

TEST REPORT

Test report no.: 1-6965/13-08-09



Testing laboratory

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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 Communications & Compatibility Testing (RCT)

Applicant

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Manufacturer

Sony Mobile Communications AB
Nya Vattentorget
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

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

Test Item

Kind of test item: Smart Phone GPRS/EGPRS 850/900/1800/1900; UMTS HSPA FDDI/III/IV/V/VIII; WLAN b/g/n/a/ac; BT 4.0; RFID; A-GPS
Type name: PM-0744-BV
FCC ID: PY7PM-0744
Frequency: DTS band 5150 MHz to 5725 MHz (lowest channel 36 – 5180 MHz; highest channel 140 – 5700 MHz)
Technology tested: WLAN (OFDM / a – mode; ac HT20 / HT40 / HT80 – mode)
Antenna: Integrated antenna
Power supply: 3.7 V DC by Li - polymer battery
Temperature range: -20°C to +55°C

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:

p. o.

Stefan Bös
Senior Testing Manager

Test performed:

p. o.

Christoph Schneider
Expert

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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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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:	2013-12-17
Date of receipt of test item:	2013-12-17
Start of test:	2014-01-02
End of test:	2014-01-13
Person(s) present during the test:	-/-

3 Test standard/s

Test standard	Date	Test standard description
47 CFR Part 15		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
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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:		46 %
Barometric pressure:		not relevant for this kind of testing
Power supply:	V_{nom}	3.7 V DC by Li - polymer battery
	V_{max}	4.2 V
	V_{min}	3.3 V

5 Test item

Kind of test item	:	Smart Phone GPRS/EGPRS 850/900/1800/1900; UMTS HSPA FDDI/III/IV/V/VIII; WLAN b/g/n/a/ac; BT 4.0; RFID; A-GPS
Type name	:	PM-0744-BV
S/N serial number	:	CB5A1W45MZ
HW hardware status	:	AP1.1
SW software status	:	RF test software
Frequency band [MHz]	:	DTS band 5150 MHz to 5725 MHz (lowest channel 36 – 5180 MHz; highest channel 140 – 5700 MHz)
Type of radio transmission	:	OFDM
Use of frequency spectrum	:	
Type of modulation	:	BPSK, QPSK, 16 – QAM, 64 – QAM and 256 – 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

5.1 Additional information

Test setup- and EUT-photos are included in test report: 1-6965/13-08-01_AnnexA
 1-6965/13-08-01_AnnexB
 1-6965/13-08-01_AnnexD

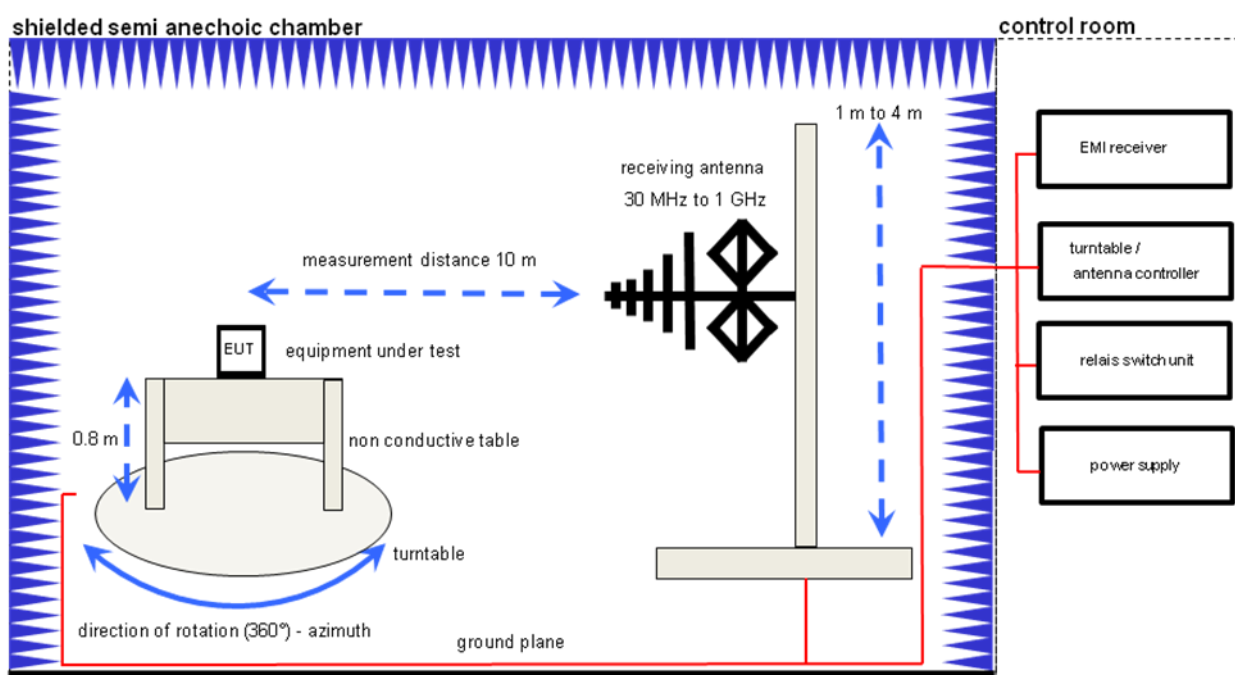
6 Test laboratories sub-contracted

None

7 Description of the test setup

7.1 Radiated measurements chamber F

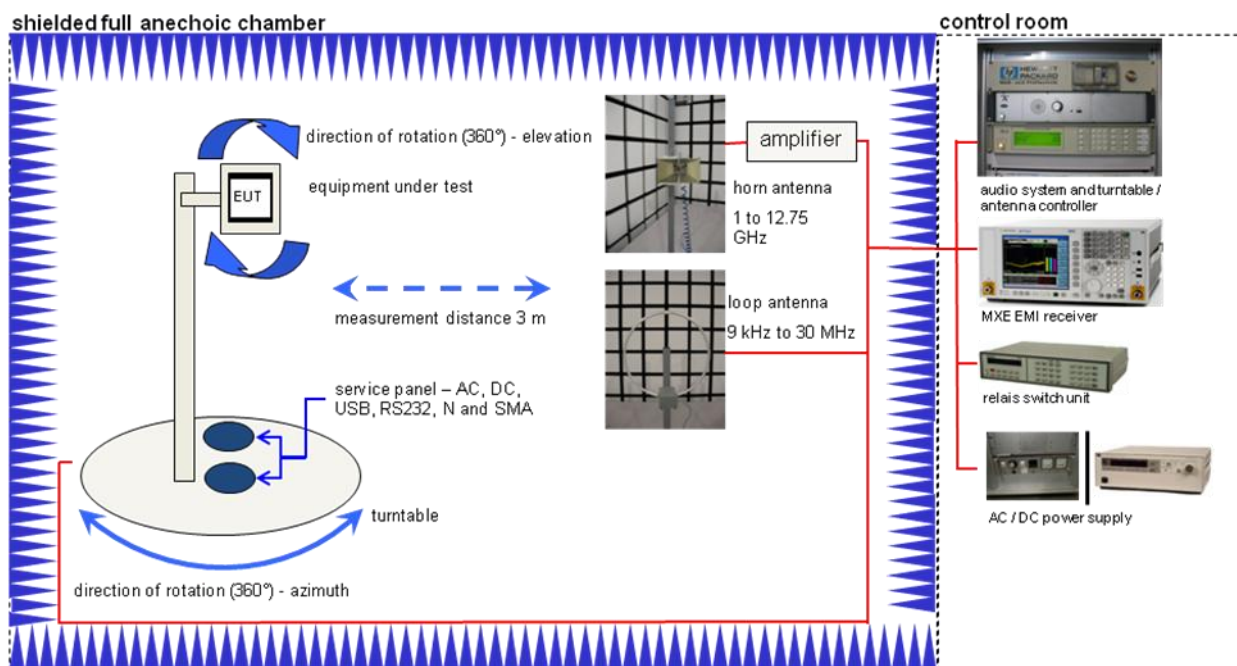
The radiated measurements are performed in vertical and horizontal plane in the frequency range from 9 kHz to 1 GHz in semi-anechoic chambers. The EUT is positioned on a non-conductive support with a height of 0.80 m above a conductive ground plane that covers the whole chamber. The receiving antennas 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	30000368
DC power supply, 60Vdc, 50A, 1200 W	6032A	HP Meßtechnik	2920A04466	30000580
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

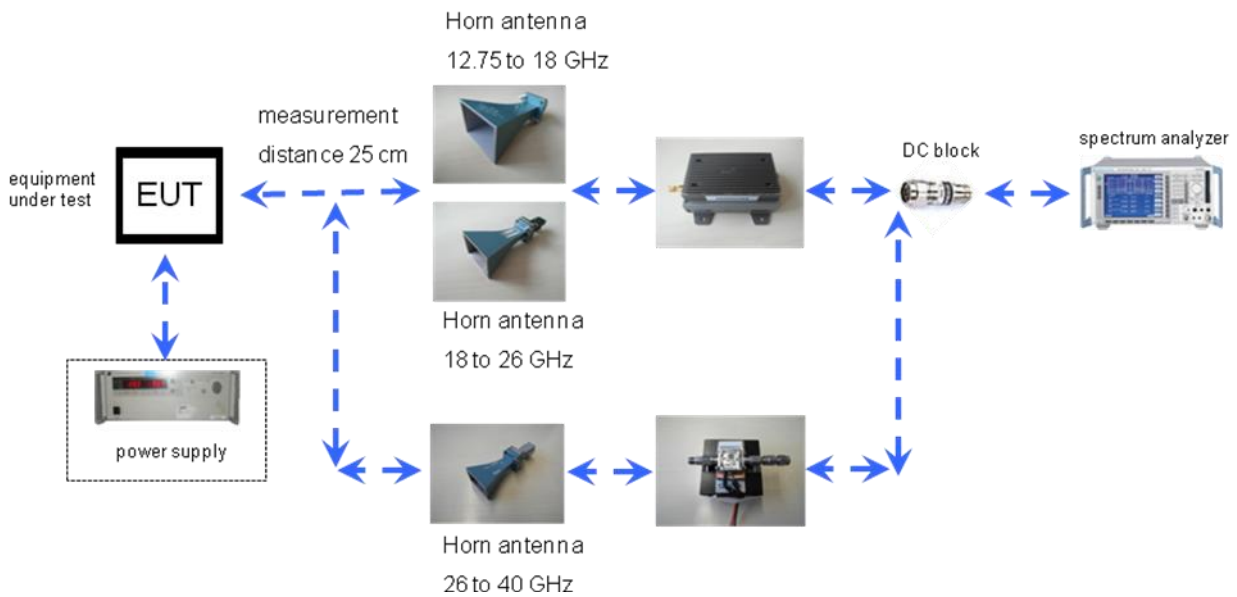
7.2 Radiated measurements chamber C



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

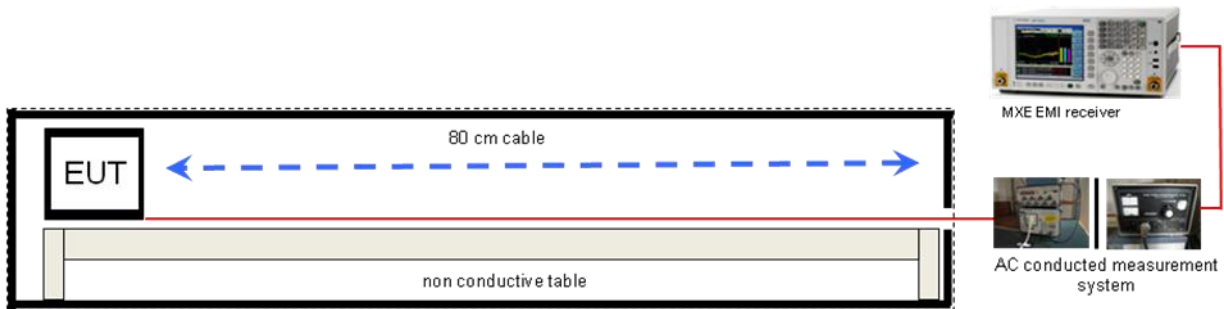
7.3 Radiated measurements 12.75 GHz to 40 GHz



Equipment table:

Equipment	Type	Manufacturer	Serial No.	INV. No Cetecom
Std. Gain Horn Antenna 12.4 to 18.0 GHz	639	Narda	8402	300000787
Std. Gain Horn Antenna 18.0 to 26.5 GHz	638	Narda	8205	300002442
Std. Gain Horn Antenna 26.5 to 40.0 GHz	637	Narda	GB42110541	300000510
Microwave System Amplifier, 0.5-26.5 GHz	83017A	HP Meßtechnik	00419	300002268
Broadband Low Noise Amplifier 18-50 GHz	CBL18503070-XX	CERNEX	19338	300004273
Spectrum Analyzer 20 Hz - 50 GHz	FSU50	R&S	200012	300003443
Signal Analyzer 40 GHz	FSV40	R&S	101042	300004517

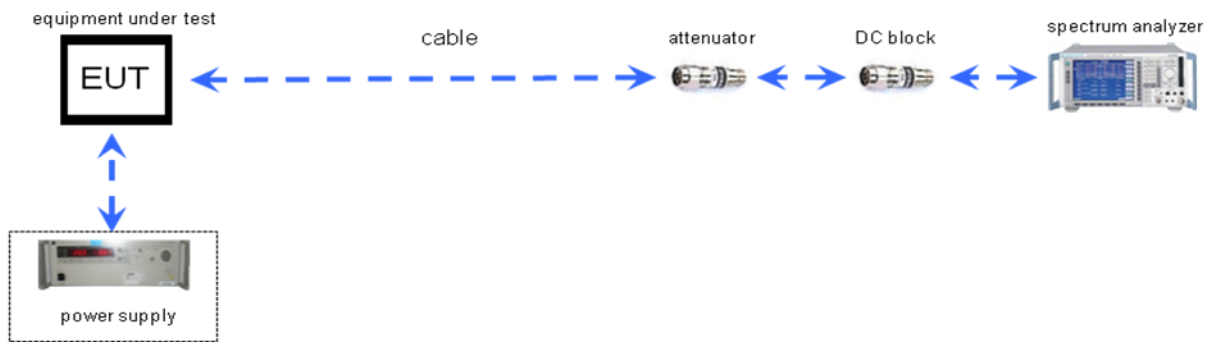
7.4 AC conducted



Equipment table:

Equipment	Type	Manufacturer	Serial No.	INV. No Cetecom
MXE EMI Receiver 20 Hz bis 26,5 GHz	N9038A	Agilent Technologies	MY51210197	300004405
Isolating Transformer	MPL IEC625 Bus Regeltrenntravo	Erfi	91350	300001155
Switch / Control Unit	3488A	HP Meßtechnik	*	300000199
Switch / Control Unit	3488A	HP Meßtechnik	2719A15013	300001168
Artificial Mains 9 kHz to 30 MHz	ESH3-Z5	R&S	828576/020	300001210

7.5 Conducted measurements



Equipment table:

Equipment	Type	Manufacturer	Serial No.	INV. No Cetecom
Signal Analyzer 40 GHz	FSV40	R&S	101042	300004517

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	2014-01-31	Delta 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	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-/-
-/-	Gain	Nominal	Nominal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-/-
U-NII Part 15	Duty cycle	Nominal	Nominal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-/-
§15.407(a)	Maximum output power (conducted & radiated)	Nominal	Nominal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-/-
§15.407(a)	Power spectral density	Nominal	Nominal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-/-
§15.407(a)	Spectrum bandwidth 26dB bandwidth	Nominal	Nominal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-/-
§15.407(a)	Peak excursion measurements	Nominal	Nominal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-/-
§15.205	Band edge compliance radiated	Nominal	Nominal	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	complies
§15.407(b)	TX spurious emissions radiated	Nominal	Nominal	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	complies
§15.109	RX spurious emissions radiated	Nominal	Nominal	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	complies
§15.209(a)	Spurious emissions radiated < 30 MHz	Nominal	Nominal	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	complies
§15.107(a) §15.207	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

9 Additional comments

Reference documents: Main test reports: 1-6965_13-04-16-A / PY7PM-0740 (conducted values)

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 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:

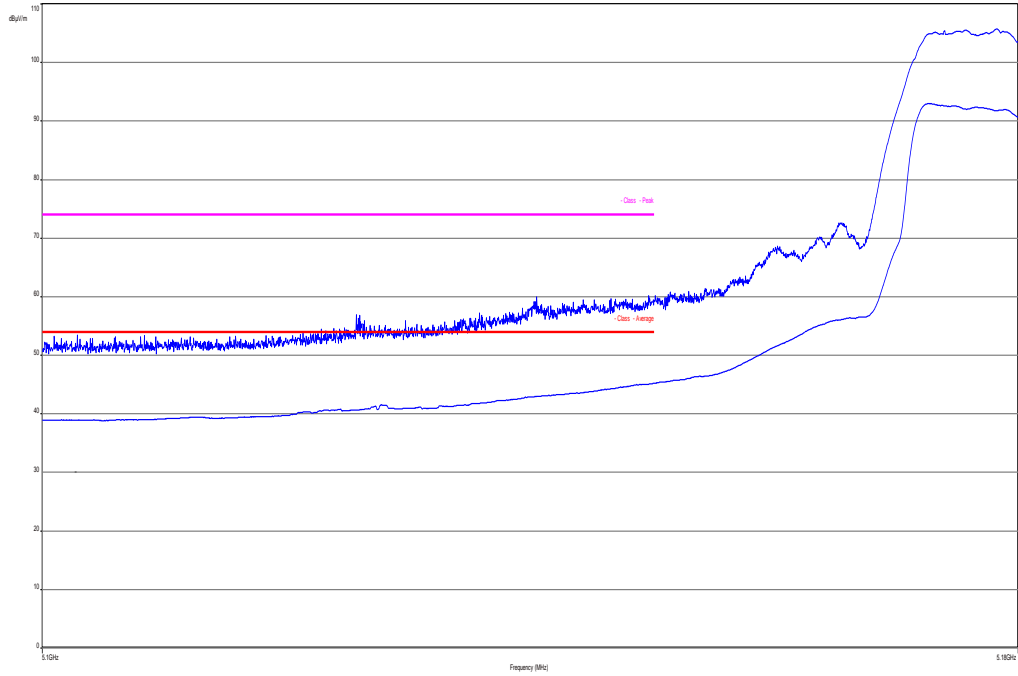
Band Edge Compliance Radiated
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within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

Result:

Scenario	Band Edge Compliance Radiated [dB μ V/m]
band edge	< 74 dB μ V/m (Peak) < 54 dB μ V/m (AVG)
Measurement uncertainty	\pm 3 dB

Plots:

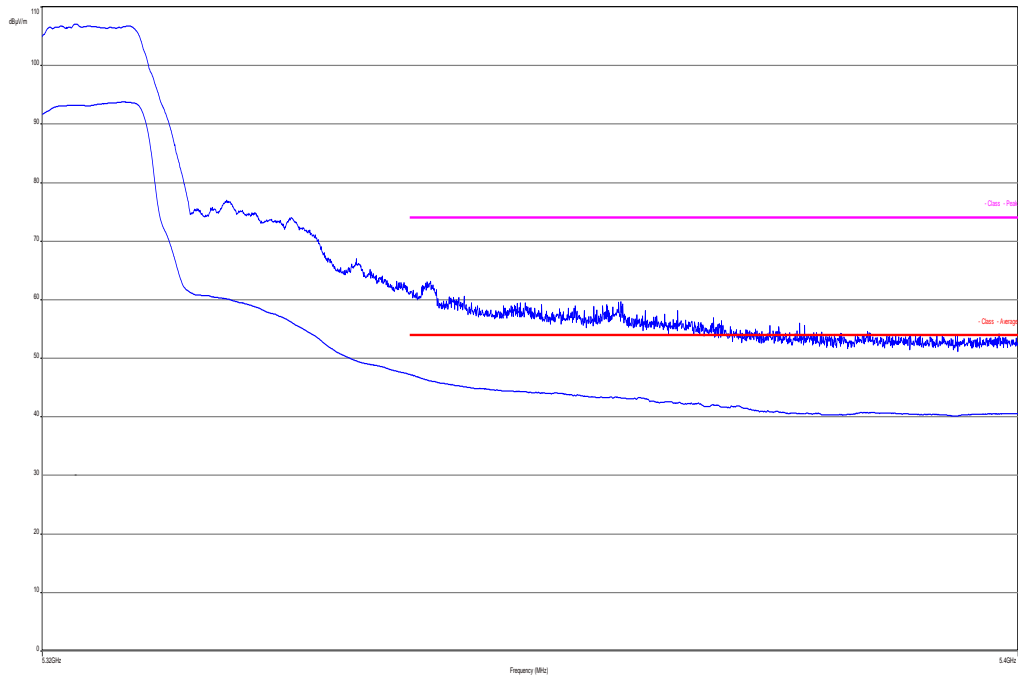
Plot 1: lower band edge, vertical & horizontal polarization (a mode), channel 36, low data rate



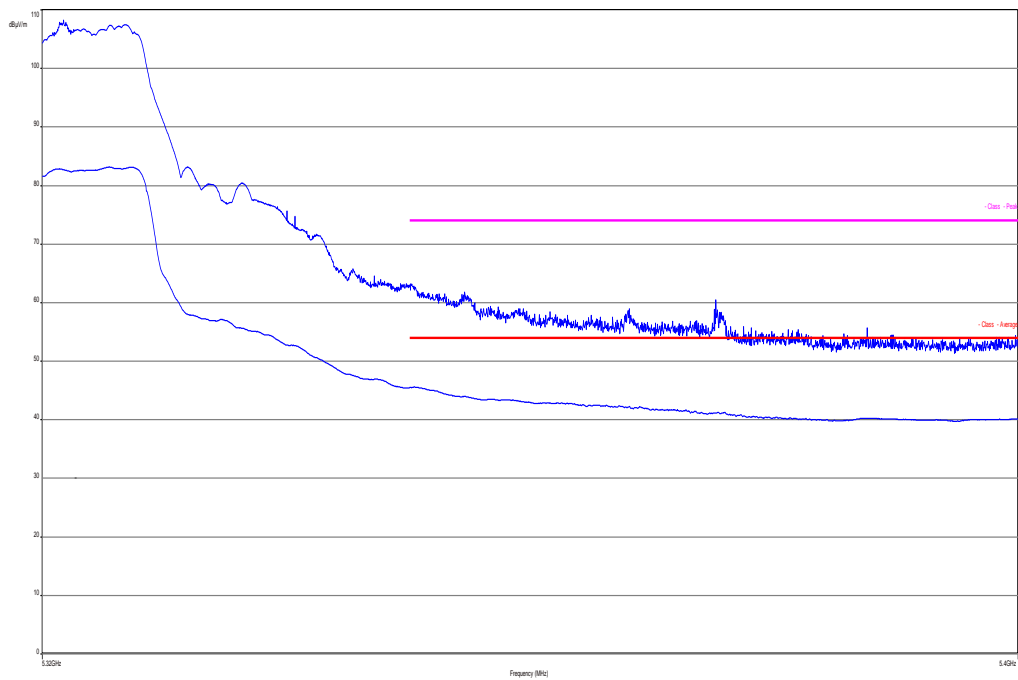
Plot 2: lower band edge, vertical & horizontal polarization (a mode), channel 36, high data rate



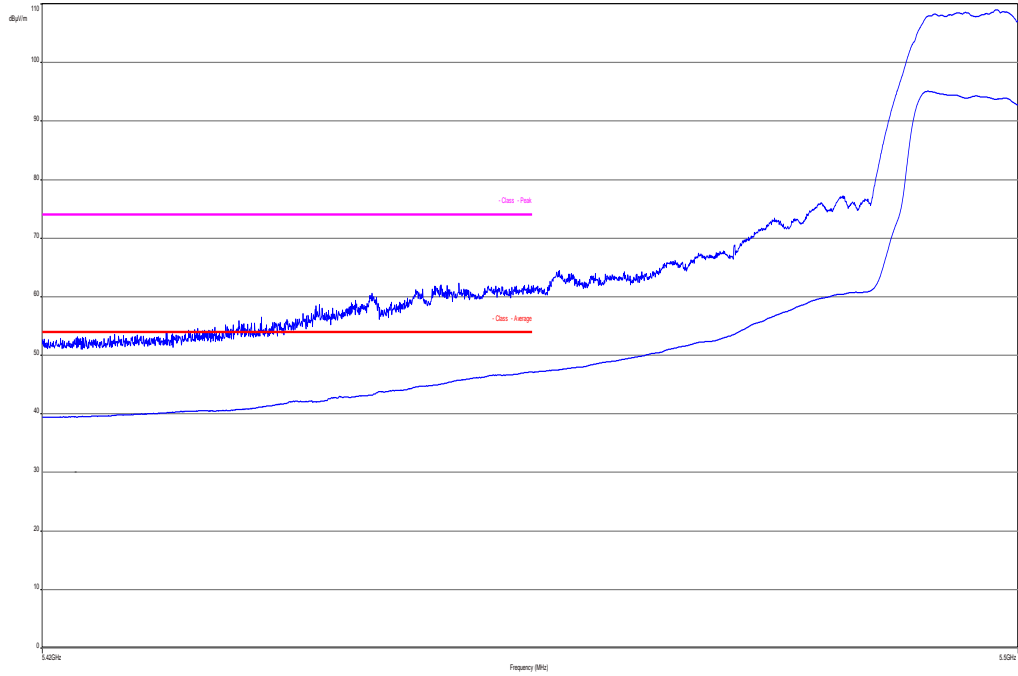
Plot 3: upper band edge, vertical & horizontal polarization (a mode), channel 64, low data rate



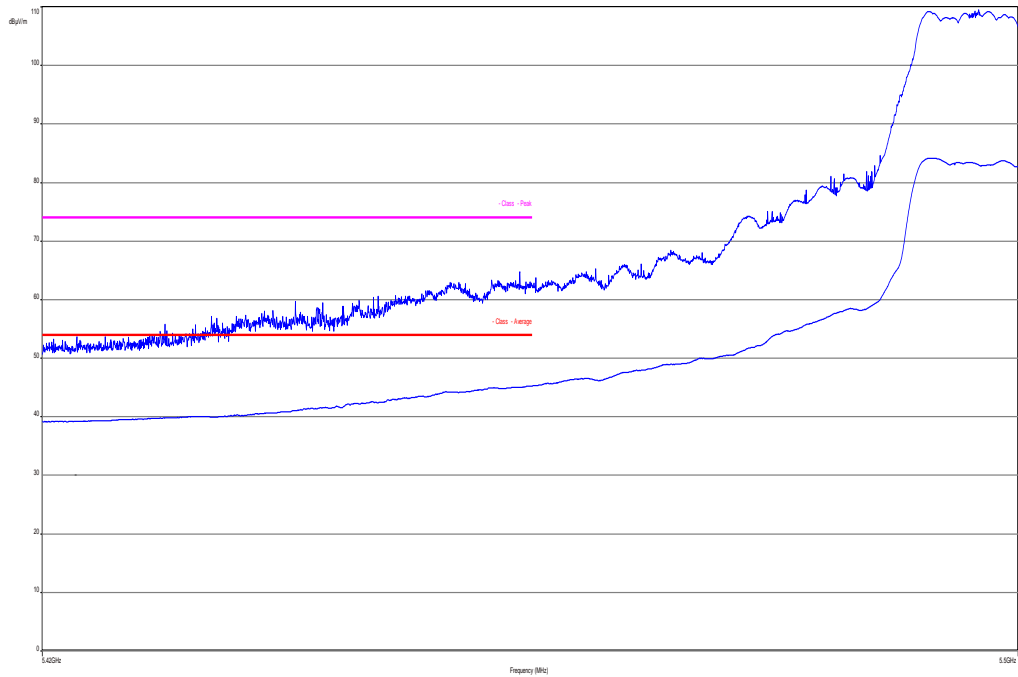
Plot 4: upper band edge, vertical & horizontal polarization (a mode), channel 64, high data rate



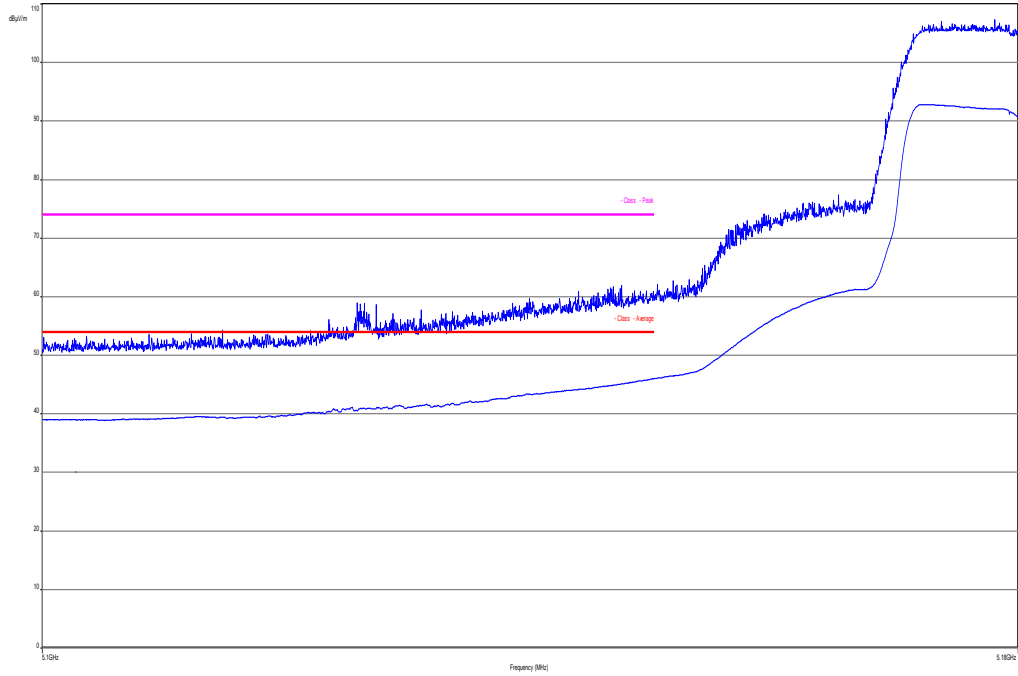
Plot 5: lower band edge, vertical & horizontal polarization (a mode), channel 100, low data rate



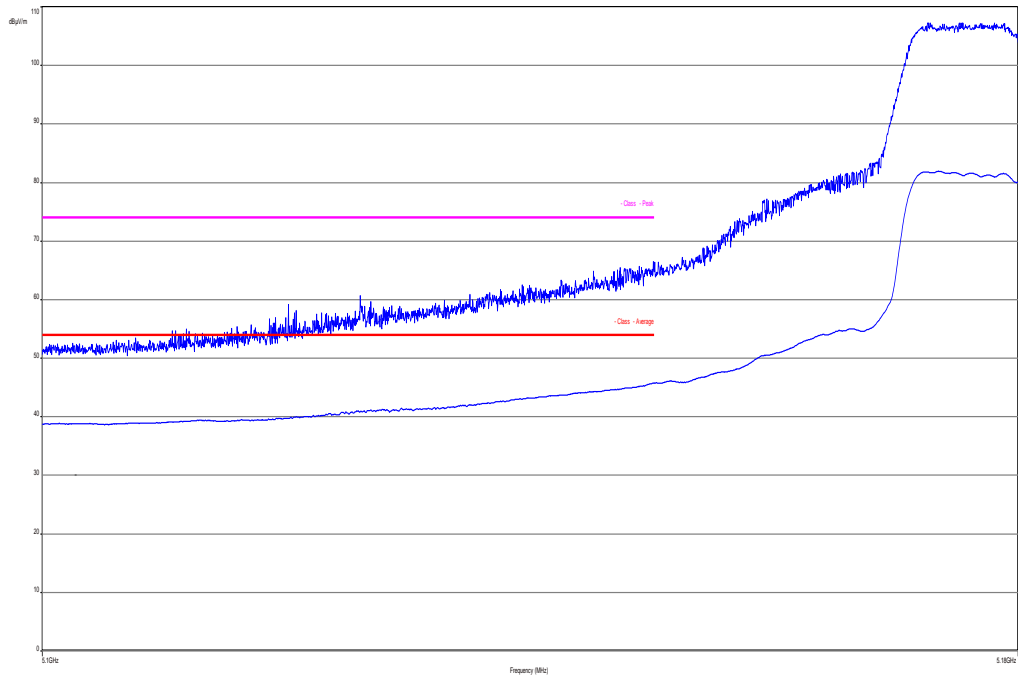
Plot 6: lower band edge, vertical & horizontal polarization (a mode), channel 100, high data rate



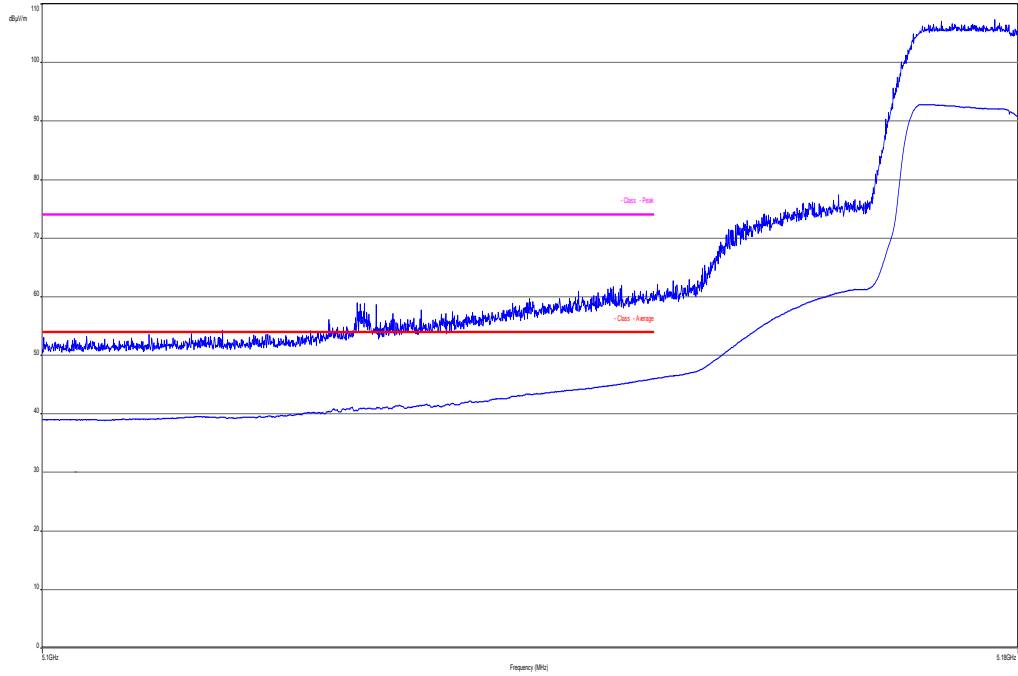
Plot 7: lower band edge, vertical & horizontal polarization (ac HT 20 mode), channel 36, low data rate



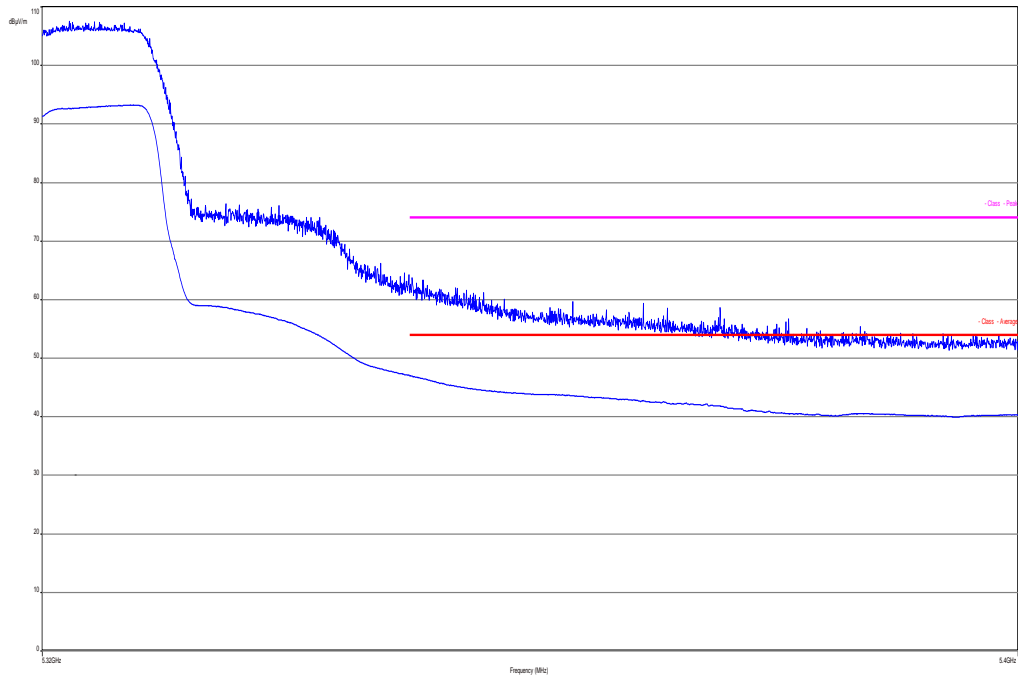
Plot 8: lower band edge, vertical & horizontal polarization (ac HT 20 mode), channel 36, high data rate



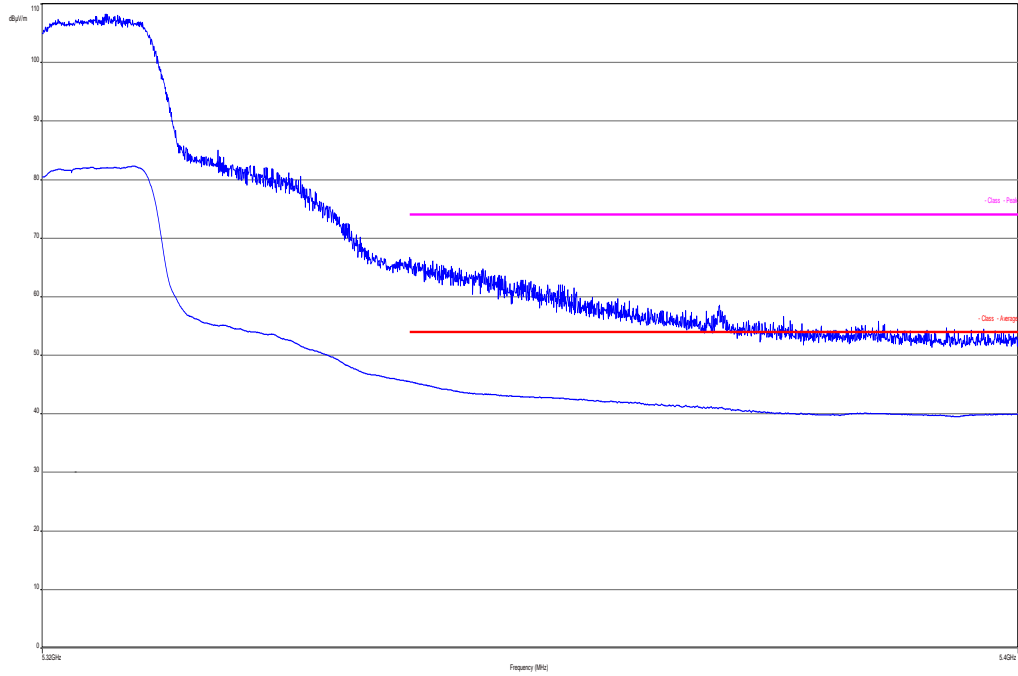
Plot 9: lower band edge, vertical & horizontal polarization (ac HT 20 mode), channel 36, highest power d. r.



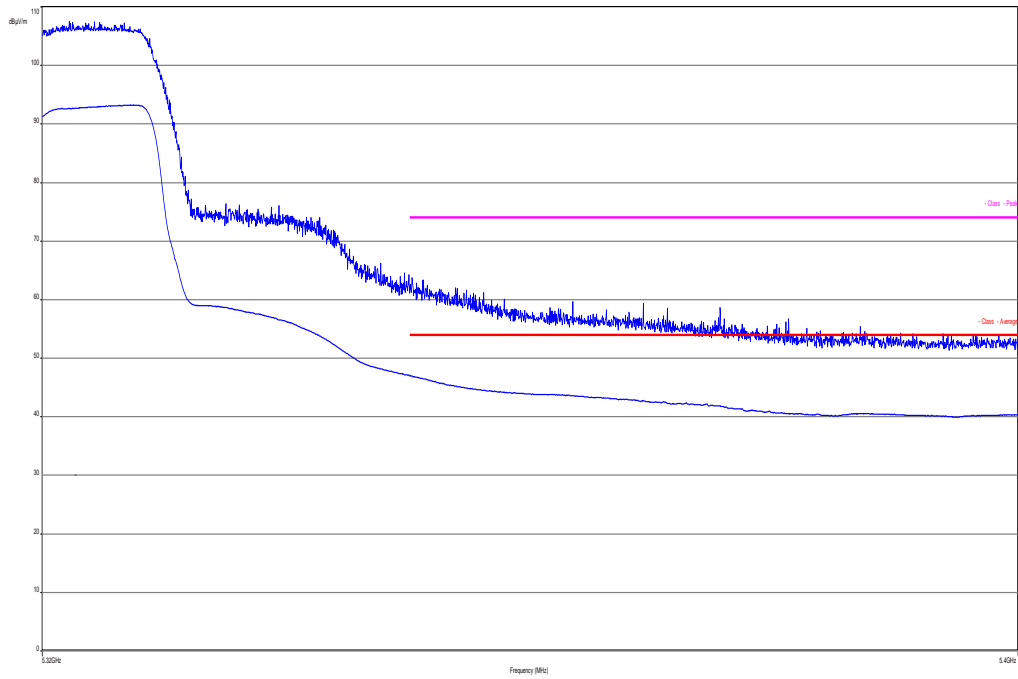
Plot 10: upper band edge, vertical & horizontal polarization (ac HT 20 mode), channel 64, low data rate



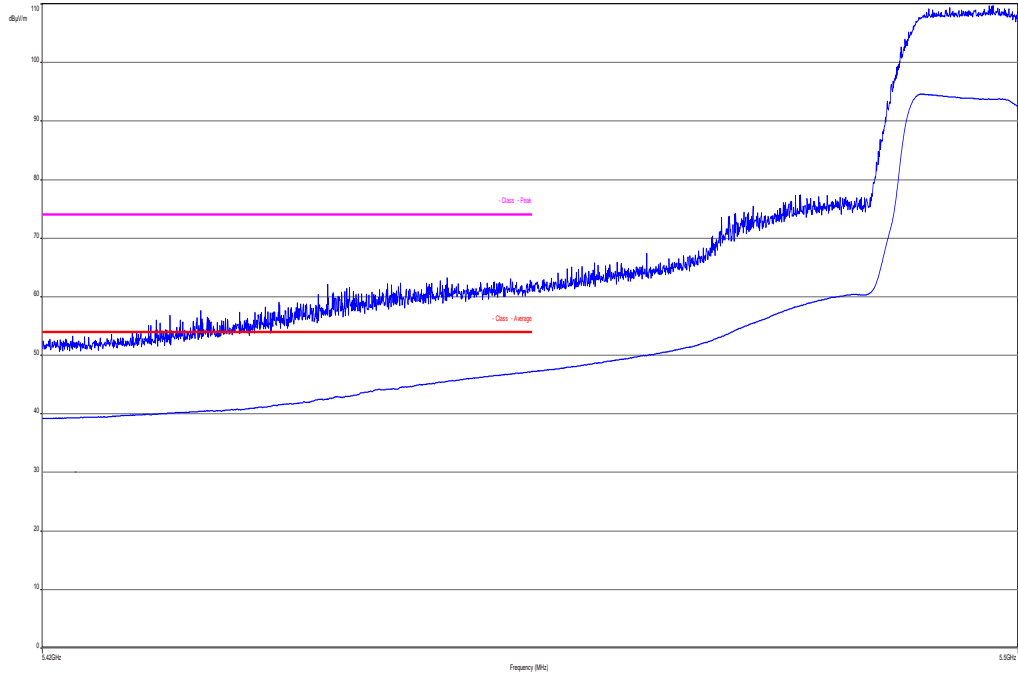
Plot 11: upper band edge, vertical & horizontal polarization (ac HT 20 mode), channel 64, high data rate



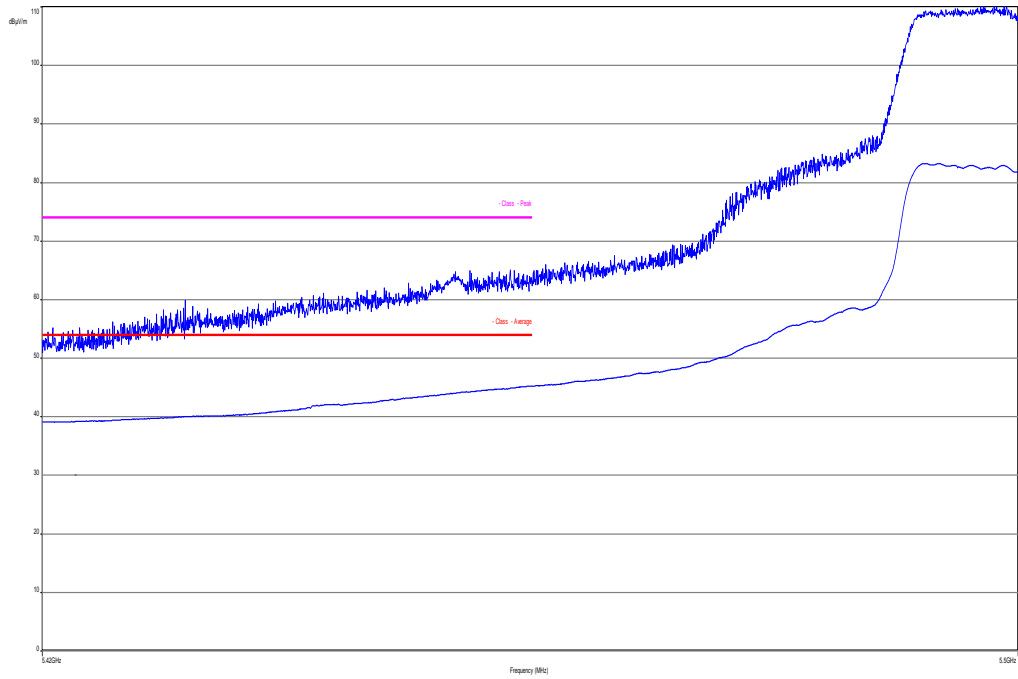
Plot 12: upper band edge, vertical & horizontal polarization (ac HT 20 mode), channel 64, highest power d. r.



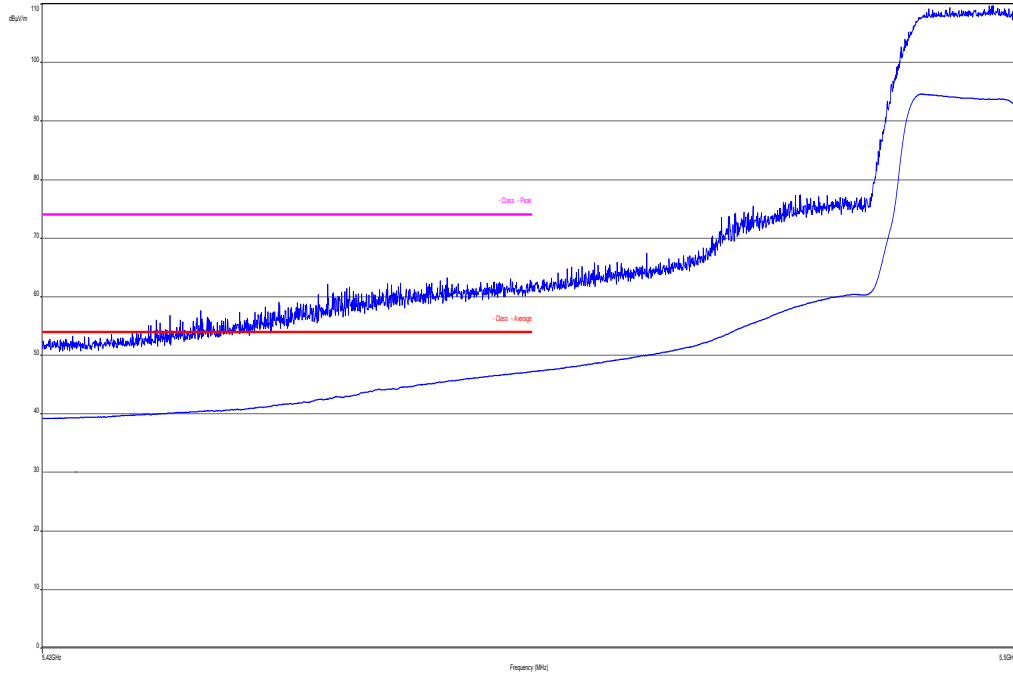
Plot 13: lower band edge, vertical & horizontal polarization (ac HT 20 mode), channel 100, low data rate



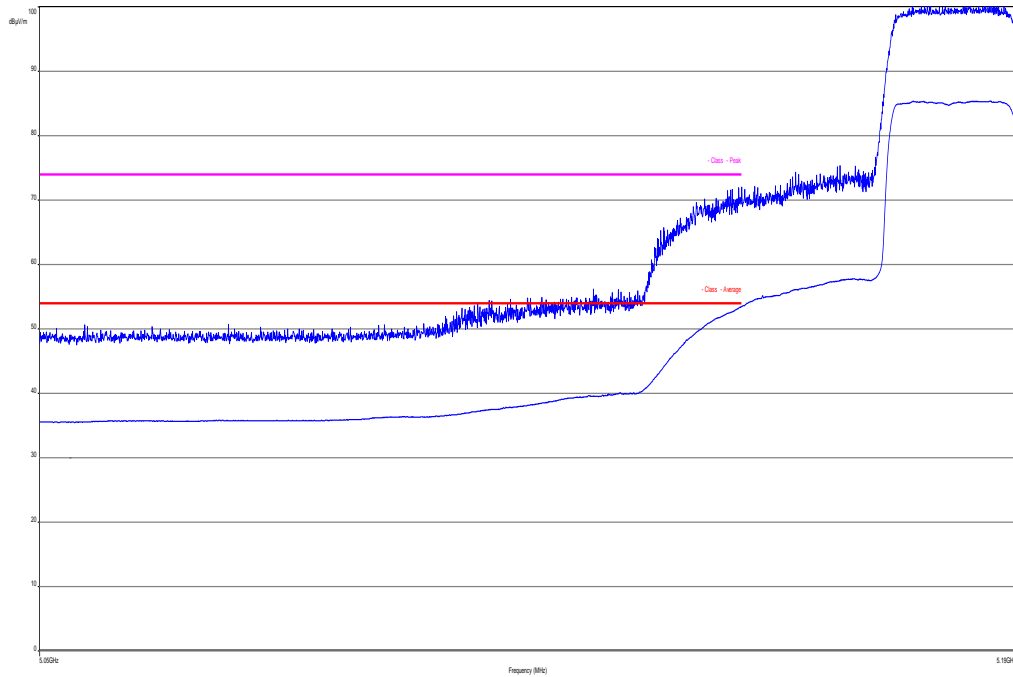
Plot 14: lower band edge, vertical & horizontal polarization (ac HT 20 mode), channel 100, high data rate



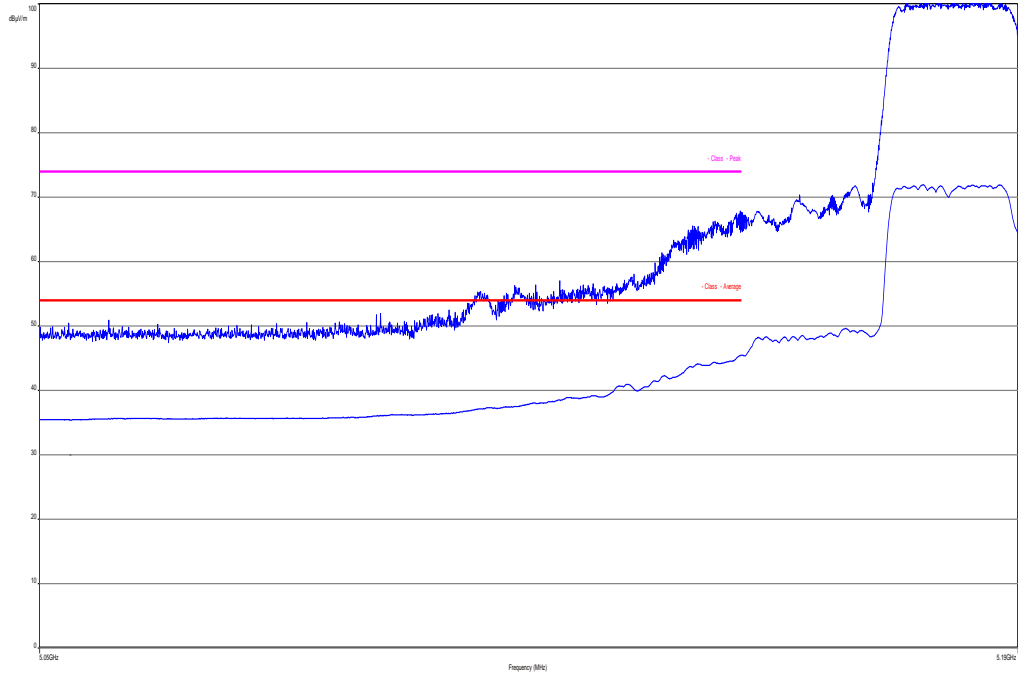
Plot 15: lower band edge, vertical & horizontal polarization (ac HT 20 mode), channel 100, highest power d. r.



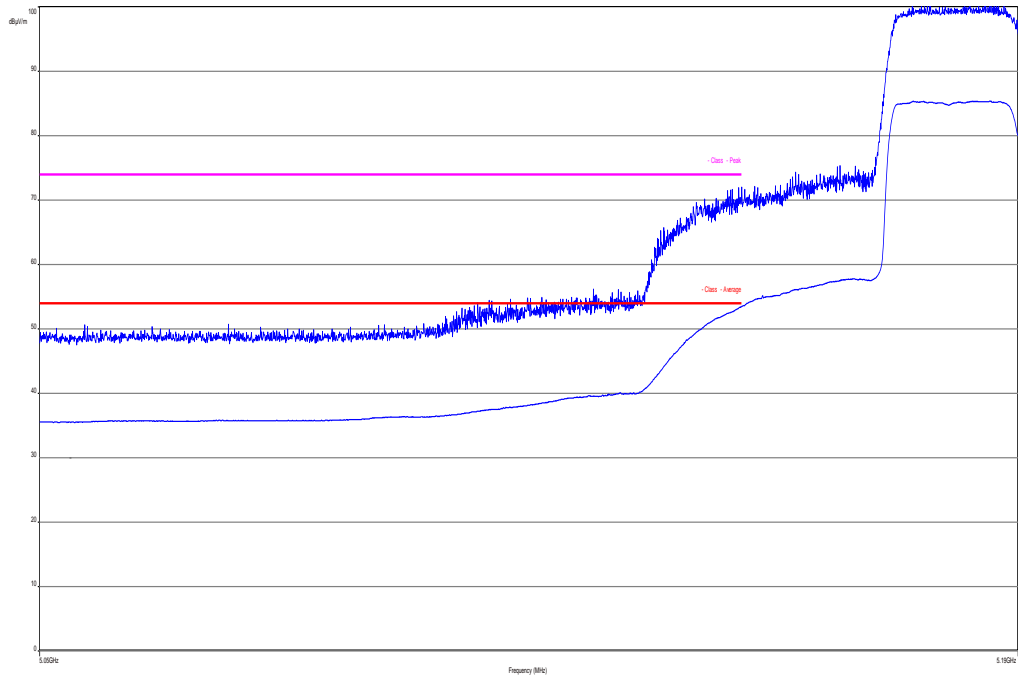
Plot 16: lower band edge, vertical & horizontal polarization (ac HT 40 mode), channel 38, low data rate



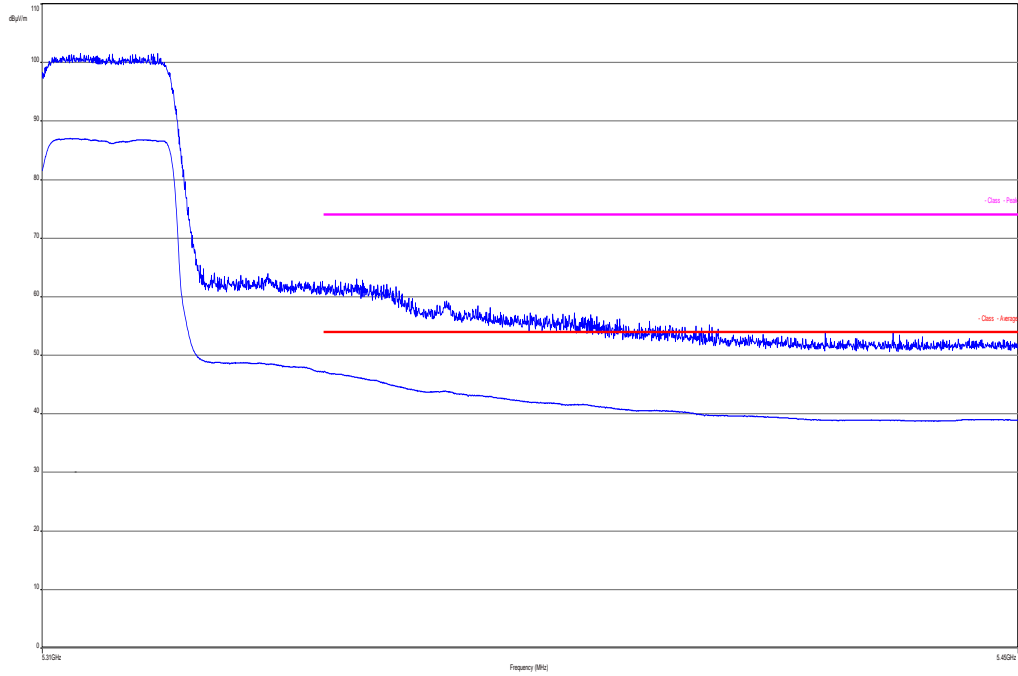
Plot 17: lower band edge, vertical & horizontal polarization (ac HT 40 mode), channel 38, high data rate



Plot 18: lower band edge, vertical & horizontal polarization (ac HT 40 mode), channel 38, highest power d. r.



Plot 19: upper band edge, vertical & horizontal polarization (ac HT 40 mode), channel 62, low data rate



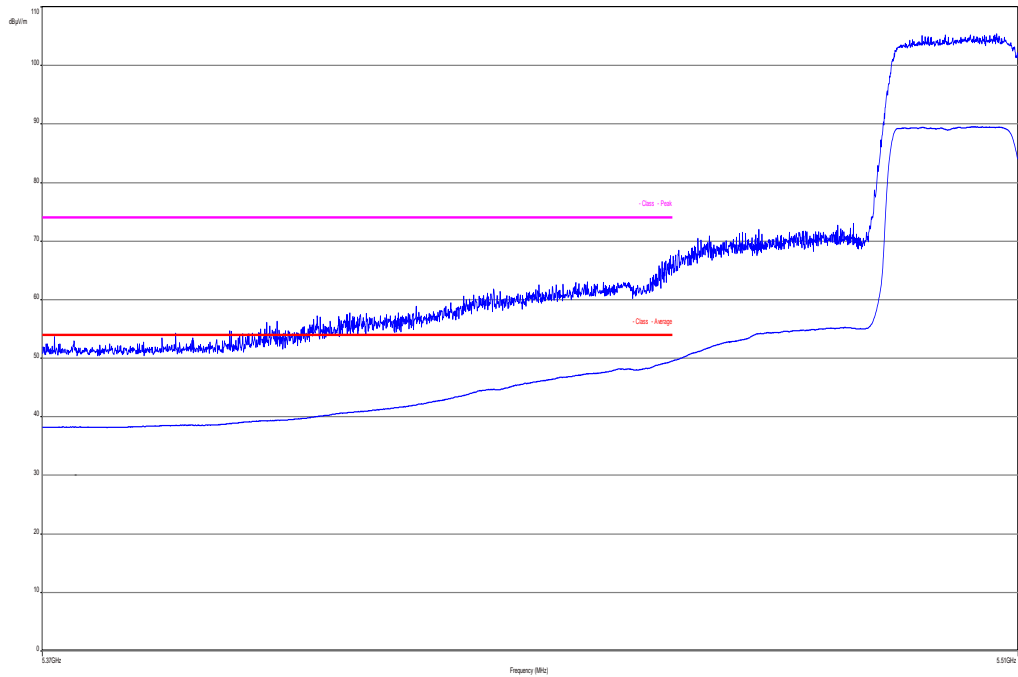
Plot 20: upper band edge, vertical & horizontal polarization (ac HT 40 mode), channel 62, high data rate



Plot 21: upper band edge, vertical & horizontal polarization (ac HT 40 mode), channel 62, highest power d. r.



Plot 22: lower band edge, vertical & horizontal polarization (ac HT 40 mode), channel 102, low data rate



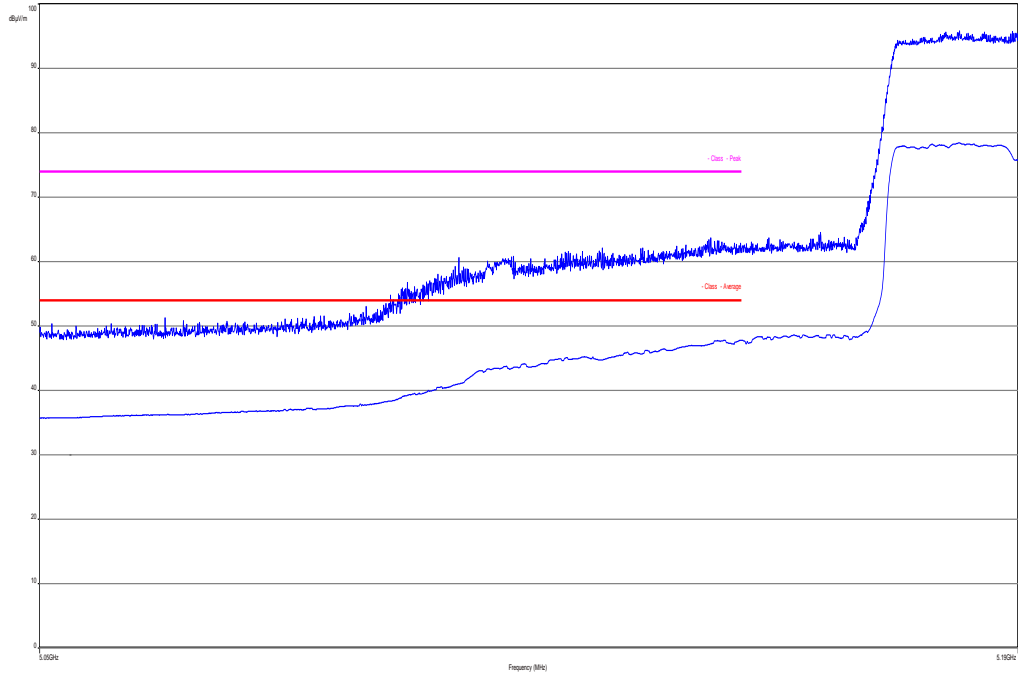
Plot 23: lower band edge, vertical & horizontal polarization (ac HT 40 mode), channel 102, high data rate



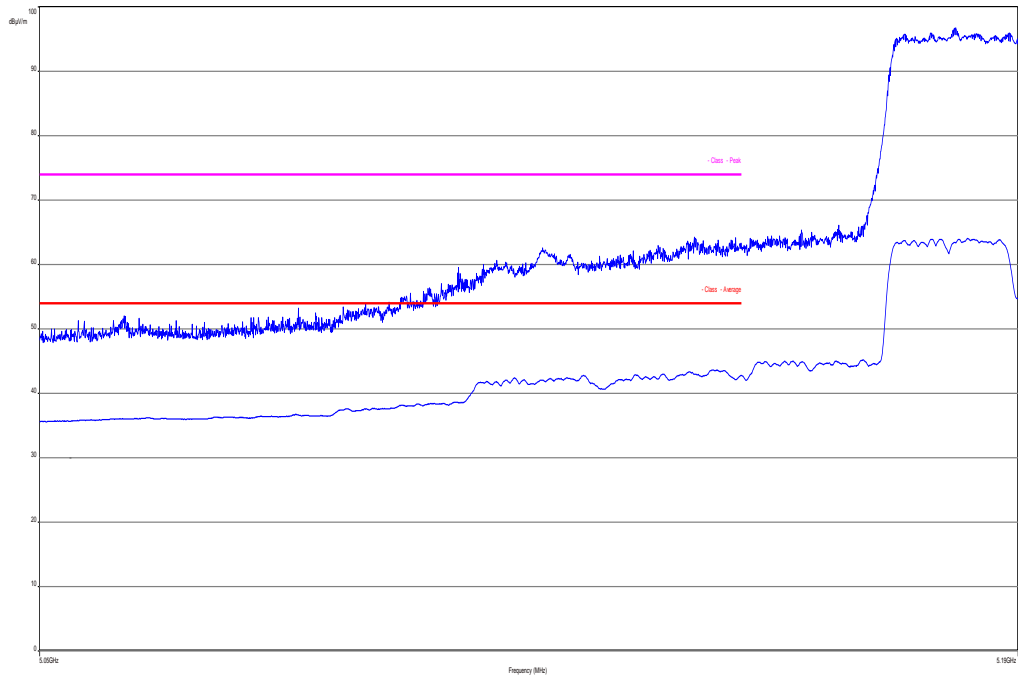
Plot 24: lower band edge, vertical & horizontal polarization (ac HT 40 mode), channel 102, highest power d. r.



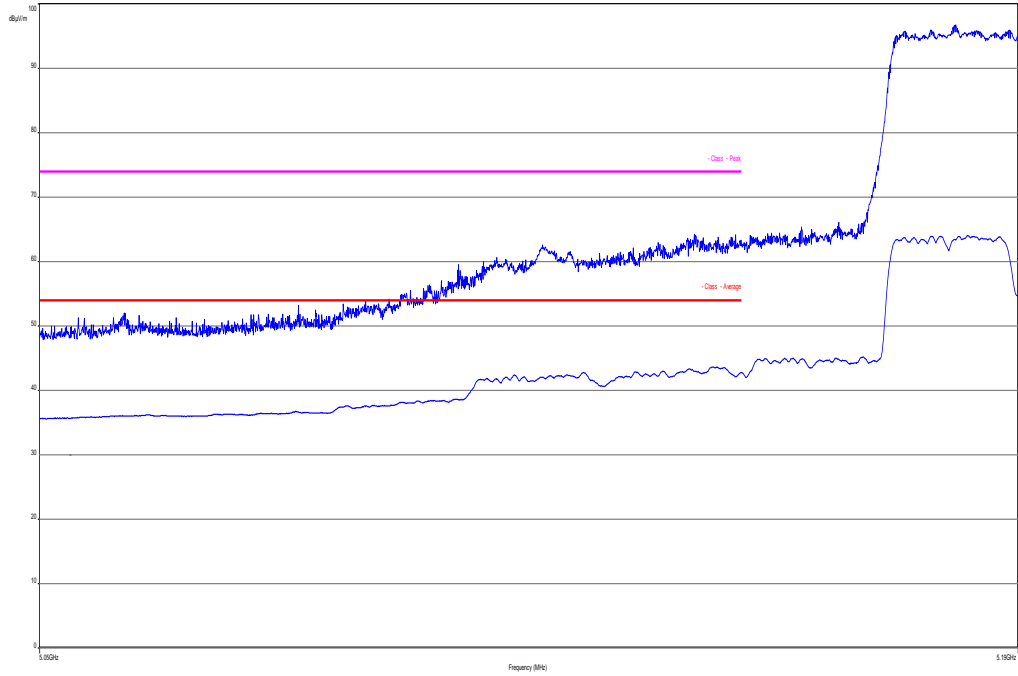
Plot 25: lower band edge, vertical & horizontal polarization (ac HT 80 mode), channel 42, low data rate



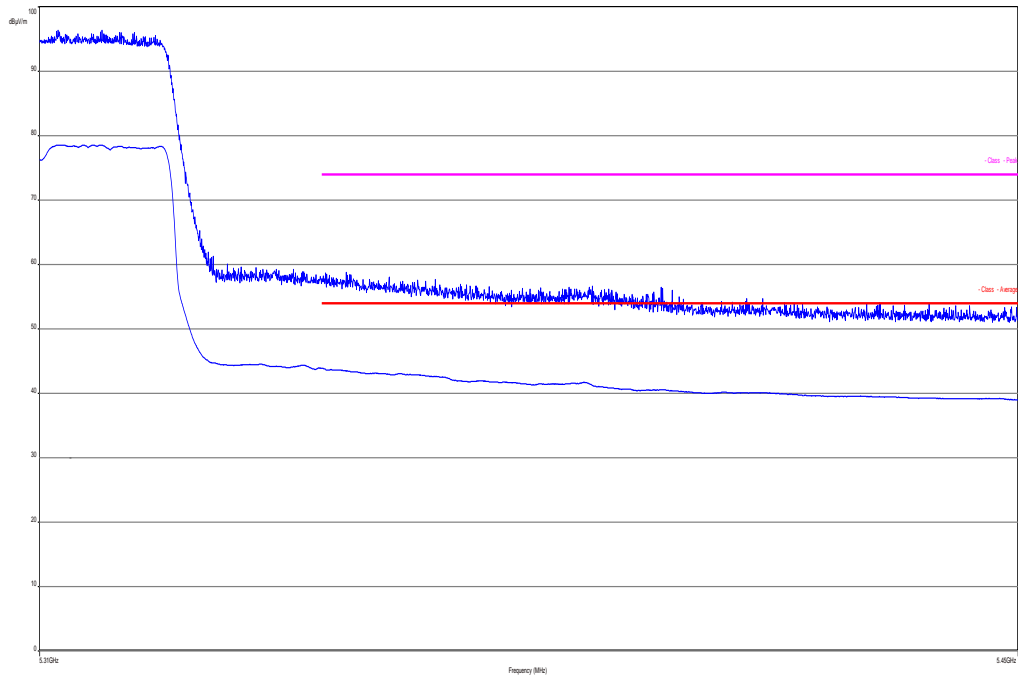
Plot 26: lower band edge, vertical & horizontal polarization (ac HT 80 mode), channel 42, high data rate



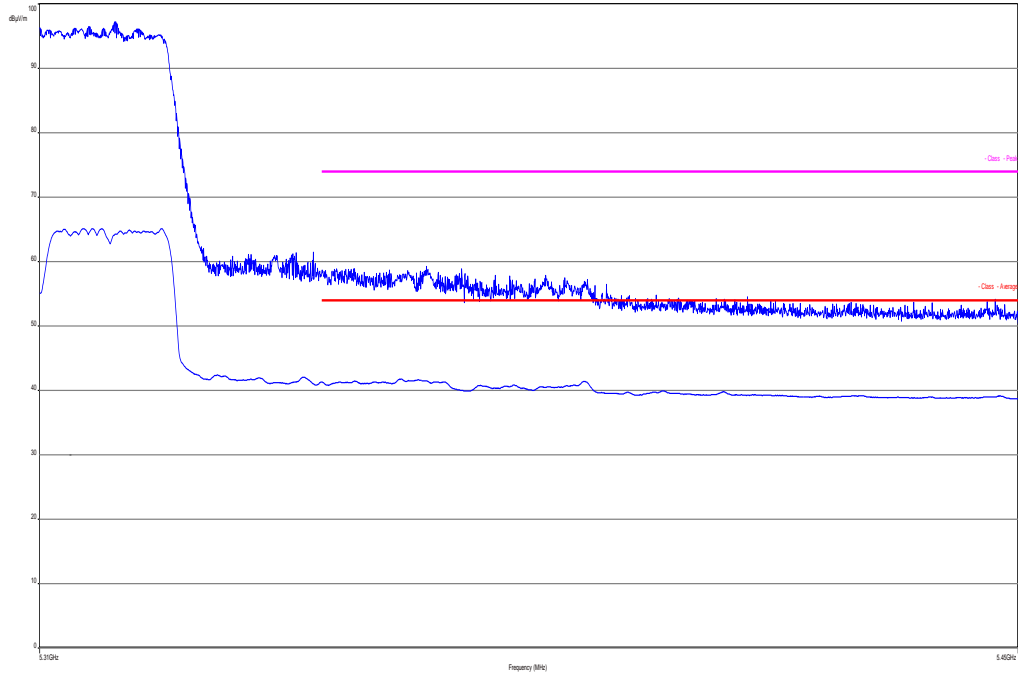
Plot 27: lower band edge, vertical & horizontal polarization (ac HT 80 mode), channel 42, highest power d. r.



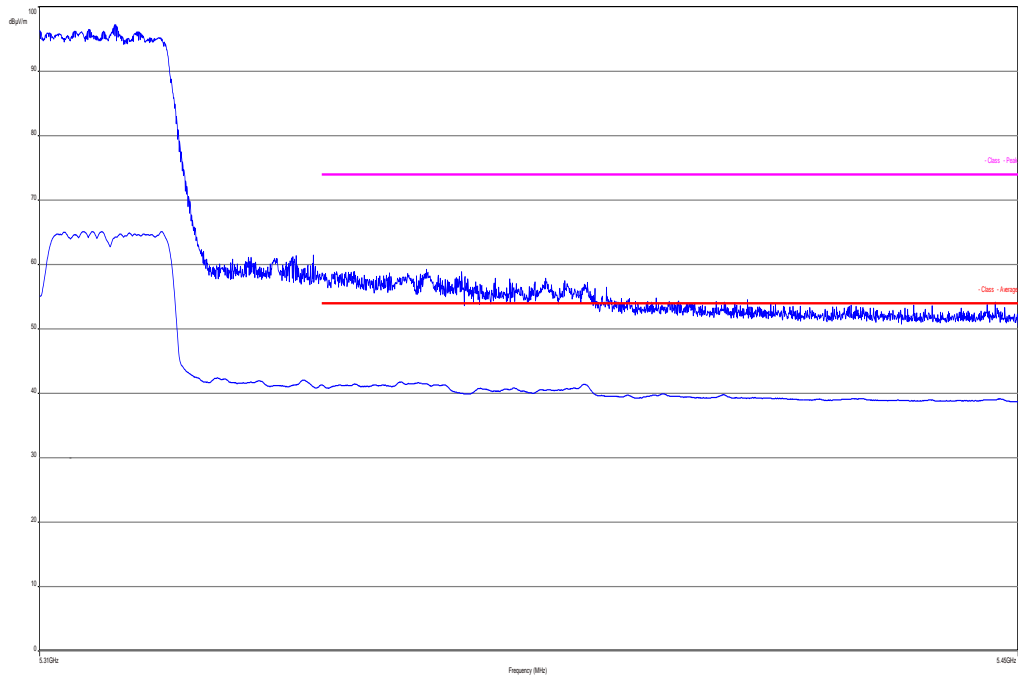
Plot 28: upper band edge, vertical & horizontal polarization (ac HT 80 mode), channel 58, low data rate



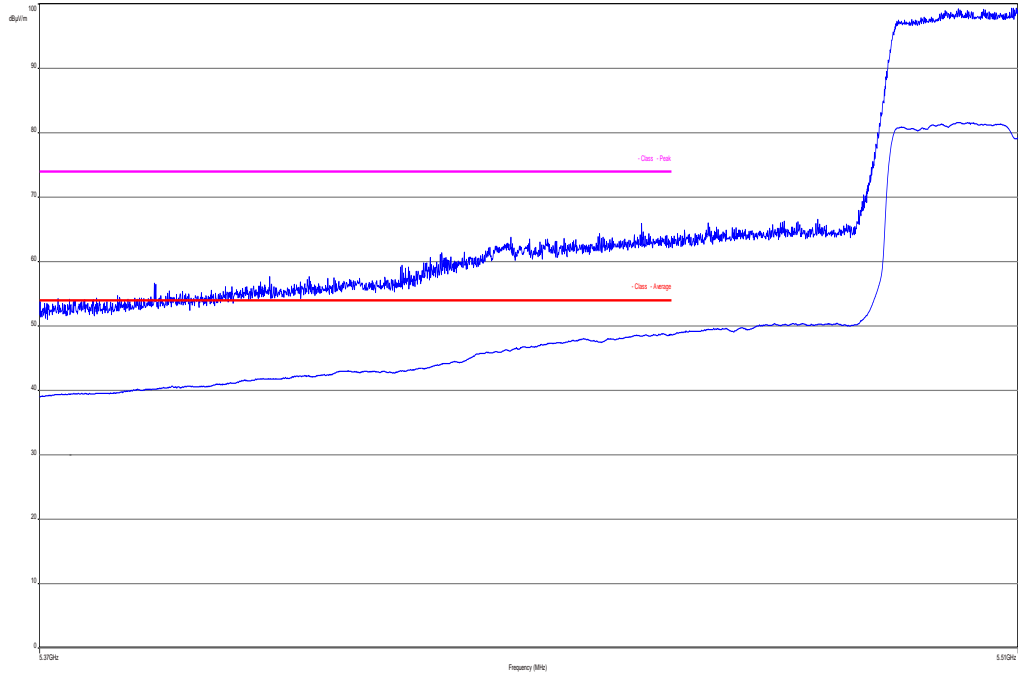
Plot 29: upper band edge, vertical & horizontal polarization (ac HT 80 mode), channel 58, high data rate



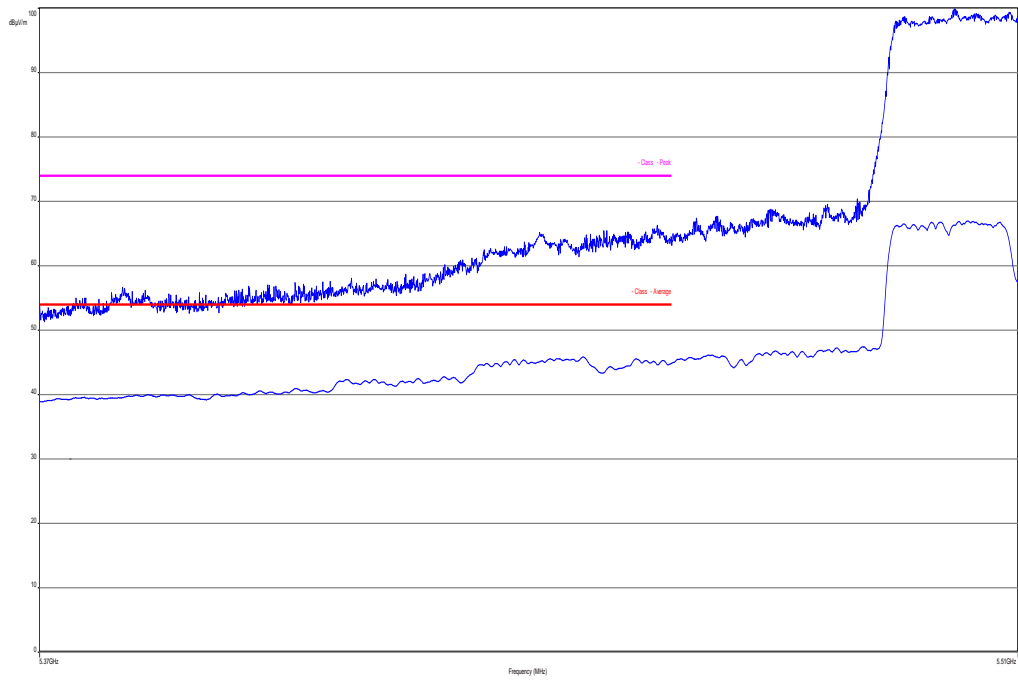
Plot 30: upper band edge, vertical & horizontal polarization (ac HT 80 mode), channel 58, highest power d. r.



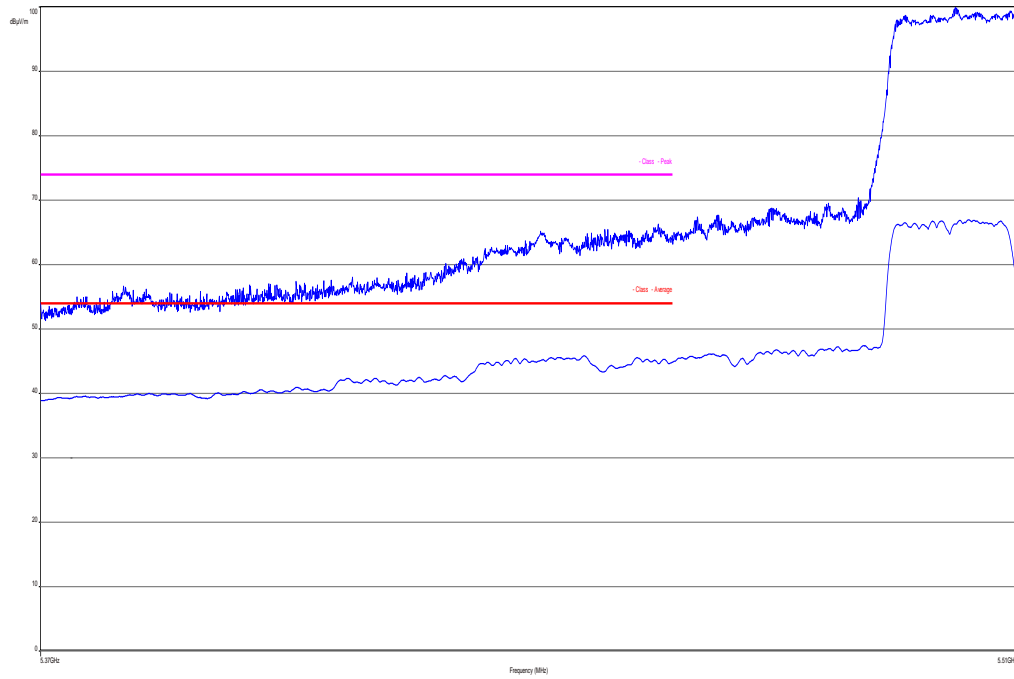
Plot 31: lower band edge, vertical & horizontal polarization (ac HT 80 mode), channel 106, low data rate



Plot 32: lower band edge, vertical & horizontal polarization (ac HT 80 mode), channel 106, high data rate



Plot 33: lower band edge, vertical & horizontal polarization (ac HT 80 mode), channel 106, highest power d. r.



Result: Passed

10.2 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 5240 MHz		
F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]
For emissions below 1 GHz, please take a look at the table below the 1 GHz plot.			-/-			For emissions below 1 GHz, please take a look at the table below the 1 GHz plot.		
All detected peaks are below the average limit!						All detected peaks are below the average limit!		
Measurement uncertainty			± 3 dB					

TX Spurious Emissions Radiated [dBµV/m] / dBm								
OFDM a – mode								
Lowest 5260 MHz			-/-			Highest 5320 MHz		
F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]
For emissions below 1 GHz, please take a look at the table below the 1 GHz plot.			-/-			For emissions below 1 GHz, please take a look at the table below the 1 GHz plot.		
All detected peaks are below the average limit!						All detected peaks are below the average limit!		
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]
For emissions below 1 GHz, please take a look at the table below the 1 GHz plot.			For emissions below 1 GHz, please take a look at the table below the 1 GHz plot.			For emissions below 1 GHz, please take a look at the table below the 1 GHz plot.		
All detected peaks are below the average limit!			All detected peaks are below the average limit!			All detected peaks are below the average limit!		
Measurement uncertainty			± 3 dB					

Result: Passed

Results: OFDM / n / ac – modeHT20

TX Spurious Emissions Radiated [dBµV/m] / dBm								
OFDM n / ac – mode HT20								
Lowest 5180 MHz			-/-			Highest 5240 MHz		
F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]
For emissions below 1 GHz, please take a look at the table below the 1 GHz plot.			-/-			For emissions below 1 GHz, please take a look at the table below the 1 GHz plot.		
All detected peaks are below the average limit!						All detected peaks are below the average limit!		
Measurement uncertainty			± 3 dB					

TX Spurious Emissions Radiated [dBµV/m] / dBm								
OFDM n / ac – mode HT20								
Lowest 5260 MHz			-/-			Highest 5320 MHz		
F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]
For emissions below 1 GHz, please take a look at the table below the 1 GHz plot.			-/-			For emissions below 1 GHz, please take a look at the table below the 1 GHz plot.		
All detected peaks are below the average limit!						All detected peaks are below the average limit!		
Measurement uncertainty			± 3 dB					

TX Spurious Emissions Radiated [dBµV/m] / dBm								
OFDM n / ac – 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]
For emissions below 1 GHz, please take a look at the table below the 1 GHz plot.			For emissions below 1 GHz, please take a look at the table below the 1 GHz plot.			For emissions below 1 GHz, please take a look at the table below the 1 GHz plot.		
All detected peaks are below the average limit!			All detected peaks are below the average limit!			All detected peaks are below the average limit!		
Measurement uncertainty			± 3 dB					

Result: Passed

Results: OFDM / n / ac – modeHT40

TX Spurious Emissions Radiated [dB μ V/m] / dBm								
OFDM n / ac – mode HT40								
Lowest 5190 MHz			-/-			Highest 5270 MHz		
F [MHz]	Detector	Level [dB μ V/m]	F [MHz]	Detector	Level [dB μ V/m]	F [MHz]	Detector	Level [dB μ V/m]
For emissions below 1 GHz, please take a look at the table below the 1 GHz plot.			-/-			For emissions below 1 GHz, please take a look at the table below the 1 GHz plot.		
All detected peaks are below the average limit!						All detected peaks are below the average limit!		
Measurement uncertainty			± 3 dB					

TX Spurious Emissions Radiated [dB μ V/m] / dBm								
OFDM n / ac – mode HT40								
Lowest 5310 MHz			-/-			Highest 5590 MHz		
F [MHz]	Detector	Level [dB μ V/m]	F [MHz]	Detector	Level [dB μ V/m]	F [MHz]	Detector	Level [dB μ V/m]
For emissions below 1 GHz, please take a look at the table below the 1 GHz plot.			-/-			For emissions below 1 GHz, please take a look at the table below the 1 GHz plot.		
All detected peaks are below the average limit!						All detected peaks are below the average limit!		
Measurement uncertainty			± 3 dB					

TX Spurious Emissions Radiated [dB μ V/m] / dBm								
OFDM n / ac – mode HT40								
Lowest 5670 MHz			-/-			-/-		
F [MHz]	Detector	Level [dB μ V/m]	F [MHz]	Detector	Level [dB μ V/m]	F [MHz]	Detector	Level [dB μ V/m]
For emissions below 1 GHz, please take a look at the table below the 1 GHz plot.			-/-			-/-		
All detected peaks are below the average limit!			-/-			-/-		
Measurement uncertainty			± 3 dB					

Result: Passed

Results: OFDM / ac – modeHT80

TX Spurious Emissions Radiated [dBμV/m] / dBm								
OFDM ac – mode HT80								
Lowest 5210 MHz			-/-			Highest 5290 MHz		
F [MHz]	Detector	Level [dBμV/m]	F [MHz]	Detector	Level [dBμV/m]	F [MHz]	Detector	Level [dBμV/m]
For emissions below 1 GHz, please take a look at the table below the 1 GHz plot.			-/-			For emissions below 1 GHz, please take a look at the table below the 1 GHz plot.		
All detected peaks are below the average limit!						All detected peaks are below the average limit!		
Measurement uncertainty			± 3 dB					

TX Spurious Emissions Radiated [dBμV/m] / dBm								
OFDM ac – mode HT80								
Lowest 5530 MHz			-/-			Highest 5610 MHz		
F [MHz]	Detector	Level [dBμV/m]	F [MHz]	Detector	Level [dBμV/m]	F [MHz]	Detector	Level [dBμV/m]
For emissions below 1 GHz, please take a look at the table below the 1 GHz plot.			-/-			For emissions below 1 GHz, please take a look at the table below the 1 GHz plot.		
All detected peaks are below the average limit!						All detected peaks 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

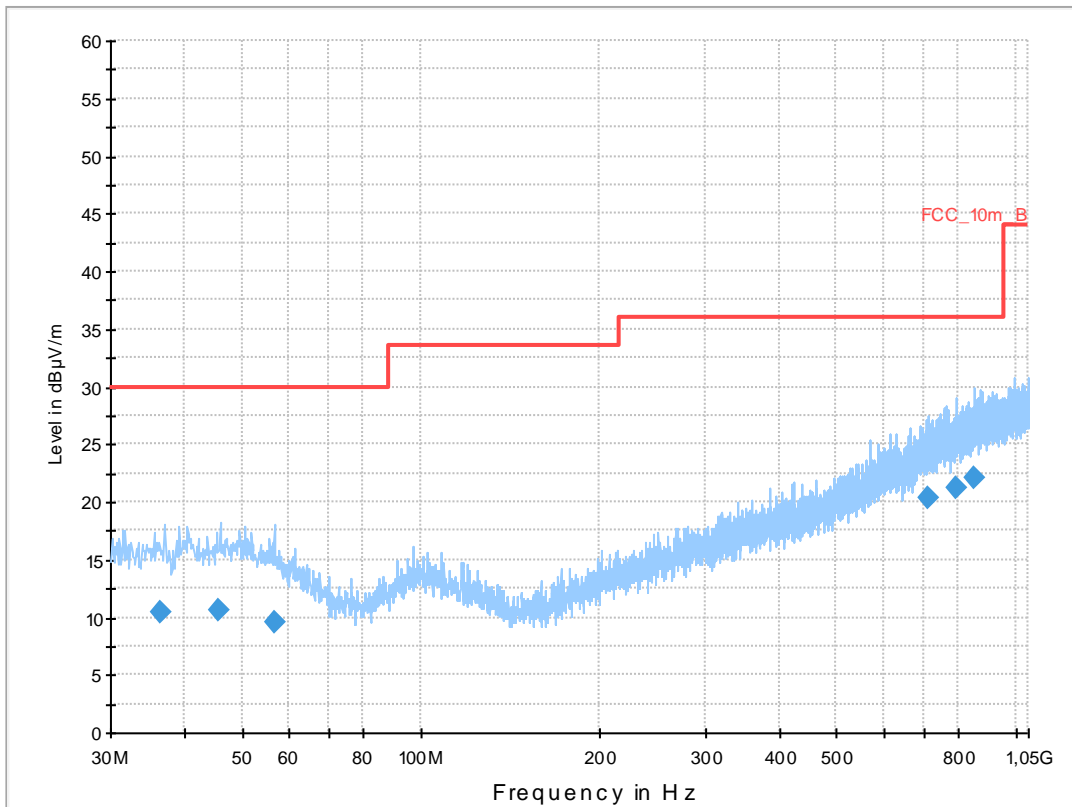
Common Information

EUT: PM-0744-BV
 Serial Number: CB5A1W45MZ
 Test Description: FCC part 15 class B @ 10 m
 Operating Conditions: WLAN a-mode 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

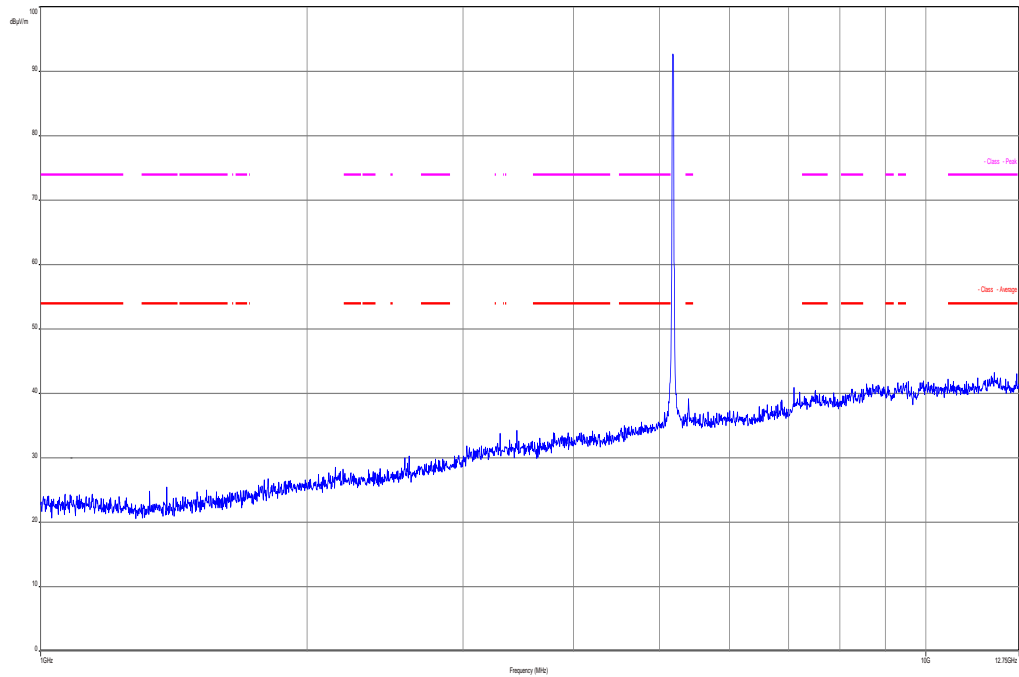
Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 2 GHz	60 kHz	QPK	120 kHz	1 s	20 dB



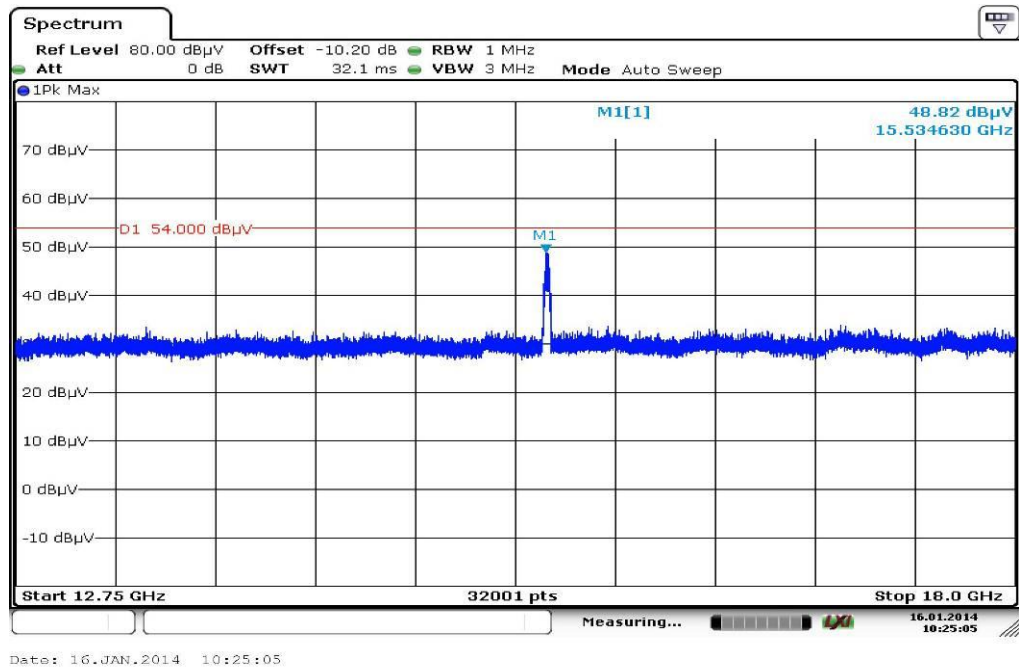
Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
36.523050	10.4	1000.0	120.000	170.0	H	182.0	13.2	19.6	30.0	
45.794100	10.6	1000.0	120.000	170.0	V	-3.0	13.3	19.4	30.0	
56.739900	9.6	1000.0	120.000	98.0	V	170.0	12.4	20.4	30.0	
712.074300	20.4	1000.0	120.000	170.0	V	100.0	22.8	15.6	36.0	
796.615500	21.2	1000.0	120.000	120.0	V	81.0	23.8	14.8	36.0	
850.289550	22.1	1000.0	120.000	170.0	H	190.0	24.6	13.9	36.0	

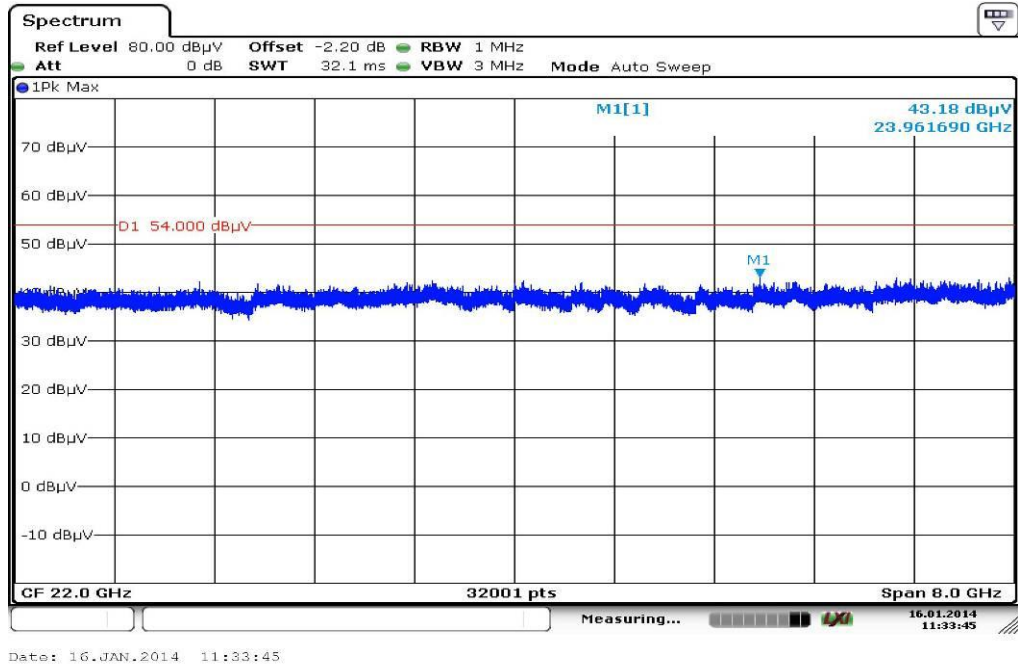
Plot 2: 1 GHz to 12.75 GHz, 5180 MHz, vertical & horizontal polarization



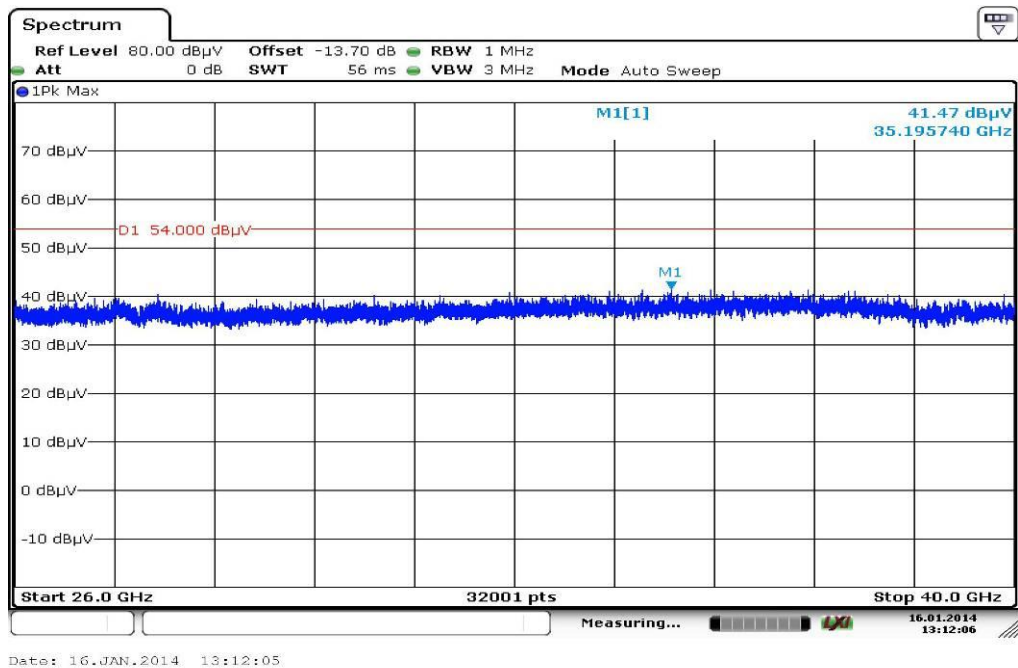
Plot 3: 12 GHz to 18 GHz, 5180 MHz, vertical & horizontal polarization



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

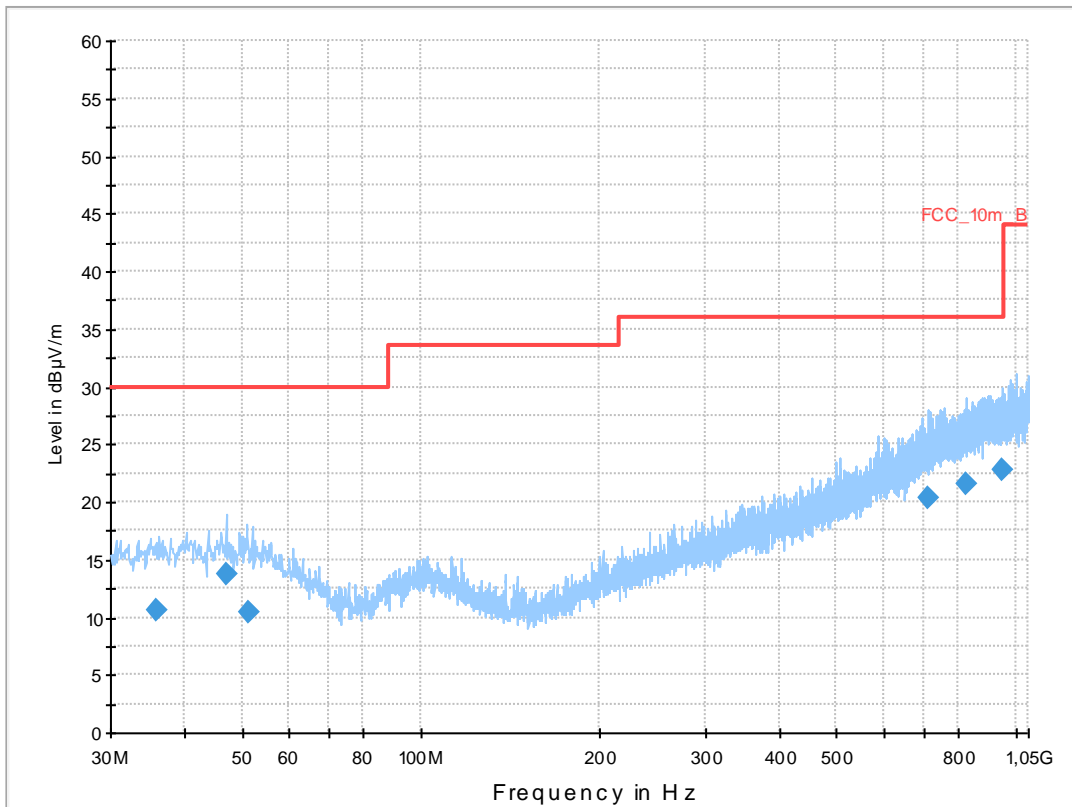
Common Information

EUT: PM-0744-BV
 Serial Number: CB5A1W45MZ
 Test Description: FCC part 15 class B @ 10 m
 Operating Conditions: WLAN a-mode 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

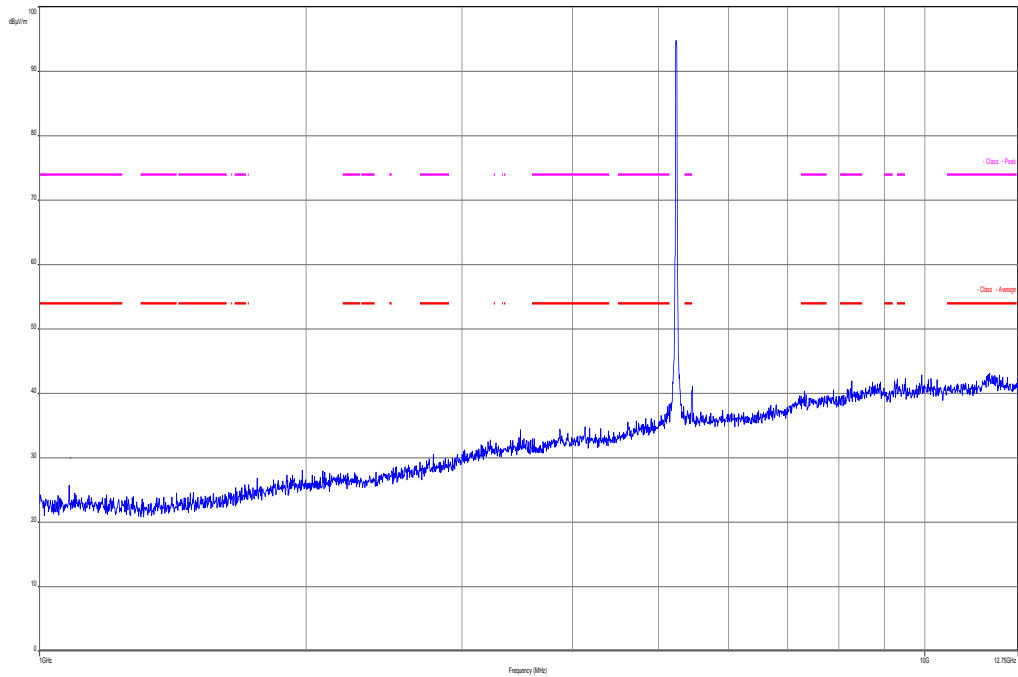
Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 2 GHz	60 kHz	QPK	120 kHz	1 s	20 dB



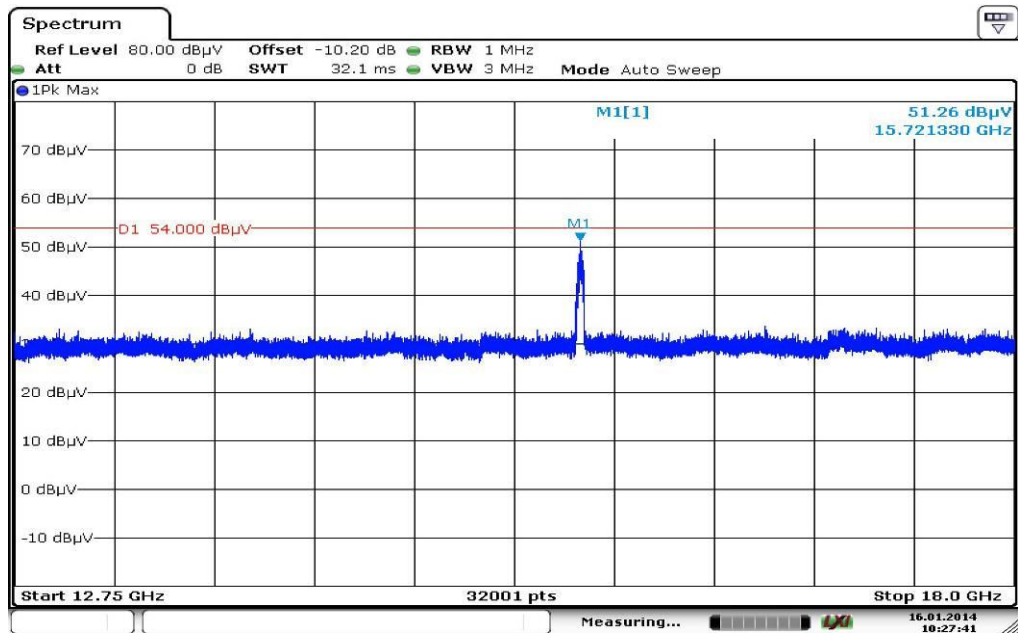
Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
35.976750	10.7	1000.0	120.000	170.0	H	190.0	13.1	19.3	30.0	
47.026050	13.7	1000.0	120.000	113.0	V	182.0	13.3	16.3	30.0	
51.174750	10.5	1000.0	120.000	170.0	H	-10.0	13.3	19.5	30.0	
711.194550	20.4	1000.0	120.000	170.0	H	-5.0	22.8	15.6	36.0	
824.399400	21.6	1000.0	120.000	170.0	H	100.0	24.2	14.4	36.0	
948.545250	22.7	1000.0	120.000	170.0	H	280.0	25.3	13.3	36.0	

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

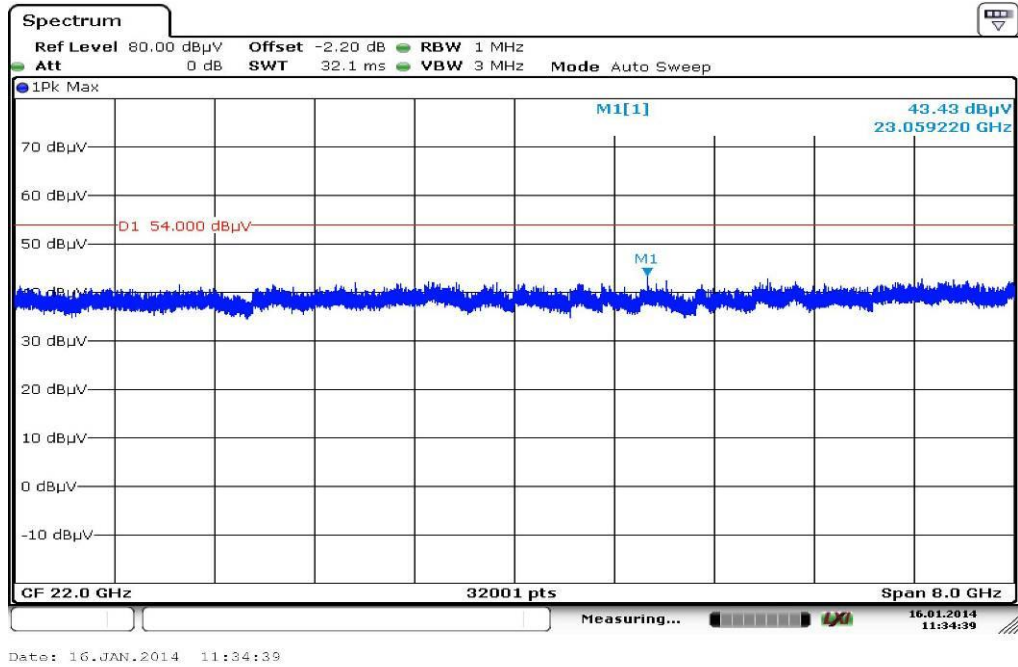


Plot 8: 12 GHz to 18 GHz, 5240 MHz, vertical & horizontal polarization

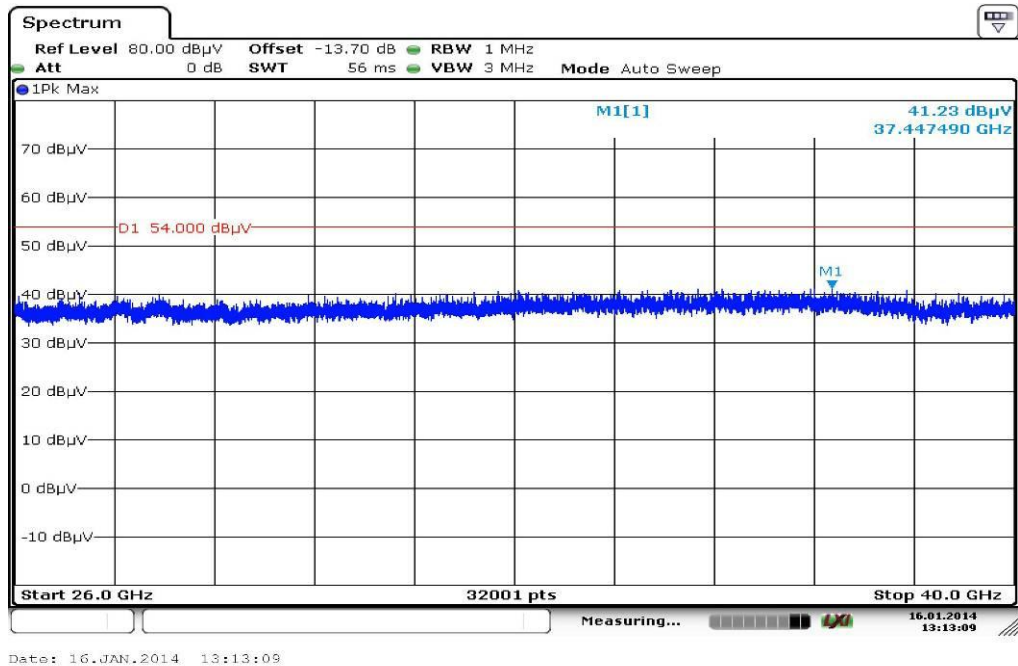


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Plot 9: 18 GHz to 26 GHz, 5240 MHz, vertical & horizontal polarization



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



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

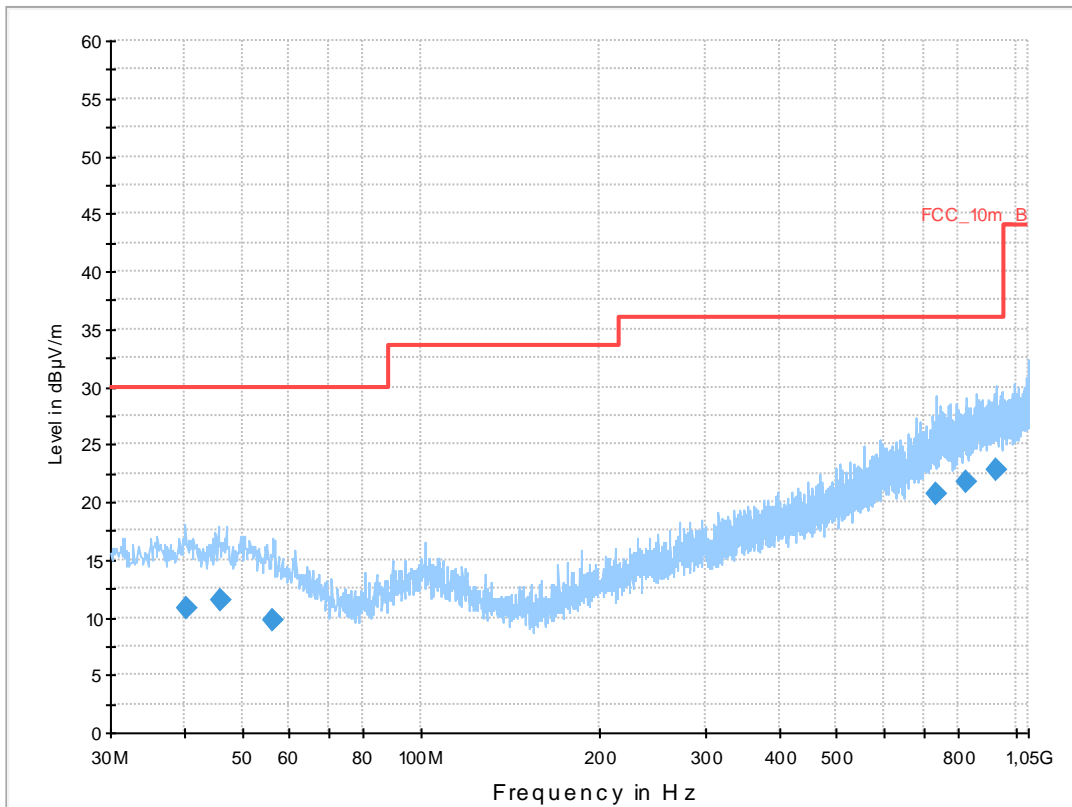
Common Information

EUT: PM-0744-BV
 Serial Number: CB5A1W45MZ
 Test Description: FCC part 15 class B @ 10 m
 Operating Conditions: WLAN a-mode CH 52
 Operator Name: Hennemann
 Comment: battery powered

Scan Setup: STAN_Fin [EMI radiated]

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

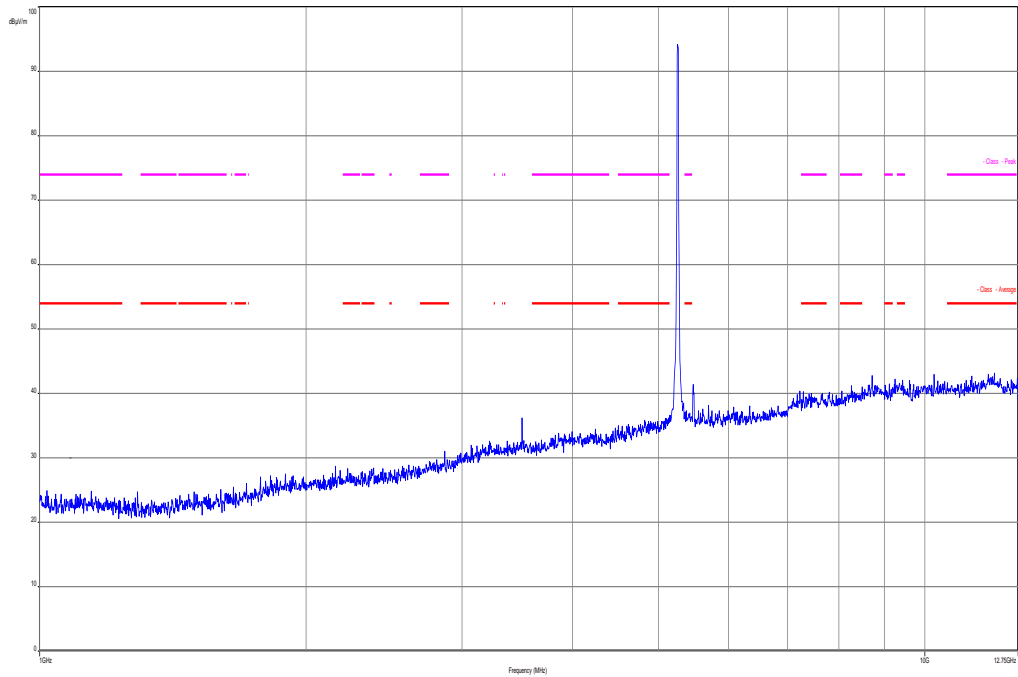
Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 2 GHz	60 kHz	QPK	120 kHz	1 s	20 dB



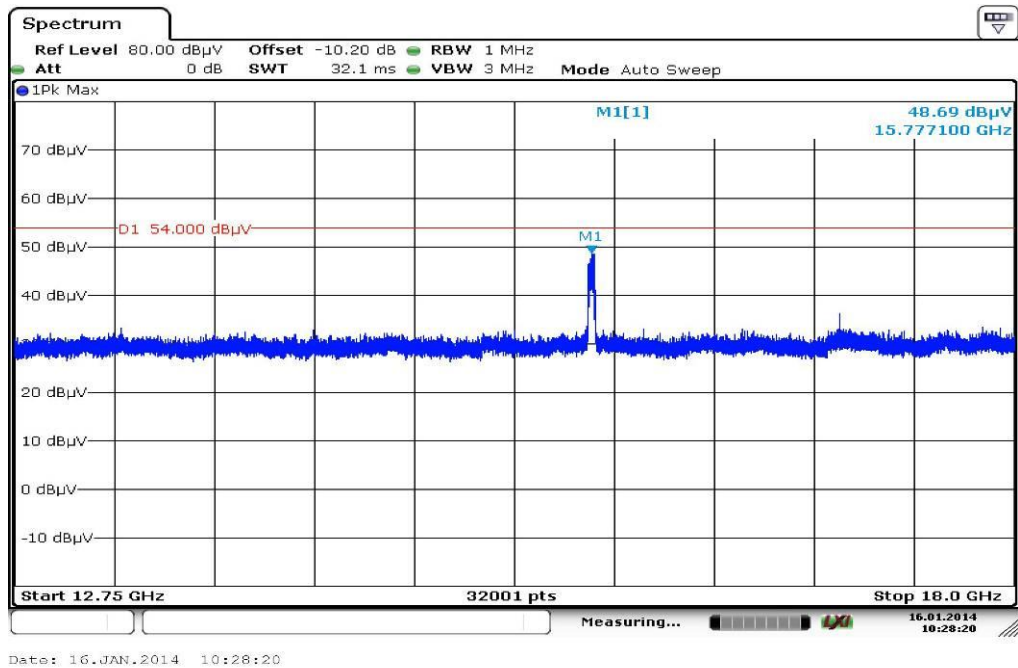
Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
40.277250	10.8	1000.0	120.000	170.0	H	280.0	13.4	19.2	30.0	
45.978750	11.4	1000.0	120.000	170.0	V	180.0	13.3	18.6	30.0	
56.259450	9.8	1000.0	120.000	120.0	V	100.0	12.6	20.2	30.0	
737.100150	20.8	1000.0	120.000	170.0	V	90.0	23.4	15.2	36.0	
828.056850	21.7	1000.0	120.000	170.0	V	190.0	24.2	14.3	36.0	
925.800000	22.7	1000.0	120.000	119.0	H	280.0	25.3	13.3	36.0	

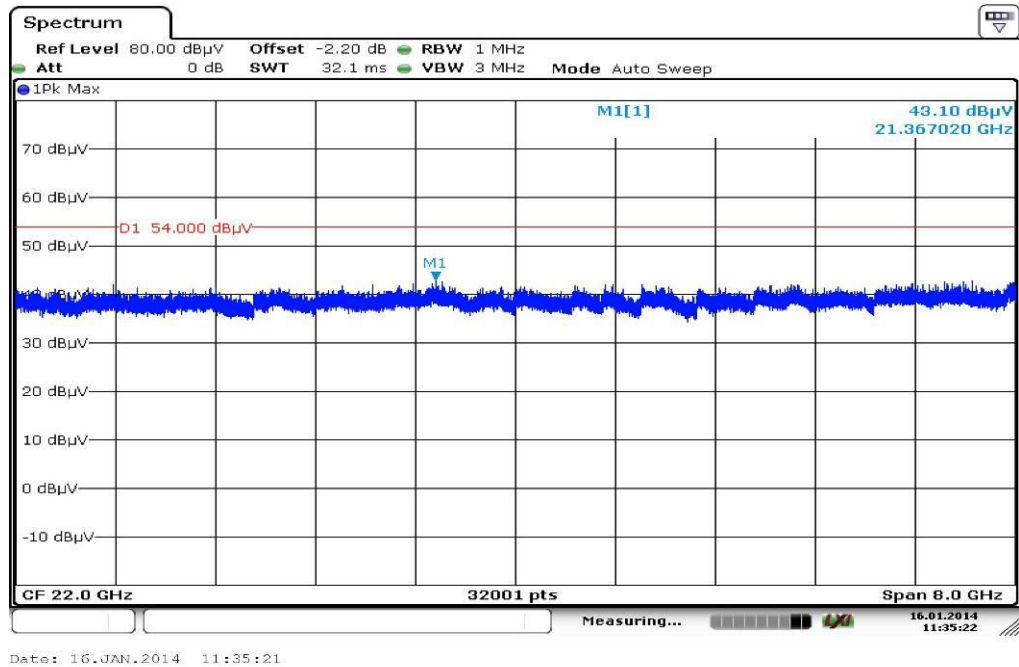
Plot 12: 1 GHz to 12.75 GHz, 5260 MHz, vertical & horizontal polarization



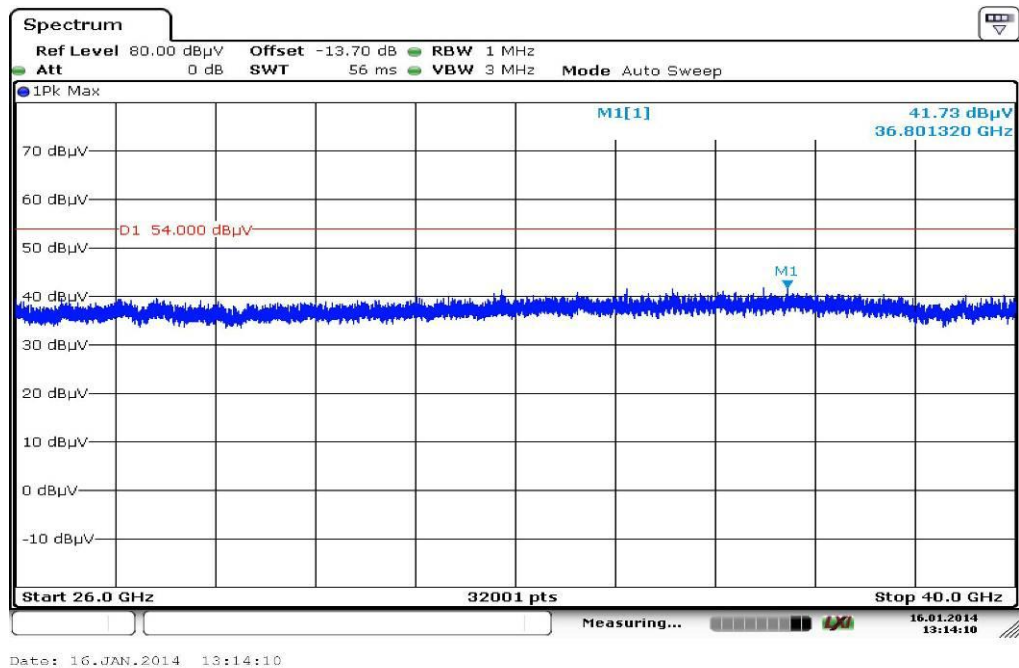
Plot 13: 12 GHz to 18 GHz, 5260 MHz, vertical & horizontal polarization



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



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



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

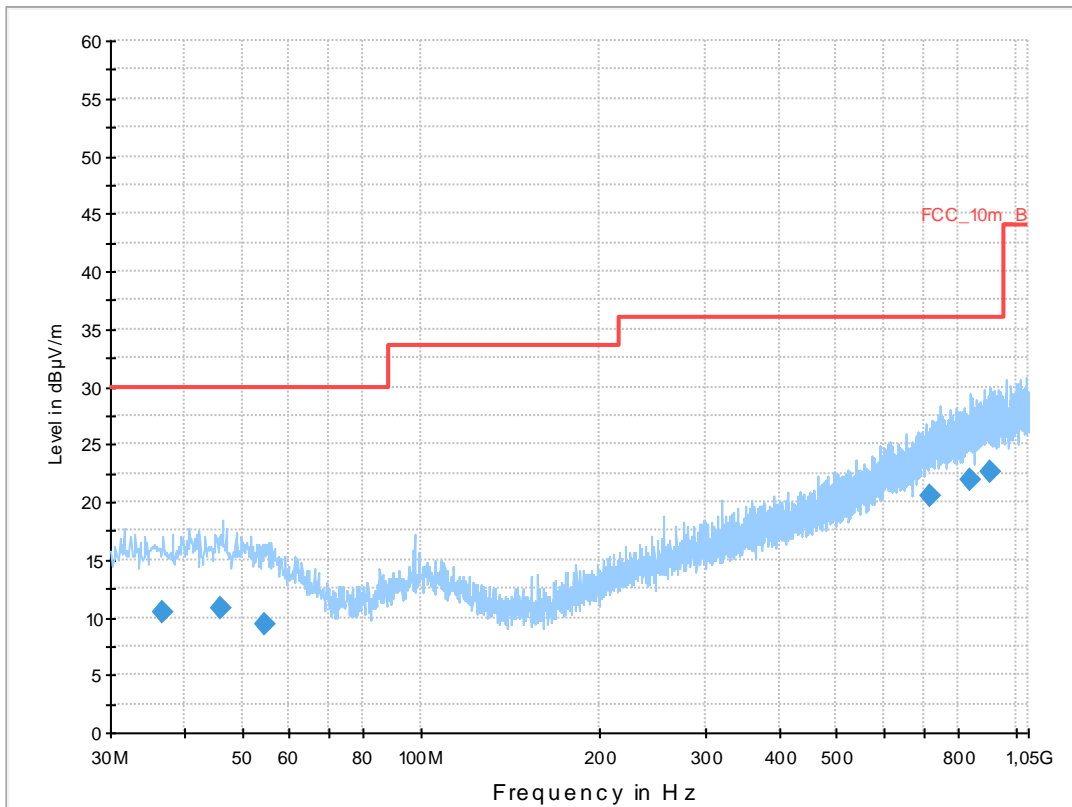
Common Information

EUT: PM-0744-BV
 Serial Number: CB5A1W45MZ
 Test Description: FCC part 15 class B @ 10 m
 Operating Conditions: WLAN a-mode 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

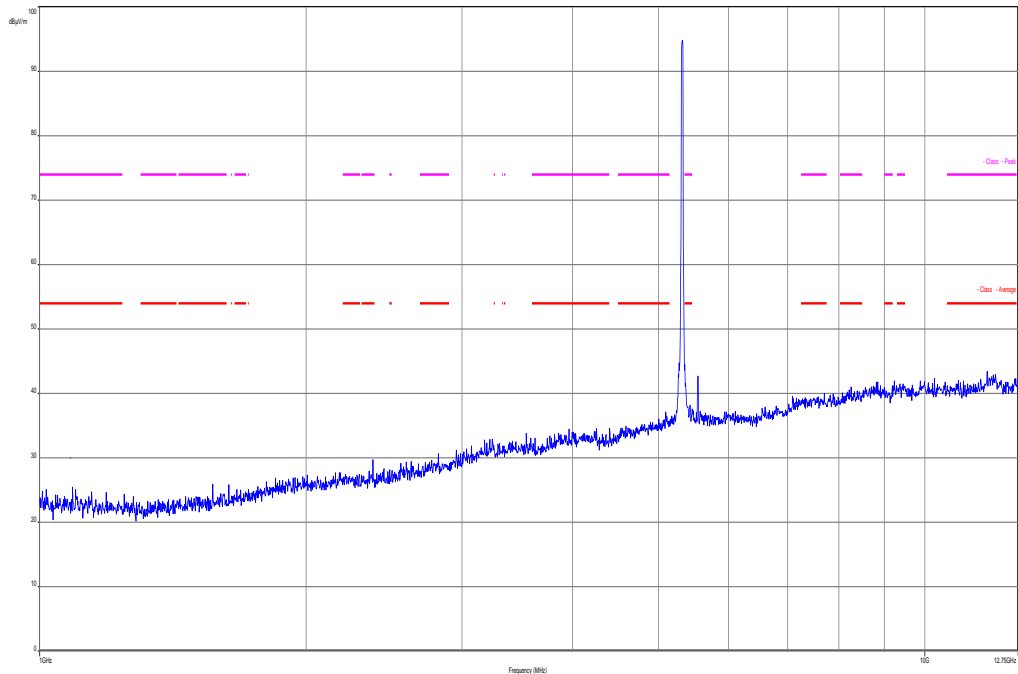
Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 2 GHz	60 kHz	QPK	120 kHz	1 s	20 dB



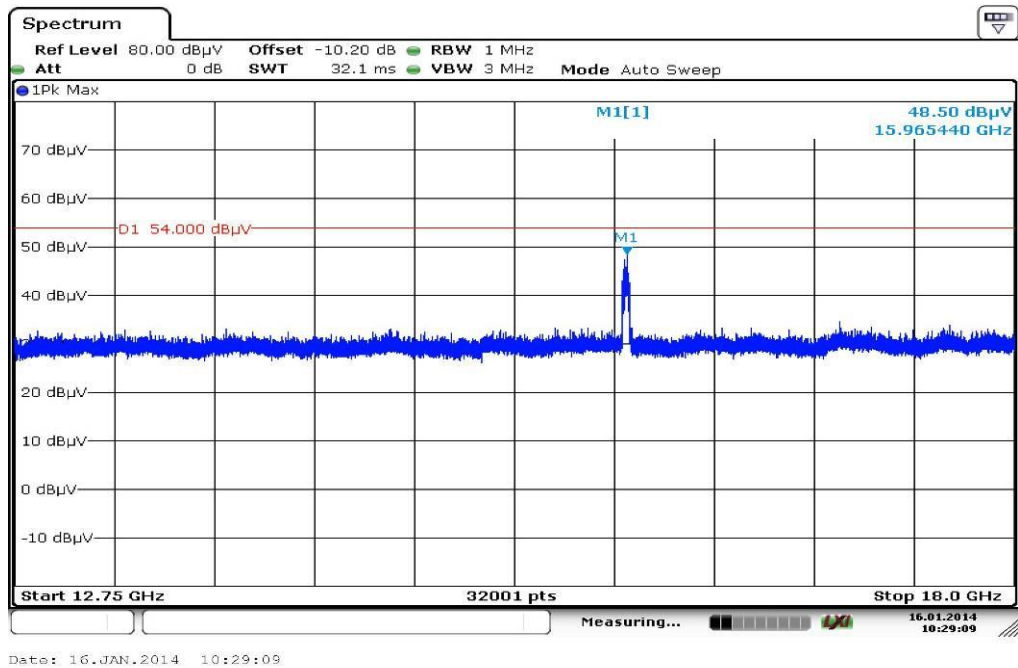
Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
36.620700	10.4	1000.0	120.000	170.0	V	100.0	13.2	19.6	30.0	
46.029750	10.8	1000.0	120.000	170.0	H	170.0	13.3	19.2	30.0	
54.521550	9.4	1000.0	120.000	98.0	H	100.0	12.9	20.6	30.0	
720.357300	20.5	1000.0	120.000	170.0	V	261.0	23.0	15.5	36.0	
839.835450	21.9	1000.0	120.000	120.0	H	190.0	24.4	14.1	36.0	
908.739600	22.7	1000.0	120.000	170.0	H	10.0	25.2	13.4	36.0	

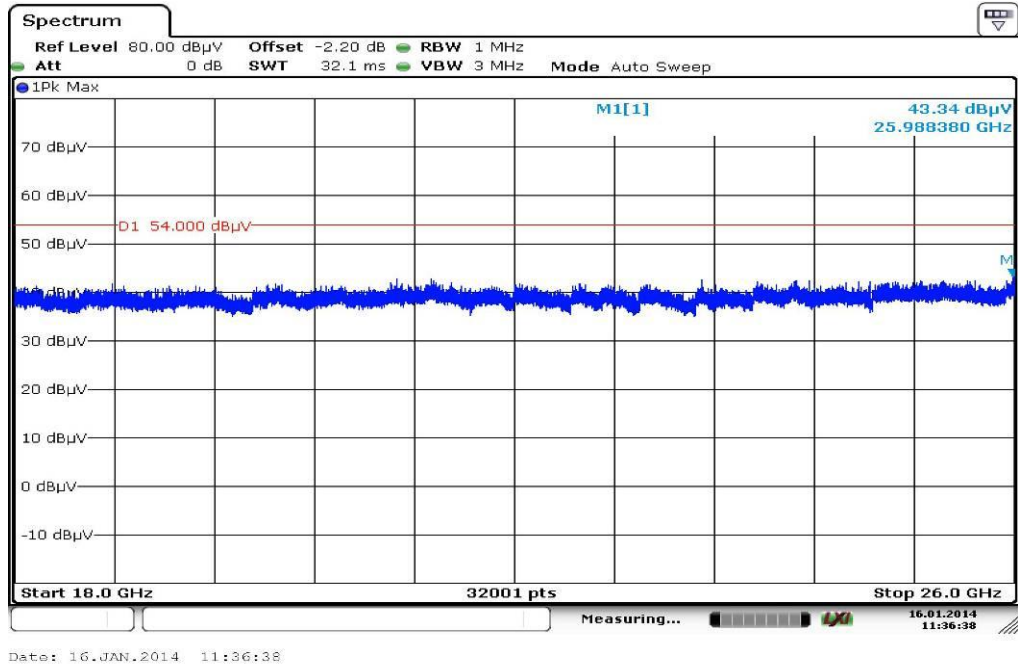
Plot 17: 1 GHz to 12.75 GHz, 5320 MHz, vertical & horizontal polarization



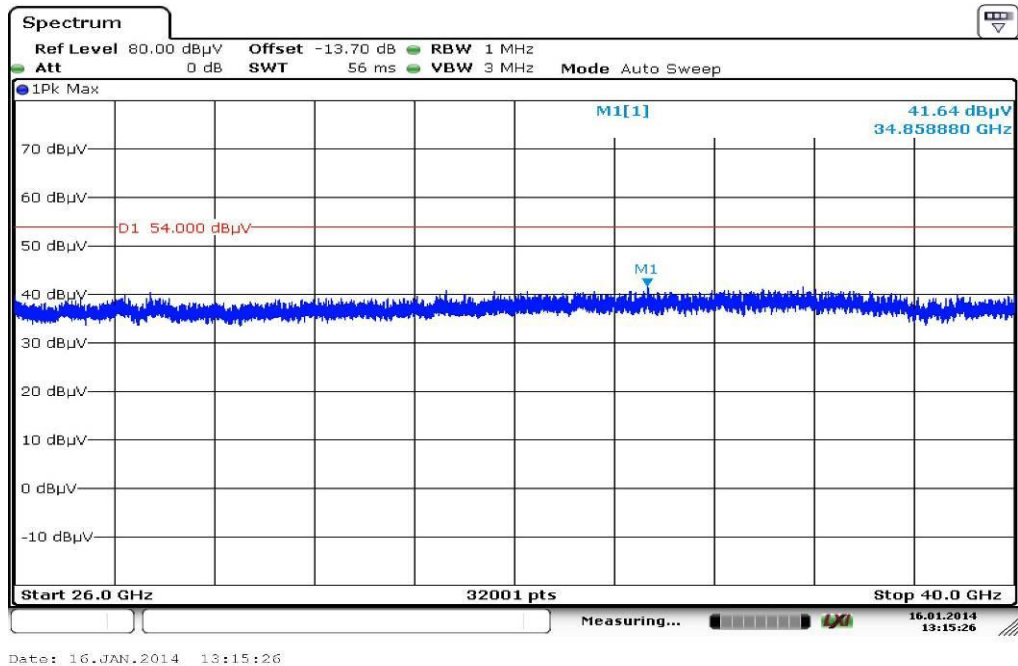
Plot 18: 12 GHz to 18 GHz, 5320 MHz, vertical & horizontal polarization



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



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



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

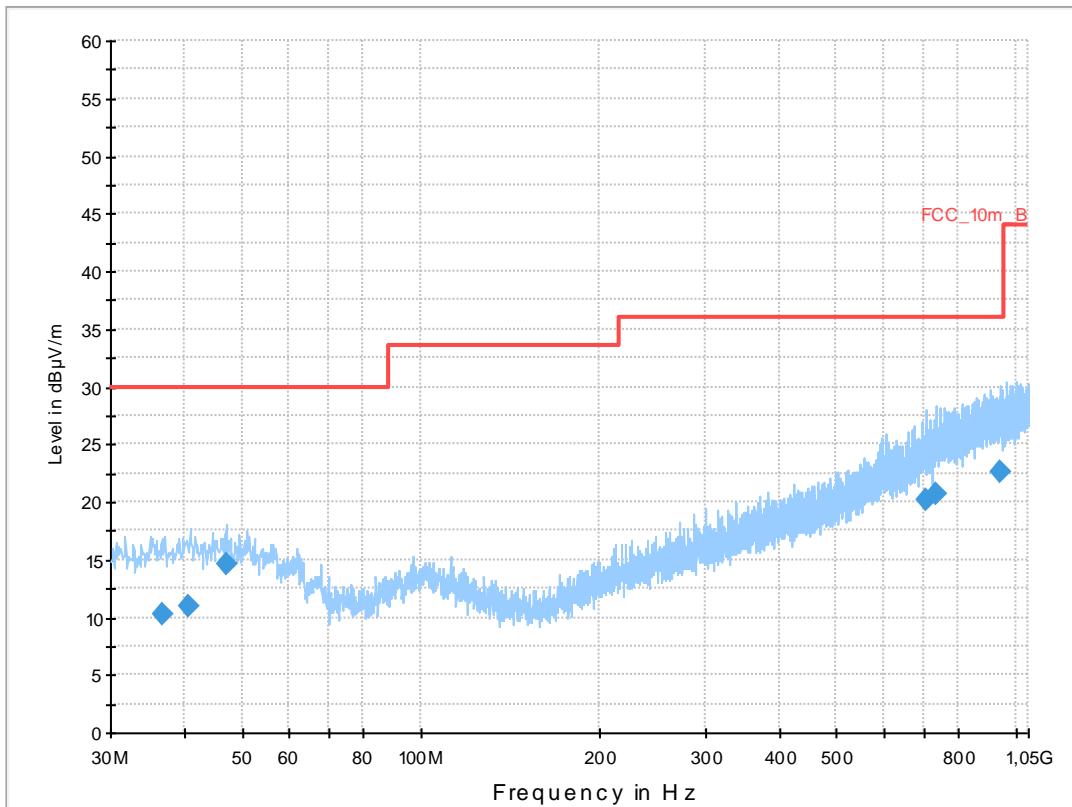
Common Information

EUT: PM-0744-BV
 Serial Number: CB5A1W45MZ
 Test Description: FCC part 15 class B @ 10 m
 Operating Conditions: WLAN a-mode 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

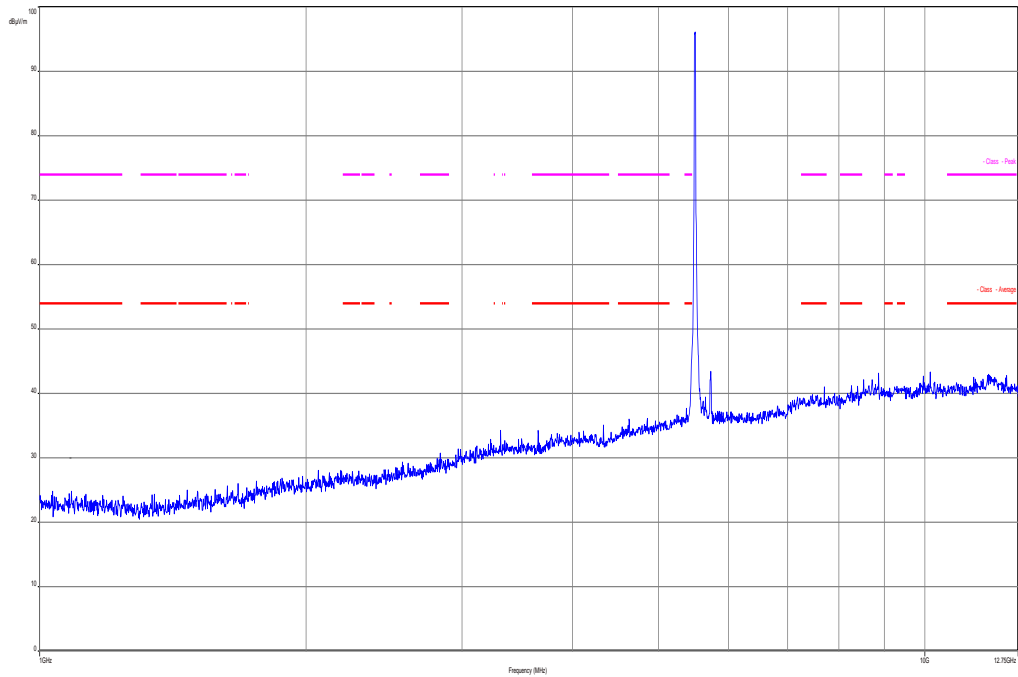
Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 2 GHz	60 kHz	QPK	120 kHz	1 s	20 dB



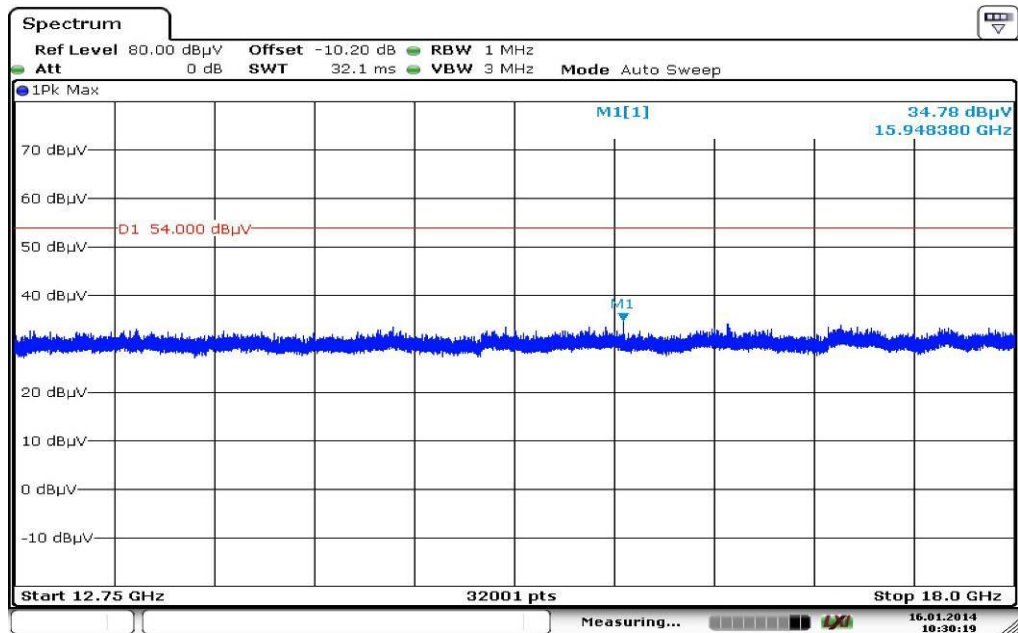
Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
36.720000	10.2	1000.0	120.000	170.0	H	176.0	13.2	19.8	30.0	
40.482150	11.0	1000.0	120.000	98.0	V	270.0	13.4	19.0	30.0	
46.971750	14.7	1000.0	120.000	98.0	V	87.0	13.3	15.3	30.0	
708.220650	20.2	1000.0	120.000	98.0	H	85.0	22.7	15.8	36.0	
732.006450	20.7	1000.0	120.000	170.0	H	10.0	23.2	15.3	36.0	
938.572050	22.6	1000.0	120.000	170.0	H	100.0	25.3	13.4	36.0	

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

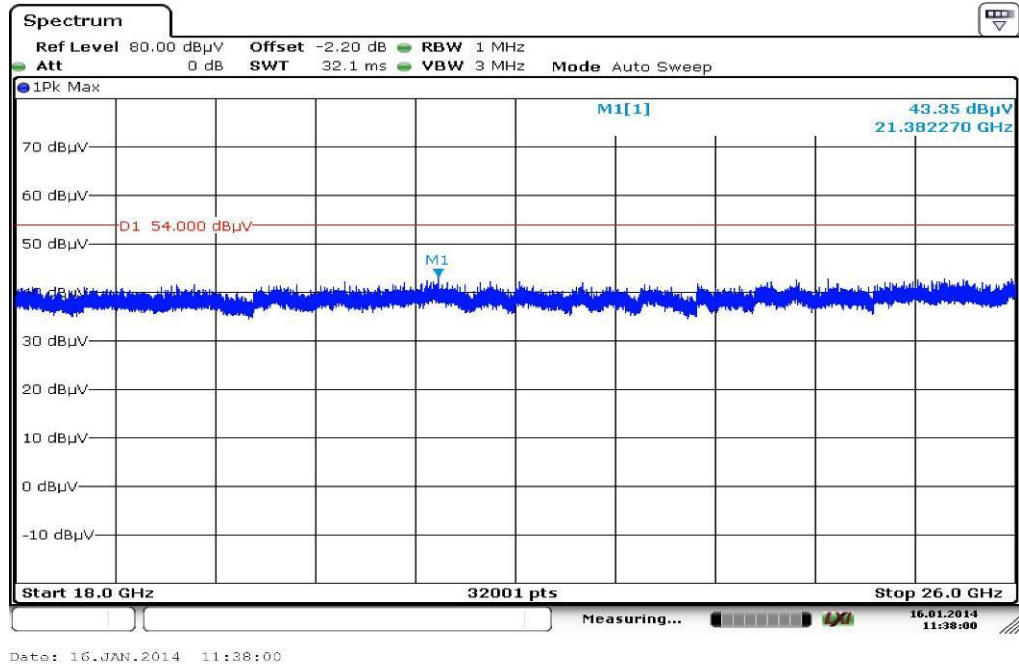


Plot 23: 12 GHz to 18 GHz, 5500 MHz, vertical & horizontal polarization

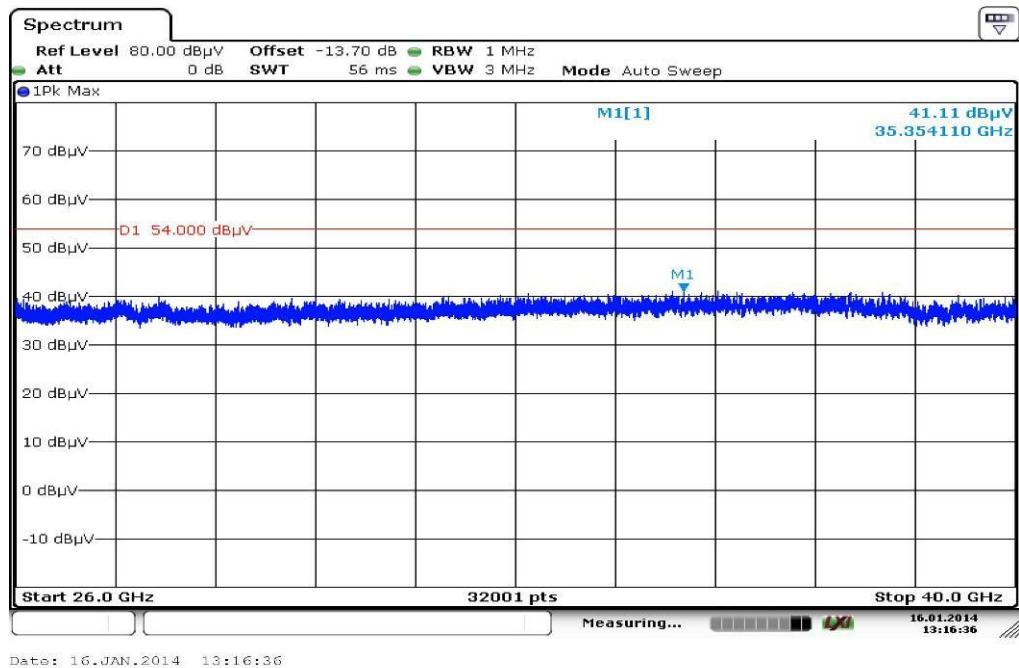


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Plot 24: 18 GHz to 26 GHz, 5500 MHz, vertical & horizontal polarization



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



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

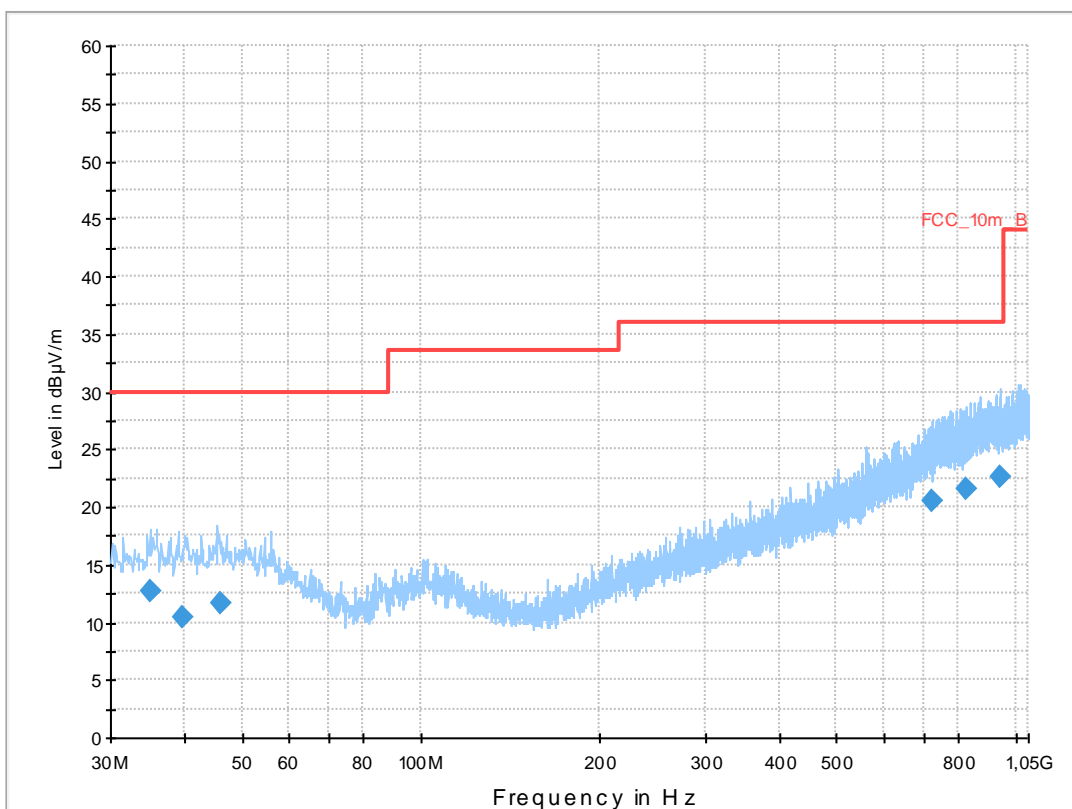
Common Information

EUT: PM-0744-BV
 Serial Number: CB5A1W45MZ
 Test Description: FCC part 15 class B @ 10 m
 Operating Conditions: WLAN a-mode CH 120
 Operator Name: Hennemann
 Comment: battery powered

Scan Setup: STAN_Fin [EMI radiated]

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

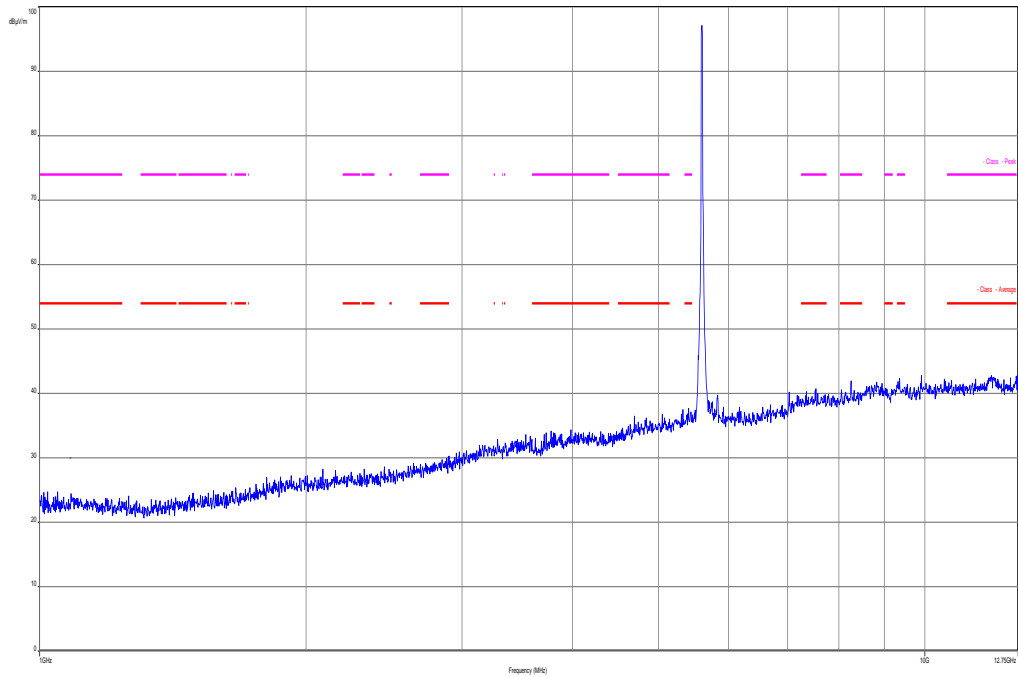
Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 2 GHz	60 kHz	QPK	120 kHz	1 s	20 dB



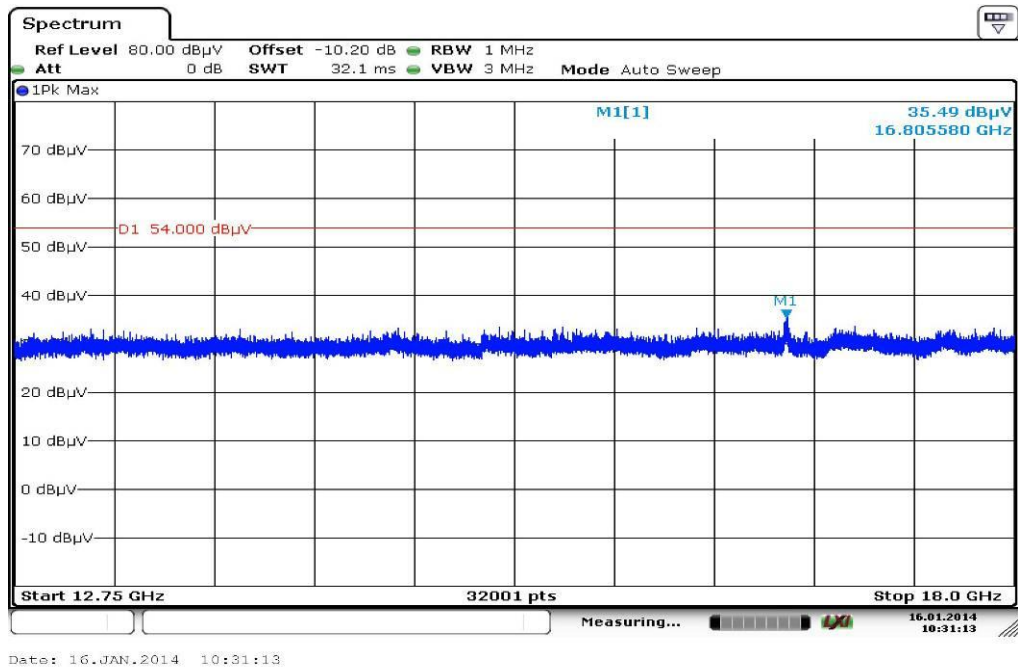
Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
35.010450	12.7	1000.0	120.000	113.0	V	265.0	13.0	17.3	30.0	
39.813600	10.5	1000.0	120.000	145.0	V	265.0	13.4	19.5	30.0	
46.020450	11.7	1000.0	120.000	98.0	V	175.0	13.3	18.3	30.0	
722.246850	20.5	1000.0	120.000	104.0	V	190.0	23.0	15.5	36.0	
824.224950	21.6	1000.0	120.000	170.0	H	265.0	24.2	14.4	36.0	
944.202300	22.6	1000.0	120.000	170.0	H	81.0	25.3	13.4	36.0	

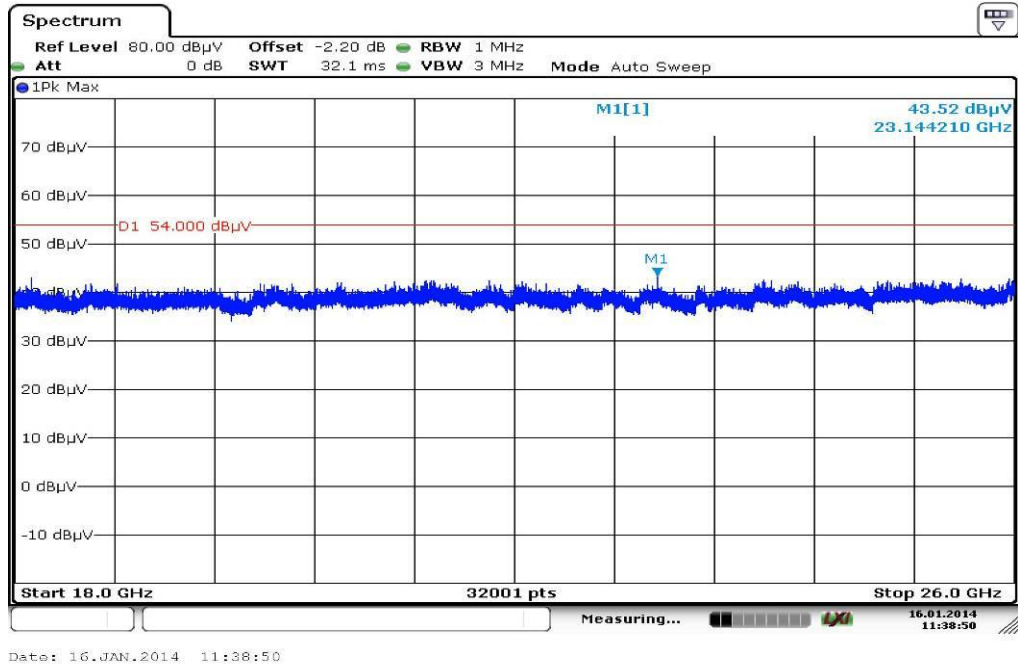
Plot 27: 1 GHz to 12.75 GHz, 5600 MHz, vertical & horizontal polarization



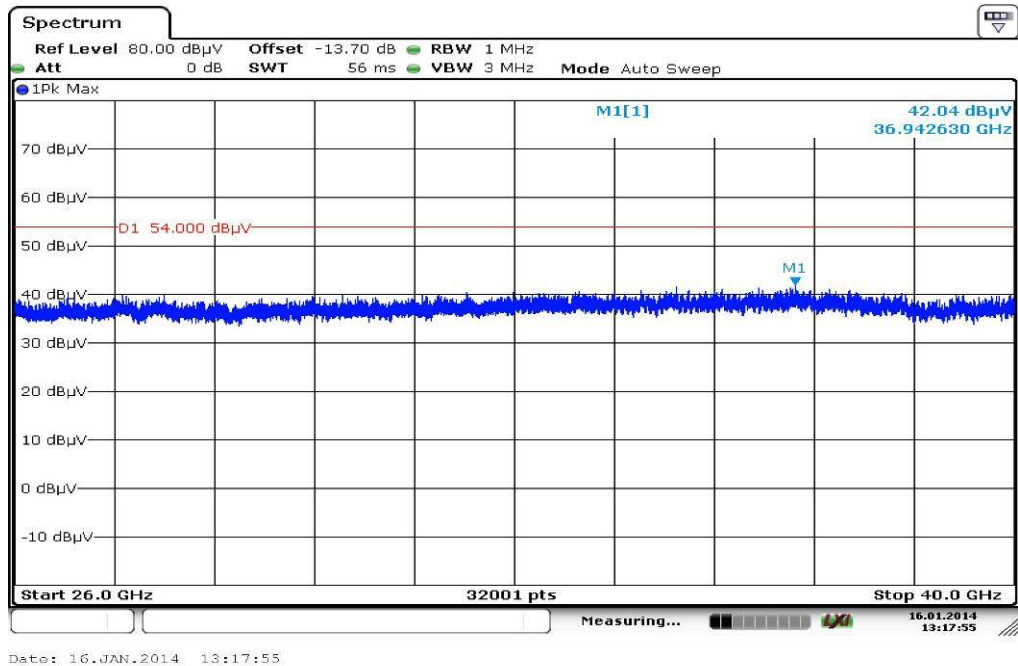
Plot 28: 12 GHz to 18 GHz, 5600 MHz, vertical & horizontal polarization



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



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



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

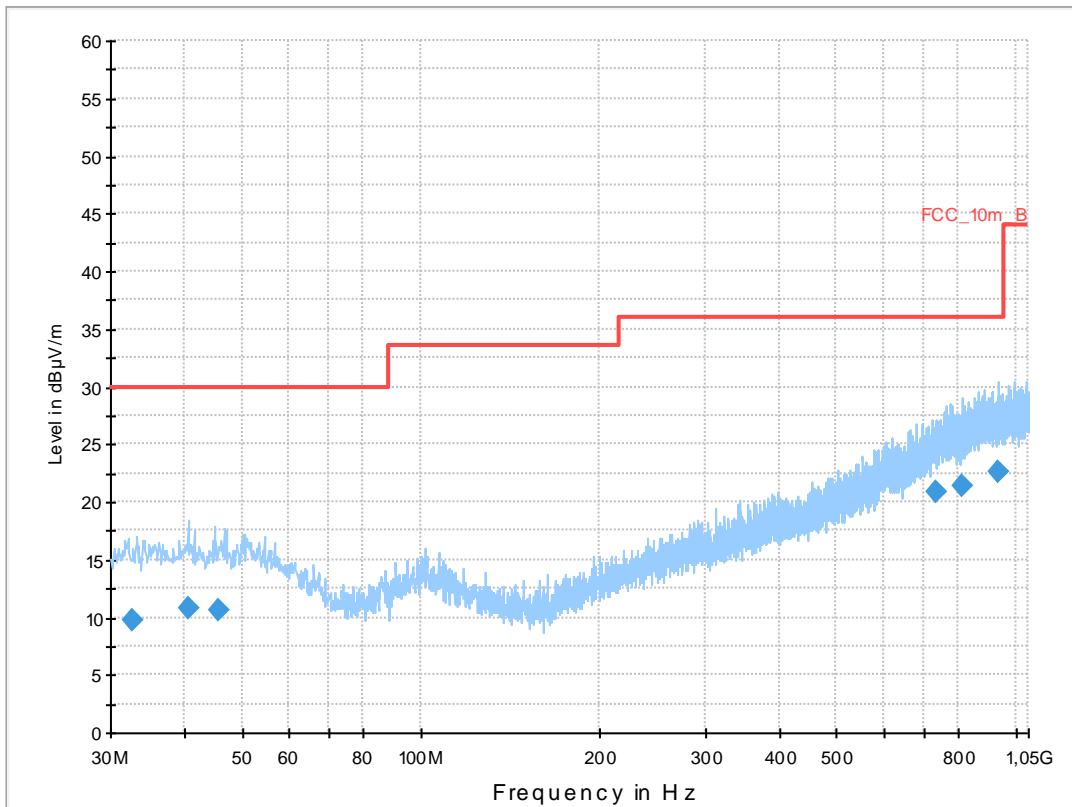
Common Information

EUT: PM-0744-BV
 Serial Number: CB5A1W45MZ
 Test Description: FCC part 15 class B @ 10 m
 Operating Conditions: WLAN a-mode 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

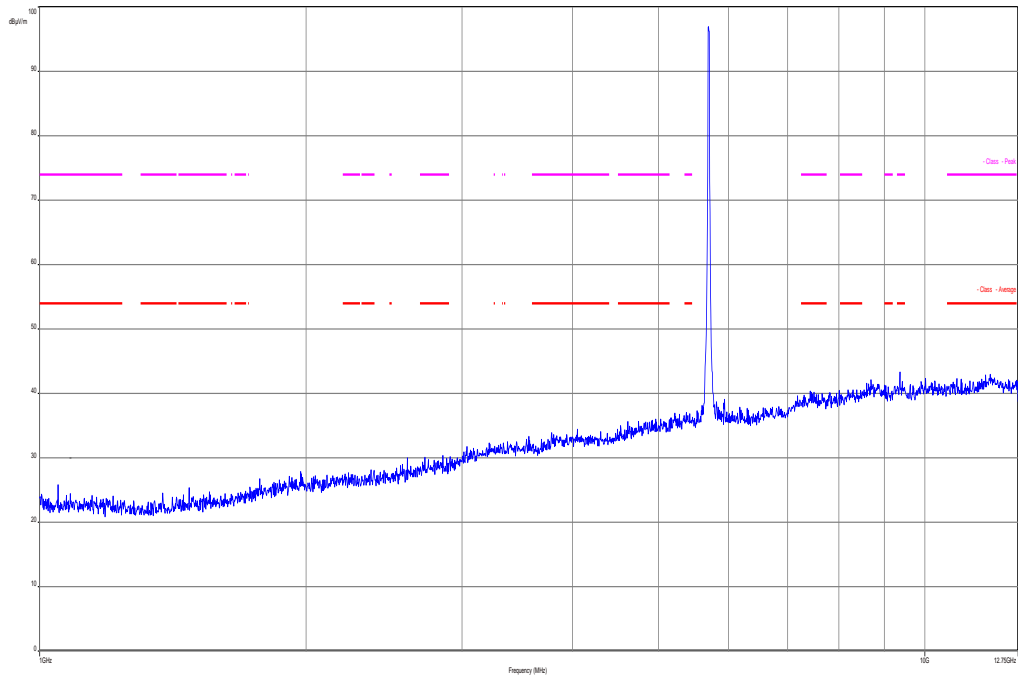
Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 2 GHz	60 kHz	QPK	120 kHz	1 s	20 dB



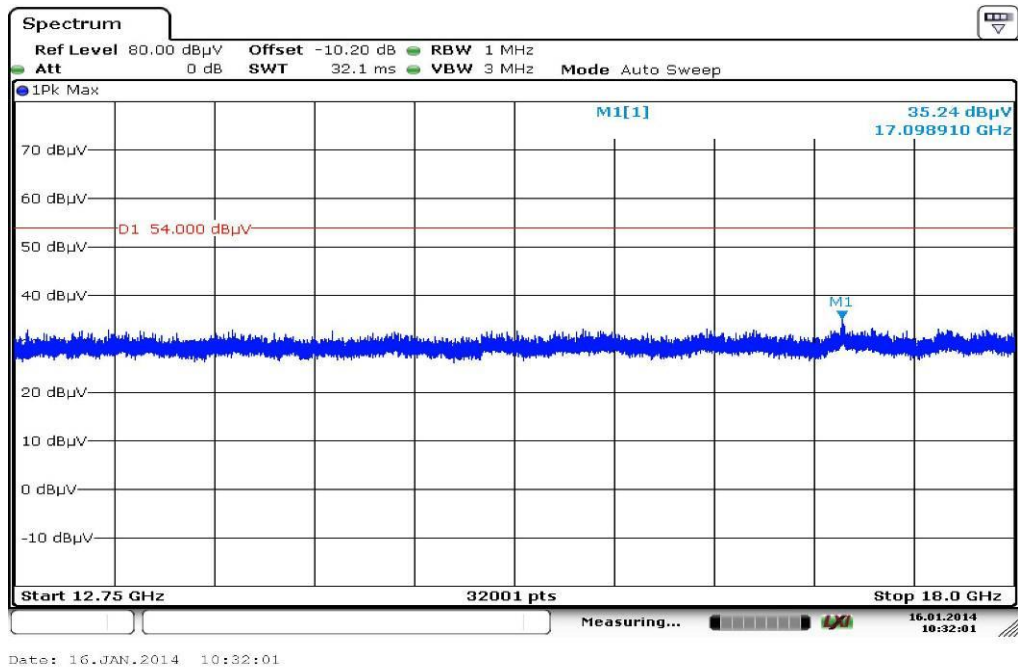
Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
32.665650	9.7	1000.0	120.000	170.0	V	260.0	12.8	20.3	30.0	
40.551150	10.9	1000.0	120.000	98.0	H	10.0	13.4	19.2	30.0	
45.518550	10.6	1000.0	120.000	112.0	H	272.0	13.3	19.4	30.0	
734.066250	20.8	1000.0	120.000	159.0	H	88.0	23.3	15.2	36.0	
813.338250	21.3	1000.0	120.000	170.0	H	3.0	24.0	14.7	36.0	
932.271600	22.7	1000.0	120.000	170.0	V	183.0	25.3	13.3	36.0	

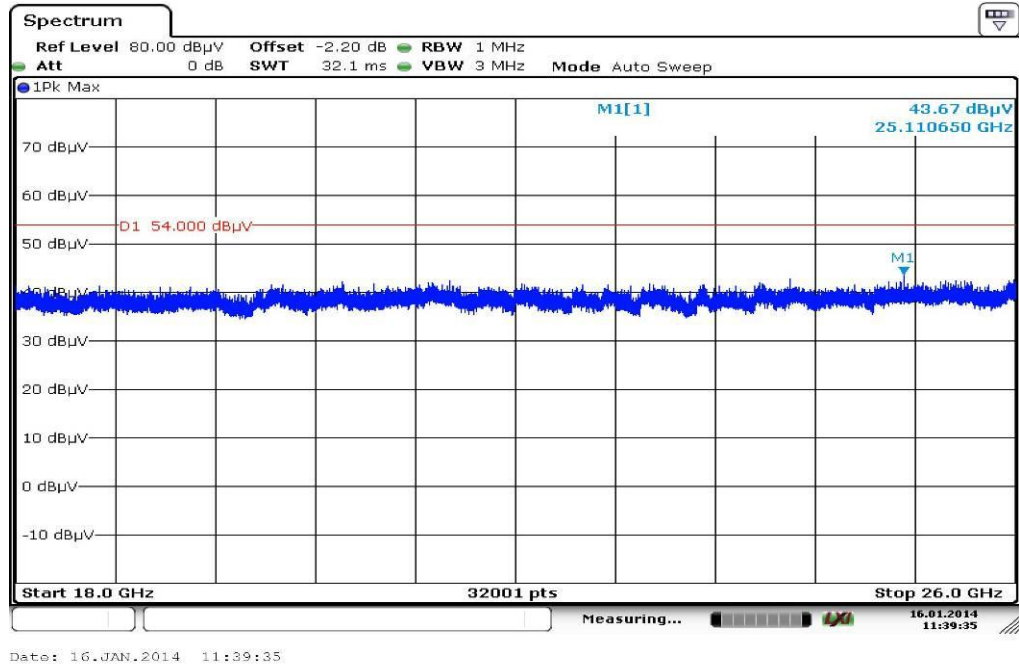
Plot 32: 1 GHz to 12.75 GHz, 5700 MHz, vertical & horizontal polarization



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



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



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

