

ANNEX 4: MEASUREMENT DIAGRAMS
TO
PARTIAL TEST REPORT
No.: 2-0037-12-1-1k

According to:
FCC Regulations
Part 15.109,
Part 15.207, Part15.247

IC-Regulations
RSS-Gen, Issue 3
RSS-210, Issue 8

for
Research In Motion Limited

Mobile Phone RFG81UW

FCC-ID: L6ARFG80UW
IC: 2503A-RFG80UW







Laboratory Accreditation and Listings			
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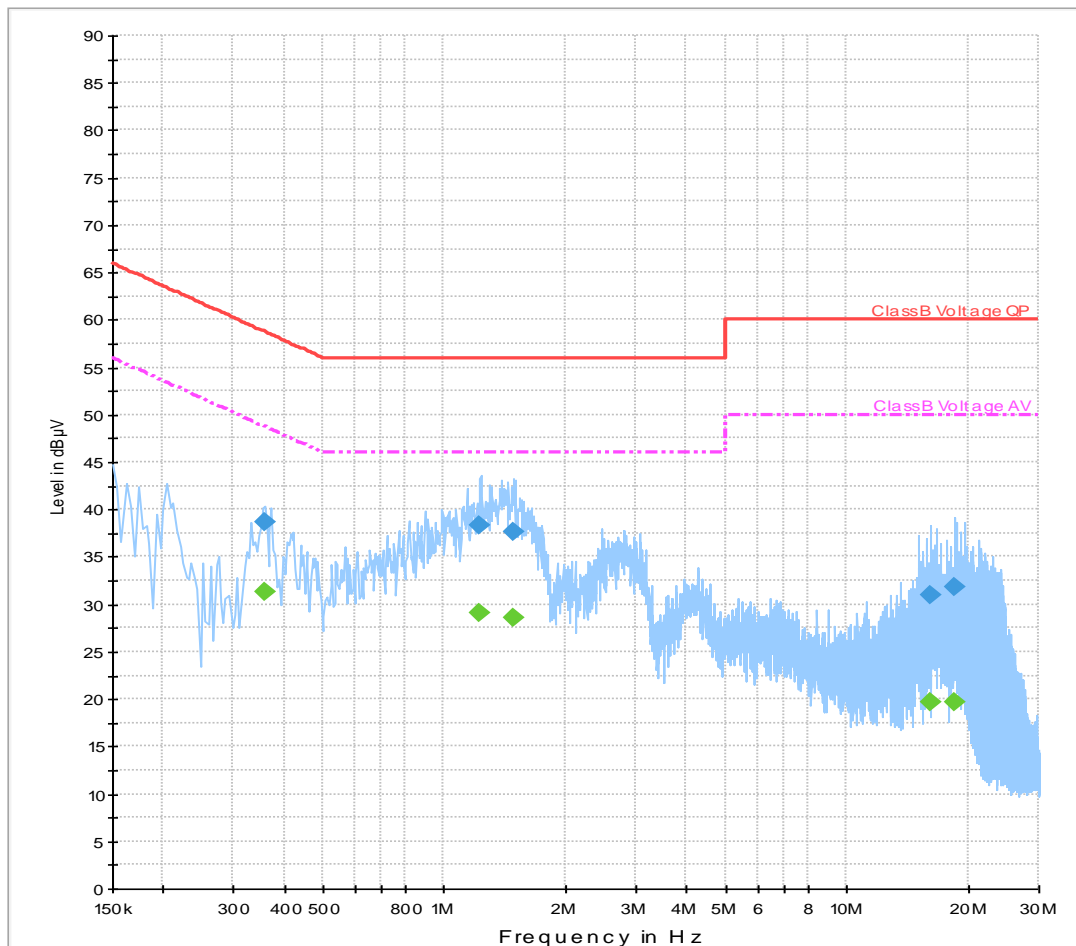
1. Conducted EMI measurements on AC-mains port according §15.207

Diagram No. 1.1_WLAN_b_Mode

Test Description:	Date: 03.08.2012	Page 1 of 3
Test Description:	Conducted Voltage Measurement Class B	
Testspezifikation:	FCC 15.107 class B/15.207	
Technical Data:	Please see next page for detailed information	
Diagram:	Shows the peak values as a sum of measured ports (N+L1) in maxhold mode	
Operator name:	Dpa	
Report.- Nr.	2-0037-12-1k	

EUT:	RFG81UW (sample 4) + HS2 + CH4 + USB2
Manufacturer:	RIM
Operating mode:	WiFi Tx (802,11b 2,4GHz)
Measured on line:	Mains AC L1 and N
Power during test:	110 V AC 60 Hz
Comment 1:	
Comment 2:	

01_Class B_Voltage_PK_QPAV_N_L1



Date: 03.08.2012 Page 2 of 3

Final Result 1

Frequency (MHz)	QuasiPeak (dB μ V)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.359625	38.6	15000.0	9.000	GND	N	0.0	20.1	58.7
1.218531	38.4	15000.0	9.000	GND	L1	0.1	17.6	56.0
1.480250	37.6	15000.0	9.000	GND	L1	0.1	18.4	56.0
16.085719	31.0	15000.0	9.000	GND	L1	0.2	29.0	60.0
18.447281	31.8	15000.0	9.000	GND	L1	0.2	28.2	60.0

Final Result 2

Frequency (MHz)	CAverage (dB μ V)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.359625	31.3	15000.0	9.000	GND	N	0.0	17.4	48.7
1.218531	29.0	15000.0	9.000	GND	L1	0.1	17.0	46.0
1.480250	28.6	15000.0	9.000	GND	L1	0.1	17.4	46.0
16.085719	19.8	15000.0	9.000	GND	L1	0.2	30.2	50.0
18.447281	19.7	15000.0	9.000	GND	L1	0.2	30.3	50.0

Technical Data of Measurements with R&S EMC32 V8.52.0**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: 0 dB μ V - 90 dB μ V

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: 25 Subranges , Maxima per Subrange: 1
 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"

2. Radiated field strength measurements accord. §15.209&15.205

2.1. Channel 1 (b-Mode)

Diagram No. 8.04_Ch1_Sweep1

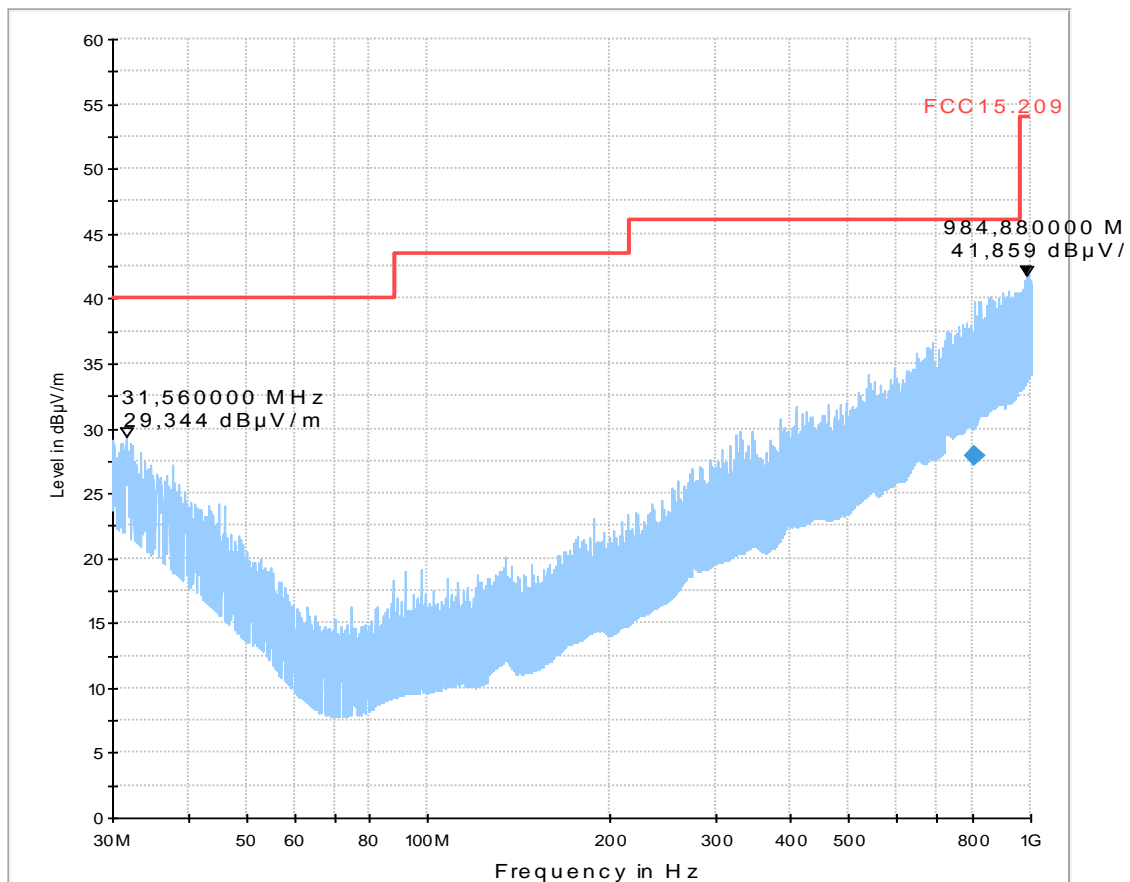
Test description:	06.06.2012 Page 1 of 2
Test site and distance:	Electric Field Strength Measurement
Distance correction:	Semi Anechoic Room (SAR) with 3 m measurement distance
Used filter:	not used
Technical Data:	please see page 2 for detailed data of measurement setup
Test specification.:	FCC 15.209; RSS-Gen: Issue 3; RSS-210: Issue 8
Operator:	Lor
Operating conditions:	WLAN b-Mode, 1Mbps, Ch1
Power during tests:	full loaded batteries
Comment 1:	--

EUT Information	
EUT Name:	RFG81UW
Manufacturer:	RIM
IMEI:	...757
Setup	Full battery

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Elevation (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
805.990000	27.9	1000.0	120.000	236.0	H	12.0	90.0	24.9	18.10	46.00

01_FCC15.209_hor+vert_kipp



Technical Data of measurement with EMC32 V8.51.1

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-30MHz-1GHz
 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'

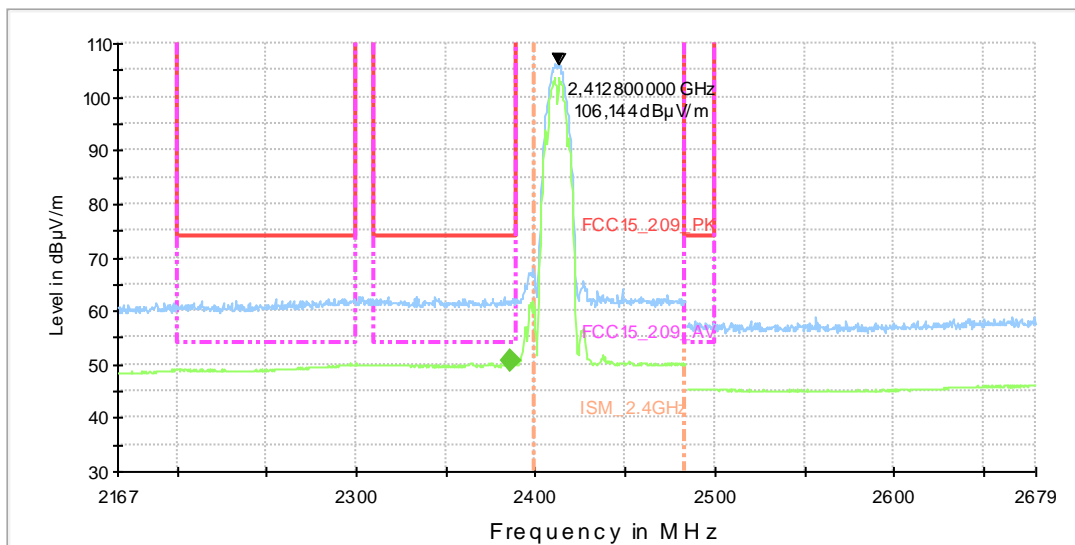
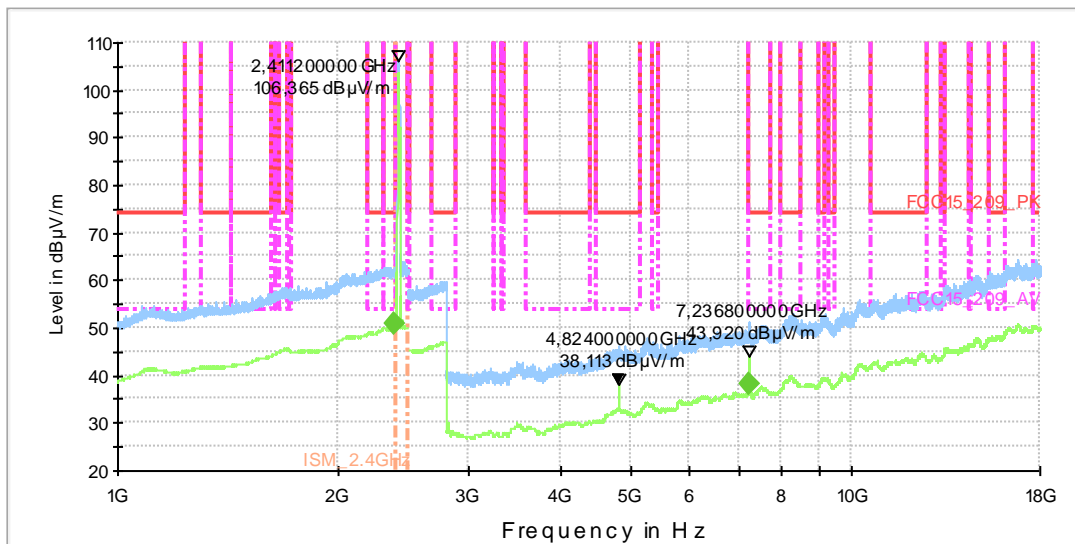
Diagram No.: 8.04_Ch1_Sweep2

Common Information

Test Description:	Radiated field strength emission accord. §15.247 in 3m distance
Test Site:	CETECOM GmbH Essen
Test specification.:	FCC 15.209; RSS-Gen: Issue 3; RSS-210: Issue 8
Antenna polarisation:	horizontal/vertical
Operator Name:	OOu
Comment:	Channel no.1
Op. Mode:	WLAN, b-mode, 1Mbps

EUT Information

EUT Name:	RFG81UW
Manufacturer:	RIM
Serial Number:	004401138946757
Hardware Rev:	CPR 21957
Add. Info:	ASY-46297-001 Rev K
SW Rev:	
Comment:	used ORGA 3G Sim-card, full battery (type: BAT-47277-001), Smartphone



Final Result 2

Frequency (MHz)	Average (dBµV/m)	Meas. Time	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Elevation (deg)	Corr. (dB)	Margin (dB)
2386.100000	50.8	100.0	1000.000	155.0	H	56.0	0.0	35.5	3.2
7235.300000	38.1	100.0	1000.000	155.0	H	217.0	0.0	10.8	111.9

(continuation of the "Final Result 2" table from column 10 ...)

Frequency (MHz)	Limit (dBµV/m)	Comment
2386.100000	54.0	
7235.300000	150.0	

EMI Auto Test Template: 00431_SM1_KP1_WLAN_1_5ms

Hardware Setup: 00431_FCC_Part15_Unintentional_Radiator_1G-22G_dBuV_ESU
 Measurement Type: E(I)RP
 Frequency Range: 1 GHz - 18 GHz
 Graphics Level Range: 20 dBµV/m - 110 dBµV/m

Preview Measurements:
 Scan Test Template: Sweep_1_18GHz_Pre

Data Reduction:
 Limit Line #1: FCC15_209_PK
 Limit Line #2: FCC15_209_AV
 Limit Line #3: ISM_2.4GHz
 Peak Search: 6 dB , Maximum Results: 10
 Subrange Maxima: 10 Subranges , Maxima per Subrange: 1
 Maximum Number of Results: 20
 After Data Reduction: Interactive data reduction

Frequency Zoom:
 Zoom Scan Template: Sweep_1_18GHz_Zoom

Adjustment:
 Template for Single Meas.: Sweep_1_18GHz_Zoom

Final Measurements:
 Template for Single Meas.: Sweep_1_18GHz_final
 Template for Single Meas.:(>1GHz) Sweep_1_18GHz_final

Report Settings:
 Report Template: Report Setup FCC 15_247
 Create Electronic Report: RTF PDF
 Document Name: EMI Report

Actions:
 Test start
 Notify: "stelle passenden Kanal ein !"
 Frequency Zoom 2: Before
 Notify: "EUT sendet noch ?"

Diagram no. 8.04_Ch1_Sweep3

Common Information

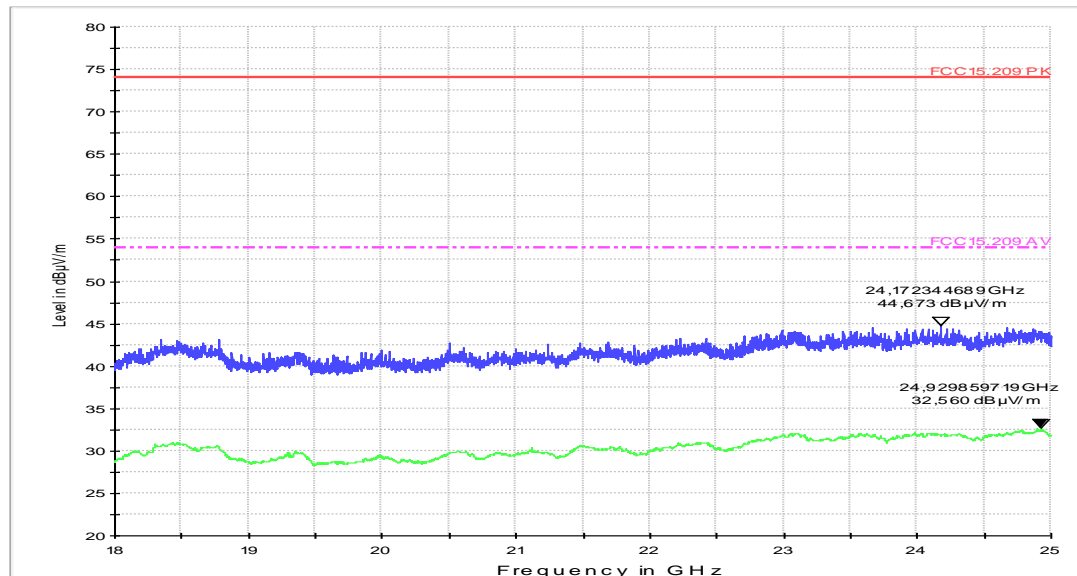
Test Description: Radiated field strength emission in 1m distance
 Test Site: CETECOM GmbH Essen
 Test specification.: FCC 15.209; RSS-Gen: Issue 3; RSS-210: Issue 8
 Antenna polarisation: horizontal/vertical

Operation mode: TX mode continuous
 2,4GHz WLAN / Ch1/ 1MBps
 Operator: dpa

EUT Information

EUT Name: RFG81UW
 Manufacturer: RIM
 Serial Number: 004401139037002
 Hardware Rev: --
 Software Rev: --
 Comment: Sample 1, Rev 2, 17-Jul-12

EMI Sweep_18_25GHz_Preamp_On_Ref338_AntRef302_1m_dBuV



Sweep Setup: EMI

Sweep_18_25GHz_Preamp_On_Ref338_AntRef302_1m_dBuV [EMI radiated]

Hardware Setup: HW03_FSEM_15-26GHz_PreampRef336_dBuV_1m
 Receiver: [FSEM]
 Level Unit: dBµV/m

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
18 GHz - 19 GHz	2,004 MHz	PK+; RMS	1 MHz	1 s	dB
19 GHz - 20 GHz	2,004 MHz	PK+; RMS	1 MHz	1 s	dB
20 GHz - 21 GHz	2,004 MHz	PK+; RMS	1 MHz	1 s	dB
21 GHz - 22 GHz	2,004 MHz	PK+; RMS	1 MHz	1 s	dB
22 GHz - 23 GHz	2,004 MHz	PK+; RMS	1 MHz	1 s	dB
23 GHz - 24 GHz	2,004 MHz	PK+; RMS	1 MHz	1 s	dB
24 GHz - 25 GHz	2,004 MHz	PK+; RMS	1 MHz	1 s	dB

2.2. Channel 7 (b-Mode)

Diagram No. 8.04_Ch7_Sweep1

Test description:	06.06.2012 Page 1 of 2
Test site and distance:	Electric Field Strength Measurement
Distance correction:	Semi Anechoic Room (SAR) with 3 m measurement distance
Used filter:	not used
Technical Data:	not used
Test specification.:	please see page 2 for detailed data of measurement setup FCC 15.209; RSS-Gen: Issue 3; RSS-210: Issue 8
Operator:	Lor
Operating conditions:	WLAN b-Mode, 1Mbps, Ch7
Power during tests:	full loaded batteries
Comment 1:	--

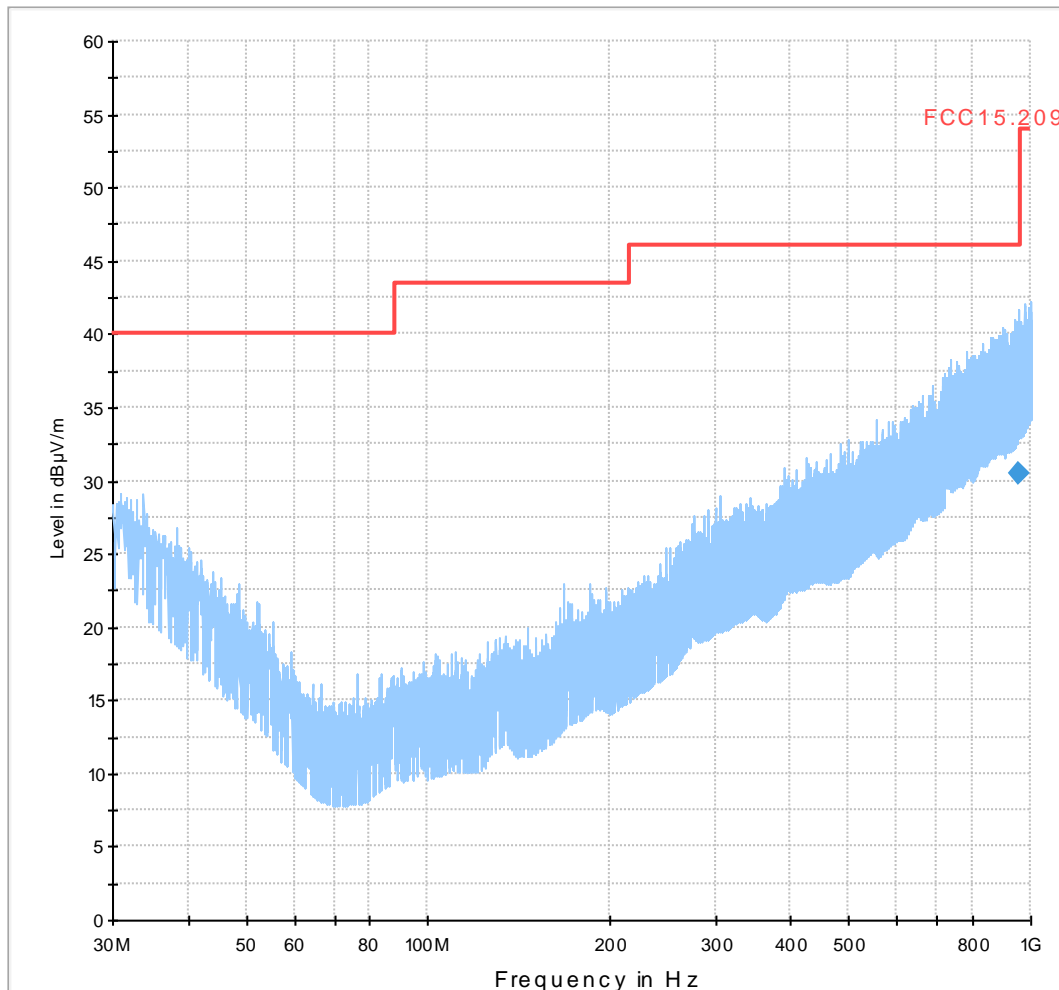
EUT Information

EUT Name:	RFG81UW
Manufacturer:	RIM
IMEI:	...757
Setup	Full battery

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Elevation (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
954.670000	30.5	1000.0	120.000	368.0	H	354.0	90.0	27.0	15.50	46.00

01_FCC15.209_hor+vert_kipp



Date: 06.06.2012 Page 1 of 2

Technical Data of measurement with EMC32 V8.51.1

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-30MHz-1GHz
 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'

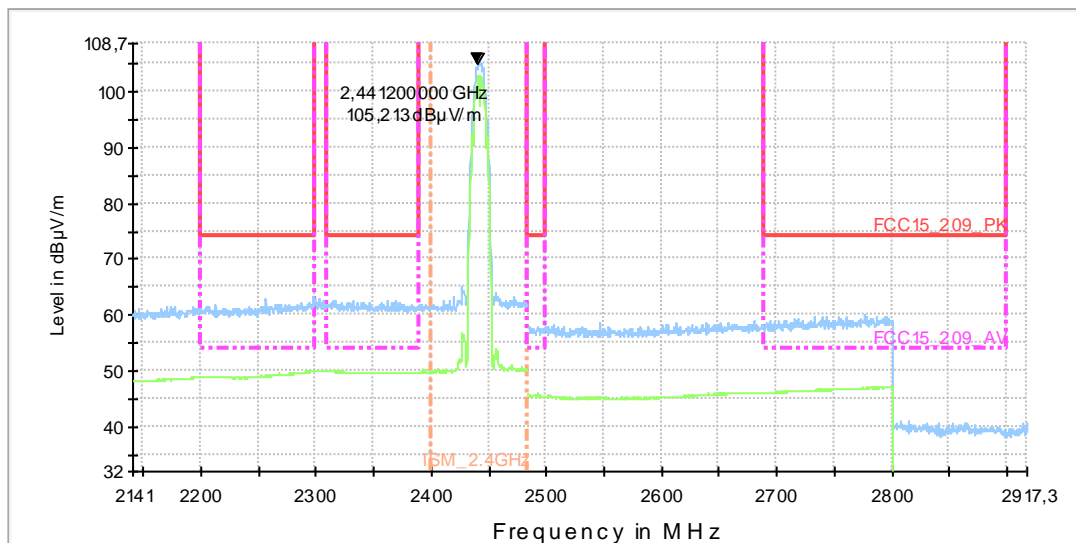
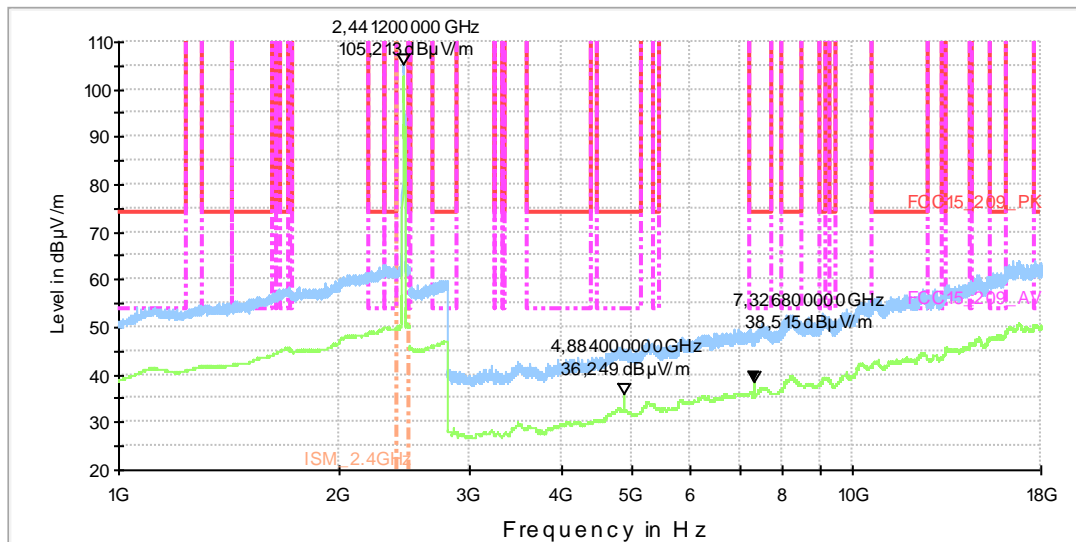
Diagram No.: 8.04_Ch1_Sweep2

Common Information

Test Description:	Radiated field strength emission accord. §15.247 in 3m distance
Test Site:	CETECOM GmbH Essen
Test specification.:	FCC 15.209; RSS-Gen: Issue 3; RSS-210: Issue 8
Antenna polarisation:	horizontal/vertical
Operator Name:	OOu
Comment:	Channel no.7
Op. Mode:	WLAN, b-mode, 1Mbps

EUT Information

EUT Name:	RFG81UW
Manufacturer:	RIM
Serial Number:	004401138946757
Hardware Rev:	CPR 21957
Add. Info:	ASY-46297-001 Rev K
SW Rev:	
Comment:	used ORGA 3G Sim-card, full battery (type: BAT-47277-001), Smartphone



EMI Auto Test Template: 00431_SM1_KP1_WLAN_1_5ms

Hardware Setup: 00431_FCC_Part15_Unintentional_Radiator_1G-22G_dBuV_ESU
Measurement Type: E(I)RP
Frequency Range: 1 GHz - 18 GHz
Graphics Level Range: 20 dB μ V/m - 110 dB μ V/m

Preview Measurements:
Scan Test Template: Sweep_1_18GHz_Pre

Data Reduction:
Limit Line #1: FCC15_209_PK
Limit Line #2: FCC15_209_AV
Limit Line #3: ISM_2.4GHz
Peak Search: 6 dB , Maximum Results: 10
Subrange Maxima: 10 Subranges , Maxima per Subrange: 1
Maximum Number of Results: 20
After Data Reduction: Interactive data reduction

Frequency Zoom:
Zoom Scan Template: Sweep_1_18GHz_Zoom

Adjustment:
Template for Single Meas.: Sweep_1_18GHz_Zoom

Final Measurements:
Template for Single Meas.: Sweep_1_18GHz_final
Template for Single Meas.:(>1GHz) Sweep_1_18GHz_final

Report Settings:
Report Template: Report Setup FCC 15_247
Create Electronic Report: RTF PDF
Document Name: EMI Report

Actions:
Test start
Notify: "stelle passenden Kanal ein !"
Frequency Zoom 2: Before
Notify: "EUT sendet noch ?"

8.04_Ch7_Sweep3

Common Information

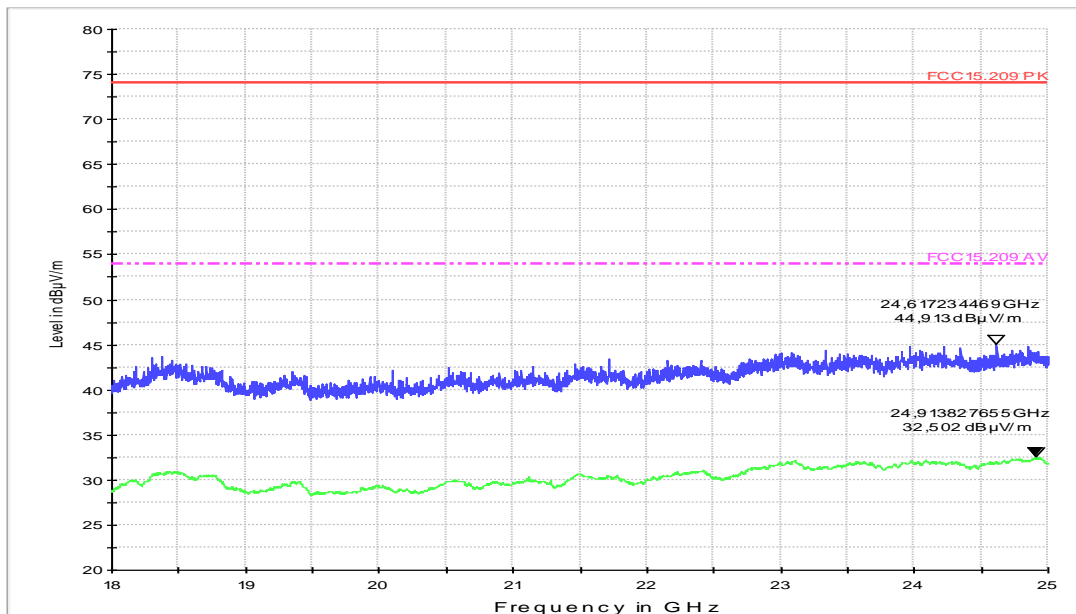
Test Description: Radiated field strength emission in 1m distance
 Test Site: CETECOM GmbH Essen
 Test specification.: FCC 15.209; RSS-Gen: Issue 3; RSS-210: Issue 8
 Antenna polarisation: horizontal/vertical

Operation mode: TX mode continuous
 2,4GHz WLAN / Ch7/ 1Mbps
 Operator Name: dpa

EUT Information

EUT Name: RFG81UW
 Manufacturer: RIM
 Serial Number: 004401139037002
 Hardware Rev: --
 Software Rev: --
 Comment: Sample 1, Rev 2, 17-Jul-12

EMI Sweep_18_25GHz_Preamp_On_Ref338_AntRef302_1m_dBuV



Sweep Setup: EMI

Sweep_18_25GHz_Preamp_On_Ref338_AntRef302_1m_dBuV [EMI radiated]

Hardware Setup: HW03_FSEM_15-26GHz_PreampRef336_dBuV_1m
 Receiver: [FSEM]
 Level Unit: dBµV/m

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
18 GHz - 19 GHz	2,004 MHz	PK+; RMS	1 MHz	1 s	dB
19 GHz - 20 GHz	2,004 MHz	PK+; RMS	1 MHz	1 s	dB
20 GHz - 21 GHz	2,004 MHz	PK+; RMS	1 MHz	1 s	dB
21 GHz - 22 GHz	2,004 MHz	PK+; RMS	1 MHz	1 s	dB
22 GHz - 23 GHz	2,004 MHz	PK+; RMS	1 MHz	1 s	dB
23 GHz - 24 GHz	2,004 MHz	PK+; RMS	1 MHz	1 s	dB
24 GHz - 25 GHz	2,004 MHz	PK+; RMS	1 MHz	1 s	dB

2.3. Channel 11 (b-Mode)

Diagram No. 8.04_Ch11_Sweep1

Test description:	06.06.2012 Page 1 of 2
Test site and distance:	Electric Field Strength Measurement
Distance correction:	Semi Anechoic Room (SAR) with 3 m measurement distance
Used filter:	not used
Technical Data:	not used
Test specification.:	please see page 2 for detailed data of measurement setup
	FCC 15.209; RSS-Gen: Issue 3; RSS-210: Issue 8
Operator:	Lor
Operating conditions:	WLAN b-Mode, 1Mbps, Ch11
Power during tests:	full loaded batteries
Comment 1:	--

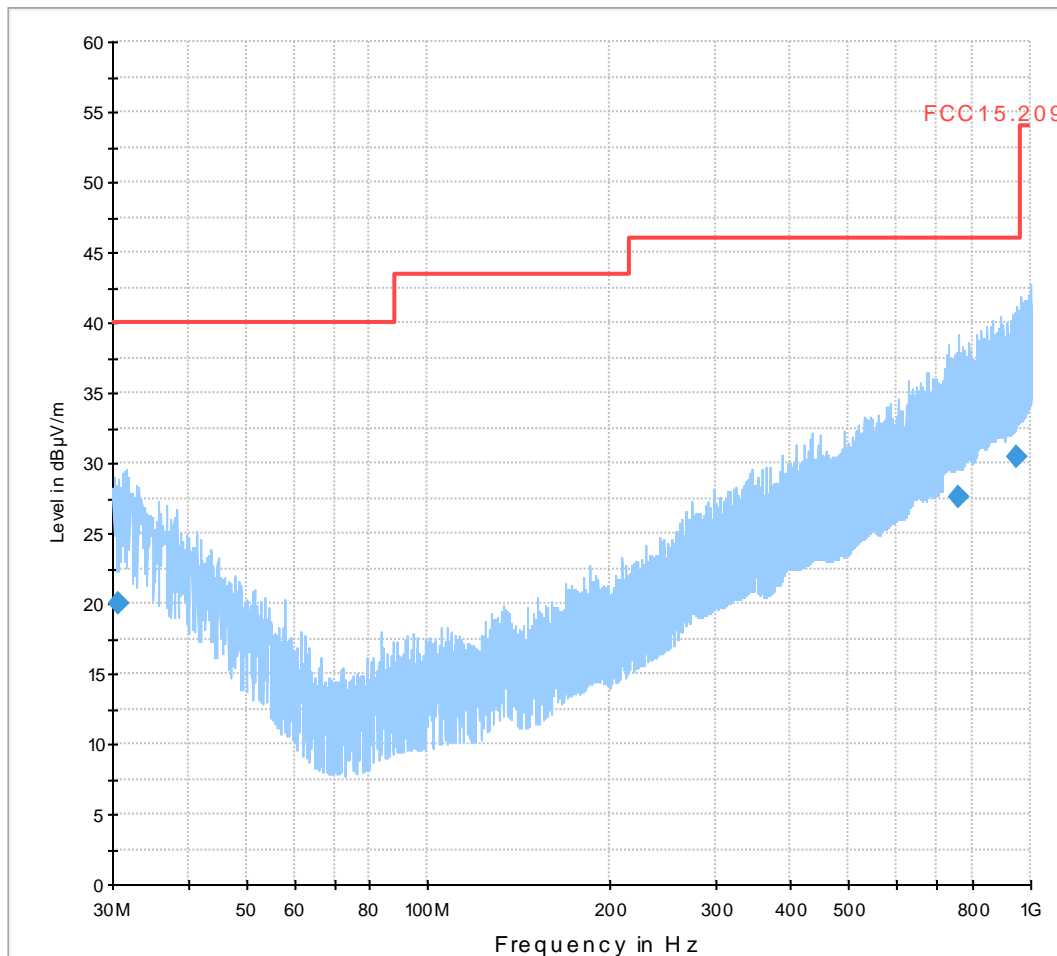
EUT Information

EUT Name:	RFG81UW
Manufacturer:	RIM
IMEI:	...757
Setup	Full battery

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Elevation (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
30.580000	20.0	1000.0	120.000	314.0	V	311.0	0.0	21.6	20.00	40.00
759.420000	27.6	1000.0	120.000	311.0	H	150.0	0.0	24.4	18.40	46.00
948.250000	30.4	1000.0	120.000	257.0	V	177.0	90.0	26.9	15.60	46.00

01_FCC15.209_hor+vert_kipp



Date: 06.06.2012 Page 1 of 2

Technical Data of measurement with EMC32 V8.51.1

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-30MHz-1GHz
 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.: 8.04_Ch1_Sweep2

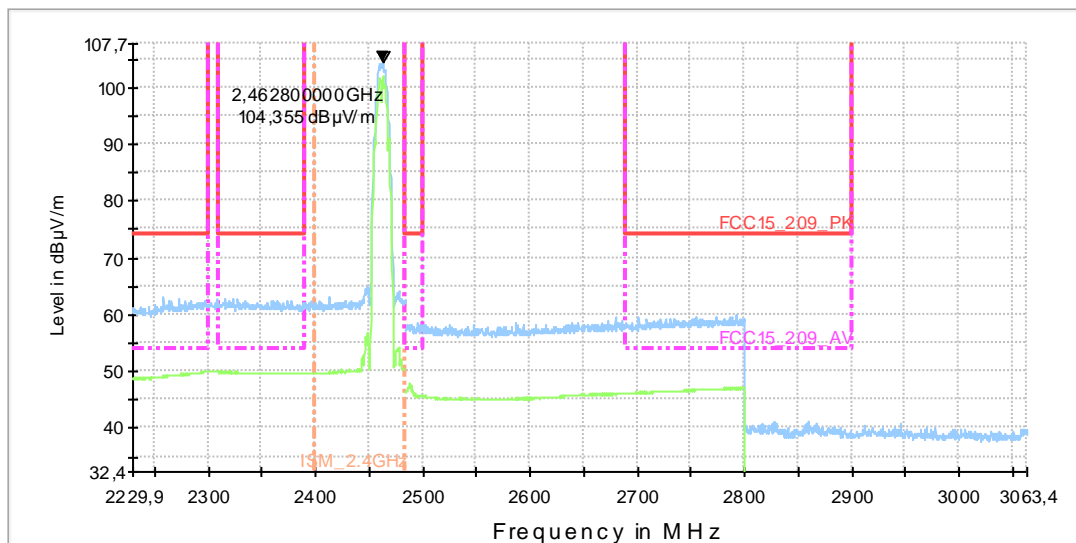
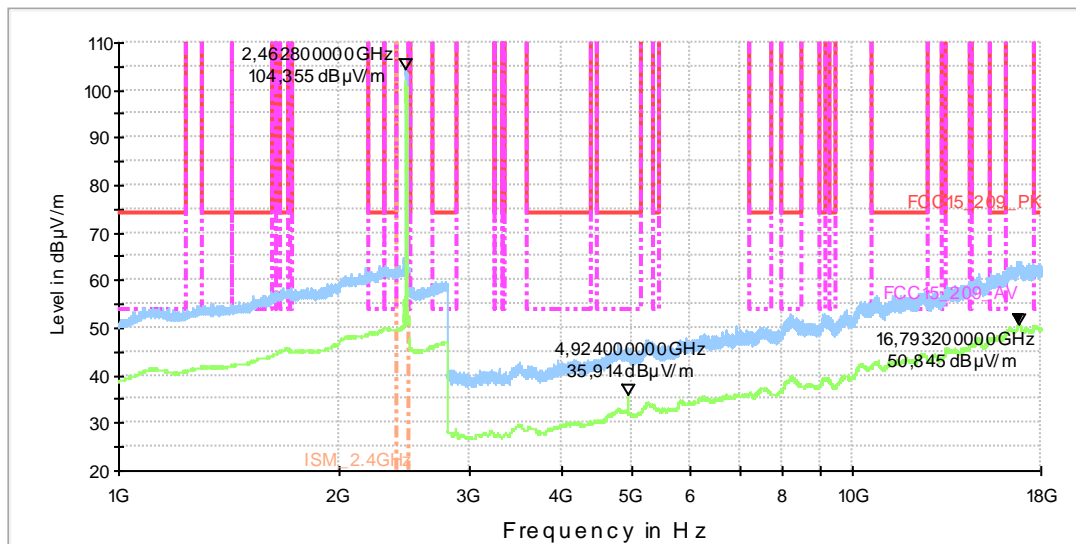
Common Information

Test Description: Radiated field strength emission accord. §15.247 in 3m distance
 Test Site: CETECOM GmbH Essen
 Test specification.: FCC 15.209; RSS-Gen: Issue 3; RSS-210: Issue 8
 Antenna polarisation: horizontal/vertical

Operator Name: OOu
 Comment: Channel no.11
 Op. Mode: WLAN, b-mode, 1Mbps

EUT Information

EUT Name: RFG81UW
 Manufacturer: RIM
 Serial Number: 004401138946757
 Hardware Rev: CPR 21957
 Add. Info: ASY-46297-001 Rev K
 SW Rev:
 Comment: used ORGA 3G Sim-card, full battery (type: BAT-47277-001), Smartphone



EMI Auto Test Template: 00431_SM1_KP1_WLAN_1_5ms

Hardware Setup: 00431_FCC_Part15_Unintentional_Radiator_1G-22G_dBuV_ESU
Measurement Type: E(I)RP
Frequency Range: 1 GHz - 18 GHz
Graphics Level Range: 20 dB μ V/m - 110 dB μ V/m

Preview Measurements:
Scan Test Template: Sweep_1_18GHz_Pre

Data Reduction:
Limit Line #1: FCC15_209_PK
Limit Line #2: FCC15_209_AV
Limit Line #3: ISM_2.4GHz
Peak Search: 6 dB , Maximum Results: 10
Subrange Maxima: 10 Subranges , Maxima per Subrange: 1
Maximum Number of Results: 20
After Data Reduction: Interactive data reduction

Frequency Zoom:
Zoom Scan Template: Sweep_1_18GHz_Zoom

Adjustment:
Template for Single Meas.: Sweep_1_18GHz_Zoom

Final Measurements:
Template for Single Meas.: Sweep_1_18GHz_final
Template for Single Meas.:(>1GHz) Sweep_1_18GHz_final

Report Settings:
Report Template: Report Setup FCC 15_247
Create Electronic Report: RTF PDF
Document Name: EMI Report

Actions:
Test start
Notify: "stelle passenden Kanal ein !"
Frequency Zoom 2: Before
Notify: "EUT sendet noch ?"

Diagram No. 8.04_Ch11_Sweep3

Common Information

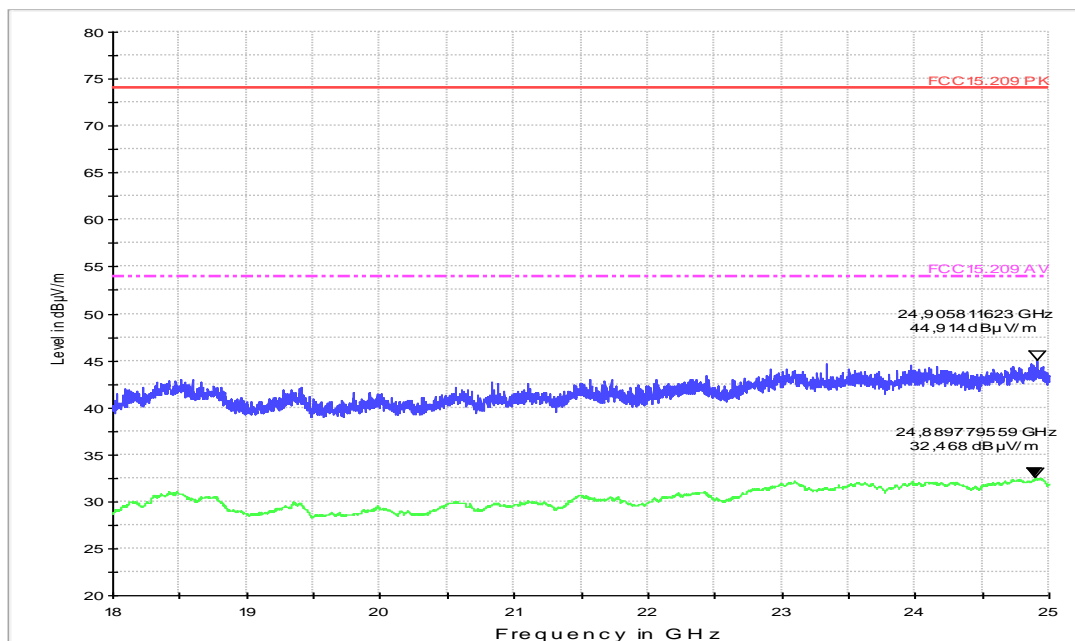
Test Description: Radiated field strength emission in 1m distance
 Test Site: CETECOM GmbH Essen
 Test specification.: FCC 15.209; RSS-Gen: Issue 3; RSS-210: Issue 8
 Antenna polarisation: horizontal/vertical

Operation mode: TX mode continuous
 2,4GHz WLAN / Ch11/ 1MBps
 Operator Name: dpa

EUT Information

EUT Name: RFG81UW
 Manufacturer: RIM
 Serial Number: 004401139037002
 Hardware Rev: --
 Software Rev: --
 Comment: Sample 1, Rev 2, 17-Jul-12

EMI Sweep_18_25GHz_Preamplifier_On_Ref338_AntRef302_1m_dBuV



Sweep Setup: EMI

Sweep_18_25GHz_Preamplifier_On_Ref338_AntRef302_1m_dBuV [EMI radiated]

Hardware Setup: HW03_FSEM_15-26GHz_PreamplifierRef336_dBuV_1m
 Receiver: [FSEM]
 Level Unit: dBµV/m

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamplifier
18 GHz - 19 GHz	2,004 MHz	PK+; RMS	1 MHz	1 s	dB
19 GHz - 20 GHz	2,004 MHz	PK+; RMS	1 MHz	1 s	dB
20 GHz - 21 GHz	2,004 MHz	PK+; RMS	1 MHz	1 s	dB
21 GHz - 22 GHz	2,004 MHz	PK+; RMS	1 MHz	1 s	dB
22 GHz - 23 GHz	2,004 MHz	PK+; RMS	1 MHz	1 s	dB
23 GHz - 24 GHz	2,004 MHz	PK+; RMS	1 MHz	1 s	dB
24 GHz - 25 GHz	2,004 MHz	PK+; RMS	1 MHz	1 s	dB

2.4. Channel 1 (g-Mode)

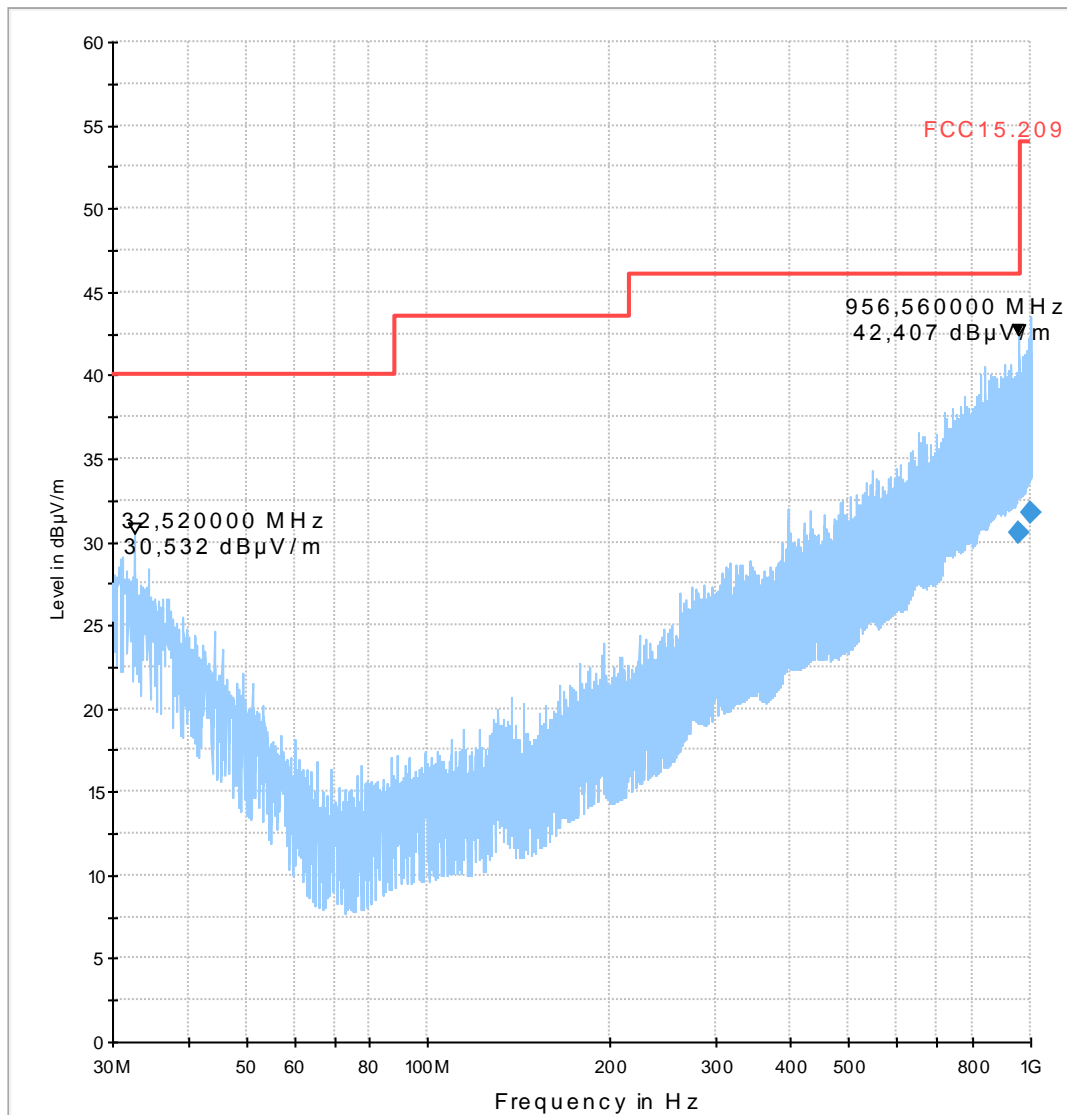
Diagram No. 8.05_Ch1_Sweep1

Test description:	08.06.2012 Page 1 of 2
Test site and distance:	Electric Field Strength Measurement
Distance correction:	Semi Anechoic Room (SAR) with 3 m measurement distance
Used filter:	not used
Technical Data:	not used
Test specification.:	please see page 2 for detailed data of measurement setup FCC 15.209; RSS-Gen: Issue 3; RSS-210: Issue 8
Operator:	dpa
Operating conditions:	WLAN g-Mode, 6Mbps, Ch1
Power during tests:	full loaded batteries
Comment 1:	Channel 1

EUT Information

EUT Name:	RFG81UW
Manufacturer:	RIM
IMEI:	...757
Setup	Full battery

01_FCC15.209_hor+vert_kipp



Date: 08.06.2012 Page 2 of 2

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Elevation (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
955.660000	30.5	1000.0	120.000	100.0	H	310.0	0.0	27.0	15.50	46.00
996.460000	31.8	1000.0	120.000	194.0	H	118.0	90.0	27.4	22.20	54.00

Technical Data of measurement with EMC32 V8.51.1

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-30MHz-1GHz
 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.: 8.05_Ch1_Sweep2

Common Information

Test Description: Radiated field strength emission accord. §15.247 in 3m distance
 Test Site: CETECOM GmbH Essen
 Test specification.: FCC 15.209; RSS-Gen: Issue 3; RSS-210: Issue 8
 Antenna polarisation: horizontal/vertical

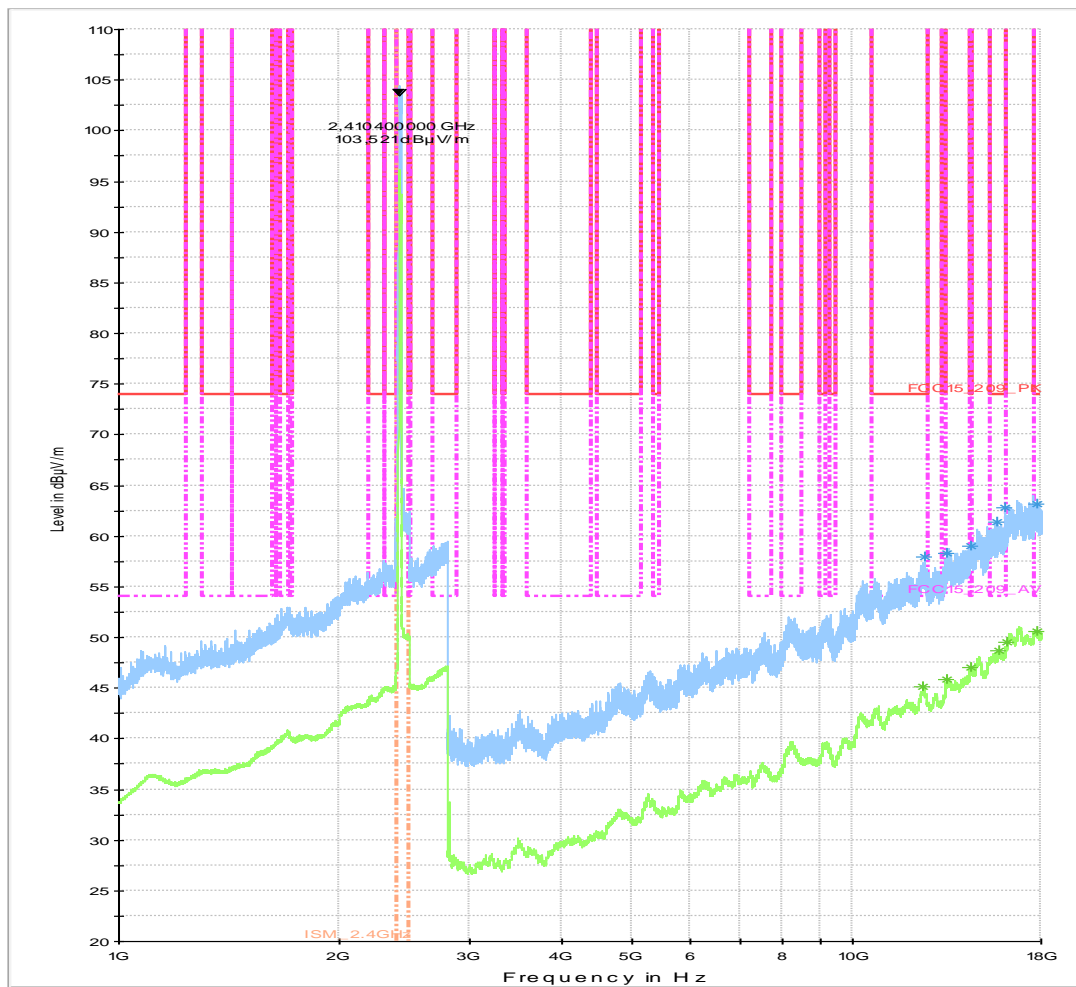
Operator Name: Lor
 Comment: Channel low (Ch=1/ 2412MHz)
 Op. Mode: WLAN, g-Mode, 6MBit

EUT Information

Manufacturer: Research In Motion Limited
 Type: GSM/WCDMA/LTE Mobile Terminal

EUT: RFG81UW
 EUT additional information: CER-48928-001 Rev2 17-Jul-12
 HW version: new
 SW version: tbd
 Serial number: 004401139037002
 Power Supply: full internal battery
 Comments: --

00431_SM1_KP1_WLAN_500us



EMI Auto Test Template: 00431_SM1_KP1_WLAN_500us

Hardware Setup: 00431_FCC_Part15_Unintentional_Radiator_1G-22G_dBuV_ESU
Measurement Type: E(I)RP
Frequency Range: 1 GHz - 18 GHz
Graphics Level Range: 20 dB μ V/m - 110 dB μ V/m

Preview Measurements:
Scan Test Template: Sweep_1_18GHz_Pre_500us

Data Reduction:
Limit Line #1: FCC15_209_PK
Limit Line #2: FCC15_209_AV
Limit Line #3: ISM_2.4GHz
Peak Search: 6 dB , Maximum Results: 10
Subrange Maxima: 50 Subranges , Maxima per Subrange: 1
Maximum Number of Results: 10
After Data Reduction: Interactive data reduction

Frequency Zoom:
Zoom Scan Template: Sweep_1_18GHz_Zoom

Adjustment:
Template for Single Meas.: Sweep_1_18GHz_Zoom

Final Measurements:
Template for Single Meas.: Sweep_1_18GHz_final
Template for Single Meas.:(>1GHz) Sweep_1_18GHz_final

Report Settings:
Report Template: Report Setup FCC 15_247
Create Electronic Report: RTF PDF
Document Name: EMI Report

Actions:
Test start
Notify: "stelle passenden Kanal ein !"
Frequency Zoom 2: Before
Notify: "EUT sendet noch ?"

Diagram No. 8.05_Ch1_Sweep3

Common Information

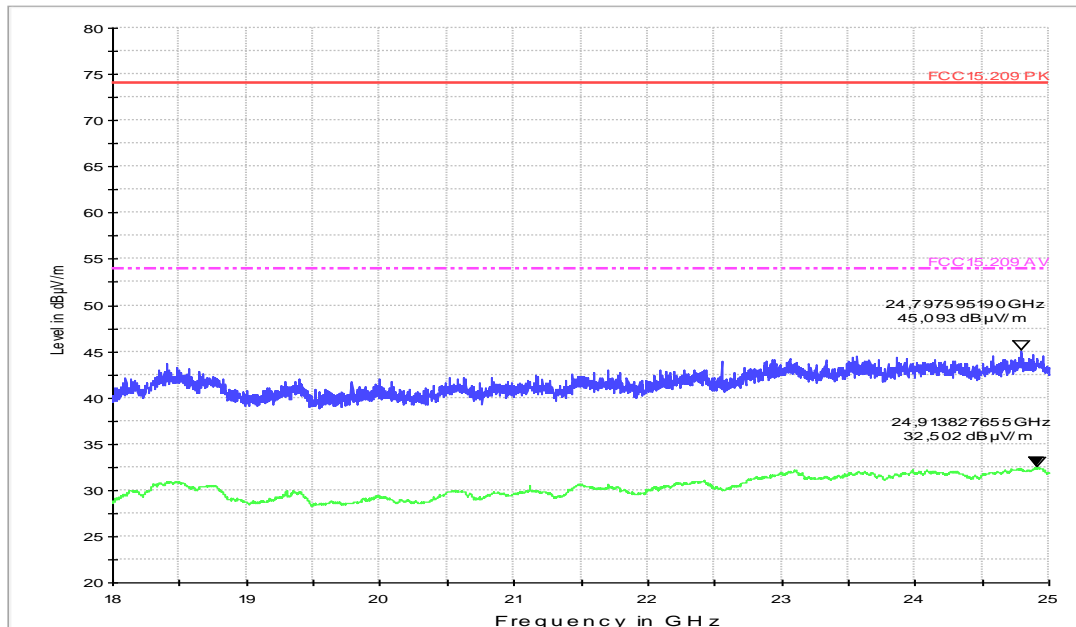
Test Description: Radiated field strength emission in 1m distance
 Test Site: CETECOM GmbH Essen
 Test specification.: FCC 15.209; RSS-Gen: Issue 3; RSS-210: Issue 8
 Antenna polarisation: horizontal/vertical

Operation mode: TX mode continuous
 2,4GHz WLAN / Ch1/ 6Mbps
 Operator Name: dpa

EUT Information

EUT Name: RFG81UW
 Manufacturer: RIM
 Serial Number: 004401139037002
 Hardware Rev: --
 Software Rev: --
 Comment: Sample 1, Rev 2, 17-Jul-12

EMI Sweep_18_25GHz_Preamp_On_Ref338_AntRef302_1m_dBuV



Sweep Setup: EMI

Sweep_18_25GHz_Preamp_On_Ref338_AntRef302_1m_dBuV [EMI radiated]

Hardware Setup: HW03_FSEM_15-26GHz_PreampRef336_dBuV_1m
 Receiver: [FSEM]
 Level Unit: dBµV/m

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
18 GHz - 19 GHz	2,004 MHz	PK+; RMS	1 MHz	1 s	dB
19 GHz - 20 GHz	2,004 MHz	PK+; RMS	1 MHz	1 s	dB
20 GHz - 21 GHz	2,004 MHz	PK+; RMS	1 MHz	1 s	dB
21 GHz - 22 GHz	2,004 MHz	PK+; RMS	1 MHz	1 s	dB
22 GHz - 23 GHz	2,004 MHz	PK+; RMS	1 MHz	1 s	dB
23 GHz - 24 GHz	2,004 MHz	PK+; RMS	1 MHz	1 s	dB
24 GHz - 25 GHz	2,004 MHz	PK+; RMS	1 MHz	1 s	dB

2.5. Channel 7 (g-Mode)

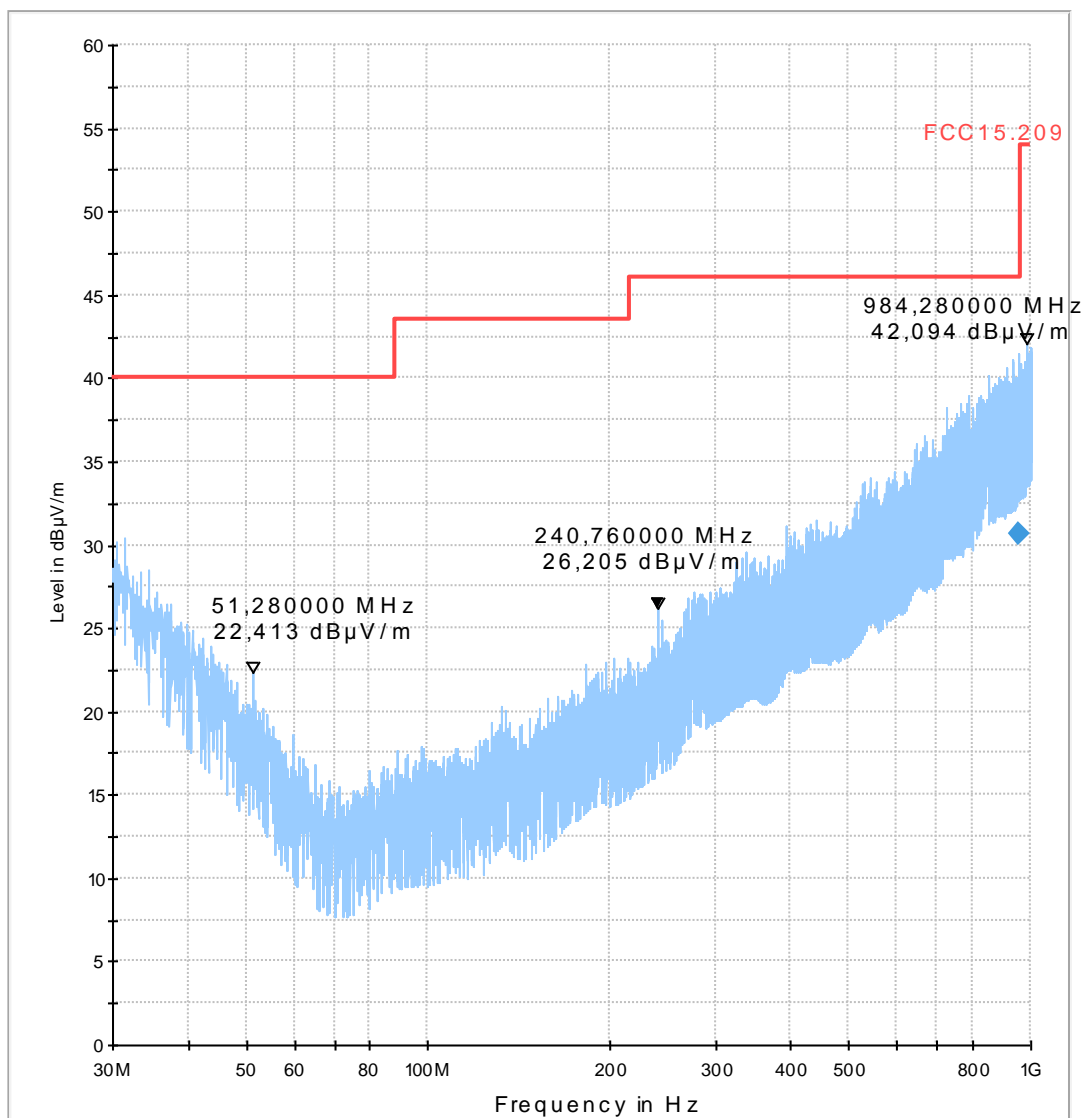
Diagram No. 8.05_Ch7_Sweep1

Test description:	08.06.2012 Page 1 of 2
Test site and distance:	Electric Fieldstrength Measurement
Distance correction:	Semi Anechoic Room (SAR) with 3 m measurement distance
Used filter:	not used
Technical Data:	please see page 2 for detailed data of measurement setup
Test specification.:	FCC 15.209; RSS-Gen: Issue 3; RSS-210: Issue 8
Operator:	dpa
Operating conditions:	WLAN g-Mode, 6Mbps, Ch7
Power during tests:	full loaded batteries
Comment 1:	Channel 7

EUT Information

EUT Name:	RFG81UW
Manufacturer:	RIM
IMEI:	...757
Setup	Full battery

01_FCC15.209_hor+vert_kipp



Date: 08.06.2012 Page 2 of 2

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Elevation (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
957.310000	30.6	1000.0	120.000	314.0	V	130.0	0.0	27.0	15.40	46.00

Technical Data of measurement with EMC32 V8.51.1

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-30MHz-1GHz
 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.: 8.05_Ch7_Sweep2

Common Information

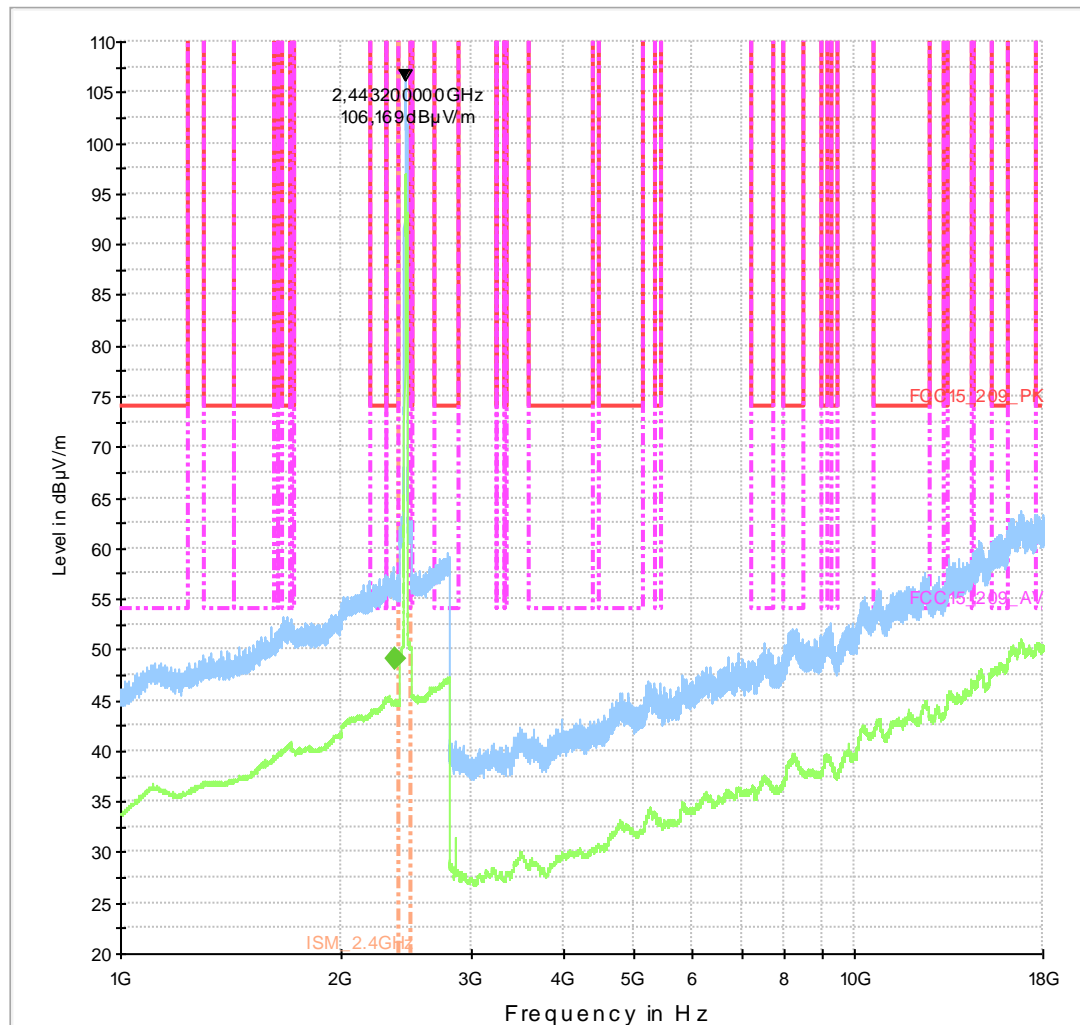
Test Description:	Radiated field strength emission accord. §15.247 in 3m distance
Test Site:	CETECOM GmbH Essen
Test specification.:	FCC 15.209; RSS-Gen: Issue 3; RSS-210: Issue 8
Antenna polarisation:	horizontal/vertical
Operator Name:	Lor
Comment:	Channel middle (Ch7)
Op. Mode:	WLAN, g-Mode, 6MBit

EUT Information

Manufacturer:	Research In Motion Limited
Type:	GSM/WCDMA/LTE Mobile Terminal

EUT:	RFG81UW
EUT additional information:	CER-48928-001 Rev2 17-Jul-12
HW version:	new
SW version:	tbd
Serial number:	004401139037002
Power Supply:	full internal battery
Comments:	--

00431_SM1_KP1_WLAN_500us



EMI Auto Test Template: 00431_SM1_KP1_WLAN_500us

Hardware Setup: 00431_FCC_Part15_Unintentional_Radiator_1G-22G_dBuV_ESU
Measurement Type: E(I)RP
Frequency Range: 1 GHz - 18 GHz
Graphics Level Range: 20 dB μ V/m - 110 dB μ V/m

Preview Measurements:
Scan Test Template: Sweep_1_18GHz_Pre_500us

Data Reduction:
Limit Line #1: FCC15_209_PK
Limit Line #2: FCC15_209_AV
Limit Line #3: ISM_2.4GHz
Peak Search: 6 dB , Maximum Results: 10
Subrange Maxima: 50 Subranges , Maxima per Subrange: 1
Maximum Number of Results: 10
After Data Reduction: Interactive data reduction

Frequency Zoom:
Zoom Scan Template: Sweep_1_18GHz_Zoom

Adjustment:
Template for Single Meas.: Sweep_1_18GHz_Zoom

Final Measurements:
Template for Single Meas.: Sweep_1_18GHz_final
Template for Single Meas.:(>1GHz) Sweep_1_18GHz_final

Report Settings:
Report Template: Report Setup FCC 15_247
Create Electronic Report: RTF PDF
Document Name: EMI Report

Actions:
Test start
Notify: "stelle passenden Kanal ein !"
Frequency Zoom 2: Before
Notify: "EUT sendet noch ?"

Diagram No. 8.05_Ch7_Sweep3

Common Information

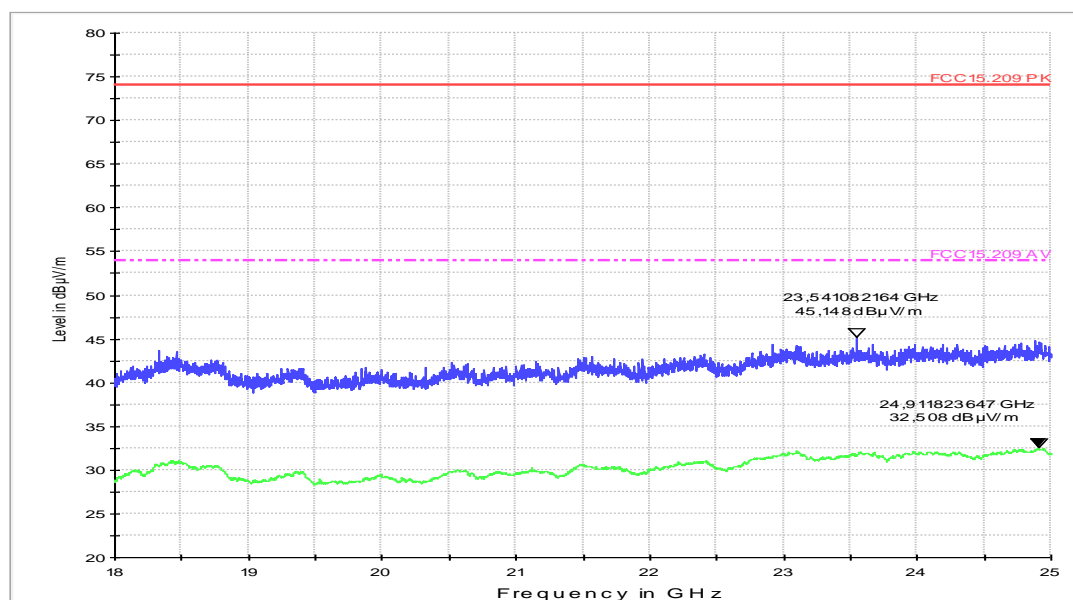
Test Description: Radiated field strength emission in 1m distance
 Test Site: CETECOM GmbH Essen
 Test specification.: FCC 15.209; RSS-Gen: Issue 3; RSS-210: Issue 8
 Antenna polarisation: horizontal/vertical

Operation mode: TX mode continuous
 2,4GHz WLAN / Ch7/ 6Mbps
 Operator Name: dpa

EUT Information

EUT Name: RFG81UW
 Manufacturer: RIM
 Serial Number: 004401139037002
 Hardware Rev: --
 Software Rev: --
 Comment: Sample 1, Rev 2, 17-Jul-12

EMI Sweep_18_25GHz_Preamp_On_Ref338_AntRef302_1m_dBuV



Sweep Setup: EMI

Sweep_18_25GHz_Preamp_On_Ref338_AntRef302_1m_dBuV [EMI radiated]

Hardware Setup: HW03_FSEM_15-26GHz_PreampRef336_dBuV_1m
 Receiver: [FSEM]
 Level Unit: dBµV/m

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
18 GHz - 19 GHz	2,004 MHz	PK+; RMS	1 MHz	1 s	dB
19 GHz - 20 GHz	2,004 MHz	PK+; RMS	1 MHz	1 s	dB
20 GHz - 21 GHz	2,004 MHz	PK+; RMS	1 MHz	1 s	dB
21 GHz - 22 GHz	2,004 MHz	PK+; RMS	1 MHz	1 s	dB
22 GHz - 23 GHz	2,004 MHz	PK+; RMS	1 MHz	1 s	dB
23 GHz - 24 GHz	2,004 MHz	PK+; RMS	1 MHz	1 s	dB
24 GHz - 25 GHz	2,004 MHz	PK+; RMS	1 MHz	1 s	dB

2.6. Channel 11 (g-Mode)

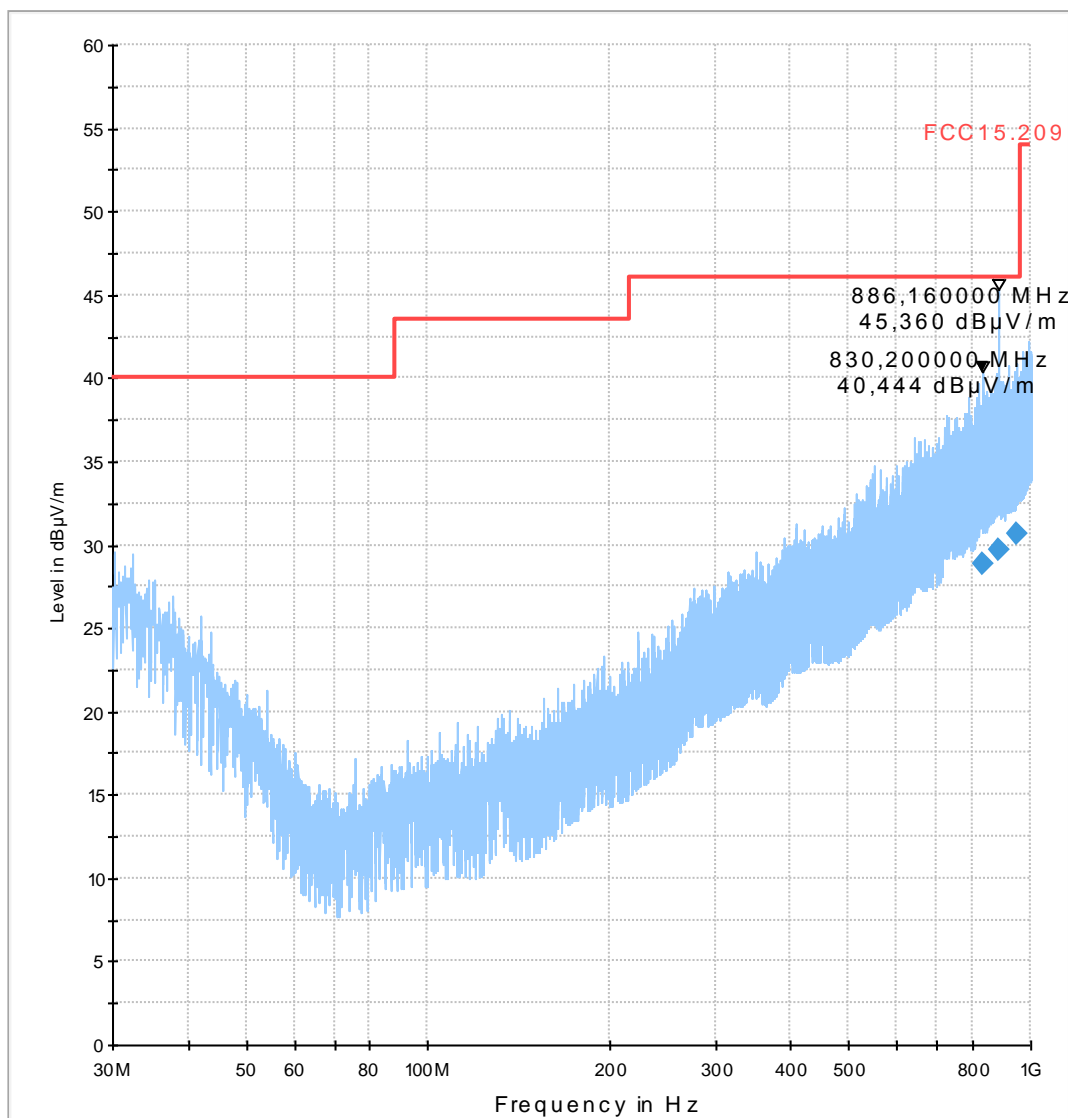
Diagram No. 8.05_Ch11_Sweep1

Test description:	08.06.2012 Page 1 of 2
Test site and distance:	Electric Field Strength Measurement
Distance correction:	Semi Anechoic Room (SAR) with 3 m measurement distance
Used filter:	not used
Technical Data:	not used
Test specification.:	please see page 2 for detailed data of measurement setup FCC 15.209; RSS-Gen: Issue 3; RSS-210: Issue 8
Operator:	dpa
Operating conditions:	WLAN g-Mode, 6Mbps, Ch11
Power during tests:	full loaded batteries
Comment 1:	Channel 11

EUT Information

EUT Name:	RFG81UW
Manufacturer:	RIM
IMEI:	...757
Setup	Full battery

01_FCC15.209_hor+vert_kipp



Date: 08.06.2012 Page 2 of 2

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Elevation (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
831.140000	28.9	1000.0	120.000	220.0	H	316.0	90.0	25.4	17.10	46.00
...

Technical Data of measurement with EMC32 V8.51.1

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-30MHz-1GHz
 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.: 8.05_Ch11_Sweep2

Common Information

Test Description:	Radiated field strength emission accord. §15.247 in 3m distance
Test Site:	CETECOM GmbH Essen
Test specification.:	FCC 15.209; RSS-Gen: Issue 3; RSS-210: Issue 8
Antenna polarisation:	horizontal/vertical

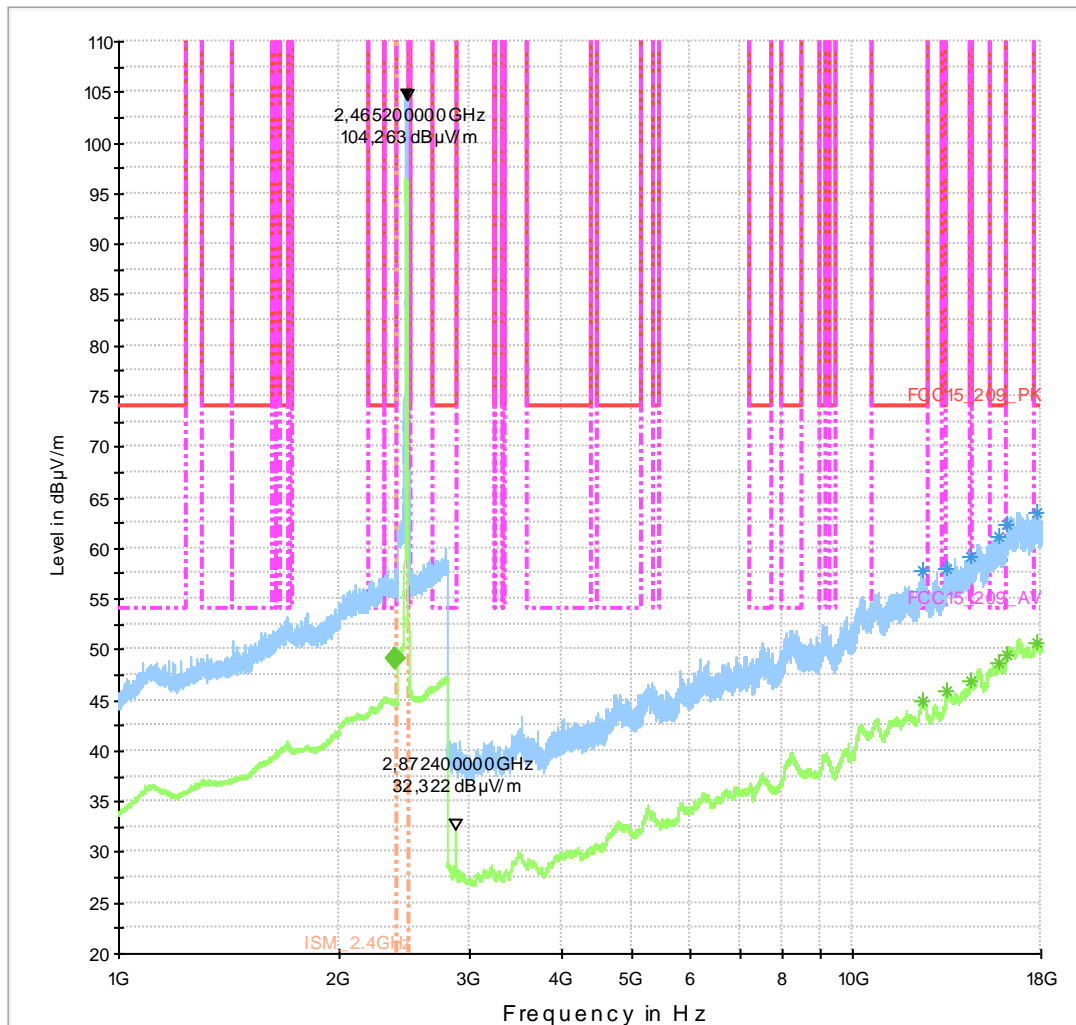
Operator Name:	Lor
Comment:	Channel 11 / 2462MHz
Op. Mode:	WLAN, g-Mode, 6MBit

EUT Information

Manufacturer:	Research In Motion Limited
Type:	GSM/WCDMA/LTE Mobile Terminal

EUT:	RFG81UW
EUT additional information:	CER-48928-001 Rev2 17-Jul-12
HW version:	new
SW version:	tbd
Serial number:	004401139037002
Power Supply:	full internal battery
Comments:	--

00431_SM1_KP1_WLAN_500us



EMI Auto Test Template: 00431_SM1_KP1_WLAN_500us

Hardware Setup: 00431_FCC_Part15_Unintentional_Radiator_1G-22G_dBuV_ESU
 Measurement Type: E(I)RP
 Frequency Range: 1 GHz - 18 GHz
 Graphics Level Range: 20 dB μ V/m - 110 dB μ V/m

Preview Measurements:
 Scan Test Template: Sweep_1_18GHz_Pre_500us

Data Reduction:
 Limit Line #1: FCC15_209_PK
 Limit Line #2: FCC15_209_AV
 Limit Line #3: ISM_2.4GHz
 Peak Search: 6 dB , Maximum Results: 10
 Subrange Maxima: 50 Subranges , Maxima per Subrange: 1
 Maximum Number of Results: 10
 After Data Reduction: Interactive data reduction

Frequency Zoom:
 Zoom Scan Template: Sweep_1_18GHz_Zoom

Adjustment:
 Template for Single Meas.: Sweep_1_18GHz_Zoom

Final Measurements:
 Template for Single Meas.: Sweep_1_18GHz_final
 Template for Single Meas.:(>1GHz) Sweep_1_18GHz_final

Report Settings:
 Report Template: Report Setup FCC 15_247
 Create Electronic Report: RTF PDF
 Document Name: EMI Report

Actions:
 Test start
 Notify: "stelle passenden Kanal ein !"
 Frequency Zoom 2: Before
 Notify: "EUT sendet noch ?"

Diagram No. 8.05_Ch11_Sweep3

Common Information

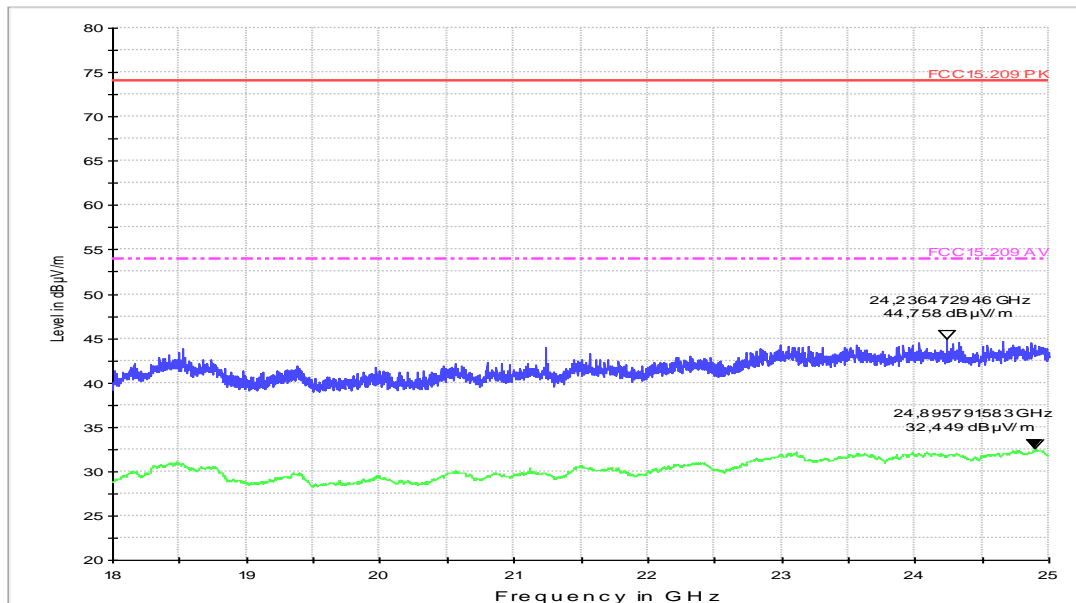
Test Description: Radiated field strength emission in 1m distance
 Test Site: CETECOM GmbH Essen
 Test specification.: FCC 15.209; RSS-Gen: Issue 3; RSS-210: Issue 8
 Antenna polarisation: horizontal/vertical

Operation mode: TX mode continuous
 2,4GHz WLAN / Ch11/ 6MBps
 Operator Name: dpa

EUT Information

EUT Name: RFG81UW
 Manufacturer: RIM
 Serial Number: 004401139037002
 Hardware Rev: --
 Software Rev: --
 Comment: Sample 1, Rev 2, 17-Jul-12

EMI Sweep_18_25GHz_Preamp_On_Ref338_AntRef302_1m_dBuV



Sweep Setup: EMI

Sweep_18_25GHz_Preamp_On_Ref338_AntRef302_1m_dBuV [EMI radiated]

Hardware Setup: HW03_FSEM_15-26GHz_PreampRef336_dBuV_1m
 Receiver: [FSEM]
 Level Unit: dBµV/m

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
18 GHz - 19 GHz	2,004 MHz	PK+; RMS	1 MHz	1 s	dB
19 GHz - 20 GHz	2,004 MHz	PK+; RMS	1 MHz	1 s	dB
20 GHz - 21 GHz	2,004 MHz	PK+; RMS	1 MHz	1 s	dB
21 GHz - 22 GHz	2,004 MHz	PK+; RMS	1 MHz	1 s	dB
22 GHz - 23 GHz	2,004 MHz	PK+; RMS	1 MHz	1 s	dB
23 GHz - 24 GHz	2,004 MHz	PK+; RMS	1 MHz	1 s	dB
24 GHz - 25 GHz	2,004 MHz	PK+; RMS	1 MHz	1 s	dB

2.7. Channel 1 (n-Mode)

Diagram No. 8.06_Ch1_Sweep1

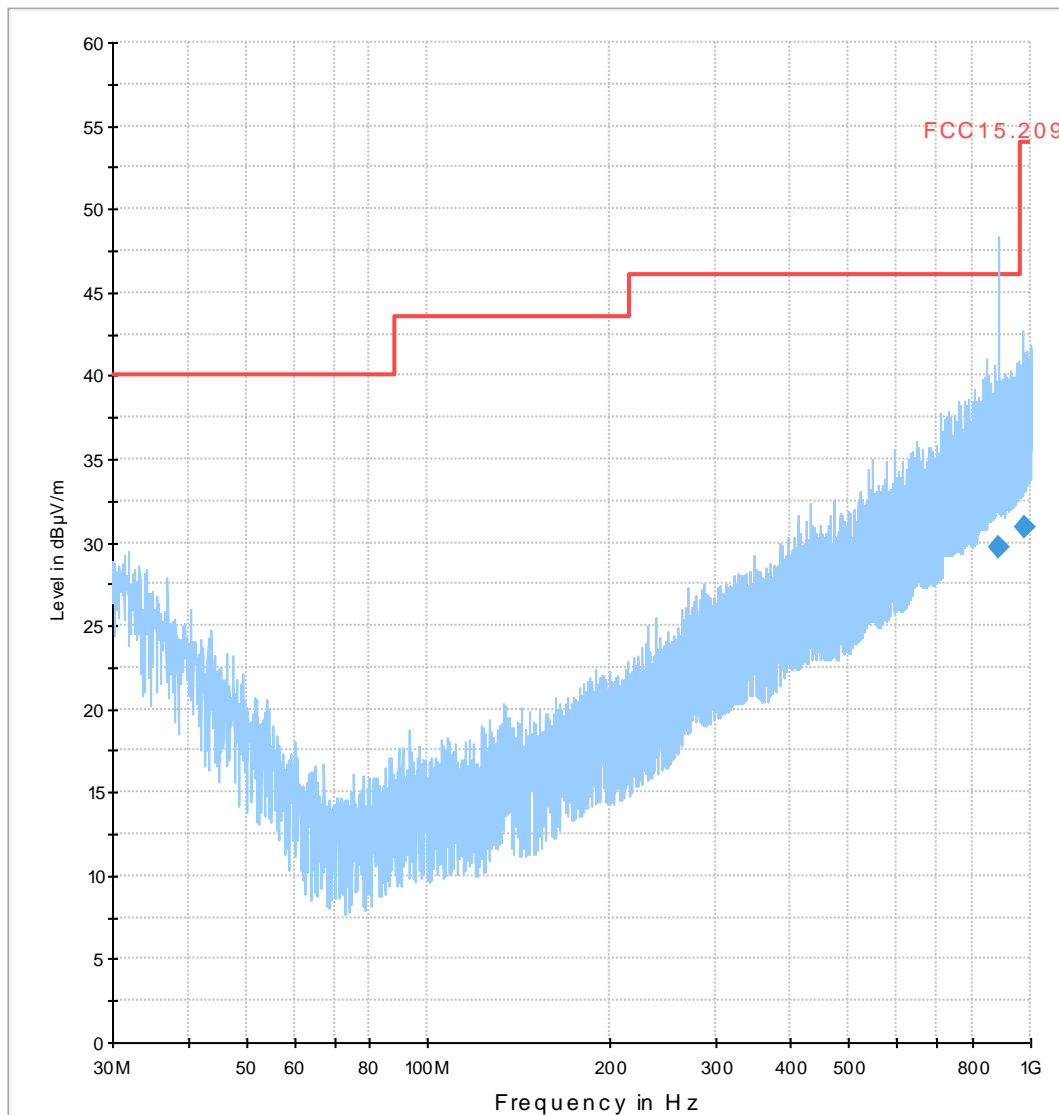
Test description: 08.06.2012 Page 1 of 2
Test site and distance: Electric Field Strength Measurement
Distance correction: Semi Anechoic Room (SAR) with 3 m measurement distance
Used filter: not used
Technical Data: please see page 2 for detailed data of measurement setup
Test specification.: FCC 15.209; RSS-Gen: Issue 3; RSS-210: Issue 8

Operator: OOu
Operating conditions: WLAN n-Mode, MCS0, Ch1
Power during tests: full loaded batteries
Comment 1: Channel 1

EUT Information

EUT Name: RFG81UW
Manufacturer: RIM
IMEI: ...757
Setup: Full battery

01_FCC15.209_hor+vert_kipp



Date: 08.06.2012 Page 2 of 2

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Elevation (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
885.860000	29.7	1000.0	120.000	269.0	V	0.0	90.0	26.3	16.30	46.00
...

Technical Data of measurement with EMC32 V8.51.1

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-30MHz-1GHz
 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.: 8.06_Ch1_Sweep2

Common Information

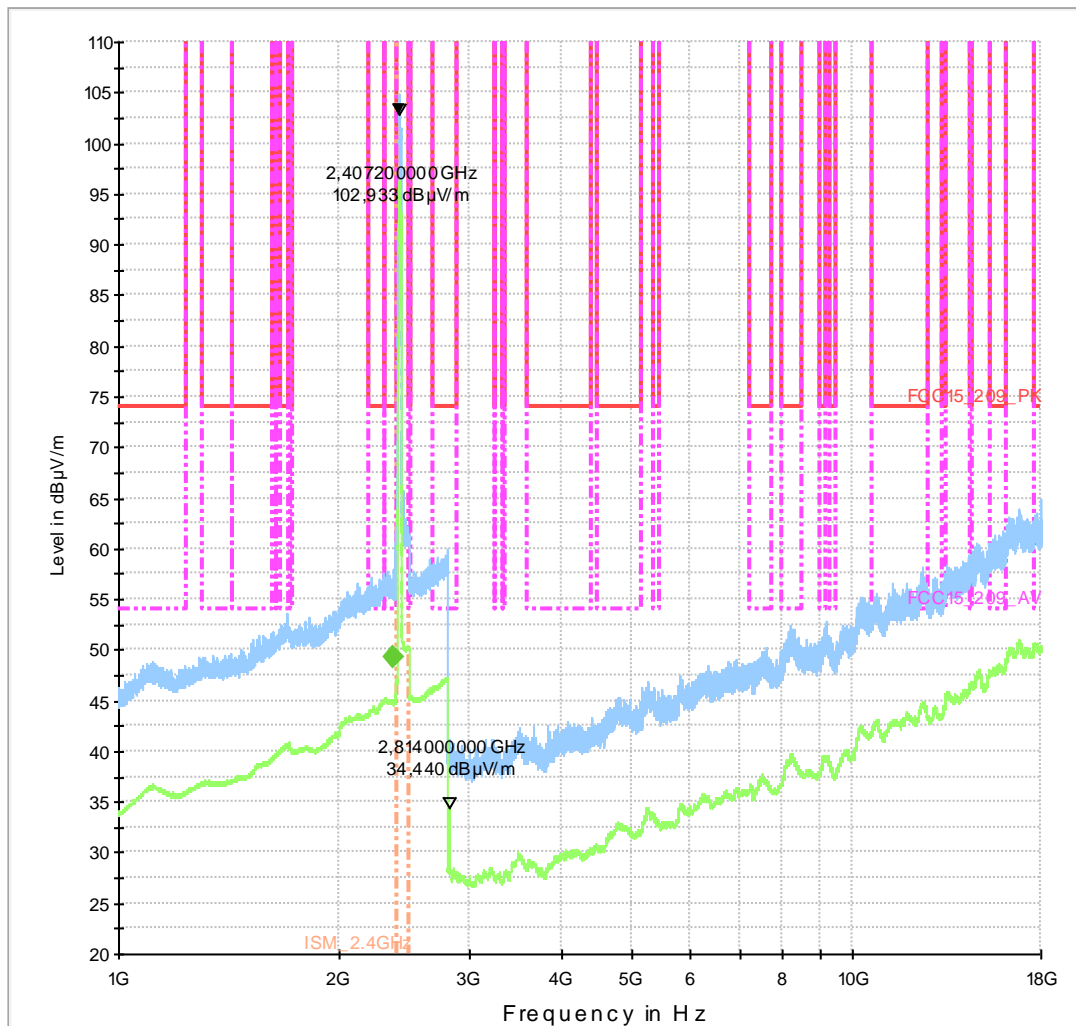
Test Description:	Radiated field strength emission accord. §15.247 in 3m distance
Test Site:	CETECOM GmbH Essen
Test specification.:	FCC 15.209; RSS-Gen: Issue 3; RSS-210: Issue 8
Antenna polarisation:	horizontal/vertical
Operator Name:	Lor
Comment:	Channel 1 / 2412 MHz
Op. Mode:	WLAN, n-Mode, MCS0

EUT Information

Manufacturer:	Research In Motion Limited
Type:	GSM/WCDMA/LTE Mobile Terminal

EUT:	RFG81UW
EUT additional information:	CER-48928-001 Rev2 17-Jul-12
HW version:	new
SW version:	tbd
Serial number:	004401139037002
Power Supply:	full internal battery
Comments:	--

00431_SM1_KP1_WLAN_500us



EMI Auto Test Template: 00431_SM1_KP1_WLAN_500us

Hardware Setup: 00431_FCC_Part15_Unintentional_Radiator_1G-22G_dBuV_ESU
Measurement Type: E(I)RP
Frequency Range: 1 GHz - 18 GHz
Graphics Level Range: 20 dB μ V/m - 110 dB μ V/m

Preview Measurements:
Scan Test Template: Sweep_1_18GHz_Pre_500us

Data Reduction:
Limit Line #1: FCC15_209_PK
Limit Line #2: FCC15_209_AV
Limit Line #3: ISM_2.4GHz
Peak Search: 6 dB , Maximum Results: 10
Subrange Maxima: 50 Subranges , Maxima per Subrange: 1
Maximum Number of Results: 10
After Data Reduction: Interactive data reduction

Frequency Zoom:
Zoom Scan Template: Sweep_1_18GHz_Zoom

Adjustment:
Template for Single Meas.: Sweep_1_18GHz_Zoom

Final Measurements:
Template for Single Meas.: Sweep_1_18GHz_final
Template for Single Meas.:(>1GHz) Sweep_1_18GHz_final

Report Settings:
Report Template: Report Setup FCC 15_247
Create Electronic Report: RTF PDF
Document Name: EMI Report

Actions:
Test start
Notify: "stelle passenden Kanal ein !"
Frequency Zoom 2: Before
Notify: "EUT sendet noch ?"

Diagram No. 8.06_Ch1_Sweep3

Common Information

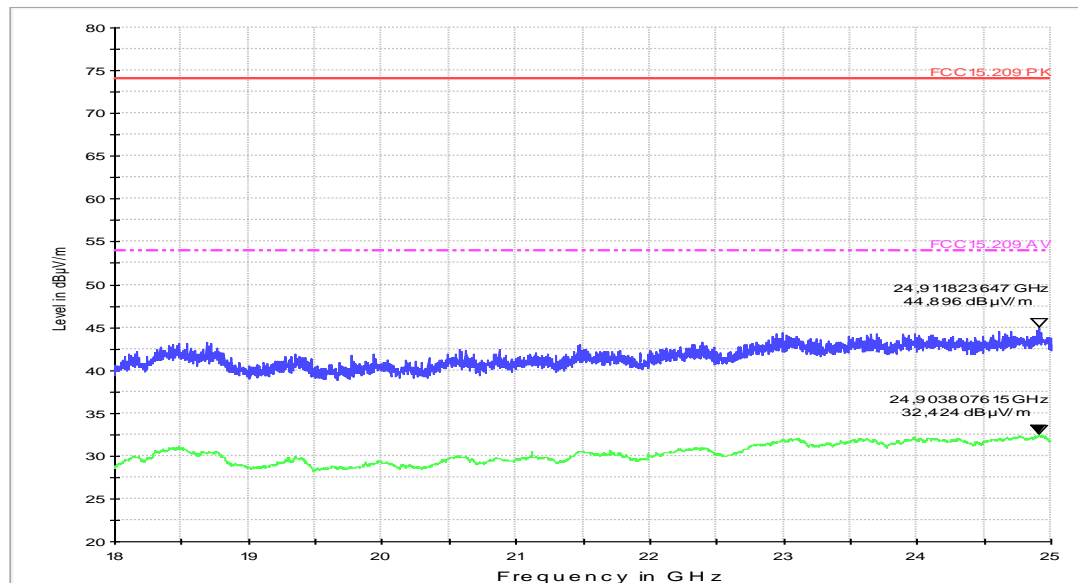
Test Description: Radiated field strength emission in 1m distance
 Test Site: CETECOM GmbH Essen
 Test specification.: FCC 15.209; RSS-Gen: Issue 3; RSS-210: Issue 8
 Antenna polarisation: horizontal/vertical

Operation mode: TX mode continuous
 2,4GHz WLAN / Ch1/ MCS0
 Operator Name: dpa

EUT Information

EUT Name: RFG81UW
 Manufacturer: RIM
 Serial Number: 004401139037002
 Hardware Rev: --
 Software Rev: --
 Comment: Sample 1, Rev 2, 17-Jul-12

EMI Sweep_18_25GHz_Preamp_On_Ref338_AntRef302_1m_dBuV



Sweep Setup: EMI

Sweep_18_25GHz_Preamp_On_Ref338_AntRef302_1m_dBuV [EMI radiated]

Hardware Setup: HW03_FSEM_15-26GHz_PreampRef336_dBuV_1m
 Receiver: [FSEM]
 Level Unit: dBµV/m

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
18 GHz - 19 GHz	2,004 MHz	PK+; RMS	1 MHz	1 s	dB
19 GHz - 20 GHz	2,004 MHz	PK+; RMS	1 MHz	1 s	dB
20 GHz - 21 GHz	2,004 MHz	PK+; RMS	1 MHz	1 s	dB
21 GHz - 22 GHz	2,004 MHz	PK+; RMS	1 MHz	1 s	dB
22 GHz - 23 GHz	2,004 MHz	PK+; RMS	1 MHz	1 s	dB
23 GHz - 24 GHz	2,004 MHz	PK+; RMS	1 MHz	1 s	dB
24 GHz - 25 GHz	2,004 MHz	PK+; RMS	1 MHz	1 s	dB

2.8. Channel 7 (n-Mode)

Diagram No. 8.06_Ch7_Sweep1

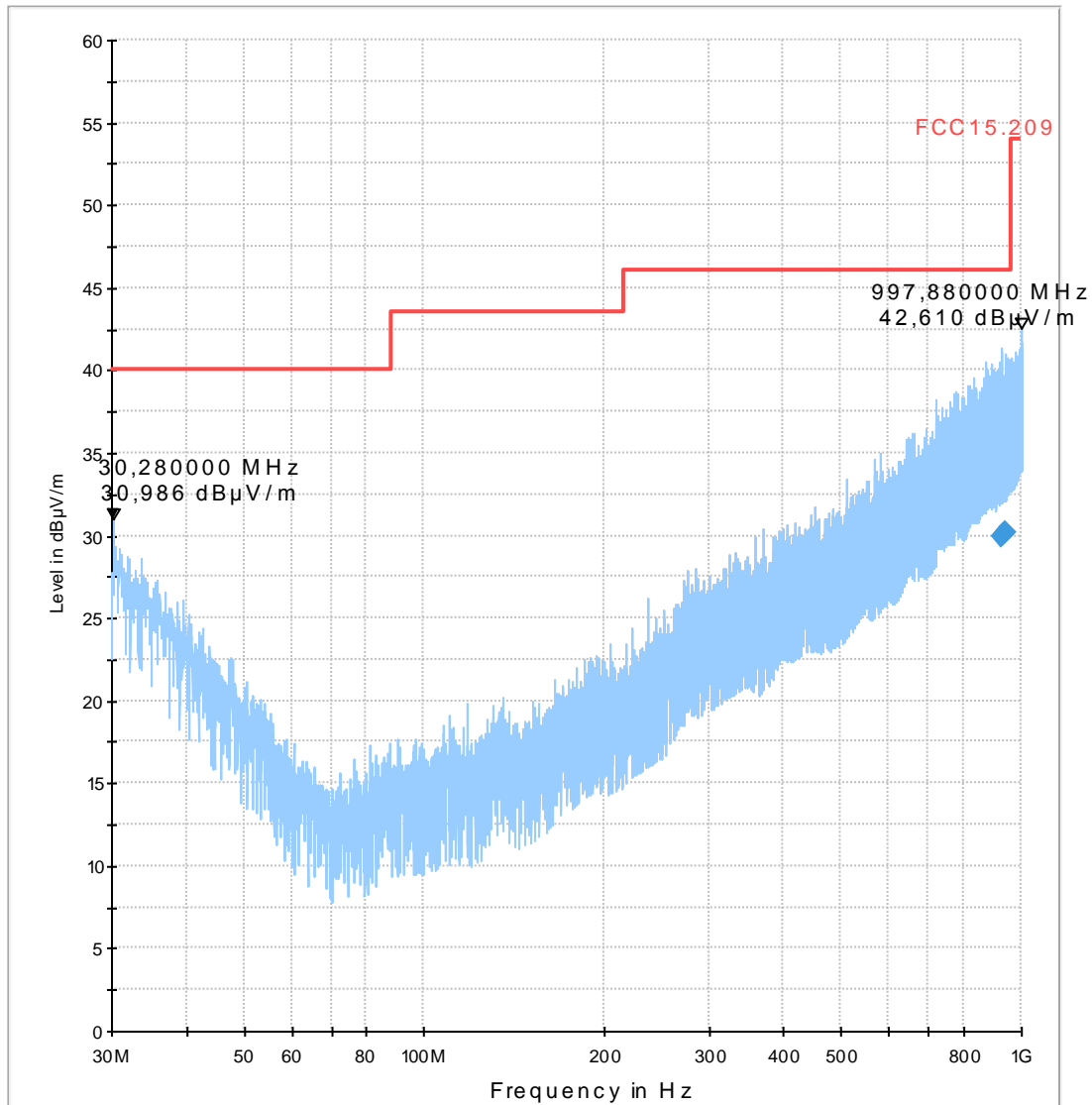
Test description:	08.06.2012 Page 1 of 2
Test site and distance:	Electric Field Strength Measurement
Distance correction:	Semi Anechoic Room (SAR) with 3 m measurement distance
Used filter:	not used
Technical Data:	please see page 2 for detailed data of measurement setup
Test specification.:	FCC 15.209; RSS-Gen: Issue 3; RSS-210: Issue 8

Operator:	OOu
Operating conditions:	WLAN n-Mode, MCS0, Ch7
Power during tests:	full loaded batteries
Comment 1:	Channel 7

EUT Information

EUT Name:	RFG81UW
Manufacturer:	RIM
IMEI:	...757
Setup	Full battery

01_FCC15.209_hor+vert_kipp



Date: 08.06.2012 Page 2 of 2

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Elevation (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
924.980000	29.9	1000.0	120.000	129.0	H	170.0	90.0	26.5	16.10	46.00
...

Technical Data of measurement with EMC32 V8.51.1

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-30MHz-1GHz
 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.: 8.06_Ch7_Sweep2

Common Information

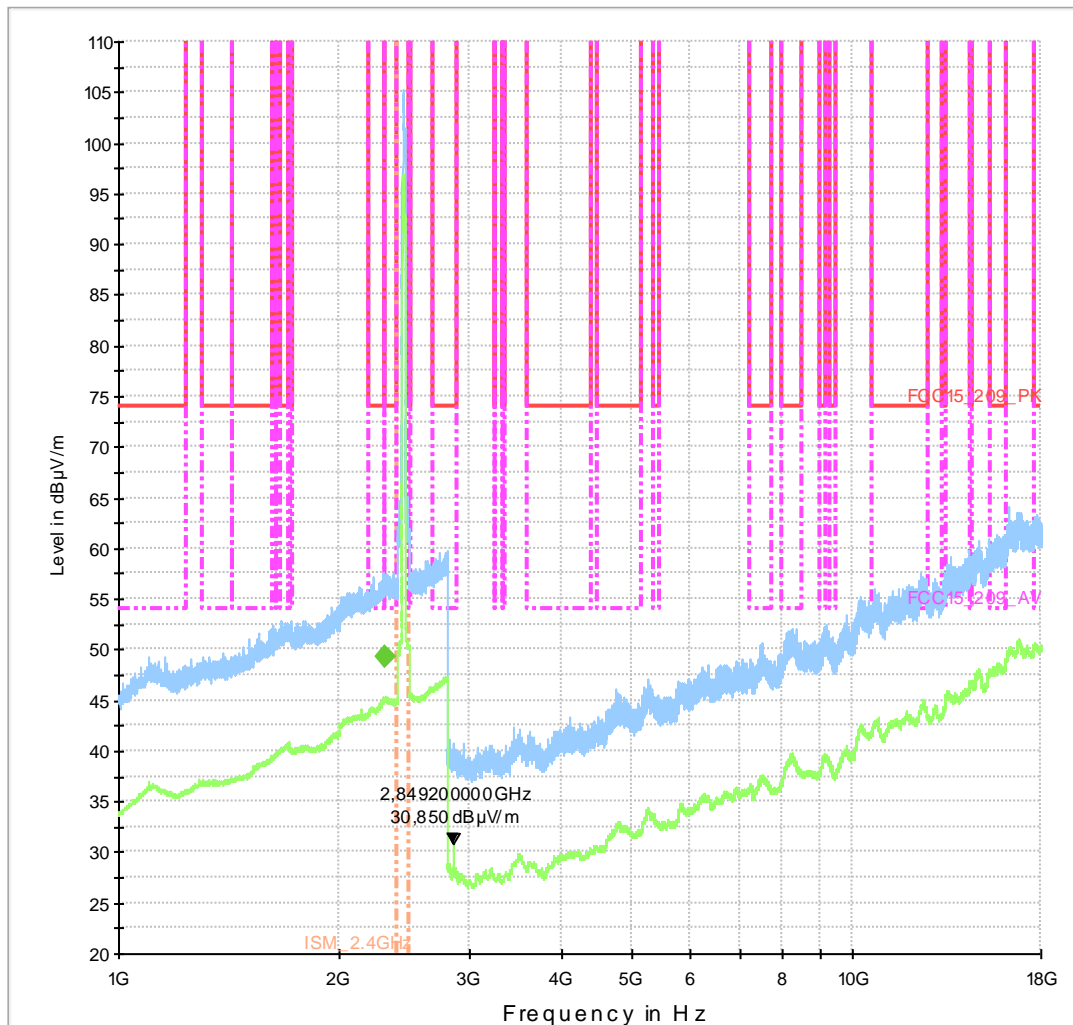
Test Description:	Radiated field strength emission accord. §15.247 in 3m distance
Test Site:	CETECOM GmbH Essen
Test specification.:	FCC 15.209; RSS-Gen: Issue 3; RSS-210: Issue 8
Antenna polarisation:	horizontal/vertical
Operator Name:	Lor
Comment:	Channel 7
Op. Mode:	WLAN, n-Mode, MCS0

EUT Information

Manufacturer:	Research In Motion Limited
Type:	GSM/WCDMA/LTE Mobile Terminal

EUT:	RFG81UW
EUT additional information:	CER-48928-001 Rev2 17-Jul-12
HW version:	new
SW version:	tbd
Serial number:	004401139037002
Power Supply:	full internal battery
Comments:	--

00431_SM1_KP1_WLAN_500us



Final Result 2

Frequency (MHz)	Average (dBµV/m)	Meas. Time	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Elevation (deg)	Corr. (dB)	Margin (dB)
2313.300000	49.4	100.0	1000.000	155.0	H	4.0	0.0	35.7	4.6

(continuation of the "Final Result 2" table from column 10 ...)

Frequency (MHz)	Limit (dBµV/m)	Comment
2313.300000	54.0	

EMI Auto Test Template: 00431_SM1_KP1_WLAN_500us

Hardware Setup: 00431_FCC_Part15_Unintentional_Radiator_1G-22G_dBuV_ESU
 Measurement Type: E(I)RP
 Frequency Range: 1 GHz - 18 GHz
 Graphics Level Range: 20 dBµV/m - 110 dBµV/m

Preview Measurements:
 Scan Test Template: Sweep_1_18GHz_Pre_500us

Data Reduction:
 Limit Line #1: FCC15_209_PK
 Limit Line #2: FCC15_209_AV
 Limit Line #3: ISM_2.4GHz
 Peak Search: 6 dB , Maximum Results: 10
 Subrange Maxima: 50 Subranges , Maxima per Subrange: 1
 Maximum Number of Results: 10
 After Data Reduction: Interactive data reduction

Frequency Zoom:
 Zoom Scan Template: Sweep_1_18GHz_Zoom

Adjustment:
 Template for Single Meas.: Sweep_1_18GHz_Zoom

Final Measurements:
 Template for Single Meas.: Sweep_1_18GHz_final

Template for Single Meas.:(>1GHz) Sweep_1_18GHz_final

Report Settings:
 Report Template: Report Setup FCC 15_247
 Create Electronic Report: RTF PDF
 Document Name: EMI Report

Actions:
 Test start
 Notify: "stelle passenden Kanal ein !"
 Frequency Zoom 2: Before
 Notify: "EUT sendet noch ?"

Diagram No. 8.06_Ch7_Sweep3

Common Information

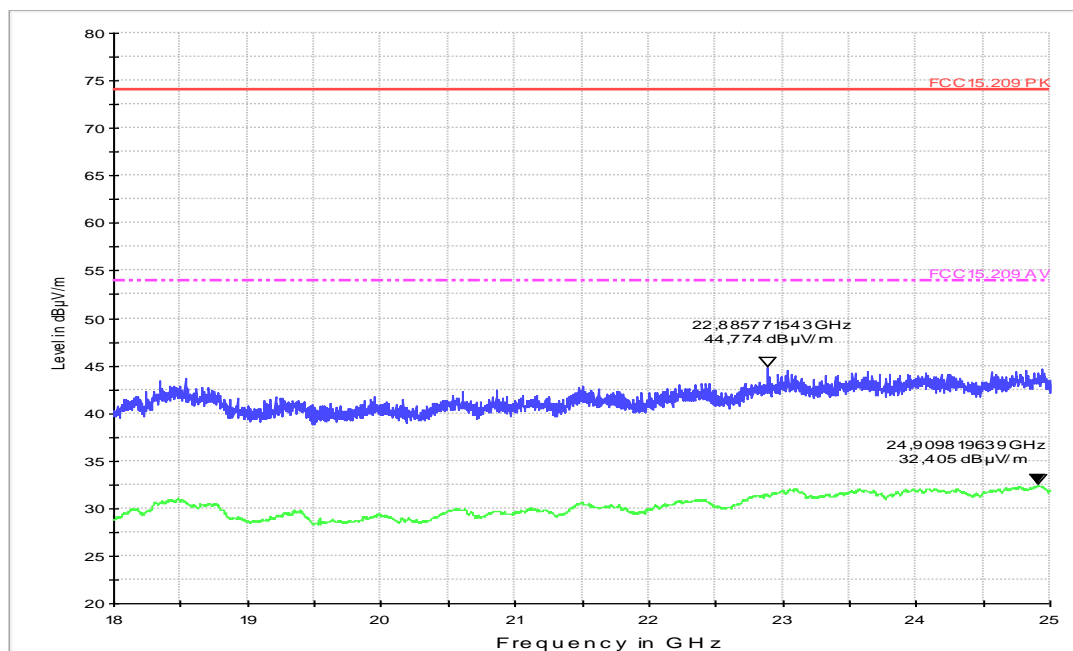
Test Description: Radiated field strength emission in 1m distance
 Test Site: CETECOM GmbH Essen
 Test specification.: FCC 15.209; RSS-Gen: Issue 3; RSS-210: Issue 8
 Antenna polarisation: horizontal/vertical

Operation mode: TX mode continuous
 2,4GHz WLAN / Ch7/ MCS0
 Operator Name: dpa

EUT Information

EUT Name: RFG81UW
 Manufacturer: RIM
 Serial Number: 004401139037002
 Hardware Rev: --
 Software Rev: --
 Comment: Sample 1, Rev 2, 17-Jul-12

EMI Sweep_18_25GHz_Preamp_On_Ref338_AntRef302_1m_dBuV



Sweep Setup: EMI

Sweep_18_25GHz_Preamp_On_Ref338_AntRef302_1m_dBuV [EMI radiated]

Hardware Setup: HW03_FSEM_15-26GHz_PreampRef336_dBuV_1m
 Receiver: [FSEM]
 Level Unit: dBµV/m

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
18 GHz - 19 GHz	2,004 MHz	PK+; RMS	1 MHz	1 s	dB
19 GHz - 20 GHz	2,004 MHz	PK+; RMS	1 MHz	1 s	dB
20 GHz - 21 GHz	2,004 MHz	PK+; RMS	1 MHz	1 s	dB
21 GHz - 22 GHz	2,004 MHz	PK+; RMS	1 MHz	1 s	dB
22 GHz - 23 GHz	2,004 MHz	PK+; RMS	1 MHz	1 s	dB
23 GHz - 24 GHz	2,004 MHz	PK+; RMS	1 MHz	1 s	dB
24 GHz - 25 GHz	2,004 MHz	PK+; RMS	1 MHz	1 s	dB

2.9. Channel 11 (n-Mode)

Diagram No. 8.06_Ch11_Sweep1

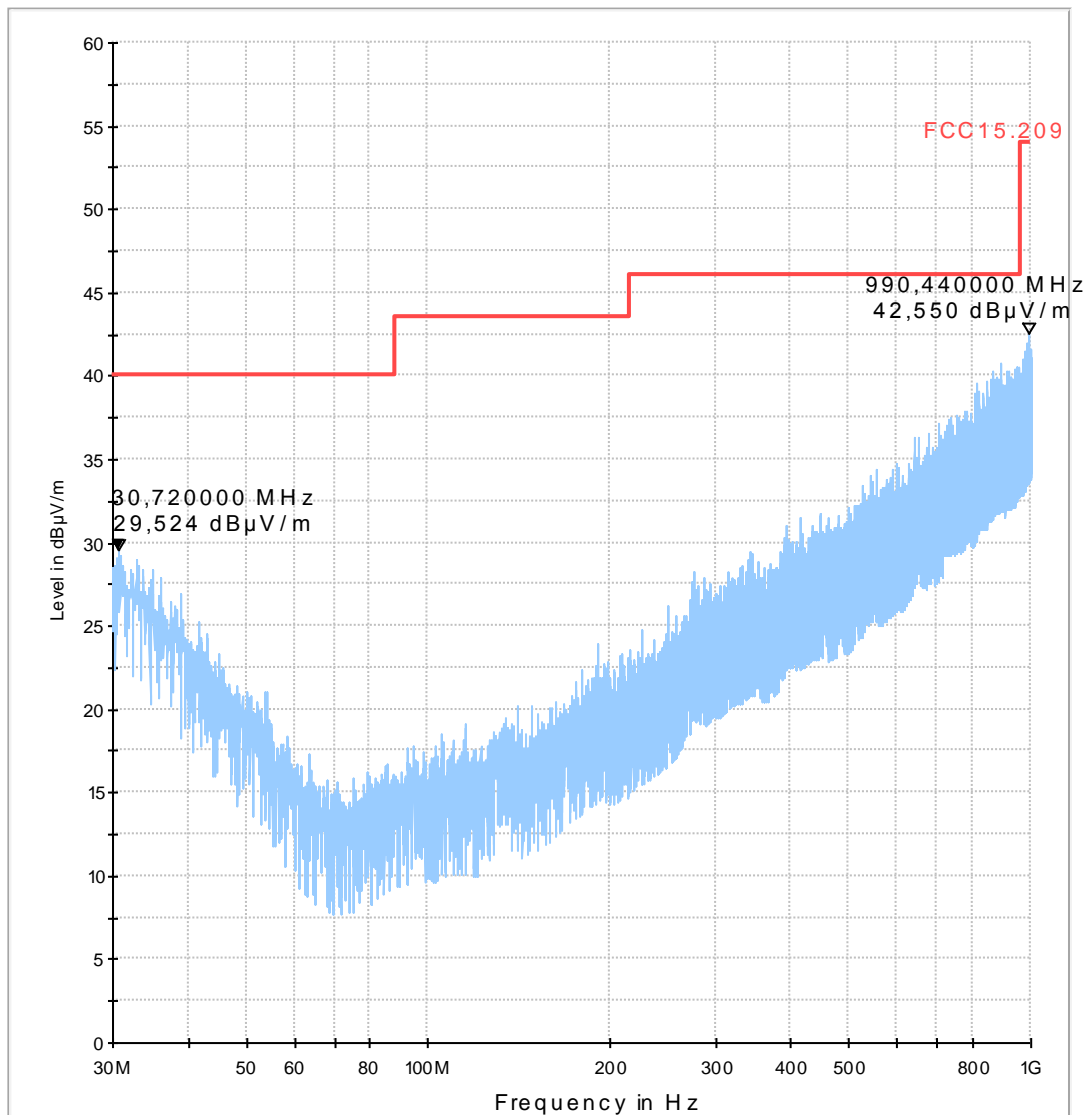
Test description:	08.06.2012 Page 1 of 2
Test site and distance:	Electric Field Strength Measurement
Distance correction:	Semi Anechoic Room (SAR) with 3 m measurement distance
Used filter:	not used
Technical Data:	please see page 2 for detailed data of measurement setup
Test specification.:	FCC 15.209; RSS-Gen: Issue 3; RSS-210: Issue 8

Operator:	OOu
Operating conditions:	WLAN n-Mode, MCS0, Ch11
Power during tests:	full loaded batteries
Comment 1:	Channel 11

EUT Information

EUT Name:	RFG81UW
Manufacturer:	RIM
IMEI:	...757
Setup	Full battery

01_FCC15.209_hor+vert_kipp



Date: 08.06.2012 Page 2 of 2

Technical Data of measurement with EMC32 V8.51.1

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-30MHz-1GHz
 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.: 8.06_Ch11_Sweep2

Common Information

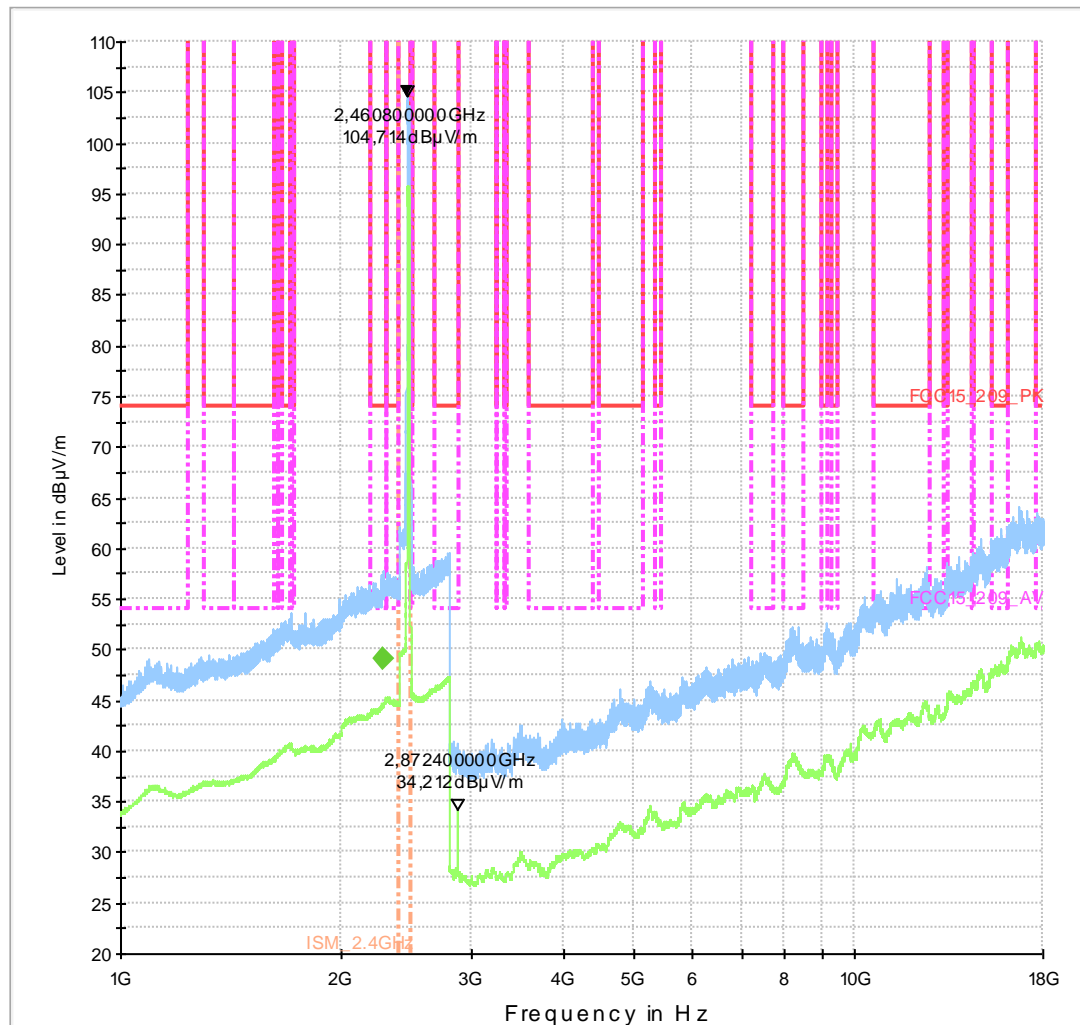
Test Description:	Radiated field strength emission accord. §15.247 in 3m distance
Test Site:	CETECOM GmbH Essen
Test specification.:	FCC 15.209; RSS-Gen: Issue 3; RSS-210: Issue 8
Antenna polarisation:	horizontal/vertical
Operator Name:	Lor
Comment:	Channel 11 / 2462MHz
Op. Mode:	WLAN, n-Mode, MCS0

EUT Information

Manufacturer:	Research In Motion Limited
Type:	GSM/WCDMA/LTE Mobile Terminal

EUT:	RFG81UW
EUT additional information:	CER-48928-001 Rev2 17-Jul-12
HW version:	new
SW version:	tbd
Serial number:	004401139037002
Power Supply:	full internal battery
Comments:	--

00431_SM1_KP1_WLAN_500us



EMI Auto Test Template: 00431_SM1_KP1_WLAN_500us

Hardware Setup: 00431_FCC_Part15_Unintentional_Radiator_1G-22G_dBuV_ESU
Measurement Type: E(I)RP
Frequency Range: 1 GHz - 18 GHz
Graphics Level Range: 20 dB μ V/m - 110 dB μ V/m

Preview Measurements:
Scan Test Template: Sweep_1_18GHz_Pre_500us

Data Reduction:
Limit Line #1: FCC15_209_PK
Limit Line #2: FCC15_209_AV
Limit Line #3: ISM_2.4GHz
Peak Search: 6 dB , Maximum Results: 10
Subrange Maxima: 50 Subranges , Maxima per Subrange: 1
Maximum Number of Results: 10
After Data Reduction: Interactive data reduction

Frequency Zoom:
Zoom Scan Template: Sweep_1_18GHz_Zoom

Adjustment:
Template for Single Meas.: Sweep_1_18GHz_Zoom

Final Measurements:
Template for Single Meas.: Sweep_1_18GHz_final
Template for Single Meas.:(>1GHz) Sweep_1_18GHz_final

Report Settings:
Report Template: Report Setup FCC 15_247
Create Electronic Report: RTF PDF
Document Name: EMI Report

Actions:
Test start
Notify: "stelle passenden Kanal ein !"
Frequency Zoom 2: Before
Notify: "EUT sendet noch ?"

Diagram No. 8.06_Ch11_Sweep3

Common Information

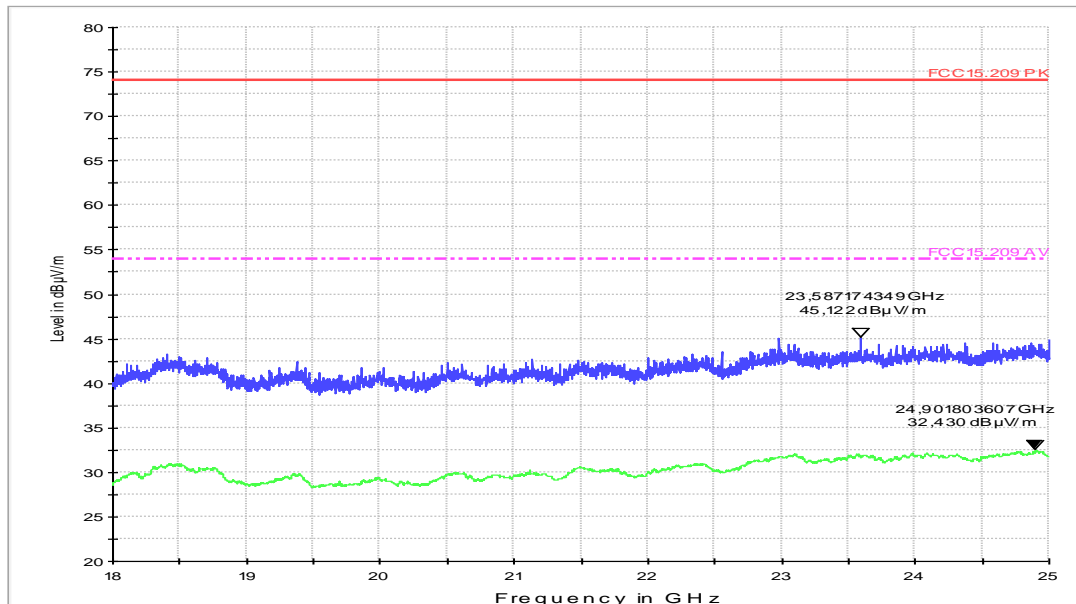
Test Description: Radiated field strength emission in 1m distance
 Test Site: CETECOM GmbH Essen
 Test specification.: FCC 15.209; RSS-Gen: Issue 3; RSS-210: Issue 8
 Antenna polarisation: horizontal/vertical

Operation mode: TX mode continuous
 2,4GHz WLAN / Ch11/ MCS0
 Operator Name: dpa

EUT Information

EUT Name: RFG81UW
 Manufacturer: RIM
 Serial Number: 004401139037002
 Hardware Rev: --
 Software Rev: --
 Comment: Sample 1, Rev 2, 17-Jul-12

EMI Sweep_18_25GHz_Preamp_On_Ref338_AntRef302_1m_dBuV



Sweep Setup: EMI

Sweep_18_25GHz_Preamp_On_Ref338_AntRef302_1m_dBuV [EMI radiated]

Hardware Setup: HW03_FSEM_15-26GHz_PreampRef336_dBuV_1m
 Receiver: [FSEM]
 Level Unit: dBµV/m

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
18 GHz - 19 GHz	2,004 MHz	PK+; RMS	1 MHz	1 s	dB
19 GHz - 20 GHz	2,004 MHz	PK+; RMS	1 MHz	1 s	dB
20 GHz - 21 GHz	2,004 MHz	PK+; RMS	1 MHz	1 s	dB
21 GHz - 22 GHz	2,004 MHz	PK+; RMS	1 MHz	1 s	dB
22 GHz - 23 GHz	2,004 MHz	PK+; RMS	1 MHz	1 s	dB
23 GHz - 24 GHz	2,004 MHz	PK+; RMS	1 MHz	1 s	dB
24 GHz - 25 GHz	2,004 MHz	PK+; RMS	1 MHz	1 s	dB

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

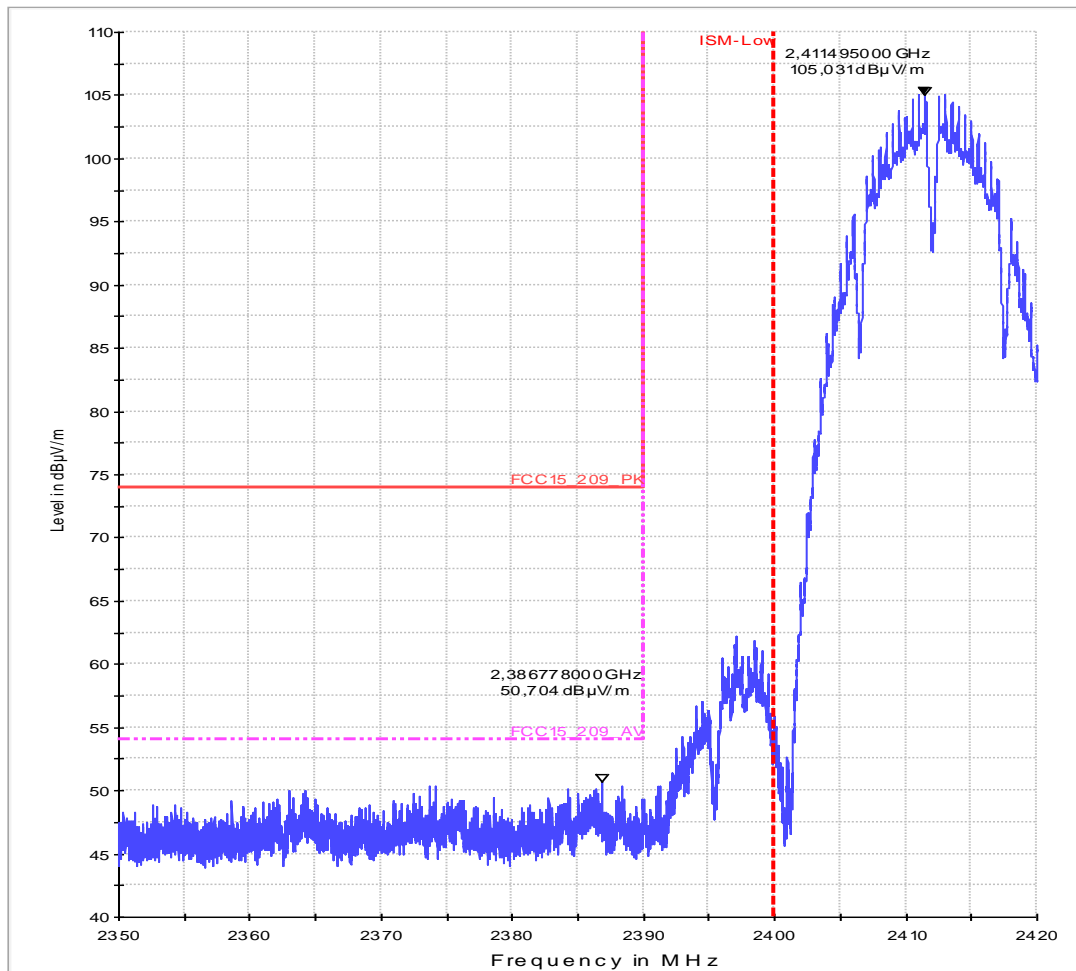
3.1. Channel 1 b-Mode (left band edge)

Diagram No.: 8.04

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
Antenna polarisation:	horizontal/vertical
Operator Name:	TAS
Comment:	Channel no. low 2412 (Ch1)
Op. Mode:	WLAN, b-mode, 1Mbps

08_ESU_2.4GHz_Low_Band_Edge_PA0



Sweep Setup: 08_ESU_2.4GHz_Low_Band_Edge_PA0 [EMI radiated]

Hardware Setup:	549_dBuVm_PA0_TH3_KP1_ESU
Receiver:	[ESU 40]
Level Unit:	dBµV/m

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
2.35 GHz - 2,42 GHz	7 kHz	PK+	100 kHz	Coupled	20 dB

3.2. Channel 11 b-Mode (right band edge)

Diagram No.: 8.04_Ch11_BE_1

Common Information

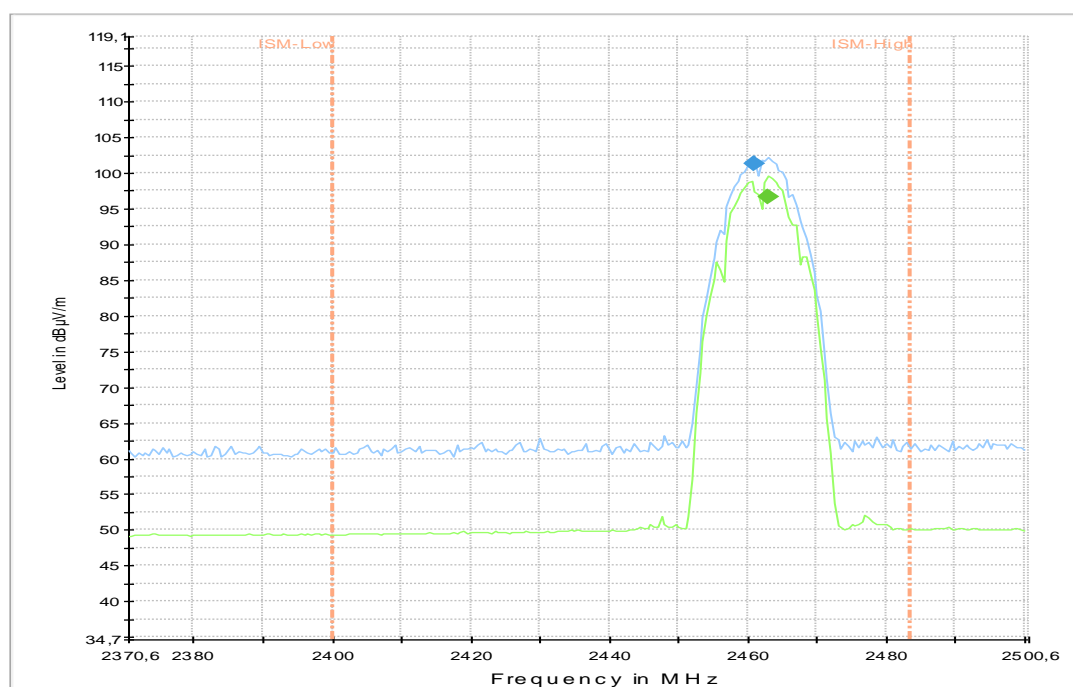
Test Description:	Radiated field strength emission accord. §15.247 in 3m distance
Test Site:	CETECOM GmbH Essen
Test Standard:	§15.205 & 15.209 Intentional Radiator
Antenna polarisation:	horizontal/vertical
Operator Name:	Lor
Comment:	Channel 11 / 2462MHz
Op. Mode:	WLAN, b-Mode, 1MBit

EUT Information

Manufacturer:	Research In Motion Limited
Type:	GSM/WCDMA/LTE Mobile Terminal

EUT:	RFG81UW
EUT additional information:	CER-48928-001 Rev2 17-Jul-12
HW version:	new
SW version:	tbd
Serial number:	004401139037002
Power Supply:	full internal battery
Comments:	--

Carrier_measurement_SM1_PA0_KP1_WLAN



Final Result 1

Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Elevation (deg)	Corr. (dB)	Comment
2461.000000	101.4	100.0	1000.000	155.0	H	266.0	0.0	35.7	

Final Result 2

Frequency (MHz)	Average (dBµV/m)	Meas. Time	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Elevation (deg)	Corr. (dB)	Comment
2463.000000	96.6	100.0	1000.000	155.0	H	265.0	0.0	35.7	

EMI Auto Test Template: Carrier_measurement_SM1_PA0_KP1_WLAN

Hardware Setup: 549_dBuVm_PA0_TH3_KP1_ESU
Measurement Type: E(I)RP
Frequency Range: 2,3 GHz - 2,5 GHz
Graphics Level Range: 20 dBµV/m - 120 dBµV/m

Preview Measurements:
Scan Test Template: Sweep1_pre_pwr

Data Reduction:
Limit Line #1: ISM-Low
Limit Line #2: ISM-High
Peak Search: 6 dB , Maximum Results: 0
Subrange Maxima: 0 Subranges , Maxima per Subrange: 1
Maximum Number of Results: 10
After Data Reduction: Interactive data reduction

Frequency Zoom:
Zoom Scan Template: Sweep1_zoom_pwr

Adjustment:
Template for Single Meas.: Sweep1_pre_pwr

Final Measurements:
Template for Single Meas.: Sweep1_fin_pwr
Template for Single Meas.:(>1GHz) Sweep1_fin_pwr

Report Settings:
Report Template: Report Setup FCC 15_247
Create Electronic Report: RTF PDF
Document Name: E-Field Strength Carrier accord. §15.205&15.209

Actions:
Test start
Notify: "Matrix richtig geschaltet !!"

Diagram No.: 8.04_Ch11_BE_2

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
 Antenna polarisation: horizontal/vertical

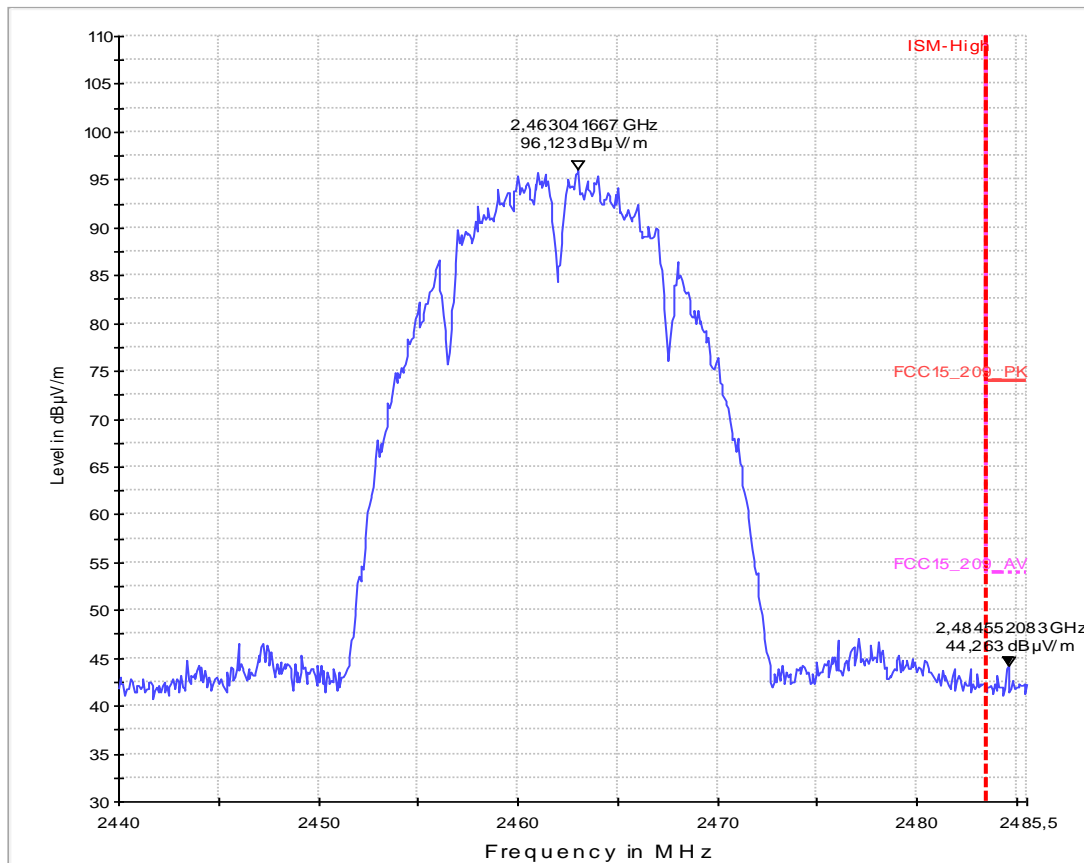
Operator Name: Lor
 Comment: Channel 11 / 2462MHz
 Op. Mode: WLAN, b-Mode, 1MBit

EUT Information

Manufacturer: Research In Motion Limited
 Type: GSM/WCDMA/LTE Mobile Terminal

EUT: RFG81UW
 EUT additional information: CER-48928-001 Rev2 17-Jul-12
 HW version: new
 SW version: tbd
 Serial number: 004401139037002
 Power Supply: full internal battery
 Comments: --

09_ESU_2.4GHz_High_Band_Edge_PA0



Sweep Setup: 09_ESU_2.4GHz_High_Band_Edge_PA0 [EMI radiated]

Hardware Setup: 549_dBuVm_PA0_TH3_KP1_ESU
 Receiver: [ESU 40]
 Level Unit: dBµV/m

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
2.44 GHz - 2,486 GHz	72,917 kHz	PK+	30 kHz	Coupled	20 dB

3.3. Channel 1 g-Mode (left band edge)

Diagram No.: 8.05_Ch1_BE_1_PWR

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
 Antenna polarisation: horizontal/vertical

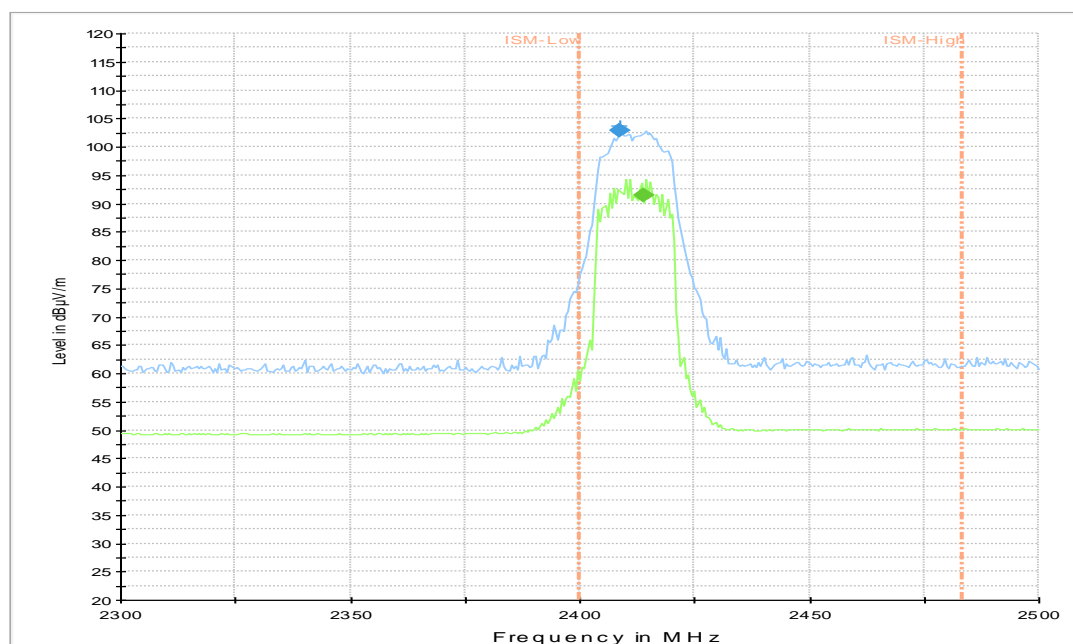
Operator Name: Lor
 Comment: Channel 1 / 2412 MHz
 Op. Mode: WLAN, g-Mode, 6MBit

EUT Information

Manufacturer: Research In Motion Limited
 Type: GSM/WCDMA/LTE Mobile Terminal

EUT: RFG81UW
 EUT additional information: CER-48928-001 Rev2 17-Jul-12
 HW version: new
 SW version: tbd
 Serial number: 004401139037002
 Power Supply: full internal battery
 Comments: --

Carrier_measurement_SM1_PA0_KP1_WLAN



Final Result 1

Frequency (MHz)	MaxPeak (dBµV/m)	Meas Time	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Elevation (deg)	Corr (dB)	Comment
2408.900000	102.9	100.0	1000.000	155.0	V	265.0	90.0	35.5	

Final Result 2

Frequency (MHz)	Average (dBµV/m)	Meas Time	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Elevation (deg)	Corr (dB)	Comment
2414.100000	91.5	100.0	1000.000	155.0	V	271.0	90.0	35.5	

EMI Auto Test Template: Carrier_measurement_SM1_PA0_KP1_WLAN

Hardware Setup: 549_dBuVm_PA0_TH3_KP1_ESU
Measurement Type: E(I)RP
Frequency Range: 2,3 GHz - 2,5 GHz
Graphics Level Range: 20 dBµV/m - 120 dBµV/m

Preview Measurements:
Scan Test Template: Sweep1_pre_pwr

Data Reduction:
Limit Line #1: ISM-Low
Limit Line #2: ISM-High
Peak Search: 6 dB , Maximum Results: 1
Subrange Maxima: 0 Subranges , Maxima per Subrange: 1
Maximum Number of Results: 1

Frequency Zoom:
Zoom Scan Template: Sweep1_zoom_pwr

Adjustment:
Template for Single Meas.: Sweep1_pre_pwr

Final Measurements:
Template for Single Meas.: Sweep1_fin_pwr
Template for Single Meas.:(>1GHz) Sweep1_fin_pwr

Report Settings:
Report Template: Report Setup FCC 15_247
Create Electronic Report: RTF PDF
Document Name: E-Field Strength Carrier accord. §15.205&15.209

Actions:
Test start
Notify: "Matrix richtig geschaltet !?"

Diagram No.: 8.05_Ch1_BE_2

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
 Antenna polarisation: horizontal/vertical

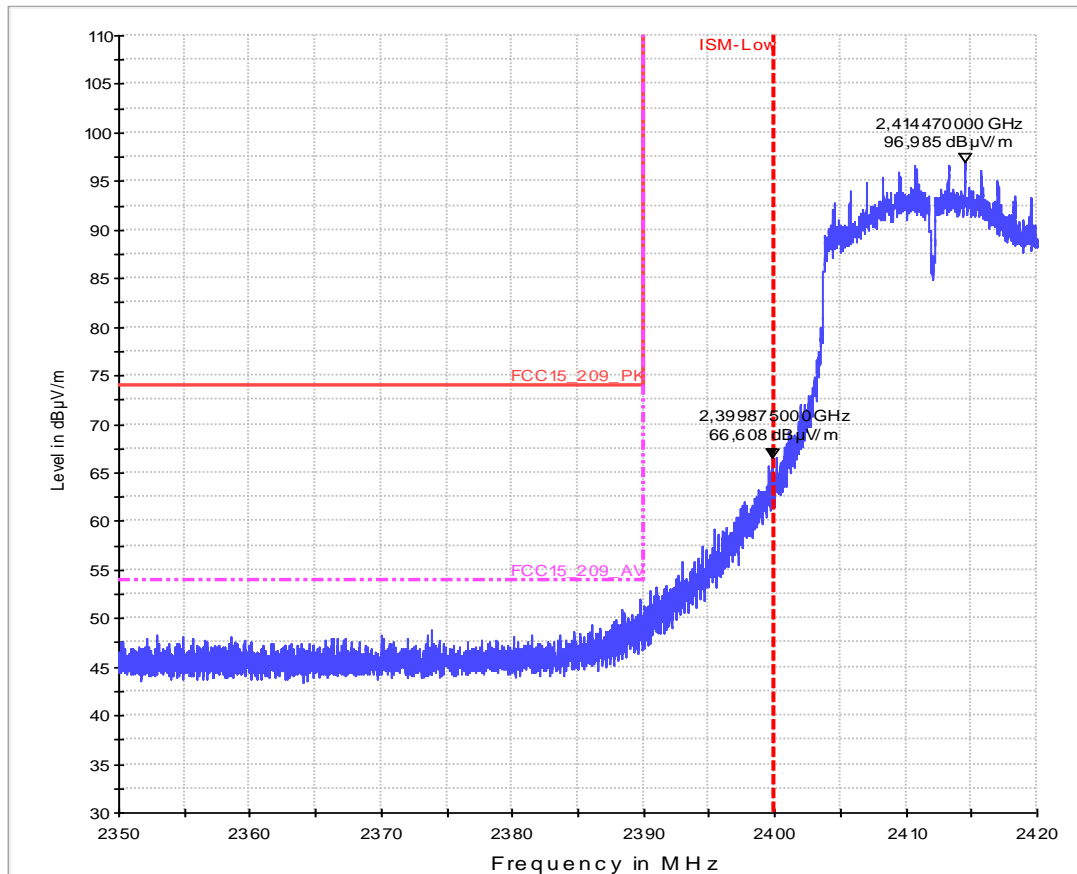
Operator Name: Lor
 Comment: Channel 1 / 2412 MHz
 Op. Mode: WLAN, g-Mode, 6MBit

EUT Information

Manufacturer: Research In Motion Limited
 Type: GSM/WCDMA/LTE Mobile Terminal

EUT: RFG81UW
 EUT additional information: CER-48928-001 Rev2 17-Jul-12
 HW version: new
 SW version: tbd
 Serial number: 004401139037002
 Power Supply: full internal battery
 Comments: --

08_ESU_2.4GHz_Low_Band_Edge_PA0



Sweep Setup: 08_ESU_2.4GHz_Low_Band_Edge_PA0 [EMI radiated]

Hardware Setup: 549_dBuVm_PA0_TH3_KP1_ESU
 Receiver: [ESU 40]
 Level Unit: dBµV/m

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
2.35 GHz - 2,42 GHz	7 kHz	PK+	100 kHz	Coupled	20 dB

3.4. Channel 11 g-Mode (right band edge)

Diagram No.: 8.05_Ch11_BE_1_PWR

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
 Antenna polarisation: horizontal/vertical

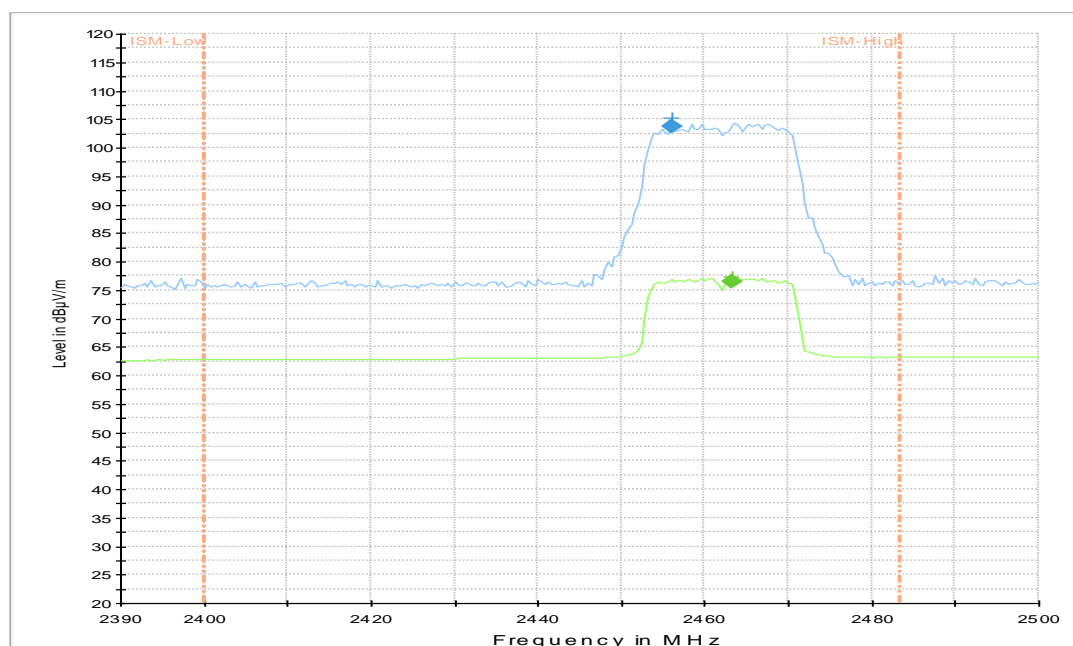
Operator Name: Lor
 Comment: Channel 11 / 2462MHz
 Op. Mode: WLAN, g-Mode, 6MBit

EUT Information

Manufacturer: Research In Motion Limited
 Type: GSM/WCDMA/LTE Mobile Terminal

EUT: RFG81UW
 EUT additional information: CER-48928-001 Rev2 17-Jul-12
 HW version: new
 SW version: tbd
 Serial number: 004401139037002
 Power Supply: full internal battery
 Comments: --

Carrier_measurement_SM1_PA0_KP1_WLAN_long



Final Result 1

Frequency (MHz)	MaxPeak (dBµV/m)	Meas Time	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Elevation (deg)	Corr (dB)	Comment
2456.000000	103.7	100.0	1000.000	155.0	H	265.0	0.0	35.6	

Final Result 2

Frequency (MHz)	Average (dBµV/m)	Meas Time	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Elevation (deg)	Corr (dB)	Comment
2463.200000	76.4	100.0	1000.000	155.0	H	270.0	0.0	35.7	

EMI Auto Test Template: Carrier_measurement_SM1_PA0_KP1_WLAN_long

Hardware Setup: 549_dBuVm_PA0_TH3_KP1_ESU
Measurement Type: E(I)RP
Frequency Range: 2,39 GHz - 2,5 GHz
Graphics Level Range: 20 dBµV/m - 120 dBµV/m

Preview Measurements:
Scan Test Template: Sweep1_pre_pwr_long

Data Reduction:
Limit Line #1: ISM-Low
Limit Line #2: ISM-High
Peak Search: 6 dB , Maximum Results: 1
Subrange Maxima: 0 Subranges , Maxima per Subrange: 1
Maximum Number of Results: 1
After Data Reduction: Interactive data reduction

Frequency Zoom:
Zoom Scan Template: Sweep1_zoom_pwr_long

Adjustment:
Template for Single Meas.: Sweep1_pre_pwr

Final Measurements:
Template for Single Meas.: Sweep1_fin_pwr
Template for Single Meas.:(>1GHz) Sweep1_fin_pwr

Report Settings:
Report Template: Report Setup FCC 15_247
Create Electronic Report: RTF PDF
Document Name: E-Field Strength Carrier accord. §15.205&15.209

Actions:
Test start
Notify: "Matrix richtig geschaltet !!"

Diagram No.: 8.05_Ch11_BE_2

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
 Antenna polarisation: horizontal/vertical

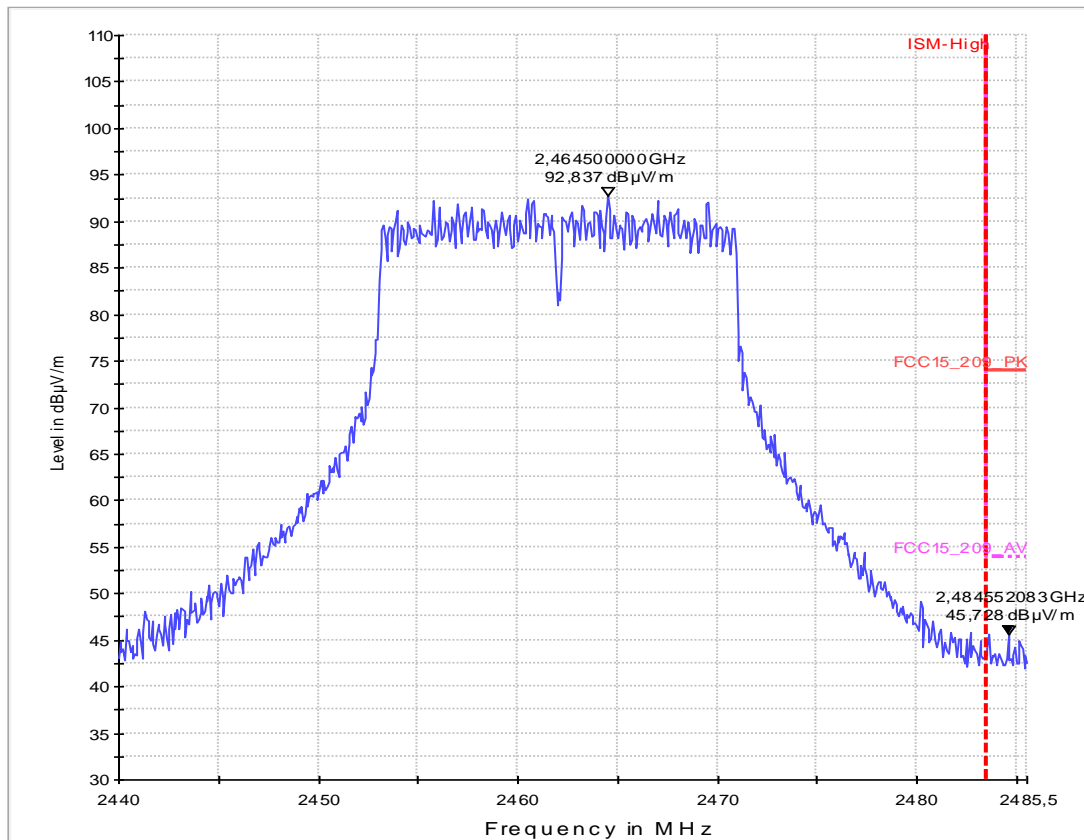
 Operator Name: Lor
 Comment: Channel 11 / 2462MHz
 Op. Mode: WLAN, g-Mode, 6MBit

EUT Information

Manufacturer: Research In Motion Limited
 Type: GSM/WCDMA/LTE Mobile Terminal

 EUT: RFG81UW
 EUT additional information: CER-48928-001 Rev2 17-Jul-12
 HW version: new
 SW version: tbd
 Serial number: 004401139037002
 Power Supply: full internal battery
 Comments: --

09_ESU_2.4GHz_High_Band_Edge_PA0



Sweep Setup: 09_ESU_2.4GHz_High_Band_Edge_PA0 [EMI radiated]

Hardware Setup: 549_dBuVm_PA0_TH3_KP1_ESU
 Receiver: [ESU 40]
 Level Unit: dBµV/m

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
2.44 GHz - 2,486 GHz	72,917 kHz	PK+	30 kHz	Coupled	20 dB

3.5. Channel 1 n-Mode (left band edge)

Diagram No.: 8.05_Ch1_BE_1_PWR

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
 Antenna polarisation: horizontal/vertical

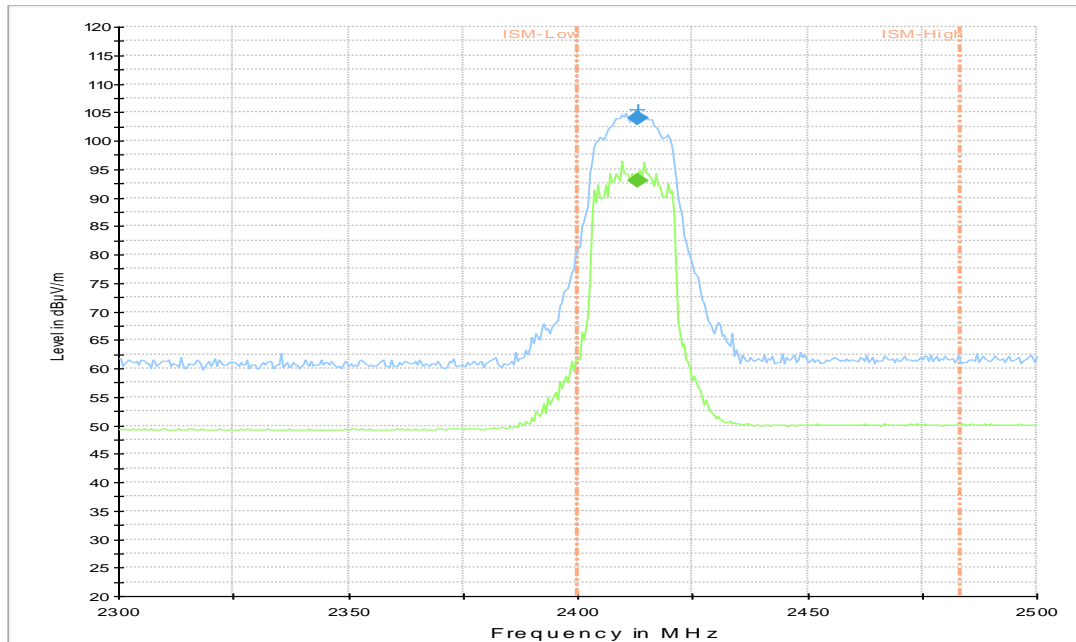
 Operator Name: Lor
 Comment: Channel 1 / 2412 MHz
 Op. Mode: WLAN, n-Mode, MCS0

EUT Information

Manufacturer: Research In Motion Limited
 Type: GSM/WCDMA/LTE Mobile Terminal

 EUT: RFG81UW
 EUT additional information: CER-48928-001 Rev2 17-Jul-12
 HW version: new
 SW version: tbd
 Serial number: 004401139037002
 Power Supply: full internal battery
 Comments: --

Carrier_measurement_SM1_PA0_KP1_WLAN



Final Result 1

Frequency (MHz)	MaxPeak (dBµV/m)	Meas Time	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Elevation (deg)	Corr (dB)	Comment
2413.300000	104.0	100.0	1000.000	155.0	H	259.0	0.0	35.5	

Final Result 2

Frequency (MHz)	Average (dBµV/m)	Meas Time	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Elevation (deg)	Corr (dB)	Comment
2413.100000	93.0	100.0	1000.000	155.0	H	270.0	0.0	35.5	

EMI Auto Test Template: Carrier_measurement_SM1_PA0_KP1_WLAN

Hardware Setup: 549_dBuVm_PA0_TH3_KP1_ESU
Measurement Type: E(I)RP
Frequency Range: 2,3 GHz - 2,5 GHz
Graphics Level Range: 20 dBµV/m - 120 dBµV/m

Preview Measurements:
Scan Test Template: Sweep1_pre_pwr

Data Reduction:
Limit Line #1: ISM-Low
Limit Line #2: ISM-High
Peak Search: 6 dB , Maximum Results: 1
Subrange Maxima: 0 Subranges , Maxima per Subrange: 1
Maximum Number of Results: 1

Frequency Zoom:
Zoom Scan Template: Sweep1_zoom_pwr

Adjustment:
Template for Single Meas.: Sweep1_pre_pwr

Final Measurements:
Template for Single Meas.: Sweep1_fin_pwr
Template for Single Meas.:(>1GHz) Sweep1_fin_pwr

Report Settings:
Report Template: Report Setup FCC 15_247
Create Electronic Report: RTF PDF
Document Name: E-Field Strength Carrier accord. §15.205&15.209

Actions:
Test start
Notify: "Matrix richtig geschaltet !?"

Diagram No.: 8.06_Ch1_BE_2

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
 Antenna polarisation: horizontal/vertical

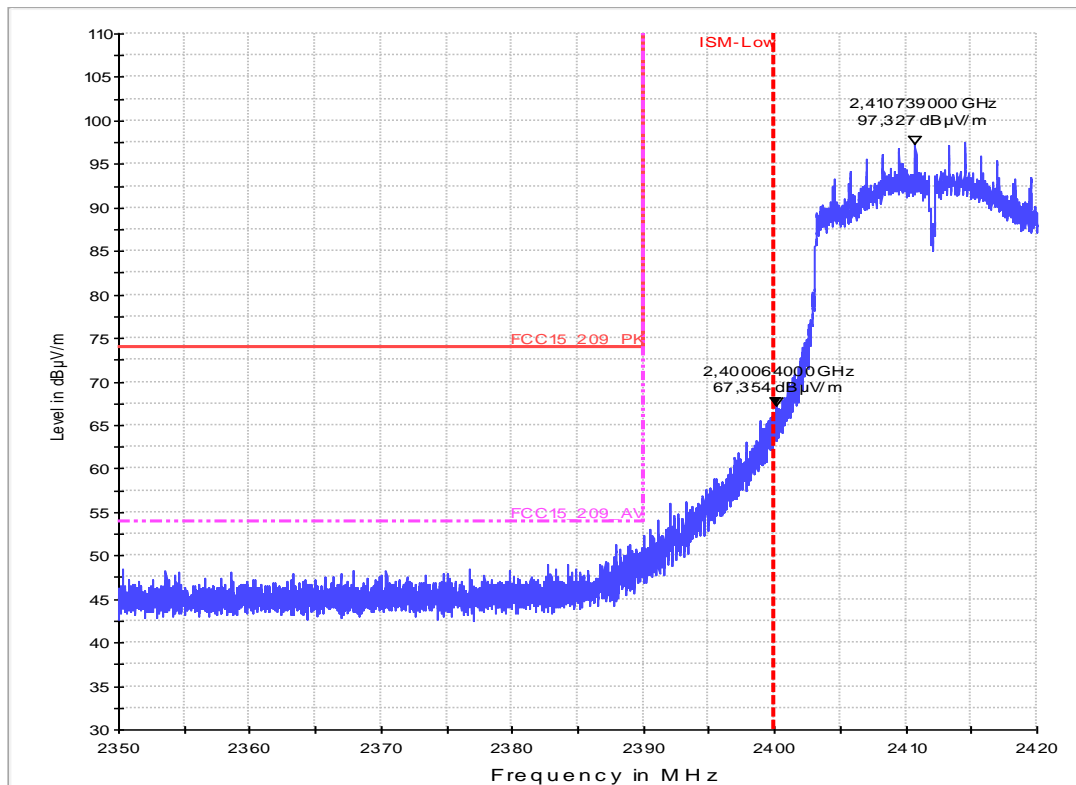
 Operator Name: Lor
 Comment: Channel 1 / 2412 MHz
 Op. Mode: WLAN, g-Mode, 6MBit

EUT Information

Manufacturer: Research In Motion Limited
 Type: GSM/WCDMA/LTE Mobile Terminal

 EUT: RFG81UW
 EUT additional information: CER-48928-001 Rev2 17-Jul-12
 HW version: new
 SW version: tbd
 Serial number: 004401139037002
 Power Supply: full internal battery
 Comments: --

08_ESU_2.4GHz_Low_Band_Edge_PA0



Sweep Setup: 08_ESU_2.4GHz_Low_Band_Edge_PA0 [EMI radiated]

Hardware Setup: 549_dBuVm_PA0_TH3_KP1_ESU
 Receiver: [ESU 40]
 Level Unit: dBµV/m

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
2.35 GHz - 2,42 GHz	7 kHz	PK+	100 kHz	Coupled	20 dB

3.6. Channel 11 n-Mode (right band edge)

Diagram No.: 8.06_Ch11_BE_PWR

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
 Antenna polarisation: horizontal/vertical

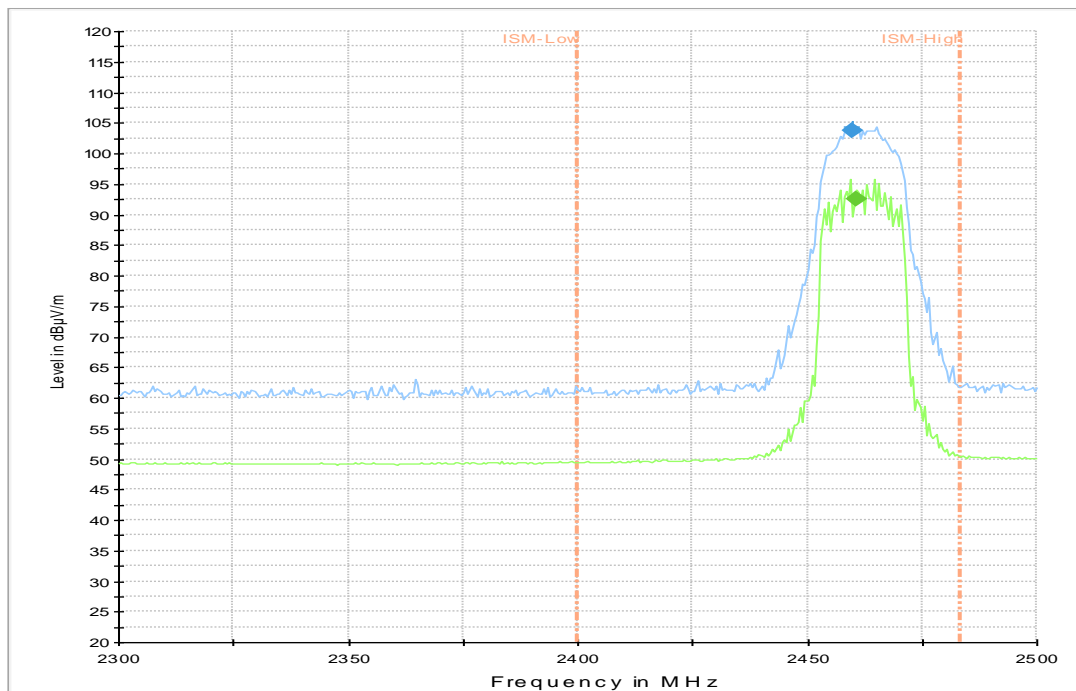
 Operator Name: Lor
 Comment: Channel 11 / 2462MHz
 Op. Mode: WLAN, n-Mode, MCS0

EUT Information

Manufacturer: Research In Motion Limited
 Type: GSM/WCDMA/LTE Mobile Terminal

 EUT: RFG81UW
 EUT additional information: CER-48928-001 Rev2 17-Jul-12
 HW version: new
 SW version: tbd
 Serial number: 004401139037002
 Power Supply: full internal battery
 Comments: --

Carrier_measurement_SM1_PA0_KP1_WLAN



Final Result 1

Frequency (MHz)	MaxPeak (dBµV/m)	Meas Time	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Elevation (deg)	Corr (dB)	Comment
2459.800000	103.6	100.0	1000.000	155.0	H	278.0	0.0	35.7	

Final Result 2

Frequency (MHz)	Average (dBµV/m)	Meas Time	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Elevation (deg)	Corr (dB)	Comment
2460.900000	92.5	100.0	1000.000	155.0	H	266.0	0.0	35.7	

EMI Auto Test Template: Carrier_measurement_SM1_PA0_KP1_WLAN

Hardware Setup: 549_dBuVm_PA0_TH3_KP1_ESU
Measurement Type: E(I)RP
Frequency Range: 2,3 GHz - 2,5 GHz
Graphics Level Range: 20 dBµV/m - 120 dBµV/m

Preview Measurements:
Scan Test Template: Sweep1_pre_pwr

Data Reduction:
Limit Line #1: ISM-Low
Limit Line #2: ISM-High
Peak Search: 6 dB , Maximum Results: 1
Subrange Maxima: 0 Subranges , Maxima per Subrange: 1
Maximum Number of Results: 1

Frequency Zoom:
Zoom Scan Template: Sweep1_zoom_pwr

Adjustment:
Template for Single Meas.: Sweep1_pre_pwr

Final Measurements:
Template for Single Meas.: Sweep1_fin_pwr
Template for Single Meas.:(>1GHz) Sweep1_fin_pwr

Report Settings:
Report Template: Report Setup FCC 15_247
Create Electronic Report: RTF PDF
Document Name: E-Field Strength Carrier accord. §15.205&15.209

Actions:
Test start
Notify: "Matrix richtig geschaltet !?"

Diagram No.: 8.06_Ch11_BE_2

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
 Antenna polarisation: horizontal/vertical

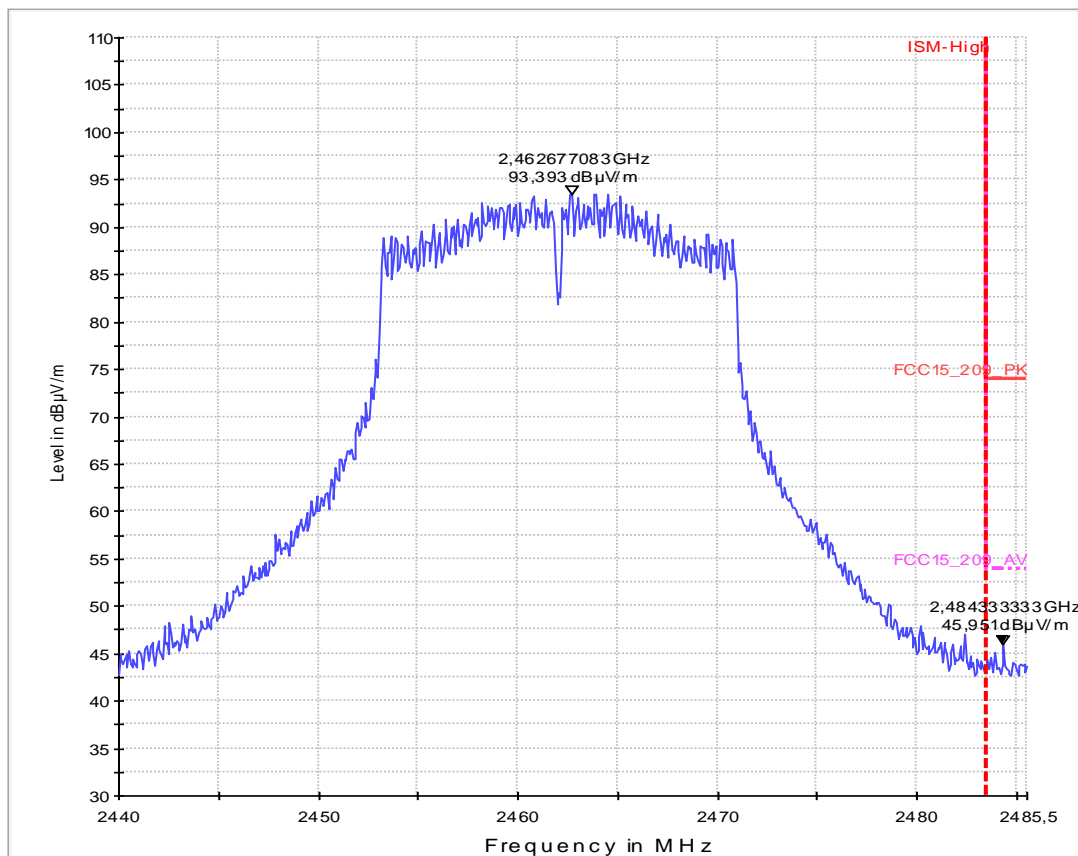
Operator Name: Lor
 Comment: Channel 11 / 2462MHz
 Op. Mode: WLAN, n-Mode, MCS0

EUT Information

Manufacturer: Research In Motion Limited
 Type: GSM/WCDMA/LTE Mobile Terminal

EUT: RFG81UW
 EUT additional information: CER-48928-001 Rev2 17-Jul-12
 HW version: new
 SW version: tbd
 Serial number: 004401139037002
 Power Supply: full internal battery
 Comments: --

09_ESU_2.4GHz_High_Band_Edge_PA0



Sweep Setup: 09_ESU_2.4GHz_High_Band_Edge_PA0 [EMI radiated]

Hardware Setup: 549_dBuVm_PA0_TH3_KP1_ESU
 Receiver: [ESU 40]
 Level Unit: dBµV/m

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
2.44 GHz - 2,486 GHz	72,917 kHz	PK+	30 kHz	Coupled	20 dB

4. Radiated EMI measurements accord. §15.109 class B

4.1. Frequency range 30MHz to 1000MHz

Diagram No. 2.01

Test description:	24.07.2012 Page 1 of 2
Test site and distance:	Electric Fieldstrength Measurement
Distance correction:	Semi Anechoic Room (SAR) with 3 m measurement distance
Used filter:	not used
Technical Data:	please see page 2 for detailed data of measurement setup
Test specification.:	FCC 15.109 Class B; RSS-Gen., Issue 3
Operator:	Lor
Operating conditions:	RX WLAN 2.4GHz + charging battery
Power during tests:	110V/60Hz
Comment 1:	

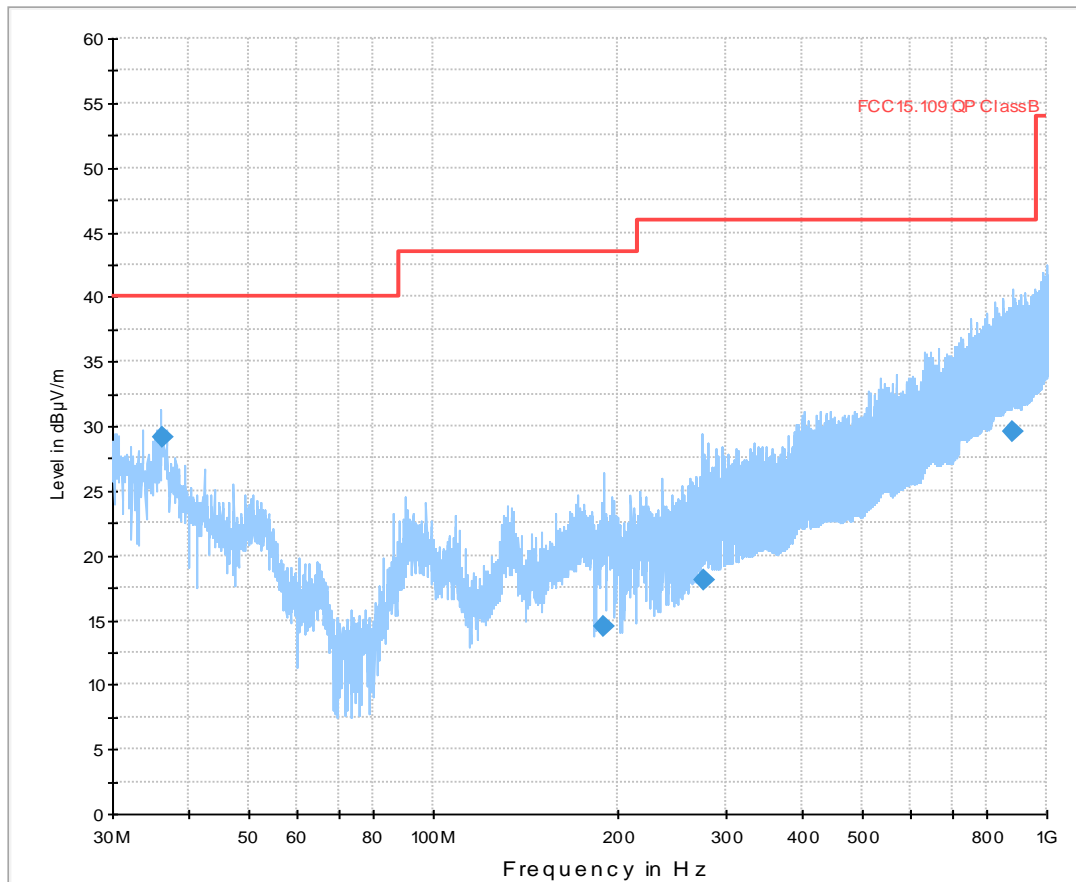
EUT Information

EUT Name:	RFG81UW + HS2 + CH4 + USB2 cable
Manufacturer:	RIM
Serial Number:	#004401139037010
Hardware Rev:	new
Software Rev:	new
Comment:	--

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Elevation (deg)	Corr. (dB)	Limit (dBµV/m)
36.170000	29.1	1000.0	120.000	193.0	H	40.0	0.0	19.1	40.0
189.520000	14.5	1000.0	120.000	113.0	V	154.0	90.0	11.5	43.5
275.510000	18.1	1000.0	120.000	161.0	H	97.0	0.0	14.7	46.0
...

18_FCC15.109_Class B_hor+vert_kipp



Technical Data of measurement with EMC32 V8.52.0

EMI Auto Test Template: 18_FCC15.109_Class B_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: FCC15.109 QP Class B
 Peak Search: 6 dB , Maximum Results: 10
 Subrange Maxima: 25 Subranges , Maxima per Subrange: 1
 Acceptance Offset: -6 dB
 Maximum Number of Results: 10
 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_109_vert_hor_classB
 Create Electronic Report: RTF PDF
 Document Name: EMI Report

Actions:
 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'

4.2. Frequency range 1000MHz to 12750MHz

Diagram No. 8.02

Common Information

Test Description:	Radiated Filed Strength Emissions@3m distance
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 15.109 Class B; RSS-Gen., Issue 3
Section:	15.109
Operating Mode:	RX WLAN 2.4GHz + charging battery
Equipment Class:	Class B
Environmental Conditions:	Humidity: 59%rH; Temperature: 23,2°C
Operator:	Lor
Comments:	WLAN AP carrier (broadcast channel) on diagram

EUT Information

Manufacturer:	RIM
Model:	GSM/WCDMA/LTE Mobile Terminal
Type:	

EUT:	RFG81UW + HS2 + CH4 + USB2 cable
EUT additional information:	CER-48928-001 Rev2 17-Jul-12
HW version:	new
SW version:	tbd
Serial number:	004401139037010
Power Supply:	110V/60Hz
Comments:	-

030445_FCC_Part15.109_Unintentional_Radiator_Class_B_1G-20G_FSEK

