CETECOM ICT Services GmbH
Untertürkheimer Straße 6-10 . D-66117 Saarbrücken Phone: +49 (0) 681-598-0 Fax:-9075
RSC-Laboratory

Deutscher Akkreditierungs Rat DAR

Accredited testing-laboratory

DAR registration number: DAT-P-176/94-D1

Federal Motor Transport Authority (KBA)
DAR registration number: KBA-P 00070-97

Recognized by the Federal Communications Commission
Anechoic chamber registration no.: 90462 (FCC)
Anechoic chamber registration no.: 3463A-1 (IC)
Certification ID: DE 0001
Accreditation ID: DE 0002

Accredited Bluetooth® Test Facility (BQTF)

The Bluetooth word mark and logos are owned by the Bluetooth SIG, Inc. and any use of such marks by Cetecom ICT is under license

Test report no.	**:**	**2-4883-46-05/08**
Type identification	**:**	**AAD-3352021-BV**
Applicant	**:**	**Sony Ericsson Mobile Communications AB**
FCC ID	**:**	**PY7-A3352021**
IC Certification No	**:**	**4170B-A3352021**
Test standards	**:**	**47 CFR Part 15**
		RSS - 210 Issue 7

Table of contents

1 General information 3

1.1 Notes 3
1.2 Testing laboratory 4
1.3 Details of applicant 4
1.4 Application details 4

2 Test standard/s: 5

3 Technical tests 6

3.1 Details of manufacturer 6
3.1.1 Test item 6
3.1.2 Additional EUT information For IC Canada (appendix 2) 7
3.1.3 RF Technical Brief Cover Sheet acc. To RSS-102 8
3.1.4 EUT operating modes 9
3.1.5 Extreme conditions testing values 9

4 Summary of Measurement Results and list of all performed test cases 10

5 RF measurement testing 11

5.1 Description of test set-up 11
5.1.1 Radiated measurements 11
5.1.2 Conducted measurements 11
5.2 Referenced Documents 12
5.3 Additional comments 12
5.4 Antenna gain 12
5.5 Peak Power Spectral density (digitally modulated systems) §15.247(e) 13
5.6 Spectrum Bandwidth of a DSSS System / 6 dB Bandwidth §15.247(a)(2) 17
5.7 Spectrum Bandwidth of a DSSS System / 20 dB Bandwidth 21
5.8 Maximum output power (conducted) §15.247 (b)(3) 25
5.9 Max. peak output power (radiated) §15.247 (b)(3) 30
5.10 Band-edge compliance of conducted emissions §15.247 (d) 31
5.11 Band-edge compliance of radiated emissions §15.205 34
5.12 Spurious Emissions - conducted (Transmitter) §15.247 (c) 38
5.13 Spurious Emissions - radiated (Transmitter) §15.209 42
5.14 Spurious Emissions - radiated (Receiver) §15.109 / 209 61
5.15 Spurious Emissions - radiated <30 MHz §15.209 65
5.16 Conducted Emissions <30 MHz §15.107/207 66

6 Test equipment and ancillaries used for tests 67

7 Photographs of the Test Set-up 70

8 Photographs of the EUT 72

1 General information

1.1 Notes

The test results of this test report relate exclusively to the test item specified in 3.1.1. The CETECOM ICT Services GmbH does not assume responsibility for any conclusions and generalisations drawn from the test results with regard to other specimens or samples of the type of the equipment represented by the test item. The test report may only be reproduced or published in full. Reproduction or publication of extracts from the report requires the prior written approval of the CETECOM ICT Services GmbH.

Test laboratory manager:

2008-08-20	**Daniel Muyunga**	
Date	Name	Signature

2008-08-20	**Meheza Kpelou Walla**	
Date	Name	Signature

Technical responsibility for area of testing:

2008-08-20	**Michael Berg**	
Date	Name	Signature

1.2 Testing laboratory

CETECOM ICT Services GmbH

Untertürkheimer Straße 6 - 10
66117 Saarbrücken
Germany
Phone: + 49 681 5 98 - 0
Fax: + 49 681 5 98 - 9075
e-mail: info@ICT.cetecom.de
Internet: http://www.cetecom-ict.de

State of accreditation: **The test laboratory (area of testing) is accredited according to DIN EN ISO/IEC 17025**
DAR registration number: DAT-P-176/94-D1

Accredited by: **Federal Motor Transport Authority (KBA)**
DAR registration number: KBA-P 00070-97

Testing location, if different from CETECOM ICT Services GmbH:

Name :
Street :
Town :
Country :
Phone :
Fax :

1.3 Details of applicant

Name:	**Sony Ericsson Mobile Communications AB**
Street:	**Nya Vattentornet**
Town:	**22188 Lund**
Country:	**Sweden**
Telephone:	**+46-46-19-3000**
Fax:	**+46-46-19-3295**
Contact:	**Peter Lindeborg**
E-mail:	**peter.lindeborg@sonyericsson.com**
Telephone:	**+46-46-212-6180**

1.4 Application details

Date of receipt of order:	**2008-07-07**
Date of receipt of test item:	**2008-07-07**
Date of start test:	**2008-07-07**
Date of end test	**2008-07-10**
Persons(s) who have been present during the test:	**-/-**

2 Test standard/s:

47 CFR Part 15	**2007-09**	**Title 47 of the Code of Federal Regulations; Chapter I-Federal Communications Commission subchapter A - general, Part 15-Radio frequency devices**
RSS - 210 Issue 7	**2007-06**	**Spectrum Management and Telecommunications - Radio Standards Specification Low-power Licence-exempt Radiocommunication Devices (All Frequency Bands): Category I Equipment**

3 Technical tests

3.1 Details of manufacturer

Name:	**Sony Ericsson Mobile Communications AB**
Street:	**Nya Vattentornet**
Town:	**22188 Lund**
Country:	**Sweden**

3.1.1 Test item

Kind of test item	:	**GSM Mobile 850/900/1800/1900, UMTS, BT EDR, WLAN**
Type identification	:	**AAD-3352021-BV**
S/N serial number :		**Rad. sample 1: CB5A0RK 8L6 (EUT)** **Rad. sample 2: CB5A0RK 1QQ (EUT)** **Cond. sample 1: CB5A0RK3MV (EUT)** **Cond. sample 2: CB5A0RK1QA**
HW hardware status	:	**A**
SW software status	:	**-/-**
Frequency Band [MHz]	:	**ISM 2.400 - 2.483,5**
Type of Modulation	:	**DSSS & OFDM**
Number of channels	:	**11**
Antenna	:	**Integrated antenna**
Power Supply	:	**3.8 V DC by Li-Polymer battery BST-38 or power supply**
Temperature Range	:	**-20 °C to 55 °C**

Max. power radiated : 14.34 dBm (OFDM)
Max. power conducted : 14.08 dBm (OFDM)

Max. power radiated : 18.38 dBm (DSSS)
Max. power conducted : 17.13 dBm (DSSS

FCC ID: PY7-A3352021
IC: 4170B-A3352021

3.1.2 Additional EUT information For IC Canada (appendix 2)

IC Registration Number:	**4170B-A3352021**
Model Name:	**AAD-3352021-BV**
Manufacturer (complete Adress):	**Sony Ericsson Mobile Communications AB Nya Vattentornet 22188 Lund Sweden**
Tested to Radio Standards Specification (RSS) No.:	**RSS-210 Issue 7**
Open Area Test Site Industry Canada Number:	**IC 3463A-1**
Frequency Range (or fixed frequency) [MHz]:	**2400 – 2483.5 MHz**
RF: Power [W] (max):	**DSSS:** **Rad. EIRP: 68.86 mW Conducted : 51.64 mW** **OFDM:** **Rad. EIRP: 27.16 mW Conducted : 25.58 mW**
Antenna Type:	**Integrated antenna**
Occupied Bandwidth (99% BW) [kHz]:	**DSSS: 15.70 20 dB Bandwidth OFDM: 18.14 20 dB Bandwidth**
Type of Modulation:	**DSSS & OFDM**
Emission Designator (TRC-43):	**15M7G1D (DSSS) 18M1G7D (OFDM)**
Transmitter Spurious (worst case) [dBµV/m in 3m]:	**67.1**
Receiver Spurious (worst case) [µV/m in 3m]:	**40.19**

ATTESTATION: I attest that the testing was performed or supervised by me; that the test measurements were made in accordance with the above-mentioned departmental standard(s), and that the radio equipment identified in this application has been subject to all applicable test conditions specified in the departmental standards and all of the requirements of the standards have been met.

Signature:

Test engineer: Daniel K. Muyunga Date: 2008-07-10

3.1.3 RF Technical Brief Cover Sheet acc. To RSS-102

All Fields must be completed with the requested information or the following codes: N/A for Not Applicable, N/P for Not Performed or N/V for Not Available. Where applicable, check appropriate box.

1. COMPANY NUMBER: **4170B**

2. MODEL NUMBER: **AAD-3352021-BV**

3. MANUFACTURER: **Sony Ericsson Mobile Communications AB**

4. TYPE OF EVALUATION: **(c) RF Evaluation**

- Evaluated against exposure limits: General Public Use ☒ Controlled Use ☐
- Duty cycle used in evaluation: 100 %
- Standard used for evaluation: RSS-102 Issue 2 (2005-11)
- Measurement distance: 0.20 m
- RF value: 0.137 V/m ☐ A/m ☐ W/m^2 ☒

Measured ☐ Computed ☐ Calculated ☒

Declaration of RF Exposure Compliance

ATTESTATION:

I attest that the information provided in this testreport is correct; that a Technical Brief was prepared and the information it contains is correct; that the device evaluation was performed or supervised by me; that applicable measurement methods and evaluation methodologies have been followed and that the device meets the SAR and/or RF exposure limits of RSS-102.

Name: Daniel K. Muyunga
Title: Dipl.-Ing. (FH)
Company: Cetecom ICT Services GmbH

3.1.4 EUT operating modes

EUT operating mode no.*)	Description of operating modes	Additional information
Op. 0	Normal mode	Normal temperature and power source conditions
Op. 1		low temperature, low power source conditions
Op. 2		low temperature, high power source conditions
Op. 3		high temperature, low power source conditions
Op. 4		high temperature, high power source conditions

*) EUT operating mode no. is used to simplify the test plan

3.1.5 Extreme conditions testing values

Description	Shortcut	Unit	Value
Nominal Temperature	T_{nom}	°C	**23**
Nominal Humidity	H_{nom}	%	**45**
Nominal Power Source	V_{nom}	V	**3.8**

Type of power source: **DC by Li-Polymer battery BST-38 or power supply**

Deviations from these values are reported in chapter 2

4 Summary of Measurement Results and list of all performed test cases

☒ **No deviations from the technical specifications were ascertained**

☐ There were deviations from the technical specifications ascertained

TC identifier	Description	verdict	date	Remark
RF-Testing	FCC Part 15 §15.247 - CANADA RSS-210	PASS	2008-07-10	-/-

Test Specification Clause	Test Case	Pass	Fail	Not applicable	Not performed
None	Antenna Gain	Yes			
§15.247 (e)	Peak power spectral density	Yes			
§15.247(a)(2)	Spectrum Bandwidth of a DSSS System / 6dB BW	Yes			
§15.247(a)(2)	Spectrum Bandwidth of a DSSS System / 20dB BW	Yes			
§ 15.247 (b)(3)	Maximum output power (conducted)	Yes			
§ 15.247 (b)(3)	Max. peak output power (radiated)	Yes			
§15.247 (d)	Band-edge compliance of conducted emissions	Yes			
§15.205	Band-edge compliance of radiated emissions	Yes			
§15.247 (d)	Spurious Emission - conducted (Transmitter)	Yes			
§ 15.209	Spurious Emission -radiated (Transmitter)	Yes			
§ 15.109	Spurious Emissions-radiated (Receiver)	Yes			
§ 15.209	Spurious Emissions-radiated <30 MHz	Yes			
§ 15.107/207	Conducted Emissions <30 MHz	Yes			

5 RF measurement testing

5.1 Description of test set-up

5.1.1 Radiated measurements

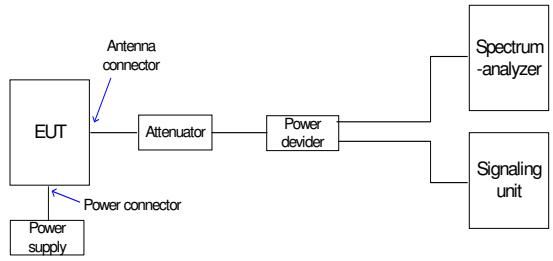
The radiated measurements are performed in vertical and horizontal plane in the frequency range from 9 kHz to 20 GHz in semi-anechoic chambers. The EUT is positioned on a non-conductive support with a height of 0.80 m above a conductive ground plane that covers the whole chamber.
The receiving antennas are confirmed with specifications ANSI C63.2-1996 clause 15 and ANSI C63.4-2003 clause 4.1.5. These antennas can be moved over the height range between 1.0 m and 4.0 m in order to search for maximum field strength emitted from EUT. The measurement distances between EUT and receiving antennas are indicated in the test set-ups for the various frequency ranges. For each measurement, the EUT is rotated in all three axes until the maximum field strength is received.
The wanted and unwanted emissions are received by spectrum analysers where the detector modes and resolution bandwidths over various frequency ranges are set according to requirement ANSI C63.4-2003 clause 4.2.
Antennas are confirmed with ANSI C63.2-1996 item 15.

9 kHz - 150 MHz: Quasi Peak measurement, 200 Hz Bandwidth, passive loop antenna.
150 kHz - 30 MHz: Quasi Peak measurement, 9 kHz Bandwidth, passive loop antenna.
30 MHz - 200 MHz: Quasi Peak measurement, 120 kHz Bandwidth, biconical antenna
200MHz - 1GHz: Quasi Peak measurement, 120 kHz Bandwidth, log periodic antenna
>1GHz: Average, RBW 1MHz, VBW 10 Hz, wave guide horn

All measurement settings are according to FCC 15.209 and 15.207

5.1.2 Conducted measurements

The EUT´s RF signal is coupled out by the antenna connector which is supplied by the manufacturer. The signal is connected to the spectrum analyzer. The specific losses for signal path are first checked within a calibration. The measurement readings on the spectrum analyzer are corrected by the specific test set-up loss. The attenuator, power divider, signalling unit and the spectrum analyzer are impedance matched on 50 Ohm.



5.2 Referenced Documents

None

5.3 Additional comments

--

5.4 Antenna gain

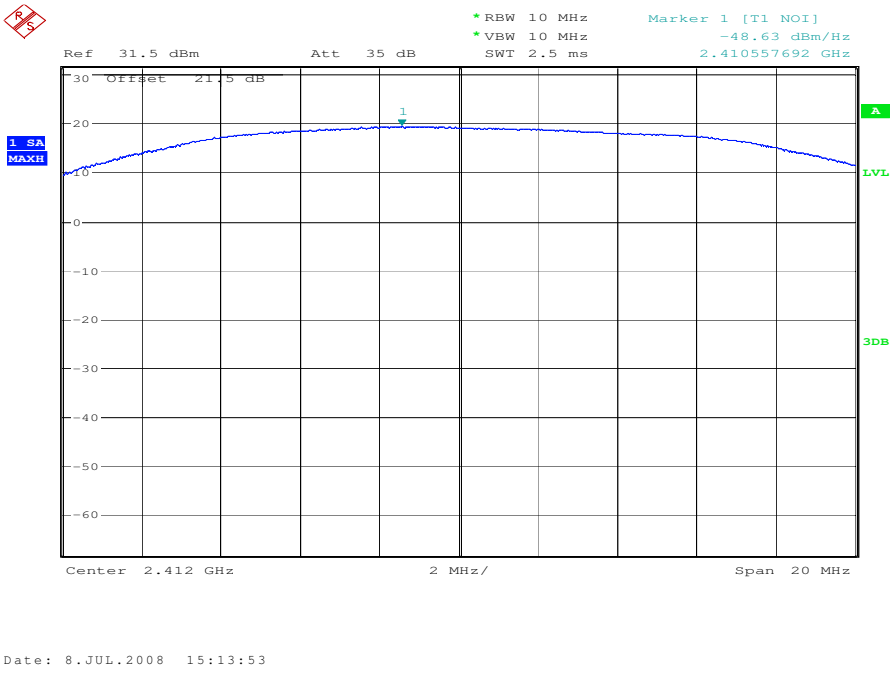
The antenna gain of the complete system is calculated by the difference of radiated power in EIRP and the conducted power of the module.

	low channel	mid channel	high channel
Conducted power [dBm] *(measured)*	16.96	16.99	17.13
Radiated power [dBm] *(measured)*	18.32	18.29	18.38
Gain [dBi] *(calculated)*	1.36	1.30	1.25

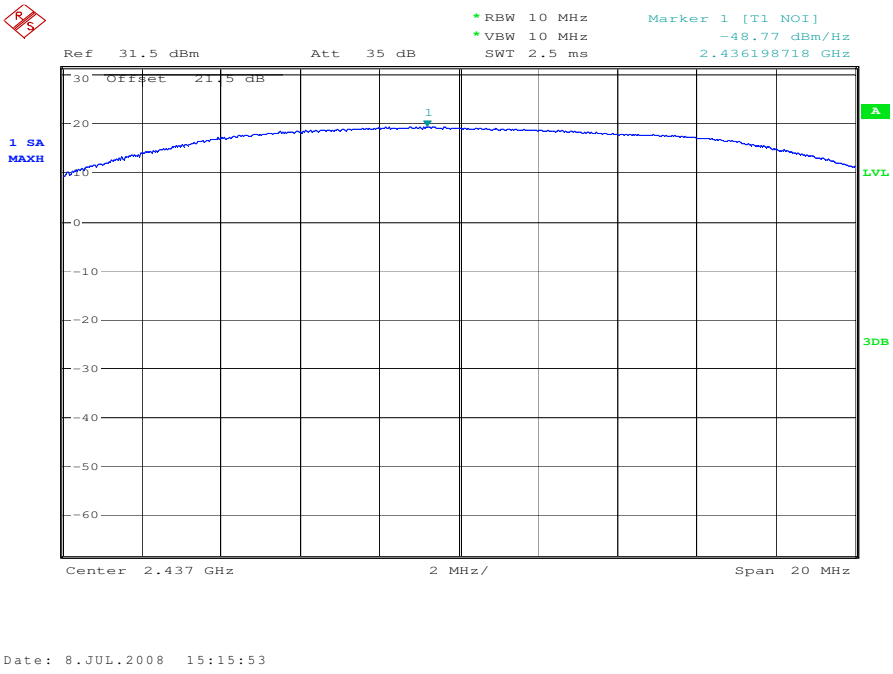
5.5 Peak Power Spectral density (digitally modulated systems) §15.247(e)

DSSS

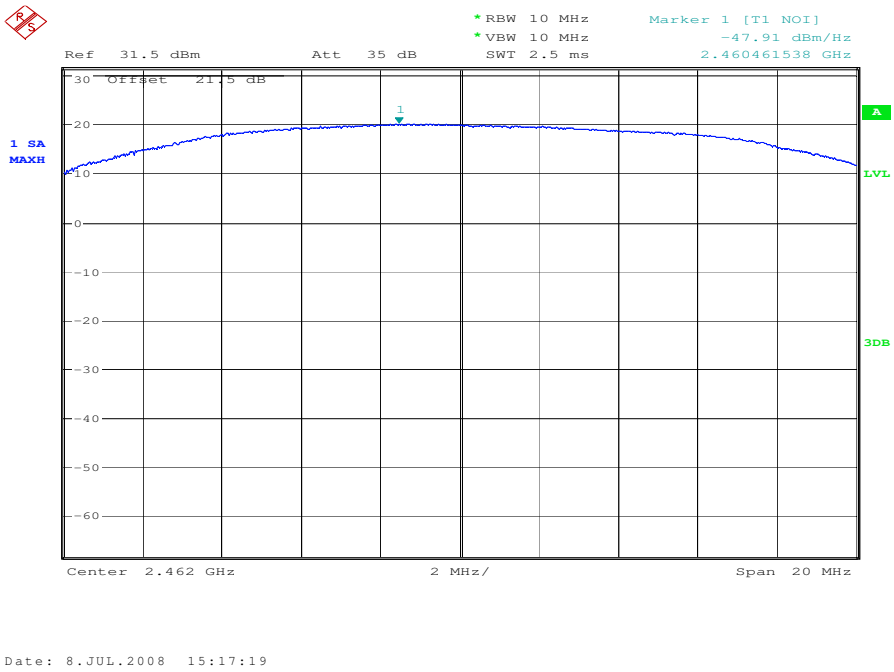
Plot 1: (result calculated by the Signal analyzer FSU from Rohde & Schwarz)



Plot 2: (result calculated by the Signal analyzer FSU from Rohde & Schwarz)



Plot 3: (result calculated by the Signal analyzer FSU from Rohde & Schwarz)

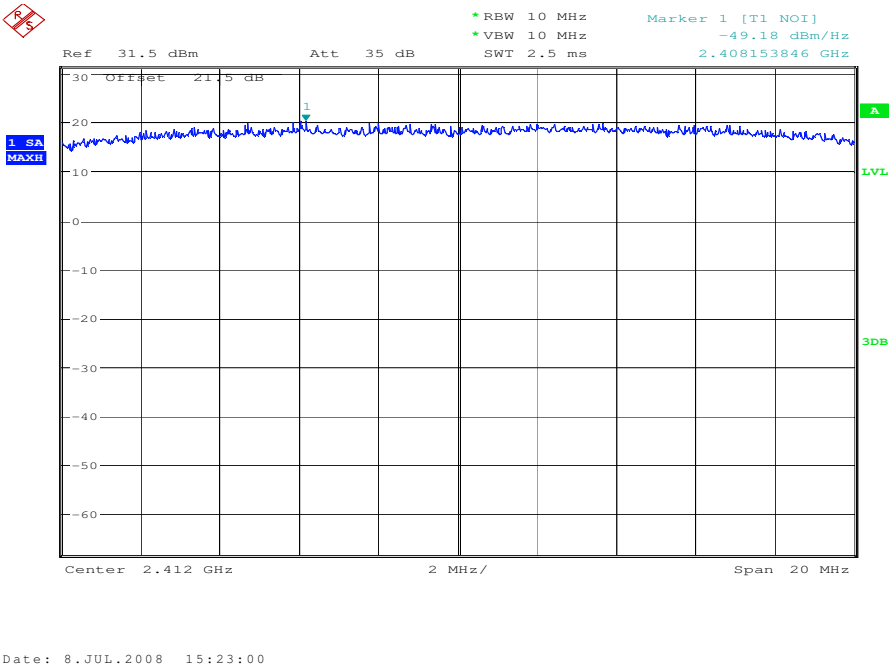


Results: Plot 1: Power density: -48.63 dBm/Hz = -13.83 dBm / 3 kHz
Plot 2: Power density: -48.77 dBm/Hz = -13.97 dBm / 3 kHz
Plot 3: Power density: -47.91 dBm/Hz = -13.11 dBm / 3 kHz

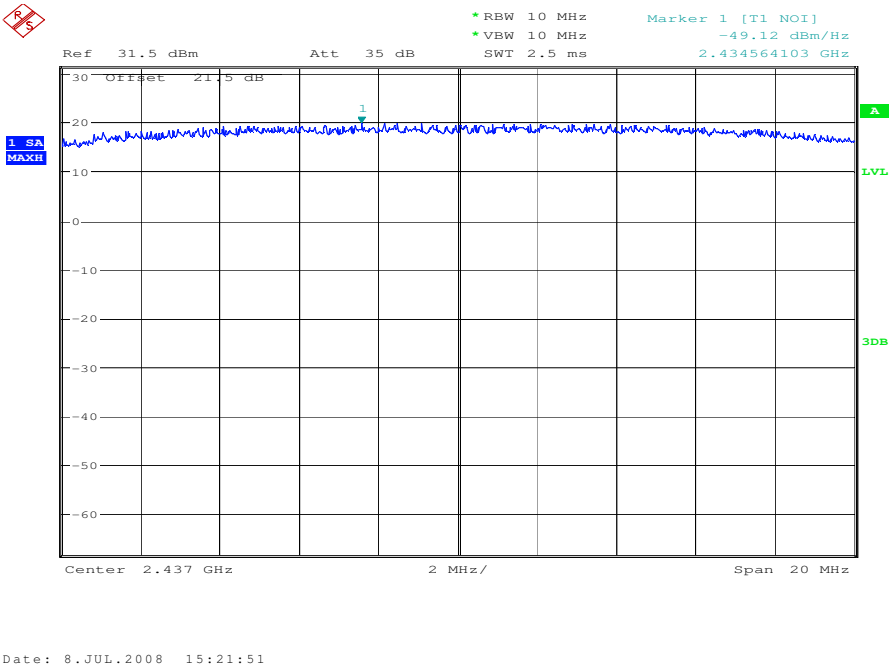
Correction factor from dBm/Hz to dBm/3 kHz is +34,8 dB

OFDM

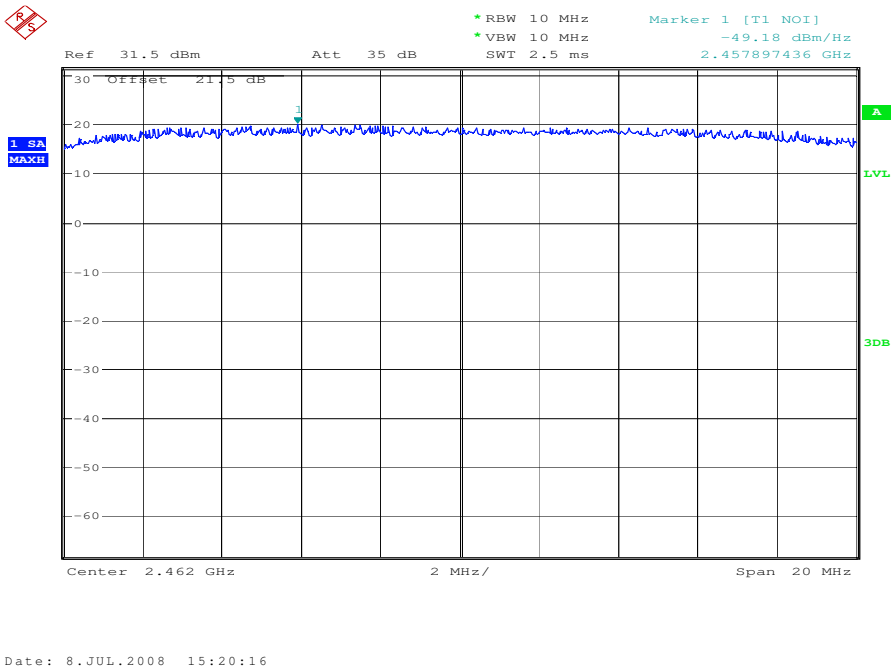
Plot 1: (result calculated by the Signal analyzer FSU from Rohde & Schwarz)



Plot 2: (result calculated by the Signal analyzer FSU from Rohde & Schwarz)



Plot 3: (result calculated by the Signal analyzer FSU from Rohde & Schwarz)



Results: Plot 1: Power density: -49.18 dBm/Hz = -14.38 dBm / 3 kHz
Plot 2: Power density: -49.12 dBm/Hz = -14.32 dBm / 3 kHz
Plot 3: Power density: -49.18 dBm/Hz = -14.38 dBm / 3 kHz

Correction factor from dBm/Hz to dBm/3 kHz is +34,8 dB

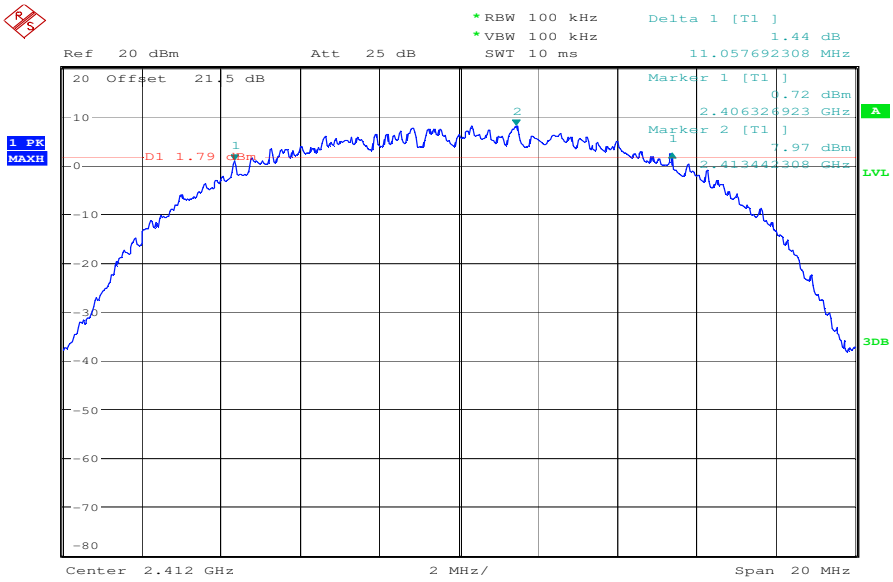
Limits :

Under normal test conditions only	For digitally modulated systems, the peak power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission

5.6 Spectrum Bandwidth of a DSSS System / 6 dB Bandwidth §15.247(a)(2)

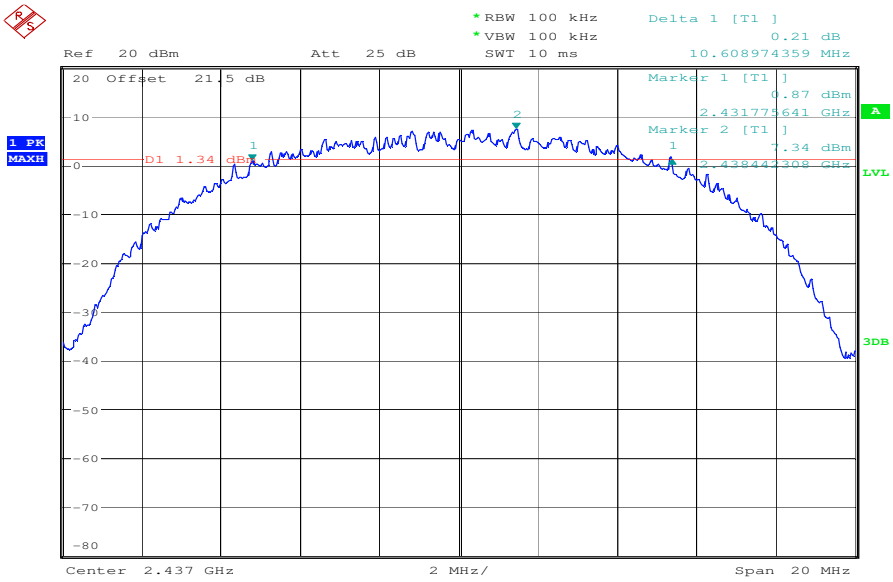
DSSS

Plot 1:



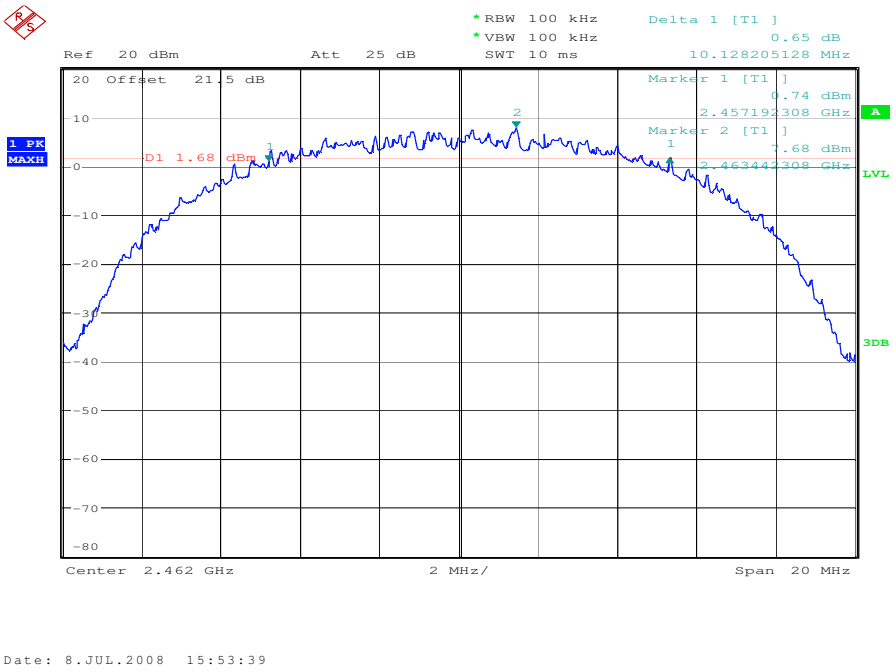
Date: 8.JUL.2008 15:46:32

Plot 2:



Date: 8.JUL.2008 15:50:39

Plot 3:



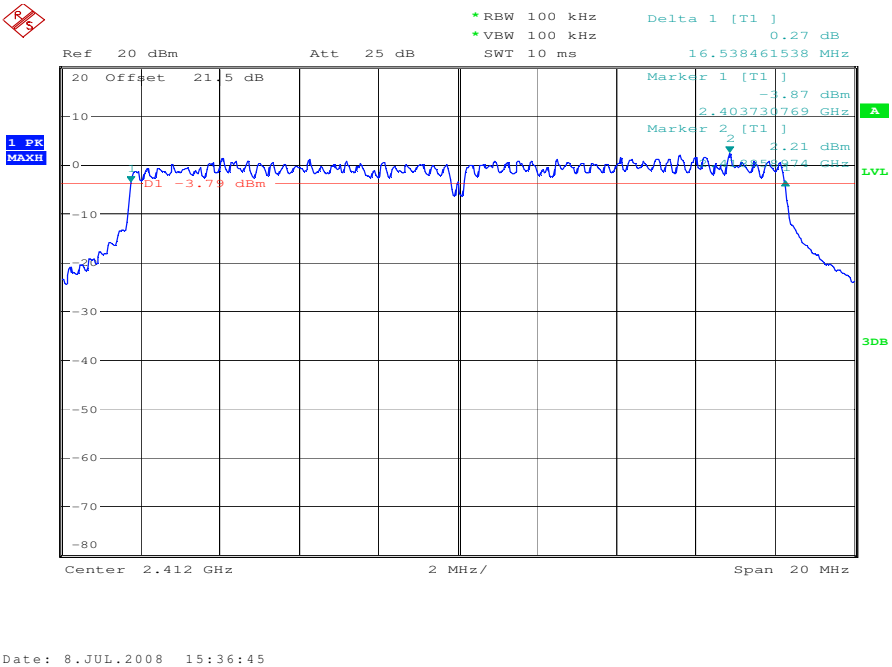
Results:

Test conditions		6 dB BANDWIDTH [MHz]		
Frequency [MHz]		2412	2437	2462
T_{nom}	V_{nom}	11.05	10.60	10.12
Measurement uncertainty		±1kHz		

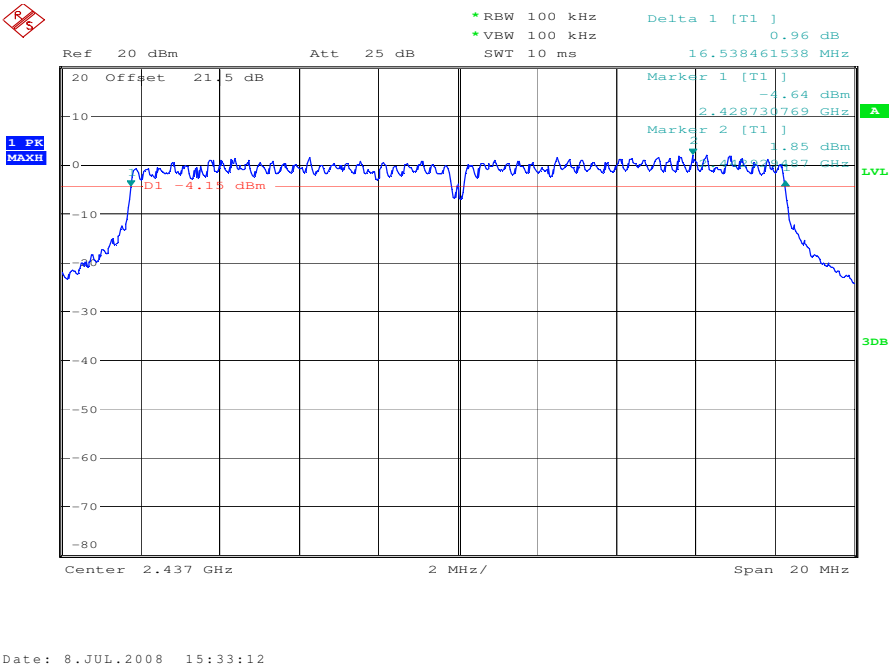
RBW: 100 kHz / VBW 100 kHz

OFDM

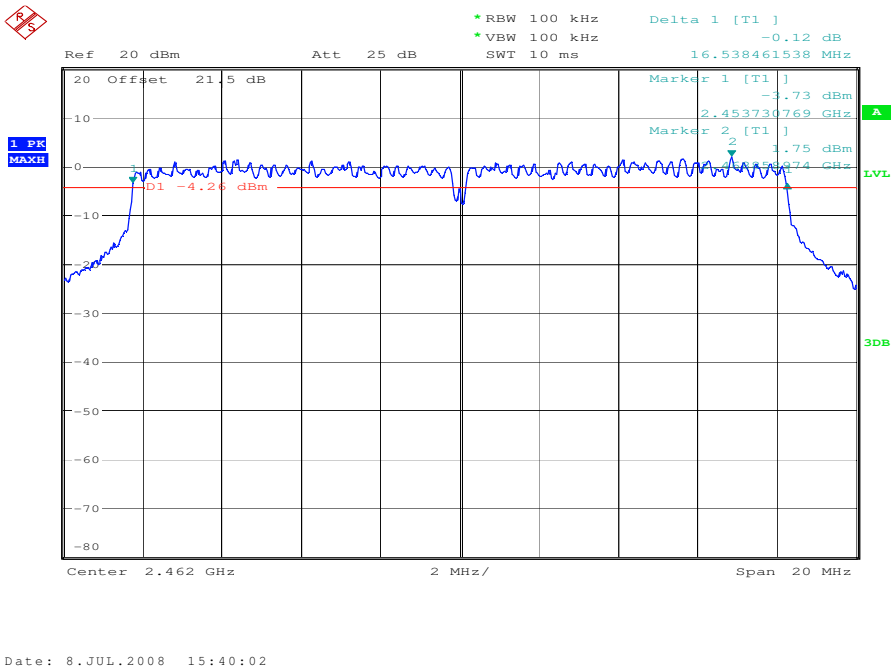
Plot 1:



Plot 2:



Plot 3:



Results:

Test conditions		6 dB BANDWIDTH [MHz]		
Frequency [MHz]		2412	2437	2462
T_{nom}	V_{nom}	16.53	16.53	16.53
Measurement uncertainty		±1kHz		

RBW: 100 kHz / VBW 100 kHz

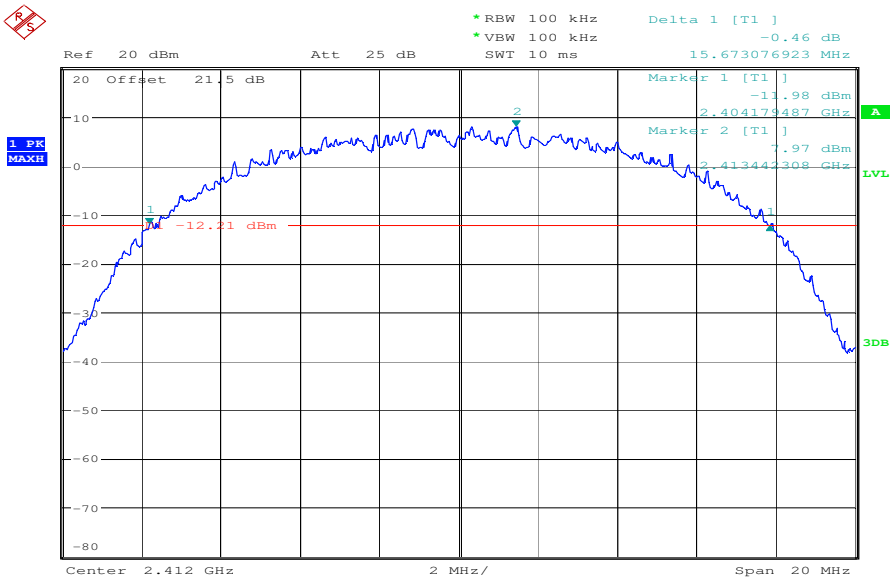
Limits:

Under normal test conditions only	> 500 kHz

5.7 Spectrum Bandwidth of a DSSS System / 20 dB Bandwidth

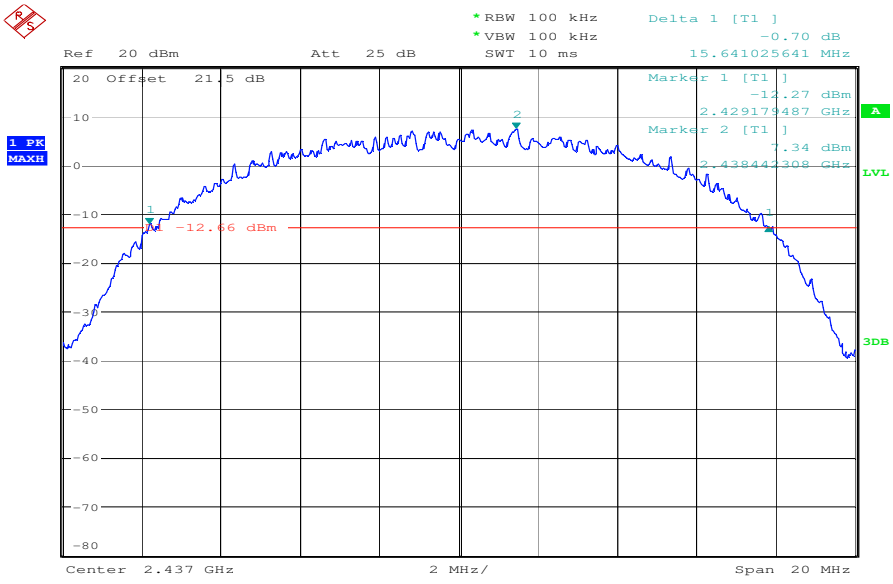
DSSS

Plot 1:



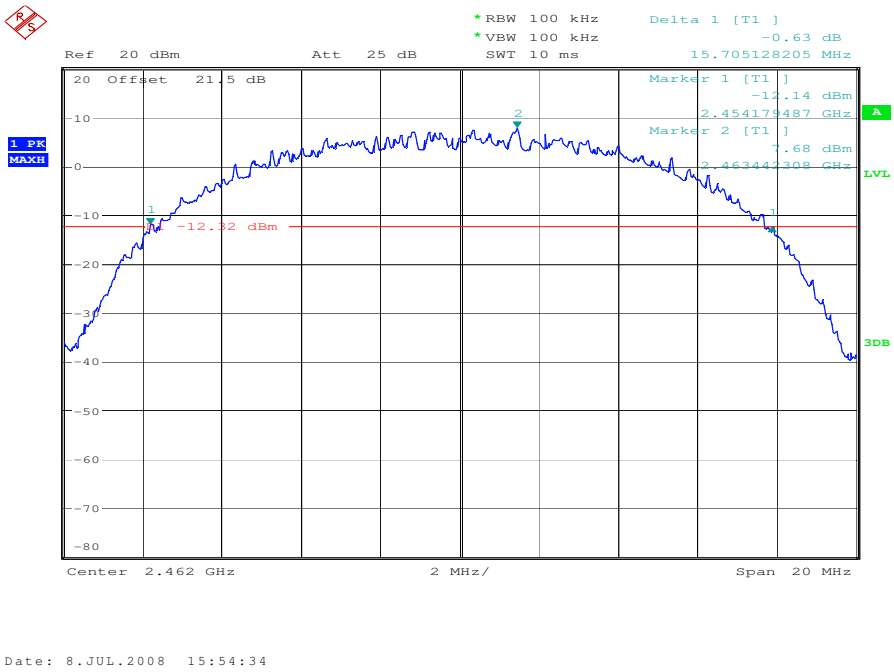
Date: 8.JUL.2008 15:47:48

Plot 2:



Date: 8.JUL.2008 15:51:43

Plot 3:



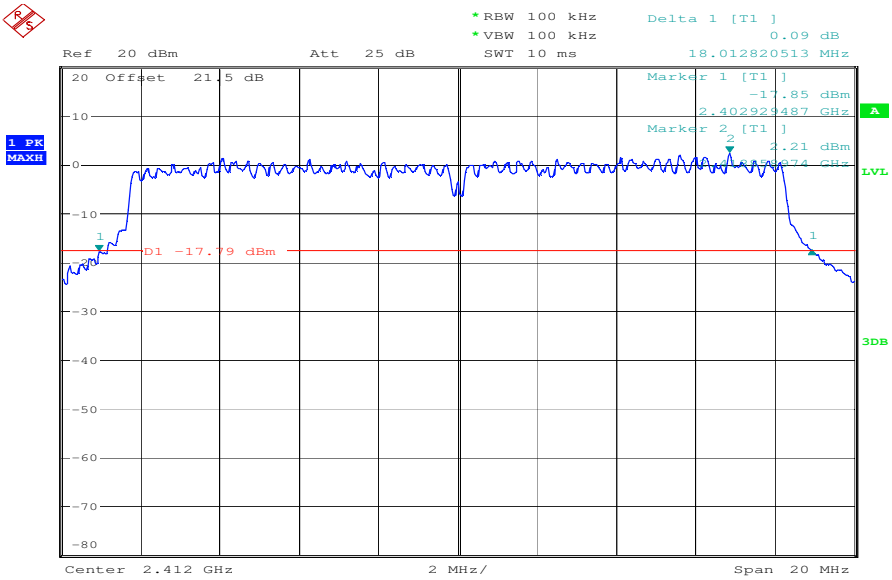
Results:

Test conditions		**20 dB BANDWIDTH [MHz]**		
Frequency [MHz]		2412	2437	2462
T_{nom}	V_{nom}	15.67	15.64	15.70
Measurement uncertainty		±1kHz		

RBW: 100 kHz / VBW 100 kHz

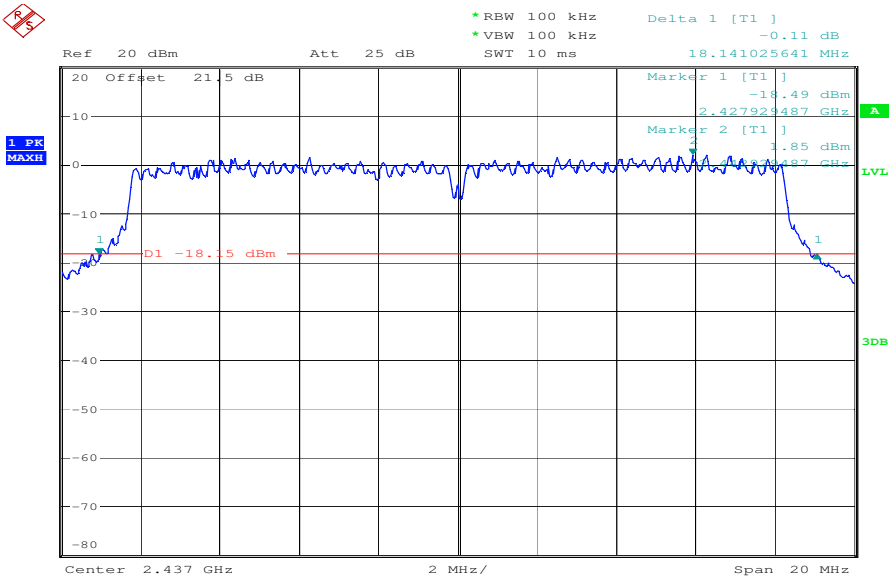
OFDM

Plot 1:



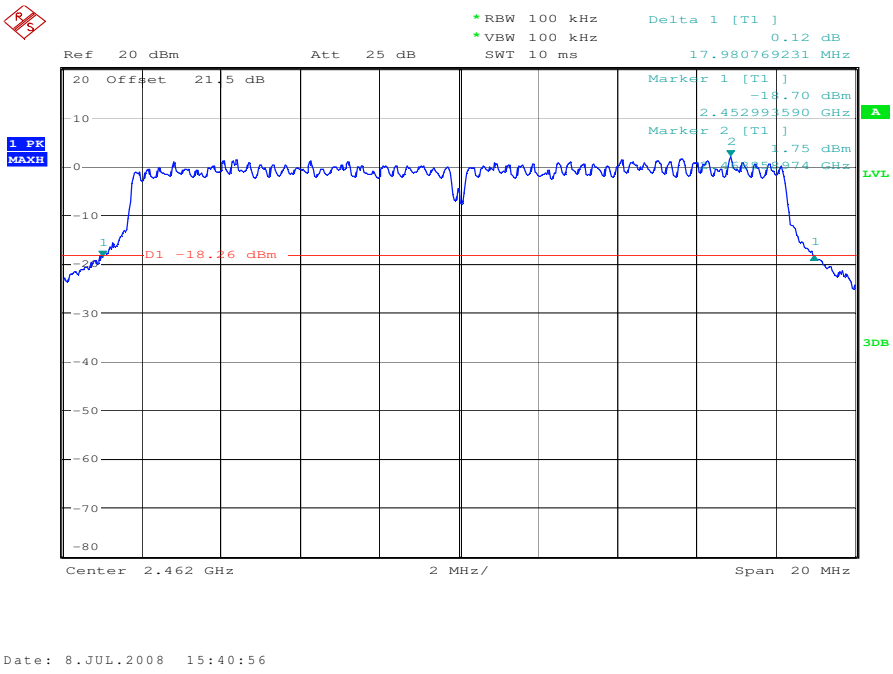
Date: 8.JUL.2008 15:37:54

Plot 2:



Date: 8.JUL.2008 15:34:44

Plot 3:



Results:

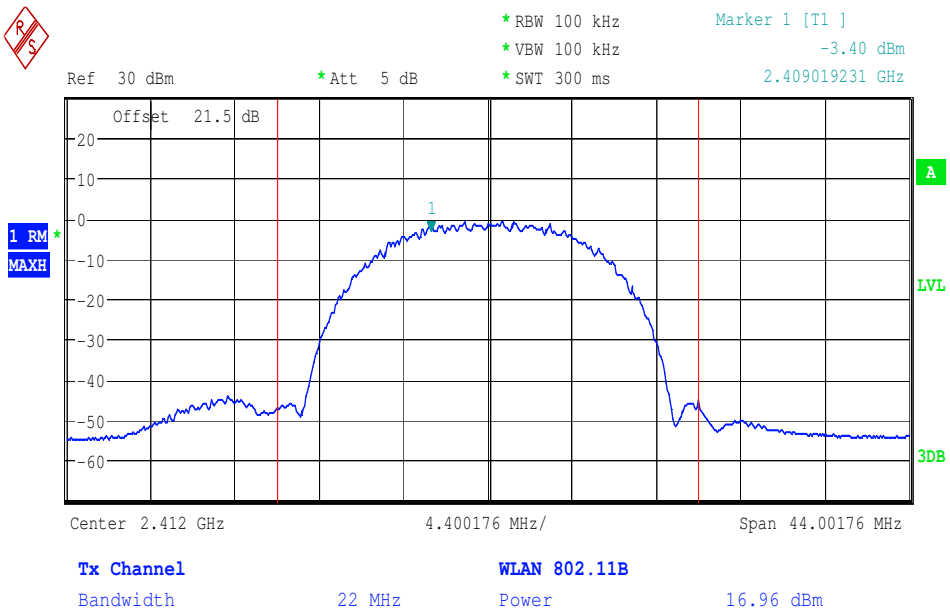
Test conditions		**20 dB BANDWIDTH [MHz]**		
Frequency [MHz]		2412	2437	2462
T_{nom}	V_{nom}	18.01	18.14	17.98
Measurement uncertainty		±1kHz		

RBW: 100 kHz / VBW 100 kHz

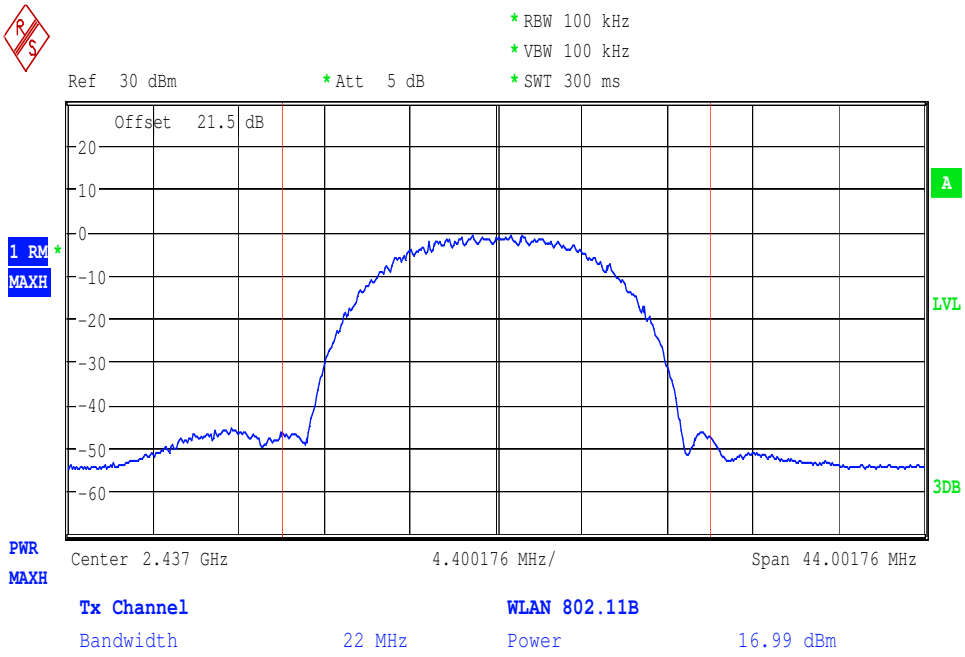
5.8 Maximum output power (conducted) §15.247 (b)(3)

DSSS

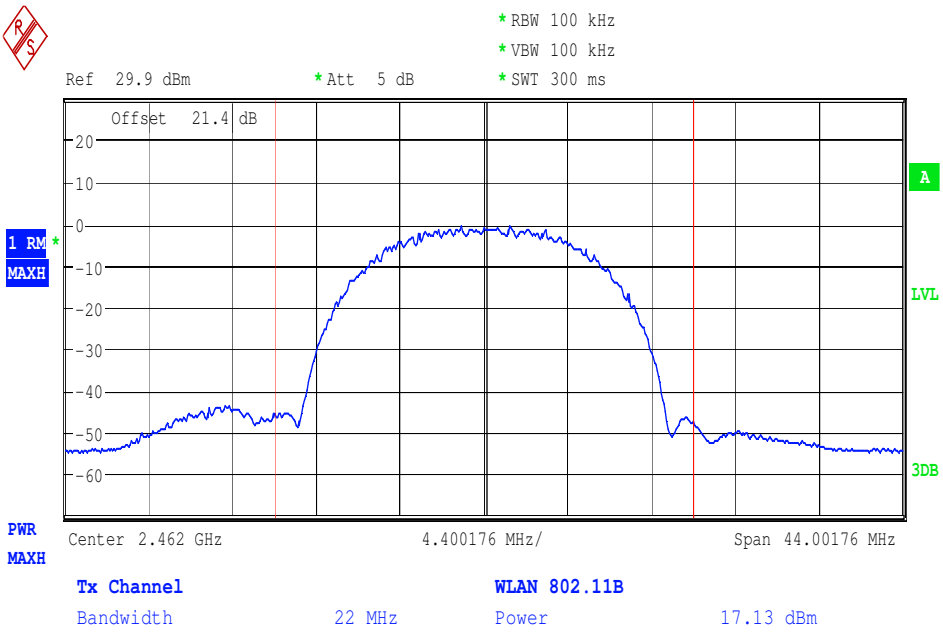
Plot 1: (result calculated by the Signal analyzer FSU from Rohde & Schwarz)



Plot 2: (result calculated by the Signal analyzer FSU from Rohde & Schwarz)



Plot 3: (result calculated by the Signal analyzer FSU from Rohde & Schwarz)



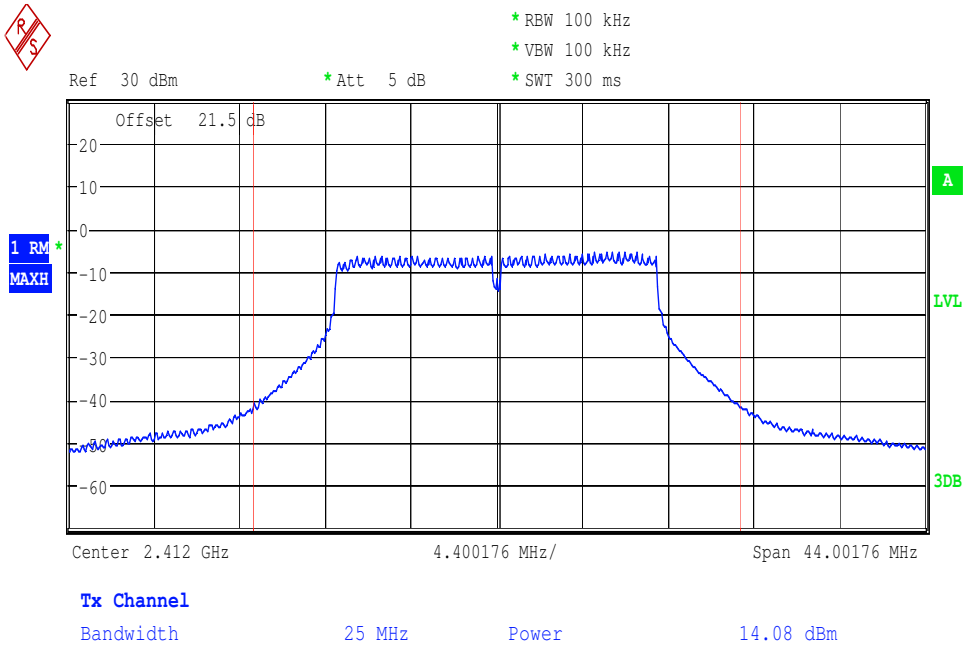
Results:

Test conditions		Max. peak output power [dBm]			
Frequency [MHz]		2412		2437	2462
T_{nom}	V_{nom}	PK	16.96	16.99	17.13
Measurement uncertainty		±3dB			

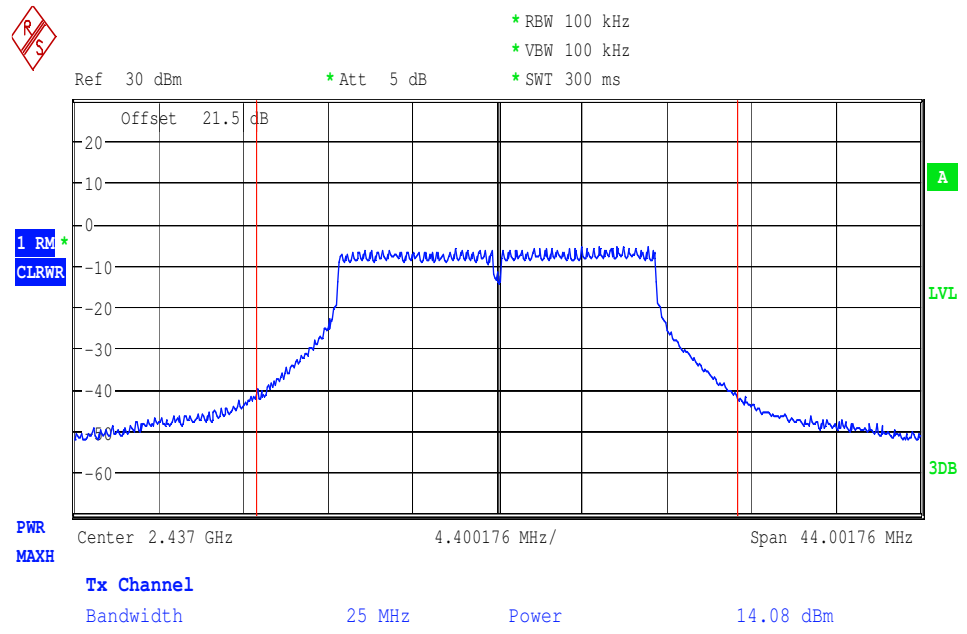
RBW / VBW: 10 MHz

OFDM

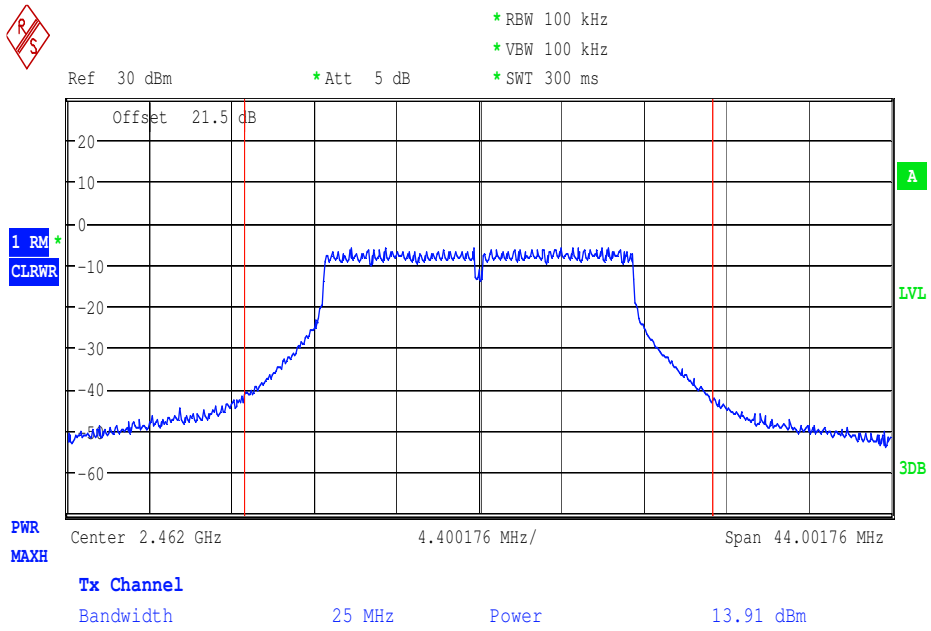
Plot 1: (result calculated by the Signal analyzer FSU from Rohde & Schwarz)



Plot 2: (result calculated by the Signal analyzer FSU from Rohde & Schwarz)



Plot 3: (result calculated by the Signal analyzer FSU from Rohde & Schwarz)



Results:

Test conditions		**Max. peak output power [dBm]**			
Frequency [MHz]			2412	2437	2462
T_{nom}	V_{nom}	PK	14.08	14.08	13.91
Measurement uncertainty		±3dB			

RBW / VBW: 10 MHz

Limits:

Under normal test conditions only, for frequency range 2400-2483.5 MHz	Max. 1.0 Watt / 30 dBm

MPE calculation

These equations are generally accurate in the far field of an antenna but will over predict power density in the near field, where they could be used for making a “worst case” prediction.

$$S = PG/4\pi R^2$$

where S = power density (in appropriate units, e.g. mW/cm^2)
P = power input to the antenna (in appropriate units e.g. mW)
G = power gain of the antenna in the direction of interest relative to the isotropic radiator
R = distance to the centre of radiation of the antenna (appropriate units e.g. cm)

Or

$$S = EIRP/4\pi R^2$$

where EIRP = equivalent isotropically radiated power

Calculation:

(Calculated for max. EIRP)

EIRP: 18.38 dBm (68.865 mW)

calculated at distance of 20 cm:

power density = $68.865 /4\pi(20)^2 = 0.0137$ mW/ cm^2

Limit:

$1mW/ cm^2$ is the reference level for general public exposure according to the OET Bulletin 65, Edition 97-01 Table 1.

5.9 Max. peak output power (radiated) §15.247 (b)(3)

DSSS

Results:

Test conditions		Max. peak output power EIRP [dBm]		
Frequency [MHz]		2412	2437	2462
T_{nom}	V_{nom}	18.32	18.29	18.38
Measurement uncertainty		±3dB		

RBW / VBW: 10 MHz
Measured at a distance of 3m

OFDM

Results:

Test conditions		Max. peak output power EIRP [dBm]		
Frequency [MHz]		2412	2437	2462
T_{nom}	V_{nom}	14.31	14.14	14.34
Measurement uncertainty		±3dB		

RBW / VBW: 10 MHz
Measured at a distance of 3m

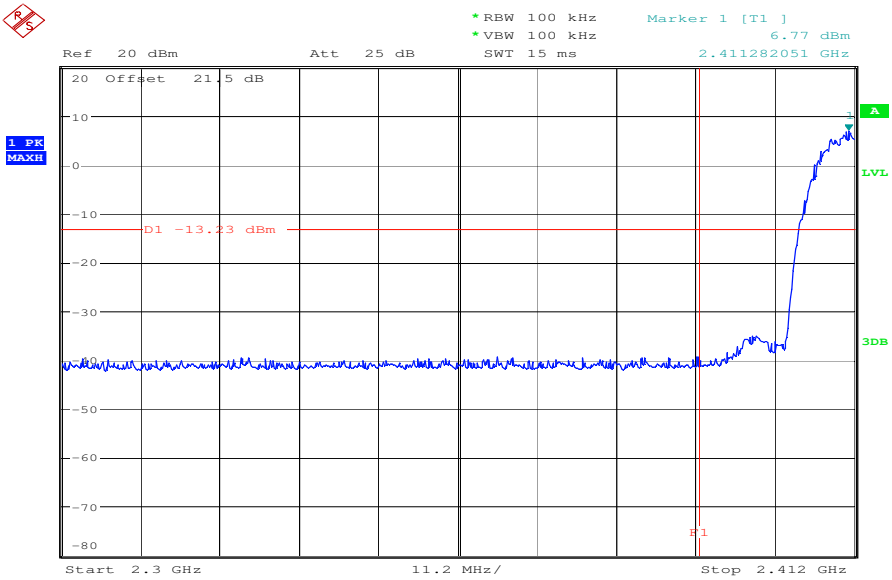
Limits:

Under normal test conditions only, for frequency range 2400-2483.5 MHz	Max. 1.0 Watt

5.10 Band-edge compliance of conducted emissions §15.247 (d)

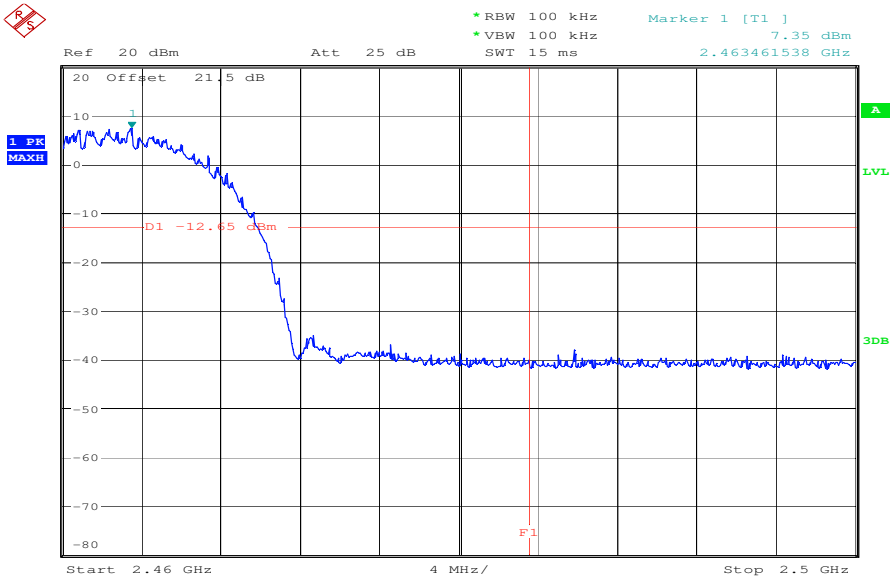
DSSS

Plot 1: lowest channel



Date: 9.JUL.2008 10:02:15

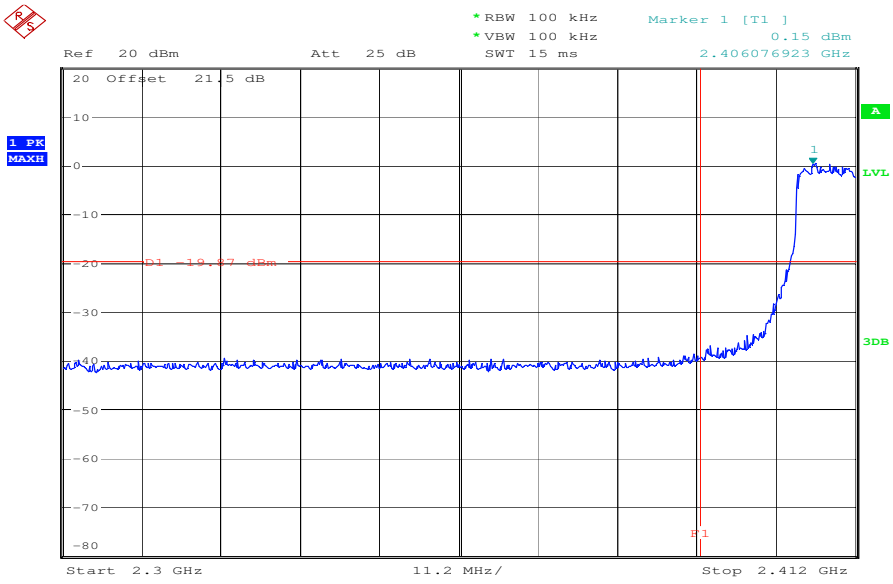
Plot 2: highest channel



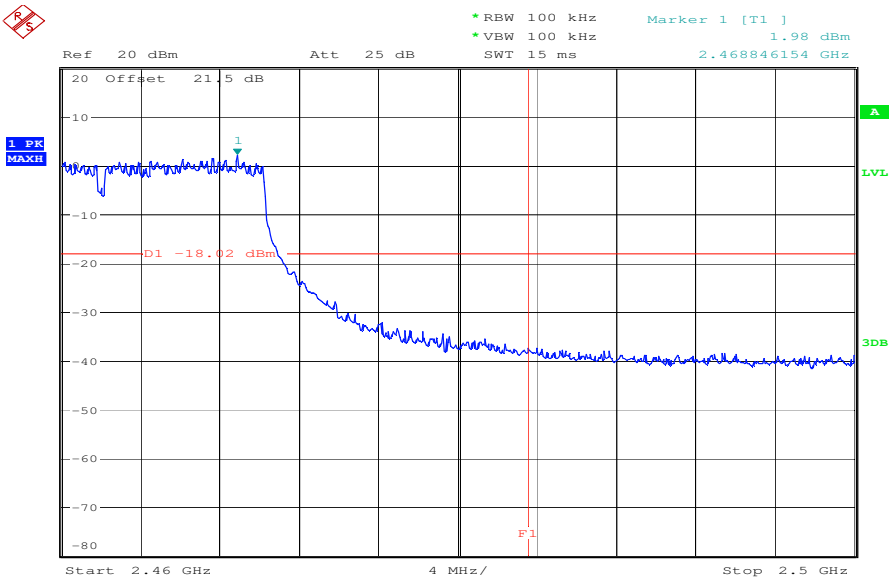
Date: 9.JUL.2008 10:00:36

OFDM

Plot 1: lowest channel



Plot 2: highest channel



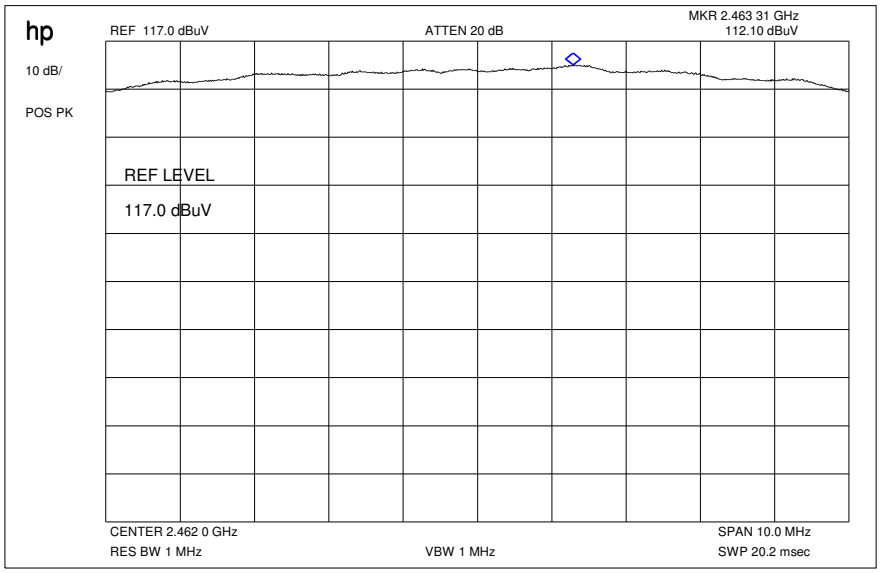
Limits:

Under normal test conditions only	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 5.205(c)).

5.11 Band-edge compliance of radiated emissions §15.205

DSSS

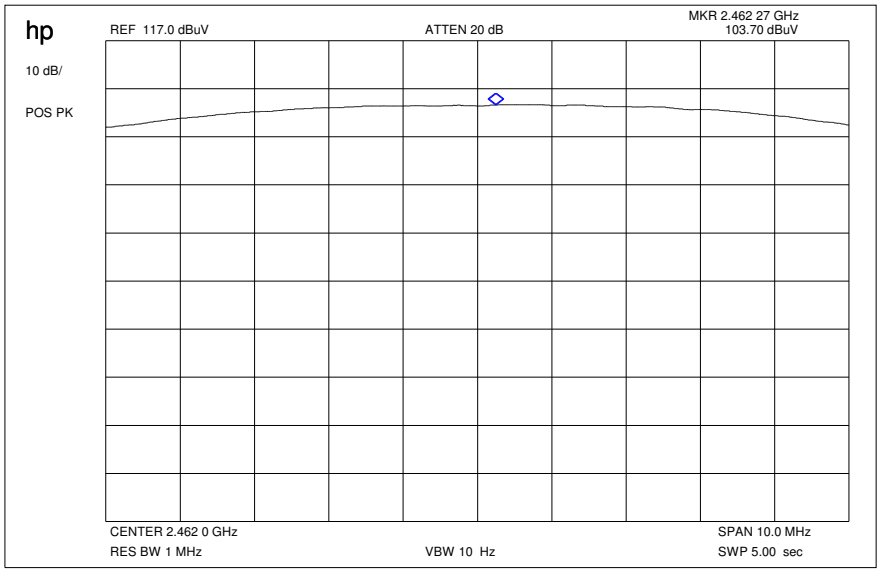
Plot 1: Max field strength in 3m distance (single frequency) peak



Result:

Frequency	Meter reading	Correction factor	Results
2462 MHz		-6.4 dB	112.10 dBµV at 3 m

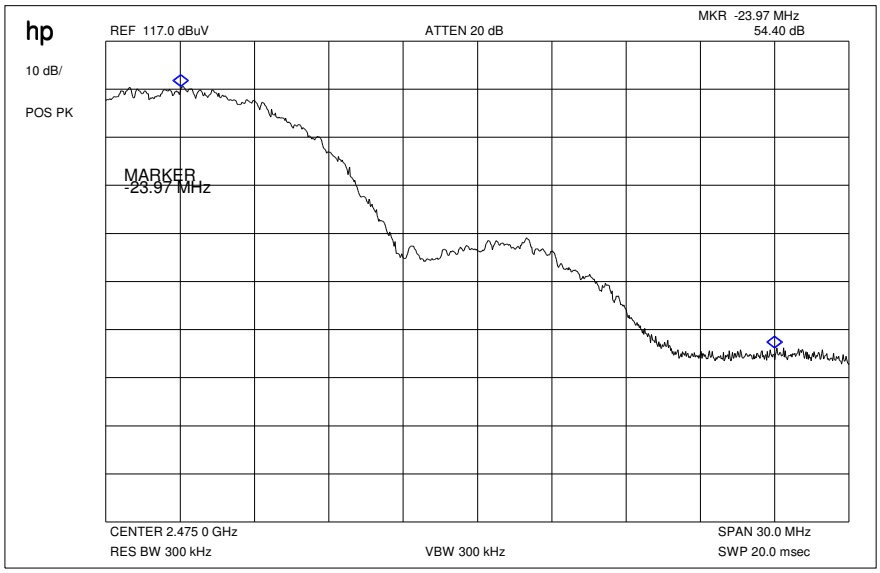
Plot 2: Max field strength in 3m distance (single frequency) average



Result:

Frequency	Meter reading	Correction factor	Results
2462 MHz		-6.4 dB	103.70 dBµV at 3 m

Plot 3: Marker-Delta Method RBW/VBW = 1% of span



Result:

Marker-Delta-Value: 54.40 dB

This measurement was made to show that the behaviour of the system is conform to FCC 15.205 (restricted bands)

Results & Limits:

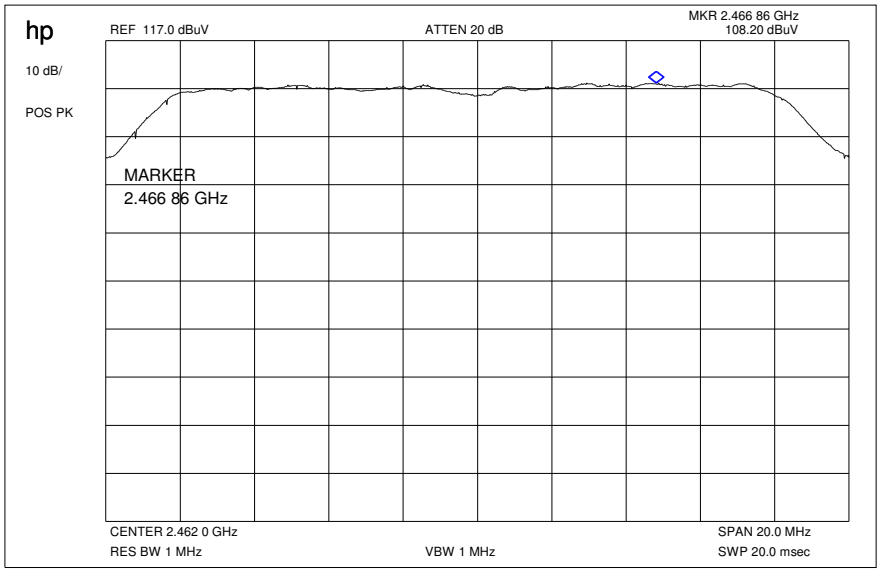
Radiated field strength

The field strength was measured with an EMI measuring receiver and 1 MHz RBW / VBW for peak and with 1MHz RBW / 10Hz VBW for average at a distance of 3m.

high channel	setup	measured value (3m)	correction factor (3m)	calculated value (3m)
Max. peak value	1 MHz RBW 1 MHz VBW	112.1 dBµV/m	-6.4 dB	105.7 dBµV/m
Max. average value	1 MHz RBW 10 Hz VBW	103.7 dBµV/m	-6.4 dB	97.3 dBµV/m
Delta value	Peak 300 kHz RBW/VBW	54.4 dB		
Value at band edge	limit 54 dBµV/m			42.9 dBµV/m
Statement:				**Complies**

OFDM

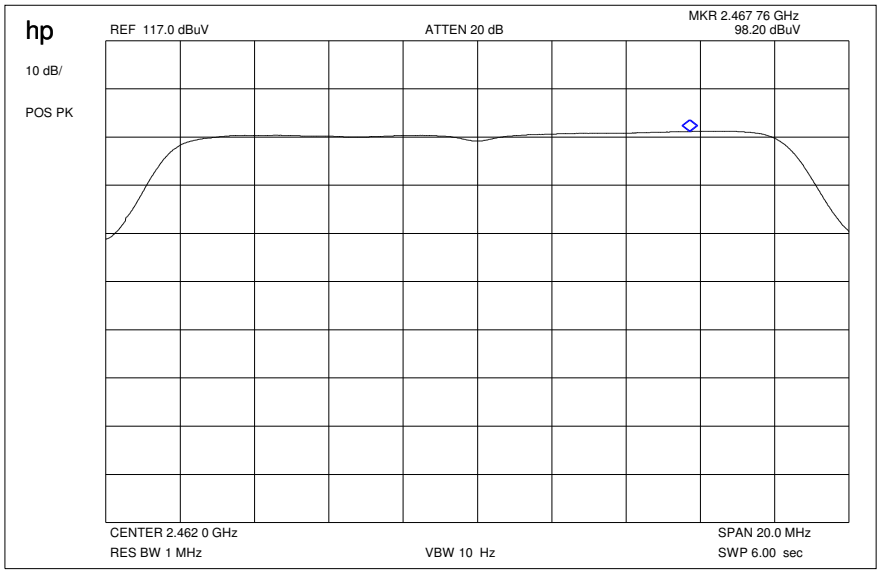
Plot 1: Max field strength in 3m distance (single frequency) peak



Result:

Frequency	Meter reading	Correction factor	Results
2462 MHz		-6.4 dB	108.20 dBµV at 3 m

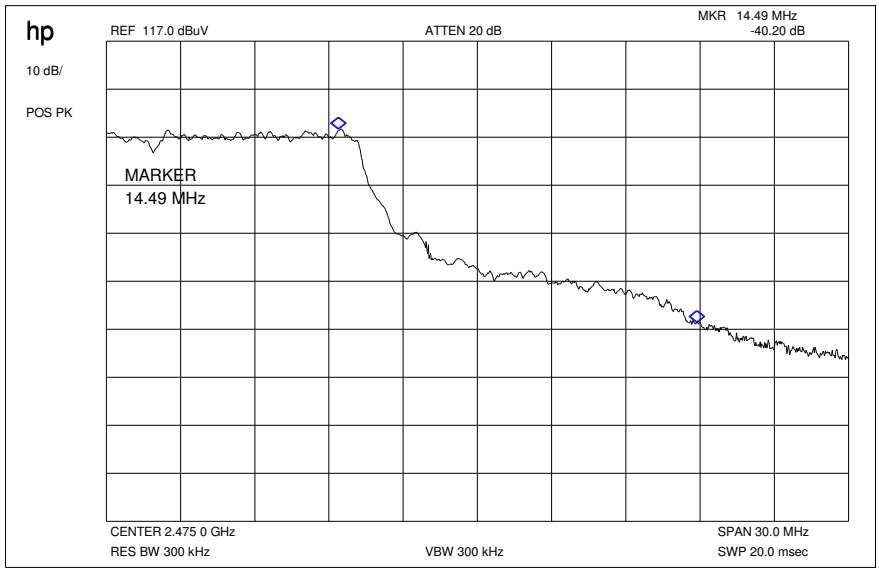
Plot 2 : Max field strength in 3m distance (single frequency) average



Result:

Frequency	Meter reading	Correction factor	Results
2462 MHz		-6.4 dB	98.20 dBµV at 3 m

Plot 3: Marker-Delta Method RBW/VBW = 1% of span



Result:

Marker-Delta-Value: 40.20 dB

This measurement was made to show that the behaviour of the system is conform to FCC 15.205 (restricted bands)

Results & Limits:

Radiated field strength

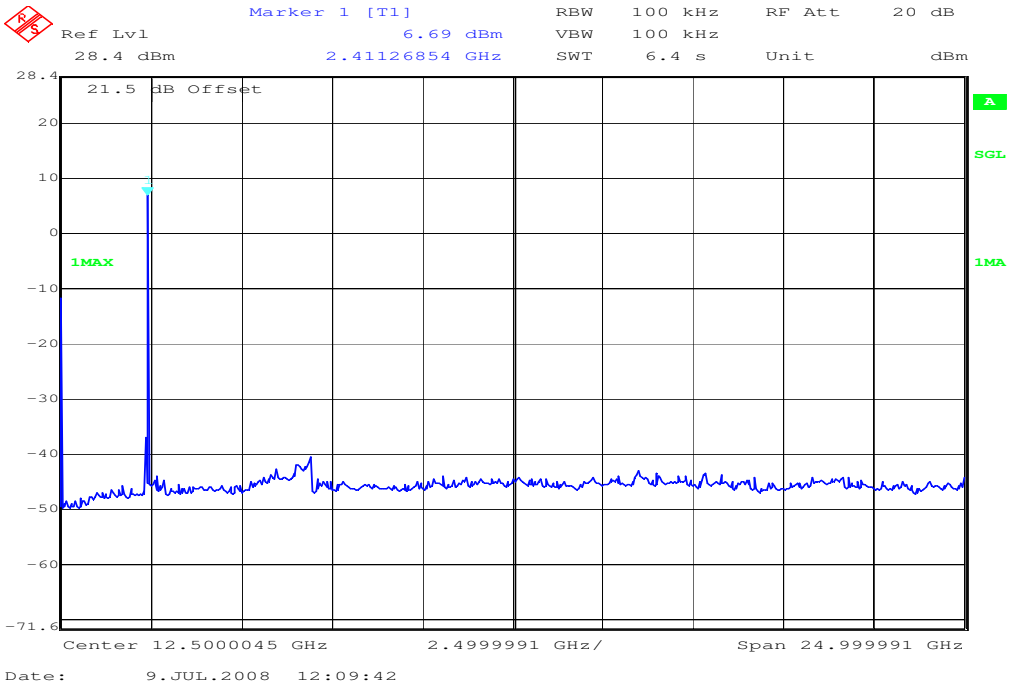
The field strength was measured with an EMI measuring receiver and 1 MHz RBW / VBW for peak and with 1MHz RBW / 10Hz VBW for average at a distance of 3m.

high channel	setup	measured value (3m)	correction factor (3m)	calculated value (3m)
Max. peak value	1 MHz RBW 1 MHz VBW	108.2 dBµV/m	-6.4 dB	101.8 dBµV/m
Max. average value	1 MHz RBW 10 Hz VBW	98.2 dBµV/m	-6.4 dB	91.8 dBµV/m
Delta value	Peak 300 kHz RBW/VBW	40.2 dB		
Value at band edge	limit 54 dBµV/m			51.6 dBµV/m
Statement:				**Complies**

5.12 Spurious Emissions - conducted (Transmitter) §15.247 (c)

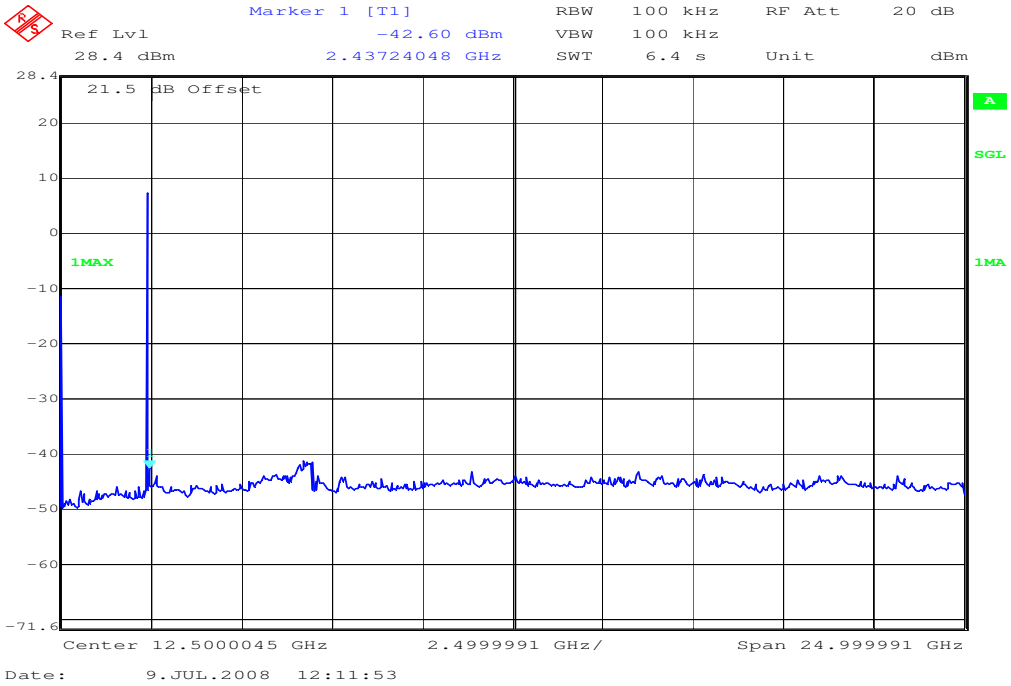
DSSS

Plot 1: Lowest Channel



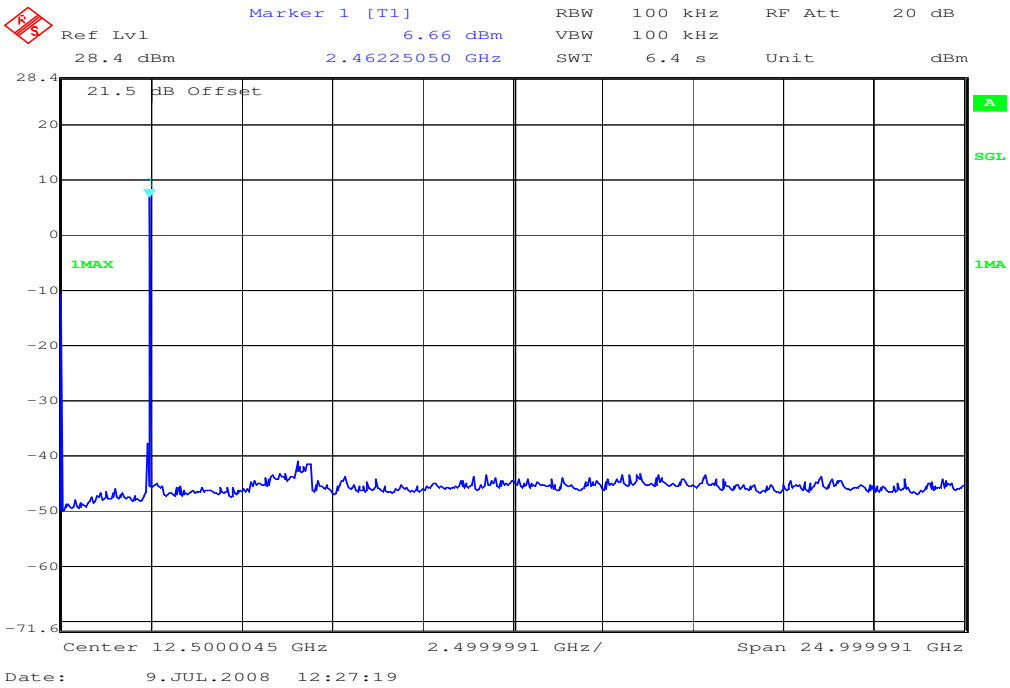
The peak at the beginning of the Plot is the LO from the measuring spectrum Analyzer and not from the EUT.

Plot 2: Middle Channel



The peak at the beginning of the Plot is the LO from the measuring spectrum Analyzer and not from the EUT.

Plot 3: Highest Channel



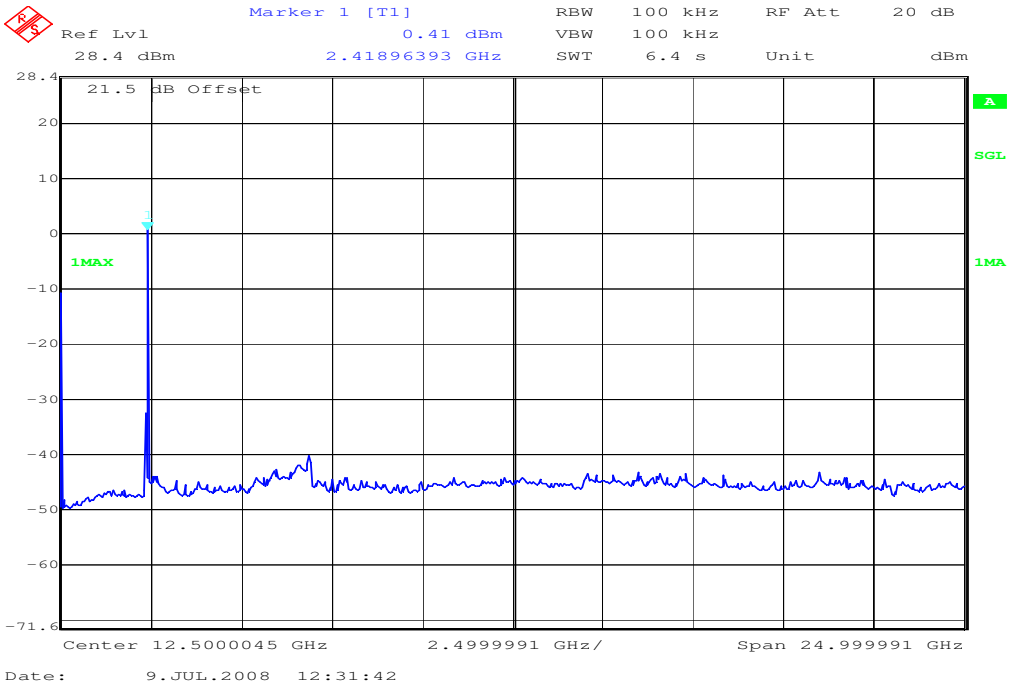
The peak at the beginning of the Plot is the LO from the measuring spectrum Analyzer and not from the EUT.

Result & Limits:

Emission Limitations					
f [MHz]		amplitude of emission [dBm]	limit max. allowed emmision power	actual attenuation below frequency of operation [dB]	results
2412	DSSS	16.96	30 dBm	-	Operating frequency
No peaks found			-20 dBc	> 20 dB	complies
				> 20 dB	
				> 20 dB	
2437	DSSS	16.99	30 dBm		Operating frequency
No peaks found			-20 dBc	> 20 dB	complies
				> 20 dB	
				> 20 dB	
2462	DSSS	17.13	30 dBm		Operating frequency
No peaks found			-20 dBc	> 20 dB	complies
				> 20 dB	
				> 20 dB	
Measurement uncertainty		± 3dB			

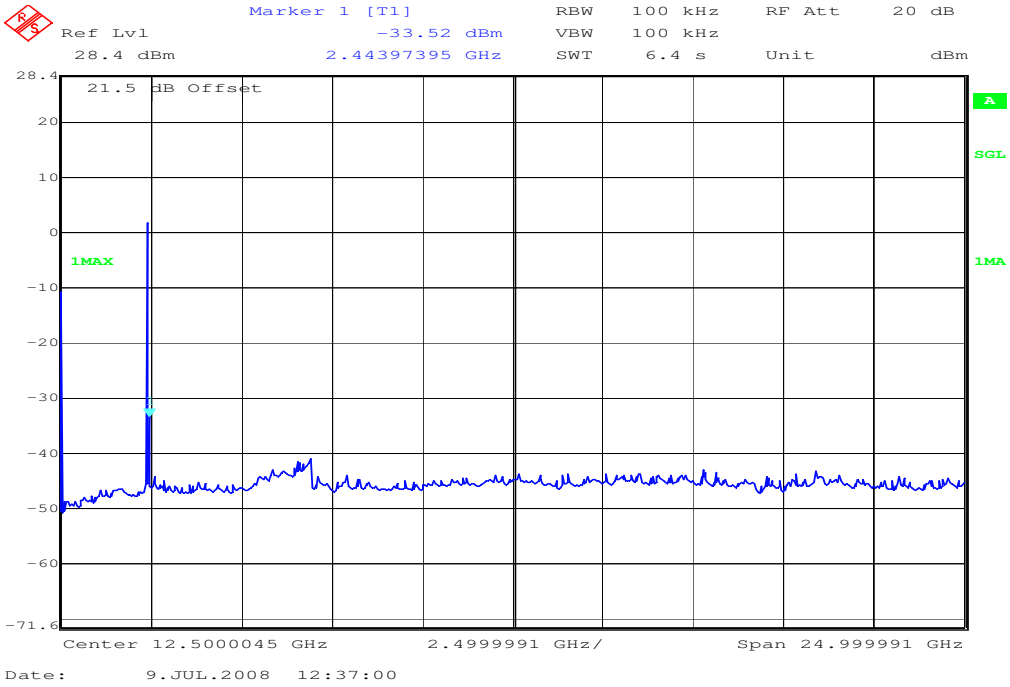
OFDM

Plot 1: Lowest Channel



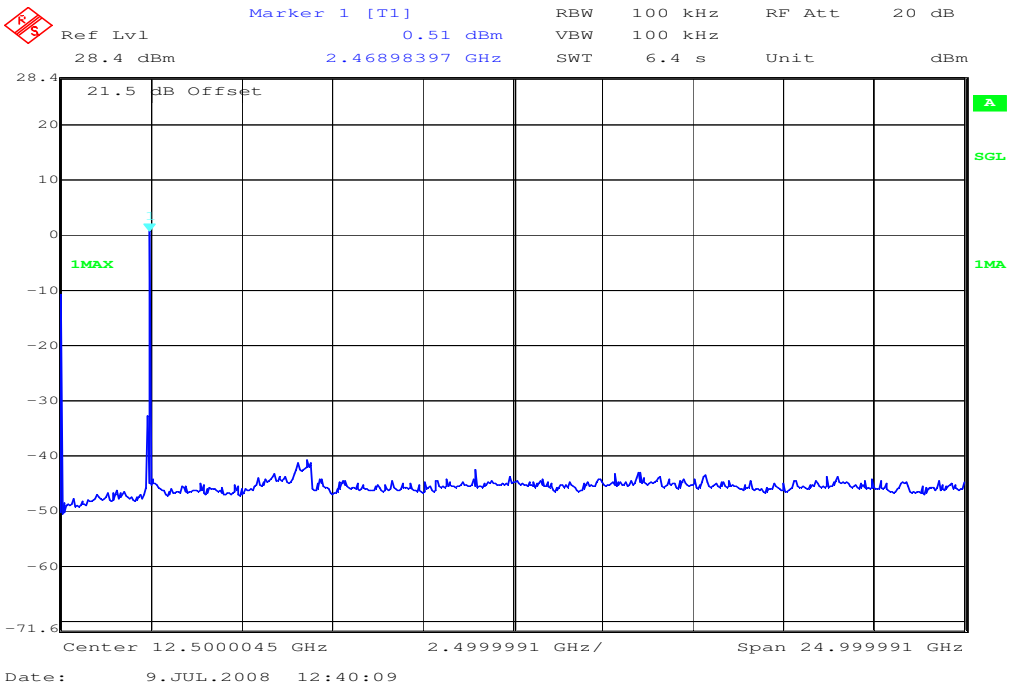
The peak at the beginning of the Plot is the LO from the measuring spectrum Analyzer and not from the EUT.

Plot 2: Middle Channel



The peak at the beginning of the Plot is the LO from the measuring spectrum Analyzer and not from the EUT.

Plot 3: Highest Channel



The peak at the beginning of the Plot is the LO from the measuring spectrum Analyzer and not from the EUT.

Result & Limits:

Emission Limitations					
f [MHz]		amplitude of emission [dBm]	limit max. allowed emmision power	actual attenuation below frequency of operation [dB]	results
2412	OFDM	14.08	30 dBm	-	Operating frequency
No peaks found			-20 dBc	> 20 dB	complies
				> 20 dB	
				> 20 dB	
2437	OFDM	14.08	30 dBm		Operating frequency
No peaks found			-20 dBc	> 20 dB	complies
				> 20 dB	
				> 20 dB	
2462	OFDM	13.91	30 dBm		Operating frequency
No peaks found			-20 dBc	> 20 dB	complies
				> 20 dB	
				> 20 dB	
Measurement uncertainty		± 3dB			

Under normal test conditions only	In any 100 kHz bandwidth outside the frequency band at least 20dB below the highest level of the desired power. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

Note: For emissions that fall into restricted bands you find the radiated emissions later in the report.

5.13 Spurious Emissions - radiated (Transmitter) §15.209

DSSS

Plot 1: 0.03 - 1 GHz (lowest channel)

Information

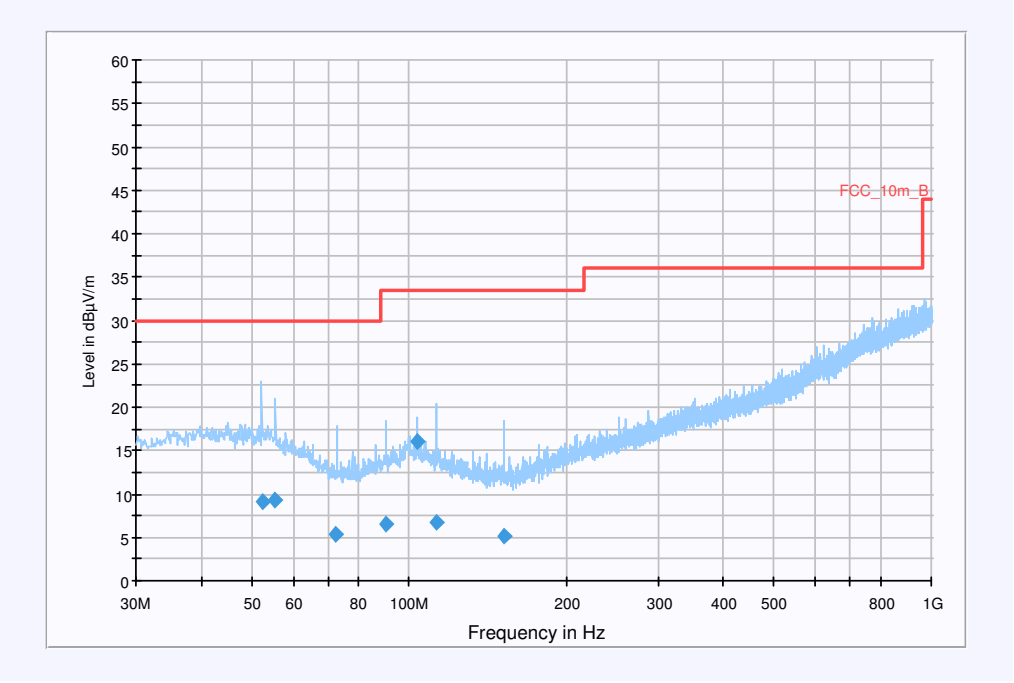
EUT:	AAD-3352021-BV
Serial Number:	CB5AQRK1QQ
Test Description:	FCC class B @ 10 m
Operating Conditions:	WLAN DSSS transmit Channel 01
Operator Name:	WAL
Comment:	Powered with AC: 115 V / 60 Hz

Scan Setup: STAN_Fin [EMI radiated]

Hardware Setup:	EMI radiated\Electric Field (NOS)
Level Unit:	dBµV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
30MHz - 1GHz	QuasiPeak	120kHz	15s	Receiver

FCC_1GHz



Final Measurement Detector 1

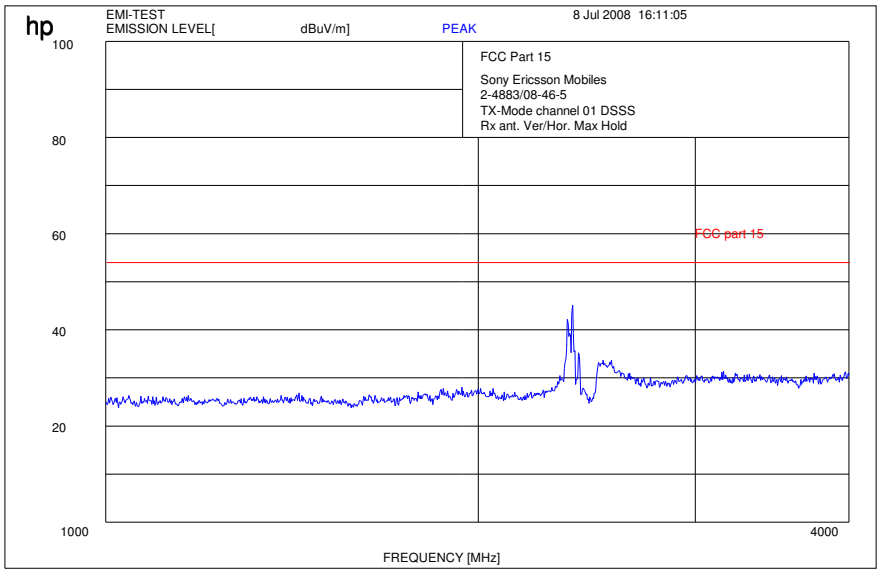
Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Antenna height (cm)	Polarity	Turntable position (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
52.316700	9.0	15000.000	120.000	185.0	V	49.0	13.4	21.0	30.0	
55.281000	9.2	15000.000	120.000	159.0	V	55.0	13.1	20.8	30.0	
72.458950	5.4	15000.000	120.000	183.0	V	73.0	9.6	24.6	30.0	
90.356650	6.6	15000.000	120.000	236.0	V	134.0	11.0	26.9	33.5	
104.006000	16.0	15000.000	120.000	400.0	V	166.0	11.9	17.5	33.5	
112.548950	6.7	15000.000	120.000	170.0	V	15.0	11.2	26.8	33.5	
151.820750	5.2	15000.000	120.000	287.0	V	235.0	9.3	28.3	33.5	

Hardware Setup: EMI radiated\Electric Field (NOS) - [EMI radiated]

Subrange 1

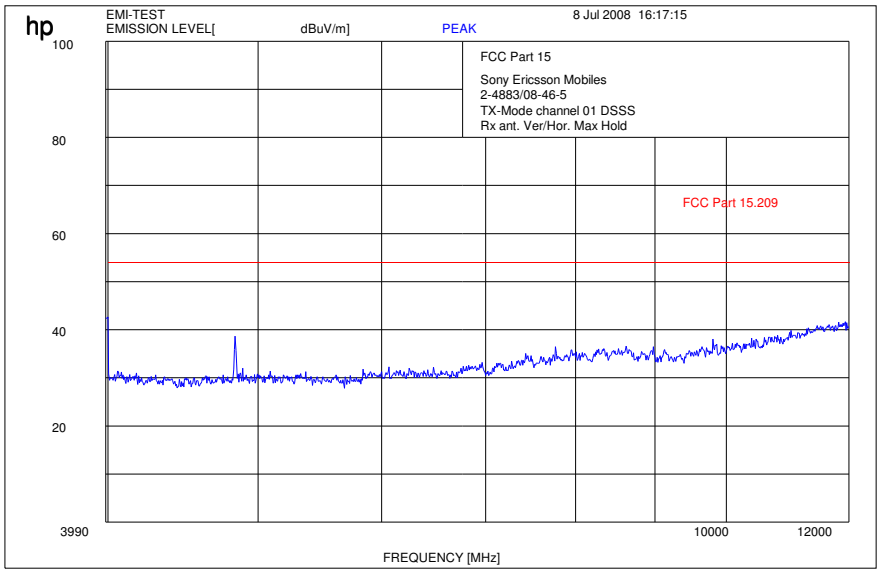
Frequency Range:	30MHz - 2GHz
Receiver:	Receiver [ESCI 3] @ GPIB0 (ADR 20), SN 100083/003, FW 3.32, CAL 07.01.2009
Signal Path:	without Notch FW 1.0
Antenna:	VULB 9163 SN 9163-295, FW ---, CAL 08.04.2010 Correction Table (vertical): VULP6113 Correction Table (horizontal): VULP6113 Correction Table: Cabel with switch (0408)
Antenna Tower:	Tower [EMCO 2090 Antenna Tower] @ GPIB0 (ADR 8), FW REV 3.12
Turntable:	Turntable [EMCO Turntable] @ GPIB0 (ADR 9)

Plot 2: 1 - 4 GHz (lowest channel)

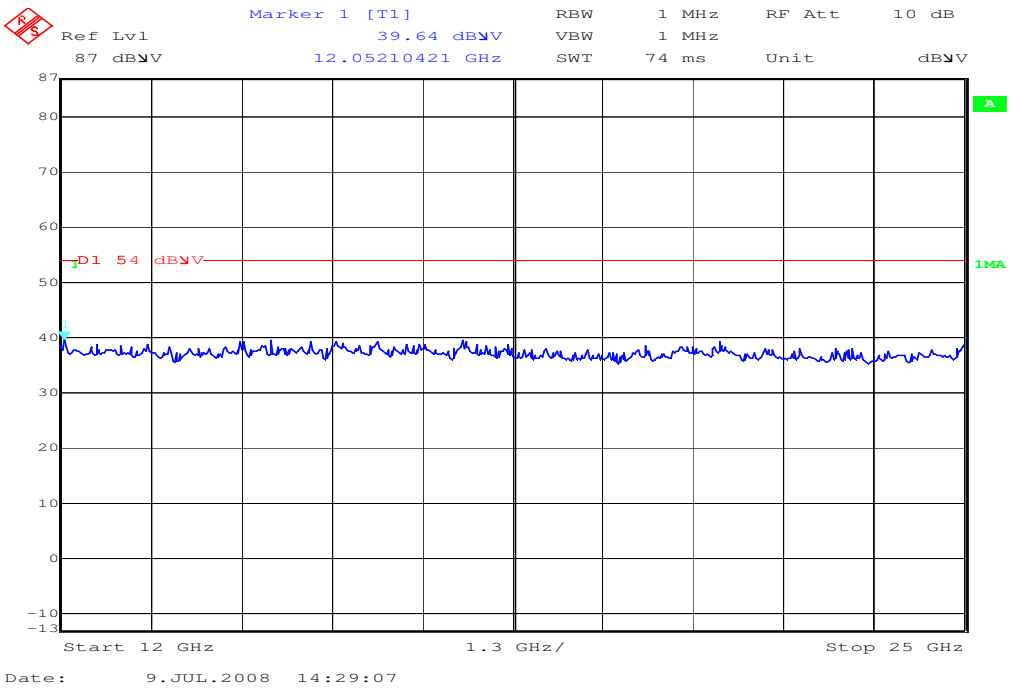


Carrier suppressed with a band rejection filter

Plot 3: 4- 12 GHz (lowest channel)



Plot 4: 12- 25 GHz (valid for all channels)



Plot 5: 0.03 - 1 GHz (middle channel)

Information

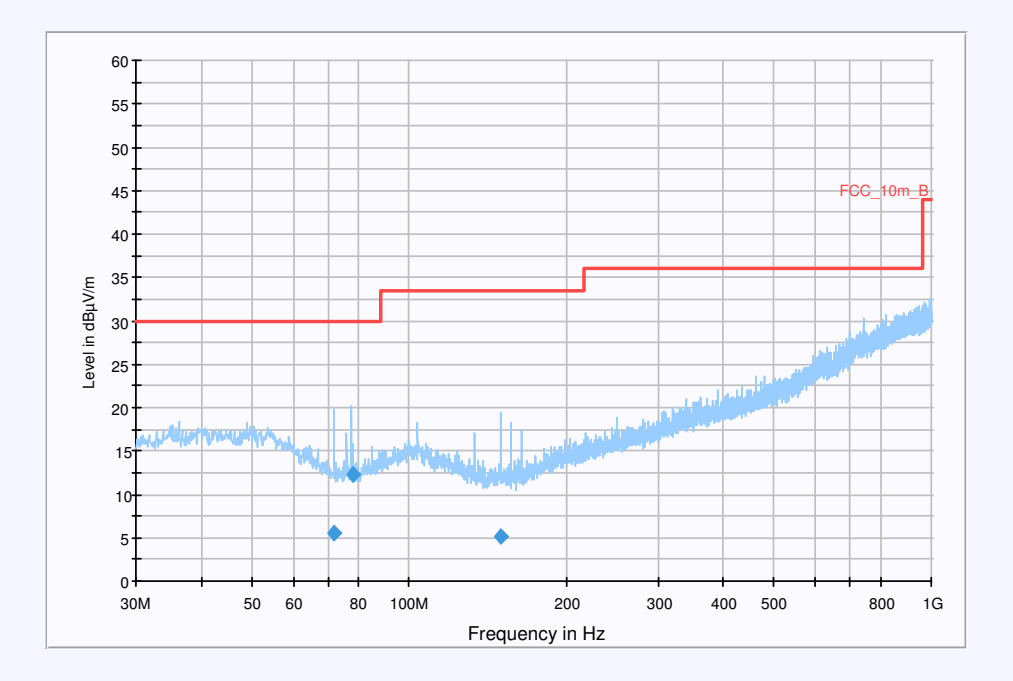
EUT:	AAD-3352021-BV
Serial Number:	CB5AQRK1QQ
Test Description:	FCC class B @ 10 m
Operating Conditions:	WLAN DSSS transmit Channel 06
Operator Name:	WAL
Comment:	Powered with AC: 115 V / 60 Hz

Scan Setup: STAN_Fin [EMI radiated]

Hardware Setup:	EMI radiated\Electric Field (NOS)
Level Unit:	dBµV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
30MHz - 1GHz	QuasiPeak	120kHz	15s	Receiver

FCC_1GHz



Final Measurement Detector 1

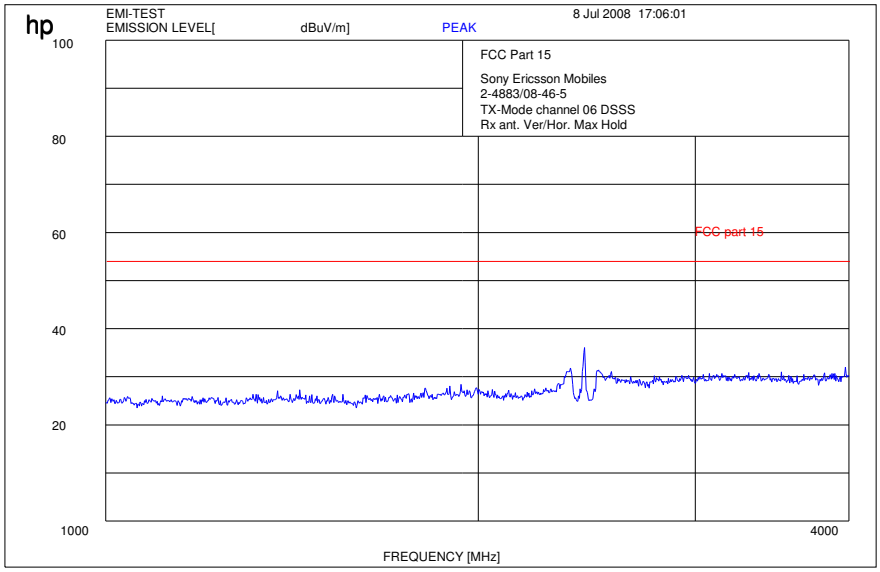
Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Antenna height (cm)	Polarity	Turntable position (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
71.644100	5.6	15000.000	120.000	231.0	V	58.0	9.6	24.4	30.0	
77.995850	12.4	15000.000	120.000	306.0	V	304.0	9.5	17.6	30.0	
149.914050	5.2	15000.000	120.000	239.0	V	272.0	9.2	28.3	33.5	

Hardware Setup: EMI radiated\Electric Field (NOS) - [EMI radiated]

Subrange 1

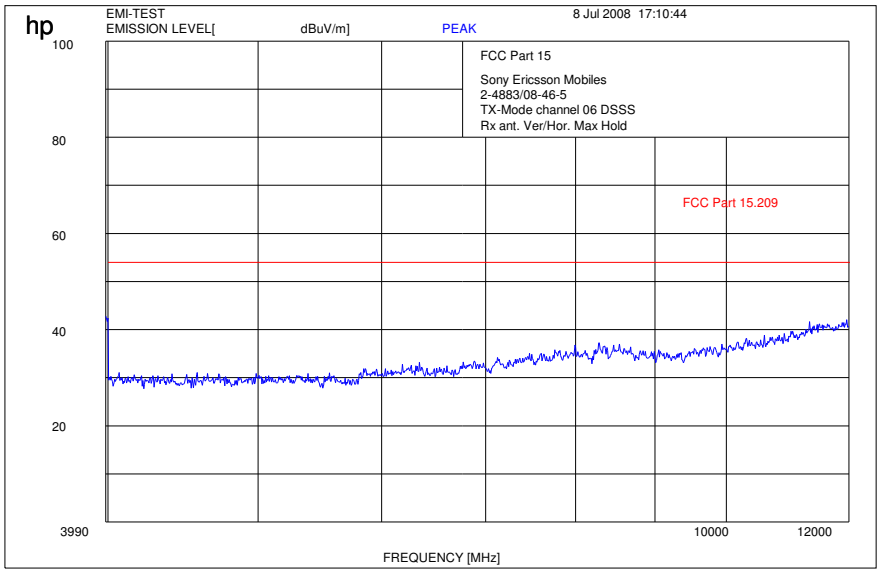
Frequency Range:	30MHz - 2GHz
Receiver:	Receiver [ESCI 3] @ GPIB0 (ADR 20), SN 100083/003, FW 3.32, CAL 07.01.2009
Signal Path:	without Notch FW 1.0
Antenna:	VULB 9163 SN 9163-295, FW ---, CAL 08.04.2010 Correction Table (vertical): VULP6113 Correction Table (horizontal): VULP6113 Correction Table: Cabel with switch (0408)
Antenna Tower:	Tower [EMCO 2090 Antenna Tower] @ GPIB0 (ADR 8), FW REV 3.12
Turntable:	Turntable [EMCO Turntable] @ GPIB0 (ADR 9)

Plot 6: 1 - 4 GHz (middle channel)



Carrier suppressed with a band rejection filter

Plot 7: 4- 12 GHz (middle channel)



Plot 8: 0.03 - 1 GHz (highest channel)

Information

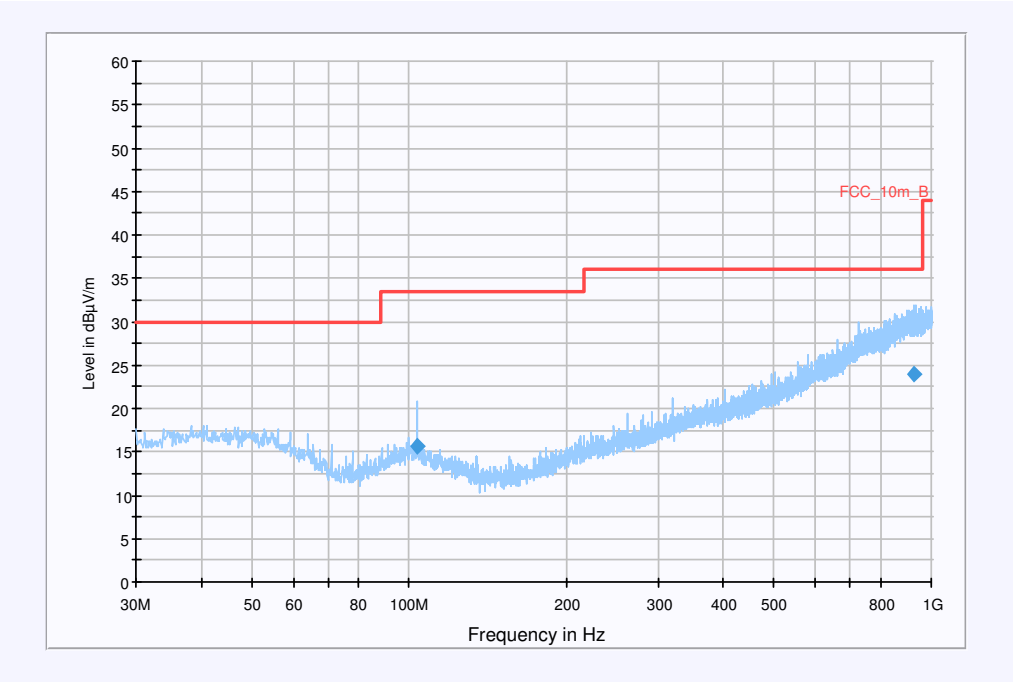
EUT:	AAD-3352021-BV
Serial Number:	CB5AQRK1QQ
Test Description:	FCC class B @ 10 m
Operating Conditions:	WLAN DSSS transmit Channel 11
Operator Name:	WAL
Comment:	Powered with AC: 115 V / 60 Hz

Scan Setup: STAN_Fin [EMI radiated]

Hardware Setup:	EMI radiated\Electric Field (NOS)
Level Unit:	dBµV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
30MHz - 1GHz	QuasiPeak	120kHz	15s	Receiver

FCC_1GHz



Final Measurement Detector 1

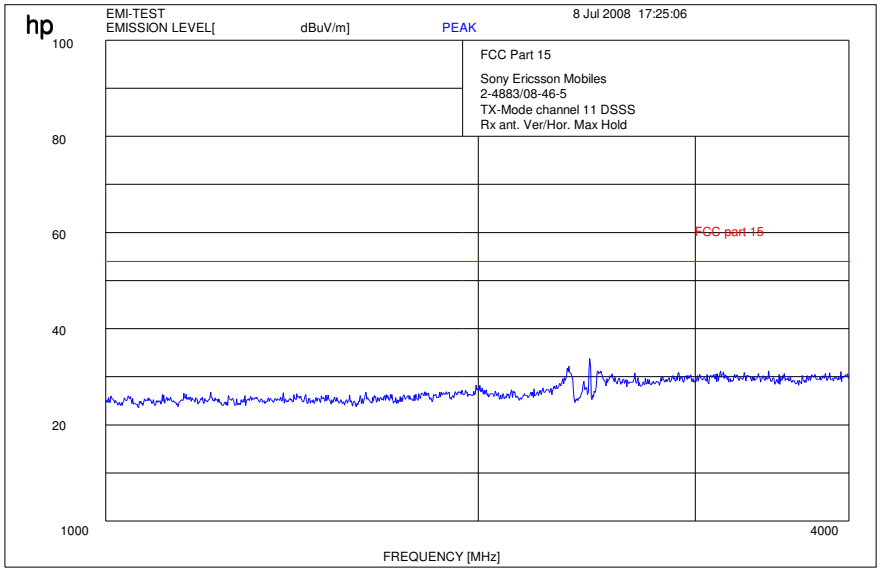
Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Antenna height (cm)	Polarity	Turntable position (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
104.007050	15.6	15000.000	120.000	166.0	V	141.0	11.9	17.9	33.5	
928.478500	23.9	15000.000	120.000	236.0	V	181.0	26.3	12.1	36.0	

Hardware Setup: EMI radiated\Electric Field (NOS) - [EMI radiated]

Subrange 1

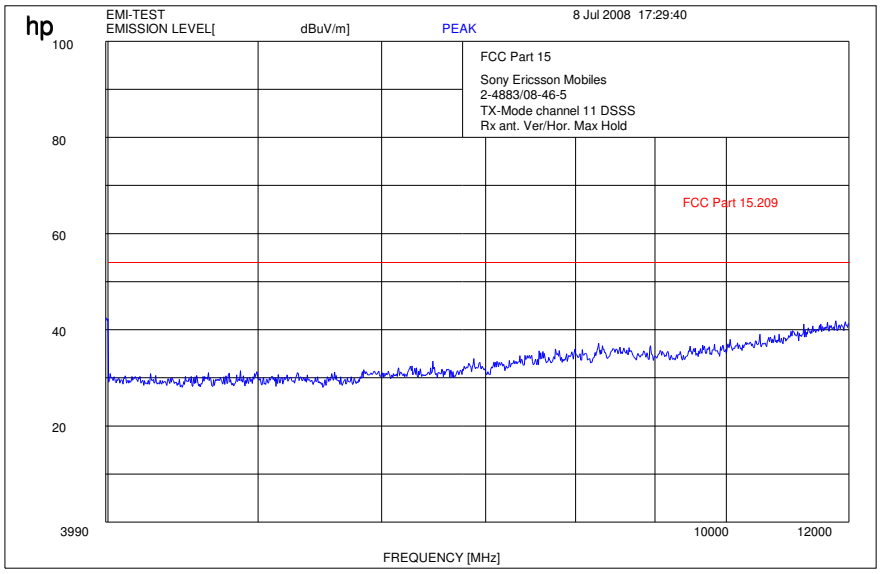
Frequency Range:	30MHz - 2GHz
Receiver:	Receiver [ESCI 3] @ GPIB0 (ADR 20), SN 100083/003, FW 3.32, CAL 07.01.2009
Signal Path:	without Notch FW 1.0
Antenna:	VULB 9163 SN 9163-295, FW ---, CAL 08.04.2010 Correction Table (vertical): VULP6113 Correction Table (horizontal): VULP6113 Correction Table: Cabel with switch (0408)
Antenna Tower:	Tower [EMCO 2090 Antenna Tower] @ GPIB0 (ADR 8), FW REV 3.12
Turntable:	Turntable [EMCO Turntable] @ GPIB0 (ADR 9)

Plot 9: 1 - 4 GHz (highest channel)



Carrier suppressed with a band rejection filter

Plot 10: 4- 12 GHz (highest channel)



OFDM

Plot 1: 0.03 - 1 GHz (lowest channel)

Information

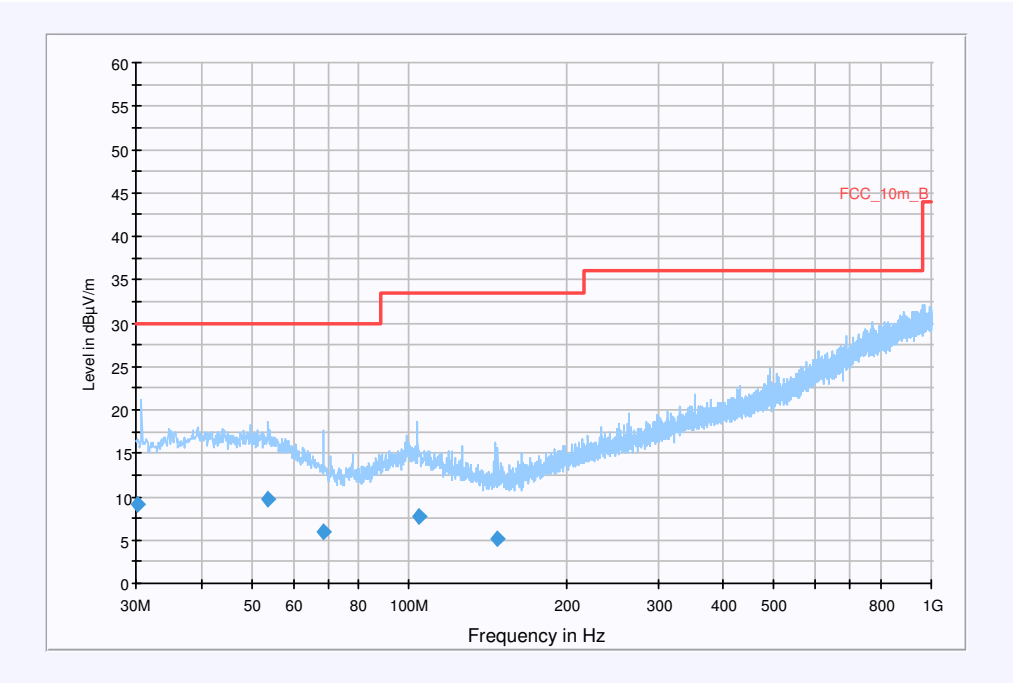
EUT:	AAD-3352021-BV
Serial Number:	CB5AQRK1QQ
Test Description:	FCC class B @ 10 m
Operating Conditions:	WLAN OFDM transmit Channel 01
Operator Name:	WAL
Comment:	Powered with AC: 115 V / 60 Hz

Scan Setup: STAN_Fin [EMI radiated]

Hardware Setup:	EMI radiated\Electric Field (NOS)
Level Unit:	dBµV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
30MHz - 1GHz	QuasiPeak	120kHz	15s	Receiver

FCC_1GHz



Final Measurement Detector 1

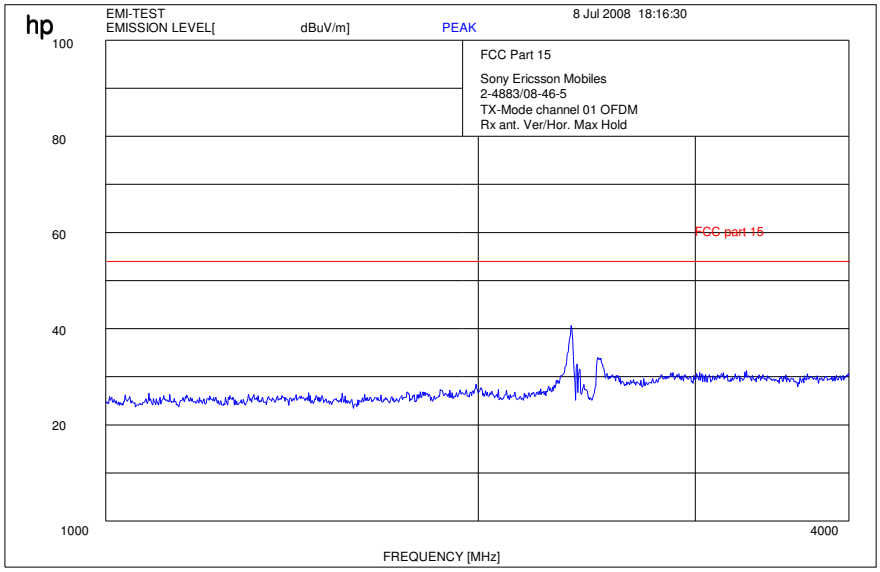
Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Antenna height (cm)	Polarity	Turntable position (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
30.157200	9.2	15000.000	120.000	310.0	V	16.0	12.6	20.8	30.0	
53.577400	9.6	15000.000	120.000	380.0	V	5.0	13.3	20.4	30.0	
68.600700	6.0	15000.000	120.000	152.0	V	77.0	9.9	24.0	30.0	
104.510450	7.7	15000.000	120.000	312.0	V	5.0	11.9	25.8	33.5	
147.169800	5.1	15000.000	120.000	380.0	V	246.0	9.2	28.4	33.5	

Hardware Setup: EMI radiated\Electric Field (NOS) - [EMI radiated]

Subrange 1

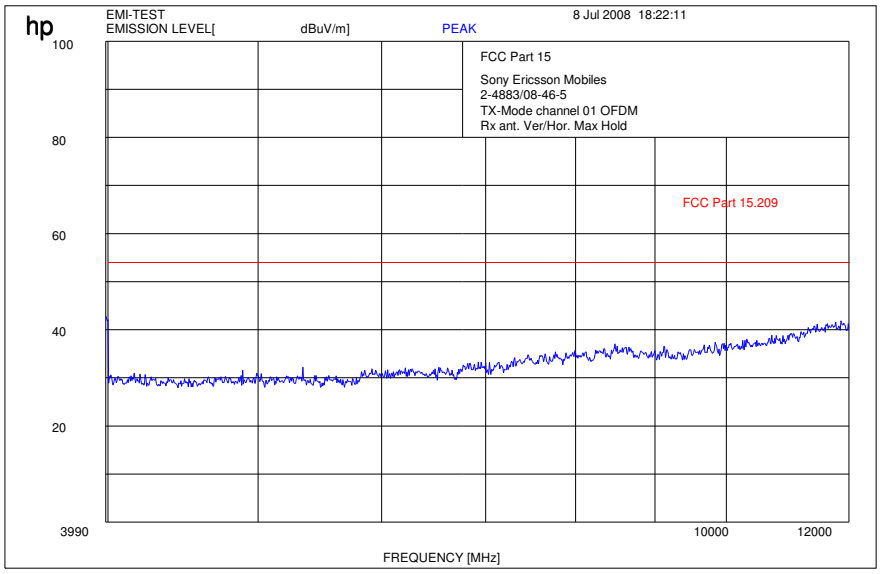
Frequency Range:	30MHz - 2GHz
Receiver:	Receiver [ESCI 3] @ GPIB0 (ADR 20), SN 100083/003, FW 3.32, CAL 07.01.2009
Signal Path:	without Notch FW 1.0
Antenna:	VULB 9163 SN 9163-295, FW ---, CAL 08.04.2010 Correction Table (vertical): VULP6113 Correction Table (horizontal): VULP6113 Correction Table: Cabel with switch (0408)
Antenna Tower:	Tower [EMCO 2090 Antenna Tower] @ GPIB0 (ADR 8), FW REV 3.12
Turntable:	Turntable [EMCO Turntable] @ GPIB0 (ADR 9)

Plot 2: 1 - 4 GHz (lowest channel)

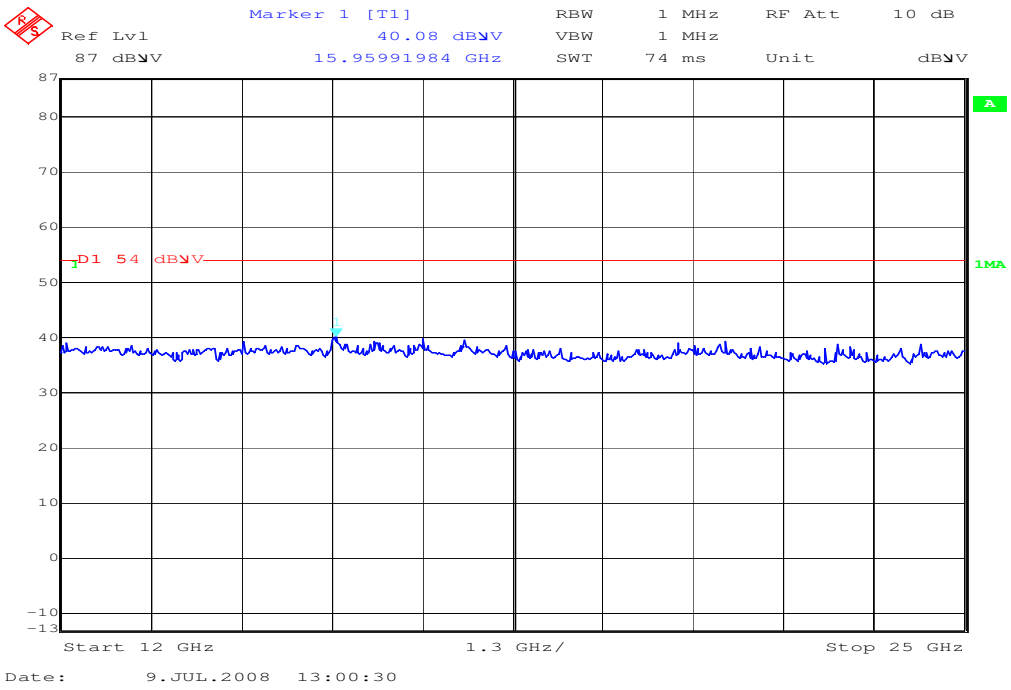


Carrier suppressed with a band rejection filter

Plot 3: 4- 12 GHz (lowest channel)



Plot 4: 12- 25 GHz (valid for all channels)



Plot 5: 0.03 - 1 GHz (middle channel)

Information

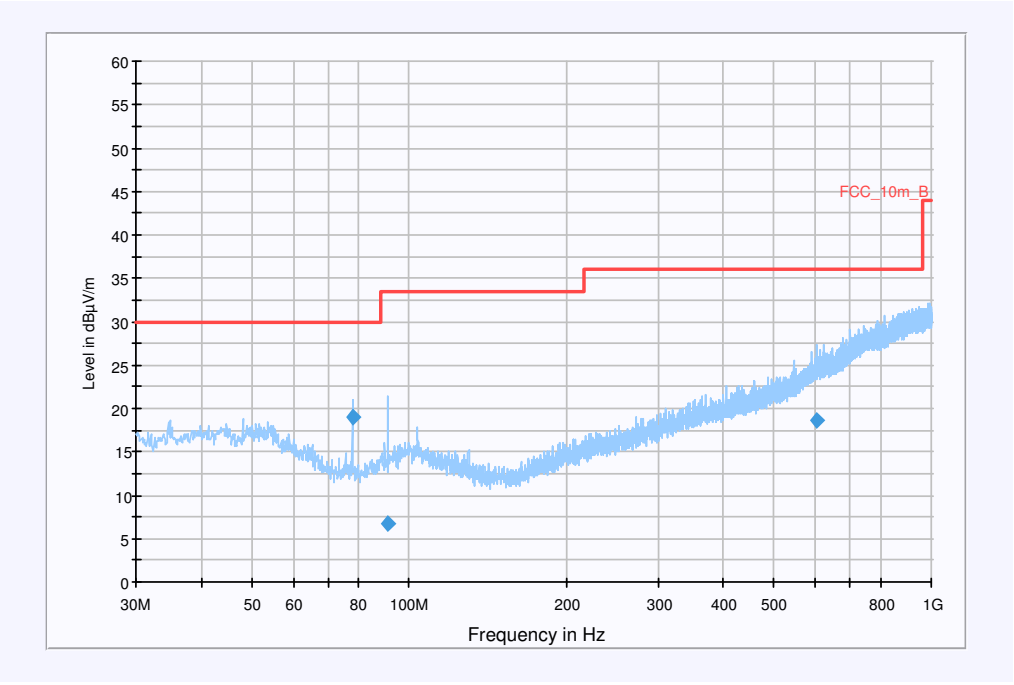
EUT:	AAD-3352021-BV
Serial Number:	CB5AQRK1QQ
Test Description:	FCC class B @ 10 m
Operating Conditions:	WLAN OFDM transmit Channel 06
Operator Name:	WAL
Comment:	Powered with AC: 115 V / 60 Hz

Scan Setup: STAN_Fin [EMI radiated]

Hardware Setup:	EMI radiated\Electric Field (NOS)
Level Unit:	dBµV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
30MHz - 1GHz	QuasiPeak	120kHz	15s	Receiver

FCC_1GHz



Final Measurement Detector 1

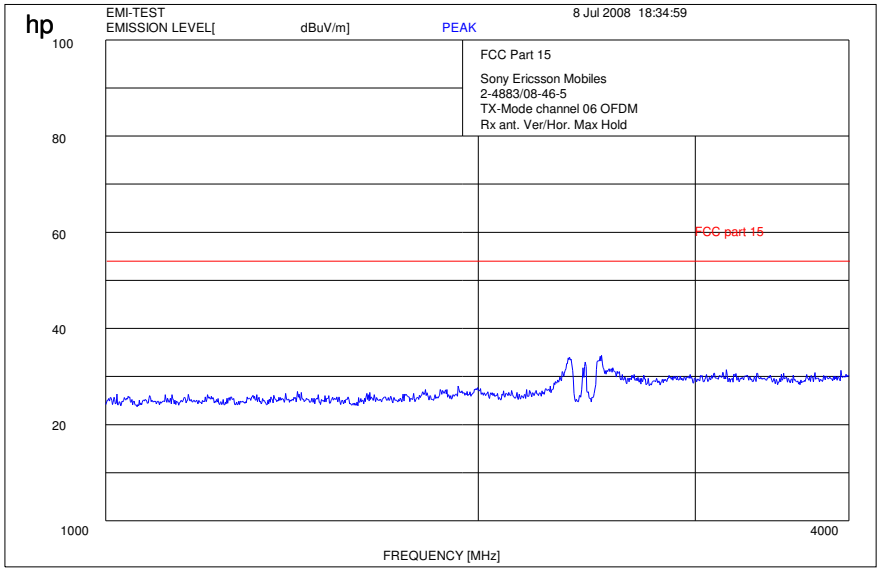
Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Antenna height (cm)	Polarity	Turntable position (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
78.008100	19.0	15000.000	120.000	333.0	V	95.0	9.5	11.0	30.0	
91.093000	6.7	15000.000	120.000	135.0	V	46.0	11.1	26.8	33.5	
601.743050	18.6	15000.000	120.000	359.0	V	41.0	21.1	17.4	36.0	

Hardware Setup: EMI radiated\Electric Field (NOS) - [EMI radiated]

Subrange 1

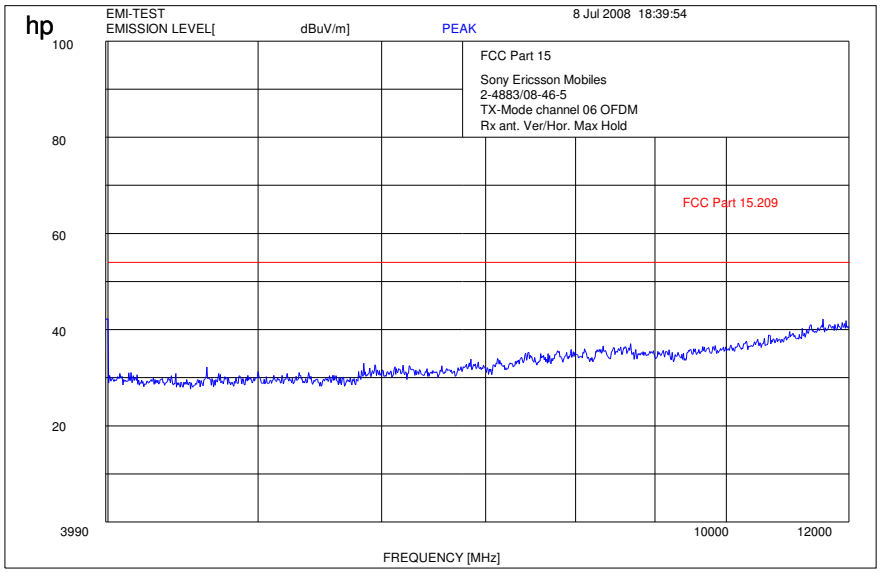
Frequency Range:	30MHz - 2GHz
Receiver:	Receiver [ESCI 3] @ GPIB0 (ADR 20), SN 100083/003, FW 3.32, CAL 07.01.2009
Signal Path:	without Notch FW 1.0
Antenna:	VULB 9163 SN 9163-295, FW ---, CAL 08.04.2010 Correction Table (vertical): VULP6113 Correction Table (horizontal): VULP6113 Correction Table: Cabel with switch (0408)
Antenna Tower:	Tower [EMCO 2090 Antenna Tower] @ GPIB0 (ADR 8), FW REV 3.12
Turntable:	Turntable [EMCO Turntable] @ GPIB0 (ADR 9)

Plot 6: 1 - 4 GHz (middle channel)



Carrier suppressed with a band rejection filter

Plot 7: 4- 12 GHz (middle channel)



Plot 8: 0.03 - 1 GHz (highest channel)

Information

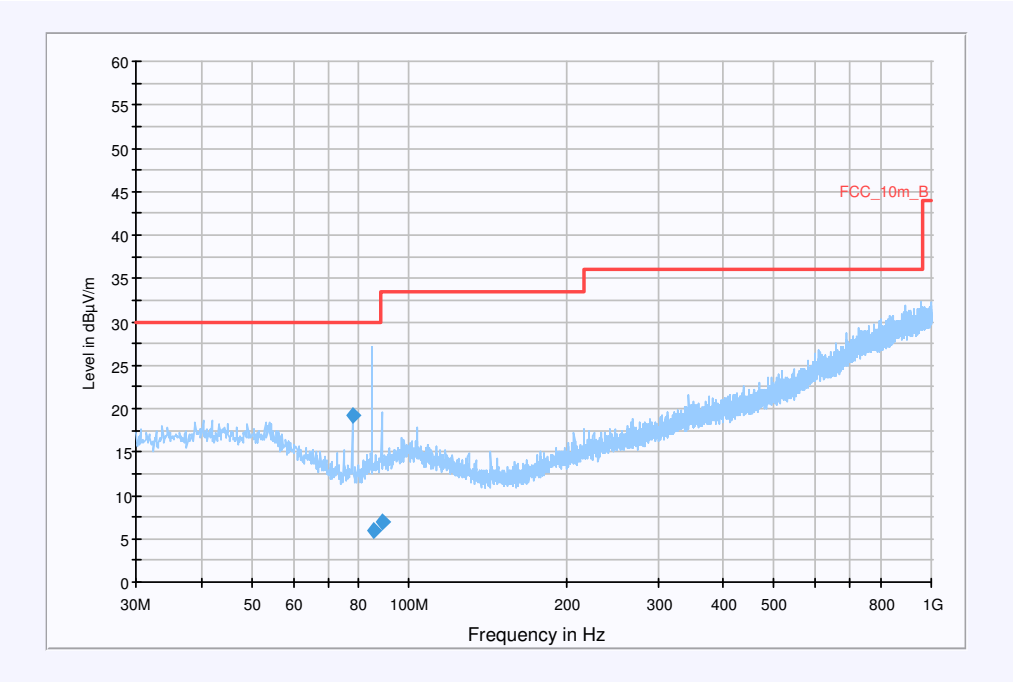
EUT:	AAD-3352021-BV
Serial Number:	CB5AQRK1QQ
Test Description:	FCC class B @ 10 m
Operating Conditions:	WLAN OFDM transmit Channel 11
Operator Name:	WAL
Comment:	Powered with AC: 115 V / 60 Hz

Scan Setup: STAN_Fin [EMI radiated]

Hardware Setup:	EMI radiated\Electric Field (NOS)
Level Unit:	dBµV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
30MHz - 1GHz	QuasiPeak	120kHz	15s	Receiver

FCC_1GHz



Final Measurement Detector 1

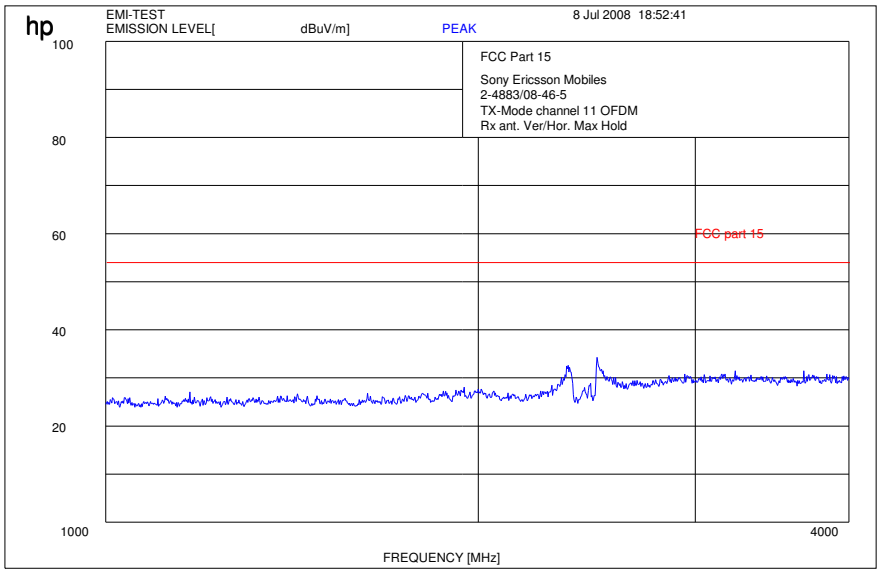
Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Antenna height (cm)	Polarity	Turntable position (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
78.003900	19.2	15000.000	120.000	329.0	V	70.0	9.5	10.8	30.0	
85.410300	6.0	15000.000	120.000	135.0	V	234.0	10.3	24.0	30.0	
89.051450	6.9	15000.000	120.000	130.0	V	234.0	10.8	26.6	33.5	

Hardware Setup: EMI radiated\Electric Field (NOS) - [EMI radiated]

Subrange 1

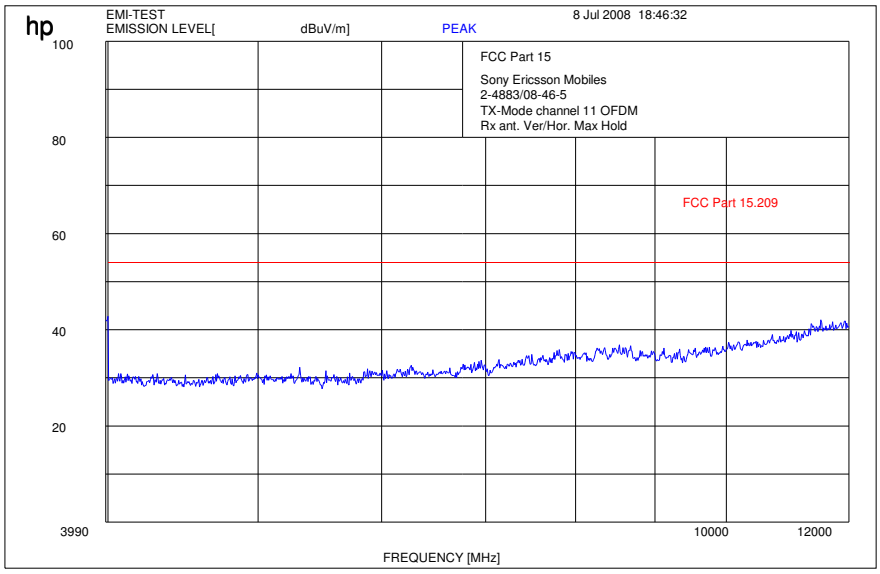
Frequency Range:	30MHz - 2GHz
Receiver:	Receiver [ESCI 3] @ GPIB0 (ADR 20), SN 100083/003, FW 3.32, CAL 07.01.2009
Signal Path:	without Notch FW 1.0
Antenna:	VULB 9163 SN 9163-295, FW ---, CAL 08.04.2010 Correction Table (vertical): VULP6113 Correction Table (horizontal): VULP6113 Correction Table: Cabel with switch (0408)
Antenna Tower:	Tower [EMCO 2090 Antenna Tower] @ GPIB0 (ADR 8), FW REV 3.12
Turntable:	Turntable [EMCO Turntable] @ GPIB0 (ADR 9)

Plot 9: 1 - 4 GHz (highest channel)



Carrier suppressed with a band rejection filter

Plot 10: 4- 12 GHz (highest channel)



Results:

SPURIOUS EMISSIONS LEVEL §15.209								
2412 MHz			2437 MHz			2462 MHz		
F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]
4824 (DSSS)	peak	67.1	-	-	-	-	-	-
Measurement uncertainty			±3 dB					

f < 1 GHz : RBW/VBW: 100 kHz f ≥ 1GHz : RBW/VBW: 1 MHz

Limits: § 15.247 (c)

In any 100 kHz bandwidth outside the frequency band at least 20dB below the highest level of the desired power. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

Limits: § 15.109

Frequency (MHz)	Field strength (dBµV/m)	Measurement distance (m)
30 - 88	30.0	10
88 - 216	33.5	10
216 - 960	36.0	10
above 960	54.0	3

5.14 Spurious Emissions - radiated (Receiver) §15.109 / 209

Plot 1: 0.03 - 1 GHz vertical / horizontal (receiver)

Information

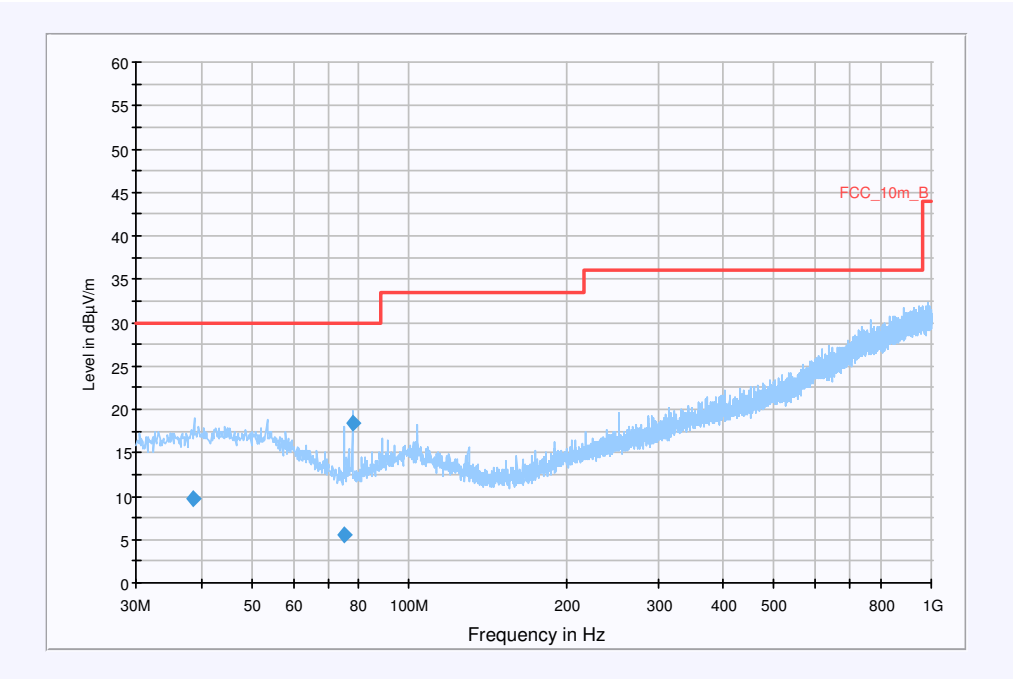
EUT:	AAD-3352021-BV
Serial Number:	CB5AQRK1QQ
Test Description:	FCC class B @ 10 m
Operating Conditions:	Idle-Mode
Operator Name:	WAL
Comment:	Powered with AC: 115 V / 60 Hz

Scan Setup: STAN_Fin [EMI radiated]

Hardware Setup:	EMI radiated\Electric Field (NOS)
Level Unit:	dBµV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
30MHz - 1GHz	QuasiPeak	120kHz	15s	Receiver

FCC_1GHz



Final Measurement Detector 1

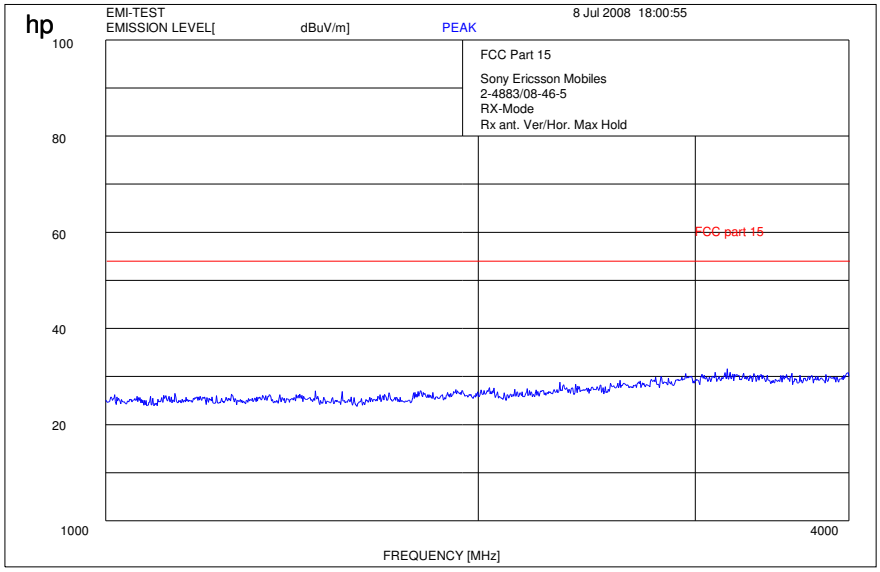
Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Antenna height (cm)	Polarity	Turntable position (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
38.533250	9.7	15000.000	120.000	112.0	H	21.0	13.5	20.3	30.0	
75.253900	5.6	15000.000	120.000	258.0	V	244.0	9.5	24.4	30.0	
77.993400	18.4	15000.000	120.000	313.0	V	55.0	9.5	11.6	30.0	

Hardware Setup: EMI radiated\Electric Field (NOS) - [EMI radiated]

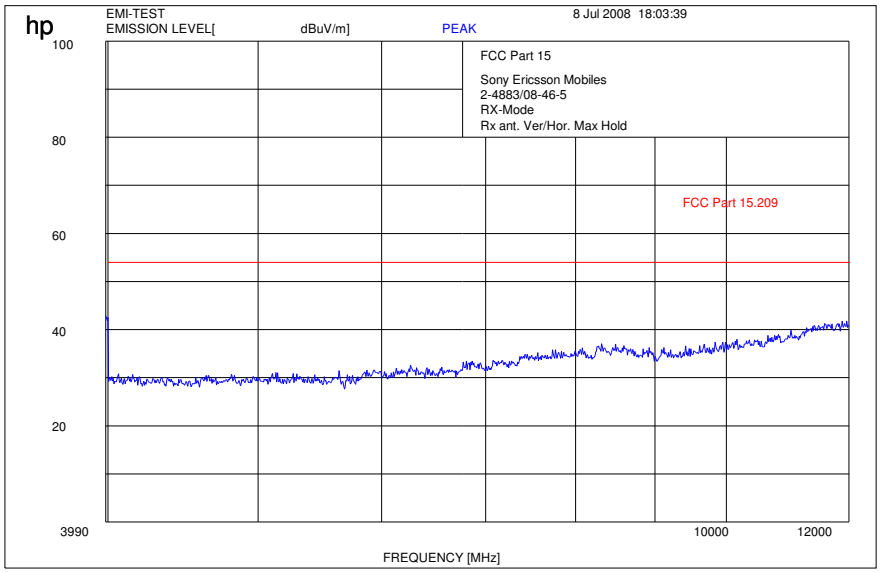
Subrange 1

Frequency Range:	30MHz - 2GHz
Receiver:	Receiver [ESCI 3] @ GPIB0 (ADR 20), SN 100083/003, FW 3.32, CAL 07.01.2009
Signal Path:	without Notch FW 1.0
Antenna:	VULB 9163 SN 9163-295, FW ---, CAL 08.04.2010 Correction Table (vertical): VULP6113 Correction Table (horizontal): VULP6113 Correction Table: Cabel with switch (0408)
Antenna Tower:	Tower [EMCO 2090 Antenna Tower] @ GPIB0 (ADR 8), FW REV 3.12
Turntable:	Turntable [EMCO Turntable] @ GPIB0 (ADR 9)

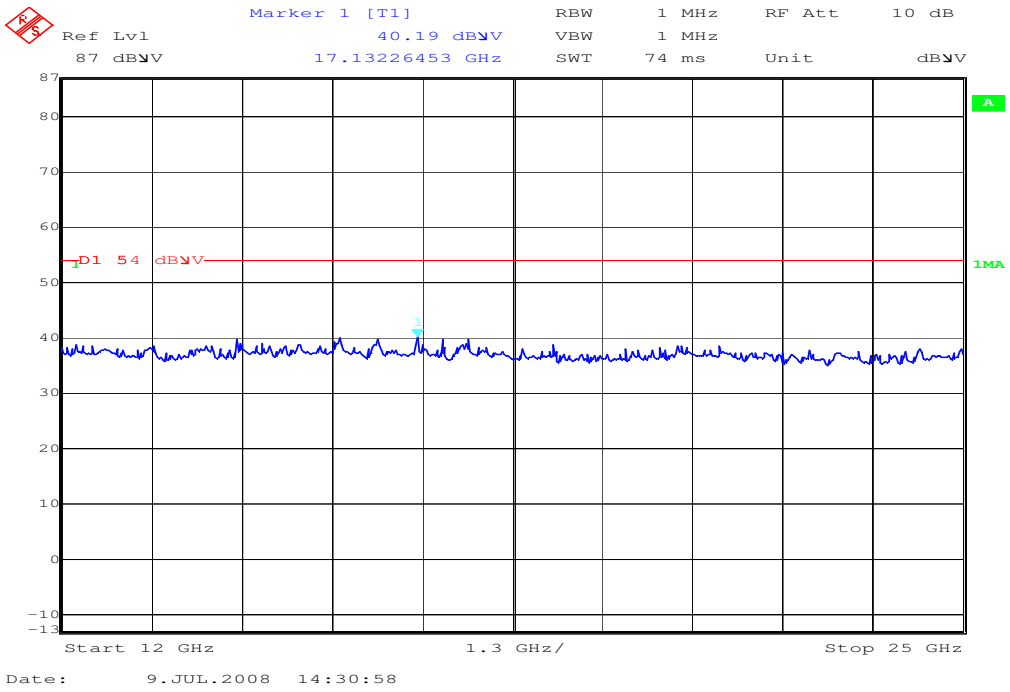
Plot 2: 1 - 4 GHz vertical / horizontal (receiver)



Plot 3: 4- 12 GHz (receiver)



Plot 4: 12- 25 GHz (receiver)



Results:

Spurious Emissisons level [dBµV/m]		
f[MHz]	Detector	Level [dBµV/m]
No critical peaks found !		
Measurement uncertainty	±3 dB	

f < 1 GHz : RBW/VBW: 100 kHz f ≥ 1GHz : RBW/VBW: 1 MHz
See above plots

Measurement distance see table

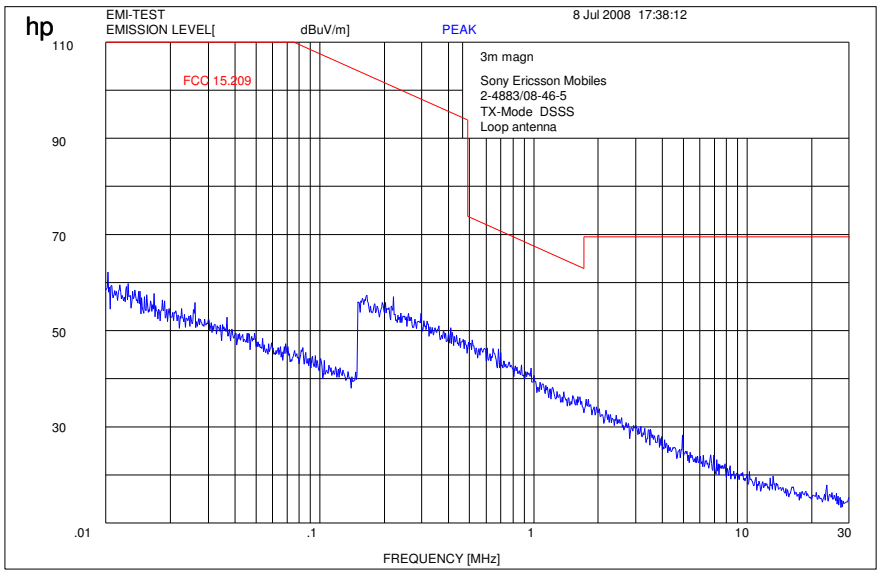
Limits: **§ 15.109**

Frequency (MHz)	**Field strength (dBµV/m)**	**Measurement distance (m)**
30 - 88	30.0	10
88 - 216	33.5	10
216 - 960	36.0	10
above 960	54.0	3

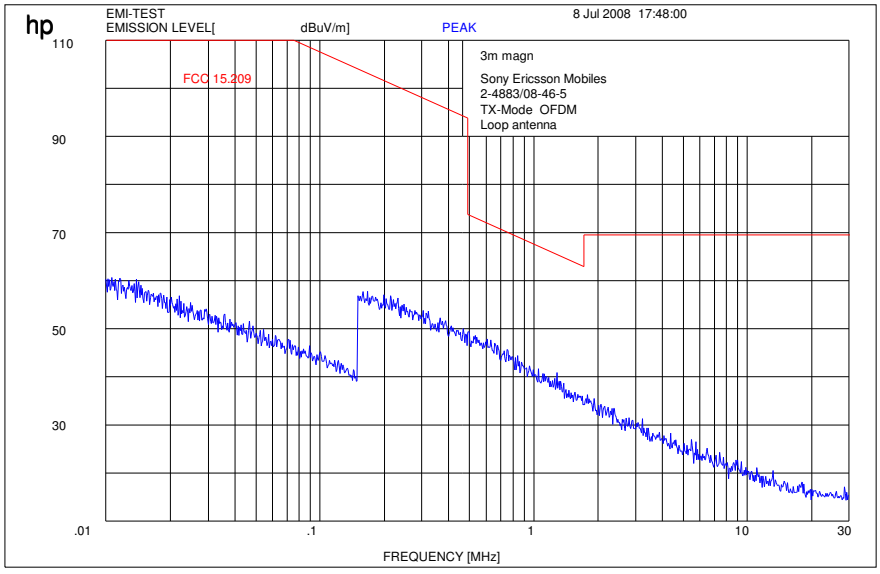
5.15 Spurious Emissions - radiated <30 MHz §15.209

Measured at 3 m distance.
Values recalculated with 40 dB/decade according to FCC rules.

Plot 1: DSSS



Plot 2: OFDM

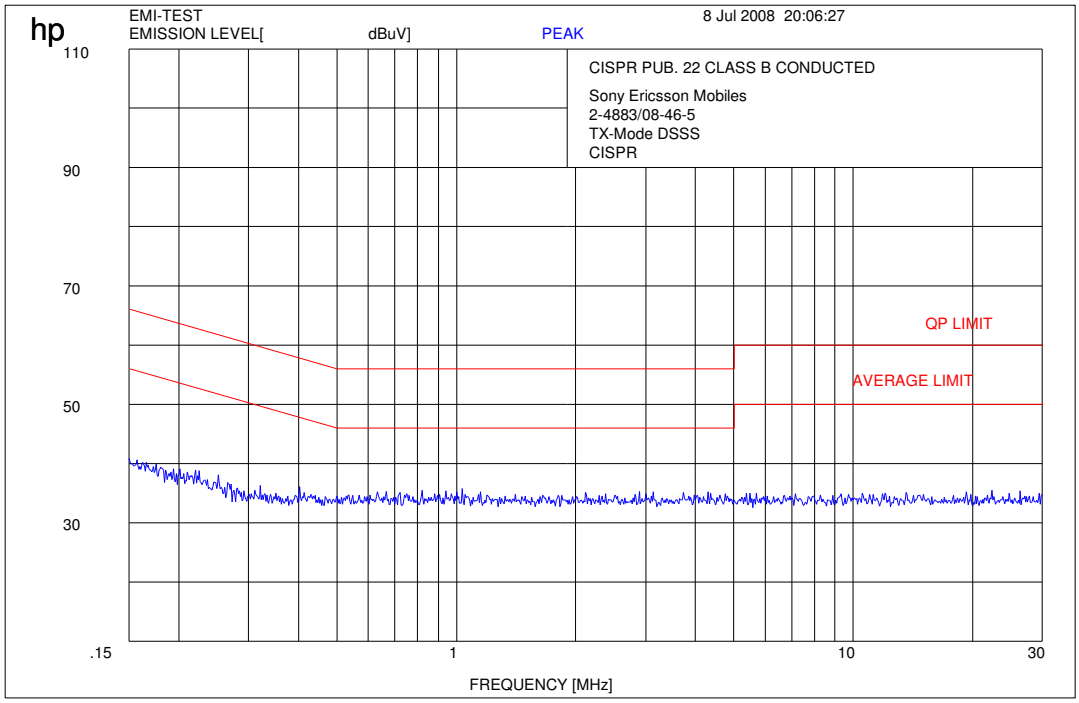


Limits:

Frequency (MHz)	Field strength (µV/m)	Measurement distance (m)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30.0	30 / 29.5 dBµV/m	30
30 - 88	100 / 40 dBµV/m	3
88 - 216	150 / 43.5 dBµV/m	3
216 - 960	200 / 46 dBµV/m	3
above 960	54 dBµV/m	3

5.16 Conducted Emissions <30 MHz §15.107/207

Plot 1: CISPR 22



We measured in TX and RX mode, L1 and N floating and grounded, max value was hold.

Limits:

Under normal test conditions only	See plots

6 Test equipment and ancillaries used for tests

To simplify the identification on each page of the test equipment used, on each page of the test report, each item of test equipment and ancillaries such as cables are identified (numbered) by the Test Laboratory, below.

Anechoic chamber C:

No	Equipment/Type	Manuf.	Serial Nr.	Inv. No. Cetecom	Last Calibration	Frequency (months)	Next Calibration
1	Anechoic chamber	MWB	87400/02	300000996	Monthly verification		
2	System-Rack 85900	HP I.V.	*	300000222	n.a.		
3	Measurement System 1						
4	Spektrum Analyzer 8566B	HP	2747A05306	300001000	05.10.2006	24	05.10.2008
5	Spektrum Analyzer Display 85662A	HP	2816A16541	300002297	05.10.2006	24	05.10.2008
6	Quasi-Peak-Adapter 85650A	HP	2811A01131	300000999	05.10.2006	24	05.10.2008
7	RF-Preselector 85685A	HP	2837A00779	300000218	08.11.2006	24	08.11.2008
8	PC Vectra VL	HP		300001688	n.a.		
9	Software EMI	HP		300000983	n.a.		
10	Measurement System 2						
11	FSP 30	R&S	100623	ICT 300003464	05.10.2007	24	15.10.2009
12	PC	F+W			n.a.		
13	TILE	TILE			n.a.		
14	Biconical antenna	EMCO	S/N: 860 942/003		Monthly verification (System cal.)		
15	Log. Period. Antenna 3146	EMCO	2130	300001603	Monthly verification (System cal.)		
16	Double Ridged Antenna HP 3115P	EMCO	3088	300001032	Monthly verification (System cal.)		
17	Active Loop Antenna 6502	EMCO	2210	300001015	Monthly verification (System cal.)		
18	Power Supply 6032A	HP	2818A03450	300001040	12.05.2007	36	12.05.2010
19	Busisolator	Kontron		300001056	n.a.		
20	Leitungsteiler 11850C	HP		300000997	Monthly verification (System cal.)		
21	Power attenuator 8325	Byrd	1530	300001595	Monthly verification (System cal.)		
22	Band reject filter WRCG1855/1910	Wainwright	7	300003350	Monthly verification (System cal.)		
23	Band reject filter WRCG2400/2483	Wainwright	11	300003351	Monthly verification (System cal.)		

SRD Laboratory Room 002:

No	Equipment/Type	Manuf.	Serial Nr.	Inv. No. Cetecom	Last Calibration	Frequency (months)	Next Calibration
1	System Controller PSM 12	R&S	835259/007	3000002681-00xx	n.a.		
2	Memory Extension PSM-K10	R&S	To 1	3000002681	n.a.		
3	Operating Software PSM-B2	R&S	To 1	3000002681	n.a.		
4	19'' Monitor		22759020-ED	3000002681	n.a.		
5	Mouse		LZE 0095/6639	3000002681	n.a.		
6	Keyboard		G00013834L461	3000002681	n.a.		
7	Spectrum Analyser FSIQ 26	R&S	835540/018	3000002681-0005	01.08.2006	24	01.08.2008
8	Tracking Generator FSIQ-B10	R&S	835107/015	3000002681	s.No.7		
10	RF-Generator SMIQ03 (B1 Signal)	R&S	835541/056	3000002681-0002	01.08.2006	36	01.08.2009
11	Modulation Coder SMIQ-B20	R&S	To 10	3000002681	s.No.10		
12	Data Generator SMIQ-B11	R&S	To 10	3000002681	s.No.10		
13	RF Rear Connection SMIQ-B19	R&S	To 10	3000002681	s.No.10		
14	Fast CPU SM-B50	R&S	To 10	3000002681	s.No.10		
15	FM Modulator SM-B5	R&S	835676/033	3000002681	s.No.10		
16	RF-Generator SMIQ03 (B2 Signal)	R&S	835541/055	3000002681-0001	01.08.2006	36	01.08.2009
17	Modulation Coder SMIQ-B20	R&S	To 16	3000002681	s.No.16		
18	Data Generator SMIQ-B11	R&S	To 16	3000002681	s.No.16		
19	RF Rear Connection SMIQ-B19	R&S	To 16	3000002681	s.No.16		
20	Fast CPU SM-B50	R&S	To 16	3000002681	s.No.16		
21	FM Modulator SM-B5	R&S	836061/022	3000002681	s.No.16		
22	RF-Generator SMP03 (B3 Signal)	R&S	835133/011	3000002681-0003	01.08.2006	36	01.08.2009
23	Attenuator SMP-B15	R&S	835136/014	3000002681	S.No.22		
24	RF Rear Connection SMP-B19	R&S	834745/007	3000002681	S.No.22		
25	Power Meter NRVD	R&S	835430/044	3000002681-0004	01.08.2006	24	01.08.2008
26	Power Sensor NRVD-Z1	R&S	833894/012	3000002681-0013	01.08.2006	24	01.08.2008
27	Power Sensor NRVD-Z1	R&S	833894/011	3000002681-0010	01.08.2006	24	01.08.2008
28	Rubidium Standard RUB	R&S		3000002681-0009	01.08.2006	24	01.08.2008
29	Switching and Signal Conditioning Unit SSCU	R&S	338864/003	3000002681-0006	01.08.2006	24	01.08.2008
30	Laser Printer HP Deskjet 2100	HP	N/A	3000002681-0011	n.a.		
31	19'' Rack	R&S	11138363000004	3000002681	n.a.		
32	RF-cable set	R&S	N/A	3000002681	n.a.		
33	IEEE-cables	R&S	N/A	3000002681	n.a.		
34	Sampling System FSIQ-B70	R&S	835355/009	3000002681	s.No.7		
35	RSP programmable attenuator	R&S	834500/010	3000002681-0007	01.08.2006	24	01.08.2008
36	Signalling Unit	R&S	838312/011	3000002681	n.a.		
37	NGPE programmable Power Supply for EUT	R&S	192.033.41	3000002681			
39	Power Splitter 6005-3	Inmet Corp.	none	300002841	23.12.2006	24	23.12.2008
40	SMA Cables SPS-1151-985-SPS	Insulated Wire	different	different	n.a.		
41	CBT32 with EDR Signaling Unit	R&S					
42	Coupling unit	Narda	N/A	--	n.a.		
43	2xSwitch Matrix PSU	R&S	872584/021	300001329	n.a.		
44	RF-cable set	R&S	N/A	different	n.a.		
45	IEEE-cables	R&S	N/A	--	n.a.		

Note: 3000002681-00xx inventoried as a system

SRD Laboratory Room 005:

No	Equipment/Type	Manuf.	Serial Nr.	Inv. No. Cetecom	Last Calibration	Frequency (months)	Next Calibration
1	Spektrum Analyzer 8566B	HP	2747A05275	300000219	08.11.2006	24	08.11.2008
2	Spektrum Analyzer Display 85662A	HP	2816A16497	300001690	08.11.2006	24	08.11.2008
3	Quasi-Peak-Adapter 85650A	HP	2811A01135	300000216	08.11.2006	24	08.11.2008
4	Power Supply	Heiden	003202	300001187	12.05.2007	36	12.05.2010
5	Power Supply	Heiden	1701	300001392	12.05.2007	36	12.05.2010

Anechoic chamber F:

No	Equipment/Type	Manuf.	Serial Nr.	Inv. No. Cetecom	Last Calibration	Frequency (months)	Next Calibration
1	Control Computer	F+W	FW0502032	300003303	-/-	-/-	-/-
2	Trilog Antenna	9163-295	-/-	-/-	30.04.2008	24	30.04.2010
3	Amplifier - 0518C-138	Veritech Micro-wave Inc.	-/-	-/-	-/-	-/-	-/-
4	Switch - 3488A	HP		300000368	-/-	-/-	-/-
5	EMI Test receiver - ESCI	R&S	100083	300003312	31.01.2009	24	31.01.2009
6	Turntable Controller - 1061 3M	EMCO	1218	300000661	-/-	-/-	-/-
7	Tower Controller 1051 Controller	EMCO	1262	300000625	-/-	-/-	-/-
8	Tower - 1051	EMCO	1262	300000625	-/-	-/-	-/-
10	Ultra Notch-Filter Rejected band Ch. 62	WRCD	9	-/-	-/-	-/-	-/-