

TEST REPORT

Test report no.: 1-6965/13-12-11-A



Deutsche
Akkreditierungsstelle
D-PL-12076-01-01

Testing laboratory

CETECOM ICT Services GmbH

Untertuerkheimer Strasse 6 – 10

66117 Saarbruecken / Germany

Phone: + 49 681 5 98 - 0

Fax: + 49 681 5 98 - 9075

Internet: <http://www.cetecom.com>

e-mail: ict@cetecom.com

Accredited Testing Laboratory:

The testing laboratory (area of testing) is accredited according to DIN EN ISO/IEC 17025 (2005) by the Deutsche Akkreditierungsstelle GmbH (DAkkS)

The accreditation is valid for the scope of testing procedures as stated in the accreditation certificate with the registration number: D-PL-12076-01-01

Area of Testing:

Radio Communications & EMC (RCE)

Applicant

Sony Mobile Communications AB

Nya Vattentornet

22188 Lund / SWEDEN

Phone: +46 46 19 30 00

Fax: -/-

Contact: Mikael Nilsson

e-mail: Micke.nilsson@sonymobile.com

Phone: +46 7 03 22 75 03

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

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

Test Item

Kind of test item: Tablet PC GPRS/EGPRS 850/900/1800/1900; UMTS HSPA FDDI/II/V; LTE FDD1/3/17/18; LTE TDD41; CDMA 2K C00/C06; WLAN b/g/n/a/ac; BT 4.0; RFID; A-GPS
FCC ID: PY7TM-0044
Frequency: UNII bands 5150 MHz to 5725 MHz
(lowest channel 36 – 5180 MHz; highest channel 140 – 5700 MHz)
Technology tested: WLAN (OFDM/a – mode; n/ac HT20 / HT40 – mode; ac HT80 – mode)
Antenna: Integrated antenna
Power supply: 3.7 V DC by Li - polymer battery
Temperature range: -30°C to +60°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:

cn=Andreas Luckenbill, o=CETECOM ICT
Services GmbH, ou=LUC-111202,
email=andreas.luckenbill@cetecom.com,
c=DE
2014.03.17 11:38:29 +01'00'

Andreas Luckenbill
Expert

Test performed:

cn=Marco Bertolino, o=CETECOM ICT Services
GmbH, ou=BTL-100826,
email=marco.bertolino@cetecom.com, c=DE
2014.03.17 11:24:02 +01'00'

Marco Bertolino
Testing Manager

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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:	2013-12-19
Date of receipt of test item:	2014-02-17
Start of test:	2014-02-17
End of test:	2014-02-24
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}	+60 °C during high temperature tests
	T_{min}	-30 °C during low temperature tests
Relative humidity content:		41 %
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 :	Tablet PC GPRS/EGPRS 850/900/1800/1900; UMTS HSPA FDDI/III/V; LTE FDD1/3/17/18; LTE TDD41; CDMA 2K C00/C06; WLAN b/g/n/a/ac; BT 4.0; RFID; A-GPS
S/N serial number :	Radiated units: CB5126DAHf; CB5126DAHx
HW hardware status :	AP1
SW software status :	RF test software!
Frequency band [MHz] :	UNII bands 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 :	-30°C to +60 °C

5.1 Additional information

Test setup- and EUT-photos are included in test report: 1-6965/13-12-01_AnnexA
 1-6965/13-12-01_AnnexB
 1-6965/13-12-01_AnnexD

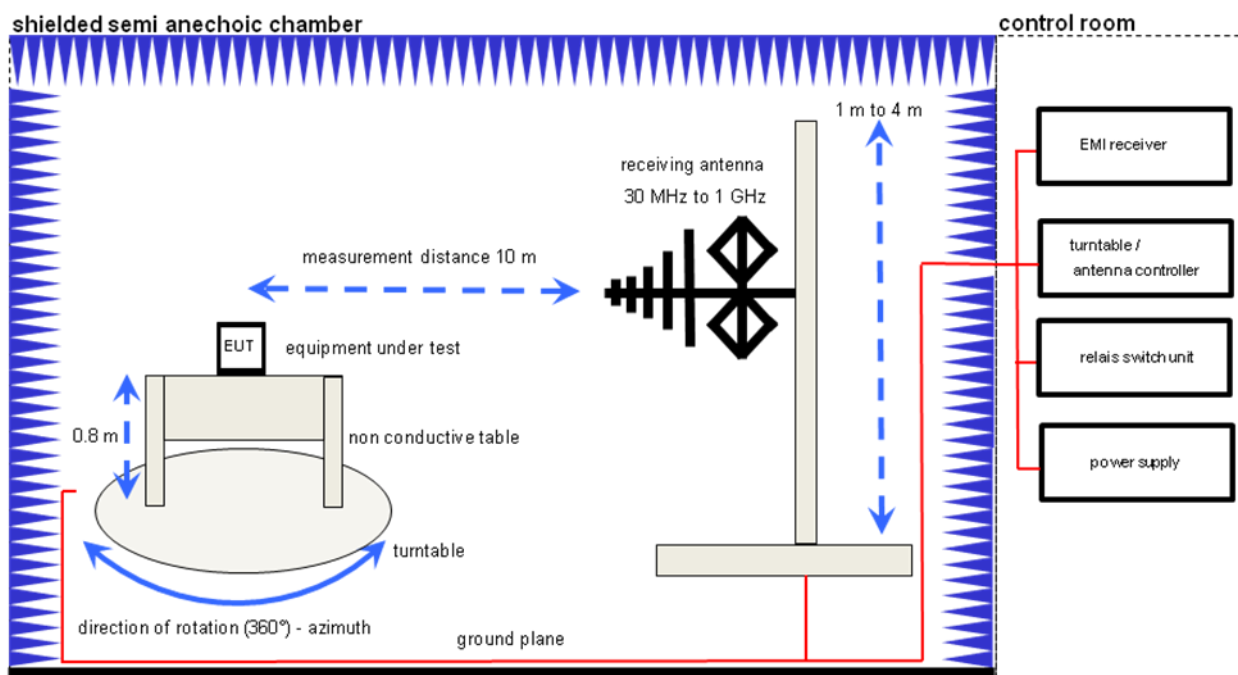
6 Test laboratories sub-contracted

None

7 Description of the test setup

7.1 Radiated measurements chamber F

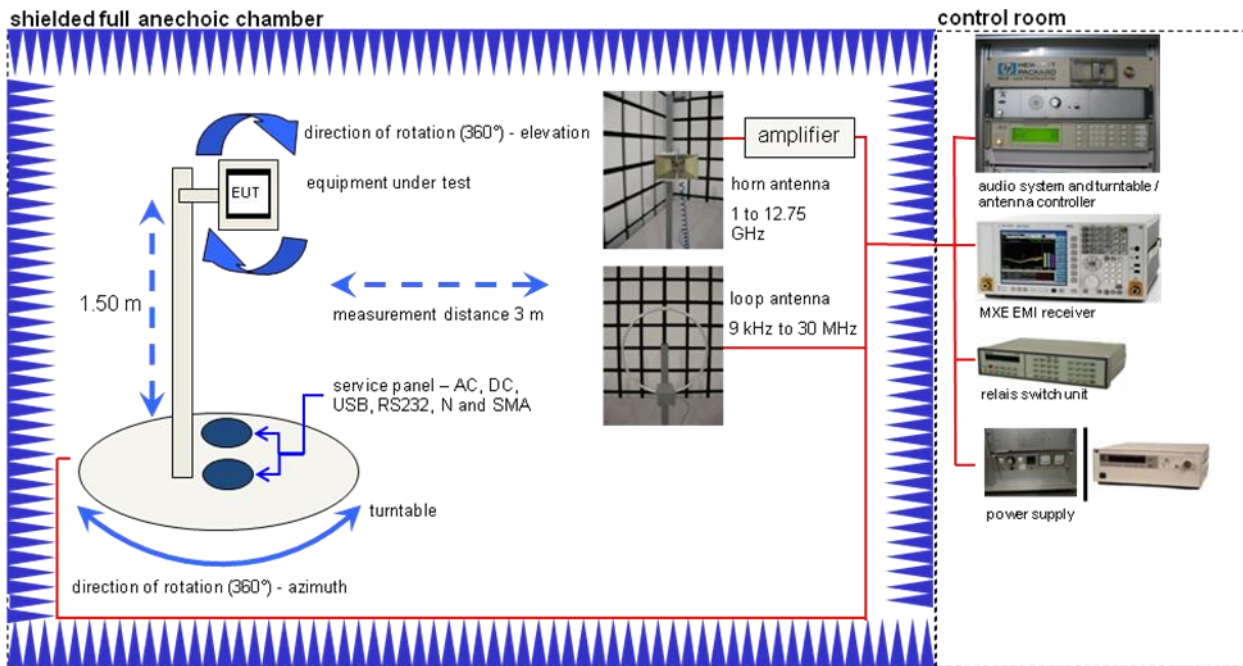
The radiated measurements are performed in vertical and horizontal plane in the frequency range from 9 kHz to 1 GHz in semi-anechoic chambers. The EUT is positioned on a non-conductive support with a height of 0.80 m above a conductive ground plane that covers the whole chamber. The receiving antennas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

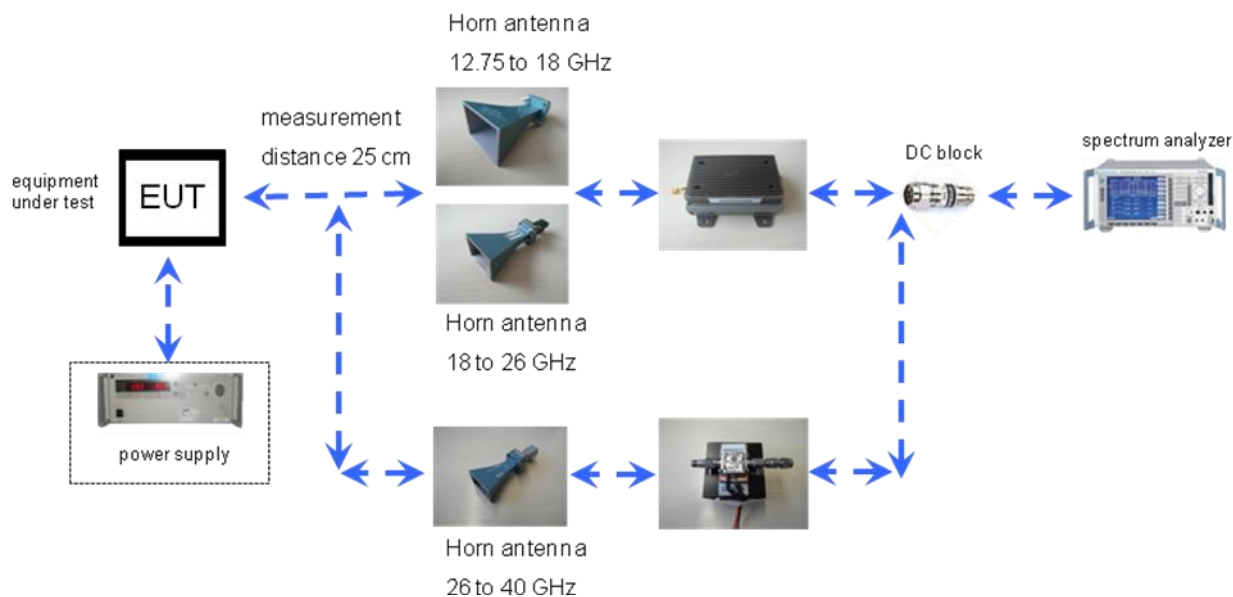
Equipment	Type	Manufacturer	Serial No.	INV. No Cetecom
Switch-Unit	3488A	HP Meßtechnik	2719A14505	300000368
DC power supply, 60Vdc, 50A, 1200 W	6032A	HP Meßtechnik	2920A04466	300000580
EMI Test Receiver	ESCI 3	R&S	100083	300003312
Amplifier	JS42-00502650-28-5A	MITEQ	1084532	300003379
Antenna Tower	Model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

7.2 Radiated measurements chamber C



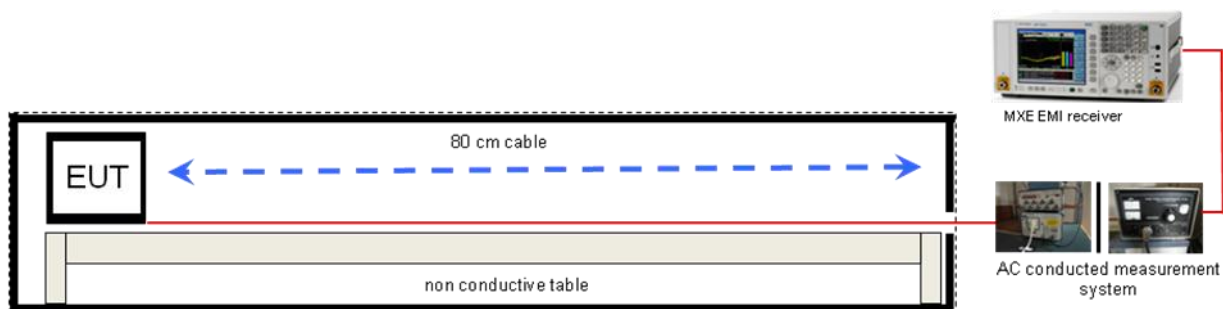
Equipment table:

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

7.3 Radiated measurements 12.75 GHz to 40 GHz**Equipment table:**

Equipment	Type	Manufacturer	Serial No.	INV. No Cetecom
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
Microwave System Amplifier, 0.5-26.5 GHz	83017A	HP Meßtechnik	00419	300002268
Std. Gain Horn Antenna 26.5-40.0 GHz	V637	Narda	7911	300001751
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	Erft	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

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	2014-03-17	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	☐	☐	☐	☐	-/-
-/-	Gain	Nominal	Nominal	☐	☐	☐	☐	-/-
U-NII Part 15	Duty cycle	Nominal	Nominal	☐	☐	☐	☐	-/-
§15.407(a)	Maximum output power (conducted & radiated)	Nominal	Nominal	☐	☐	☐	☒	-/-
§15.407(a)	Power spectral density	Nominal	Nominal	☐	☐	☐	☒	-/-
§15.407(a)	Spectrum bandwidth 26dB bandwidth	Nominal	Nominal	☐	☐	☐	☒	-/-
§15.407(a)	Peak excursion measurements	Nominal	Nominal	☐	☐	☐	☒	-/-
§15.205	Band edge compliance radiated	Nominal	Nominal	☒	☐	☐	☐	complies
§15.407(b)	TX spurious emissions radiated	Nominal	Nominal	☒	☐	☐	☐	complies
§15.109	RX spurious emissions radiated	Nominal	Nominal	☒	☐	☐	☐	complies
§15.209(a)	Spurious emissions radiated < 30 MHz	Nominal	Nominal	☒	☐	☐	☐	complies
§15.107(a) §15.207	Spurious emissions conducted emissions < 30 MHz	Nominal	Nominal	☒	☐	☐	☐	complies

Note: NA = Not Applicable; NP = Not Performed

9 Additional comments

Reference documents: Main report: 1-6965/13-05-16-A / PY7TM-0040 (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:

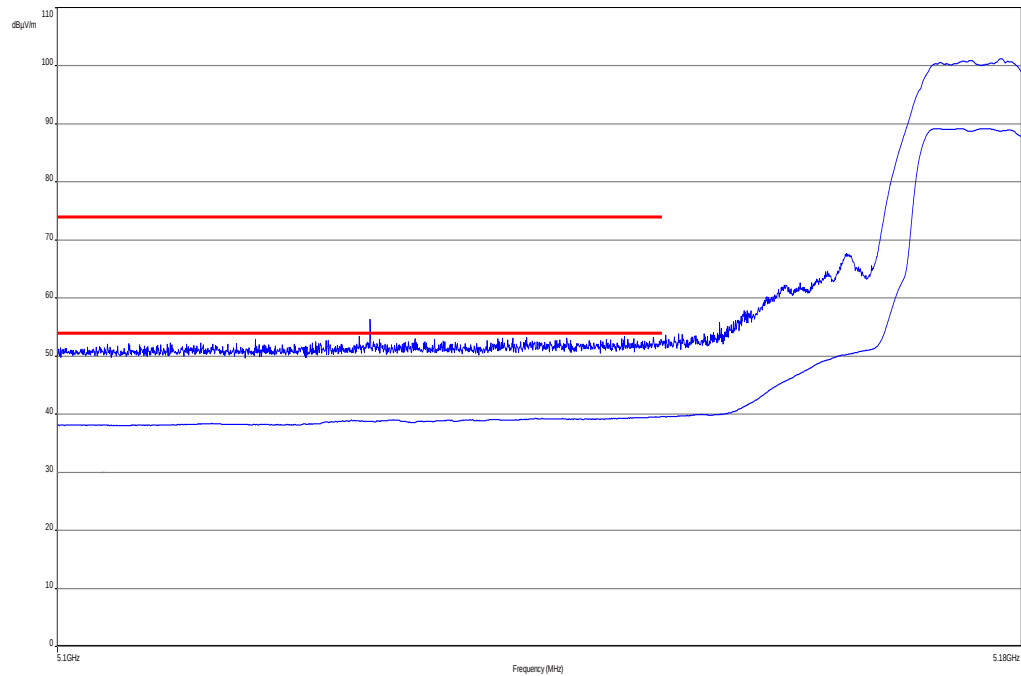
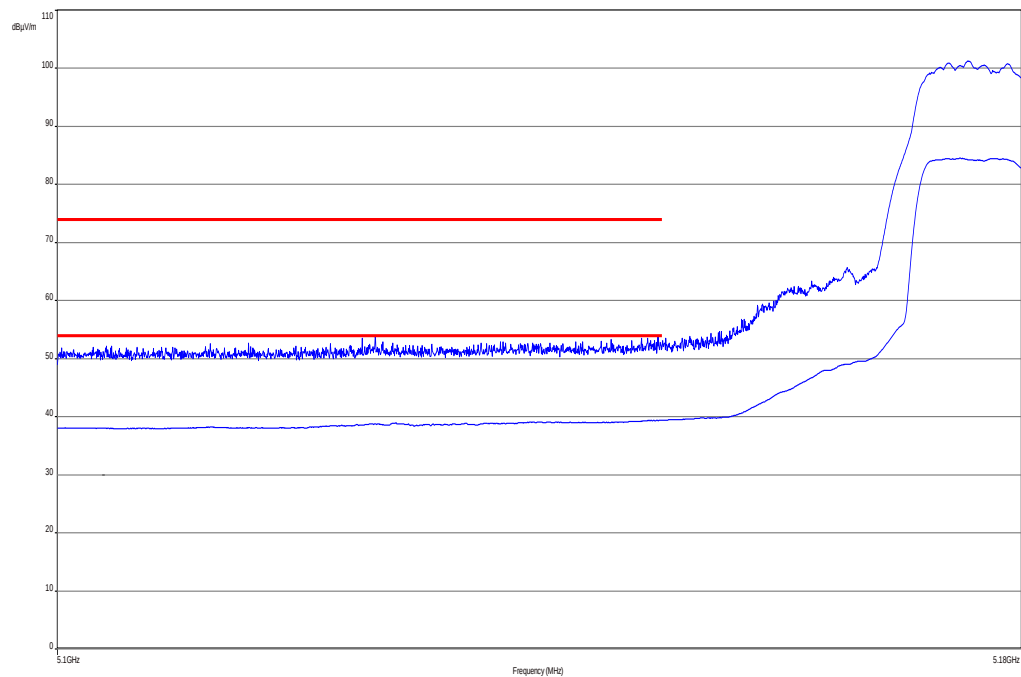
Measurement parameter	
Detector:	Peak / RMS
Sweep time:	Auto
Resolution bandwidth:	1 MHz
Video bandwidth:	10 Hz / 1 MHz
Span:	See plots!
Trace-Mode:	Max Hold

Limits:

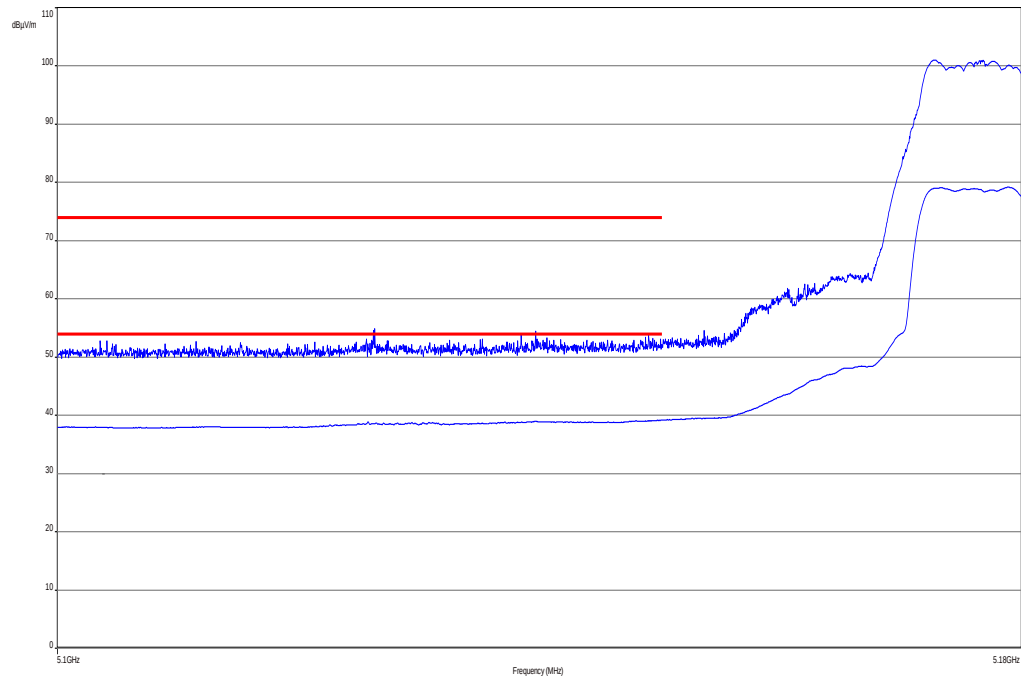
Band Edge Compliance Radiated
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within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

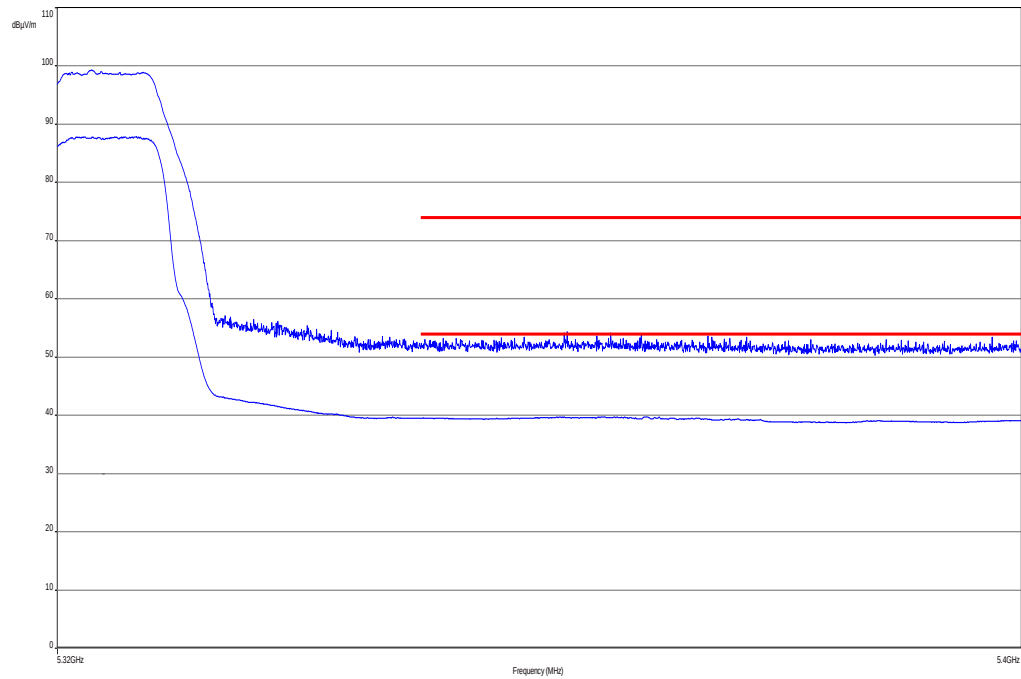
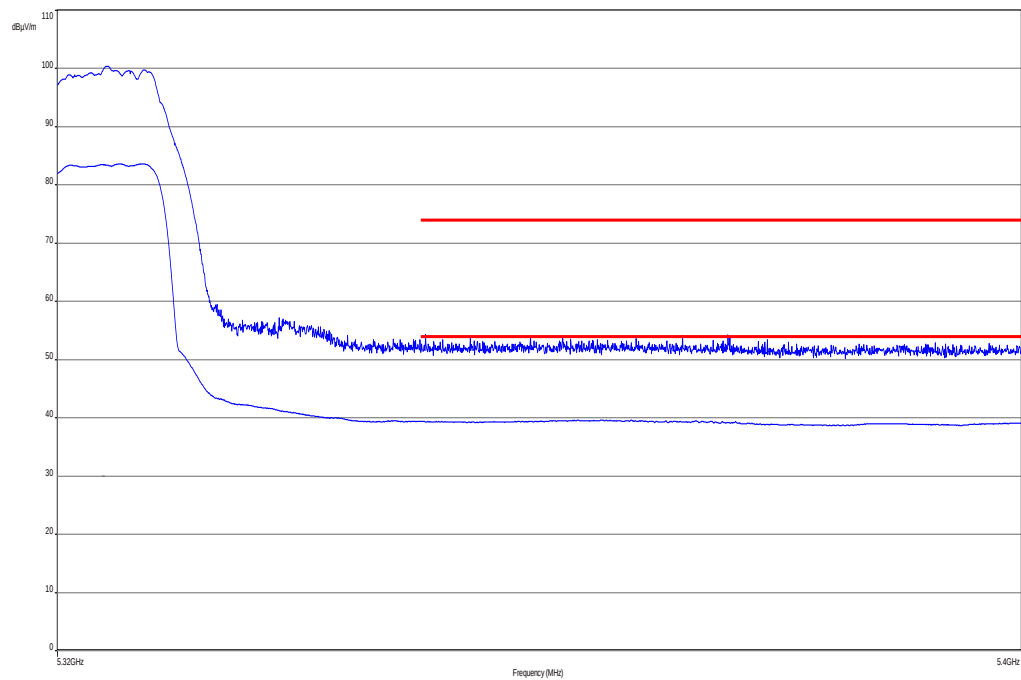
Result:

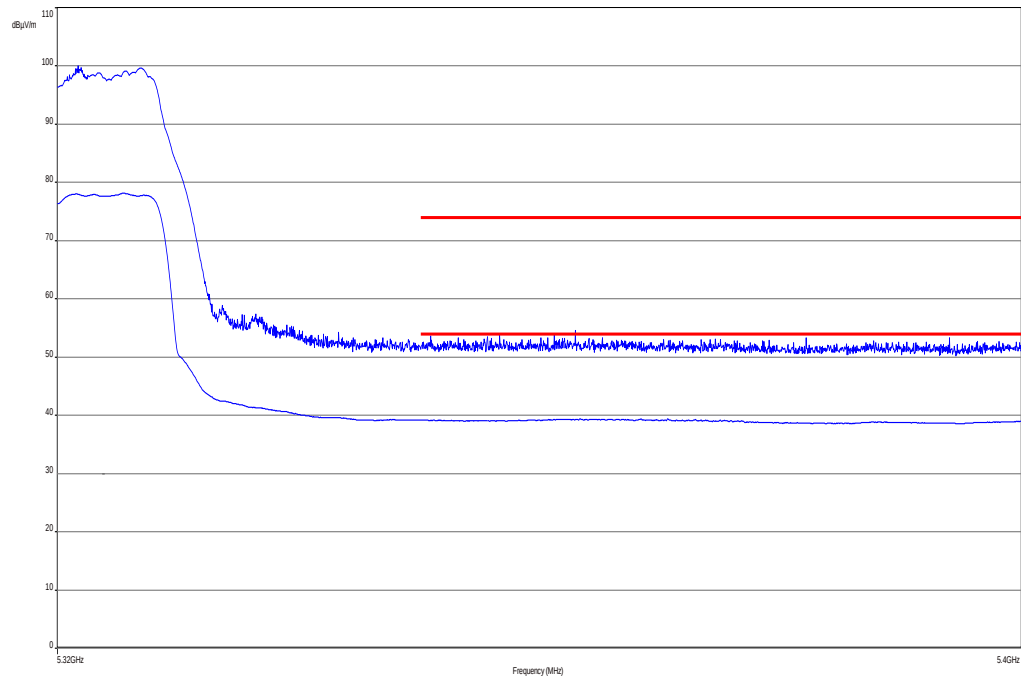
Scenario	Band Edge Compliance Radiated [dB μ V/m]
band edge	< 74 dB μ V/m (Peak) < 54 dB μ V/m (AVG)
Measurement uncertainty	± 3 dB

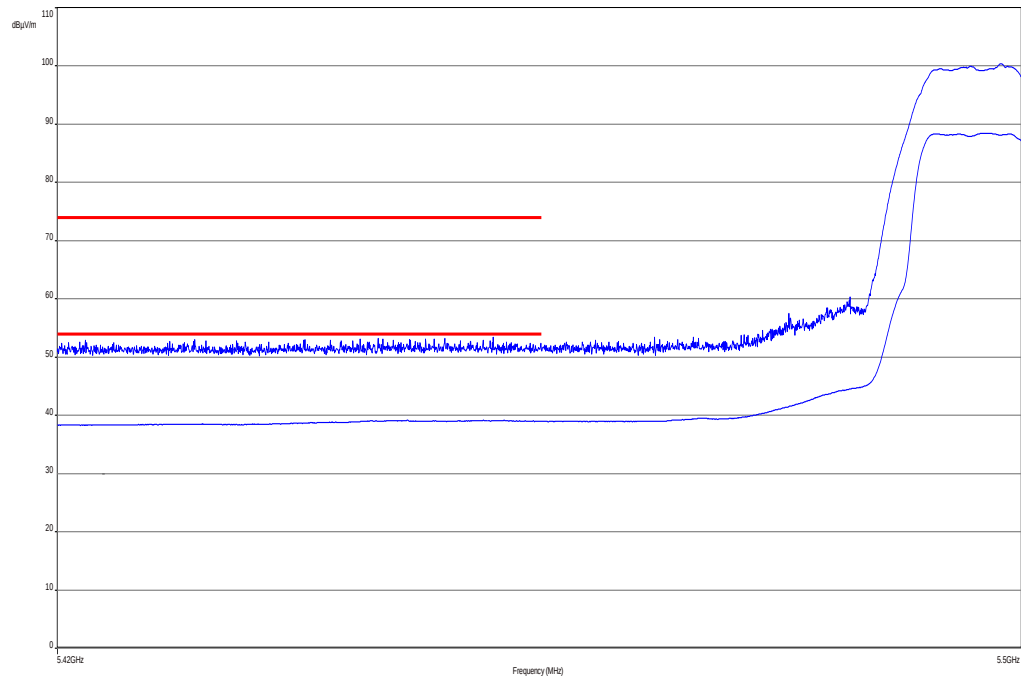
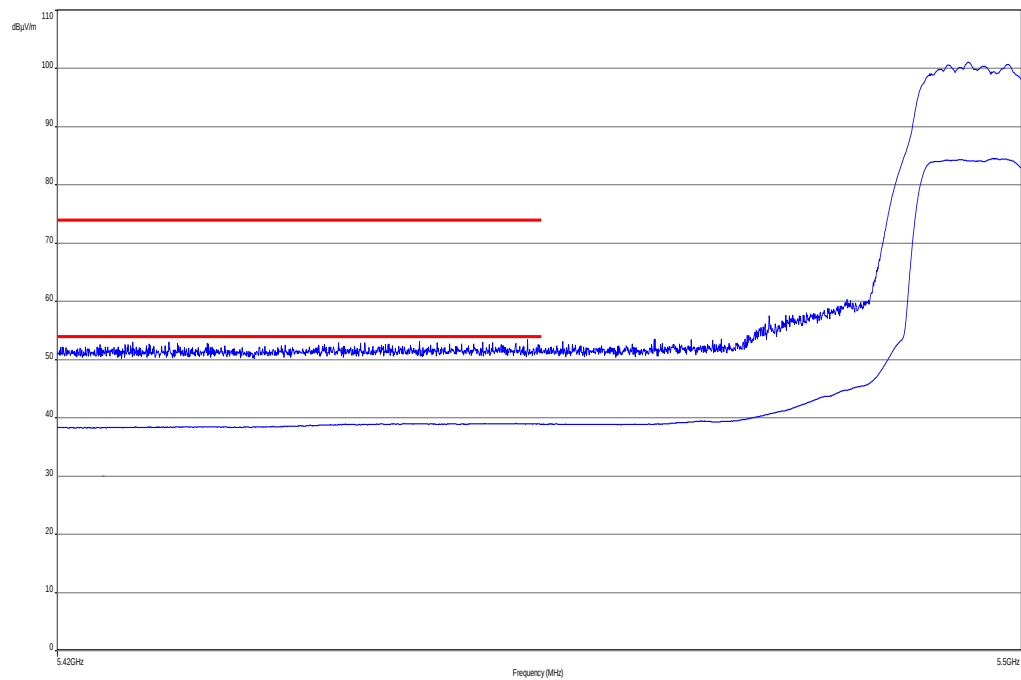
Plots:**Plot 1:** lower band edge, vertical & horizontal polarization (a mode), Ch 36, low data rate**Plot 2:** lower band edge, vertical & horizontal polarization (a mode), Ch 36, high power data rate

Plot 3: lower band edge, vertical & horizontal polarization (a mode), Ch 36, high data rate

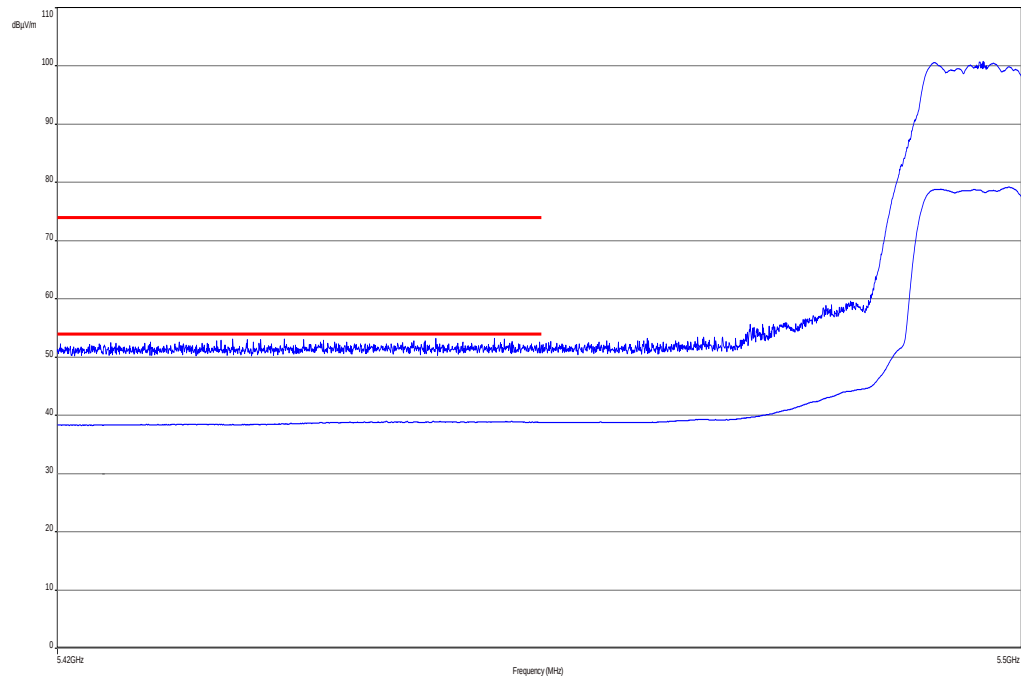


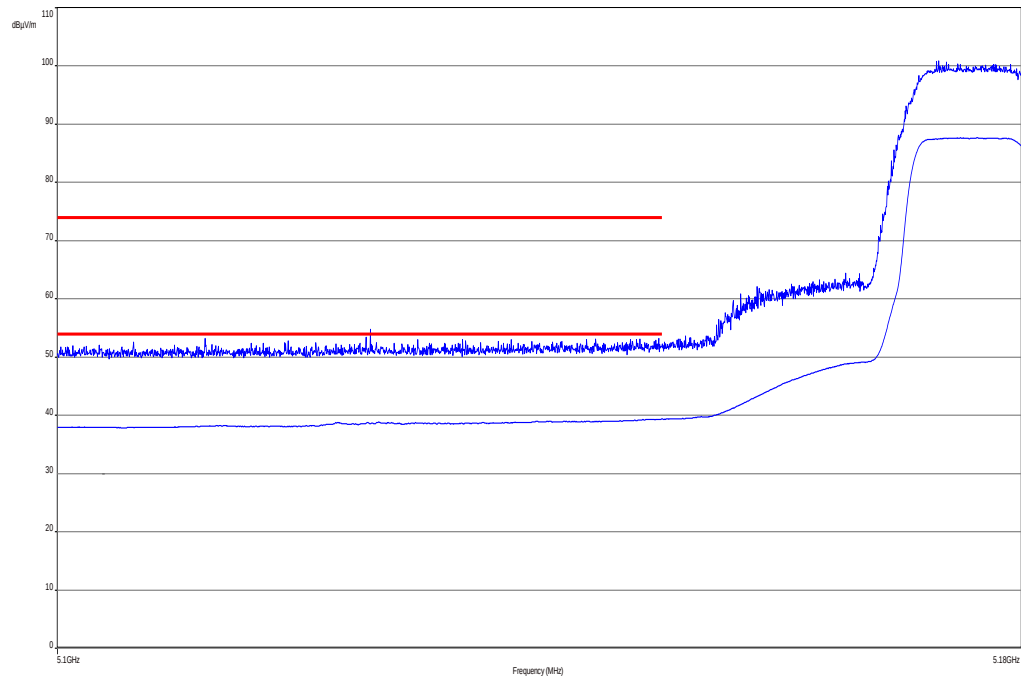
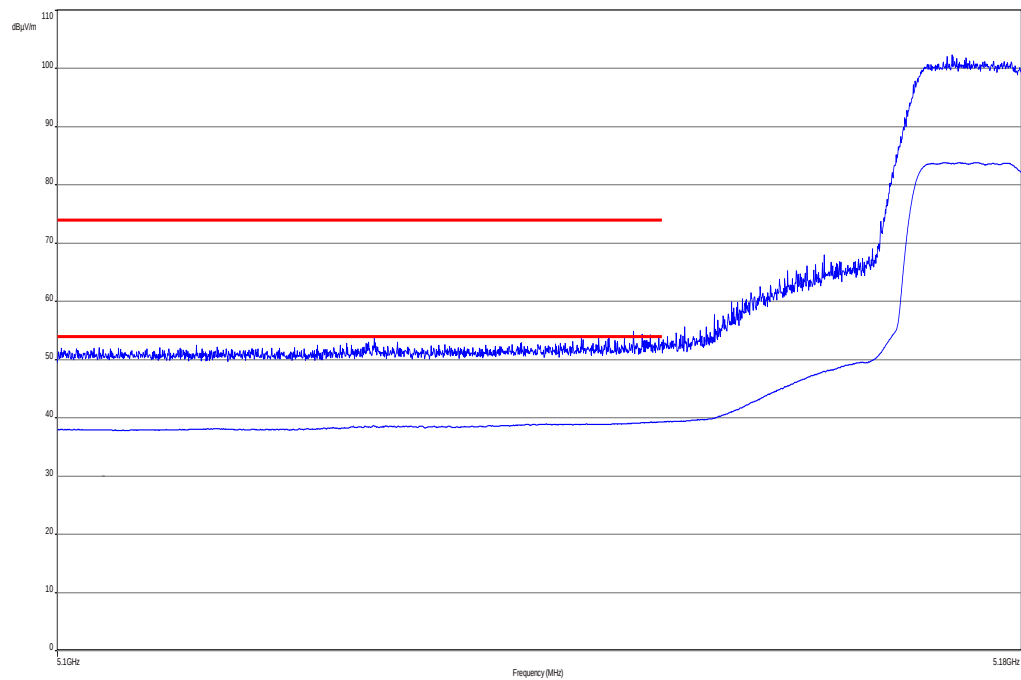
Plot 4: upper band edge, vertical & horizontal polarization (a mode), Ch 64, low data rate**Plot 5:** upper band edge, vertical & horizontal polarization (a mode), Ch 64, high power data rate

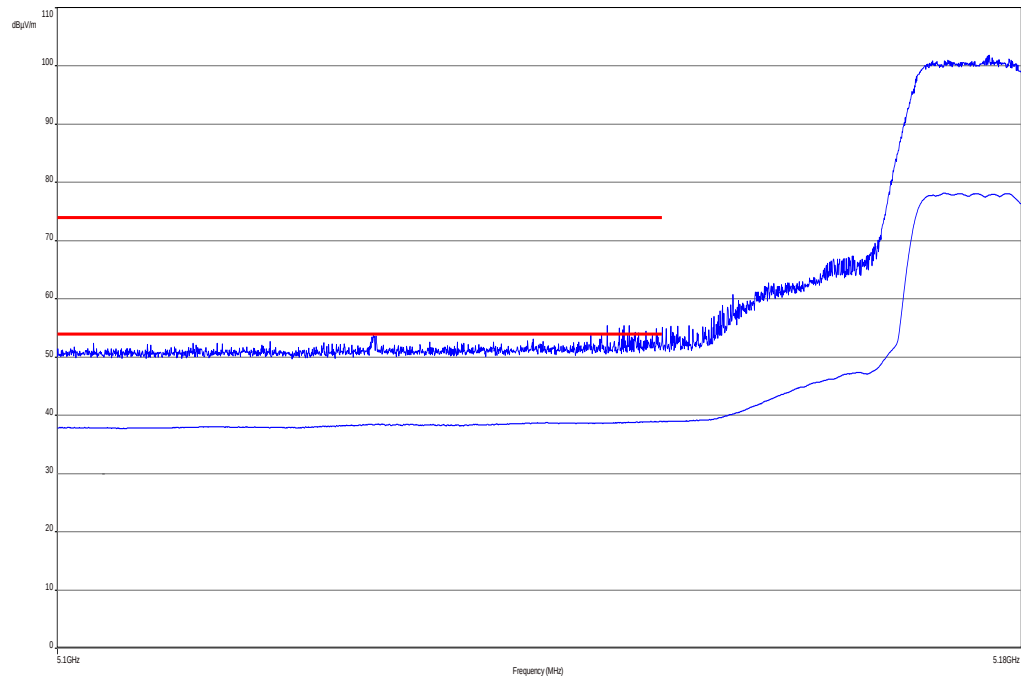
Plot 6: upper band edge, vertical & horizontal polarization (a mode), Ch 64, high data rate

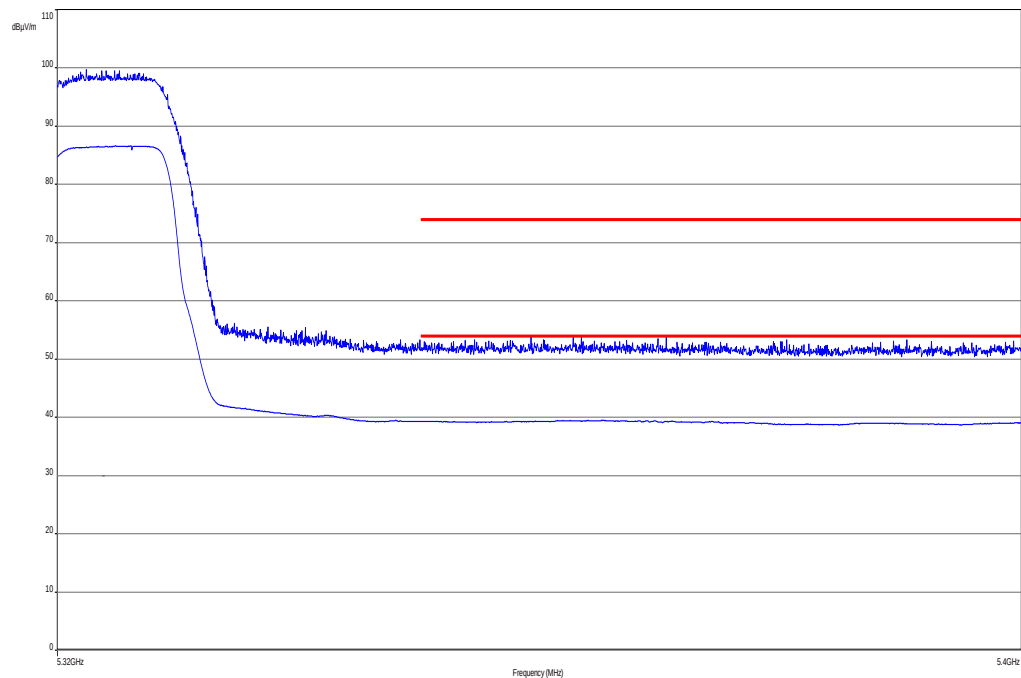
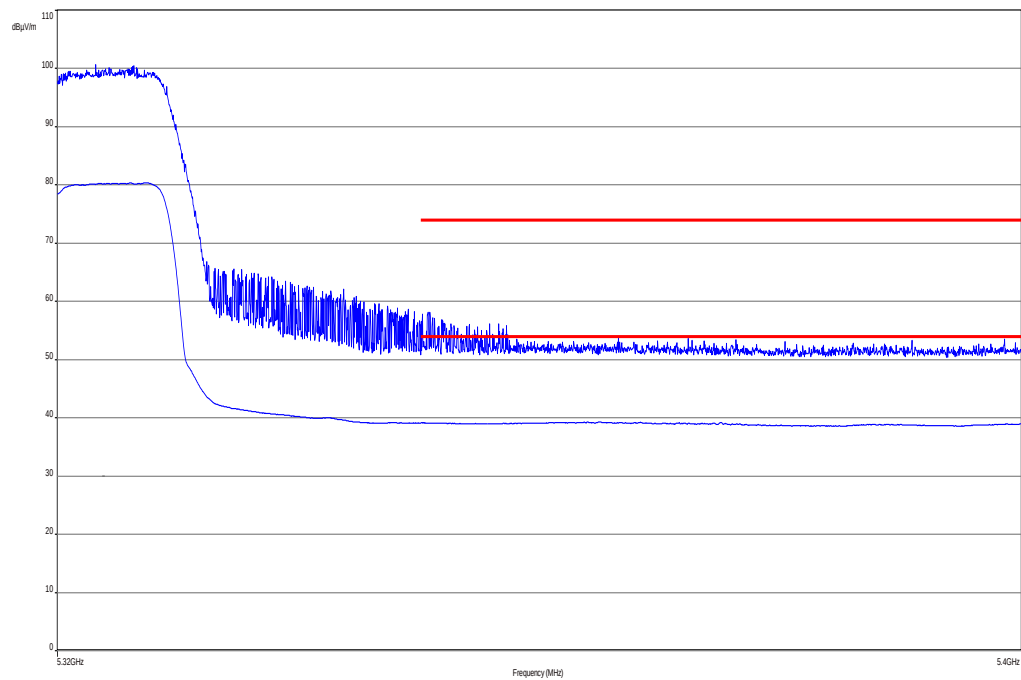
Plot 7: lower band edge, vertical & horizontal polarization (a mode), Ch 100, low data rate**Plot 8:** lower band edge, vertical & horizontal polarization (a mode), Ch 100, high power data rate

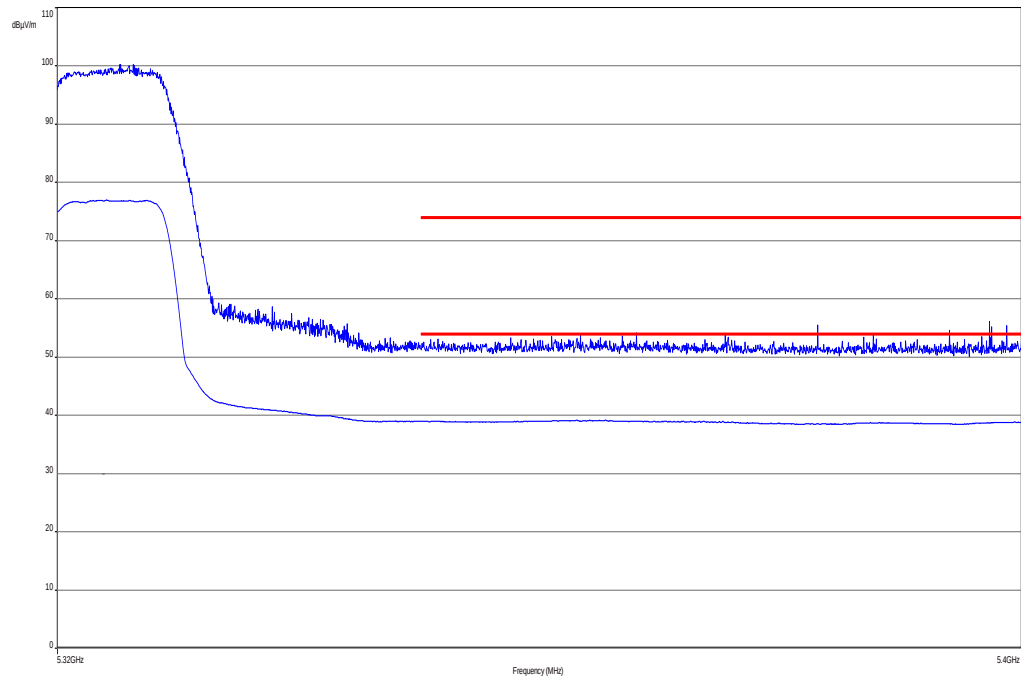
Plot 9: lower band edge, vertical & horizontal polarization (a mode), Ch 100, high data rate

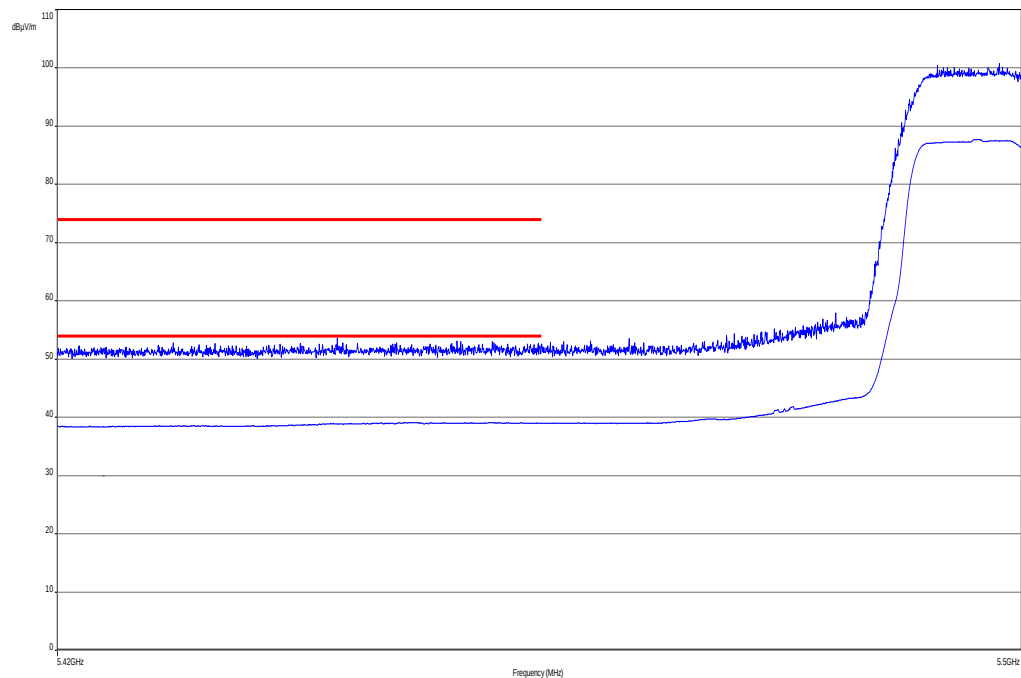
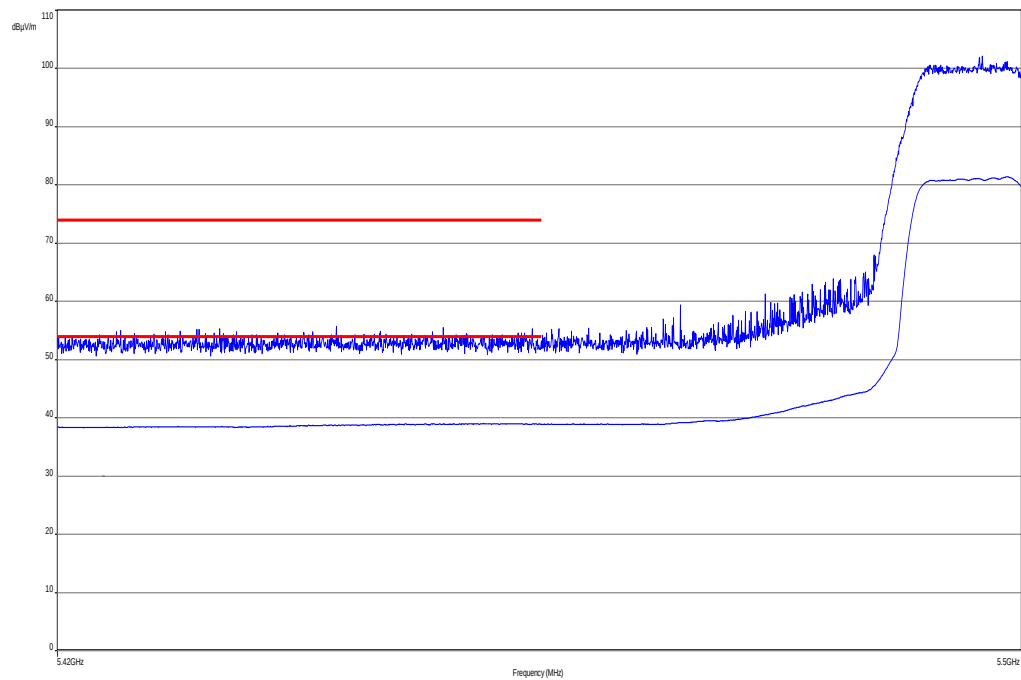


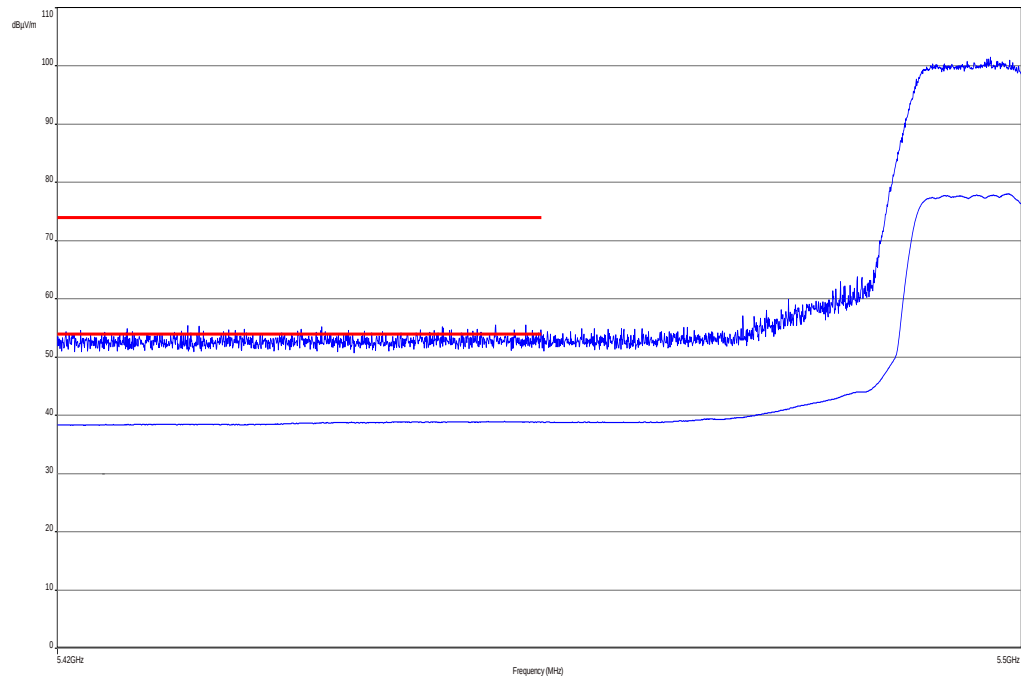
Plot 10: lower band edge, vertical & horizontal polarization (n/ac HT20 mode), Ch 36, low data rate**Plot 11:** lower band edge, vertical & horizontal polarization (n/ac HT20 mode), Ch 36, high power data rate

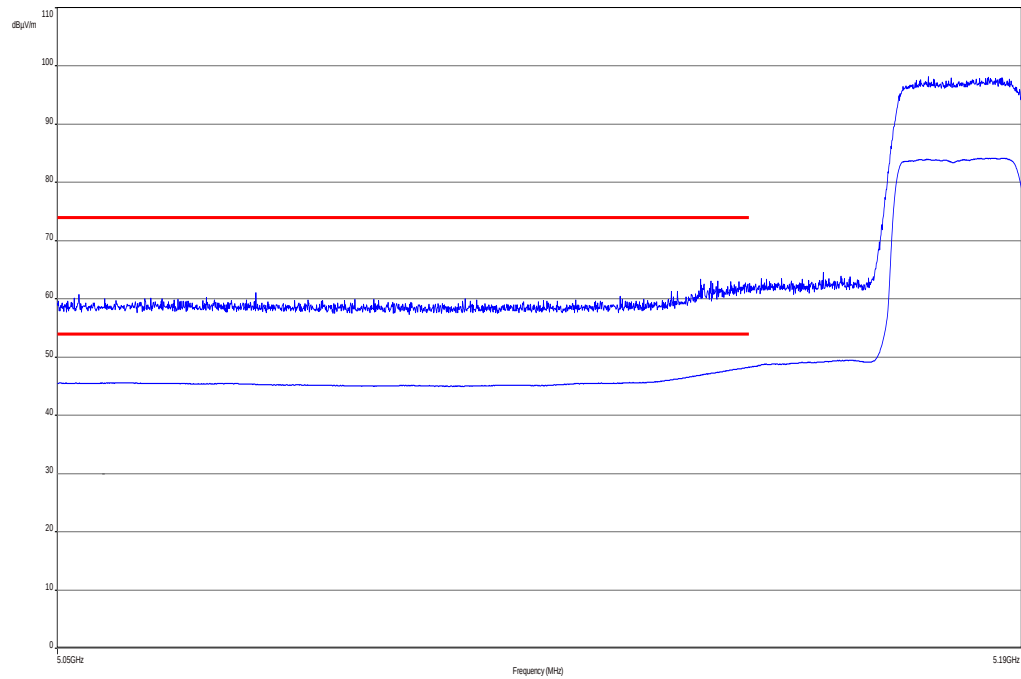
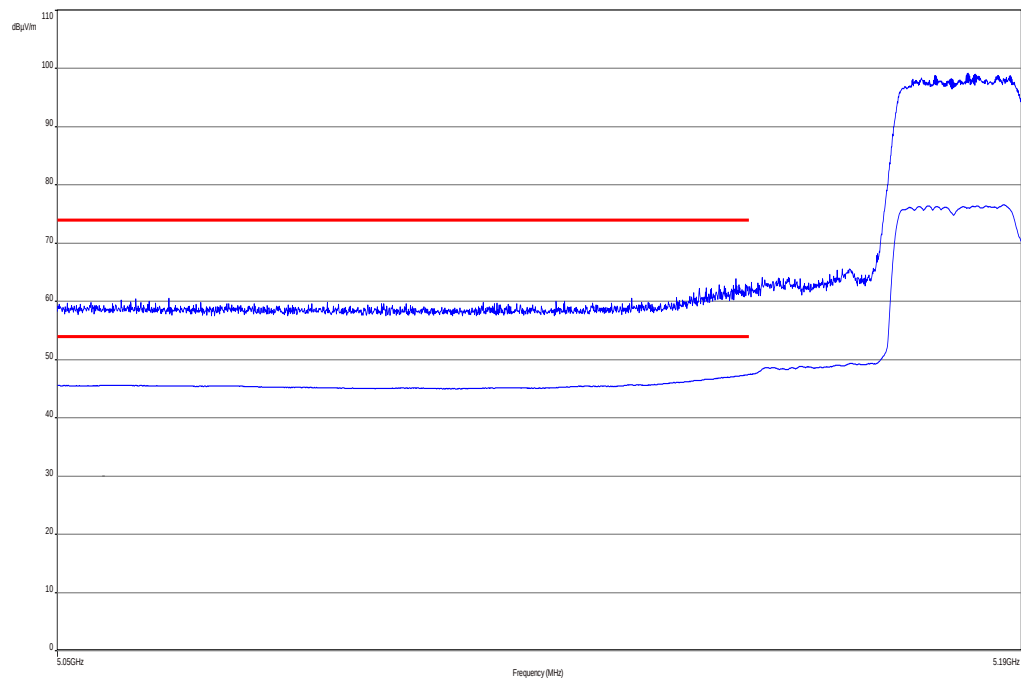
Plot 12: lower band edge, vertical & horizontal polarization (n/ac HT20 mode), Ch 36, high data rate

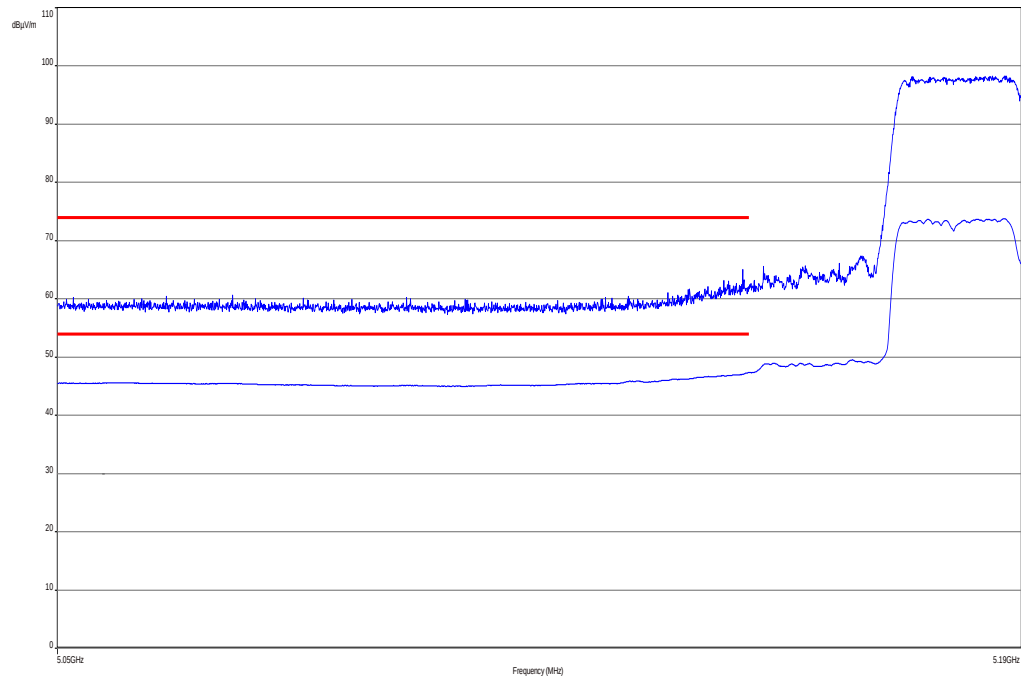
Plot 13: upper band edge, vertical & horizontal polarization (n/ac HT20 mode), Ch 64, low data rate**Plot 14:** upper band edge, vertical & horizontal polarization (n/ac HT20 mode), Ch 64, high power data rate

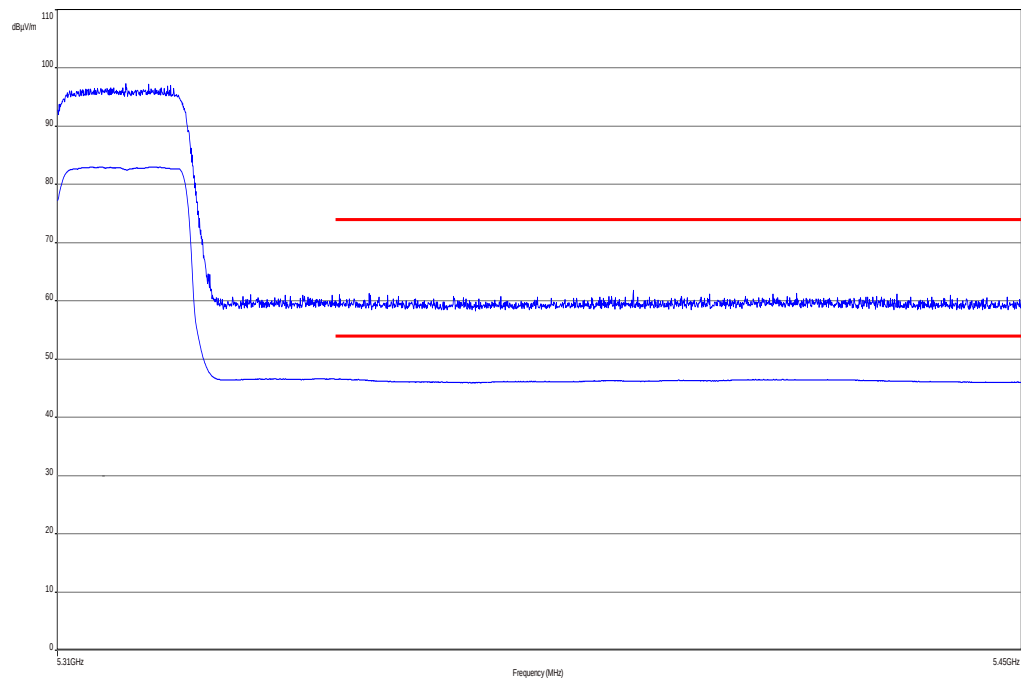
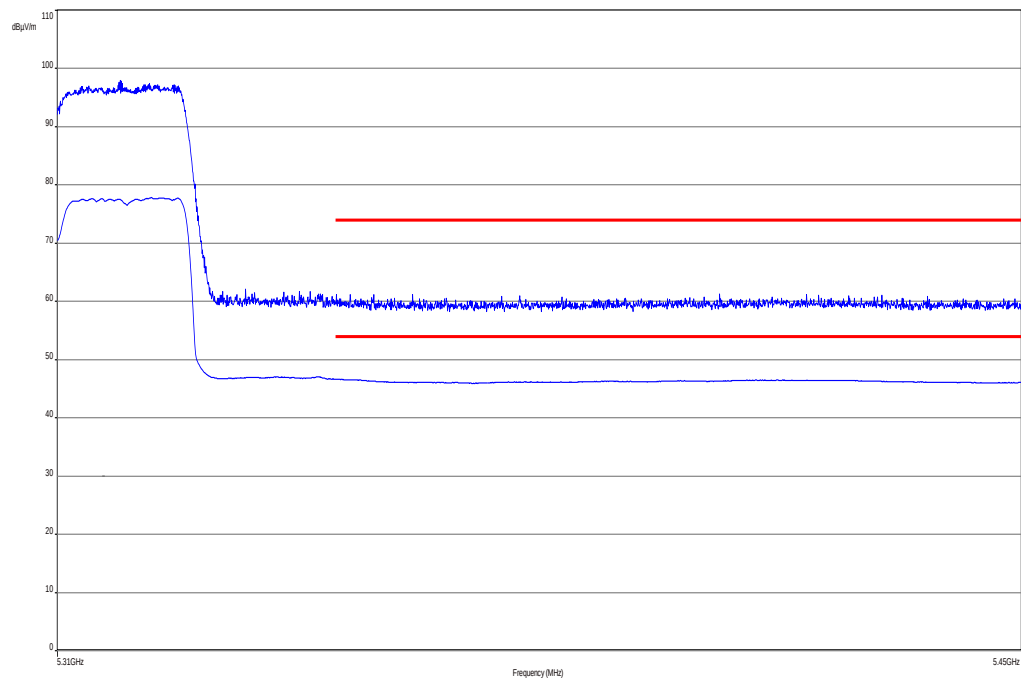
Plot 15: upper band edge, vertical & horizontal polarization (n/ac HT20 mode), Ch 64, high data rate

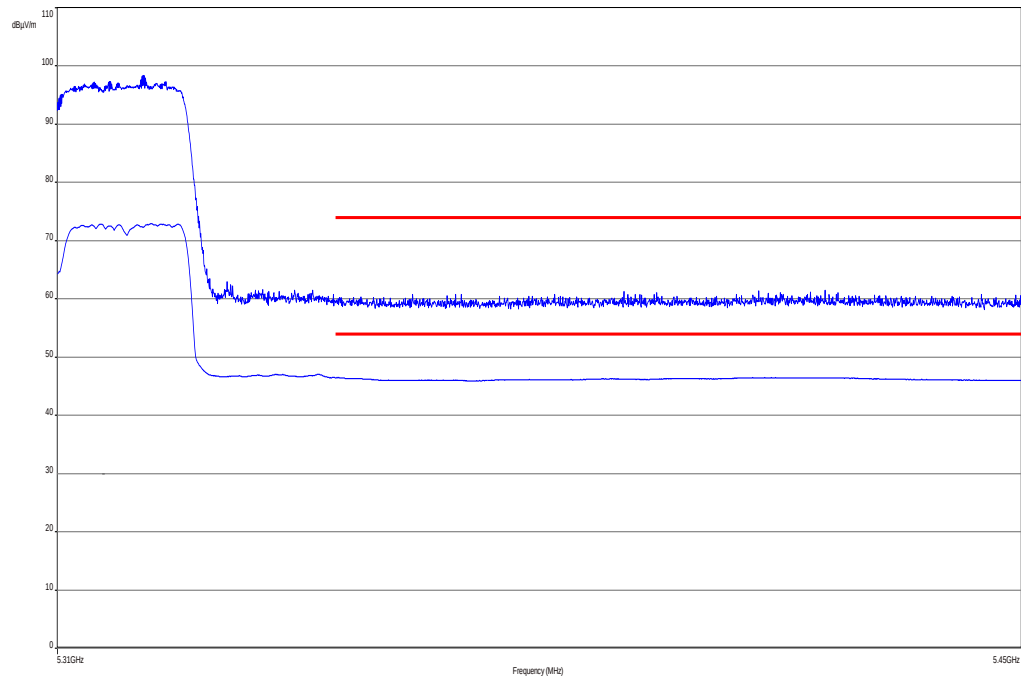
Plot 16: lower band edge, vertical & horizontal polarization (n/ac HT20 mode), Ch 100, low data rate**Plot 17:** lower band edge, vertical & horizontal polarization (n/ac HT20 mode), Ch 100, high power data rate

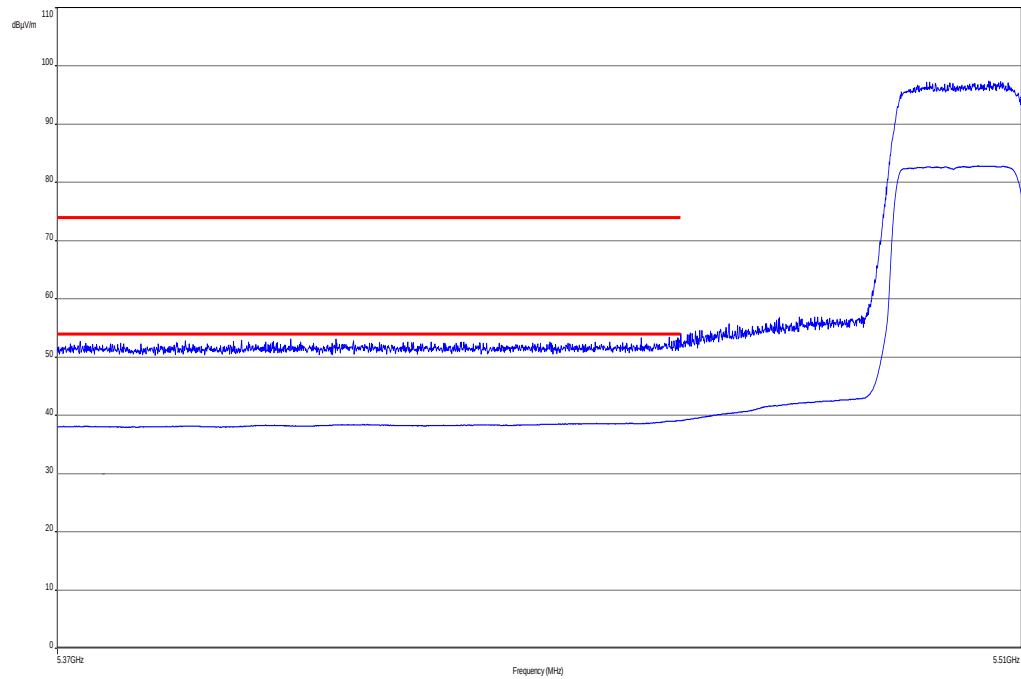
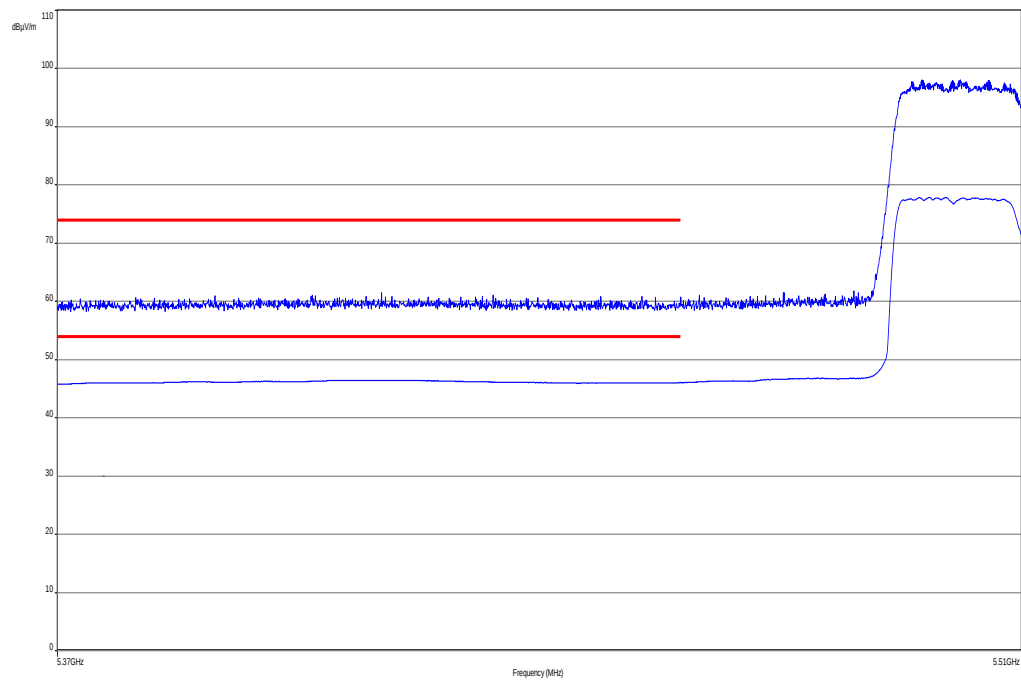
Plot 18: lower band edge, vertical & horizontal polarization (n/ac HT20 mode), Ch 100, high data rate

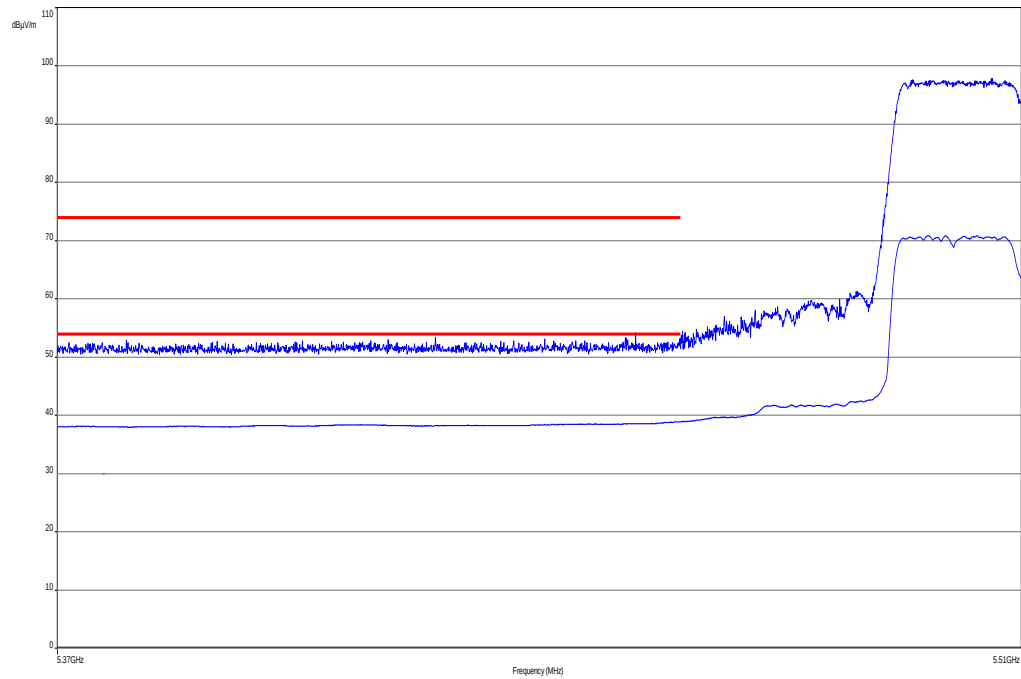
Plot 19: lower band edge, vertical & horizontal polarization (n/ac HT40 mode), Ch 38, low data rate**Plot 20:** lower band edge, vertical & horizontal polarization (n/ac HT40 mode), Ch 38, high power data rate

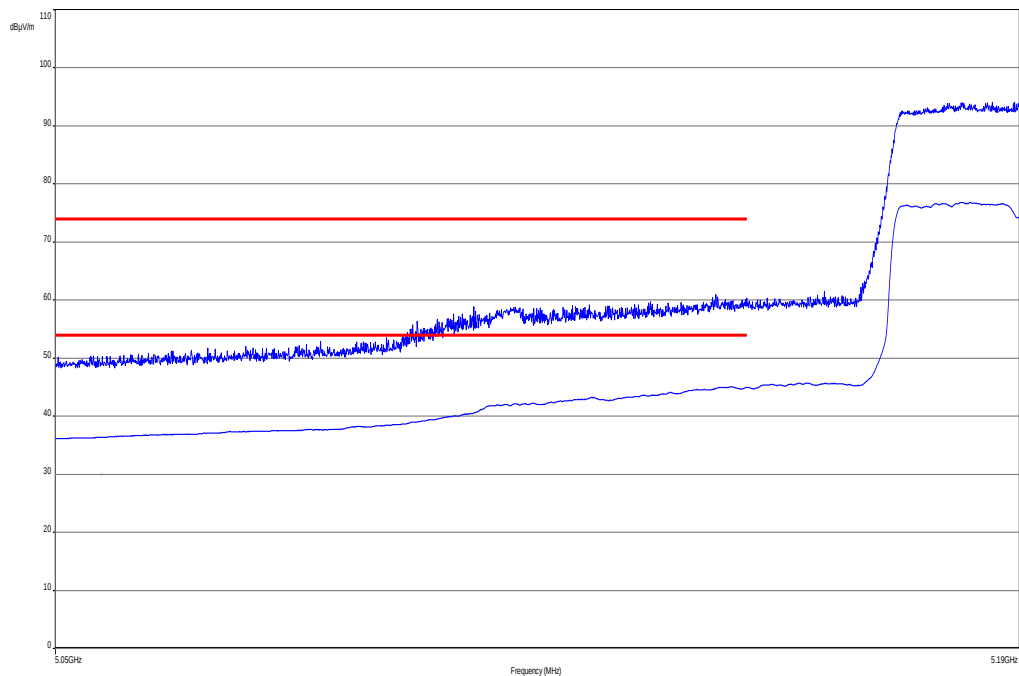
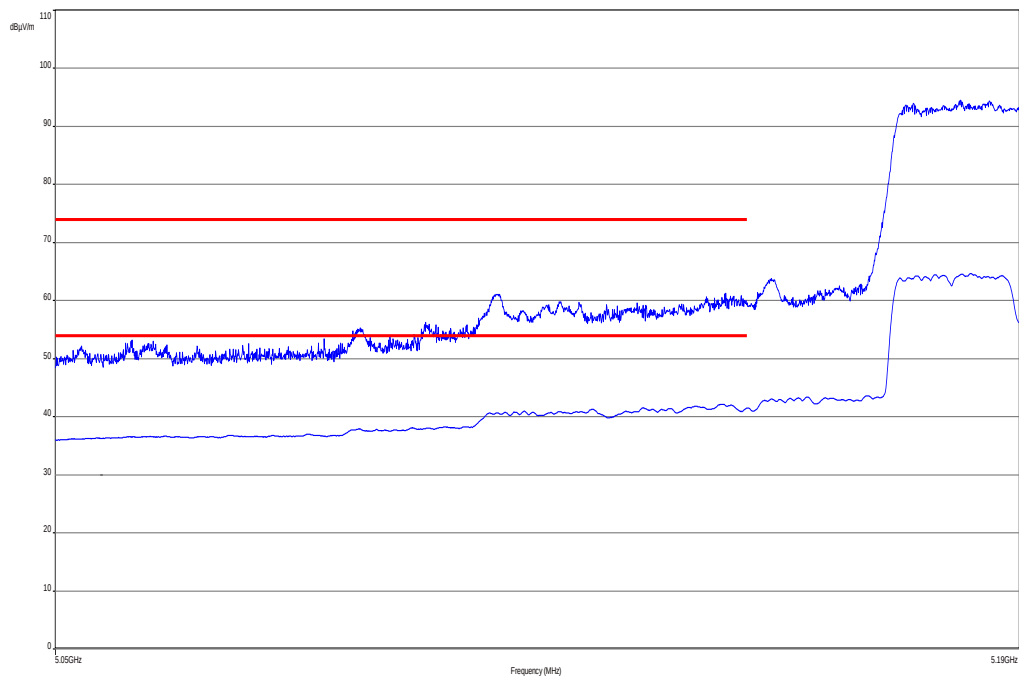
Plot 21: lower band edge, vertical & horizontal polarization (n/ac HT40 mode), Ch 38, high data rate

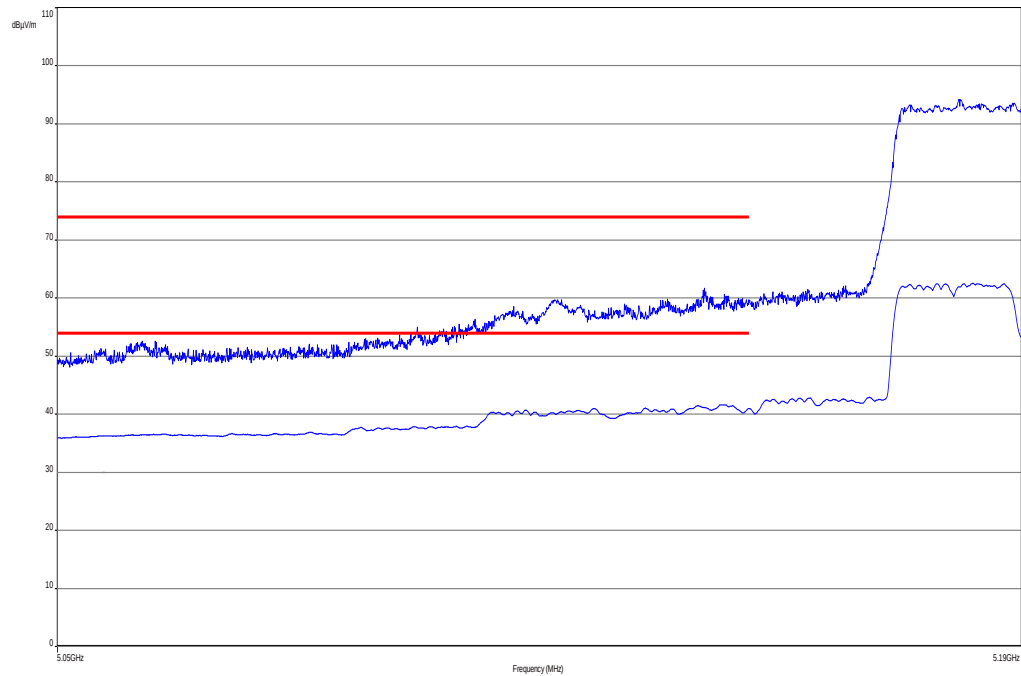
Plot 22: upper band edge, vertical & horizontal polarization (n/ac HT40 mode), Ch 62, low data rate**Plot 23:** upper band edge, vertical & horizontal polarization (n/ac HT40 mode), Ch 62, high power data rate

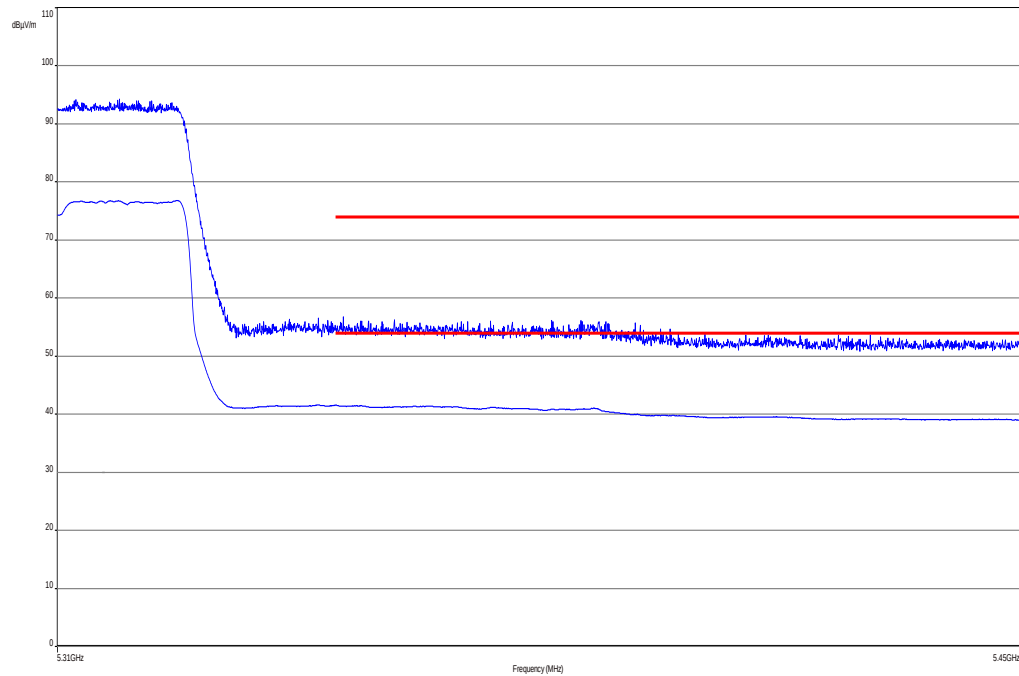
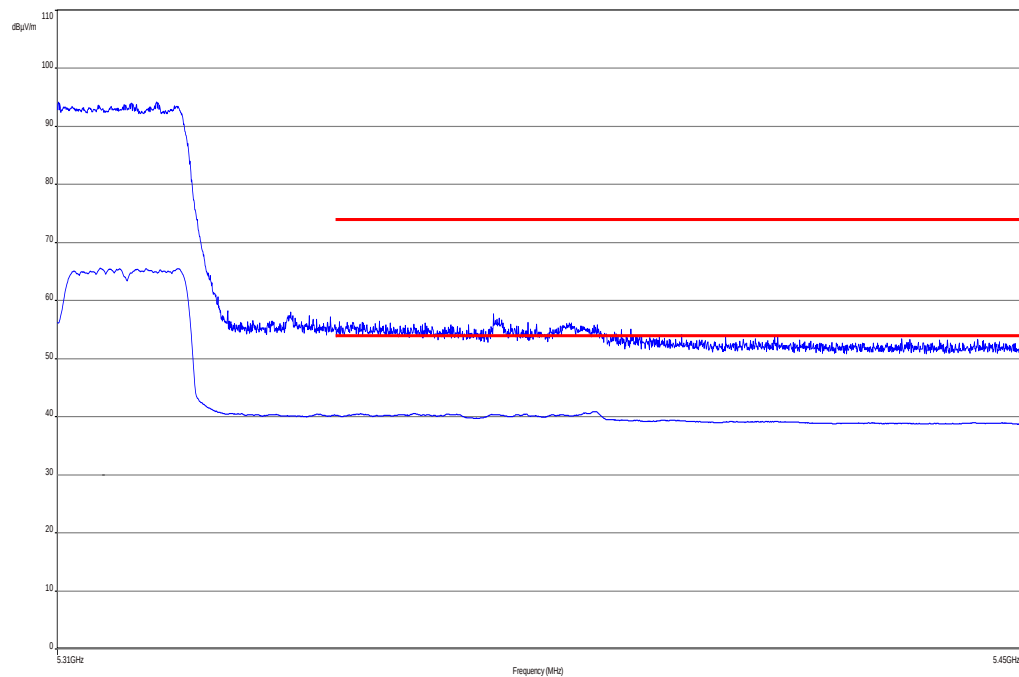
Plot 24: upper band edge, vertical & horizontal polarization (n/ac HT40 mode), Ch 62, high data rate

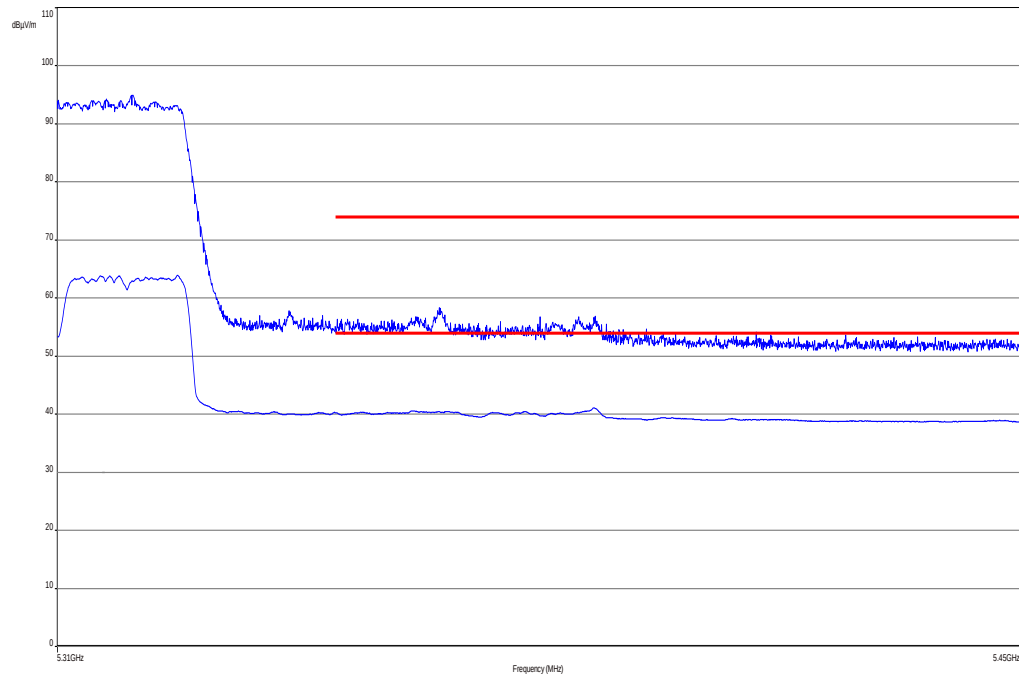
Plot 25: lower band edge, vertical & horizontal polarization (n/ac HT40 mode), Ch 102, low data rate**Plot 26:** lower band edge, vertical & horizontal polarization (n/ac HT40 mode), Ch 102, high power data rate

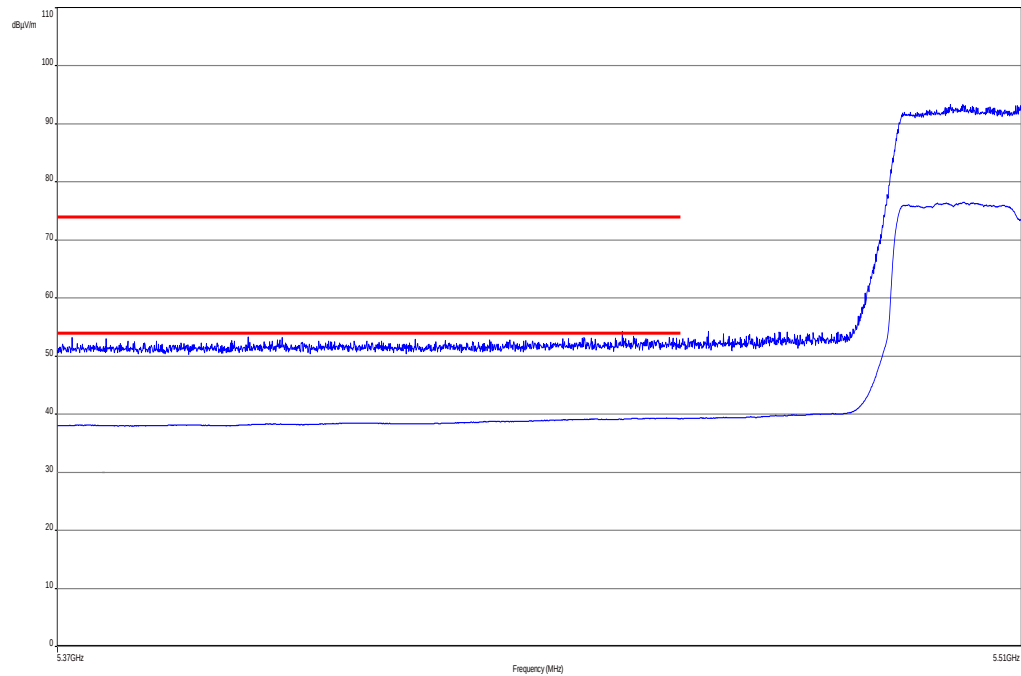
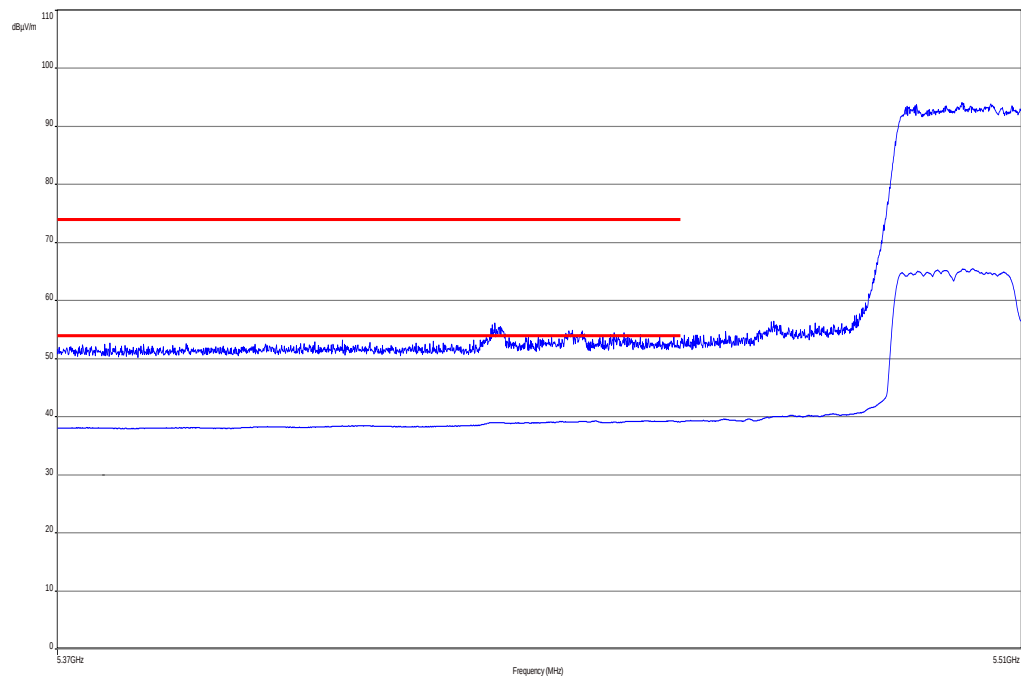
Plot 27: lower band edge, vertical & horizontal polarization (n/ac HT40 mode), Ch 102, high data rate

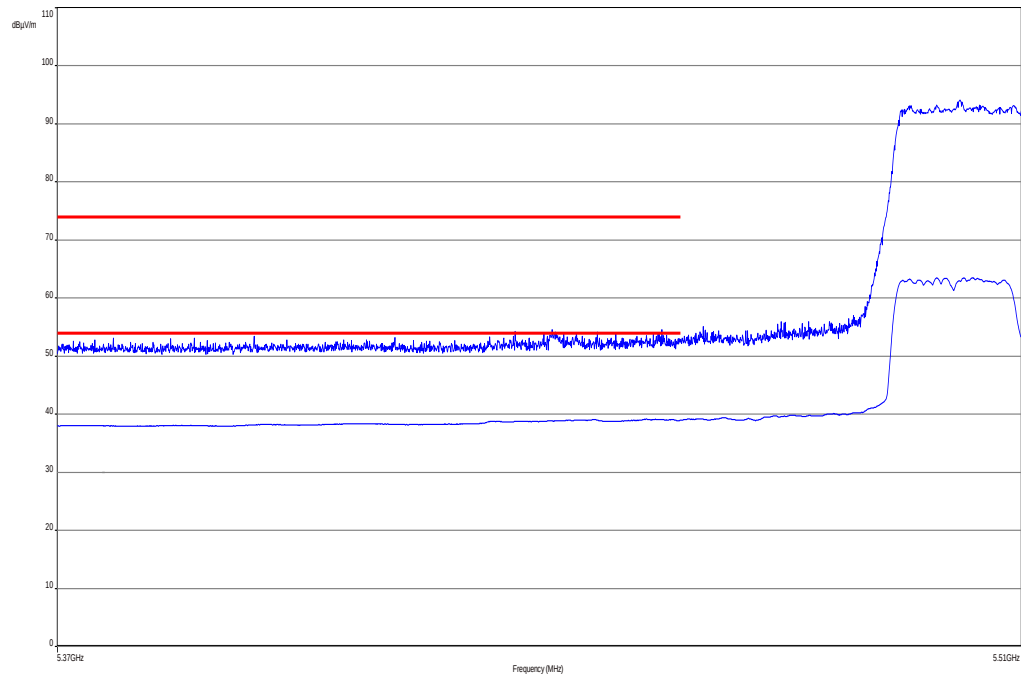
Plot 28: lower band edge, vertical & horizontal polarization (ac HT80 mode), Ch 42, low data rate**Plot 29:** lower band edge, vertical & horizontal polarization (ac HT80 mode), Ch 42, high power data rate

Plot 30: lower band edge, vertical & horizontal polarization (ac HT80 mode), Ch 42, high data rate

Plot 31: lower band edge, vertical & horizontal polarization (ac HT80 mode), Ch 58, low data rate**Plot 32:** lower band edge, vertical & horizontal polarization (ac HT80 mode), Ch 58, high power data rate

Plot 33: lower band edge, vertical & horizontal polarization (ac HT80 mode), Ch 58, high data rate

Plot 34: lower band edge, vertical & horizontal polarization (ac HT80 mode), Ch 106, low data rate**Plot 35:** lower band edge, vertical & horizontal polarization (ac HT80 mode), Ch 106, high power data rate

Plot 36: lower band edge, vertical & horizontal polarization (ac HT80 mode), Ch 106, high data rate**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 (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
§15.407		
Outside the restricted bands!	-27 dBm / MHz	

Results: OFDM / a – mode

TX Spurious Emissions Radiated [dBμV/m] / dBm								
OFDM a – mode								
Lowest channel 36			-/-			Highest channel 48		
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 peak emissions above 1 GHz are below the average limit. See plots!						All detected peak emissions above 1 GHz are below the average limit. See plots!		
Measurement uncertainty			± 3 dB					

TX Spurious Emissions Radiated [dBμV/m] / dBm								
OFDM a – mode								
Lowest channel 52			-/-			Highest channel 64		
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 peak emissions above 1 GHz are below the average limit. See plots!						All detected peak emissions above 1 GHz are below the average limit. See plots!		
Measurement uncertainty			± 3 dB					

TX Spurious Emissions Radiated [dBμV/m] / dBm								
OFDM a – mode								
Lowest channel 100			-/-			Highest channel 140		
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 peak emissions above 1 GHz are below the average limit. See plots!						All detected peak emissions above 1 GHz are below the average limit. See plots!		
Measurement uncertainty			± 3 dB					

Result: Passed

Results: OFDM / n/ac HT20 – mode

TX Spurious Emissions Radiated [dBμV/m] / dBm								
OFDM n/ac HT20 – mode								
Lowest channel 36			-/-			Highest channel 48		
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 peak emissions above 1 GHz are below the average limit. See plots!						All detected peak emissions above 1 GHz are below the average limit. See plots!		
Measurement uncertainty			± 3 dB					

TX Spurious Emissions Radiated [dBμV/m] / dBm								
OFDM n/ac HT20 – mode								
Lowest channel 52			-/-			Highest channel 64		
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 peak emissions above 1 GHz are below the average limit. See plots!						All detected peak emissions above 1 GHz are below the average limit. See plots!		
Measurement uncertainty			± 3 dB					

TX Spurious Emissions Radiated [dBμV/m] / dBm								
OFDM n/ac HT20 – mode								
Lowest channel 100			-/-			Highest channel 140		
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 peak emissions above 1 GHz are below the average limit. See plots!						All detected peak emissions above 1 GHz are below the average limit. See plots!		
Measurement uncertainty			± 3 dB					

Result: Passed

Results: OFDM / n/ac HT40 – mode

TX Spurious Emissions Radiated [dBμV/m] / dBm								
OFDM n/ac HT40 – mode								
Lowest channel 38			-/-			Highest channel 46		
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 peak emissions above 1 GHz are below the average limit. See plots!						All detected peak emissions above 1 GHz are below the average limit. See plots!		
Measurement uncertainty			± 3 dB					

TX Spurious Emissions Radiated [dBμV/m] / dBm								
OFDM n/ac HT40 – mode								
Lowest channel 54			-/-			Highest channel 62		
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 peak emissions above 1 GHz are below the average limit. See plots!						All detected peak emissions above 1 GHz are below the average limit. See plots!		
Measurement uncertainty			± 3 dB					

TX Spurious Emissions Radiated [dBμV/m] / dBm								
OFDM n/ac HT40 – mode								
Lowest channel 102			-/-			Highest channel 134		
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 peak emissions above 1 GHz are below the average limit. See plots!						All detected peak emissions above 1 GHz are below the average limit. See plots!		
Measurement uncertainty			± 3 dB					

Result: Passed

Results: OFDM / ac HT80 – mode

TX Spurious Emissions Radiated [dBμV/m] / dBm								
OFDM ac HT80 – mode								
Lowest channel 42			-/-			Highest channel 58		
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 peak emissions above 1 GHz are below the average limit. See plots!						All detected peak emissions above 1 GHz are below the average limit. See plots!		
Measurement uncertainty			± 3 dB					

TX Spurious Emissions Radiated [dBμV/m] / dBm								
OFDM ac HT80 – mode								
Middle channel 106			-/-			-/-		
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.			-/-			-/-		
All detected peak emissions above 1 GHz are below the average limit. See plots!								
Measurement uncertainty			± 3 dB					

Result: Passed

Note: The limit was recalculated with 20 dB / decade (Part 15.31) for all radiated spurious emissions 30 MHz to 1 GHz from 3 meter limit to a 10 meter distance. (40dB/decade for emissions < 30MHz)

Plots: OFDM / a – mode

Plot 1: 30 MHz to 1 GHz, channel 36, vertical & horizontal polarization

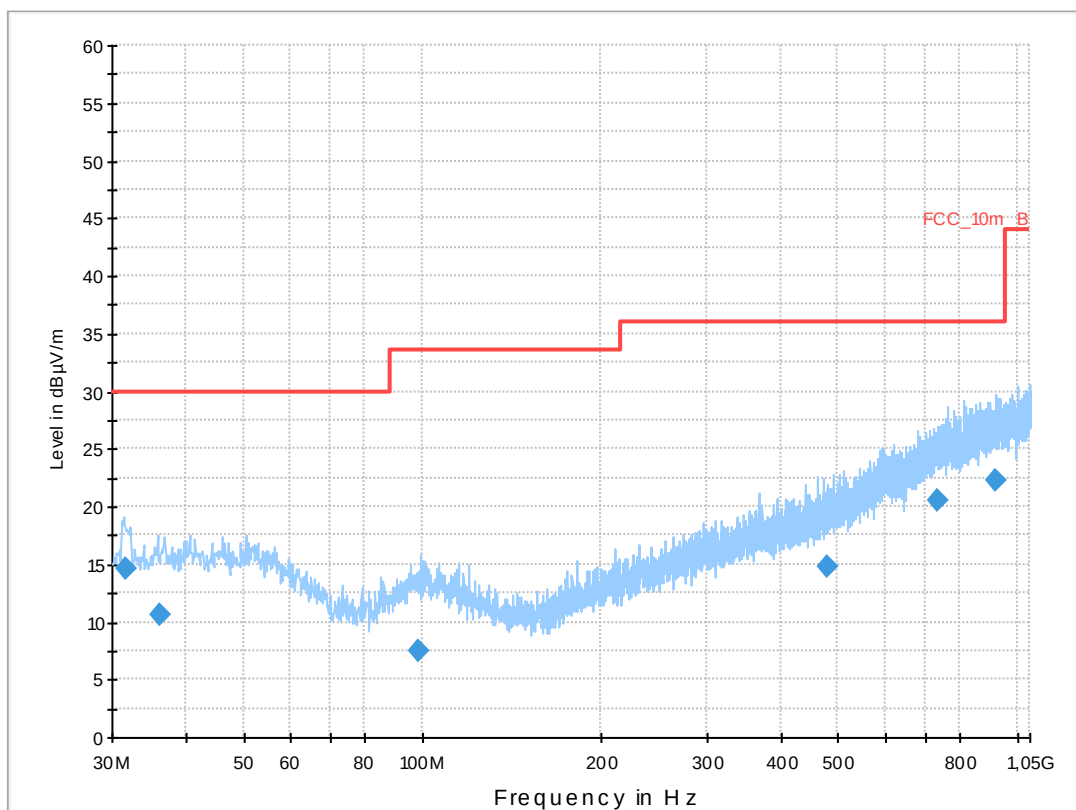
Common Information

Serial Number: CB5126DAHf
 Test Description: FCC part 15 class B
 Operating Conditions: WLAN TX a-mode Ch. 36
 Operator Name: Wolsdorfer
 Comment: battery powered

Scan Setup: STAN_Fin [EMI radiated]

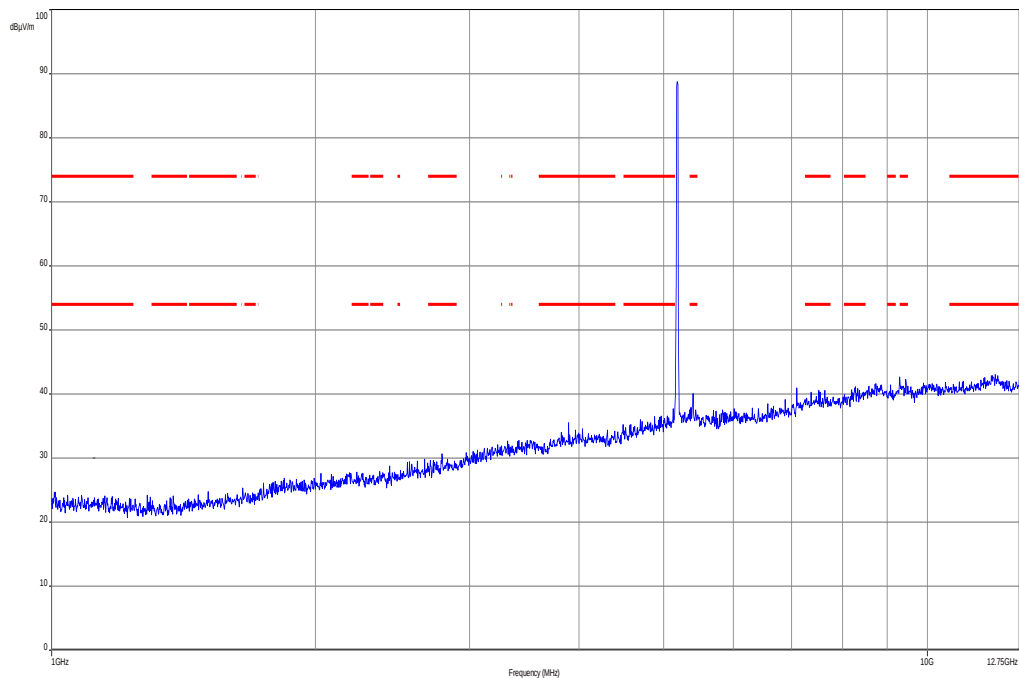
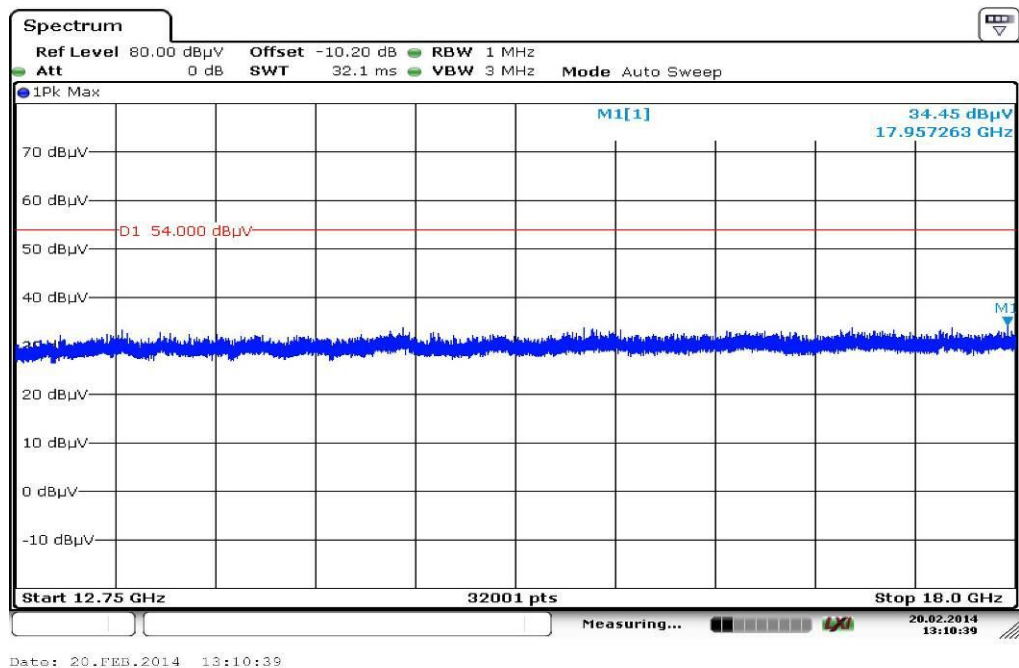
Hardware Setup: Electric Field (NOS)
 Receiver: [ESCI 3]
 Level Unit: dBμV/m

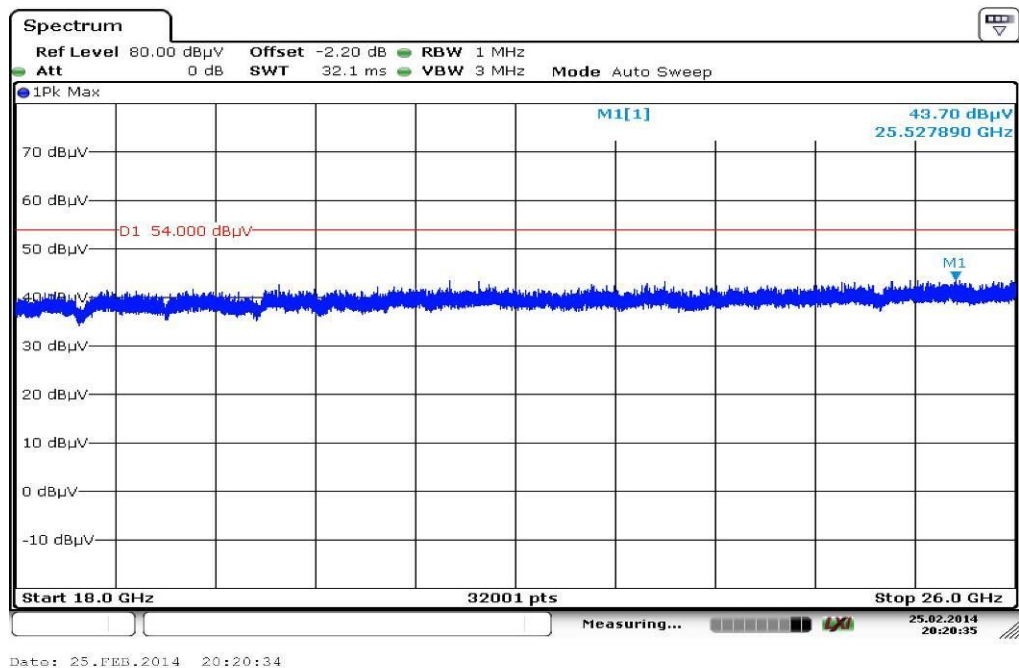
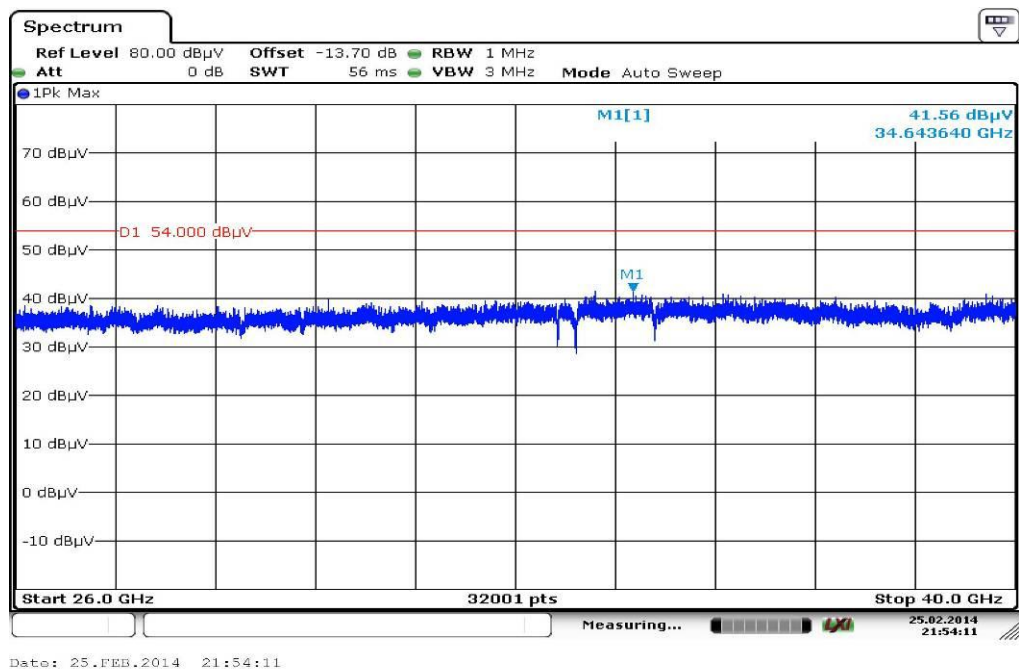
Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 2 GHz	60 kHz	QPK	120 kHz	1 s	20 dB



Final Result 1

Frequency (MHz)	QuasiPeak (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)	Comment
31.700400	14.6	1000.0	120.000	113.0	V	100.0	12.7	15.4	30.0	
36.283650	10.7	1000.0	120.000	170.0	V	190.0	13.1	19.3	30.0	
98.767500	7.4	1000.0	120.000	170.0	V	180.0	11.7	26.1	33.5	
479.283750	14.8	1000.0	120.000	170.0	H	272.0	18.3	21.2	36.0	
733.304550	20.5	1000.0	120.000	170.0	H	2.0	23.3	15.5	36.0	
917.649150	22.2	1000.0	120.000	170.0	V	176.0	25.3	13.8	36.0	

Plot 2: 1 GHz to 12.75 GHz, channel 36, vertical & horizontal polarization**Plot 3:** 12 GHz to 18 GHz, channel 36, vertical & horizontal polarization

Plot 4: 18 GHz to 26 GHz, channel 36, vertical & horizontal polarization**Plot 5:** 26 GHz to 40 GHz, channel 36, vertical & horizontal polarization

Plot 6: 30 MHz to 1 GHz, channel 48, vertical & horizontal polarization

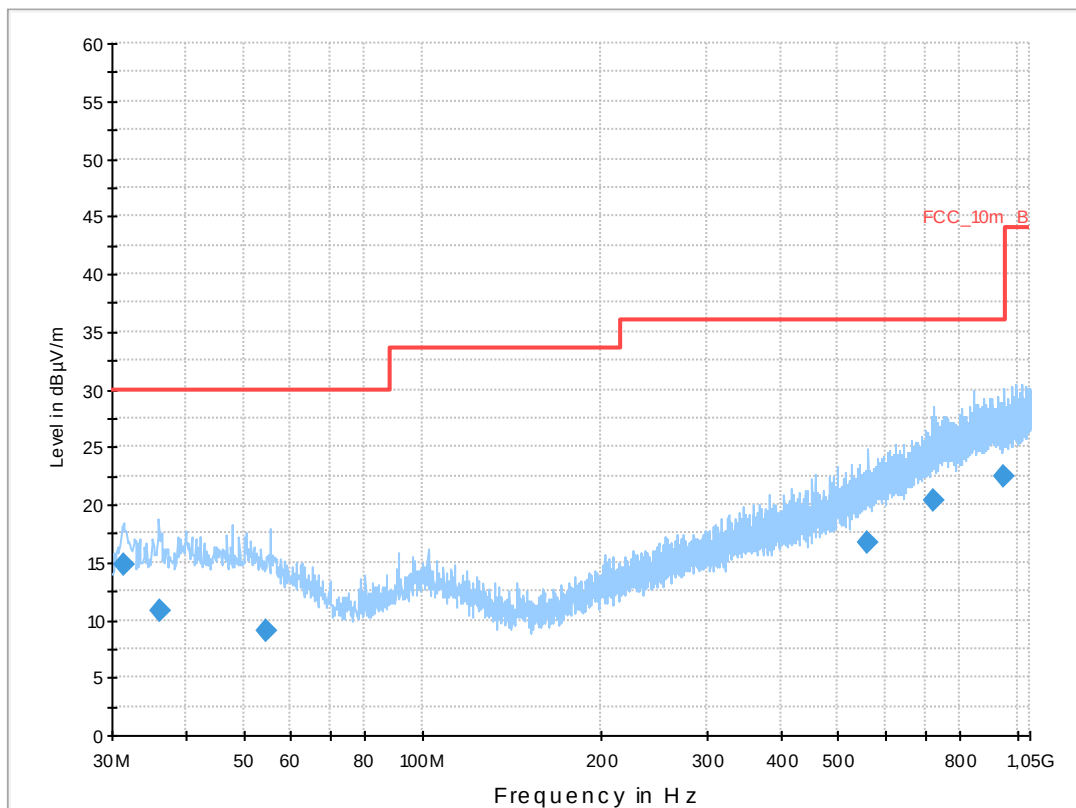
Common Information

Serial Number: CB5126DAHf
 Test Description: FCC part 15 class B
 Operating Conditions: WLAN TX a-mode Ch. 48
 Operator Name: Wolsdorfer
 Comment: battery powered

Scan Setup: STAN_Fin [EMI radiated]

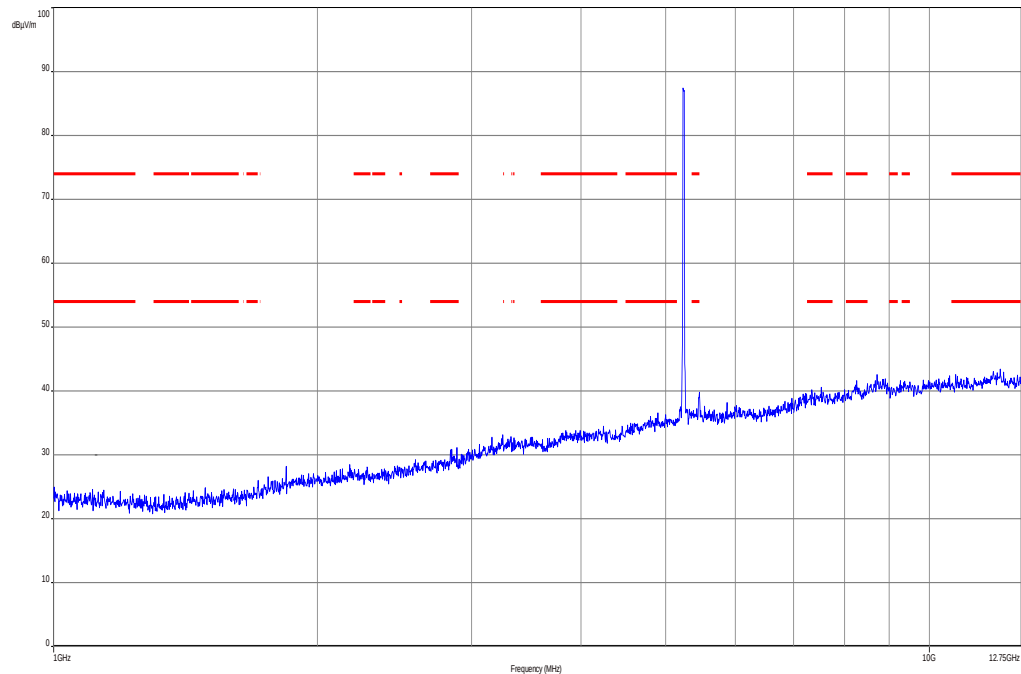
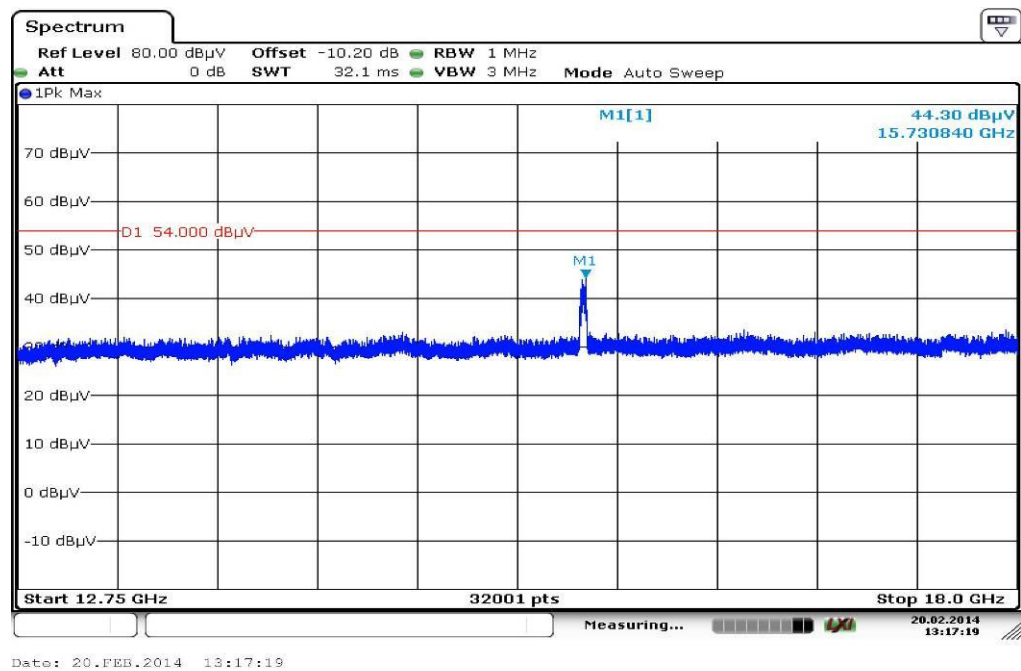
Hardware Setup: Electric Field (NOS)
 Receiver: [ESCI 3]
 Level Unit: dBμV/m

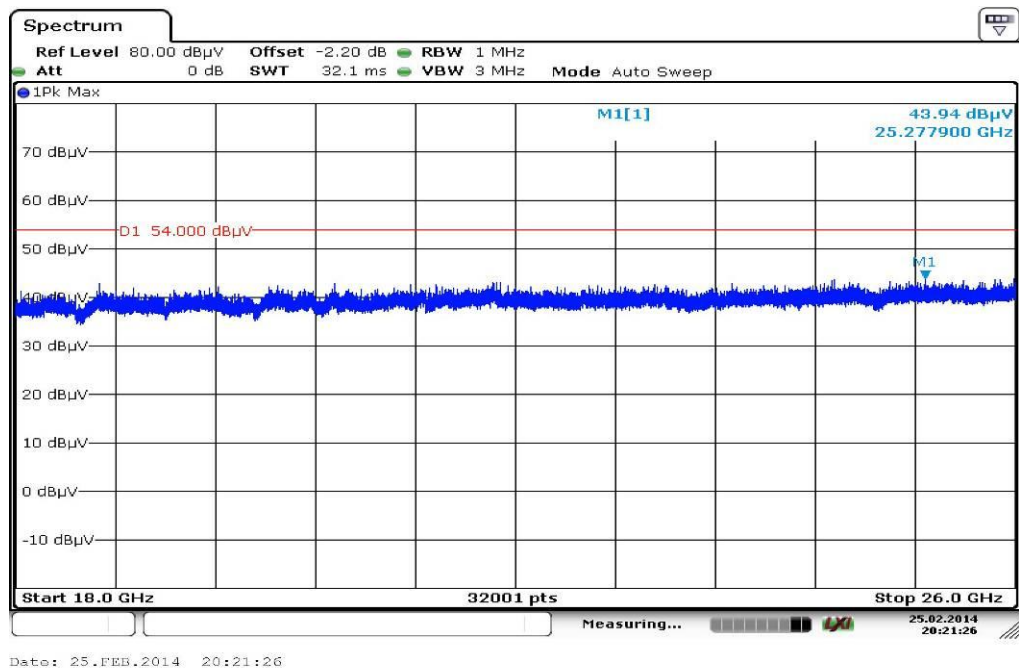
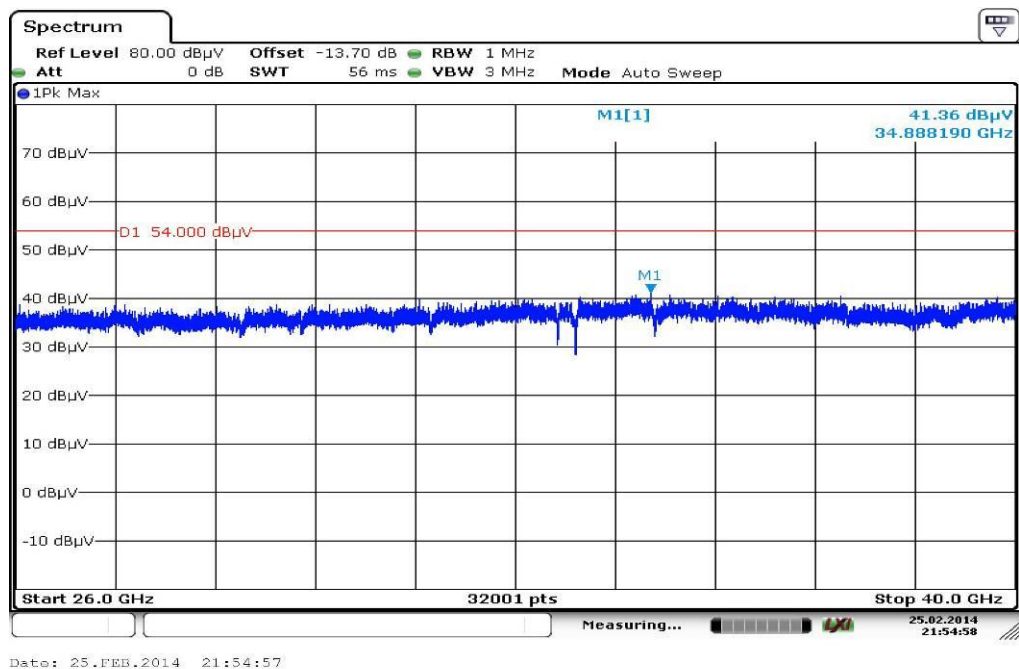
Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 2 GHz	60 kHz	QPK	120 kHz	1 s	20 dB



Final Result 1

Frequency (MHz)	QuasiPeak (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)	Comment
31.551750	14.8	1000.0	120.000	153.0	V	280.0	12.7	15.2	30.0	
36.262800	10.7	1000.0	120.000	98.0	V	176.0	13.1	19.3	30.0	
54.373350	9.1	1000.0	120.000	121.0	H	280.0	12.9	20.9	30.0	
561.560400	16.8	1000.0	120.000	170.0	H	180.0	19.7	19.2	36.0	
722.357700	20.3	1000.0	120.000	153.0	H	10.0	23.0	15.7	36.0	
947.388150	22.5	1000.0	120.000	170.0	V	10.0	25.3	13.5	36.0	

Plot 7: 1 GHz to 12.75 GHz, channel 48, vertical & horizontal polarization**Plot 8:** 12 GHz to 18 GHz, channel 48, vertical & horizontal polarization

Plot 9: 18 GHz to 26 GHz, channel 48, vertical & horizontal polarization**Plot 10:** 26 GHz to 40 GHz, channel 48, vertical & horizontal polarization

Plot 11: 30 MHz to 1 GHz, channel 52, vertical & horizontal polarization

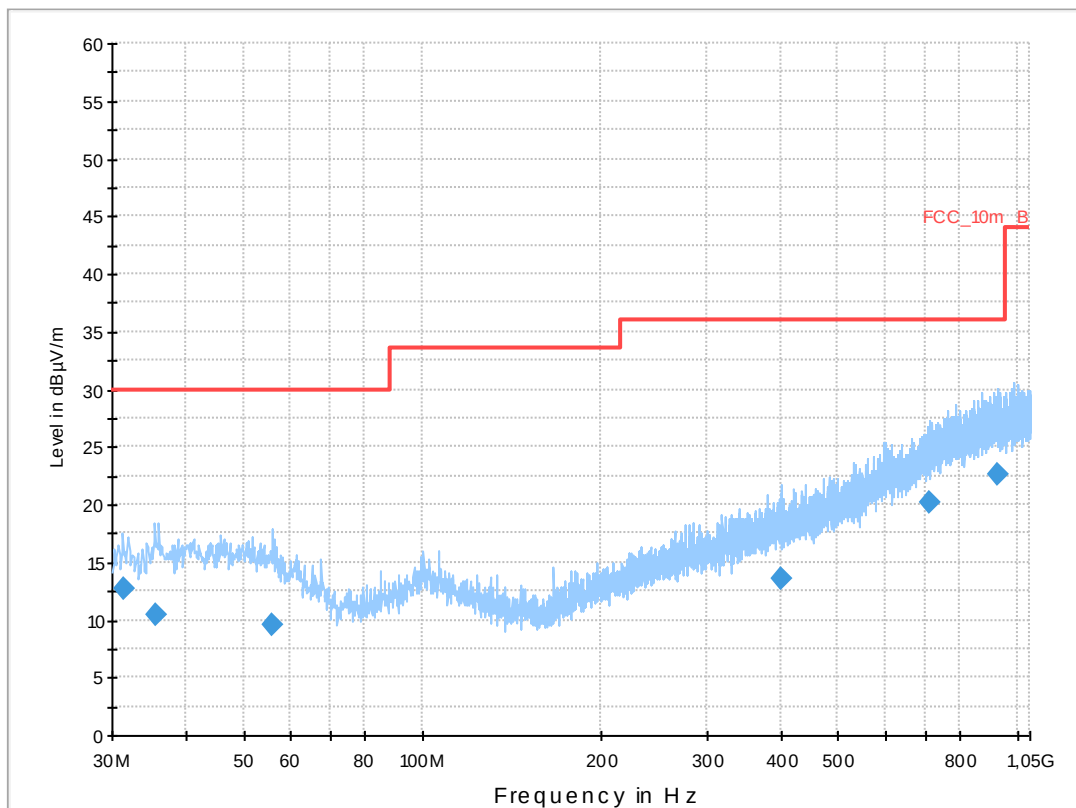
Common Information

Serial Number: CB5126DAHf
 Test Description: FCC part 15 class B
 Operating Conditions: WLAN TX a-mode Ch. 52
 Operator Name: Wolsdorfer
 Comment: battery powered

Scan Setup: STAN_Fin [EMI radiated]

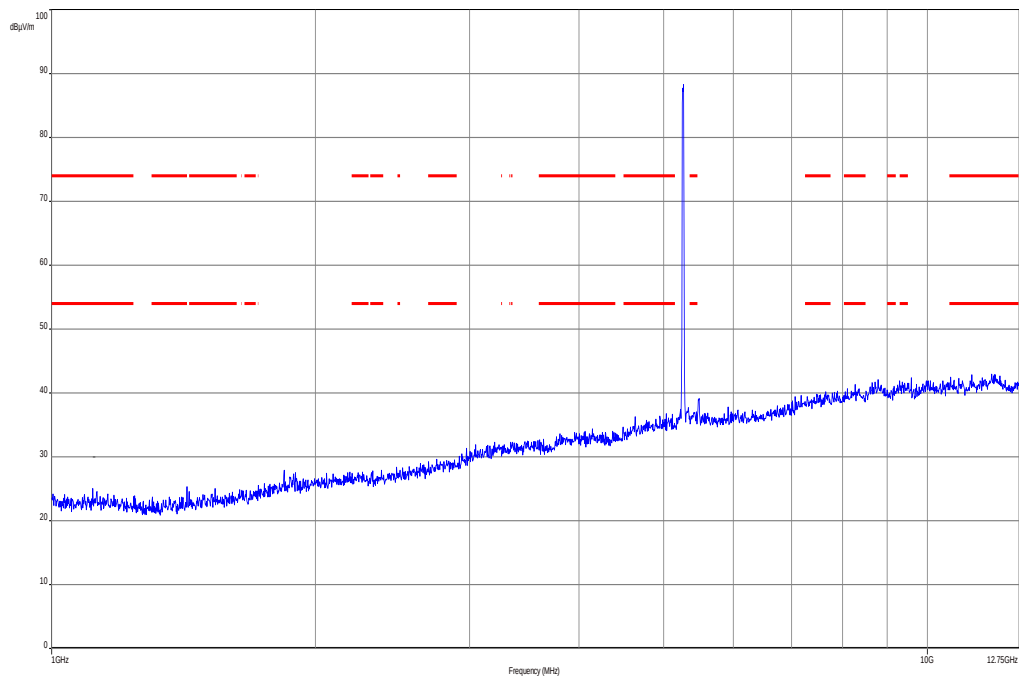
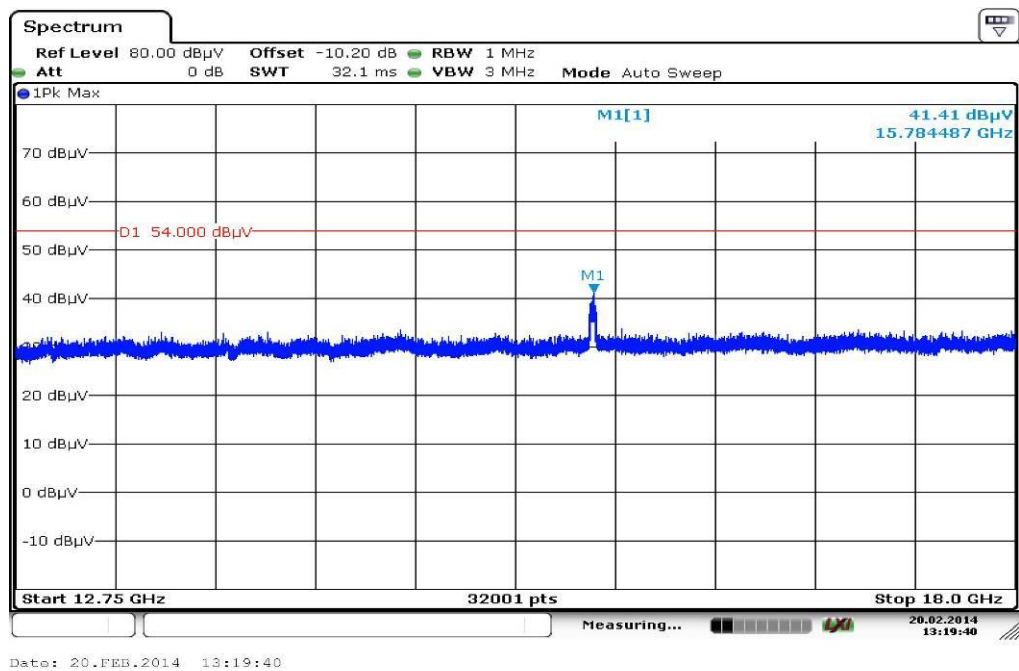
Hardware Setup: Electric Field (NOS)
 Receiver: [ESCI 3]
 Level Unit: dBμV/m

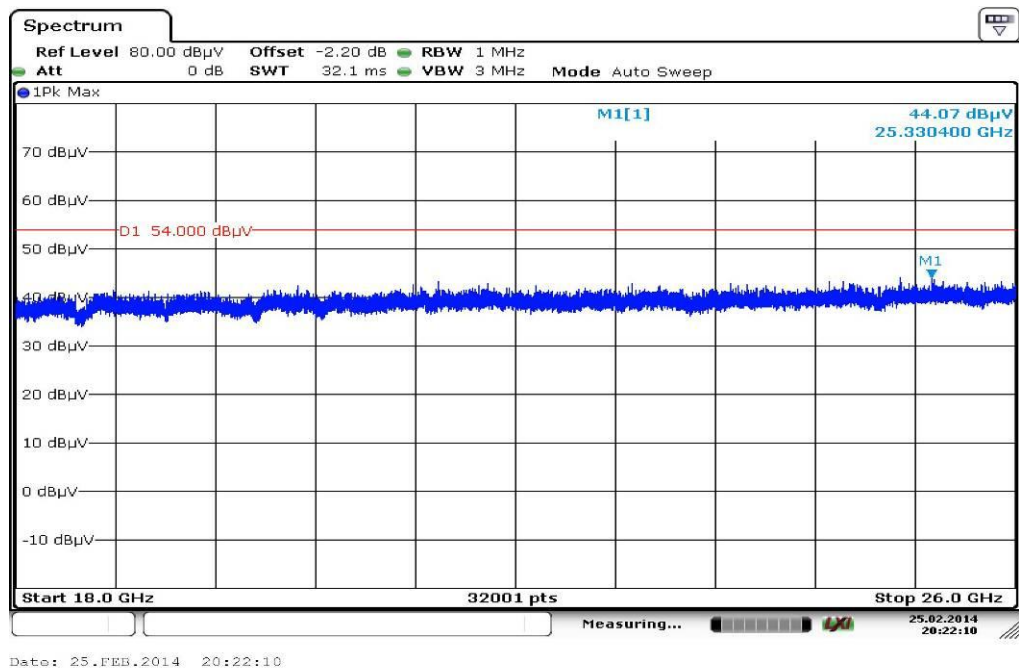
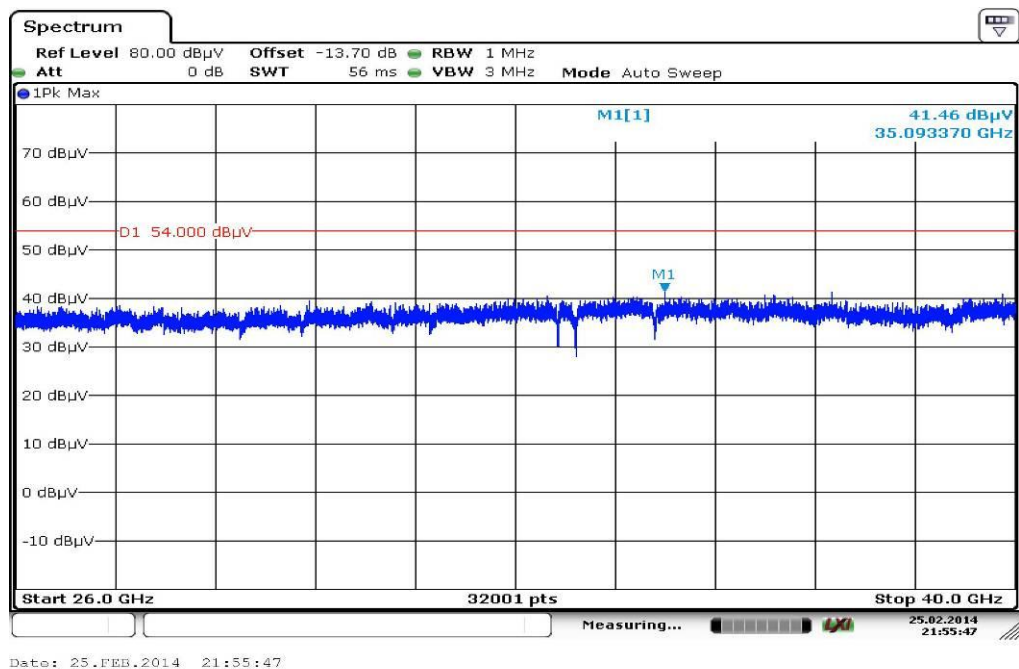
Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 2 GHz	60 kHz	QPK	120 kHz	1 s	20 dB



Final Result 1

Frequency (MHz)	QuasiPeak (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)	Comment
31.327950	12.7	1000.0	120.000	143.0	V	178.0	12.6	17.3	30.0	
35.625300	10.5	1000.0	120.000	170.0	V	190.0	13.1	19.5	30.0	
55.794300	9.6	1000.0	120.000	170.0	V	180.0	12.7	20.4	30.0	
402.422700	13.5	1000.0	120.000	143.0	H	171.0	16.9	22.5	36.0	
713.187000	20.1	1000.0	120.000	98.0	V	171.0	22.8	15.9	36.0	
924.935250	22.6	1000.0	120.000	170.0	V	-4.0	25.3	13.4	36.0	

Plot 12: 1 GHz to 12.75 GHz, channel 52, vertical & horizontal polarization**Plot 13:** 12 GHz to 18 GHz, channel 52, vertical & horizontal polarization

Plot 14: 18 GHz to 26 GHz, channel 52, vertical & horizontal polarization**Plot 15:** 26 GHz to 40 GHz, channel 52, vertical & horizontal polarization

Plot 16: 30 MHz to 1 GHz, channel 64, vertical & horizontal polarization

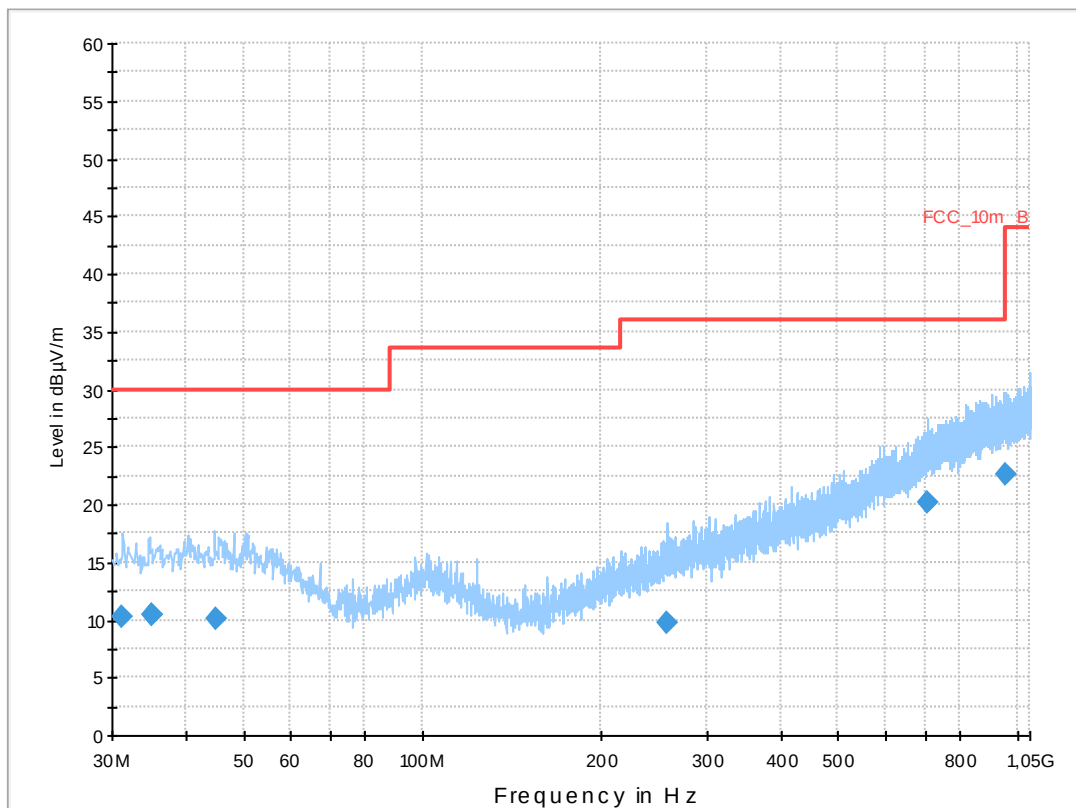
Common Information

Serial Number: CB5126DAHf
 Test Description: FCC part 15 class B
 Operating Conditions: WLAN TX a-mode Ch. 64
 Operator Name: Wolsdorfer
 Comment: battery powered

Scan Setup: STAN_Fin [EMI radiated]

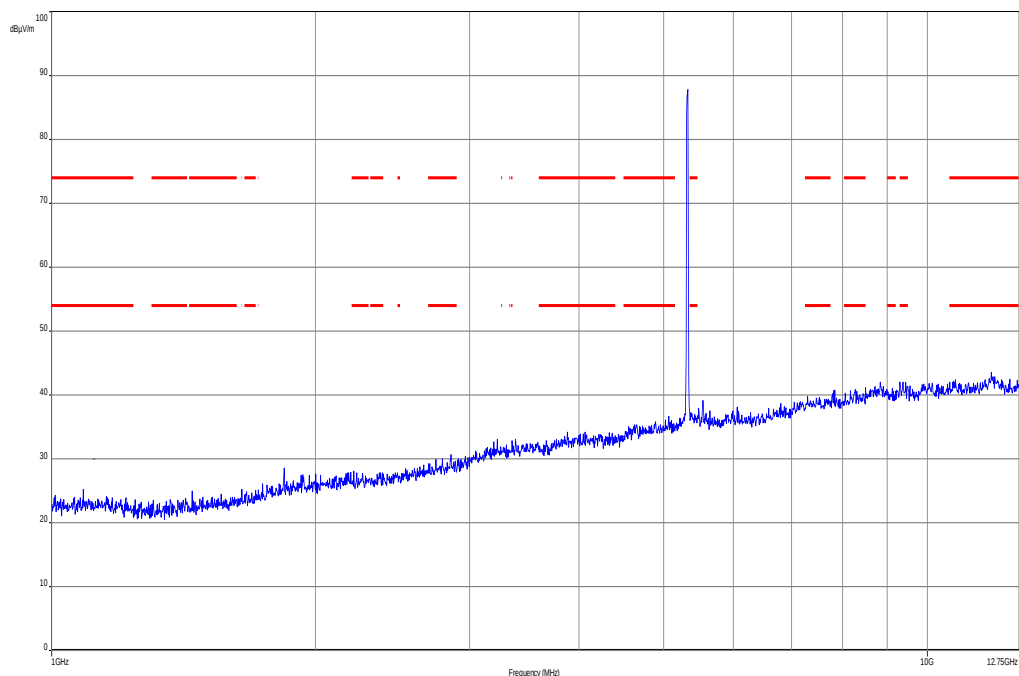
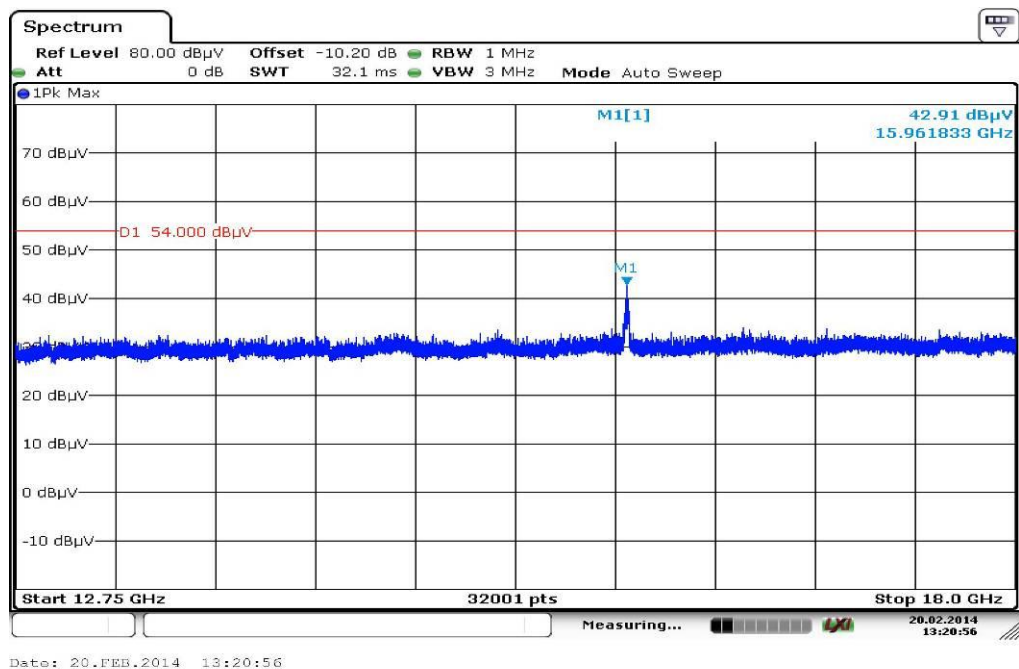
Hardware Setup: Electric Field (NOS)
 Receiver: [ESCI 3]
 Level Unit: dBμV/m

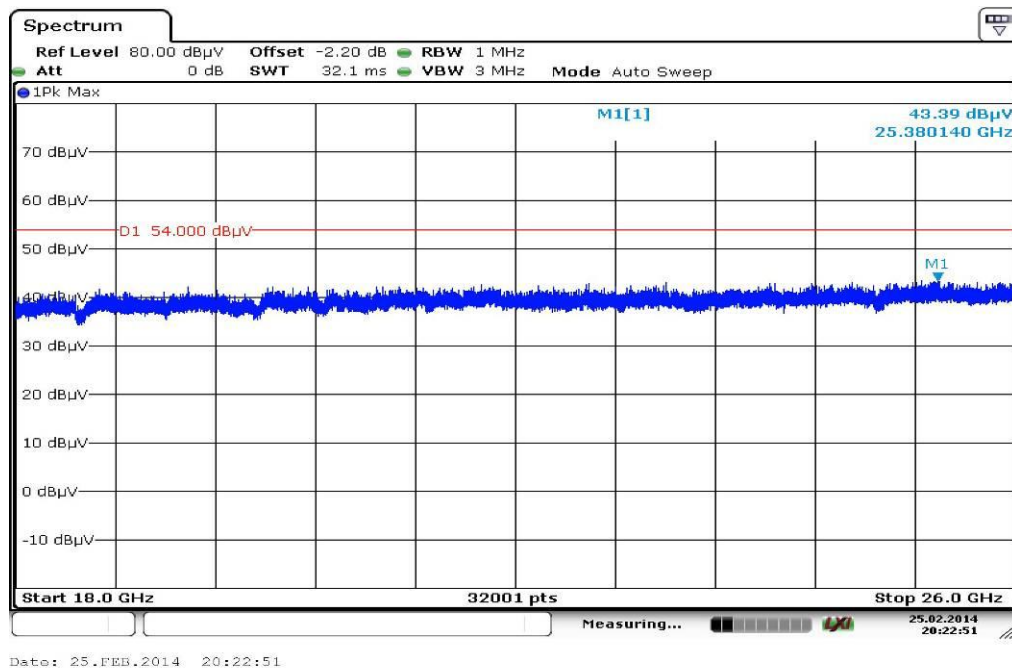
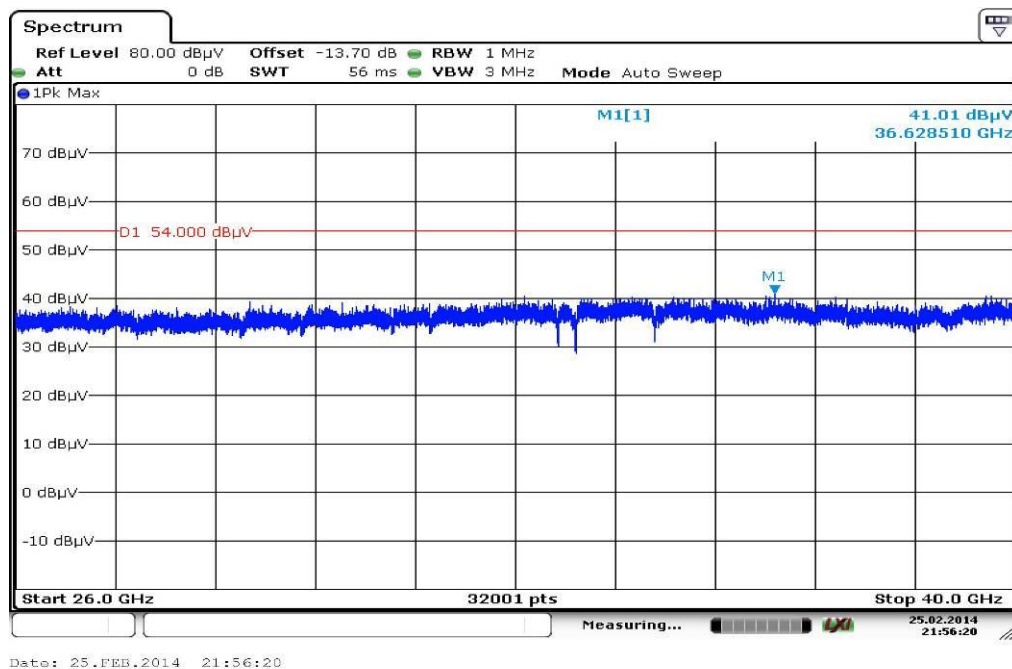
Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 2 GHz	60 kHz	QPK	120 kHz	1 s	20 dB



Final Result 1

Frequency (MHz)	QuasiPeak (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)	Comment
31.072050	10.2	1000.0	120.000	98.0	V	190.0	12.6	19.8	30.0	
35.051400	10.4	1000.0	120.000	164.0	V	88.0	13.0	19.6	30.0	
35.051400	10.4	1000.0	120.000	164.0	V	88.0	13.0	19.6	30.0	
44.852850	10.1	1000.0	120.000	170.0	V	80.0	13.3	19.9	30.0	
258.199800	9.7	1000.0	120.000	170.0	V	183.0	13.5	26.3	36.0	
708.982500	20.1	1000.0	120.000	145.0	H	280.0	22.7	15.9	36.0	
...	...	...	...	...	...	...	...	...	...	...

Plot 17: 1 GHz to 12.75 GHz, channel 64, vertical & horizontal polarization**Plot 18:** 12 GHz to 18 GHz, channel 64, vertical & horizontal polarization

Plot 19: 18 GHz to 26 GHz, channel 64, vertical & horizontal polarization**Plot 20:** 26 GHz to 40 GHz, channel 64, vertical & horizontal polarization

Plot 21: 30 MHz to 1 GHz, channel 100, vertical & horizontal polarization

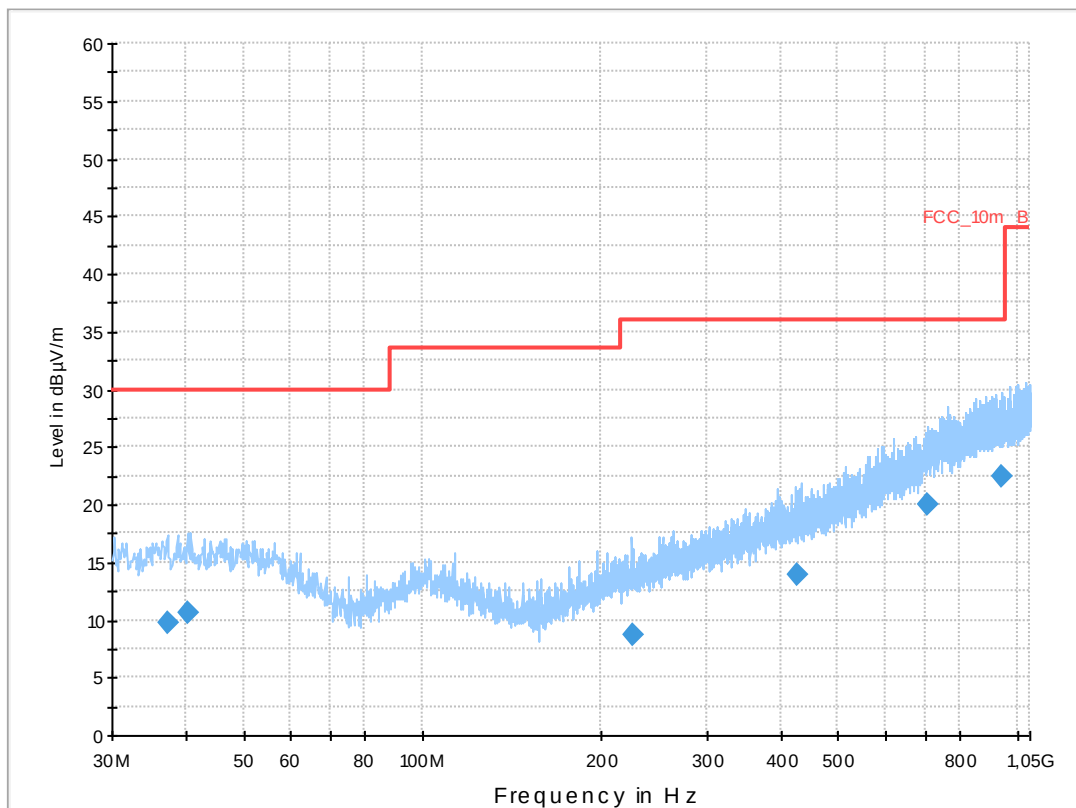
Common Information

Serial Number: CB5126DAHF
 Test Description: FCC part 15 class B
 Operating Conditions: WLAN TX a-mode Ch. 100
 Operator Name: Wolsdorfer
 Comment: battery powered

Scan Setup: STAN_Fin [EMI radiated]

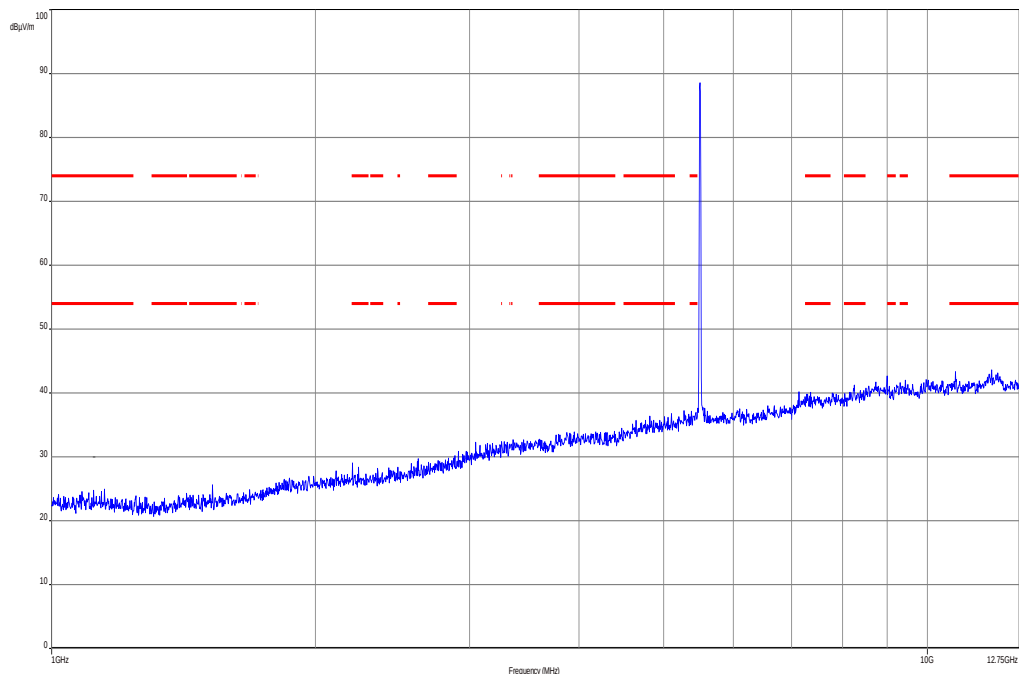
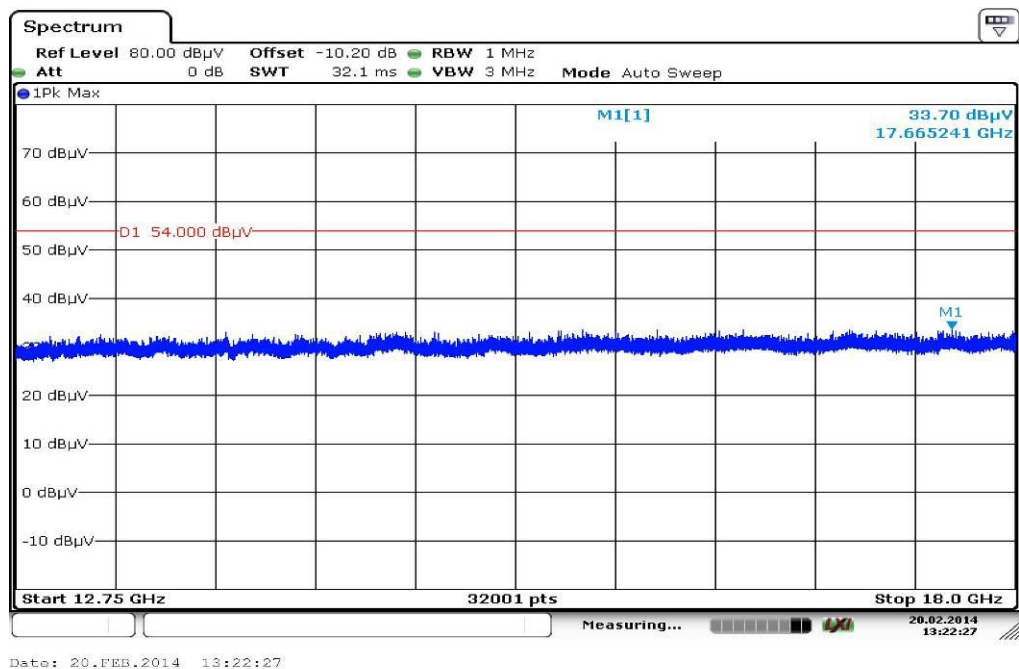
Hardware Setup: Electric Field (NOS)
 Receiver: [ESCI 3]
 Level Unit: dBμV/m

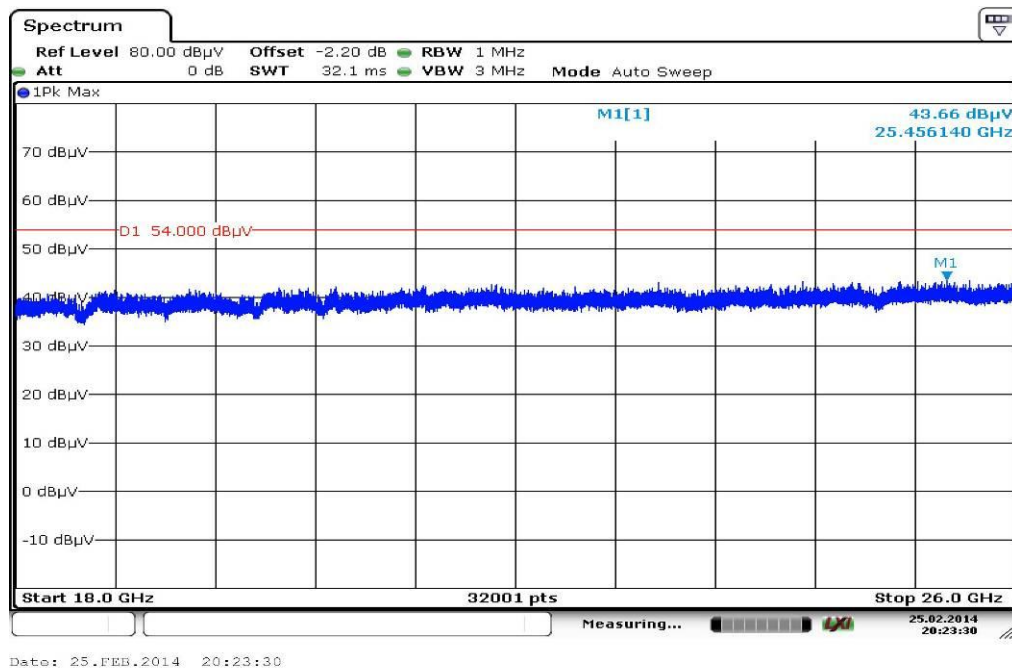
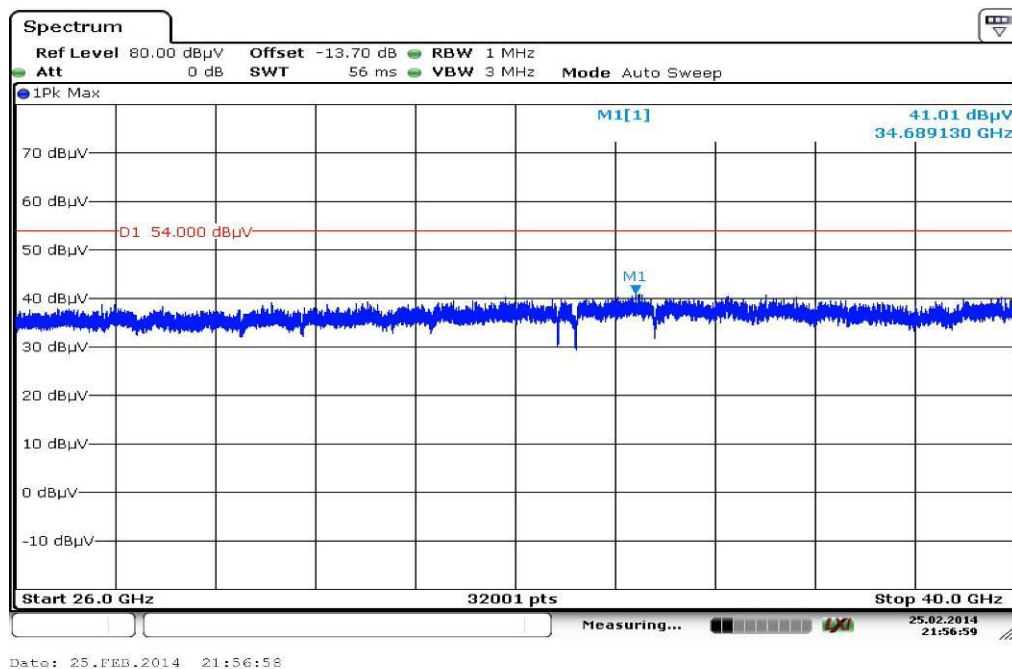
Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 2 GHz	60 kHz	QPK	120 kHz	1 s	20 dB



Final Result 1

Frequency (MHz)	QuasiPeak (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)	Comment
37.208100	9.7	1000.0	120.000	170.0	V	2.0	13.2	20.3	30.0	
40.309950	10.7	1000.0	120.000	170.0	V	86.0	13.4	19.3	30.0	
225.365400	8.7	1000.0	120.000	170.0	H	170.0	12.6	27.3	36.0	
427.027350	13.9	1000.0	120.000	170.0	H	90.0	17.3	22.1	36.0	
707.233650	20.0	1000.0	120.000	105.0	V	88.0	22.7	16.0	36.0	
942.060000	22.5	1000.0	120.000	105.0	V	-9.0	25.3	13.5	36.0	

Plot 22: 1 GHz to 12.75 GHz, channel 100, vertical & horizontal polarization**Plot 23:** 12 GHz to 18 GHz, channel 100, vertical & horizontal polarization

Plot 24: 18 GHz to 26 GHz, channel 100, vertical & horizontal polarization**Plot 25:** 26 GHz to 40 GHz, channel 100, vertical & horizontal polarization

Plot 26: 30 MHz to 1 GHz, channel 140, vertical & horizontal polarization

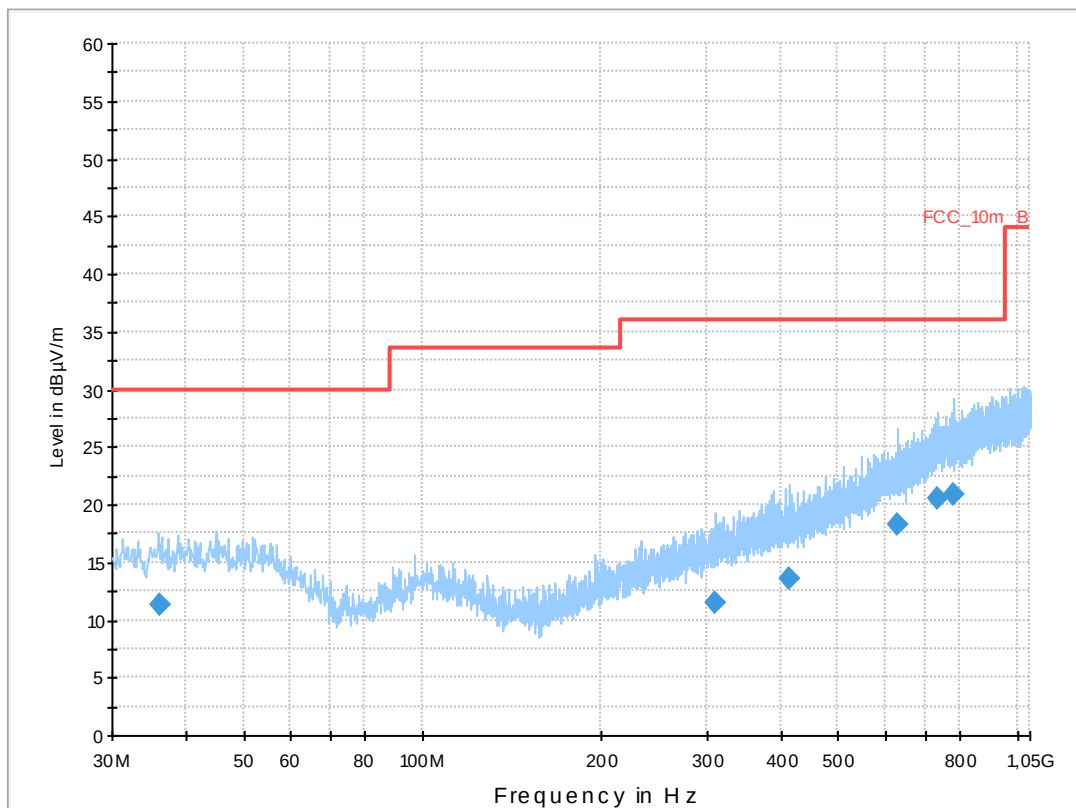
Common Information

Serial Number: CB5126DAHf
 Test Description: FCC part 15 class B
 Operating Conditions: WLAN TX a-mode Ch. 140
 Operator Name: Wolsdorfer
 Comment: battery powered

Scan Setup: STAN_Fin [EMI radiated]

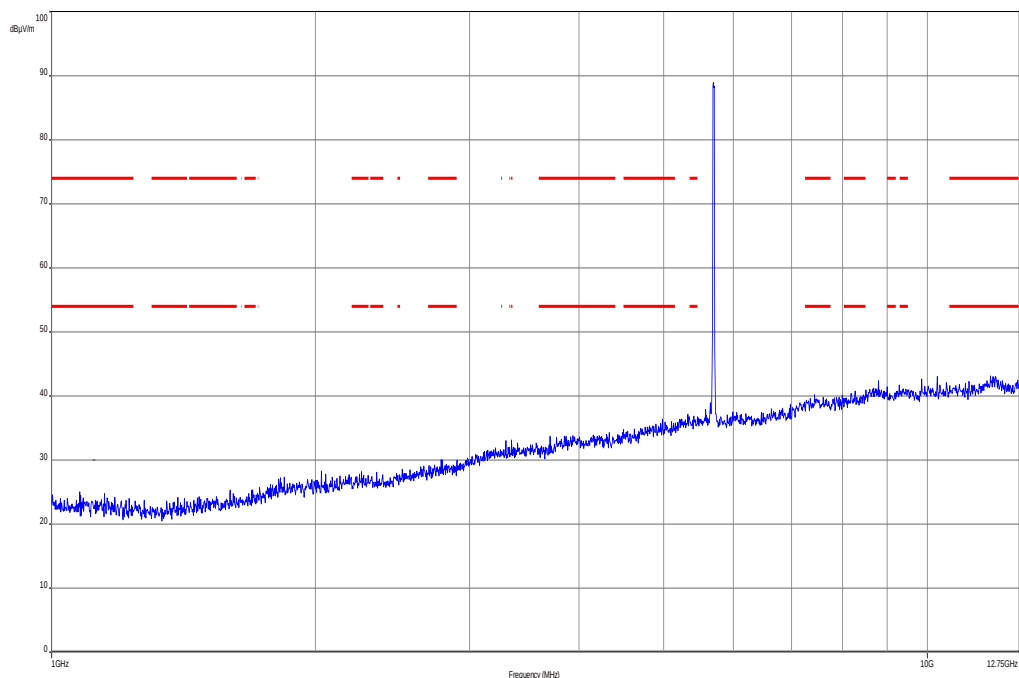
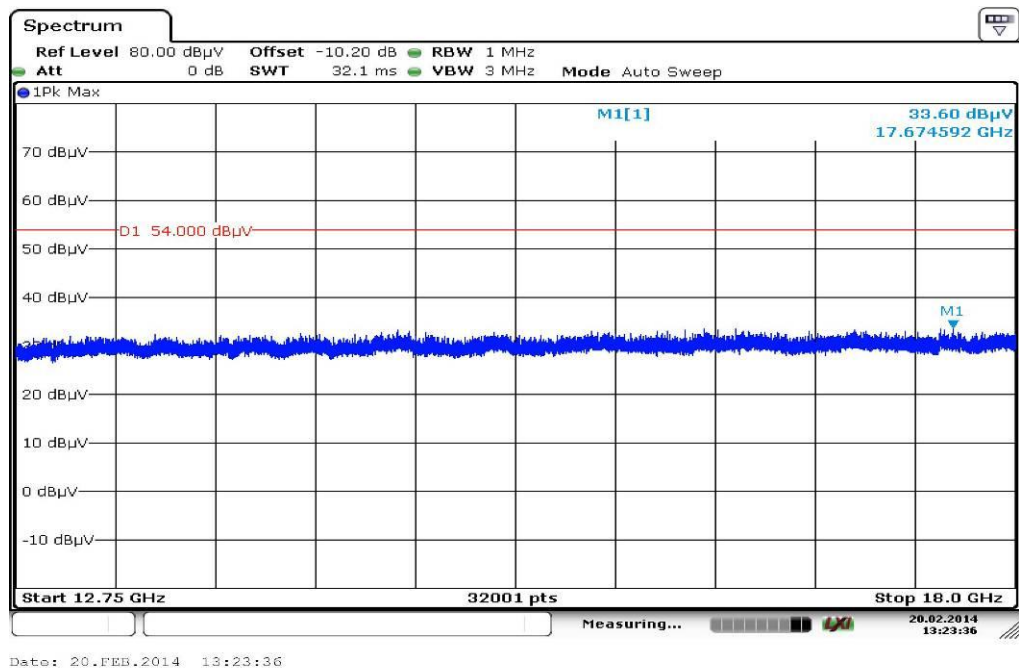
Hardware Setup: Electric Field (NOS)
 Receiver: [ESCI 3]
 Level Unit: dBμV/m

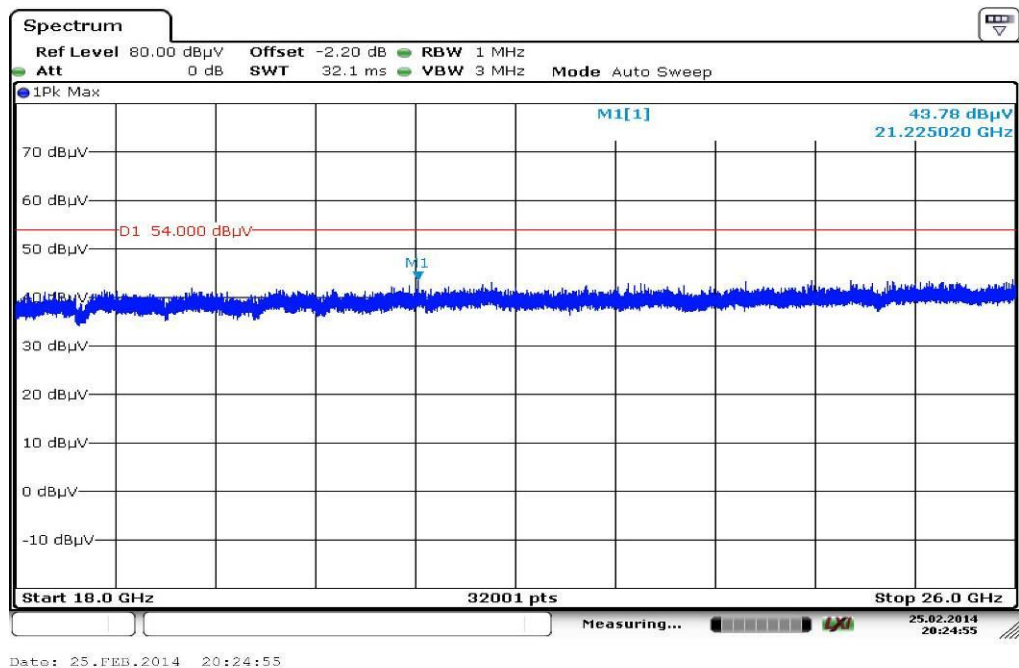
Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 2 GHz	60 kHz	QPK	120 kHz	1 s	20 dB



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
36.041700	11.4	1000.0	120.000	98.0	V	190.0	13.1	18.6	30.0	
310.002750	11.5	1000.0	120.000	104.0	H	272.0	14.8	24.5	36.0	
414.722550	13.6	1000.0	120.000	170.0	H	85.0	17.1	22.4	36.0	
627.752700	18.3	1000.0	120.000	170.0	V	10.0	21.0	17.7	36.0	
732.219150	20.6	1000.0	120.000	170.0	V	100.0	23.3	15.4	36.0	
779.719950	20.9	1000.0	120.000	104.0	V	170.0	23.7	15.1	36.0	

Plot 27: 1 GHz to 12.75 GHz, channel 140, vertical & horizontal polarization**Plot 28:** 12 GHz to 18 GHz, channel 140, vertical & horizontal polarization

Plot 29: 18 GHz to 26 GHz, channel 140, vertical & horizontal polarization**Plot 30:** 26 GHz to 40 GHz, channel 140, vertical & horizontal polarization