

**CETECOM™****CETECOM ICT Services**
consulting - testing - certification >>>**TEST REPORT**

Test report no.: 1-4254/12-26-09-A

Deutsche
Akkreditierungsstelle
D-PL-12076-01-01**Testing laboratory****CETECOM ICT Services GmbH**
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Area of Testing: Radio/Satellite Communications**Applicant****Sony Mobile Communications AB**
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Contact: Håkan Sjöberg
e-mail: hakan.sjoberg@sonymobile.com
Phone: +46 46 19 35 59**Manufacturer****Sony Mobile Communications AB**
Nya Vattentornet
22188 Lund / SWEDEN**Test standard/s**

47 CFR Part 15	Title 47 of the Code of Federal Regulations; Chapter I Part 15 - Radio frequency devices
RSS - 210 Issue 8	Spectrum Management and Telecommunications - Radio Standards Specification Low-power Licence-exempt Radiocommunication Devices (All Frequency Bands): Category I Equipment

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

Test Item

Kind of test item:	GSM Mobile Phone GPRS/EGPRS 850/900/1800/1900; UMTS FDDI/FDDII/FDDIV/FDDV/FDDVIII; HSPA; BT3.1; WLAN a/b/g/n; AGPS; RFID, FM Rx
Model name:	PM-0030-BV
FCC ID:	PY7PM-0030
IC:	4170B-PM0030
Frequency:	ISM-band 5150 MHz to 5250 MHz, 5250 MHz to 5350 MHz and 5470 MHz to 5725 MHz
Technology tested:	WLAN (a-mode, n-mode HT20, n-mode HT40)
Antenna:	Integrated antenna
Power Supply:	3.7 V DC by LI-polymer battery
Temperature Range:	-20°C to +55 °C

Test report authorised:2012-08-30 Stefan Bös
Senior Testing Manager**Test performed:**

2012-08-30 Tobias Wittenmeier

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2 General information

2.1 Notes and disclaimer

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

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2.2 Application details

Date of receipt of order:	2012-04-27
Date of receipt of test item:	2012-08-06
Start of test:	2012-08-06
End of test:	2012-08-10
Person(s) present during the test:	-/-

3 Test standard/s

Test standard	Date	Test standard description
47 CFR Part 15	2010-10	Title 47 of the Code of Federal Regulations; Chapter I Part 15 - Radio frequency devices
RSS - 210 Issue 8	2010-12	Spectrum Management and Telecommunications - Radio Standards Specification Low-power Licence-exempt Radiocommunication Devices (All Frequency Bands): Category I Equipment
UNII: KDB 789033	2011-10	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}	+55 °C during high temperature tests
	T_{min}	-20 °C during low temperature tests
Relative humidity content:		56 %
Barometric pressure:		not relevant for this kind of testing
Power supply:	V_{nom}	3.7 V DC by Li-polymer battery
	V_{max}	-/-
	V_{min}	-/-

5 Test item

Kind of test item	:	GSM Mobile Phone GPRS/EGPRS 850/900/1800/1900; UMTS FDDI/FDDII/FDDIV/FDDV/FDDVIII; HSPA; BT3.1; WLAN a/b/g/n; AGPS; RFID, FM Rx
Type identification	:	PM-0030-BV
S/N serial number	:	Rad. CB511ZY9L6, CB511ZY9PB
HW hardware status	:	AP1.2
SW software status	:	7.0.A.1.107
Frequency band [MHz]	:	ISM-band 5150 MHz to 5250 MHz, 5250 MHz to 5350 MHz and 5470 MHz to 5725 MHz
Type of radio transmission	:	OFDM
Use of frequency spectrum	:	
Channel access method	:	FDMA
Type of modulation	:	QPSK, 16-QAM, 64-QAM
Number of channels	:	19
Antenna	:	Integrated antenna
Power supply	:	3.7 V DC by Li-polymer battery
Temperature range	:	-20 °C to +55 °C

6 Test laboratories sub-contracted

None

7 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 RSS 210, Issue 8, Annex 8	Passed	2012-08-30	Radiated tests only!

Test specification clause	Test case	Temperature conditions	Power source voltages	Pass	Fail	NA	NP	Results (max.)
-/-	Output power verification (conducted)	Nominal	Nominal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No passed / fail criteria!
-/-	Gain	Nominal	Nominal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No passed / fail criteria!
U-NII Part 15	Duty cycle	Nominal	Nominal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No passed / fail criteria!
§15.407(a) RSS-210	Maximum output power (radiated)	Nominal	Nominal	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	complies
§15.407(a) RSS-210	Power spectral density	Nominal	Nominal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-/-
§15.407(a) RSS-210	Spectrum bandwidth 26dB bandwidth	Nominal	Nominal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-/-
§15.407(a) RSS-210	Peak excursion measurements	Nominal	Nominal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-/-
§15.205 RSS-210	Band edge compliance radiated	Nominal	Nominal	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	complies
§15.407(b) RSS-210	TX spurious emissions radiated	Nominal	Nominal	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	complies
§15.109 RSS-Gen	RX spurious emissions radiated	Nominal	Nominal	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	complies
§15.209(a) RSS-Gen	Spurious emissions radiated < 30 MHz	Nominal	Nominal	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	complies
§15.107(a)	Spurious emissions conducted emissions < 30 MHz	Nominal	Nominal	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	complies

Note: NA = Not Applicable; NP = Not Performed

8 RF measurements

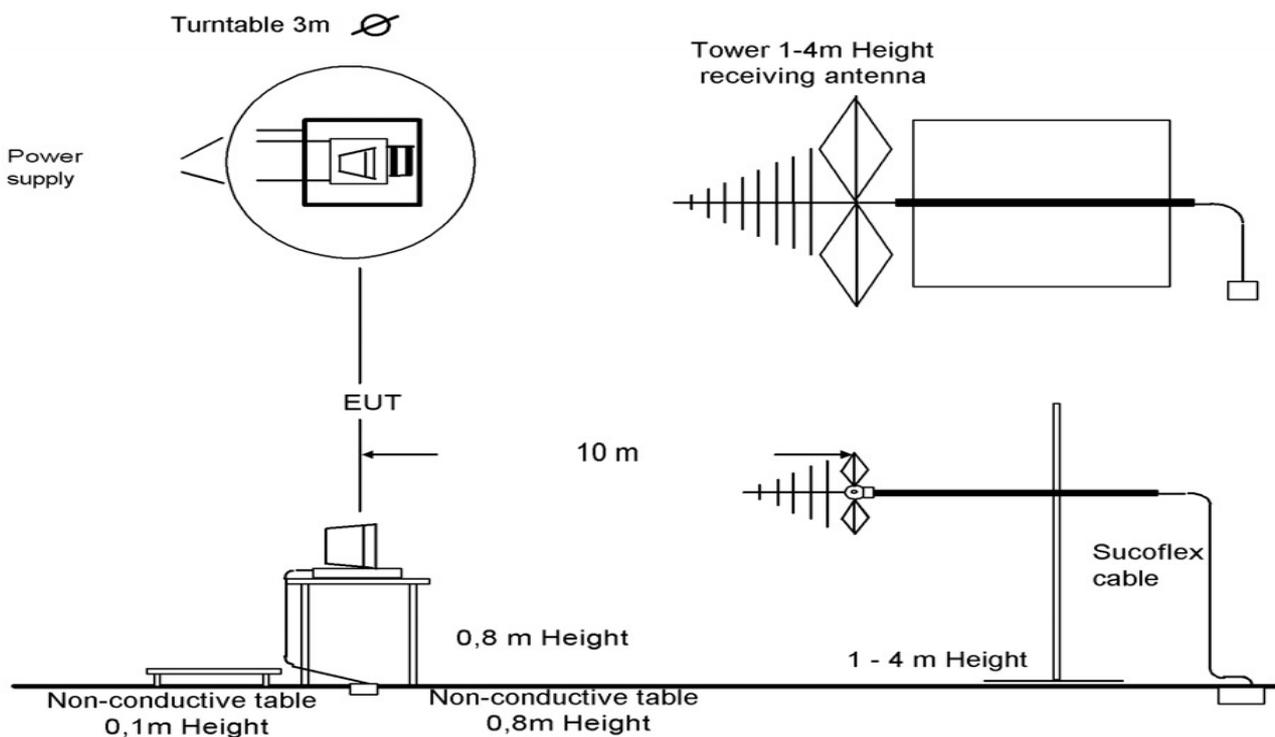
8.1 Description of test setup

8.1.1 Radiated measurements

The radiated measurements are performed in vertical and horizontal plane in the frequency range from 9 kHz to 25 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 C63.4-2009 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 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 C63-4-2009 clause 4.2.

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

Semi anechoic chamber



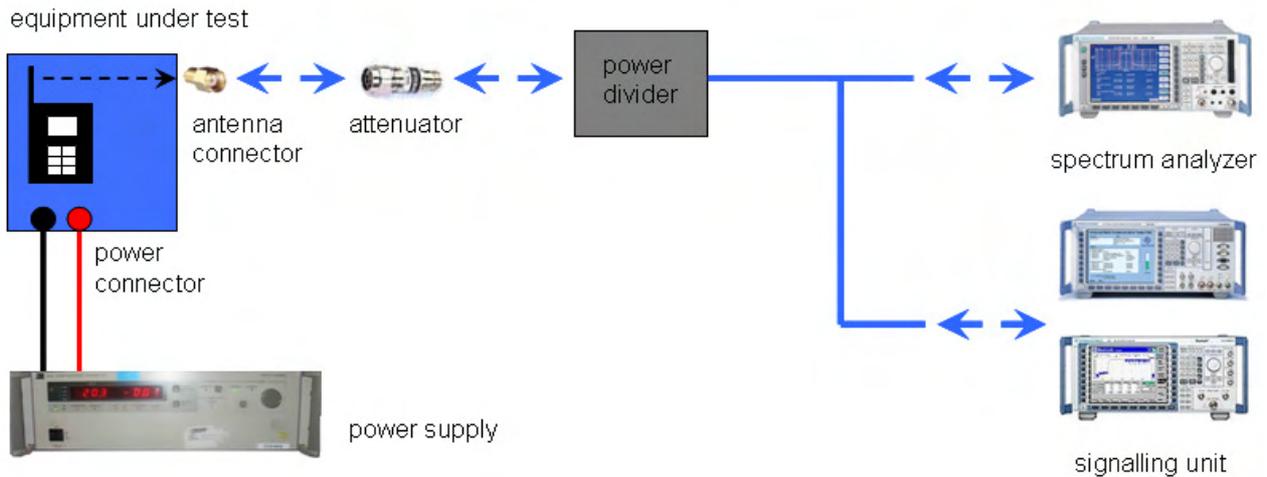
Picture 1: Diagram radiated measurements

9 kHz - 30 MHz:	active loop antenna
30 MHz – 1 GHz:	tri-log antenna
> 1 GHz:	horn antenna

The EUT is powered by an external power supply with nominal voltage

8.1.2 Conducted measurements

The EUT's RF signal is coupled out by the antenna connector which is supplied by the manufacturer. The signal is first 10dB attenuated before it is power divided (~6dB loss per branch). One of the signal paths is connected to the communication base Station (CMU200 or other), the other one is connected to the spectrum analyzer. The specific losses for both signal paths are first checked within a calibration. The measurement readings on the signalling unit/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.



Picture 2: Diagram conducted measurements

8.2 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

8.3 RSP100 test report cover sheet / performance test data

Test report number	:	1-4254/12-26-09-A and 1-4254/12-16-12
Equipment model number	:	PM-0030-BV
Certification number	:	4170B-PM0030
Manufacturer (complete address)	:	Sony Mobile Communications AB Nya Vattentornet 22188 Lund / SWEDEN
Tested to radio standards specification no.	:	RSS 210, Issue 8, Annex 8
Open area test site IC No.	:	IC 3462C-1
Frequency range	:	ISM band 5150 MHz to 5250 MHz ISM band 5250 MHz to 5350 MHz ISM band 5470 MHz to 5725 MHz
RF-power [mW] (max.)	:	<u>Conducted values:</u> OFDM / a – mode: 20.89 mW OFDM / n – mode HT20: 15.35 mW OFDM / n – mode HT40: 15.92 mW <u>Radiated values:</u> OFDM / a – mode: 26.3 mW OFDM / n – mode HT20: 25.7 mW OFDM / n – mode HT40: 24.0 mW
Occupied bandwidth (99%-BW) [MHz]	:	OFDM / a – mode: 17.98 MHz OFDM / n – mode HT20: 18.56 MHz OFDM / n – mode HT40: 36.70 MHz
Type of modulation	:	QPSK, 16 – QAM, 64 – QAM
Emission designator (TRC-43)	:	OFDM / a – mode: 18M0G7D OFDM / n – mode HT20: 18M6G7D OFDM / n – mode HT40: 36M7G7D
Antenna information	:	Integrated PCB antenna
Transmitter spurious (worst case)[dB μ V/m @ 3m]:		49 dB μ V/m (noise floor)
Receiver spurious (worst case) [dB μ V/m @ 3m]:		49 dB μ V/m (noise floor)

ATTESTATION:

DECLARATION OF COMPLIANCE:

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

Laboratory manager:

2012-08-30
Date

Tobias Wittenmeier
Name


Signature

9 Measurement results

9.1 Output power verification (conducted)

Not performed!

9.2 Gain

Not performed!

9.3 Duty cycle

Measurement:

Measurement parameter	
Detector:	Peak
Sweep time:	Auto
Resolution bandwidth:	50 MHz
Video bandwidth:	30 MHz
Span:	Zero
Trace-Mode:	Video trigger / View

Results:

Duty cycle and correction factor:

OFDM / a – mode:	87.60 % duty cycle	=>	0.58 dB
OFDM / n – mode HT20:	86.84 % duty cycle	=>	0.61 dB
OFDM / n – mode HT40:	86.46 % duty cycle	=>	0.63 dB

9.4 Maximum output power radiated

Description:

Measurement of the maximum output power radiated

Measurement: Method SA-2 alternative

Measurement parameter	
Detector:	RMS
Sweep time:	Auto
Resolution bandwidth:	1 MHz
Video bandwidth:	≥ 3 MHz
Span:	> EBW
Trace-Mode:	Max hold
Analyzer function	Band power / channel power Interval > 26 dB EBW

Limits:

Radiated output power	Conducted output power
Conducted power + 6dBi antenna gain	The lesser one of 50mW or 4 dBm + 10 log Bandwidth 5.15-5.25 GHz 250mW or 11 dBm + 10 log Bandwidth 5.25-5.35 GHz 250mW or 11 dBm + 10 log Bandwidth 5.47-5.725 GHz 1W or 17 dBm + 10 log Bandwidth 5.47-5.725 GHz (where Bandwidth is the 26dB Bandwidth)

Result: OFDM / a – mode

OFDM / a – mode Channel	Maximum output power radiated - EIRP [dBm]			
	Lowest 5180 MHz	Middle 5200 MHz	Highest 5240 MHz	Lowest 5260 MHz
+0.58 dB duty cycle correction	13.6	13.1	13.3	13.4
Channel	Middle 5280 MHz	Highest 5320 MHz	Lowest 5500 MHz	Middle 5600 MHz
+0.58 dB duty cycle correction	13.6	13.7	13.9	13.8
Channel	Highest 5700 MHz	-/-	-/-	-/-
+0.58 dB duty cycle correction	14.2			
Measurement uncertainty	± 3 dB			

Result: Passed

Result: OFDM / n – mode HT20

OFDM / n – mode HT20 Channel	Maximum output power radiated - EIRP [dBm]			
	Lowest 5180 MHz	Middle 5200 MHz	Highest 5240 MHz	Lowest 5260 MHz
+0.61 dB duty cycle correction	13.4	13.0	13.0	13.5
Channel	Middle 5280 MHz	Highest 5320 MHz	Lowest 5500 MHz	Middle 5600 MHz
+0.61 dB duty cycle correction	13.8	13.8	13.8	13.8
Channel	Highest 5700 MHz	-/-	-/-	-/-
+0.61 dB duty cycle correction	14.1			
Measurement uncertainty	± 3 dB			

Result: Passed

Result: OFDM / n – mode HT40

OFDM / n – mode HT40 Channel	Maximum output power radiated - EIRP [dBm]			
	Lowest 5190 MHz	Highest 5230 MHz	Lowest 5270 MHz	Highest 5310 MHz
+0.63 dB duty cycle correction	13.3	13.3	13.2	13.2
Channel	Lowest 5510 MHz	Middle 5590 MHz	Highest 5670 MHz	-/-
+0.63 dB duty cycle correction	13.8	13.0	12.8	-/-
Measurement uncertainty	± 3 dB			

Result: Passed

9.5 Power spectral density

Not performed!

9.6 Spectrum bandwidth – 26 dB bandwidth

Not performed!

9.7 Peak excursion measurements

Not performed!

9.8 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:

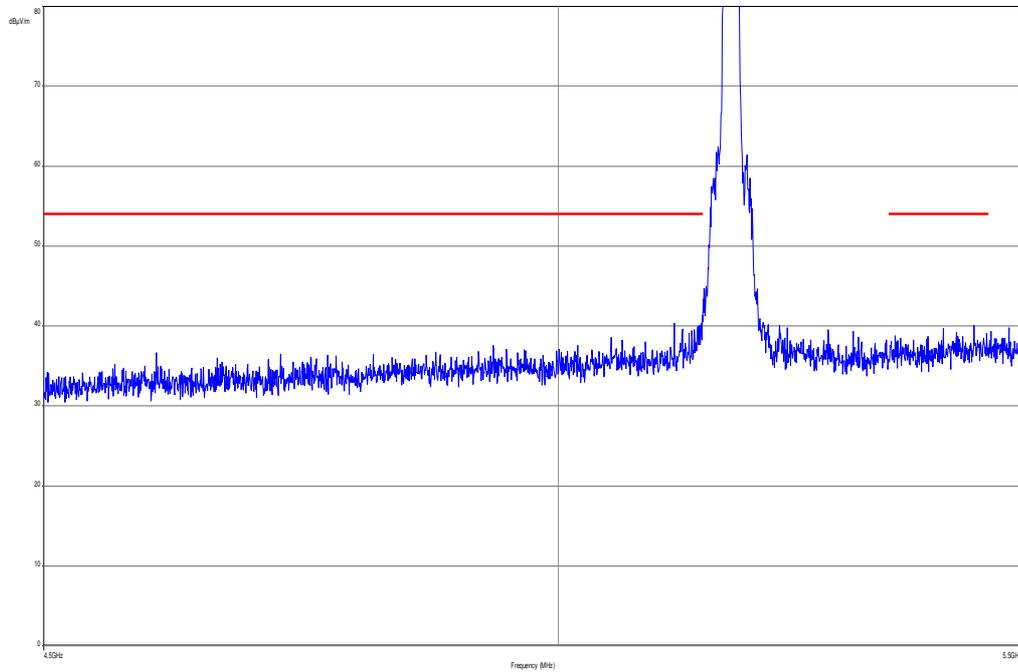
Band Edge Compliance Radiated
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within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

Result:

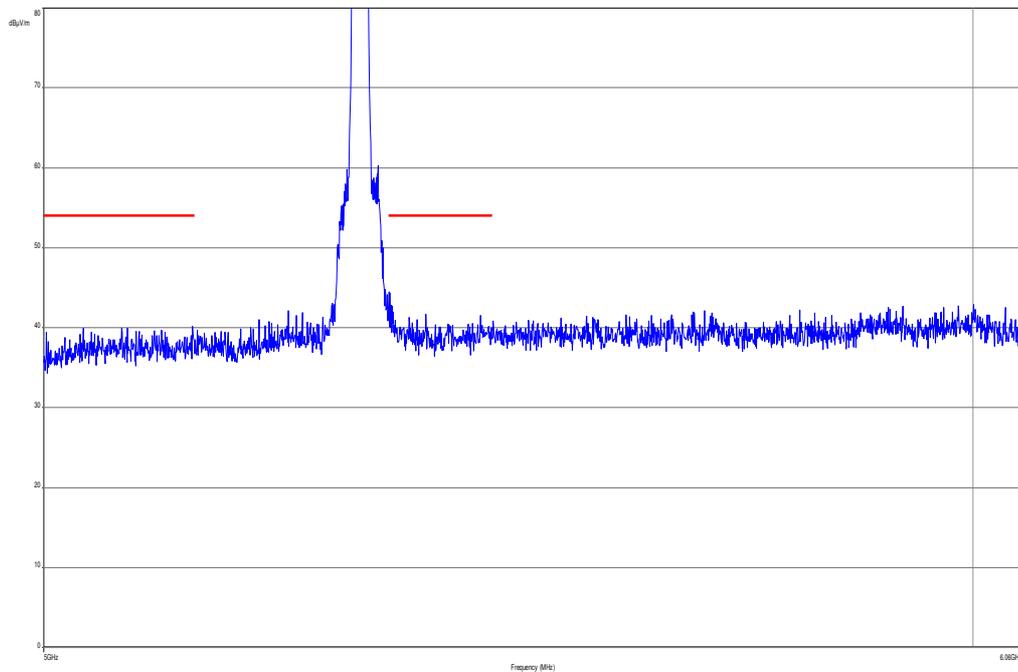
Scenario	Band Edge Compliance Radiated [dB μ V/m]
band edge	< 54 dB μ V/m (see plots 1-6)
Measurement uncertainty	\pm 3 dB

Plots:

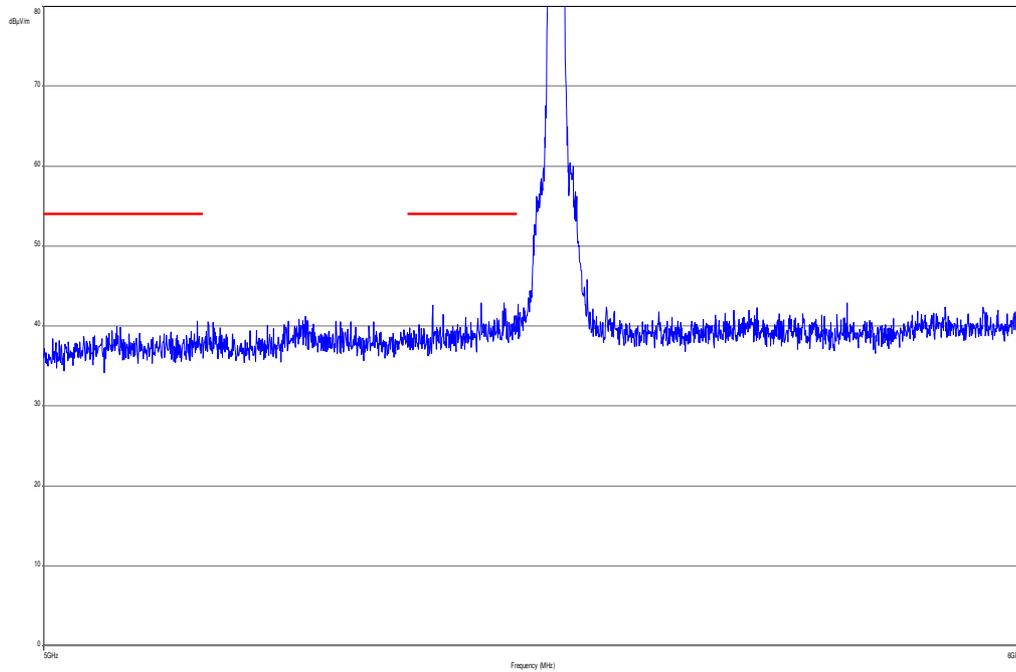
Plot 1: lower band edge, vertical & horizontal polarization (a-mode / n-HT20), channel 36



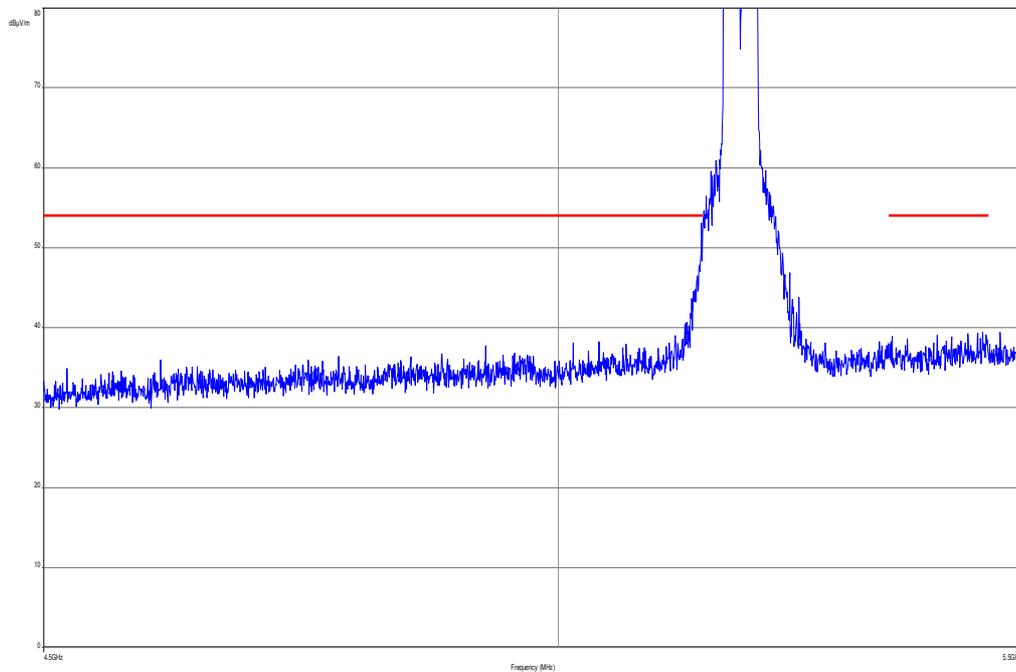
Plot 2: upper band edge, vertical & horizontal polarization (a-mode / n-HT20), channel 64



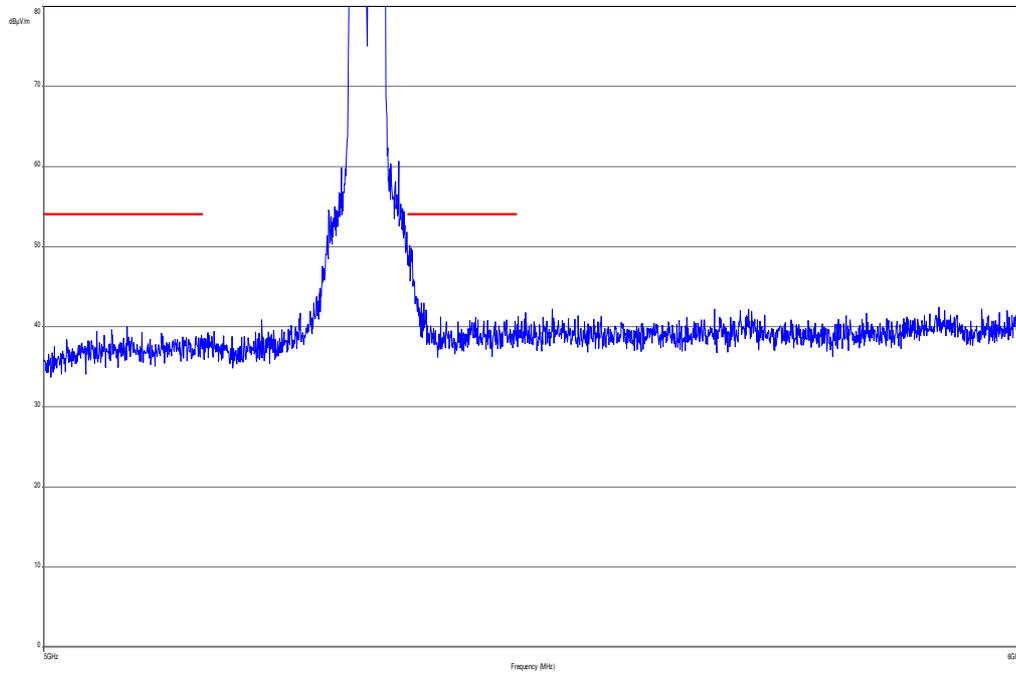
Plot 3: lower band edge, vertical & horizontal polarization (a-mode / n-HT20), channel 100



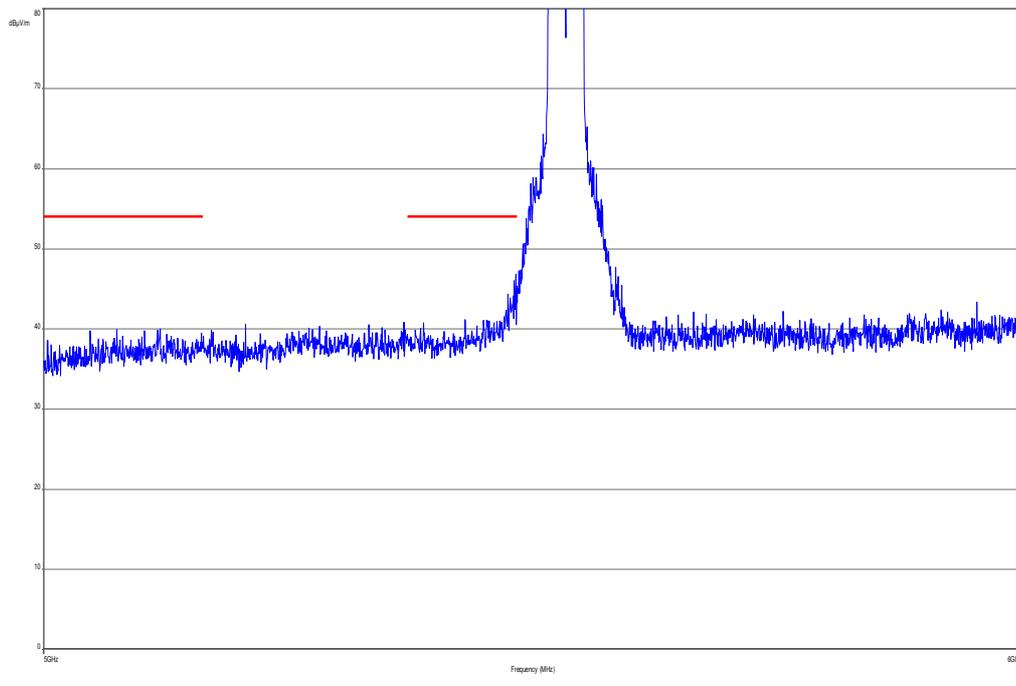
Plot 4: lower band edge, vertical & horizontal polarization (n HT 40 mode), channel 38



Plot 5: upper band edge, vertical & horizontal polarization (n HT 40 mode), channel 60



Plot 6: lower band edge, vertical & horizontal polarization (n HT 40 mode), channel 100



Result: Passed

9.9 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 25 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			Middle 5200 MHz			Highest 5240 MHz		
F [MHz]	Detector	Level [dBμV/m]	F [MHz]	Detector	Level [dBμV/m]	F [MHz]	Detector	Level [dBμV/m]
No peaks found.			No peaks found.			No peaks found.		
Measurement uncertainty			± 3 dB					

TX Spurious Emissions Radiated [dBμV/m] / dBm								
OFDM a – mode								
Lowest 5260 MHz			Middle 5280 MHz			Highest 5320 MHz		
F [MHz]	Detector	Level [dBμV/m]	F [MHz]	Detector	Level [dBμV/m]	F [MHz]	Detector	Level [dBμV/m]
No peaks found.			No peaks found.			No peaks found.		
Measurement uncertainty			± 3 dB					

TX Spurious Emissions Radiated [dBμV/m] / dBm								
OFDM a – mode								
Lowest 5500 MHz			Middle 5600 MHz			Highest 5700 MHz		
F [MHz]	Detector	Level [dBμV/m]	F [MHz]	Detector	Level [dBμV/m]	F [MHz]	Detector	Level [dBμV/m]
No peaks found.			No peaks found.			No peaks found.		
Measurement uncertainty			± 3 dB					

TX Spurious Emissions Radiated [dBμV/m] / dBm								
OFDM a – mode								
Lowest 5745 MHz			Middle 5765 MHz			Highest 5805 MHz		
F [MHz]	Detector	Level [dBμV/m]	F [MHz]	Detector	Level [dBμV/m]	F [MHz]	Detector	Level [dBμV/m]
No peaks found.			No peaks found.			No peaks found.		
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 5200 MHz			Highest 5240 MHz		
F [MHz]	Detector	Level [dBμV/m]	F [MHz]	Detector	Level [dBμV/m]	F [MHz]	Detector	Level [dBμV/m]
No peaks found.			No peaks found.			No peaks found.		
Measurement uncertainty			± 3 dB					

TX Spurious Emissions Radiated [dBμV/m] / dBm								
OFDM n – mode HT20								
Lowest 5260 MHz			Middle 5280 MHz			Highest 5320 MHz		
F [MHz]	Detector	Level [dBμV/m]	F [MHz]	Detector	Level [dBμV/m]	F [MHz]	Detector	Level [dBμV/m]
No peaks found.			No peaks found.			No peaks found.		
Measurement uncertainty			± 3 dB					

TX Spurious Emissions Radiated [dBμV/m] / dBm								
OFDM n – mode HT20								
Lowest 5500 MHz			Middle 5600 MHz			Highest 5700 MHz		
F [MHz]	Detector	Level [dBμV/m]	F [MHz]	Detector	Level [dBμV/m]	F [MHz]	Detector	Level [dBμV/m]
No peaks found.			No peaks found.			No peaks found.		
Measurement uncertainty			± 3 dB					

TX Spurious Emissions Radiated [dBμV/m] / dBm								
OFDM n – mode HT20								
Lowest 5745 MHz			Middle 5765 MHz			Highest 5805 MHz		
F [MHz]	Detector	Level [dBμV/m]	F [MHz]	Detector	Level [dBμV/m]	F [MHz]	Detector	Level [dBμV/m]
No peaks found.			No peaks found.			No peaks found.		
Measurement uncertainty			± 3 dB					

Result: Passed

Results: OFDM / n – modeHT40

TX Spurious Emissions Radiated [dBμV/m] / dBm								
OFDM n – mode HT40								
Lowest 5190 MHz			Middle 5230 MHz			Highest 5270 MHz		
F [MHz]	Detector	Level [dBμV/m]	F [MHz]	Detector	Level [dBμV/m]	F [MHz]	Detector	Level [dBμV/m]
No peaks found.			No peaks found.			No peaks found.		
Measurement uncertainty			± 3 dB					

TX Spurious Emissions Radiated [dBμV/m] / dBm								
OFDM n – mode HT40								
Lowest 5310 MHz			Middle 5510 MHz			Highest 5590 MHz		
F [MHz]	Detector	Level [dBμV/m]	F [MHz]	Detector	Level [dBμV/m]	F [MHz]	Detector	Level [dBμV/m]
No peaks found.			No peaks found.			No peaks found.		
Measurement uncertainty			± 3 dB					

TX Spurious Emissions Radiated [dBμV/m] / dBm								
OFDM n – mode HT40								
Lowest 5670 MHz			Middle 5765 MHz			Highest 5795 MHz		
F [MHz]	Detector	Level [dBμV/m]	F [MHz]	Detector	Level [dBμV/m]	F [MHz]	Detector	Level [dBμV/m]
No peaks found.			No peaks found.			No peaks found.		
Measurement uncertainty			± 3 dB					

Result: Passed

Plots: OFDM / a - mode + n - mode/HT20

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

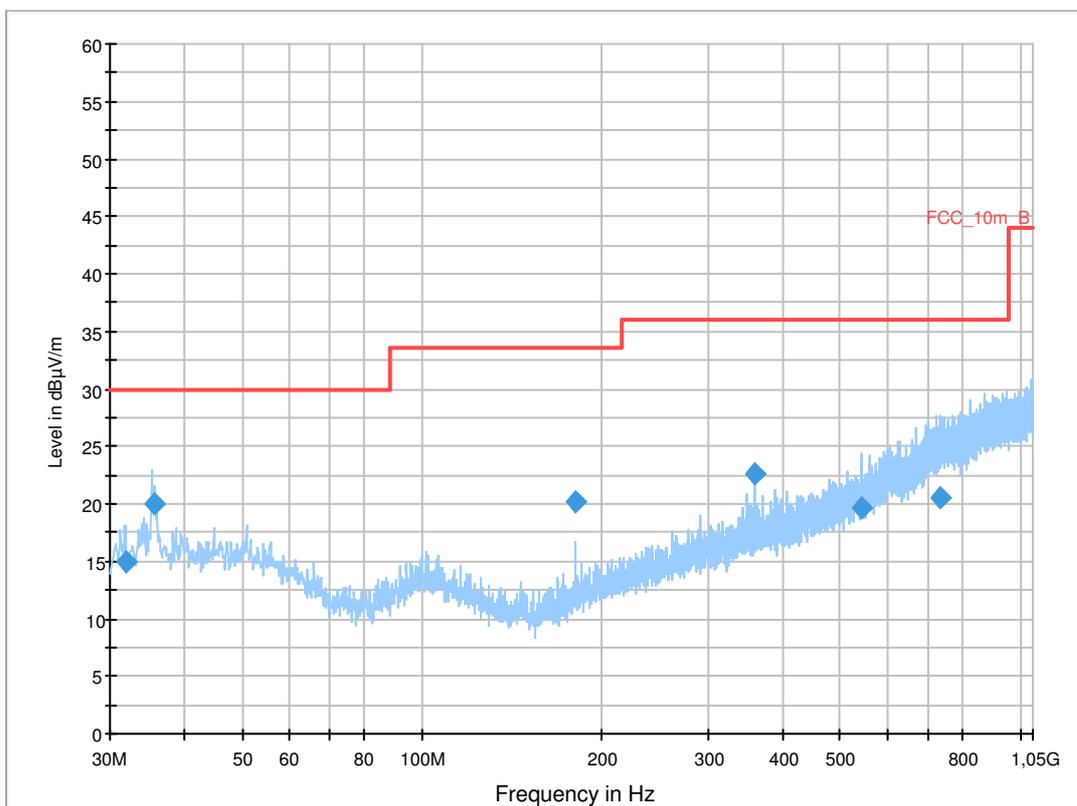
Common Information

EUT: PM-0030-BV
 Serial Number: CB511ZY9PB
 Test Description: FCC part 15 class B @ 10 m
 Operating Conditions: TX WLAN n-mode HT20, CH 36 + charging
 Operator Name: Wolsdorfer
 Comment: AC: 115 V / 60 Hz

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 (dB μ V/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB μ V/m)	Comment
31.909950	14.9	1000.0	120.000	121.0	V	182.0	12.7	15.1	30.0	
35.653650	20.0	1000.0	120.000	120.0	V	4.0	13.1	10.0	30.0	
179.962650	20.2	1000.0	120.000	111.0	V	280.0	10.4	13.3	33.5	
360.001050	22.7	1000.0	120.000	98.0	V	182.0	16.2	13.3	36.0	
544.053150	19.7	1000.0	120.000	170.0	V	92.0	19.3	16.3	36.0	
734.986500	20.5	1000.0	120.000	170.0	V	170.0	23.3	15.5	36.0	

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

Subrange 1

Frequency Range: 30 MHz - 2 GHz

Receiver: Receiver [ESCI 3]
@ GPIB0 (ADR 20), SN 100083/003, FW 4.42

Signal Path: without Notch
FW 1.0

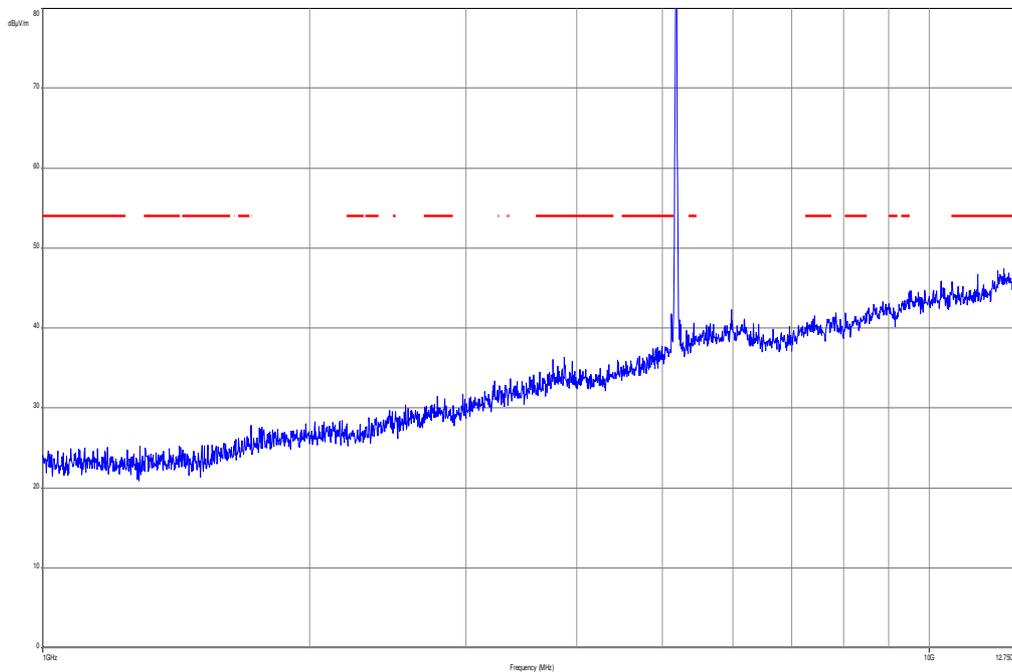
Antenna: VULB 9163
SN 9163-295, FW ---
Correction Table (vertical): VULP6113
Correction Table (horizontal): VULP6113
Correction Table (vertical): Cable_EN_1GHz (1005)
Correction Table (horizontal): Cable_EN_1GHz (1005)

Antenna Tower: Tower [EMCO 2090 Antenna Tower]
@ GPIB0 (ADR 8), FW REV 3.12

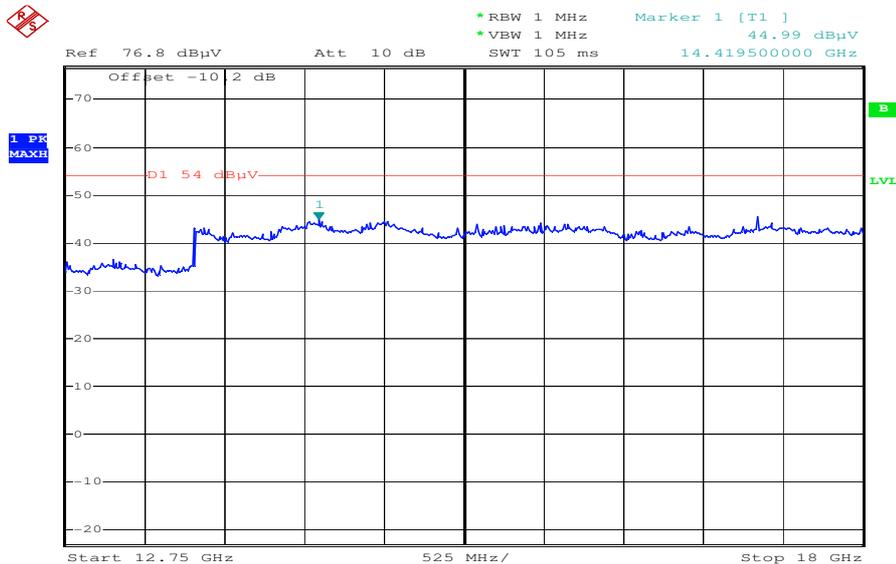
Turntable: Turntable [EMCO Turntable]
@ GPIB0 (ADR 9), FW REV 3.12

EMC 32 Version 8.52

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

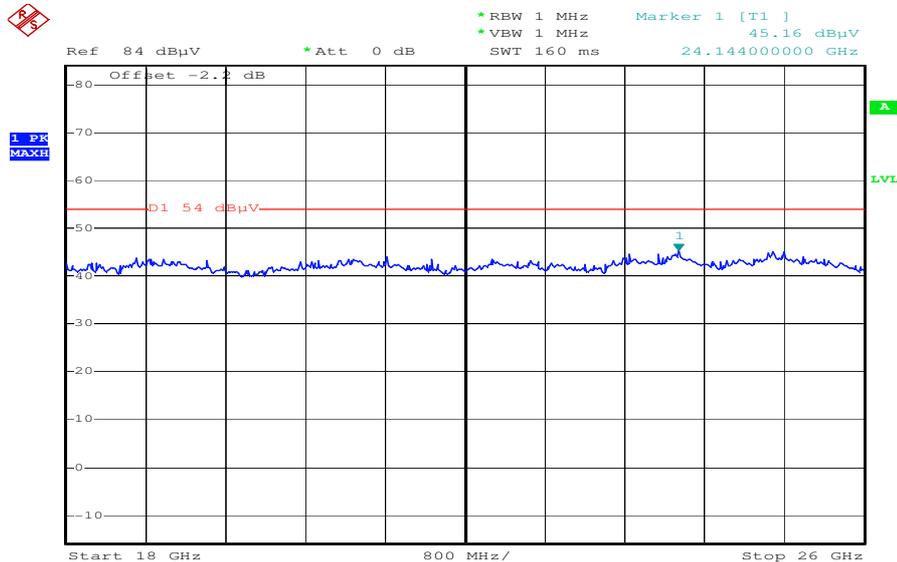


Plot 3: 12 GHz to 18 GHz, 5180 MHz, vertical & horizontal polarization



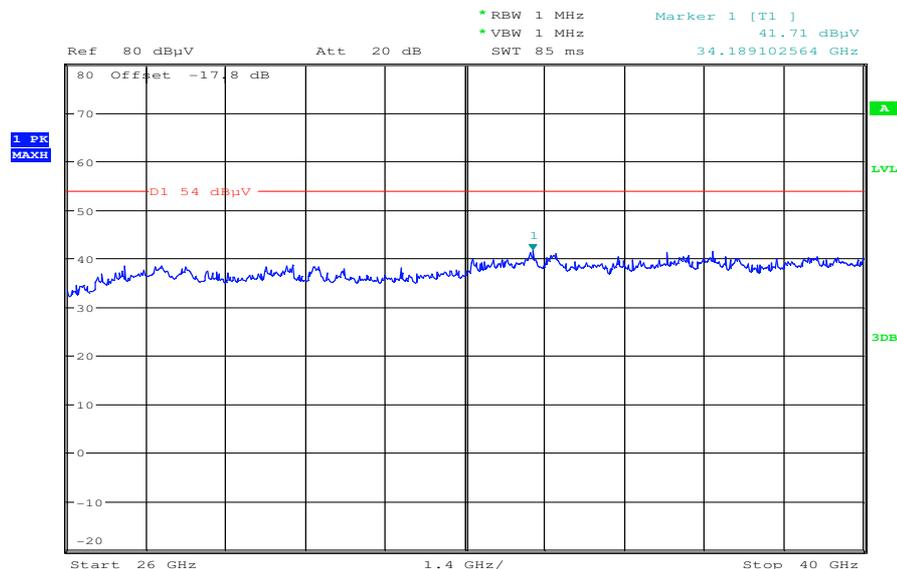
Date: 8.AUG.2012 14:51:43

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



Date: 8.AUG.2012 15:46:21

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



Date: 8.AUG.2012 15:37:47

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

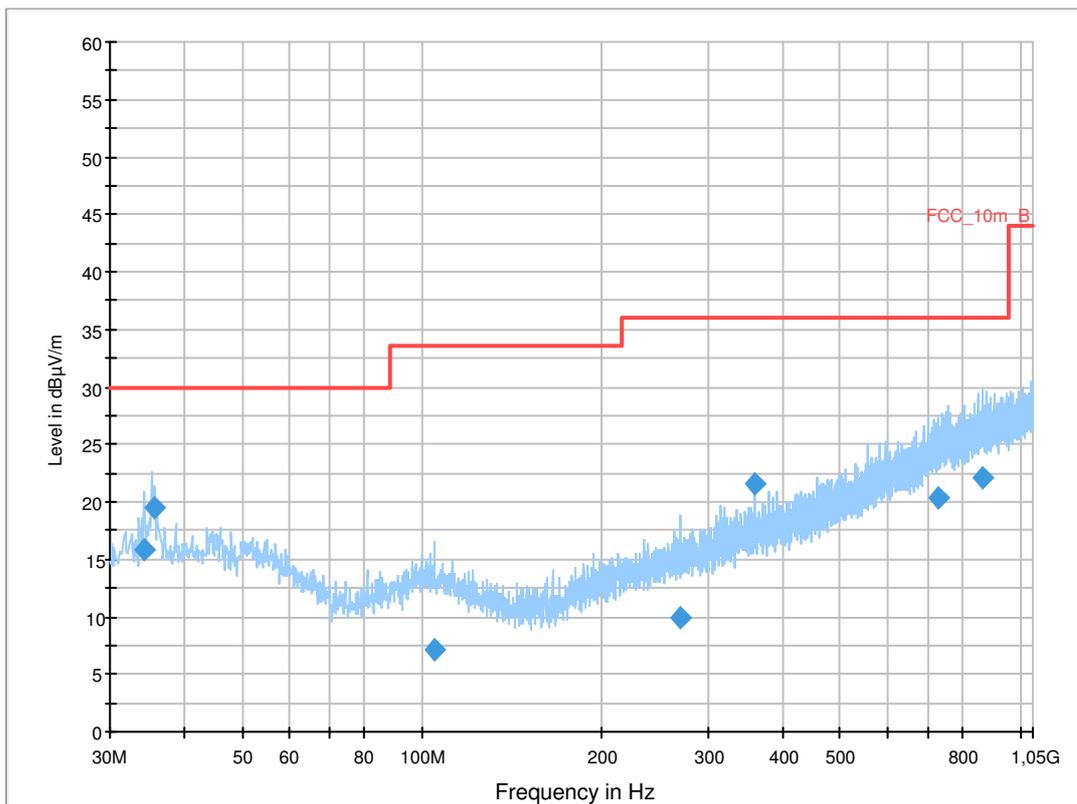
Common Information

EUT: PM-0030-BV
 Serial Number: CB511ZY9PB
 Test Description: FCC part 15 class B @ 10 m
 Operating Conditions: TX WLAN n-mode HT20, CH 48 + charging
 Operator Name: Wolsdorfer
 Comment: AC: 115 V / 60 Hz

Scan Setup: STAN_Fin [EMI radiated]

Hardware Setup: Electric Field (NOS)
 Receiver: [ESCI 3]
 Level Unit: dB μ V/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 (dB μ V/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB μ V/m)	Comment
34.319700	15.9	1000.0	120.000	98.0	V	190.0	13.0	14.1	30.0	
35.645850	19.4	1000.0	120.000	170.0	V	-3.0	13.1	10.6	30.0	
104.867400	7.1	1000.0	120.000	170.0	V	267.0	11.5	26.4	33.5	
269.246550	9.9	1000.0	120.000	98.0	H	260.0	13.8	26.1	36.0	
359.975700	21.6	1000.0	120.000	120.0	V	268.0	16.2	14.4	36.0	
728.261550	20.4	1000.0	120.000	112.0	H	267.0	23.2	15.6	36.0	
...

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

Subrange 1

Frequency Range: 30 MHz - 2 GHz

Receiver: Receiver [ESCI 3]
@ GPIB0 (ADR 20), SN 100083/003, FW 4.42

Signal Path: without Notch
FW 1.0

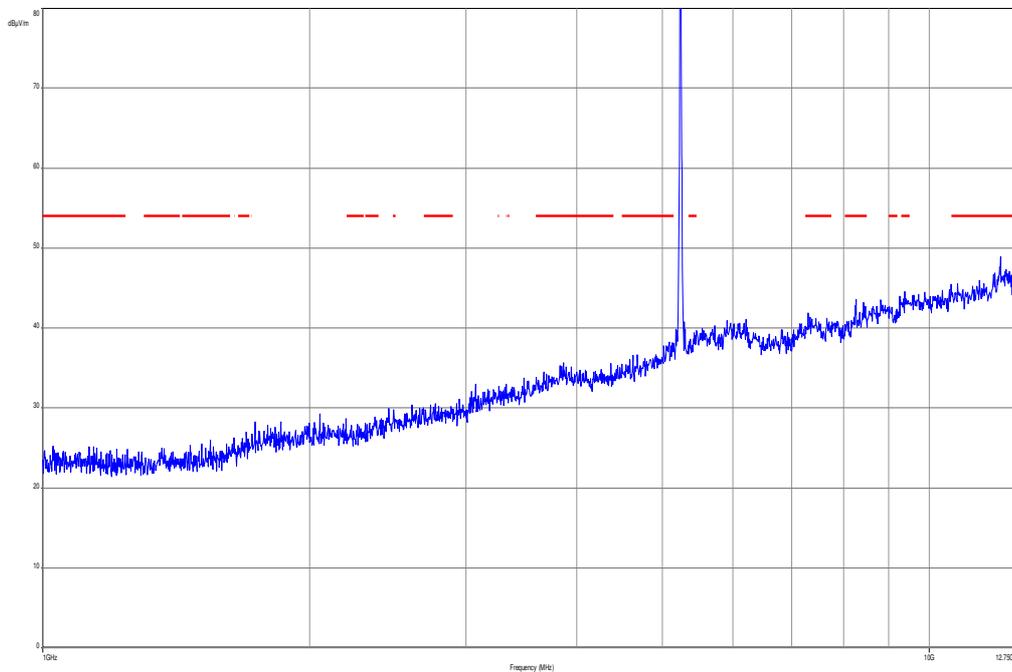
Antenna: VULB 9163
SN 9163-295, FW ---
Correction Table (vertical): VULP6113
Correction Table (horizontal): VULP6113
Correction Table (vertical): Cable_EN_1GHz (1005)
Correction Table (horizontal): Cable_EN_1GHz (1005)

Antenna Tower: Tower [EMCO 2090 Antenna Tower]
@ GPIB0 (ADR 8), FW REV 3.12

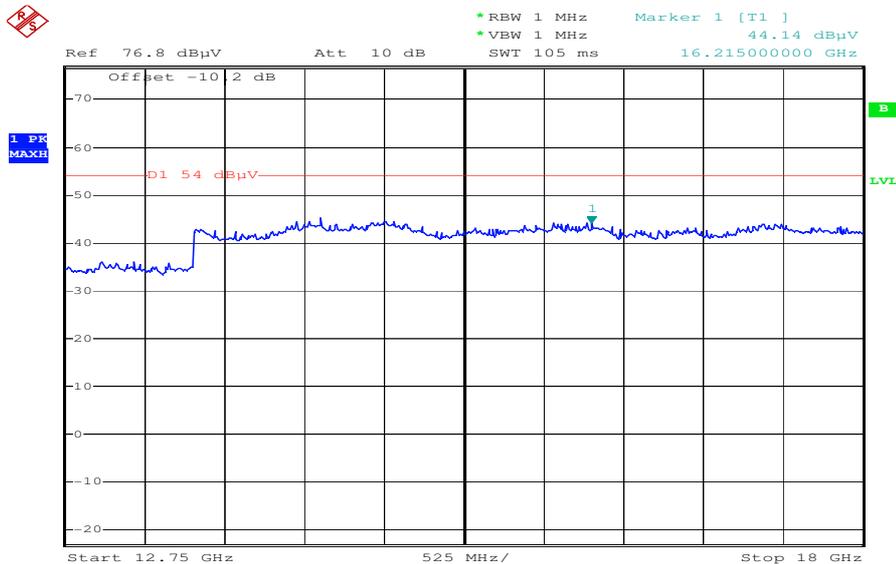
Turntable: Turntable [EMCO Turntable]
@ GPIB0 (ADR 9), FW REV 3.12

EMC 32 Version 8.52

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

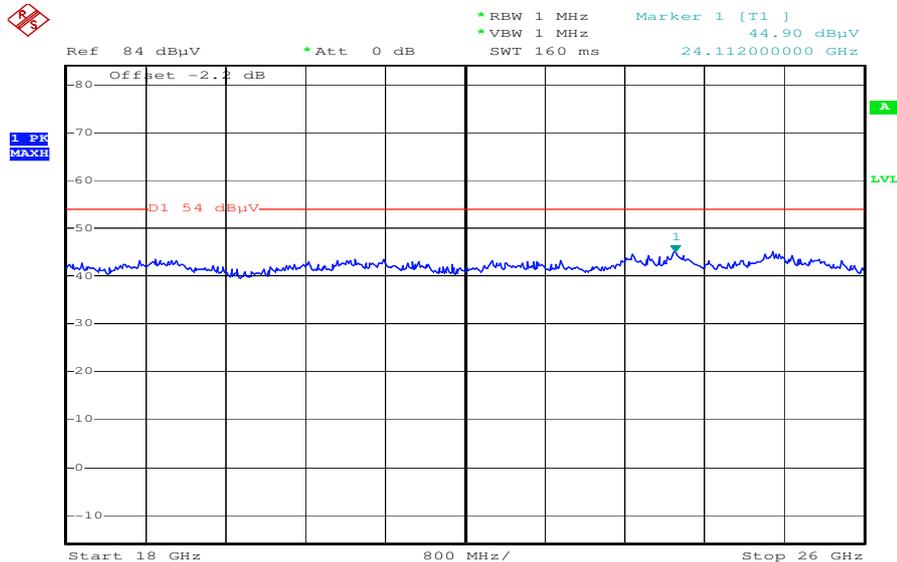


Plot 8: 12 GHz to 18 GHz, 5240 MHz, vertical & horizontal polarization



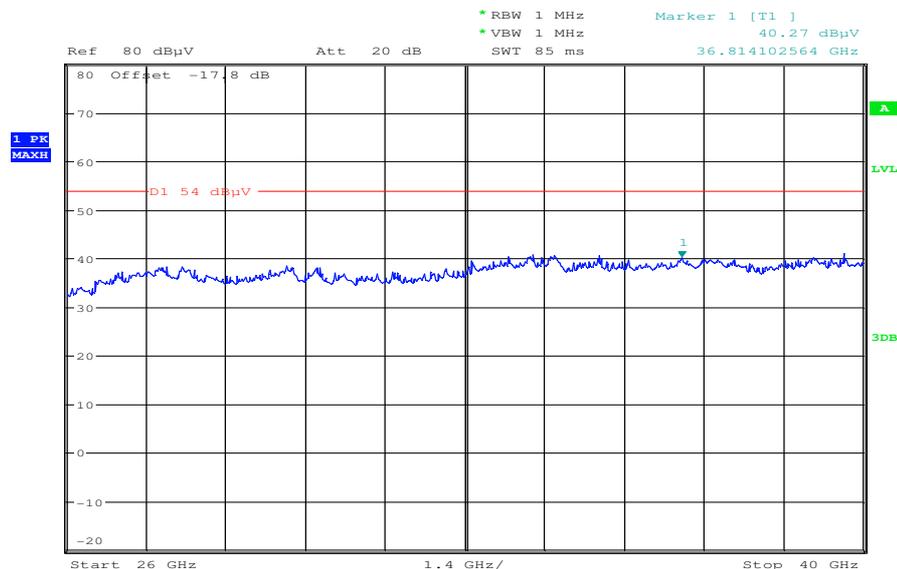
Date: 8.AUG.2012 15:20:58

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



Date: 8.AUG.2012 15:48:01

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



Date: 8.AUG.2012 15:39:20

Plot 11: 30 MHz to 1 GHz, 5260 MHz, vertical & horizontal polarization

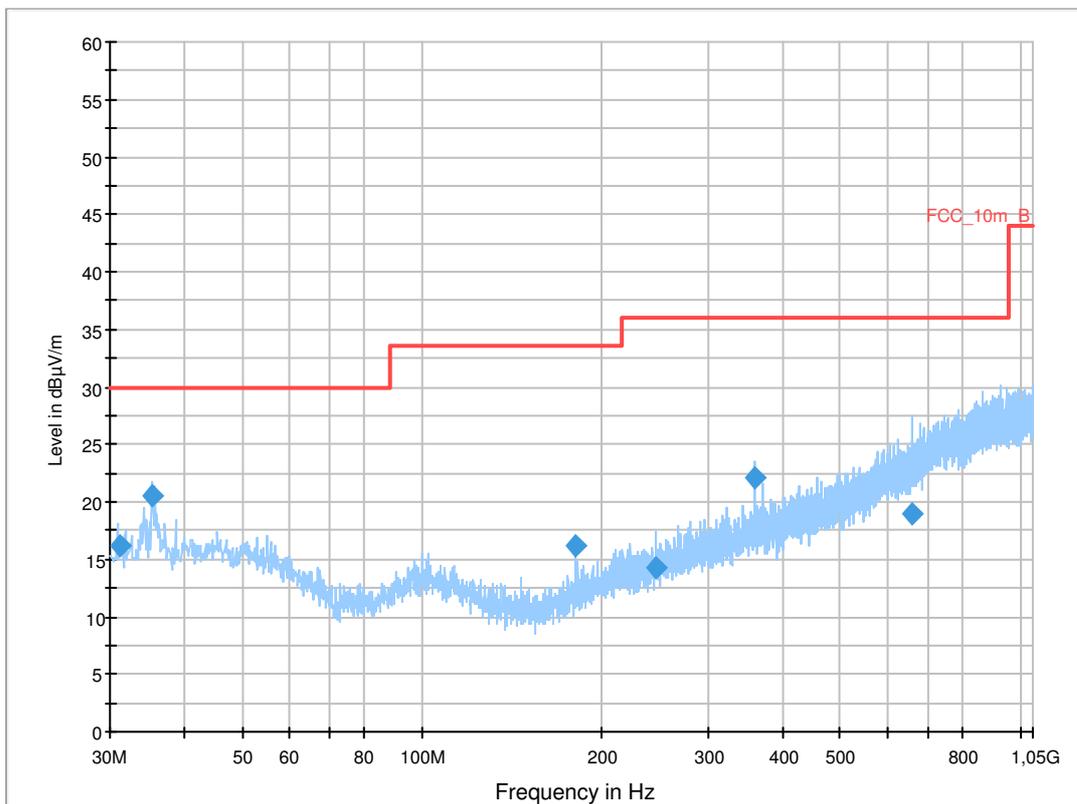
Common Information

EUT: PM-0030-BV
 Serial Number: CB511ZY9PB
 Test Description: FCC part 15 lass B @ 10 m
 Operating Conditions: TX WLAN n-mode HT20, CH 52 + charging
 Operator Name: Wolsdorfer
 Comment: AC: 115 V / 60 Hz

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 (dB μ V/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB μ V/m)	Comment
31.276950	16.1	1000.0	120.000	121.0	V	81.0	12.6	13.9	30.0	
35.317950	20.6	1000.0	120.000	98.0	V	261.0	13.1	9.4	30.0	
180.012300	16.2	1000.0	120.000	107.0	V	-10.0	10.4	17.3	33.5	
246.638250	14.2	1000.0	120.000	98.0	H	90.0	13.2	21.8	36.0	
360.016950	22.1	1000.0	120.000	111.0	V	85.0	16.2	13.9	36.0	
657.293700	18.9	1000.0	120.000	170.0	H	260.0	21.3	17.1	36.0	

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

Subrange 1

Frequency Range: 30 MHz - 2 GHz

Receiver: Receiver [ESCI 3]
@ GPIB0 (ADR 20), SN 100083/003, FW 4.42

Signal Path: without Notch
FW 1.0

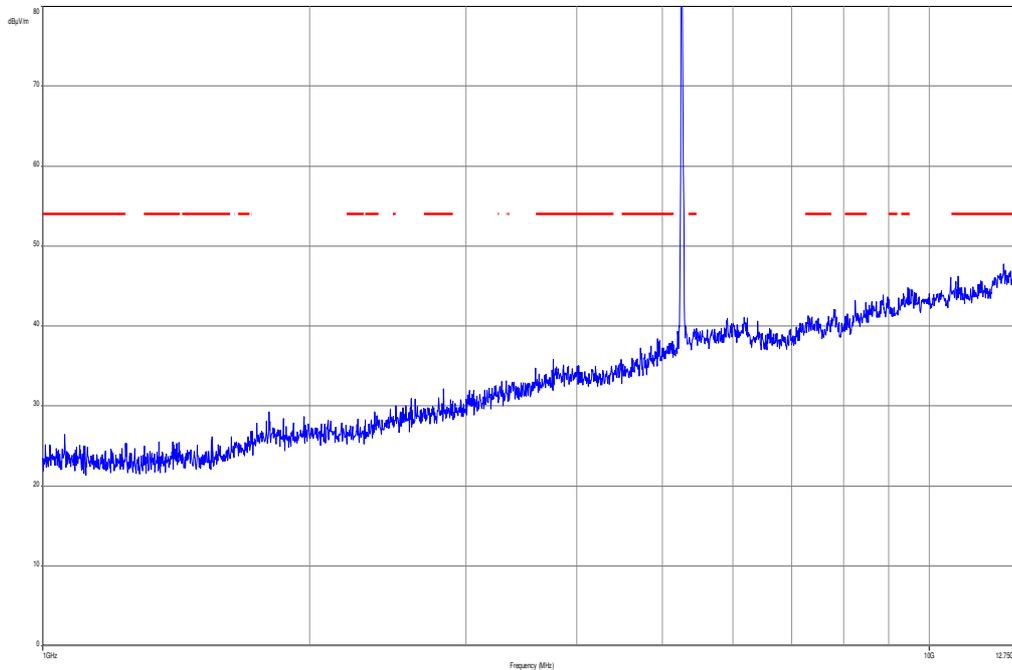
Antenna: VULB 9163
SN 9163-295, FW ---
Correction Table (vertical): VULP6113
Correction Table (horizontal): VULP6113
Correction Table (vertical): Cable_EN_1GHz (1005)
Correction Table (horizontal): Cable_EN_1GHz (1005)

Antenna Tower: Tower [EMCO 2090 Antenna Tower]
@ GPIB0 (ADR 8), FW REV 3.12

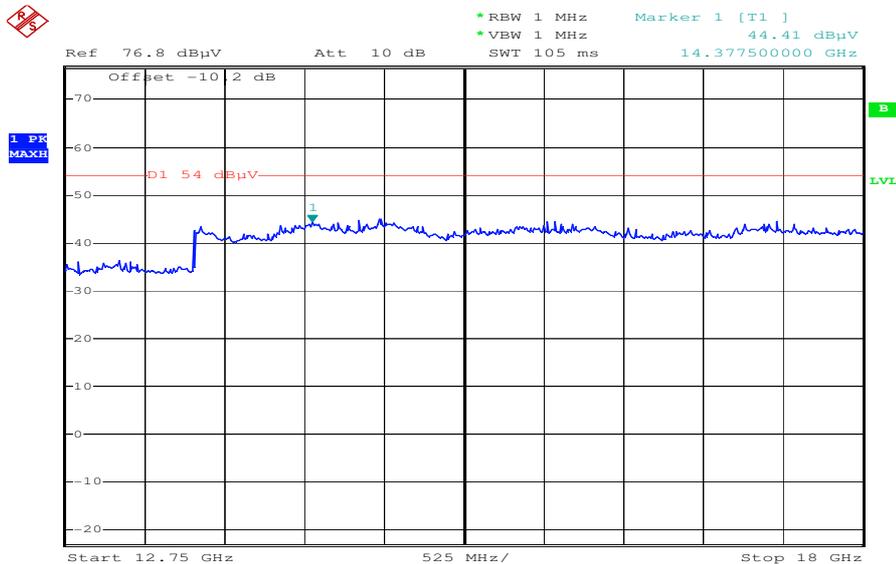
Turntable: Turntable [EMCO Turntable]
@ GPIB0 (ADR 9), FW REV 3.12

EMC 32 Version 8.52

Plot 12: 1 GHz to 12.75 GHz, 5260 MHz, vertical & horizontal polarization

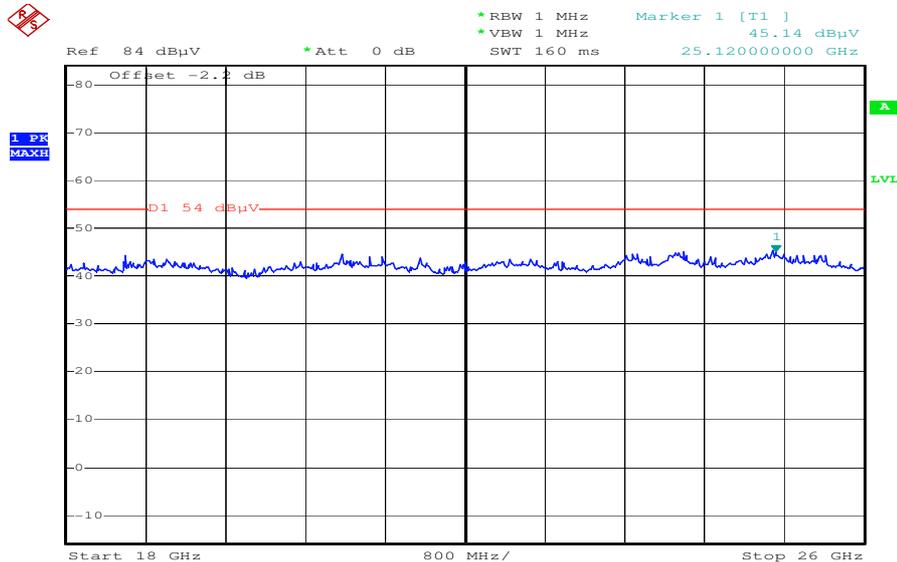


Plot 13: 12 GHz to 18 GHz, 5260 MHz, vertical & horizontal polarization



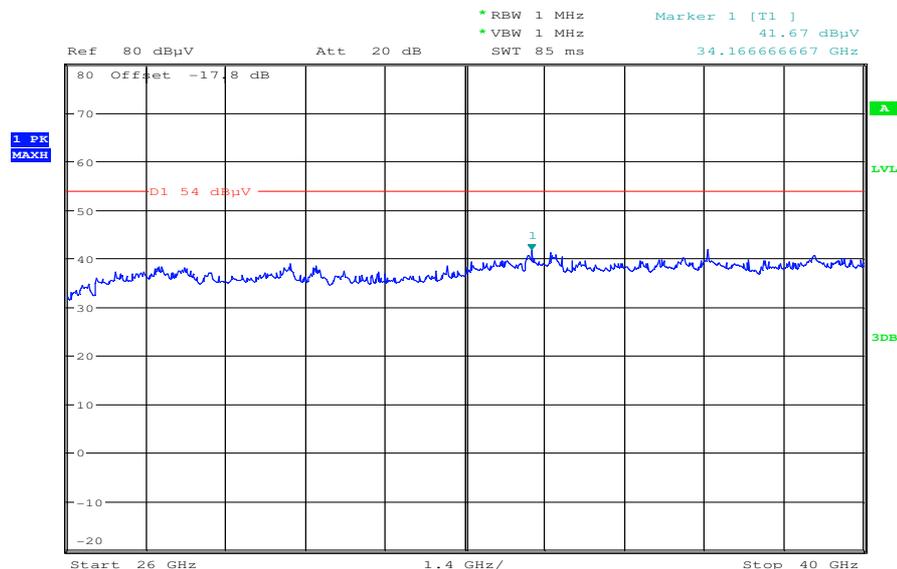
Date: 8.AUG.2012 14:56:17

Plot 14: 18 GHz to 26 GHz, 5260 MHz, vertical & horizontal polarization



Date: 8.AUG.2012 15:49:33

Plot 15: 26 GHz to 40 GHz, 5260 MHz, vertical & horizontal polarization



Date: 8.AUG.2012 15:40:48

Plot 16: 30 MHz to 1 GHz, 5320 MHz, vertical & horizontal polarization

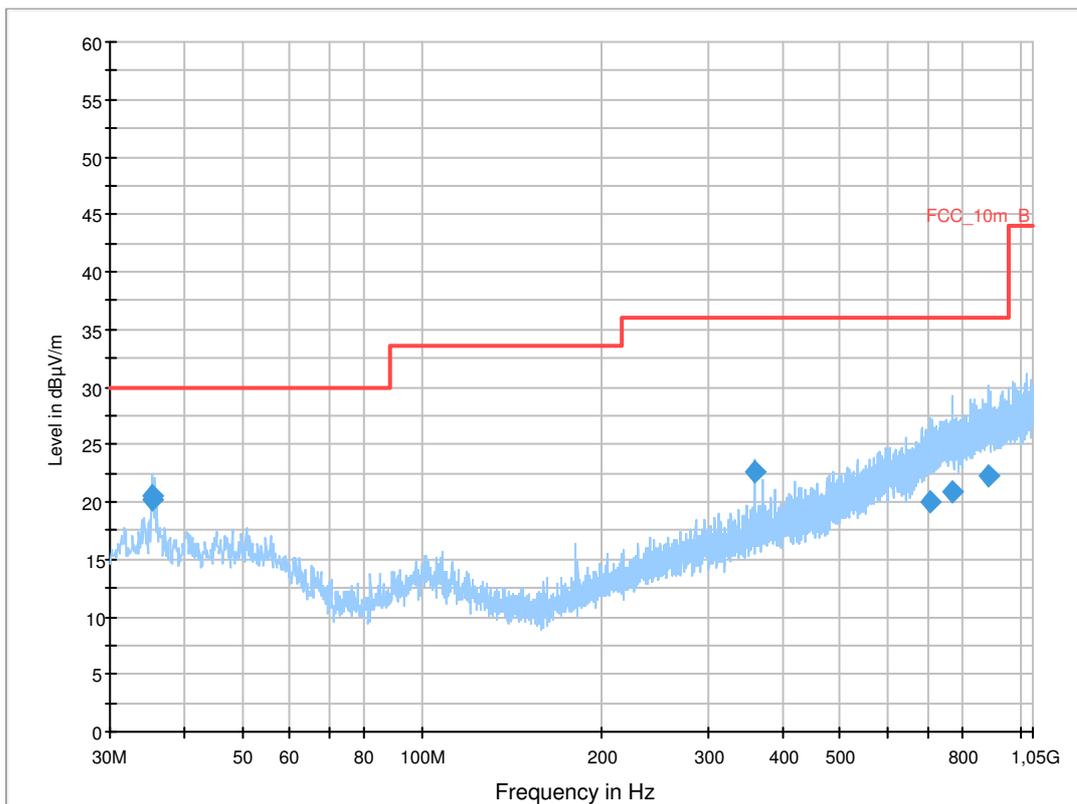
Common Information

EUT: PM-0070-BV
 Serial Number: CB511ZY9PB
 Test Description: FCC part 15 class B @ 10 m
 Operating Conditions: TX WLAN n-mode HT20, CH 64 + charging
 Operator Name: Wolsdorfer
 Comment: AC: 115 V / 60 Hz

Scan Setup: STAN_Fin [EMI radiated]

Hardware Setup: Electric Field (NOS)
 Receiver: [ESCI 3]
 Level Unit: dB μ V/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 (dB μ V/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB μ V/m)	Comment
35.317800	20.2	1000.0	120.000	152.0	V	100.0	13.1	9.8	30.0	
35.324550	20.5	1000.0	120.000	98.0	V	92.0	13.1	9.5	30.0	
359.998650	22.7	1000.0	120.000	98.0	V	2.0	16.2	13.3	36.0	
708.146250	19.9	1000.0	120.000	170.0	H	265.0	22.7	16.1	36.0	
767.716950	20.8	1000.0	120.000	170.0	V	265.0	23.7	15.2	36.0	
886.901550	22.3	1000.0	120.000	170.0	V	265.0	25.0	13.7	36.0	

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

Subrange 1

Frequency Range: 30 MHz - 2 GHz

Receiver: Receiver [ESCI 3]
@ GPIB0 (ADR 20), SN 100083/003, FW 4.42

Signal Path: without Notch
FW 1.0

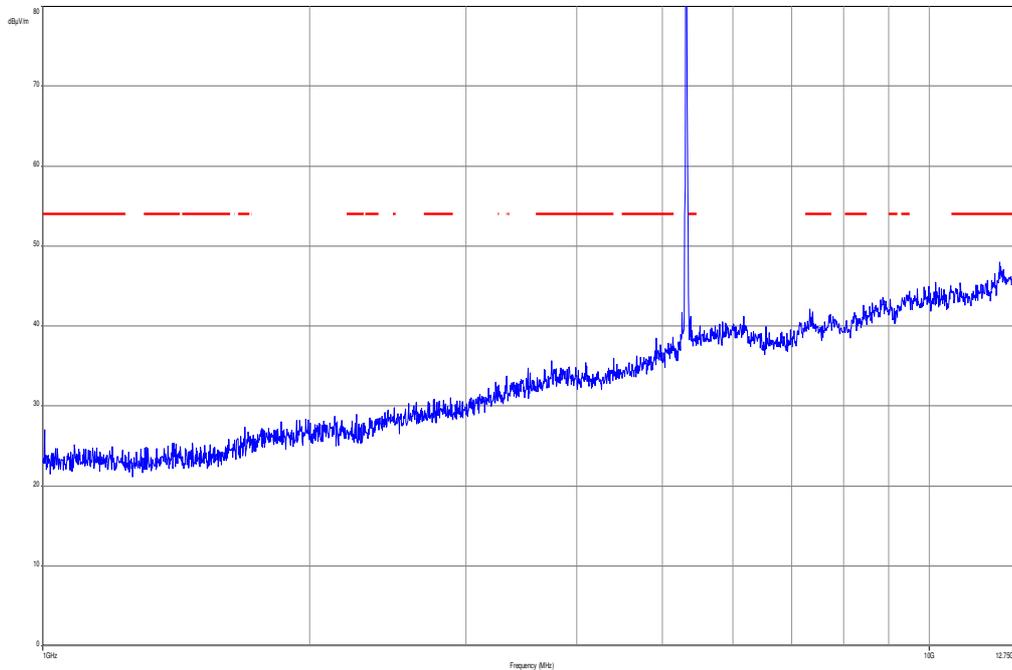
Antenna: VULB 9163
SN 9163-295, FW ---
Correction Table (vertical): VULP6113
Correction Table (horizontal): VULP6113
Correction Table (vertical): Cable_EN_1GHz (1005)
Correction Table (horizontal): Cable_EN_1GHz (1005)

Antenna Tower: Tower [EMCO 2090 Antenna Tower]
@ GPIB0 (ADR 8), FW REV 3.12

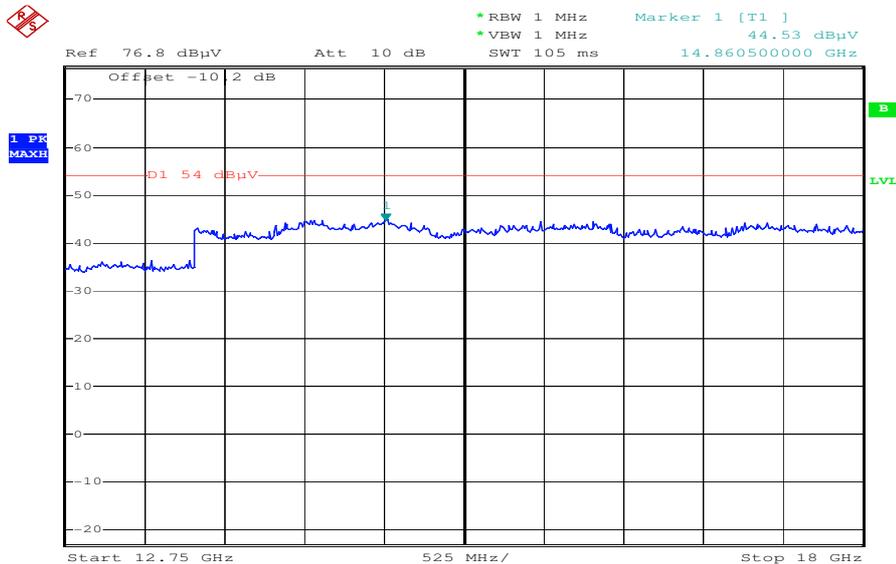
Turntable: Turntable [EMCO Turntable]
@ GPIB0 (ADR 9), FW REV 3.12

EMC 32 Version 8.52

Plot 17: 1 GHz to 12.75 GHz, 5320 MHz, vertical & horizontal polarization

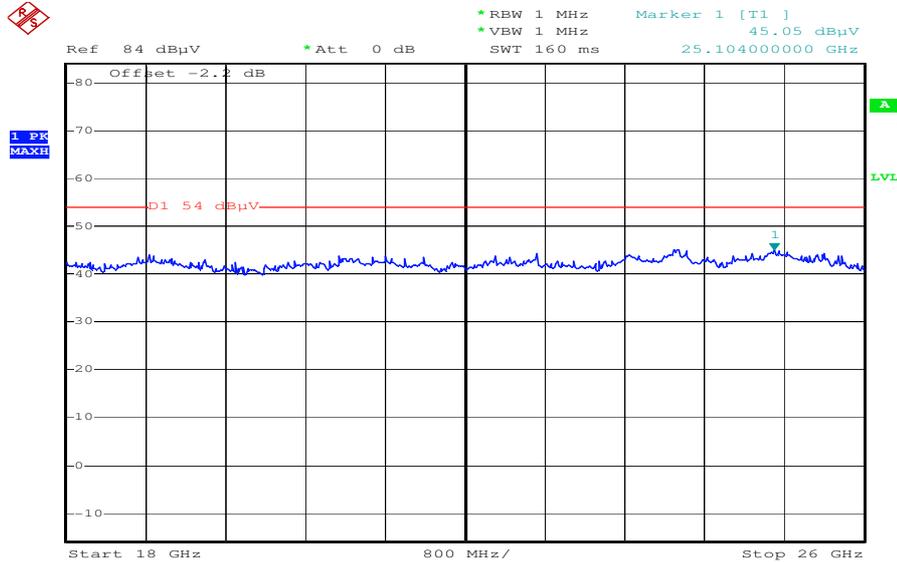


Plot 18: 12 GHz to 18 GHz, 5320 MHz, vertical & horizontal polarization



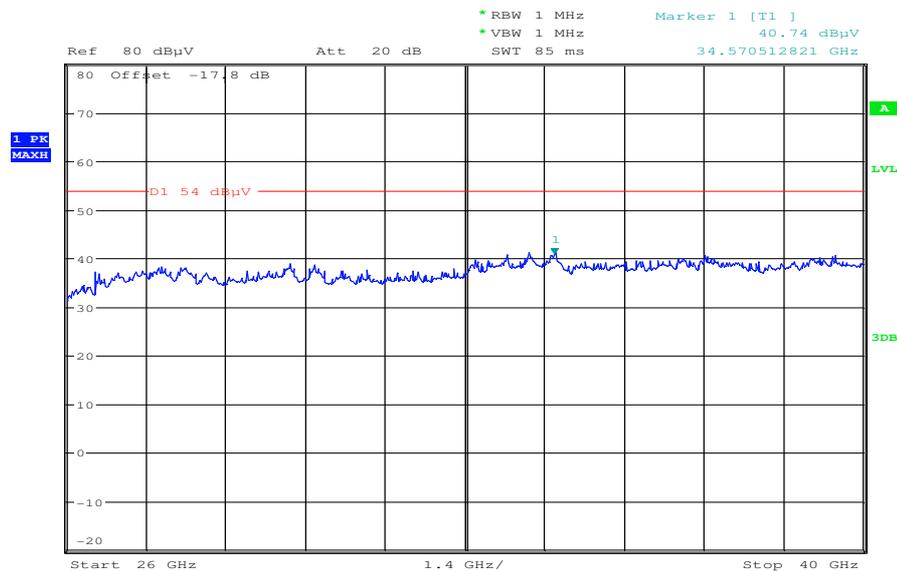
Date: 8.AUG.2012 14:59:30

Plot 19: 18 GHz to 26 GHz, 5320 MHz, vertical & horizontal polarization



Date: 8.AUG.2012 15:51:06

Plot 20: 26 GHz to 40 GHz, 5320 MHz, vertical & horizontal polarization



Date: 8.AUG.2012 15:42:22

Plot 21: 30 MHz to 1 GHz, 5500 MHz, vertical & horizontal polarization

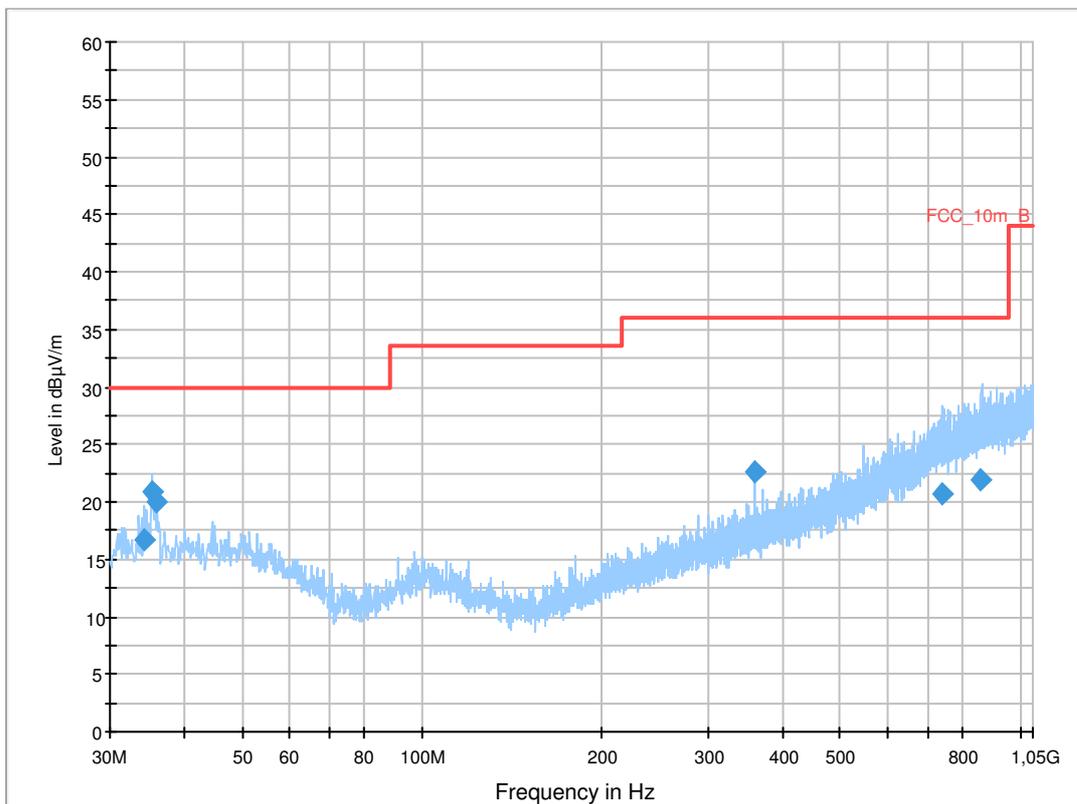
Common Information

EUT: PM-0070-BV
 Serial Number: CB511ZY9PB
 Test Description: FCC part 15 class B @ 10 m
 Operating Conditions: TX WLAN n-mode HT20, CH 100 + charging
 Operator Name: Wolsdorfer
 Comment: AC: 115 V / 60 Hz

Scan Setup: STAN_Fin [EMI radiated]

Hardware Setup: Electric Field (NOS)
 Receiver: [ESCI 3]
 Level Unit: dB μ V/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 (dB μ V/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB μ V/m)	Comment
34.272900	16.6	1000.0	120.000	133.0	V	100.0	13.0	13.4	30.0	
35.313750	20.9	1000.0	120.000	110.0	V	-10.0	13.1	9.1	30.0	
35.984550	20.0	1000.0	120.000	104.0	V	-5.0	13.1	10.0	30.0	
359.993250	22.7	1000.0	120.000	98.0	V	280.0	16.2	13.3	36.0	
742.823250	20.7	1000.0	120.000	132.0	V	100.0	23.5	15.3	36.0	
861.262200	21.9	1000.0	120.000	170.0	H	88.0	24.7	14.1	36.0	

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

Subrange 1

Frequency Range: 30 MHz - 2 GHz

Receiver: Receiver [ESCI 3]
@ GPIB0 (ADR 20), SN 100083/003, FW 4.42

Signal Path: without Notch
FW 1.0

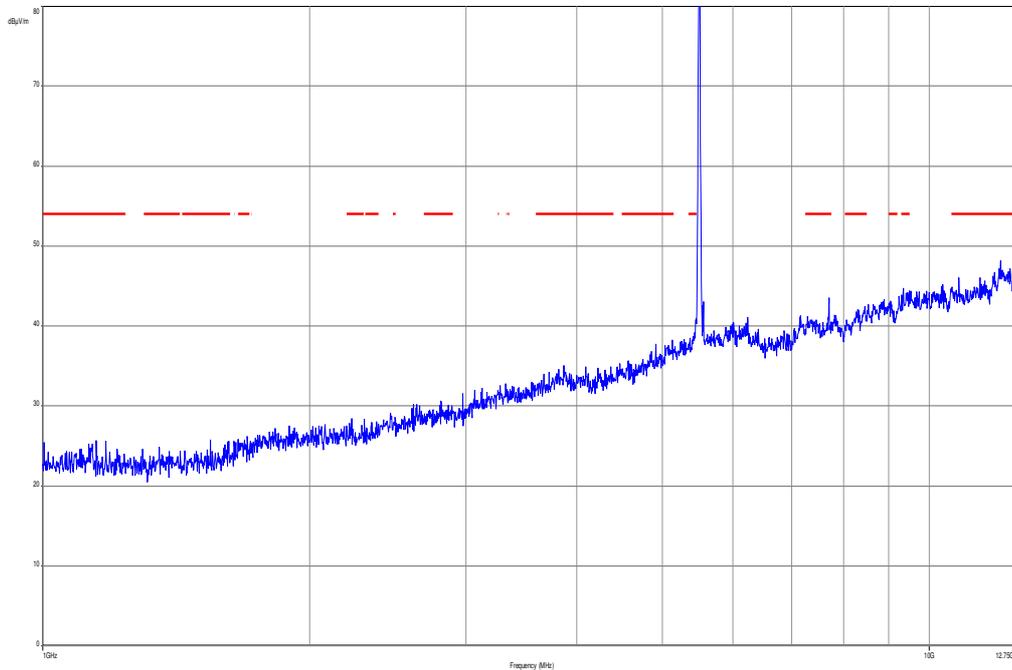
Antenna: VULB 9163
SN 9163-295, FW ---
Correction Table (vertical): VULP6113
Correction Table (horizontal): VULP6113
Correction Table (vertical): Cable_EN_1GHz (1005)
Correction Table (horizontal): Cable_EN_1GHz (1005)

Antenna Tower: Tower [EMCO 2090 Antenna Tower]
@ GPIB0 (ADR 8), FW REV 3.12

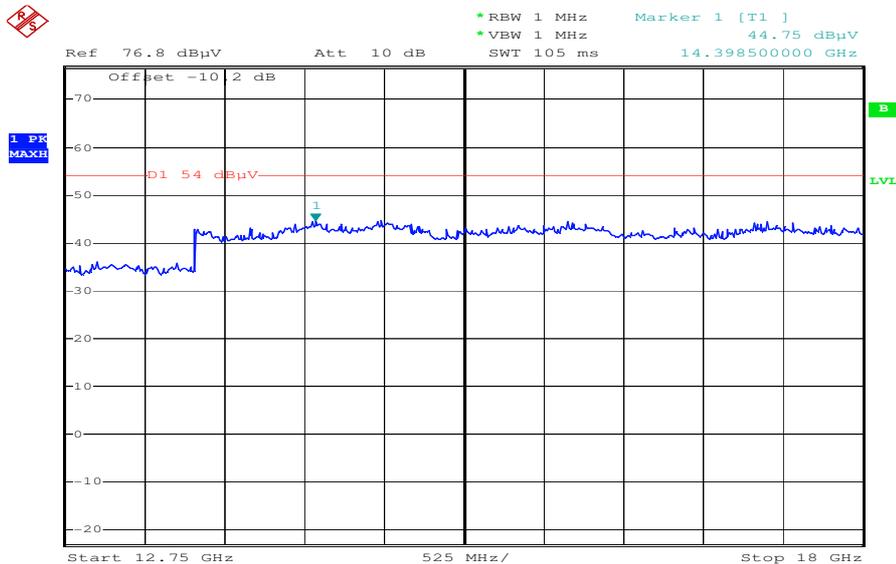
Turntable: Turntable [EMCO Turntable]
@ GPIB0 (ADR 9), FW REV 3.12

EMC 32 Version 8.52

Plot 22: 1 GHz to 12.75 GHz, 5500 MHz, vertical & horizontal polarization

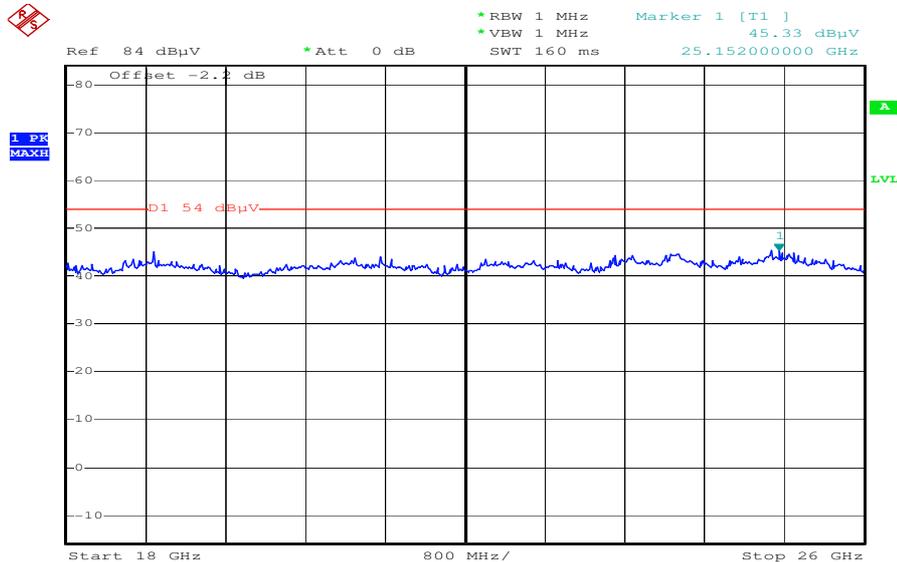


Plot 23: 12 GHz to 18 GHz, 5500 MHz, vertical & horizontal polarization



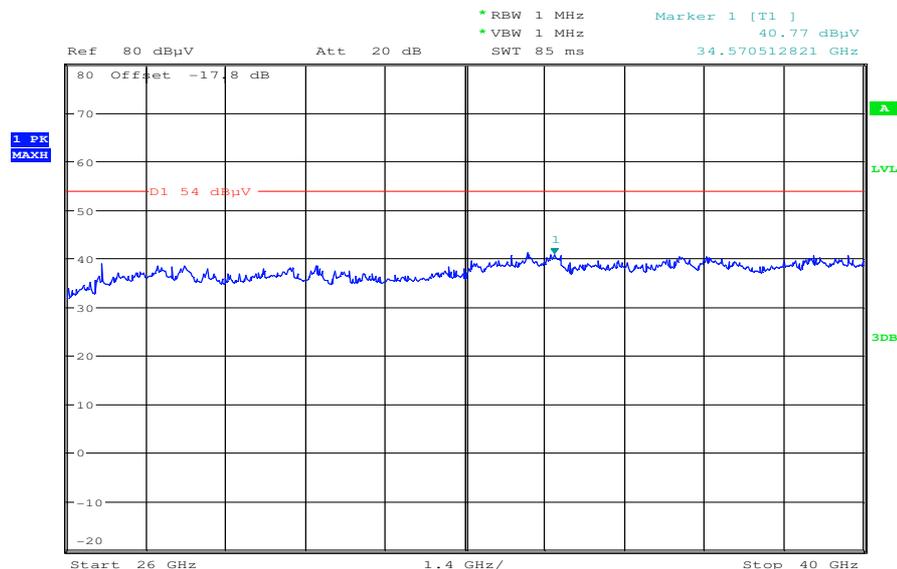
Date: 8.AUG.2012 15:01:56

Plot 24: 18 GHz to 26 GHz, 5500 MHz, vertical & horizontal polarization



Date: 8.AUG.2012 15:52:31

Plot 25: 26 GHz to 40 GHz, 5500 MHz, vertical & horizontal polarization



Date: 8.AUG.2012 15:43:50

Plot 26: 30 MHz to 1 GHz, 5600 MHz, vertical & horizontal polarization

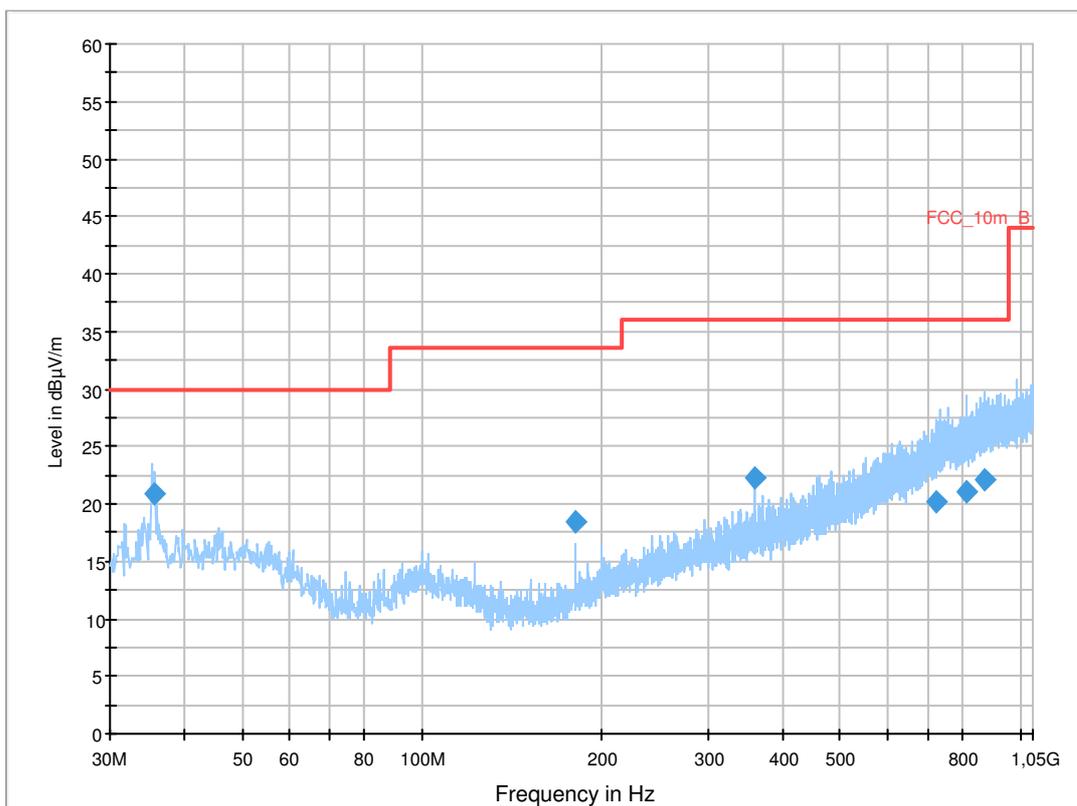
Common Information

EUT: PM-0070-BV
 Serial Number: CB511ZY9PB
 Test Description: FCC part 15 class B @ 10 m
 Operating Conditions: TX WLAN n-mode HT20, CH 120 + charging
 Operator Name: Wolsdorfer
 Comment: AC: 115 V / 60 Hz

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
35.632350	20.8	1000.0	120.000	98.0	V	0.0	13.1	9.2	30.0	
179.998800	18.4	1000.0	120.000	98.0	V	280.0	10.4	15.1	33.5	
359.988750	22.3	1000.0	120.000	120.0	V	190.0	16.2	13.7	36.0	
725.533950	20.2	1000.0	120.000	170.0	H	180.0	23.1	15.8	36.0	
813.146400	21.1	1000.0	120.000	121.0	H	265.0	24.0	14.9	36.0	
868.902000	22.2	1000.0	120.000	105.0	V	190.0	24.8	13.8	36.0	

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

Subrange 1

Frequency Range: 30 MHz - 2 GHz

Receiver: Receiver [ESCI 3]
@ GPIB0 (ADR 20), SN 100083/003, FW 4.42

Signal Path: without Notch
FW 1.0

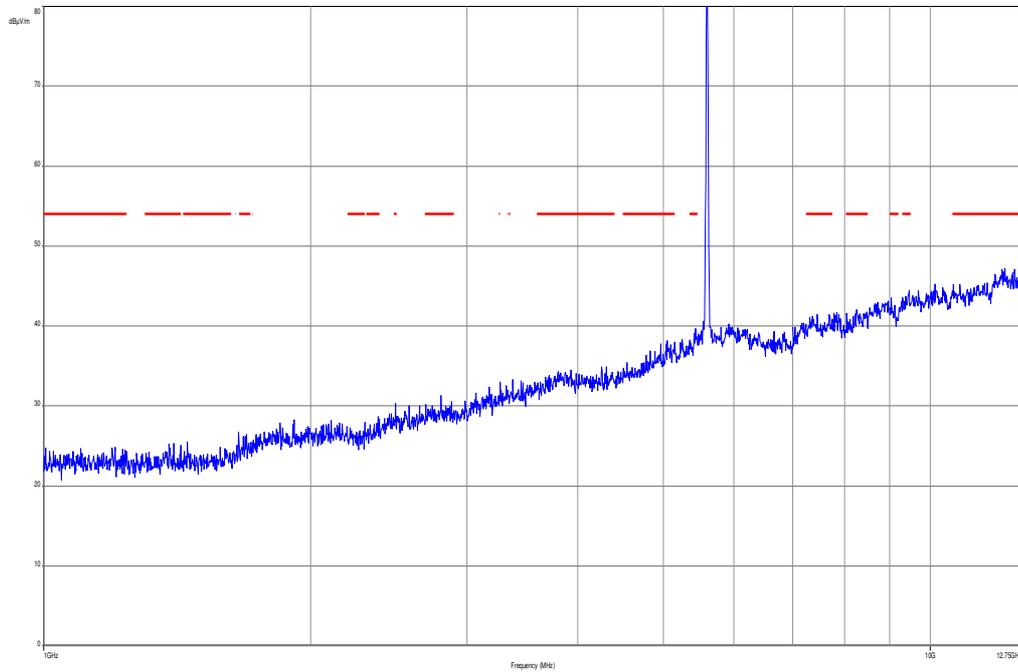
Antenna: VULB 9163
SN 9163-295, FW ---
Correction Table (vertical): VULP6113
Correction Table (horizontal): VULP6113
Correction Table (vertical): Cable_EN_1GHz (1005)
Correction Table (horizontal): Cable_EN_1GHz (1005)

Antenna Tower: Tower [EMCO 2090 Antenna Tower]
@ GPIB0 (ADR 8), FW REV 3.12

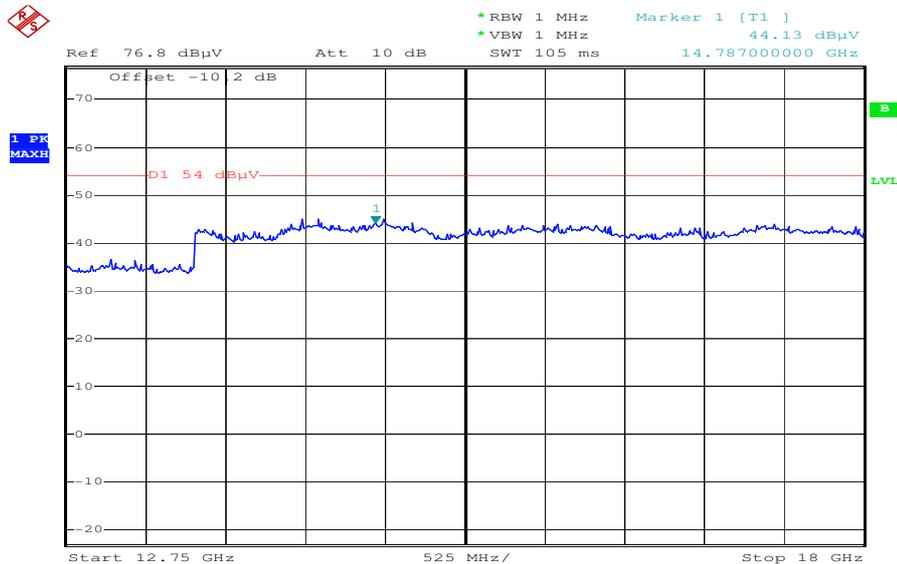
Turntable: Turntable [EMCO Turntable]
@ GPIB0 (ADR 9), FW REV 3.12

EMC 32 Version 8.52

Plot 27: 1 GHz to 12.75 GHz, 5600 MHz, vertical & horizontal polarization

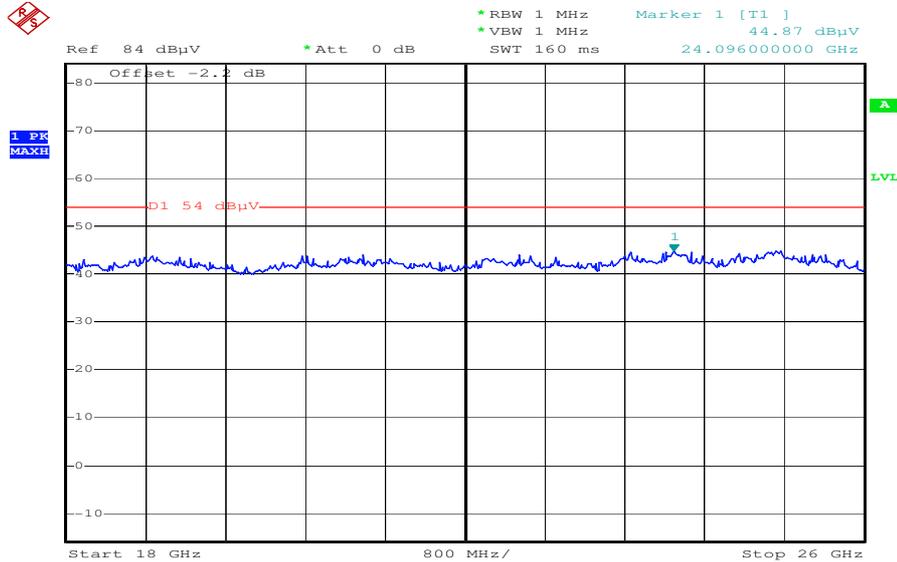


Plot 28: 12 GHz to 18 GHz, 5600 MHz, vertical & horizontal polarization



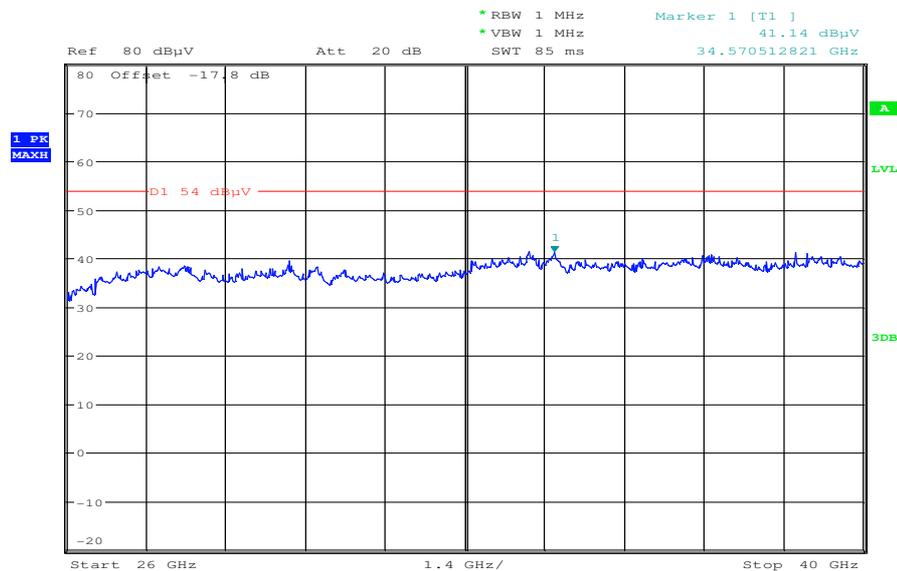
Date: 8.AUG.2012 15:05:12

Plot 29: 18 GHz to 26 GHz, 5600 MHz, vertical & horizontal polarization



Date: 8.AUG.2012 15:54:06

Plot 30: 26 GHz to 40 GHz, 5600 MHz, vertical & horizontal polarization



Date: 8.AUG.2012 14:56:47

Plot 31: 30 MHz to 1 GHz, 5700 MHz, vertical & horizontal polarization

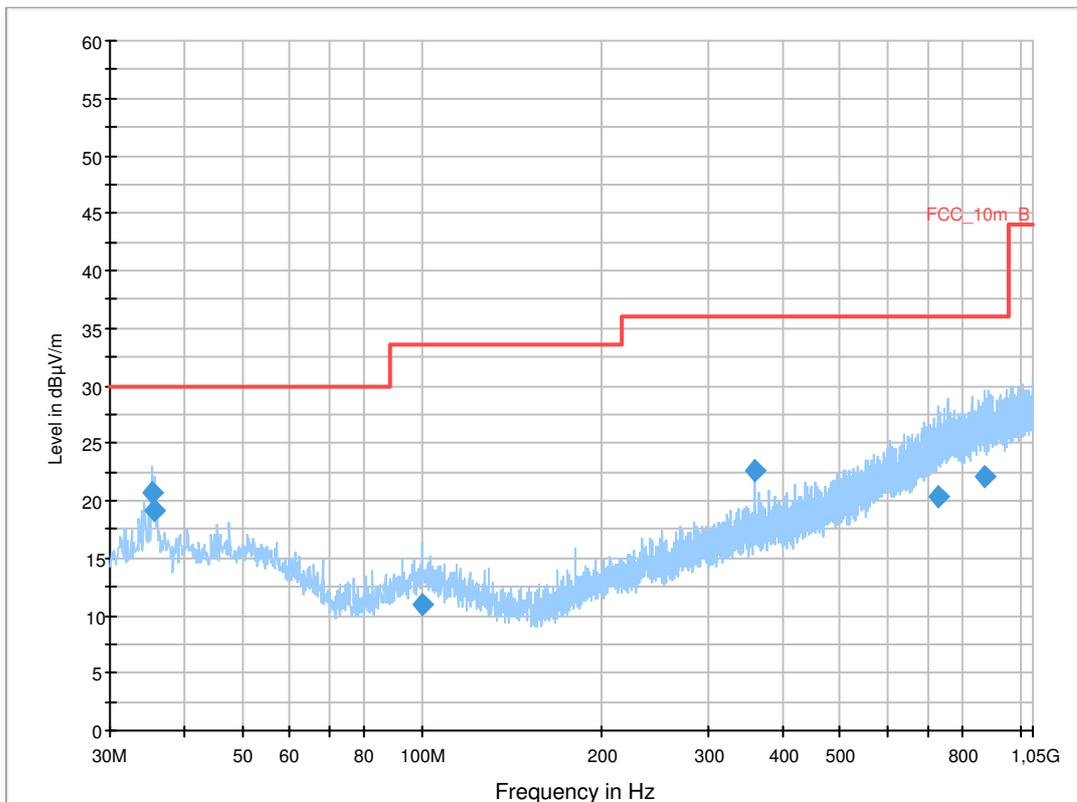
Common Information

EUT: PM-0070-BV
 Serial Number: CB511ZY9PB
 Test Description: FCC part 15 class B @ 10 m
 Operating Conditions: TX WLAN n-mode HT20, CH 140 + charging
 Operator Name: Wolsdorfer
 Comment: AC: 115 V / 60 Hz

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 (dB μ V/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB μ V/m)	Comment
35.303250	20.7	1000.0	120.000	153.0	V	280.0	13.0	9.3	30.0	
35.619600	19.1	1000.0	120.000	98.0	V	178.0	13.1	10.9	30.0	
100.015950	11.0	1000.0	120.000	170.0	V	100.0	11.9	22.5	33.5	
360.000600	22.7	1000.0	120.000	98.0	V	-3.0	16.2	13.3	36.0	
731.271300	20.4	1000.0	120.000	170.0	H	81.0	23.2	15.6	36.0	
868.954650	22.2	1000.0	120.000	170.0	V	92.0	24.8	13.8	36.0	

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

Subrange 1

Frequency Range: 30 MHz - 2 GHz

Receiver: Receiver [ESCI 3]
@ GPIB0 (ADR 20), SN 100083/003, FW 4.42

Signal Path: without Notch
FW 1.0

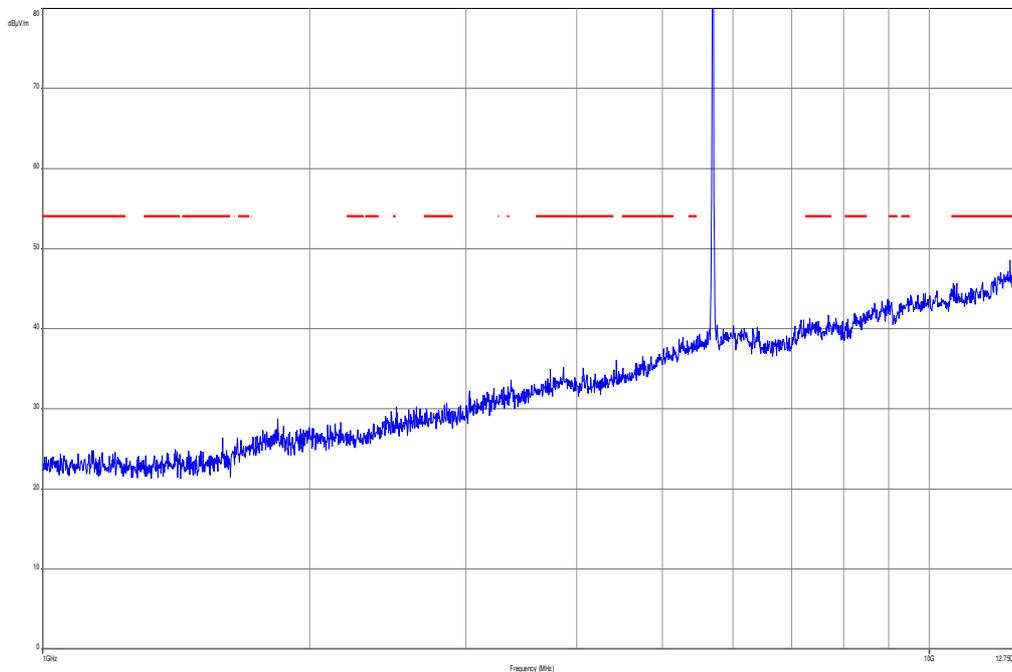
Antenna: VULB 9163
SN 9163-295, FW ---
Correction Table (vertical): VULP6113
Correction Table (horizontal): VULP6113
Correction Table (vertical): Cable_EN_1GHz (1005)
Correction Table (horizontal): Cable_EN_1GHz (1005)

Antenna Tower: Tower [EMCO 2090 Antenna Tower]
@ GPIB0 (ADR 8), FW REV 3.12

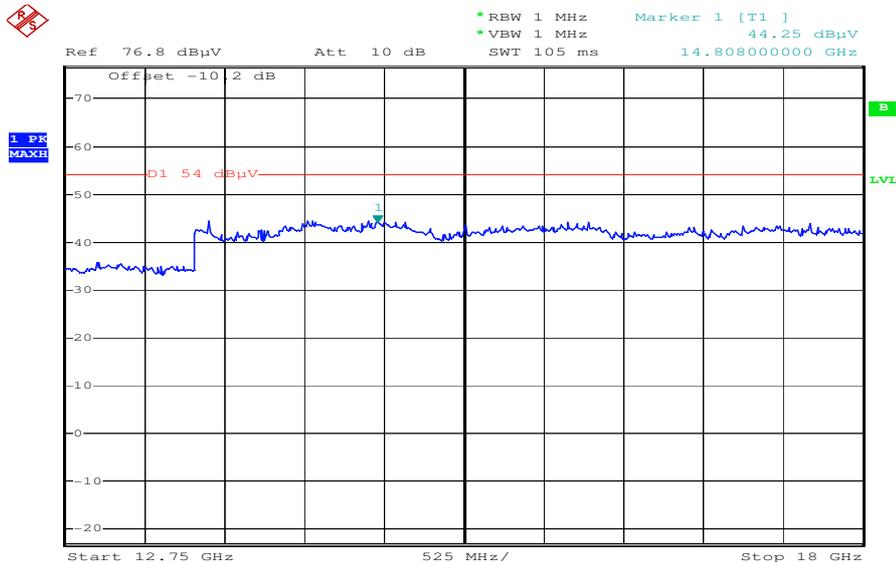
Turntable: Turntable [EMCO Turntable]
@ GPIB0 (ADR 9), FW REV 3.12

EMC 32 Version 8.52

Plot 32: 1 GHz to 12.75 GHz, 5700 MHz, vertical & horizontal polarization

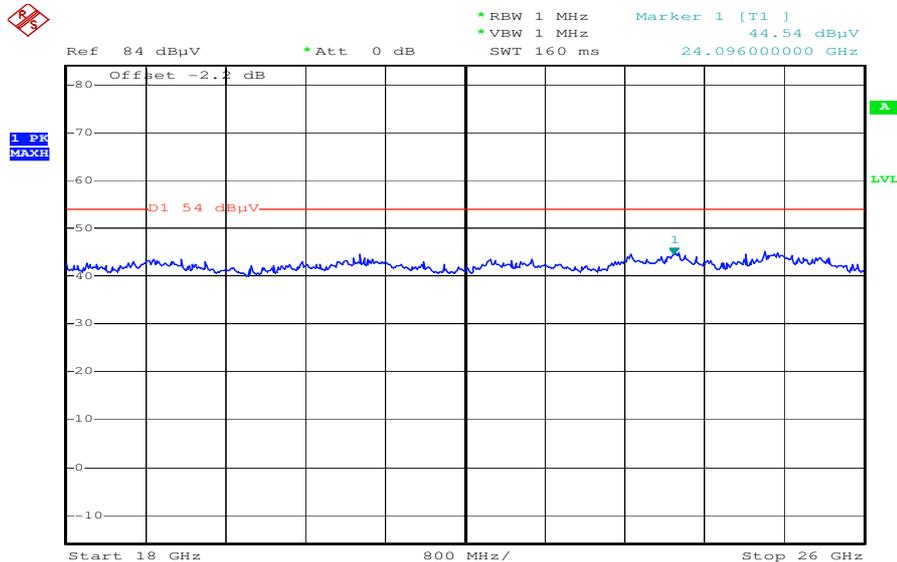


Plot 33: 12 GHz to 18 GHz, 5700 MHz, vertical & horizontal polarization



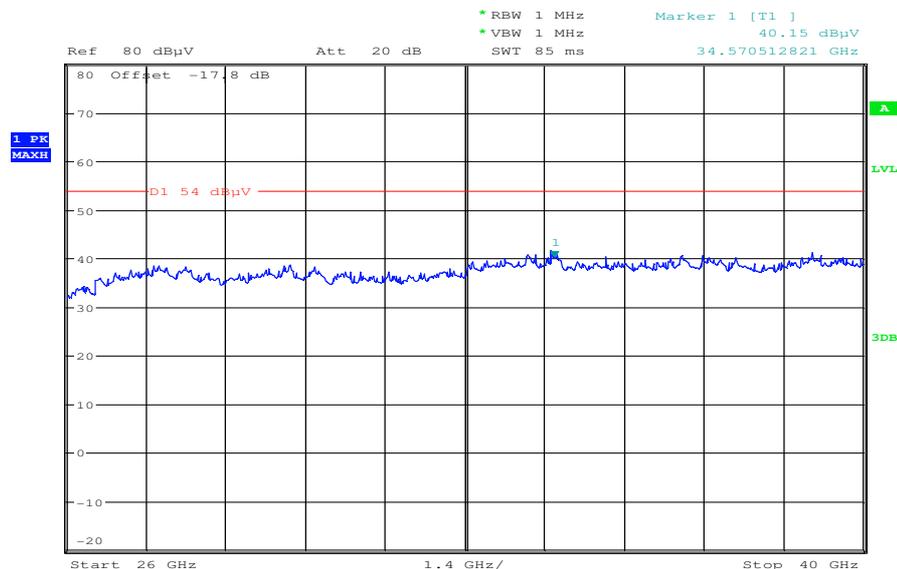
Date: 8.AUG.2012 15:07:23

Plot 34: 18 GHz to 26 GHz, 5700 MHz, vertical & horizontal polarization



Date: 8.AUG.2012 15:55:08

Plot 35: 26 GHz to 40 GHz, 5700 MHz, vertical & horizontal polarization



Date: 8.AUG.2012 14:58:47

Plots: OFDM / n – mode HT40

Plot 1: 30 MHz to 1 GHz, 5190 MHz, vertical & horizontal polarization

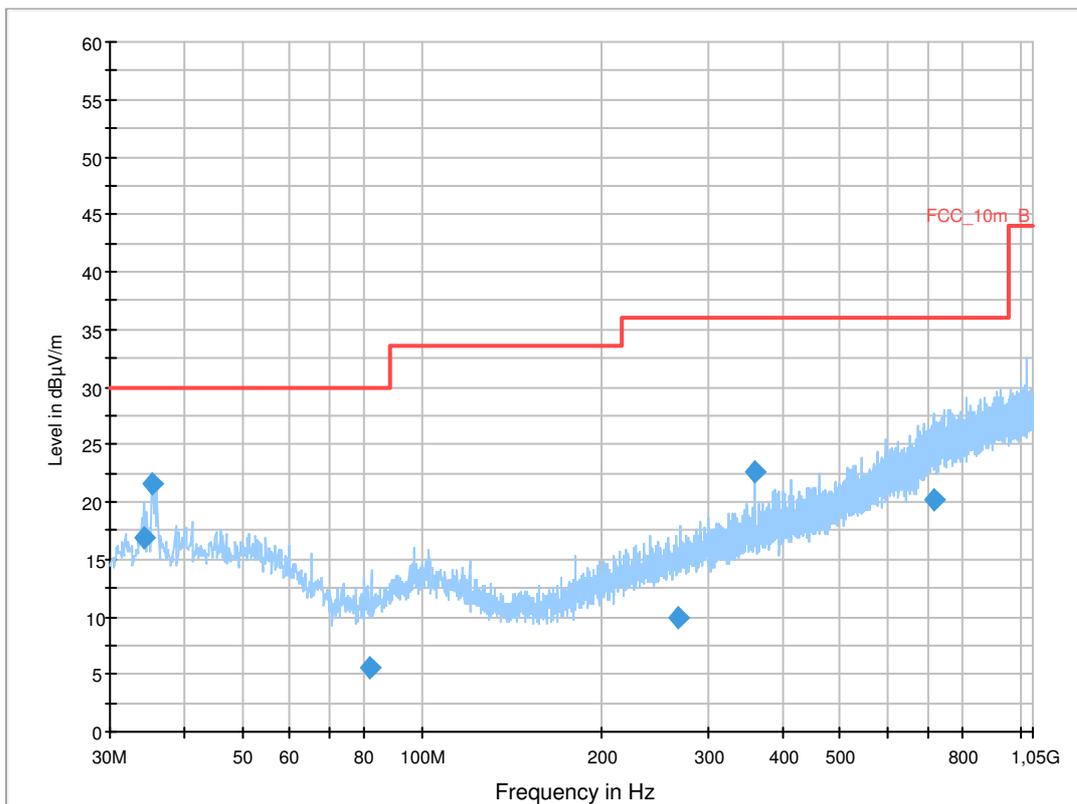
Common Information

EUT: PM-0070-BV
 Serial Number: CB511ZY9PB
 Test Description: FCC part 15 class B @ 10 m
 Operating Conditions: TX WLAN n-mode HT40, CH 38 + charging
 Operator Name: Wolsdorfer
 Comment: AC: 115 V / 60 Hz

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
34.310400	16.9	1000.0	120.000	98.0	V	10.0	13.0	13.1	30.0	
35.322150	21.5	1000.0	120.000	98.0	V	190.0	13.1	8.5	30.0	
81.635100	5.5	1000.0	120.000	170.0	V	92.0	9.3	24.5	30.0	
268.746000	9.9	1000.0	120.000	170.0	H	10.0	13.8	26.1	36.0	
359.983950	22.5	1000.0	120.000	98.0	V	2.0	16.2	13.5	36.0	
717.381150	20.2	1000.0	120.000	170.0	H	175.0	22.9	15.8	36.0	

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

Subrange 1

Frequency Range: 30 MHz - 2 GHz

Receiver: Receiver [ESCI 3]
@ GPIB0 (ADR 20), SN 100083/003, FW 4.42

Signal Path: without Notch
FW 1.0

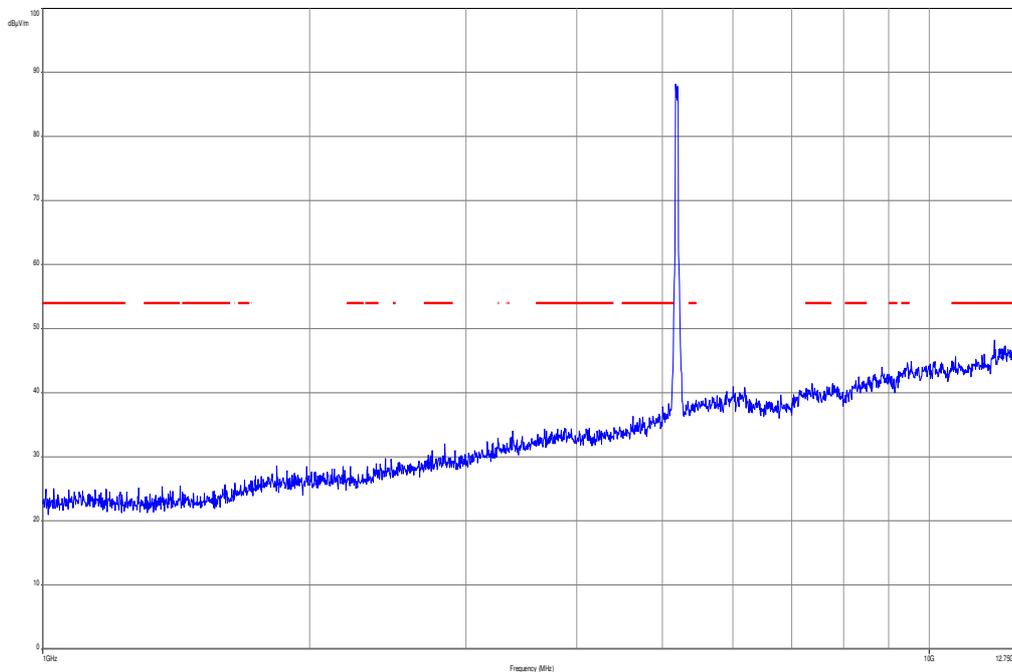
Antenna: VULB 9163
SN 9163-295, FW ---
Correction Table (vertical): VULP6113
Correction Table (horizontal): VULP6113
Correction Table (vertical): Cable_EN_1GHz (1005)
Correction Table (horizontal): Cable_EN_1GHz (1005)

Antenna Tower: Tower [EMCO 2090 Antenna Tower]
@ GPIB0 (ADR 8), FW REV 3.12

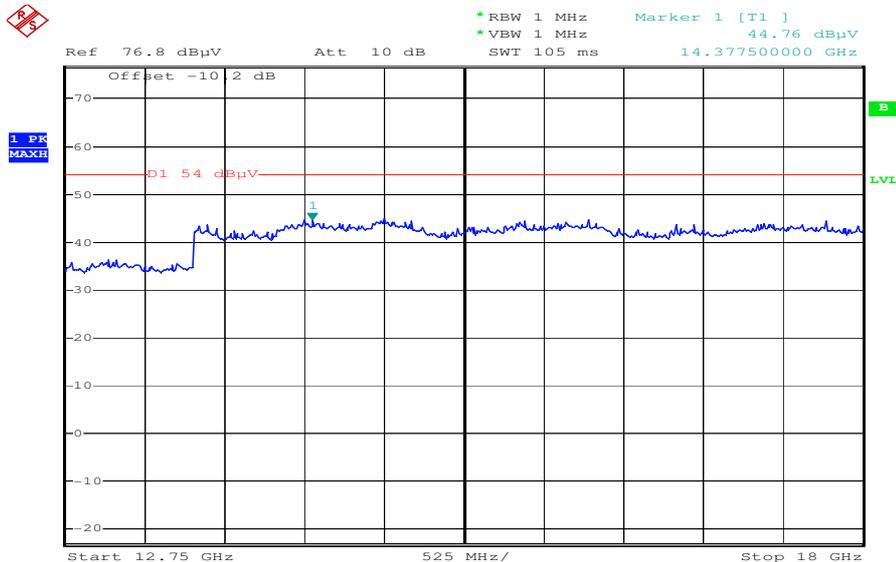
Turntable: Turntable [EMCO Turntable]
@ GPIB0 (ADR 9), FW REV 3.12

EMC 32 Version 8.52

Plot 2: 1 GHz to 12.75 GHz, 5190 MHz, vertical & horizontal polarization

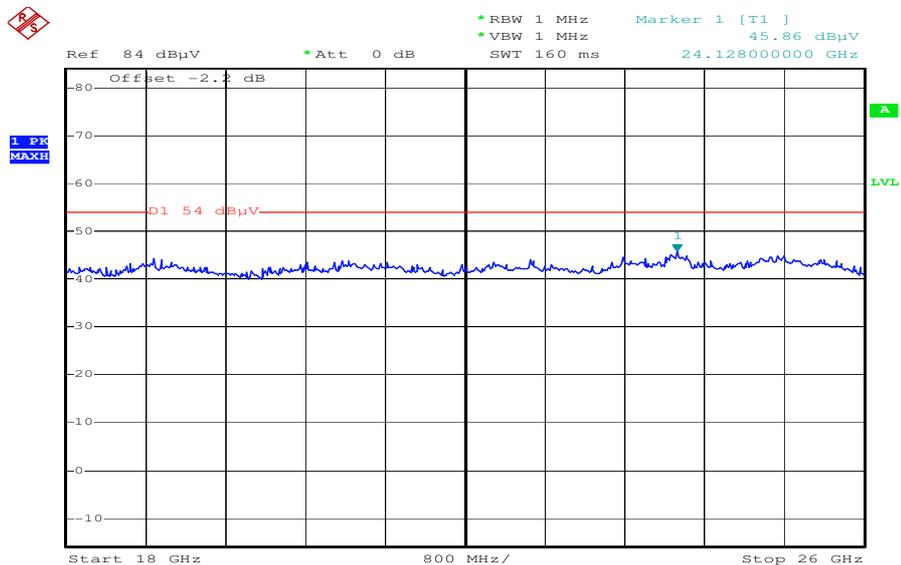


Plot 3: 12 GHz to 18 GHz, 5190 MHz, vertical & horizontal polarization



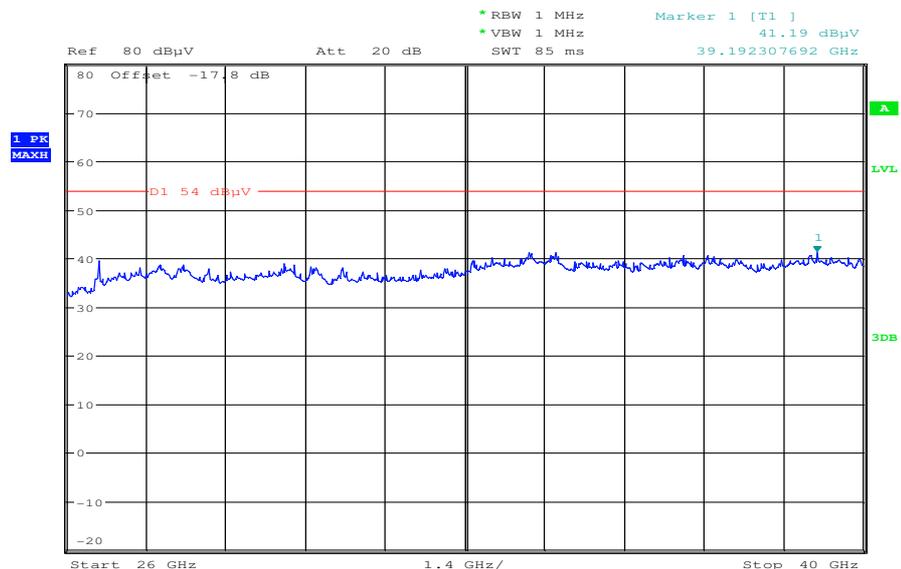
Date: 8.AUG.2012 14:27:16

Plot 4: 18 GHz to 26 GHz, 5190 MHz, vertical & horizontal polarization



Date: 8.AUG.2012 15:31:20

Plot 5: 26 GHz to 40 GHz, 5190 MHz, vertical & horizontal polarization



Date: 8.AUG.2012 14:18:54

Plot 6: 30 MHz to 1 GHz, 5230 MHz, vertical & horizontal polarization

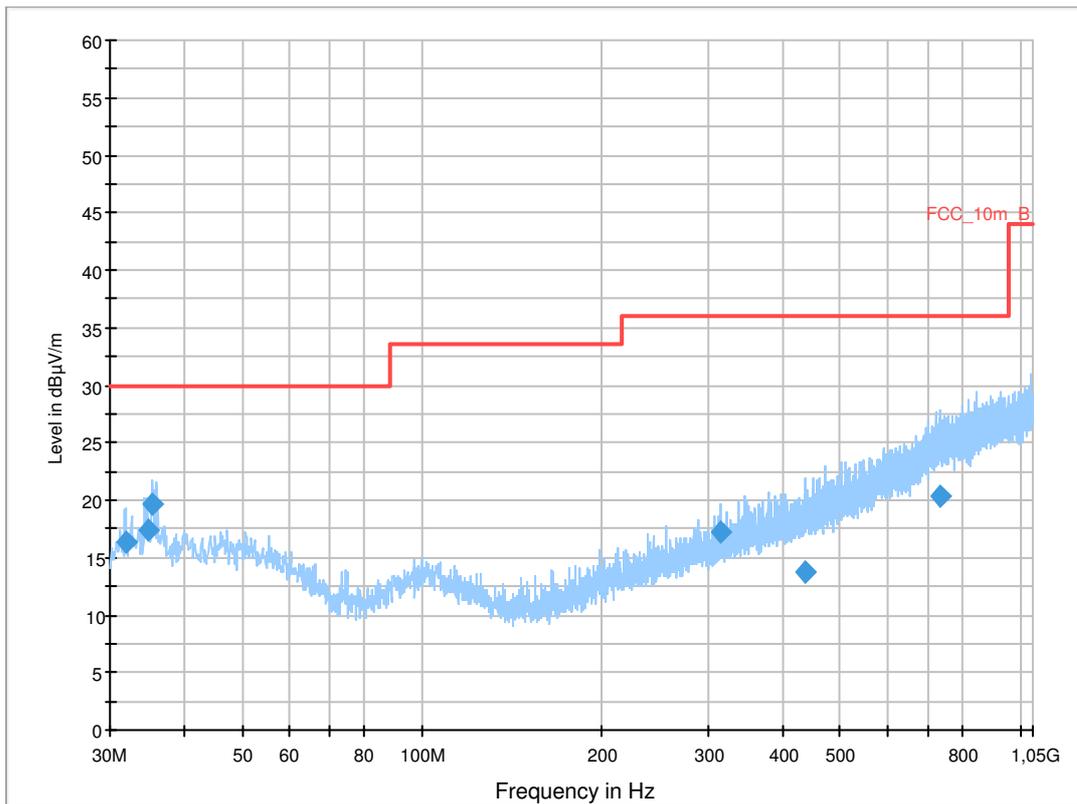
Common Information

EUT: PM-0030-BV
 Serial Number: CB511ZY9PB
 Test Description: FCC part 15 class B @ 10 m
 Operating Conditions: TX WLAN n-mode HT40, CH 46 + charging
 Operator Name: Wolsdorfer
 Comment: AC: 115 V / 60 Hz

Scan Setup: STAN_Fin [EMI radiated]

Hardware Setup: Electric Field (NOS)
 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 (dB μ V/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB μ V/m)	Comment
31.959600	16.3	1000.0	120.000	153.0	V	280.0	12.7	13.7	30.0	
34.693950	17.5	1000.0	120.000	170.0	V	-2.0	13.0	12.5	30.0	
35.355000	19.7	1000.0	120.000	98.0	V	190.0	13.1	10.3	30.0	
314.972700	17.2	1000.0	120.000	170.0	V	100.0	15.0	18.8	36.0	
435.421500	13.8	1000.0	120.000	120.0	V	280.0	17.4	22.2	36.0	
734.194350	20.4	1000.0	120.000	170.0	V	280.0	23.3	15.6	36.0	

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

Subrange 1

Frequency Range: 30 MHz - 2 GHz

Receiver: Receiver [ESCI 3]
@ GPIB0 (ADR 20), SN 100083/003, FW 4.42

Signal Path: without Notch
FW 1.0

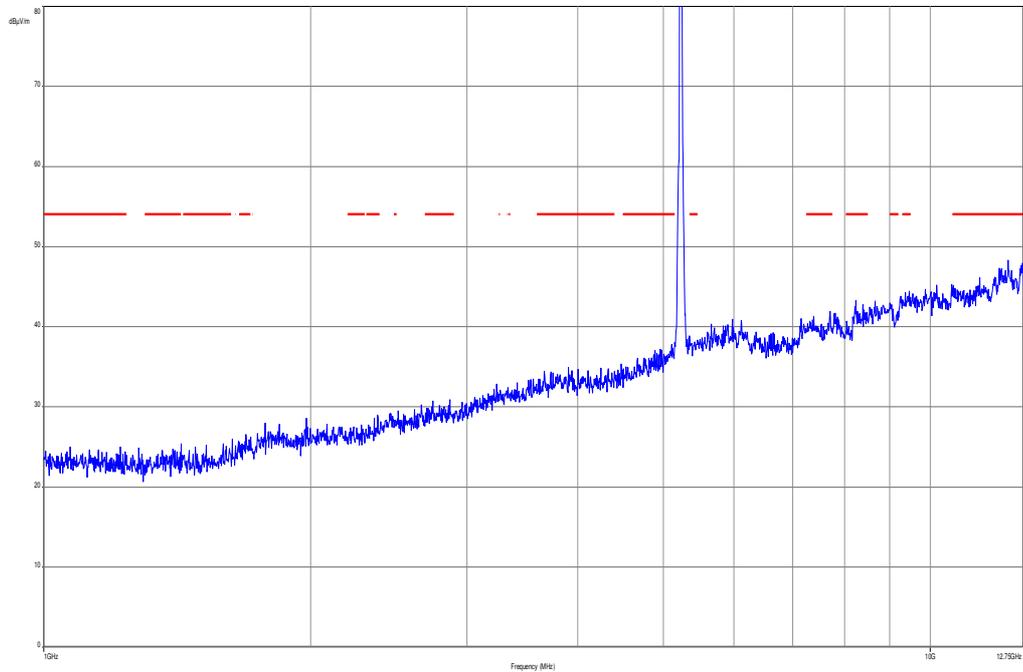
Antenna: VULB 9163
SN 9163-295, FW ---
Correction Table (vertical): VULP6113
Correction Table (horizontal): VULP6113
Correction Table (vertical): Cable_EN_1GHz (1005)
Correction Table (horizontal): Cable_EN_1GHz (1005)

Antenna Tower: Tower [EMCO 2090 Antenna Tower]
@ GPIB0 (ADR 8), FW REV 3.12

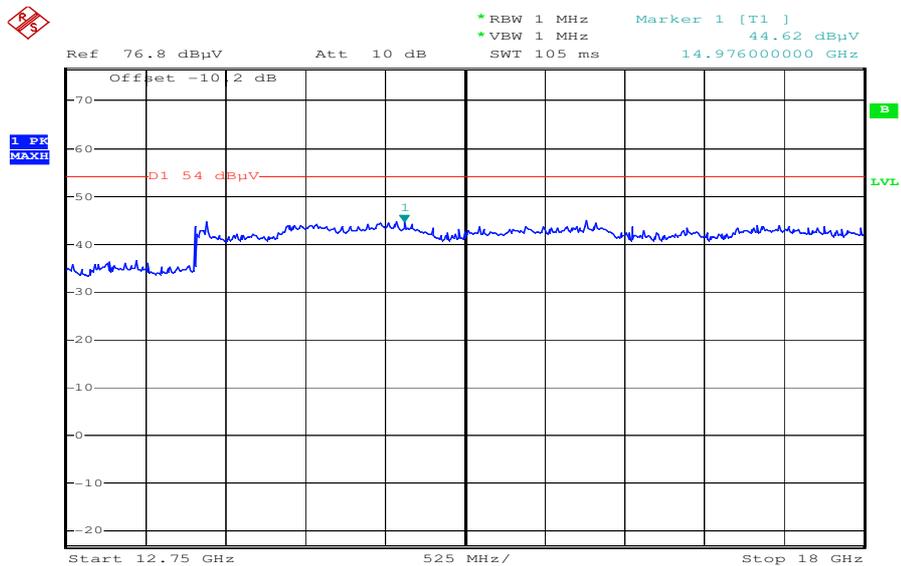
Turntable: Turntable [EMCO Turntable]
@ GPIB0 (ADR 9), FW REV 3.12

EMC 32 Version 8.52

Plot 7: 1 GHz to 12.75 GHz, 5230 MHz, vertical & horizontal polarization

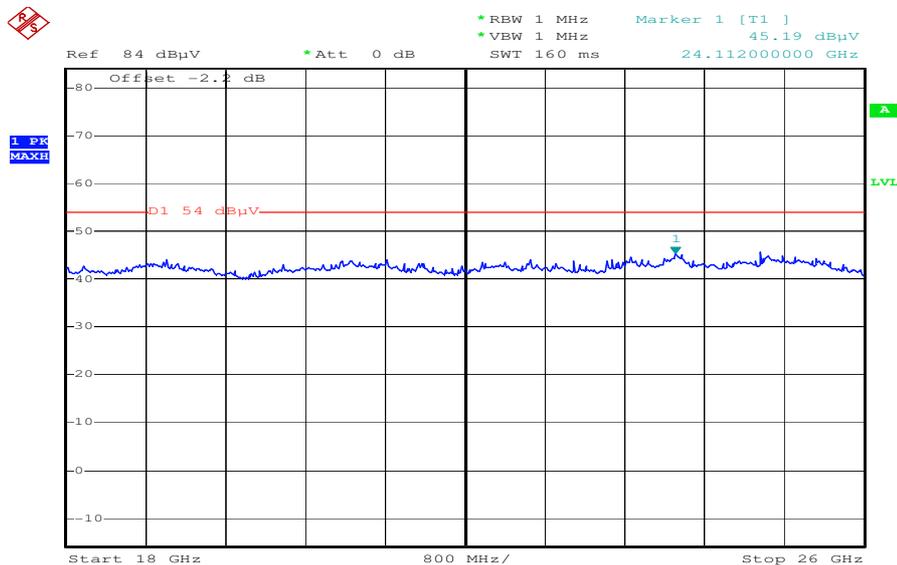


Plot 8: 12 GHz to 18 GHz, 5230 MHz, vertical & horizontal polarization



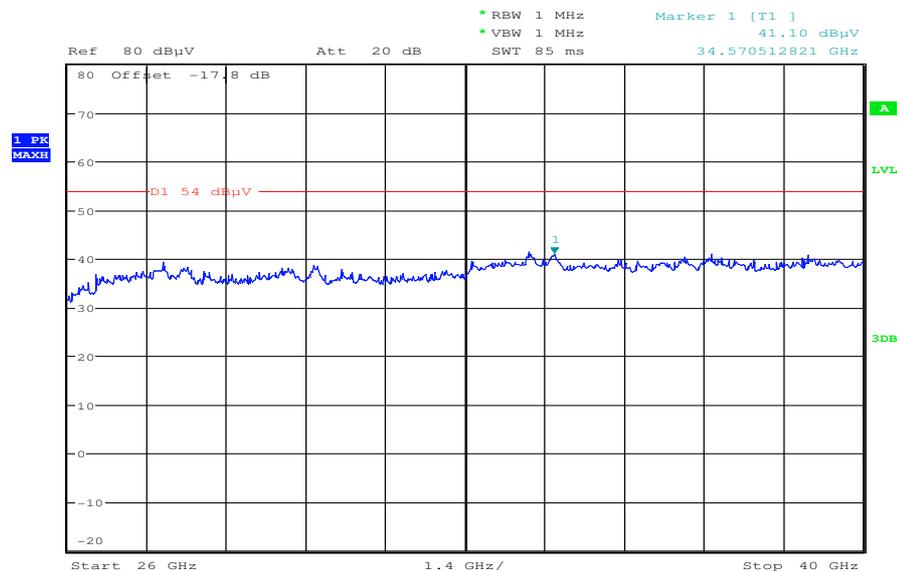
Date: 8.AUG.2012 14:29:44

Plot 9: 18 GHz to 26 GHz, 5230 MHz, vertical & horizontal polarization



Date: 8.AUG.2012 15:32:34

Plot 10: 26 GHz to 40 GHz, 5230 MHz, vertical & horizontal polarization



Date: 8.AUG.2012 15:23:58

Plot 11: 30 MHz to 1 GHz, 5270 MHz, vertical & horizontal polarization

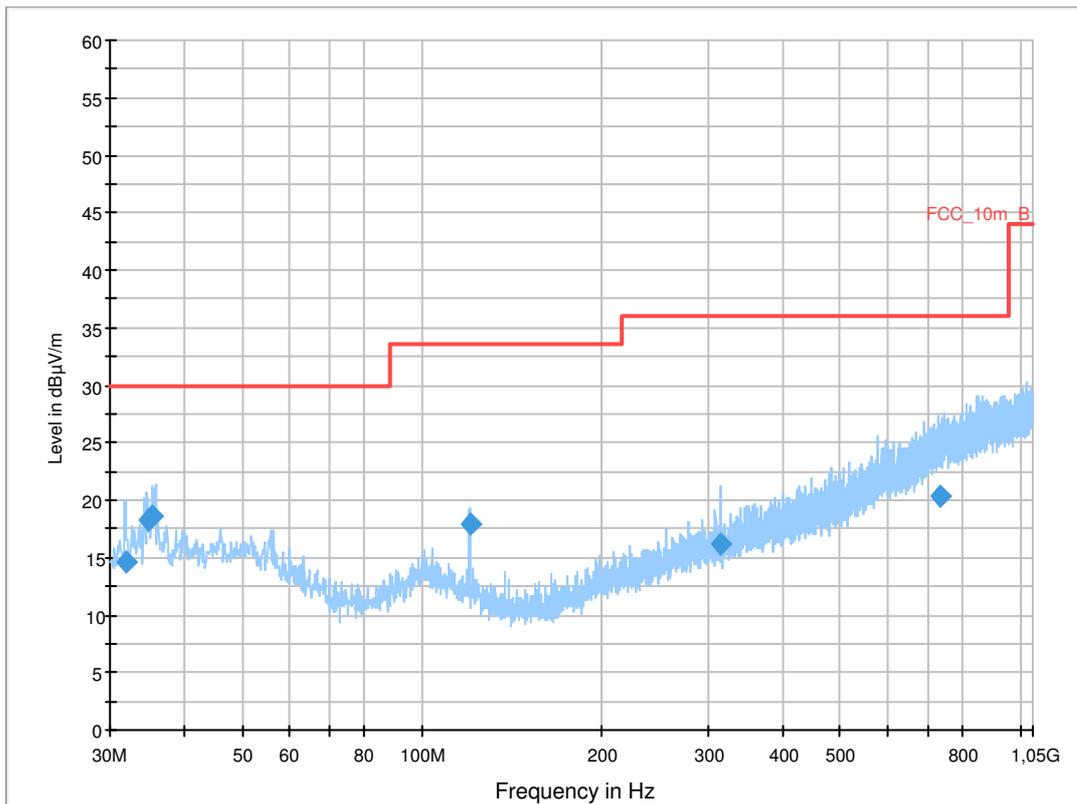
Common Information

EUT: PM-0030-BV
 Serial Number: CB511ZY9PB
 Test Description: FCC part 15 class B @ 10 m
 Operating Conditions: TX WLAN n-mode HT40, CH 54 + charging
 Operator Name: Wolsdorfer
 Comment: AC: 115 V / 60 Hz

Scan Setup: STAN_Fin [EMI radiated]

Hardware Setup: Electric Field (NOS)
 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 (dB μ V/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB μ V/m)	Comment
31.991100	14.5	1000.0	120.000	170.0	V	171.0	12.7	15.5	30.0	
34.675500	18.2	1000.0	120.000	142.0	V	260.0	13.0	11.8	30.0	
35.365050	18.6	1000.0	120.000	170.0	V	92.0	13.1	11.4	30.0	
119.966400	17.9	1000.0	120.000	170.0	V	190.0	10.2	15.6	33.5	
315.022950	16.1	1000.0	120.000	170.0	V	190.0	15.0	19.9	36.0	
731.970300	20.3	1000.0	120.000	170.0	V	88.0	23.2	15.7	36.0	

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

Subrange 1

Frequency Range: 30 MHz - 2 GHz

Receiver: Receiver [ESCI 3]
@ GPIB0 (ADR 20), SN 100083/003, FW 4.42

Signal Path: without Notch
FW 1.0

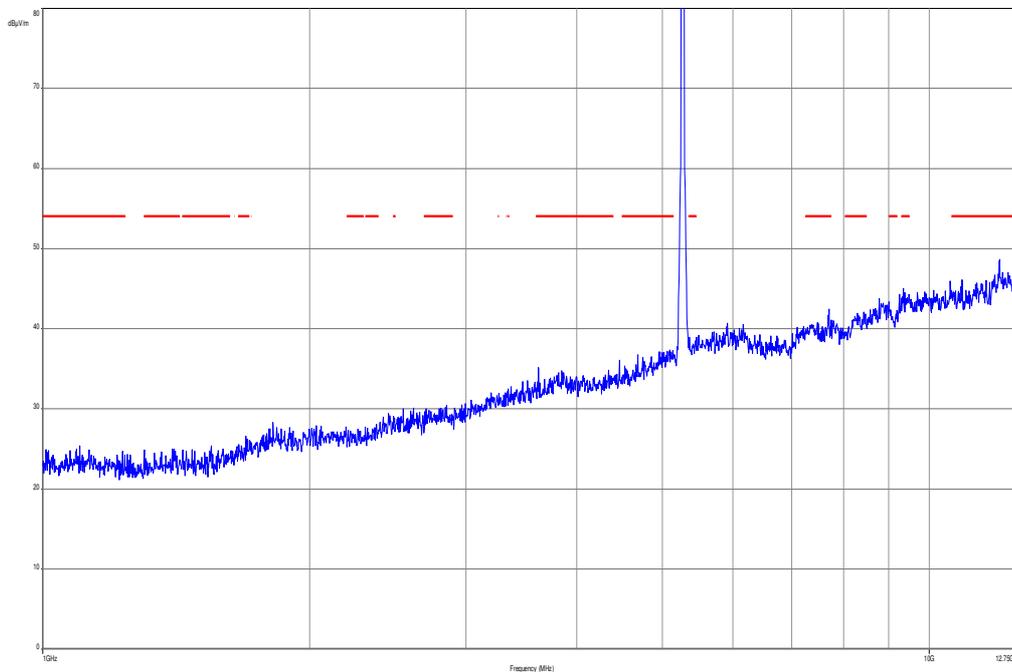
Antenna: VULB 9163
SN 9163-295, FW ---
Correction Table (vertical): VULP6113
Correction Table (horizontal): VULP6113
Correction Table (vertical): Cable_EN_1GHz (1005)
Correction Table (horizontal): Cable_EN_1GHz (1005)

Antenna Tower: Tower [EMCO 2090 Antenna Tower]
@ GPIB0 (ADR 8), FW REV 3.12

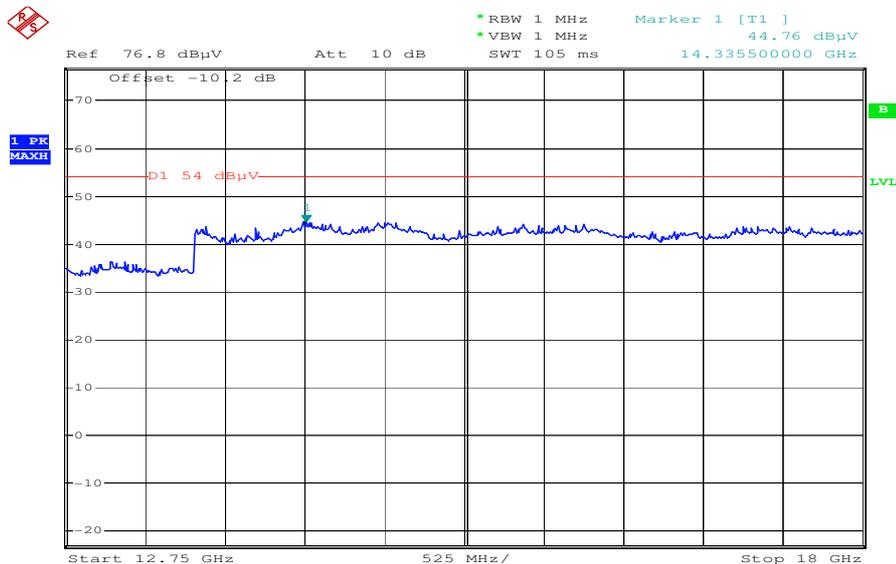
Turntable: Turntable [EMCO Turntable]
@ GPIB0 (ADR 9), FW REV 3.12

EMC 32 Version 8.52

Plot 12: 1 GHz to 12.75 GHz, 5270 MHz, vertical & horizontal polarization

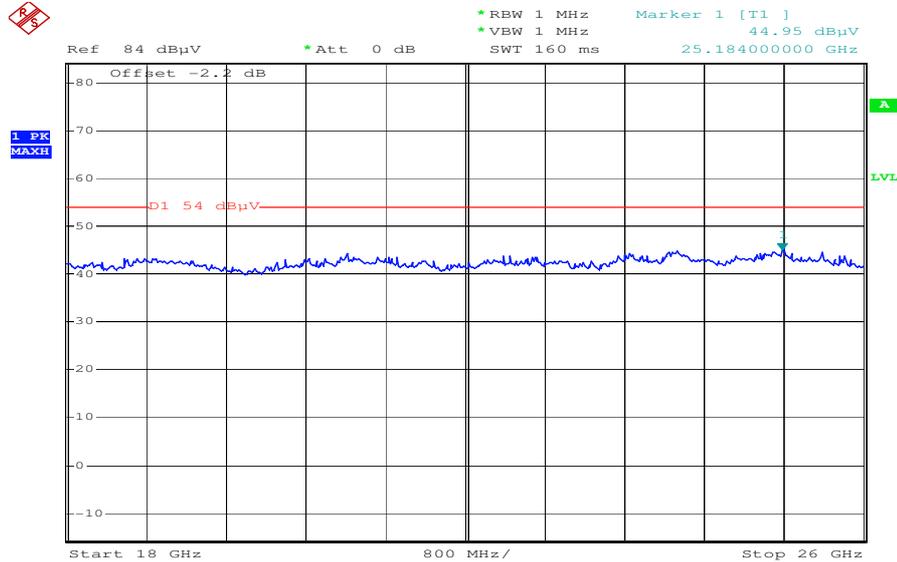


Plot 13: 12 GHz to 18 GHz, 5270 MHz, vertical & horizontal polarization



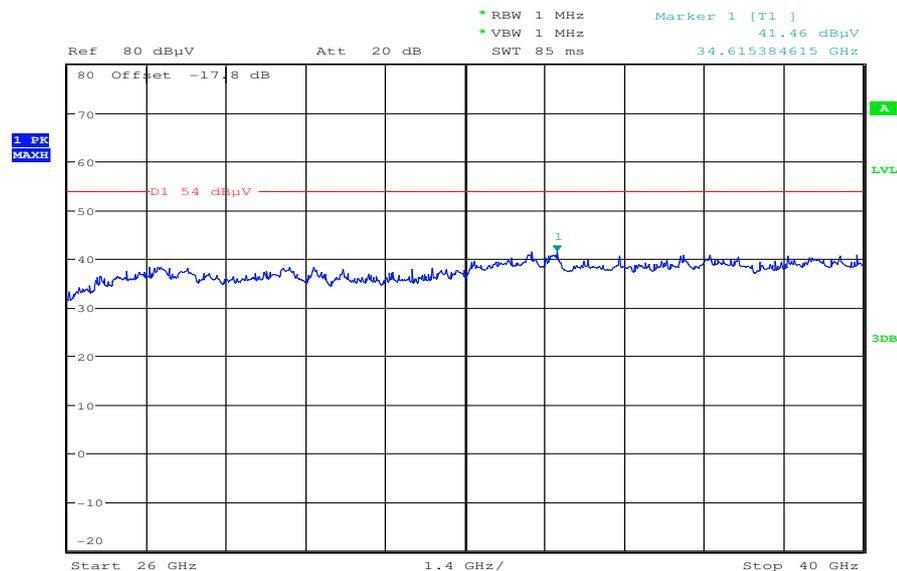
Date: 8.AUG.2012 14:32:03

Plot 14: 18 GHz to 26 GHz, 5270 MHz, vertical & horizontal polarization



Date: 8.AUG.2012 15:34:33

Plot 15: 26 GHz to 40 GHz, 5270 MHz, vertical & horizontal polarization



Date: 8.AUG.2012 14:23:30

Plot 16: 30 MHz to 1 GHz, 5310 MHz, vertical & horizontal polarization

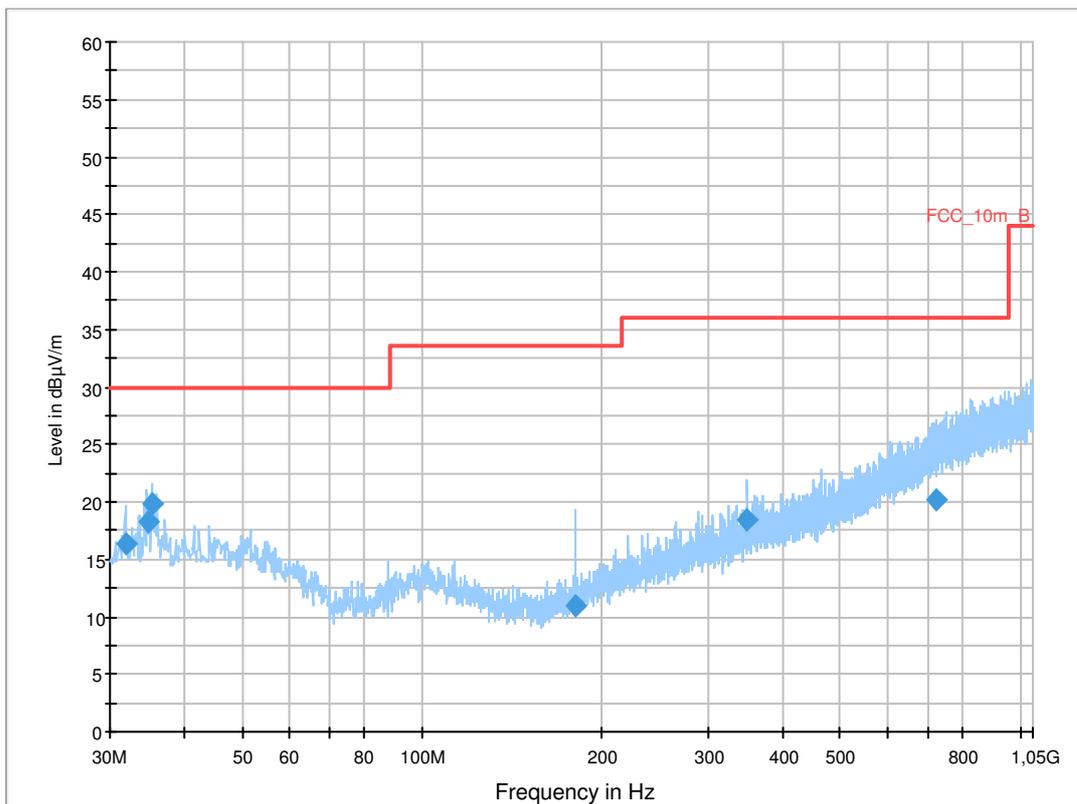
Common Information

EUT: PM-0030-BV
 Serial Number: CB511ZY9PB
 Test Description: FCC part 15 class B @ 10 m
 Operating Conditions: TX WLAN n-mode HT40, CH 62 + charging
 Operator Name: Wolsdorfer
 Comment: AC: 115 V / 60 Hz

Scan Setup: STAN_Fin [EMI radiated]

Hardware Setup: Electric Field (NOS)
 Receiver: [ESCI 3]
 Level Unit: dB μ V/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
31.940100	16.4	1000.0	120.000	105.0	V	170.0	12.7	13.6	30.0	
34.650750	18.2	1000.0	120.000	121.0	V	260.0	13.0	11.8	30.0	
35.354400	19.9	1000.0	120.000	98.0	V	-5.0	13.1	10.1	30.0	
179.937150	11.0	1000.0	120.000	98.0	V	280.0	10.4	22.5	33.5	
349.991400	18.5	1000.0	120.000	120.0	V	265.0	16.1	17.5	36.0	
723.332550	20.1	1000.0	120.000	160.0	V	88.0	23.0	15.9	36.0	

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

Subrange 1

Frequency Range: 30 MHz - 2 GHz

Receiver: Receiver [ESCI 3]
@ GPIB0 (ADR 20), SN 100083/003, FW 4.42

Signal Path: without Notch
FW 1.0

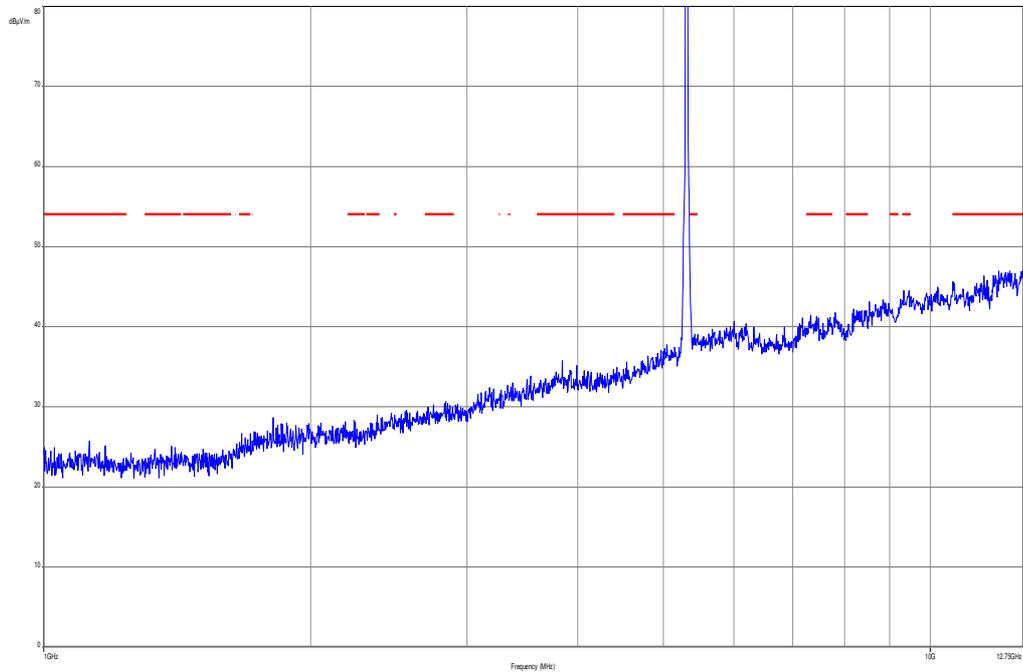
Antenna: VULB 9163
SN 9163-295, FW ---
Correction Table (vertical): VULP6113
Correction Table (horizontal): VULP6113
Correction Table (vertical): Cable_EN_1GHz (1005)
Correction Table (horizontal): Cable_EN_1GHz (1005)

Antenna Tower: Tower [EMCO 2090 Antenna Tower]
@ GPIB0 (ADR 8), FW REV 3.12

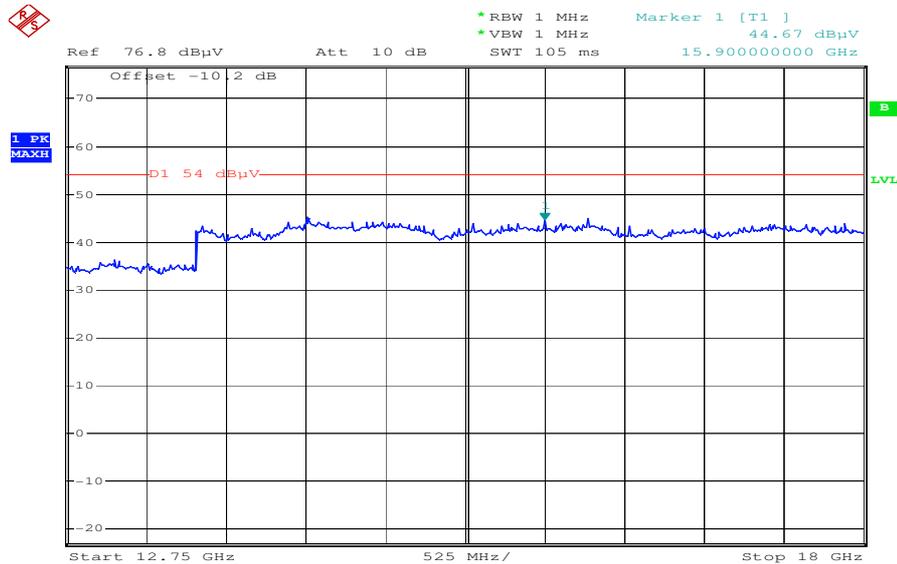
Turntable: Turntable [EMCO Turntable]
@ GPIB0 (ADR 9), FW REV 3.12

EMC 32 Version 8.52

Plot 17: 1 GHz to 12.75 GHz, 5310 MHz, vertical & horizontal polarization

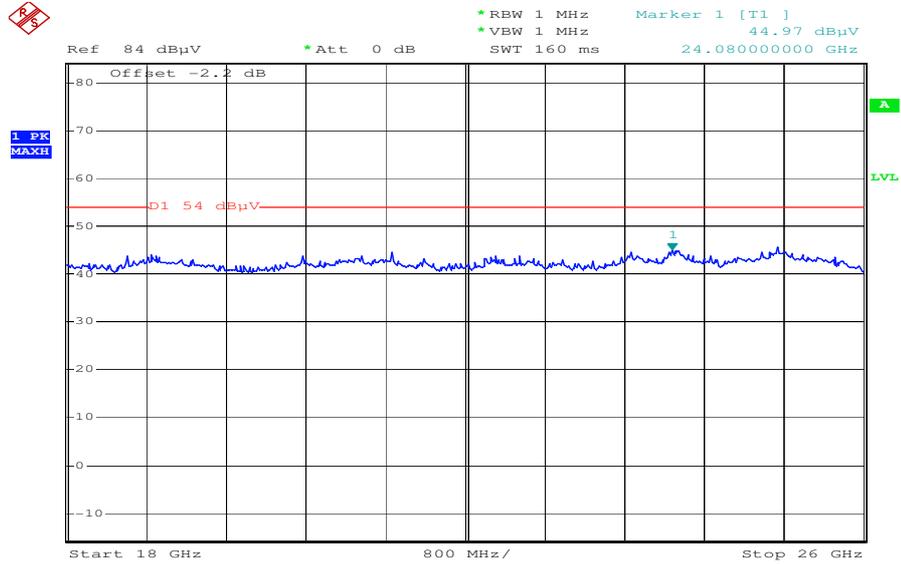


Plot 18: 12 GHz to 18 GHz, 5310 MHz, vertical & horizontal polarization



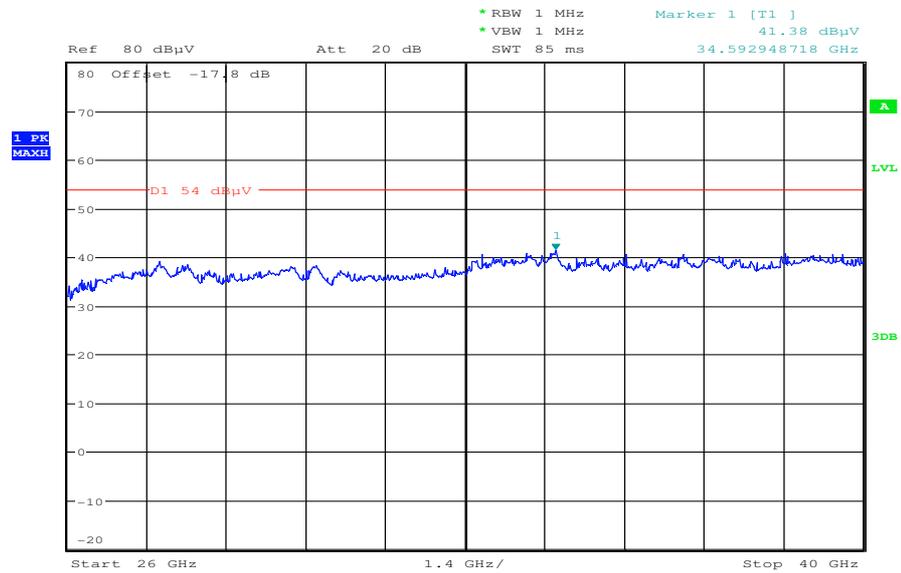
Date: 8.AUG.2012 14:34:31

Plot 19: 18 GHz to 26 GHz, 5310 MHz, vertical & horizontal polarization



Date: 8.AUG.2012 15:38:26

Plot 20: 26 GHz to 40 GHz, 5310 MHz, vertical & horizontal polarization



Date: 8.AUG.2012 14:26:03

Plot 21: 30 MHz to 1 GHz, 5510 MHz, vertical & horizontal polarization

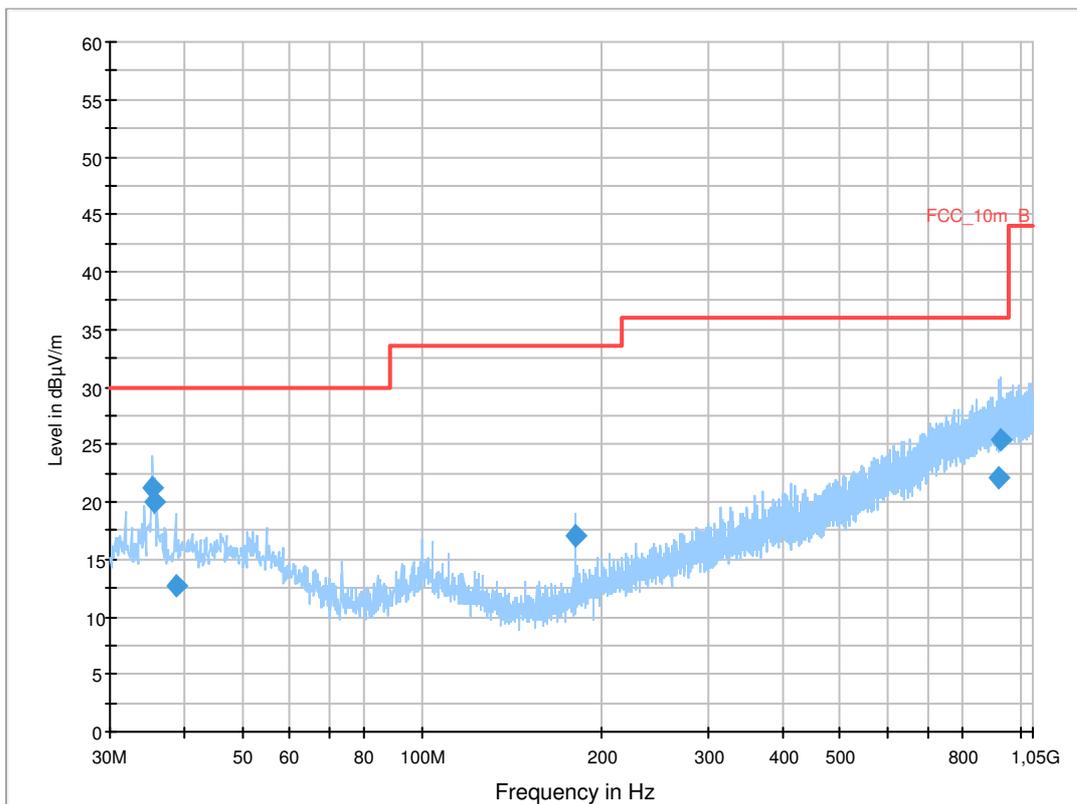
Common Information

EUT: PM-0030-BV
 Serial Number: CB511ZY9PB
 Test Description: FCC part 15 class B @ 10 m
 Operating Conditions: TX WLAN n-mode HT40, CH 102 + charging
 Operator Name: Wolsdorfer
 Comment: AC: 115 V / 60 Hz

Scan Setup: STAN_Fin [EMI radiated]

Hardware Setup: Electric Field (NOS)
 Receiver: [ESCI 3]
 Level Unit: dB μ V/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 (dB μ V/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB μ V/m)	Comment
35.344650	21.2	1000.0	120.000	112.0	V	10.0	13.1	8.8	30.0	
35.684100	20.0	1000.0	120.000	120.0	V	0.0	13.1	10.0	30.0	
38.677500	12.7	1000.0	120.000	143.0	V	176.0	13.3	17.3	30.0	
179.976450	17.1	1000.0	120.000	98.0	V	190.0	10.4	16.4	33.5	
917.323650	22.1	1000.0	120.000	170.0	H	175.0	25.3	13.9	36.0	
927.417600	25.4	1000.0	120.000	153.0	V	100.0	25.3	10.6	36.0	

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

Subrange 1

Frequency Range: 30 MHz - 2 GHz

Receiver: Receiver [ESCI 3]
@ GPIB0 (ADR 20), SN 100083/003, FW 4.42

Signal Path: without Notch
FW 1.0

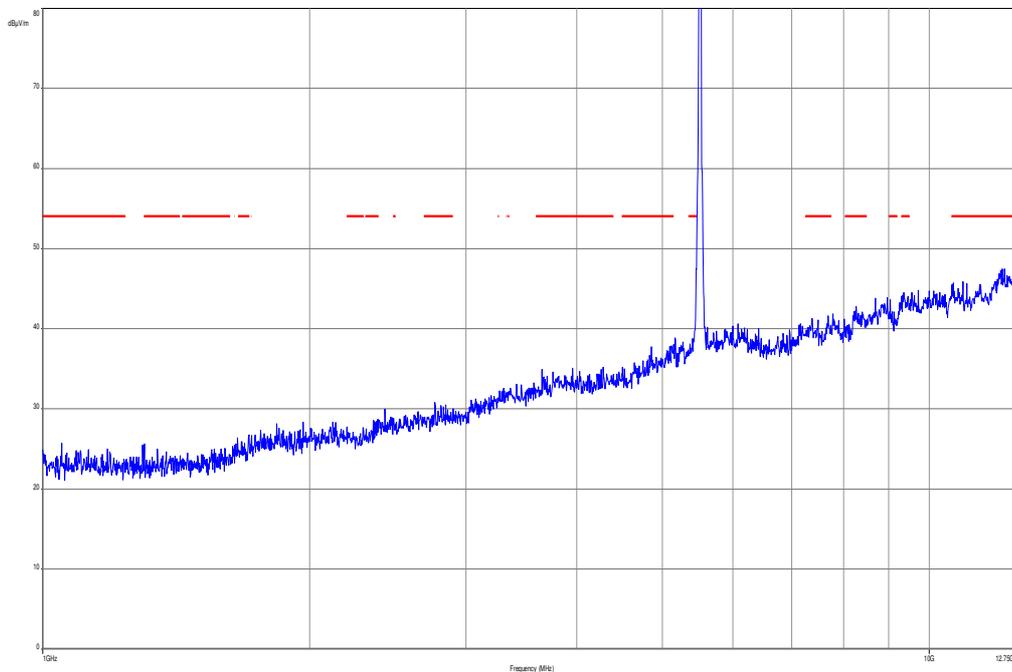
Antenna: VULB 9163
SN 9163-295, FW ---
Correction Table (vertical): VULP6113
Correction Table (horizontal): VULP6113
Correction Table (vertical): Cable_EN_1GHz (1005)
Correction Table (horizontal): Cable_EN_1GHz (1005)

Antenna Tower: Tower [EMCO 2090 Antenna Tower]
@ GPIB0 (ADR 8), FW REV 3.12

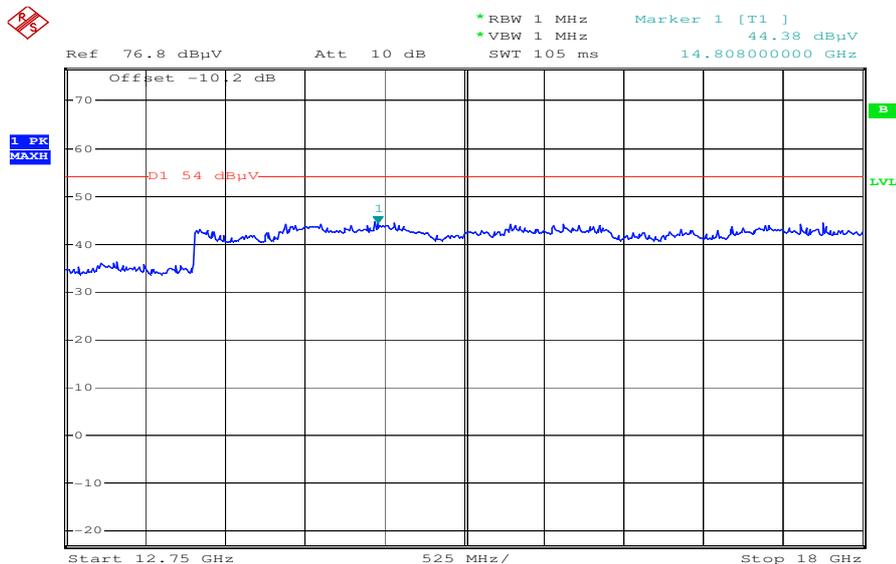
Turntable: Turntable [EMCO Turntable]
@ GPIB0 (ADR 9), FW REV 3.12

EMC 32 Version 8.52

Plot 22: 1 GHz to 12.75 GHz, 5510 MHz, vertical & horizontal polarization

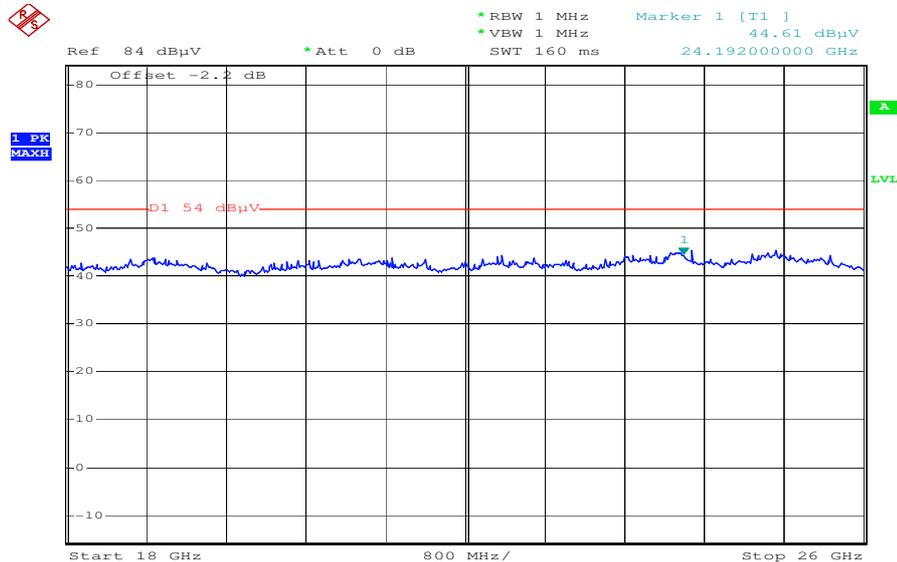


Plot 23: 12 GHz to 18 GHz, 5510 MHz, vertical & horizontal polarization



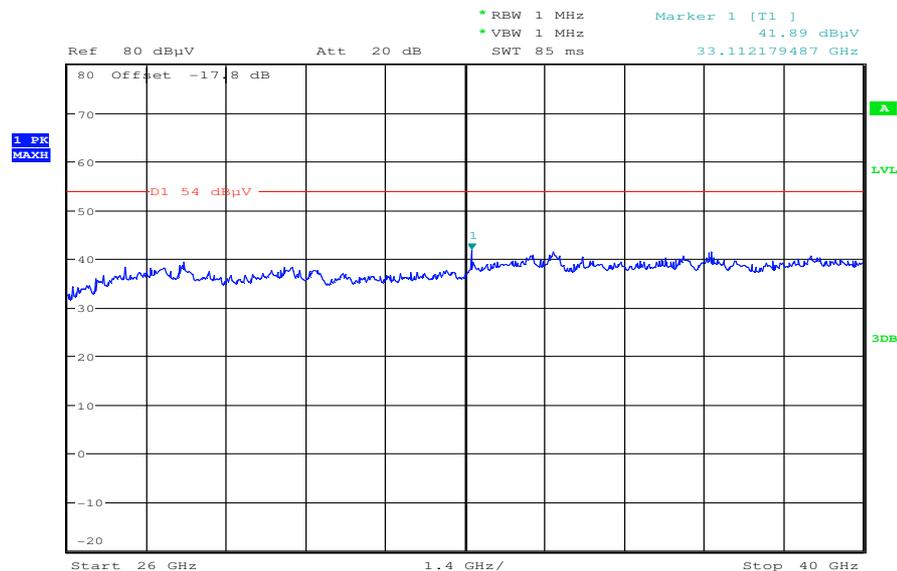
Date: 8.AUG.2012 14:37:09

Plot 24: 18 GHz to 26 GHz, 5510 MHz, vertical & horizontal polarization



Date: 8.AUG.2012 15:37:21

Plot 25: 26 GHz to 40 GHz, 5510 MHz, vertical & horizontal polarization



Date: 8.AUG.2012 14:28:41

Plot 26: 30 MHz to 1 GHz, 5590 MHz, vertical & horizontal polarization

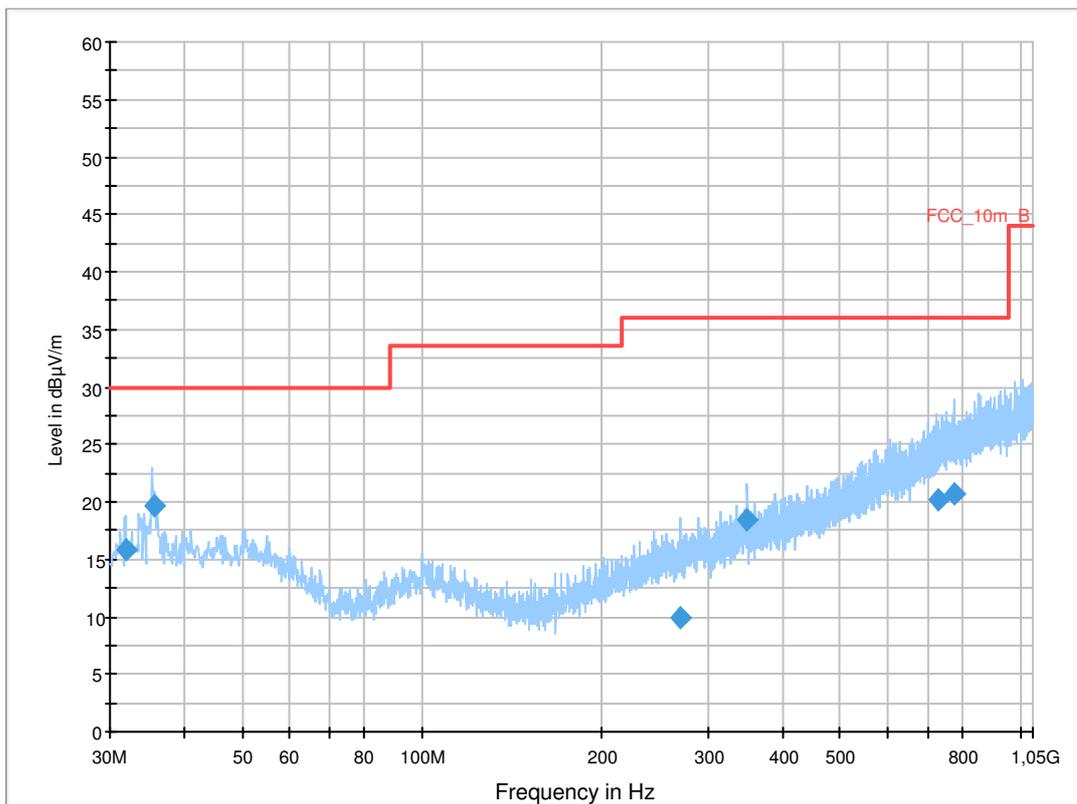
Common Information

EUT: PM-0030-BV
 Serial Number: CB511ZY9PB
 Test Description: FCC part 15 class B @ 10 m
 Operating Conditions: TX WLAN n-mode HT40, CH 118 + charging
 Operator Name: Wolsdorfer
 Comment: AC: 115 V / 60 Hz

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 (dB μ V/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB μ V/m)	Comment
31.957050	15.8	1000.0	120.000	152.0	V	80.0	12.7	14.2	30.0	
35.661600	19.6	1000.0	120.000	153.0	V	-10.0	13.1	10.4	30.0	
270.398100	10.0	1000.0	120.000	170.0	H	175.0	13.8	26.0	36.0	
350.018550	18.4	1000.0	120.000	104.0	V	280.0	16.1	17.6	36.0	
726.494550	20.2	1000.0	120.000	170.0	H	100.0	23.1	15.8	36.0	
773.381700	20.8	1000.0	120.000	170.0	V	100.0	23.7	15.2	36.0	

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

Subrange 1

Frequency Range: 30 MHz - 2 GHz

Receiver: Receiver [ESCI 3]
@ GPIB0 (ADR 20), SN 100083/003, FW 4.42

Signal Path: without Notch
FW 1.0

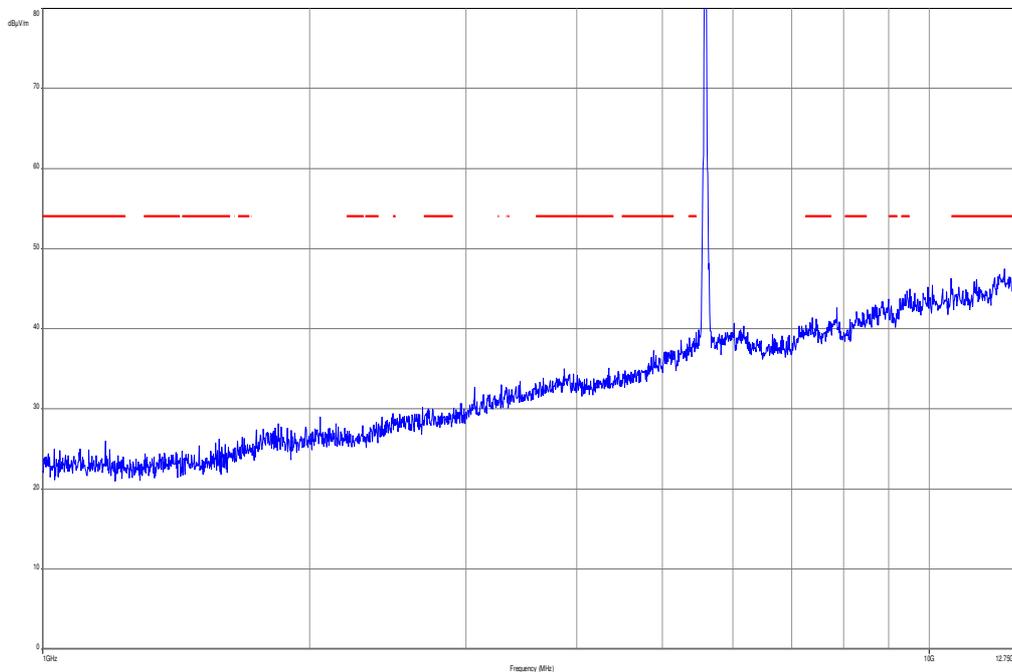
Antenna: VULB 9163
SN 9163-295, FW ---
Correction Table (vertical): VULP6113
Correction Table (horizontal): VULP6113
Correction Table (vertical): Cable_EN_1GHz (1005)
Correction Table (horizontal): Cable_EN_1GHz (1005)

Antenna Tower: Tower [EMCO 2090 Antenna Tower]
@ GPIB0 (ADR 8), FW REV 3.12

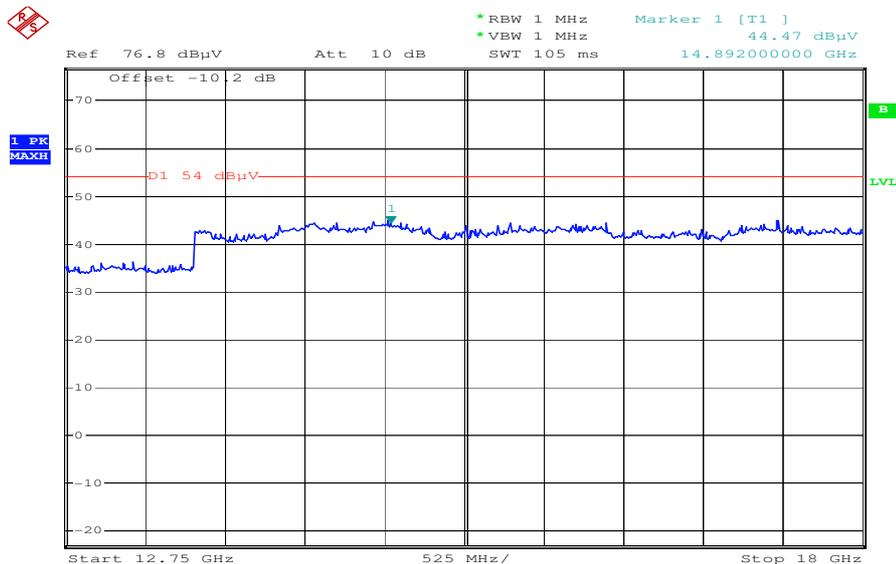
Turntable: Turntable [EMCO Turntable]
@ GPIB0 (ADR 9), FW REV 3.12

EMC 32 Version 8.52

Plot 27: 1 GHz to 12.75 GHz, 5590 MHz, vertical & horizontal polarization

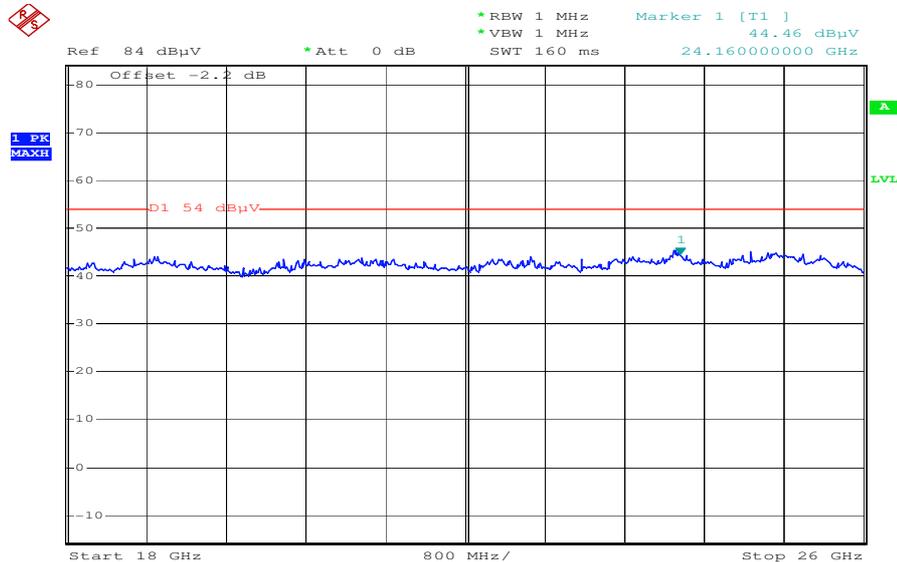


Plot 28: 12 GHz to 18 GHz, 5590 MHz, vertical & horizontal polarization



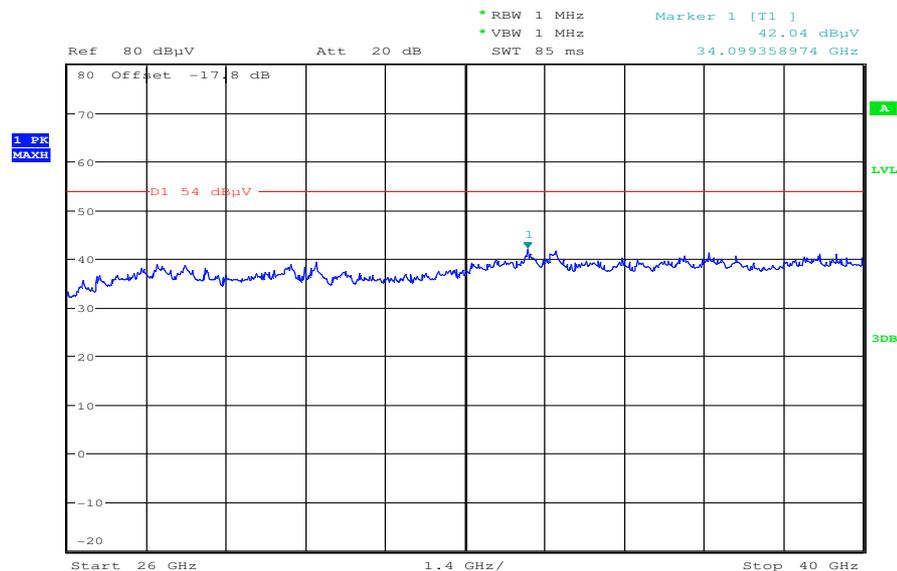
Date: 8.AUG.2012 14:40:09

Plot 29: 18 GHz to 26 GHz, 5590 MHz, vertical & horizontal polarization



Date: 8.AUG.2012 15:39:57

Plot 30: 26 GHz to 40 GHz, 5590 MHz, vertical & horizontal polarization



Date: 8.AUG.2012 14:31:47

Plot 31: 30 MHz to 1 GHz, 5670 MHz, vertical & horizontal polarization

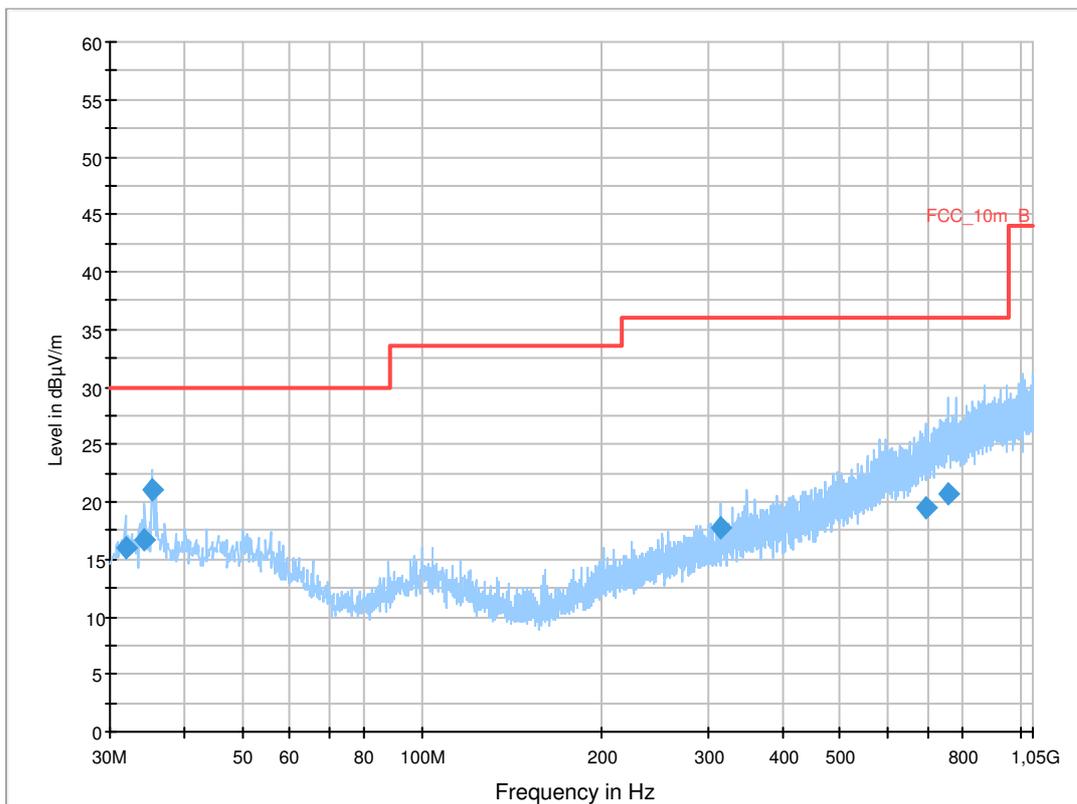
Common Information

EUT: PM-0030-BV
 Serial Number: CB511ZY9PB
 Test Description: FCC part 15 class B @ 10 m
 Operating Conditions: TX WLAN n-mode HT40, CH 134 + charging
 Operator Name: Wolsdorfer
 Comment: AC: 115 V / 60 Hz

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 (dB μ V/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB μ V/m)	Comment
31.906650	16.0	1000.0	120.000	120.0	V	80.0	12.7	14.0	30.0	
34.315200	16.7	1000.0	120.000	111.0	V	270.0	13.0	13.3	30.0	
35.334300	21.0	1000.0	120.000	98.0	V	81.0	13.1	9.0	30.0	
314.997000	17.7	1000.0	120.000	98.0	V	100.0	15.0	18.3	36.0	
694.544850	19.5	1000.0	120.000	170.0	V	175.0	22.4	16.5	36.0	
757.965600	20.7	1000.0	120.000	170.0	V	10.0	23.7	15.3	36.0	

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

Subrange 1

Frequency Range: 30 MHz - 2 GHz

Receiver: Receiver [ESCI 3]
@ GPIB0 (ADR 20), SN 100083/003, FW 4.42

Signal Path: without Notch
FW 1.0

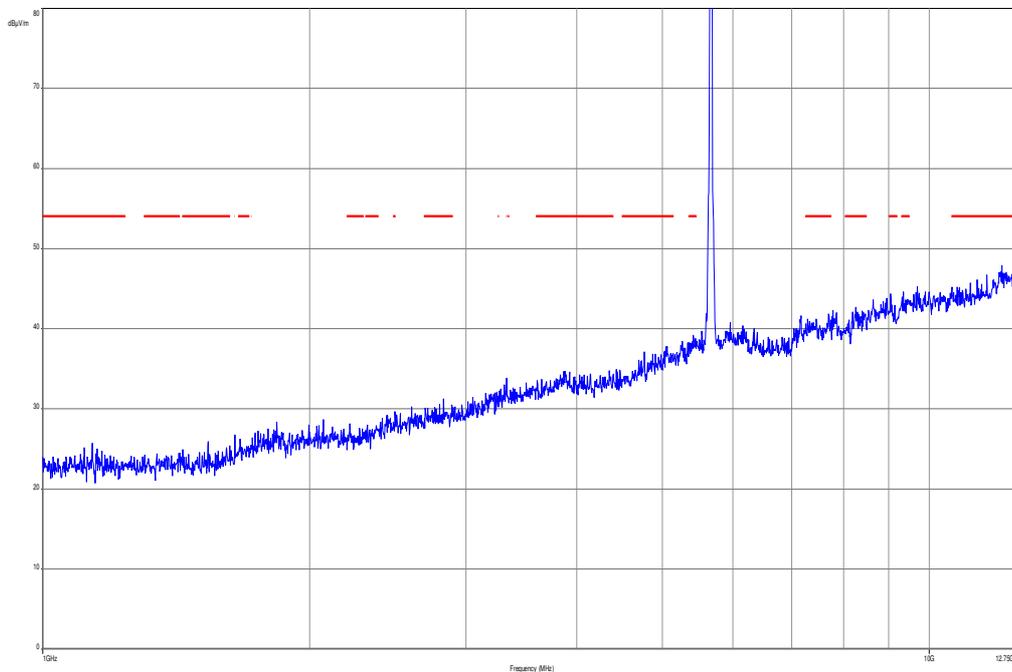
Antenna: VULB 9163
SN 9163-295, FW ---
Correction Table (vertical): VULP6113
Correction Table (horizontal): VULP6113
Correction Table (vertical): Cable_EN_1GHz (1005)
Correction Table (horizontal): Cable_EN_1GHz (1005)

Antenna Tower: Tower [EMCO 2090 Antenna Tower]
@ GPIB0 (ADR 8), FW REV 3.12

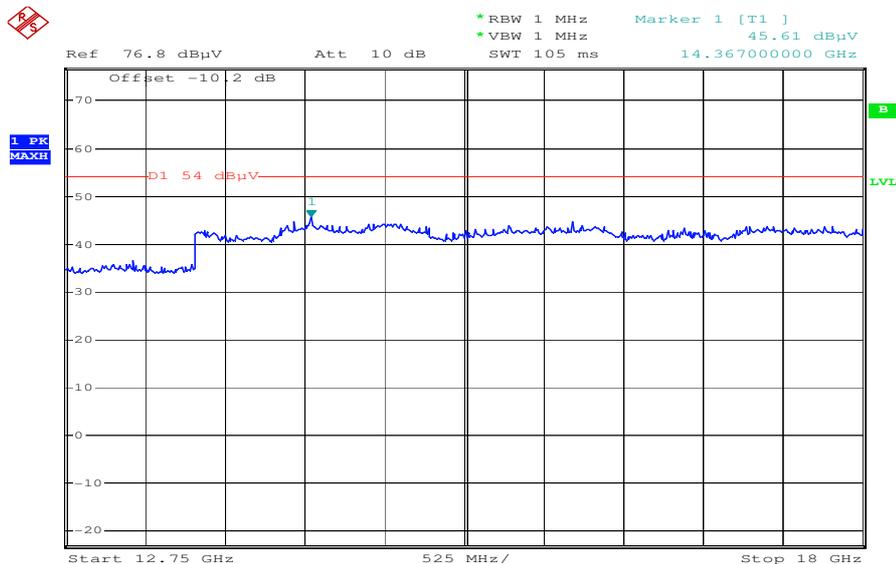
Turntable: Turntable [EMCO Turntable]
@ GPIB0 (ADR 9), FW REV 3.12

EMC 32 Version 8.52

Plot 32: 1 GHz to 12.75 GHz, 5670 MHz, vertical & horizontal polarization

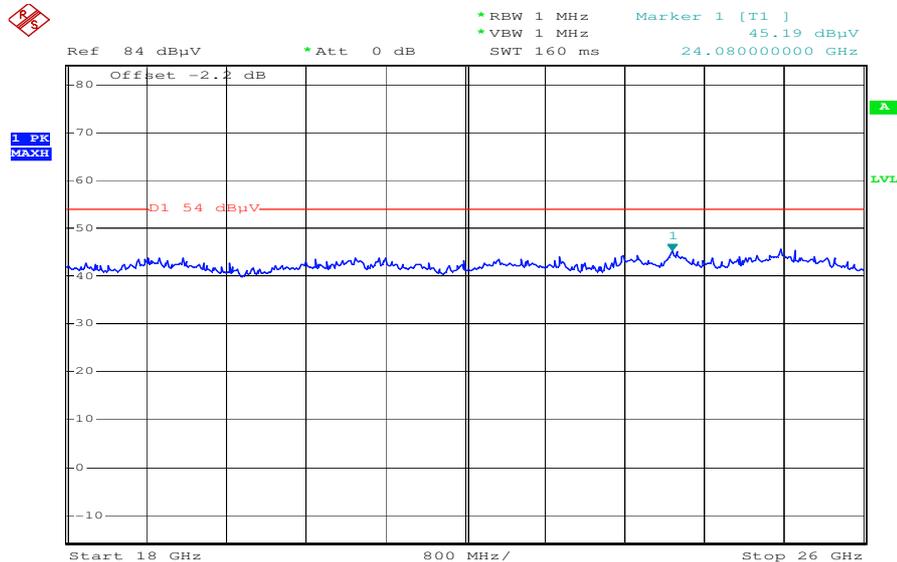


Plot 33: 12 GHz to 18 GHz, 5670 MHz, vertical & horizontal polarization



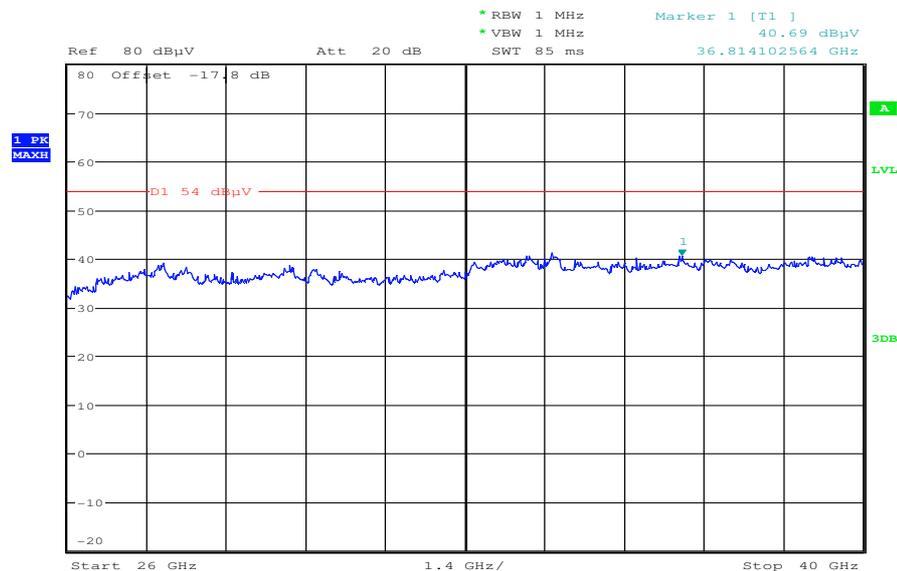
Date: 8.AUG.2012 15:19:12

Plot 34: 18 GHz to 26 GHz, 5670 MHz, vertical & horizontal polarization



Date: 8.AUG.2012 15:40:57

Plot 35: 26 GHz to 40 GHz, 5670 MHz, vertical & horizontal polarization



Date: 8.AUG.2012 14:33:47

9.10 RX spurious emissions radiated

Description:

Measurement of the radiated spurious emissions in idle/receive mode.

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 25 GHz
Trace-Mode:	Max Hold / Average with 100 counts + 20 log (1 / X) for duty cycle lower than 100 %

Limits:

RX Spurious Emissions Radiated		
Frequency (MHz)	Field Strength (dB μ V/m)	Measurement distance
30 - 88	30.0	10
88 – 216	33.5	10
216 – 960	36.0	10
Above 960	54.0	3

Results:

RX Spurious Emissions Radiated [dB μ V/m]		
F [MHz]	Detector	Level [dB μ V/m]
No critical peaks found		
Measurement uncertainty	± 3 dB	

Result: Passed

Plots: RX / Idle – mode

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

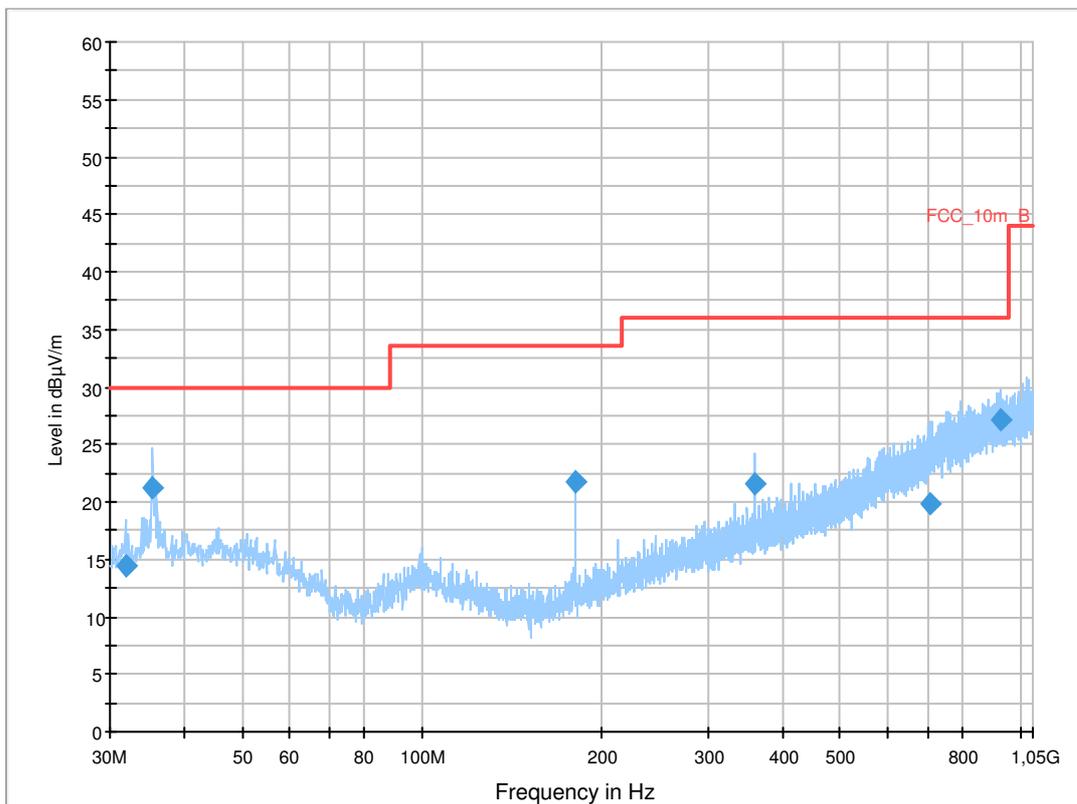
Common Information

EUT: PM-0030-BV
 Serial Number: CB511ZY9PB
 Test Description: FCC part 15 class B @ 10 m
 Operating Conditions: WLAN idle/RX + charging
 Operator Name: Hennemann
 Comment: AC: 115 V / 60 Hz

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
31.971900	14.4	1000.0	120.000	154.0	V	88.0	12.7	15.6	30.0	
35.360100	21.1	1000.0	120.000	111.0	V	88.0	13.1	8.9	30.0	
180.004350	21.7	1000.0	120.000	105.0	V	190.0	10.4	11.8	33.5	
360.010950	21.6	1000.0	120.000	170.0	V	280.0	16.2	14.4	36.0	
708.342750	19.8	1000.0	120.000	170.0	V	0.0	22.7	16.2	36.0	
927.447150	27.2	1000.0	120.000	134.0	V	268.0	25.3	8.8	36.0	

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

Subrange 1

Frequency Range: 30 MHz - 2 GHz

Receiver: Receiver [ESCI 3]
@ GPIB0 (ADR 20), SN 100083/003, FW 4.42

Signal Path: without Notch
FW 1.0

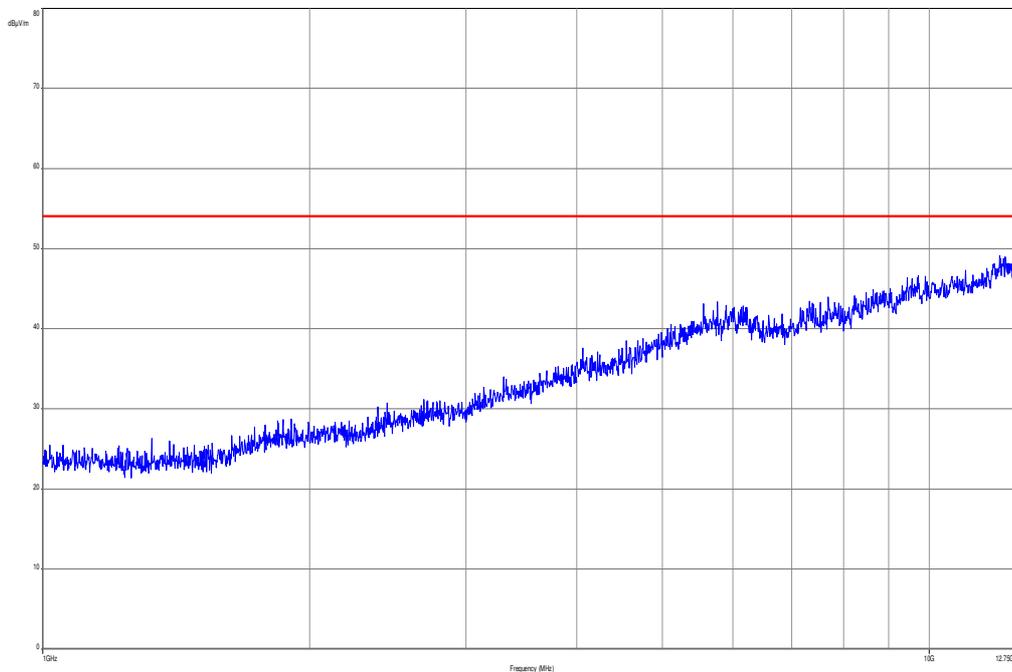
Antenna: VULB 9163
SN 9163-295, FW ---
Correction Table (vertical): VULP6113
Correction Table (horizontal): VULP6113
Correction Table (vertical): Cable_EN_1GHz (1005)
Correction Table (horizontal): Cable_EN_1GHz (1005)

Antenna Tower: Tower [EMCO 2090 Antenna Tower]
@ GPIB0 (ADR 8), FW REV 3.12

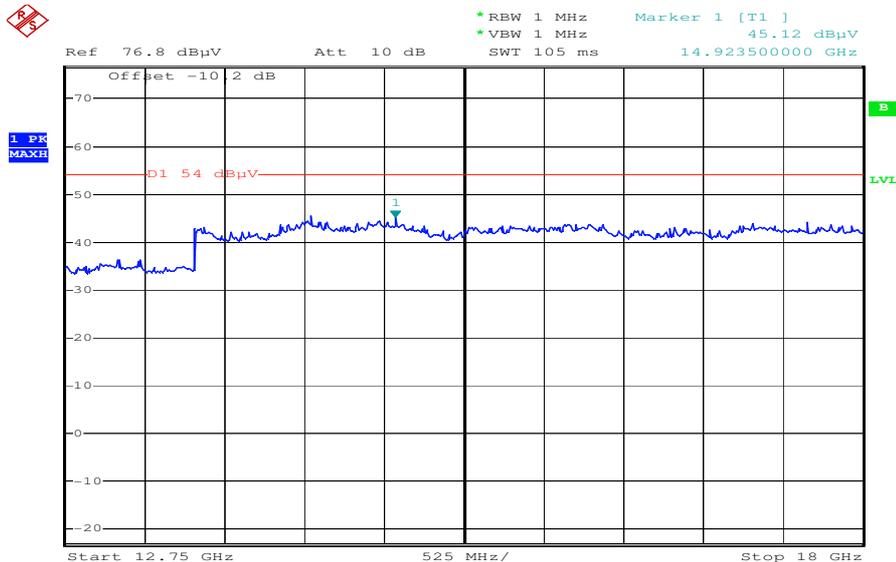
Turntable: Turntable [EMCO Turntable]
@ GPIB0 (ADR 9), FW REV 3.12

EMC 32 Version 8.52

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

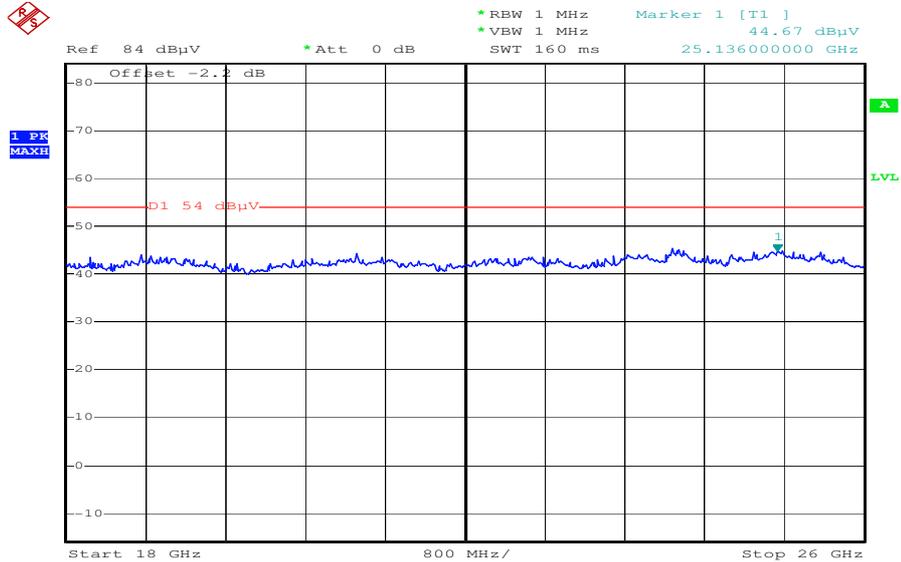


Plot 3: 12 GHz to 18 GHz, vertical & horizontal polarization



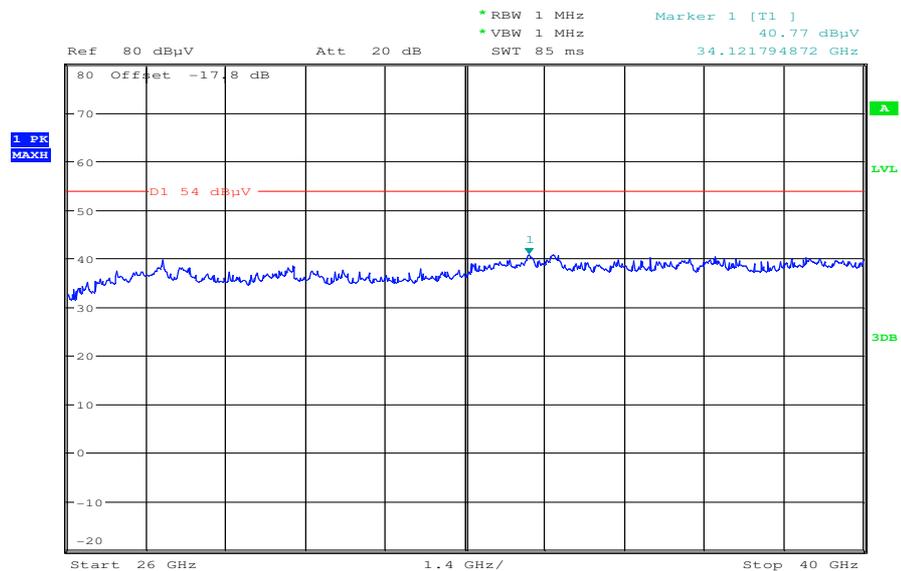
Date: 8.AUG.2012 14:24:46

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



Date: 8.AUG.2012 15:30:15

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



Date: 8.AUG.2012 15:55:47

9.11 Spurious emissions radiated < 30 MHz

Description:

Measurement of the radiated spurious emissions in transmit mode and receive mode below 30 MHz. The EUT is set first to middle channel. This measurement is representative for all channels and modes. If critical peaks are found the lowest channel and the highest channel will be measured too. Then the EUT is set to receive or idle mode. The limits are recalculated to a measurement distance of 3 m with 40 dB/decade according CFR Part 2.

Measurement:

Measurement parameter	
Detector:	Peak / Quasi Peak
Sweep time:	Auto
Video bandwidth:	F < 150 kHz: 200 Hz F > 150 kHz: 9 kHz
Resolution bandwidth:	F < 150 kHz: 1 kHz F > 150 kHz: 100 kHz
Span:	9 kHz to 30 MHz
Trace-Mode:	Max Hold

Limits:

TX Spurious Emissions Radiated < 30 MHz		
Frequency (MHz)	Field Strength (dBµV/m)	Measurement distance
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30.0	30	30

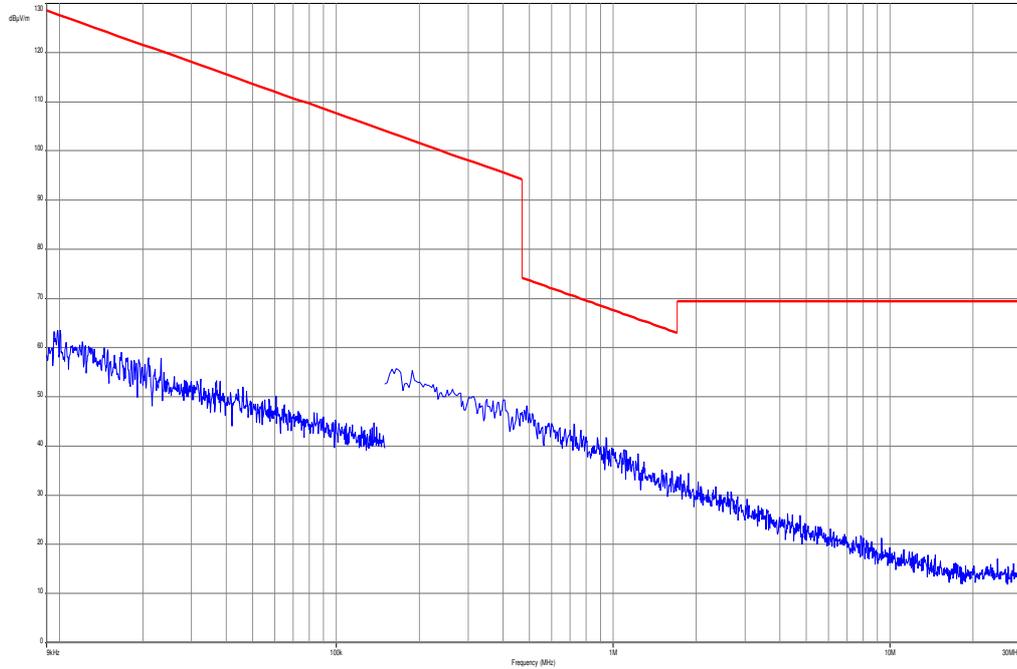
Results:

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

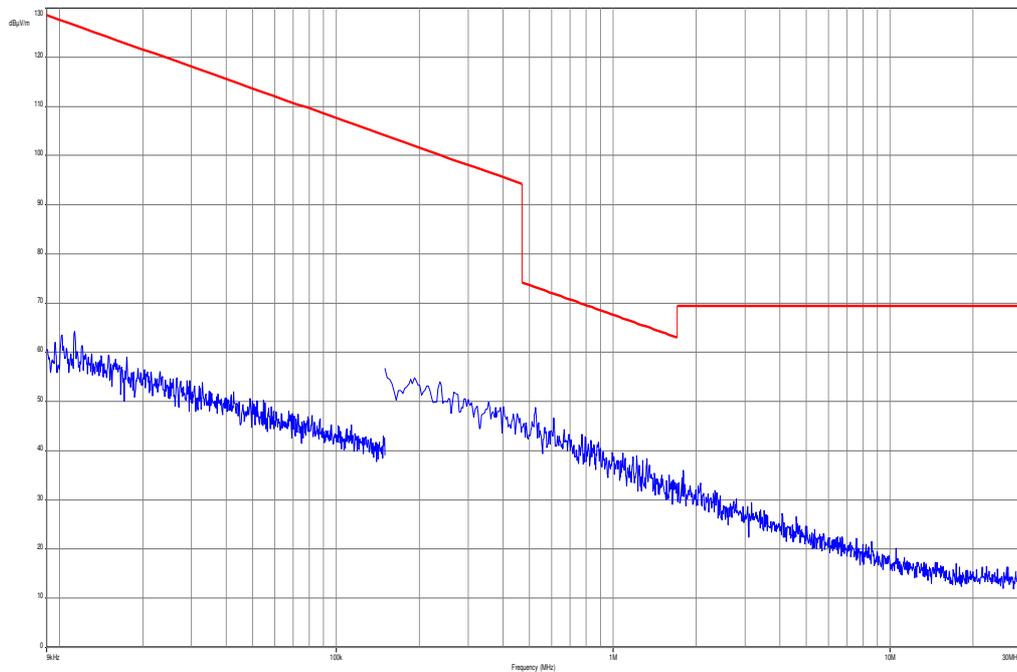
Result: Passed

Plots:

Plot 1: 9 kHz to 30 MHz, TX mode



Plot 2: 9 kHz to 30 MHz, RX mode



9.12 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: 200 Hz F > 150 kHz: 9 kHz
Resolution bandwidth:	F < 150 kHz: 1 kHz F > 150 kHz: 100 kHz
Span:	9 kHz to 30 MHz
Trace-Mode:	Max Hold

Limits:

TX Spurious Emissions Conducted < 30 MHz		
Frequency (MHz)	Quasi-Peak (dB μ V/m)	Average (dB μ V/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

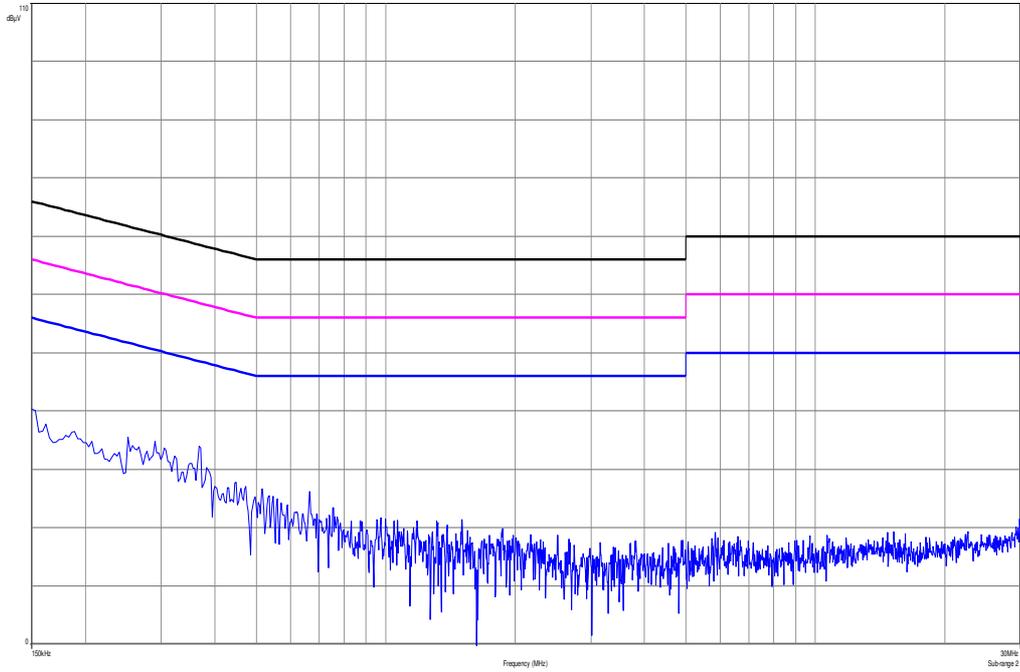
Results:

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

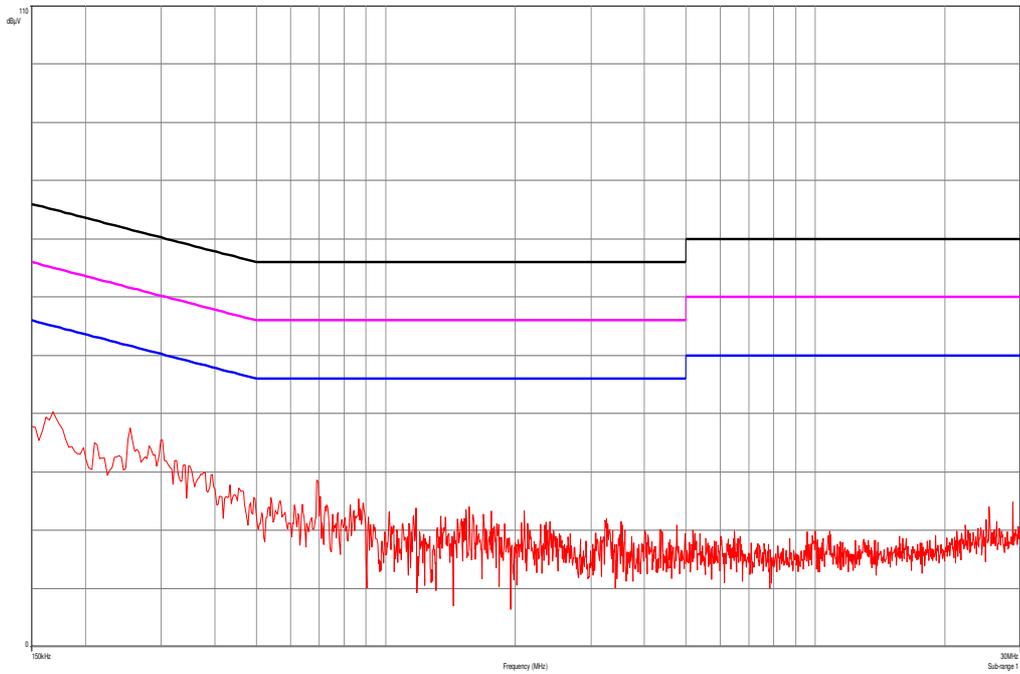
Result: Passed

Plots:

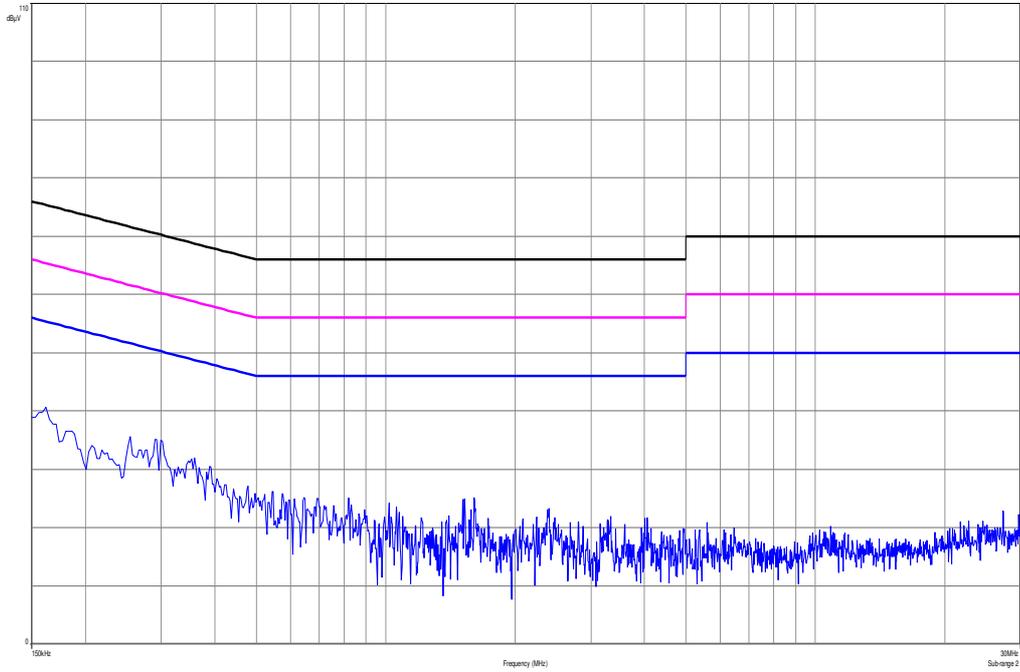
Plot 1: 9 kHz to 30 MHz / phase Line, TX mode



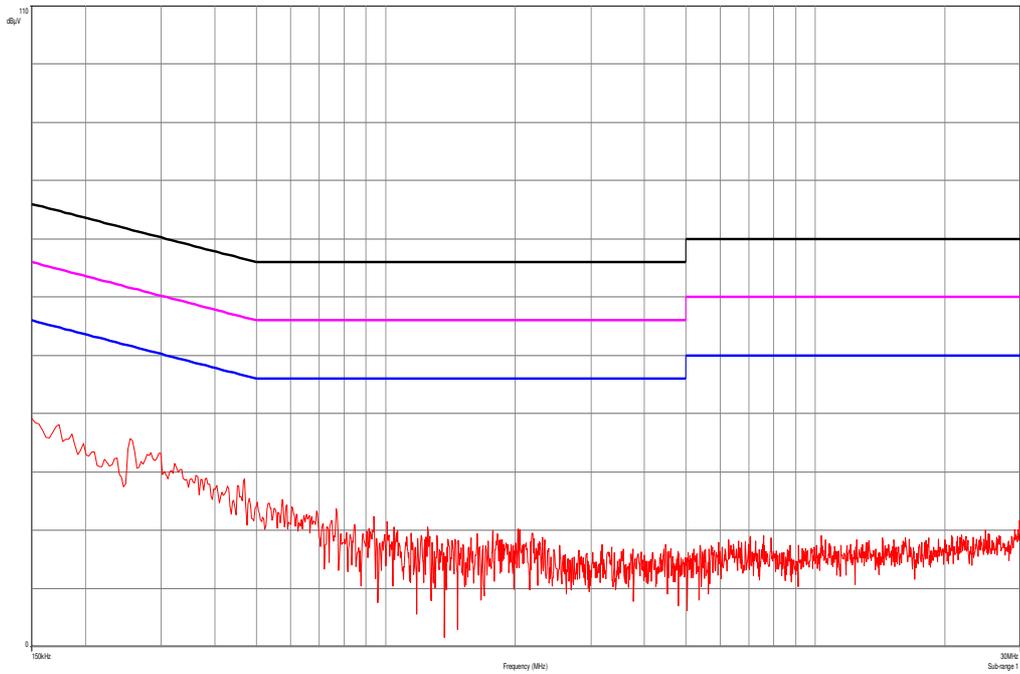
Plot 2: 9 kHz to 30 MHz / neutral Line, TX mode



Plot 3: 9 kHz to 30 MHz / phase Line, RX mode



Plot 4: 9 kHz to 30 MHz / neutral Line, RX mode



10 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
1	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 1166.5950.03	R&S	100083	300003312	k	04.01.2012	04.01.2013
5	n. a.	Analyzer-Reference-System (Harmonics and Flicker)	ARS 16/1	SPS	A3509 07/0 0205	300003314	k	14.07.2011	14.07.2013
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	01.04.2010	
11	n. a.	Spectrum-Analyzer	FSU26	R&S	200809	300003874	k	06.01.2012	06.01.2014
12	A026	Std. Gain Horn Antenna 12.4 to 18.0 GHz	639	Narda		300000787	ne		
13	A029	Std. Gain Horn Antenna 18.0 to 26.5 GHz	638	Narda		300002442	ne		
14	n. a.	Spectrum Analyzer 20 Hz - 50 GHz	FSU50	R&S	200012	300003443	ve	01.07.2010	
15	n. a.	Spectrum Analyzer 9kHz to 30GHz - 140...+30dBm	FSP30	R&S	100886	300003575	k	07.09.2010	07.09.2012
16	n. a.	Double-Ridged Waveguide Horn Antenna 1-18.0GHz	3115	EMCO	8812-3088	300001032	vIKI!	11.05.2011	11.05.2013
17	n. a.	Active Loop Antenna	6502	EMCO	2210	300001015	ne		
18	n. a.	Anechoic chamber	FAC 3/5m	MWB / TDK	87400/02	300000996	ev		
19	9	Artificial Mains 9 kHz to 30 MHz	ESH3-Z5	R&S	828576/020	300001210	Ve	06.01.2012	06.01.2014
20	n. a.	Relais Matrix	3488A	HP Meßtechnik	2719A15013	300001156	ne		
21	n. a.	Relais Matrix	PSU	R&S	890167/024	300001168	ne		
22	n. a.	Isolating Transformer	RT5A	Grundig	9242	300001263	ne		
23	n. a.	Three-Way	11850C	HP		300000997	ne		

		Power Splitter, 50 Ohm		Meßtechnik					
24	n. a.	Switch / Control Unit	3488A	HP	2605e08770	300001443	ne		
25	n. a.	Amplifier	js42- 00502650- 28-5a	Parzich GMBH	928979	300003143	ne		
26	n. a.	Highpass Filter	WHKX7.0/1 8G-8SS	Wainwright	18	300003789	ne		
27	n. a.	TRILOG Broadband Test-Antenna 30 MHz - 3 GHz	VULB9163	Schwarzbe ck	371	300003854	vlk!	14.10.2011	14.10.2014
28	n. a.	MXE EMI Receiver 20 Hz bis 26,5 GHz	N9038A	Agilent Technologi es	MY51210197	300004405	k	19.12.2011	19.12.2012

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
vlk!	Attention: extended calibration interval	*)	next calibration ordered / currently in progress
NK!	Attention: not calibrated		

11 Observations

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

Annex D Document history

Version	Applied changes	Date of release
1.0	Initial release	2012-08-16
-A	Editorial changes (RSP-100 Sheet / References)	2012-08-30

Annex E 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
IC	-	Industry Canada
Inv. No.	-	Inventory number
N/A	-	Not applicable
PP	-	Positive peak
QP	-	Quasi peak
S/N	-	Serial number
SW	-	Software

Annex F Accreditation Certificate



Deutsche Akkreditierungsstelle GmbH
German Accreditation Body

Entrusted according to Section 8 subsection 1, AkkStellG in connection with Section 1, subsection 3, AKKStellG DV
Signatory to the Multilateral Agreements of EA, ILAC and IAF for Mutual Recognition

Accreditation



The Deutsche Akkreditierungsstelle GmbH (German Accreditation Body) attests that the testing laboratory

CETECOM ICT Services GmbH
Untertürkheimer Straße 6-10
66117 Saarbrücken

is competent under the terms of DIN EN ISO/IEC 17025:2005 to carry out tests in the following fields:

- Wired communications and DCF
- Acoustic
- Radio
- Short Range Devices (SRD)
- RFD
- WiFi and Richtfunk
- Mobile radio (GSM / GPRS), Over the Air (OTA) Performance
- Electromagnetic Compatibility (EMC) incl. Automotive
- Product safety
- Safety and Hearing Aid Compatibility (HAC)
- Environmental simulation
- Smart Card Terminals
- Bluetooth
- Wi-Fi-Services

The accreditation certificate shall only apply in connection with the notice of accreditation of 13.04.2011 with the accreditation number D-PL-12076-01 and its valid until 03.09.2014. It comprises the cover sheet, the reverse side of the cover sheet and the following annex with a total of 82 pages.

Registration number of the certificate: **D-PL-12076-01-01**

Frankfurt am Main, 13.04.2011

Dr. Ina. H. H. H. H. H.
Head of Office 2

This document is a translation. The definitive version is the original German accreditation certificate.
www.dakks.de

Front side of certificate

Deutsche Akkreditierungsstelle GmbH

Office Berlin
Spittelmarkt 39
10117 Berlin

Office Frankfurt am Main
Gartenstraße 6
60594 Frankfurt am Main

Office Braunschweig
Bundesallee 500
38116 Braunschweig

The publication of extracts of the accreditation certificate is subject to the prior written approval by Deutsche Akkreditierungsstelle GmbH (DAKKS). Exempted is the unchanged form of separate disseminations of the cover sheet by the conformity assessment body mentioned above.

No impression shall be made that the accreditation also extends to fields beyond the scope of accreditation attested by DAKKS.

The accreditation was granted pursuant to the Act on the Accreditation Body (AkkStellG) of 31 July 2009 (Federal Law Gazette I p. 2625) and the Regulation (EC) No. 765/2008 of the European Parliament and of the Council of 9 July 2008 setting out the requirements for accreditation and market surveillance relating to the marketing of products (Official Journal of the European Union L 218 of 9 July 2008, p. 16). DAKKS is a signatory to the Multilateral Agreements for Mutual Recognition of the European co-operation for Accreditation (EA), International Accreditation Forum (IAF) and International Laboratory Accreditation Cooperation (ILAC). The signatories to these agreements recognise each other's accreditations.

The up-to-date state of membership can be retrieved from the following websites:
EA: www.european-accreditation.org
ILAC: www.ilac.org
IAF: www.iafno.com

Back side of certificate

Note:

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

http://www.cetecom.com/fileadmin/de/CETECOM_D_Saarbruecken/accreditations_Jan_2010/DAKKS_Akkredi_Urk_EN17025-En_incl_Annex.pdf