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)

Test report no.	**:**	**1-0345-07-03/08**
Type identification	**:**	**GlobeSurfer 311**
Applicant	**:**	**Option N.V.**
FCC ID	**:**	**NCMOGS0311**
IC Certification No	**:**	**-/-**
Test standards	**:**	**47 CFR Part 15**

Table of contents

1 General information

1.1 Notes

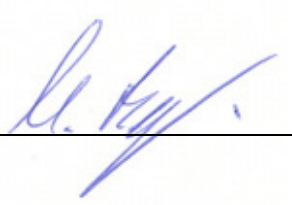
The test results of this test report relate exclusively to the test item specified in 3.1.1. The CETECOM ICT Services GmbH does not assume responsibility for any conclusions and generalisations drawn from the test results with regard to other specimens or samples of the type of the equipment represented 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:

2008-08-21	**Stefan Bös**	
Date	Name	Signature

Technical responsibility for area of testing:

2008-08-21	**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:	**Option N.V.**
Street:	**Gaston Geenslaan 14**
Town:	**3001 Leuven**
Country:	**BELGIUM**
Telephone:	**+32 16 317 411**
Fax:	**+32 16 207 164**
Contact:	**Thomas Gulinck**
E-mail:	**T.Gulinck@option.com**
Telephone:	**+32 16 311 694**

1.4 Application details

Date of receipt of order:	**2008-07-17**
Date of receipt of test item:	**2008-08-12**
Date of start test:	**2008-08-12**
Date of end test:	**2008-08-21**
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**

3 Technical tests

3.1 Details of manufacturer

Name:	**Option N.V.**
Street:	**Gaston Geenslaan 14**
Town:	**3001 Leuven**
Country:	**BELGIUM**

3.1.1 Test item

Kind of test item	:	**Router mit GSM / W-CDMA Module**
Type identification	:	**GlobeSurfer 311**
S/N serial number	:	**GT248780JK**
HW hardware status	:	**2.0**
SW software status	:	**R1A12**
Frequency Band [MHz]	:	**ISM 2.400 - 2.483,5**
Type of Modulation	:	**DSSS & OFDM**
Number of channels	:	**11**
Antenna	:	**Integrated pcb-antenna**
Power Supply	:	**5.0 V DC via external power supply / 230 V AC V**
Temperature Range	:	**-10 °C to 55 °C**

Max. power radiated: **19.39 dBm (DSSS-mode)**
Max. power conducted: **17.39 dBm (DSSS-mode)**

FCC ID: **NCMOGS0311**
IC: **-**

3.1.2 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

3.1.3 Extreme conditions testing values

Description	Shortcut	Unit	Value
Nominal Temperature	T_{nom}	°C	**23**
Nominal Humidity	H_{nom}	%	**63**
Nominal Power Source	V_{nom}	V	**5.0**

Type of power source: DC via external power supply / 230V AC (Type: PHIHONG PSA15R-050P)

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	passed	2008-08-22	-/-

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.

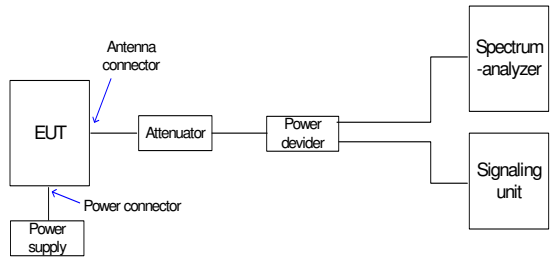
Antennas are confirmed with ANSI C63.2-1996 item 15.

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, bi-conical 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

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5.3 Additional comments

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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.

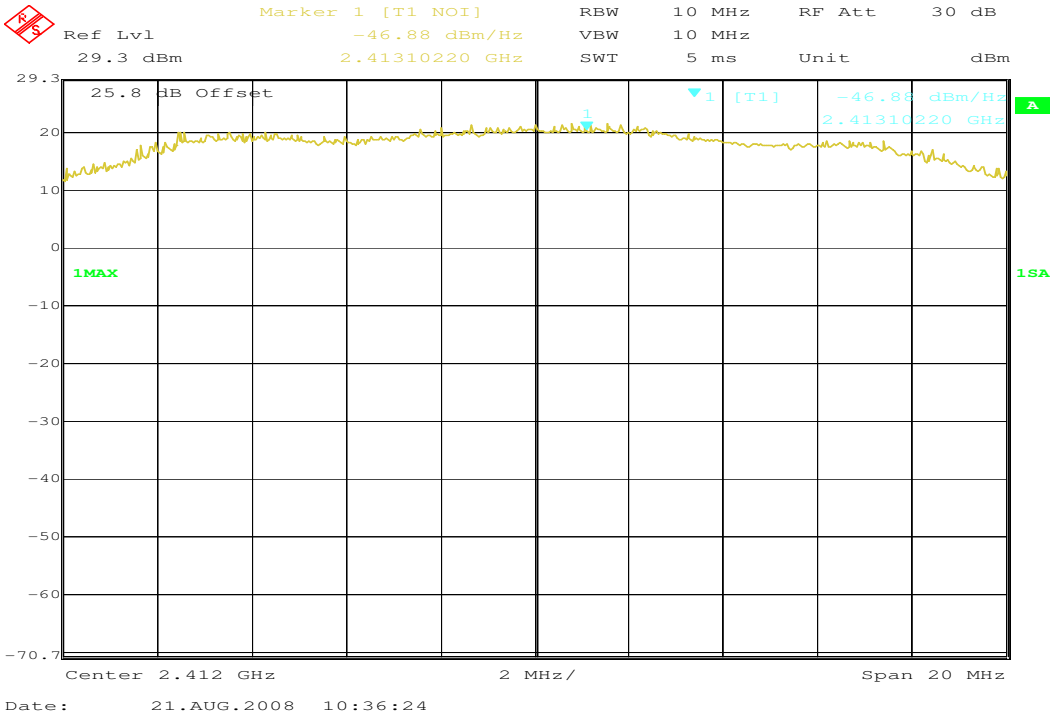
Antenna gain measured in DSSS-mode

	low channel	mid channel	high channel
Conducted power [dBm] *(measured)*	16.89	**17.39**	17.35
Radiated power [dBm] *(measured)*	**19.39**	18.84	19.08
Gain [dBi] *(calculated)*	**2.50**	1.45	1.73

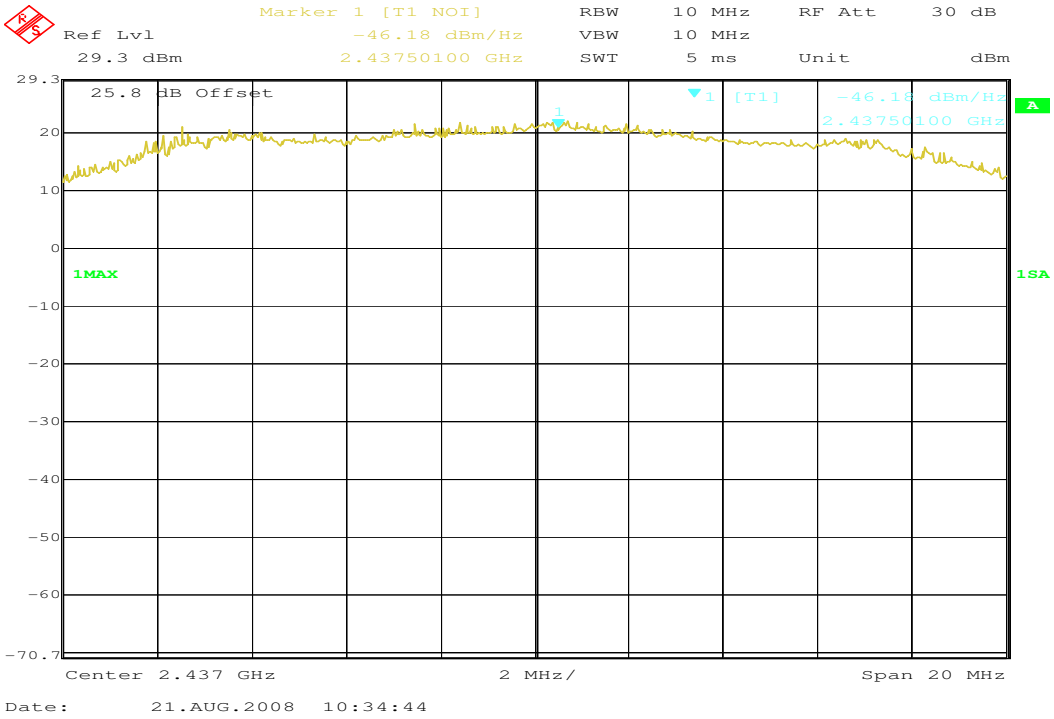
5.5 Peak Power Spectral density (digitally modulated systems) §15.247(e)

DSSS

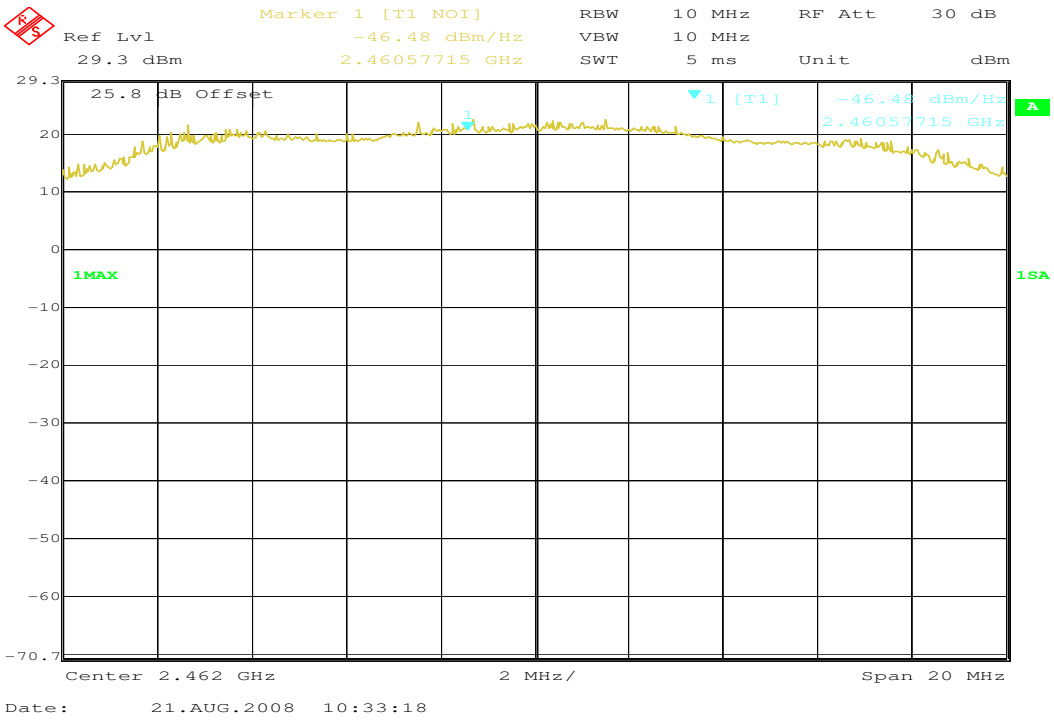
Plot 1: Channel 1 (result calculated by the Signal analyzer FSIQ 26 from Rohde & Schwarz)



Plot 2: Channel 6 (result calculated by the Signal analyzer FSIQ 26 from Rohde & Schwarz)



Plot 3: Channel 11 (result calculated by the Signal analyzer FSIQ 26 from Rohde & Schwarz)

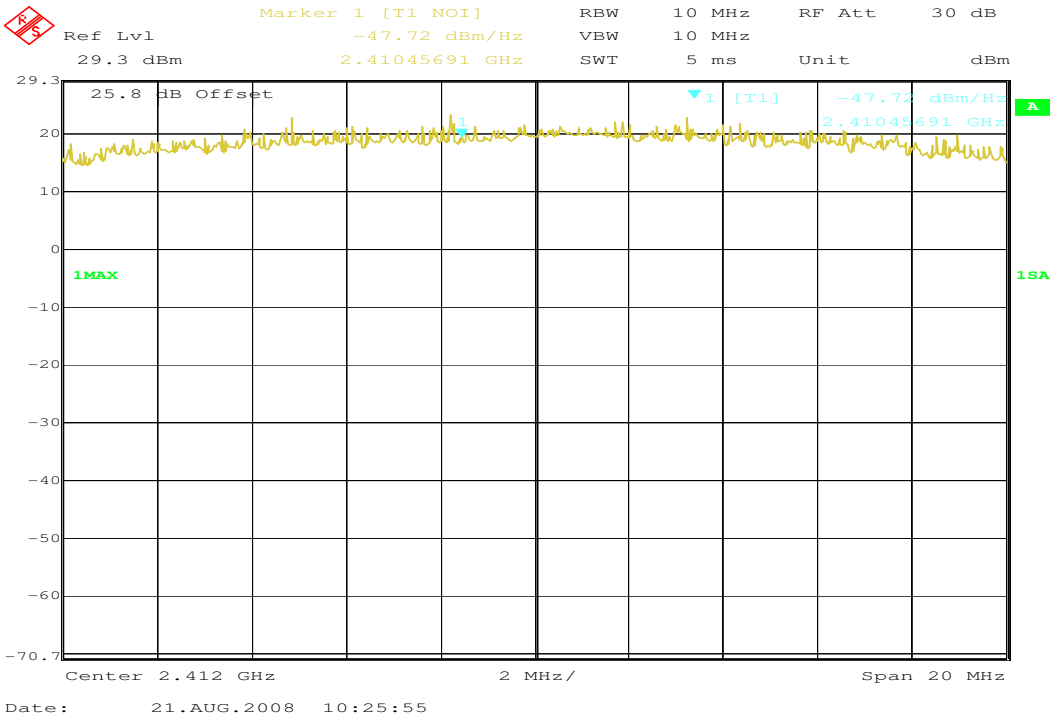


Results: Plot 1: Power density: - 46.88 dBm/Hz = - 12.08 dBm / 3 kHz
Plot 2: Power density: - 46.18 dBm/Hz = - 11.38 dBm / 3 kHz
Plot 3: Power density: - 46.48 dBm/Hz = - 11.68 dBm / 3 kHz

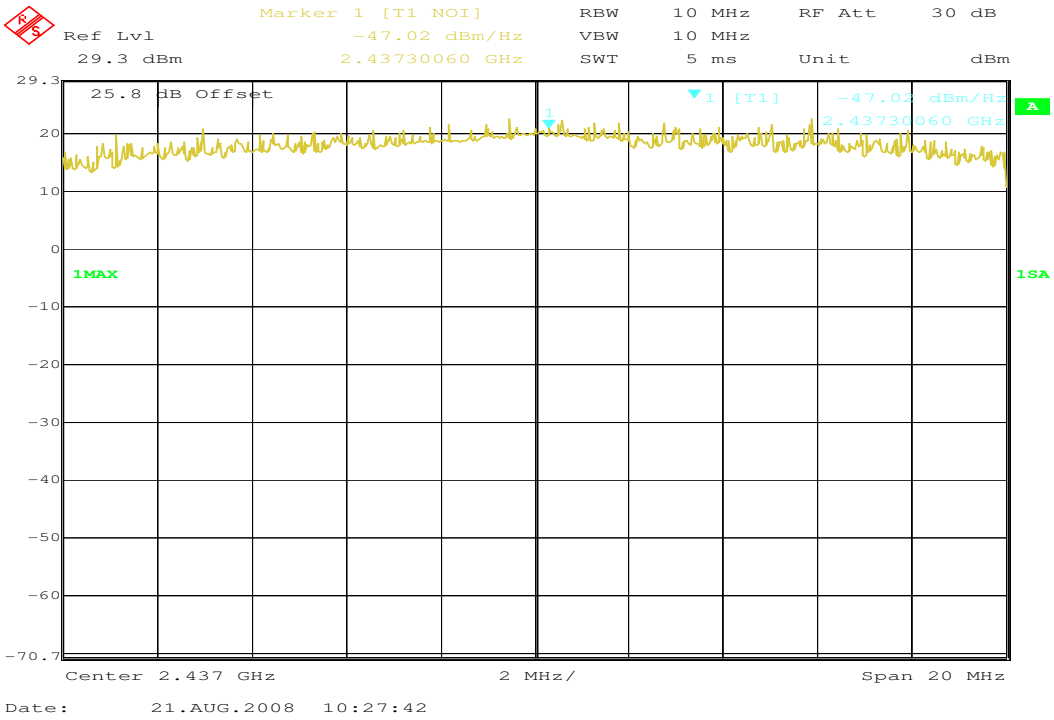
Correction factor from dBm/Hz to dBm/3 kHz is +34,8 dB

OFDM

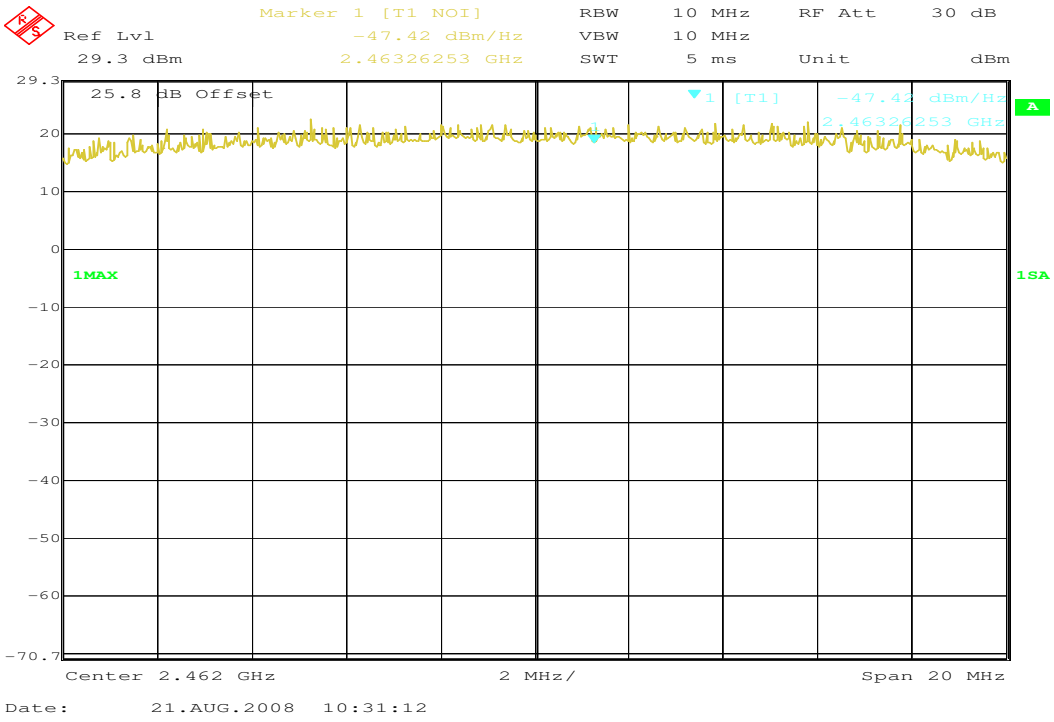
Plot 1: Channel 1 (result calculated by the Signal analyzer FSIQ 26 from Rohde & Schwarz)



Plot 2: Channel 6 (result calculated by the Signal analyzer FSIQ 26 from Rohde & Schwarz)



Plot 3: Channel 11 (result calculated by the Signal analyzer FSIQ 26 from Rohde & Schwarz)



Results: Plot 1: Power density: - 47.72 dBm/Hz = - 12.92 dBm / 3 kHz
Plot 2: Power density: - 47.02 dBm/Hz = - 12.22 dBm / 3 kHz
Plot 3: Power density: - 47.42 dBm/Hz = - 12.62 dBm / 3 kHz

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

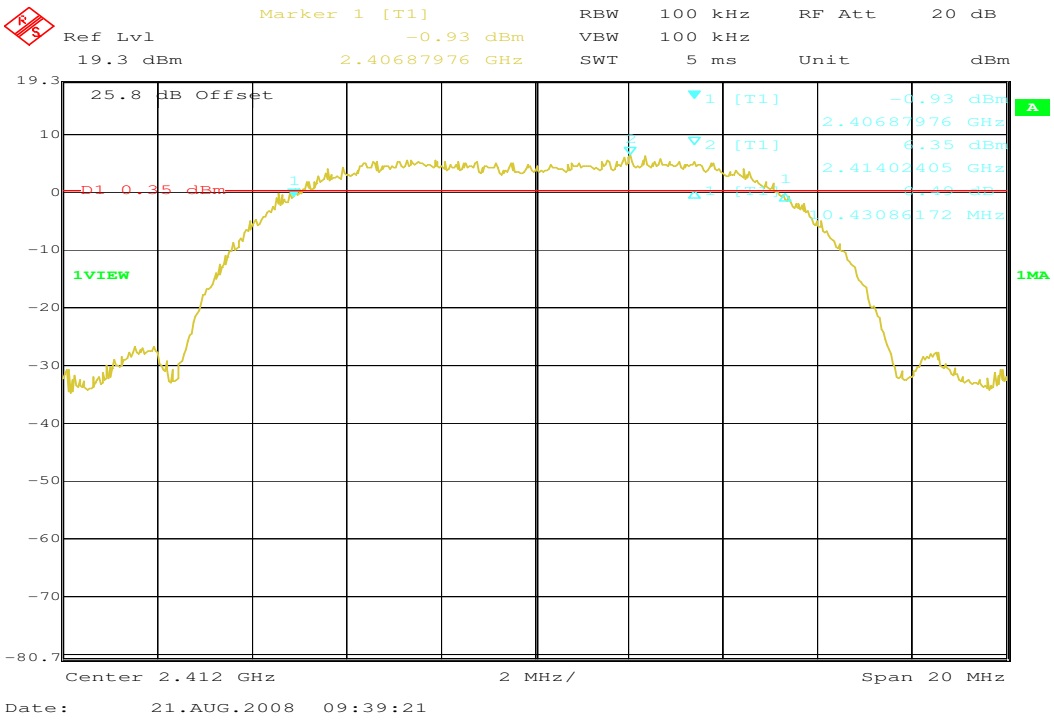
Limits:

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

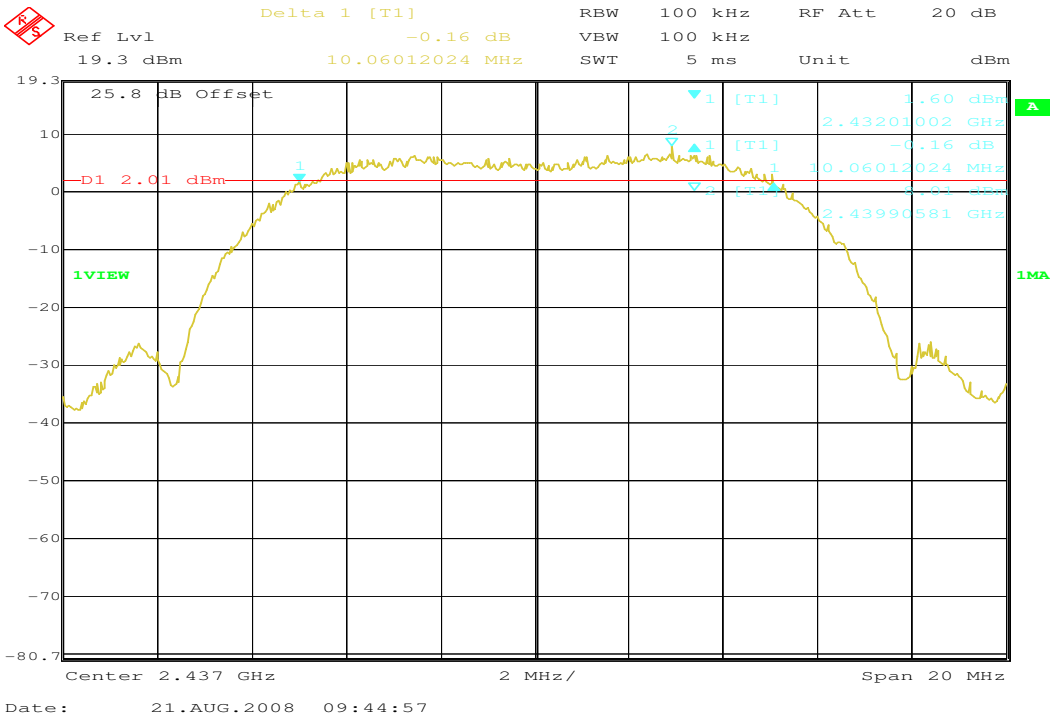
5.6 Spectrum Bandwidth of a DSSS System / 6 dB Bandwidth §15.247(a)(2)

DSSS

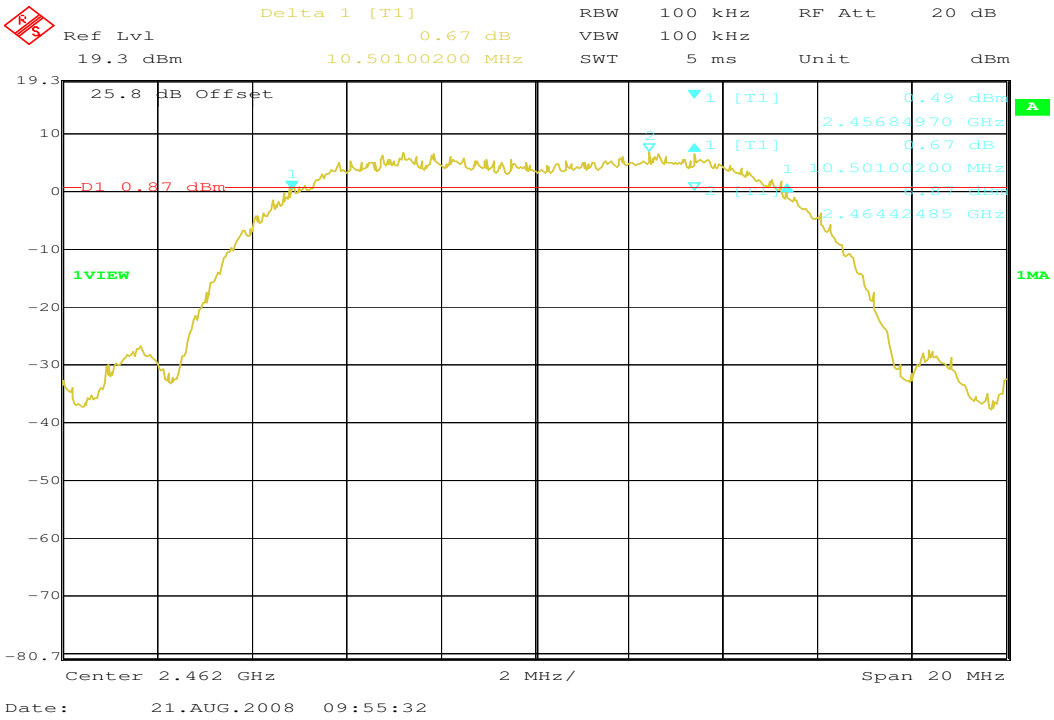
Plot 1:



Plot 2:



Plot 3:



Results:

Test conditions		**6 dB BANDWIDTH [MHz]**		
Frequency [MHz]		2412	2437	2462
T_{nom}	V_{nom}	10.43	10.06	**10.50**
Measurement uncertainty		± 30 kHz		

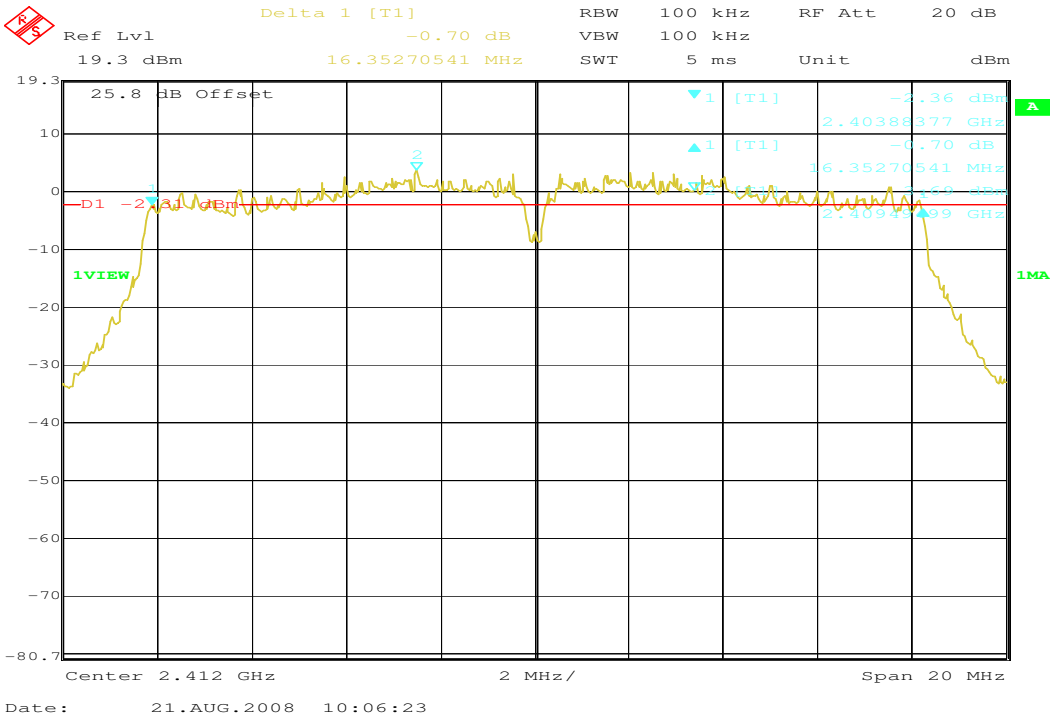
RBW: 100 kHz / VBW 100 kHz

Limits:

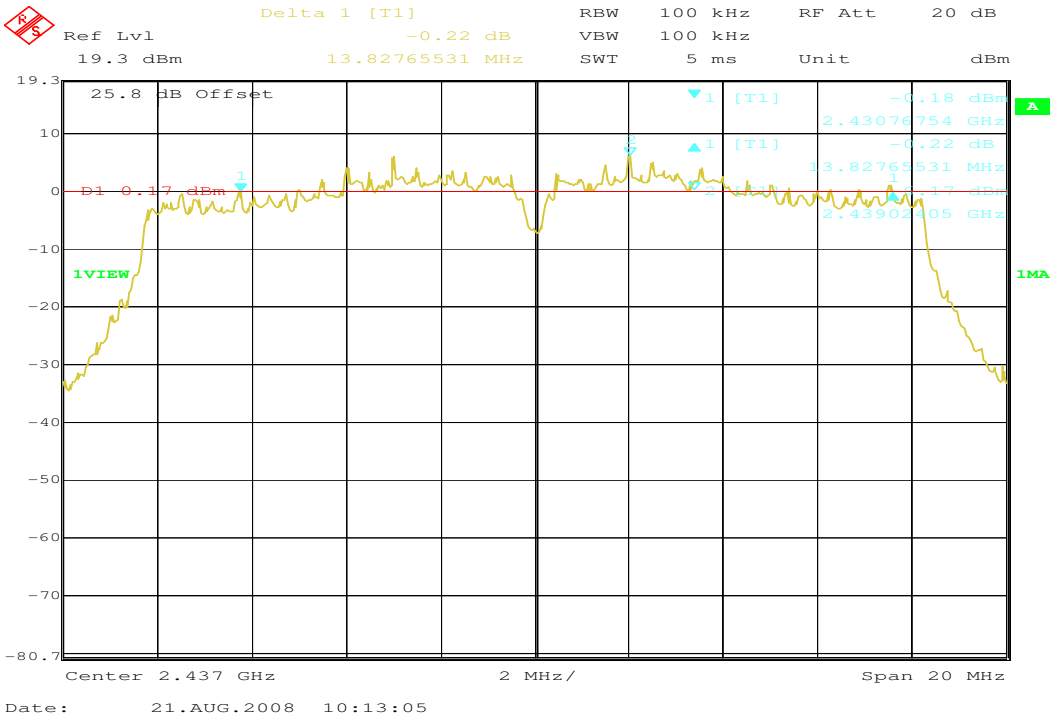
Under normal test conditions only	> 500 kHz

OFDM

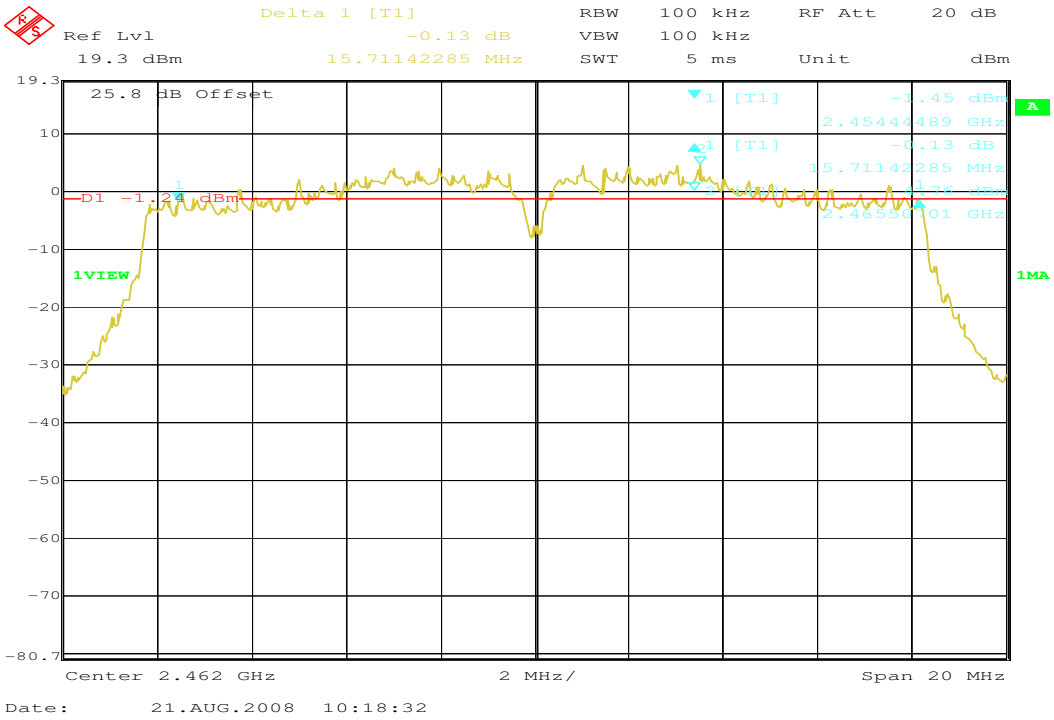
Plot 1:



Plot 2:



Plot 3:



Results:

Test conditions		6 dB BANDWIDTH [MHz]		
Frequency [MHz]		2412	2437	2462
T_{nom}	V_{nom}	**16.35**	13.83	15.71
Measurement uncertainty		± 30 kHz		

RBW: 100 kHz / VBW 100 kHz

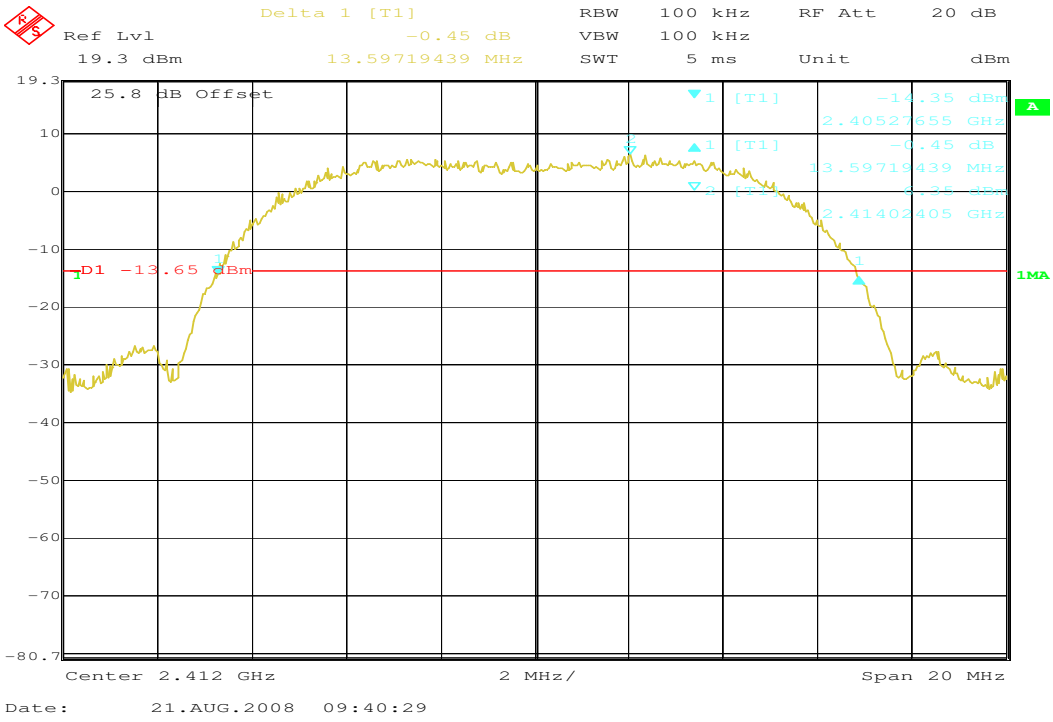
Limits:

Under normal test conditions only	> 500 kHz

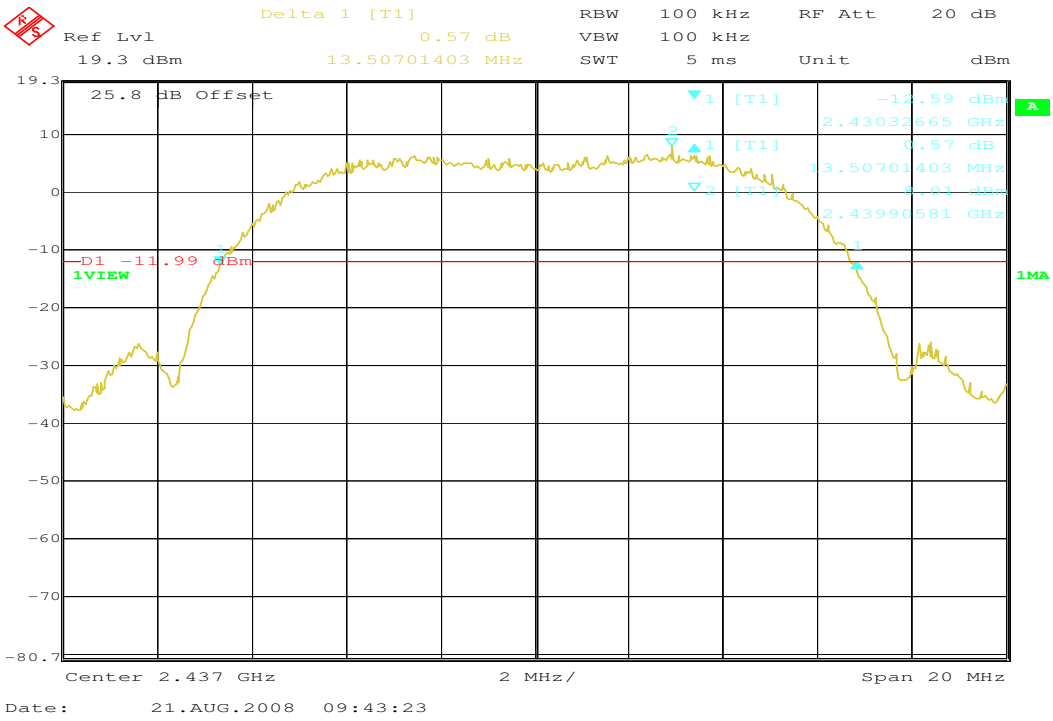
5.7 Spectrum Bandwidth of a DSSS System / 20 dB Bandwidth

DSSS

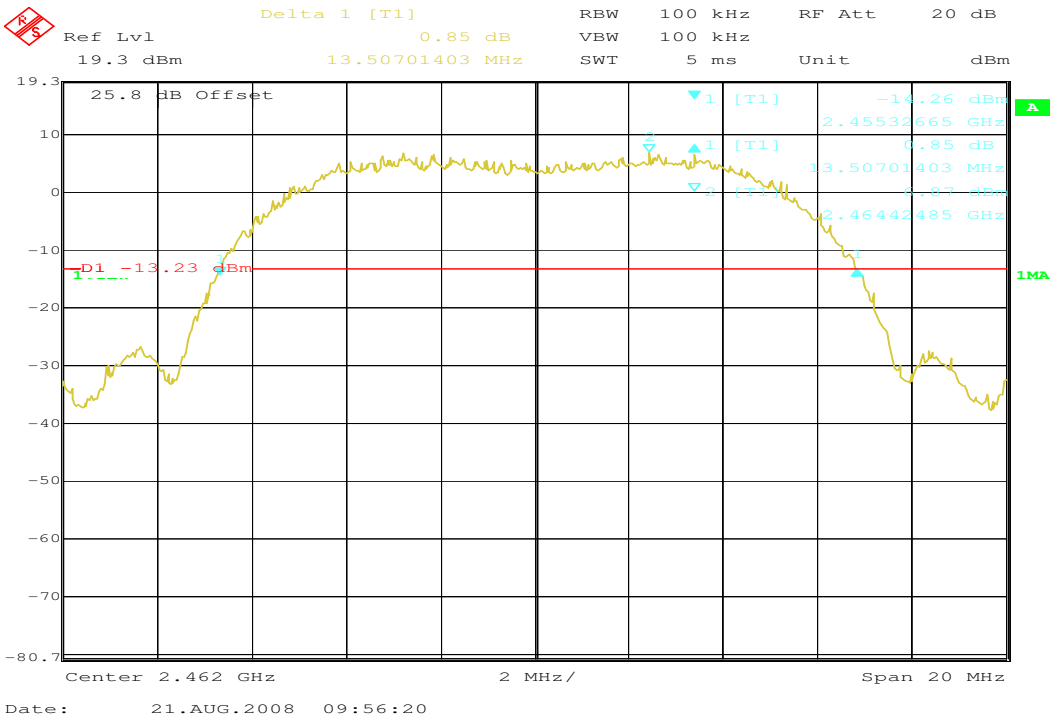
Plot 1:



Plot 2:



Plot 3:



Results:

Test conditions		**20 dB BANDWIDTH [MHz]**		
Frequency [MHz]		2412	2437	2462
T_{nom}	V_{nom}	**13.60**	13.51	13.51
Measurement uncertainty		± 30 kHz		

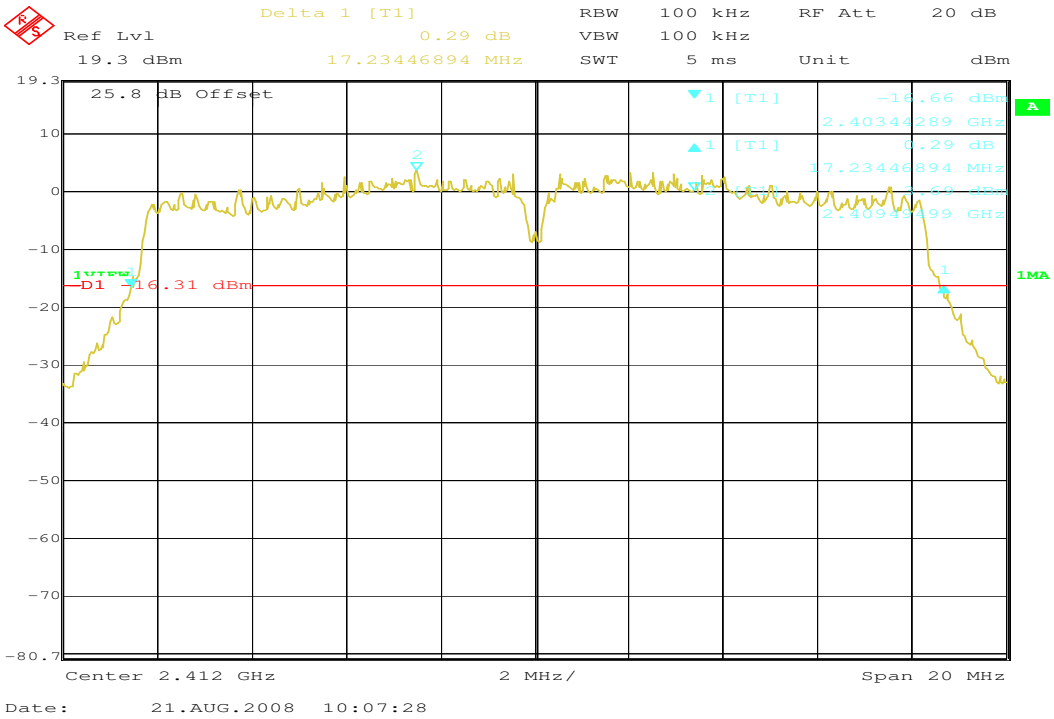
RBW: 100 kHz / VBW 100 kHz

Limits:

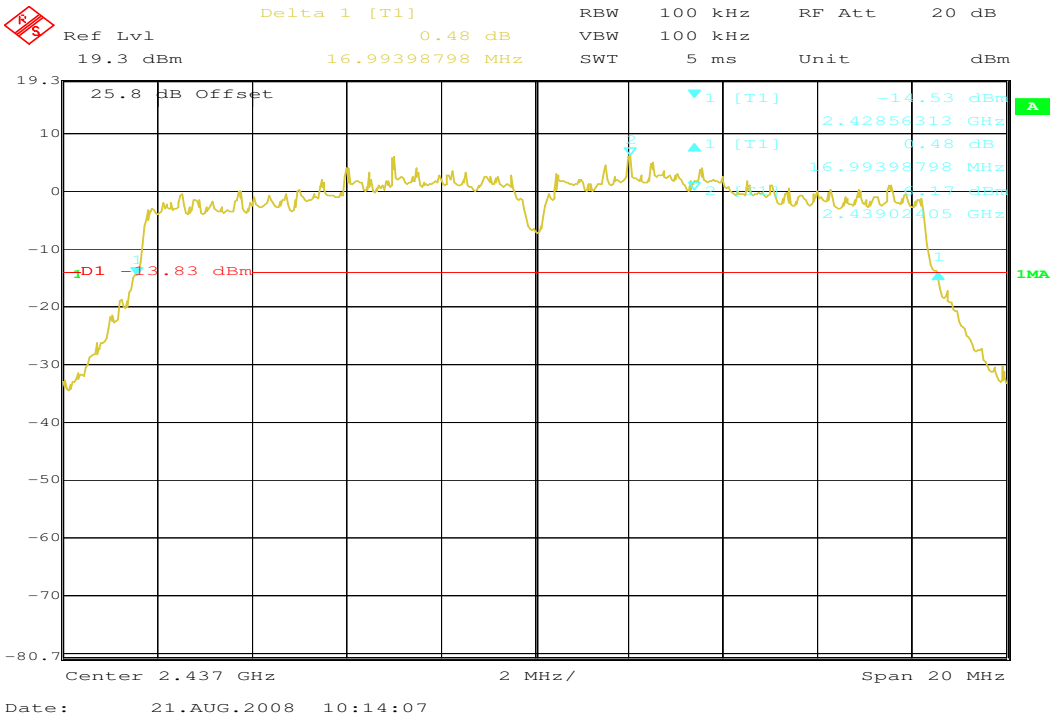
Under normal test conditions only	> 500 kHz

OFDM

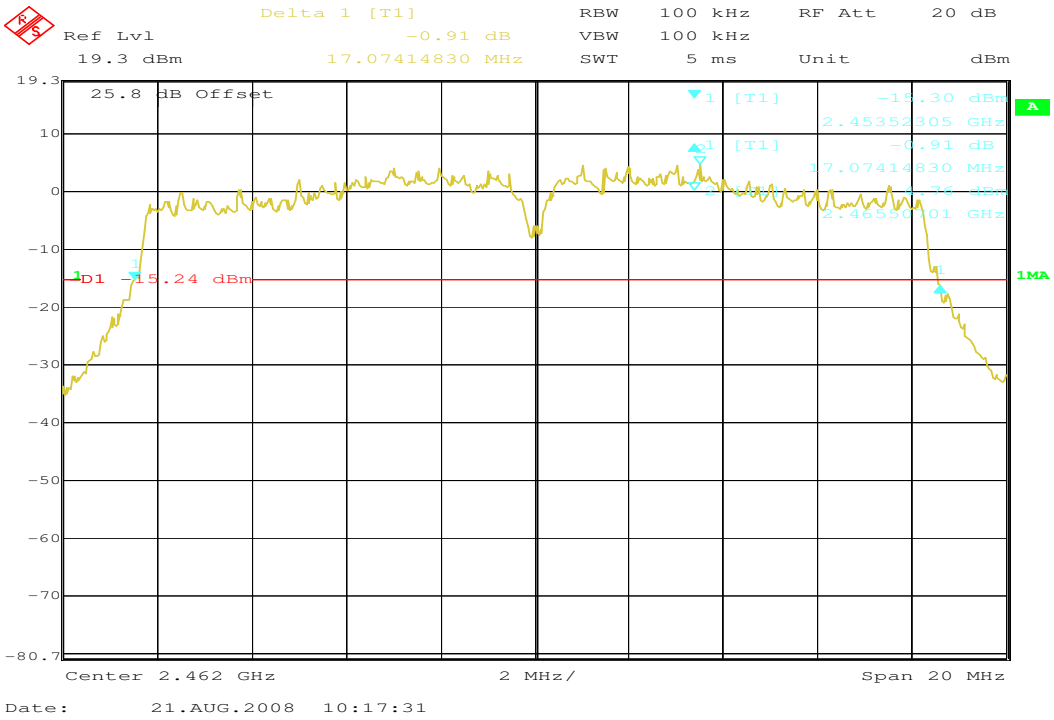
Plot 1:



Plot 2:



Plot 3:



Results:

Test conditions		20 dB BANDWIDTH [MHz]		
Frequency [MHz]		2412	2437	2462
T_{nom}	V_{nom}	**17.23**	17.00	17.07
Measurement uncertainty		± 30 kHz		

RBW: 100 kHz / VBW 100 kHz

Limits:

Under normal test conditions only	> 500 kHz

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

Results: DSSS

Test conditions		**Max. peak output power [dBm]**		
Frequency [MHz]		2412	2437	2462
T_{nom}	V_{nom}	16.89	**17.39**	17.35
Measurement uncertainty		±3dB		

Results: OFDM

Test conditions		**Max. peak output power [dBm]**		
Frequency [MHz]		2412	2437	2462
T_{nom}	V_{nom}	16.05	**17.03**	16.79
Measurement uncertainty		±3dB		

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: 19.39 dBm (86.9 mW)

calculated at distance of 20 cm:

power density = 86.9 mW /$4\pi 20^2$ cm = 0.17 mW/ cm^2

Limit:

1 mW/ 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}	**19.39**	18.84	19.08
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}	**18.98**	18.20	17.99
Measurement uncertainty		±3dB		

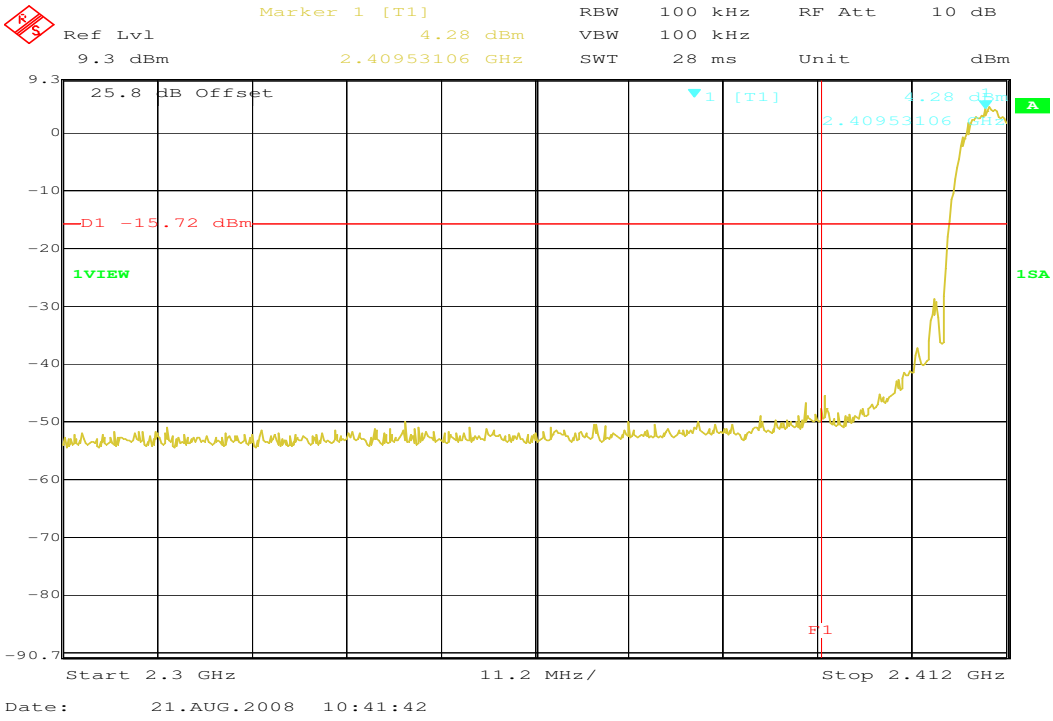
RBW / VBW: 10 MHz
Measured at a distance of 3m

Limits:

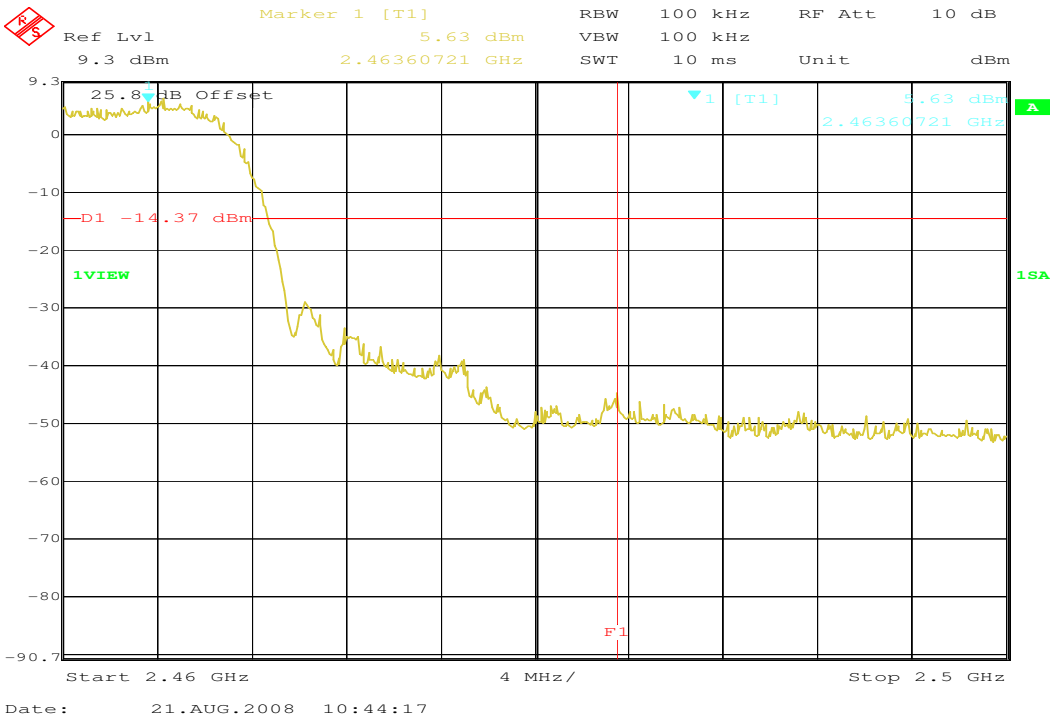
Under normal test conditions only, for frequency range 2400-2483.5 MHz	Max. 1.0 Watt

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

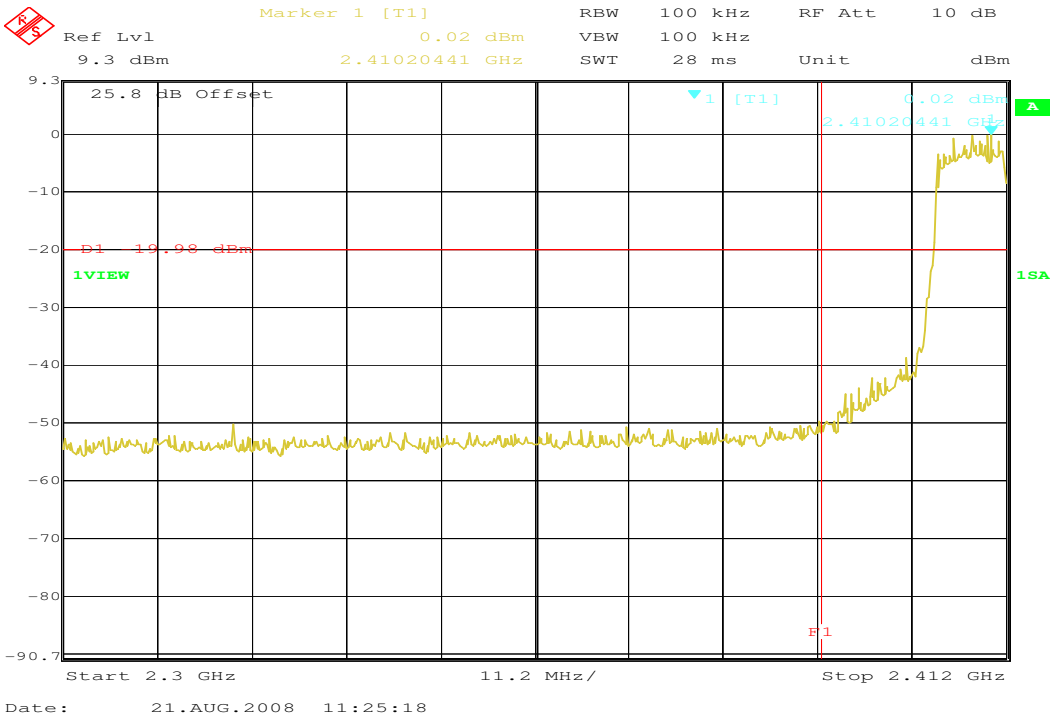
Plot 1: DSSS / lowest channel



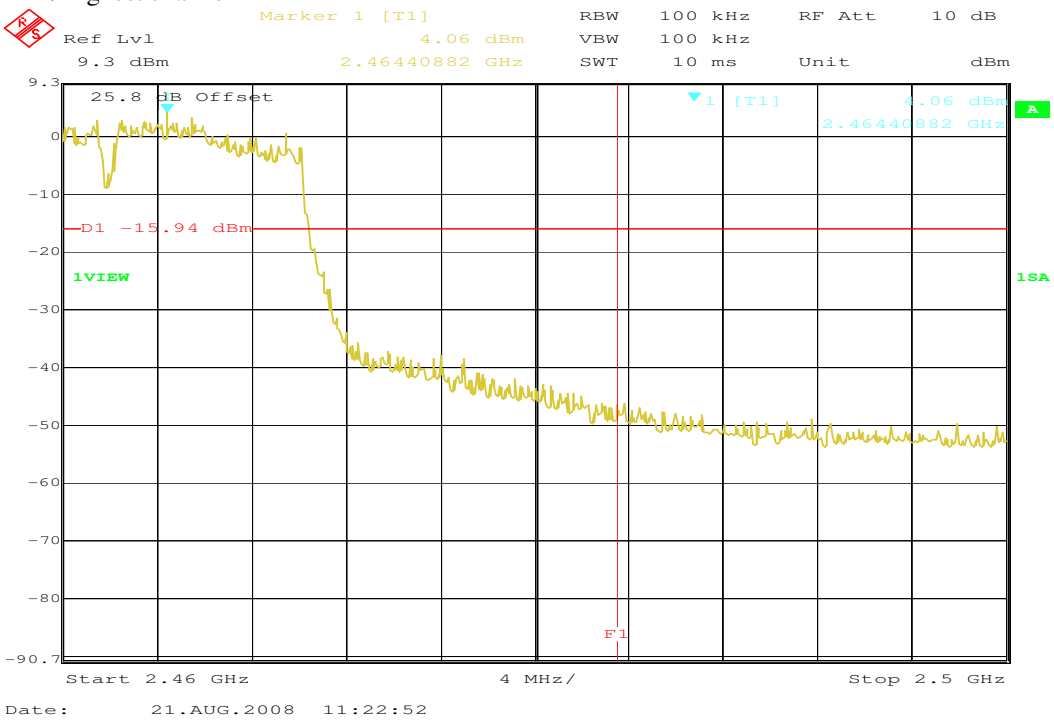
Plot 2: DSSS / highest channel



Plot 3: OFDM / lowest channel



Plot 4: OFDM / highest channel



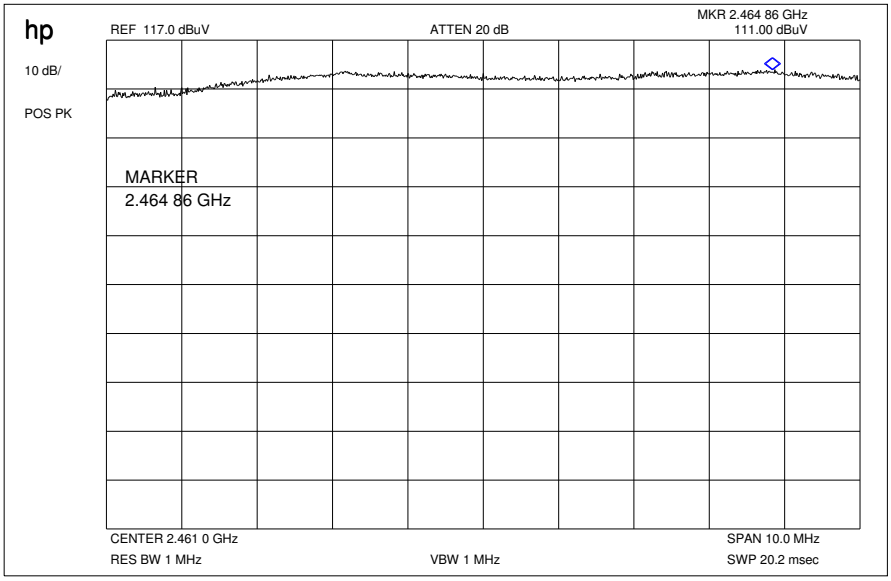
Limits:

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

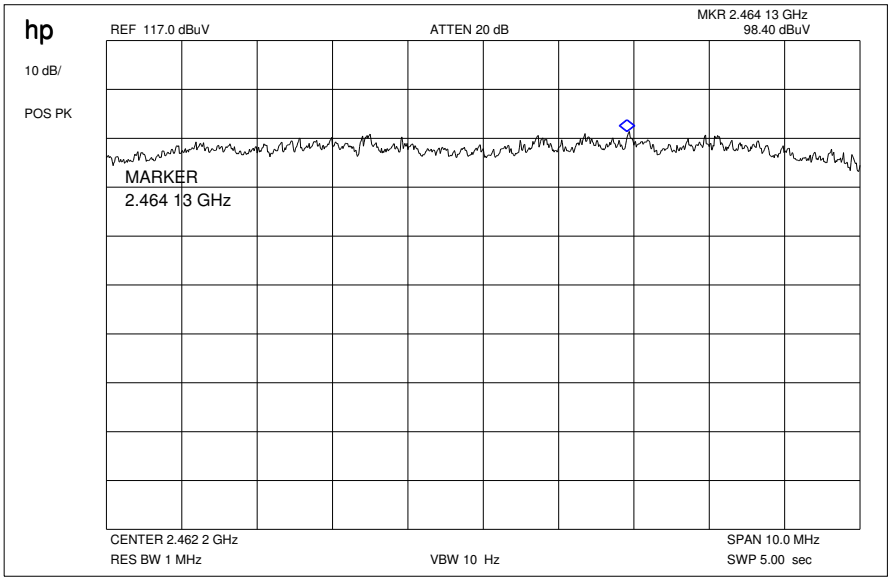
Plot 1: Max field strength in 3m distance (single frequency) peak



Result:

Frequency	Meter reading	Correction factor	Results
2462 MHz	111.0 dBµV	-6.3 dB	104.7 dBµV

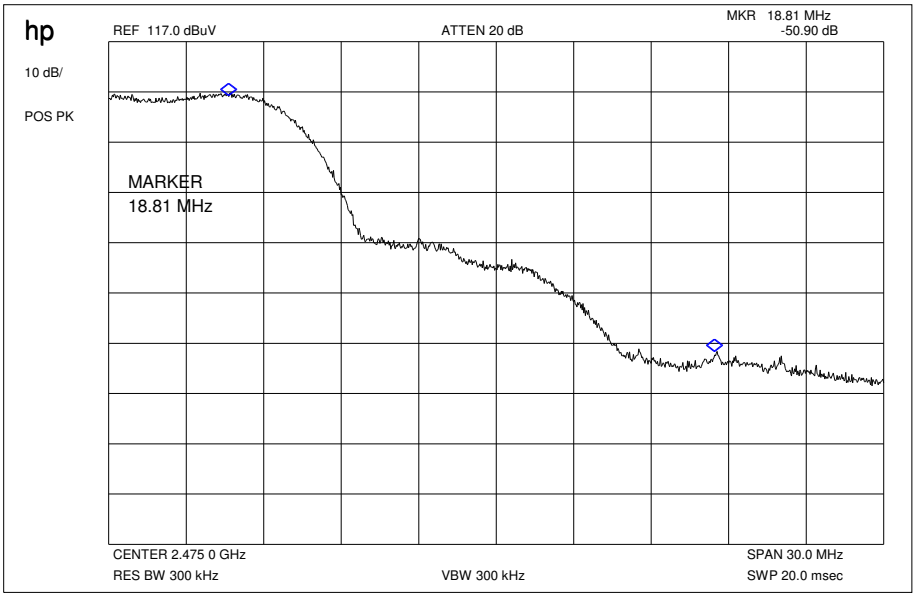
Plot 2 : Max field strength in 3m distance (single frequency) average



Result:

Frequency	Meter reading	Correction factor	Results
2462 MHz	98.4 dBµV	-6.3 dB	92.1 dBµV

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



Result: Marker-Delta-Value: 50.9 dB

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

Results & Limits:

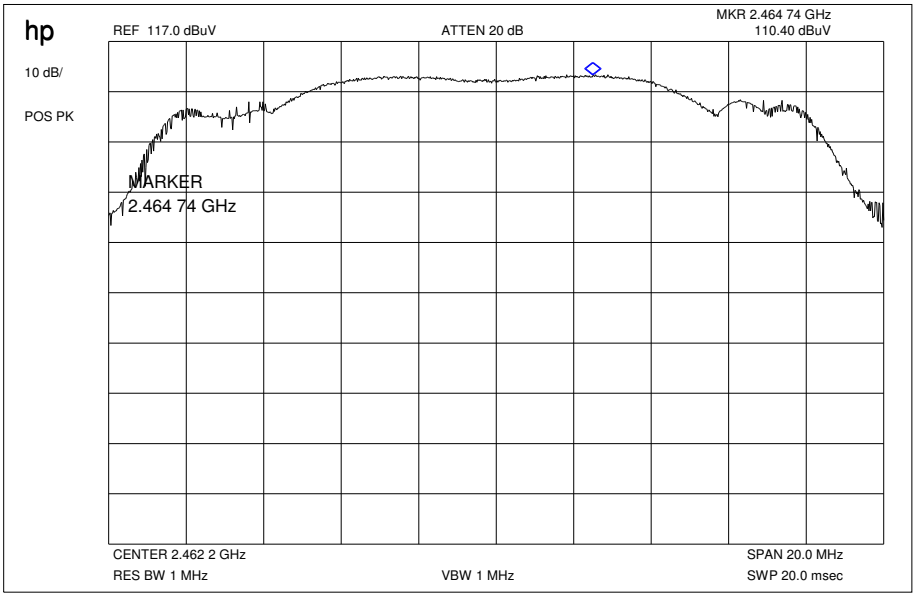
Radiated field strength

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	111.0 dBµV/m	-6.3 dB	104.7 dBµV/m
Max. average value	1 MHz RBW 10 Hz VBW	98.4 dBµV/m	-6.3 dB	92.1 dBµV/m
Delta value	Peak 300 kHz RBW/VBW	50.9 dB		
Value at band edge	limit 54 dBµV/m			41.2 dBµV/m
Statement:				**Complies**

OFDM

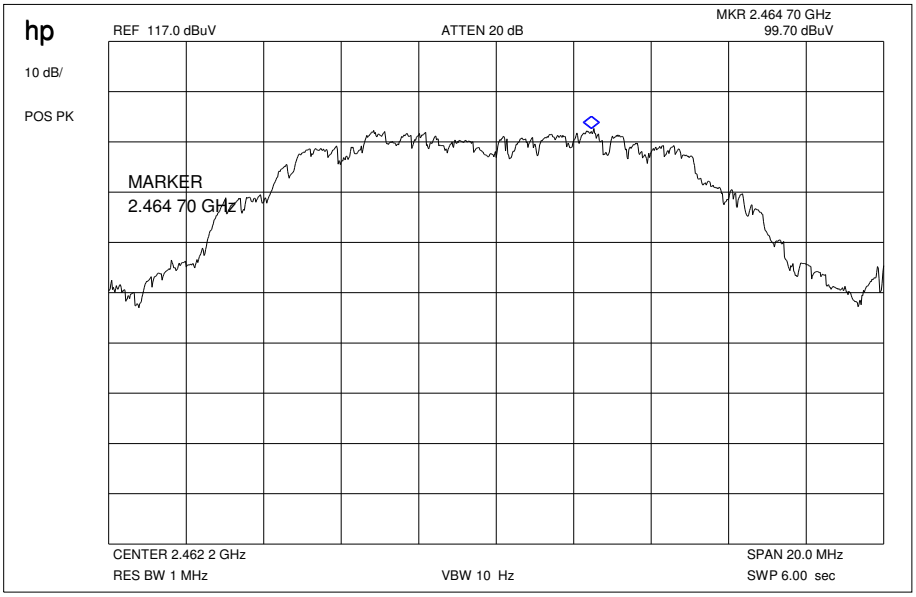
Plot 1: Max field strength in 3m distance (single frequency) peak



Result:

Frequency	Meter reading	Correction factor	Results
2462 MHz	110.40 dBµV	-6.3 dB	104.1 dBµV

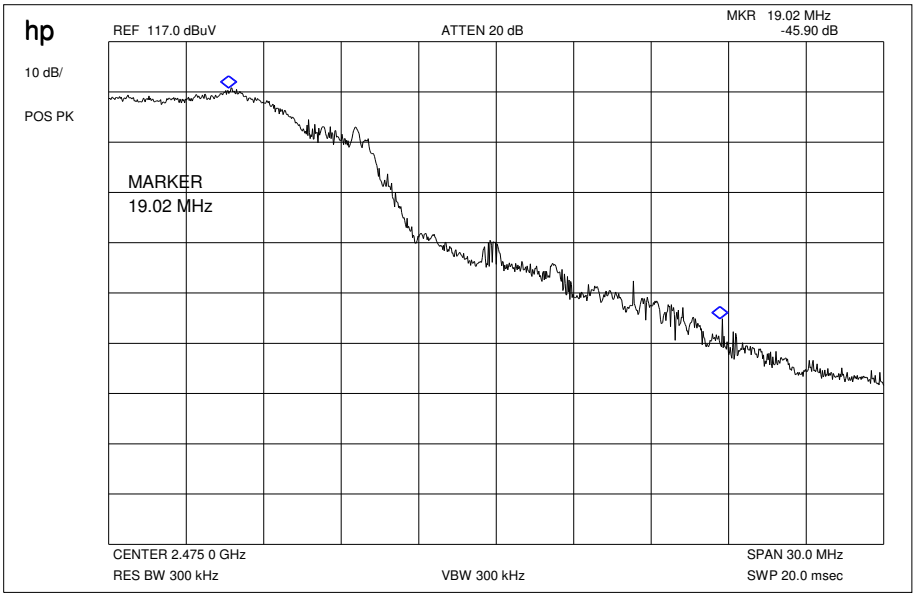
Plot 2 : Max field strength in 3m distance (single frequency) average



Result:

Frequency	Meter reading	Correction factor	Results
2462 MHz	99.7 dBµV	-6.3 dB	93.4 dBµV

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



Result: Marker-Delta-Value: 45.9 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

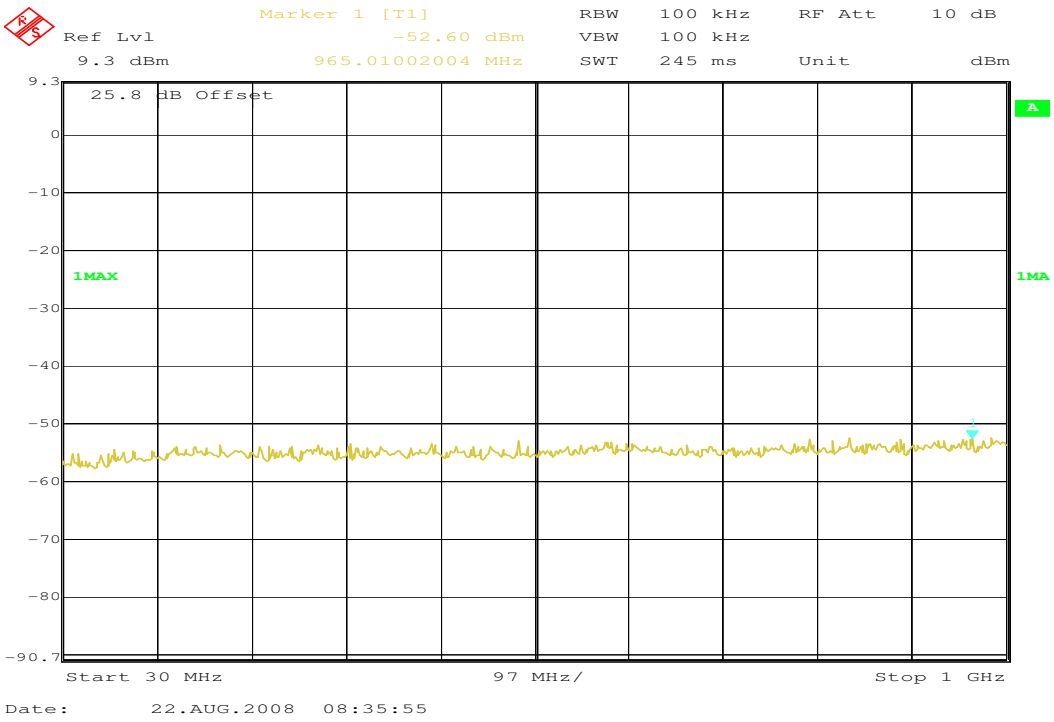
The field strength was measured with an EMI measuring receiver and 1 MHz RBW / VBW for peak and with 1MHz RBW / 10Hz VBW for average at a distance of 3m.

high channel	setup	measured value (3m)	correction factor (3m)	calculated value (3m)
Max. peak value	1 MHz RBW 1 MHz VBW	110.4 dBµV/m	-6.3 dB	104.1 dBµV/m
Max. average value	1 MHz RBW 10 Hz VBW	99.7 dBµV/m	-6.3 dB	93.4 dBµV/m
Delta value	Peak 300 kHz RBW/VBW	45.9 dB		
Value at band edge	limit 54 dBµV/m			47.5 dBµV/m
Statement:				**Complies**

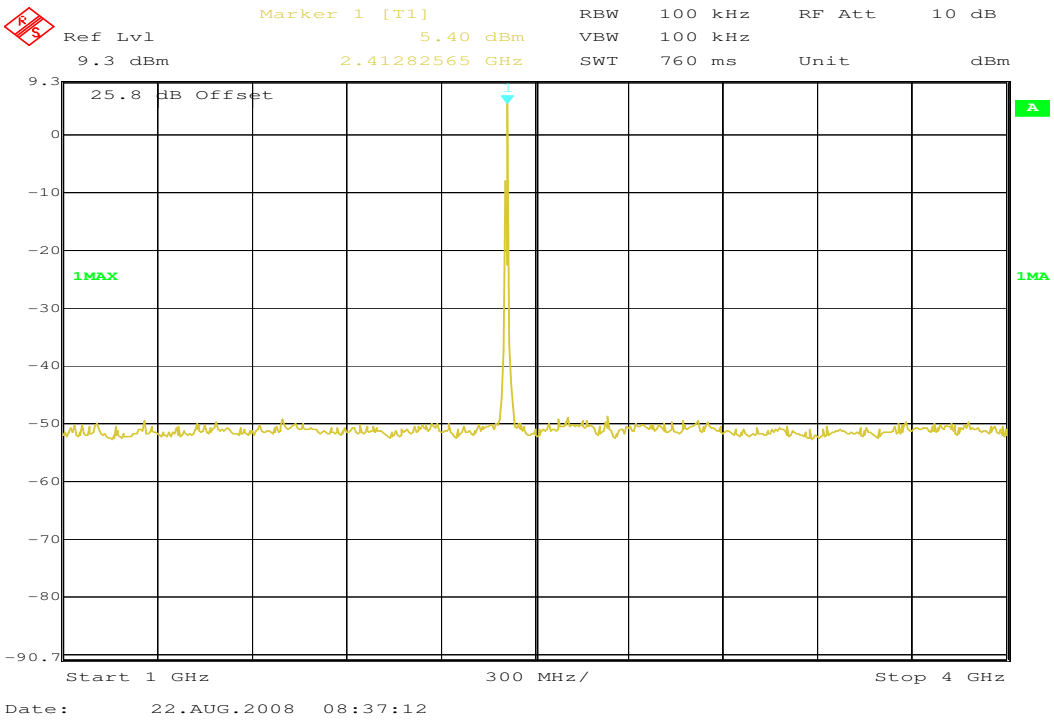
5.12 Spurious Emissions - conducted (Transmitter) §15.247 (c)

DSSS

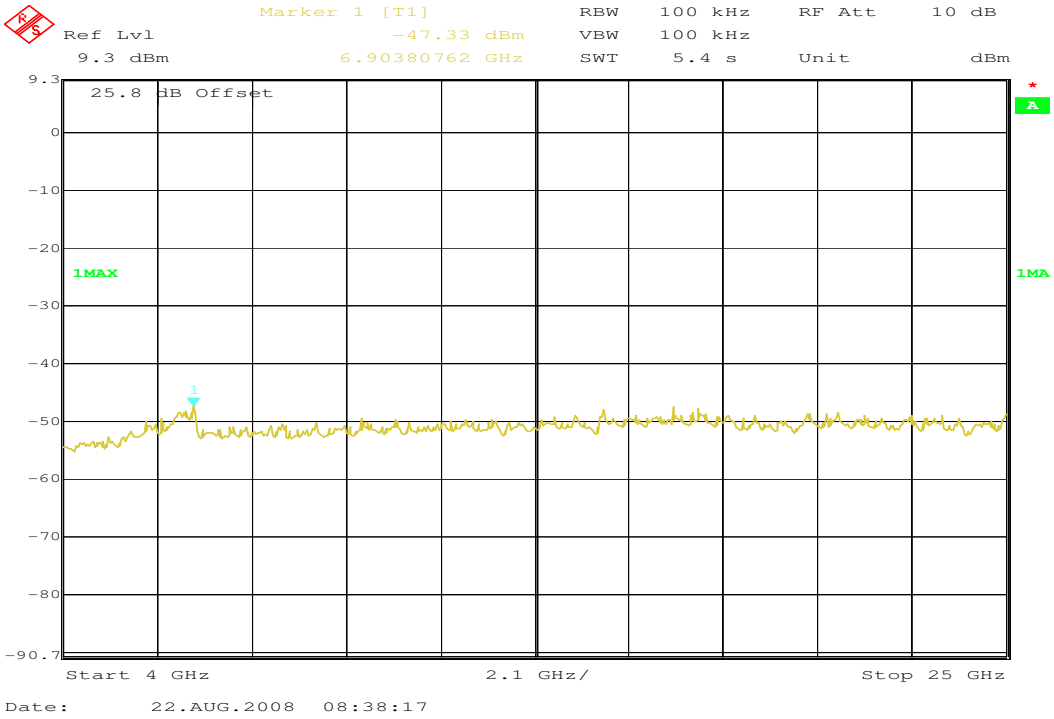
Plot 1: 30 MHz – 1 GHz (Lowest Channel)



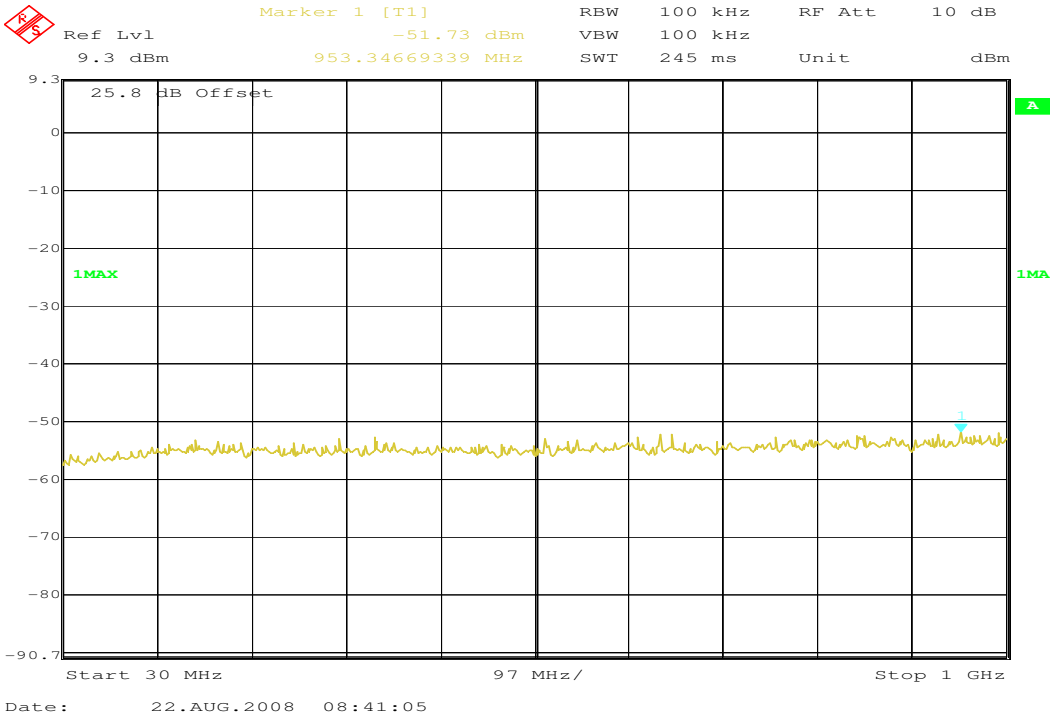
Plot 2: 1 GHz – 4 GHz (Lowest Channel)



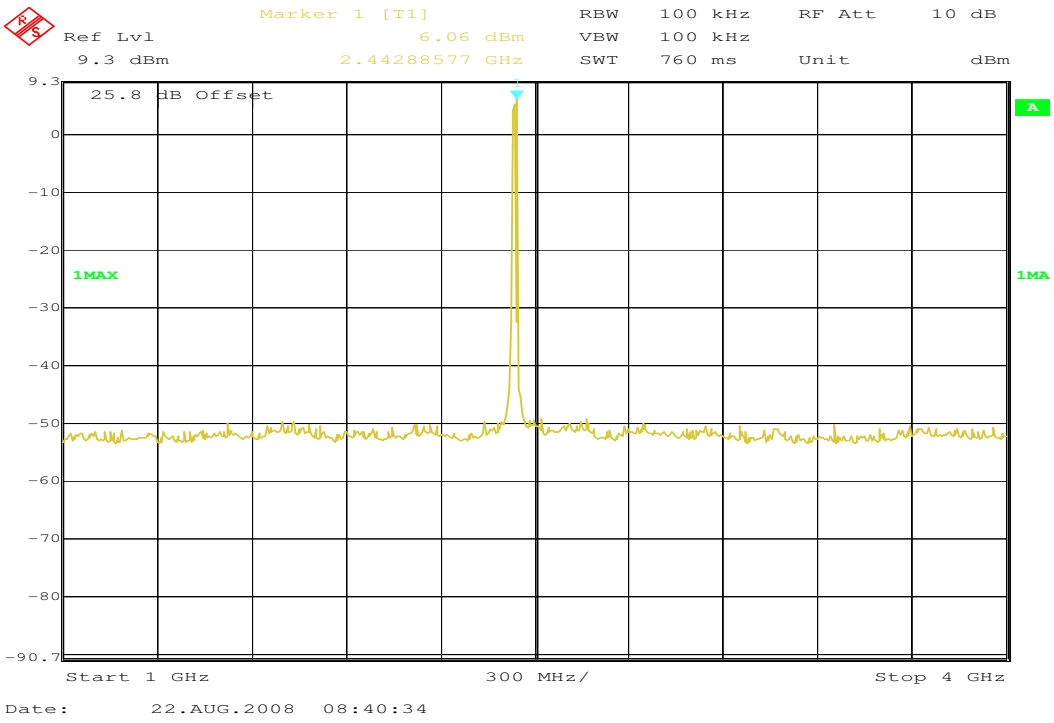
Plot 3: 4 GHz – 25 GHz (Lowest Channel)



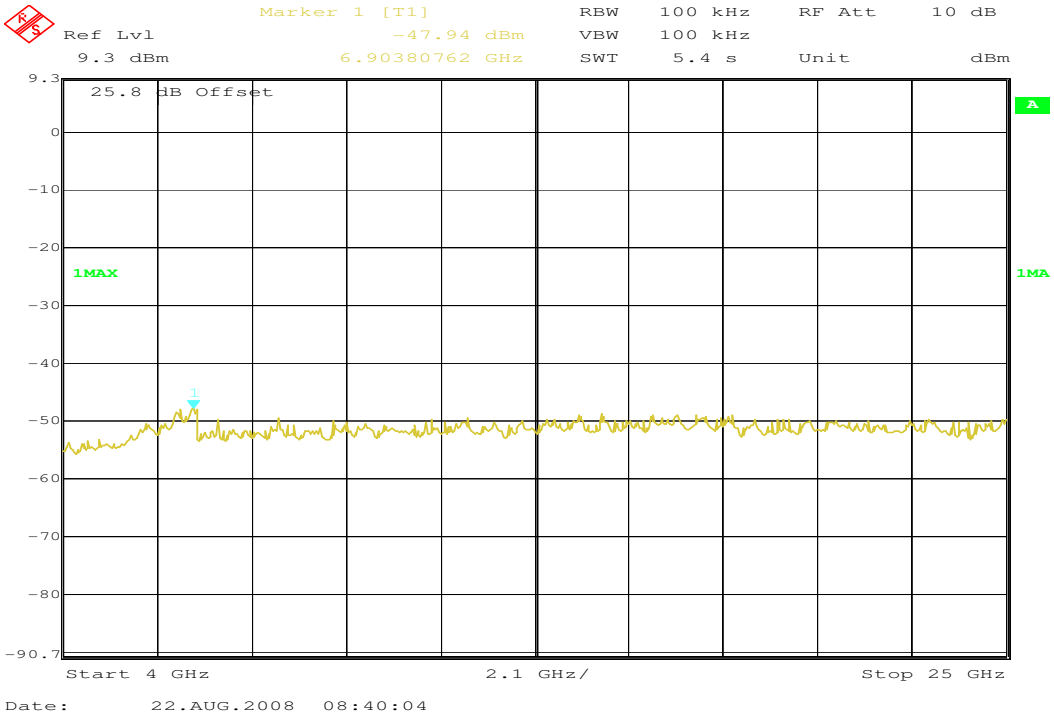
Plot 4: 30 MHz – 1 GHz (Middle Channel)



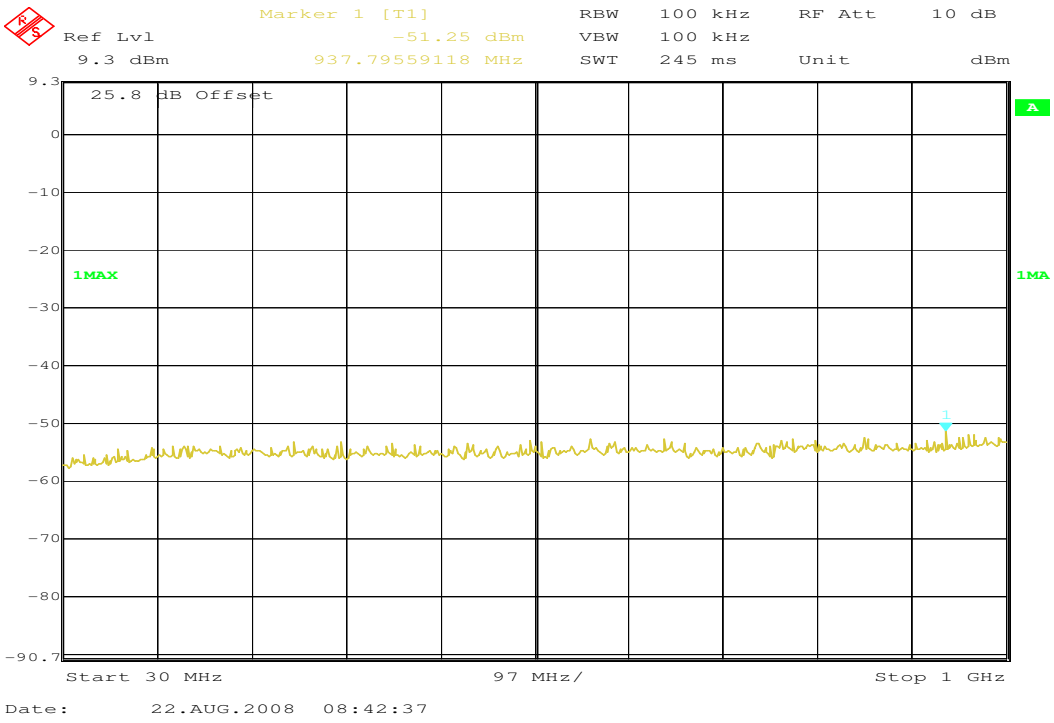
Plot 5: 1 GHz – 4 GHz (Middle Channel)



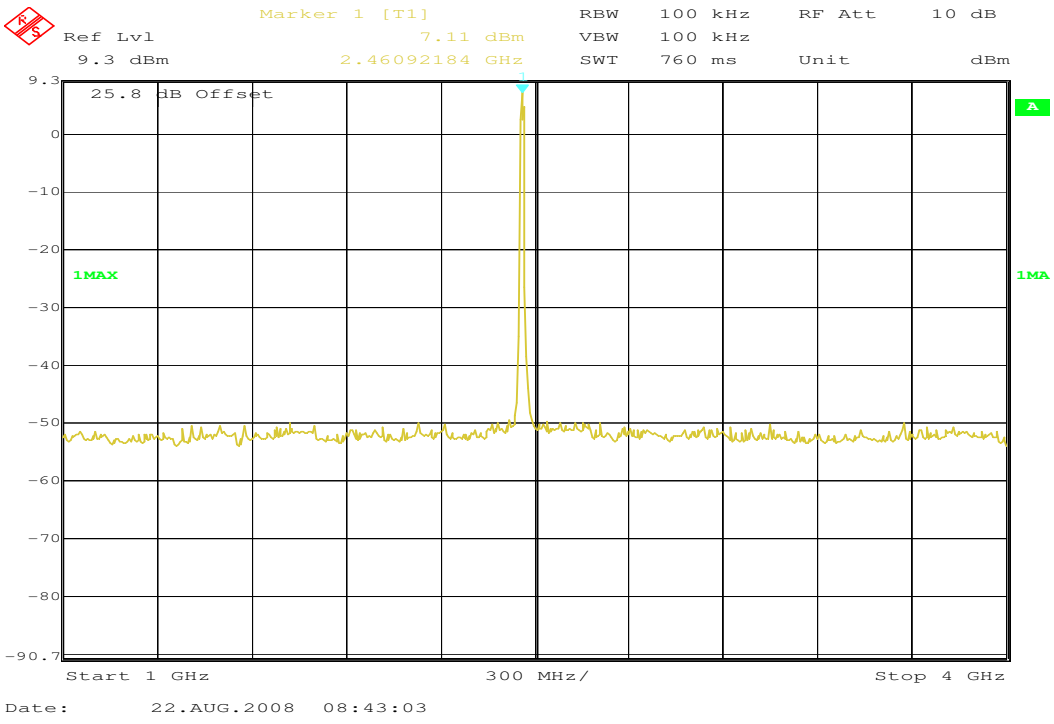
Plot 6: 4 GHz – 25 GHz (Middle Channel)



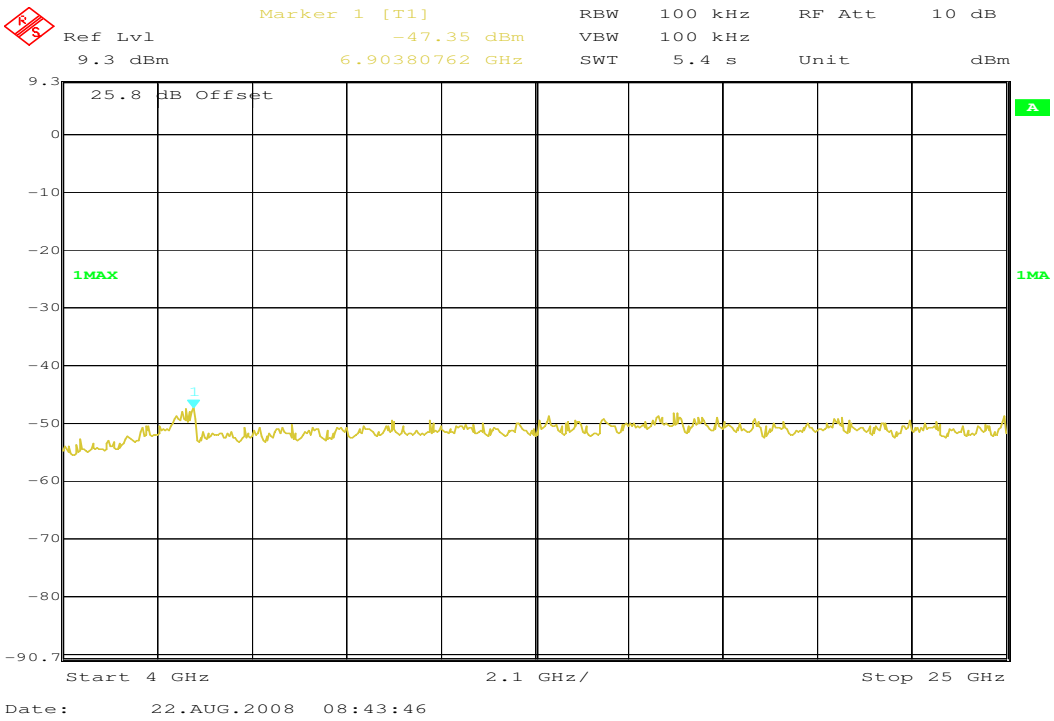
Plot 7: 30 MHz – 1 GHz (Highest Channel)



Plot 8: 1 GHz – 4 GHz (Highest Channel)



Plot 9: 4 GHz – 25 GHz (Highest Channel)



Result & Limits:

Emission Limitations					
f [MHz]	RBW/VBW [kHz]	amplitude of emission [dBm]	limit max. allowed emission power	actual attenuation below frequency of operation [dB]	results
2412	100	5.4	30 dBm	-	Operating frequency
			-20 dBc		
No peaks detected					
2437	100	6.1	30 dBm	-	Operating frequency
			-20 dBc		
No peaks detected					
2462	100	7.1	30 dBm	-	Operating frequency
			-20 dBc		
No peaks detected					
Measurement uncertainty		± 3dB			

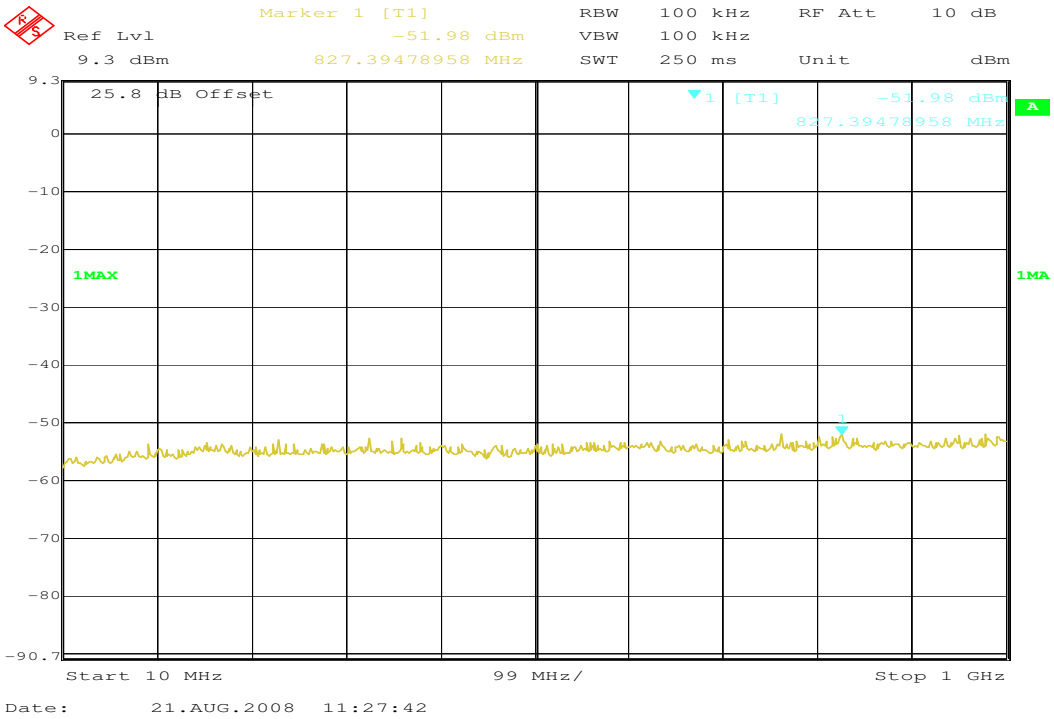
Limit:

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)).

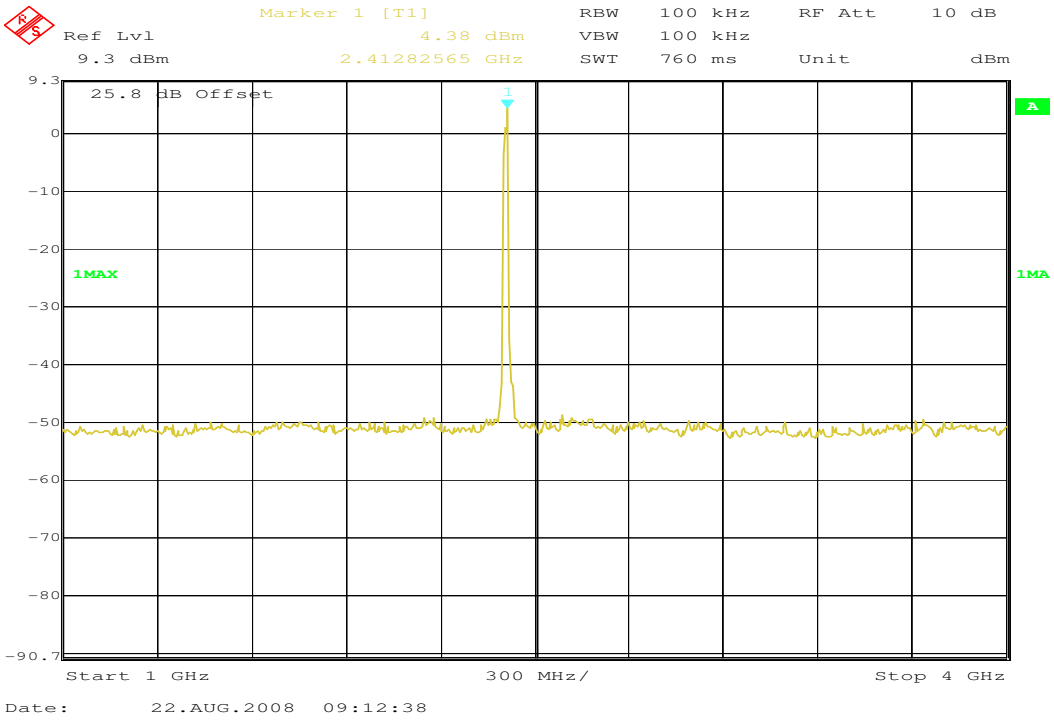
Note: For emissions that fall into restricted bands you find the radiated emissions later in the report.

OFDM

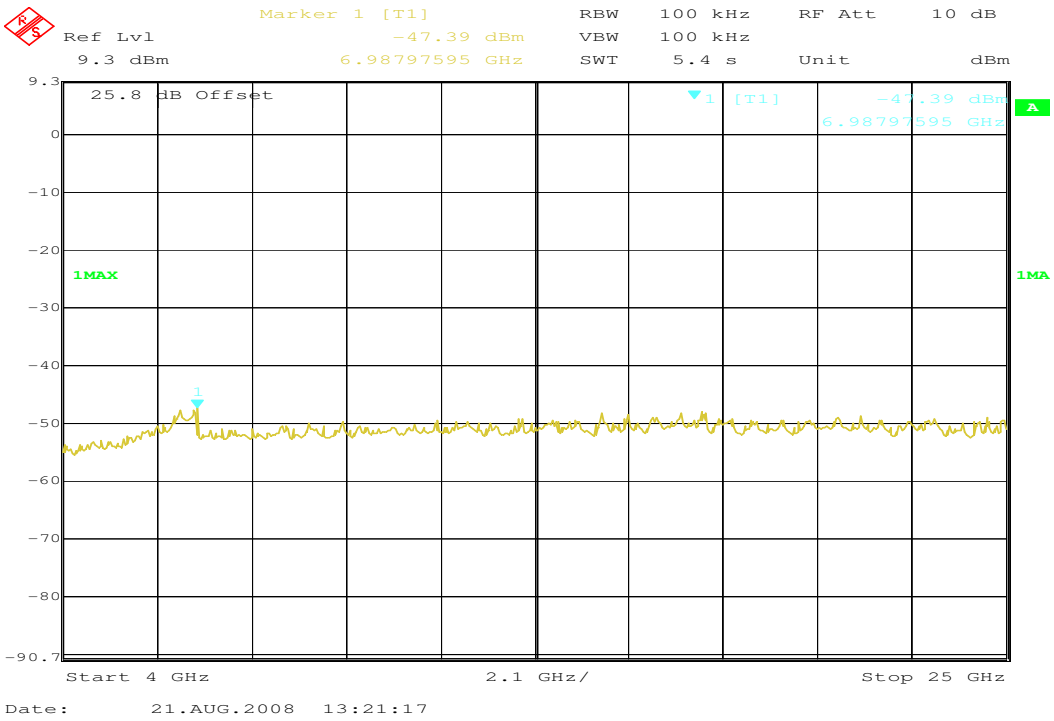
Plot 10: 30 MHz – 1 GHz (Lowest Channel)



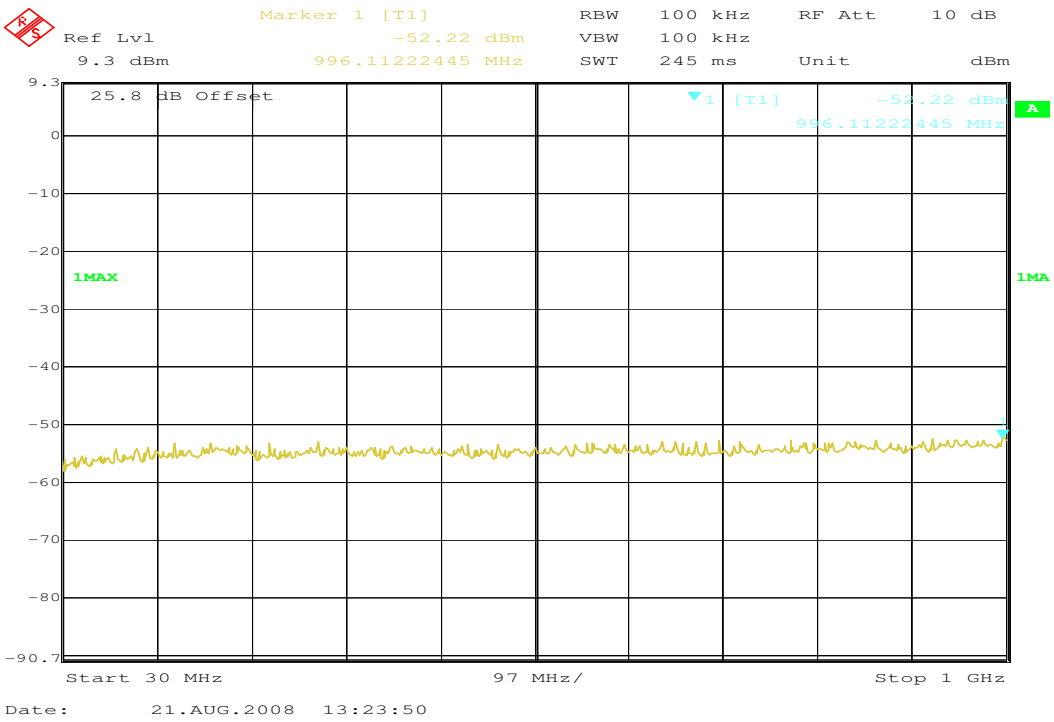
Plot 11: 1 GHz – 4 GHz (Lowest Channel)



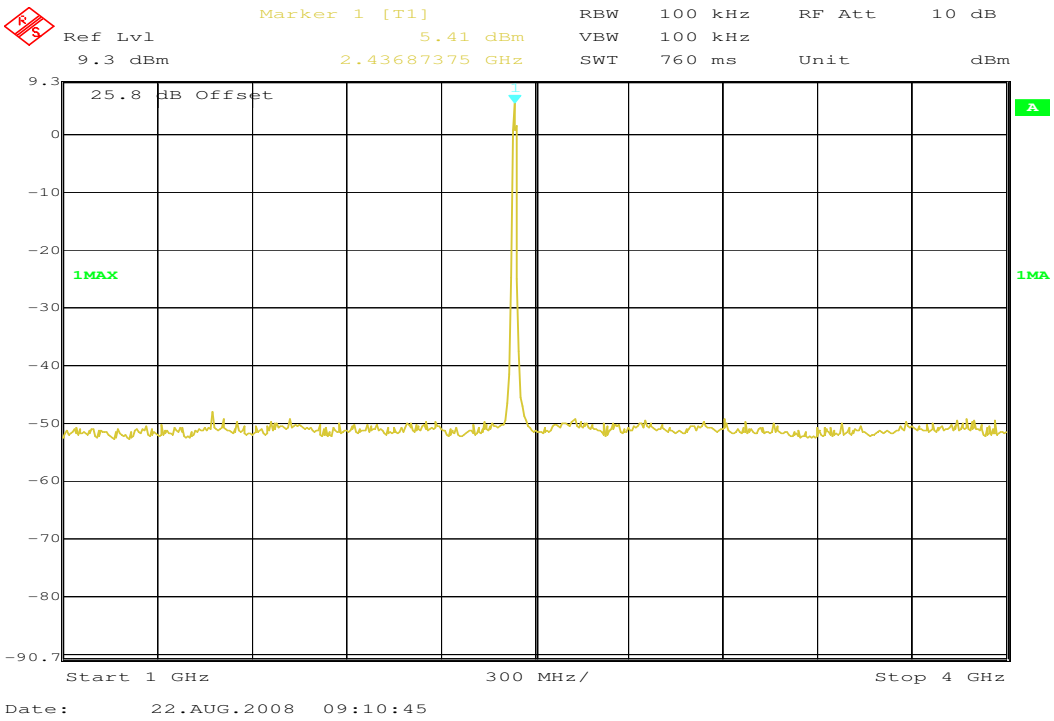
Plot 12: 4 GHz – 25 GHz (Lowest Channel)



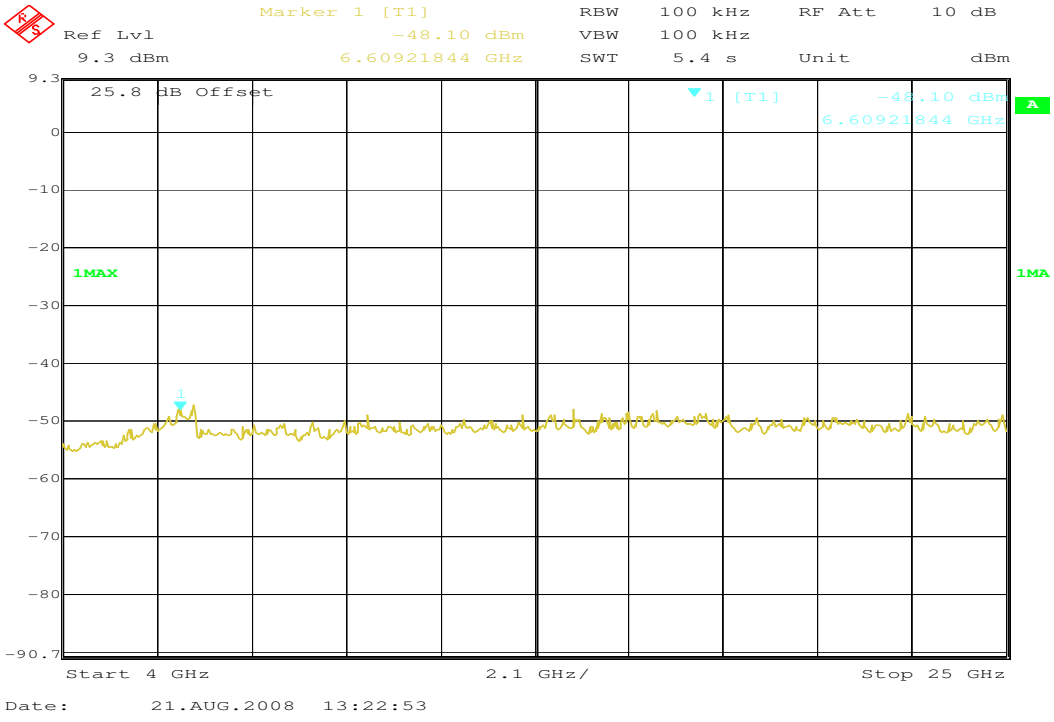
Plot 13: 30 MHz – 1 GHz (Middle Channel)



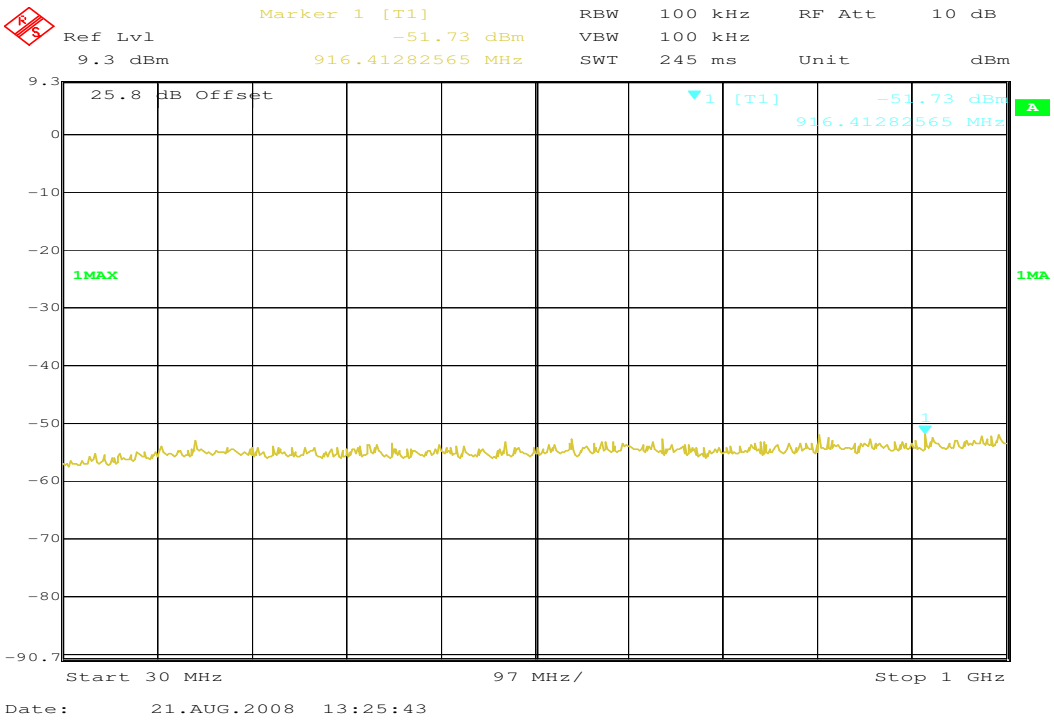
Plot 14: 1 GHz – 4 GHz (Middle Channel)



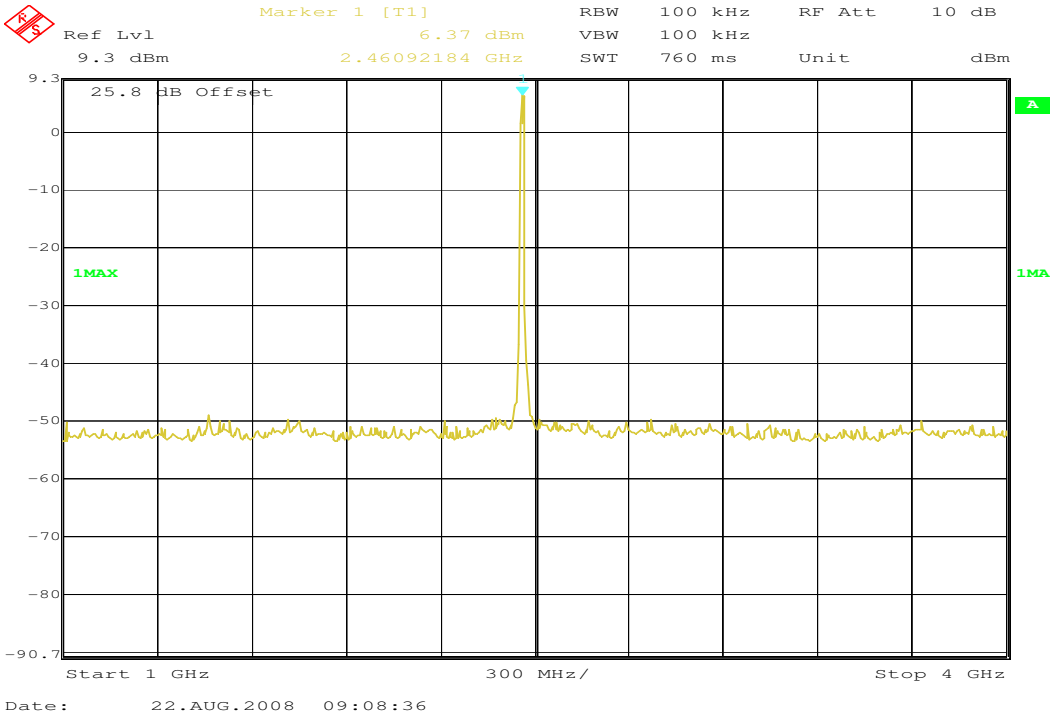
Plot 15: 4 GHz – 25 GHz (Middle Channel)



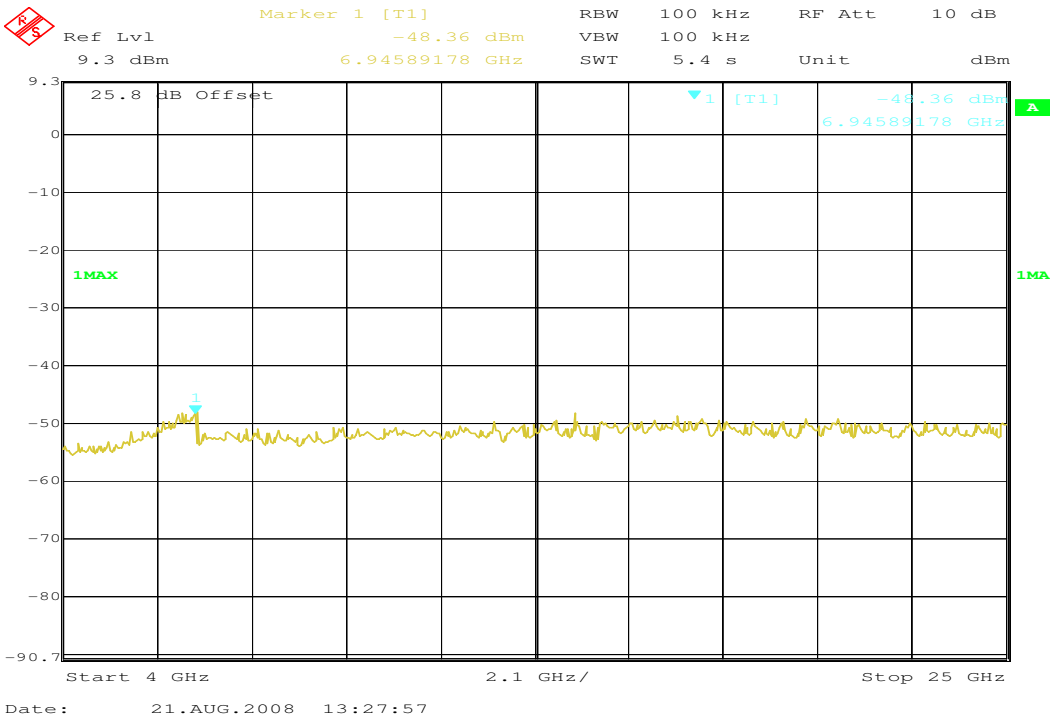
Plot 16: 30 MHz – 1 GHz (Highest Channel)



Plot 17: 1 GHz – 4 GHz (Highest Channel)



Plot 18: 4 GHz – 25 GHz (Highest Channel)



Result & Limits:

Emission Limitations					
f [MHz]	RBW/VBW [kHz]	amplitude of emission [dBm]	limit max. allowed emission power	actual attenuation below frequency of operation [dB]	results
2412	100	4.4	30 dBm	-	Operating frequency
			-20 dBc		
No peaks detected					
2437	100	5.4	30 dBm	-	Operating frequency
			-20 dBc		
No peaks detected					
2462	100	6.4	30 dBm	-	Operating frequency
			-20 dBc		
No peaks detected					
Measurement uncertainty		± 3dB			

Limit:

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:

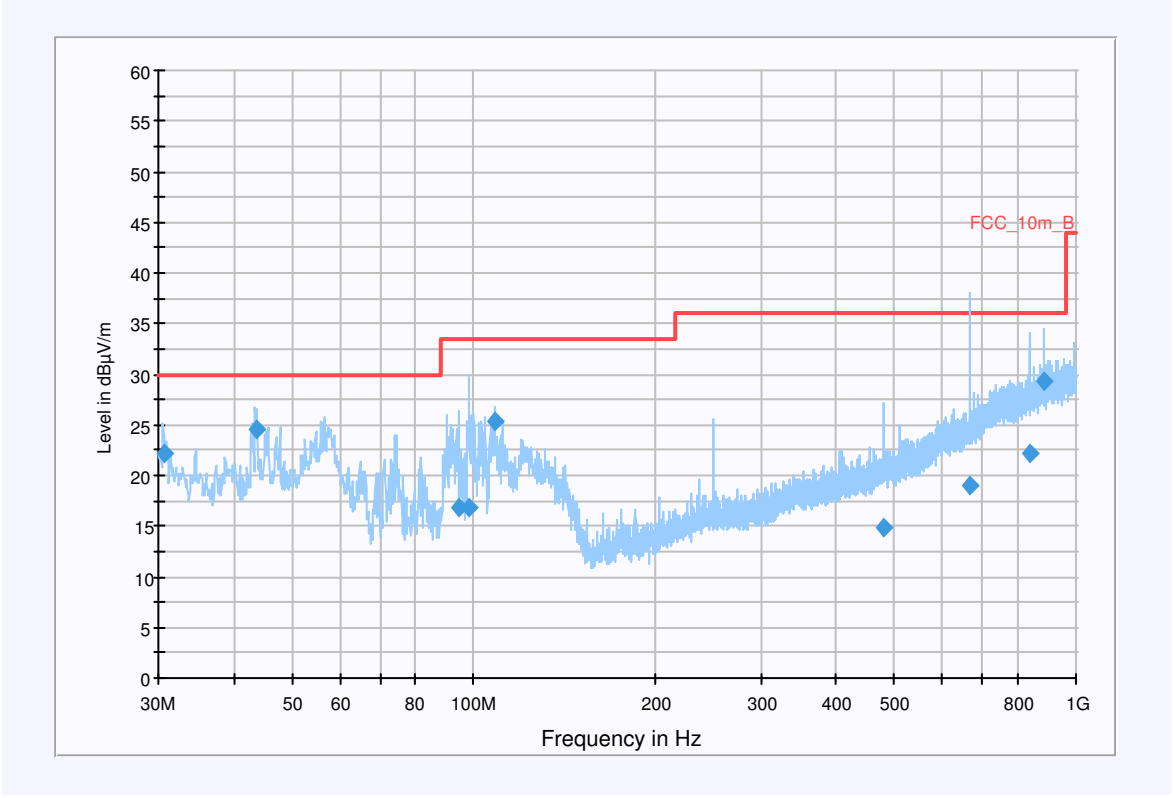
Plot 1: 0.03 - 1 GHz (lowest channel)

EUT:	GlobeSurfer III (GS0301) + Phihong PS (PSA15R-050P)
Serial Number:	GT248780JK + PS (P81900692A3)
Test Description:	FCC @ 10 m
Operating Conditions:	WLAN b-mode 11 Mbit Channel 1
Operator Name:	Hennemann
Comment:	AC: 115 V / 60 Hz

Scan Setup: FCC_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_10m(B)



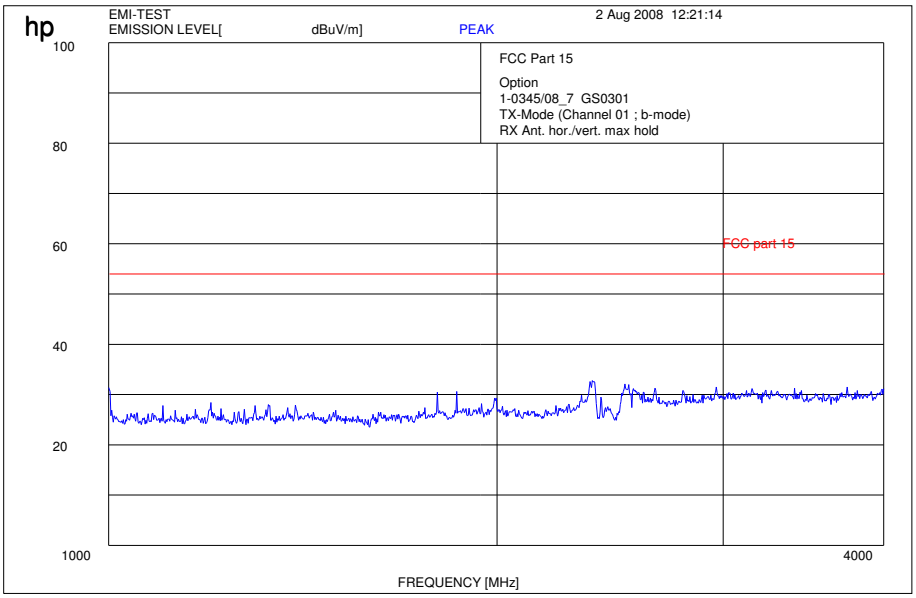
Final Measurement Detector 1

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
30.619264	22.1	15000.000	120.000	175.0	V	271.0	12.7	7.9	30.0	
43.811400	24.6	15000.000	120.000	100.0	V	289.0	13.5	5.4	30.0	
94.380000	16.8	15000.000	120.000	223.0	V	96.0	11.5	16.7	33.5	
98.458250	16.8	15000.000	120.000	229.0	V	106.0	12.1	16.7	33.5	
108.826300	25.4	15000.000	120.000	153.0	V	113.0	11.5	8.1	33.5	
479.637500	14.8	15000.000	120.000	190.0	V	69.0	18.4	21.2	36.0	
667.324950	19.1	15000.000	120.000	239.0	V	162.0	22.0	16.9	36.0	
837.481300	22.1	15000.000	120.000	278.0	V	87.0	25.1	13.9	36.0	
881.672000	29.3	15000.000	120.000	316.0	H	294.0	25.8	6.7	36.0	

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

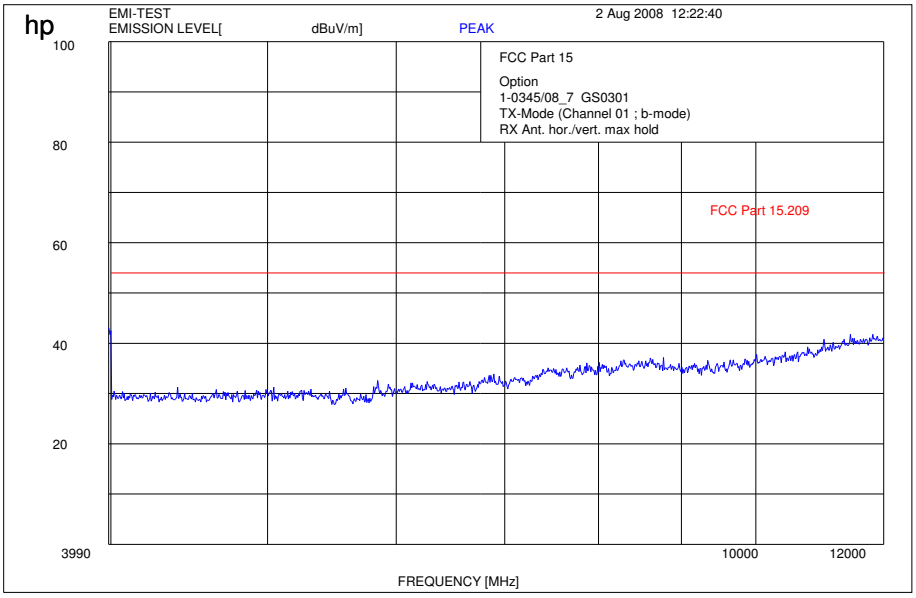
Subrange 1	
Frequency Range:	30MHz - 2GHz
Receiver:	Receiver [ESCI 3] @ GPIB0 (ADR 20), SN 100083/003, FW 3.32, CAL 07.01.2009
Signal Path:	without Notch FW 1.0
Antenna:	VULB 9163 SN 9163-295, FW ---, CAL 08.04.2010 Correction Table (vertical): VULP6113 Correction Table (horizontal): VULP6113 Correction 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 2: 1 - 4 GHz (lowest channel)

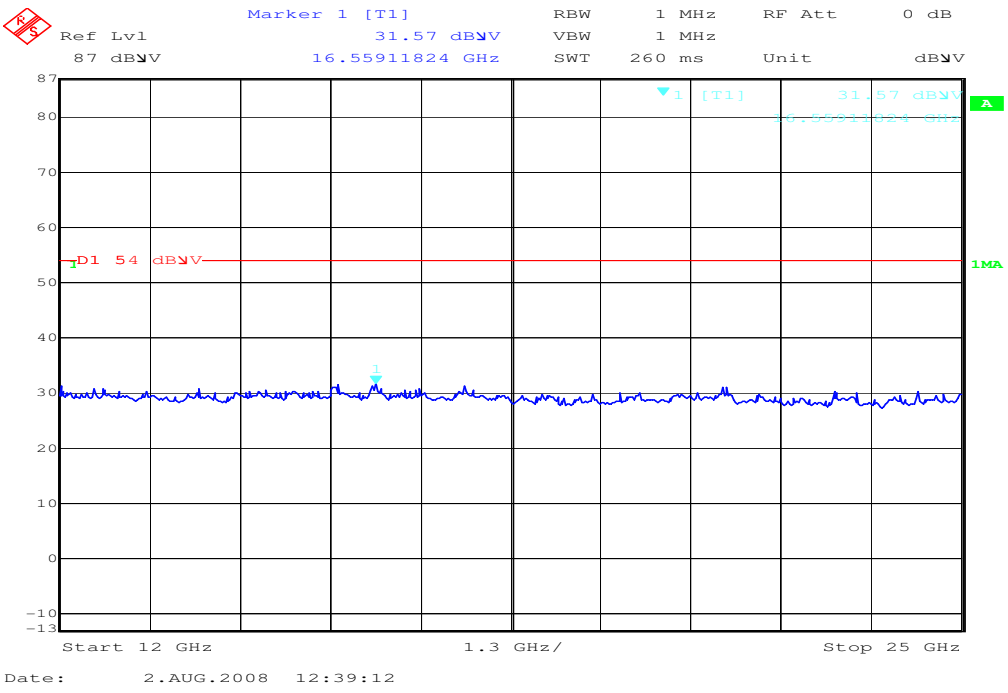


The carrier is notched with a 2.4 GHz band rejection filter

Plot 3: 4 - 12 GHz (lowest channel)



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



Plot 5: 0.03 - 1 GHz (middle channel)

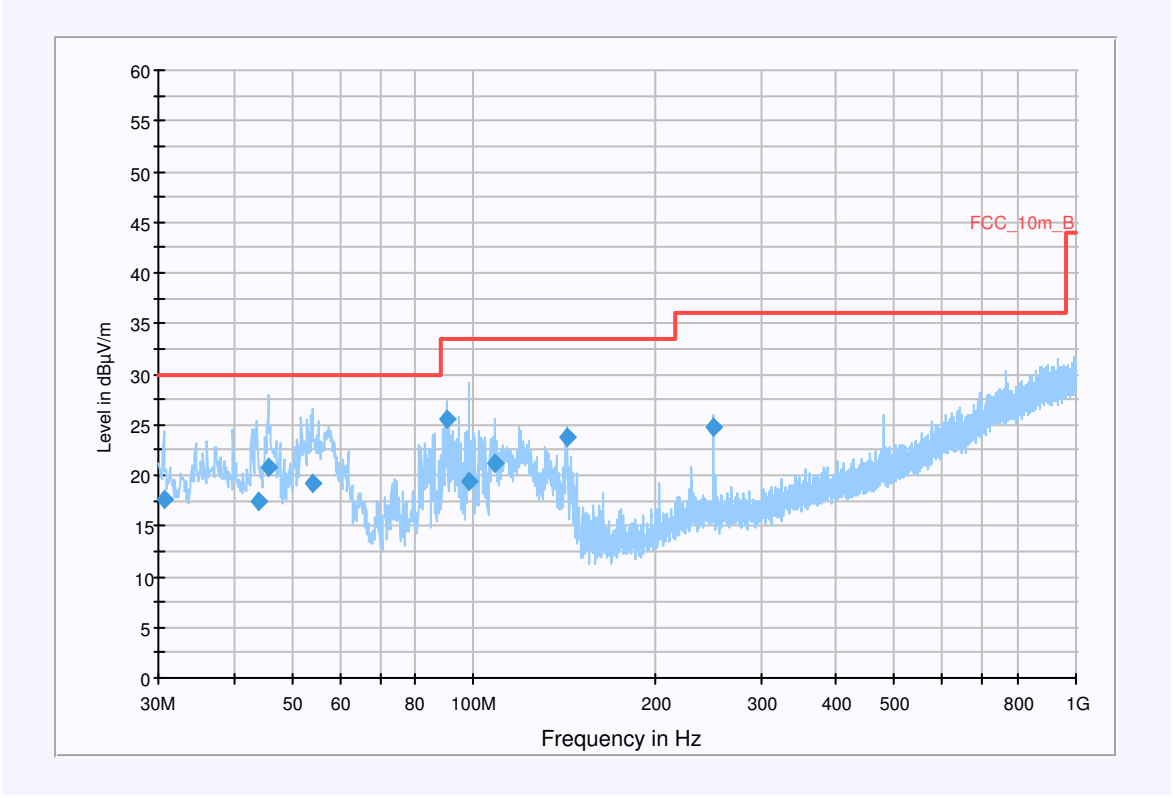
EUT:	GlobeSurfer III (GS0301) + Phihong PS (PSA15R-050P)
Serial Number:	GT248780JK + PS (P81900692A3)
Test Description:	FCC @ 10 m
Operating Conditions:	WLAN b-mode 11 Mbit Channel 6
Operator Name:	Hennemann
Comment:	AC: 115 V / 60 Hz

Scan Setup: FCC_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_10m(B)



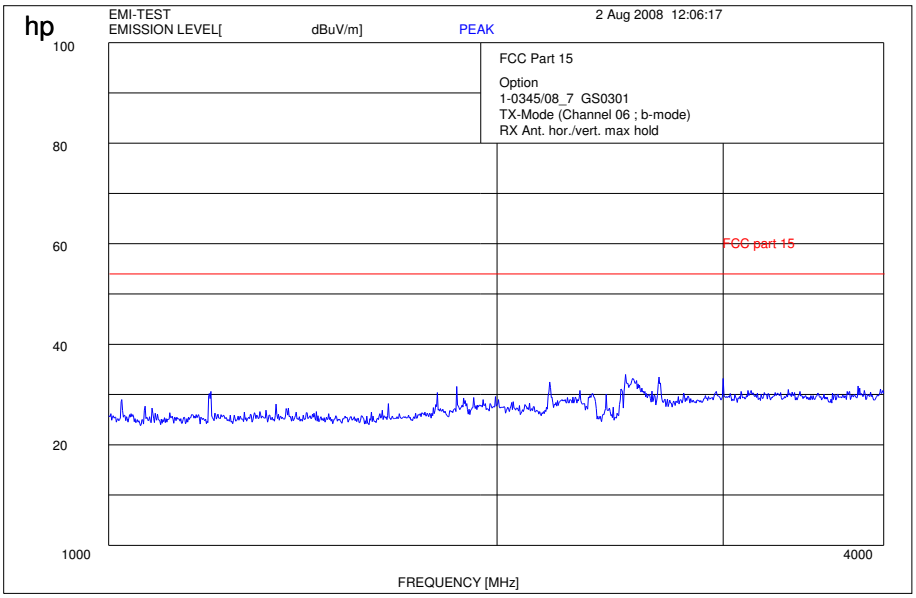
Final Measurement Detector 1

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
30.626200	17.6	15000.000	120.000	152.0	V	187.0	12.7	12.4	30.0	
43.978900	17.4	15000.000	120.000	127.0	V	148.0	13.5	12.6	30.0	
45.769850	20.9	15000.000	120.000	100.0	V	308.0	13.5	9.1	30.0	
54.159800	19.3	15000.000	120.000	127.0	V	256.0	13.2	10.7	30.0	
90.377850	25.5	15000.000	120.000	400.0	V	176.0	11.0	8.0	33.5	
98.466800	19.4	15000.000	120.000	176.0	V	234.0	12.1	14.1	33.5	
108.805600	21.1	15000.000	120.000	185.0	V	159.0	11.5	12.4	33.5	
143.276200	23.7	15000.000	120.000	123.0	V	253.0	9.1	9.8	33.5	
250.009600	24.7	15000.000	120.000	400.0	V	14.0	13.5	11.3	36.0	

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

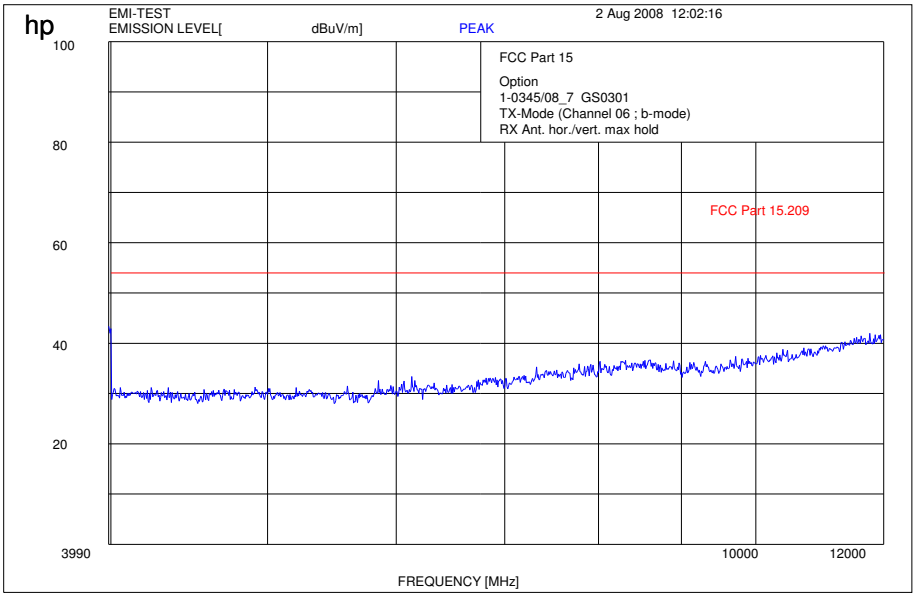
Subrange 1	
Frequency Range:	30MHz - 2GHz
Receiver:	Receiver [ESCI 3] @ GPIB0 (ADR 20), SN 100083/003, FW 3.32, CAL 07.01.2009
Signal Path:	without Notch FW 1.0
Antenna:	VULB 9163 SN 9163-295, FW ---, CAL 08.04.2010 Correction Table (vertical): VULP6113 Correction Table (horizontal): VULP6113 Correction 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)



The carrier is notched with a 2.4 GHz band rejection filter

Plot 7: 4 - 12 GHz (middle channel)



Plot 8: 0.03 - 1 GHz (highest channel)

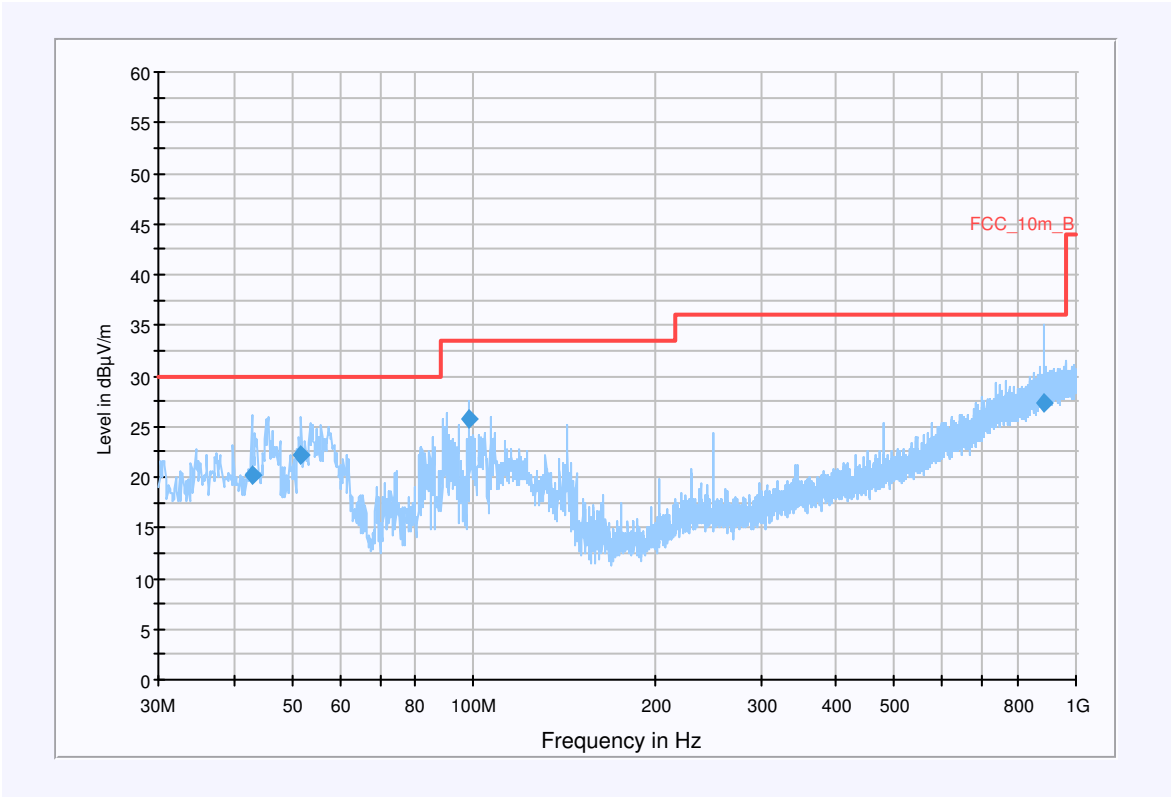
EUT:	GlobeSurfer III (GS0301) + Phihong PS (PSA15R-050P)
Serial Number:	GT248780JK + PS (P81900692A3)
Test Description:	FCC @ 10 m
Operating Conditions:	WLAN b-mode 11 Mbit Channel 11
Operator Name:	Hennemann
Comment:	AC: 115 V / 60 Hz

Scan Setup: FCC_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_10m(B)



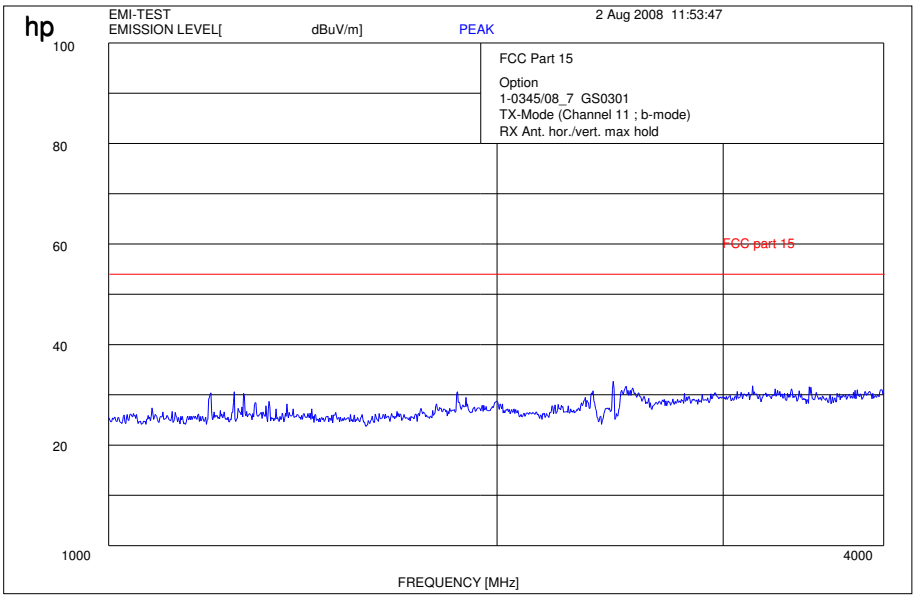
Final Measurement Detector 1

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
42.950600	20.2	15000.000	120.000	123.0	V	-1.0	13.5	9.8	30.0	
51.759450	22.2	15000.000	120.000	115.0	V	308.0	13.5	7.8	30.0	
98.421450	25.7	15000.000	120.000	400.0	V	4.0	12.1	7.8	33.5	
881.606600	27.3	15000.000	120.000	114.0	H	300.0	25.8	8.7	36.0	

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

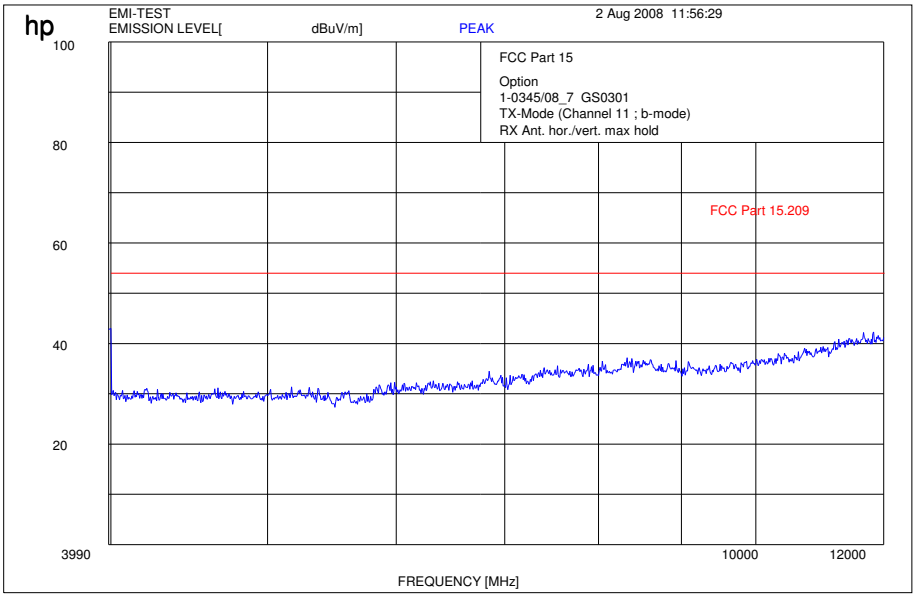
Subrange 1	
Frequency Range:	30MHz - 2GHz
Receiver:	Receiver [ESCI 3] @ GPIB0 (ADR 20), SN 100083/003, FW 3.32, CAL 07.01.2009
Signal Path:	without Notch FW 1.0
Antenna:	VULB 9163 SN 9163-295, FW ---, CAL 08.04.2010 Correction Table (vertical): VULP6113 Correction Table (horizontal): VULP6113 Correction 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)



The carrier is notched with a 2.4 GHz 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]
43.8	QP	24.6	45.8	QP	20.9	51.8	QP	22.2
108.8	QP	25.4	90.4	QP	25.5	98.4	QP	25.7
881.7	QP	29.3	250.0	QP	24.7	881.6	QP	27.3
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

OFDM:

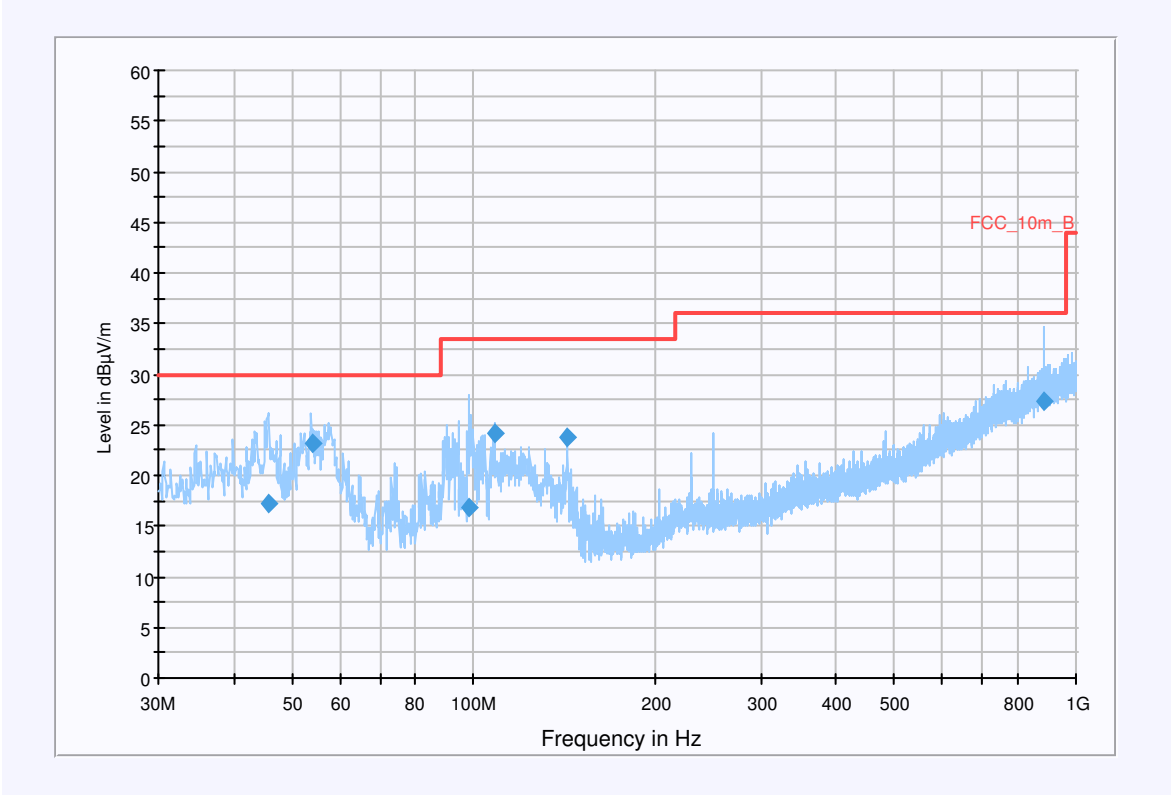
Plot 11: 0.03 - 1 GHz (lowest channel)

EUT:	GlobeSurfer III (GS0301) + Phihong PS (PSA15R-050P)
Serial Number:	GT248780JK + PS (P81900692A3)
Test Description:	FCC @ 10 m
Operating Conditions:	WLAN g-mode 54 Mbit Channel 1
Operator Name:	Hennemann
Comment:	AC: 115 V / 60 Hz

Scan Setup: FCC_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_10m(B)



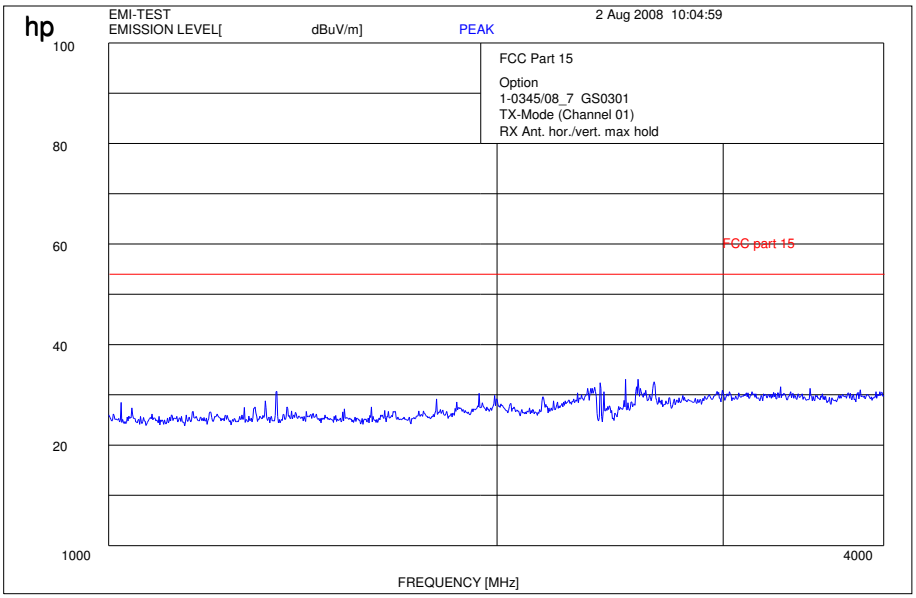
Final Measurement Detector 1

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
45.749000	17.2	15000.000	120.000	127.0	V	0.0	13.5	12.8	30.0	
53.912500	23.2	15000.000	120.000	115.0	V	284.0	13.3	6.8	30.0	
98.449500	16.7	15000.000	120.000	272.0	V	231.0	12.1	16.8	33.5	
108.822800	24.1	15000.000	120.000	390.0	V	26.0	11.5	9.4	33.5	
...	...	...	...	...	...	...	...	...	...	...

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

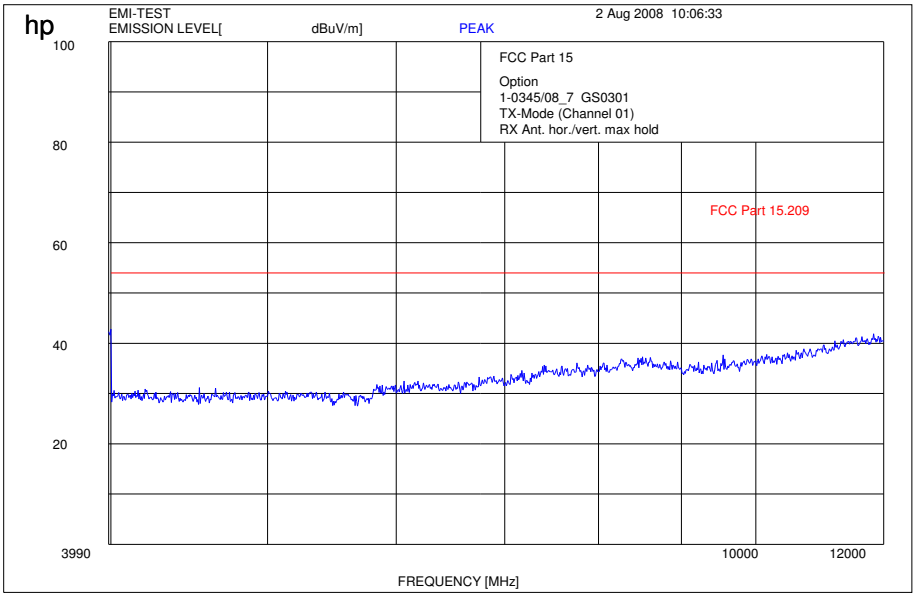
Subrange 1	
Frequency Range:	30MHz - 2GHz
Receiver:	Receiver [ESCI 3] @ GPIB0 (ADR 20), SN 100083/003, FW 3.32, CAL 07.01.2009
Signal Path:	without Notch FW 1.0
Antenna:	VULB 9163 SN 9163-295, FW ---, CAL 08.04.2010 Correction Table (vertical): VULP6113 Correction Table (horizontal): VULP6113 Correction 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 12: 1 - 4 GHz (lowest channel)

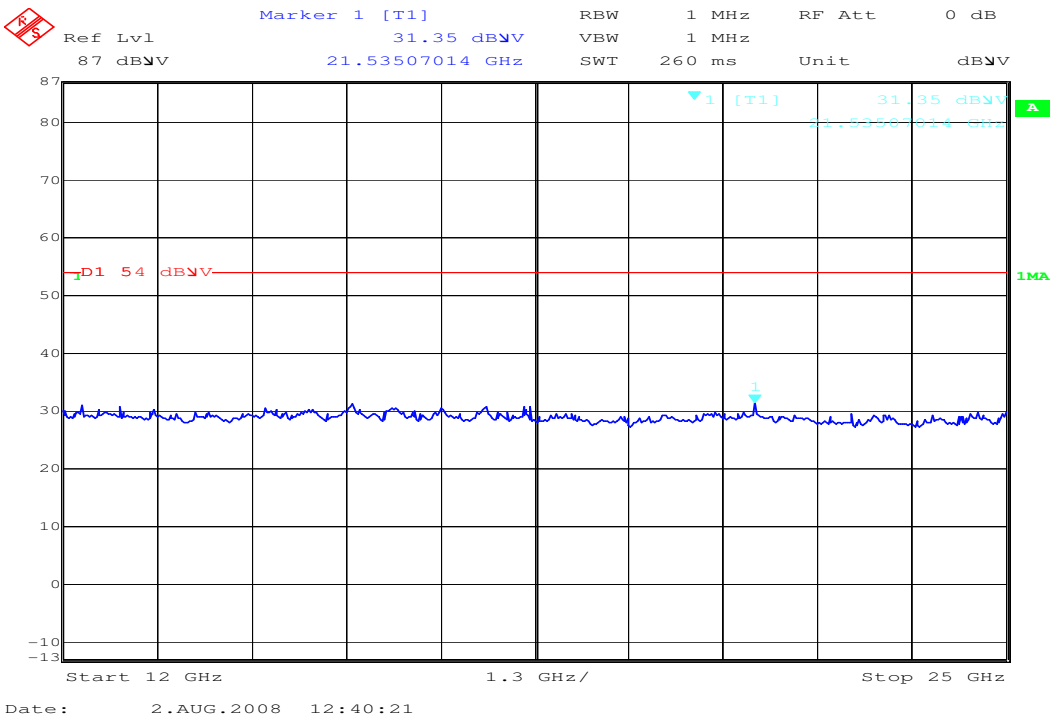


The carrier is notched with a 2.4 GHz band rejection filter

Plot 13: 4 - 12 GHz (lowest channel)



Plot 14: 12 - 25 GHz (valid for all channels)



Plot 15: 0.03 - 1 GHz (middle channel)

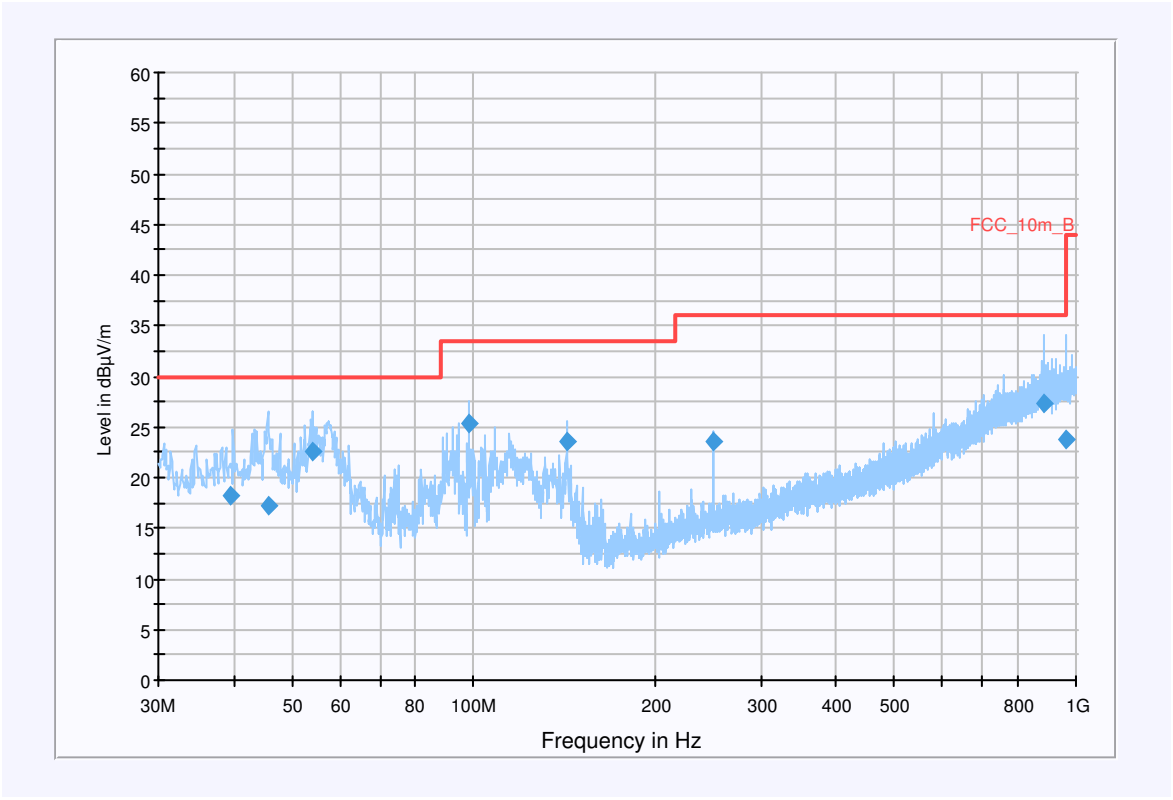
EUT:	GlobeSurfer III (GS0301) + Phihong PS (PSA15R-050P)
Serial Number:	GT248780JK + PS (P81900692A3)
Test Description:	FCC @ 10 m
Operating Conditions:	WLAN g-mode 54 Mbit Channel 6
Operator Name:	Hennemann
Comment:	AC: 115 V / 60 Hz

Scan Setup: FCC_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_10m(B)



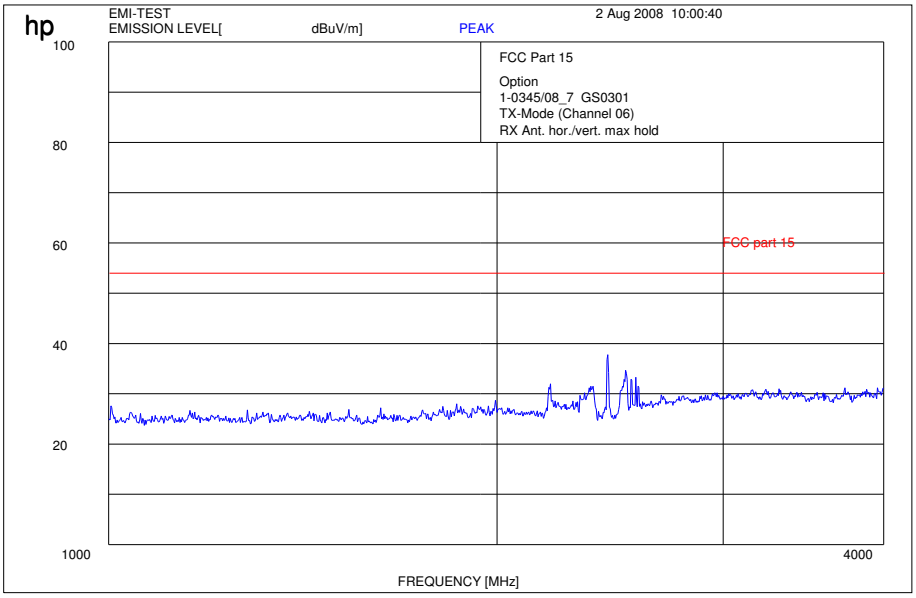
Final Measurement Detector 1

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
39.491300	18.3	15000.000	120.000	100.0	V	323.0	13.6	11.7	30.0	
45.670650	17.2	15000.000	120.000	139.0	V	27.0	13.5	12.8	30.0	
53.908700	22.6	15000.000	120.000	123.0	V	278.0	13.3	7.4	30.0	
98.410400	25.4	15000.000	120.000	100.0	V	27.0	12.1	8.1	33.5	
143.314400	23.5	15000.000	120.000	114.0	V	260.0	9.1	10.0	33.5	
249.984100	23.6	15000.000	120.000	400.0	V	9.0	13.5	12.4	36.0	
881.667050	27.3	15000.000	120.000	127.0	H	115.0	25.8	8.7	36.0	
959.788200	23.7	15000.000	120.000	174.0	H	223.0	26.5	12.3	36.0	

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

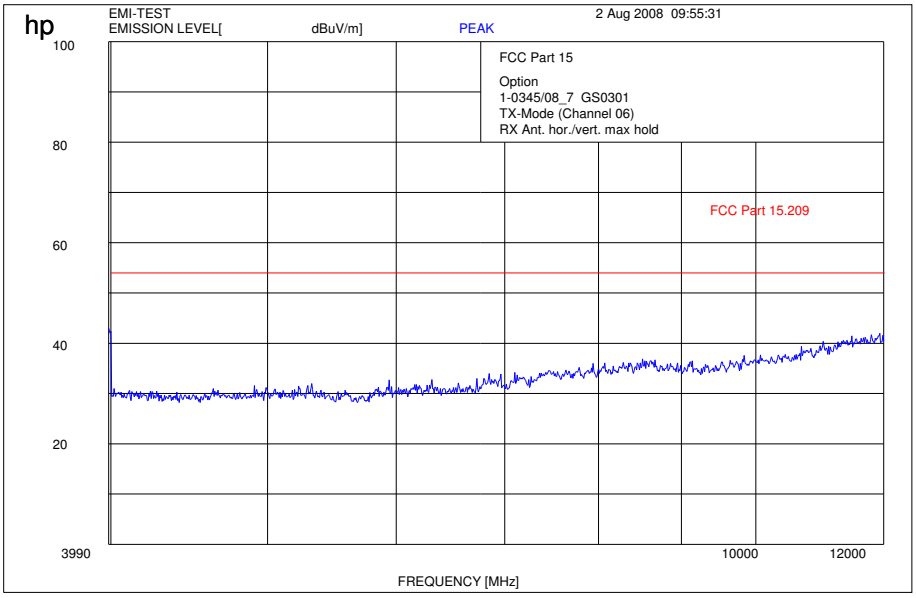
Subrange 1	
Frequency Range:	30MHz - 2GHz
Receiver:	Receiver [ESCI 3] @ GPIB0 (ADR 20), SN 100083/003, FW 3.32, CAL 07.01.2009
Signal Path:	without Notch FW 1.0
Antenna:	VULB 9163 SN 9163-295, FW ---, CAL 08.04.2010 Correction Table (vertical): VULP6113 Correction Table (horizontal): VULP6113 Correction 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 16: 1 - 4 GHz (middle channel)



The carrier is notched with a 2.4 GHz band rejection filter

Plot 17: 4 - 12 GHz (middle channel)



Plot 18: 0.03 - 1 GHz (highest channel)

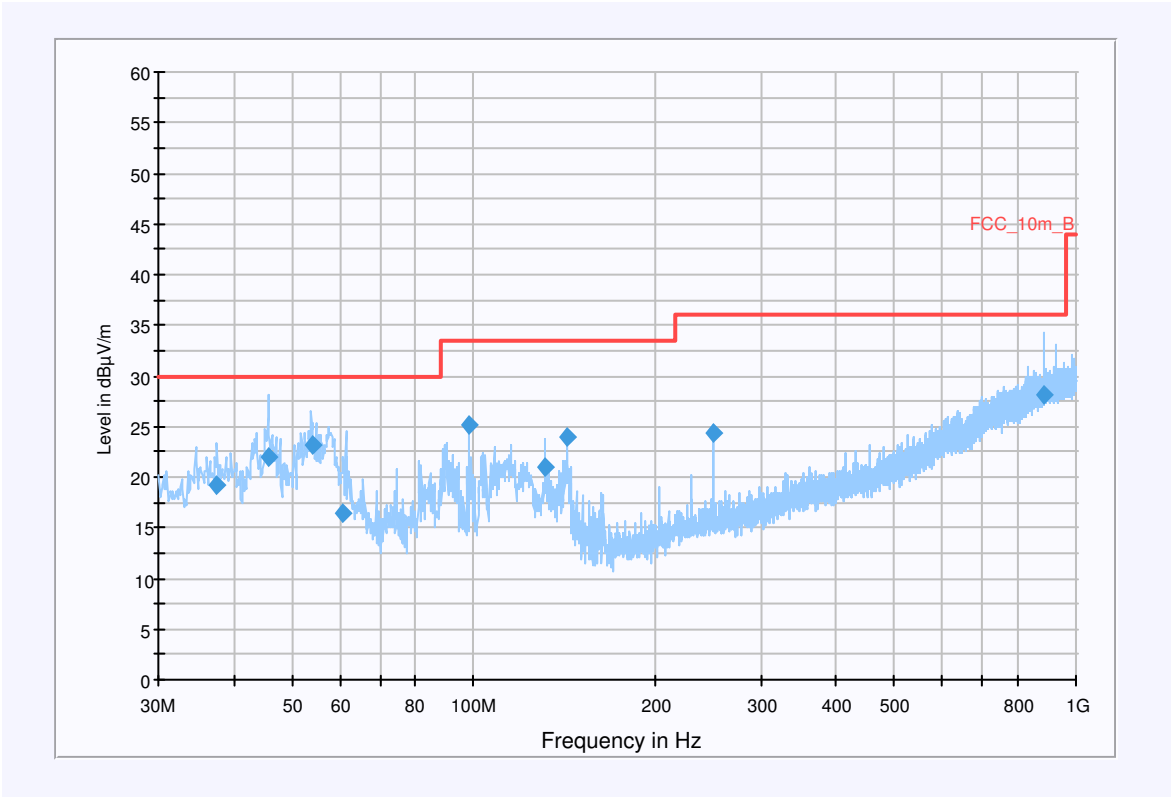
EUT:	GlobeSurfer III (GS0301) + Phihong PS (PSA15R-050P)
Serial Number:	GT248780JK + PS (P81900692A3)
Test Description:	FCC @ 10 m
Operating Conditions:	WLAN g-mode 54 Mbit Channel 11
Operator Name:	Hennemann
Comment:	AC: 115 V / 60 Hz

Scan Setup: FCC_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_10m(B)



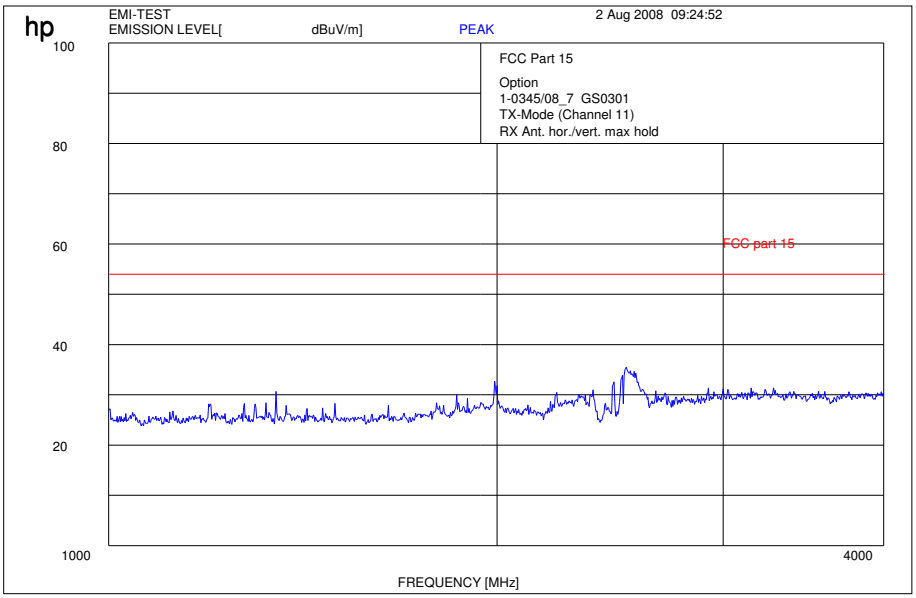
Final Measurement Detector 1

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
37.542700	19.3	15000.000	120.000	115.0	V	199.0	13.4	10.7	30.0	
45.725600	22.1	15000.000	120.000	114.0	V	57.0	13.5	7.9	30.0	
53.932600	23.1	15000.000	120.000	100.0	V	283.0	13.3	6.9	30.0	
60.902750	16.3	15000.000	120.000	145.0	V	288.0	11.7	13.7	30.0	
98.442800	25.1	15000.000	120.000	382.0	V	9.0	12.1	8.4	33.5	
131.704450	21.0	15000.000	120.000	127.0	V	72.0	9.6	12.5	33.5	
143.280550	24.0	15000.000	120.000	100.0	V	235.0	9.1	9.5	33.5	
249.999850	24.4	15000.000	120.000	400.0	V	18.0	13.5	11.6	36.0	
...	...	...	...	...	...	...	...	...	...	...

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

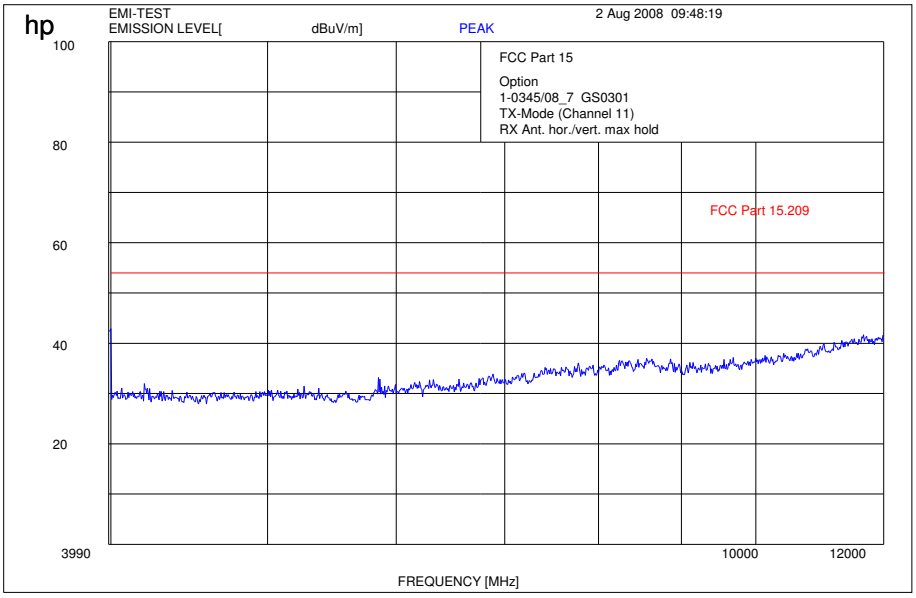
Subrange 1	
Frequency Range:	30MHz - 2GHz
Receiver:	Receiver [ESCI 3] @ GPIB0 (ADR 20), SN 100083/003, FW 3.32, CAL 07.01.2009
Signal Path:	without Notch FW 1.0
Antenna:	VULB 9163 SN 9163-295, FW ---, CAL 08.04.2010 Correction Table (vertical): VULP6113 Correction Table (horizontal): VULP6113 Correction 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 19: 1 - 4 GHz (highest channel)



The carrier is notched with a 2.4 GHz band rejection filter

Plot 20: 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]
53.9	QP	23.2	53.9	QP	22.6	53.9	QP	23.1
108.8	QP	24.1	98.4	QP	25.4	98.4	QP	25.1
			143.3	QP	23.5	143.3	QP	24.0
			250.0	QP	23.6	250.0	QP	24.4
			881.7	QP	27.3			
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) DSSS & OFDM

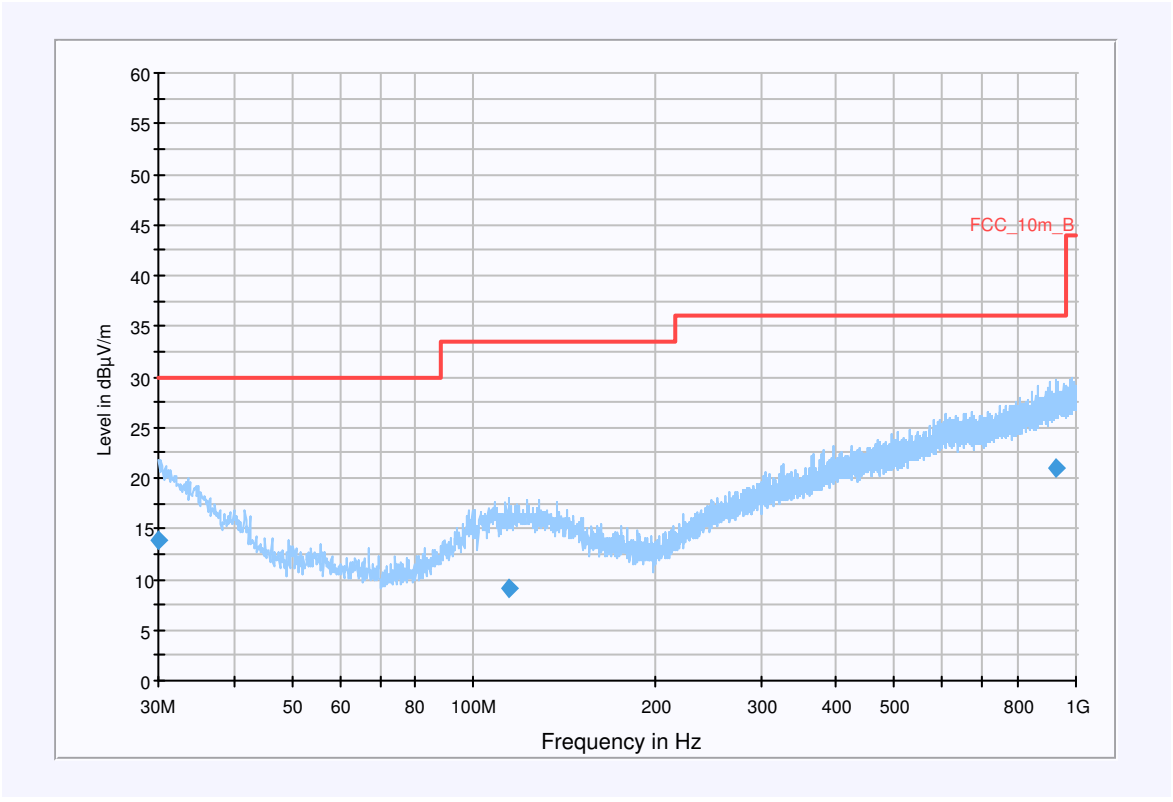
EUT:	GlobeSurfer III (GS0301) + Phihong PS (PSA15R-050P)
Serial Number:	GT248780JK + PS (P81900692A3)
Test Description:	FCC @ 10 m
Operating Conditions:	Idle mode
Operator Name:	Hennemann
Comment:	AC: 115 V / 60 Hz

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_Short_1GHz



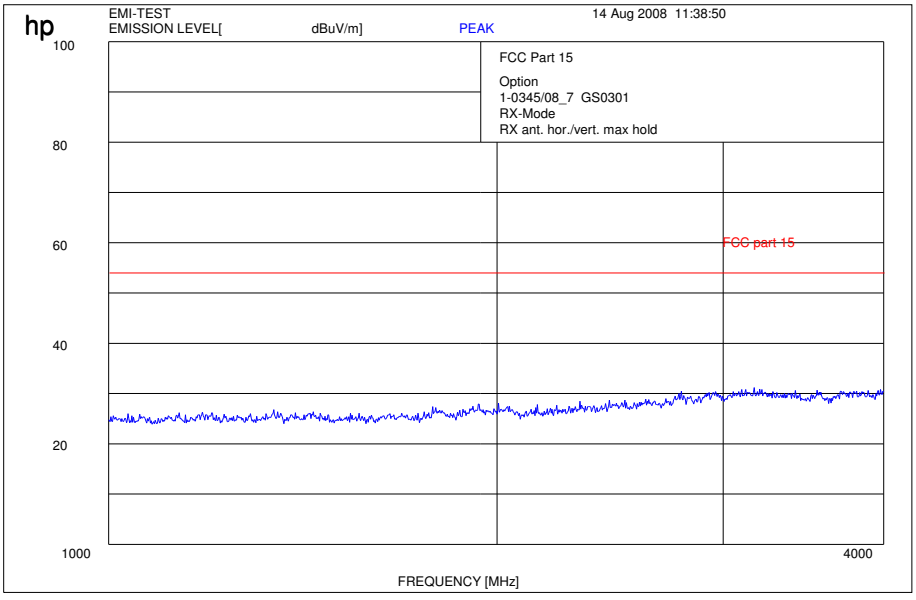
Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Bandwidth (kHz)	Antenna height (cm)	Polarity	Turntable position (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
30.041025	13.9	120.000	120.0	H	350.0	18.1	16.1	30.0	
114.335950	9.2	120.000	120.0	H	255.0	13.7	24.3	33.5	
925.873400	21.1	120.000	120.0	V	321.0	24.3	14.9	36.0	

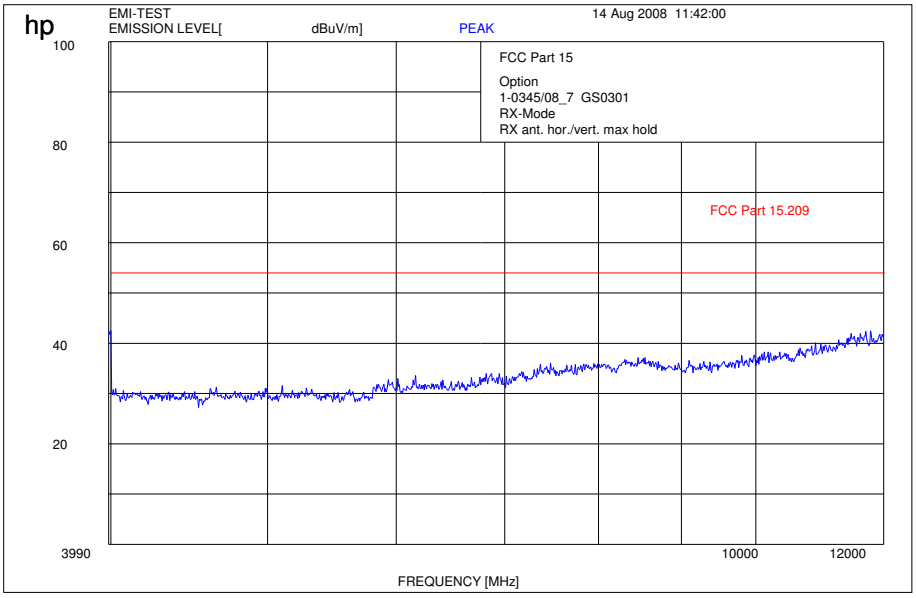
Hardware Setup: EMI radiated\Electric Field (NOS) - [EMI radiated]

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:	Chase Broadband BiLog Antenna CBL 6112 SN 2110, FW A, CAL 07.01.2009 Correction Table (vertical): Chase Broadband BiLog Antenna CBL 6112 Correction Table (horizontal): Chase Broadband BiLog Antenna CBL 6112 Correction Table: Cabel with switch (1007)
Antenna Tower:	Tower [EMCO 2090 Antenna Tower] @ GPIB0 (ADR 8), FW REV 3.12
Turntable:	Turntable [EMCO Turntable] @ GPIB0 (ADR 9)

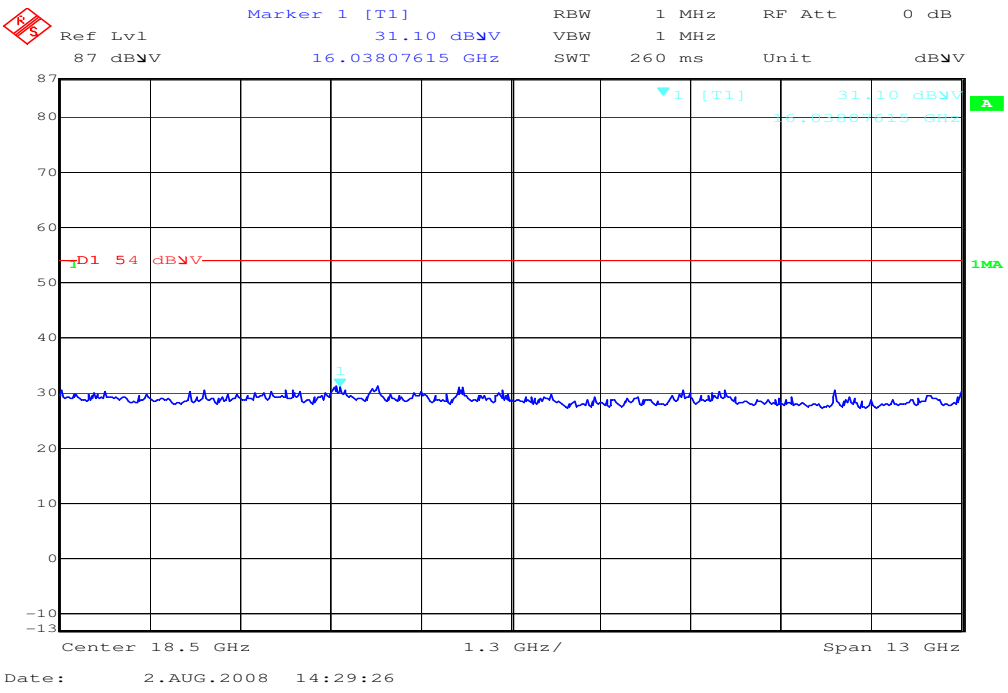
Plot 2: 1 - 4 GHz vertical / horizontal (receiver)



Plot 3: 4 - 12 GHz (receiver)



Plot 4: 12- 25 GHz (receiver)



Results:

Spurious Emissions level [dBµV/m]		
f[MHz]	Detector	Level [dBµV/m]
No critical peaks detected		
Measurement uncertainty	±3 dB	

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

Measurement distance see table

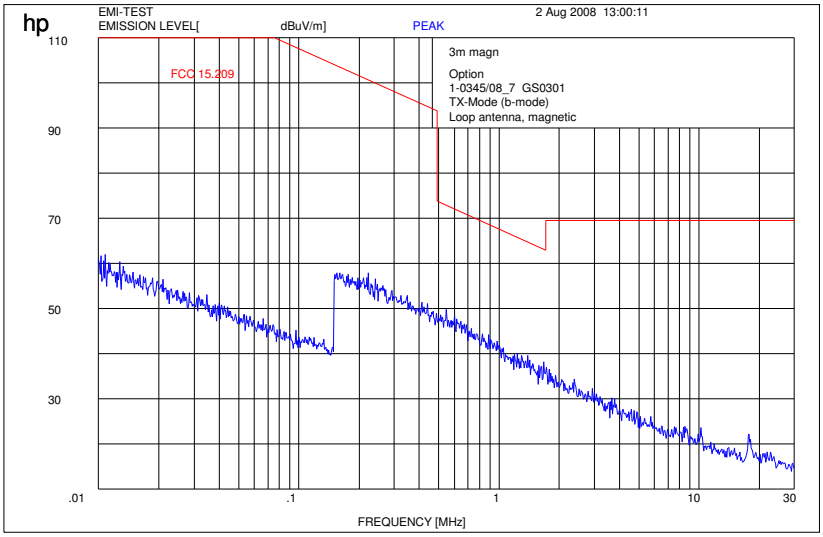
Limits: § 15.109

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

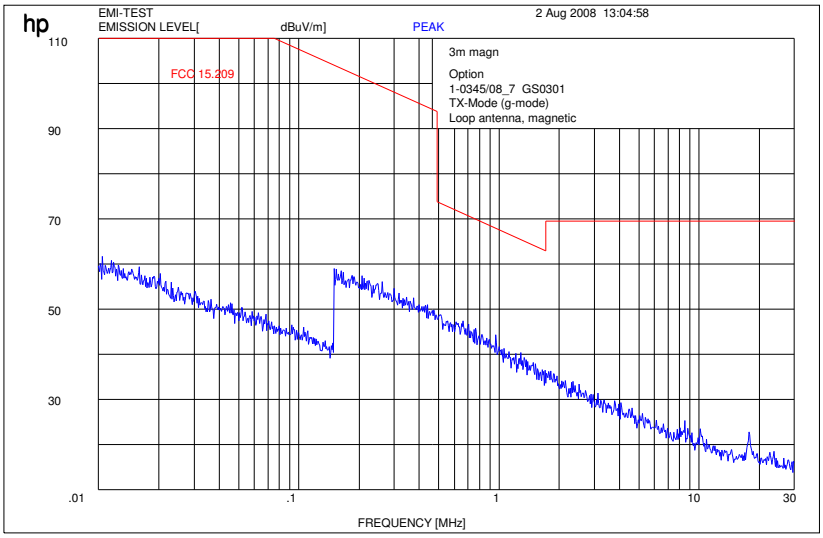
5.15 Spurious Emissions - radiated <30 MHz §15.209

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

Plot 1: DSSS-Mode



Plot 2: OFDM-Mode

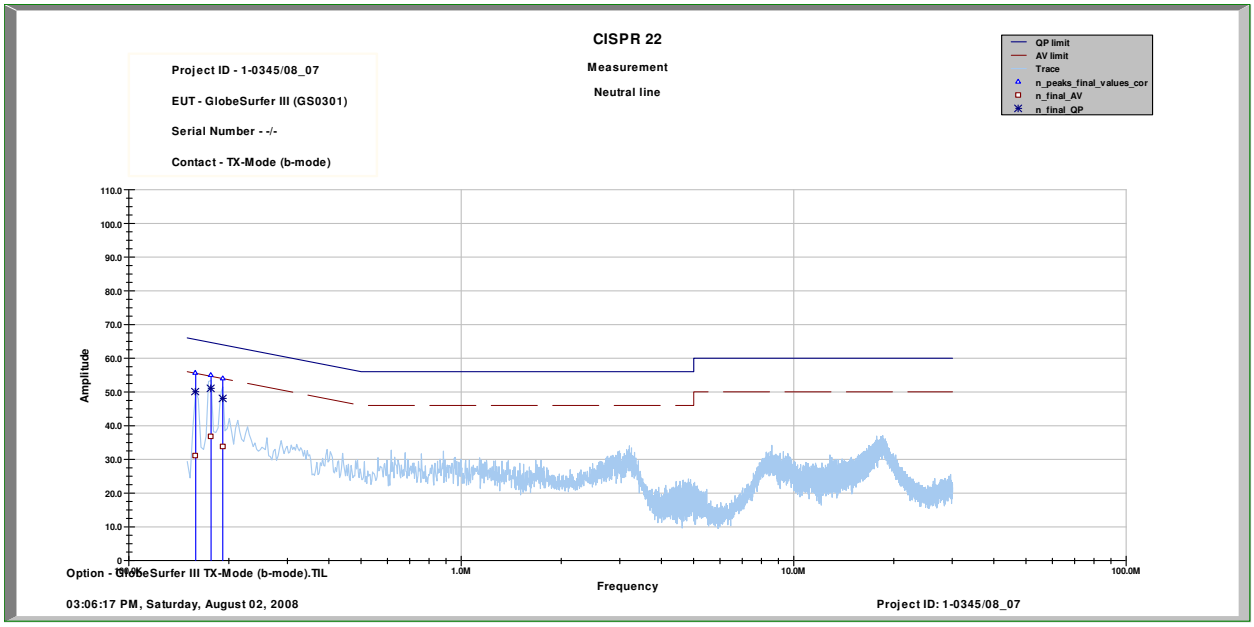


Limits:

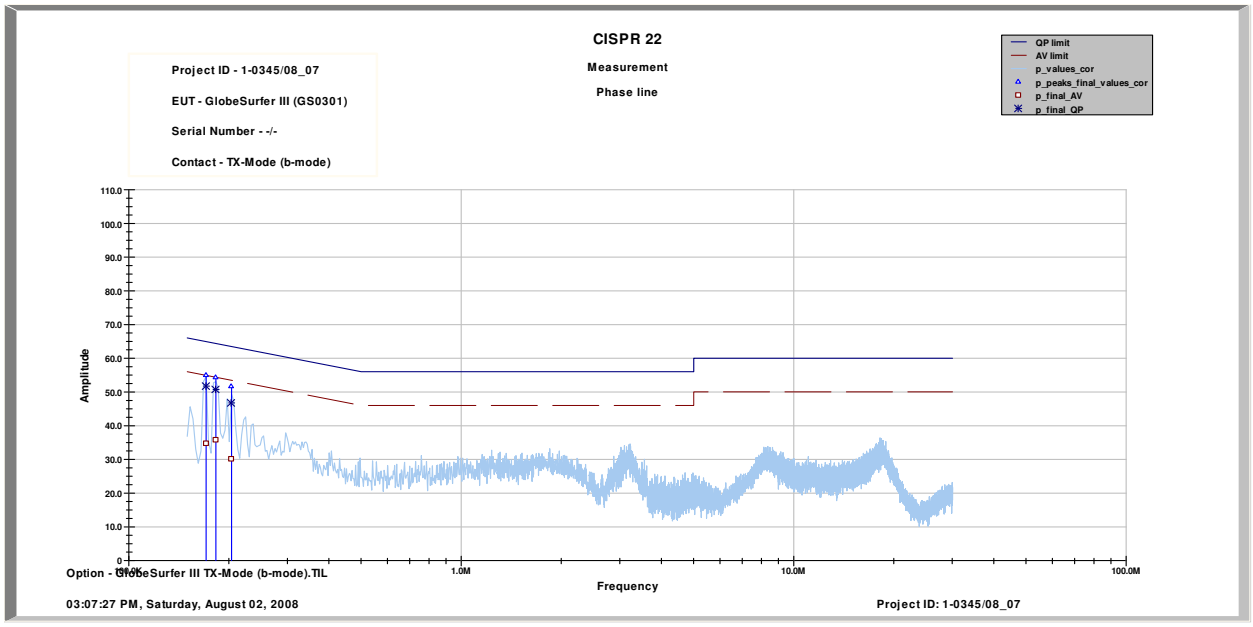
Frequency (MHz)	Field strength (µV/m)	Measurement distance (m)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30.0	30 / 29.5 dBµV/m	30
30 - 88	100 / 40 dBµV/m	3
88 - 216	150 / 43.5 dBµV/m	3
216 - 960	200 / 46 dBµV/m	3
above 960	54 dBµV/m	3

5.16 Conducted Emissions <30 MHz §15.107/207

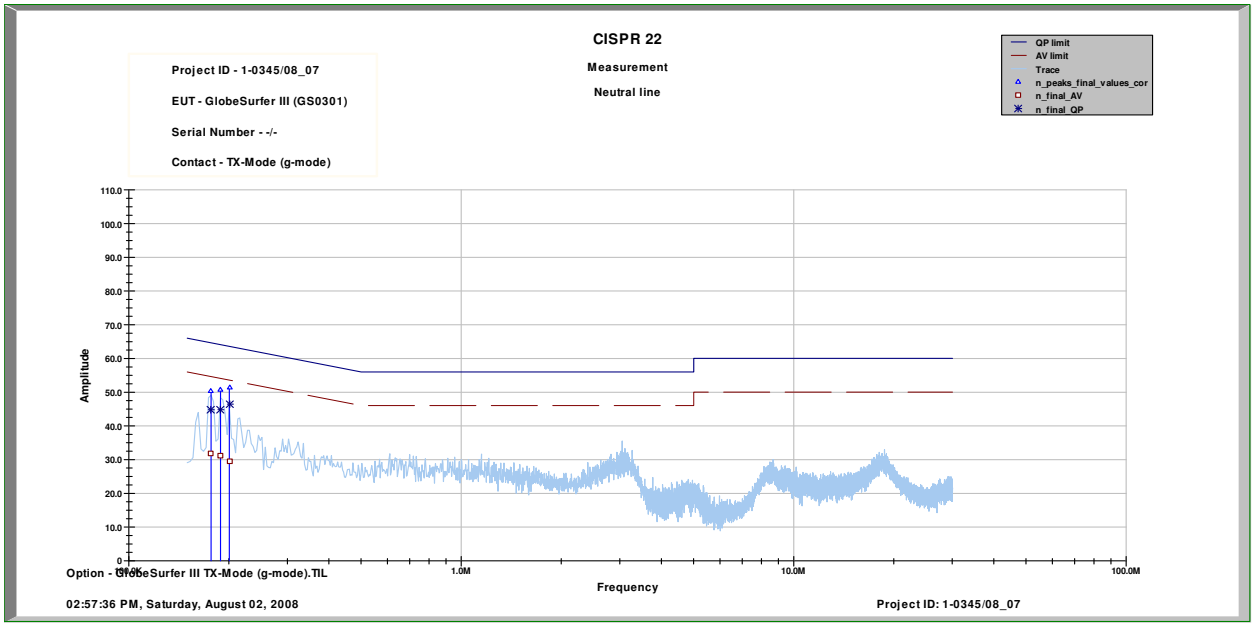
Plot 1: DSSS



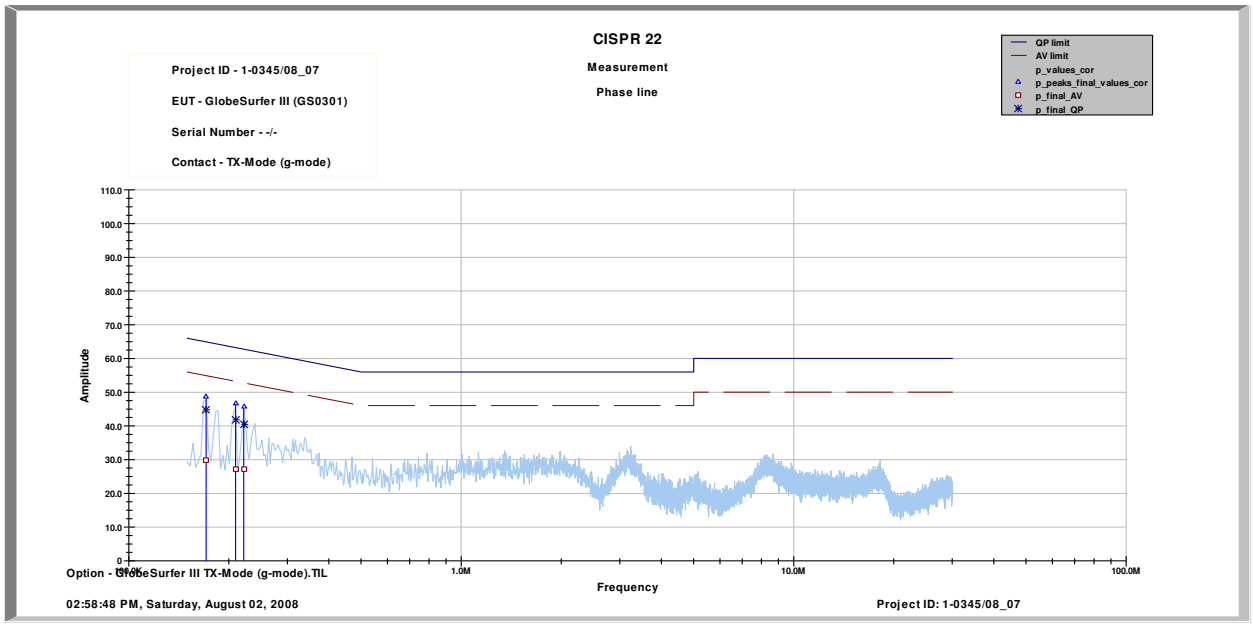
Plot 2: DSSS



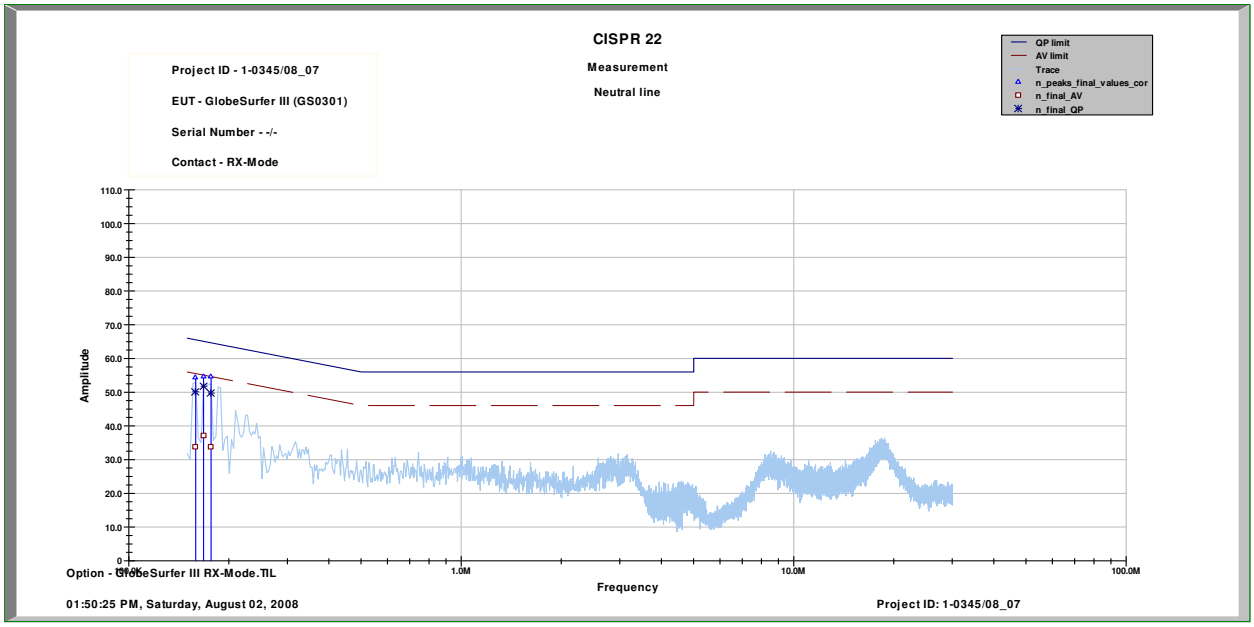
Plot 3: OFDM



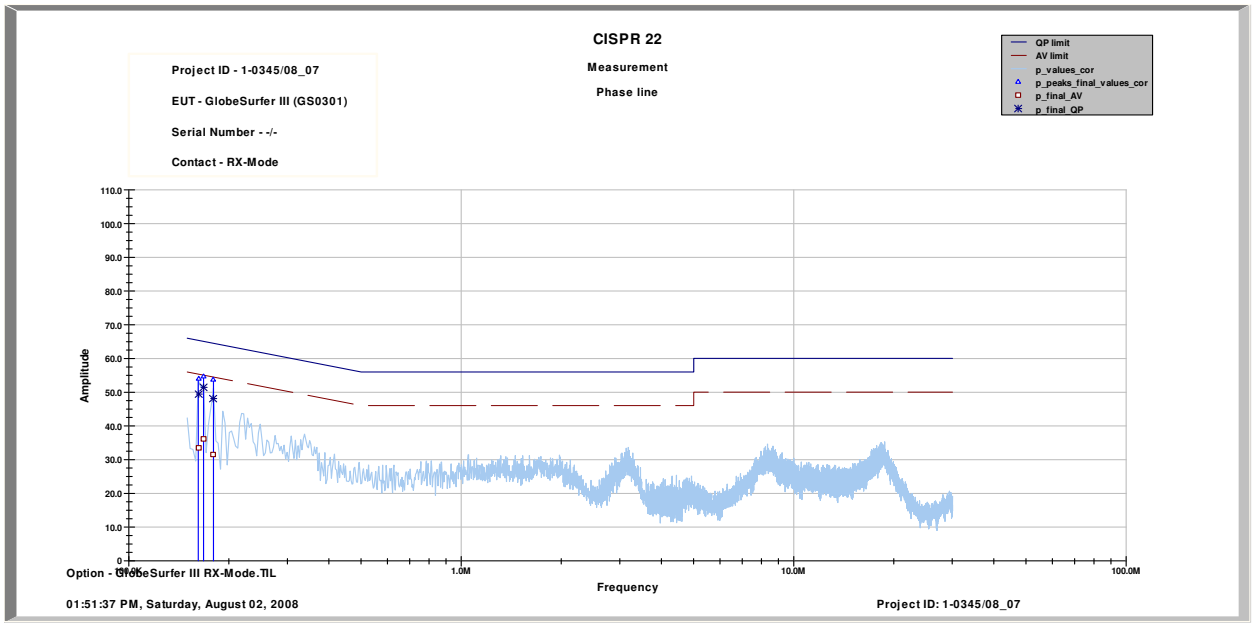
Plot 4: OFDM



Plot 5: Idle



Plot 6: Idle



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.)		

System Rack Room 005 :

No	Equipment/Type	Manuf.	Serial Nr.	Inv. No. Cetecom	Last Calibration	Frequency (months)	Next Calibration
1	FSP 30	R&S		300003575	02.04.2007	24	02.04.2009
2	CBT	R&S	100313	300003516	24.10.2006	24	24.10.2008
3	Switch Matrix	HP		300000929	n.a.		
4	Power Supply	HP	3041A00544	300002270	13.05.2007	36	13.05.2010
5	Signal Generator	R&S	836206/0092	300002680	30.05.2007	36	30.05.2010

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	1113836300000 4	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	-/-	-/-	-/-	-/-

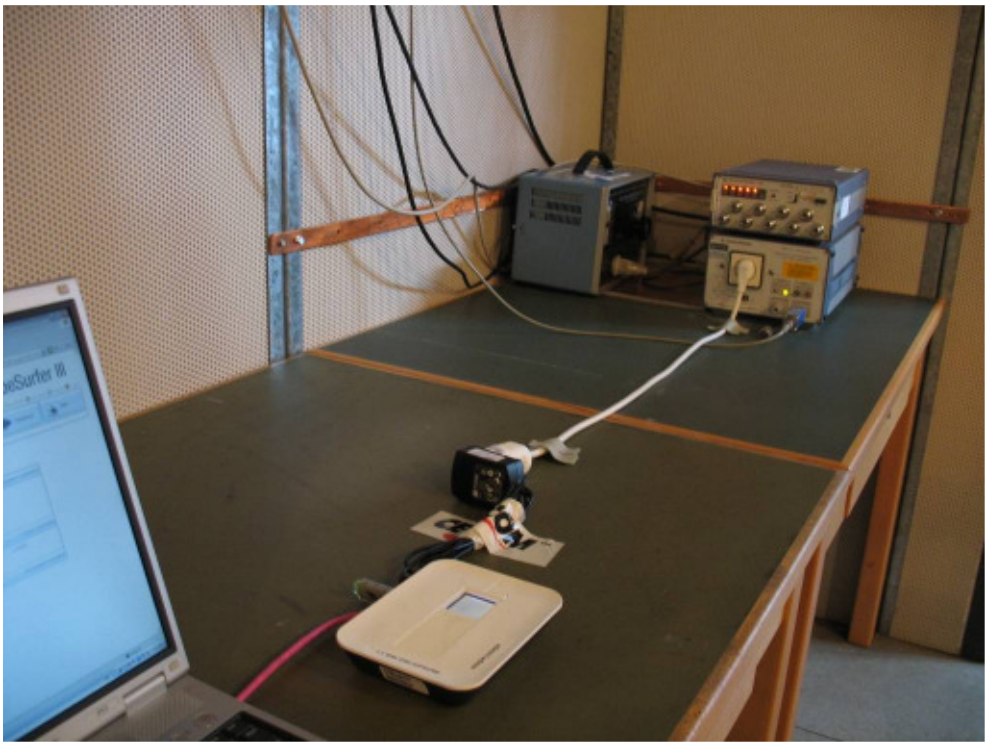
7 Photographs of the Test Set-up

Photo 1: (radiated)

Photo 2: (radiated)

Photo 3: (radiated)

Photo 4: (conducted)



8 Photographs of the EUT

Photo 1:

Photo 2:

Photo 3:

Photo 4:

Photo 5:

Photo 6:

Photo 7:

Photo 8:

Photo 9:

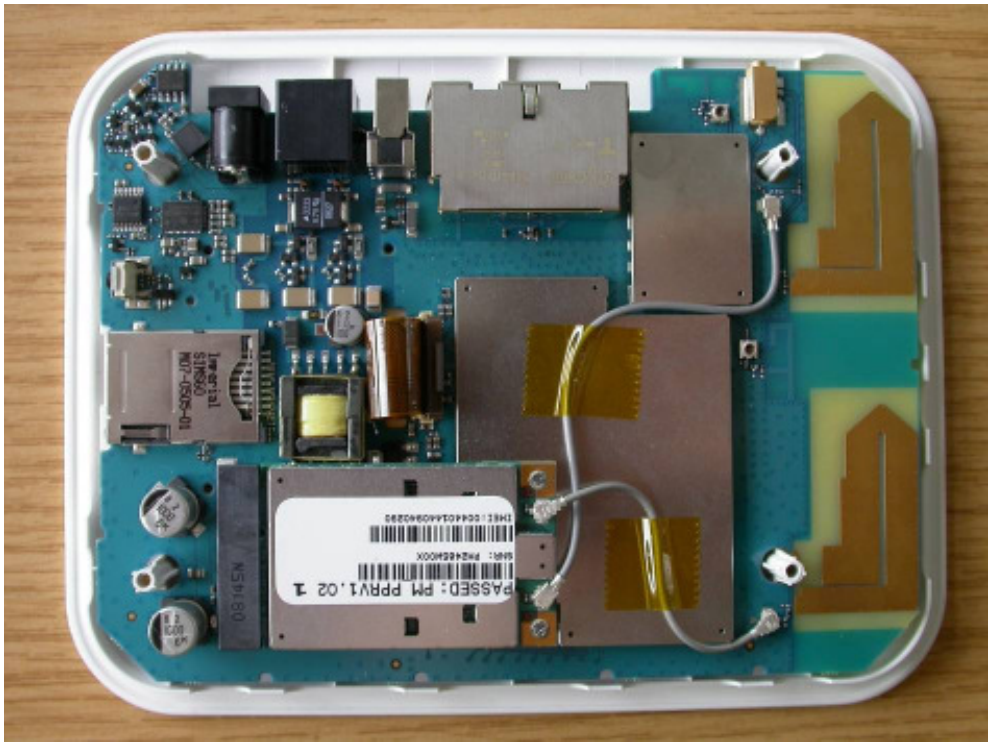


Photo 10:

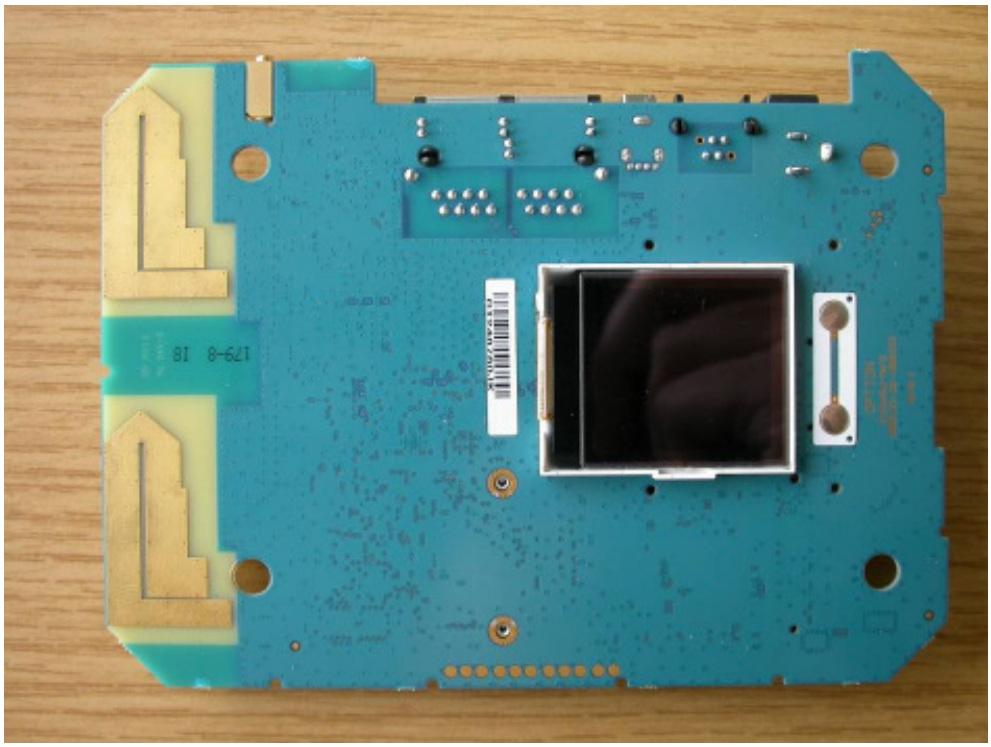


Photo 11:

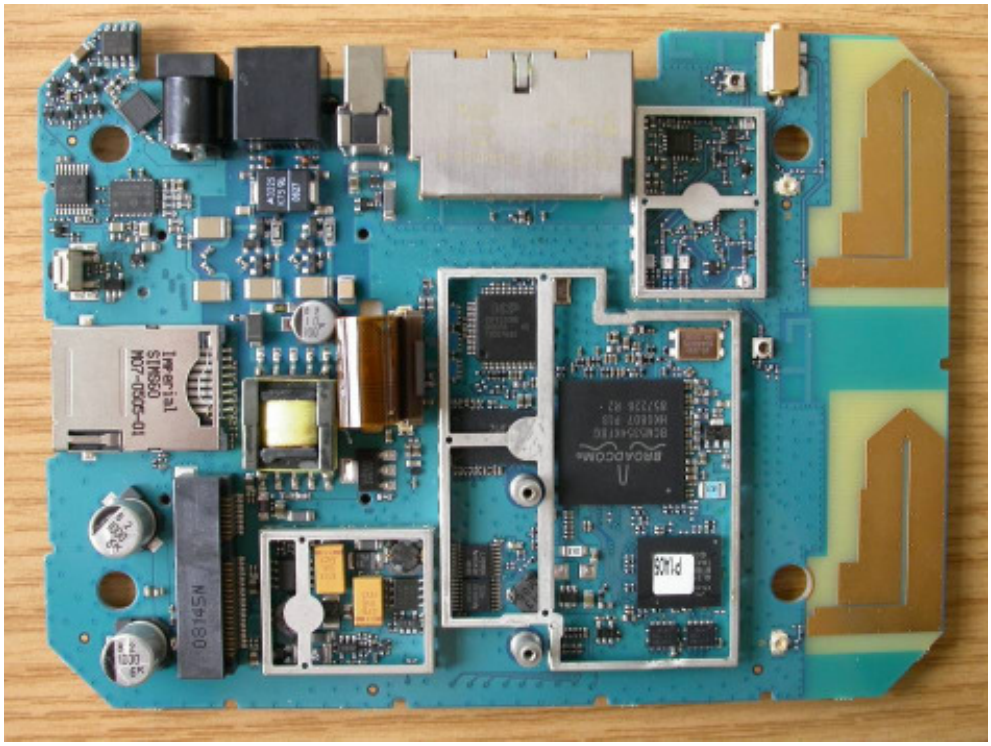


Photo 12:

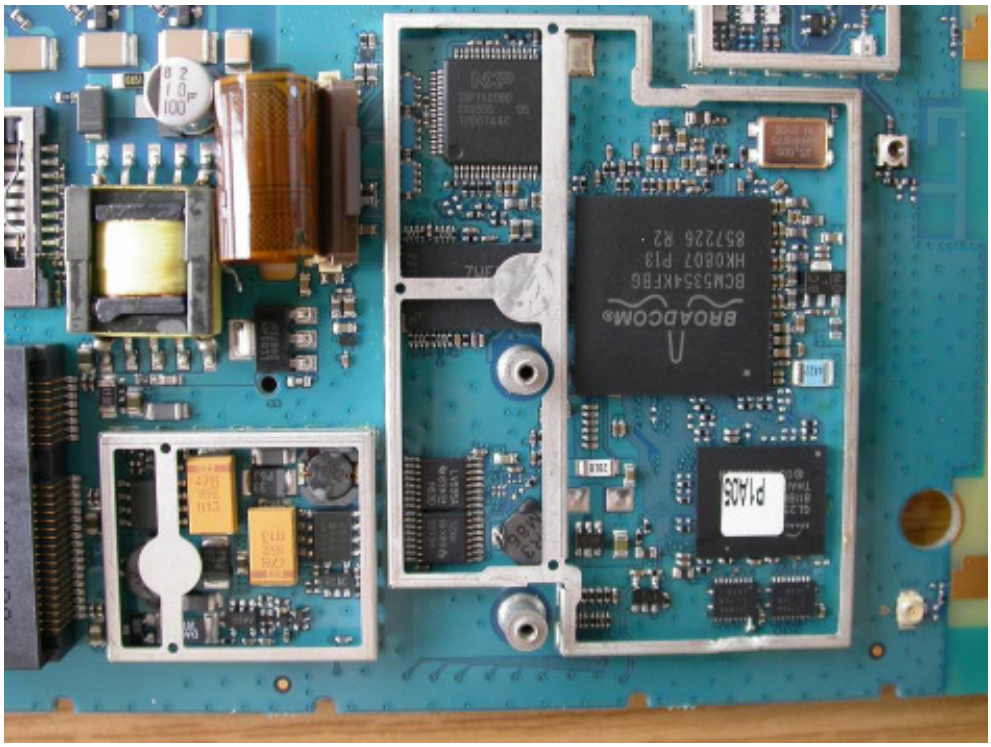


Photo 13:

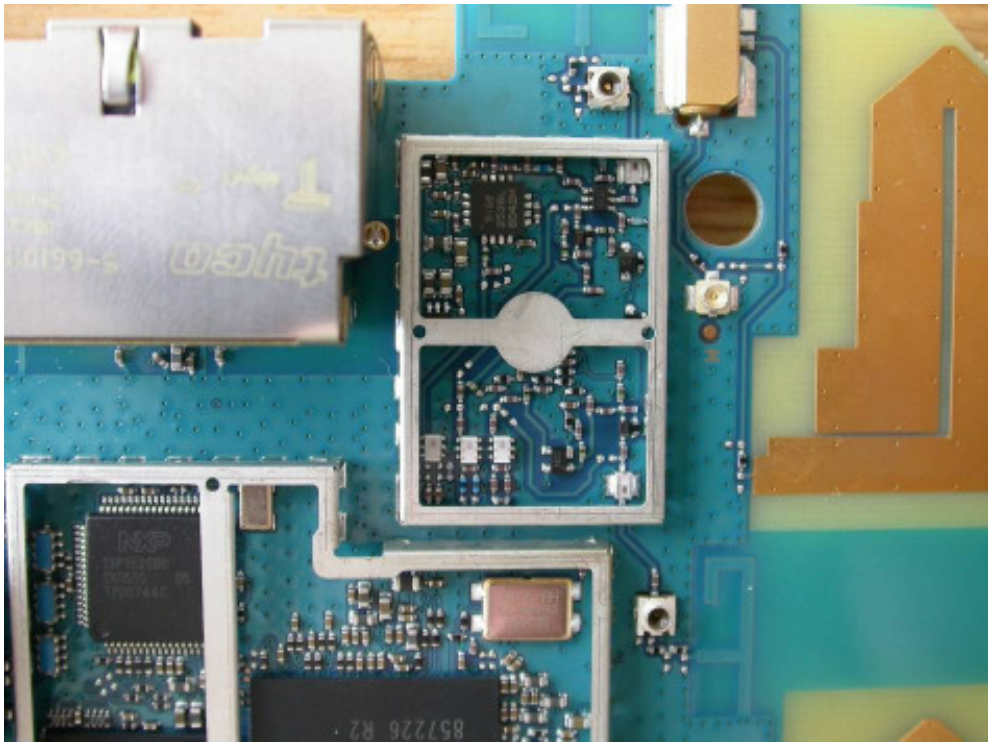


Photo 14:

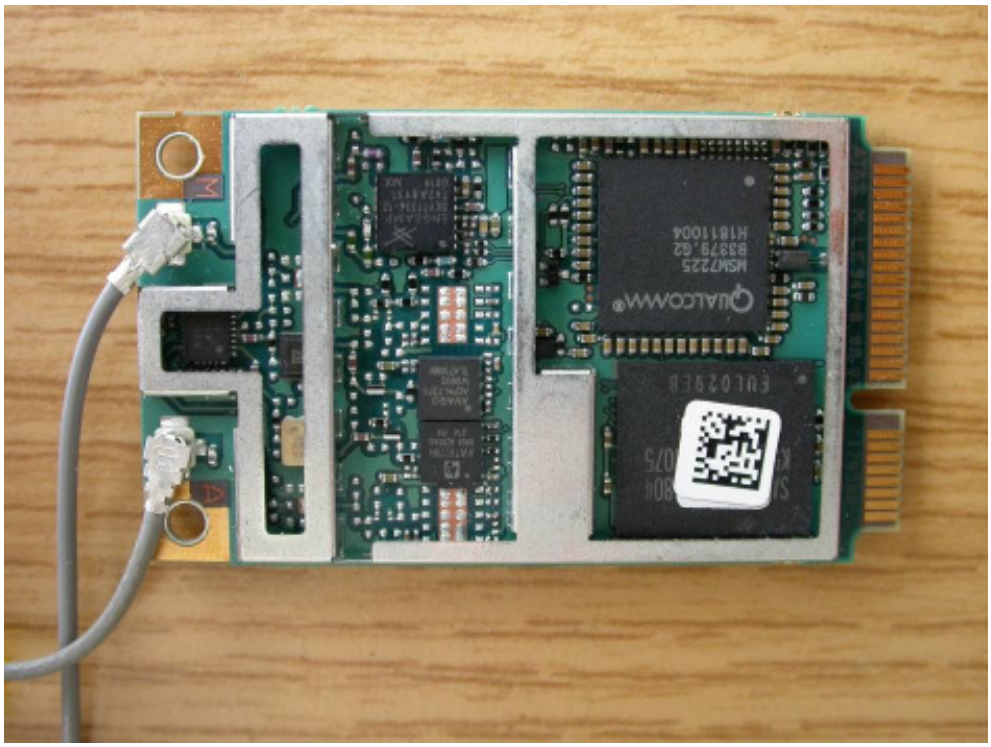


Photo 15:

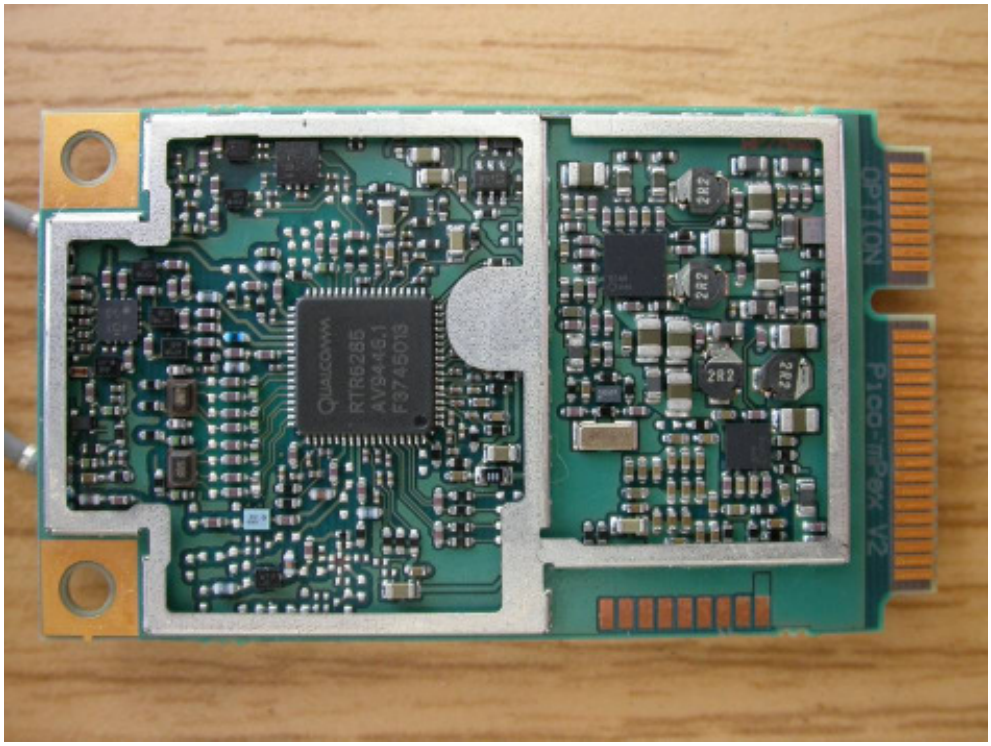


Photo 16:

Photo 17:

Photo 18: