

Test report for

47 CFR Part 15 Subpart C

RSS-247, RSS-Gen



Product name : Chirp 2/Chirp+ 2/ECHO+

Applicant : Deeper, UAB

FCC ID : 2AHKO-CRP

IC : 21307-CRP

Test report No. : P000486402 002 V1.00

Laboratory information

Accreditation

Kiwa Nederland B.V. complies with the accreditation criteria for test laboratories as laid down in ISO/IEC 17025:2017. The accreditation covers the quality system of the laboratory as well as the specific activities as described in the authorized annex bearing the accreditation number L248 and is granted by the Dutch Council For Accreditation (RvA: Raad voor Accreditatie).

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Documentation

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Testing Location

Test Site	Kiwa Nederland B.V.
Test Site location	Wilmersdorf 50 7327 AC Apeldoorn The Netherlands Tel. +31 88998 3393
Test Site FCC	NL0001
CABID	NL0001

Revision History

Version	Date	Remarks	By
v0.50	12-02-2025	Added test report 2021200772 001 information in new report template (with new logo's etc.) and added variants without testing	GG
v1.00	18-02-2025	Initial release	GG

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Summary of Test results

FCC	ISED	Description	Section in report	Verdict
15.247(d) 15.225(d) 15.209 (a)	RSS-Gen 8.9	Radiated spurious emissions	3.1	Pass
15.205 (a)	RSS Gen 8.10	Spurious emissions in the restricted bands	3.1	Pass
15.247 (a)	RSS-247 5.2(a)	6 dB bandwidth	3.2	Pass
--	RSS-Gen 6.7	99% bandwidth	3.3	Pass
15.247 (b)	RSS-247 5.4 (d)	RF output power	3.4	Pass
15.247 (e)	RSS-247 5.2 (b)	Power spectral density	3.5	Pass
15.247 (d)	RSS-247 5.5	Band edge	3.6	Pass
15.207 (c)	RSS-Gen 8.8	AC power-line conducted emissions	3.7	Pass

Decision rule: Pass/Fail decisions are based on measurement results without taking into account measurement uncertainty.

1 General Description

1.1 Applicant

Client name:	Deeper, UAB
Address:	Antakalnio g. 17; 10312 Vilnius, Lithuania
Telephone:	--
E-mail:	Mindaugas.spelveris@deeper.eu
Contact name:	Mindaugas Špelveris

1.2 Manufacturer

Manufacturer name:	Deeper, UAB
Address:	Antakalnio g. 17; 10312 Vilnius, Lithuania
Telephone:	--
E-mail:	Mindaugas.spelveris@deeper.eu
Contact name:	Mindaugas Špelveris

1.3 Tested Equipment Under Test (EUT)

Product name:	Chirp+ 2
Brand name:	Deeper
FCC ID:	2AHKO-CRP
IC:	21307-CRP
Product description:	Wireless sonar with GNSS and temperature sensor
Variant model(s):	Chirp+ 2 (GNSS and temperature sensor) Chirp+ 2 (GNSS, no temperature sensor) Chirp 2 (no GNSS, only temperature sensor) Chirp 2 (no GNSS, no temperature sensor) ECHO+
Batch and/or serial No.	DP4H10S10 DP4H20S10 DP4H30S10 DP4H40S10 DP4H30S20 DP5H10S10 DP4H13S10 DP4H23S10 DP6H13S10 DP6H13S11 DP6H23S10
Software version:	--
Hardware version:	--
Date of receipt:	08-03-2021
Tests started:	09-03-2021
Testing ended:	12-05-2021

1.4 Product specifications of Equipment under test

Tx Frequency:	802.11b/g/n: 2400 – 2483.5 MHz
Rx frequency:	GPS: 1575 MHz 802.11b/g/n: 2400 – 2483.5 MHz
Antenna type and gain:	802.11b/g/n: Spiral monopole antenna (-2.3 dBi) GPS: Chip antenna
Type of modulation:	802.11b/g/n: GFSK and OFDM
Emission designator	802.11b: 11M4G1D 802.11g: 17M1G1D 802.11n: 18M3G1D

Disclaimer: The antenna gain, OCW and operating frequency bands are declared by the applicant

1.5 Environmental conditions

Normal test conditions:

Test date	09-03-2021	19-03-2021	12-05-2021	17-05-2021
Ambient temperature	20.1°C	19.3°C	19.7°C	20.7°C
Humidity	41.3%	42.2%	48.3%	51.6%

1.6 Measurement standards

- ANSI C63.10:2013
- FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v05r02

1.7 Applicable standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- FCC Part 15 Subpart C §15.207
- FCC Part 15 Subpart C §15.209
- FCC Part 15 Subpart C §15.225
- FCC Part 15 Subpart C §15.247
- RSS-Gen Issue 5
- RSS-210 Issue 9
- RSS-247 Issue 3

1.8 Observation and remarks

The EUT only uses 802.11b/g/n channel 1 (2412 MHz centre frequency) for communication. Other channels are not used by the device and the user is not able to change the channel.

1.9 Modifications to the EUT (Equipment Under Test)

None.

1.10 Conclusions

The sample of the product showed **NO NON-COMPLIANCES** to the specifications stated in paragraph 1.7 of this report.

The results of the test as stated in this report, are exclusively applicable to the product items as identified in this report. Kiwa Nederland B.V. accepts no responsibility for any properties of product items in this test report, which are not supported by the tests as specified in paragraph 1.7 "*Applicable standards*".

All tests are performed by:

Name : P. van Wanrooij BASc

Review of test methods and report by:

Name : ing. P.A. Suringa

The above conclusions have been verified by the following signatory:

Date : 08-05-2025

Name : P. van Wanrooij

Function : Test Engineer

Signature :

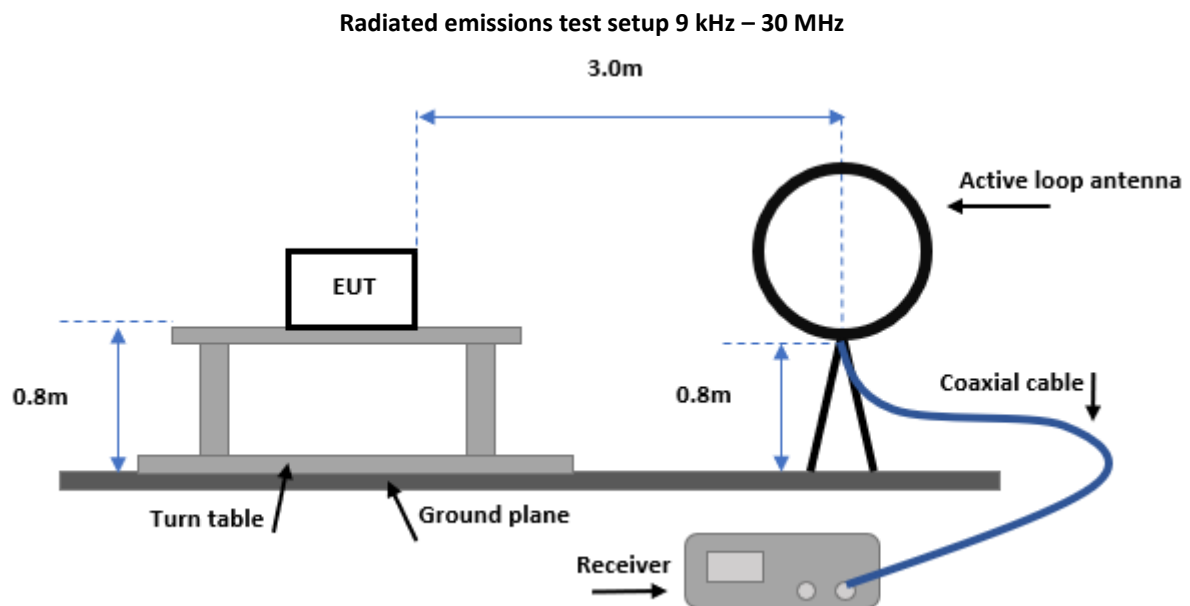
A handwritten signature in black ink, consisting of a stylized 'P' and 'W' joined together, with a horizontal line extending to the right.

2 Test configuration of the Equipment Under Test

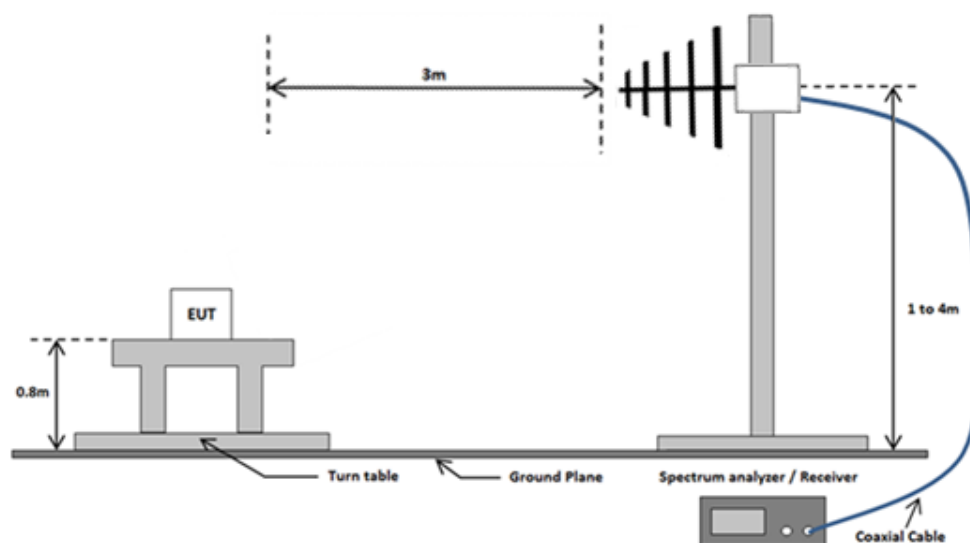
2.1 Test mode

The applicant provided test mode firmware to set the device to continuous Tx and Rx modes.

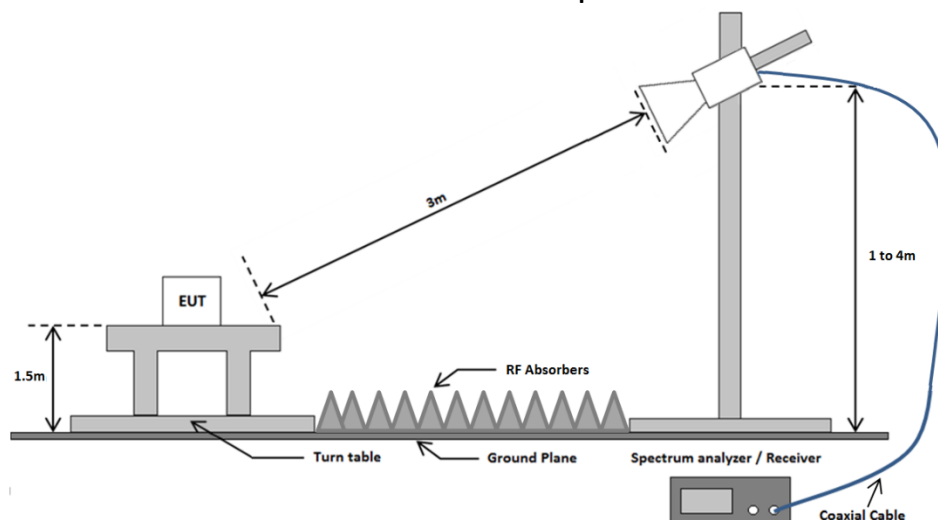
2.2 Test setups



Radiated emissions test setup 30 MHz - 1 GHz

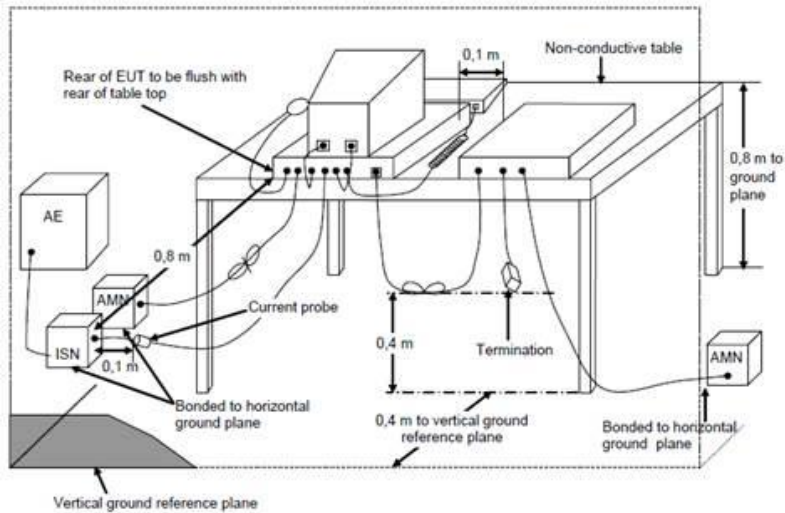


Radiated emissions test setup above 1 GHz

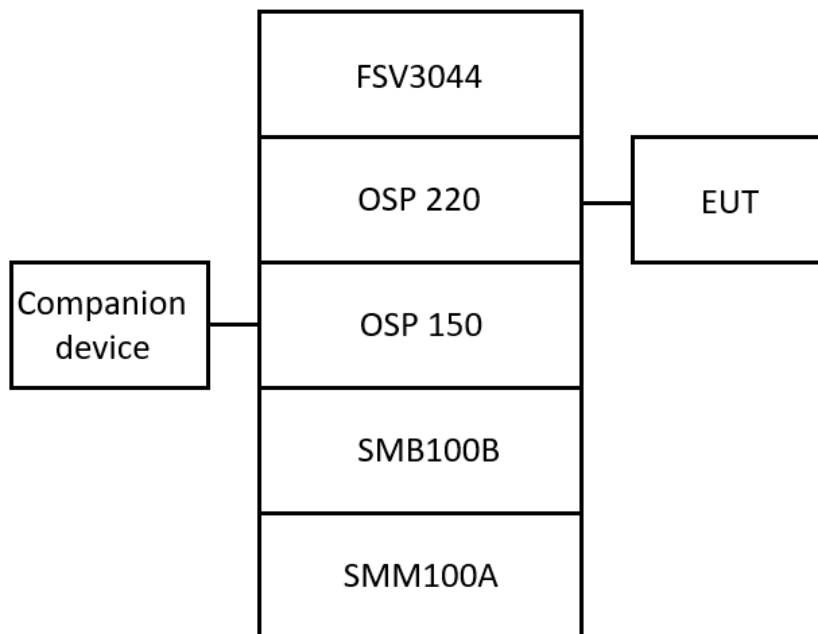


AC Power line conducted emissions test setup

Emissions test at AC mains



Antenna port conducted tests



2.3 Equipment used in the test configuration

Description	Manufacturer	Model	ID	Used at Par.
EMI Receiver	Rohde & Schwarz	ESCI	TE11128	3.1
EMI Receiver	Rohde & Schwarz	ESR7	TE01220	3.7
Spectrum analyzer	Rohde & Schwarz	FSP40	TE11125	3.1
Spectrum Analyzer	Rohde & Schwarz	FSV40	TE01269	3.2 – 3.6
3.0 GHz HPF	Wainwright	WHK3.0/18G-10EF	TE01140	3.1
Active loop antenna	EMCO	6502	TE11171	3.1
Biconilog antenna	Chase	CBL6112A	TE00967	3.1
Horn antenna	EMCO	3115	TE00531	3.1
Preamplifier 1-18 GHz	µComp Nordic	MCNA-40-0010800- 25-10P	TE11175	3.1
Horn antenna	FLANN-MICROWAVE	20240-25	TE 00818	3.1
Preamplifier 18-26 GHz	Miteq	JS4-18004000-33- 8P	TE 11131	3.1
LISN	Rohde&Schwarz	ENV216	TE11176	3.7

2.4 Sample calculations

All formulas for data conversions and conversion factors are reported in chapter 4 of this test report.

3 Test results

3.1 Radiated spurious emissions

3.1.1 Limit

FCC 15.209(a)

The emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field strength (μV/m)	Field strength (dBμV/m)	Measurement distance(m)
0.009 – 0.490	2400/F(kHz)	$20*\{\log[2400]-\log[F(\text{kHz})]\}$	300*
0.490 – 1.705	24000/F(kHz)	$20*\{\log[24000]-\log[F(\text{kHz})]\}$	30*
1.705 – 30.0	30	29.5	30*
30 -88	100	40	3
88 - 216	150	43,5	3
216-960	200	46	3
Above 960	500	54	3

*Note: Measured values in the plots 9 kHz to 30 MHz corrected to 30m or 300m limit distance according to the method described in ANSI C63.10-2013, clause 6.4

RSS-GEN

The emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Magnetic field strength (H-Field) (μA/m)	Magnetic field strength (H-Field) (dBμA/m)	Field strength (μV/m)	Field strength (dBμV/m)	Measurement distance(m)
0.009 – 0.490	6.37/F (kHz)	$20*\{\log[6.37]-\log[F(\text{kHz})]\}$	N.A.	$20*\{\log[6.37]-\log[F(\text{kHz})]\} + 51.5$	300*
0.490 – 1.705	63.7/F (kHz)	$20*\{\log[63.7]-\log[F(\text{kHz})]\}$	N.A.	$20*\{\log[63.7]-\log[F(\text{kHz})]\} + 51.5$	30*
1.705 - 30	0.08	-21.9	N.A.	29.6	30*
30 -88	N.A.	N.A.	100	40	3
88 - 216	N.A.	N.A.	150	43,5	3
216-960	N.A.	N.A.	200	46	3
Above 960	N.A.	N.A.	500	54	3

*Note: Measured values in the plots 9 kHz to 30 MHz corrected to 30m or 300m limit distance according to the method described in ANSI C63.10-2013, clause 6.4.

3.1.2 Measurement instruments

The measurement instruments are listed in chapter 2.3 of this report.

3.1.3 Test setup

The test setup is as shown in chapter 2.2 of this report.

3.1.4 Test procedure

9 kHz – 30 MHz: According to ANSI C63.10-2013, section 6.4

30 MHz to 26.5 GHz: According to ANSI C63.10-2013, section 6.5 and 6.6

9 kHz to 30 MHz: IRN 026 – Method 10

30 MHz to 1 GHz: IRN 026 – Method 1

1 GHz to 18 GHz: IRN 026– Method 2

18 to 26 GHz: IRN 026– Method 3

In case of handheld and/or body-worn equipment, the EUT's orientation (X, Y, Z) was varied in order to ensure that maximum emission amplitudes were attained. In all other cases the associated cabling and the EUT orientation was varied for maximum emissions.

The spectrum was examined from 0.009 MHz to 10 times X GHz, not more than the 10th harmonic of the highest intentional generated frequency (X GHz). Final radiated emission measurements were made at 3m distance.

The 6 highest emission amplitudes relative to the appropriate limit were recorded in this report. Field strength values of radiated emissions at frequencies not listed in the tables are more than 20 dB below the applicable limit.

3.1.5 Measurement Uncertainty

Frequency range	Polarization	Uncertainty
9 kHz – 30 MHz	--	±1.6 dB
30 – 200 MHz	Horizontal	±4.5 dB
	Vertical	±5.4 dB
200 -1000 MHz	Horizontal	±3.6 dB
	Vertical	±4.6 dB
1 – 18 GHz	Horizontal	±5.7 dB
	Vertical	±5.7 dB
18 – 26.5 GHz	Horizontal	±4.9 dB
	Vertical	±4.9 dB

3.1.6 Test results

Measured peaks Vertical 30 – 1000 MHz 802.11g

Frequency	Polarization	Height	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference
86,788 MHz	Vertical	1,2 m	7 dB μ V/m	40 dB μ V/m	-33,0 dB

Measured peaks Vertical 30 – 1000 MHz 802.11n

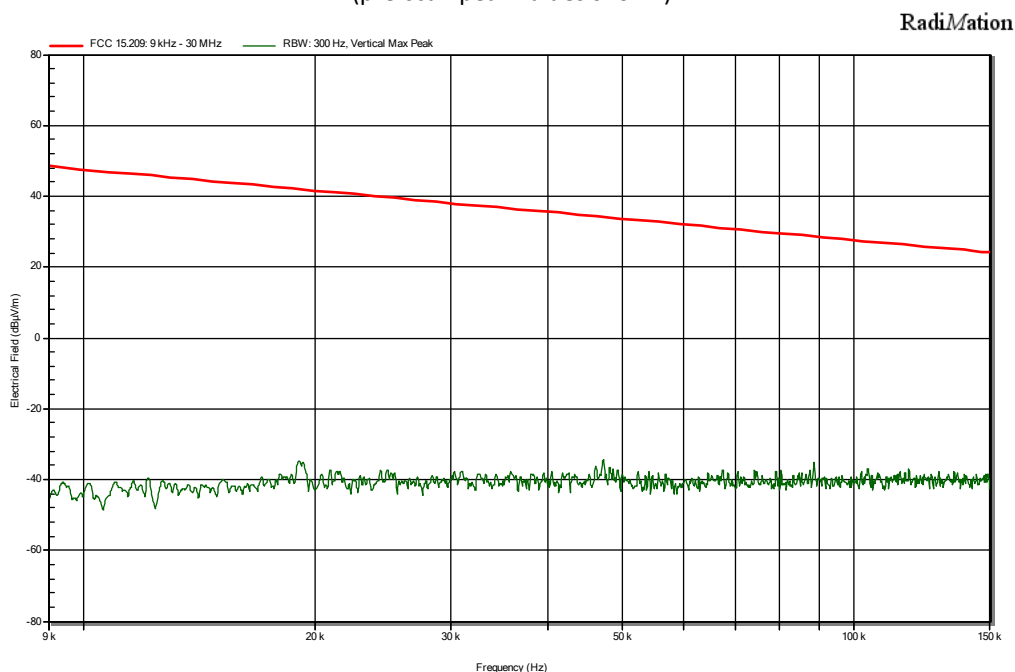
Frequency	Polarization	Height	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference
119,703 MHz	Vertical	1,2 m	10,7 dB μ V/m	43,5 dB μ V/m	-32,8 dB

Measured peaks Vertical 1 – 18 GHz 802.11b

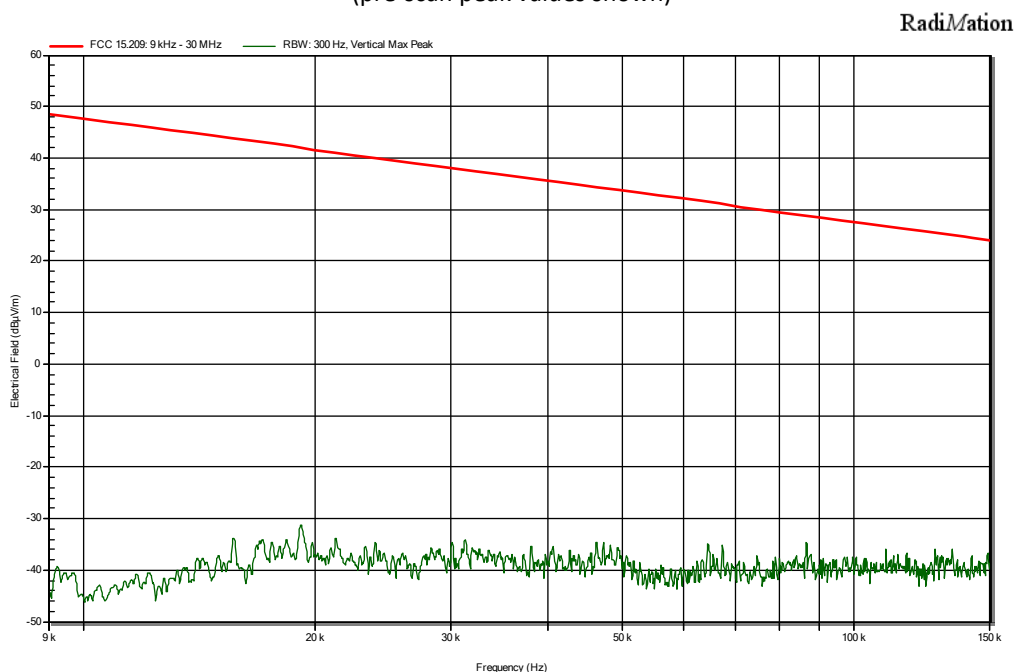
Peak Number	Frequency	Peak	Peak Limit	Average	Average Limit	Status
1	4,823 GHz	59,3 dB μ V/m	74 dB μ V/m	50,3 dB μ V/m	54 dB μ V/m	Pass
2	9,649 GHz	55,1 dB μ V/m	74 dB μ V/m	47,5 dB μ V/m	54 dB μ V/m	Pass

3.1.7 Plots of the Radiated Spurious Emissions Measurement

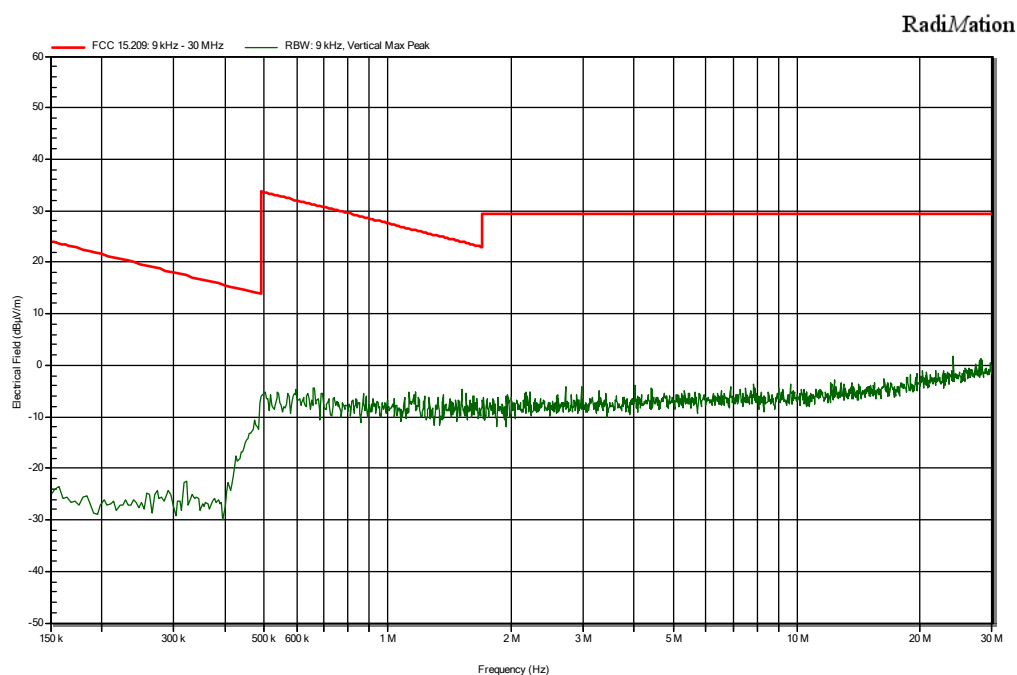
Plot 1a: radiated emissions of the EUT, Antenna perpendicular, in the range 9 – 150KHz
(pre-scan peak values shown)



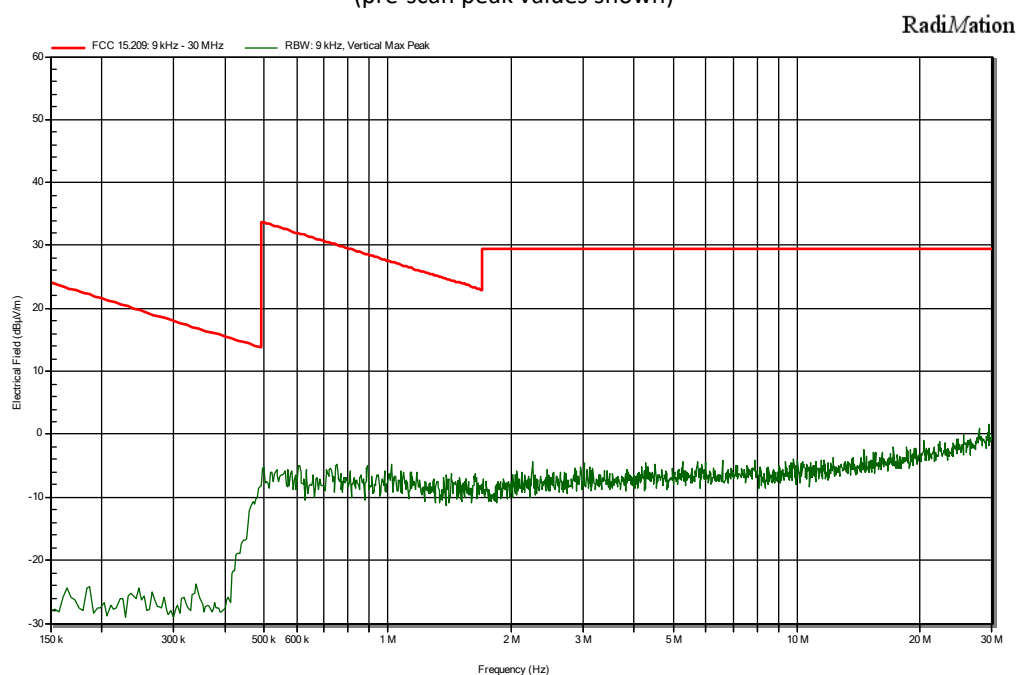
Plot 1b: radiated emissions of the EUT, Antenna parallel, in the range 9 – 150KHz
(pre-scan peak values shown)



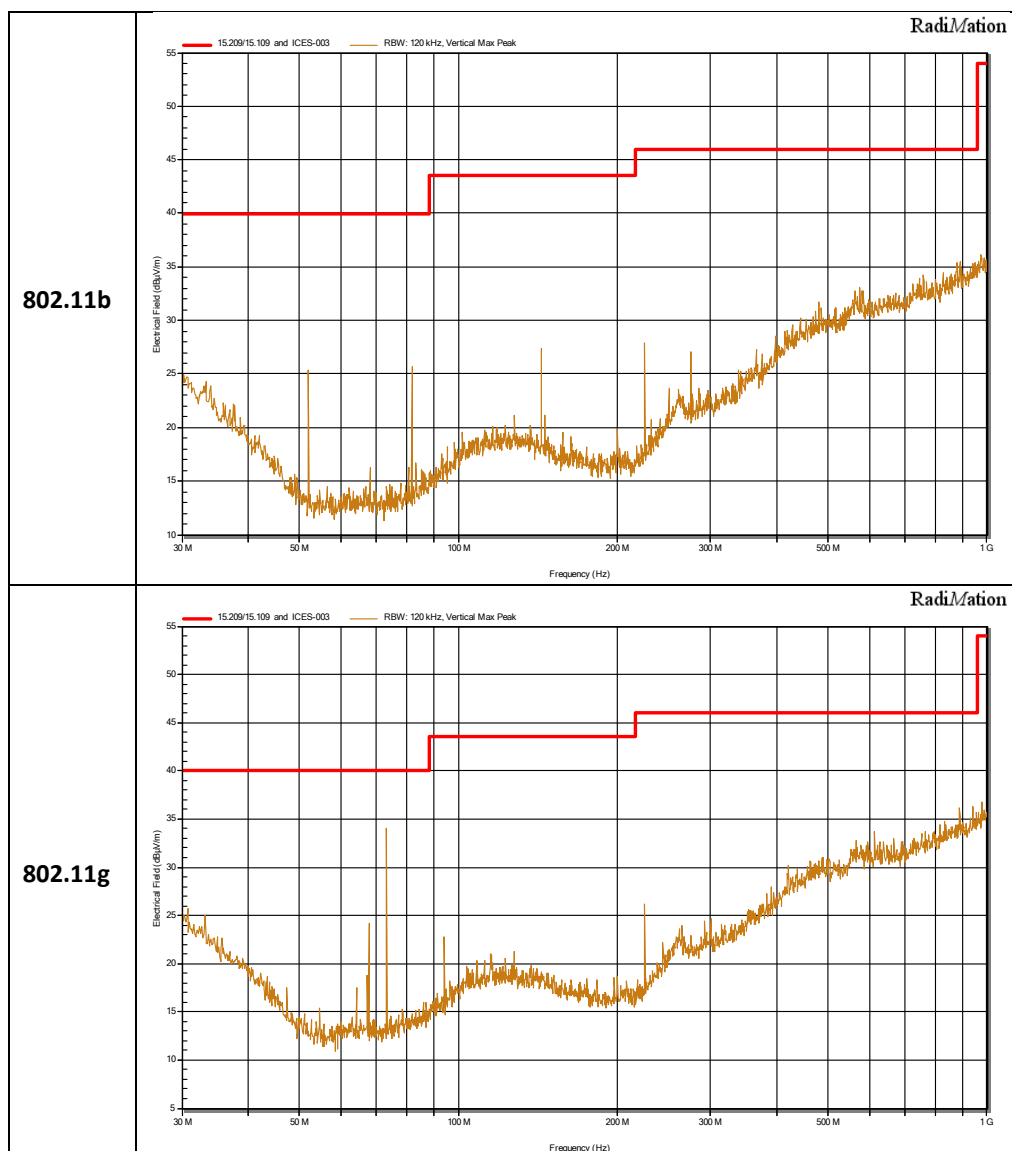
Plot 2a: radiated emissions of the EUT, Antenna perpendicular, in the range 150KHz-30 MHz
(pre-scan peak values shown)

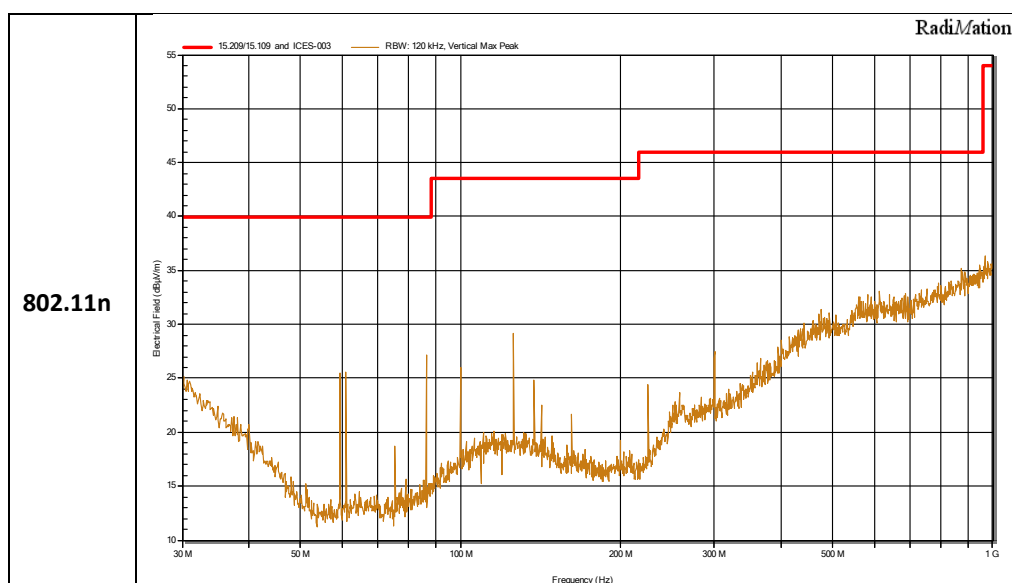


Plot 2b: radiated emissions of the EUT, Antenna parallel, in the range 150KHz-30 MHz
(pre-scan peak values shown)

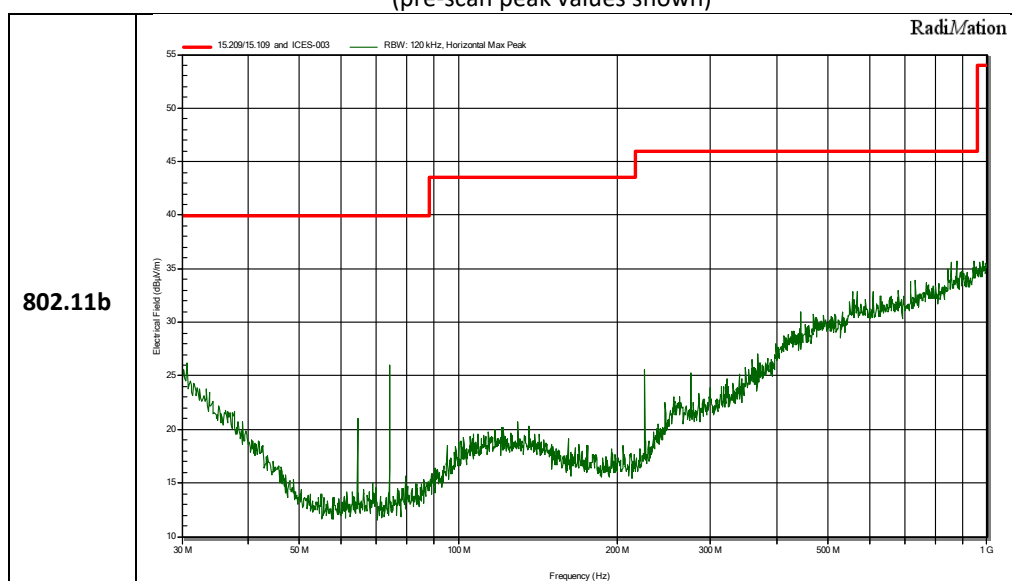


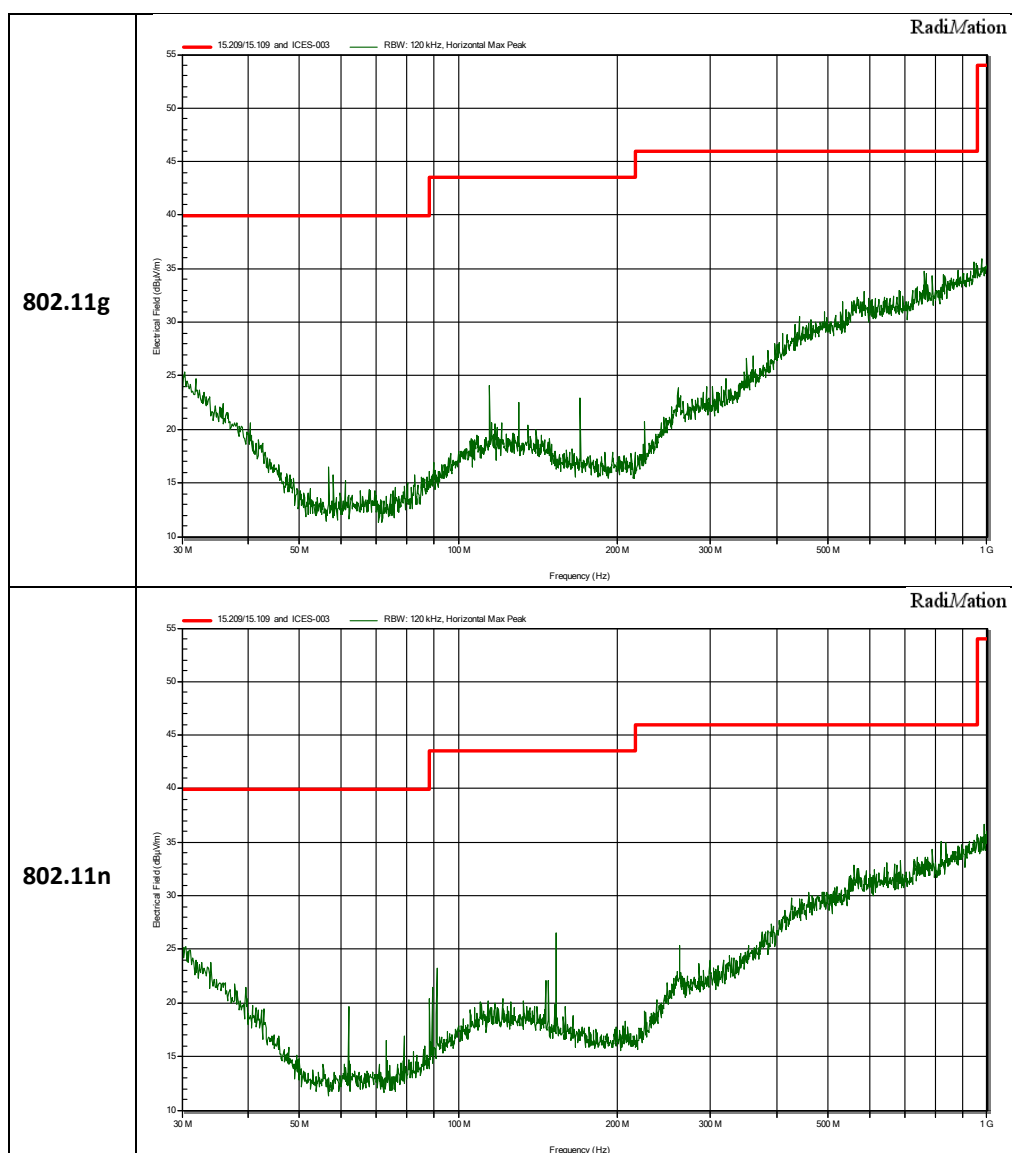
Plot 3a-c: radiated emissions of the EUT, Antenna vertical, in the range 30 – 1000 MHz



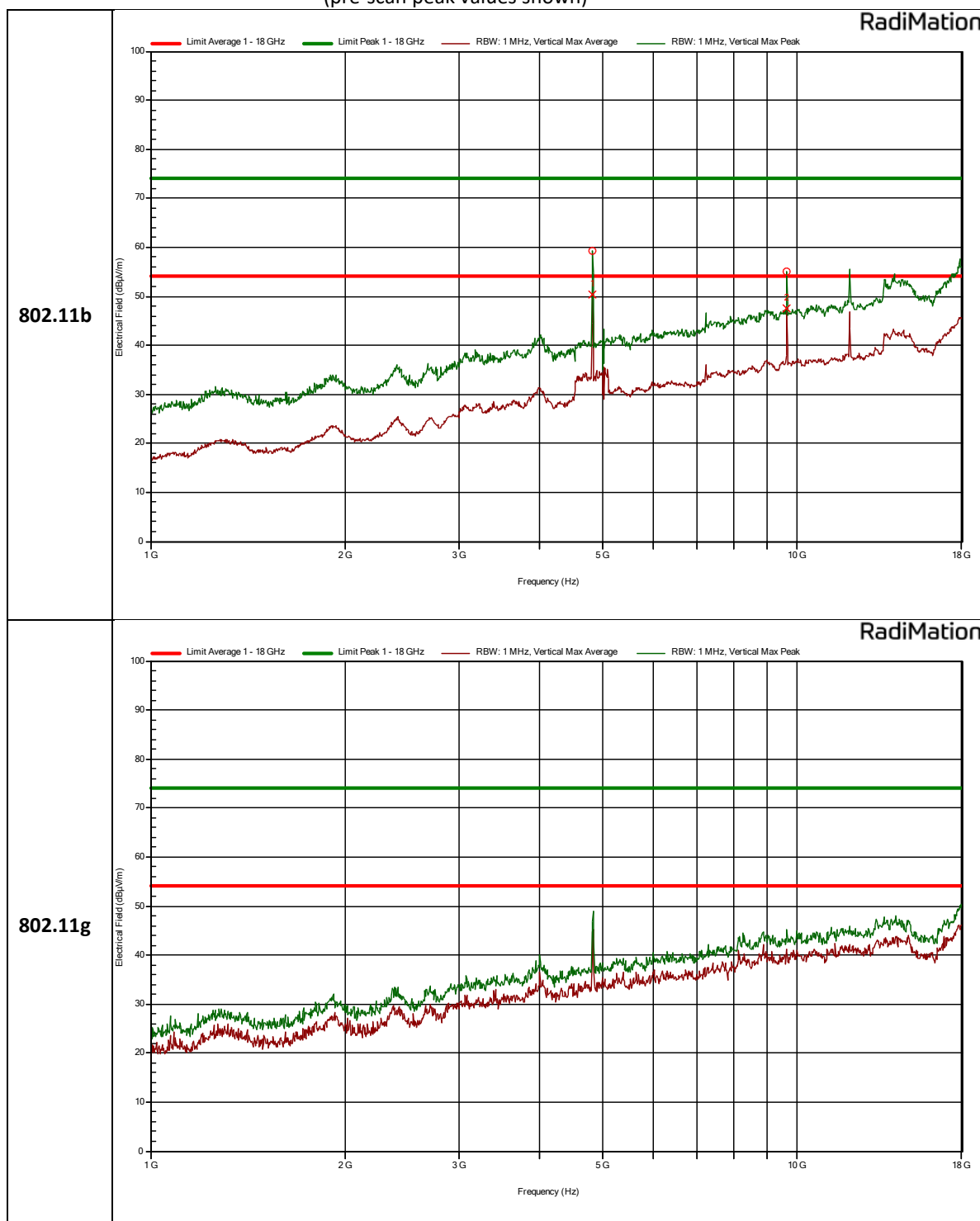


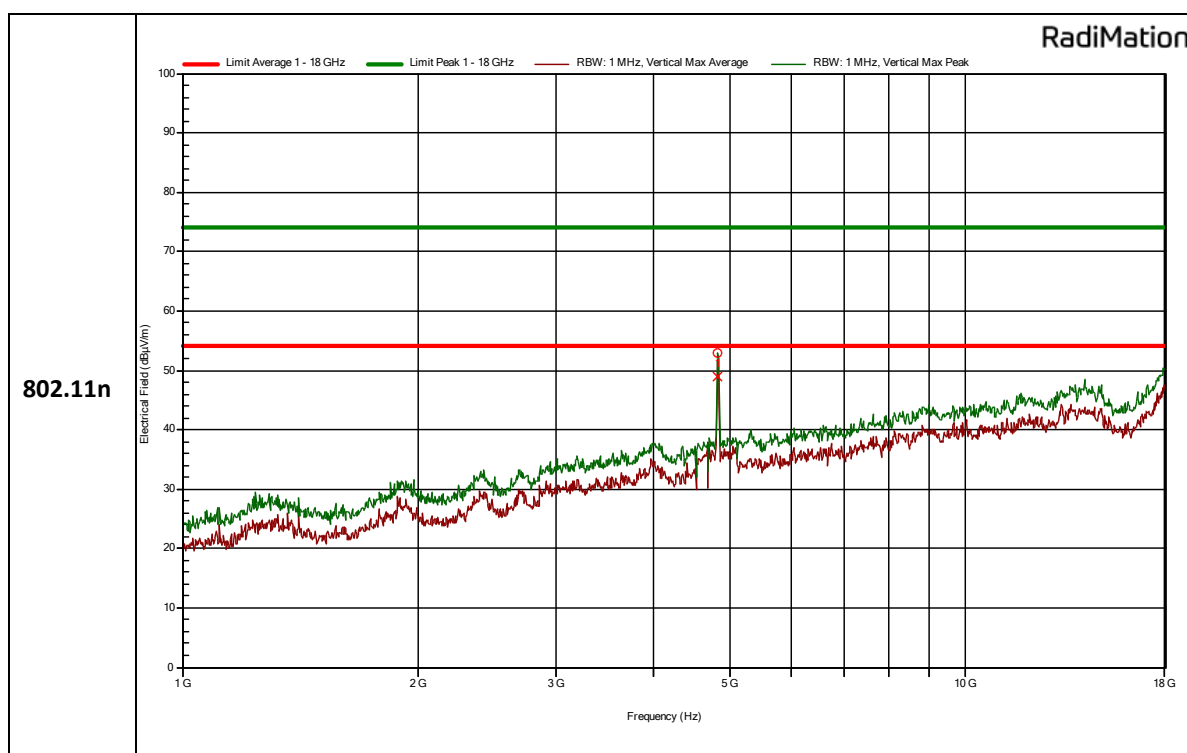
Plot 3d-f: radiated emissions of the EUT, Antenna horizontal, in the range 30 – 1000 MHz
(pre-scan peak values shown)



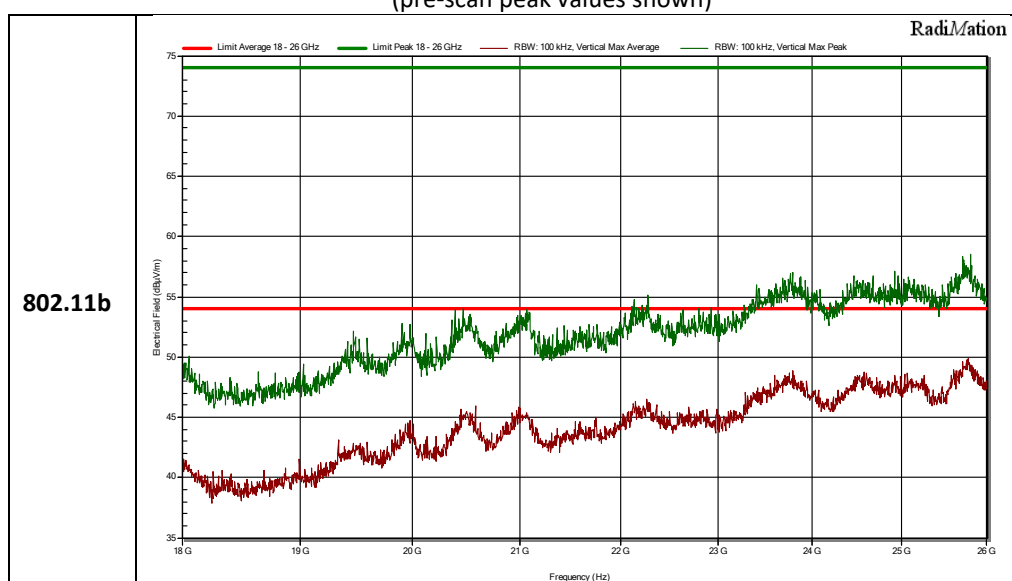


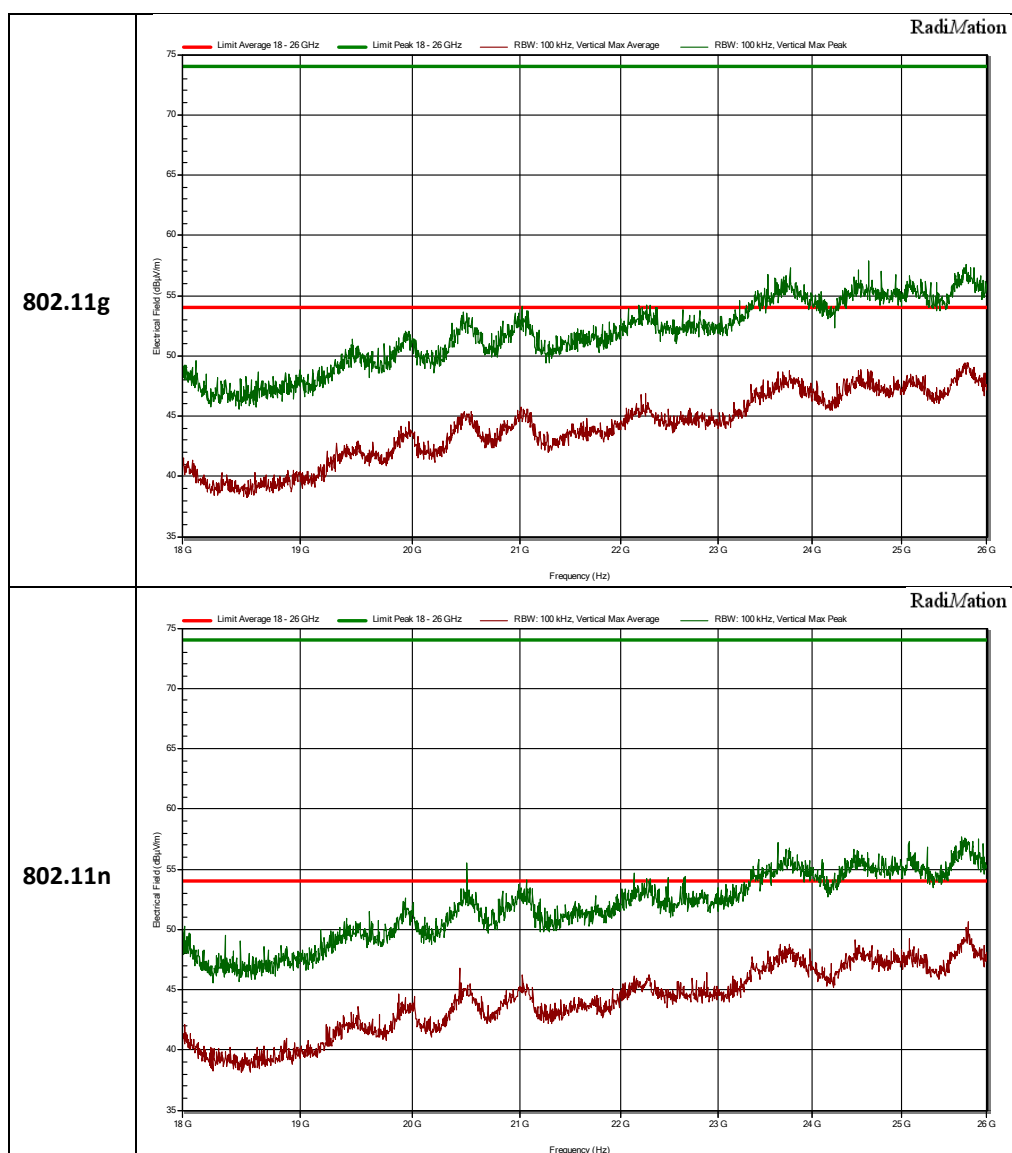
Plot 4a-c: radiated emissions of the EUT, Antenna vertical, in the range 1-18 GHz
(pre-scan peak values shown)



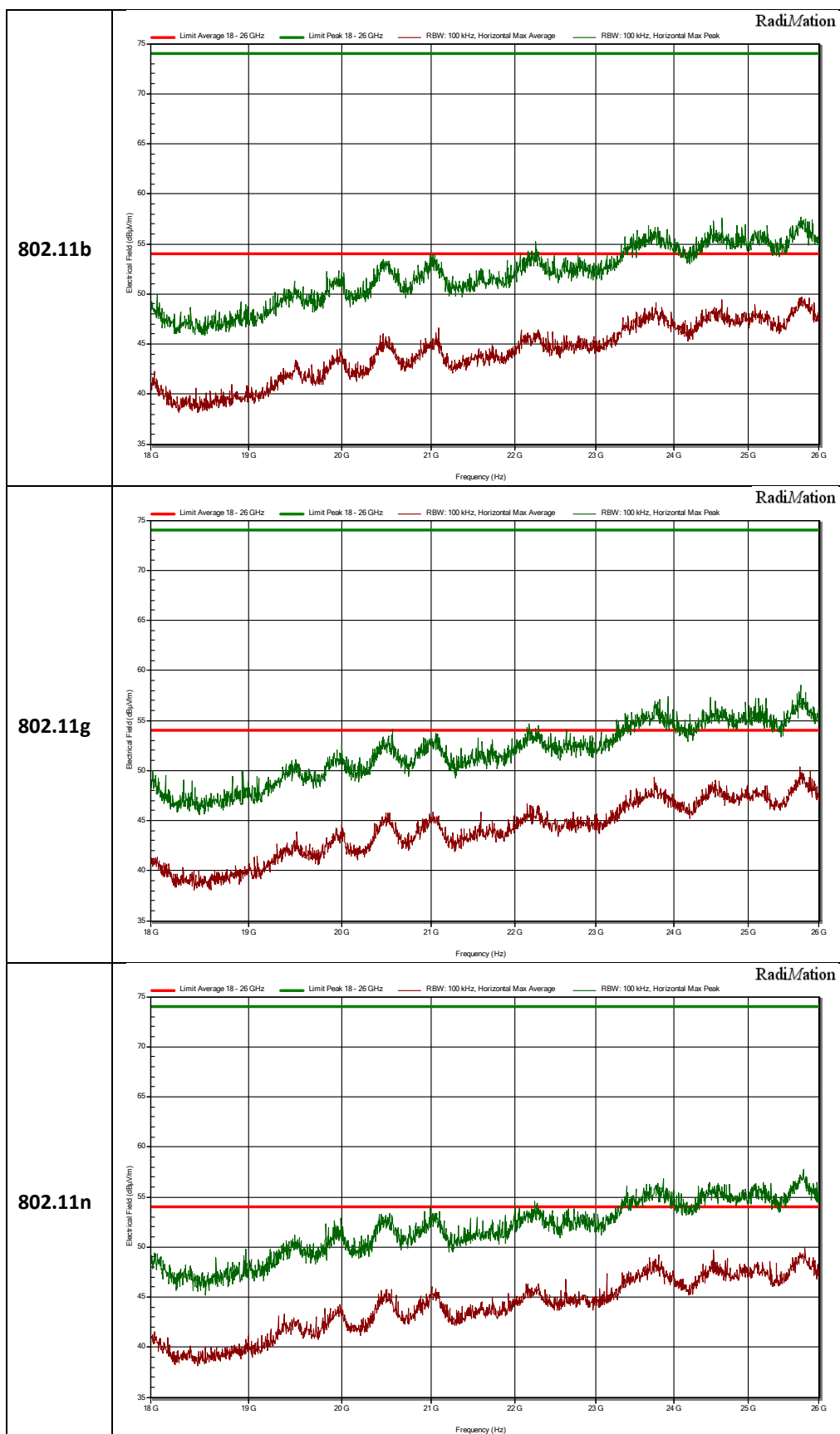


Plot 4d-f: radiated emissions of the EUT, Antenna horizontal, in the range 1-18 GHz
(pre-scan peak values shown)

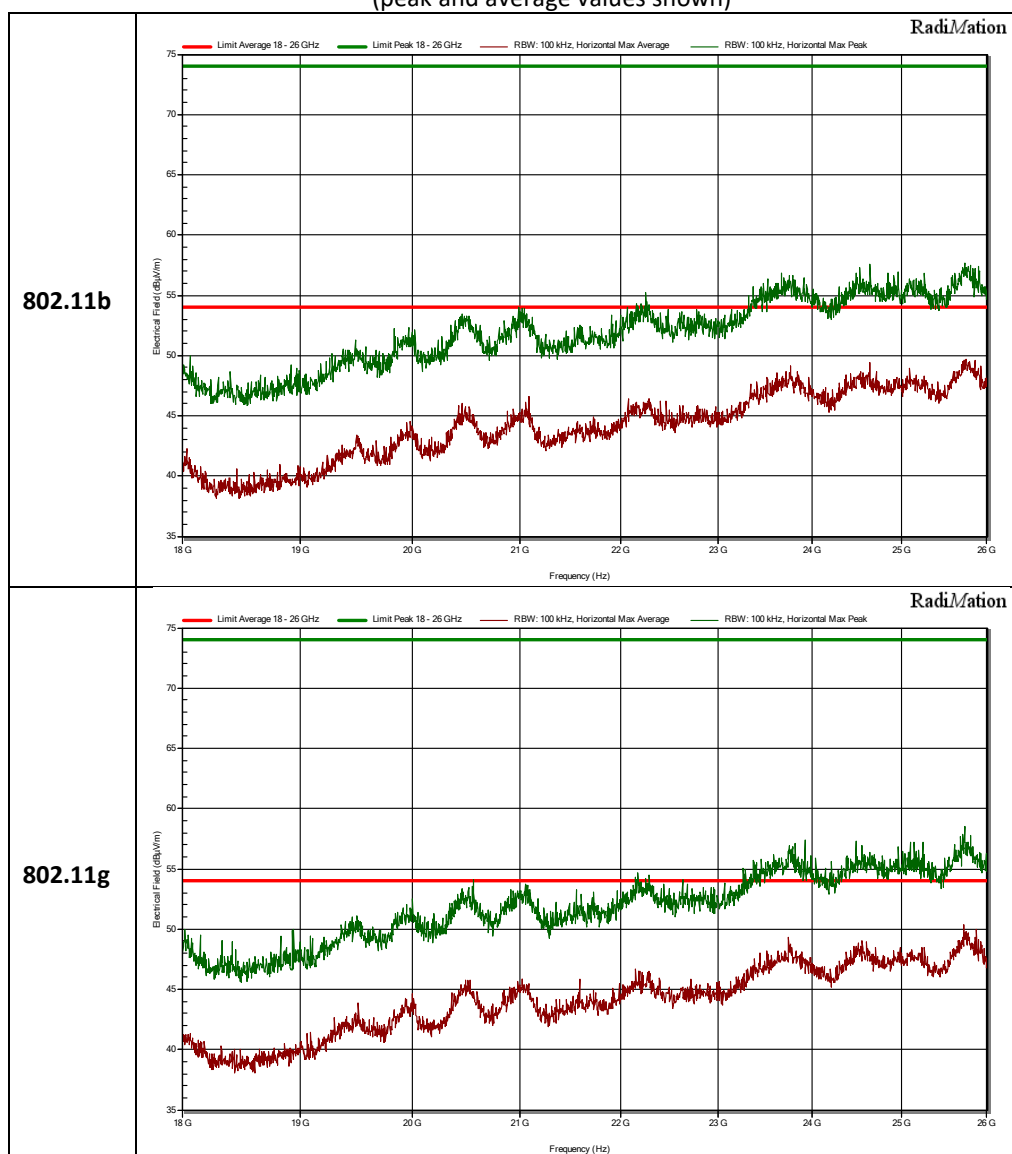


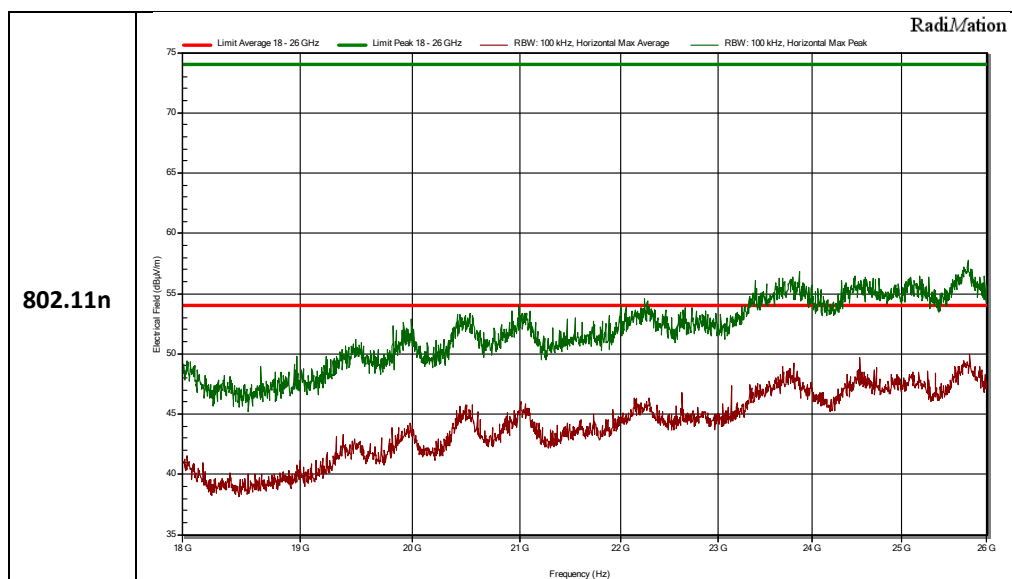


Plot 5a-c: radiated emissions of the EUT, Antenna vertical, in the range 18 – 26 GHz
(peak and average values shown)



Plot 5d-f: radiated emissions of the EUT, Antenna horizontal, in the range 18 – 26 GHz
(peak and average values shown)





3.2 6dB bandwidth Measurement

3.2.1 Limit

The minimum 6 dB Bandwidth shall be at least 500 kHz.

3.2.2 Measurement instruments

The measurement instruments are listed in chapter 2.3 of this report.

3.2.3 Test setup

The test setup is as shown in chapter 2.2 of this report.

3.2.4 Test procedure

According to ANSI C63.10, section 6.9

IRN 017 - Occupied bandwidth (Hz) Method 4 – DTS Bandwidth.

3.2.5 Test Results of the 6 dB bandwidth Measurement

Technology Std.	Channel	Frequency (MHz)	Data rate	6dB bandwidth (kHz)
802.11b	1	2412	1 Mbps	8446
802.11g	1	2412	6.5 Mbps	16192
802.11n	1	2412	11 Mbps	17747
Uncertainty	± 36.2 kHz			

3.3 99% Occupied Bandwidth

3.3.1 Limit

According to RSS-Gen 6.7

3.3.2 Measurement instruments

The measurement instruments are listed in chapter 2.3 of this report.

3.3.3 Test setup

The test setup is as shown in chapter 2.2 of this report.

3.3.4 Test procedure

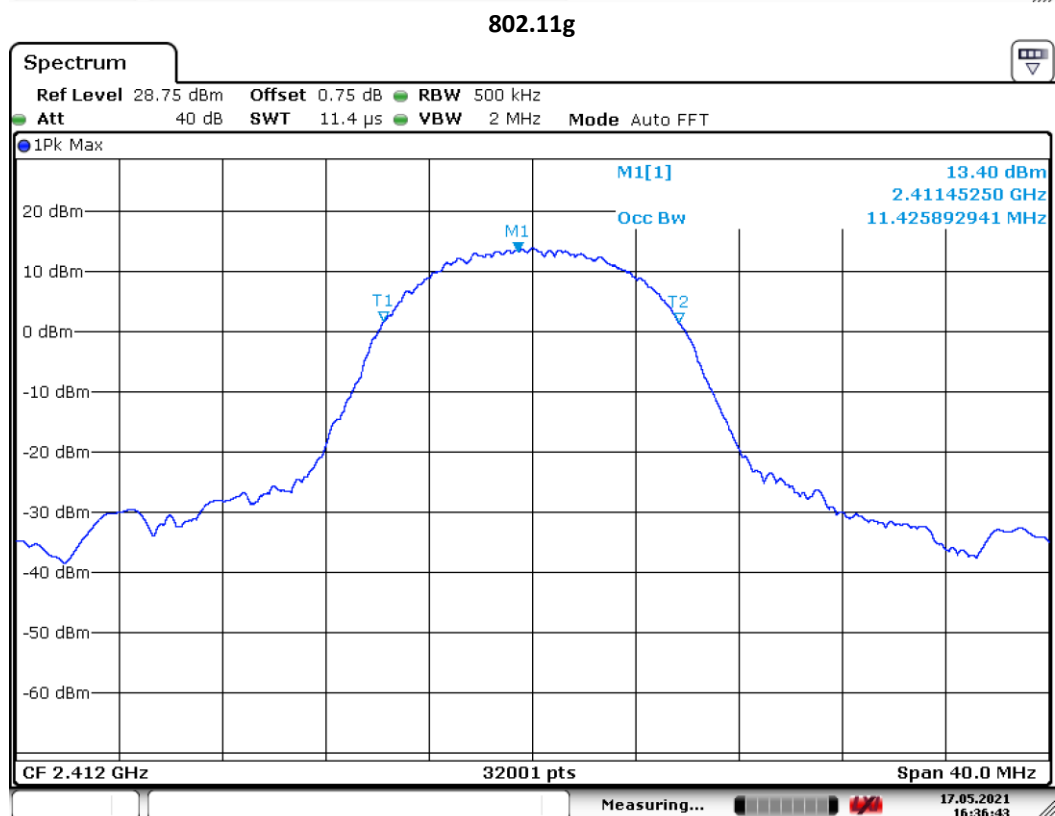
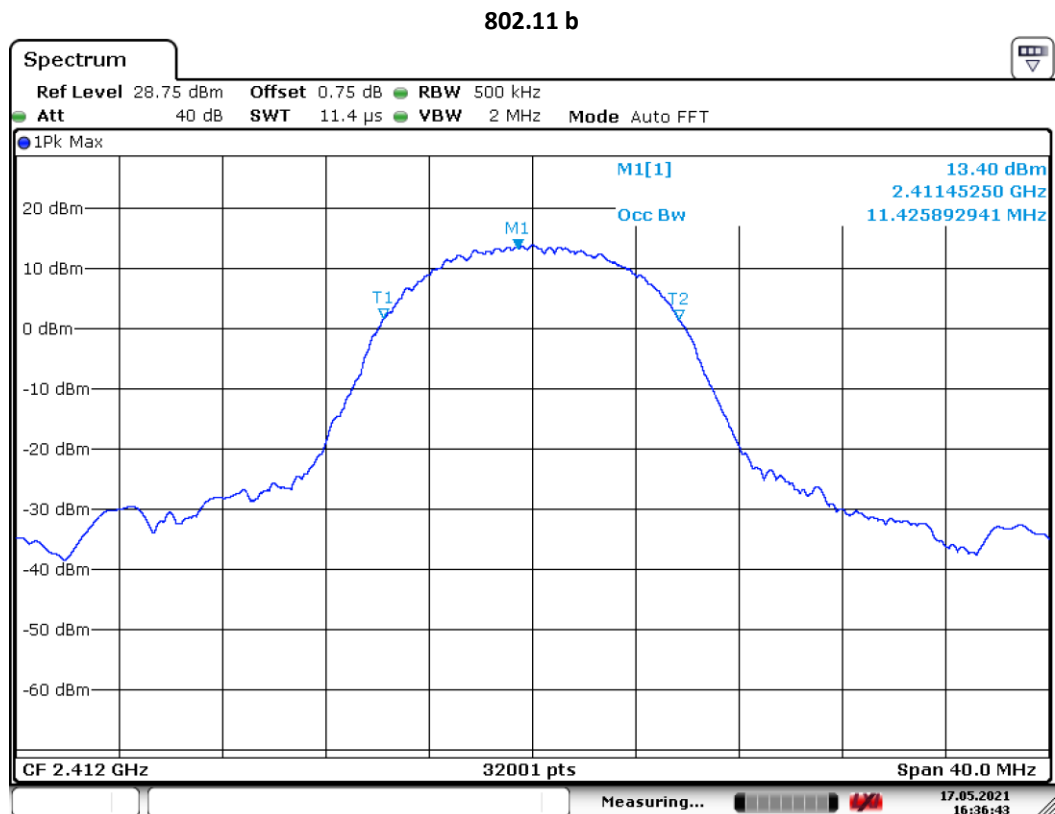
According to ANSI C63.10, section 6.9

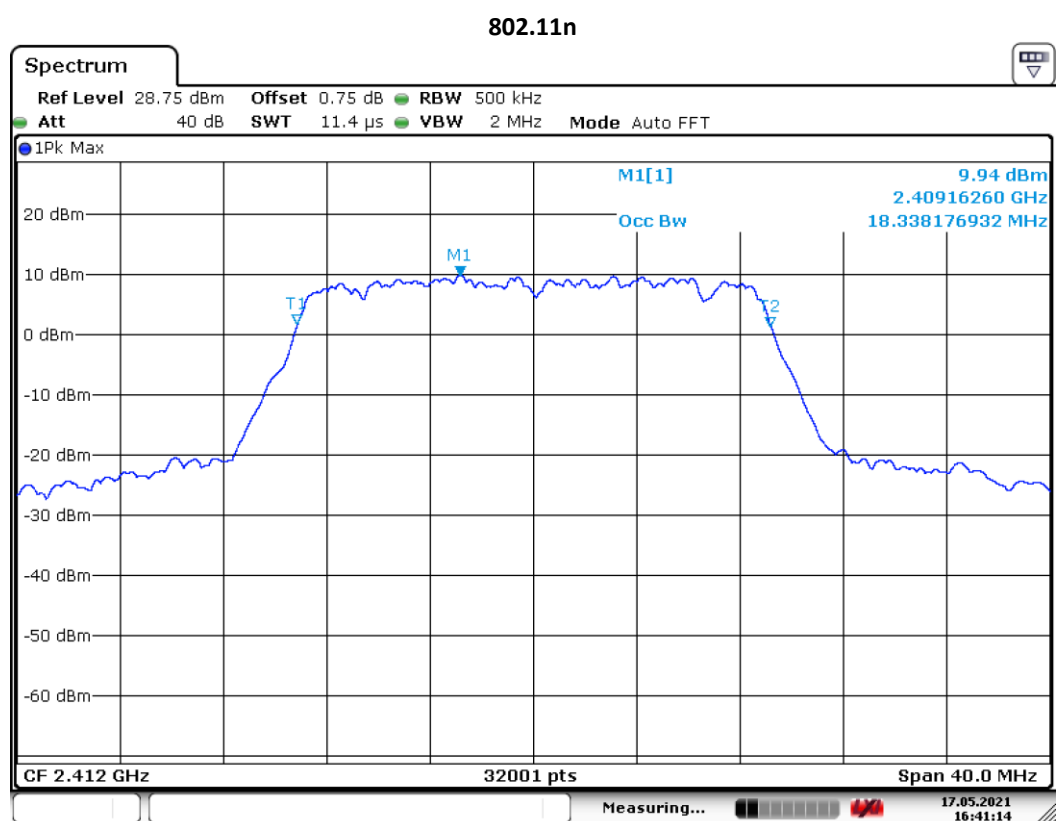
IRN 017 - Occupied bandwidth (Hz) Method 1 – XX % power bandwidth.

3.3.5 Test results of the 99% occupied bandwidth measurement

Technology Std.	Channel	Frequency (MHz)	Data rate	99% bandwidth (kHz)
802.11b	1	2412	1 Mbps	11426
802.11g	1	2412	6.5 Mbps	17071
802.11n	1	2412	11 Mbps	18338
Uncertainty	± 12 kHz			

3.3.6 Plots of the 99% occupied bandwidth measurement





3.4 Output Power Measurement

3.4.1 Limit

FCC: For systems using digital modulation in the 2400-2483.5 MHz, the limit for the peak output power is 1W (30 dBm). If transmitting antenna of directional gain greater than 6 dBi is used, the peak output power from the intentional radiator shall be reduced below the above stated value by the amount in dB that the directional gain of the antenna exceeds 6 dBi. In case of point to point operation, the limit has to be reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi.

RSS: For DTSs employing digital modulation techniques operating in the bands 902-928 MHz and 2400-2483.5 MHz, the maximum peak conducted output power shall not exceed 1W. The e.i.r.p. shall not exceed 4W

3.4.2 Measurement instruments

The measurement instruments are listed in chapter 2.3 of this report.

3.4.3 Test setup

The test setup is as shown in chapter 2.2 of this report.

3.4.4 Test procedure

The testing follows FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v05r02.

IRN 014 - RF power (W) - Method 1 – AVGSA (DTS) according to ANSI C63.10.

3.4.5 Test results of Output Power Measurement

Technology Std.	Channel	Frequency (MHz)	Data rate	Peak output power conducted (dBm)	Peak output power conducted (W)	Peak output power EIRP (W)
802.11b	1	2412	1 Mbps	23.9	0.245	0.145
802.11g	1	2412	5.6 Mbps	23.3	0.214	0.125
802.11n	1	2412	11 Mbps	23.5	0.224	0.132
Uncertainty				±0.71 dB		

3.5 Power Spectral Density

3.5.1 Limit

The peak power spectral density shall not be greater than 8 dBm in any 3 kHz band at any time interval of continuous transmission.

3.5.2 Measurement instruments

The measurement instruments are listed in chapter 2.3 of this report.

3.5.3 Test setup

The test setup is as shown in chapter 2.2 of this report.

3.5.4 Test procedure

The testing follows FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v05r02.

IRN 030 - Spectral power density (W per n.Hz) - Method 5 – Peak method PKPSD (PSD in 3 kHz band)

3.5.5 Test results of Power Spectral Density Measurement

Technology Std.	Channel	Frequency (MHz)	Data rate	PSD radiated (dBm/3 kHz)	Limit (conducted) (dBm/3kHz)
802.11b	1	2412	1 Mbps	-3.92	8
802.11g	1	2412	6.5 Mbps	-10.59	8
802.11n	1	2412	11 Mbps	-8.10	8
Uncertainty	±2 dB				

Note: plots are provided on the next page

3.6 Band edge Measurement

3.6.1 Limit

Band edge:

At the edge of the authorized band the RF power shall be at least 20 dB down.

3.6.2 Measurement instruments

The measurement instruments are listed in chapter 2.3 of this report.

3.6.3 Test setup

The test setup is as shown in chapter 2.2 of this report. Antenna port Radiated?

Test procedure

The testing follows FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v05r02, section 8.7.

IRN 026 - Radiated electrical disturbance (V per m) Method 6 – Radiated electrical disturbance at the Authorized band edge.

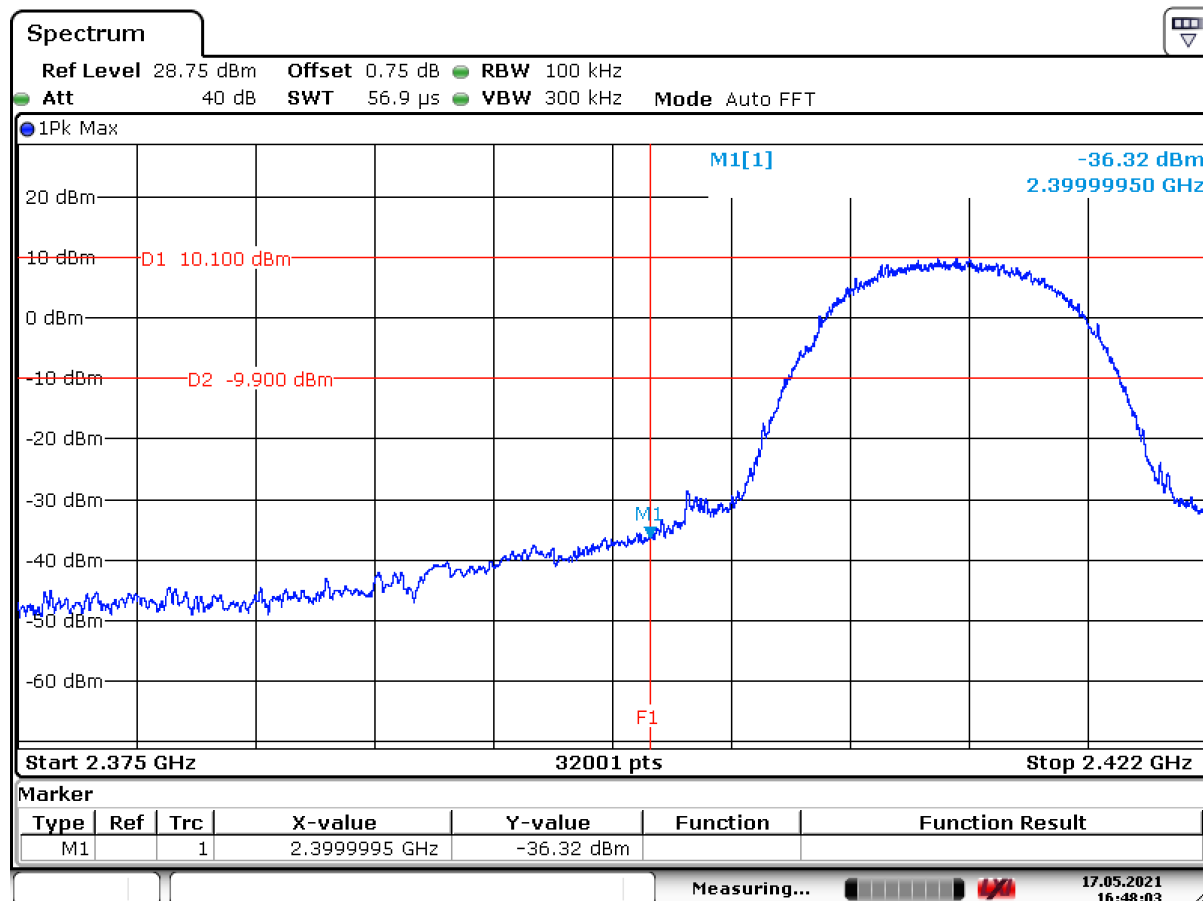
3.6.4 Measurement Uncertainty

± 5.7 dB.(radiated)

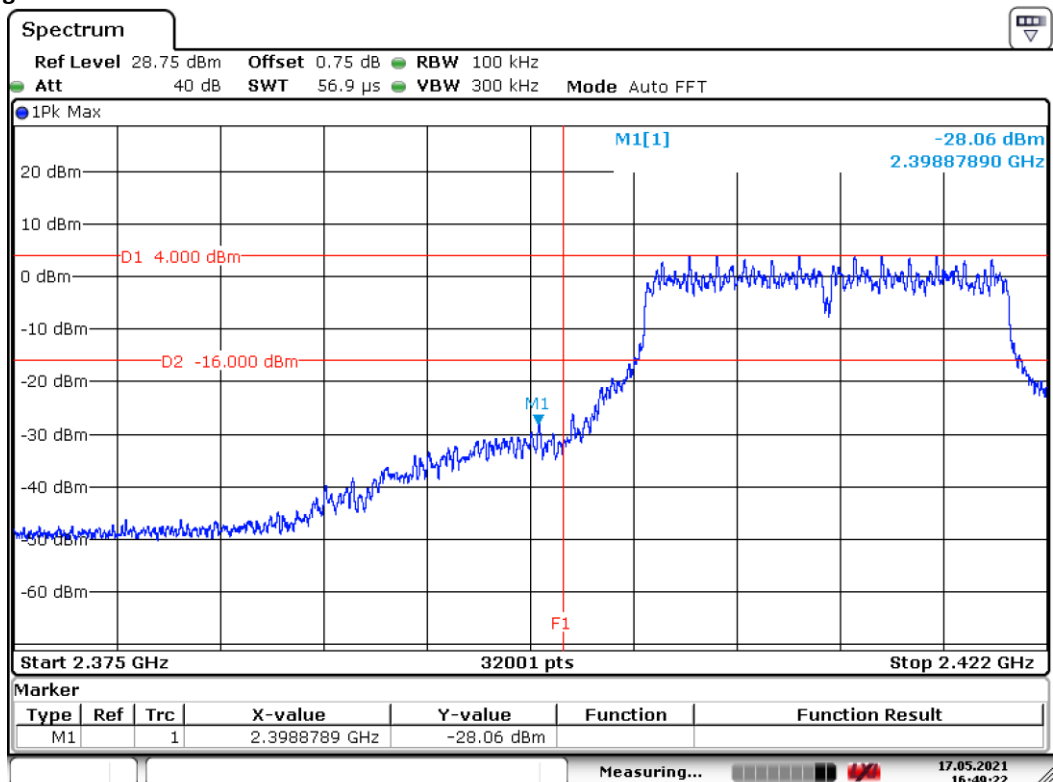
3.6.5 Plots of the Band edge Measurements

Note: Since the EUT only uses channel 1 (2412 MHz) for each 802.11 technology, only the lower band edge has been measured since the frequency of the upper band edge is much farther away from the transmission frequency than the lower band edge.

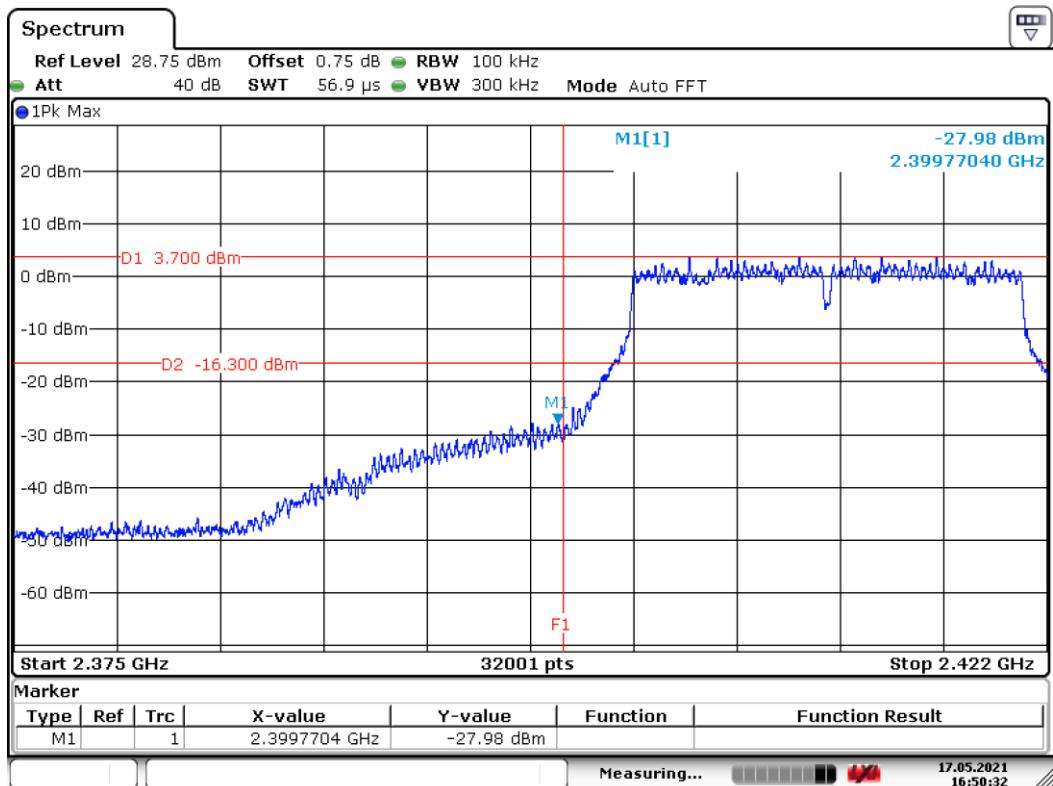
802.11b



802.11g



802.11n



3.7 AC Power-line conducted emissions

3.7.1 Limit

According to 15.207 (a), (c)

An intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 μ H/50 ohms line impedance stabilization network (LISN).

Devices that include, or make provisions for, the use of battery chargers which permit operating while charging, AC adapters or battery eliminators or that connect to the AC power lines indirectly, obtaining their power through another device which is connected to the AC power lines, shall be tested to demonstrate compliance with the conducted limits.

Since the FCC and RSS limits are exactly the same, the plots only show FCC limits.

Frequency (MHz)	Conducted limit (dB μ V)	
	Quasi-peak	Average
0.15 - 0.5	66 to 56 ¹	56 to 46 ¹
0.5 – 5	56	46
5 – 30	60	50

Note 1: The level decreases linearly with the logarithm of the frequency.

3.7.2 Measurement instruments

The measurement instruments are listed in chapter 2.3 of this report.

3.7.3 Test setup

The test setup is as shown in chapter 2.2 of this report.

3.7.4 Test procedure

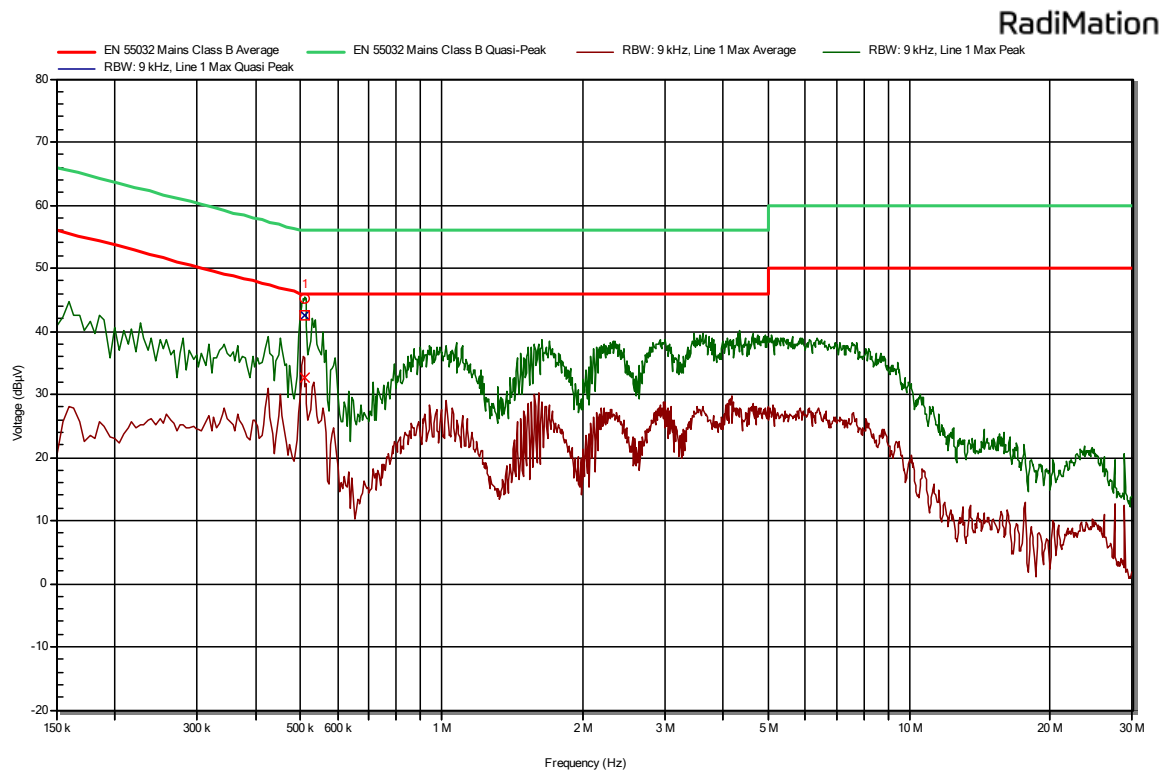
According to ANSI C63.10-2020 Section 6.2
IRN 029 – Method 1

3.7.5 Measurement uncertainty

+/- 3.6 dB

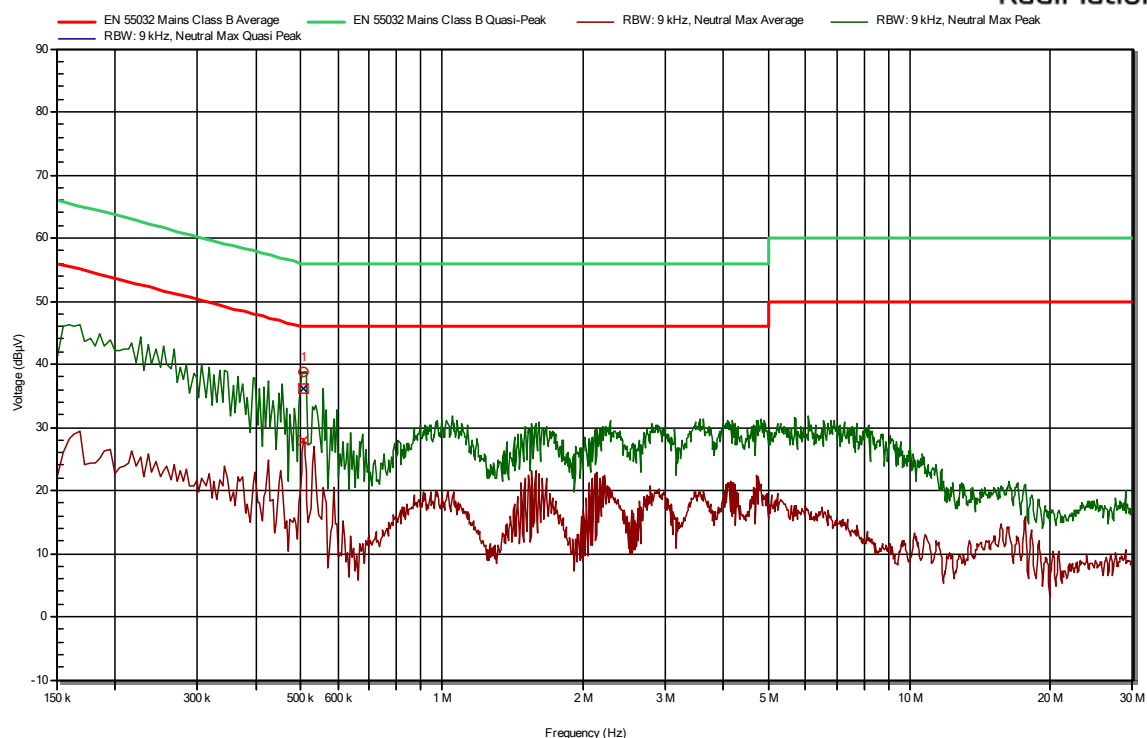
3.7.6 Plots of the AC mains conducted spurious measurement

Pre-scan plot with peak detector of the AC Power-line Conducted emissions on **Phase**



Pre-scan plot with peak detector of the AC Power-line Conducted emissions on **Neutral**

RadiMation



4 Sample calculations

All formulas for data conversions and conversion factors are reported in this chapter.

Conducted emission Measurement:

$$U_{\text{lisn}} (\text{dB}\mu\text{V}) = U (\text{dB}\mu\text{V}) + \text{Corr. (dB)}$$

Where:

U = Measuring receiver voltage

LISN insertion loss = Voltage division factor of LISN

Corr. = sum of single correction factors of used LISN, cables and pulse limiter.

Linear interpolation will be used for frequencies in between the values in the table.

Frequency (Mhz)	Voltage division LISN (db)	Insertion Loss Pulse limiter (dB)	Cable loss (dB)	Corr. (dB)
	TE 00208 SN: 892785/004 Rohde & Schwarz ESH3-Z5	TE 00756 SN: 5SM03153 Rohde & Schwarz ESH3-Z2	TE 11134	
0,15	0,09	9,87	0,02	9,98
0,2	0,1	9,87	0,03	10
0,3	0,1	9,87	0,03	10
0,5	0,1	9,87	0,08	10,05
0,7	0,12	9,87	0,25	10,24
0,8	0,12	9,87	0,25	10,24
1	0,13	9,87	0,11	10,11
2	0,16	9,87	0,15	10,18
3	0,19	9,87	0,21	10,27
5	0,26	9,88	0,21	10,35
7	0,36	9,89	0,25	10,5
8	0,39	9,89	0,25	10,53
10	0,46	9,91	0,29	10,66
15	0,77	9,93	0,34	11,04
20	0,95	9,96	0,37	11,28
25	1,12	9,99	0,43	11,54
30	1,1	10,04	0,45	11,59

Field Strength Measurement:

$$E \text{ (dB}\mu\text{V/m)} = U \text{ (dB}\mu\text{V)} + AF \text{ (dB/m)} + \text{Corr. (dB)}$$

Where:

E = Electric field strength

U = Measuring receiver voltage

AF = Antenna factor

CL = Cable loss

Corr. = sum of single correction factors of used cable and amplifier (if applicable).

Linear interpolation will be used for frequencies in between the values in the table.

Tables shows an extract of the values.

Frequency (Mhz)	AF (dB/m) TE 00967 Chase CBL6112A SN: 2308	Cable loss (dB) Id: SAR cable	Corr. (dB)
30	18,6	0,68	19,28
100	10,7	1,15	11,85
150	10,6	1,41	12,01
200	9,3	1,63	10,93
250	12,6	1,93	14,53
300	13,3	2,12	15,42
350	14,6	2,2	16,8
400	15,5	2,29	17,79
450	16,9	2,53	19,43
500	17,5	2,67	20,17
550	18,4	2,9	21,3
600	18,8	3,02	21,82
650	19,2	3,09	22,29
700	19	3,22	22,22
750	19,8	3,56	23,36
800	19,7	3,69	23,39
900	20,4	3,81	24,21
950	20,8	3,91	24,71
1000	21,2	4,3	25,5

Frequency (Mhz)	AF (dB/m)	Gain (dB)	Cable loss (dB)	Corr. (dB)
	TE 00531 Emco 3115 SN: 9412-4377	TE 11132 Miteq JS4-18004000-30-8P-A1	TE 01315	
1000	23,6	40,4	2,0	66
1500	25,1	40,5	2,4	68
2000	27,1	40,5	2,7	70,3
2500	28,6	40,7	3,2	72,5
3000	30,5	40,7	3,2	74,4
3500	31,2	40,7	3,4	75,3
4000	32,7	40,9	4,9	78,5
4500	32,4	40,9	4,4	77,7
5000	33,2	40,7	4,6	78,5
5500	34,0	40,5	4,5	79
6000	34,6	40,0	5,2	79,8
6500	34,3	39,4	5,9	79,6
7000	35,2	38,6	5,7	79,5
7500	36,4	39,2	5,9	81,5
8000	37,0	38,9	6,3	82,2
8500	37,5	38,4	6,4	82,3
9000	38,1	37,4	6,5	82
9500	37,8	37,0	7,1	81,9
10000	38,2	36,5	7,3	82
10500	38,1	36,7	7,6	82,4
11000	38,3	36,9	8,3	83,5
11500	38,5	37,6	8,1	84,2
12000	39,1	38,3	8,4	85,8
12500	38,7	38,5	8,3	85,5
13000	39,2	38,9	9,2	87,3
13500	40,5	40,2	8,3	89
14000	41,1	40,0	8,2	89,3
14500	41,4	40,1	8,2	89,7
15000	40,2	41,4	8,3	89,9
15500	37,9	41,4	8,6	87,9
16000	37,5	42,8	9,2	89,5
16500	38,6	42,3	8,8	89,7
17000	41,1	43,1	9,4	93,6
17500	42,7	43,2	9,4	95,3
18000	44,0	44,2	9,8	98

Frequency (Mhz)	AF (dB/m)	Gain (dB)	Cable loss (dB)	Corr. (dB)
	TE 00531 Emco 3115 SN: 9412-4377	TE 11132 Miteq JS4-18004000-30-8P-A1	TE 01315	
18000	31,3	26,2	9,8	67,3
19000	31,5	26,1	9,6	67,2
20000	31,7	25,9	11	68,6
21000	31,9	24,3	10,7	66,9
22000	32,1	18,3	10,5	60,9
23000	32,2	18,9	10,8	61,9
24000	32,3	23,6	11,4	67,3
25000	32,4	24,5	11,6	68,5
26000	32,5	25,3	11,7	69,5

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