
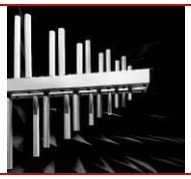
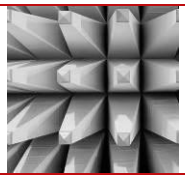

CETECOM™
CETECOM ICT Services
consulting - testing - certification

TEST REPORT

Test report no.: 1-6234/13-07-07-B

ilac-MRA DAkkS Deutsche Akkreditierungsstelle D-PL-12076-01-01

Testing laboratory

CETECOM ICT Services GmbH
Untertuerkheimer Strasse 6 – 10
66117 Saarbruecken / Germany
Phone: + 49 681 5 98 - 0
Fax: + 49 681 5 98 - 9075
Internet: http://www.cetecom.com
e-mail: ict@cetecom.com

Accredited Testing Laboratory:
The testing laboratory (area of testing) is accredited according to DIN EN ISO/IEC 17025 (2005) by the Deutsche Akkreditierungsstelle GmbH (DAkkS)
The accreditation is valid for the scope of testing procedures as stated in the accreditation certificate with the registration number: D-PL-12076-01-01
Area of Testing: Radio/Satellite Communications

Applicant

Research In Motion Limited
305 Phillip Street
Waterloo, ON N2L 3W8 / CANADA
Phone: +1 51 98 88 74 65
Fax: +1 51 98 88 69 06
Contact: Masud Attayi
e-mail: mattayi@rim.com
Phone: +1 51 98 88 74 65

Manufacturer

Research In Motion Limited
305 Phillip Street
Waterloo, ON N2L 3W8 / CANADA

Test standard/s

47 CFR Part 15	Title 47 of the Code of Federal Regulations; Chapter I Part 15 - Radio frequency devices

For further applied test standards please refer to section 3 of this test report.

Test Item

Kind of test item:	**Blackberry GSM Phones**
Model name:	**RFW121LW**
FCC ID:	**L6ARFW120LW**
Frequency:	UNII bands: 5150 MHz to 5250 MHz 5250 MHz to 5350 MHz 5470 MHz to 5725 MHz
Technology tested:	WLAN (OFDM / a & n HT20 – mode)
Antenna:	Integrated antenna
Power supply:	3.8V Li-Polymer battery

This test report is electronically signed and valid without handwriting signature. For verification of the electronic signatures, the public keys can be requested at the testing laboratory.

Test report authorised:

cn=Stefan Boes, o=CETECOM ICT Services GmbH, ou=BOE-111011, email=Stefan.Boes@cetecom.com, c=DE
2013.08.22 08:38:07 +02'00'

Stefan Bös
Senior Testing Manager

Test performed:

cn=Andreas Luckenbill, o=CETECOM ICT Services GmbH, ou=LUC-111202, email=andreas.luckenbill@cetecom.com, c=DE
2013.08.22 08:19:58 +02'00'

Andreas Luckenbill
Expert

1 Table of contents

2 General information

2.1 Notes and disclaimer

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This test report is electronically signed and valid without handwritten signature. For verification of the electronic signatures, the public keys can be requested at the testing laboratory.

2.2 Application details

Date of receipt of order:	2013-07-09
Date of receipt of test item:	2013-07-08
Start of test:	2013-07-08
End of test:	2013-07-19
Person(s) present during the test:	-/-

3 Test standard/s

Test standard	Date	Test standard description
47 CFR Part 15	01.10.2012	Title 47 of the Code of Federal Regulations; Chapter I Part 15 - Radio frequency devices

3.1 Measurement guidance

UNII: KDB 789033	2013-04	Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - Part 15, Subpart E

4 Test environment

Temperature:	T_{nom}	+22 °C during room temperature tests
	T_{max}	no tests under extreme conditions
	T_{min}	no tests under extreme conditions
Relative humidity content:		48 %
Barometric pressure:		not relevant for this kind of testing
Power supply:	V_{nom}	3.8 V Li-Polymer battery
	V_{max}	no tests under extreme conditions
	V_{min}	no tests under extreme conditions

5 Test item

Kind of test item	**:**	**Blackberry GSM Phones**
Type identification	**:**	**RFW121LW**
S/N serial number	**:**	**Rad. 004402242380164**
HW hardware status	**:**	**CER-54733-001 Rev2-x08-00**
SW software status	**:**	**OS Version: 10.2.0.519** **Build: 546773**
Frequency band [MHz]	**:**	**UNII bands: 5150 MHz to 5250 MHz** **5250 MHz to 5350 MHz** **5470 MHz to 5725 MHz**
Type of radio transmission **Use of frequency spectrum**	**:** **:**	**OFDM**
Type of modulation	**:**	**BPSK, QPSK, 16 – QAM & 64 – QAM**
Number of channels	**:**	**17**
Antenna	**:**	**Integrated antenna**
Power supply	**:**	**3.8 V Li-Polymer battery**

5.1 Additional information

Test setup- and EUT-photos are included in test reports: 1-6234/13-07-01_AnnexA
1-6234/13-07-01_AnnexD

All tests are made according RIM testplan:
RIM_EMI_Matrix for Cetecom_Astro_RFW121LW-Revised (June-27-2013).xlsx

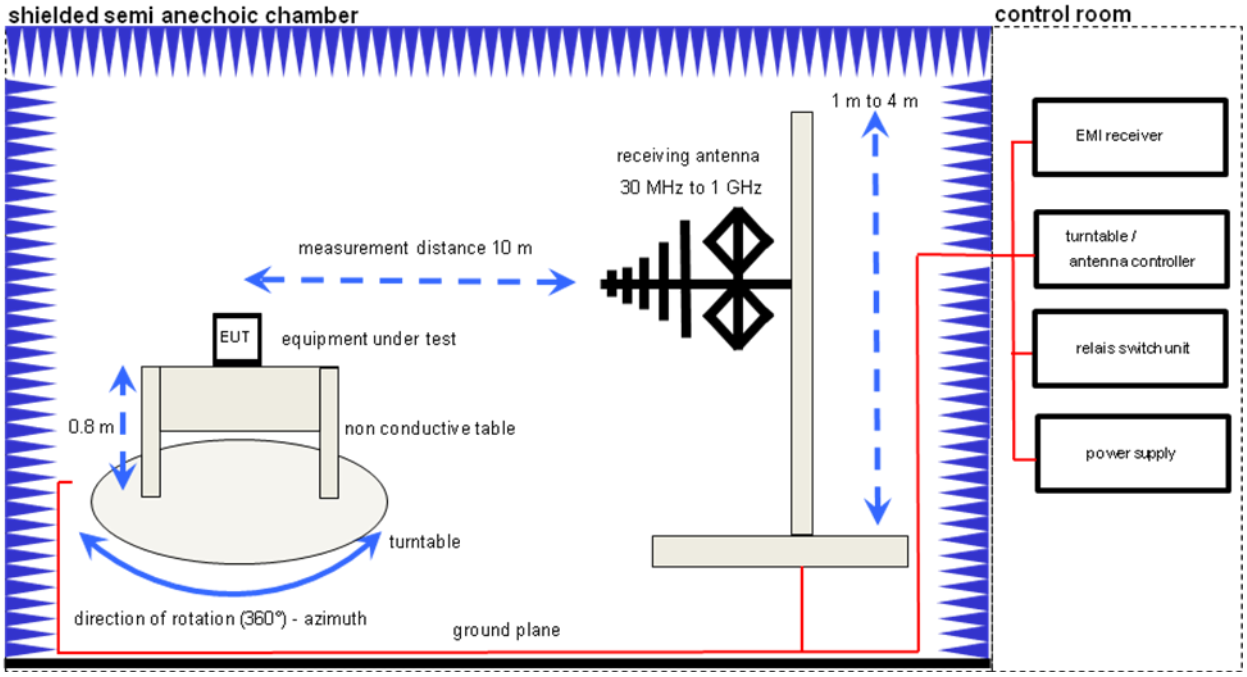
6 Test laboratories sub-contracted

None

7 Description of the test setup

7.1 Radiated measurements chamber F

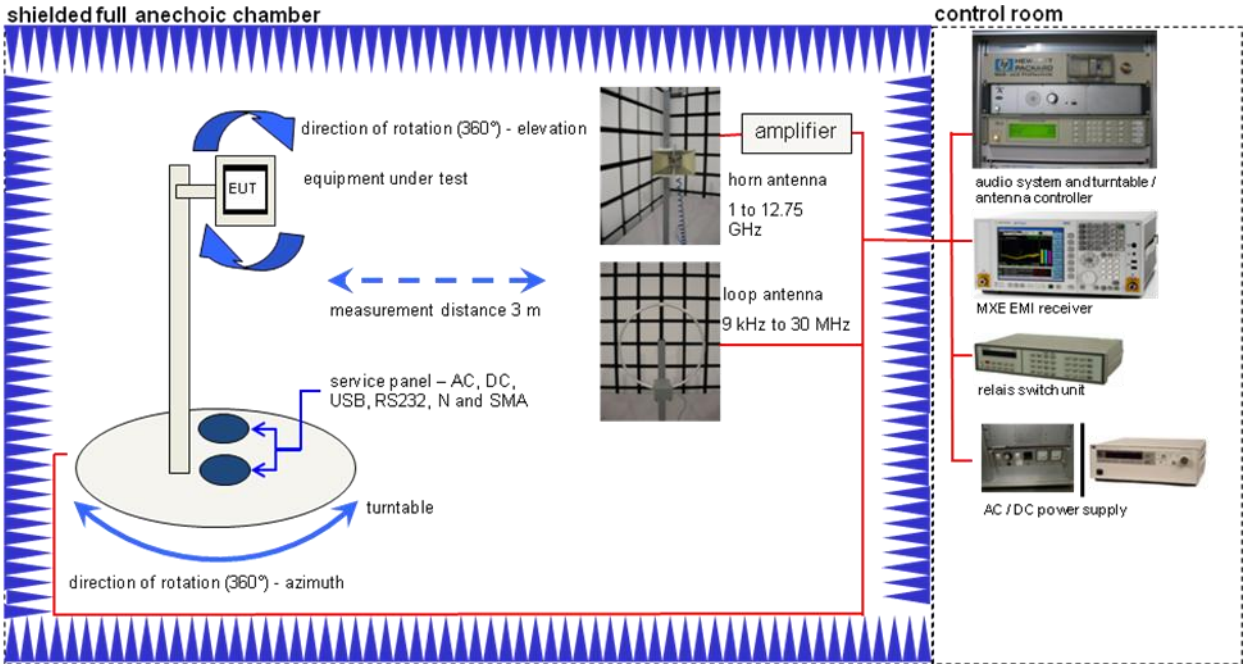
The radiated measurements are performed in vertical and horizontal plane in the frequency range from 9 kHz to 1 GHz in semi-anechoic chambers. The EUT is positioned on a non-conductive support with a height of 0.80 m above a conductive ground plane that covers the whole chamber. The receiving antennas are confirmed with specifications ANSI C63. 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 setups 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.



Equipment table:

Equipment	Type	Manufacturer	Serial No.	INV. No Cetecom
Switch-Unit	3488A	HP Meßtechnik	2719A14505	300000368
DC power supply, 60Vdc, 50A, 1200 W	6032A	HP Meßtechnik	2920A04466	300000580
EMI Test Receiver	ESCI 3	R&S	100083	300003312
Amplifier	JS42-00502650-28-5A	MITEQ	1084532	300003379
Antenna Tower	Model 2175	ETS-LINDGREN	64762	300003745
Positioning Controller	Model 2090	ETS-LINDGREN	64672	300003746
Turntable Interface-Box	Model 105637	ETS-LINDGREN	44583	300003747
TRILOG Broadband Test-Antenna 30 MHz - 3 GHz	VULB9163	Schwarzbeck	295	300003787

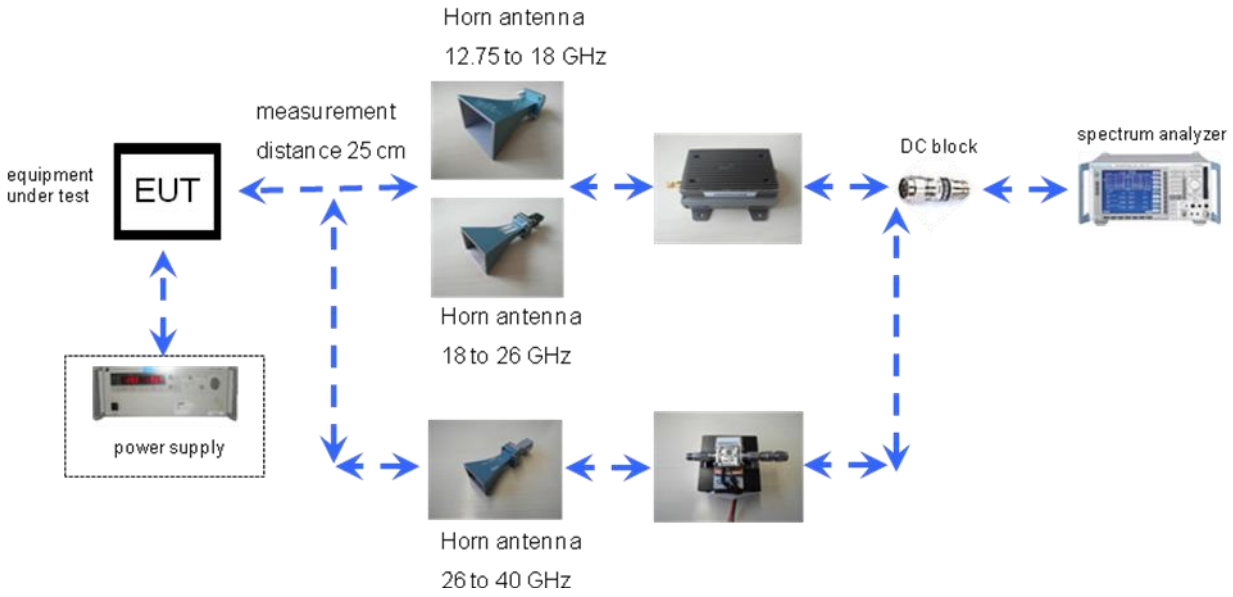
7.2 Radiated measurements chamber C



Equipment table:

Equipment	Type	Manufacturer	Serial No.	INV. No Cetecom
MXE EMI Receiver 20 Hz bis 26,5 GHz	N9038A	Agilent Technologies	MY51210197	300004405
Highpass Filter	WHKX7.0/18G-8SS	Wainwright	18	300003789
Double-Ridged Waveguide Horn Antenna 1-18.0GHz	3115	EMCO	8812-3088	300001032
Active Loop Antenna	6502	EMCO	8905-2342	300000256
Anechoic chamber	FAC 3/5m	MWB / TDK	87400/02	300000996
Switch / Control Unit	3488A	HP Meßtechnik	*	300000199
Switch / Control Unit	3488A	HP Meßtechnik	2719A15013	300001156
Isolating Transformer	MPL IEC625 Bus Regeltrenntravo	Erfi	91350	300001155
Three-Way Power Splitter, 50 Ohm	11850C	HP Meßtechnik		300000997
Amplifier	js42-00502650-28-5a	Parzich GMBH	928979	300003143

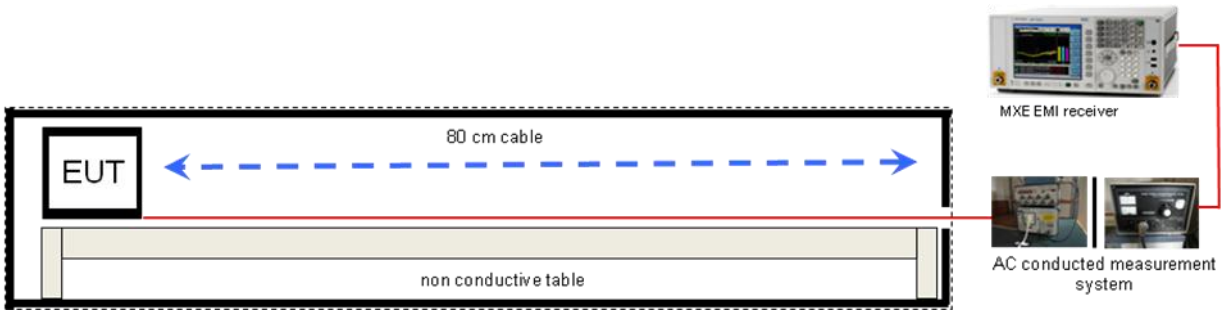
7.3 Radiated measurements 12.75 GHz to 40 GHz



Equipment table:

Equipment	Type	Manufacturer	Serial No.	INV. No Cetecom
Microwave System Amplifier, 0.5-26.5 GHz	83017A	HP Meßtechnik	00419	300002268
Std. Gain Horn Antenna 12.4 to 18.0 GHz	639	Narda		300000786
Std. Gain Horn Antenna 18.0 to 26.5 GHz	638	Narda		300000486
Broadband Low Noise Amplifier 18-50 GHz	CBL18503070-XX	CERNEX	19338	300004273
Signal Analyzer 40 GHz	FSV40	R&S	101042	300004517
Std. Gain Horn Antenna 26.5-40.0 GHz	V637	Narda	7911	300001752

7.4 AC conducted



Equipment table:

Equipment	Type	Manufacturer	Serial No.	INV. No Cetecom
Netznachbildung	ESH3-Z5	R&S	892475/017	300002209
EMI-Receiver	8542E	HP Meßtechnik	3617A00170	300000568

8 Summary of measurement results

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

TC Identifier	Description	Verdict	Date	Remark
RF-Testing	CFR Part 15	Passed	2013-08-22	Tests according to manufacturer test plan.

Test specification clause	Test case	Temperature conditions	Power source voltages	Pass	Fail	NA	NP	Remark
-/-	Output power verification (conducted)	Nominal	Nominal	☐	☐	☐	☒	-/-
-/-	Gain	Nominal	Nominal	☐	☐	☐	☒	-/-
U-NII Part 15	Duty cycle	Nominal	Nominal	☐	☐	☐	☒	-/-
§15.407(a)	Maximum output power (conducted & radiated)	Nominal	Nominal	☐	☐	☐	☒	-/-
§15.407(a)	Power spectral density	Nominal	Nominal	☐	☐	☐	☒	-/-
§15.407(a)	Spectrum bandwidth 26dB bandwidth	Nominal	Nominal	☐	☐	☐	☒	-/-
§15.407(a)	Peak excursion measurements	Nominal	Nominal	☐	☐	☐	☒	-/-
§15.205	Band edge compliance radiated	Nominal	Nominal	☒	☐	☐	☐	complies
§15.407(b)	TX spurious emissions radiated	Nominal	Nominal	☒	☐	☐	☐	complies
§15.109	RX spurious emissions radiated	Nominal	Nominal	☐	☐	☐	☒	-/-
§15.209(a)	Spurious emissions radiated < 30 MHz	Nominal	Nominal	☐	☐	☐	☒	-/-
§15.107(a)	Spurious emissions conducted emissions < 30 MHz	Nominal	Nominal	☒	☐	☐	☐	complies

Note: NA = Not Applicable; NP = Not Performed

9 Additional comments

Reference documents: None

Special test descriptions: None

Configuration descriptions: None

Test mode: ☐ No test mode available.

☒ Special software is used.
EUT is transmitting pseudo random data by itself

10 Measurement results

10.1 Output power verification (conducted)

Not performed! Tests according to manufacturer tests plan!

10.2 Gain

Not performed! Tests according to manufacturer tests plan!

10.3 Duty cycle

Not performed! Tests according to manufacturer tests plan!

10.4 Maximum output power conducted and radiated

Not performed! Tests according to manufacturer tests plan!

10.5 Power spectral density

Not performed! Tests according to manufacturer tests plan!

10.6 Spectrum bandwidth – 26 dB bandwidth

Not performed! Tests according to manufacturer tests plan!

10.7 Peak excursion measurements

Not performed! Tests according to manufacturer tests plan!

10.8 Band edge compliance radiated

Description:

Measurement of the radiated band edge compliance. The EUT is turned in the position that results in the maximum level at the band edge. Then a sweep over the corresponding restricted band is performed. The EUT is set to the lowest channel for the lower restricted band and to the highest channel for the upper restricted band. Measurement distance is 3m.

Measurement:

Measurement parameter	
Detector:	Peak / RMS
Sweep time:	Auto
Resolution bandwidth:	1 MHz
Video bandwidth:	10 Hz / 1 MHz
Span:	See plots!
Trace-Mode:	Max Hold

Limits:

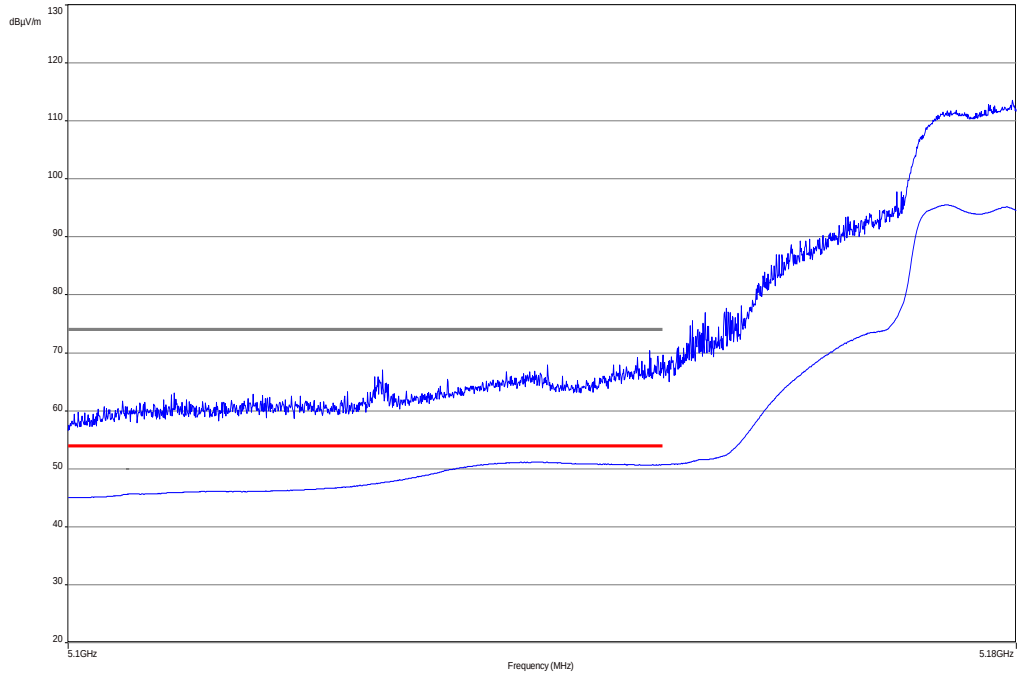
Band Edge Compliance Radiated
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within 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)).
74 dBµV/m PEAK 54 dBµV/m AVG -27 dBm PEAK

Results:

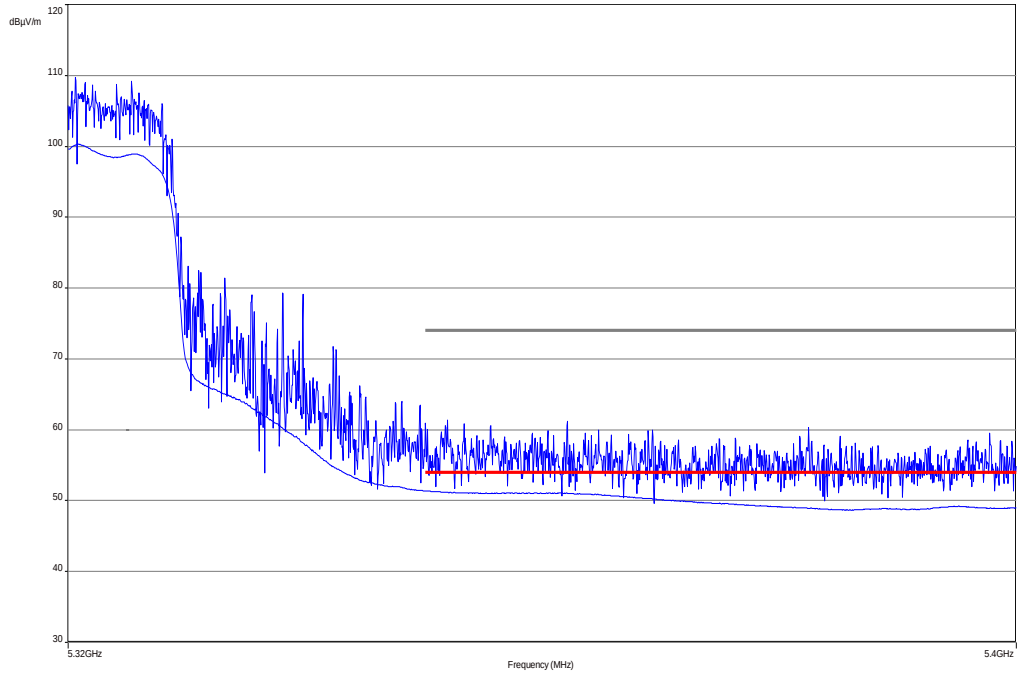
Scenario	Band Edge Compliance Radiated
band edge, a – mode, channel 36	70.3 dBµV/m (PEAK) 51.2 dBµV/m (AVG)
band edge, a – mode, channel 64	63.5 dBµV/m (PEAK) 51.5 dBµV/m (AVG)
band edge, a – mode, channel 100	73.7 dBµV/m (PEAK) 52.4 dBµV/m (AVG)
band edge, a – mode, channel 140	-35.8 dBm (PEAK)
band edge, n – mode, channel 36	64.9 dBµV/m (PEAK) 48.5 dBµV/m (AVG)
band edge, n – mode, channel 64	63.4 dBµV/m (PEAK) 47.4 dBµV/m (AVG)
band edge, n – mode, channel 100	71.5 dBµV/m (PEAK) 51.6 dBµV/m (AVG)
band edge, n – mode, channel 140	-36.3 dBm (PEAK)
Measurement uncertainty	± 3 dB

Plots:

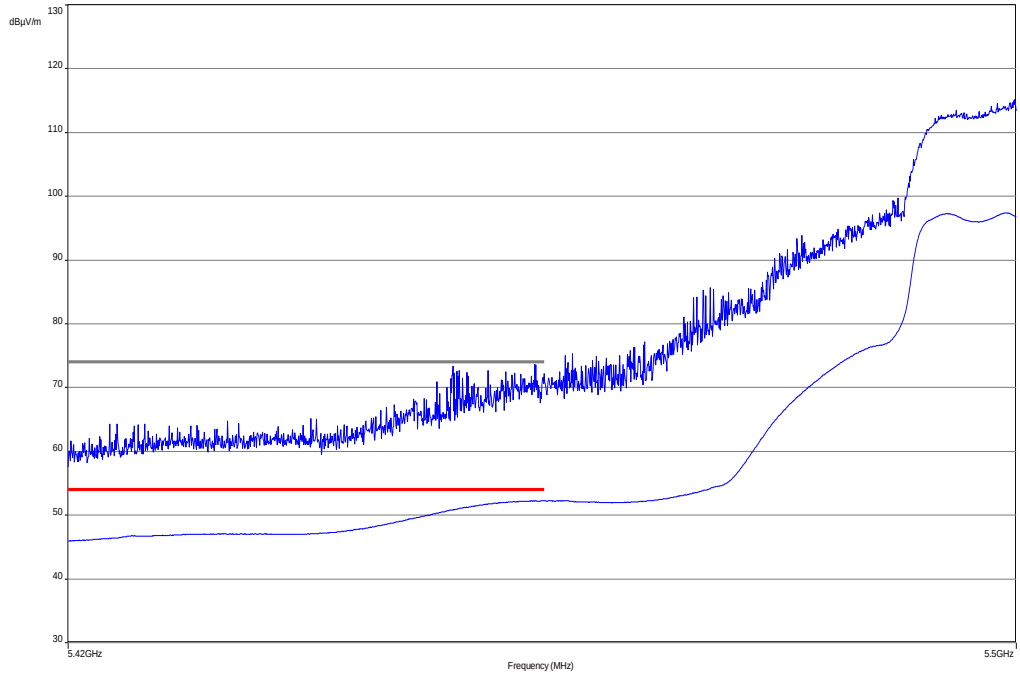
Plot 1: lower band edge, vertical & horizontal polarization (a mode), channel 36



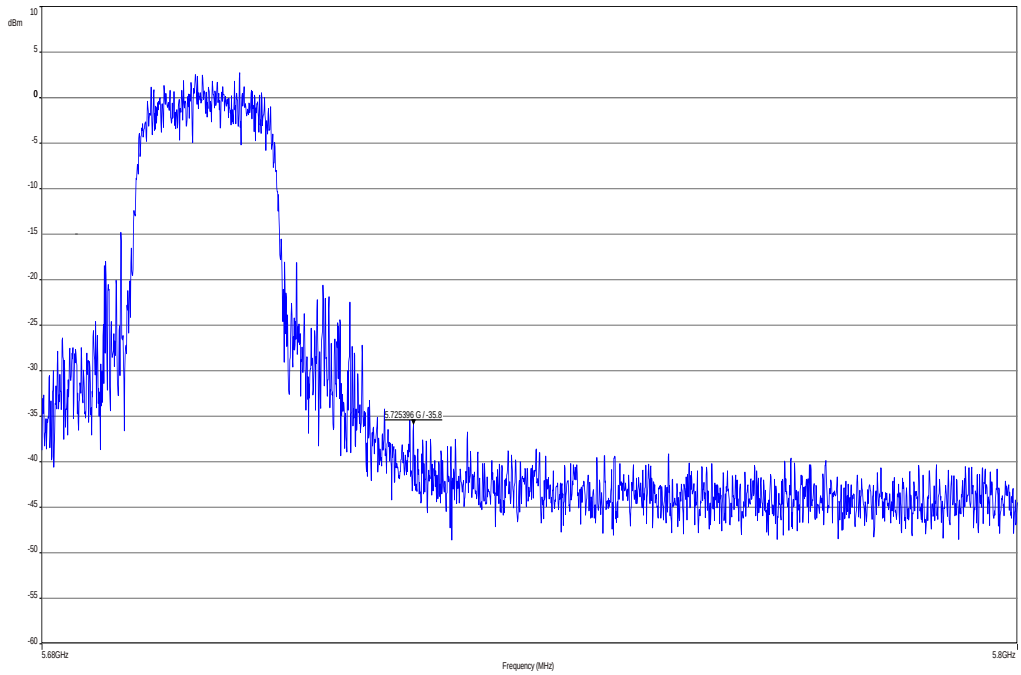
Plot 2: upper band edge, vertical & horizontal polarization (a mode), channel 64



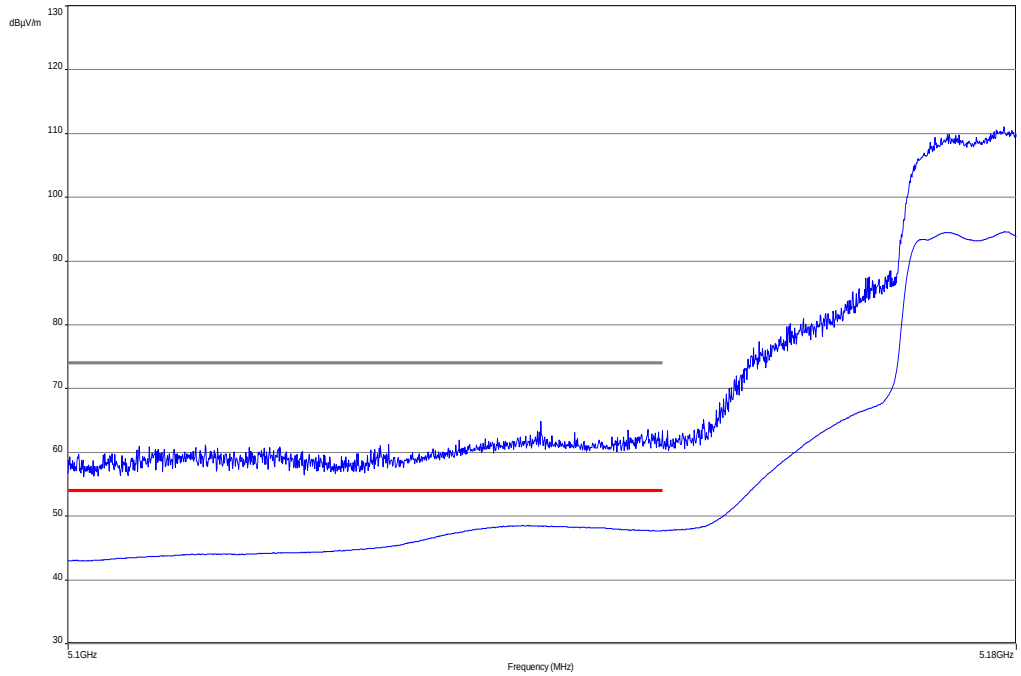
Plot 3: lower band edge, vertical & horizontal polarization (a mode), channel 100



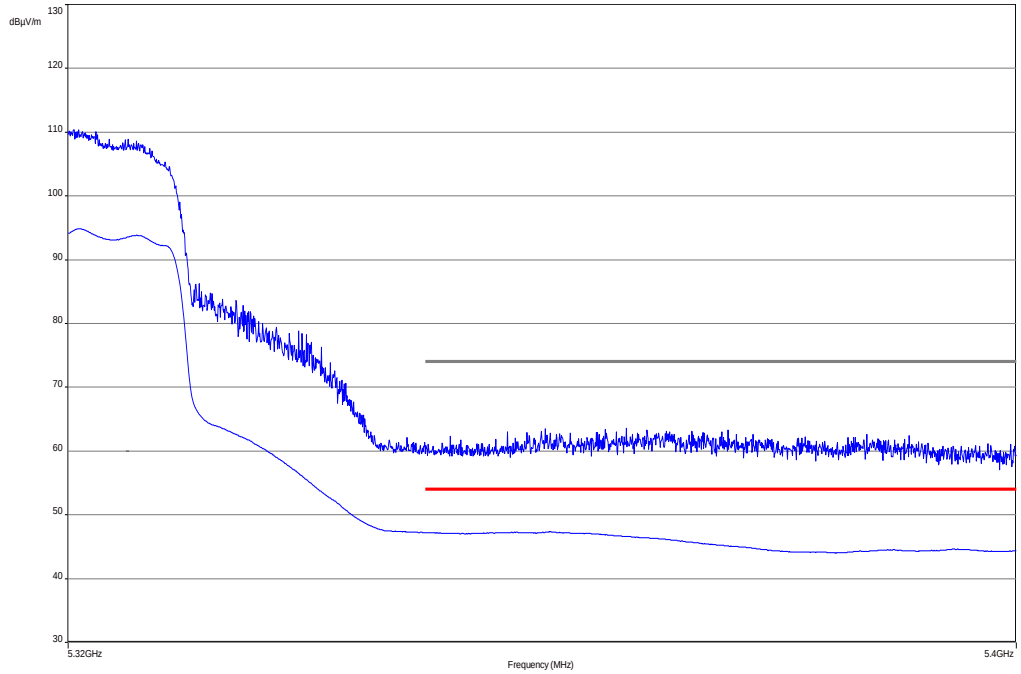
Plot 4: upper band edge, vertical & horizontal polarization (a mode), channel 140 (Limit -27 dBm)



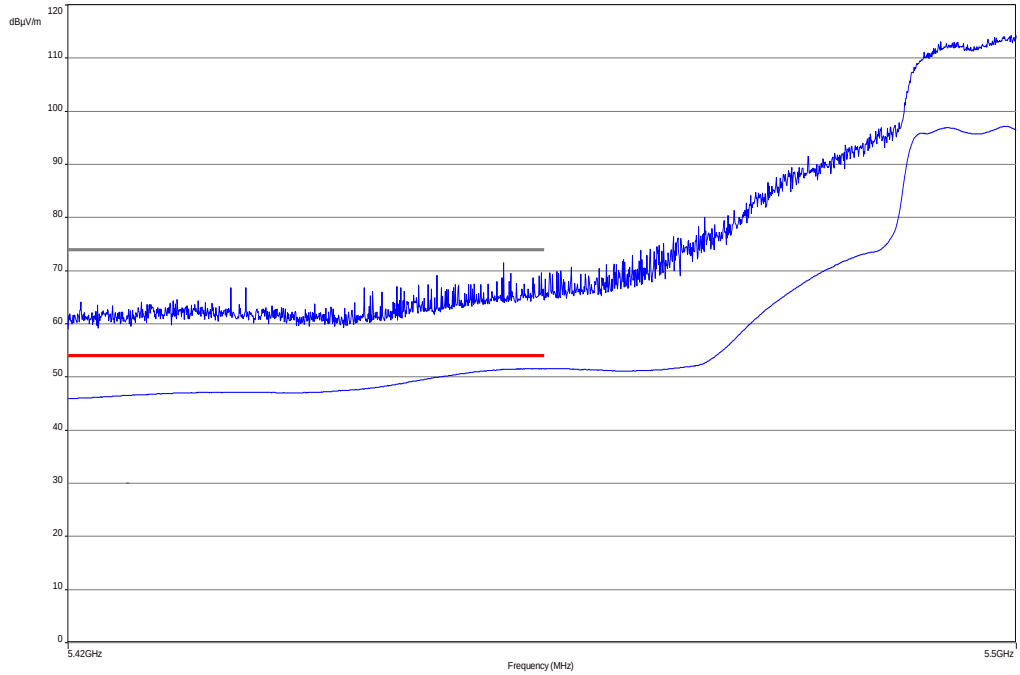
Plot 5: lower band edge, vertical & horizontal polarization (n HT 20 mode), channel 36



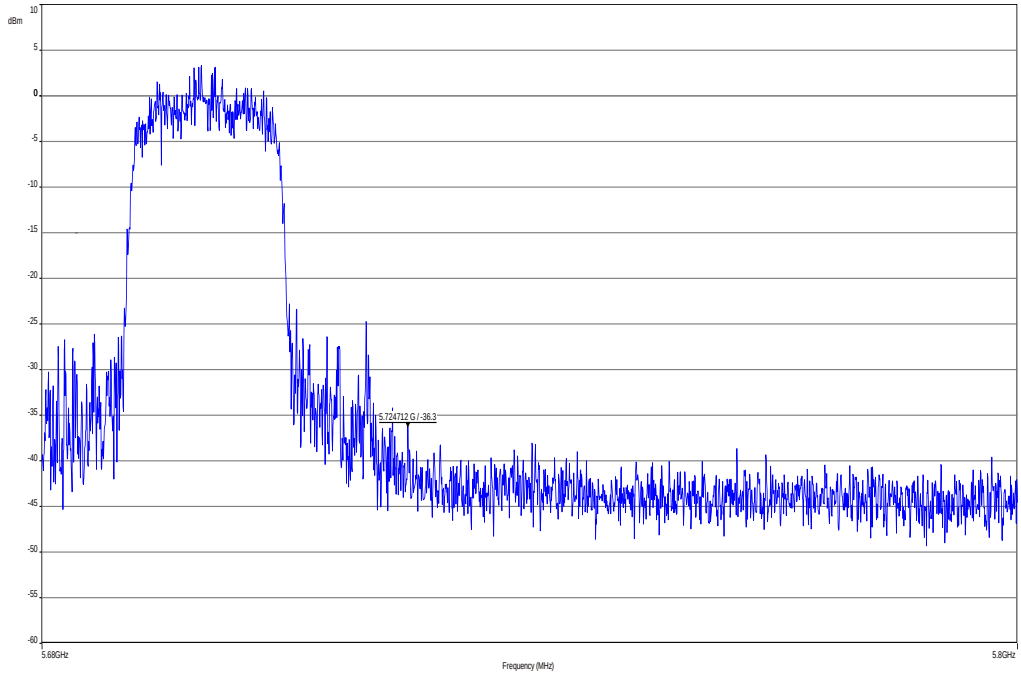
Plot 6: upper band edge, vertical & horizontal polarization (n HT 20 mode), channel 64



Plot 7: lower band edge, vertical & horizontal polarization (n HT 20 mode), channel 100



Plot 8: upper band edge, vertical & horizontal polarization (n HT 20 mode), channel 140 (Limit -27 dBm)



Result: **Passed**

10.9 TX spurious emissions radiated

Description:

Measurement of the radiated spurious emissions in transmit mode. The measurement is performed at lowest, middle and highest channel.

Measurement:

Measurement parameter	
Detector:	Quasi Peak below 1 GHz (alternative Peak) Peak above 1 GHz / RMS
Sweep time:	Auto
Resolution bandwidth:	F < 1 GHz: 100 kHz F > 1 GHz: 1 MHz
Video bandwidth:	F < 1 GHz: 100 kHz F > 1 GHz: ≥ 3 MHz /10 Hz
Span:	30 MHz to 40 GHz
Trace-Mode:	Max Hold / Average with 100 counts + 20 log (1 / X) for duty cycle lower than 100 %

Limits:

TX Spurious Emissions Radiated		
§15.209		
Frequency (MHz)	Field Strength (dBµV/m)	Measurement distance
30 - 88	30.0	10
88 – 216	33.5	10
216 – 960	36.0	10
Above 960	54.0	3
§15.407		
Outside the restricted bands!	-27 dBm / MHz	

Results: OFDM / a – mode

TX Spurious Emissions Radiated [dBµV/m] / dBm								
OFDM a – mode								
Lowest 5180 MHz			-/-			Highest 5320 MHz		
F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]
All detected peak emissions are below the average limit.			-/-			All detected peak emissions are below the average limit.		
Measurement uncertainty			± 3 dB					

TX Spurious Emissions Radiated [dBµV/m] / dBm								
OFDM a – mode								
Lowest 5500 MHz			-/-			Highest 5700 MHz		
F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]
All detected peak emissions are below the average limit.			-/-			All detected peak emissions are below the average limit.		
Measurement uncertainty			± 3 dB					

Result: **Passed**

Results: OFDM / n – modeHT20

TX Spurious Emissions Radiated [dBµV/m] / dBm								
OFDM n – mode HT20								
Lowest 5180 MHz			Middle 5240 MHz			Highest 5320 MHz		
F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]
All detected peak emissions are below the average limit.			All detected peak emissions are below the average limit.			All detected peak emissions are below the average limit.		
Measurement uncertainty			± 3 dB					

TX Spurious Emissions Radiated [dBµV/m] / dBm								
OFDM n – mode HT20								
Lowest 5500 MHz			-/-			Highest 5700 MHz		
F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]
All detected peak emissions are below the average limit.			-/-			All detected peak emissions are below the average limit.		
Measurement uncertainty			± 3 dB					

Result: **Passed**

Plots: OFDM / a – mode

Plot 1: 30 MHz to 1 GHz, 5180 MHz, vertical & horizontal polarization

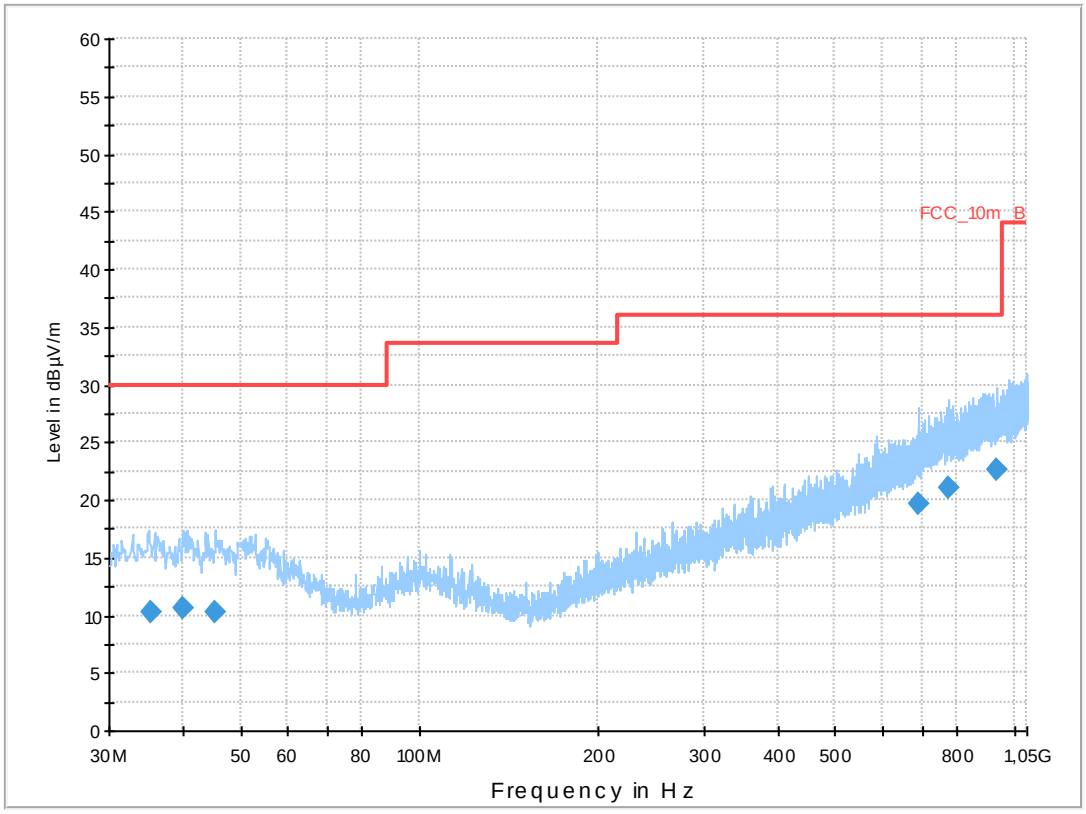
Common Information

EUT:	RFW121LW
Serial Number:	IMEI: 004402242380297
Test Description:	FCC part 15 class B
Operating Conditions:	TX WLAN a-mode, 6 Mbit/s, Ch. 36
Operator Name:	Hennemann
Comment:	battery powered

Scan Setup: STAN_Fin [EMI radiated]

Hardware Setup:	Electric Field (NOS)
Receiver:	[ESCI 3]
Level Unit:	dBµV/m

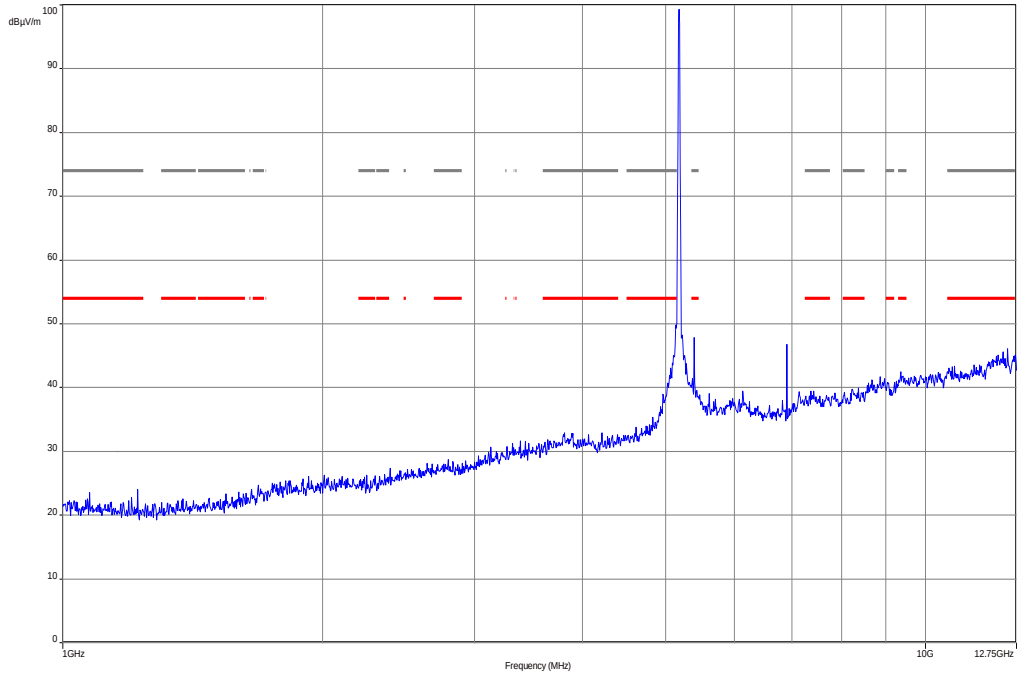
Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 2 GHz	60 kHz	QPK	120 kHz	1 s	20 dB



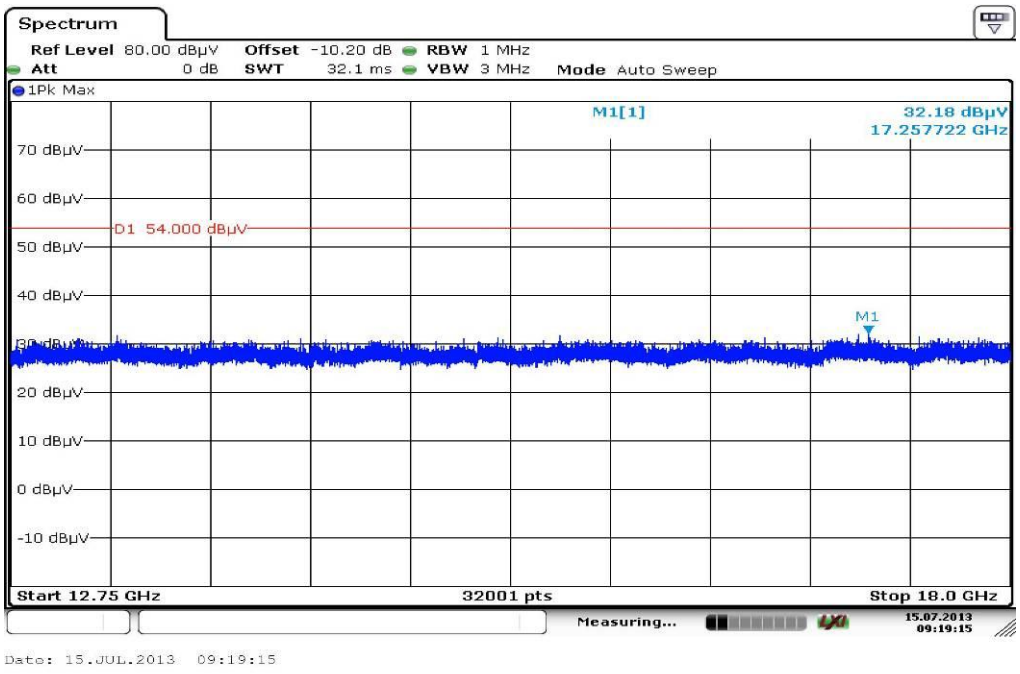
Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
35.279250	10.3	1000.0	120.000	161.0	H	182.0	13.0	19.7	30.0	
39.965100	10.6	1000.0	120.000	170.0	V	280.0	13.4	19.4	30.0	
45.148800	10.3	1000.0	120.000	152.0	V	190.0	13.3	19.7	30.0	
690.645450	19.7	1000.0	120.000	160.0	H	190.0	22.2	16.3	36.0	
773.103750	21.1	1000.0	120.000	170.0	H	2.0	23.7	14.9	36.0	
936.509100	22.7	1000.0	120.000	170.0	V	-9.0	25.3	13.3	36.0	

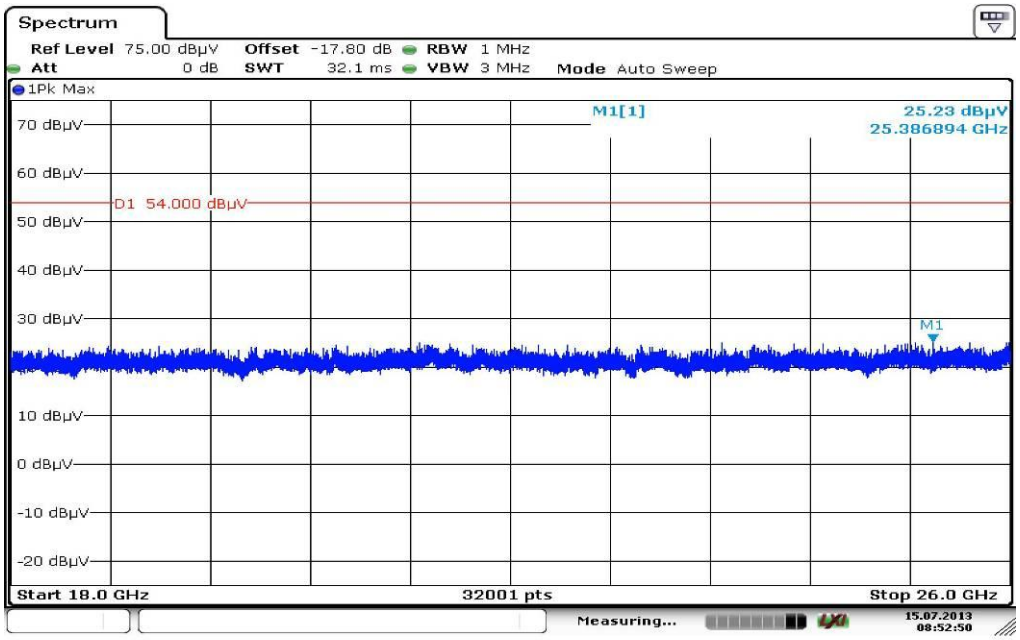
Plot 2: 1 GHz to 12.75 GHz, 5180 MHz, vertical & horizontal polarization



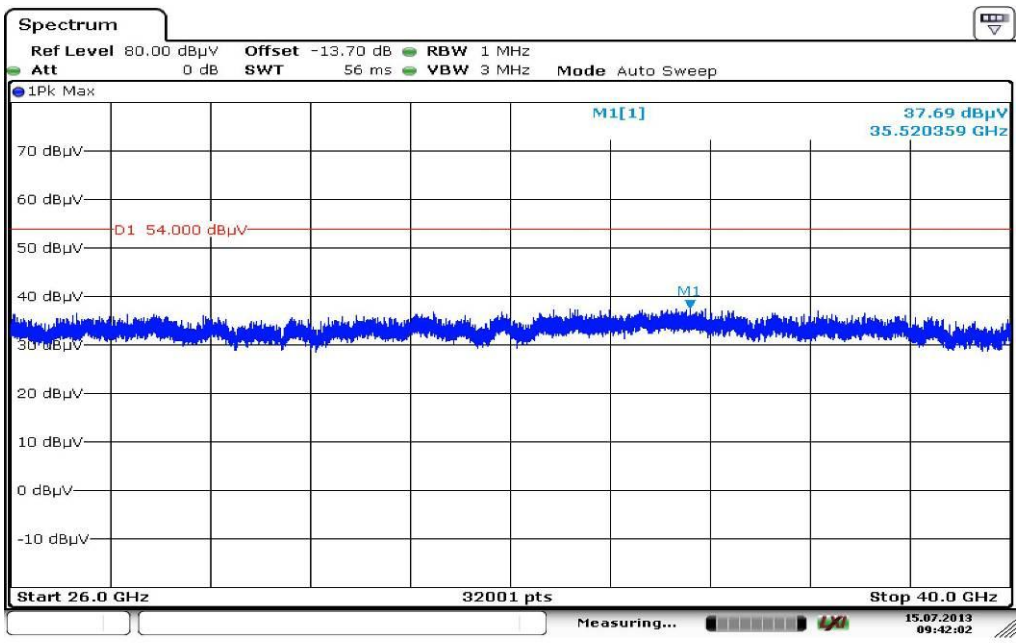
Plot 3: 12 GHz to 18 GHz, 5180 MHz, vertical & horizontal polarization



Plot 4: 18 GHz to 26 GHz, 5180 MHz, vertical & horizontal polarization



Plot 5: 26 GHz to 40 GHz, 5180 MHz, vertical & horizontal polarization



Plot 6: 30 MHz to 1 GHz, 5240 MHz, vertical & horizontal polarization

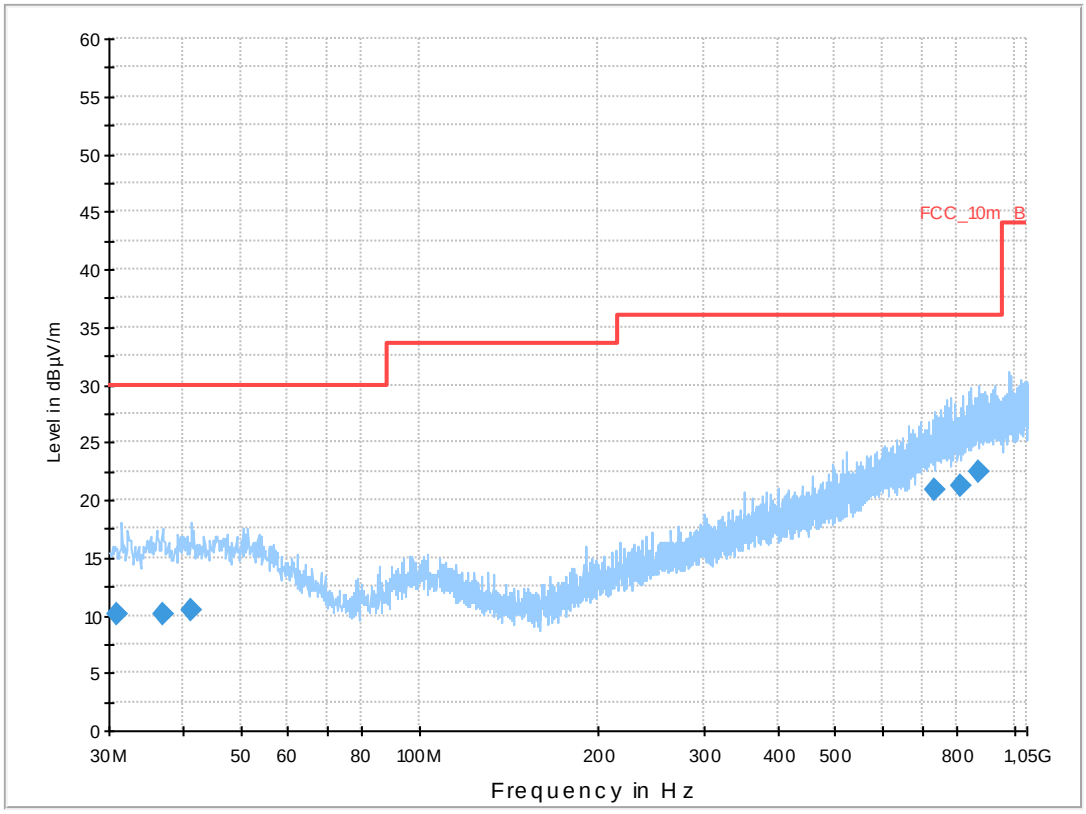
Common Information

EUT:	RFW121LW
Serial Number:	IMEI: 004402242380297
Test Description:	FCC part 15 class B
Operating Conditions:	TX WLAN a-mode, 6 Mbit/s, Ch. 48
Operator Name:	Hennemann
Comment:	battery powered

Scan Setup: STAN_Fin [EMI radiated]

Hardware Setup:	Electric Field (NOS)
Receiver:	[ESCI 3]
Level Unit:	dBµV/m

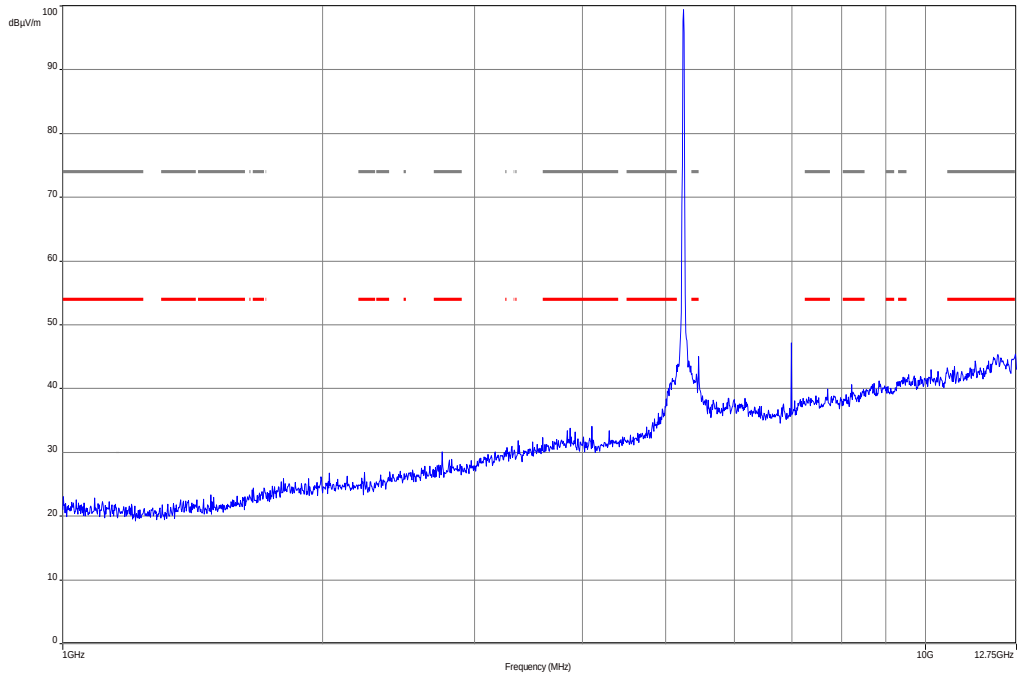
Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 2 GHz	60 kHz	QPK	120 kHz	1 s	20 dB



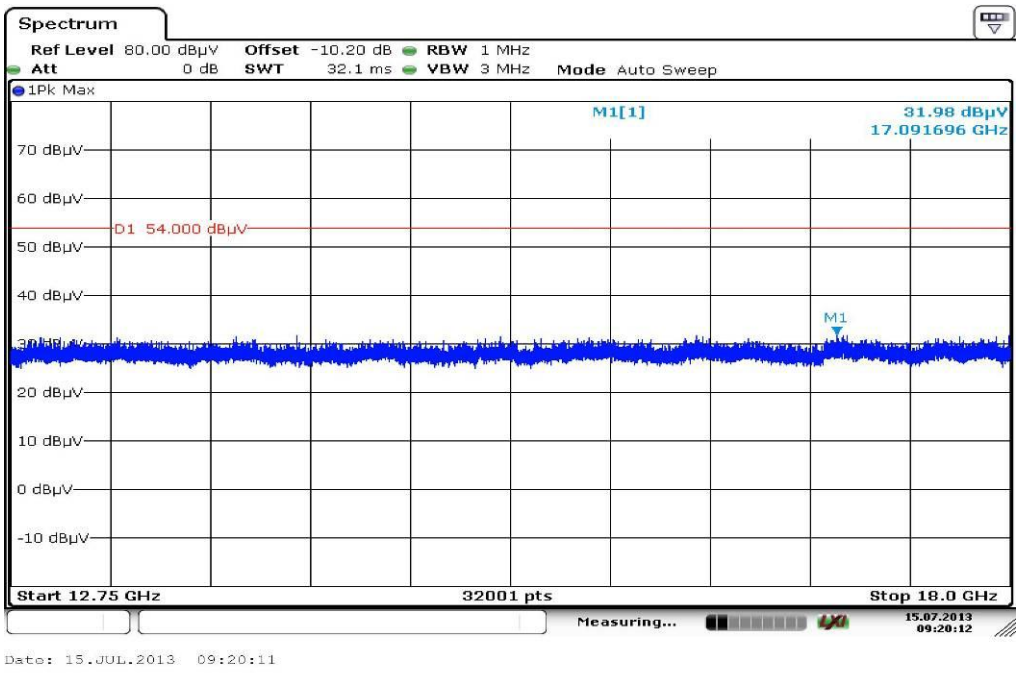
Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
31.020450	10.2	1000.0	120.000	153.0	H	268.0	12.6	19.8	30.0	
36.852300	10.1	1000.0	120.000	170.0	V	190.0	13.2	19.9	30.0	
41.182650	10.5	1000.0	120.000	98.0	H	180.0	13.4	19.5	30.0	
734.003700	20.8	1000.0	120.000	170.0	H	0.0	23.3	15.2	36.0	
810.219600	21.2	1000.0	120.000	111.0	H	10.0	24.0	14.8	36.0	
874.020450	22.4	1000.0	120.000	170.0	H	180.0	24.9	13.6	36.0	

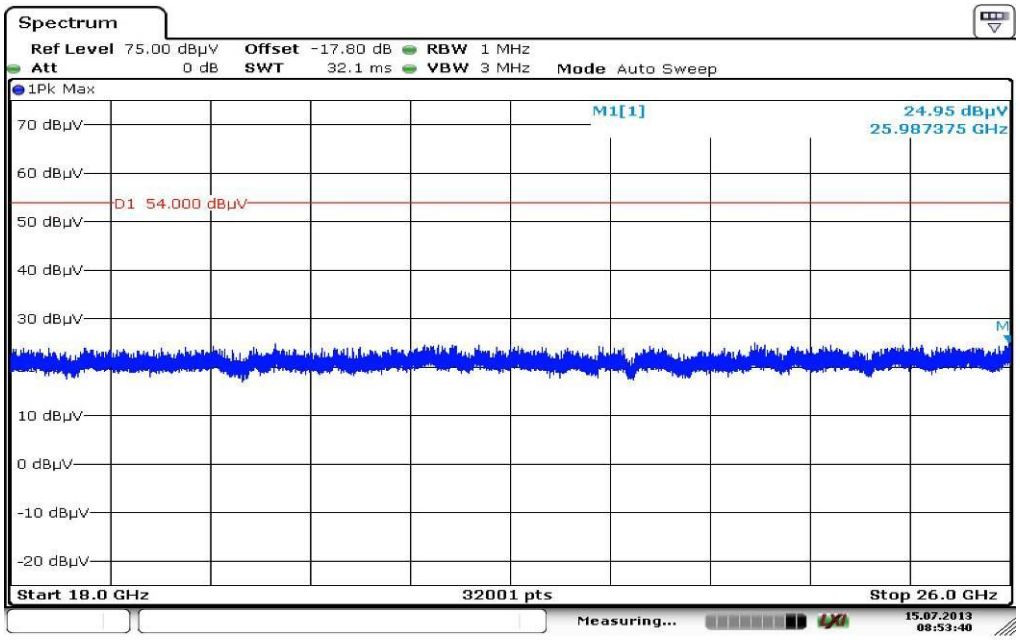
Plot 7: 1 GHz to 12.75 GHz, 5240 MHz, vertical & horizontal polarization



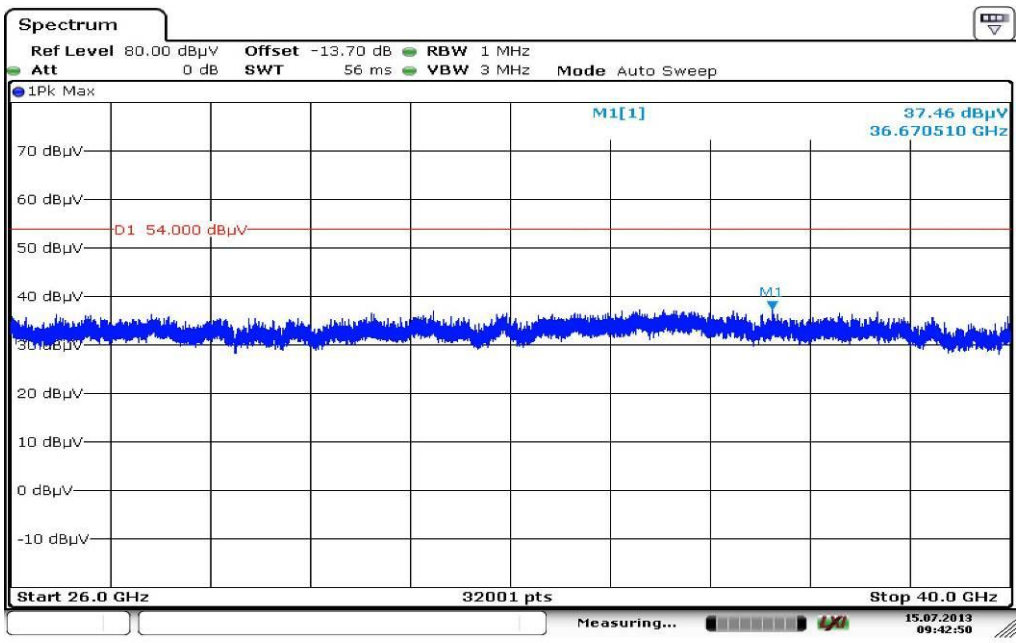
Plot 8: 12 GHz to 18 GHz, 5240 MHz, vertical & horizontal polarization



Plot 9: 18 GHz to 26 GHz, 5240 MHz, vertical & horizontal polarization



Plot 10: 26 GHz to 40 GHz, 5240 MHz, vertical & horizontal polarization



Plot 11: 30 MHz to 1 GHz, 5320 MHz, vertical & horizontal polarization

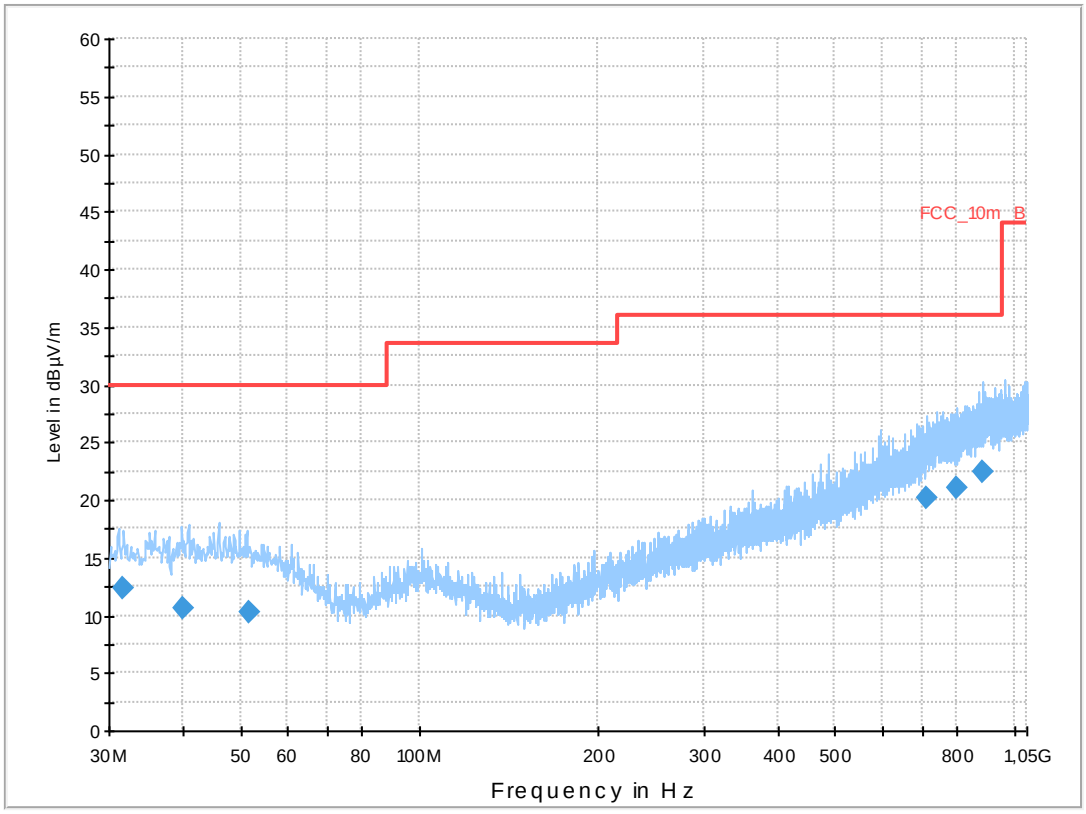
Common Information

EUT:	RFW121LW
Serial Number:	IMEI: 004402242380297
Test Description:	FCC part 15 class B
Operating Conditions:	TX WLAN a-mode, 6 Mbit/s, Ch. 64
Operator Name:	Hennemann
Comment:	battery powered

Scan Setup: STAN_Fin [EMI radiated]

Hardware Setup:	Electric Field (NOS)
Receiver:	[ESCI 3]
Level Unit:	dBµV/m

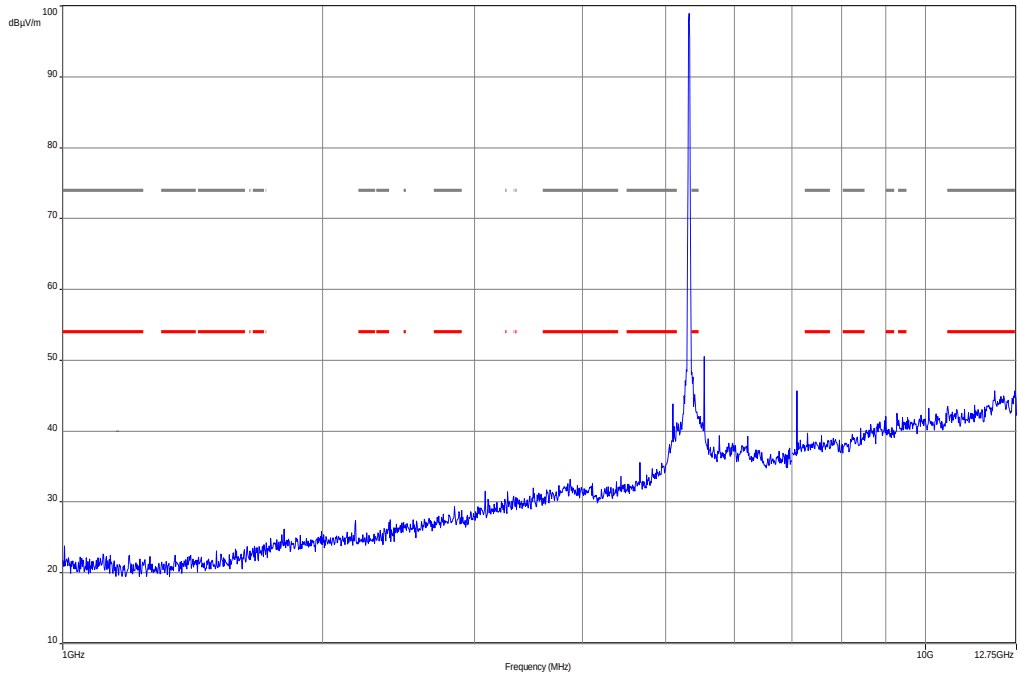
Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 2 GHz	60 kHz	QPK	120 kHz	1 s	20 dB



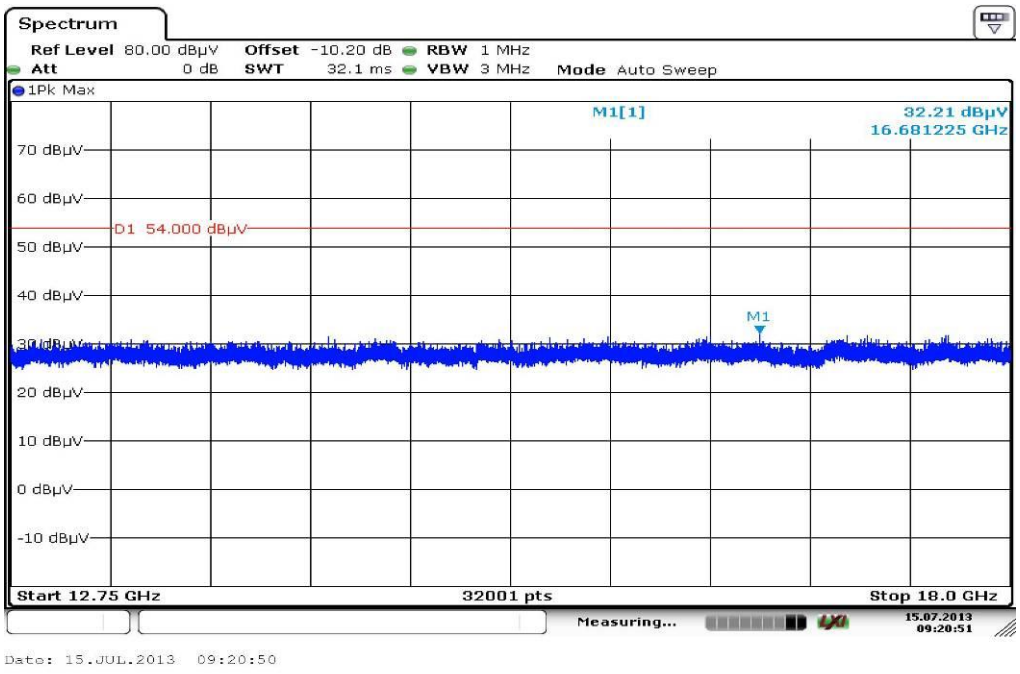
Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
31.707600	12.3	1000.0	120.000	134.0	H	81.0	12.7	17.7	30.0	
40.058850	10.6	1000.0	120.000	170.0	V	-2.0	13.4	19.4	30.0	
51.560400	10.3	1000.0	120.000	157.0	V	86.0	13.2	19.7	30.0	
710.723400	20.2	1000.0	120.000	98.0	H	280.0	22.8	15.8	36.0	
800.399850	21.0	1000.0	120.000	170.0	V	268.0	23.8	15.0	36.0	
884.599800	22.4	1000.0	120.000	170.0	V	-10.0	25.0	13.6	36.0	

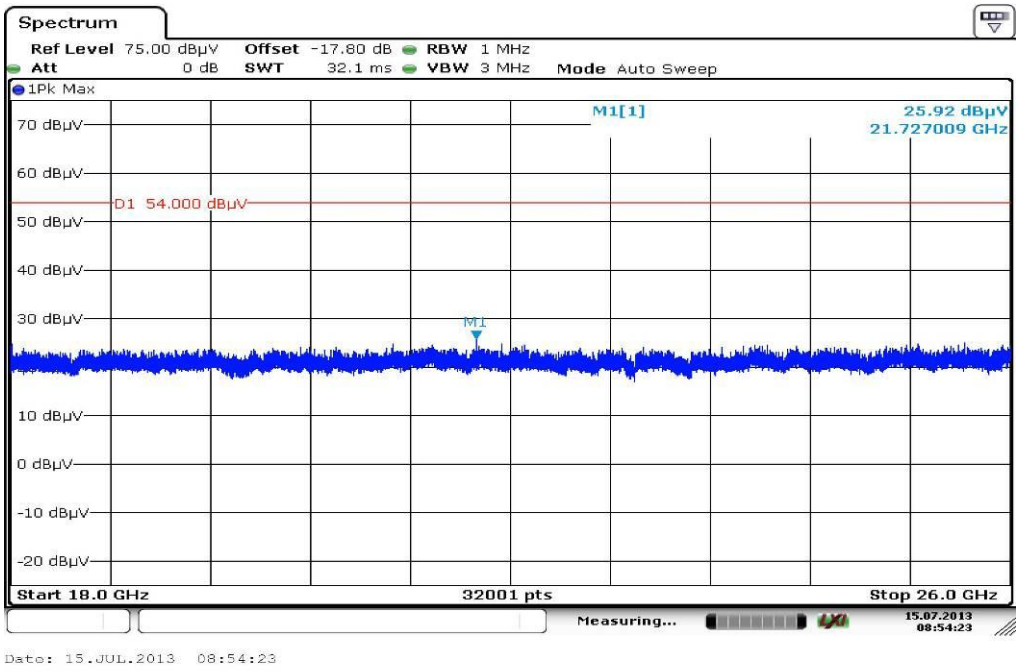
Plot 12: 1 GHz to 12.75 GHz, 5320 MHz, vertical & horizontal polarization



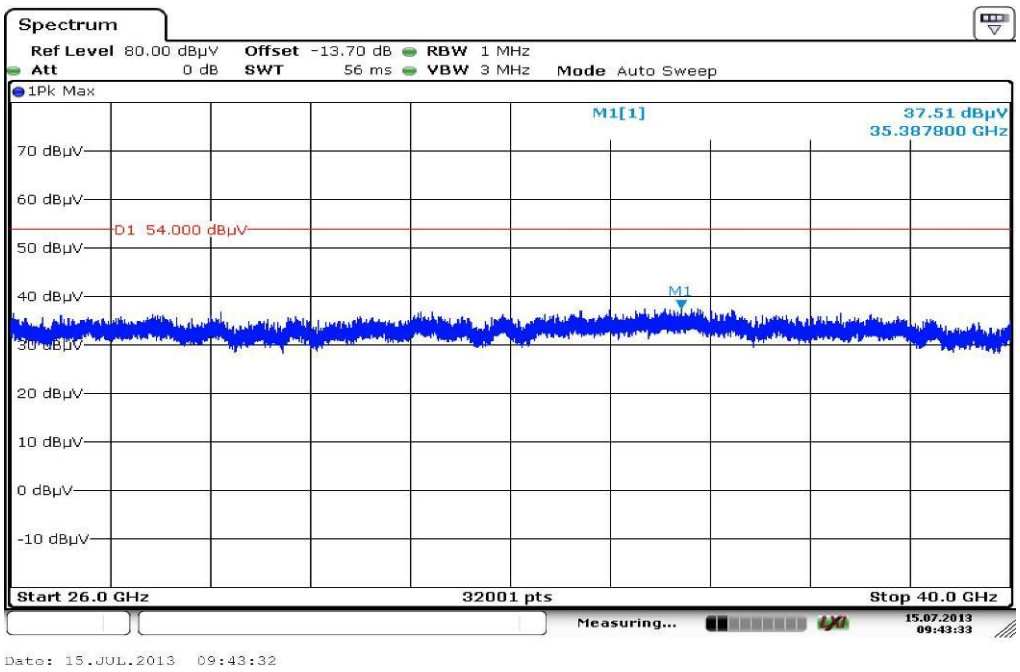
Plot 13: 12 GHz to 18 GHz, 5320 MHz, vertical & horizontal polarization



Plot 14: 18 GHz to 26 GHz, 5320 MHz, vertical & horizontal polarization



Plot 15: 26 GHz to 40 GHz, 5320 MHz, vertical & horizontal polarization



Plot 16: 30 MHz to 1 GHz, 5500 MHz, vertical & horizontal polarization

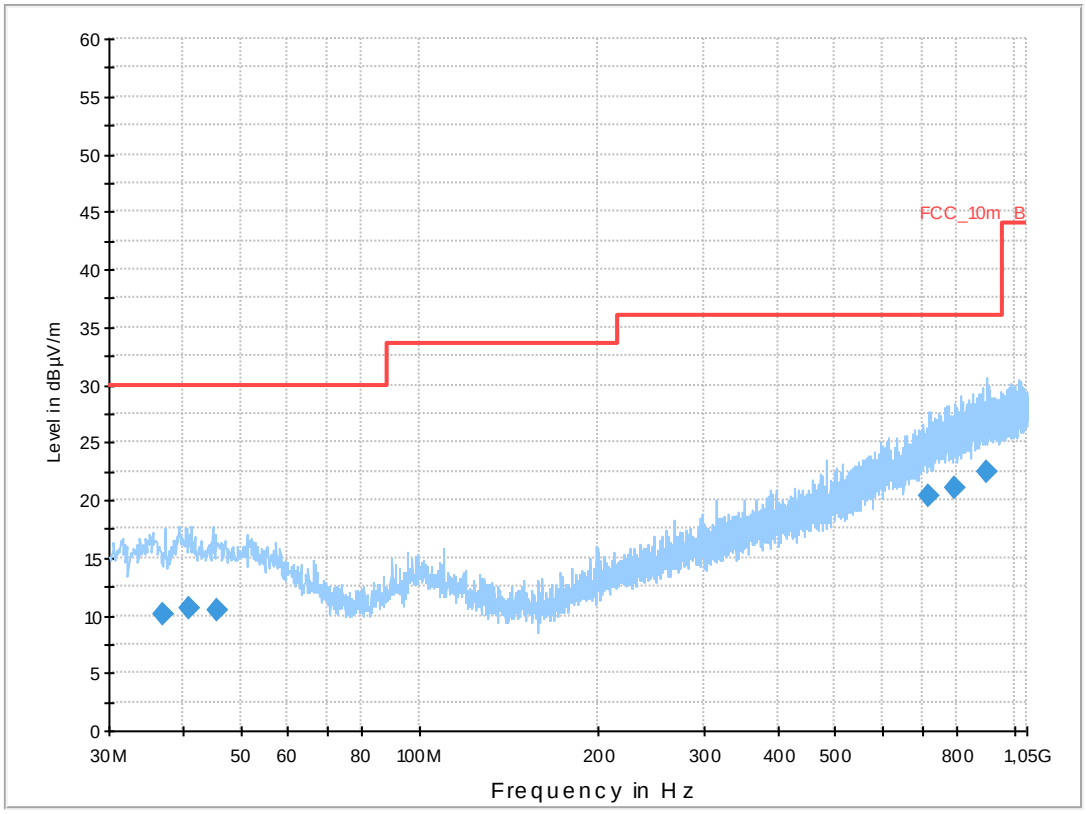
Common Information

EUT:	RFW121LW
Serial Number:	IMEI: 004402242380297
Test Description:	FCC part 15 class B
Operating Conditions:	TX WLAN a-mode, 6 Mbit/s, Ch. 100
Operator Name:	Hennemann
Comment:	battery powered

Scan Setup: STAN_Fin [EMI radiated]

Hardware Setup:	Electric Field (NOS)
Receiver:	[ESCI 3]
Level Unit:	dBµV/m

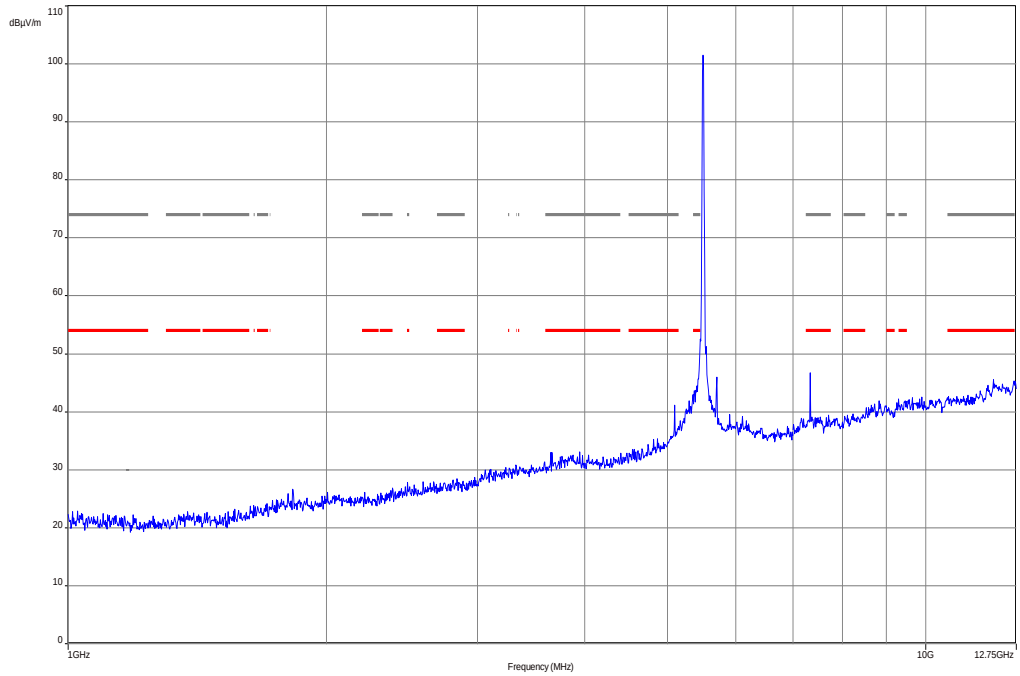
Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 2 GHz	60 kHz	QPK	120 kHz	1 s	20 dB



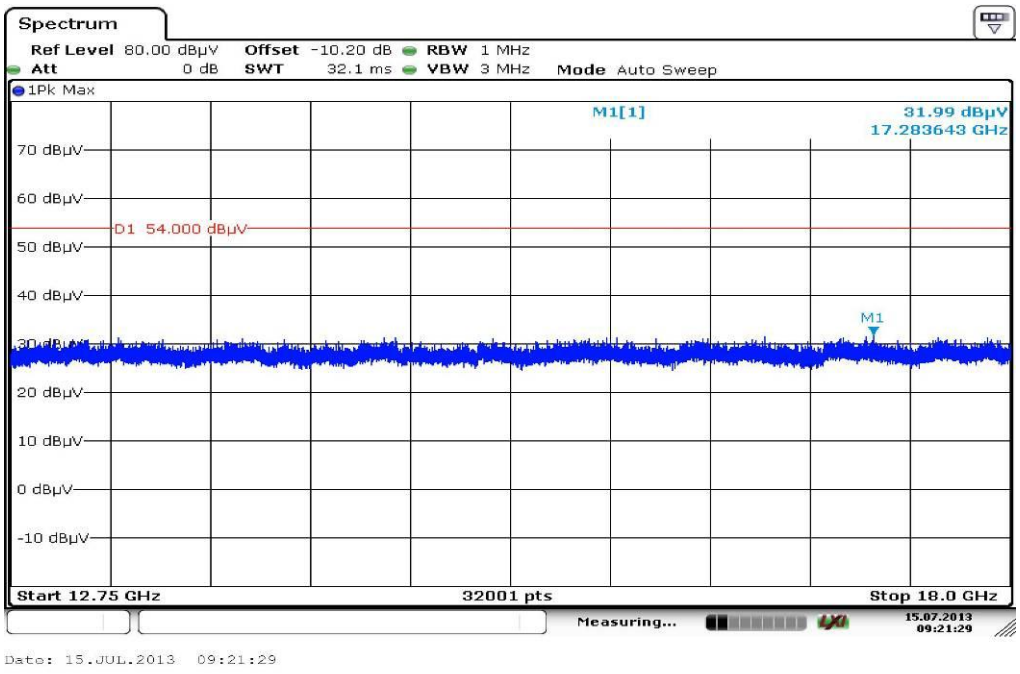
Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
37.028700	10.1	1000.0	120.000	152.0	V	10.0	13.2	19.9	30.0	
40.803150	10.7	1000.0	120.000	123.0	H	100.0	13.4	19.3	30.0	
45.586350	10.4	1000.0	120.000	170.0	H	183.0	13.3	19.6	30.0	
720.199050	20.3	1000.0	120.000	170.0	V	87.0	23.0	15.7	36.0	
794.147850	21.0	1000.0	120.000	170.0	H	-5.0	23.8	15.0	36.0	
898.363800	22.5	1000.0	120.000	170.0	V	273.0	25.2	13.5	36.0	

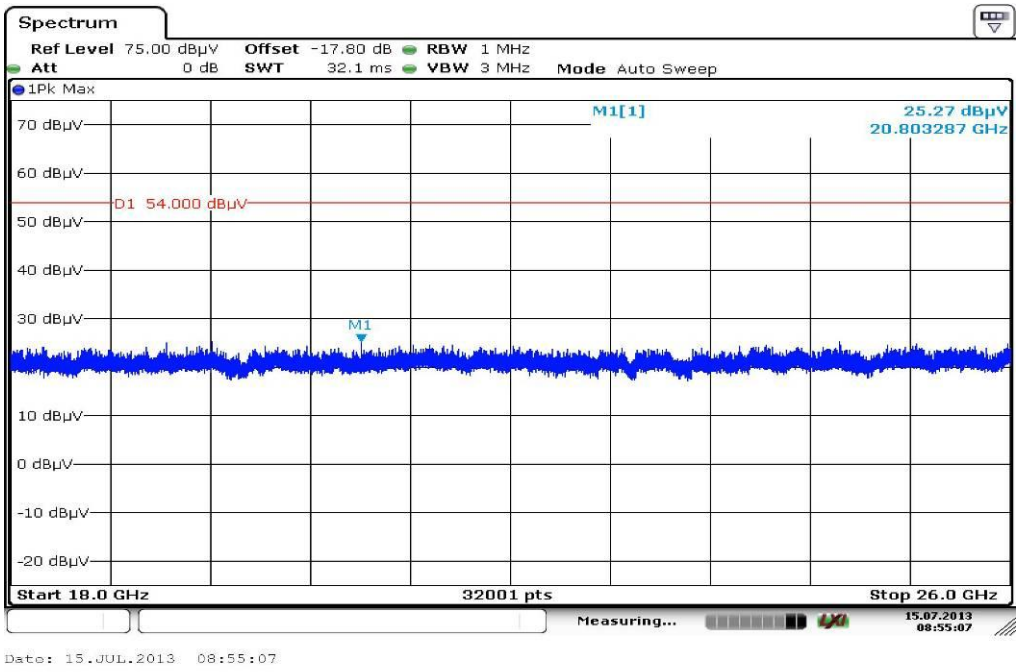
Plot 17: 1 GHz to 12.75 GHz, 5500 MHz, vertical & horizontal polarization



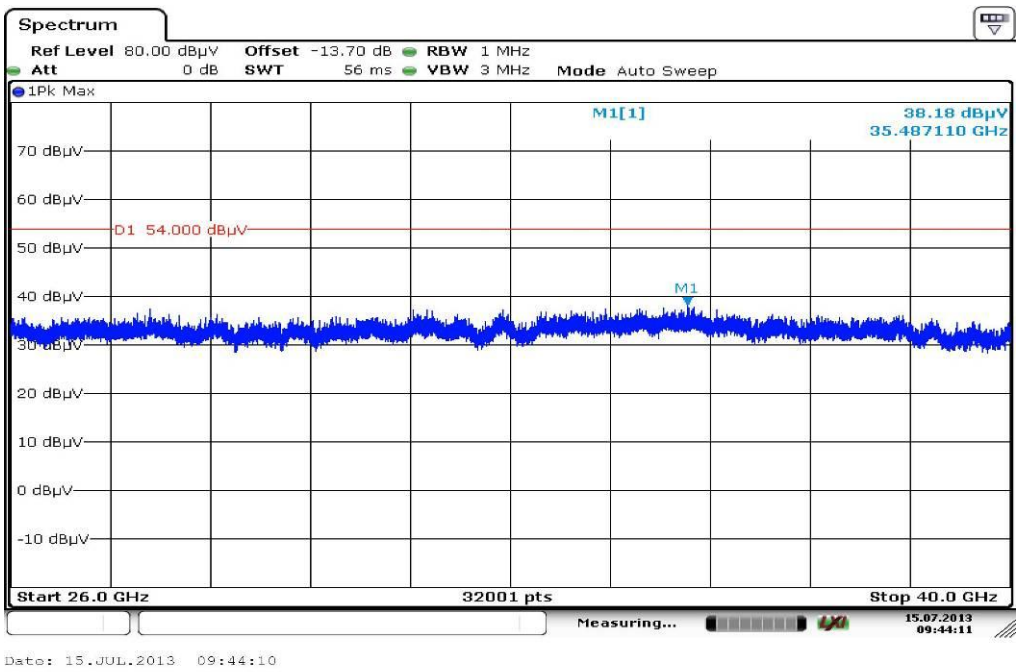
Plot 18: 12 GHz to 18 GHz, 5500 MHz, vertical & horizontal polarization



Plot 19: 18 GHz to 26 GHz, 5500 MHz, vertical & horizontal polarization



Plot 20: 26 GHz to 40 GHz, 5500 MHz, vertical & horizontal polarization



Plot 21: 30 MHz to 1 GHz, 5700 MHz, vertical & horizontal polarization

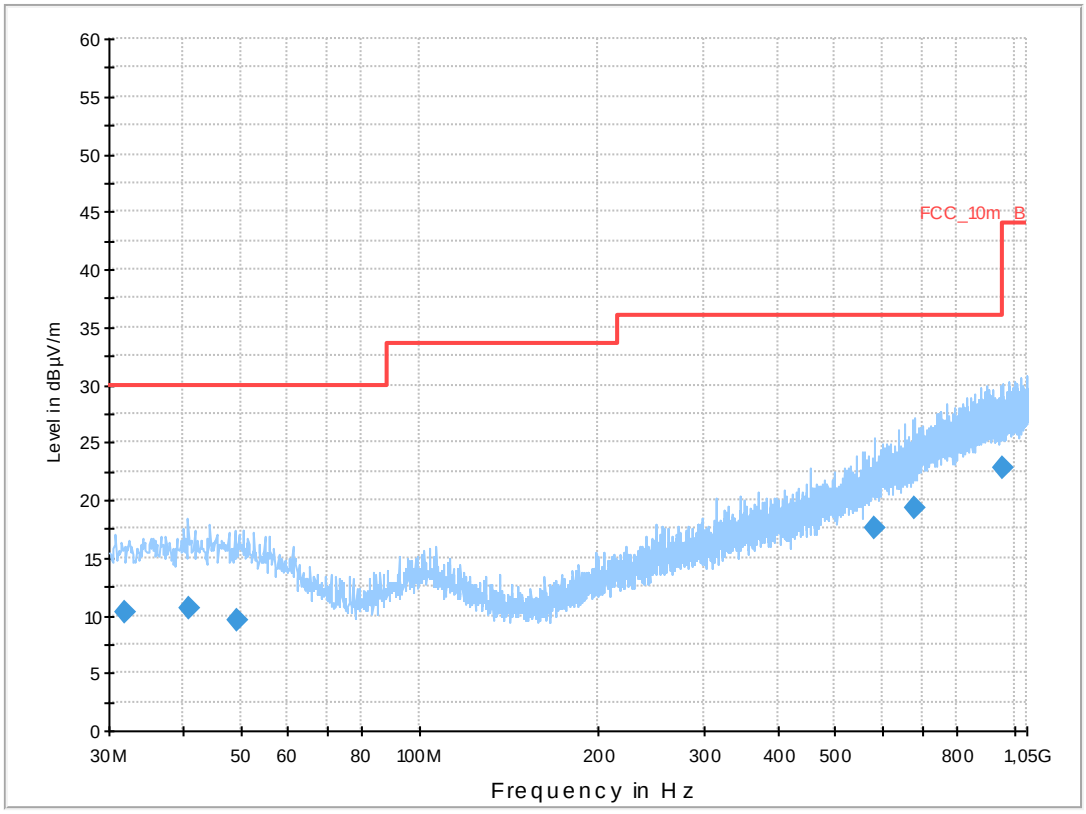
Common Information

EUT:	RFW121LW
Serial Number:	IMEI: 004402242380297
Test Description:	FCC part 15 class B
Operating Conditions:	TX WLAN a-mode, 6 Mbit/s, Ch. 140
Operator Name:	Hennemann
Comment:	battery powered

Scan Setup: STAN_Fin [EMI radiated]

Hardware Setup:	Electric Field (NOS)
Receiver:	[ESCI 3]
Level Unit:	dBµV/m

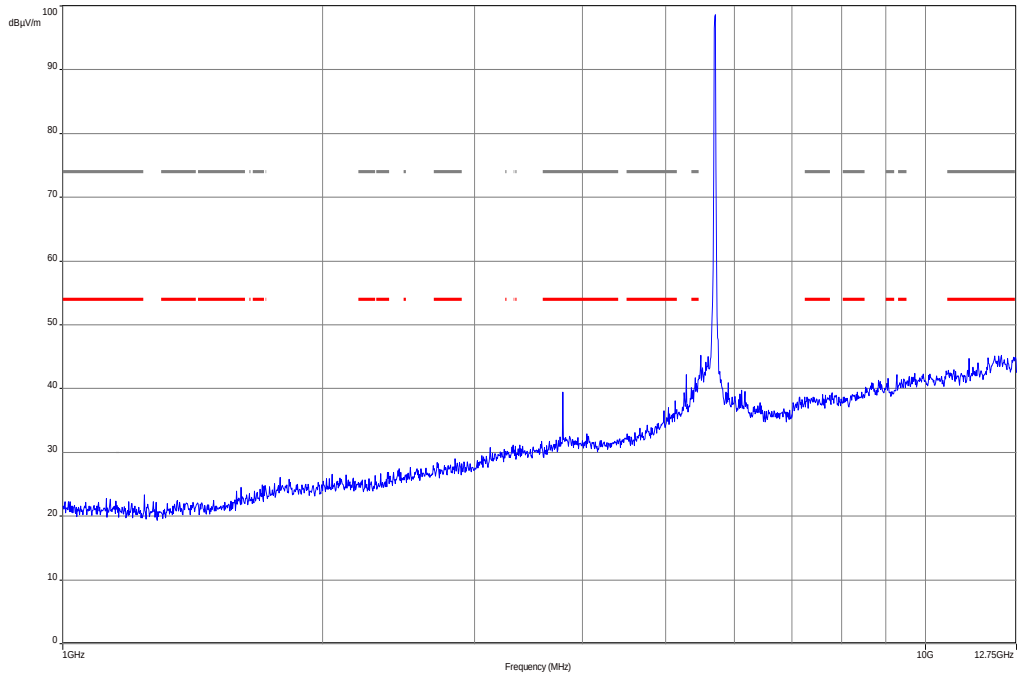
Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 2 GHz	60 kHz	QPK	120 kHz	1 s	20 dB



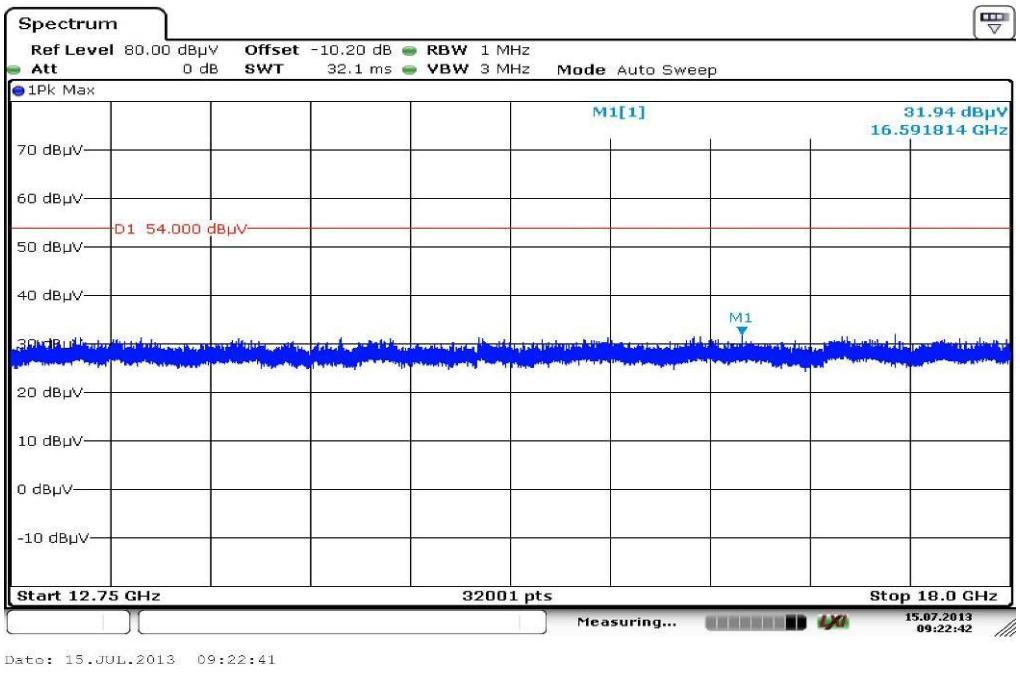
Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
31.896000	10.2	1000.0	120.000	119.0	H	100.0	12.7	19.8	30.0	
41.035500	10.5	1000.0	120.000	141.0	H	280.0	13.4	19.5	30.0	
49.120800	9.6	1000.0	120.000	162.0	V	280.0	13.4	20.4	30.0	
581.594400	17.6	1000.0	120.000	98.0	V	-5.0	20.3	18.4	36.0	
681.546450	19.4	1000.0	120.000	134.0	H	171.0	22.0	16.6	36.0	
954.819900	22.7	1000.0	120.000	170.0	V	10.0	25.4	13.3	36.0	

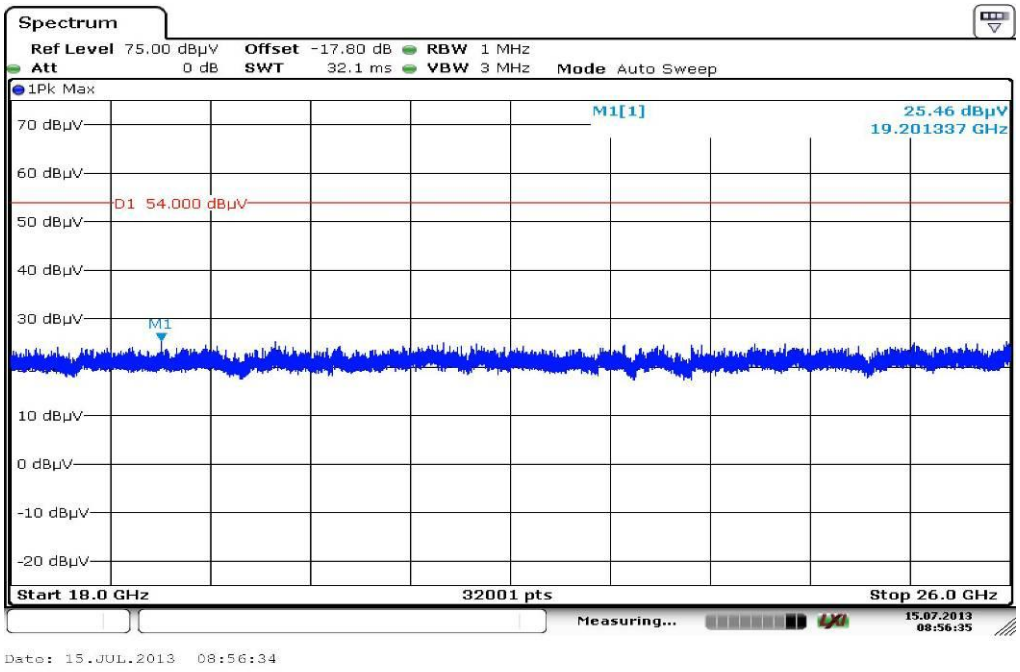
Plot 22: 1 GHz to 12.75 GHz, 5700 MHz, vertical & horizontal polarization



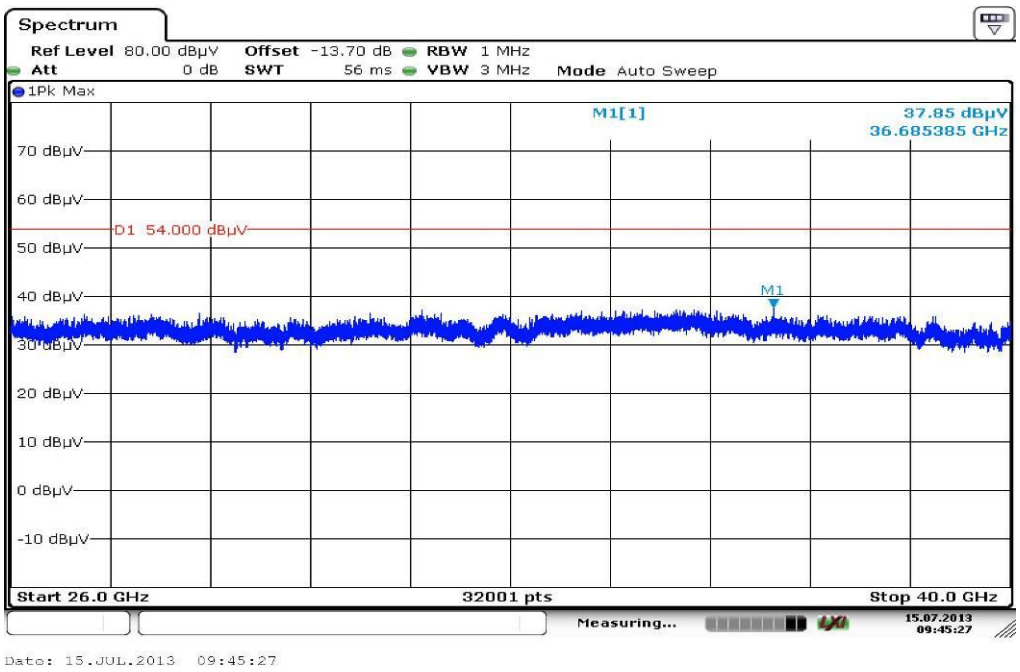
Plot 23: 12 GHz to 18 GHz, 5700 MHz, vertical & horizontal polarization



Plot 24: 18 GHz to 26 GHz, 5700 MHz, vertical & horizontal polarization



Plot 25: 26 GHz to 40 GHz, 5700 MHz, vertical & horizontal polarization



Plots: OFDM / n – mode HT20

Plot 1: 30 MHz to 1 GHz, 5180 MHz, vertical & horizontal polarization

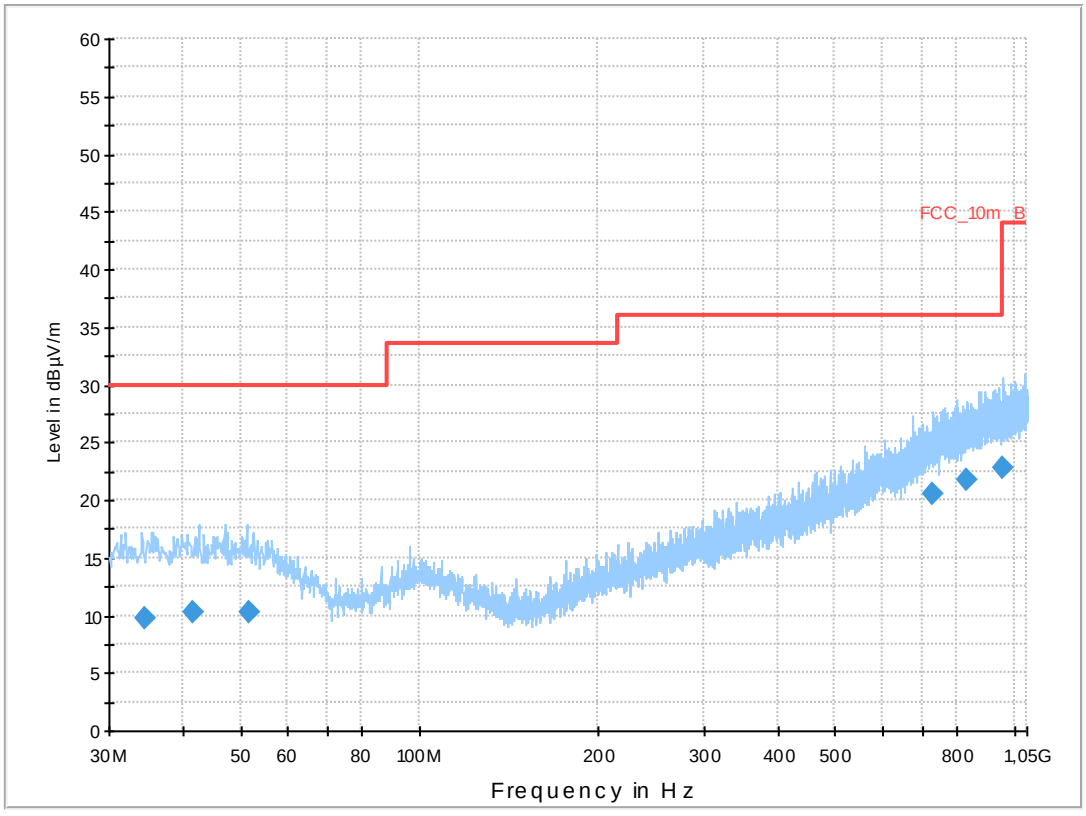
Common Information

EUT:	RFW121LW
Serial Number:	IMEI: 004402242380297
Test Description:	FCC part 15 class B
Operating Conditions:	TX WLAN n-mode, 6 Mbit/s, Ch. 36
Operator Name:	Hennemann
Comment:	battery powered

Scan Setup: STAN_Fin [EMI radiated]

Hardware Setup:	Electric Field (NOS)
Receiver:	[ESCI 3]
Level Unit:	dBµV/m

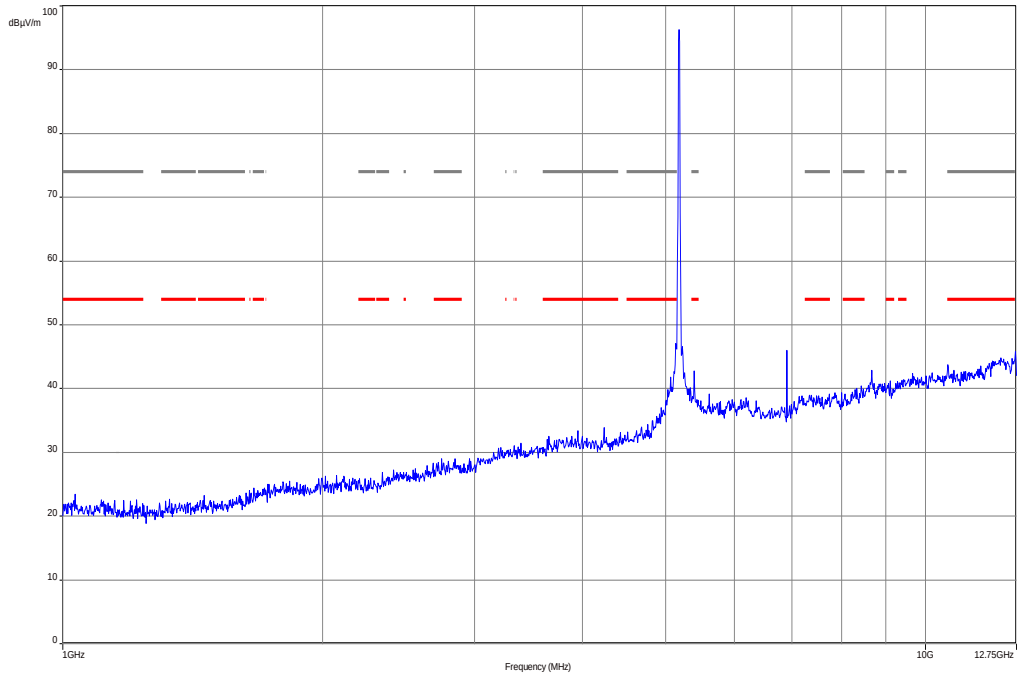
Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 2 GHz	60 kHz	QPK	120 kHz	1 s	20 dB



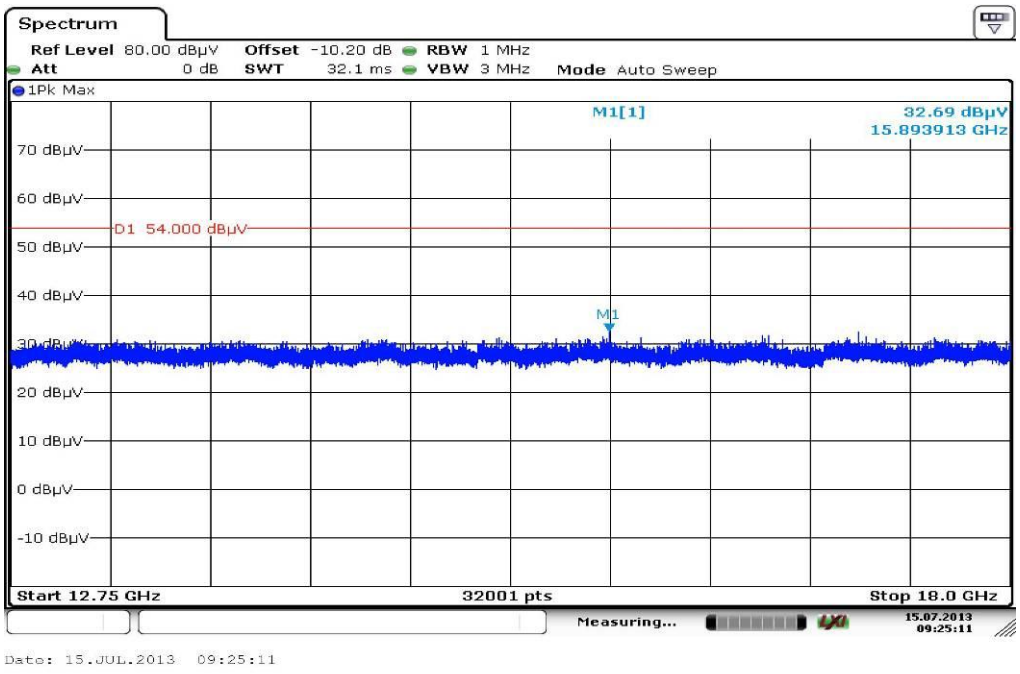
Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
34.419900	9.8	1000.0	120.000	121.0	V	270.0	13.0	20.2	30.0	
41.521500	10.2	1000.0	120.000	142.0	H	190.0	13.4	19.8	30.0	
51.649650	10.3	1000.0	120.000	130.0	V	190.0	13.2	19.7	30.0	
727.989000	20.5	1000.0	120.000	170.0	H	10.0	23.2	15.5	36.0	
833.690850	21.7	1000.0	120.000	105.0	H	182.0	24.3	14.3	36.0	
959.785350	22.7	1000.0	120.000	170.0	V	175.0	25.4	13.3	36.0	

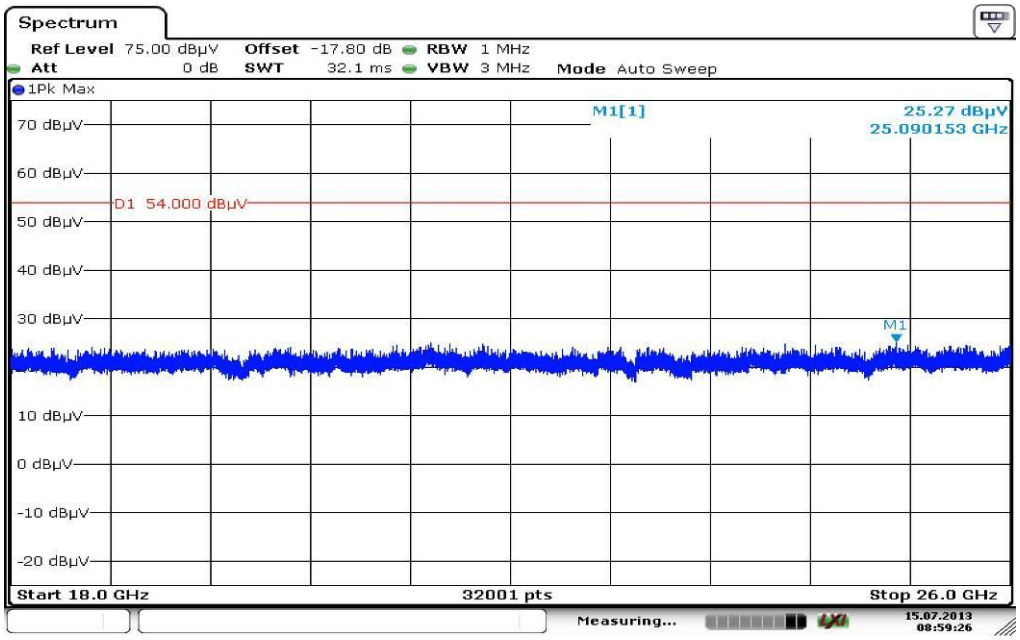
Plot 2: 1 GHz to 12.75 GHz, 5180 MHz, vertical & horizontal polarization



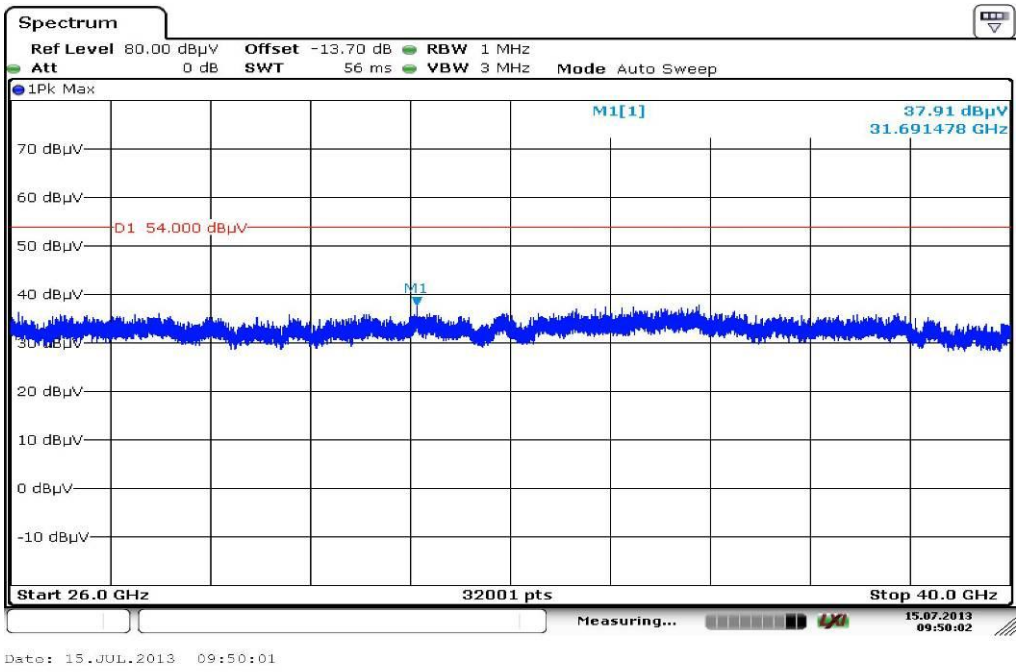
Plot 3: 12 GHz to 18 GHz, 5180 MHz, vertical & horizontal polarization



Plot 4: 18 GHz to 26 GHz, 5180 MHz, vertical & horizontal polarization



Plot 5: 26 GHz to 40 GHz, 5180 MHz, vertical & horizontal polarization



Plot 6: 30 MHz to 1 GHz, 5240 MHz, vertical & horizontal polarization

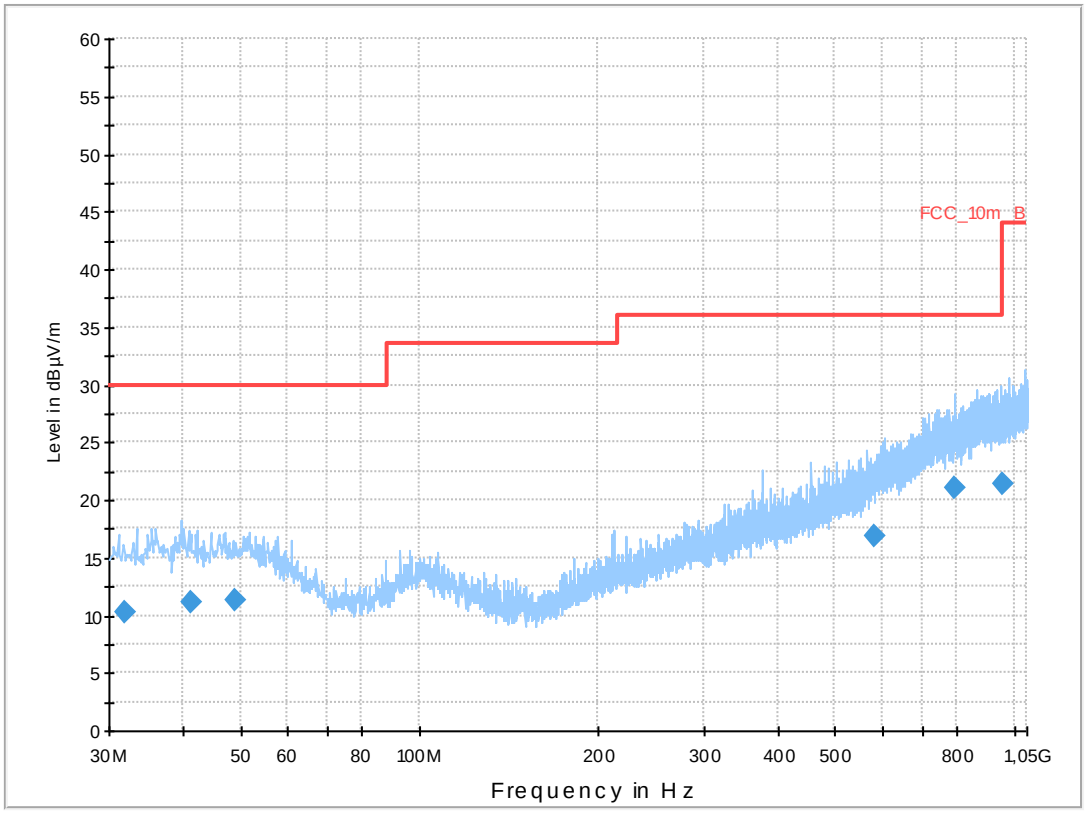
Common Information

EUT:	RFW121LW
Serial Number:	IMEI: 004402242380297
Test Description:	FCC part 15 class B
Operating Conditions:	TX WLAN n-mode, 6 Mbit/s, Ch. 48
Operator Name:	Hennemann
Comment:	battery powered

Scan Setup: STAN_Fin [EMI radiated]

Hardware Setup:	Electric Field (NOS)
Receiver:	[ESCI 3]
Level Unit:	dBµV/m

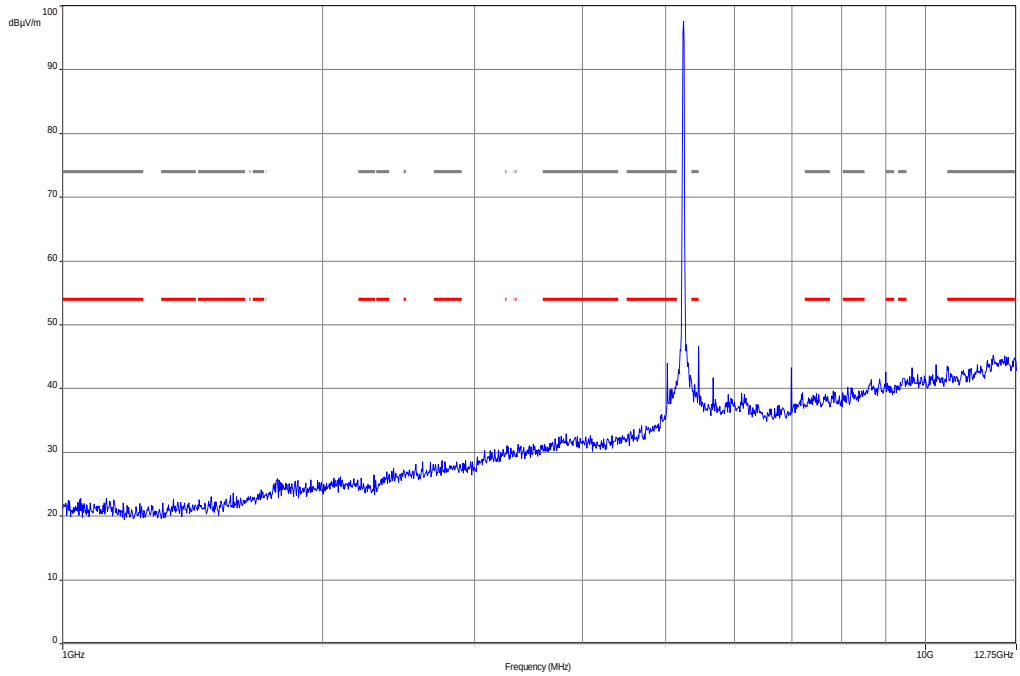
Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 2 GHz	60 kHz	QPK	120 kHz	1 s	20 dB



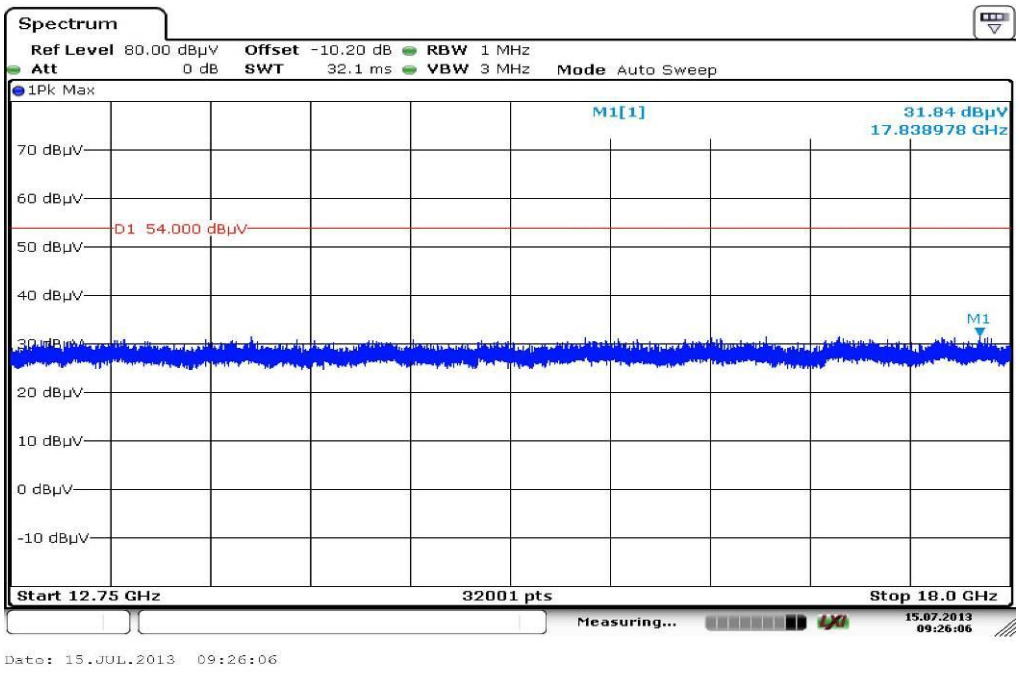
Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
32.031165	10.3	1000.0	120.000	123.0	H	98.0	12.7	19.7	30.0	
41.341135	11.1	1000.0	120.000	161.0	V	35.0	13.4	18.9	30.0	
48.983400	11.3	1000.0	120.000	211.0	V	283.0	13.4	18.7	30.0	
582.032400	16.9	1000.0	120.000	103.0	H	189.0	20.3	19.1	36.0	
794.682750	21.1	1000.0	120.000	170.0	H	80.0	23.8	14.9	36.0	
954.786100	21.4	1000.0	120.000	164.0	V	63.0	25.4	14.6	36.0	

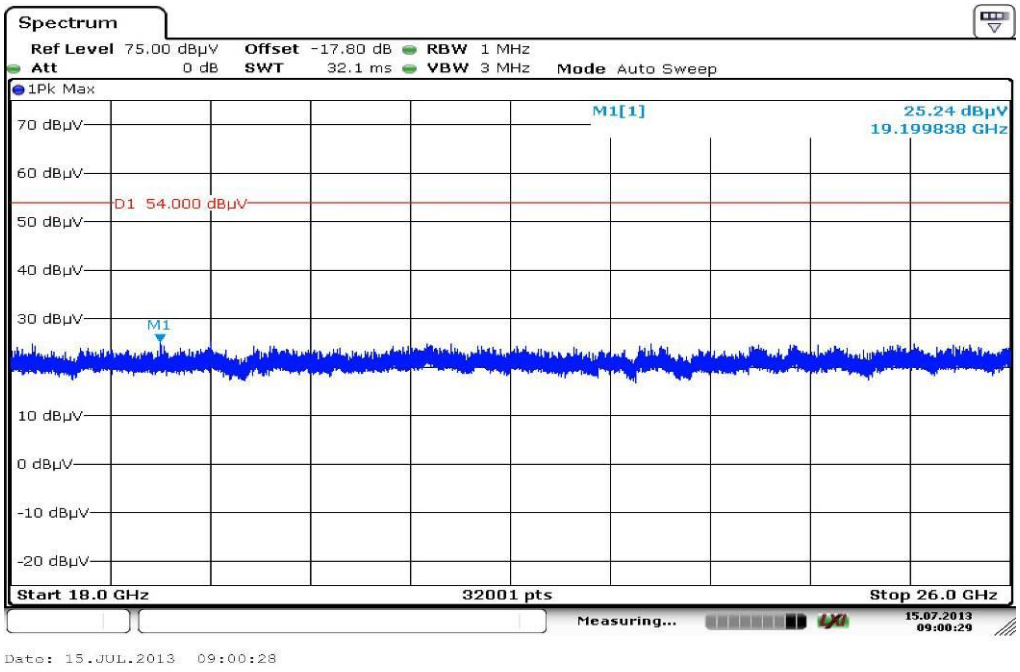
Plot 7: 1 GHz to 12.75 GHz, 5240 MHz, vertical & horizontal polarization



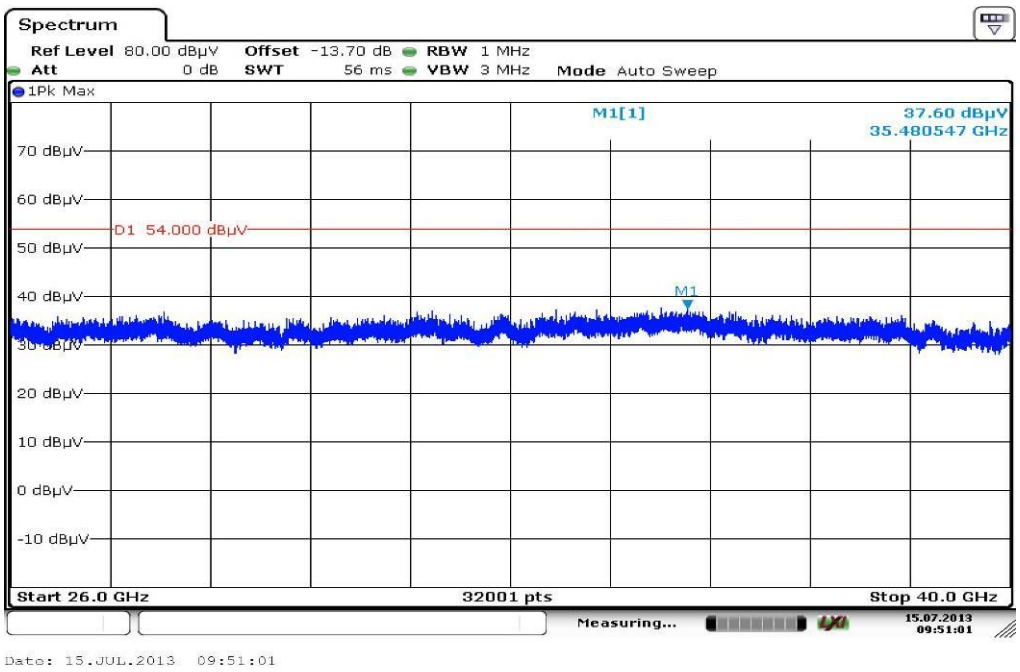
Plot 8: 12 GHz to 18 GHz, 5240 MHz, vertical & horizontal polarization



Plot 9: 18 GHz to 26 GHz, 5240 MHz, vertical & horizontal polarization



Plot 10: 26 GHz to 40 GHz, 5240 MHz, vertical & horizontal polarization



Plot 11: 30 MHz to 1 GHz, 5320 MHz, vertical & horizontal polarization

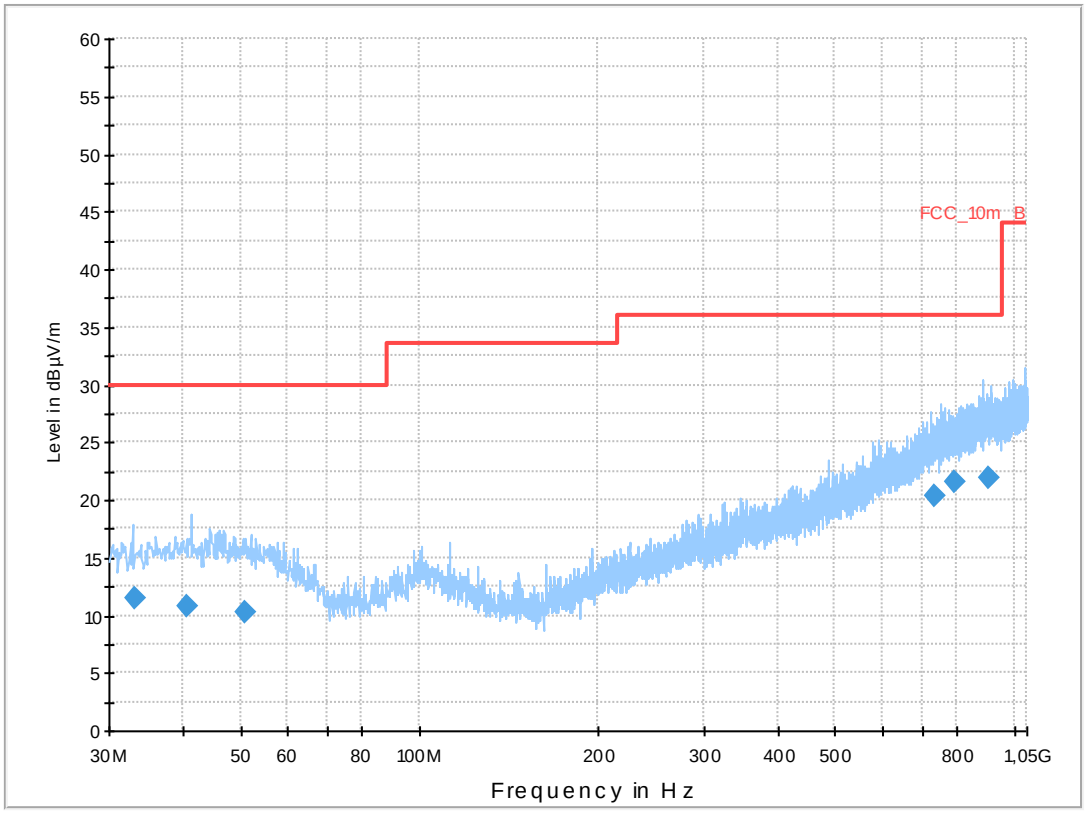
Common Information

EUT:	RFW121LW
Serial Number:	IMEI: 004402242380297
Test Description:	FCC part 15 class B
Operating Conditions:	TX WLAN n-mode, 6 Mbit/s, Ch. 64
Operator Name:	Hennemann
Comment:	battery powered

Scan Setup: STAN_Fin [EMI radiated]

Hardware Setup:	Electric Field (NOS)
Receiver:	[ESCI 3]
Level Unit:	dBµV/m

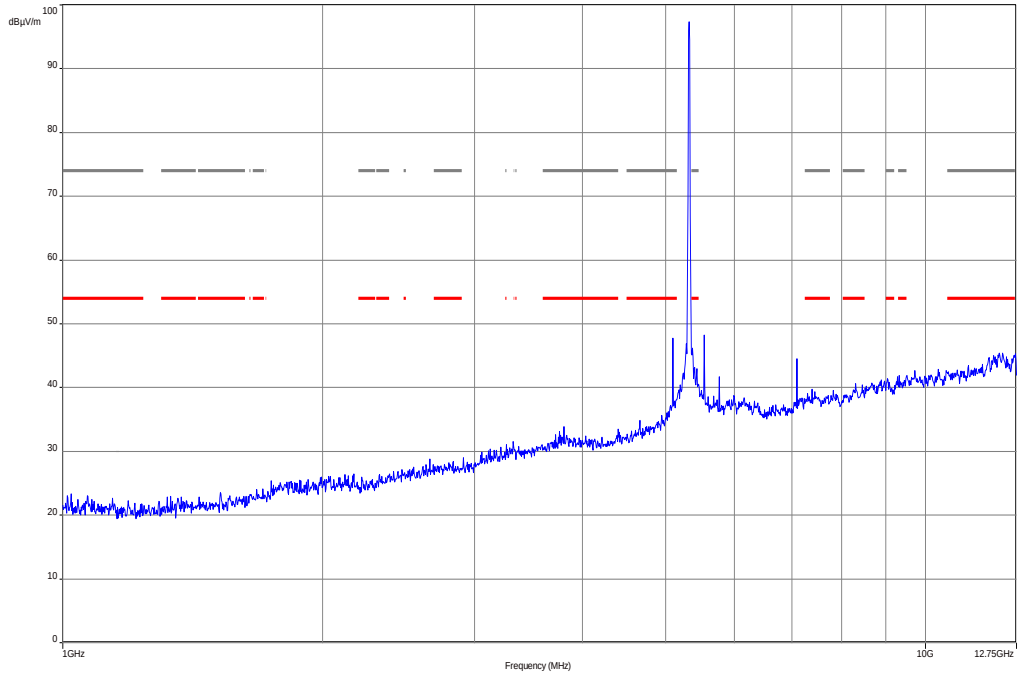
Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 2 GHz	60 kHz	QPK	120 kHz	1 s	20 dB



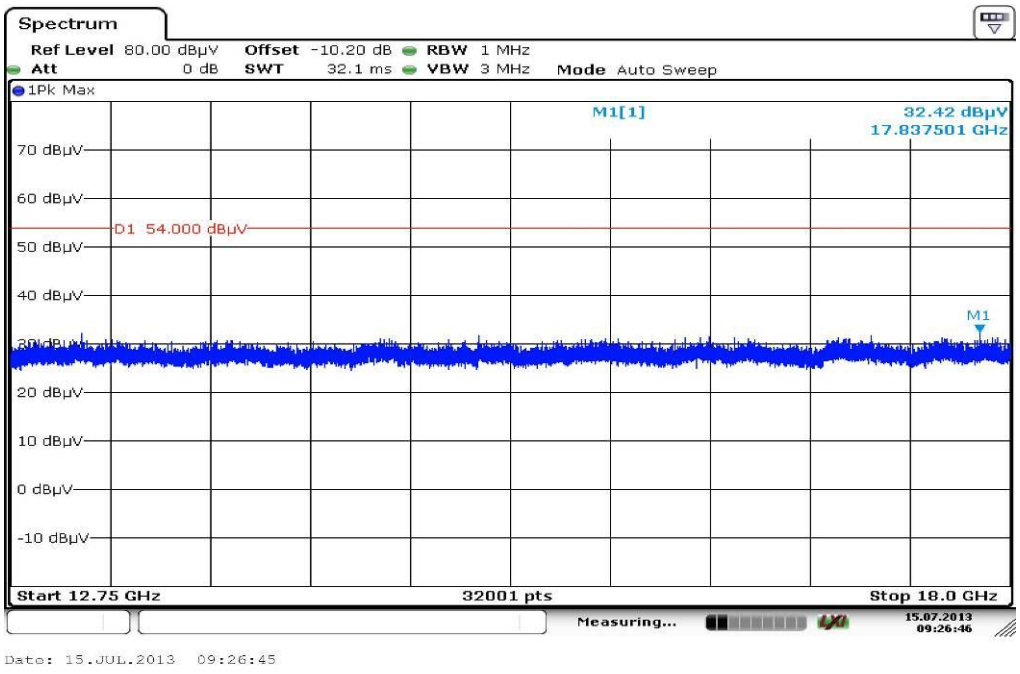
Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
906.895470	21.9	1000.0	120.000	159.0	H	280.0	25.2	14.1	36.0	
794.351300	21.5	1000.0	120.000	53.0	H	267.0	23.8	14.5	36.0	
733.015225	20.3	1000.0	120.000	126.0	V	157.0	23.3	15.7	36.0	
51.024655	10.3	1000.0	120.000	110.0	H	94.0	13.2	19.7	30.0	
33.246841	11.5	1000.0	120.000	163.0	V	163.0	12.9	18.5	30.0	
40.764900	10.7	1000.0	120.000	130.0	H	-9.0	13.4	19.3	30.0	

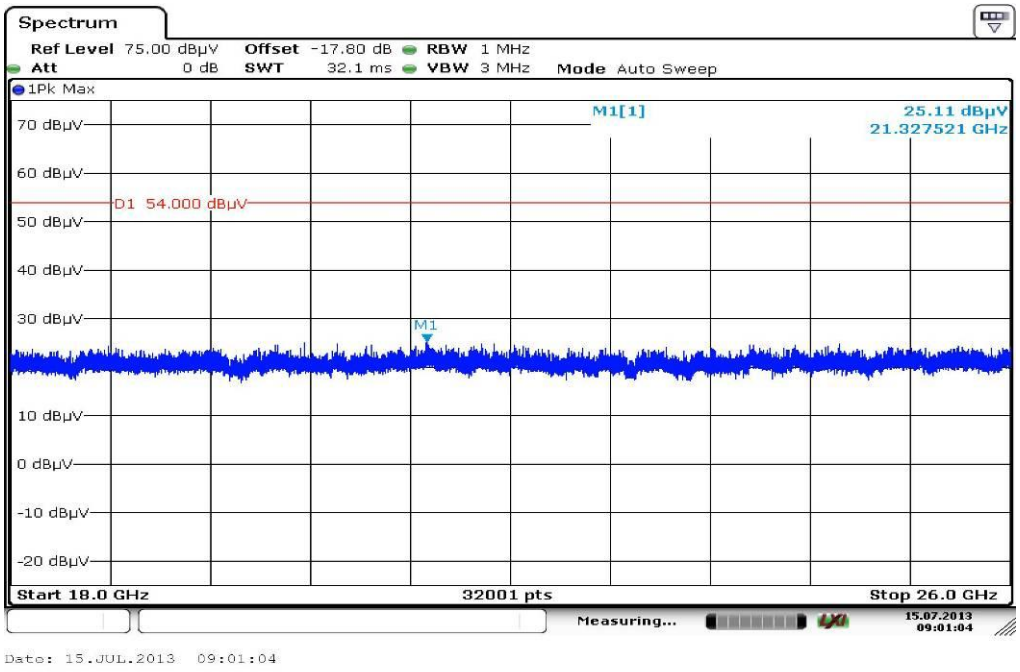
Plot 12: 1 GHz to 12.75 GHz, 5320 MHz, vertical & horizontal polarization



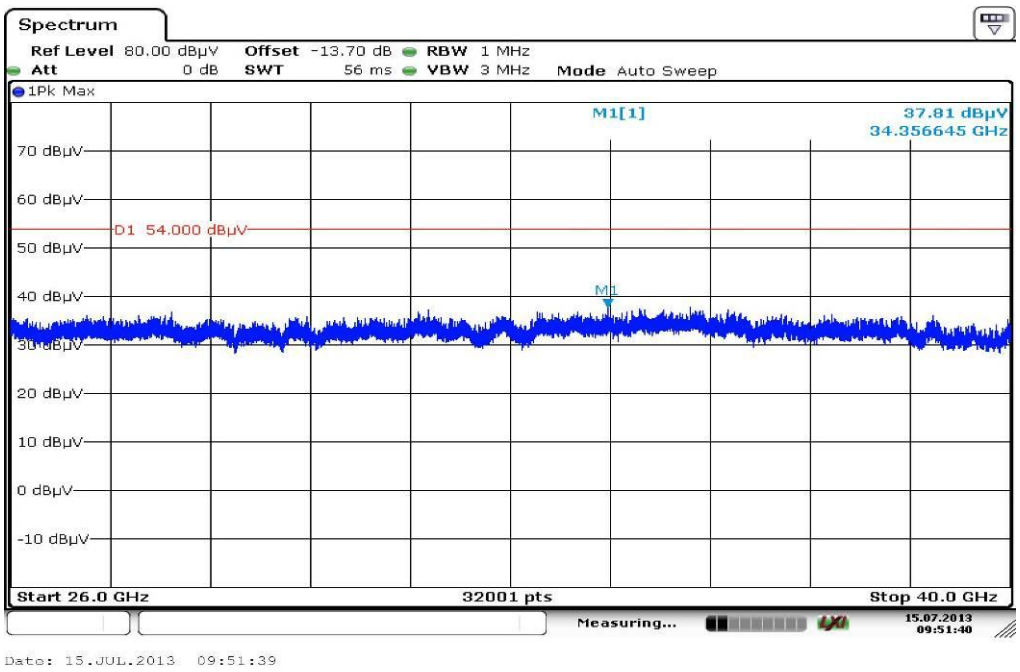
Plot 13: 12 GHz to 18 GHz, 5320 MHz, vertical & horizontal polarization



Plot 14: 18 GHz to 26 GHz, 5320 MHz, vertical & horizontal polarization



Plot 15: 26 GHz to 40 GHz, 5320 MHz, vertical & horizontal polarization



Plot 16: 30 MHz to 1 GHz, 5500 MHz, vertical & horizontal polarization

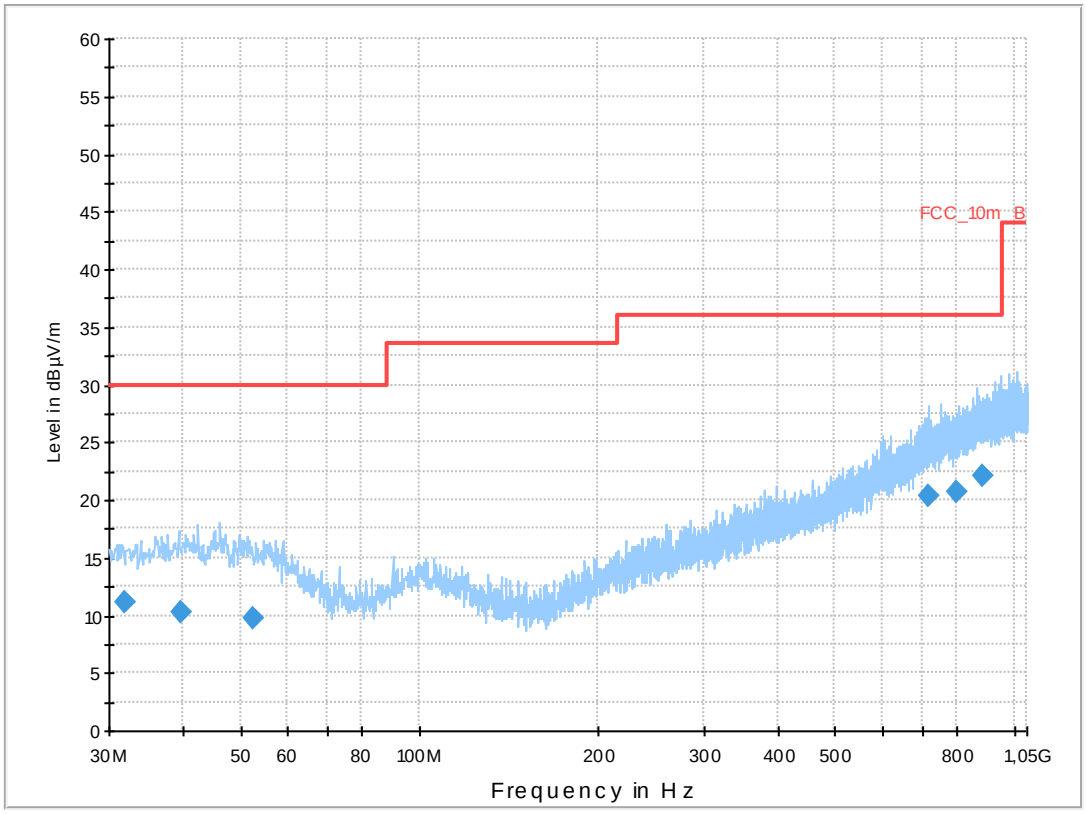
Common Information

EUT:	RFW121LW
Serial Number:	IMEI: 004402242380297
Test Description:	FCC part 15 class B
Operating Conditions:	TX WLAN n-mode, 6 Mbit/s, Ch. 100
Operator Name:	Hennemann
Comment:	battery powered

Scan Setup: STAN_Fin [EMI radiated]

Hardware Setup:	Electric Field (NOS)
Receiver:	[ESCI 3]
Level Unit:	dBµV/m

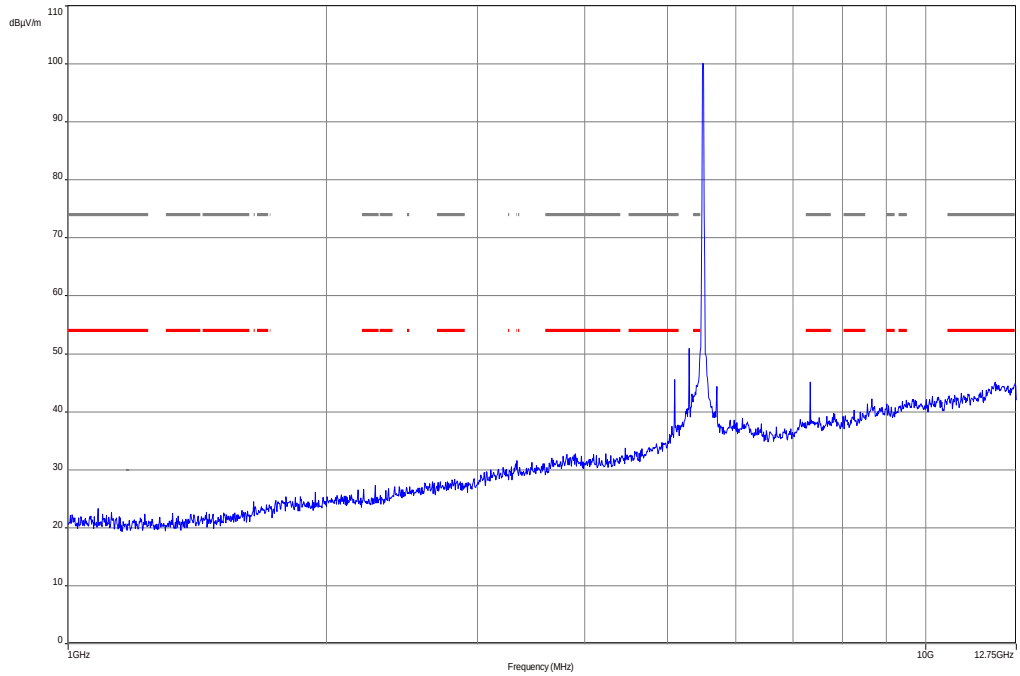
Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 2 GHz	60 kHz	QPK	120 kHz	1 s	20 dB



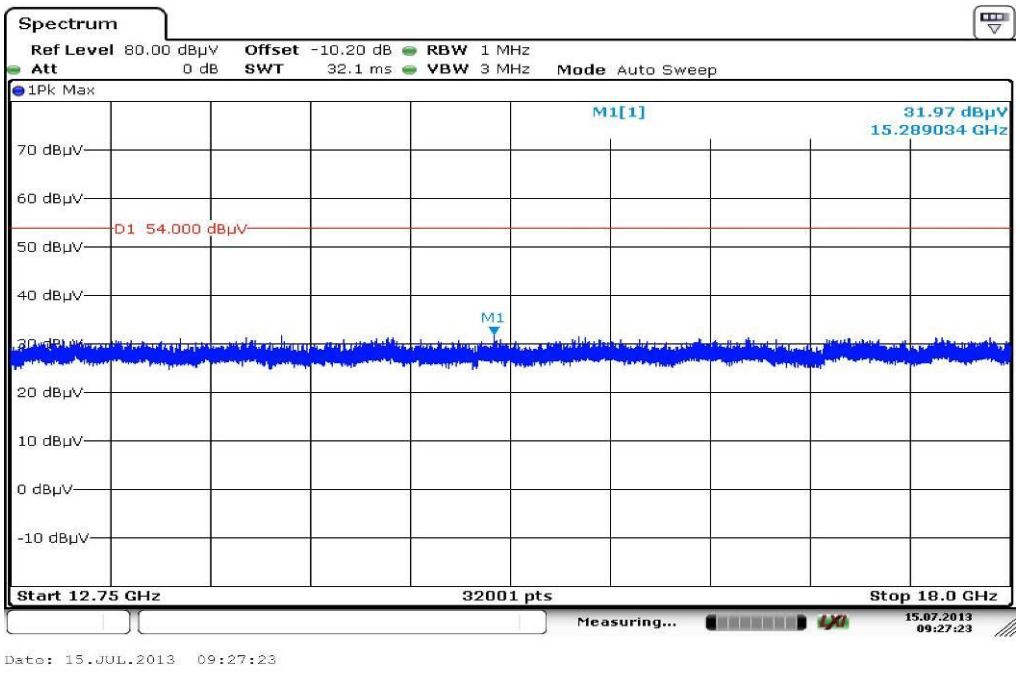
Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
32.031500	11.1	1000.0	120.000	9.0	H	154.0	12.7	18.9	30.0	
39.731690	10.2	1000.0	120.000	126.0	H	186.0	13.4	19.8	30.0	
52.301160	9.8	1000.0	120.000	143.0	V	56.0	13.2	20.2	30.0	
798.619000	20.7	1000.0	120.000	61.0	H	311.0	23.8	15.3	36.0	
884.487320	22.1	1000.0	120.000	163.0	H	284.0	25.0	13.9	36.0	
717.964950	20.3	1000.0	120.000	170.0	V	0.0	22.9	15.7	36.0	

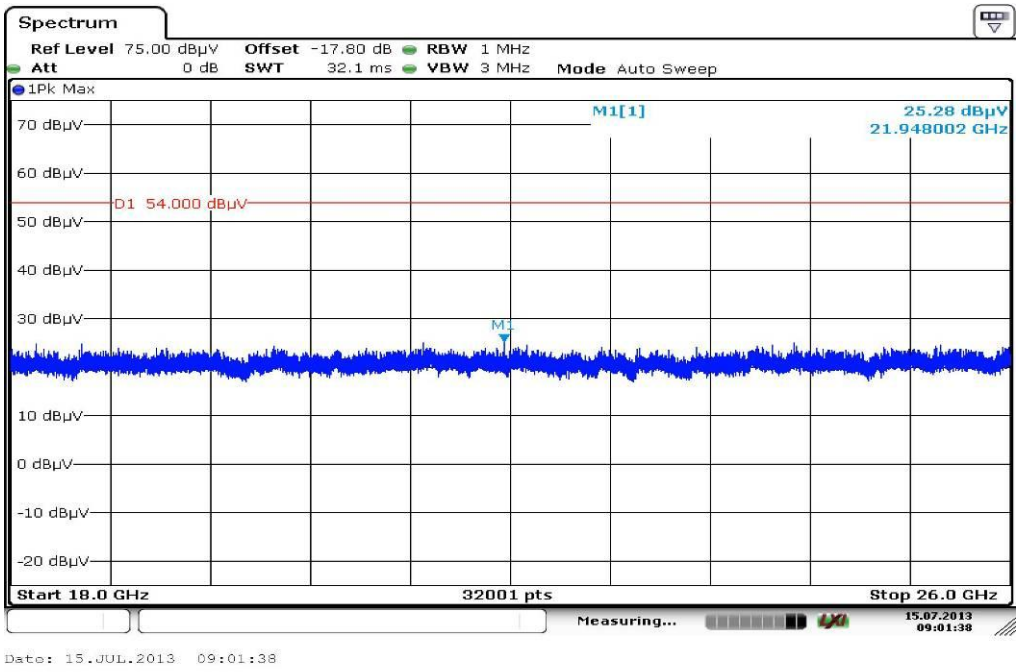
Plot 17: 1 GHz to 12.75 GHz, 5500 MHz, vertical & horizontal polarization



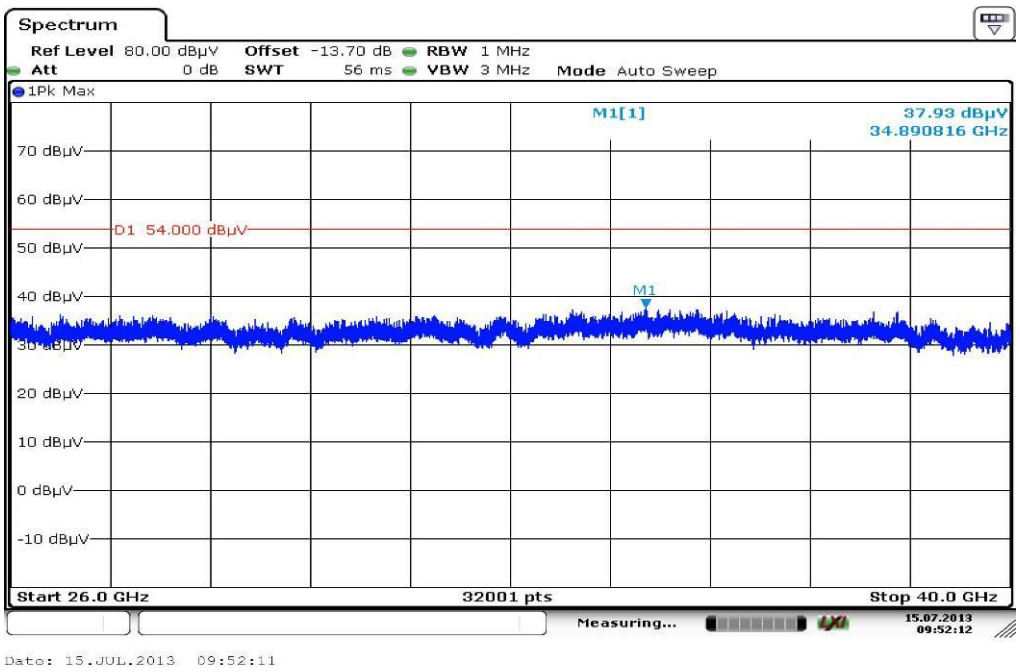
Plot 18: 12 GHz to 18 GHz, 5500 MHz, vertical & horizontal polarization



Plot 19: 18 GHz to 26 GHz, 5500 MHz, vertical & horizontal polarization



Plot 20: 26 GHz to 40 GHz, 5500 MHz, vertical & horizontal polarization



Plot 21: 30 MHz to 1 GHz, 5700 MHz, vertical & horizontal polarization

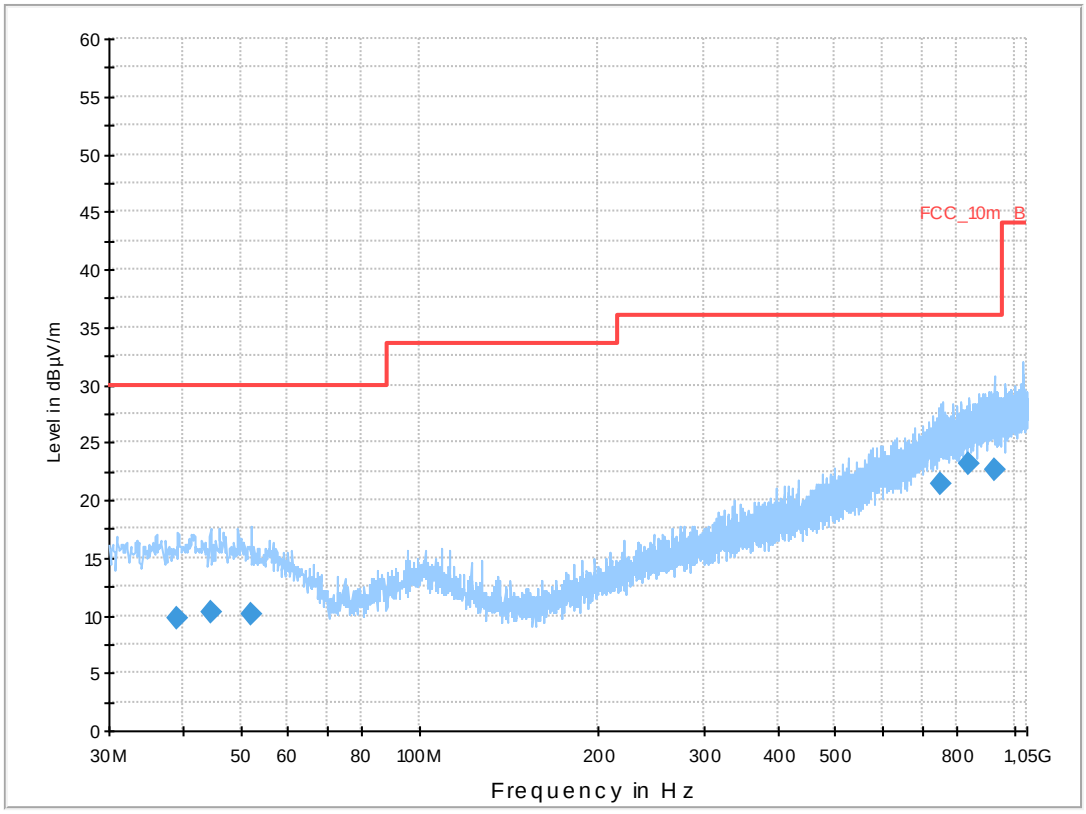
Common Information

EUT:	RFW121LW
Serial Number:	IMEI: 004402242380297
Test Description:	FCC part 15 class B
Operating Conditions:	TX WLAN n-mode, 6 Mbit/s, Ch. 140
Operator Name:	Hennemann
Comment:	battery powered

Scan Setup: STAN_Fin [EMI radiated]

Hardware Setup:	Electric Field (NOS)
Receiver:	[ESCI 3]
Level Unit:	dBµV/m

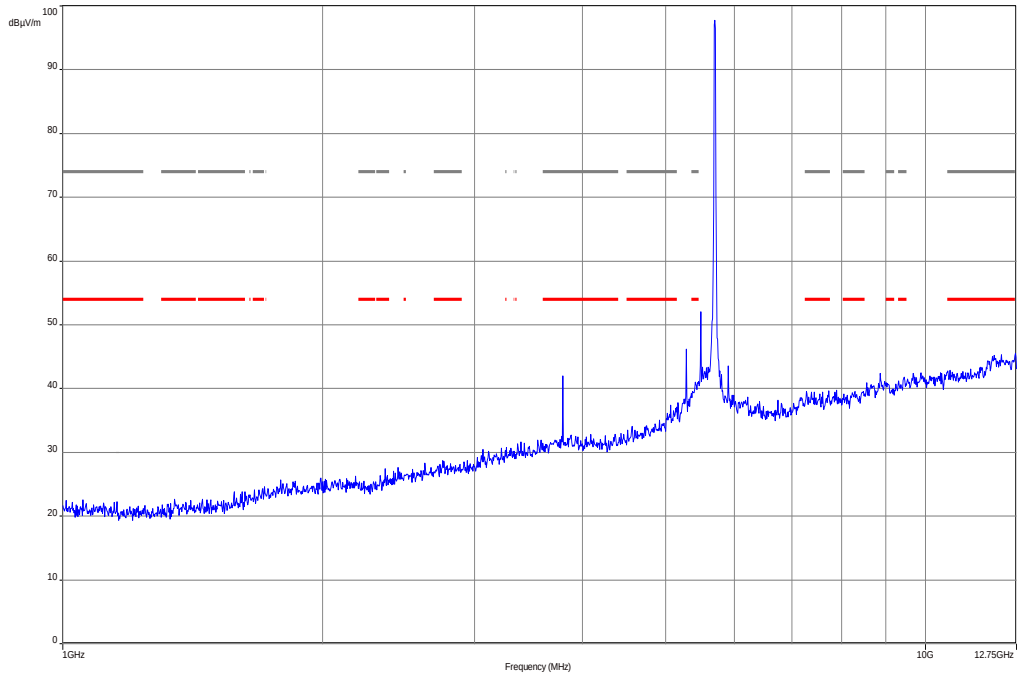
Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 2 GHz	60 kHz	QPK	120 kHz	1 s	20 dB



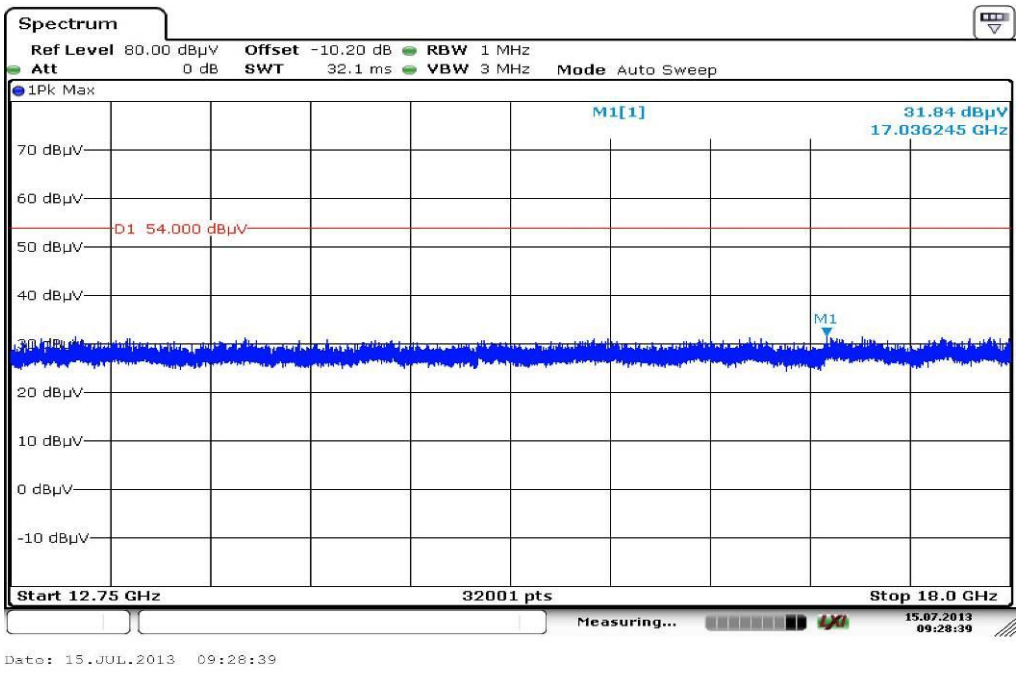
Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
39.180000	9.8	1000.0	120.000	183.0	H	216.0	13.4	20.2	30.0	
44.407500	10.2	1000.0	120.000	113.0	V	263.0	13.3	19.8	30.0	
52.057500	10.1	1000.0	120.000	103.0	H	173.0	13.2	19.9	30.0	
752.287500	21.4	1000.0	120.000	114.0	H	78.0	23.7	14.6	36.0	
839.752500	23.1	1000.0	120.000	99.0	H	272.0	24.4	12.9	36.0	
924.189900	22.5	1000.0	120.000	170.0	V	280.0	25.3	13.5	36.0	

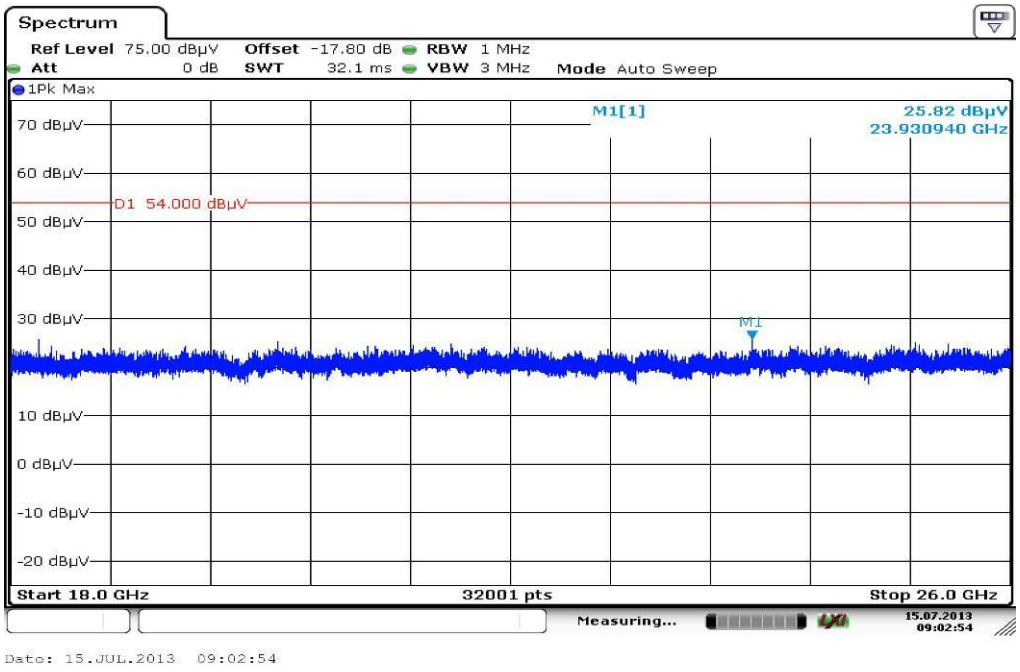
Plot 22: 1 GHz to 12.75 GHz, 5700 MHz, vertical & horizontal polarization



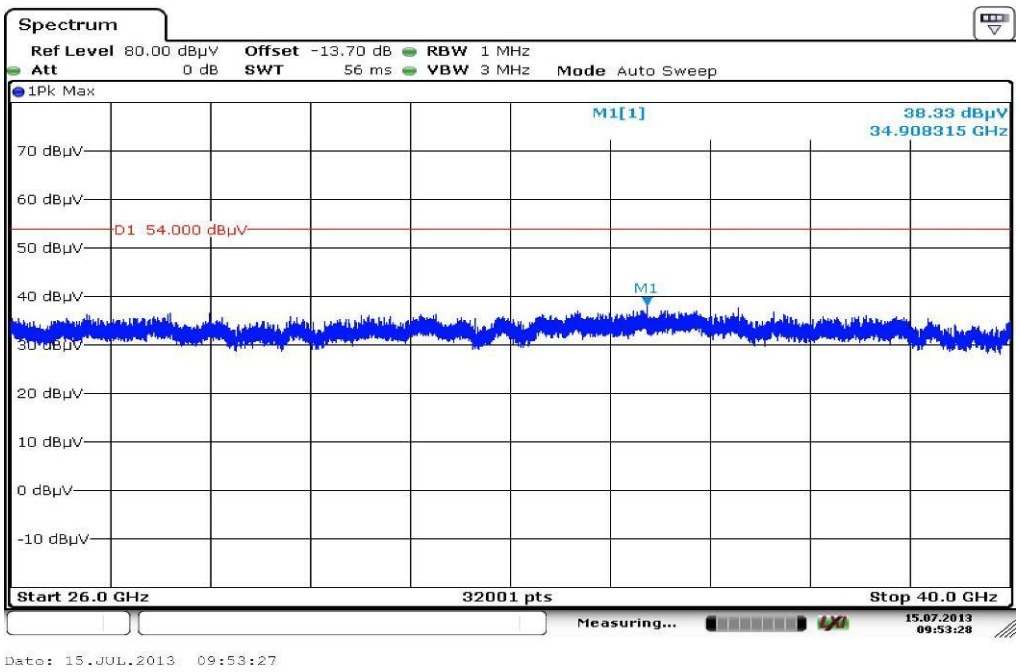
Plot 23: 12 GHz to 18 GHz, 5700 MHz, vertical & horizontal polarization



Plot 24: 18 GHz to 26 GHz, 5700 MHz, vertical & horizontal polarization



Plot 25: 26 GHz to 40 GHz, 5700 MHz, vertical & horizontal polarization



10.10 RX spurious emissions radiated

Not performed! Tests according to manufacturer tests plan!

10.11 Spurious emissions radiated < 30 MHz

Not performed! Tests according to manufacturer tests plan!

10.12 Spurious emissions conducted < 30 MHz

Description:

Measurement of the conducted spurious emissions in transmit mode below 30 MHz. The EUT is set to middle channel. If critical peaks are found the lowest channel and the highest channel will be measured too. Both power lines, phase and neutral line, are measured. Found peaks are remeasured with average and quasi peak detection to show compliance to the limits.

Measurement:

Measurement parameter	
Detector:	Peak - Quasi Peak / Average
Sweep time:	Auto
Video bandwidth:	F > 150 kHz: 9 kHz
Resolution bandwidth:	F > 150 kHz: 100 kHz
Span:	150 kHz to 30 MHz
Trace-Mode:	Max Hold

Limits:

Spurious Emissions Conducted < 30 MHz		
Frequency (MHz)	Quasi-Peak (dBµV/m)	Average (dBµV/m)
0.15 – 0.5	66 to 56*	56 to 46*
0.5 – 5	56	46
5 – 30.0	60	50

*Decreases with the logarithm of the frequency

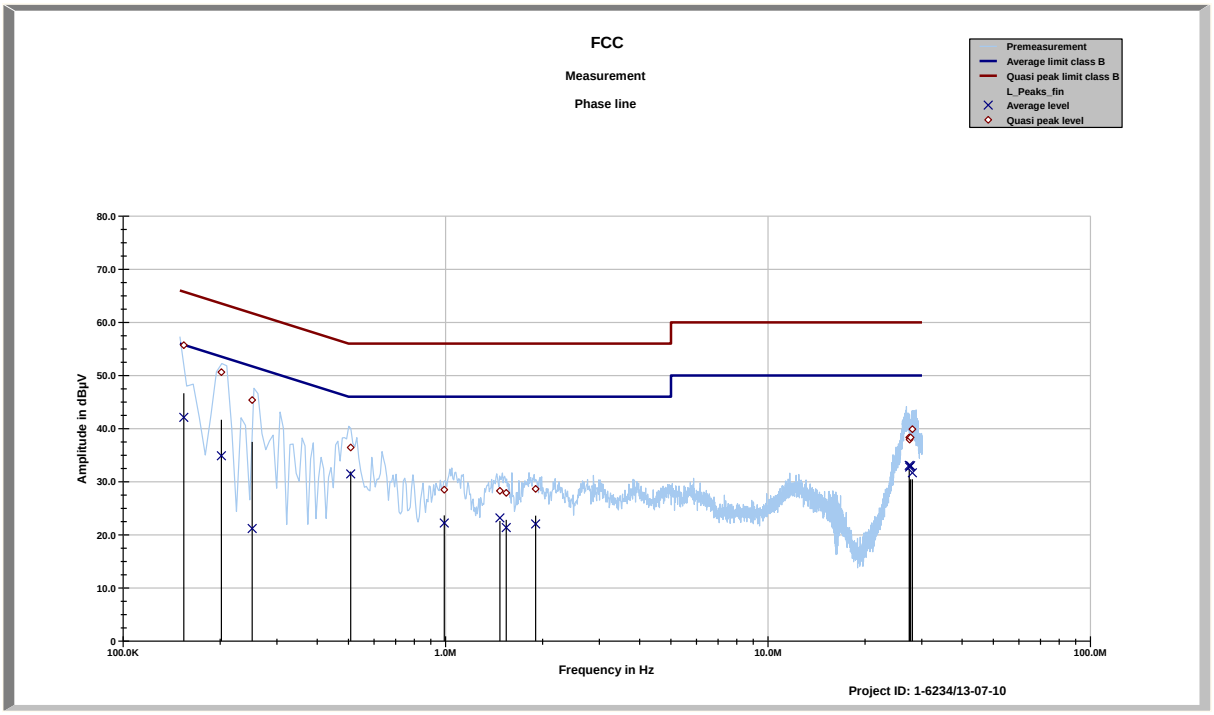
Results:

Spurious Emissions Conducted < 30 MHz [dBµV/m]		
F [MHz]	Detector	Level [dBµV/m]
No critical peaks found		
Measurement uncertainty	± 3 dB	

Result: **Passed**

Plots:

Plot 1: TX mode, 150 kHz to 30 MHz, phase line



FCC
Phase line tbl

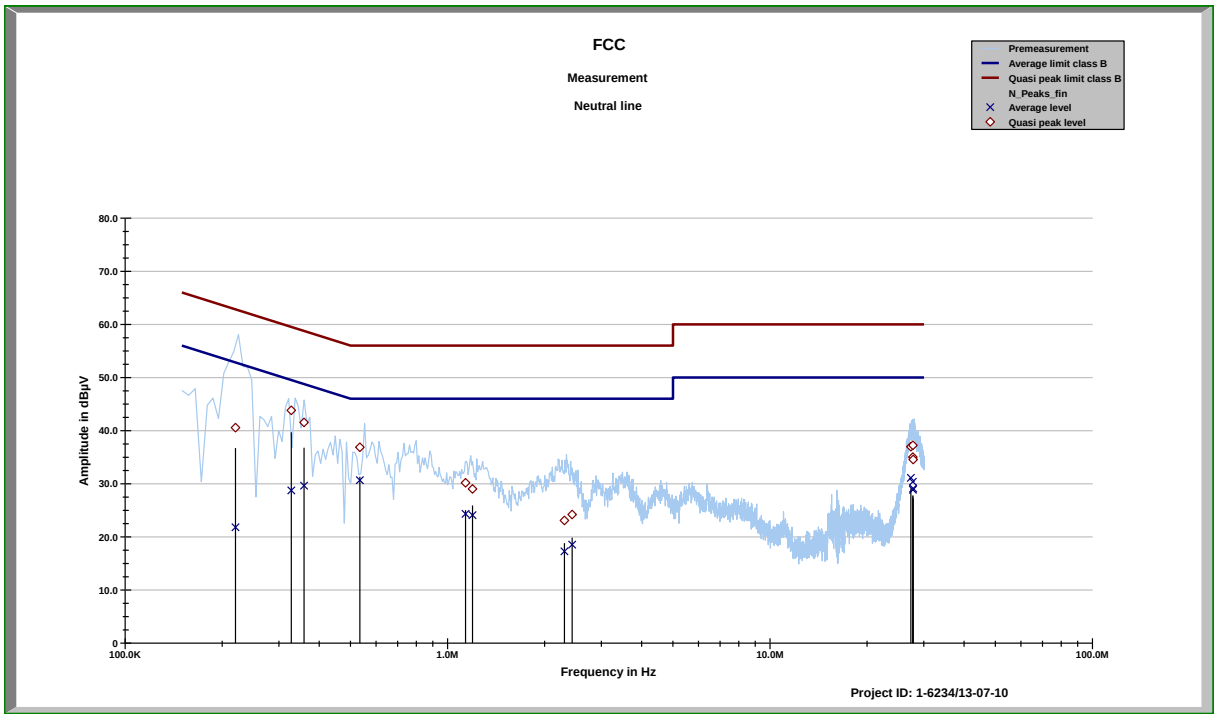
Project ID: 1-6234/13-07-10

03:25:37 PM, Tuesday, July 16, 2013

Frequency	Quasi peak level	Margin quasi peak	Average level	Margin average
MHz	dBµV	dBµV	dBµV	dBµV
0.15421	55.70	10.07	42.13	13.75
0.20171	50.64	12.90	34.88	19.64
0.25126	45.37	16.35	21.19	31.92
0.50776	36.44	19.56	31.47	14.53
0.99041	28.51	27.49	22.23	23.77
1.4739	28.28	27.72	23.18	22.82
1.5418	27.90	28.10	21.37	24.63
1.9016	28.65	27.35	22.05	23.95
27.385	38.34	21.66	33.09	16.91
27.46	37.94	22.06	32.77	17.23
27.675	38.34	21.66	33.01	16.99
28.01	39.90	20.10	31.69	18.31

Project ID - 1-6234/13-07-10
EUT - RFW121LW + HS3 + CH3 + USB5 + EBC
Serial Number - IMEI: 004402242380297
Operating mode - WLAN a-mode TX + charging

Plot 2: TX mode, 150 kHz to 30 MHz, neutral line



FCC
Neutral line tbl

Project ID: 1-6234/13-07-10

03:25:37 PM, Tuesday, July 16, 2013

Frequency	Quasi peak level	Margin quasi peak	Average level	Margin average
MHz	dBµV	dBµV	dBµV	dBµV
0.21999	40.56	22.26	21.80	32.20
0.32751	43.82	15.70	28.74	22.19
0.3589	41.55	17.21	29.64	20.40
0.53453	36.87	19.13	30.66	15.34
1.13651	30.17	25.83	24.33	21.67
1.19439	29.02	26.98	24.08	21.92
2.3032	23.08	32.92	17.28	28.72
2.4326	24.21	31.79	18.54	27.46
27.329	36.97	23.03	31.10	18.90
27.706	35.01	24.99	30.37	19.63
27.716	37.24	22.76	28.87	21.13
27.77	34.55	25.45	29.12	20.88

Project ID - 1-6234/13-07-10
EUT - RFW121LW + HS3 + CH3 + USB5 + EBC
Serial Number - IMEI: 004402242380297
Operating mode - WLAN a-mode TX + charging

11 Test equipment and ancillaries used for tests

Typically, the calibrations of the test apparatus are commissioned to and performed by an accredited calibration laboratory. The calibration intervals are determined in accordance with the DIN EN ISO/IEC 17025. In addition to the external calibrations, the laboratory executes comparison measurements with other calibrated test systems or effective verifications. Weekly chamber inspections and range calibrations are performed. Where possible, rf-generating and signalling equipment as well as measuring receivers and analyzers are connected to an external high-precision 10 MHz reference (GPS-based or rubidium frequency standard).

In order to simplify the identification of the equipment used at some special tests, some items of test equipment and ancillaries can be provided with an identifier or number in the equipment list below (Labor/Item).

No.	Lab / Item	Equipment	Type	Manufact.	Serial No.	INV. No Cetecom	Kind of Calibration	Last Calibration	Next Calibration
11	45	Switch-Unit	3488A	HP Meßtechnik	2719A14505	300000368	g		
2	50	DC power supply, 60Vdc, 50A, 1200 W	6032A	HP Meßtechnik	2920A04466	300000580	ne		
3	n. a.	software	SPS_PHE 1.4f	Spitzberger & Spieß	B5981; 5D1081;B5979	300000210	ne		
4	n. a.	EMI Test Receiver	ESCI 3	R&S	100083	300003312	k	09.01.2013	09.01.2014
5	n. a.	Analyzer-Reference-System (Harmonics and Flicker)	ARS 16/1	SPS	A3509 07/0 0205	300003314	k	14.07.2013	14.07.2015
6	n. a.	Amplifier	JS42-00502650-28-5A	MITEQ	1084532	300003379	ev		
7	n. a.	Antenna Tower	Model 2175	ETS-LINDGREN	64762	300003745	izw		
8	n. a.	Positioning Controller	Model 2090	ETS-LINDGREN	64672	300003746	izw		
9	n. a.	Turntable Interface-Box	Model 105637	ETS-LINDGREN	44583	300003747	izw		
10	n. a.	TRILOG Broadband Test-Antenna 30 MHz - 3 GHz	VULB9163	Schwarzbeck	295	300003787	k	12.04.2012	12.04.2014
11	n. a.	Spectrum-Analyzer	FSU26	R&S	200809	300003874	k	16.01.2013	16.01.2014
12	n. a.	Double-Ridged Waveguide Horn Antenna 1-18.0GHz	3115	EMCO	8812-3088	300001032	vlKl!	08.05.2013	08.05.2015
13	n. a.	Anechoic chamber	FAC 3/5m	MWB / TDK	87400/02	300000996	ev		
14	n. a.	Amplifier	js42-00502650-28-5a	Parzich GMBH	928979	300003143	ne		
15	n. a.	MXE EMI Receiver 20 Hz bis 26,5 GHz	N9038A	Agilent Technologies	MY51210197	300004405	k	21.02.2013	21.02.2014
16	n. a.	Netznachbildung	ESH3-Z5	R&S	892475/017	300002209	k	05.01.2012	05.01.2014
17	68	EMI-Receiver	8542E	HP Meßtechnik	3617A00170	300000568	k	17.01.2013	17.01.2014
18	11b	Microwave System Amplifier, 0.5-26.5 GHz	83017A	HP Meßtechnik	00419	300002268	ev		
19	A025	Std. Gain Horn Antenna 12.4 to 18.0 GHz	639	Narda		300000786	ne		
20	A027	Std. Gain Horn Antenna 18.0 to 26.5 GHz	638	Narda		300000486	ne		
21	n. a.	Broadband Low Noise Amplifier 18-50 GHz	CBL18503070-XX	CERNEX	19338	300004273	ne		
22	n. a.	Signal Analyzer 40 GHz	FSV40	R&S	101042	300004517	k	22.10.2012	22.10.2013
23	n. a.	Std. Gain Horn Antenna 26.5-40.0 GHz	V637	Narda	7911	300001752	ne		

Agenda: Kind of Calibration

k	calibration / calibrated	EK	limited calibration
ne	not required (k, ev, izw, zw not required)	zw	cyclical maintenance (external cyclical maintenance)
ev	periodic self verification	izw	internal cyclical maintenance
Ve	long-term stability recognized	g	blocked for accredited testing
vlkl!	Attention: extended calibration interval		
NK!	Attention: not calibrated	*)	next calibration ordered / currently in progress

12 Observations

No observations exceeding those reported with the single test cases have been made.

Annex A Document history

Version	Applied changes	Date of release
1.0	Initial release	2013-08-12
-A	Editorial changes	2013-08-16
-B	Changed BEC (channel 140 Limit / re-measured)	2013-08-22

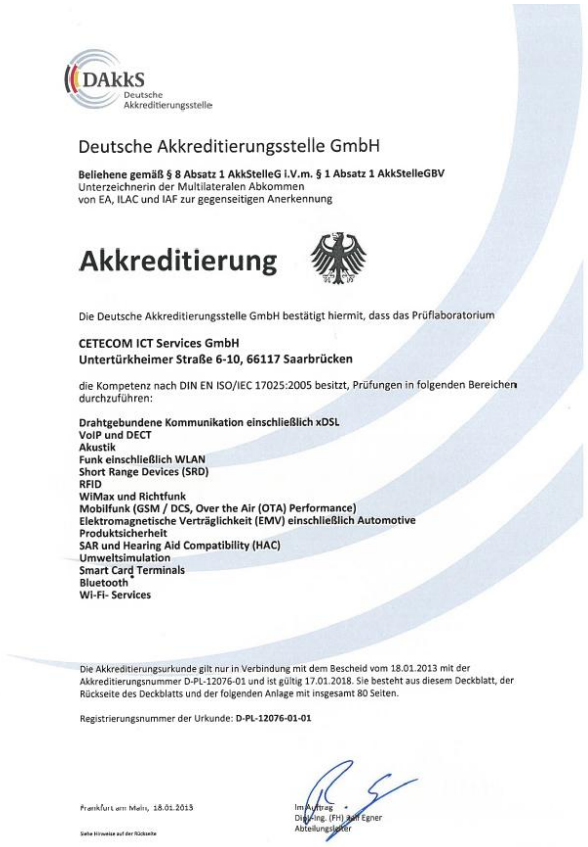
Annex B Further information

Glossary

AVG - Average
DUT - Device under test
EMC - Electromagnetic Compatibility
EN - European Standard
EUT - Equipment under test
ETSI - European Telecommunications Standard Institute
FCC - Federal Communication Commission
FCC ID - Company Identifier at FCC
HW - Hardware
Inv. No. - Inventory number
N/A - Not applicable
PP - Positive peak
QP - Quasi peak
S/N - Serial number
SW - Software

Annex C Accreditation Certificate

Front side of certificate



DAkkS Deutsche Akkreditierungsstelle

Deutsche Akkreditierungsstelle GmbH

Beliehene gemäß § 8 Absatz 1 AkkStelleG i.V.m. § 1 Absatz 1 AkkStelleGBV
Unterzeichnerin der Multilateralen Abkommen
von EA, ILAC und IAF zur gegenseitigen Anerkennung

Akkreditierung

Die Deutsche Akkreditierungsstelle GmbH bestätigt hiermit, dass das Prüflaboratorium

CETECOM ICT Services GmbH
Untertürkheimer Straße 6-10, 66117 Saarbrücken

die Kompetenz nach DIN EN ISO/IEC 17025:2005 besitzt, Prüfungen in folgenden Bereichen durchzuführen:

Drahtgebundene Kommunikation einschließlich xDSL
VoIP und DECT
Akustik
Funk einschließlich WLAN
Short Range Devices (SRD)
RFID
WiMax und Richtfunk
Mobilfunk (GSM / DCS, Over the Air (OTA) Performance)
Elektromagnetische Verträglichkeit (EMV) einschließlich Automotive
Produktsicherheit
SAR und Hearing Aid Compatibility (HAC)
Umweltsimulation
Smart Card Terminals
Bluetooth
Wi-Fi- Services

Die Akkreditierungsurkunde gilt nur in Verbindung mit dem Bescheid vom 18.01.2013 mit der Akkreditierungsnummer D-PL-12076-01 und ist gültig 17.01.2018. Sie besteht aus diesem Deckblatt, der Rückseite des Deckblatts und der folgenden Anlage mit insgesamt 80 Seiten.

Registrierungsnummer der Urkunde: **D-PL-12076-01-01**

Frankfurt am Main, 18.01.2013

Im Auftrag
Dr.-Ing. (FH) Arnt Egner
Abteilungsleiter

Siehe Hinweise auf der Rückseite

Back side of certificate

Deutsche Akkreditierungsstelle GmbH

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10117 Berlin

Standort Frankfurt am Main
Gartenstraße 6
60594 Frankfurt am Main

Standort Braunschweig
Bundesallee 100
38116 Braunschweig

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Es darf nicht der Anschein erweckt werden, dass sich die Akkreditierung auch auf Bereiche erstreckt, die über den durch die DAkkS bestätigten Akkreditierungsbereich hinausgehen.

Die Akkreditierung erfolgte gemäß des Gesetzes über die Akkreditierungsstelle (AkkStelleG) vom 31. Juli 2009 (BGBl. I S. 2625) sowie der Verordnung (EG) Nr. 765/2008 des Europäischen Parlaments und des Rates vom 9. Juli 2008 über die Vorschriften für die Akkreditierung und Marktüberwachung im Zusammenhang mit der Vermarktung von Produkten (Abl. L 218 vom 9. Juli 2008, S. 30).
Die DAkkS ist Unterzeichnerin der Multilateralen Abkommen zur gegenseitigen Anerkennung der European co-operation for Accreditation (EA), des International Accreditation Forum (IAF) und der International Laboratory Accreditation Cooperation (ILAC). Die Unterzeichner dieser Abkommen erkennen ihre Akkreditierungen gegenseitig an.

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EA: www.european-accreditation.org
ILAC: www.ilac.org
IAF: www.iaf.nu

Note:

The current certificate including annex is published on our website (see link below) or may be received from CETECOM ICT Services on request.

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