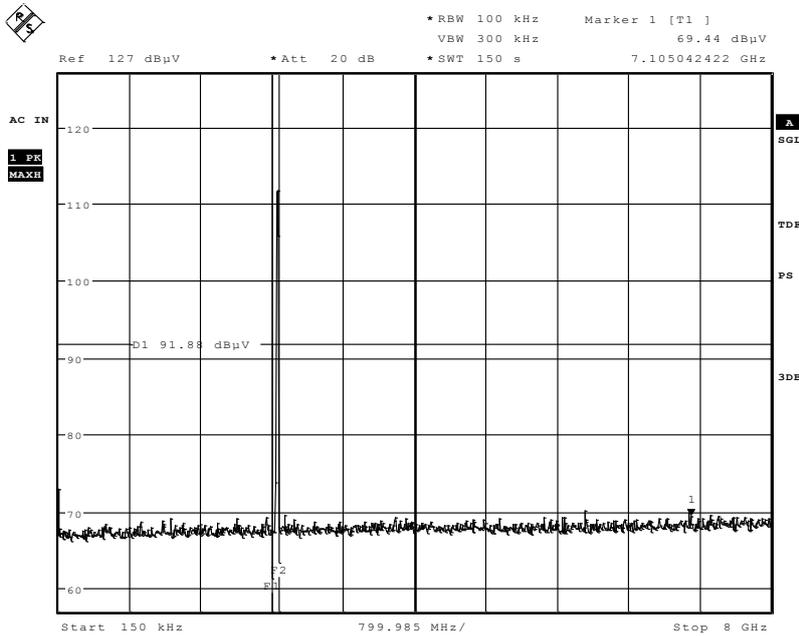
Sweep 2: Channel 6 (8GHz to 18GHz)

1.4.7. IEEE802.11 g-Mode, 9Mbit, channel 11



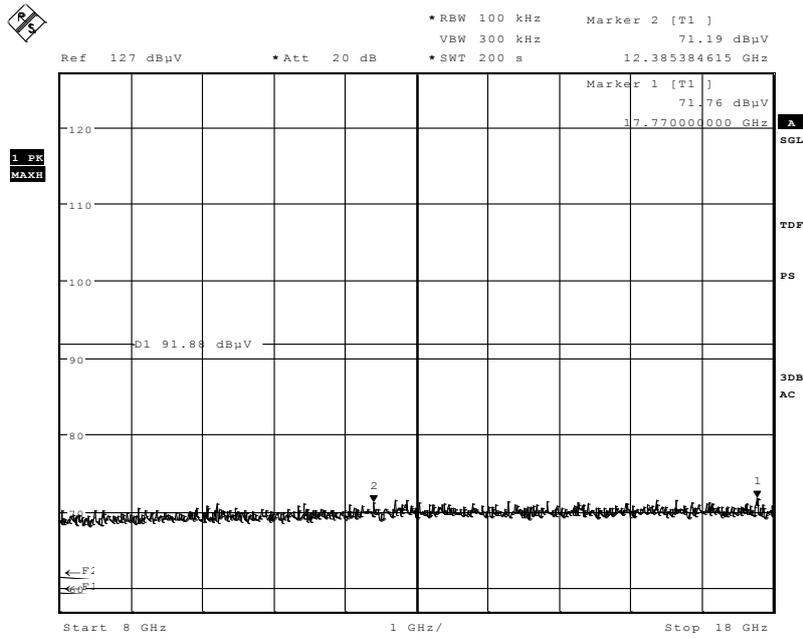
Date: 26.AUG.2011 11:18:54

In-Band Reference Value for channel 11, 9 Mbit + Band-Edge right



Date: 26.AUG.2011 11:33:48

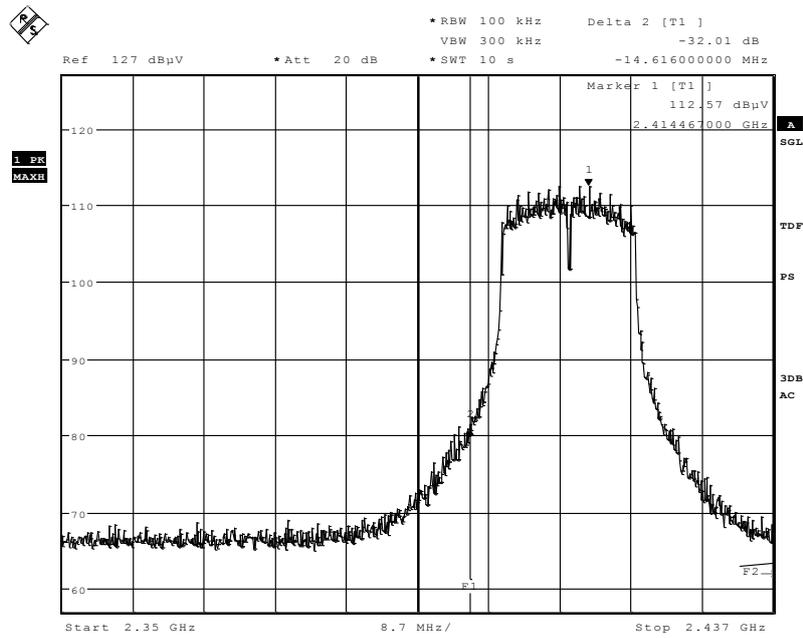
Sweep 1: Channel 11 (150kHz to 8GHz), 9 Mbit



Date: 26.AUG.2011 11:28:55

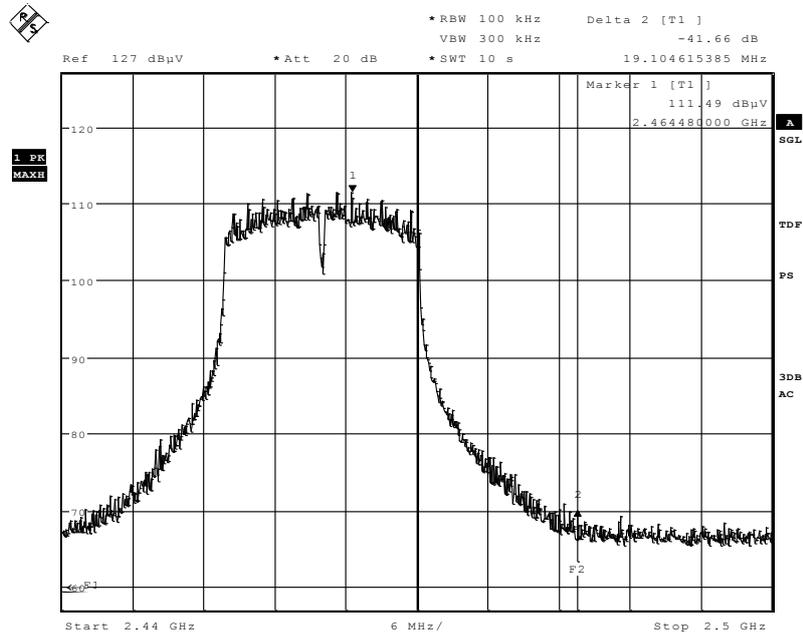
Sweep 2: Channel 11 (8GHz to 18GHz), 9 Mbit

1.4.8. IEEE802.11 g-Mode, 54MBit, channel 1&11, Band-Edge 20dBc



Date: 26.AUG.2011 10:55:03

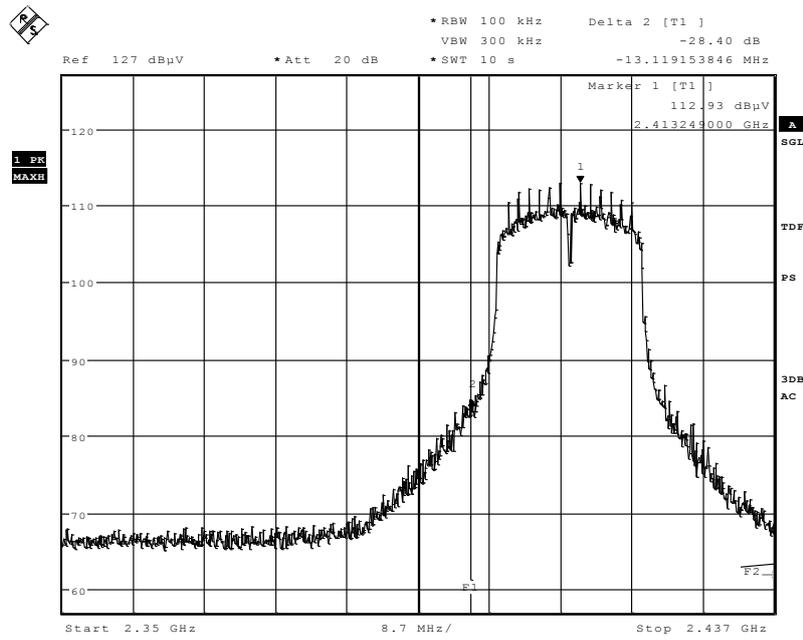
Band-Edge left, channel 1, g-Mode, 54Mbit



Date: 26.AUG.2011 11:21:08

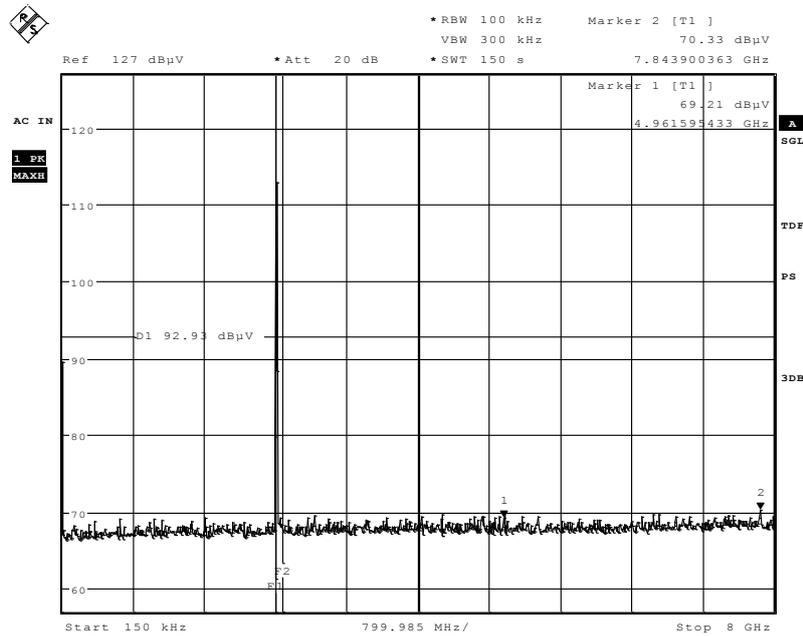
Band-Edge right, channel 1, g-Mode, 54Mbit

1.4.9. IEEE802.11 n-Mode, MCS0 Preamble 3, channel 1



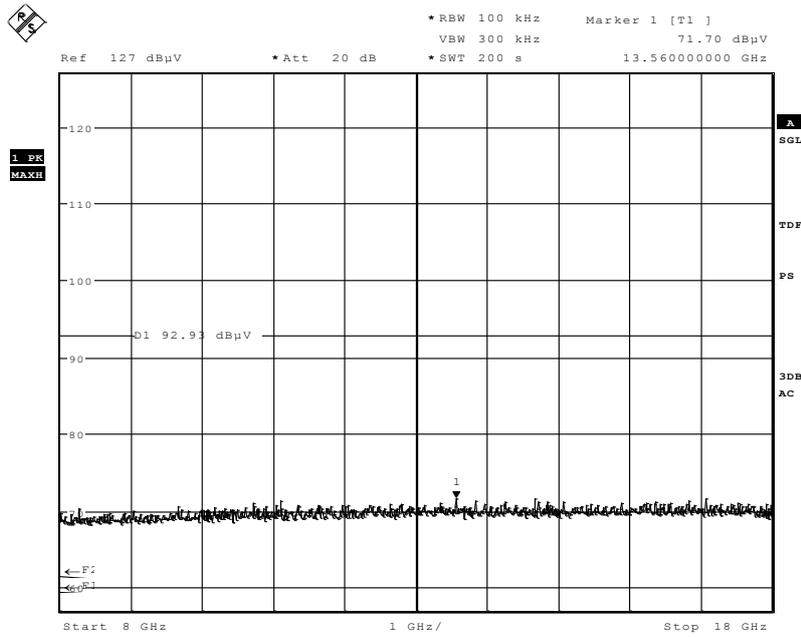
Date: 26.AUG.2011 11:36:41

In-Band reference value for channel 1, MCS0-long, n-Mode + Band-Edge left



Date: 26.AUG.2011 11:42:30

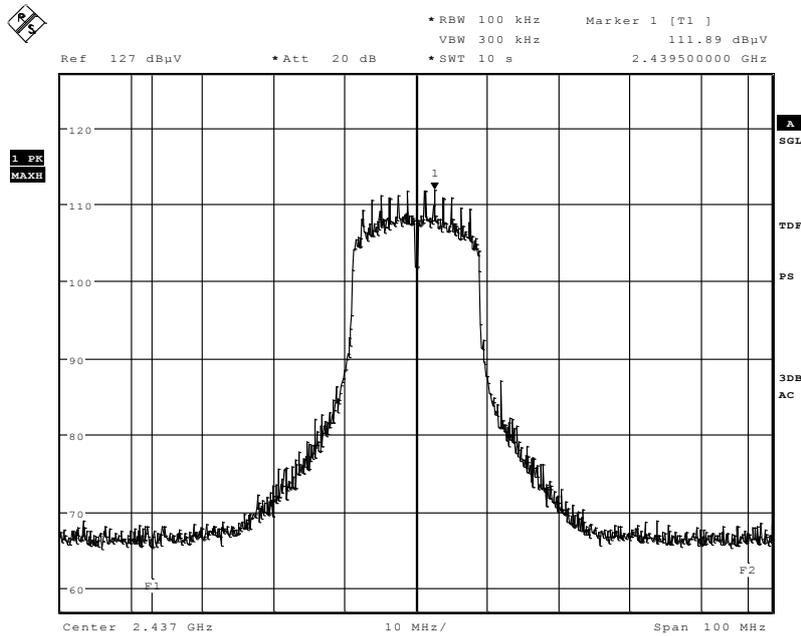
Sweep 1 (150kHz-8GHz): Channel 1, MCS0, n-Mode



Date: 26.AUG.2011 11:46:22

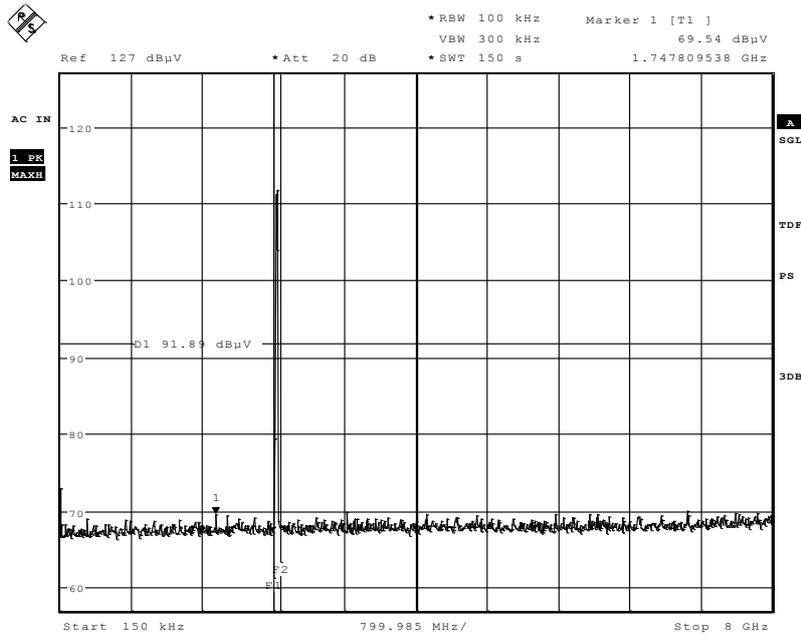
Sweep 2 (8GHz-18GHz): Channel 1, MCS0, n-Mode

1.4.10. IEEE802.11 n-Mode, MCS0 Preamble 3, channel 6



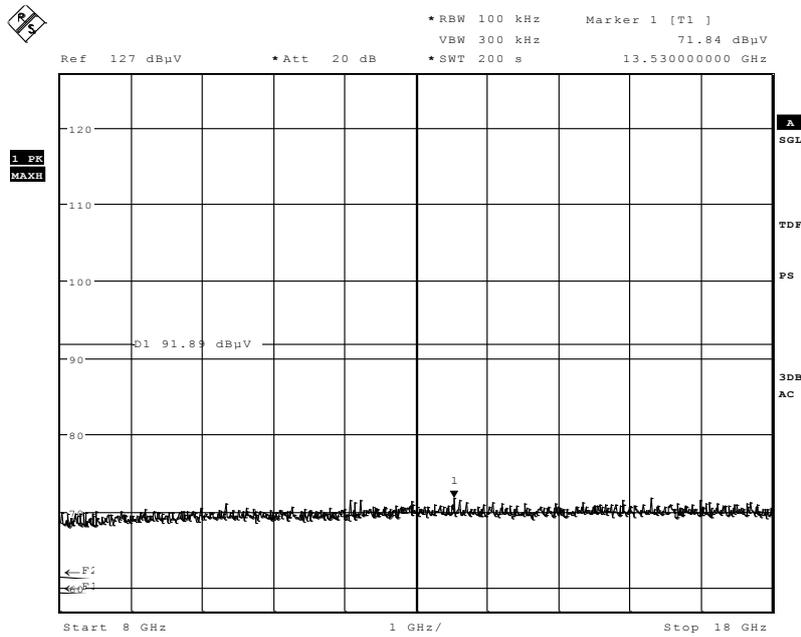
Date: 26.AUG.2011 11:47:59

In-Band reference value for channel 6, MCS0-long, n-Mode



Date: 26.AUG.2011 11:52:44

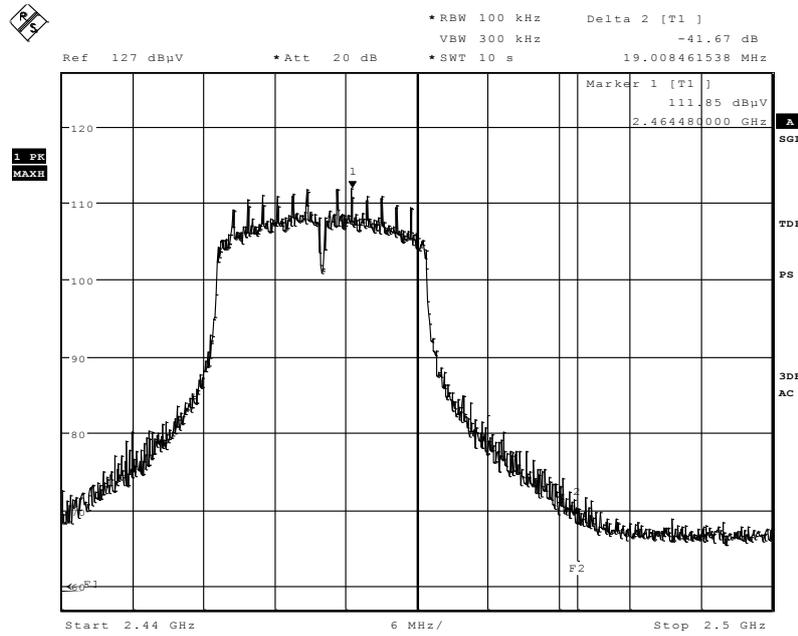
Sweep 1 (150kHz-8GHz): Channel 6, MCS0, n-Mode



Date: 26.AUG.2011 11:56:43

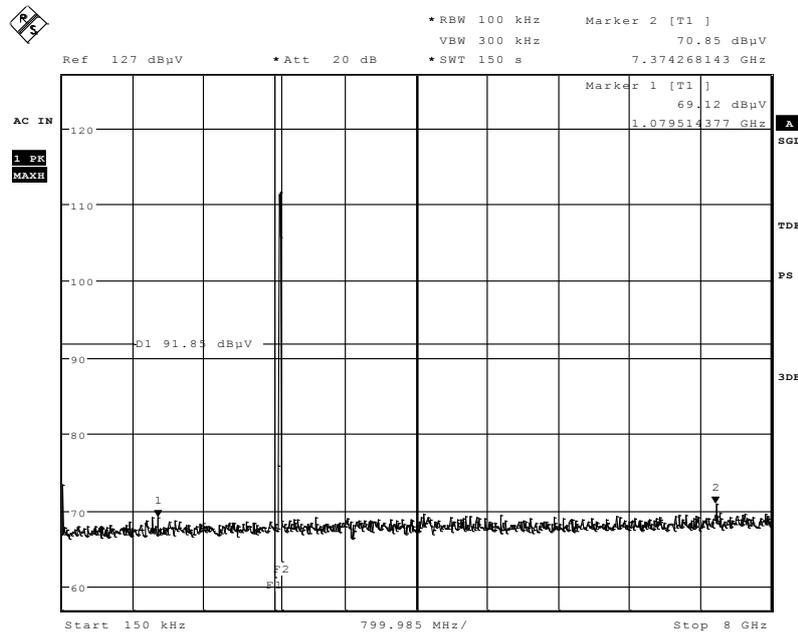
Sweep 2 (8GHz-18GHz): Channel 6, MCS0, n-Mode

1.4.11. IEEE802.11 n-Mode, MCS0 Preamble 3, channel 11



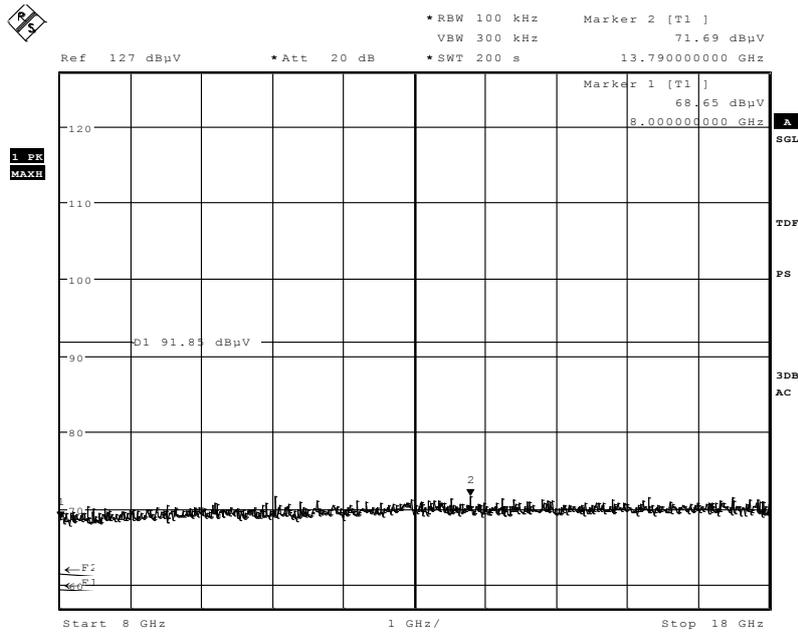
Date: 26.AUG.2011 12:00:38

In-Band reference value for channel 11, MCS0-long, n-Mode + Band-Edge right



Date: 26.AUG.2011 12:04:05

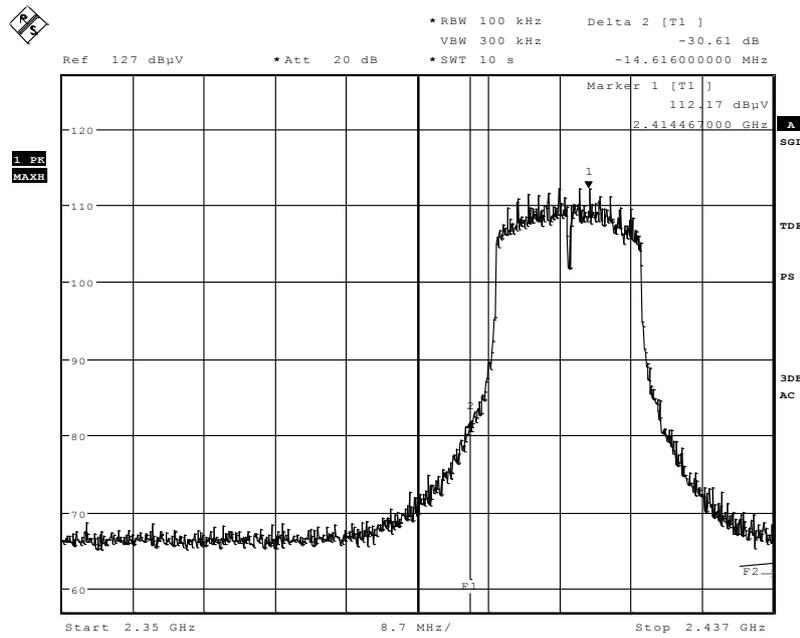
Sweep 1 (150kHz-8GHz): Channel 11, MCS0, n-Mode



Date: 26.AUG.2011 12:10:11

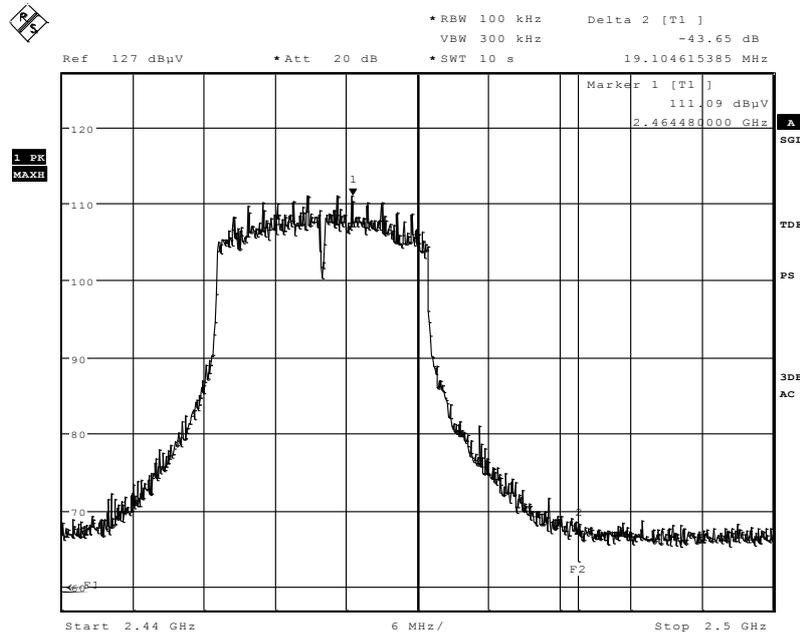
Sweep 2 (8GHz-18GHz): Channel 11, MCS0, n-Mode

1.4.12. IEEE802.11 n-Mode, MCS7, Preamble 3, channel 1&11, Band-Edge 20dBc



Date: 26.AUG.2011 11:38:43

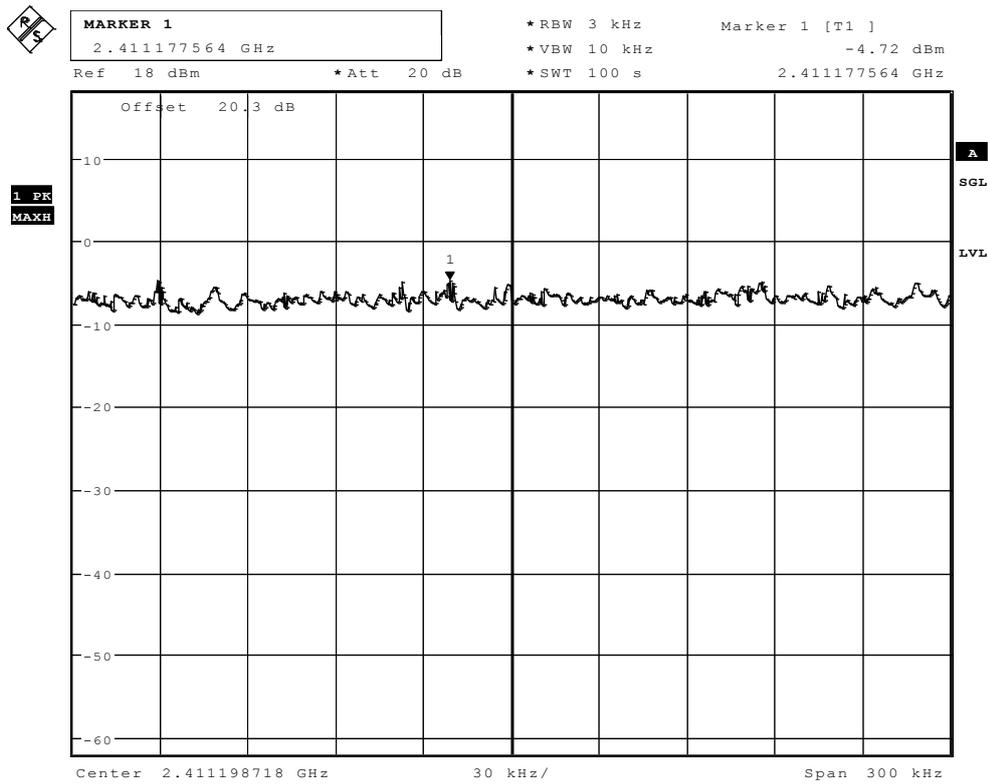
Band-Edge left, Channel 1, MCS7



Date: 26.AUG.2011 11:59:33

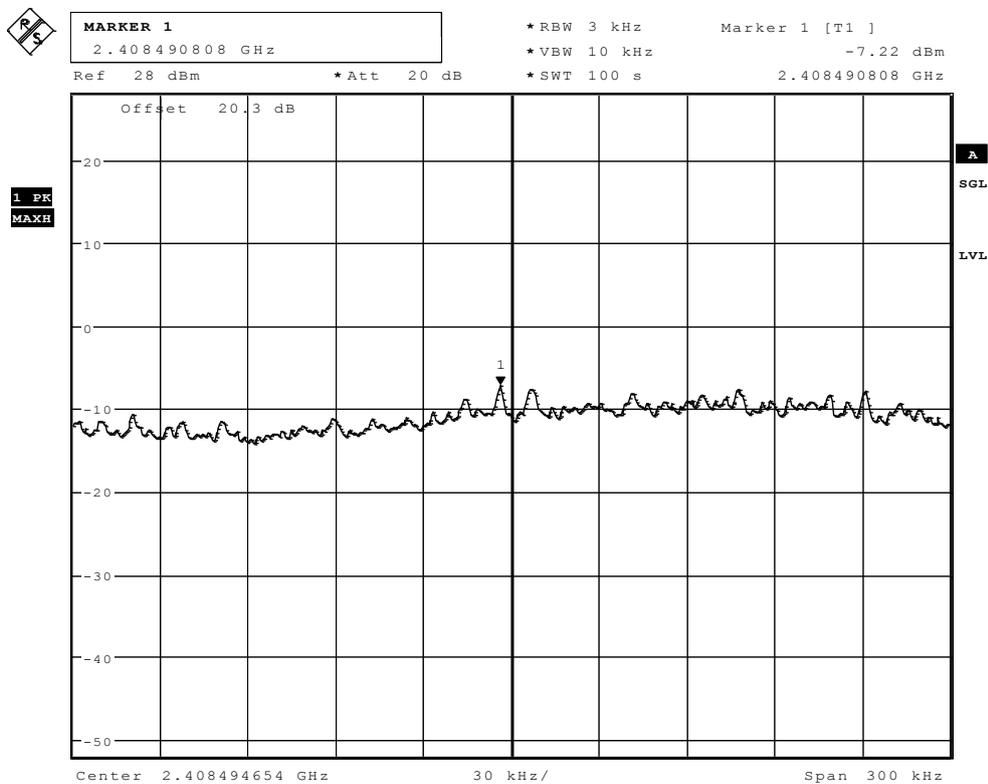
Band-Edge right, channel 11, MCS7

1.5. Power spectral density



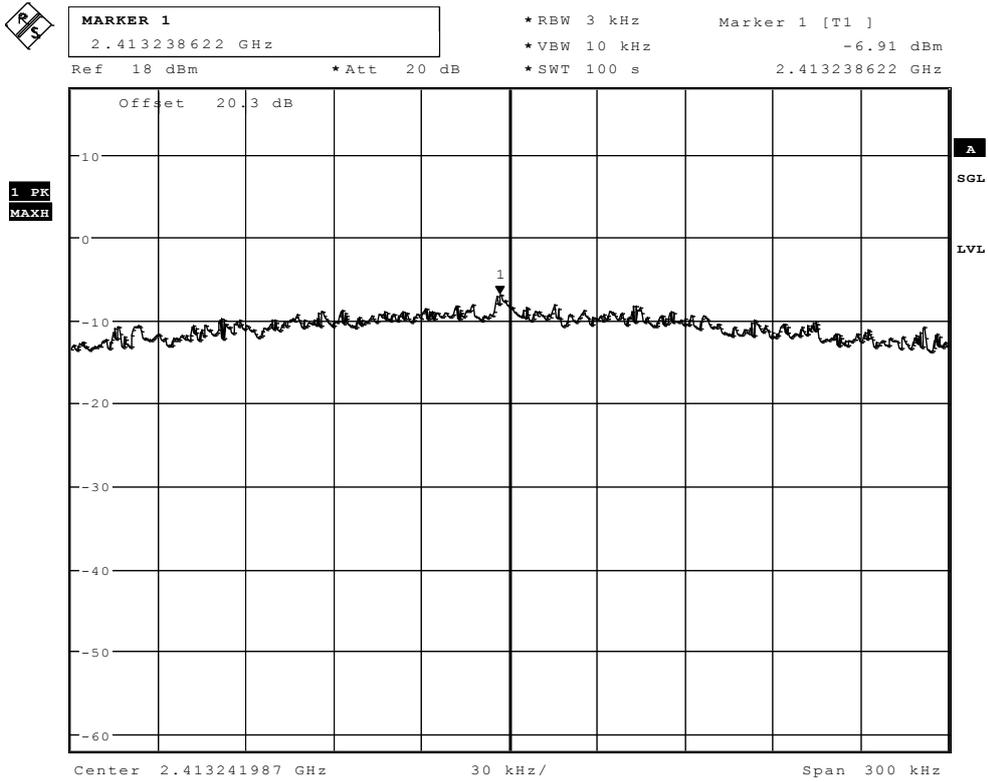
Date: 11.AUG.2011 15:29:37

DQPSK Modulation, 2MBit, Channel 1



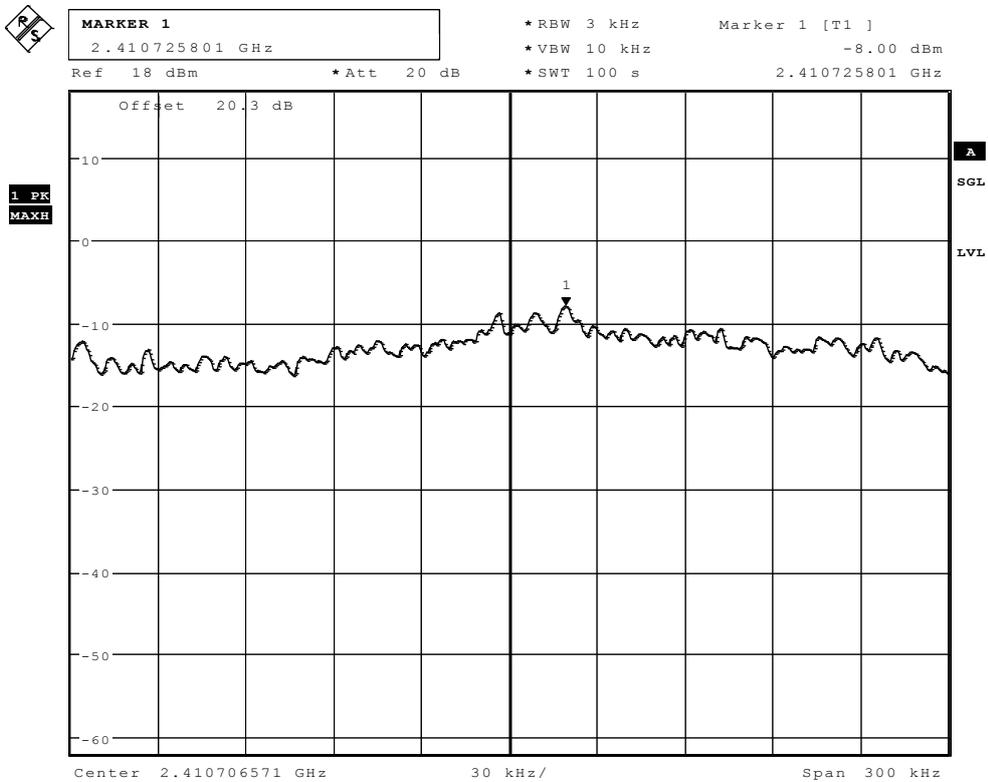
Date: 11.AUG.2011 15:20:32

BPSK Modulation, 6MBit, Channel 1



Date: 11.AUG.2011 15:41:34

MCS0, Preamb 3, Modulation OFDM, Channel 6



Date: 11.AUG.2011 15:49:00

MCS6, Preamb 4, Modulation OFDM, Channel 1

1.6. Radiated field strength (15.209)

1.6.1. Radiated magnetic field strength measurements (f<30MHz)

1.6.1.1. Radiated magnetic field strength measurements (f<30MHz), g-Mode 6MBit

Common Information

Test description:	Magnetic Fieldstrength Measurement related to 3 m distance
Test site and distance:	Semi Anechoic Room covered with absorbers (SAR) with 3 m measurement distance
Measured sides of EUT:	front, right, rear, left
Rec. antenna (pre-scan):	height 1.00 m, parallel and 90° to EUT polarisation
Turntable step:	90° during pre-scan
Used filter:	bypass
Test specification.:	FCC 15.205 § 15.209; RSS-Gen: Issue 3

Operator:	Iph
Operating conditions:	TX-on
Power during tests:	full loaded batteries

EUT Information

EUT type	AAD-3880121-BV
Manufacturer	Sony Ericsson
S/N	RAD#1

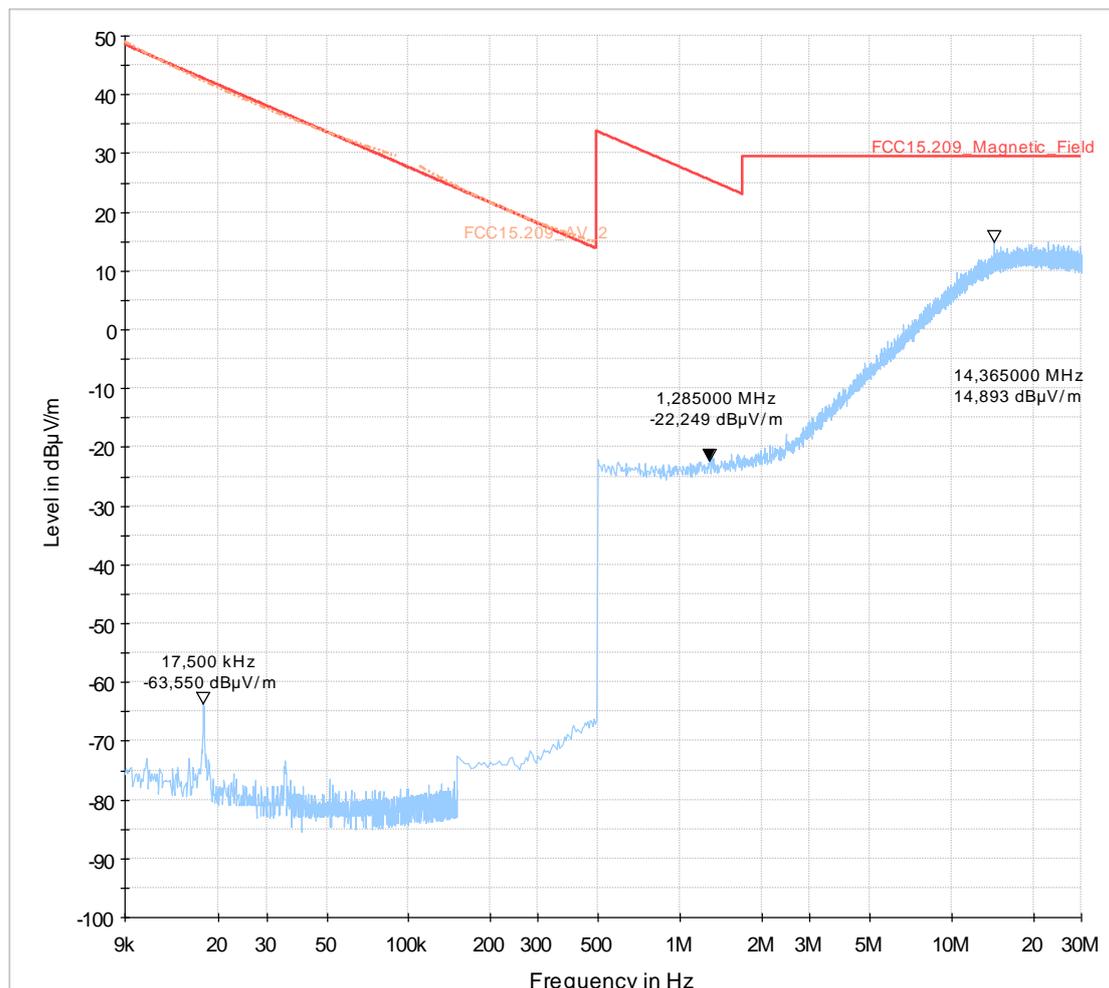


Diagram b_3.01, Channel 1

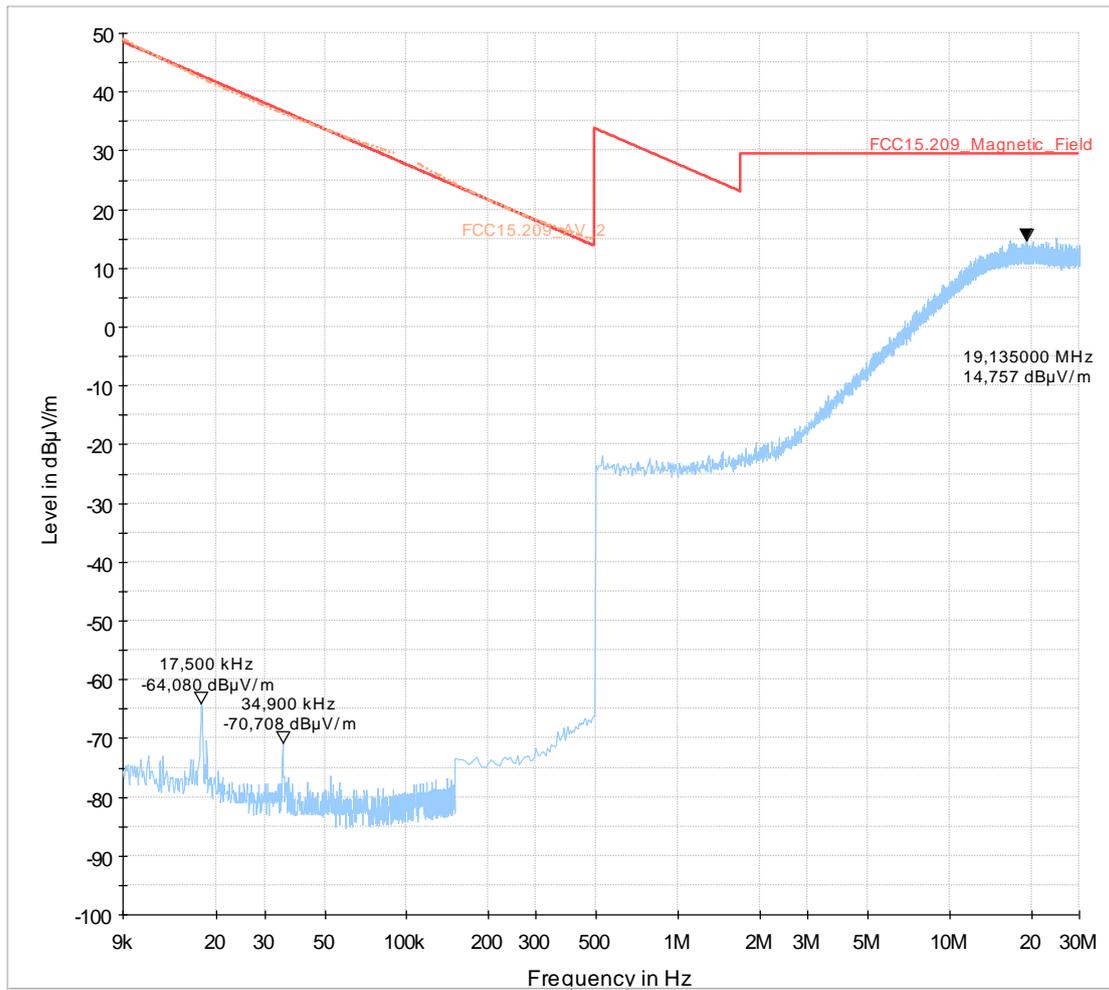


Diagram b_3.02, Channel 6

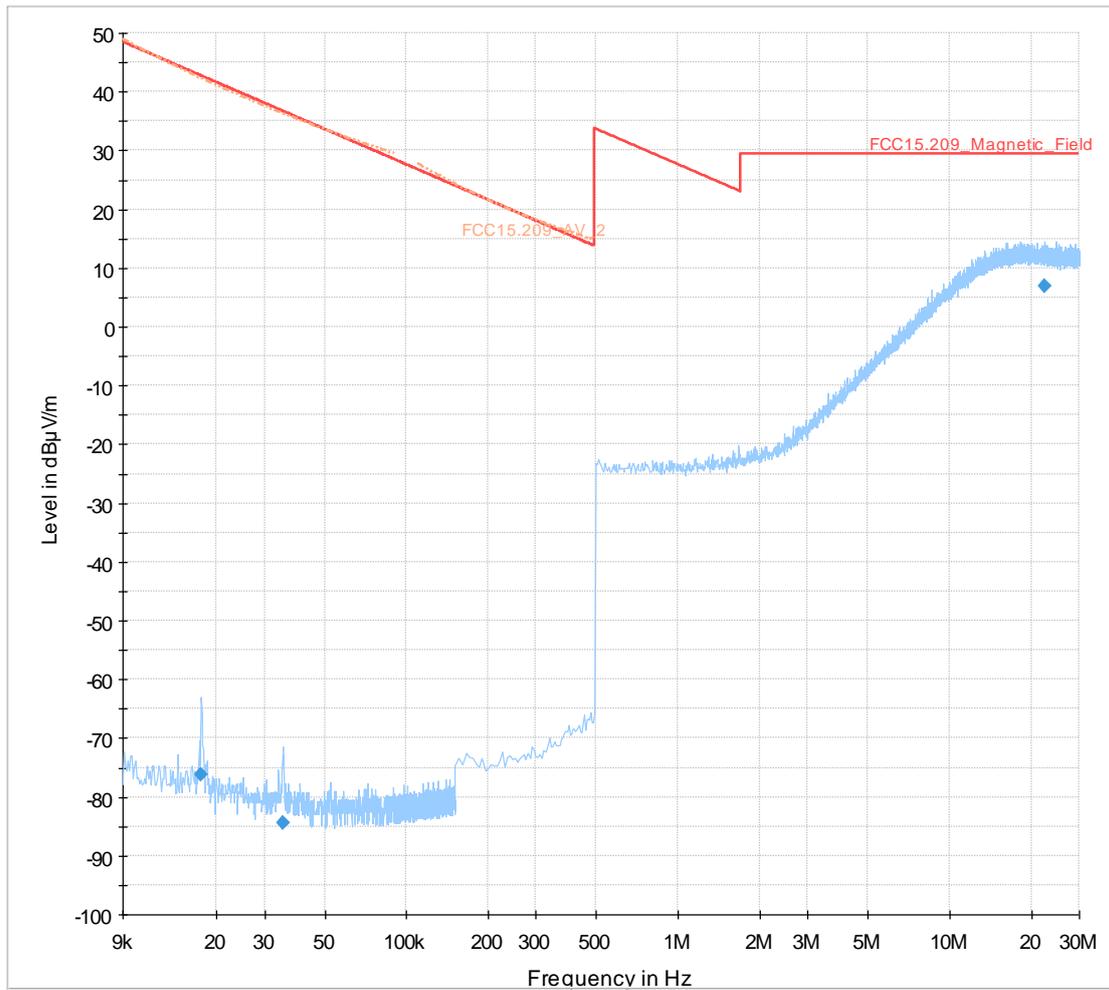


Diagram b_3.03, Channel 11

1.6.2. Radiated field strength (30MHz < f < 1GHz)

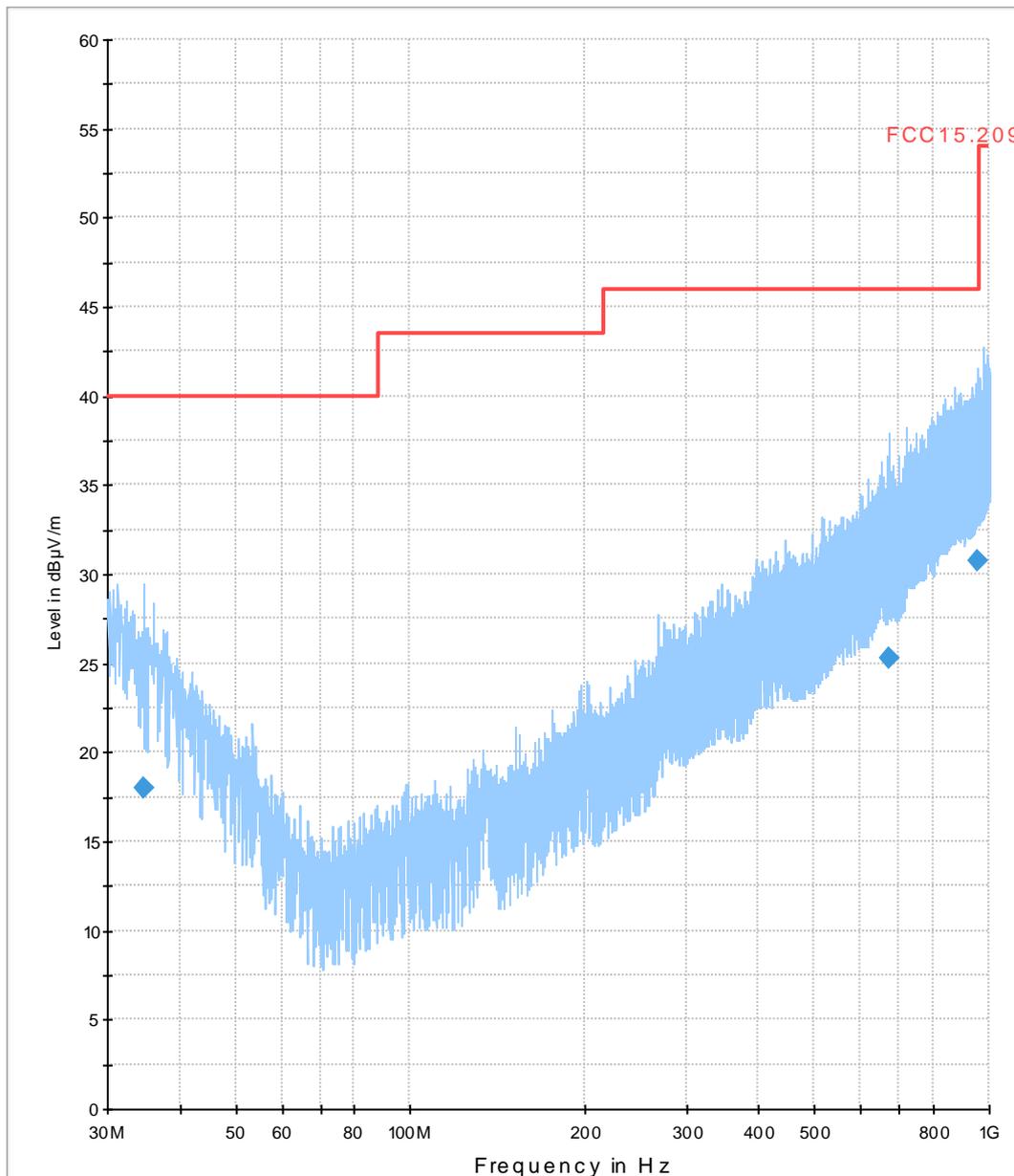
1.6.2.1. Radiated field strength (30MHz < f < 1GHz), g-Mode 6MBit

Diagram No. b_2.01

Common Information

Test description:	Electric Fieldstrength Measurement related to 3 m distance
Test site and distance:	Semi Anechoic Room covered with absorbers (SAR) with 3 m measurement distance
Measured sides of EUT:	front, right, rear, left
Rec. antenna (pre-scan):	height 1.00 m and 1.82 m, horizontal and vertical polarisation
Rec. antenna (final):	height between 1 m to 4 m, polarisation according to pre-scan results
Turntable step:	90° during pre-scan, continuously turning during final measurement
Used filter:	lowpass 1200 MHz
Test specification.:	FCC 15.205 § 15.209; RSS-Gen: Issue 3
Operator:	Lor/MTu
Operating conditions:	WLAN g-Mode/ 6 Mbit
Power during tests:	full loaded batteries
Comment 1:	Channel 1 (Low)

01_FCC15.209_hor+vert_kipp



Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Elevation (deg)	Corr. (dB)	Margin (dB)
34.830000	18.0	1000.0	120.000	363.0	H	23.0	0.0	19.6	22.00

(continuation of the "Final Result 1" table from column 10 ...)

Frequency (MHz)	Limit (dBµV/m)	Comment
34.830000	40.00	

EMI Auto Test Template: 01_FCC15.209_hor+vert_kipp

Hardware Setup: HW11_FCC_ESCS30_TP1200_EUTkipp
 Measurement Type: E(I)RP
 Frequency Range: 30 MHz - 1 GHz
 Graphics Level Range: 0 dBµV/m - 60 dBµV/m

Preview Measurements:
 Turntable position: 0 - 270 deg , Step Size = 90 deg , Positioning Speed = 8
 Elevation: 0 - 90 deg , Step Size = 90 deg , Positioning Speed = 5
 Polarization: H + V
 Scan Test Template: EMI Scan 01_fast_FCC_15_209 B

Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 1 GHz	40 kHz	PK+	120 kHz	0,00005 s	0 dB

Receiver: [ESS]

Data Reduction:
 Limit Line #1: FCC15.209
 Peak Search: 6 dB , Maximum Results: 10
 Subrange Maxima: 25 Subranges , Maxima per Subrange: 1
 Acceptance Offset: -6 dB
 Maximum Number of Results: 20
 After Data Reduction: Interactive data reduction

Frequency Zoom:
 Zoom Scan Template: EMI Scan 02_20ms_zoom_15_209 B

Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 1 GHz	10 kHz	PK+	120 kHz	0,02 s	0 dB

Receiver: [ESS]

Adjustment:
 Turntable position: Adjustment with full Range , Measuring Speed = 3
 Elevation: Adjustment with full Range , Measuring Speed = 5
 Template for Single Meas.: EMI Scan 02_20ms_FCC_15_209B

Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 1 GHz	100 kHz	PK+	120 kHz	0,02 s	0 dB

Receiver: [ESS]

Final Measurements:
 Template for Single Meas.: EMI Scan 03_1s_FCC_15_209 B

Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 1 GHz	100 kHz	QPK	120 kHz	1 s	0 dB

Receiver: [ESS]

Report Settings:
 Report Template: FCC15_209_vert_hor
 Create Electronic Report: RTF PDF
 Document Name: EMI Report

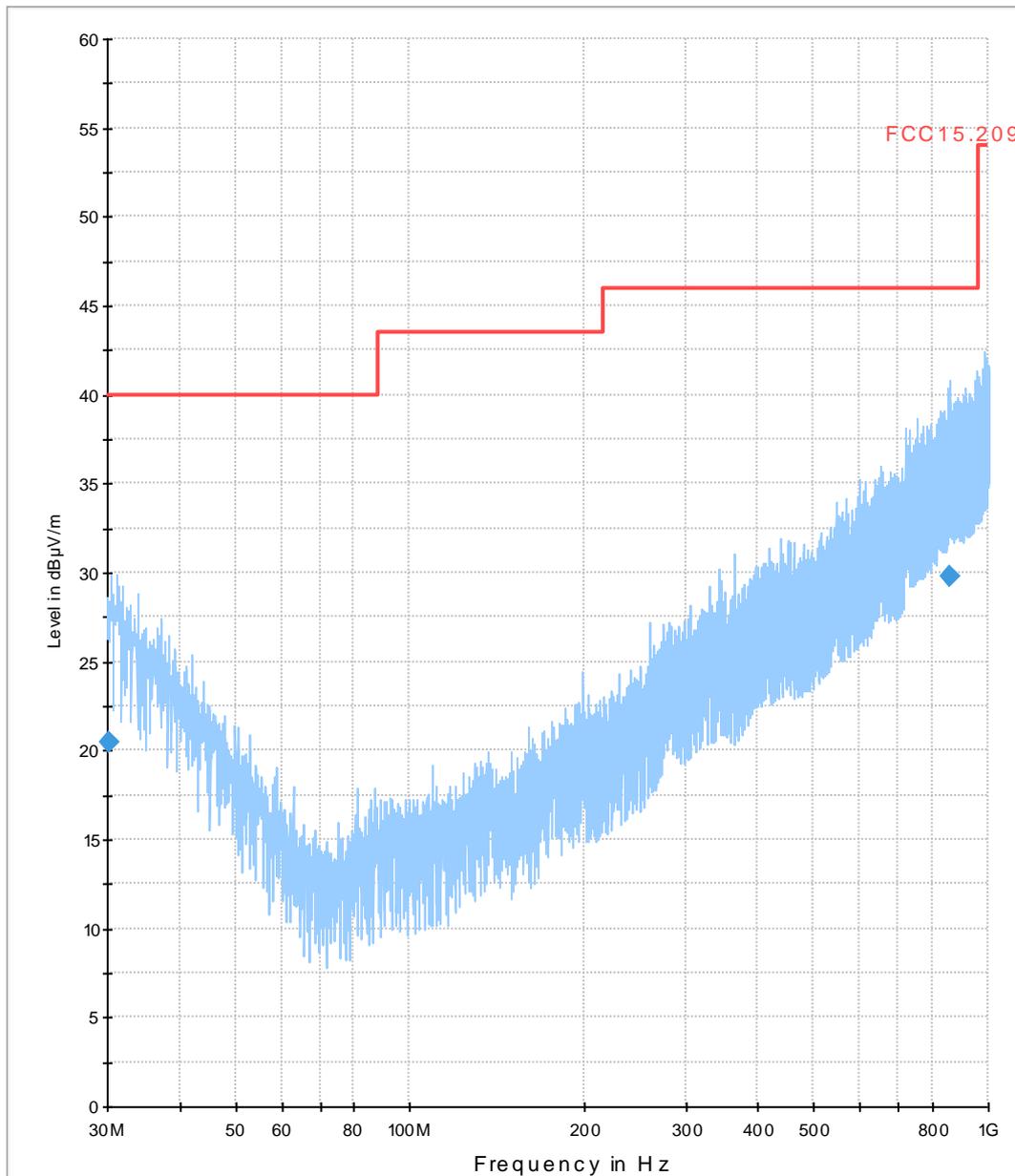
Actions:
 Test start
 Notify: "EUT auf ersten/zweiten/dritten Sendekanal stellen !!!"
 Notify: "bitte beachten: es gibt Frequenzbereiche von strenger Grenzwert gil..."
 Data Reduction: Before
 Notify: Sound (WAV file) 'tada.wav'
 Frequency Zoom 2: Before
 Notify: "EUT sendet noch ?"
 Final Measurements: After
 Notify: Sound (WAV file) 'tada.wav'

Diagram No. b_2.02

Common Information

Test description:	Electric Fieldstrength Measurement related to 3 m distance
Test site and distance:	Semi Anechoic Room covered with absorbers (SAR) with 3 m measurement distance
Measured sides of EUT:	front, right, rear, left
Rec. antenna (pre-scan):	height 1.00 m and 1.82 m, horizontal and vertical polarisation
Rec. antenna (final):	height between 1 m to 4 m, polarisation according to pre-scan results
Turntable step:	90° during pre-scan, continuously turning during final measurement
Used filter:	lowpass 1200 MHz
Test specification:	FCC 15.205 § 15.209; RSS-Gen: Issue 3
Operator:	Lor/MTu
Operating conditions:	WLAN g-Mode/ 6 Mbit
Power during tests:	full loaded batteries
Comment 1:	Channel 6

01_FCC15.209_hor+vert_kipp



Final Result 1

Frequency (MHz)	QuasiPeak (dB μ V/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Elevation (deg)	Corr. (dB)	Margin (dB)
30.120000	20.5	1000.0	120.000	169.0	H	143.0	90.0	21.7	19.50

(continuation of the "Final Result 1" table from column 10 ...)

Frequency (MHz)	Limit (dB μ V/m)	Comment
30.120000	40.00	

EMI Auto Test Template: 01_FCC15.209_hor+vert_kipp

Hardware Setup: HW11_FCC_ESCS30_TP1200_EUTkipp
 Measurement Type: E(I)RP
 Frequency Range: 30 MHz - 1 GHz
 Graphics Level Range: 0 dB μ V/m - 60 dB μ V/m

Preview Measurements:
 Turntable position: 0 - 270 deg , Step Size = 90 deg , Positioning Speed = 8
 Elevation: 0 - 90 deg , Step Size = 90 deg , Positioning Speed = 5
 Polarization: H + V
 Scan Test Template: EMI Scan 01_fast_FCC_15_209 B

Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 1 GHz	40 kHz	PK+	120 kHz	0,00005 s	0 dB

Receiver: [ESS]

Data Reduction:
 Limit Line #1: FCC15.209
 Peak Search: 6 dB , Maximum Results: 10
 Subrange Maxima: 25 Subranges , Maxima per Subrange: 1
 Acceptance Offset: -6 dB
 Maximum Number of Results: 20
 After Data Reduction: Interactive data reduction

Frequency Zoom:
 Zoom Scan Template: EMI Scan 02_20ms_zoom_15_209 B

Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 1 GHz	10 kHz	PK+	120 kHz	0,02 s	0 dB

Receiver: [ESS]

Adjustment:
 Turntable position: Adjustment with full Range , Measuring Speed = 3
 Elevation: Adjustment with full Range , Measuring Speed = 5
 Template for Single Meas.: EMI Scan 02_20ms_FCC_15_209B

Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 1 GHz	100 kHz	PK+	120 kHz	0,02 s	0 dB

Receiver: [ESS]

Final Measurements:
 Template for Single Meas.: EMI Scan 03_1s_FCC_15_209 B

Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 1 GHz	100 kHz	QPK	120 kHz	1 s	0 dB

Receiver: [ESS]

Report Settings:
 Report Template: FCC15_209_vert_hor
 Create Electronic Report: RTF PDF
 Document Name: EMI Report

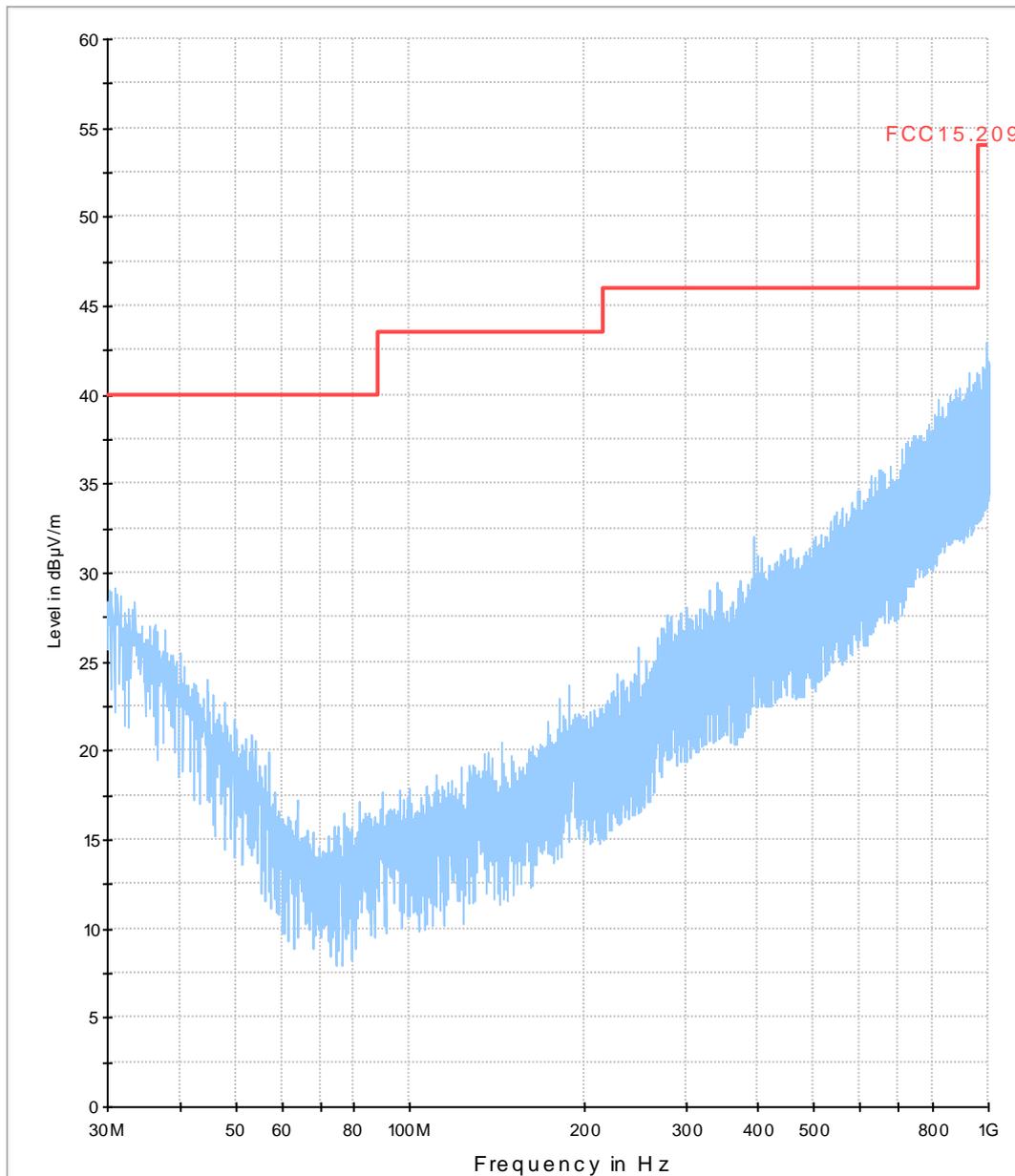
Actions:
 Test start
 Notify: "EUT auf ersten/zweiten/dritten Sendekanal stellen !!!"
 Notify: "bitte beachten: es gibt Frequenzbereiche von strenger Grenzwert gil..."
 Data Reduction: Before
 Notify: Sound (WAV file) 'tada.wav'
 Frequency Zoom 2: Before
 Notify: "EUT sendet noch ?"
 Final Measurements: After
 Notify: Sound (WAV file) 'tada.wav'

Diagram No. b_2.03

Common Information

Test description:	Electric Fieldstrength Measurement related to 3 m distance
Test site and distance:	Semi Anechoic Room covered with absorbers (SAR) with 3 m measurement distance
Measured sides of EUT:	front, right, rear, left
Rec. antenna (pre-scan):	height 1.00 m and 1.82 m, horizontal and vertical polarisation
Rec. antenna (final):	height between 1 m to 4 m, polarisation according to pre-scan results
Turntable step:	90° during pre-scan, continuously turning during final measurement
Used filter:	lowpass 1200 MHz
Test specification.:	FCC 15.205 § 15.209; RSS-Gen: Issue 3
Operator:	Lor/MTu
Operating conditions:	WLAN g-Mode/ 6 Mbit
Power during tests:	full loaded batteries
Comment 1:	Channel 11

01_FCC15.209_hor+vert_kipp



EMI Auto Test Template: 01_FCC15.209_hor+vert_kipp

Hardware Setup: HW11_FCC_ESCS30_TP1200_EUTkipp
 Measurement Type: E(I)RP
 Frequency Range: 30 MHz - 1 GHz
 Graphics Level Range: 0 dBµV/m - 60 dBµV/m

Preview Measurements:
 Turntable position: 0 - 270 deg , Step Size = 90 deg , Positioning Speed = 8
 Elevation: 0 - 90 deg , Step Size = 90 deg , Positioning Speed = 5
 Polarization: H + V
 Scan Test Template: EMI Scan 01_fast_FCC_15_209 B

Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 1 GHz	40 kHz	PK+	120 kHz	0,00005 s	0 dB

Receiver: [ESS]

Data Reduction:
 Limit Line #1: FCC15.209
 Peak Search: 6 dB , Maximum Results: 10
 Subrange Maxima: 25 Subranges , Maxima per Subrange: 1
 Acceptance Offset: -6 dB
 Maximum Number of Results: 20
 After Data Reduction: Interactive data reduction

Frequency Zoom:
 Zoom Scan Template: EMI Scan 02_20ms_zoom_15_209 B

Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 1 GHz	10 kHz	PK+	120 kHz	0,02 s	0 dB

Receiver: [ESS]

Adjustment:
 Turntable position: Adjustment with full Range , Measuring Speed = 3
 Elevation: Adjustment with full Range , Measuring Speed = 5
 Template for Single Meas.: EMI Scan 02_20ms_FCC_15_209B

Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 1 GHz	100 kHz	PK+	120 kHz	0,02 s	0 dB

Receiver: [ESS]

Final Measurements:
 Template for Single Meas.: EMI Scan 03_1s_FCC_15_209 B

Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 1 GHz	100 kHz	QPK	120 kHz	1 s	0 dB

Receiver: [ESS]

Report Settings:
 Report Template: FCC15_209_vert_hor
 Create Electronic Report: RTF PDF
 Document Name: EMI Report

Actions:
 Test start
 Notify: "EUT auf ersten/zweiten/dritten Sendekanal stellen !!!"
 Notify: "bitte beachten: es gibt Frequenzbereiche von strenger Grenzwert gil..."
 Data Reduction: Before
 Notify: Sound (WAV file) 'tada.wav'
 Frequency Zoom 2: Before
 Notify: "EUT sendet noch ?"
 Final Measurements: After
 Notify: Sound (WAV file) 'tada.wav'

1.6.3. Radiated field strength (1GHz < f < 18GHz)

1.6.3.1. Radiated field strength (f > 1GHz), g-Mode 6MBit

Common Information

Test Description: Radiated field strength emission accord. §15.247 in 3m distance
 Test Site: CETECOM GmbH Essen
 Test Standard: §15.205 & 15.209 Intentional Radiator/ RSS-210-Issue 8
 Antenna polarisation: horizontal/vertical

Operator Name: Lor
 Op. Mode: WLAN b-Mode; g-Mode, 6MBit

EUT Information

EUT Name: AAD-3880121-BV
 Manufacturer: SEM

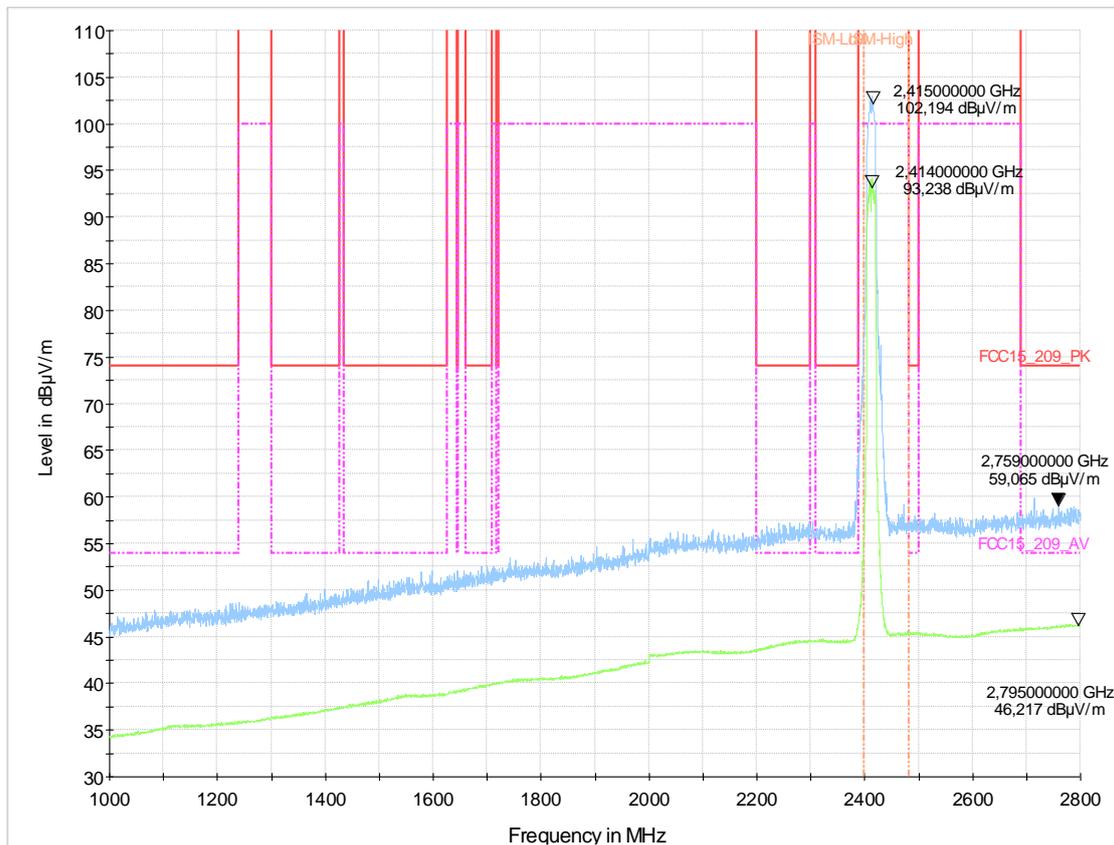


Diagram b_2.04, Channel 1

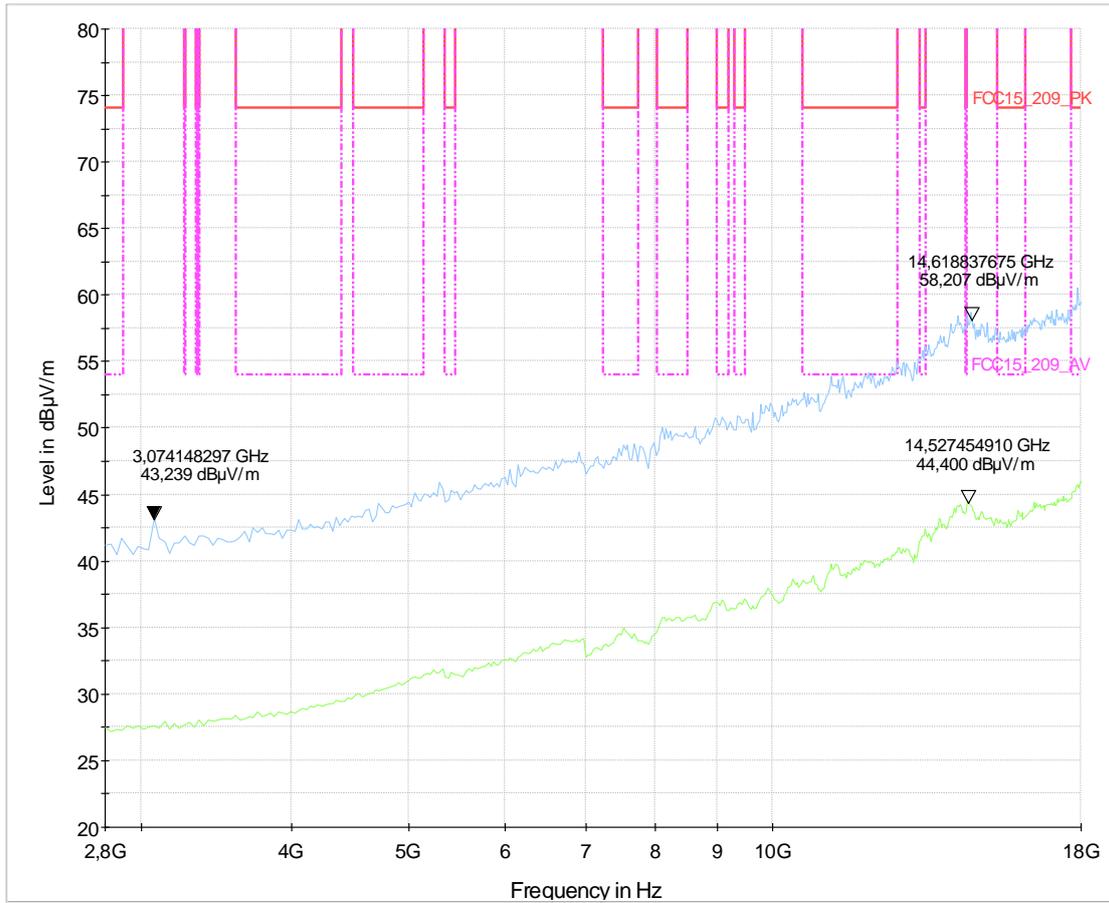


Diagram b_2.05, Channel 1

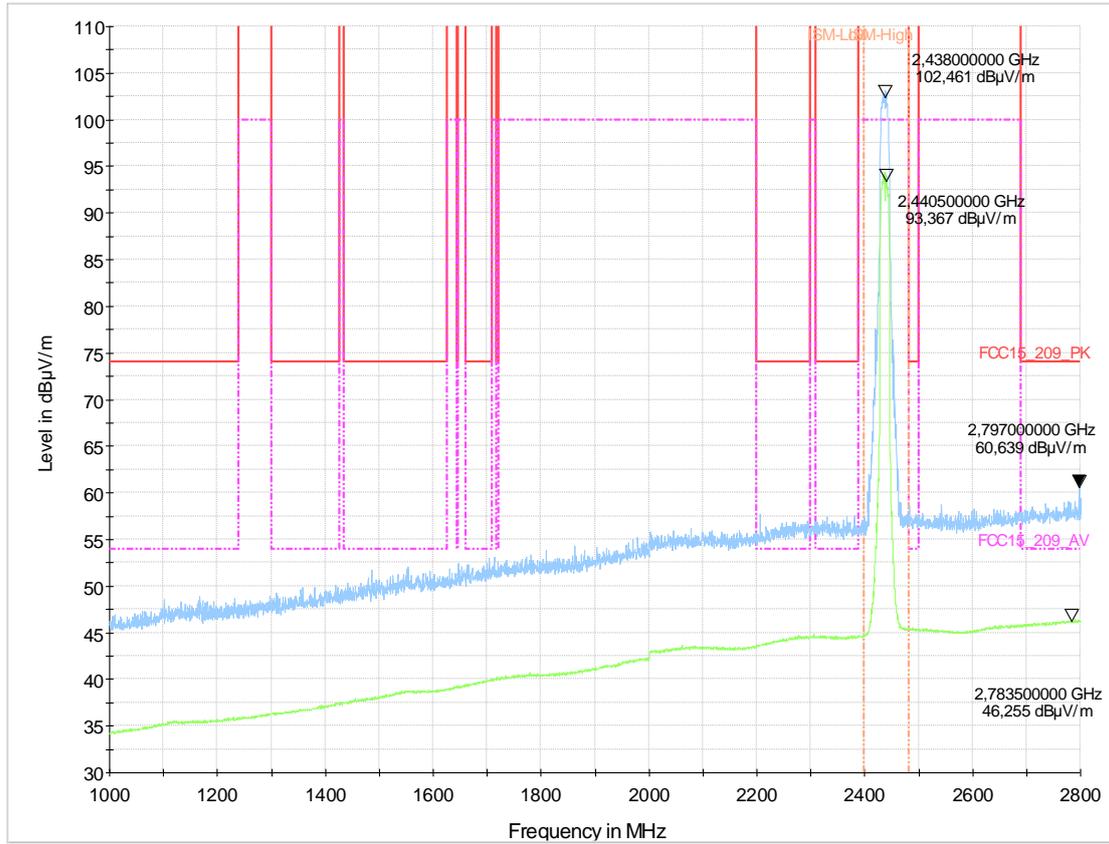


Diagram b_2.06, Channel 6

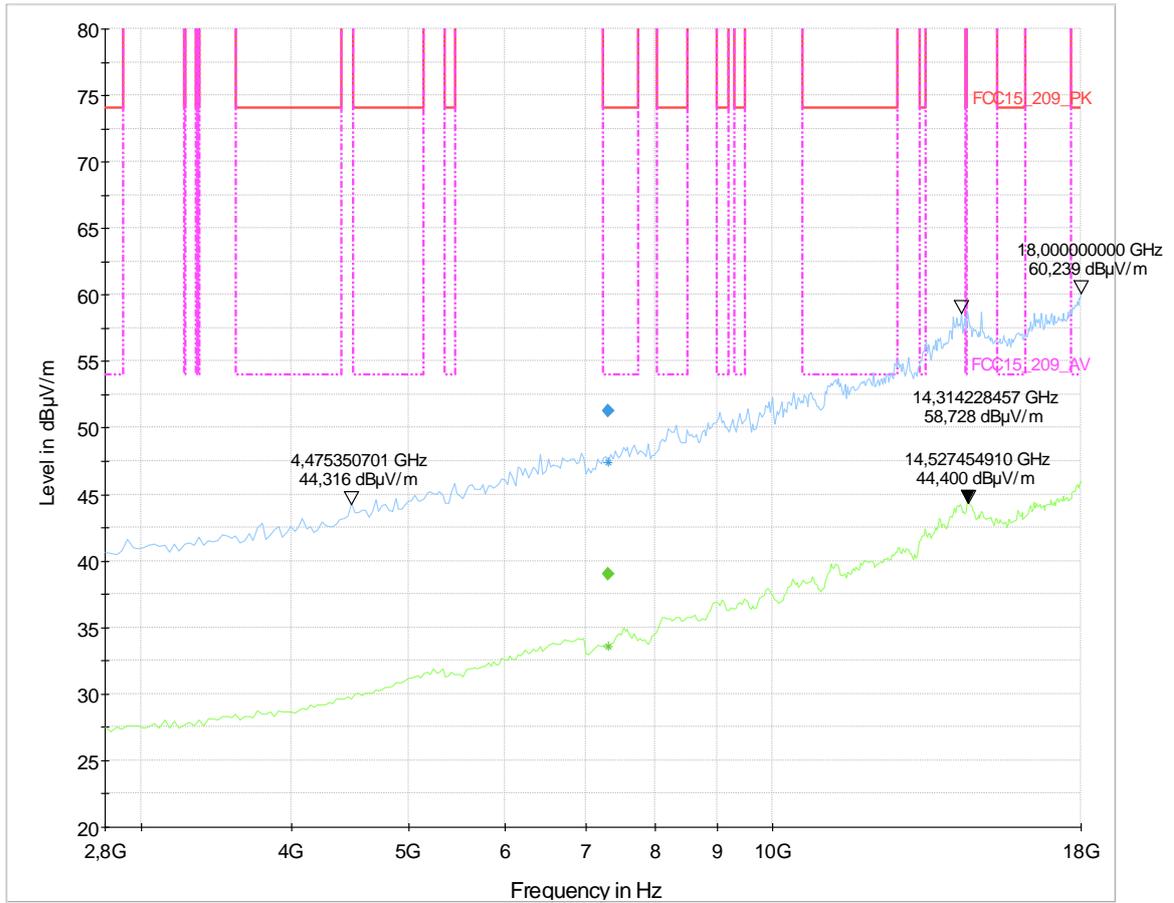


Diagram b_2.07, Channel 6

Final Result 1 (PK)

Frequency (GHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
7.3098	51.30	100.0	1000.000	155.0	H	233	10.3	22.70	74.0 (PK)

Final Result 2 (AV)

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
7.3114	39.01	100.0	1000.000	155.0	H	-37	10.3	15.00	54.0 (AV)

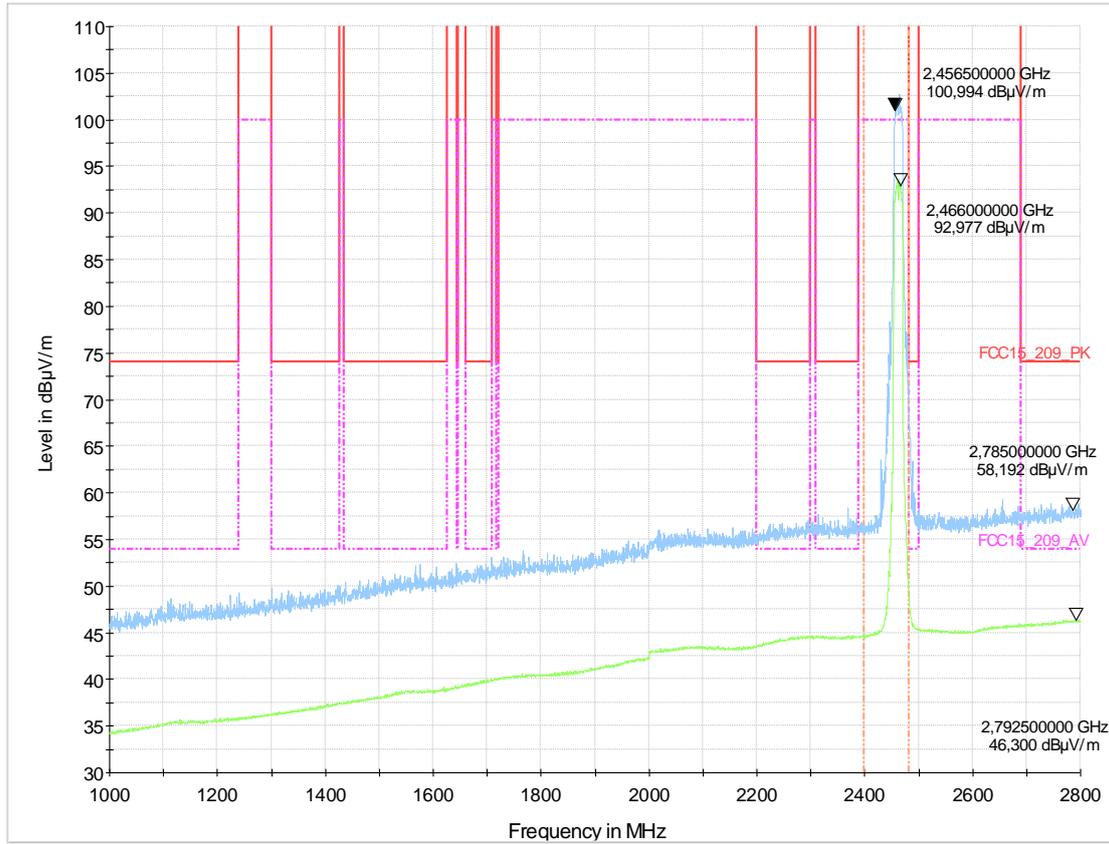


Diagram b_2.08, Channel 11

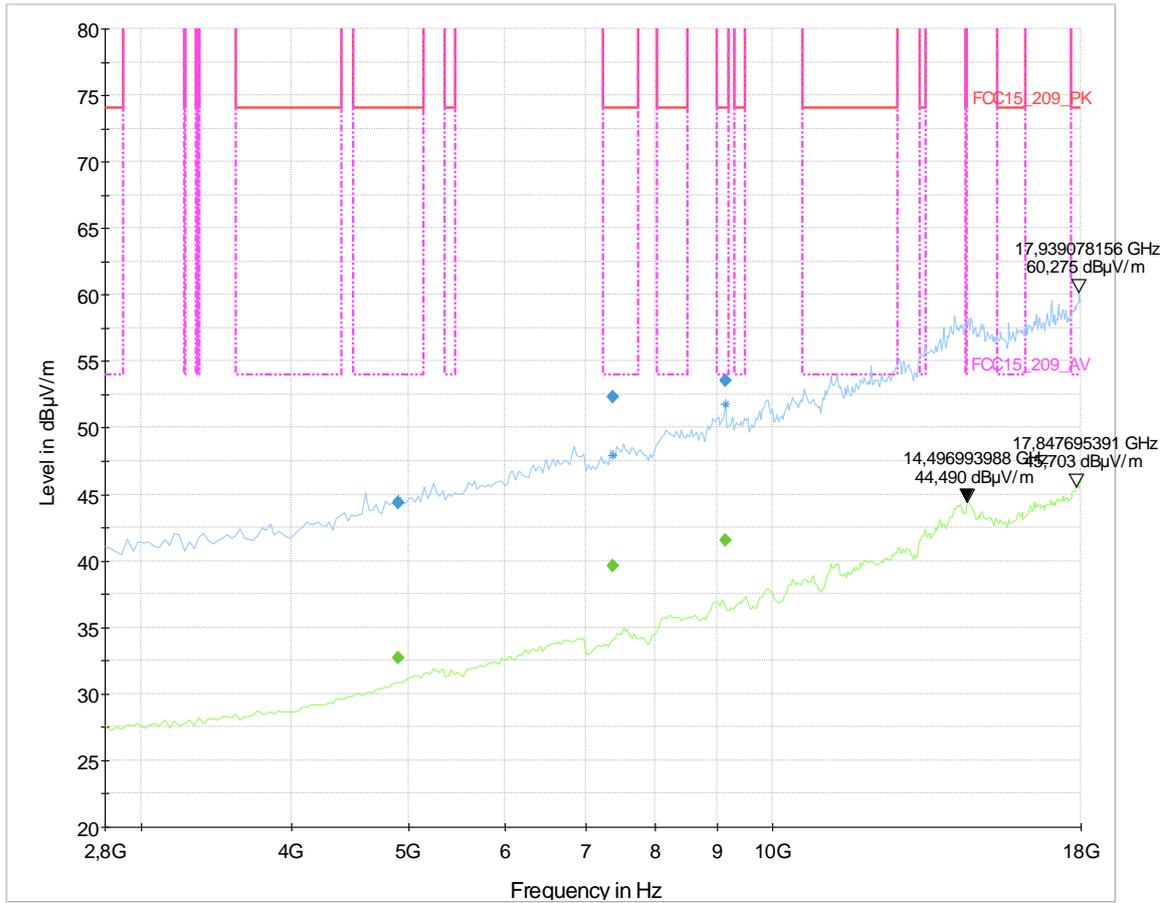


Diagram b_2.09, Channel 11

Final Result 1 (PK)

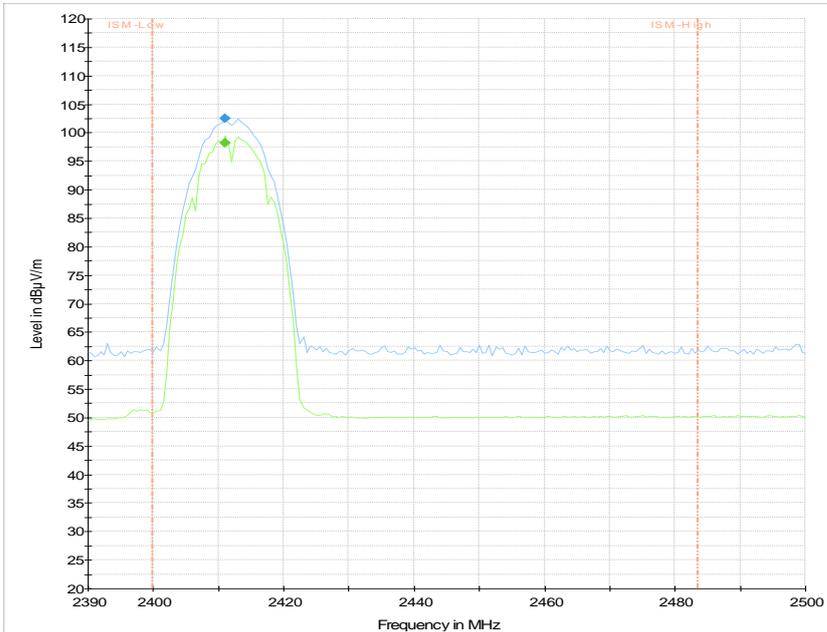
Frequency (GHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
4.8993	44.37	100.0	1000.000	155.0	H	334	2.99	29.60	74.0 (PK)
7.3672	52.31				V	242	10.5	21.70	
9.1344	53.59				H	154	12.8	20.40	

Final Result 2 (AV)

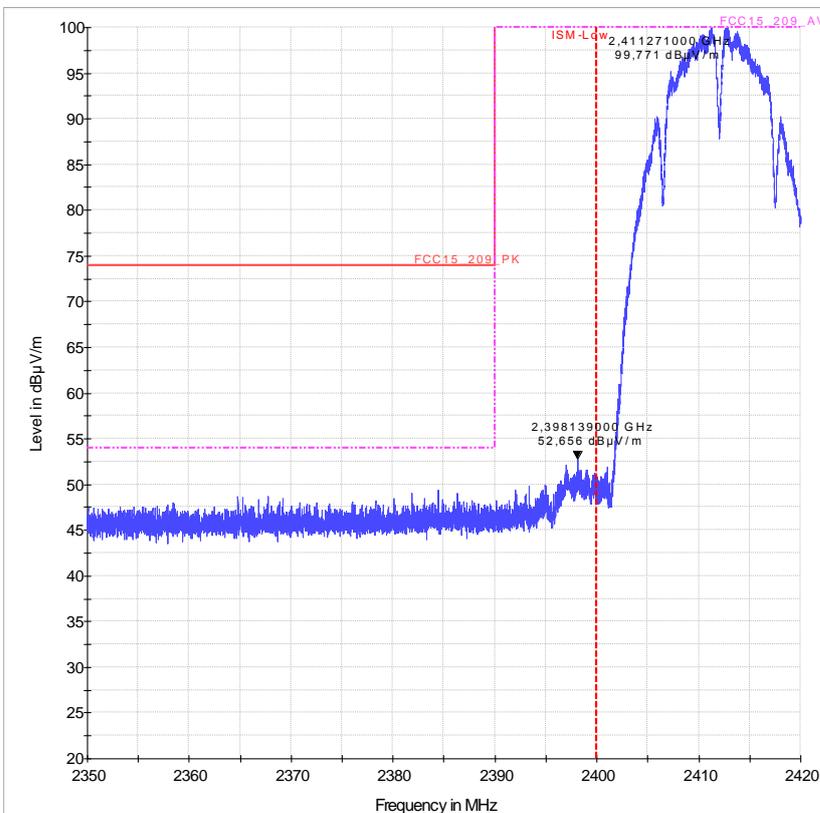
Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
4.8995	32.73	100.0	1000.000	155.0	H	334	2.99	21.30	54.0 (AV)
7.3672	39.62				V	242	10.5	14.40	
9.1344	41.54				H	154	12.8	12.50	

1.6.4. Carrier radiated field strength in 3m distance and band-edge compliance radiated according FCC §15.205 & §15.209

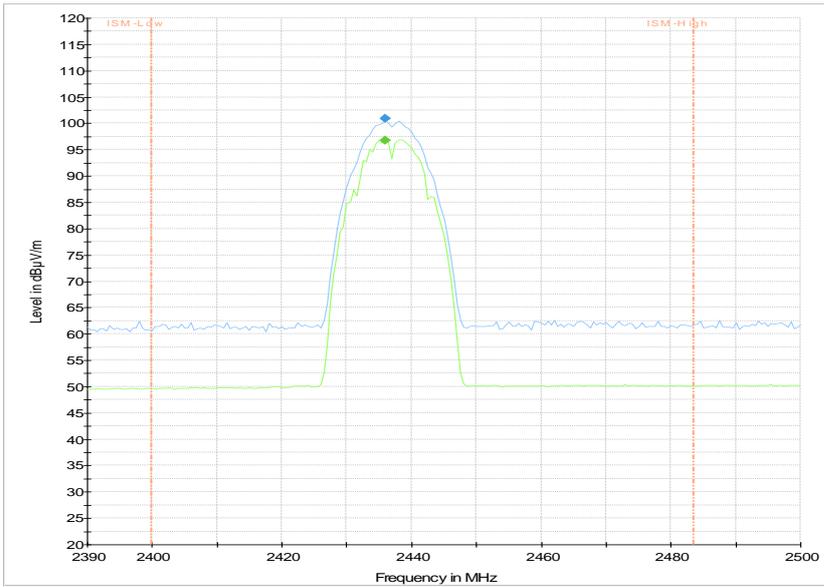
1.6.4.1. b-Mode, 2Mbit



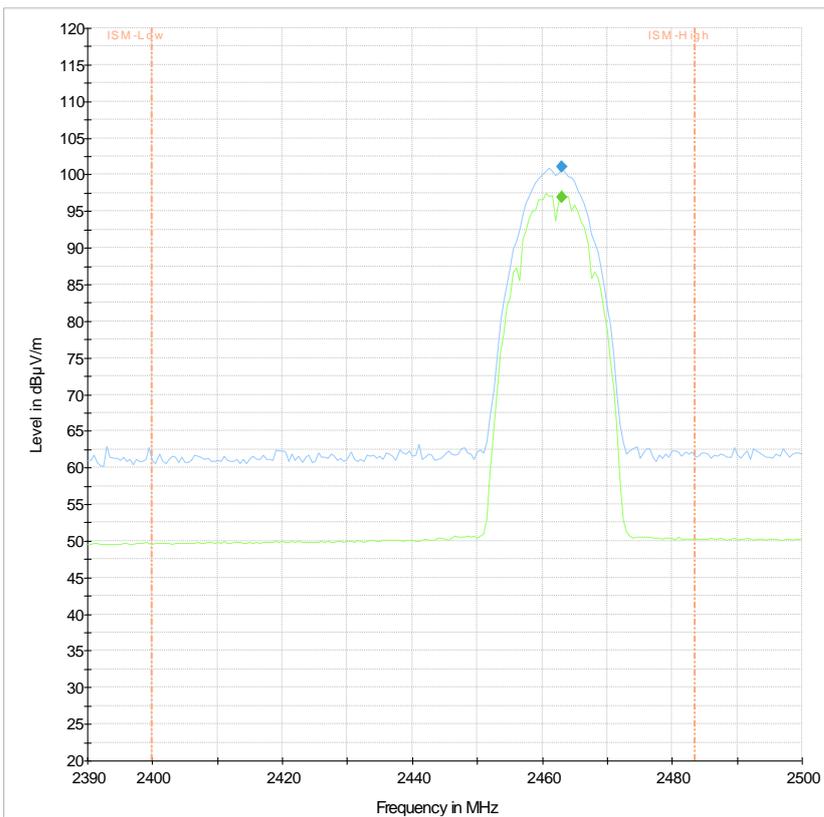
Carrier field strength, channel 1



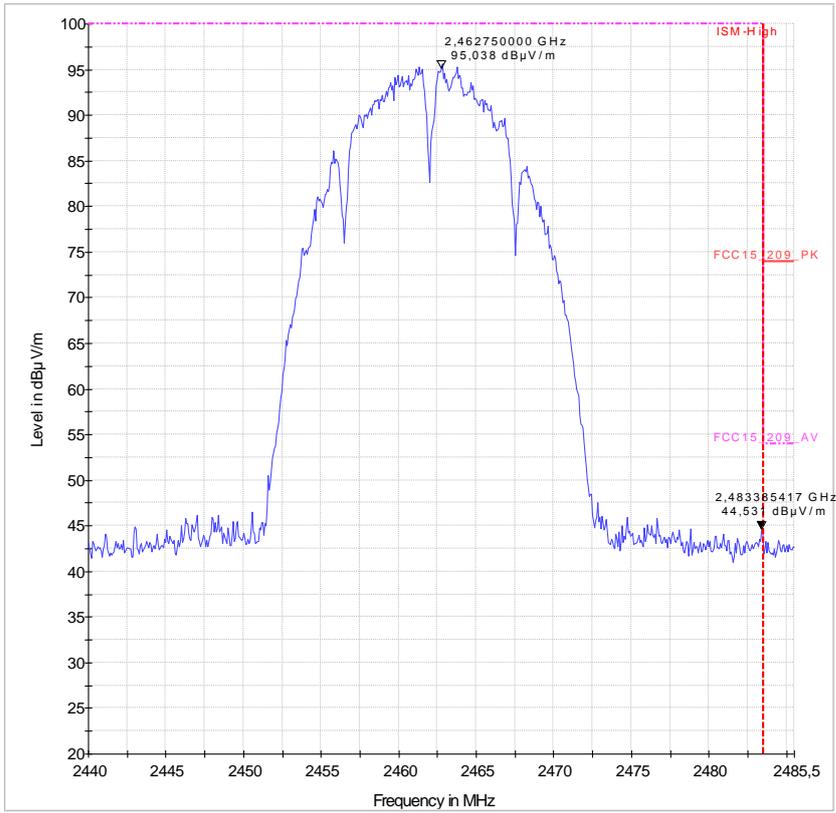
Band-Edge left, Channel 1



Carrier field strength, channel 6

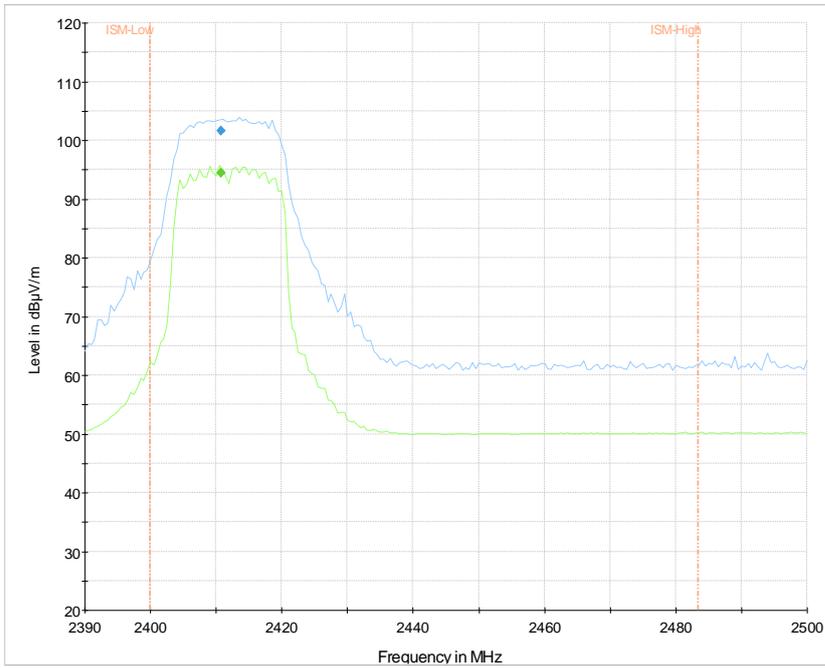


Band-Edge right, Step 1 & carrier field strength, channel 11

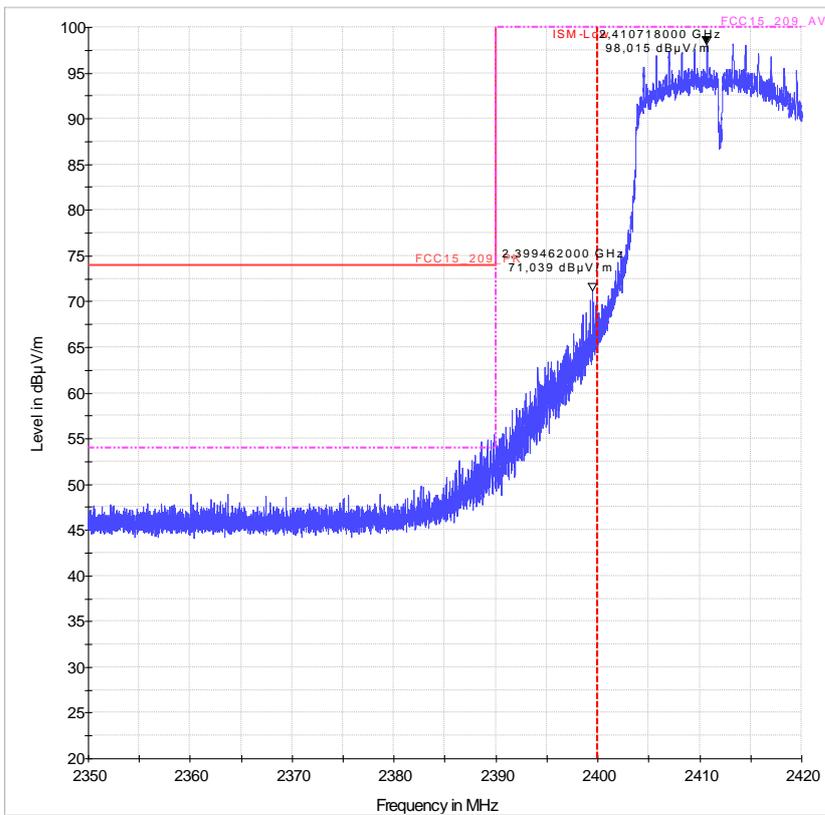


Band-Edge right, Step 2, channel 11

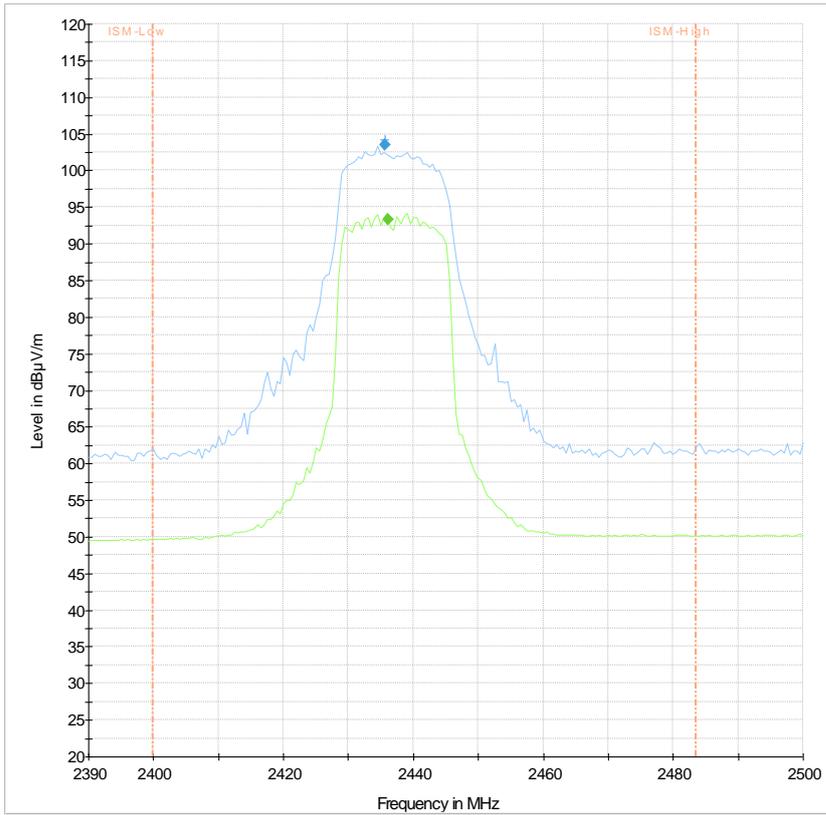
1.6.4.2. g-Mode, 6 MBit



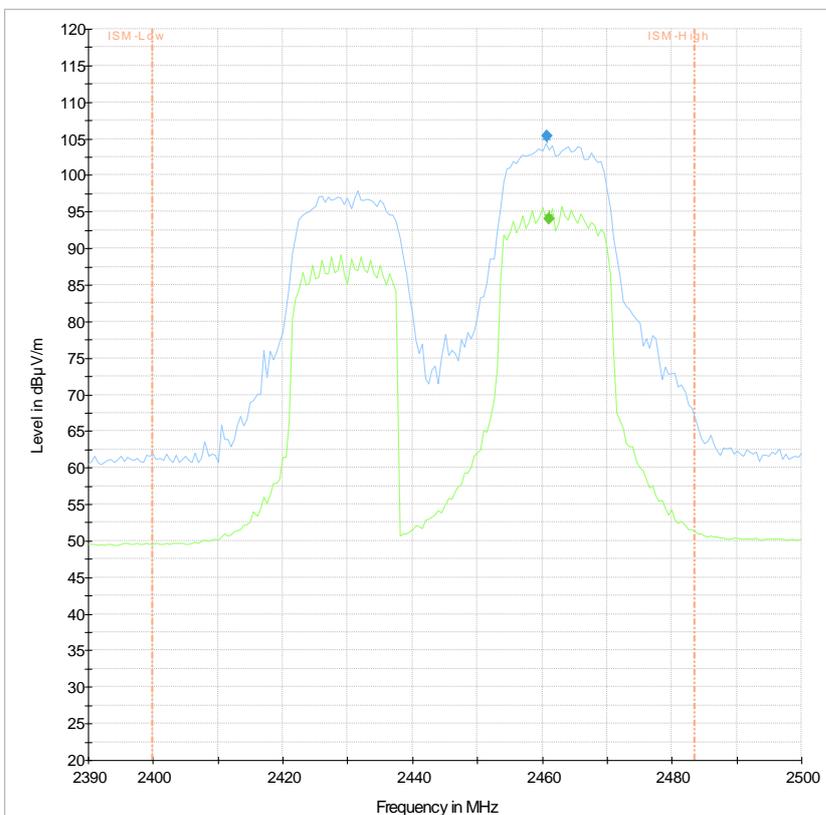
Carrier field strength, channel 1



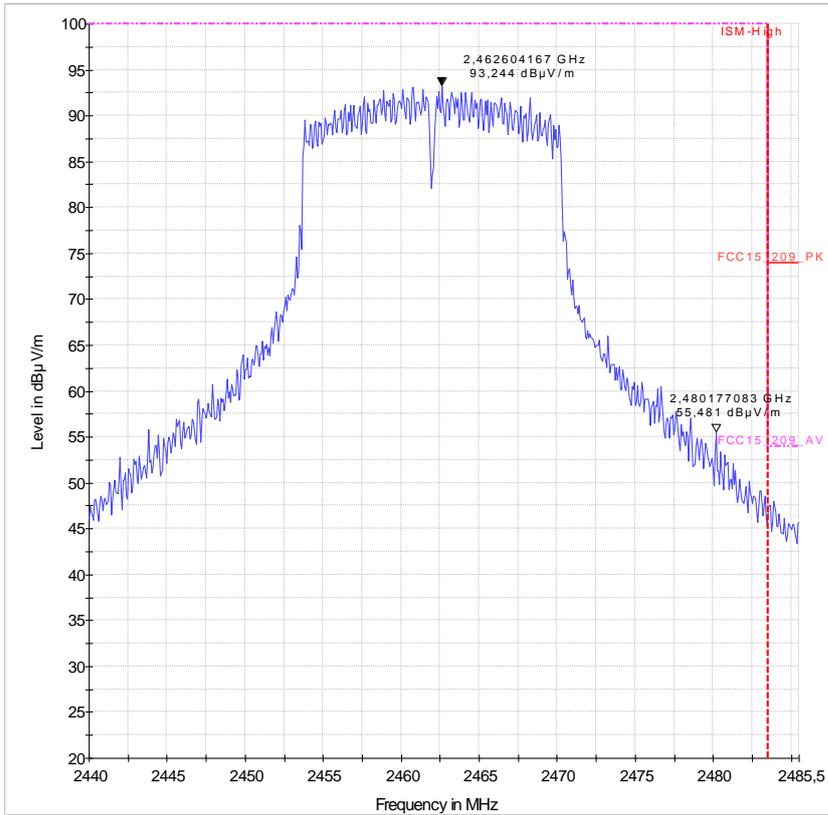
Band-Edge left, channel 1, Peak detector



Carrier field strength, channel 6

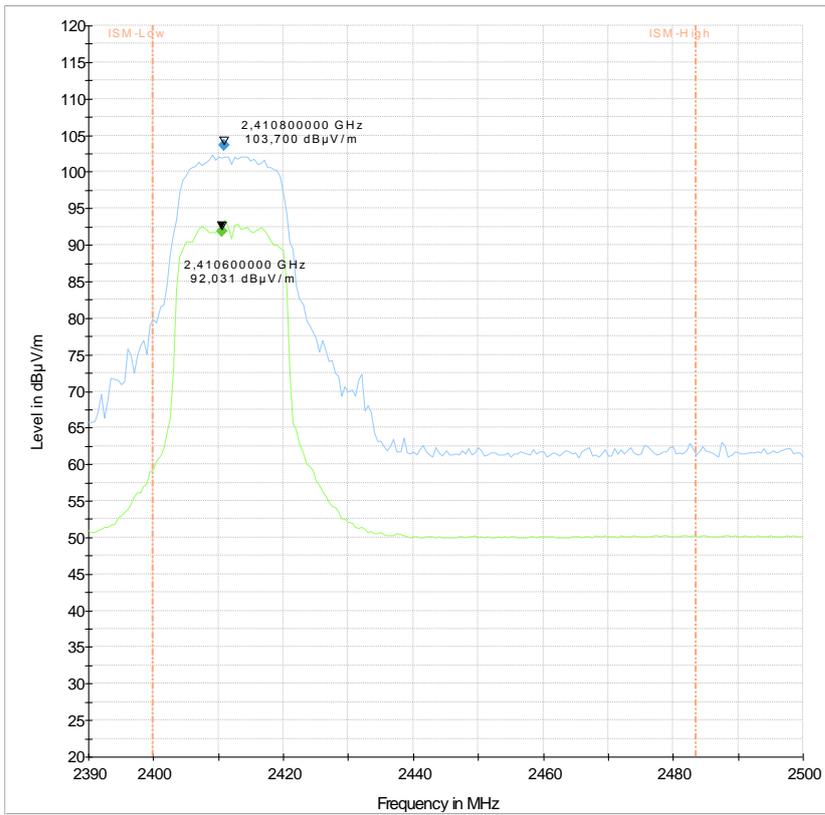


Band-Edge right & carrier field strength, step 1, channel 11

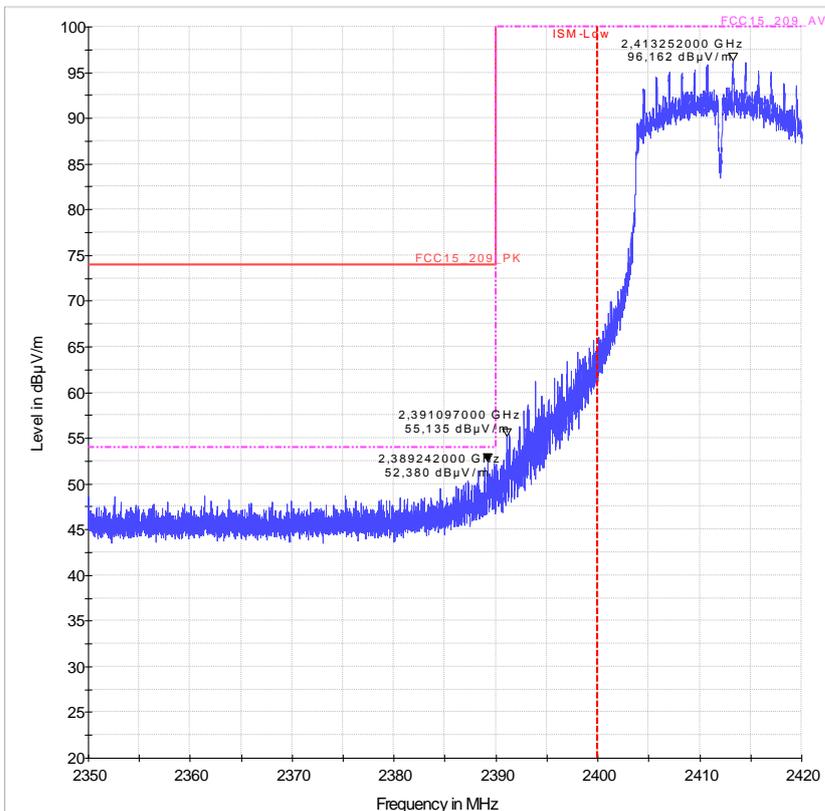


Band-Edge right, Step 2, channel 11 (DELTA = 93.24-50=43.24 dB)

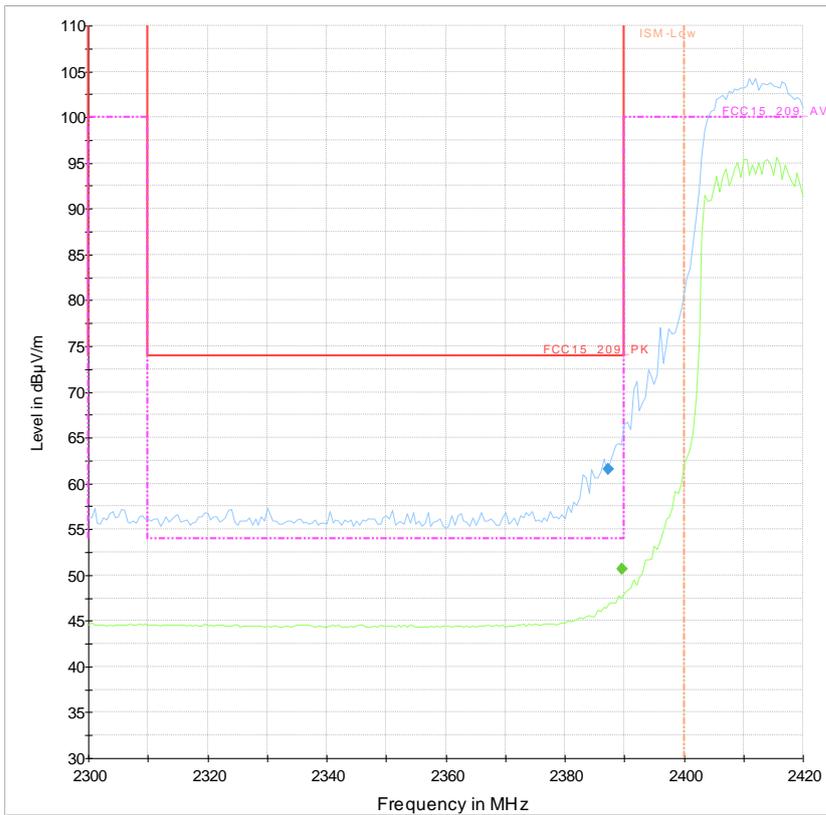
1.6.4.3. g-Mode, 9 Mbit



Carrier field strength, channel 1



Band-Edge left, channel 1, Peak detector



Band-Edge left, channel 1, Peak & AVERAGE detector

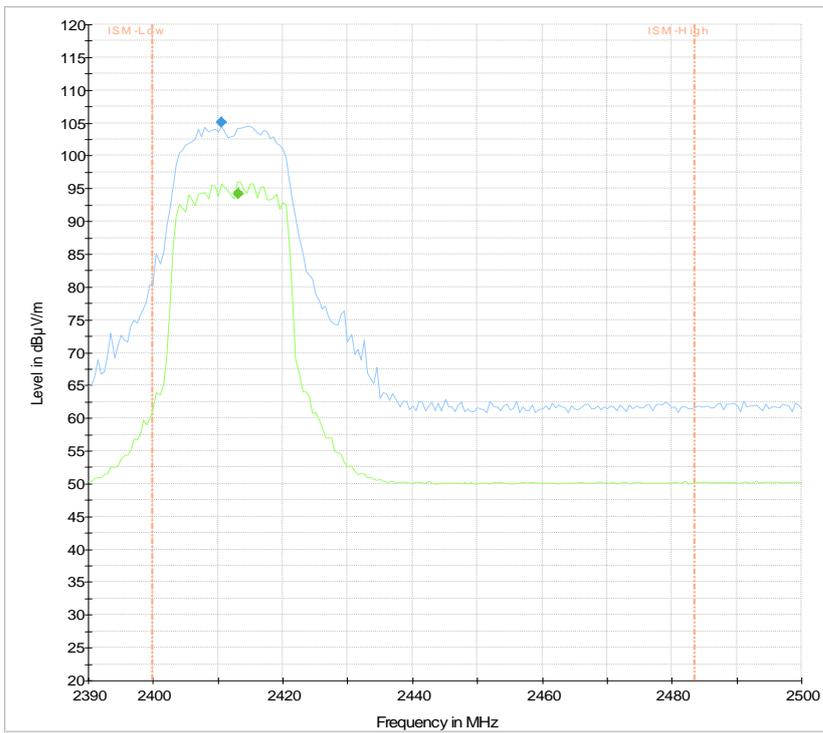
Final Result 1 (PK)

Frequency (GHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
2387.2	61.61	100.0	1000.000	155.0	H	277	35.4	12.4	74.0 (PK)

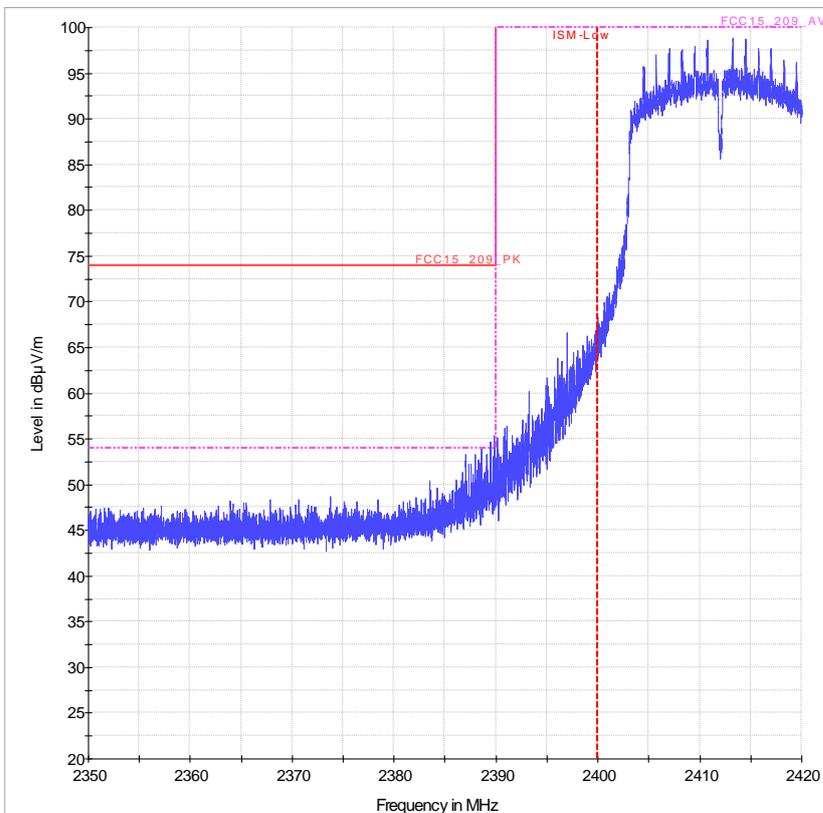
Final Result 2 (AV)

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
2389.6	50.68	100.0	1000.000	155.0	V	98.0	35.4	3.3	54.0 (AV)

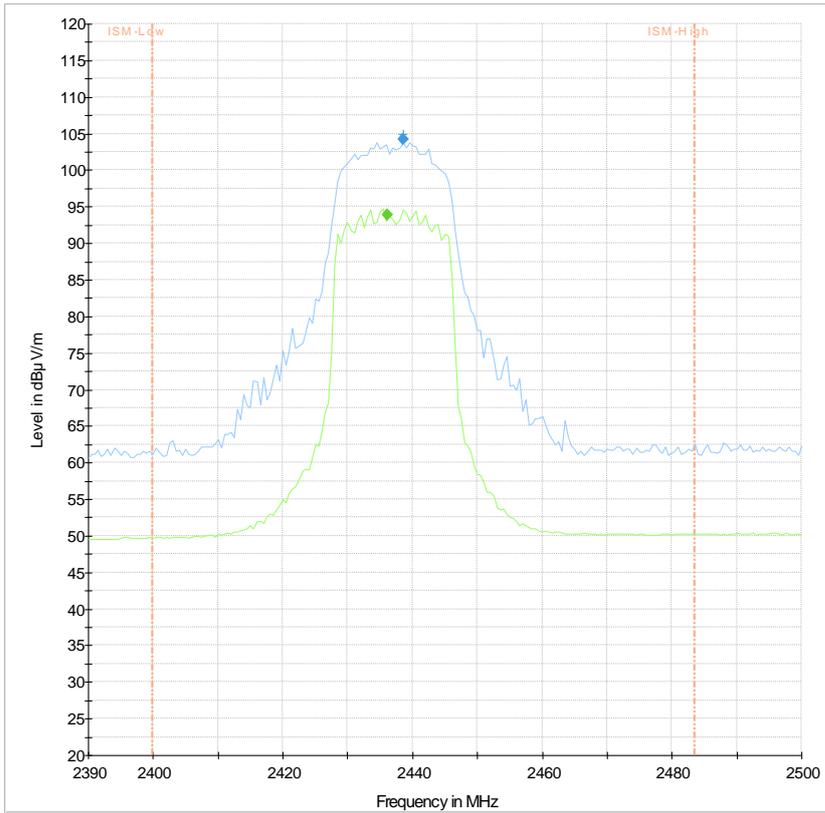
1.6.4.4. n-Mode MCS0 Preamble 3 mode



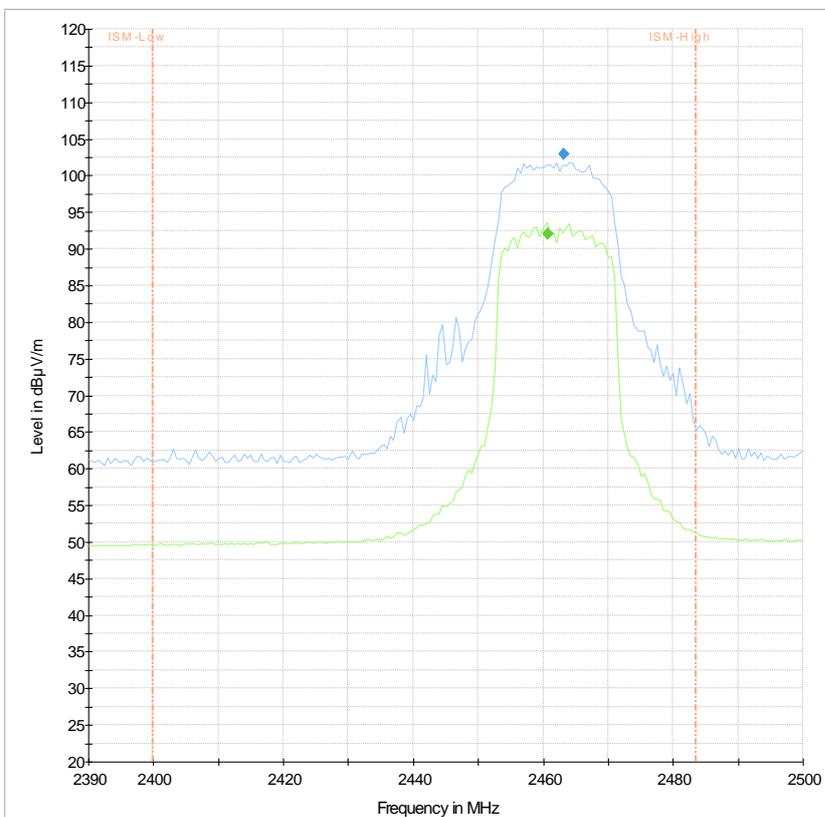
Carrier field strength Channel 1



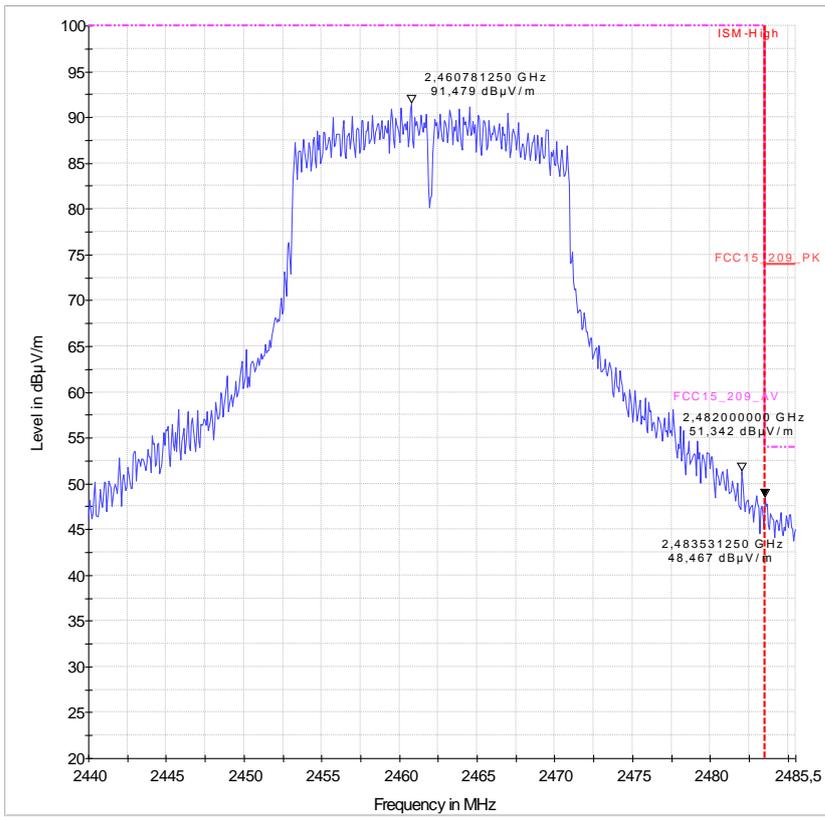
Band-Edge left, Channel 1



Carrier field strength Channel 6

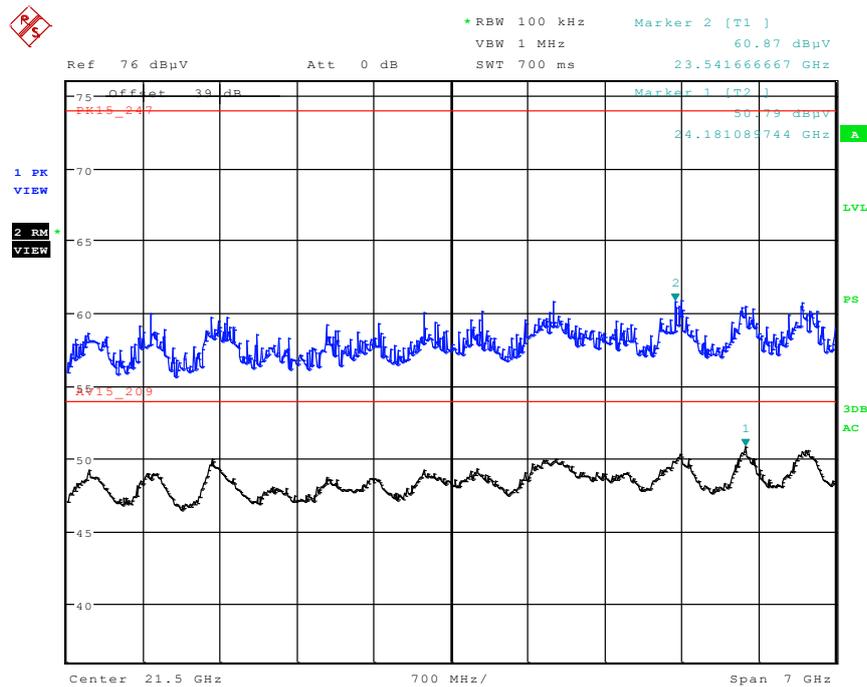


Carrier field strength Channel 11. Step 1



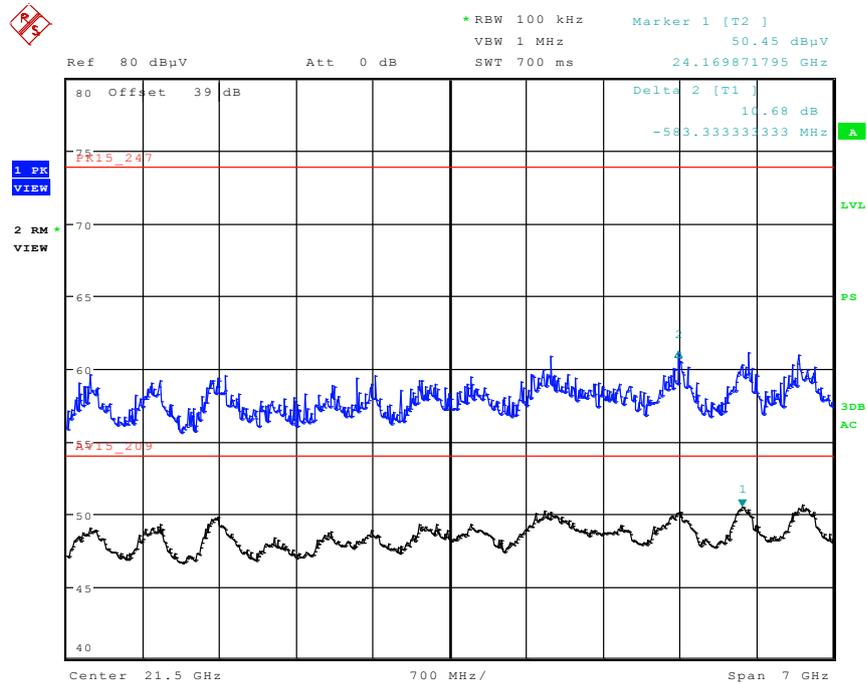
Band-Edge right, Channel 11, Step 2

1.6.5. Radiated emissions in the frequency range above 18GHz



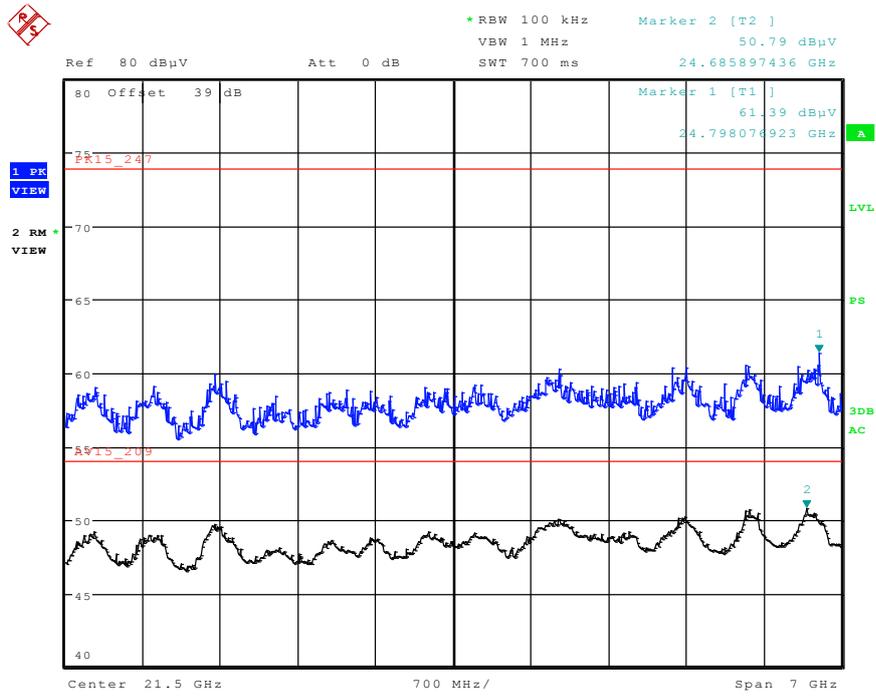
Date: 27.AUG.2011 10:47:05

Channel 1, g-Mode, 9Mbit (overview measurement only)



Date: 27.AUG.2011 10:53:54

Channel 6, g-mode, 9Mbit (overview measurement only)



Date: 27.AUG.2011 10:56:49

Channel 11, g-mode, 9MBit (overview measurement only)

1.7. Radiated field strength (§15.109, Class B)

1.7.1. Radiated field strength (30MHz < f < 1GHz)

Common Information

Test description:	Electric Fieldstrength Measurement related to 3 m distance
Test site and distance:	Semi Anechoic Room covered with absorbers (SAR) with 3 m measurement distance
Measured sides of EUT:	front, right, rear, left
Rec. antenna (pre-scan):	height 1.00 m and 1.82 m, horizontal and vertical polarisation
Rec. antenna (final):	height between 1 m to 4 m, polarisation according to pre-scan results
Turntable step:	90° during pre-scan, continuously turning during final measurement
Used filter:	lowpass 1200 MHz
Test specification.:	FCC 15.109, class B; RSS-Gen: Issue 3
Operator:	Lor
Operating conditions:	RX idle (WLAN)
Power during tests:	full battery
Comment 1:	EUT position horizontal

EUT Information

EUT type	AAD-3880121-BV
Manufacturer	Sony Ericsson

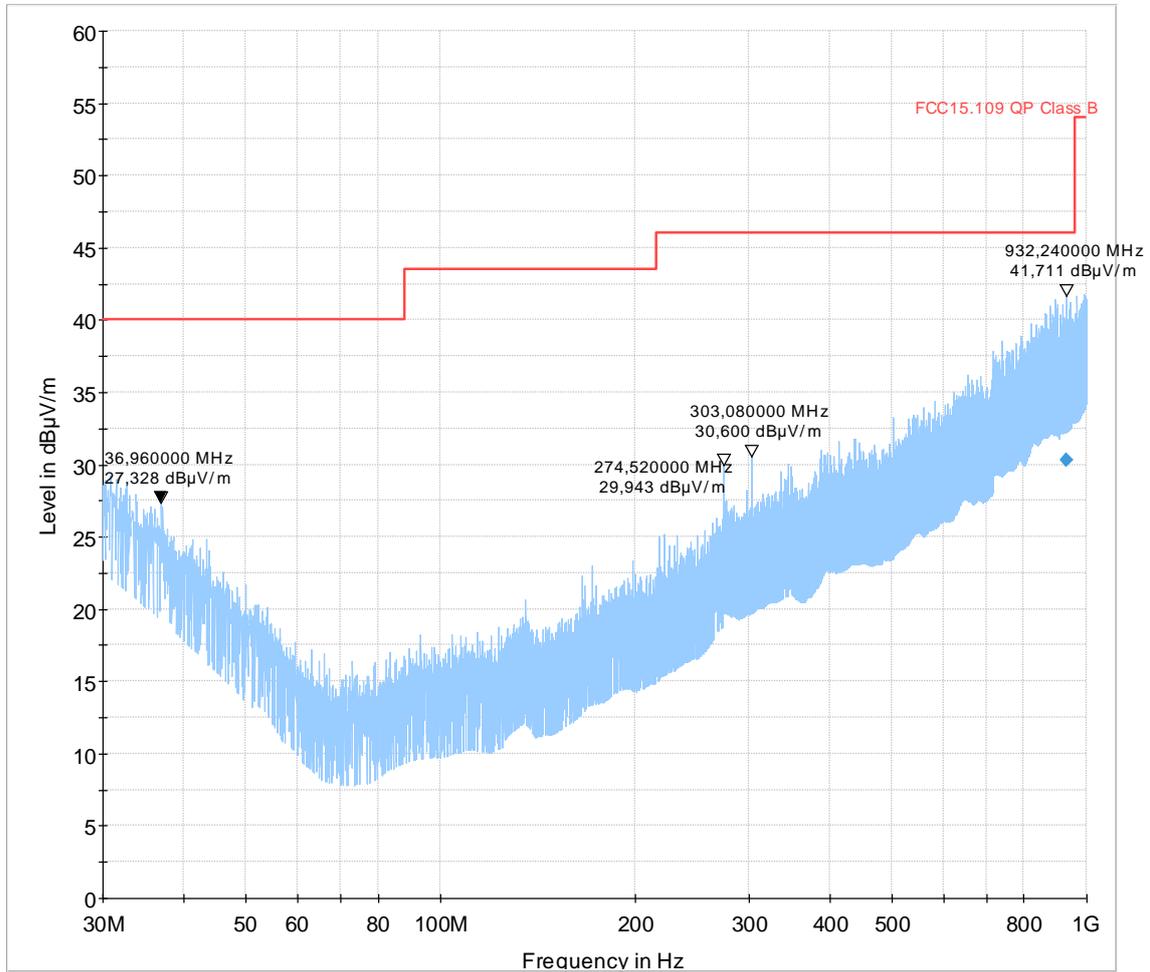


Diagram b_2.13

1.7.2. Radiated field strength (1GHz < f < 12.75GHz)

Common Information

Test Description: Radiated field strength emission in 3m distance
 Test Site: CETECOM GmbH Essen
 Test Standard: FCC 15.109 Unintentional Radiator/RSS-Gen, Issue 3
 Antenna polarisation: horizontal/vertical

Operation mode: WLAN RX-Mode; g-Mode, 6Mbps, Channel 6
 Operator Name: Lor

EUT Information

EUT Name: AAD-3880121-BV
 Manufacturer: SEM

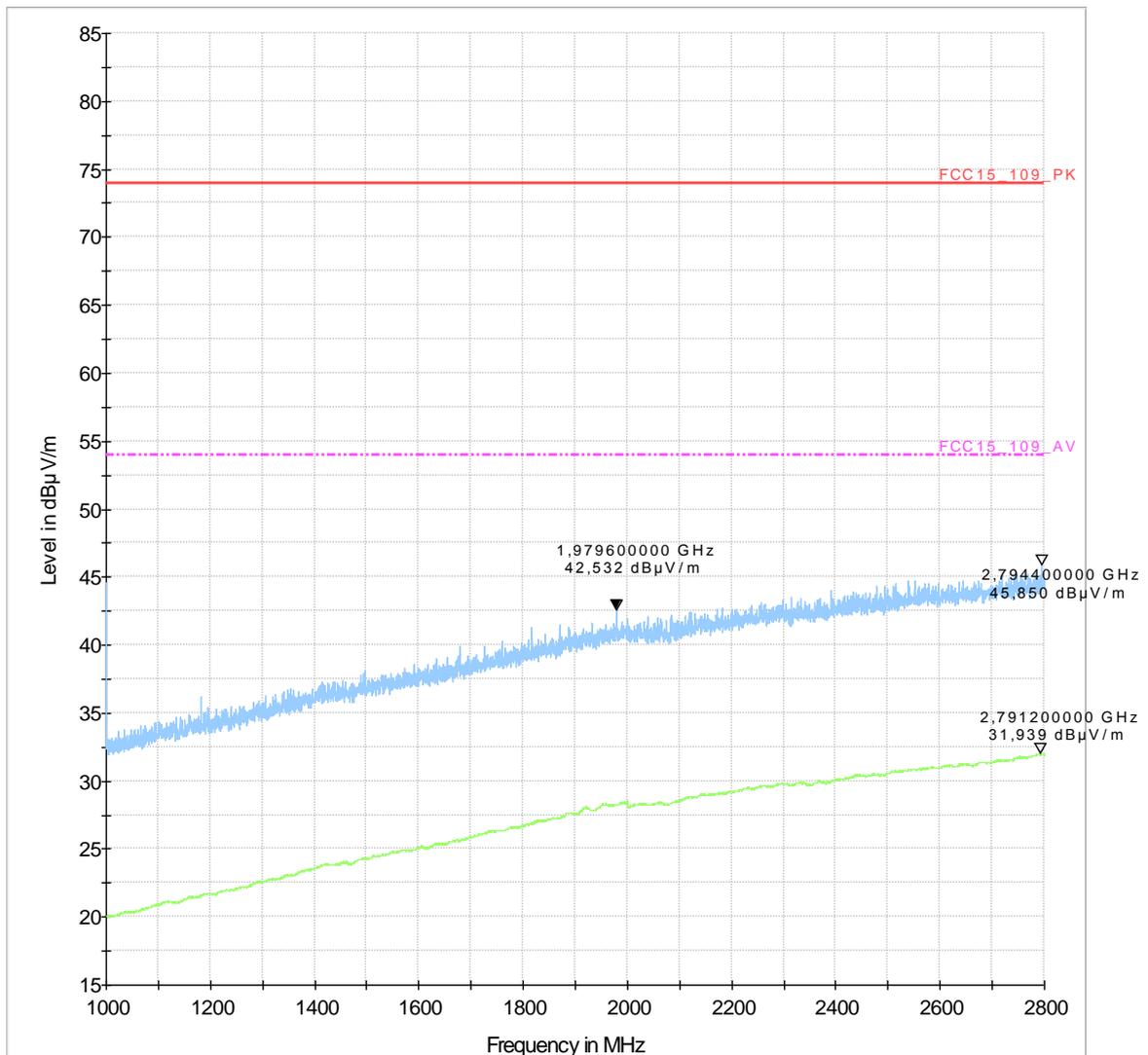


Diagram b_2.10

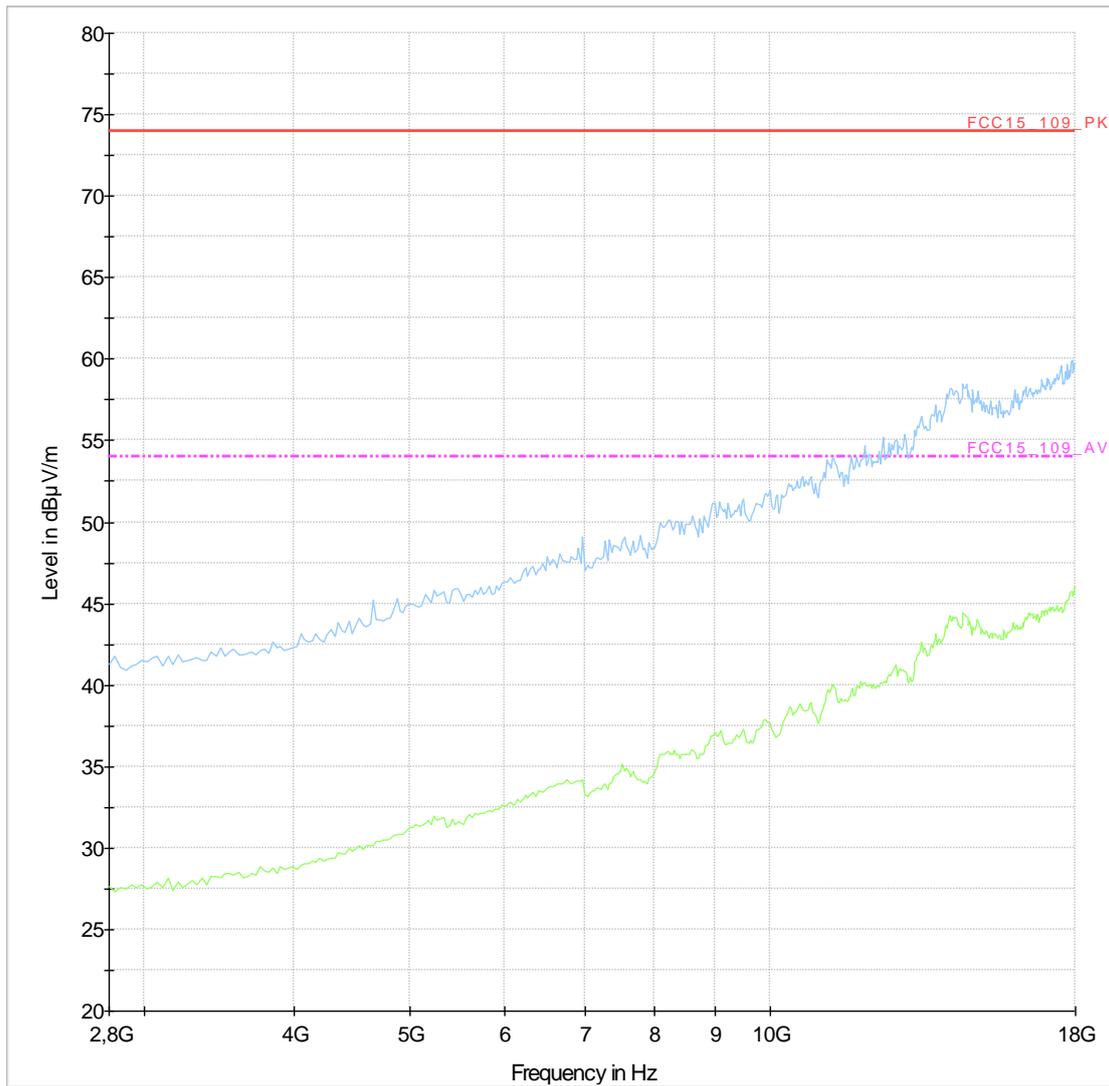


Diagram b_2.11

1.8. Conducted emissions on AC-mains

1.8.1. TX-Mode (§15.207)

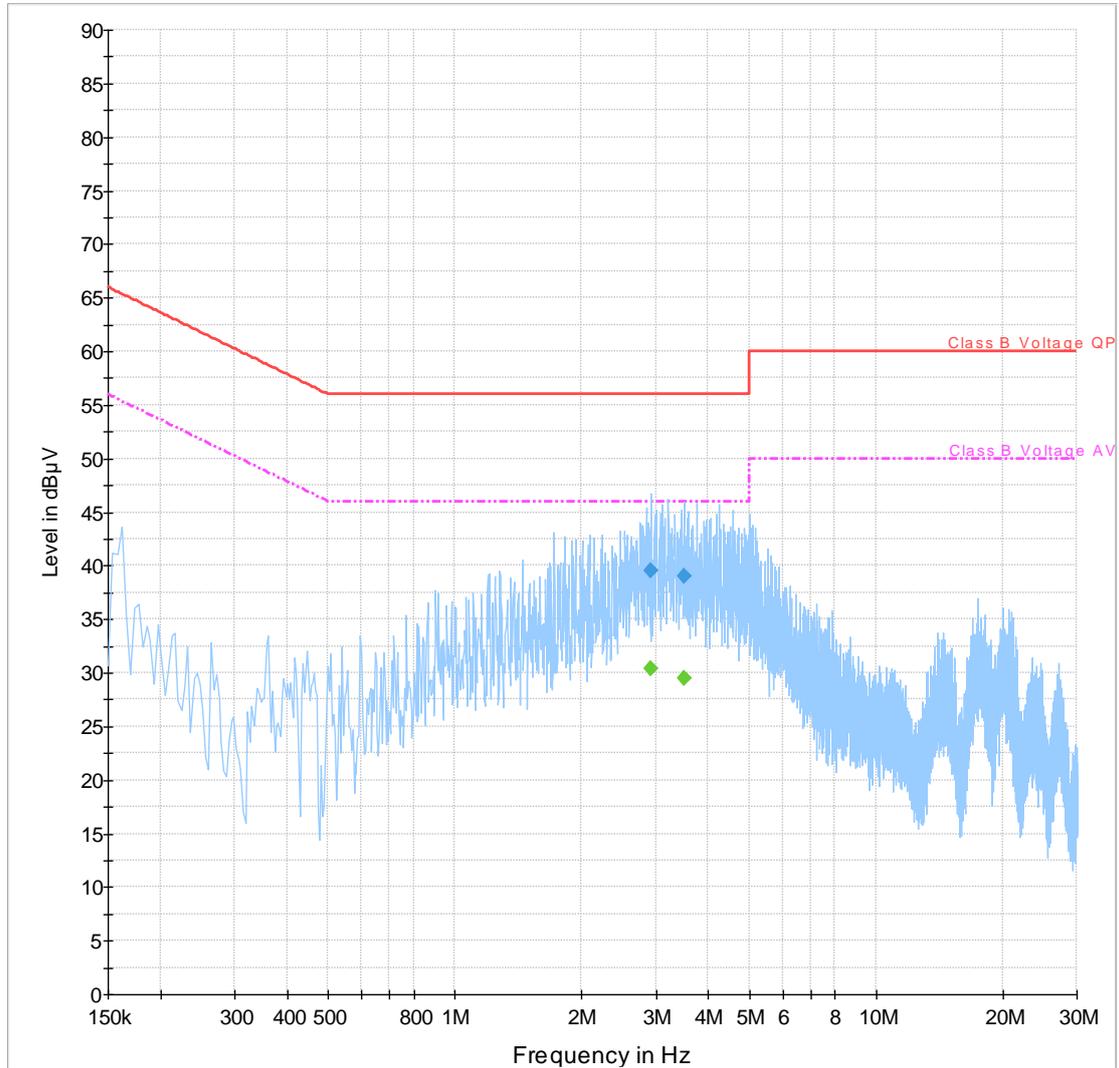


Diagram b_1.04

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
2.912031	39.51	15000.0	9.000	GND	L1	0.0	16.5	56.0
3.51125	38.98	15000.0	9.000	GND	L1	0.0	17.0	56.0

Final Result 2

Frequency (MHz)	CAverage (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
2.912031	30.40	15000.0	9.000	GND	L1	0.0	15.60	46.0
3.51125	29.52	15000.0	9.000	GND	L1	0.0	16.50	46.0

Date: 19.08.2011 Page 2 of 2

Technical Data of Measurements with R&S EMC32 V8.50.0

EMI Auto Test Template: 01_Class B_Voltage_PK_QPAV_N_L1

Hardware Setup: ESH2-Z5
 Measurement Type: 4 Line LISN
 Frequency Range: 150 kHz - 30 MHz
 Graphics Level Range: -10 dBµV - 80 dBµV

Preview Measurements:
 Scan Test Template: 02_Class B pre_PK_fast

Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
9 kHz - 150 kHz	61.035 Hz	PK+	200 Hz	0,00005 s	0 dB
150 kHz - 30 MHz	3.906 kHz	PK+	9 kHz	0,00005 s	0 dB

Receiver: [ESCS 30]

Data Reduction:
 Limit Line #1: Class B Voltage QP
 Limit Line #2: Class B Voltage AV
 Peak Search: 6 dB , Maximum Results: 10
 Subrange Maxima: 50 Subranges , Maxima per Subrange: 2
 Acceptance Offset: -13 dB
 Maximum Number of Results: 30
 After Data Reduction: Interactive data reduction

Frequency Zoom:
 Zoom Scan Template: 08_Class B maxZoom_PK100mS

Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
9 kHz - 150 kHz	5 kHz	PK+	200 Hz	0,1 s	0 dB
150 kHz - 30 MHz	5 kHz	PK+	9 kHz	0,1 s	0 dB

Receiver: [ESCS 30]

Final Measurements:
 Template for Single Meas.: 07_Class B fin AV QP

Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
9 kHz - 150 kHz	4.5 kHz	QPK; CAV	200 Hz	15 s	0 dB
150 kHz - 30 MHz	4.5 kHz	QPK; CAV	9 kHz	15 s	0 dB

Receiver: [ESCS 30]

Report Settings:
 Report Template: Ctc_Standard_class_B
 Create Electronic Report: RTF PDF
 Document Name: EMI Report

Actions:
 Test stop
 Notify: "End of Test"