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FCC TEST REPORT

FCC 47 CFR Part 15E

Digital transmission systems operating within the 5150 – 5250

Report Reference No. ..... :	G0M-1510-5164-TFC407WF-V01
Testing Laboratory ..... :	Eurofins Product Service GmbH
Address ..... :	Storkower Str. 38c 15526 Reichenwalde Germany
Accreditation ..... :	 A2LA Accredited Testing Laboratory, Certificate No.: 1983.01 FCC Filed Test Laboratory, Reg.-No.: 96970
Applicant's name ..... :	Phoenix Contact GmbH & Co.KG
Address ..... :	Flachsmarktstrasse 8 32825 Blomberg Germany
Test specification:	
Standard..... :	47 CFR Part 15E ANSI C63.10:2013 ANSI C63.4:2014
Test scope…….. ..... :	partial Radio compliance test (C2PC)
Equipment under test (EUT):	
Product description	Wireless Access Point / Client
Model No.	FL WLAN 5101
Additional Model(s)	None
Brand Name(s)	Phoenix Contact
Hardware version	None
Firmware / Software version	None
Contains	FCC-ID: YG3MA25MP1
Test result	**Passed**

Possible test case verdicts:	
- neither assessed nor tested ..... :	N/N
- required by standard but not appl. to test object ..... :	N/A
- required by standard but not tested ..... :	N/T
- not required by standard for the test object ..... :	N/R
- test object does meet the requirement ..... :	P (Pass)
- test object does not meet the requirement ..... :	F (Fail)

Testing:		
Test Lab Temperature ..... :	20 – 23 °C	
Test Lab Humidity ..... :	32 – 38 %	
Date of receipt of test item ..... :	2015-11-18	
Date (s) of performance of tests ..... :	2015-11-19 - 2016-04-27	
Compiled by ..... :	Matthias Handrik	
Tested by (+ signature) ..... : (Responsible for Test)	Matthias Handrik	.....
Approved by (+ signature) ..... : (Head of Lab)	Christian Weber	.....
Date of issue ..... :	2016-05-25	
Total number of pages ..... :	146	

General remarks:

The test results presented in this report relate only to the object tested.

The results contained in this report reflect the results for this particular model and serial number. It is the responsibility of the manufacturer to ensure that all production models meet the intent of the requirements detailed within this report.

This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.

Additional comments:

Version History

Version	Issue Date	Remarks	Revised by
01	2016-05-25	Initial Release	

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1 Equipment (Test item) Description

Description	Wireless Access Point / Client	
Model	FL WLAN 5101	
Additional Model(s)	None	
Brand Name(s)	Phoenix Contact	
Serial number	None	
Hardware version	None	
Software / Firmware version	None	
Contains FCC-ID	YG3MA25MP1	
Equipment type	End product	
Radio type	Transceiver	
Radio technology	IEEE 802.11 a/n	
Radio module	Type	WLAN Module
	Model	MA25MP1
	Manufacturer	JJPlus
	HW Version	00
	SW Version	n/a
Operating frequency range	5180 - 5240 MHz	
Assigned frequency band	5150 - 5250 MHz	
Main test frequencies 20 MHz channel spacing	Channel 36	5180 MHz
	Channel 40	5200 MHz
	Channel 48	5240 MHz
Main test frequencies 40 MHz channel spacing	Channel 38	5190 MHz
	Channel 46	5230 MHz
Spreading	OFDM	
Modulations	BPSK, QPSK, 16-QAM, 64-QAM	
Number of channels 20 MHz channel spacing	4	
Number of channels 40 MHz channel spacing	2	
Number of antennas	2	
Antenna 1	Type	external dedicated (omnidirectional)
	Model	RAD-ISM-2459-ANT-FOOD-6-0
	Manufacturer	PHOENIX CONTACT
	Gain	+6.5 dBi (8 dBi @ 5 GHz manufacturer declaration - 1.5 dB dedicated cable N to SMA)

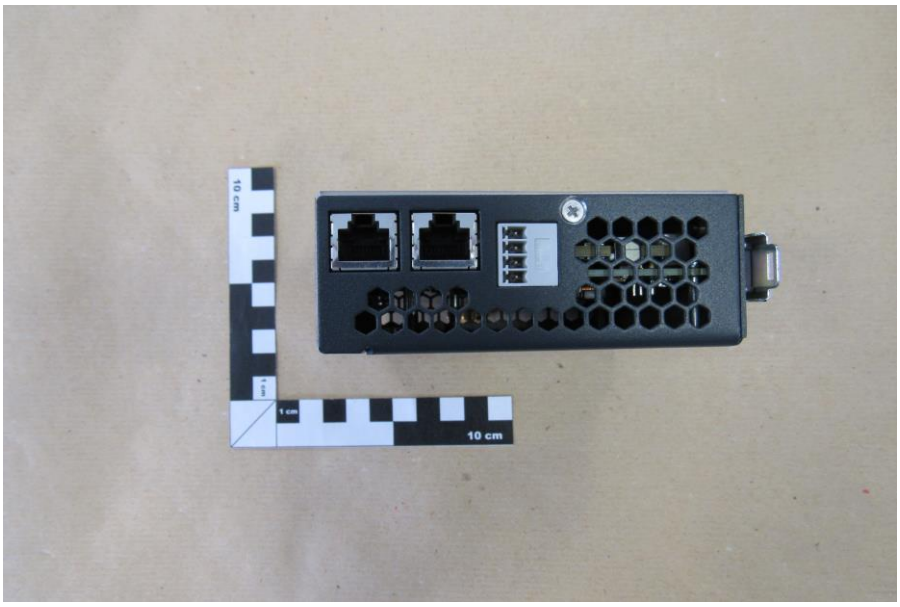
Antenna 2	Type	external dedicated (parabolic)
	Model	RAD-ISM-2459-ANT-PAN-9-0-IP67
	Manufacturer	PHOENIX CONTACT
	Gain	+8 dBi (9 dBi manufacturer declaration -1.0 dB dedicated cable N to reverse SMA)
Manufacturer	JJPlus Corp.	
Power supply	V_{NOM}	24.0 VDC
	V_{MIN}	10.0 VDC
	V_{MAX}	36.0 VDC
Temperature range	T_{NOM}	+20°C
	T_{MIN}	-30°C
	T_{MAX}	+50°C

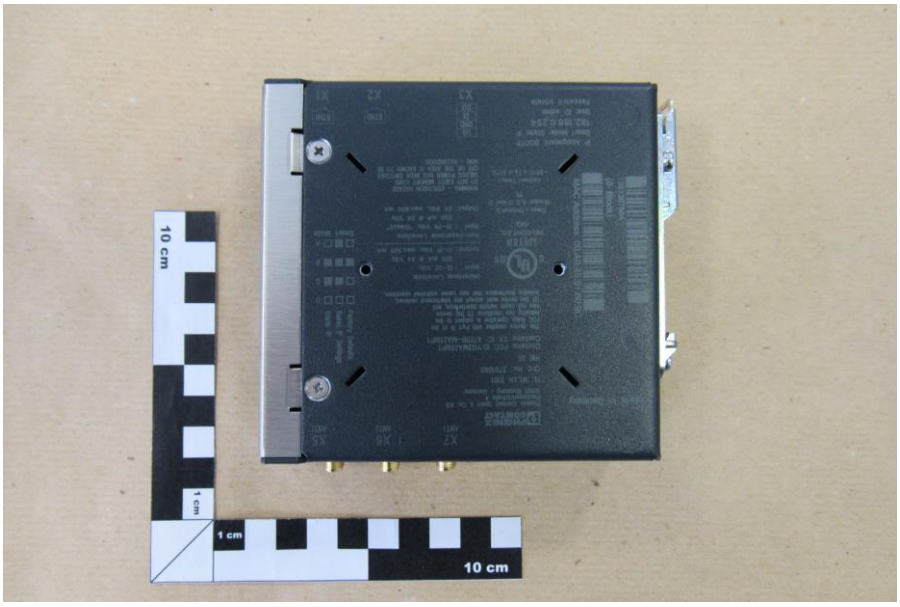
1.1 Photos – Equipment External

EUT right

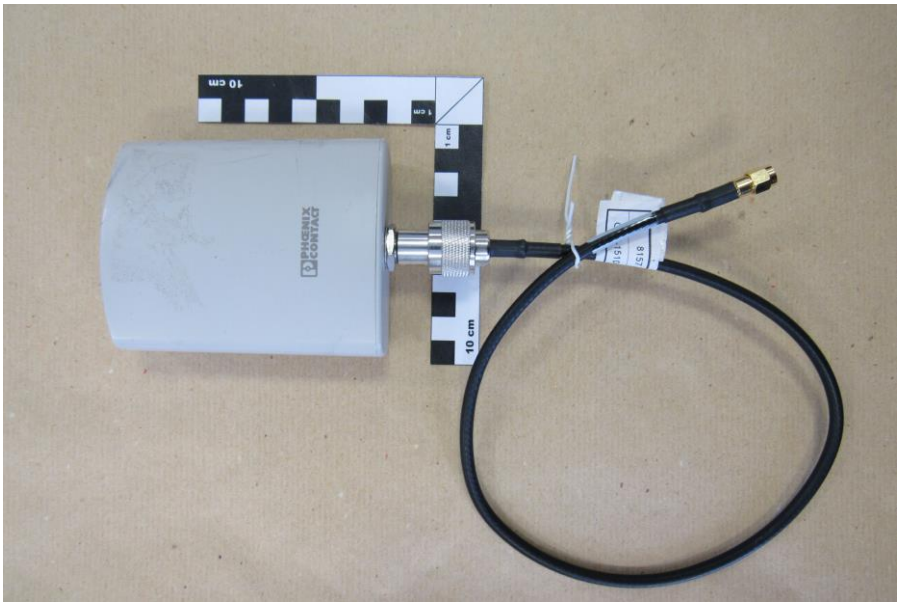

EUT top

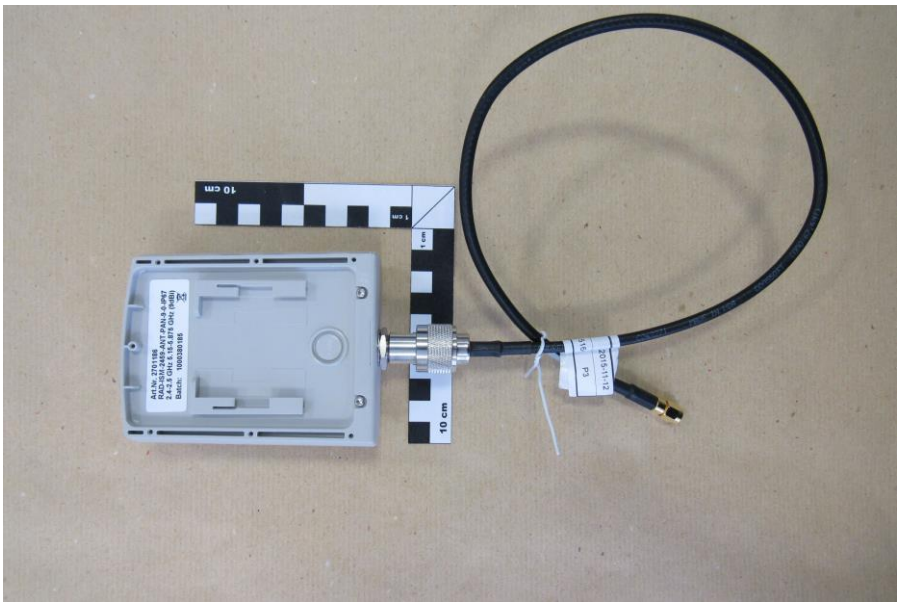

EUT front


EUT bottom


EUT left


EUT back

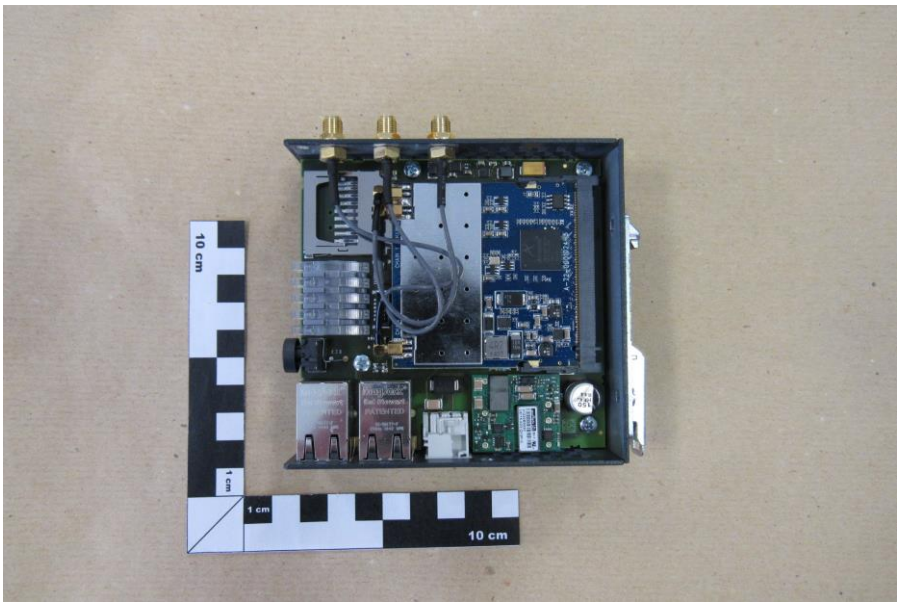

Antenna 2 front: RAD-ISM-2459-ANT-PAN-9-0-IP67 + dedicated cable


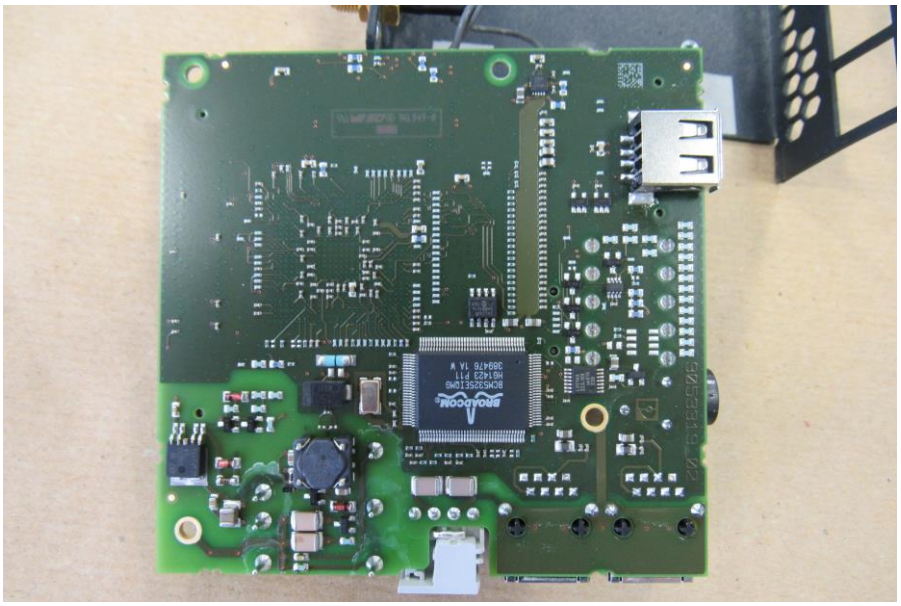
Antenna 2 back: RAD-ISM-2459-ANT-PAN-9-0-IP67 + dedicated cable


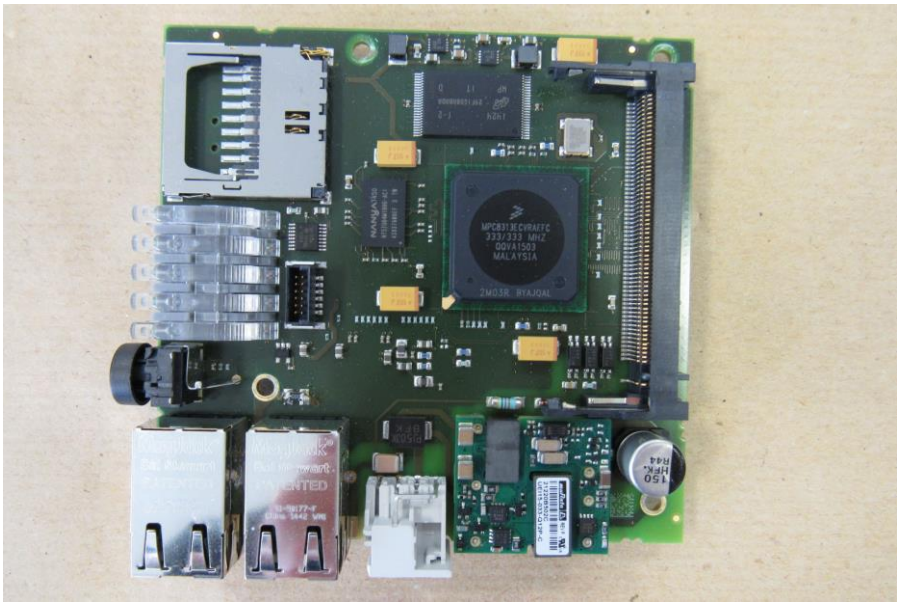
Antenna 1 front: RAD-ISM-2459-ANT-FOOD-6-0 + dedicated cable

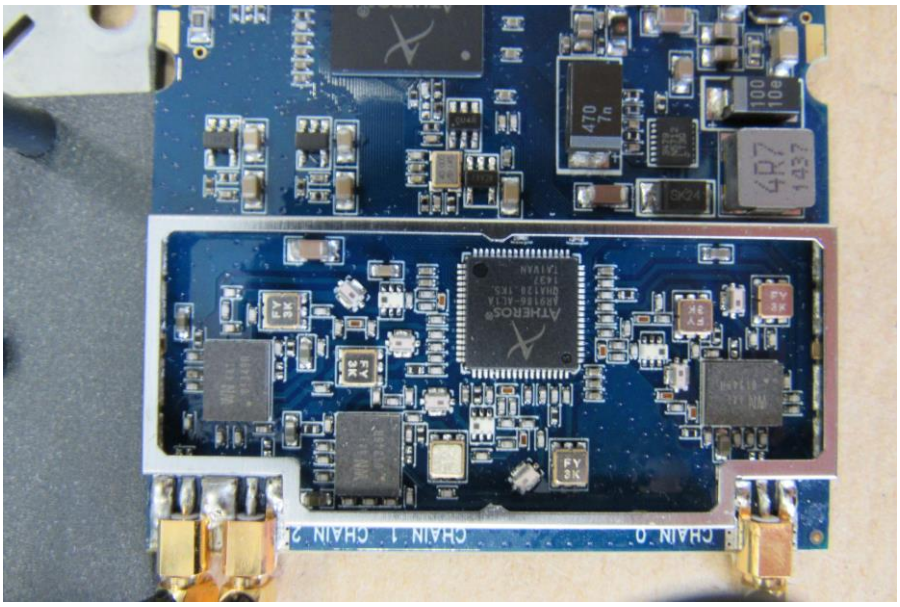

Antenna 1 back: RAD-ISM-2459-ANT-FOOD-6-0 + dedicated cable


1.2 Photos – Equipment internal

EUT PCB top I


EUT PCB bottom


EUT PCB top II


EUT Radio without shielding


1.3 Photos – Test setup

Test setup radiated spurious emission


Test setup conducted spurious emission AC - power line


1.4 Supporting Equipment Used During Testing

Product Type*	Device	Manufacturer	Model No.	Comments
AE	Laptop	Dell	E6430	Controlling EUT via Putty
AE	DC power supply	THURLBY-THANDAR INSTRUMENTS LTD	EX753M	

***Note:** Use the following abbreviations:

AE : Auxiliary/Associated Equipment, or

SIM : Simulator (Not Subjected to Test)

CABL : Connecting cables

1.5 Parameter settings of test software

The following power settings were used during testing.

Antenna 1 802.11 a

Frequency [MHz]	5180	5200	5240
Setting	10	10	10.5

Antenna 1 HT20

Frequency [MHz]	5180	5200	5240
Setting	13	13.5	13.5

Antenna 1 HT40

Frequency [MHz]	5190	5230
Setting	13	13

Antenna 2 802.11 a

Frequency [MHz]	5180	5200	5240
Setting	10	10	10.5

Antenna 2 HT20

Frequency [MHz]	5180	5200	5250
Setting	13	13.5	13.5

Antenna 2 HT40

Frequency [MHz]	5190	5230
Setting	7	7

1.6 Pre-test to determine test modes

Pre-tests were performed to find the data rate with the highest output power.
Data rates with bold figures were selected.

Frequency [MHz]	Mode	Data rate [Mbit/s]	Antenna port	Power setting	Power [dBm]
5180	**802.11a**	**6**	**X5**	**10**	**10.6 99%**
5180	802.11a	9	X5	10	10.6
5180	802.11a	12	X5	10	10.6
5180	802.11a	18	X5	10	10.5
5180	802.11a	24	X5	10	10.5
5180	802.11a	36	X5	10	10.5
5180	802.11a	48	X5	10	10.5
5180	802.11a	54	X5	10	10.4
Frequency [MHz]	**Mode**	**MCS Index / Data rate [Mbit/s]**	**Antenna port**	**Power Setting**	**Power [dBm]**
5180	**HT20**	**0 / 6.5**	**X5**	**13**	**14.2 99%**
5180	HT20	1 / 13.0	X5	13	14.1
5180	HT20	2 / 19.5	X5	13	14.2
5180	HT20	3 / 26.0	X5	13	14.2
5180	HT20	4 / 39.0	X5	13	14.2
5180	HT20	5 / 52.0	X5	13	14.1
5180	HT20	6 / 58.5	X5	13	13.0
5180	HT20	7 / 65.0	X5	13	13.0
5190	**HT40**	**0 / 13.5**	**X5**	**12**	**13.5 98%**
5190	HT40	1 / 27.0	X5	12	13.5
5190	HT40	2 / 40.5	X5	12	13.5
5190	HT40	3 / 54.0	X5	12	Doesn't work
5190	HT40	4 / 81.0	X5	12	13.5
5190	HT40	5 / 108.0	X5	12	13.5
5190	HT40	6 / 121.5	X5	12	13.5
5190	HT40	7 / 135.0	X5	12	13.5
5180	HT20	8 / 13.0	X5 + X7	13	**18.1 98%**
5180	HT20	9 / 26.0	X5 + X7	13	17.8
5180	HT20	10 / 39.0	X5 + X7	13	18.0
5180	HT20	11 / 52.0	X5 + X7	13	18.0
5180	HT20	12 / 78.0	X5 + X7	13	18.0
5180	HT20	13 / 104.0	X5 + X7	13	18.1
5180	HT20	14 / 117.0	X5 + X7	13	18.0
5180	HT20	15 / 130.0	X5 + X7	13	18.0
5190	**HT40**	**8 / 27.0**	**X5 + X7**	**12**	**16.3 96%**
5190	HT40	9 / 54.0	X5 + X7	12	Doesn't work
5190	HT40	10 / 81.0	X5 + X7	12	16.2
5190	HT40	11 / 108.0	X5 + X7	12	16.3
5190	HT40	12 / 162.0	X5 + X7	12	16.2
5190	HT40	13/ 216.0	X5 + X7	12	16.3
5190	HT40	14 / 243.0	X5 + X7	12	16.3
5190	HT40	15 / 270.0	X5 + X7	12	16.3
Remarks:					

1.7 Test Modes

Mode #	Description	
802.11a	General conditions:	EUT powered via power supply.
	Radio conditions:	Mode = standalone transmit Spreading = OFDM Modulation = BPSK Data rate = 6 Mbps Bandwidth = 20 MHz Duty cycle = 98 % Duty cycle correction = 0.0 dB One stream
1 x HT20	General conditions:	EUT powered via power supply.
	Radio conditions:	Mode = standalone transmit Spreading = OFDM Modulation = MCS1 (QPSK) Data rate = 6.5 Mbps Bandwidth = 20 MHz Duty cycle = 98 % Duty cycle correction = 0.0 dB One stream
1 x HT40	General conditions:	EUT powered via power supply.
	Radio conditions:	Mode = standalone transmit Spreading = OFDM Modulation = MCS3 (16-QAM) Data rate = 13.5 Mbps Bandwidth = 40 MHz Duty cycle = 92 % Duty cycle correction = 0.5 dB One stream
2 x HT20	General conditions:	EUT powered via power supply.
	Radio conditions:	Mode = standalone transmit Spreading = OFDM Modulation = MCS8 (64-QAM) Data rate = 13 Mbps Bandwidth = 20 MHz Duty cycle = 92 % Duty cycle correction = 0.5 dB Two streams

2 x HT40	General conditions:	EUT powered via power supply.
	Radio conditions:	Mode = standalone transmit Spreading = OFDM Modulation = MCS8 (64-QAM) Data rate = 27 Mbps Bandwidth = 40 MHz Duty cycle = 81 % Duty cycle correction = 0.9 dB Two streams
AC-Powerline	General conditions:	EUT powered by DC power supply.
	Radio conditions:	Mode = standalone transmit Spreading = OFDM Power level = Maximum

1.8 Test Equipment Used During Testing

Measurement Software			
Description	Manufacturer	Name	Version
EMC Test Software	Dare Instruments	Radimation	2014.1.15

26 dB Bandwidth					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Spectrum analyzer	R&S	FSU 26	EF01003	2015-04	2016-04

Occupied Bandwidth					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Spectrum analyzer	R&S	FSU 26	EF01003	2015-04	2016-04

6 dB Bandwidth					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Spectrum analyzer	R&S	FSU 26	EF01003	2015-04	2016-04

Maximum peak conducted power					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Power sensor	ETS-Lindgren	7002-006	EF00934	2015-07	2016-07

Power spectral density					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Spectrum analyzer	R&S	FSU 26	EF01003	2015-04	2016-04

Band edge compliance					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Spectrum Analyzer	R&S	FSEK30	EF00168	2016-01	2017-01

Frequency stability					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Spectrum analyzer	R&S	FSU 26	EF01003	2015-04	2016-04

Radiated spurious emissions					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Semi-anechoic chamber	Frankonia	AC 1	EF00062	2016-01	2019-01
Spectrum Analyzer	R&S	FSEK30	EF00168	2016-01	2017-01
EMI Test Receiver	R&S	ESU26	EF00887	2016-01	2017-01
Biconical antenna	R&S	HK116	EF00030	2014-03	2017-03
LPD Antenna	R&S	HL 223	EF00187	2014-03	2017-03
LPD Antenna	R&S	HL 025	EF00327	2015-10	2018-10
40GHz Standard Gain Horn with Amplifier	Flann Microwave Ltd	22240-25 Amp. CBL26402075	EF00301	2013-09	2016-09

AC power line conducted emissions					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
AMN	R&S	ESH2-Z5	EF00182	2014-11	2016-11
EMI Test Receiver	R&S	ESCS 30	EF00295	2015-10	2016-10

1.9 Sample emission level calculation

The following is a description of terms and a sample calculation, as appears in the radiated emissions data table. The numbers used in the calculation are for example only. There is no direct correlation to the specific data taken for the product described in this document:

Reading:

This is the reading obtained on the spectrum analyzer in dBµV. Any external preamplifiers used are taken into account through internal analyzer settings.

A.F.:

This is the antenna factor for the receiving antenna. It is a conversion factor, which converts electric fields strengths to voltages, which can be measured directly on the spectrum analyzer. It is treated as a loss in dB. Cable losses have been included with the A.F. to simplify the calculations. The antenna factor is used in calculations as fol1s:

Reading on Analyzer (dBµV) + A.F. (dB) = Net field strength (dBµV/m)

Net:

This is the net field strength measurement (as shown above).

Limit:

This is the FCC radiated emission limit (in units of dBµV/m). The FCC limits are given in units of µV/m. The following formula is used to convert the units of µV/m to dBµV/m:

Limit (dBµV/m) = 20*log (µV/m)

Margin:

This is the margin of compliance to the FCC limit. The units are given in dB. A negative margin indicates the emission was under the limit. A positive margin indicates that the emission exceeds the limit.

Example only:

Reading	+	AF	=	Net Reading	:	Net reading - FCC limit	= Margin
21.5 dBµV	+	26 dB	=	47.5 dBµV/m	:	47.5 dBµV/m - 57.0 dBµV/m	= -9.5 dB

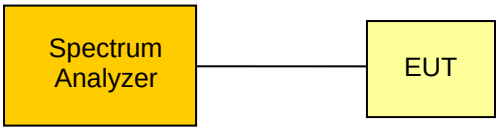
2 Result Summary

FCC 47 CFR Part 15E, IC RSS-247				
Product Specific Standard Section	**Requirement – Test**	**Reference Method**	**Result**	**Remarks**
IC RSS-247 § 3.1	Occupied Bandwidth	ANSI C63.10	N/R	No limit. Basis for other measurements.
FCC § 15.407(a)(h) IC RSS-247 § 6.2.1 (2)	26 dB emission bandwidth	ANSI C63.10	N/R	No limit. Basis for other measurements.
FCC § 15.407(a) IC RSS-247 § 6.2	Maximum output power	ANSI C63.10	PASS	
FCC § 15.407(a) IC RSS-247 § 6.2	Maximum power spectral density	ANSI C63.10	PASS	
FCC § 15.407(b) IC RSS-247 § 6.2	Band edge compliance	ANSI C63.10	PASS	
FCC § 15.407(g) IC RSS-247 § 3.1	Frequency stability	ANSI C63.10	PASS	
FCC § 15.407(a)(e) IC RSS-247 § 6.2	Minimum 6 dB Bandwidth	ANSI C63.10	N/R	Only required in 5725 – 5850 MHz band.
FCC § 15.407(h) IC RSS-247 § 6.2	Transmit Power Control (TPC)	ANSI C63.10	N/R	TPC is required in 5250 – 5350 MHz and 5470 – 5725 MHz bands. TPC is not required for EIRP < 500 mW.
FCC § 15.407(h) IC RSS-247 § 6.3	Dynamic Frequency Selection (DFS)	FCC Order, ET Docket No.03-122 (FCC 06-96)	N/R	DFS is required in 5250 – 5350 MHz and 5470 – 5725 MHz bands.
FCC § 15.407(b) FCC § 15.207 IC RSS-247 § 3.1	AC power line conducted emissions	ANSI C63.10	PASS	
FCC § 15.407(b) FCC § 15.209 IC RSS-247 § 6.2	Transmitter radiated spurious emissions	ANSI C63.10	PASS	
IC RSS-247 § 3.1	Receiver radiated spurious emissions	ANSI C63.10	N/T	
Remarks:				

3 Test Conditions and Results

3.1 Test Conditions and Results – Occupied Bandwidth

Occupied Bandwidth acc. to IC RSS-Gen	**Verdict: PASS**
Test according to measurement reference	Reference Method
	ANSI C63.10
Limits	
None (Informational only)	
Test setup	



Test procedure

1. EUT set to test mode (Communication tester is used if needed)
2. Span set between 1.5 and 5.0 times of the OBW
3. Resolution bandwidth set to 1 % to 5% of OBW
4. Occupied Bandwidth (99 %) measurement with spectrum analyzer built in measurement function

Test results – Antenna Port A

Channel	Frequency [MHz]	Mode	Occupied Bandwidth [MHz]	Upper edge [MHz]
36	5180 MHz	802.11a	16.9	5188.3916
40	5200 MHz	802.11a	16.9	5208.4216
48	5240 MHz	802.11a	16.9	5248.4316
36	5180 MHz	1 x HT20	17.9	5188.951
40	5200 MHz	1 x HT20	17.9	5208.951
48	5240 MHz	1 x HT20	18.0	5249.031
38	5190 MHz	1 x HT40	37.2	5208.6214
46	5230 MHz	1 x HT40	37.4	5248.7812

Test results – Antenna Port B				
Channel	Frequency [MHz]	Mode	Occupied Bandwidth [MHz]	Upper edge [MHz]
36	5180 MHz	802.11a	16.8	5188.3916
40	5200 MHz	802.11a	16.9	5208.4316
48	5240 MHz	802.11a	16.9	5248.4715
36	5180 MHz	1 x HT20	18.1	5189.1109
40	5200 MHz	1 x HT20	18.0	5209.031
48	5240 MHz	1 x HT20	17.9	5249.031
38	5190 MHz	1 x HT40	37.5	5208.7812
46	5230 MHz	1 x HT40	37.6	5248.8611
Comments: Antenna port A = X5. Antenna port B = X7				

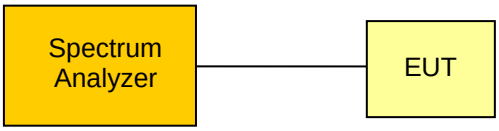
3.2 Test Conditions and Results – 26 dB Emission Bandwidth

26dB Bandwidth acc. to FCC 15.407	**Verdict: PASS**
EUT requirement rule parts and clause	Reference
	FCC 15.407(a), (h)
Test according to measurement reference	Reference Method
	ANSI C63.10

Limits

No limit. Basis for other measurements.

Test setup



Test procedure

1. EUT set to test mode
2. RBW is set to 1% to 5% of occupied bandwidth and VBW > RBW.
3. Set detector to peak and trace to max hold
4. Envelope peak value of emission spectrum is selected
5. Set marker to level of -26 dB to the left of the peak
6. Set marker to level of -26 dB to the right of the peak
7. 26 dB Bandwidth is determined by marker frequency separation
8. For the upper channels in the 5150 MHz to 5250 MHz band is also the upper frequency value of the -26 dB bandwidth recorded. If the 26 dB bandwidth does not cross the border of the frequency band into another band that requires DFS testing, no DFS testing must be performed. If the 26 dB bandwidth falls into a frequency band that requires DFS testing the occupied bandwidth must also be checked and determines whether DFS testing is required or not.

Test results – Antenna Port A

Channel	Frequency [MHz]	Mode	26 dB bandwidth [MHz]	Upper edge [MHz]
36	5180 MHz	802.11a	23.0	5191.4488
40	5200 MHz	802.11a	23.7	5211.5300
48	5240 MHz	802.11a	23.0	5251.8490*
36	5180 MHz	1 x HT20	24.1	5192.2478
40	5200 MHz	1 x HT20	23.9	5211.8496
48	5240 MHz	1 x HT20	24.1	5252.3678*
38	5190 MHz	1 x HT40	48	5214.2578
46	5230 MHz	1 x HT40	49.6	5255.2968*

Test results – Antenna Port A				
Channel	Frequency [MHz]	Mode	26 dB bandwidth [MHz]	Upper edge [MHz]
36	5180 MHz	802.11a	23.6	5191.9700
40	5200 MHz	802.11a	23.5	5211.3306
48	5240 MHz	802.11a	23.5	5251.7700*
36	5180 MHz	1 x HT20	24.1	5191.9296
40	5200 MHz	1 x HT20	25	5212.3678
48	5240 MHz	1 x HT20	24.8	5252.5686*
38	5190 MHz	1 x HT40	51.1	5215.9358
46	5230 MHz	1 x HT40	49.2	5255.0568*

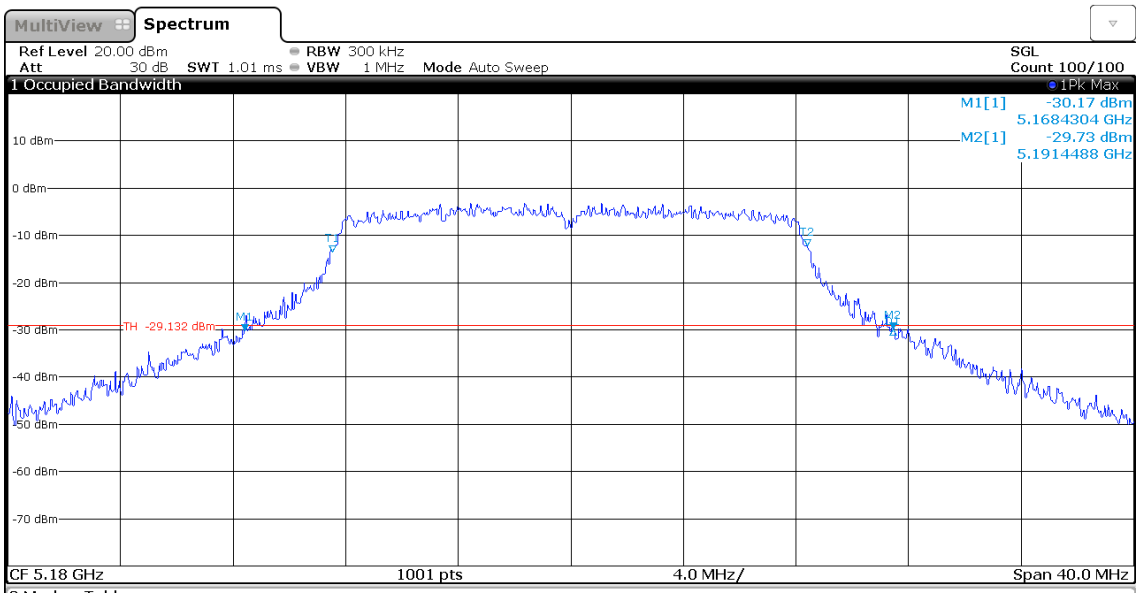
Comments:
Antenna port A = X5. Antenna port B = X7

*According Equipment Authorization – Presentations from October 2014 document: "New Rules for Unlicensed National Information Infrastructure (U-NII) Bands KDB 789033, KDB 644545"
the 99% occupied bandwidth is used to determine if the emissions fall completely in this band and DFS testing is necessary for the channels in question. All occupied bandwidths are completely contained in the frequency band 5150 to 5250. DFS testing is not necessary.

99% and 26 dB Bandwidth – 802.11a 5180 MHz antenna port A

99% Occupied Bandwidth and 26 dB Emission Bandwidth

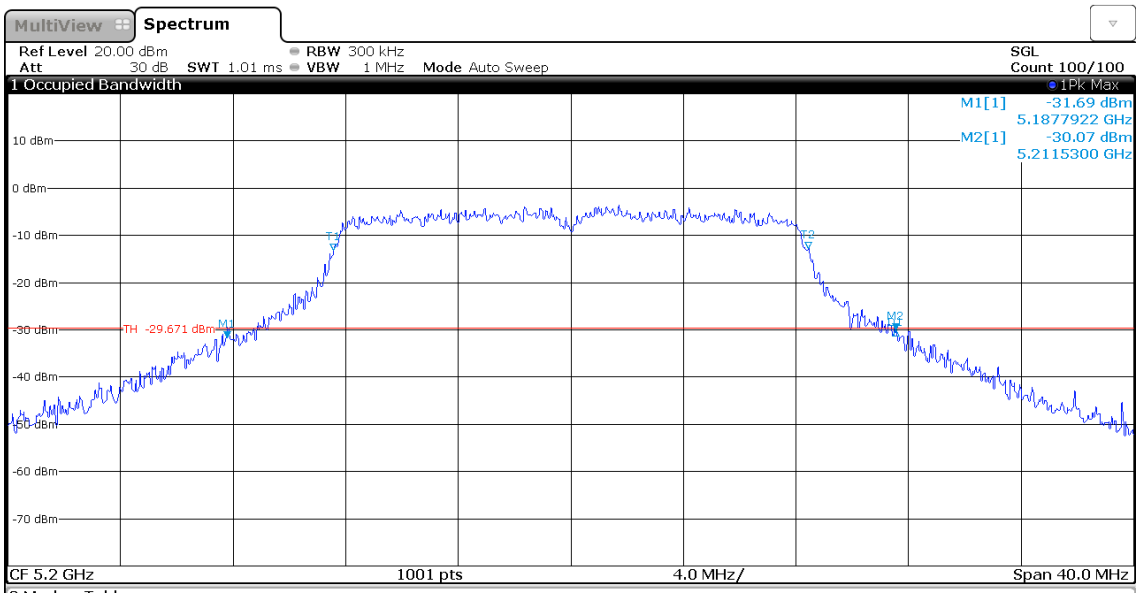
Project Number:	Project Number: G0M-1510-5164
Applicant	Phoenix Contact GmbH & Co.KG
Model Description	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Sample ID:	4
Operator:	M. Handrik
Test Site:	Eurofins Product Service GmbH
Test Date:	2016-04-26
Note 1:	Tx, WLAN 802.11a, 5180 MHz, Ant A
Note 3:	RSS Gen/ANSI C63.10-2013



99% and 26 dB Bandwidth – 802.11a 5200 MHz antenna port A

99% Occupied Bandwidth and 26 dB Emission Bandwidth

Project Number:	Project Number: G0M-1510-5164
Applicant	Phoenix Contact GmbH & Co.KG
Model Description	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Sample ID:	4
Operator:	M. Handrik
Test Site:	Eurofins Product Service GmbH
Test Date:	2016-04-26
Note 1:	Tx, WLAN 802.11a, 5200 MHz, Ant A
Note 3:	RSS Gen/ANSI C63.10-2013



2 Marker Table

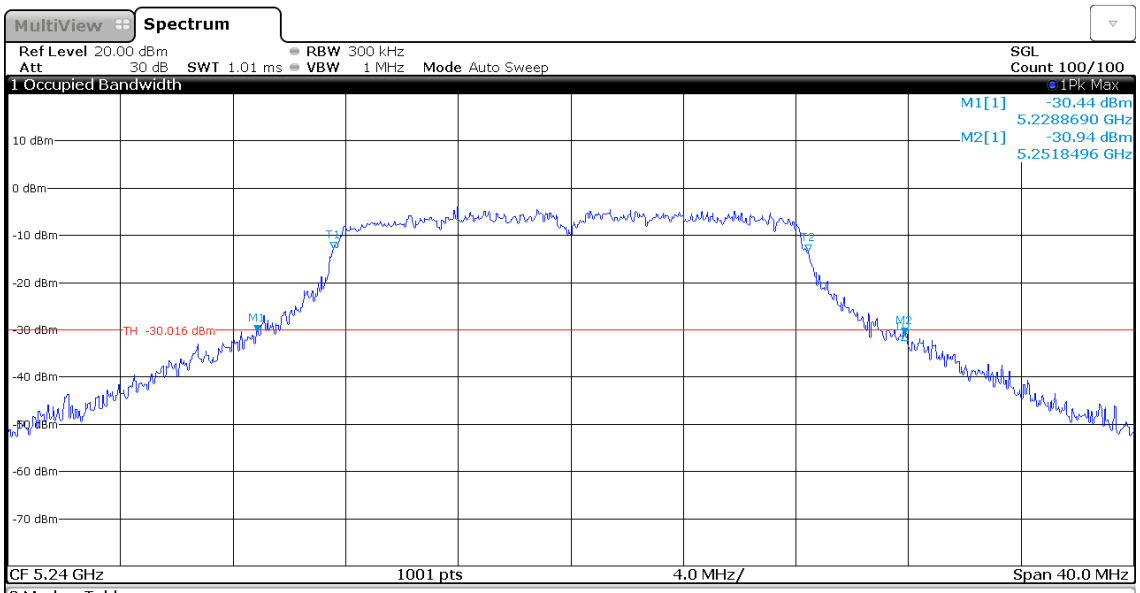
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result
M1		1	**5.1877922 GHz**	**-31.69 dBm**		
T1		1	5.1915684 GHz	-13.11 dBm	Occ Bw	**16.863136863 MHz**
T2		1	5.2084316 GHz	-12.70 dBm		
D1	M1	1	**23.7378 MHz**	**1.62 dB**		
M2		1	**5.21153 GHz**	**-30.07 dBm**		

Date: 26.APR.2016 11:38:06

99% and 26 dB Bandwidth – 802.11a 5240 MHz antenna port A

99% Occupied Bandwidth and 26 dB Emission Bandwidth

Project Number:	Project Number: G0M-1510-5164
Applicant	Phoenix Contact GmbH & Co.KG
Model Description	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Sample ID:	4
Operator:	M. Handrik
Test Site:	Eurofins Product Service GmbH
Test Date:	2016-04-26
Note 1:	Tx, WLAN 802.11a, 5240 MHz, Ant A
Note 3:	RSS Gen/ANSI C63.10-2013



2 Marker Table

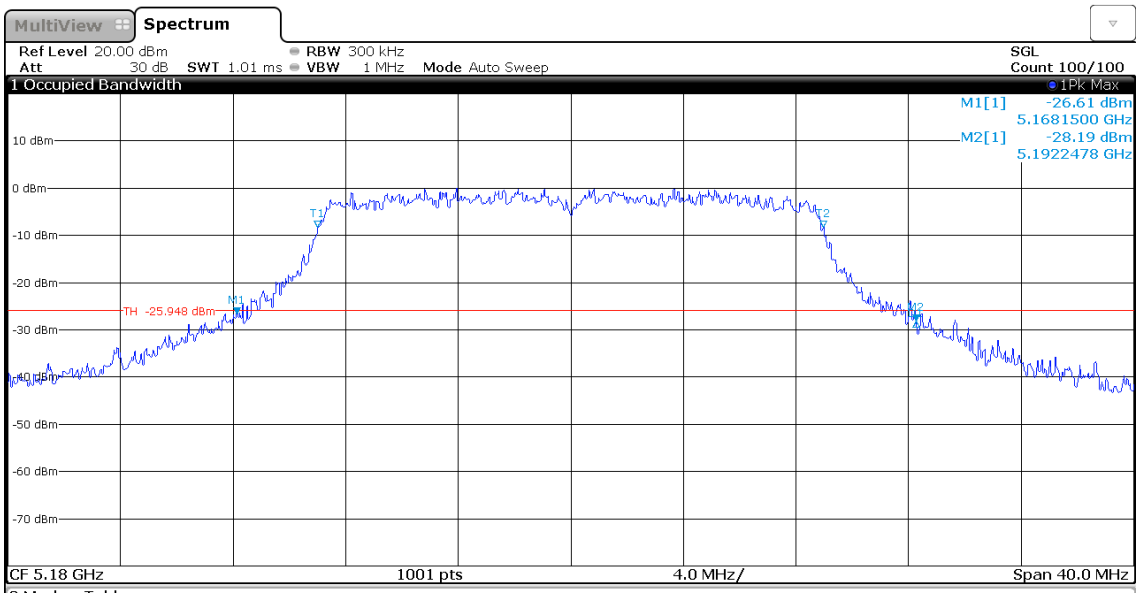
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result
M1		1	**5.228869 GHz**	**-30.44 dBm**		
T1		1	5.2315684 GHz	-12.84 dBm	Occ Bw	**16.863136863 MHz**
T2		1	5.2484316 GHz	-13.36 dBm		
D1	M1	1	**22.9806 MHz**	**-0.51 dB**		
M2		1	**5.2518496 GHz**	**-30.94 dBm**		

Date: 26.APR.2016 11:40:40

99% and 26 dB Bandwidth – HT20 5180 MHz antenna port A

99% Occupied Bandwidth and 26 dB Emission Bandwidth

Project Number:	Project Number: G0M-1510-5164
Applicant	Phoenix Contact GmbH & Co.KG
Model Description	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Sample ID:	4
Operator:	M. Handrik
Test Site:	Eurofins Product Service GmbH
Test Date:	2016-04-26
Note 1:	Tx, WLAN 1 x HT20, 5180 MHz, Ant A
Note 3:	RSS Gen/ANSI C63.10-2013



2 Marker Table

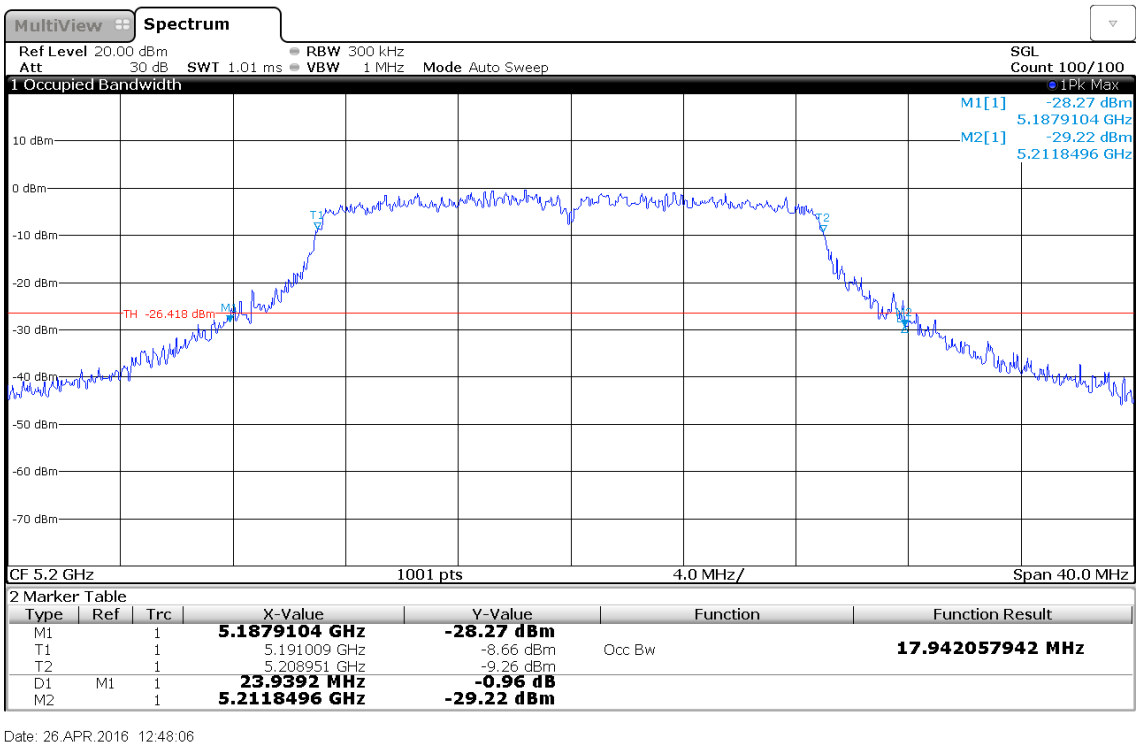
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result
M1		1	**5.16815 GHz**	**-26.61 dBm**		
T1		1	5.171009 GHz	-8.31 dBm	Occ Bw	**17.942057942 MHz**
T2		1	5.188951 GHz	-8.28 dBm		
D1	M1	1	**24.0978 MHz**	**-1.57 dB**		
M2		1	**5.1922478 GHz**	**-28.19 dBm**		

Date: 26.APR.2016 11:48:14

99% and 26 dB Bandwidth – HT20 5200 MHz antenna port A

99% Occupied Bandwidth and 26 dB Emission Bandwidth

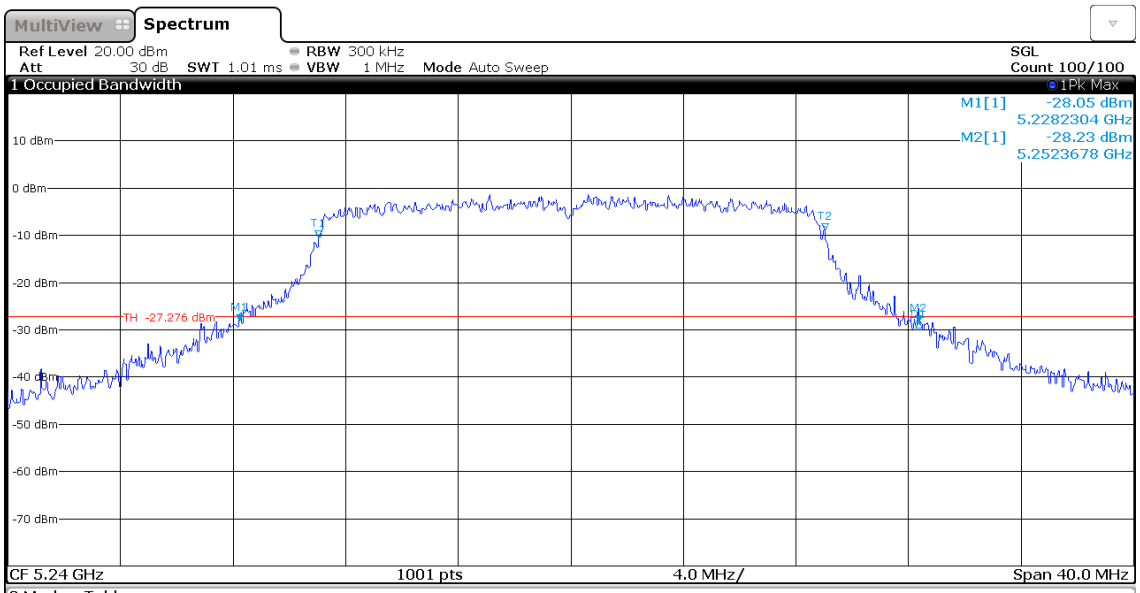
Project Number:	Project Number: G0M-1510-5164
Applicant	Phoenix Contact GmbH & Co.KG
Model Description	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Sample ID:	4
Operator:	M. Handrik
Test Site:	Eurofins Product Service GmbH
Test Date:	2016-04-26
Note 1:	Tx, WLAN 1 x HT20, 5200 MHz, Ant A
Note 3:	RSS Gen/ANSI C63.10-2013



99% and 26 dB Bandwidth – HT20 5240 MHz antenna port A

99% Occupied Bandwidth and 26 dB Emission Bandwidth

Project Number:	Project Number: G0M-1510-5164
Applicant	Phoenix Contact GmbH & Co.KG
Model Description	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Sample ID:	4
Operator:	M. Handrik
Test Site:	Eurofins Product Service GmbH
Test Date:	2016-04-26
Note 1:	Tx, WLAN 1 x HT20, 5240 MHz, Ant A
Note 3:	RSS Gen/ANSI C63.10-2013



2 Marker Table

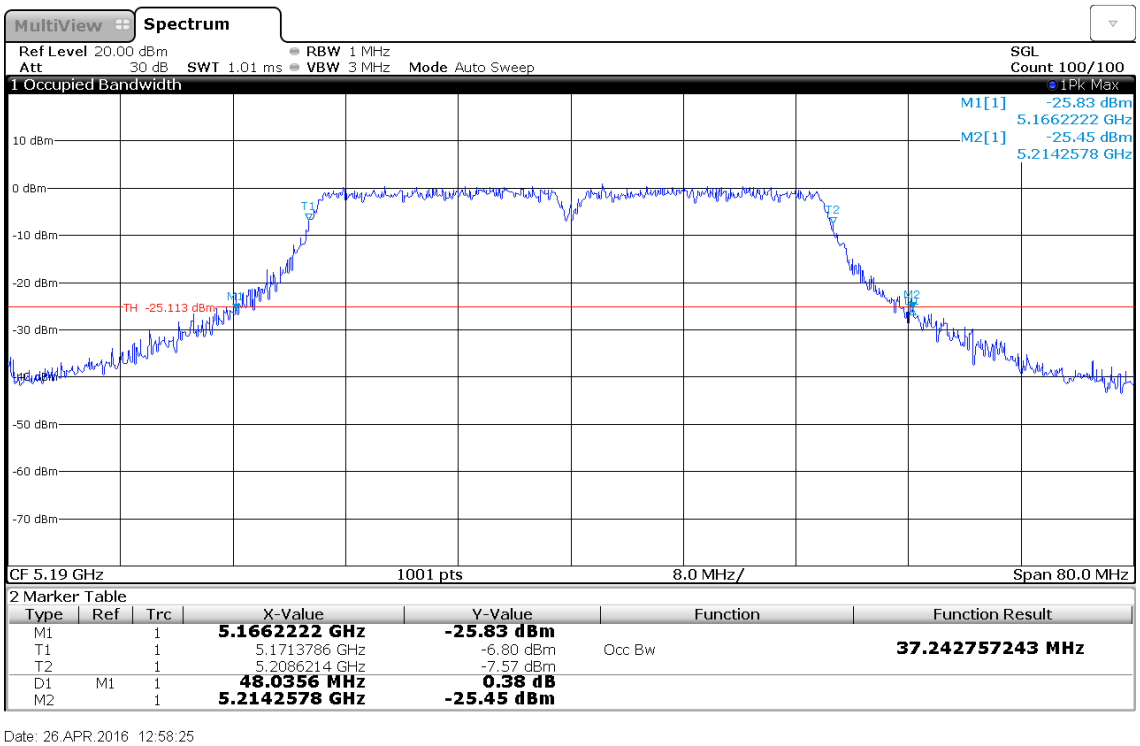
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result
M1		1	**5.2282304 GHz**	**-28.05 dBm**		
T1		1	5.231049 GHz	-10.42 dBm	Occ Bw	**17.982017982 MHz**
T2		1	5.249031 GHz	-8.89 dBm		
D1	M1	1	**24.1374 MHz**	**-0.18 dB**		
M2		1	**5.2523678 GHz**	**-28.23 dBm**		

Date: 26.APR.2016 12:45:56

99% and 26 dB Bandwidth – HT40 5190 MHz antenna port A

99% Occupied Bandwidth and 26 dB Emission Bandwidth

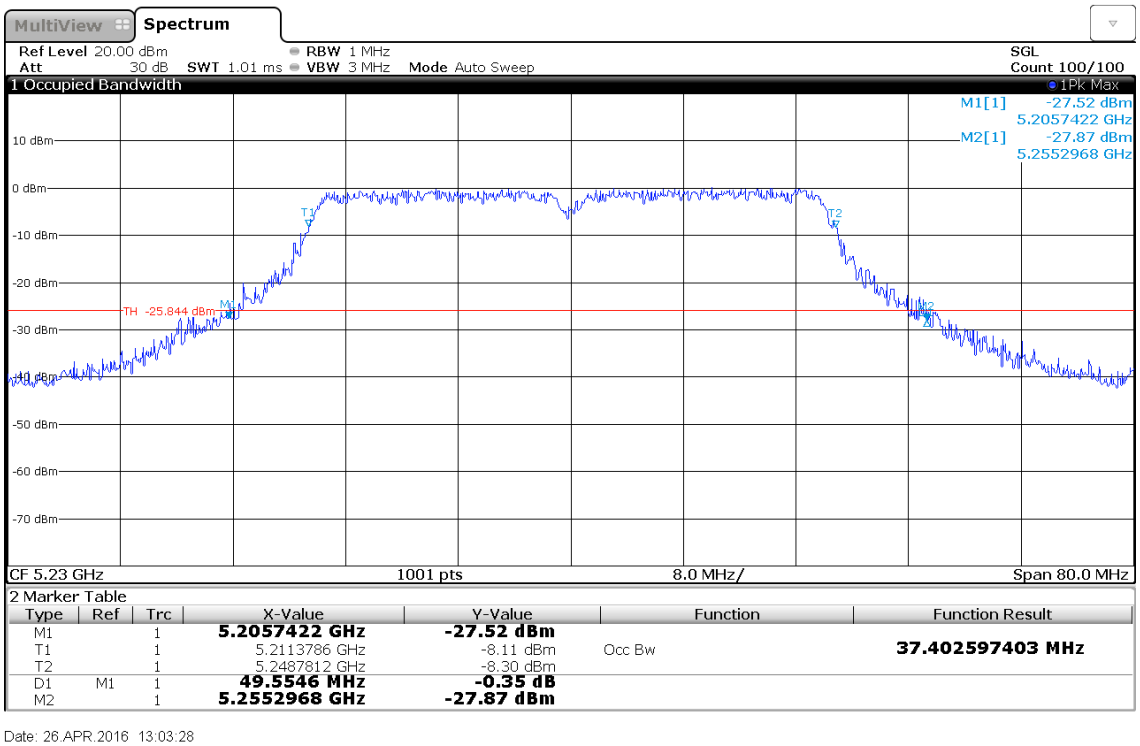
Project Number:	Project Number: G0M-1510-5164
Applicant	Phoenix Contact GmbH & Co.KG
Model Description	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Sample ID:	4
Operator:	M. Handrik
Test Site:	Eurofins Product Service GmbH
Test Date:	2016-04-26
Note 1:	Tx, WLAN 1 x HT40, 5190 MHz, Ant A
Note 3:	RSS Gen/ANSI C63.10-2013



99% and 26 dB Bandwidth – HT40 5230 MHz antenna port A

99% Occupied Bandwidth and 26 dB Emission Bandwidth

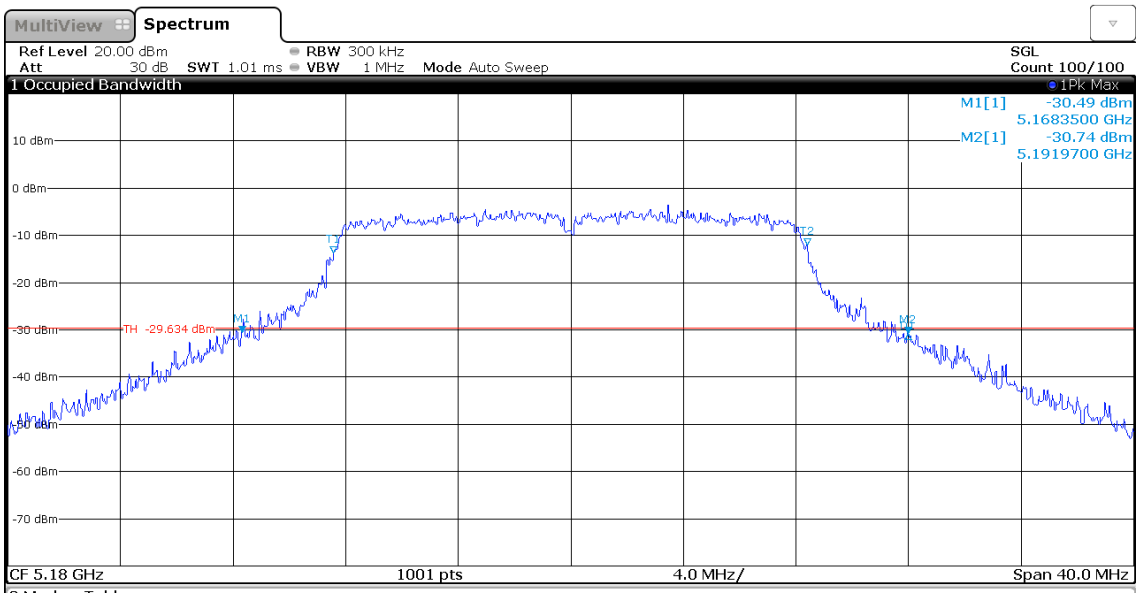
Project Number:	Project Number: G0M-1510-5164
Applicant	Phoenix Contact GmbH & Co.KG
Model Description	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Sample ID:	4
Operator:	M. Handrik
Test Site:	Eurofins Product Service GmbH
Test Date:	2016-04-26
Note 1:	Tx, WLAN 1 x HT40, 5230 MHz, Ant A
Note 3:	RSS Gen/ANSI C63.10-2013



99% and 26 dB Bandwidth – 802.11a 5180 MHz antenna port B

99% Occupied Bandwidth and 26 dB Emission Bandwidth

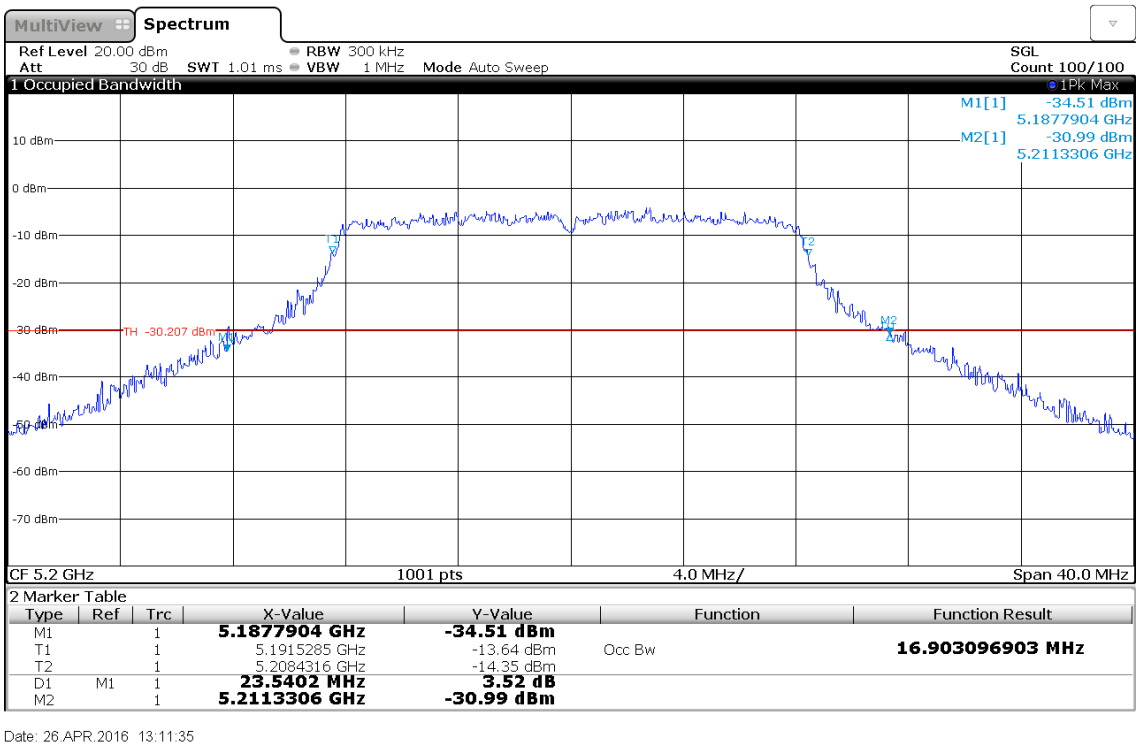
Project Number:	Project Number: G0M-1510-5164
Applicant	Phoenix Contact GmbH & Co.KG
Model Description	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Sample ID:	4
Operator:	M. Handrik
Test Site:	Eurofins Product Service GmbH
Test Date:	2016-04-26
Note 1:	Tx, WLAN 802.11a, 5180 MHz, Ant B
Note 3:	RSS Gen/ANSI C63.10-2013



99% and 26 dB Bandwidth – 802.11a 5200 MHz antenna port B

99% Occupied Bandwidth and 26 dB Emission Bandwidth

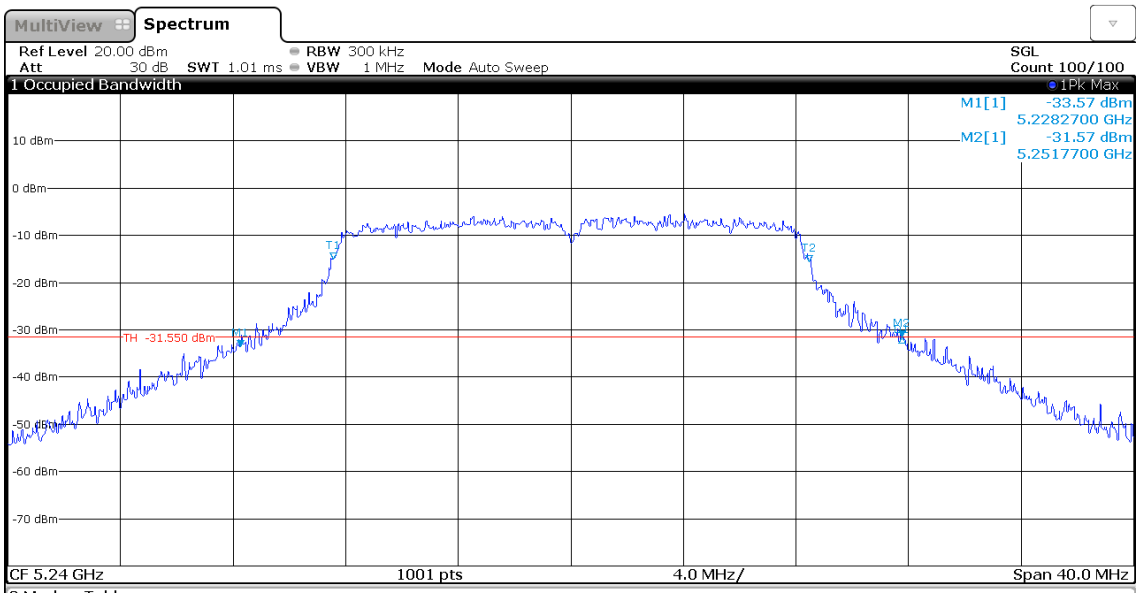
Project Number:	Project Number: G0M-1510-5164
Applicant	Phoenix Contact GmbH & Co.KG
Model Description	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Sample ID:	4
Operator:	M. Handrik
Test Site:	Eurofins Product Service GmbH
Test Date:	2016-04-26
Note 1:	Tx, WLAN 802.11a, 5200 MHz, Ant B
Note 3:	RSS Gen/ANSI C63.10-2013



99% and 26 dB Bandwidth – 802.11a 5240 MHz antenna port B

99% Occupied Bandwidth and 26 dB Emission Bandwidth

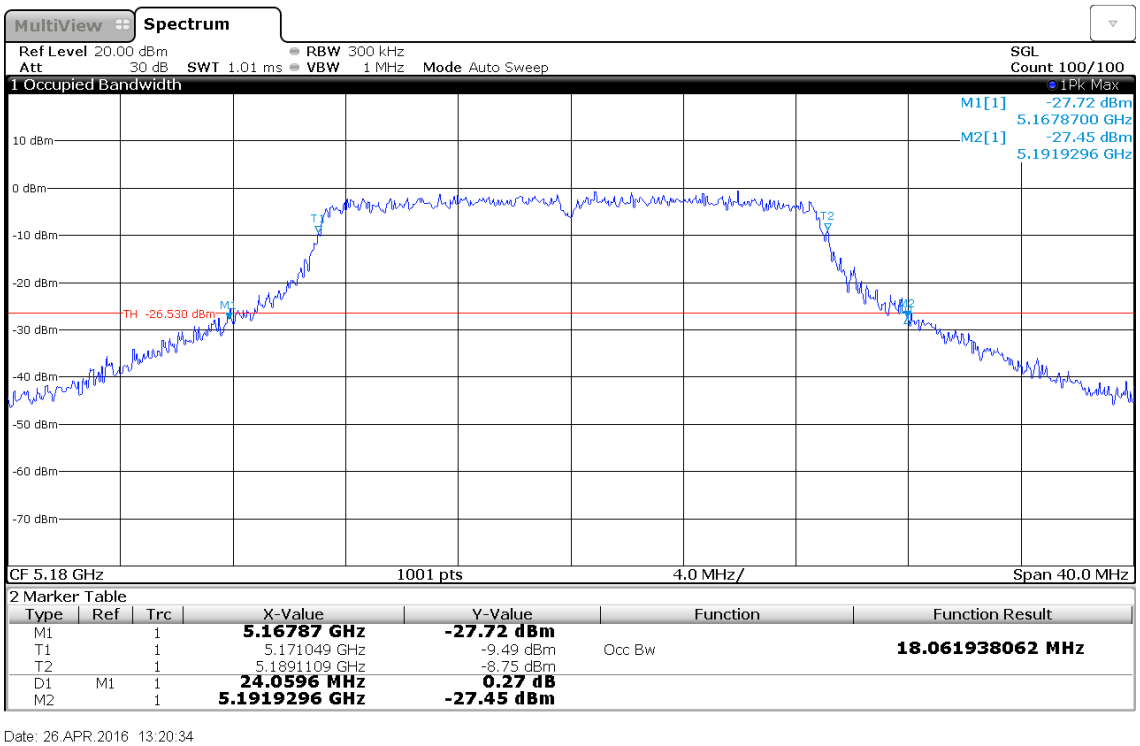
Project Number:	Project Number: G0M-1510-5164
Applicant	Phoenix Contact GmbH & Co.KG
Model Description	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Sample ID:	4
Operator:	M. Handrik
Test Site:	Eurofins Product Service GmbH
Test Date:	2016-04-26
Note 1:	Tx, WLAN 802.11a, 5240 MHz, Ant B
Note 3:	RSS Gen/ANSI C63.10-2013



99% and 26 dB Bandwidth – HT20 5180 MHz antenna port B

99% Occupied Bandwidth and 26 dB Emission Bandwidth

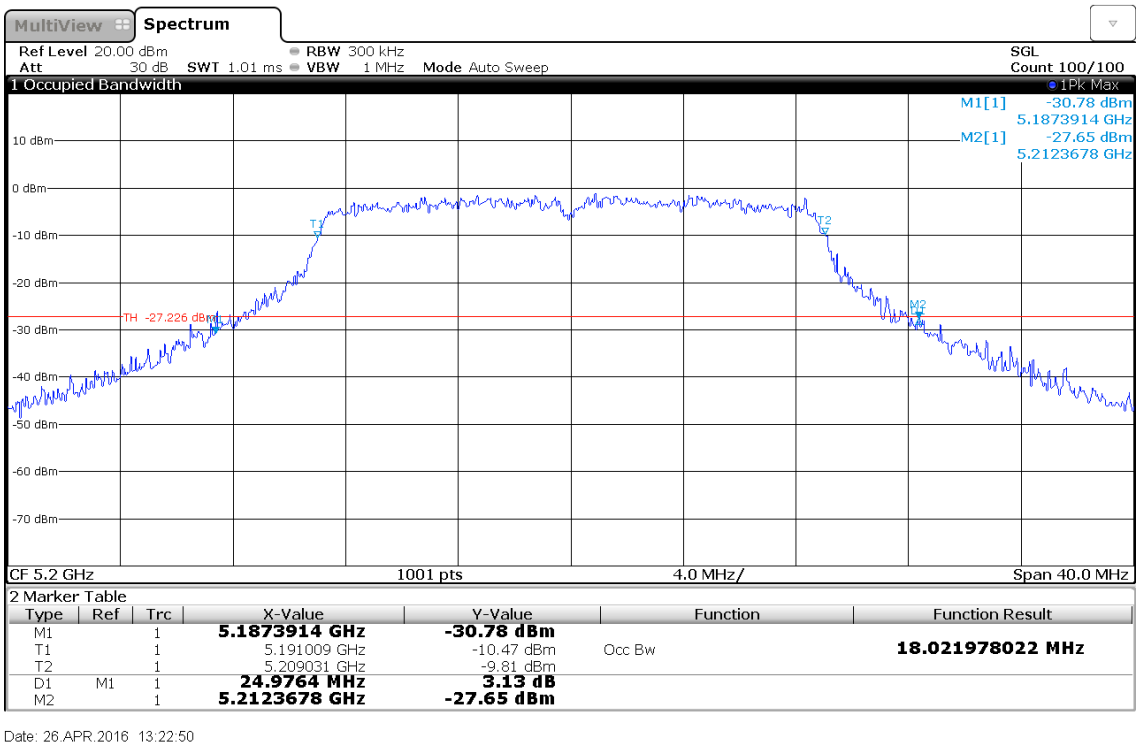
Project Number:	Project Number: G0M-1510-5164
Applicant	Phoenix Contact GmbH & Co.KG
Model Description	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Sample ID:	4
Operator:	M. Handrik
Test Site:	Eurofins Product Service GmbH
Test Date:	2016-04-26
Note 1:	Tx, WLAN 2 x HT20, 5180 MHz, Ant B
Note 3:	RSS Gen/ANSI C63.10-2013



99% and 26 dB Bandwidth – HT20 5200 MHz antenna port B

99% Occupied Bandwidth and 26 dB Emission Bandwidth

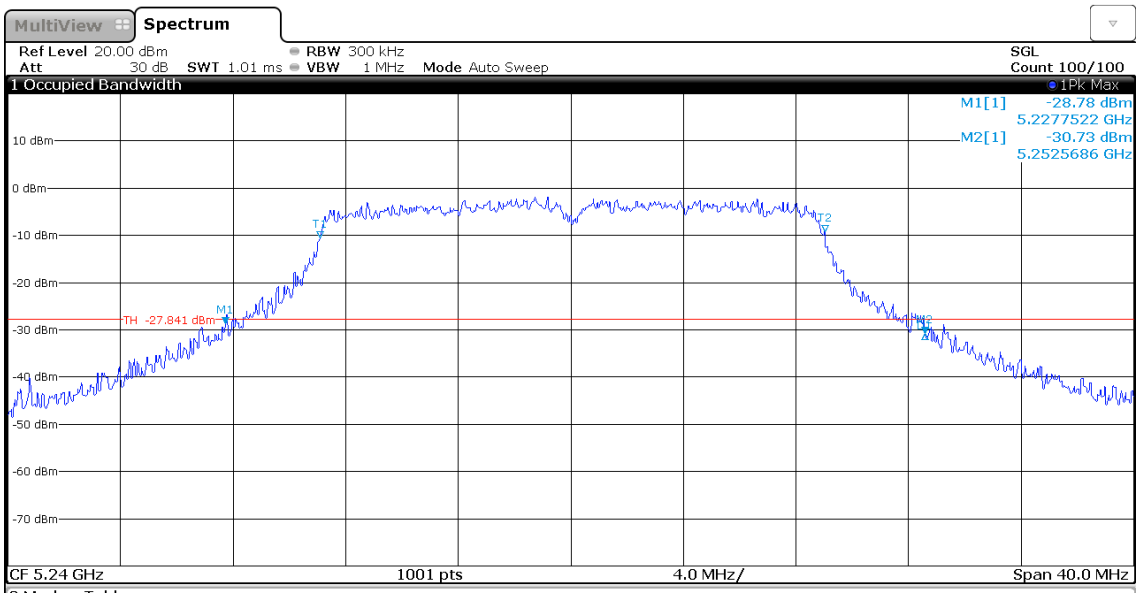
Project Number:	Project Number: G0M-1510-5164
Applicant	Phoenix Contact GmbH & Co.KG
Model Description	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Sample ID:	4
Operator:	M. Handrik
Test Site:	Eurofins Product Service GmbH
Test Date:	2016-04-26
Note 1:	Tx, WLAN 2 x HT20, 5200 MHz, Ant B
Note 3:	RSS Gen/ANSI C63.10-2013



99% and 26 dB Bandwidth – HT20 5240 MHz antenna port B

99% Occupied Bandwidth and 26 dB Emission Bandwidth

Project Number:	Project Number: G0M-1510-5164
Applicant	Phoenix Contact GmbH & Co.KG
Model Description	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Sample ID:	4
Operator:	M. Handrik
Test Site:	Eurofins Product Service GmbH
Test Date:	2016-04-26
Note 1:	Tx, WLAN 2 x HT20, 5240 MHz, Ant B
Note 3:	RSS Gen/ANSI C63.10-2013



2 Marker Table

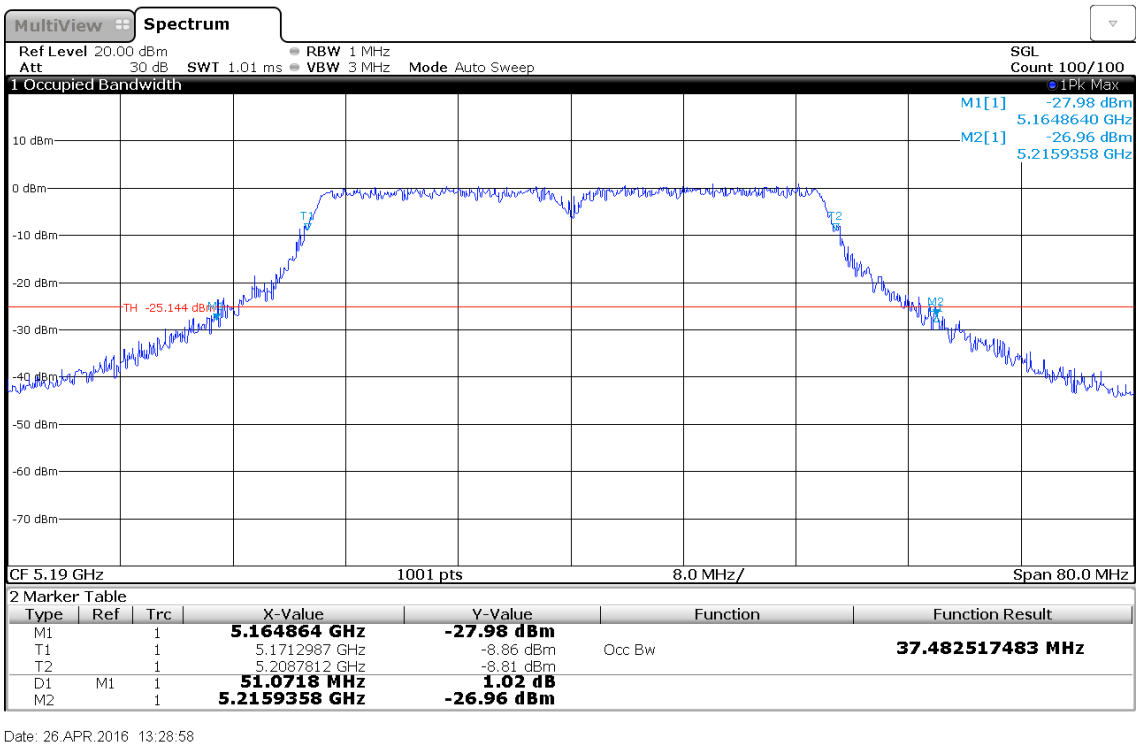
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result
M1		1	**5.2277522 GHz**	**-28.78 dBm**		
T1		1	5.2310889 GHz	-10.57 dBm	Occ Bw	**17.942057942 MHz**
T2		1	5.249031 GHz	-9.26 dBm		
D1	M1	1	**24.8164 MHz**	**-1.95 dB**		
M2		1	**5.2525686 GHz**	**-30.73 dBm**		

Date: 26.APR.2016 13:25:02

99% and 26 dB Bandwidth – HT40 5190 MHz antenna port B

99% Occupied Bandwidth and 26 dB Emission Bandwidth

Project Number:	Project Number: G0M-1510-5164
Applicant	Phoenix Contact GmbH & Co.KG
Model Description	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Sample ID:	4
Operator:	M. Handrik
Test Site:	Eurofins Product Service GmbH
Test Date:	2016-04-26
Note 1:	Tx, WLAN 1 x HT40, 5190 MHz, Ant B
Note 3:	RSS Gen/ANSI C63.10-2013

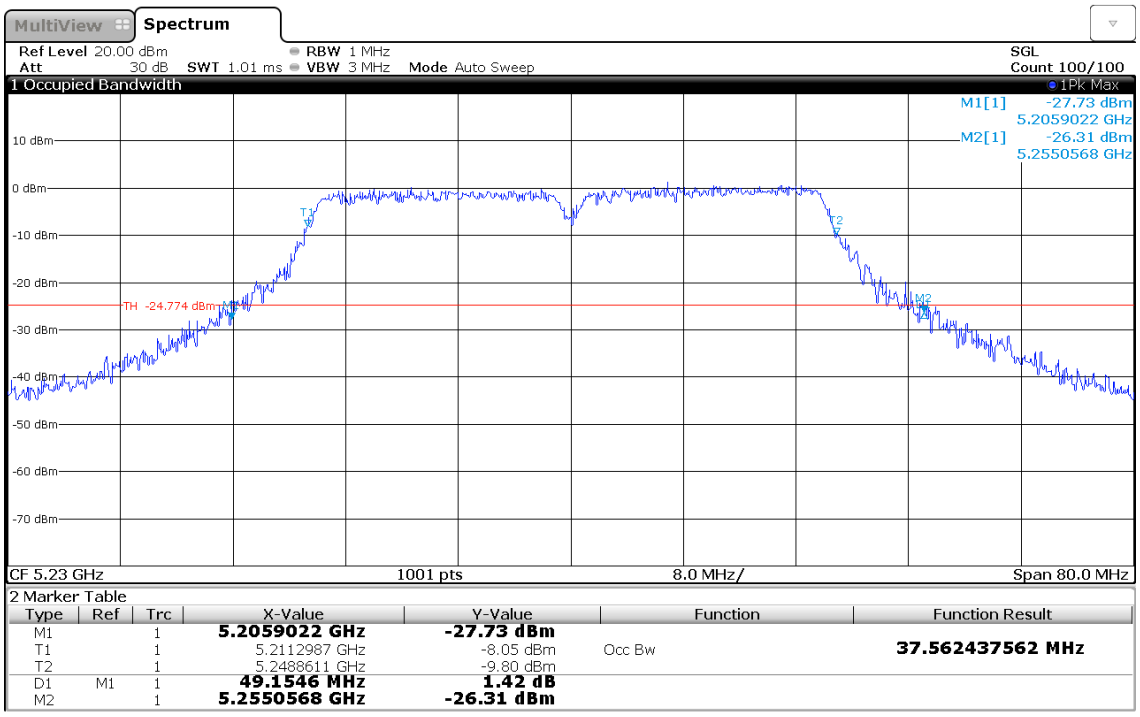


Date: 26.APR.2016 13:28:58

99% and 26 dB Bandwidth – HT40 5230 MHz antenna port B

99% Occupied Bandwidth and 26 dB Emission Bandwidth

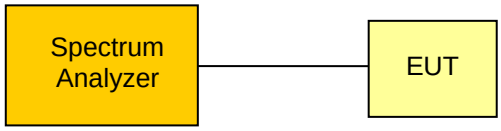
Project Number:	Project Number: G0M-1510-5164
Applicant	Phoenix Contact GmbH & Co.KG
Model Description	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Sample ID:	4
Operator:	M. Handrik
Test Site:	Eurofins Product Service GmbH
Test Date:	2016-04-26
Note 1:	Tx, WLAN 1 x HT40, 5230 MHz, Ant B
Note 3:	RSS Gen/ANSI C63.10-2013



3.3 Test Conditions and Results – Maximum output power

Maximum output power acc. to FCC 15.407 / IC RSS-247			**Verdict: PASS**
EUT requirement rule parts and clause		Reference	
		FCC 15.407(a) / IC RSS-247 6.2	
Test according to measurement reference		Reference Method	
		ANSI C63.10	
Maximum antenna gain: antenna 1		6.5 dBi ⇒ Limit correction = 0.5 dB	
Maximum antenna gain: antenna 2		8.0 dBi ⇒ Limit correction = 2.0 dB	
Limits FCC 15.407			
Frequency band [MHz]	Application	Conducted Limit	Max antenna gain without limit correction
5150 - 5250	outdoor access point	1 W (30 dBm). (Antenna beam requirements apply.)	6 dBi
5150 - 5250	indoor access point	1 W (30 dBm)	6 dBi
5150 - 5250	fixed point-to-point access point	1 W (30 dBm)	23 dBi
5150 - 5250	mobile and portable client	250 mW (24 dBm)	6 dBi
5250 - 5350 5470 - 5725		The lesser of 250 mW (24 dBm) or 11 dBm + 10 log (26 dB emission BW)	6 dBi
5725 - 5850		1 W (30 dBm)	6 dBi
5725 - 5850	fixed point-to-point devices	1 W (30 dBm)	-
If transmitting antennas of directional gain greater than listed above are used, the conducted output power from the intentional radiator shall be reduced by the amount in dB that the listed gain is exceeded.			

Test setup



Test procedure

1. Set EUT to test mode
2. Set span to encompass the entire emission bandwidth
3. Set trigger to free run
4. Set RBW to 1 MHz and VBW ≥ 3 MHz
5. Set detector to RMS and trace to max hold
6. Allow max hold to run for at least 60 seconds
7. Compute power by integrating across emission bandwidth

Test results Antenna 1

Chan	Test mode	Antenna port A Max power [dBm]	Antenna port B Max power [dBm]	Linear summed power [dBm]	Calculation of most stringent conducted limit [dBm]	Cond. limit [dBm]	Verdict
36	802.11a	10.4	10.7	-	FCC only: 24 dBm – 0.5 dB	23.5	Pass
40	802.11a	11.5	10.0	-	FCC only: 24 dBm – 0.5 dB	23.5	Pass
48	802.11a	12.2	10.4	-	FCC only: 24 dBm – 0.5 dB	23.5	Pass
36	1 x HT20	14.3	14.3	-	FCC only: 24 dBm – 0.5 dB	23.5	Pass
40	1 x HT20	14.2	13.7	-	FCC only: 24 dBm – 0.5 dB	23.5	Pass
48	1 x HT20	14.2	13.6	-	FCC only: 24 dBm – 0.5 dB	23.5	Pass
38	1 x HT40	13.2	13.1	-	FCC only: 24 dBm – 0.5 dB	23.5	Pass
46	1 x HT40	14.8	14.7	-	FCC only: 24 dBm – 0.5 dB	23.5	Pass
36	2 x HT20	16.3	14.7	18.6	FCC only: 24 dBm – 0.5 dB	23.5	Pass
40	2 x HT20	15.5	14.3	18.0	FCC only: 24 dBm – 0.5 dB	23.5	Pass
48	2 x HT20	14.4	14.2	17.3	FCC only: 24 dBm – 0.5 dB	23.5	Pass
38	2 x HT40	16.1	14.3	18.3	FCC only: 24 dBm – 0.5 dB	23.5	Pass
46	2 x HT40	14.5	14.6	17.6	FCC only: 24 dBm – 0.5 dB	23.5	Pass

Comments: Antenna port A = X5. Antenna port B = X7
Testing against Canadian RSS standard was not required. Therefore are the Canadian limits not considered.

Test results Antenna 2							
Chan	Test mode	Antenna port A Max power [dBm]	Antenna port B Max power [dBm]	Linear summed power [dBm]	Calculation of most stringent conducted limit [dBm]	Cond. limit [dBm]	Verdict
36	802.11a	10.4	10.7	-	FCC only: 24 dBm – 2 dB	22.0	Pass
40	802.11a	11.5	10.0	-	FCC only: 24 dBm – 2 dB	22.0	Pass
48	802.11a	12.2	10.4	-	FCC only: 24 dBm – 2 dB	22.0	Pass
36	1 x HT20	14.3	14.3	-	FCC only: 24 dBm – 2 dB	22.0	Pass
40	1 x HT20	14.2	13.7	-	FCC only: 24 dBm – 2 dB	22.0	Pass
48	1 x HT20	14.2	13.6	-	FCC only: 24 dBm – 2 dB	22.0	Pass
38	1 x HT40	14.0	14.2	-	FCC only: 24 dBm – 2 dB	22.0	Pass
46	1 x HT40	14.7	14.4	-	FCC only: 24 dBm – 2 dB	22.0	Pass
36	2 x HT20	16.3	14.7	18.6	FCC only: 24 dBm – 2 dB	22.0	Pass
40	2 x HT20	15.5	14.3	18.0	FCC only: 24 dBm – 2 dB	22.0	Pass
48	2 x HT20	14.4	14.2	17.3	FCC only: 24 dBm – 2 dB	22.0	Pass
38	2 x HT40	15.3	15.2	18.3	FCC only: 24 dBm – 2 dB	22.0	Pass
46	2 x HT40	14.9	15.2	18.1	FCC only: 24 dBm – 2 dB	22.0	Pass

Comments: Antenna port A = X5. Antenna port B = X7
Testing against Canadian RSS standard was not required. Therefore are the Canadian limits not considered.

Calculation of most stringent conducted limit:

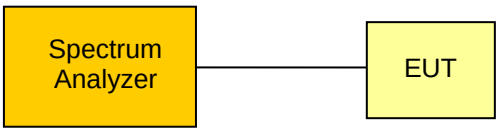
- Calculation of IC radiated limit
- Calculation of maximum conducted power from radiated IC power limit by subtracting the antenna gain
- Calculation of IC conducted limit (if applicable)
- Correction of FCC maximum conducted output power from EUT antenna gain (if applicable)
- Selection of the lowest allowed conducted output power from the FCC / IC requirements

The resulting most stringent conducted limit expression is given in column “Calculation of most stringent conducted limit [dBm]” and the corresponding power limit value is given in column “Conducted limit [dBm]”.

3.4 Test Conditions and Results – Maximum power spectral density

Power spectral density acc. to FCC 15.407 / IC RSS-247			**Verdict: PASS**
EUT requirement rule parts and clause		Reference	
		FCC 15.407(a) / IC RSS-247 6.2	
Test according to measurement reference		Reference Method	
		ANSI C63.10	
Maximum antenna gain: antenna 1		6.5 dBi ⇒ Limit correction = 0.5 dB	
Maximum antenna gain: antenna 2		8.0 dBi ⇒ Limit correction = 2.0 dB	
Limits FCC 15.407			
Frequency band [MHz]	Application	Limit	Max antenna gain without limit correction
5150 - 5250	outdoor / indoor access point	17 dBm/MHz	6 dBi
5150 - 5250	mobile and portable client	11 dBm/MHz	6 dBi
5250 – 5350 5470 - 5725	N/A	11 dBm/MHz	6 dBi
5725 - 5850	N/A	30 dBm/500kHz	6 dBi
5725 - 5850	fixed point-to-point devices	30 dBm/500kHz	-
If transmitting antennas of directional gain greater than listed above are used, the conducted output power from the intentional radiator shall be reduced by the amount in dB that the listed gain is exceeded.			
Limits IC RSS-247			
Frequency band [MHz]	Application	Limit	
5150 - 5250	indoor only	e.i.r.p.: 10 dBm/MHz	
5250 - 5350	N/A	Conducted: 11 dBm/MHz	
5470 - 5600 5650 - 5725	N/A	Conducted: 11 dBm/MHz	
5725 - 5850	N/A	Conducted: 30 dBm/500 kHz	

Test setup



Test procedure

1. Set EUT to test mode
2. Set span to encompass the entire emission bandwidth
3. Set trigger to free run
4. Set RBW to 1 MHz and VBW ≥ 3 MHz
5. Set detector to RMS and average at least 100 traces
6. Set marker to maximum of emission envelope
7. Apply duty cycle correction to the measured value

Test results antenna 1

Chan	Test mode	Antenna port A Max power density [dBm/MHz]	Antenna port B Max power density [dBm/MHz]	Linear summed [dBm/MHz]	Calculation of most stringent conducted limit [dBm/MHz]	Conducted limit [dBm/MHz]	Verdict
36	802.11a	-0.5	-1.7	-	FCC only: 11 dBm/MHz -0.5 dB	10.5	Pass
40	802.11a	-0.2	-1.5	-	FCC only: 11 dBm/MHz -0.5 dB	10.5	Pass
48	802.11a	0.2	-2.1	-	FCC only: 11 dBm/MHz -0.5 dB	10.5	Pass
36	1 x HT20	2.2	1.8	-	FCC only: 11 dBm/MHz -0.5 dB	10.5	Pass
40	1 x HT20	2.4	2.3	-	FCC only: 11 dBm/MHz -0.5 dB	10.5	Pass
48	1 x HT20	2.3	1.4	-	FCC only: 11 dBm/MHz -0.5 dB	10.5	Pass
38	1 x HT40	-1.9	-2.0	-	FCC only: 11 dBm/MHz -0.5 dB	10.5	Pass
46	1 x HT40	-0.1	-1.9	-	FCC only: 11 dBm/MHz -0.5 dB	10.5	Pass
36	2 x HT20	2.1	2.1	5.1	FCC only: 11 dBm/MHz -0.5 dB	10.5	Pass
40	2 x HT20	2.3	2.7	5.5	FCC only: 11 dBm/MHz -0.5 dB	10.5	Pass
48	2 x HT20	2.1	1.7	4.9	FCC only: 11 dBm/MHz -0.5 dB	10.5	Pass
38	2 x HT40	-2.1	-1.9	1.0	FCC only: 11 dBm/MHz -0.5 dB	10.5	Pass
46	2 x HT40	-0.1	-0.6	2.7	FCC only: 11 dBm/MHz -0.5 dB	10.5	Pass

Test results antenna 2							
Chan	Test mode	Antenna port A Max power density [dBm/MHz]	Antenna port B Max power density [dBm/MHz]	Linear summed [dBm/MHz]	Calculation of most stringent conducted limit [dBm/MHz]	Conducted limit [dBm/MHz]	Verdict
36	802.11a	-0.5	-1.7	-	FCC only: 11 dBm/MHz -2.0 dB	9.0	Pass
40	802.11a	-0.2	-1.5	-	FCC only: 11 dBm/MHz -2.0 dB	9.0	Pass
48	802.11a	0.2	-2.1	-	FCC only: 11 dBm/MHz -2.0 dB	9.0	Pass
36	1 x HT20	2.2	1.8	-	FCC only: 11 dBm/MHz -2.0 dB	9.0	Pass
40	1 x HT20	2.4	2.3	-	FCC only: 11 dBm/MHz -2.0 dB	9.0	Pass
48	1 x HT20	2.3	1.4	-	FCC only: 11 dBm/MHz -2.0 dB	9.0	Pass
38	1 x HT40	-7.5	-7.7	-	FCC only: 11 dBm/MHz -2.0 dB	9.0	Pass
46	1 x HT40	-7.9	-8.2	-	FCC only: 11 dBm/MHz -2.0 dB	9.0	Pass
36	2 x HT20	2.1	2.1	5.1	FCC only: 11 dBm/MHz -2.0 dB	9.0	Pass
40	2 x HT20	2.3	2.7	5.5	FCC only: 11 dBm/MHz -2.0 dB	9.0	Pass
48	2 x HT20	2.1	1.7	4.9	FCC only: 11 dBm/MHz -2.0 dB	9.0	Pass
38	2 x HT40	-13.6	-15.2	-11.3	FCC only: 11 dBm/MHz -2.0 dB	9.0	Pass
46	2 x HT40	-15.2	-15.7	-12.4	FCC only: 11 dBm/MHz -2.0 dB	9.0	Pass

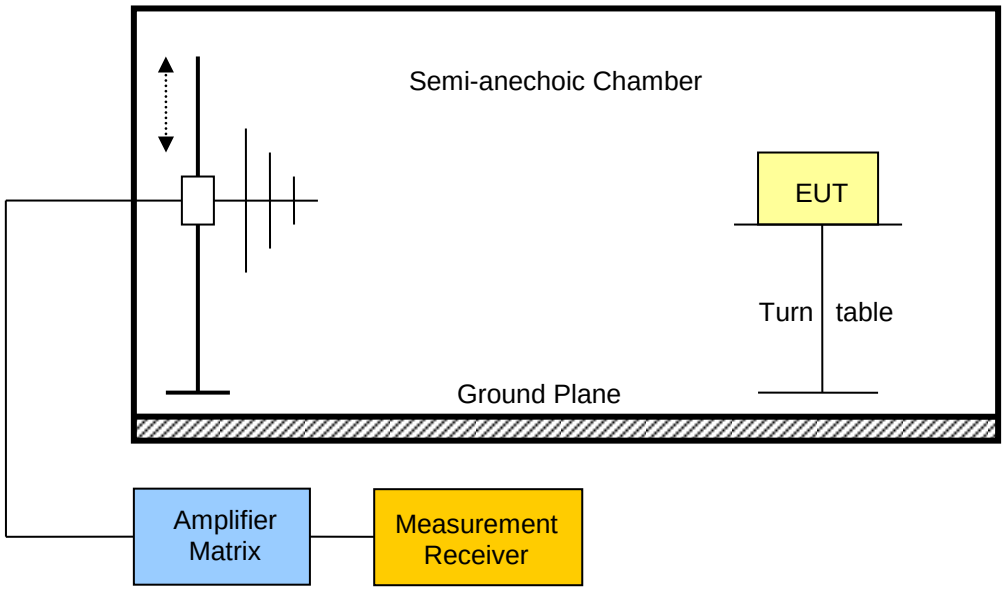
Comments: Antenna port A = X5. Antenna port B = X7
Testing against Canadian RSS standard was not required. Therefore are the Canadian limits not considered.

Calculation of most stringent conducted limit:

- Calculation of maximum conducted power from radiated IC power limit by subtracting the antenna gain (if applicable)
- Correction of FCC maximum conducted limit from EUT antenna gain (if applicable)
- Selection of the lowest allowed conducted power density limit from the FCC / IC requirements

3.5 Test Conditions and Results – Band edge compliance

Band-edge compliance acc. to FCC 15.407 / IC RSS-247				**Verdict: PASS**
Test according referenced standards		Reference Method		
		FCC 15.407(b) / IC RSS-247 6.2		
Test according to measurement reference		Reference Method		
		ANSI C63.10		
Test frequency range		Tested frequencies		
		5150 - 5250		
Limits				
Frequency range [MHz]	Detector	Limit [µV/m]	Limit [dBµV/m]	Limit Distance [m]
> 1000	Average	500	54	3
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 15.205(c)). Above 1000 MHz is an additional peak limit 20 dB above the average limit. If all peak measurements satisfy the average limit, then average measurements are not required.				
Test setup				



Test procedure

1. Set EUT to test mode
2. Set span according to measurement range
3. Set resolution bandwidth to 1 MHz with peak/average detector
4. Set markers to peak /average emission levels on the band edges

Test results antenna 1							
Channel	Frequency [MHz]	Mode	Antenna port	Emission Level [dBµV/m]	Detector	Limit [dBµV/m]	Margin [dB]
36	5180 MHz	802.11a	A	43.33	av	54	-10.67
48	5240 MHz	802.11a	A	44.36	av	54	-09.64
36	5180 MHz	2 x HT20	A + B	48.64	av	54	-05.36
48	5240 MHz	2 x HT20	A + B	44.82	av	54	-09.18
38	5180 MHz	2 x HT 40	A + B	53.19	av	54	-00.81
46	5240 MHz	2 x HT 40	A + B	45.27	av	54	-08.73
Comments: For 802.11a the antenna port with the highest measured output power was used.							

Test results antenna 2							
Channel	Frequency [MHz]	Mode	Antenna port	Emission Level [dBµV/m]	Detector	Limit [dBµV/m]	Margin [dB]
36	5180 MHz	802.11a	A	45.41	av	54	-08.59
48	5240 MHz	802.11a	A	46.10	av	54	-07.90
36	5180 MHz	2 x HT20	A + B	49.45	av	54	-04.55
48	5240 MHz	2 x HT20	A + B	44.36	av	54	-09.64
38	5180 MHz	2 x HT 40	A + B	53.01	av	54	-00.99
46	5240 MHz	2 x HT 40	A + B	45.69	av	54	-08.31
Comments: For 802.11a the antenna port with the highest measured output power was used.							

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Schwarzbeck BBHA 9120D, Vertical
Measurement distance:	3 m
Mode:	TX; 2 x HT20, CH36; ant.: RAD-ISM-2459-ANT-FOOD-6-0
Test Date:	2016-04-26
Note:	lower band-edge

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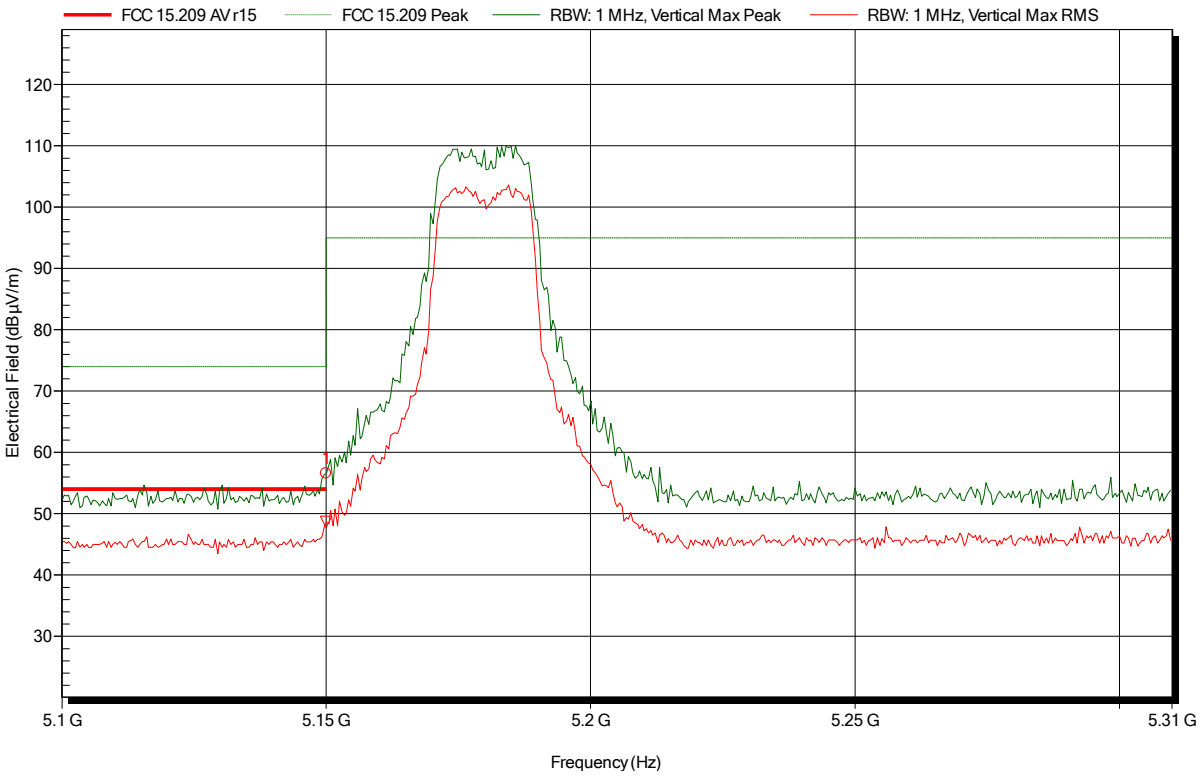

Frequency	Peak	Peak Limit	Peak Difference	Peak Status
5.15 GHz	56.54 dBµV/m	74 dBµV/m	-17.46 dB	Pass

Frequency	RMS	RMS Limit	RMS Difference	RMS Status
5.15 GHz	48.64 dBµV/m	54 dBµV/m	-5.36 dB	Pass

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Schwarzbeck BBHA 9120D, Vertical
Measurement distance:	3 m
Mode:	TX; 802.11a, CH36; ant.: RAD-ISM-2459-ANT-FOOD-6-0
Test Date:	2016-04-26
Note:	lower band-edge

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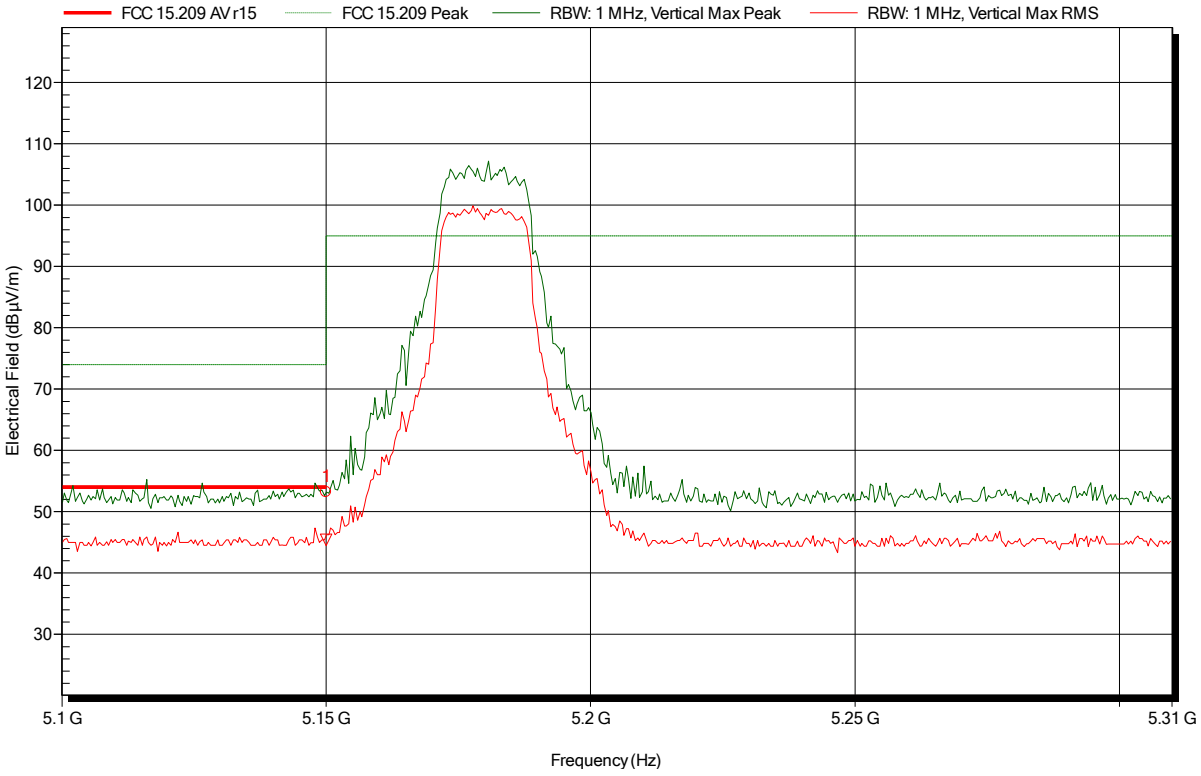

Frequency	Peak	Peak Limit	Peak Difference	Peak Status
5.15 GHz	53.19 dBµV/m	74 dBµV/m	-20.81 dB	Pass

Frequency	RMS	RMS Limit	RMS Difference	RMS Status
5.15 GHz	45.41 dBµV/m	54 dBµV/m	-8.59 dB	Pass

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Schwarzbeck BBHA 9120D, Vertical
Measurement distance:	3 m
Mode:	TX; 2 x HT 40, CH38; ant.: RAD-ISM-2459-ANT-FOOD-6-0
Test Date:	2016-04-26
Note:	lower band-edge

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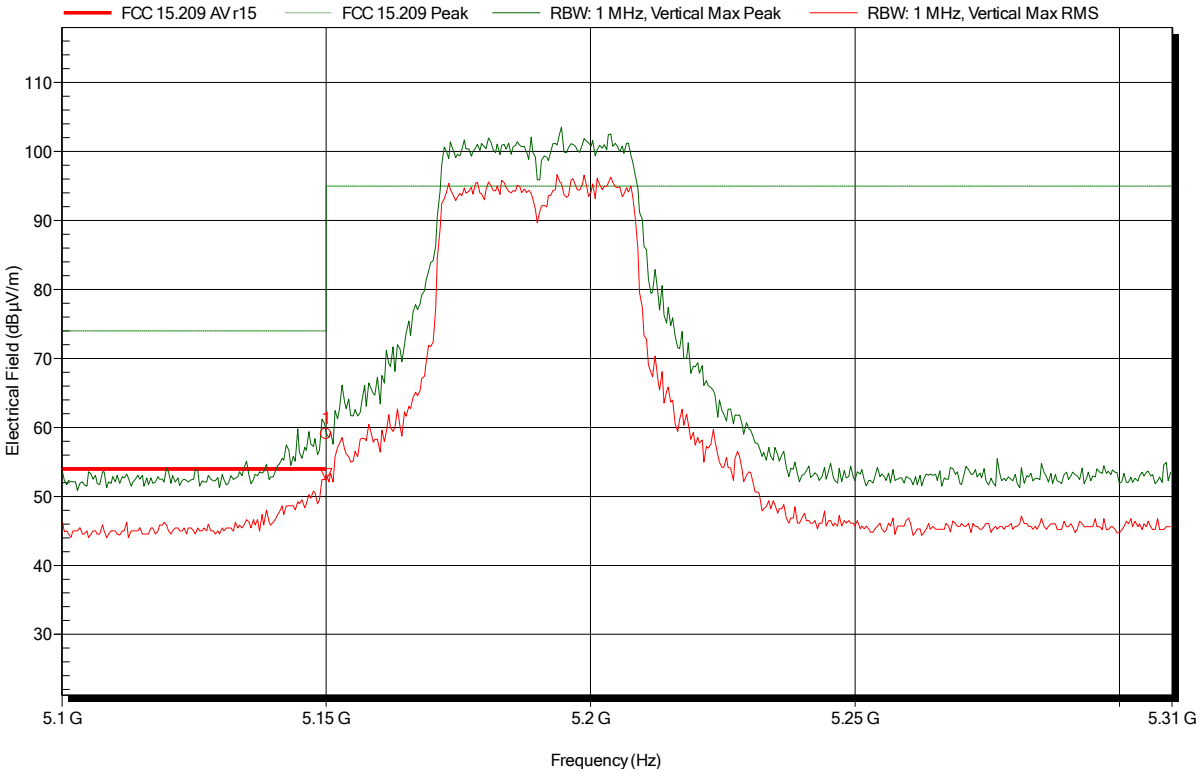

Frequency	Peak	Peak Limit	Peak Difference	Peak Status
5.15 GHz	59.04 dBµV/m	74 dBµV/m	-14.96 dB	Pass

Frequency	RMS	RMS Limit	RMS Difference	RMS Status
5.15 GHz	53.19 dBµV/m	54 dBµV/m	-0.81 dB	Pass

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Schwarzbeck BBHA 9120D, Vertical
Measurement distance:	3 m
Mode:	TX; 2 x HT20, CH48; ant.: RAD-ISM-2459-ANT-FOOD-6-0
Test Date:	2016-04-26
Note:	upper band-edge

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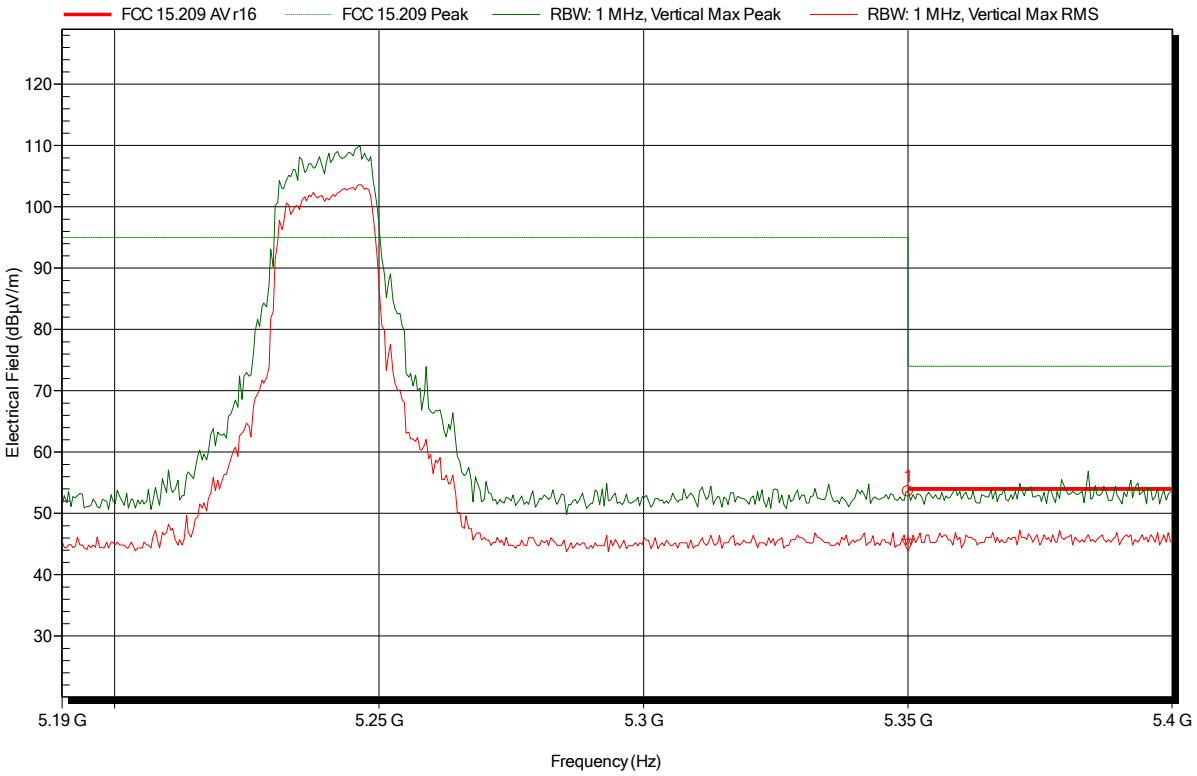

Frequency	Peak	Peak Limit	Peak Difference	Peak Status
5.35 GHz	53.57 dBµV/m	74 dBµV/m	-20.43 dB	Pass

Frequency	RMS	RMS Limit	RMS Difference	RMS Status
5.35 GHz	44.82 dBµV/m	54 dBµV/m	-9.18 dB	Pass

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Schwarzbeck BBHA 9120D, Horizontal
Measurement distance:	3 m
Mode:	TX; 802.11a, CH48; ant.: RAD-ISM-2459-ANT-FOOD-6-0
Test Date:	2016-04-26
Note:	upper band-edge

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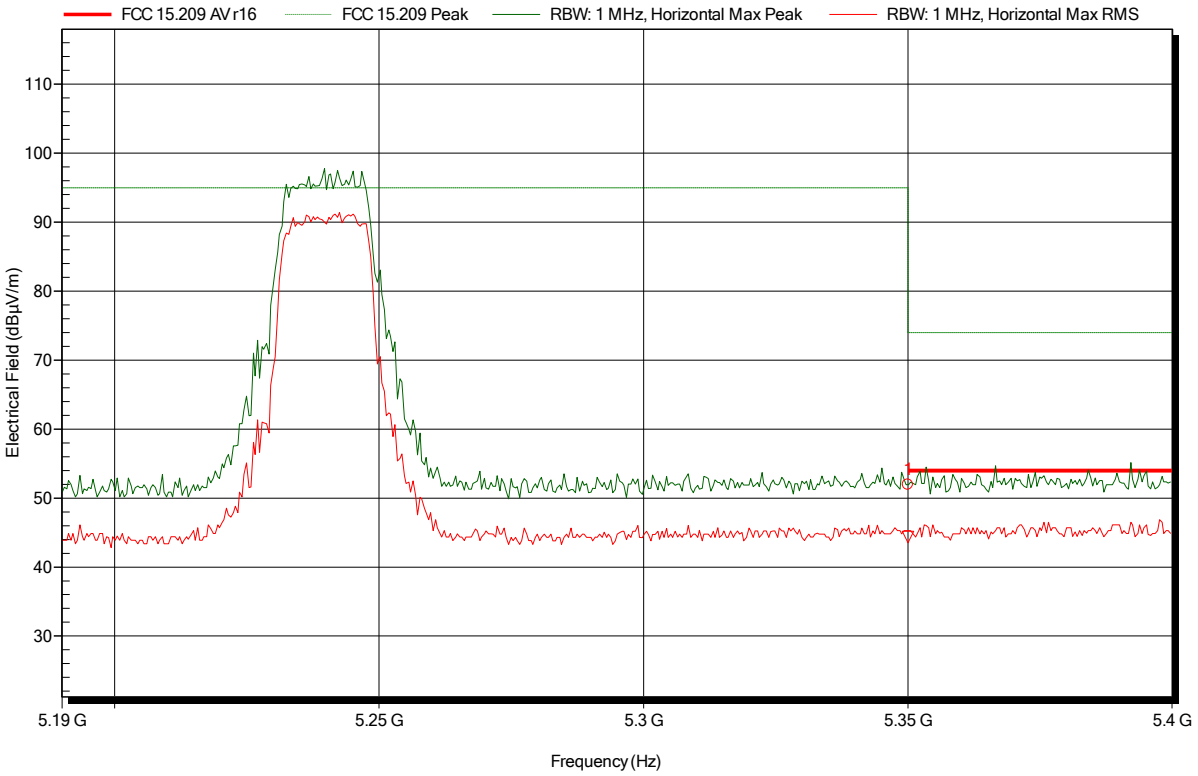

Frequency	Peak	Peak Limit	Peak Difference	Peak Status
5.35 GHz	51.92 dBµV/m	74 dBµV/m	-22.08 dB	Pass

Frequency	RMS	RMS Limit	RMS Difference	RMS Status
5.35 GHz	44.36 dBµV/m	54 dBµV/m	-9.64 dB	Pass

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Schwarzbeck BBHA 9120D, Vertical
Measurement distance:	3 m
Mode:	TX; 2 x HT40, CH44; ant.: RAD-ISM-2459-ANT-FOOD-6-0
Test Date:	2016-04-26
Note:	upper band-edge

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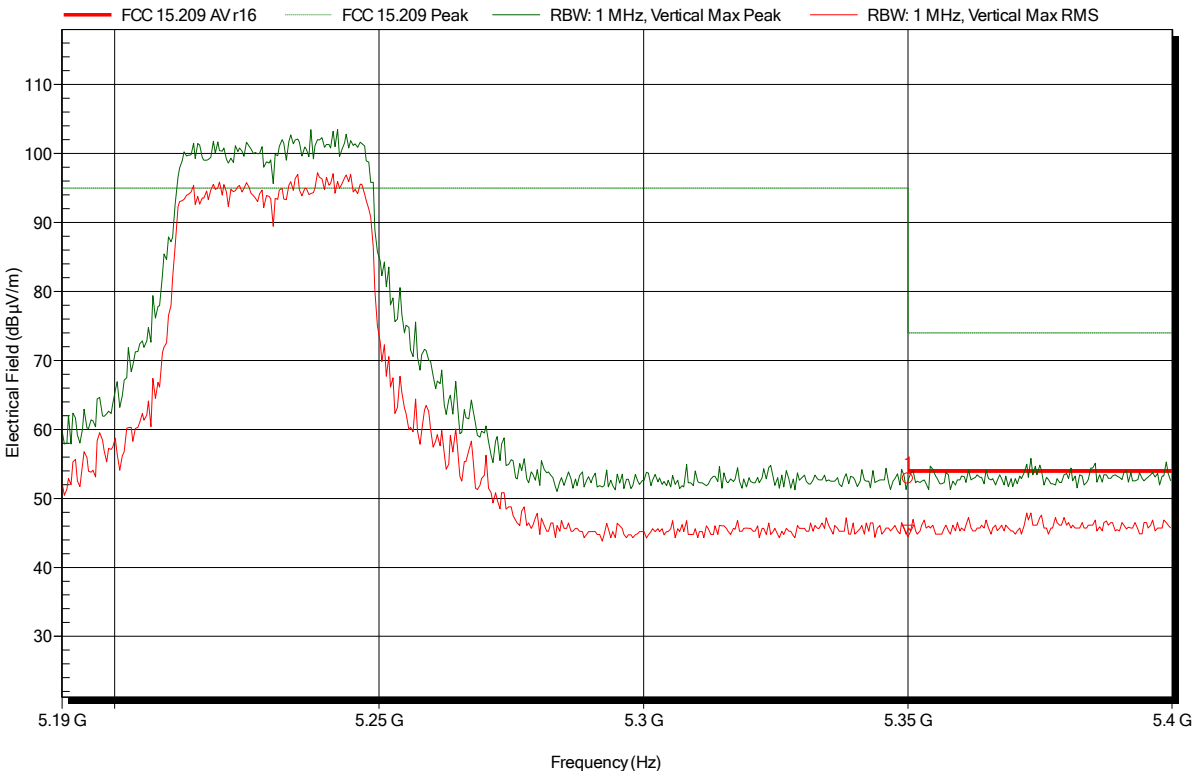

Frequency	Peak	Peak Limit	Peak Difference	Peak Status
5.35 GHz	52.87 dBµV/m	74 dBµV/m	-21.13 dB	Pass

Frequency	RMS	RMS Limit	RMS Difference	RMS Status
5.35 GHz	45.27 dBµV/m	54 dBµV/m	-8.73 dB	Pass

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Schwarzbeck BBHA 9120D, Vertical
Measurement distance:	3 m
Mode:	TX; 2 x HT20, CH36; ant.: RAD-ISM-2459-ANT-PAN-9-0-IP67
Test Date:	2016-04-22
Note:	lower band-edge

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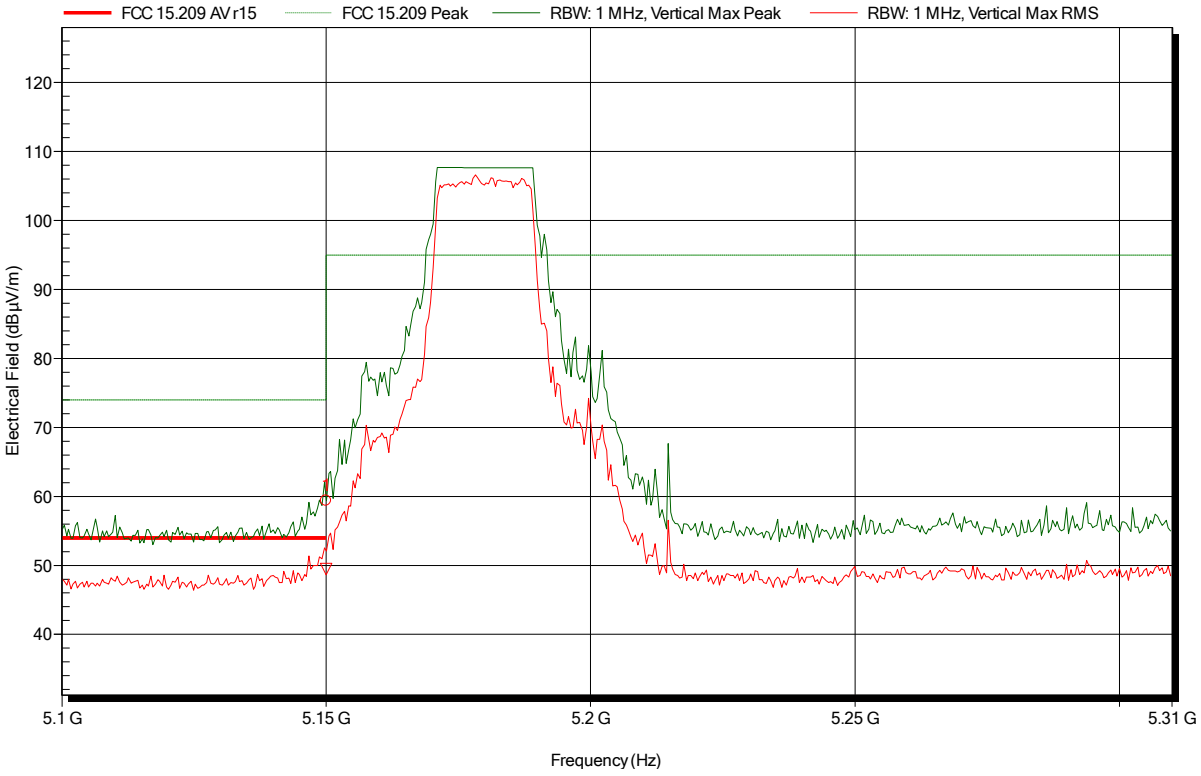

Frequency	Peak	Peak Limit	Peak Difference	Peak Status
5.15 GHz	59.38 dBµV/m	74 dBµV/m	-14.62 dB	Pass

Frequency	RMS	RMS Limit	RMS Difference	RMS Status
5.15 GHz	49.45 dBµV/m	54 dBµV/m	-4.55 dB	Pass

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Schwarzbeck BBHA 9120D, Horizontal
Measurement distance:	3 m
Mode:	TX; 802.11a, CH36; ant.: RAD-ISM-2459-ANT-PAN-9-0-IP67
Test Date:	2016-04-25
Note:	lower band-edge

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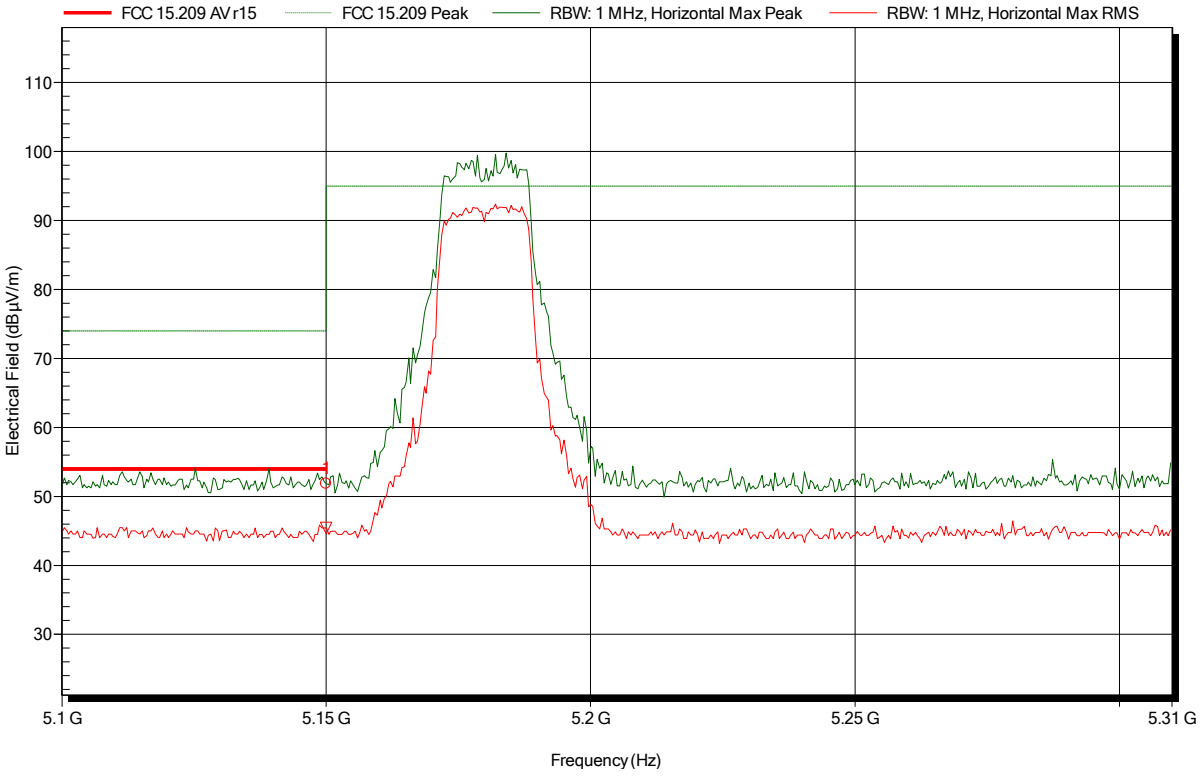

Frequency	Peak	Peak Limit	Peak Difference	Peak Status
5.15 GHz	51.85 dBµV/m	74 dBµV/m	-22.15 dB	Pass

Frequency	RMS	RMS Limit	RMS Difference	RMS Status
5.15 GHz	45.41 dBµV/m	54 dBµV/m	-8.59 dB	Pass

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Schwarzbeck BBHA 9120D, Vertical
Measurement distance:	3 m
Mode:	TX; 2 x HT 40, CH38; ant.: RAD-ISM-2459-ANT-PAN-9-0-IP67
Test Date:	2016-04-25
Note:	lower band-edge

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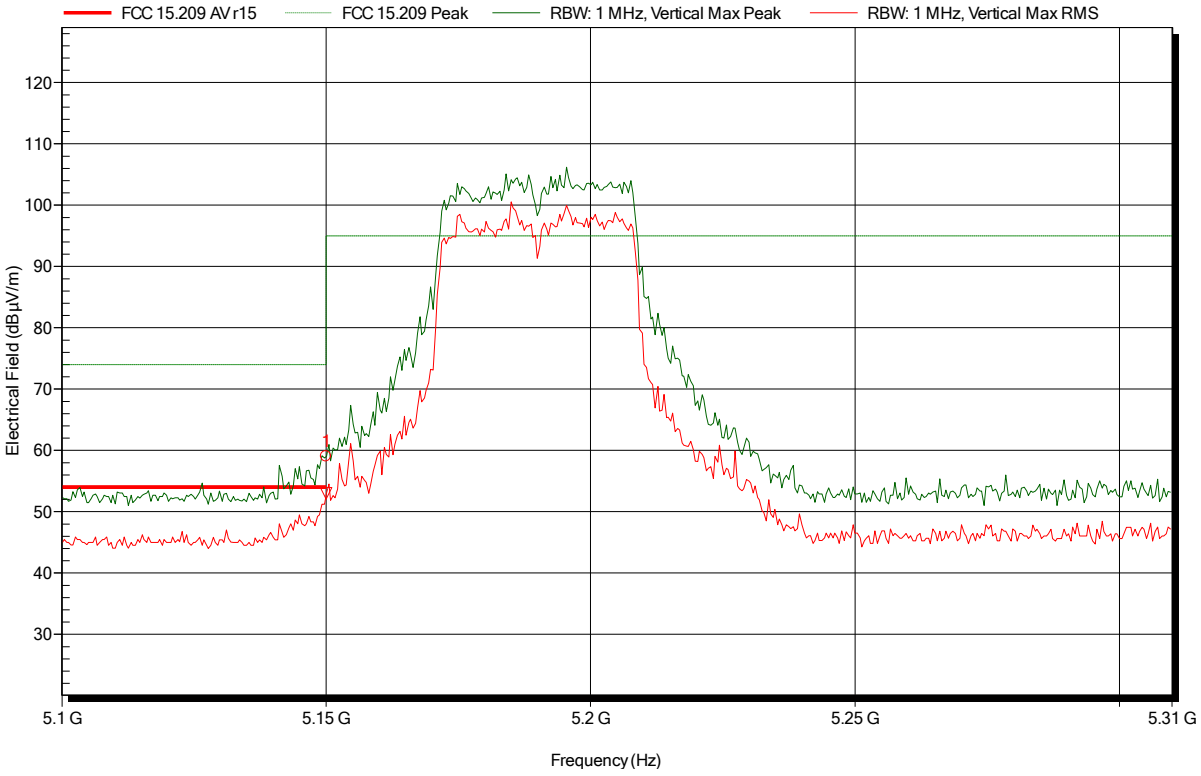

Frequency	Peak	Peak Limit	Peak Difference	Peak Status
5.15 GHz	59.04 dBµV/m	74 dBµV/m	-14.96 dB	Pass

Frequency	RMS	RMS Limit	RMS Difference	RMS Status
5.15 GHz	53.01 dBµV/m	54 dBµV/m	-0.99 dB	Pass

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Schwarzbeck BBHA 9120D, Vertical
Measurement distance:	3 m
Mode:	TX; 2 x HT20, CH48; ant.: RAD-ISM-2459-ANT-PAN-9-0-IP67
Test Date:	2016-04-25
Note:	upper band-edge

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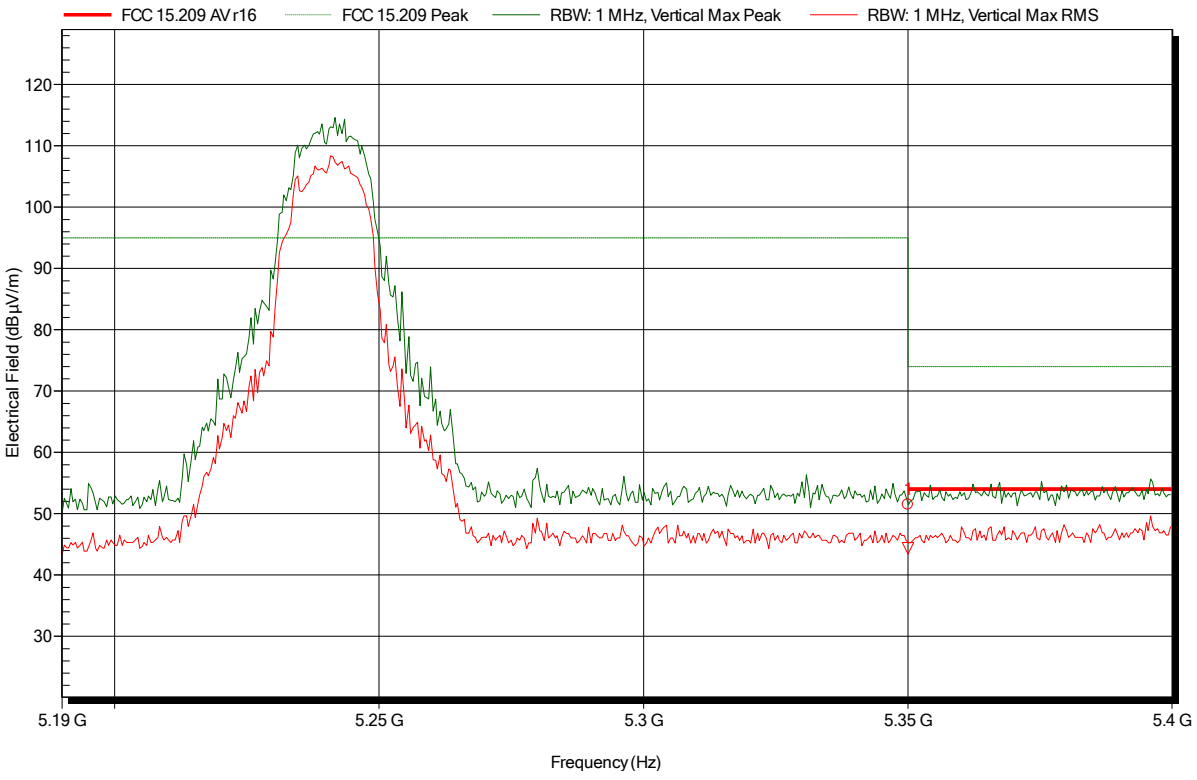

Frequency	Peak	Peak Limit	Peak Difference	Peak Status
5.35 GHz	51.51 dBµV/m	74 dBµV/m	-22.49 dB	Pass

Frequency	RMS	RMS Limit	RMS Difference	RMS Status
5.35 GHz	44.36 dBµV/m	54 dBµV/m	-9.64 dB	Pass

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Schwarzbeck BBHA 9120D, Vertical
Measurement distance:	3 m
Mode:	TX; 802.11a, CH48; ant.: RAD-ISM-2459-ANT-PAN-9-0-IP67
Test Date:	2016-04-25
Note:	upper band-edge

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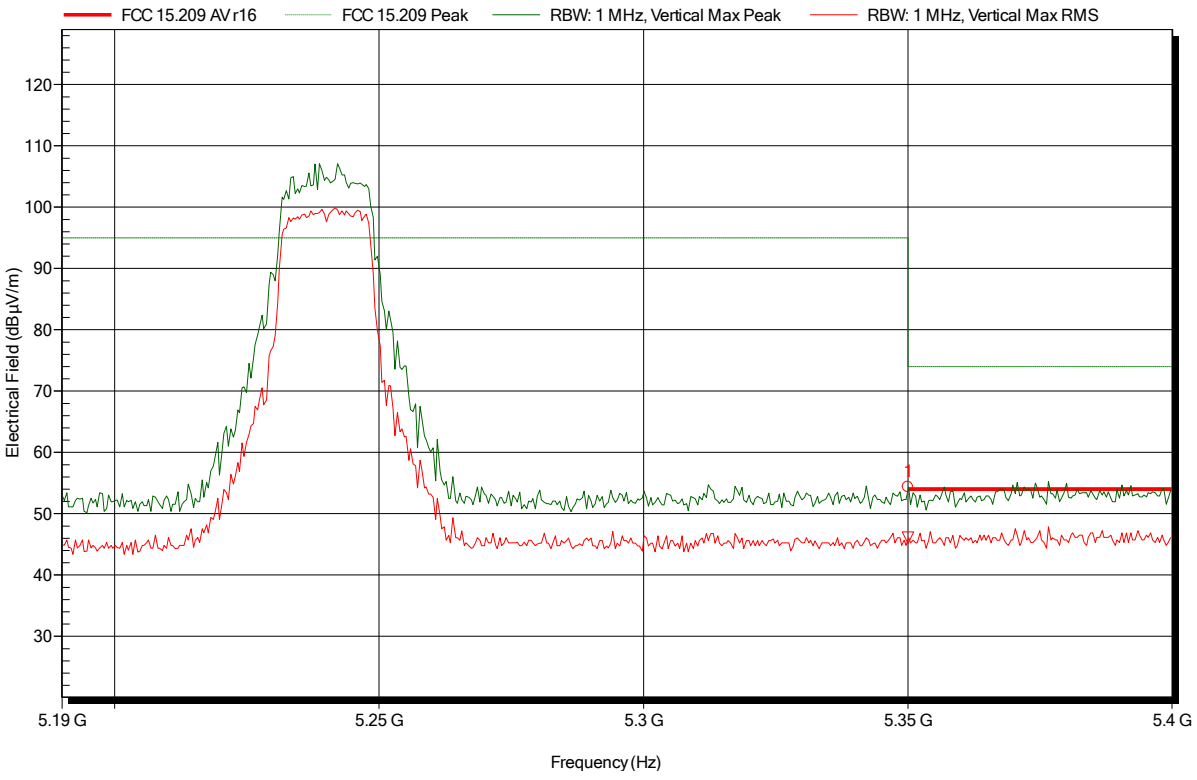

Frequency	Peak	Peak Limit	Peak Difference	Peak Status
5.35 GHz	54.37 dBµV/m	74 dBµV/m	-19.63 dB	Pass

Frequency	RMS	RMS Limit	RMS Difference	RMS Status
5.35 GHz	46.1 dBµV/m	54 dBµV/m	-7.9 dB	Pass

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Schwarzbeck BBHA 9120D, Vertical
Measurement distance:	3 m
Mode:	TX; 2 x HT40, CH44; ant.: RAD-ISM-2459-ANT-PAN-9-0-IP67
Test Date:	2016-04-25
Note:	upper band-edge

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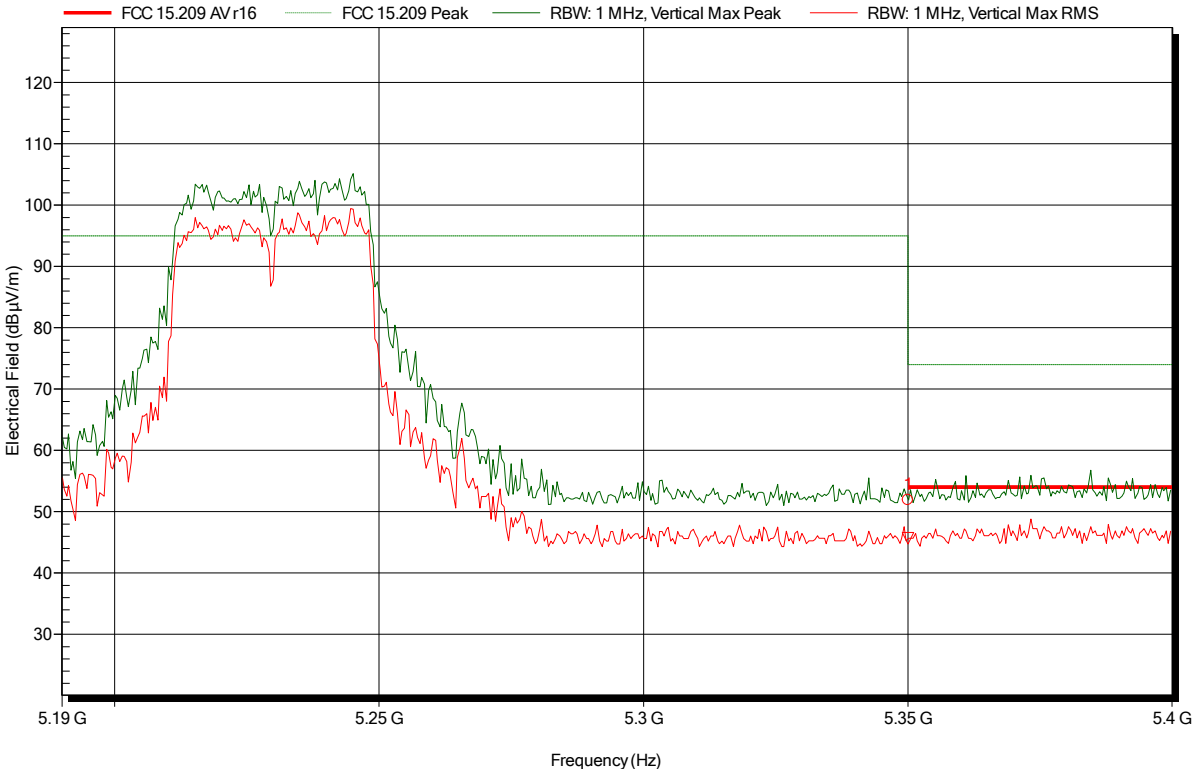
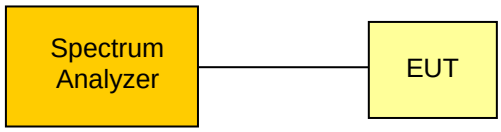


Frequency	Peak	Peak Limit	Peak Difference	Peak Status
5.35 GHz	51.92 dBµV/m	74 dBµV/m	-22.08 dB	Pass

Frequency	RMS	RMS Limit	RMS Difference	RMS Status
5.35 GHz	45.69 dBµV/m	54 dBµV/m	-8.31 dB	Pass

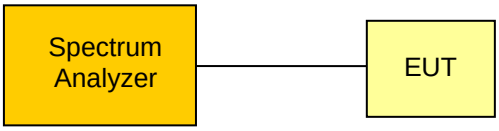
3.6 Test Conditions and Results – Frequency stability

Band-edge compliance acc. to FCC 15.407	**Verdict: PASS**
EUT requirement rule parts and clause	Reference
	FCC 15.407 (g)
Test according to measurement reference	Reference Method
	ANSI 63.10
Measurement mode	Frequency counter
Limits according to IEEE 802.11	
± 20 ppm	
Test setup	
	
Test procedure	
1. Set EUT to unmodulated transmit mode 2. Count frequency 3. Repeat measurements with minimum and maximum operating voltage as specified in user manual 4. Repeat measurements from maximum operating temperature in 10° steps down to minimum operating temperature as specified in user manual. Perform the measurement at each temperature at startup, after 2 minutes, after 5 minutes and after 10 minutes	

Test results when varying the supply voltage at ambient temperature			
Voltage	Temperature	Frequency Error [ppm]	Limit [ppm]
24.0 VDC	+20°C	0.29	±20
10.0 VDC	+20°C	-0.38	±20
36.0 VDC	+20°C	-0.19	±20
Comments: Measurements were performed in test mode 802.11a at 5200 MHz			

Test results when varying the ambient temperature						
Voltage	Temperature	Frequency Error [ppm] at start up	Frequency Error [ppm] after 2 minutes	Frequency Error [ppm] after 5 minutes	Frequency Error [ppm] after 10 minutes	Limit [ppm]
24.0 VDC	50°C	0.58	0.48	0.58	0.19	±20
24.0 VDC	40°C	0.65	1.07	1.05	1.10	±20
24.0 VDC	30°C	0.56	0.47	0.59	0.15	±20
24.0 VDC	20°C	0.56	1.19	1.05	1.13	±20
24.0 VDC	10°C	0.67	1.15	1.63	1.15	±20
24.0 VDC	0°C	1.83	1.44	1.15	1.73	±20
24.0 VDC	-10°C	1.15	0.87	0.96	1.44	±20
24.0 VDC	-20°C	0.29	0.58	0.77	0.96	±20
24.0 VDC	-30°C	0.19	0.00	0.00	0.48	±20
Comments: Measurements were performed in test mode 802.11a at 5200 MHz						

3.7 Test Conditions and Results – Minimum 6 dB Bandwidth

6dB Bandwidth acc. to FCC 15.407 / IC RSS-247					Verdict: PASS
EUT requirement rule parts and clause	Reference				
	FCC 15.407(e) / IC RSS-247 6.2				
Test according to measurement reference	Reference Method				
	ANSI C63.10				
Limits					
Frequency band [MHz]	Limit				
5725 - 5850	≥ 500kHz				
Test setup					
					
Test procedure					
1. Set EUT to test mode 2. Set detector to peak and trace to max hold 3. Set RBW to 100 kHz and VBW to 300 kHz 4. Set sweep time to auto 5. Allow trace to stabilize 6. Set marker to peak value 7. Set marker to level of -6 dB to the left of the peak 8. Set marker to level of -6 dB to the right of the peak 9. 6 dB Bandwidth is determined by marker frequency separation					
Test results					
Channel	Frequency [MHz]	Mode	6 dB Bandwidth [MHz]	≥ Limit [kHz]	Result
*-	-	-	-	-	-
Comments:*EUT operating frequency range 5150-5250 MHz no measurement required.					

3.8 Test Conditions and Results – AC power line conducted emissions

Power line conducted emissions acc. to FCC 47 CFR 15.207 / IC RSS-Gen				**Verdict: PASS**
Test according referenced standards	Reference Method			
	FCC 15.407(b) (6) / 15.207 / ANSI C63.4			
Fully configured sample scanned over the following frequency range	Frequency range			
	0.15 MHz to 30 MHz			
Points of Application	Application Interface			
AC Mains	LISN			
EUT test mode	AC-Power line			
Limits and results				
Frequency [MHz]	Quasi-Peak [dBµV]	Result	Average [dBµV]	Result
0.15 to 5	66 to 56*	PASS	56 to 46*	PASS
0.5 to 5	56	PASS	46	PASS
5 to 30	60	PASS	50	PASS
Comments: * Limit decreases linearly with the logarithm of the frequency.				

Conducted Emissions

EMI voltage test in the ac-mains according to FCC 15B

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Unom: 24VDC
LISN:	ESH2-Z5 N
Mode:	2 x HT20, CH40; ant.: 8dBi
Test Date:	2016-04-22
Note:	

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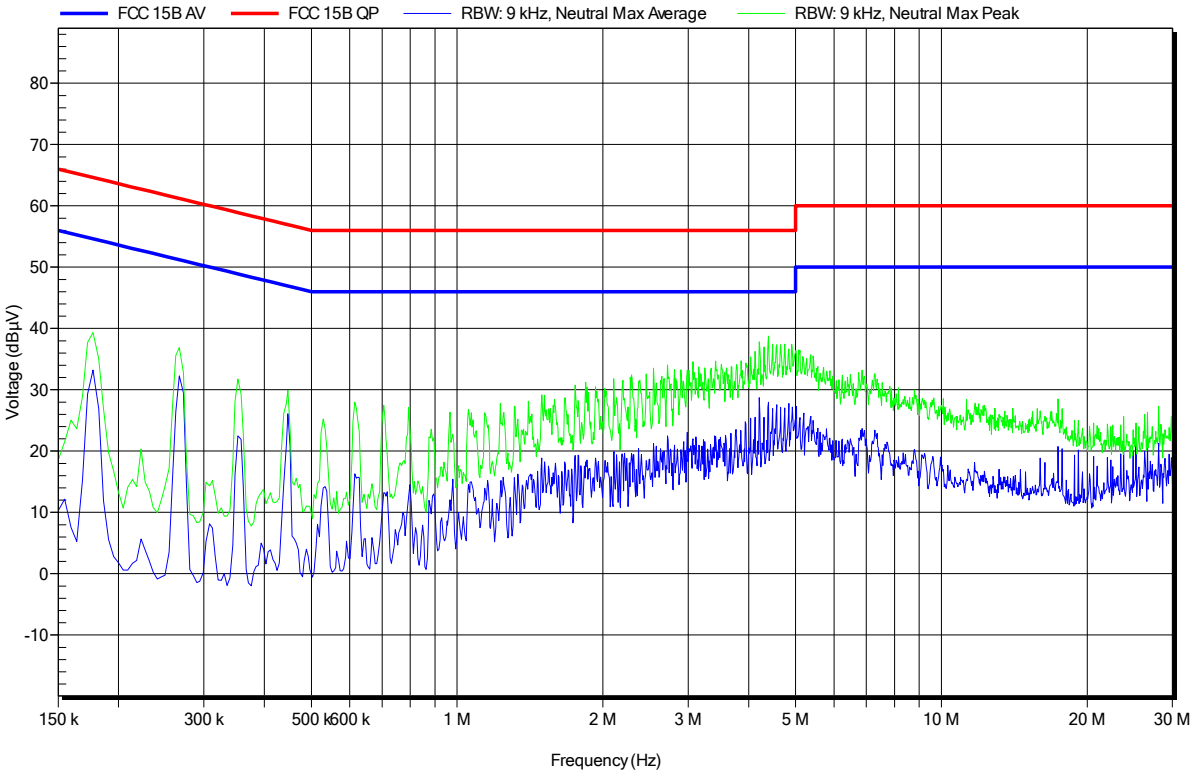

Conducted Emissions

EMI voltage test in the ac-mains according to FCC 15B

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Unom: 24VDC
LISN:	ESH2-Z5 L
Mode:	2 x HT20, CH40; ant.: 8dBi
Test Date:	2016-04-22
Note:	

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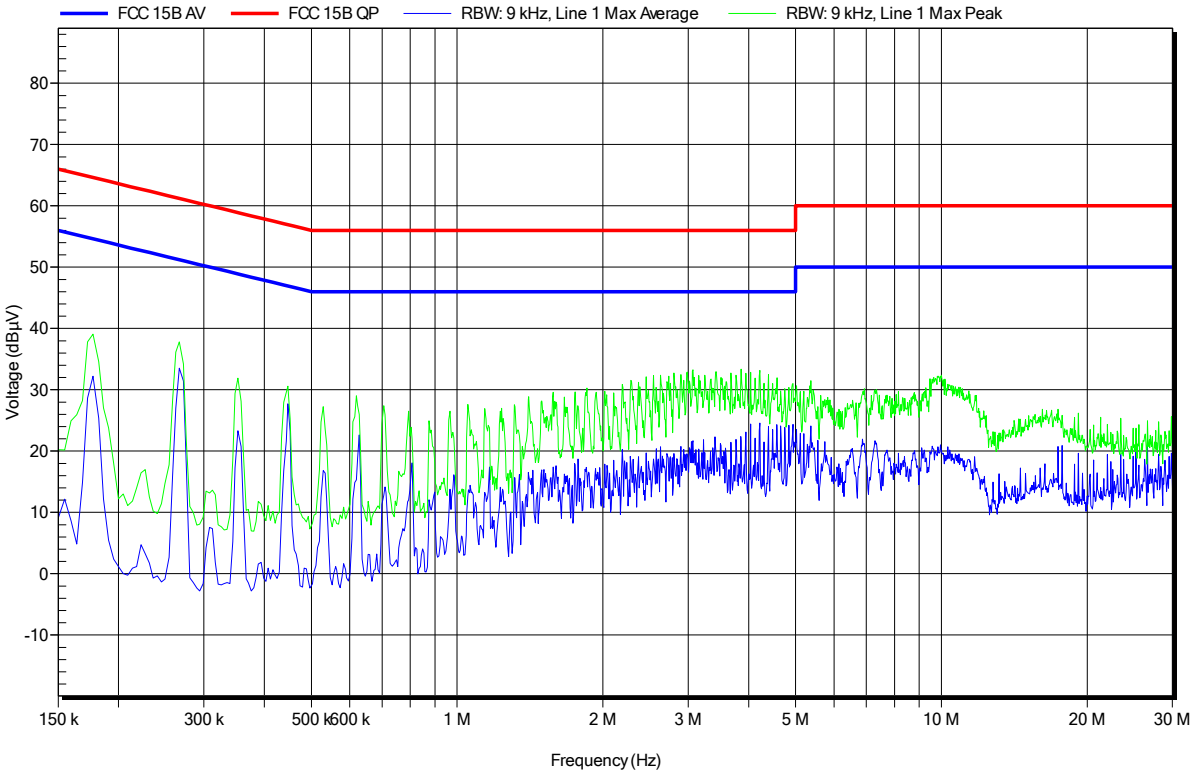
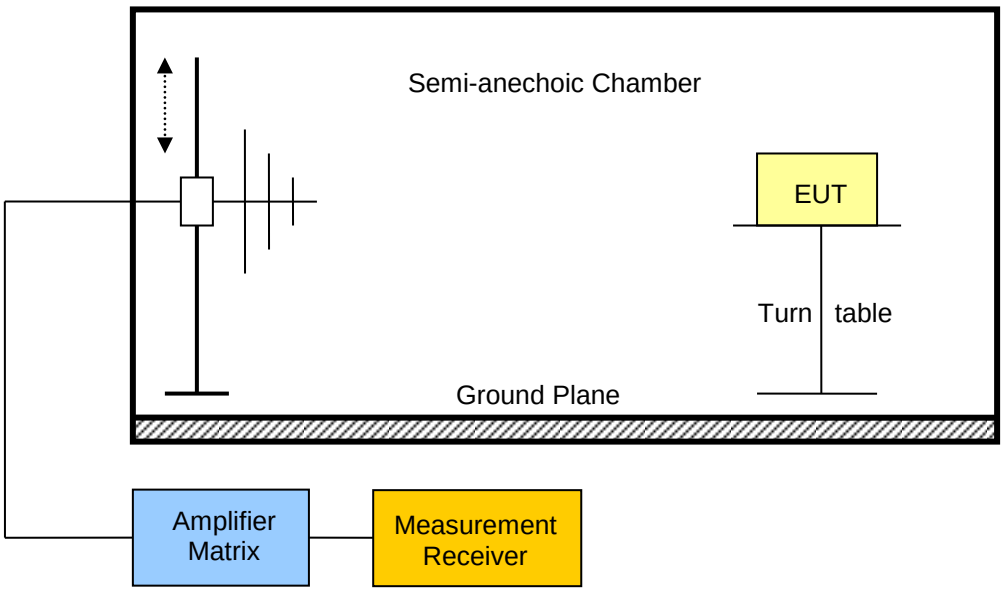


3.9 Test Conditions and Results – Transmitter radiated emissions in the restricted bands

Transmitter radiated emissions acc. to FCC 47 CFR 15.407 / IC RSS-247				**Verdict: PASS**
Test according referenced standards	Reference Method			
	FCC 15.407(b) (7) / IC RSS-247 6.2			
Test according to measurement reference	Reference Method			
	ANSI C63.10			
Test frequency range	Tested frequencies			
	30 MHz – 10th Harmonic			
Limits				
Frequency range [MHz]	Detector	Limit [µV/m]	Limit [dBµV/m]	Limit Distance [m]
30 – 88	Quasi-Peak	100	40	3
88 – 216	Quasi-Peak	150	43.5	3
216 – 960	Quasi-Peak	200	46	3
960 – 1000	Quasi-Peak	500	54	3
> 1000	Average	500	54	3
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 15.205(c)). Below 1000 MHz peak detector is allowed as an alternative to quasi-peak detector. Above 1000 MHz is an additional peak limit 20 dB above the average limit. If all peak measurements satisfy the average limit, then average measurements are not required.				
Test setup				



Test procedure
5. Set EUT to test mode 6. Set span according to measurement range 7. Set resolution bandwidth below 1 GHz according to CISPR 16 with peak/quasi-peak detector and to 1 MHz with peak/average detector above 1 GHz 8. Set markers to peak emission levels within restricted bands

Test results – Below 1GHz – ant.: RAD-ISM-2459-ANT-PAN-9-0-IP67 (worst case)									
Channel	Channel Frequency [MHz]	Test Mode	Emission Frequency [MHz]	Emission Level [dBµV/m]	Det.	Pol.	Limit [dBµV/m]	Limit dist. [m]*	Margin [dB]
36	5180	2 x HT20	165	40.70	pk	hor	43.50	3	-02.78
36	5180	2 x HT20	165	38.80	qpk	hor	43.50	3	-04.76
36	5180	2 x HT20	264.002	46.60	pk	ver	46.00	3	00.56
36	5180	2 x HT20	264.002	43.70	qpk	ver	46.00	3	-02.34
36	5180	2 x HT20	264.002	44.70	pk	hor	46.00	3	-01.26
36	5180	2 x HT20	264.002	41.80	qpk	hor	46.00	3	-04.17
36	5180	2 x HT20	329.984	45.90	pk	ver	46.00	3	-00.13
36	5180	2 x HT20	329.984	44.40	qpk	ver	46.00	3	-01.63
36	5180	2 x HT20	329.996	44.20	pk	hor	46.00	3	-01.82
36	5180	2 x HT20	329.996	43.60	qpk	hor	46.00	3	-02.41
40	5200	2 x HT20	165.006	42.60	pk	hor	43.50	3	-00.97
40	5200	2 x HT20	165.006	38.60	qpk	hor	43.50	3	-04.88
40	5200	2 x HT20	263.996	45.60	pk	hor	46.00	3	-00.43
40	5200	2 x HT20	263.996	43.20	qpk	hor	46.00	3	-02.83
40	5200	2 x HT20	264.002	46.30	pk	ver	46.00	3	00.29
40	5200	2 x HT20	264.002	43.70	qpk	ver	46.00	3	-02.34
40	5200	2 x HT20	329.984	45.70	pk	ver	46.00	3	-00.33
40	5200	2 x HT20	329.984	44.20	qpk	ver	46.00	3	-01.79
40	5200	2 x HT20	329.984	43.80	pk	hor	46.00	3	-02.20
40	5200	2 x HT20	329.984	42.50	qpk	hor	46.00	3	-03.52
48	5240	2 x HT20	164.994	41.00	pk	hor	43.50	3	-02.51
48	5240	2 x HT20	164.994	38.60	qpk	hor	43.50	3	-04.90
48	5240	2 x HT20	263.996	46.50	pk	ver	46.00	3	00.51
48	5240	2 x HT20	263.996	43.50	qpk	ver	46.00	3	-02.48
48	5240	2 x HT20	264.002	45.20	pk	hor	46.00	3	-00.75
48	5240	2 x HT20	264.002	42.80	qpk	hor	46.00	3	-03.20
48	5240	2 x HT20	329.99	45.10	pk	ver	46.00	3	-00.94
48	5240	2 x HT20	329.99	44.40	qpk	ver	46.00	3	-01.58
48	5240	2 x HT20	329.996	43.30	pk	hor	46.00	3	-02.67
48	5240	2 x HT20	329.996	42.70	qpk	hor	46.00	3	-03.26

Test results – Above 1GHz – ant.: RAD-ISM-2459-ANT-FOOD-6-0									
Channel	Channel Frequency [MHz]	Test Mode	Emission Frequency [MHz]	Emission Level [dBµV/m]	Det.	Pol.	Limit [dBµV/m]	Limit dist. [m]*	Margin [dB]
36	5180	2 x HT20	5144	56.39	pk	ver	74.00	3	-17.61
36	5180	2 x HT20	5144	45.80	RMS	ver	54.00	3	-08.20
36	5180	2 x HT20	5149	61.74	pk	ver	74.00	3	-12.26
36	5180	2 x HT20	5149	47.62	RMS	ver	54.00	3	-06.38
36	5180	2 x HT20	10360	40.99	pk	ver	68.00	3	-27.01
36	5180	2 x HT20	10360	40.56	pk	hor	68.00	3	-27.44
36	5180	2 x HT20	15540	41.46	pk	ver	74.00	3	-32.54
36	5180	2 x HT20	15540	42.20	pk	hor	74.00	3	-31.80
36	5180	2 x HT20	20720	39.99	pk	ver	74.00	3	-34.01
36	5180	2 x HT20	20720	38.83	pk	hor	74.00	3	-35.17
40	5200	2 x HT20	10400	39.86	pk	ver	68.00	3	-28.14
40	5200	2 x HT20	10400	39.73	pk	hor	68.00	3	-28.27
40	5200	2 x HT20	15600	40.98	pk	ver	74.00	3	-33.02
40	5200	2 x HT20	15600	41.91	pk	hor	74.00	3	-32.09
40	5200	2 x HT20	20516	44.46	pk	hor	74.00	3	-29.54
40	5200	2 x HT20	22981	47.79	pk	hor	74.00	3	-26.21
40	5200	2 x HT20	22998	48.68	pk	ver	74.00	3	-25.32
48	5240	2 x HT20	10480	41.66	pk	ver	68.00	3	-26.34
48	5240	2 x HT20	10480	41.90	pk	hor	68.00	3	-26.10
48	5240	2 x HT20	15720	41.50	pk	ver	74.00	3	-32.50
48	5240	2 x HT20	15720	40.62	pk	hor	74.00	3	-33.38

Test results – Above 1GHz – ant.: RAD-ISM-2459-ANT-PAN-9-0-IP67									
Channel	Channel Frequency [MHz]	Test Mode	Emission Frequency [MHz]	Emission Level [dBµV/m]	Det.	Pol.	Limit [dBµV/m]	Limit dist. [m]*	Margin [dB]
36	5180	2 x HT20	1209	59.53	pk	ver	74.00	3	-14.47
36	5180	2 x HT20	1209	59.53	pk	ver	74.00	3	-14.47
36	5180	2 x HT20	1209	45.41	RMS	ver	54.00	3	-08.59
36	5180	2 x HT20	5149	59.27	pk	hor	74.00	3	-14.73
36	5180	2 x HT20	5149	46.88	RMS	hor	54.00	3	-07.12
36	5180	2 x HT20	5385	56.01	pk	ver	74.00	3	-17.99
36	5180	2 x HT20	5385	48.47	RMS	ver	54.00	3	-05.53
36	5180	2 x HT20	5405	55.46	pk	ver	74.00	3	-18.54
36	5180	2 x HT20	5405	48.28	RMS	ver	54.00	3	-05.72
36	5180	2 x HT20	5440	55.54	pk	ver	74.00	3	-18.46
36	5180	2 x HT20	5440	48.84	RMS	ver	54.00	3	-05.16
40	5200	2 x HT20	1229	59.33	pk	ver	74.00	3	-14.67
40	5200	2 x HT20	1229	45.72	RMS	ver	54.00	3	-08.28
40	5200	2 x HT20	5371	55.23	pk	ver	74.00	3	-18.77
40	5200	2 x HT20	5371	47.46	RMS	ver	54.00	3	-06.54
40	5200	2 x HT20	5407	56.85	pk	ver	74.00	3	-17.15
40	5200	2 x HT20	5407	47.84	RMS	ver	54.00	3	-06.16
40	5200	2 x HT20	5467	56.03	pk	ver	68.00	3	-11.97
40	5200	2 x HT20	5467	47.68	RMS	ver	54.00	3	-06.32
48	5240	2 x HT20	3886	57.62	pk	ver	74.00	3	-16.38
48	5240	2 x HT20	3886	42.08	RMS	ver	54.00	3	-11.92
48	5240	2 x HT20	5080	55.78	pk	ver	74.00	3	-18.22
48	5240	2 x HT20	5080	46.35	RMS	ver	54.00	3	-07.65
48	5240	2 x HT20	5084	55.68	pk	ver	74.00	3	-18.32
48	5240	2 x HT20	5084	46.27	RMS	ver	54.00	3	-07.73
48	5240	2 x HT20	5366	52.82	pk	ver	74.00	3	-21.18
48	5240	2 x HT20	5366	46.35	RMS	ver	54.00	3	-07.65
48	5240	2 x HT20	5408	53.88	pk	ver	74.00	3	-20.12
48	5240	2 x HT20	5408	45.54	RMS	ver	54.00	3	-08.46

Emissions at the Band edges see direct the Band-Edge measurement.

ANNEX A Transmitter radiated spurious emissions

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Rohde & Schwarz HK 116, Vertical
Measurement distance:	3 m
Mode:	TX; 2 x HT20, CH36; ant.: RAD-ISM-2459-ANT-PAN-9-0-IP67
Test Date:	2016-04-15
Note:	TX

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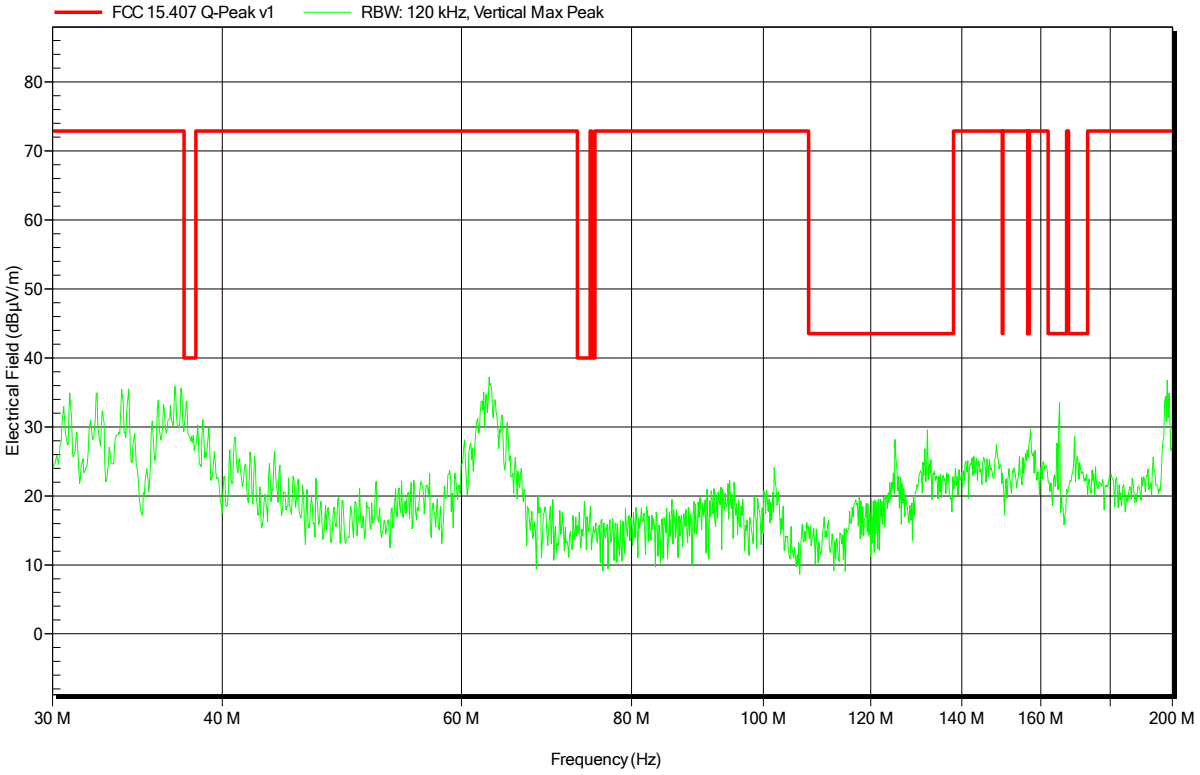

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Rohde & Schwarz HK 116, Horizontal
Measurement distance:	3 m
Mode:	TX; 2 x HT20, CH36; ant.: RAD-ISM-2459-ANT-PAN-9-0-IP67
Test Date:	2016-04-15
Note:	

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Frequency	Peak	Peak Limit	Peak Difference	Status
165 MHz	40.7 dBµV/m	43.5 dBµV/m	-2.78 dB	Pass

Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status
165 MHz	38.8 dBµV/m	43.5 dBµV/m	-4.76 dB	Pass

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Rohde & Schwarz HK 116, Vertical
Measurement distance:	3 m
Mode:	TX; 2 x HT20, CH40; ant.: RAD-ISM-2459-ANT-PAN-9-0-IP67
Test Date:	2016-04-15
Note:	TX

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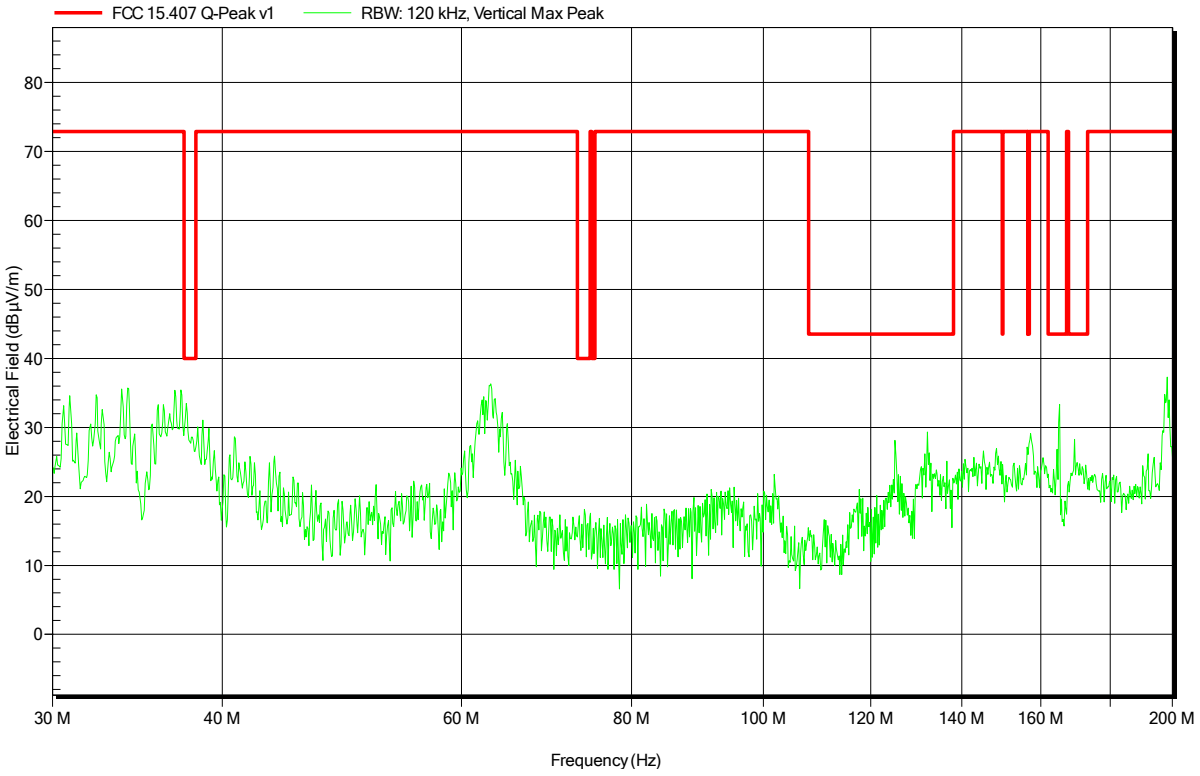

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Rohde & Schwarz HK 116, Horizontal
Measurement distance:	3 m
Mode:	TX; 2 x HT20, CH40; ant.: RAD-ISM-2459-ANT-PAN-9-0-IP67
Test Date:	2016-04-15
Note:	

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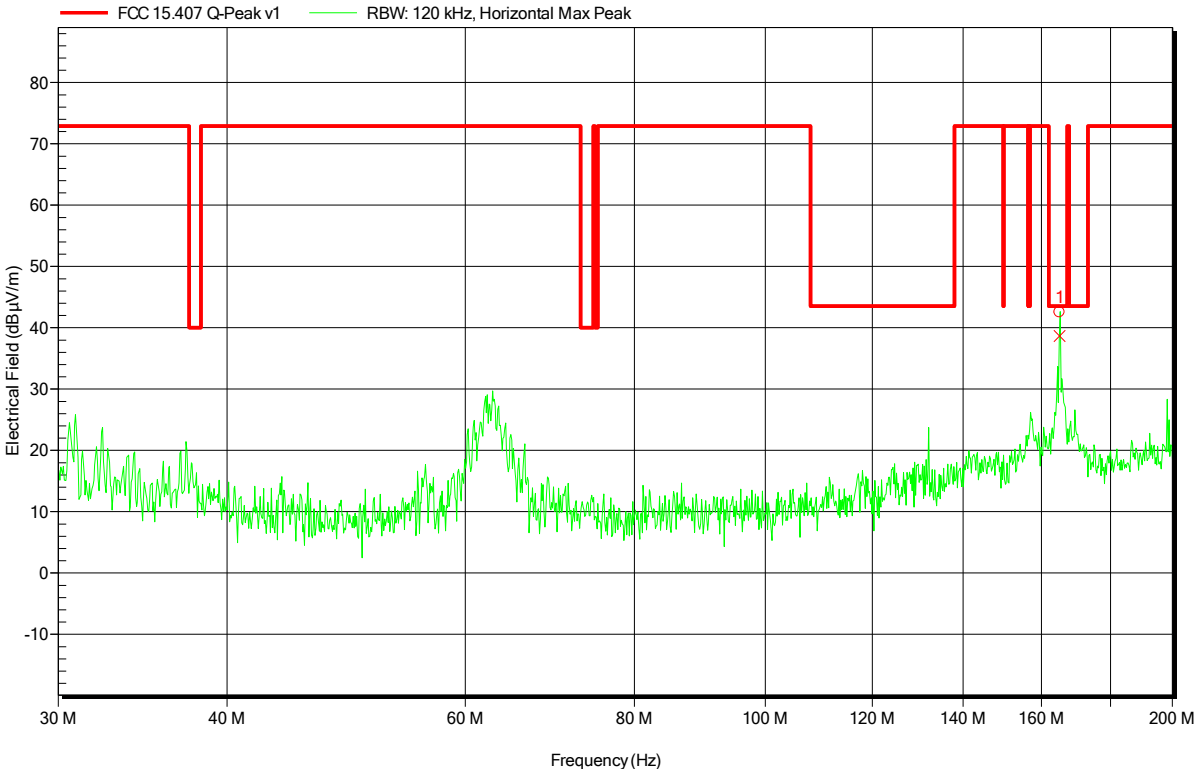

Frequency	Peak	Peak Limit	Peak Difference	Status
165.006 MHz	42.6 dBµV/m	43.5 dBµV/m	-0.97 dB	Pass

Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status
165.006 MHz	38.6 dBµV/m	43.5 dBµV/m	-4.88 dB	Pass

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Rohde & Schwarz HK 116, Vertical
Measurement distance:	3 m
Mode:	TX; 2 x HT20, CH48; ant.: RAD-ISM-2459-ANT-PAN-9-0-IP67
Test Date:	2016-04-15
Note:	

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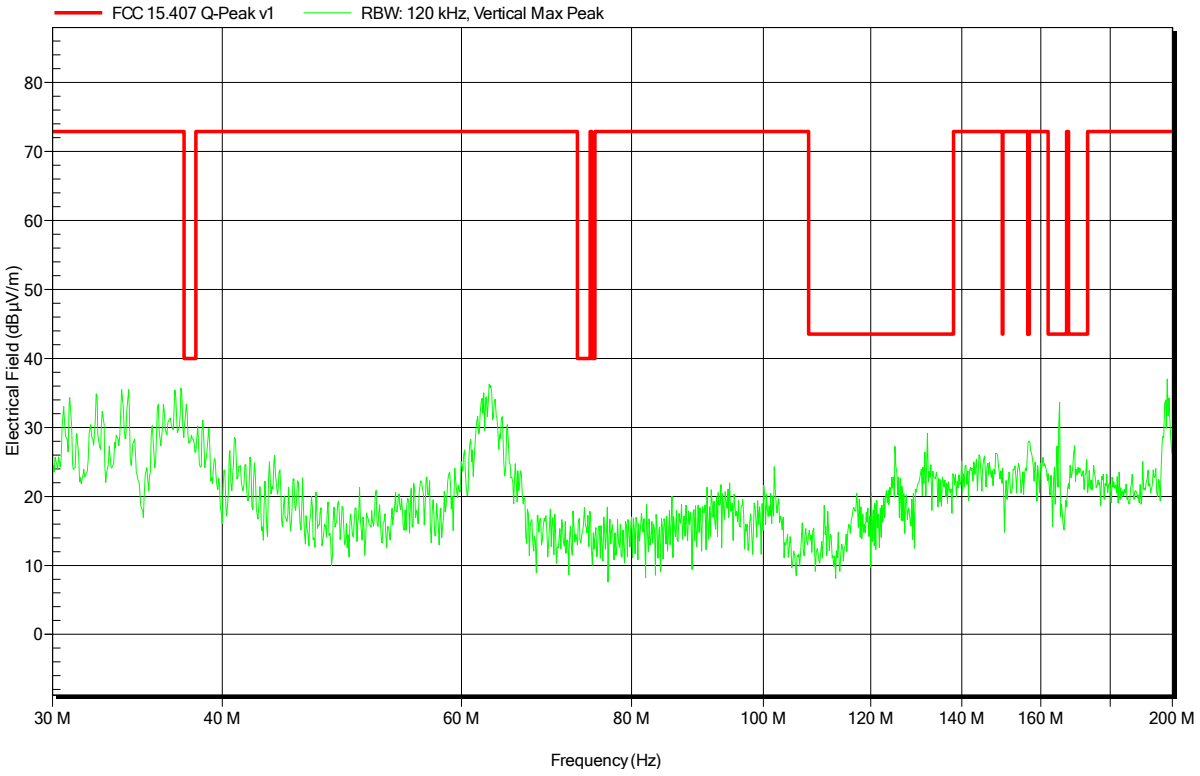

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Rohde & Schwarz HK 116, Horizontal
Measurement distance:	3 m
Mode:	TX; 2 x HT20, CH48; ant.: RAD-ISM-2459-ANT-PAN-9-0-IP67
Test Date:	2016-04-15
Note:	

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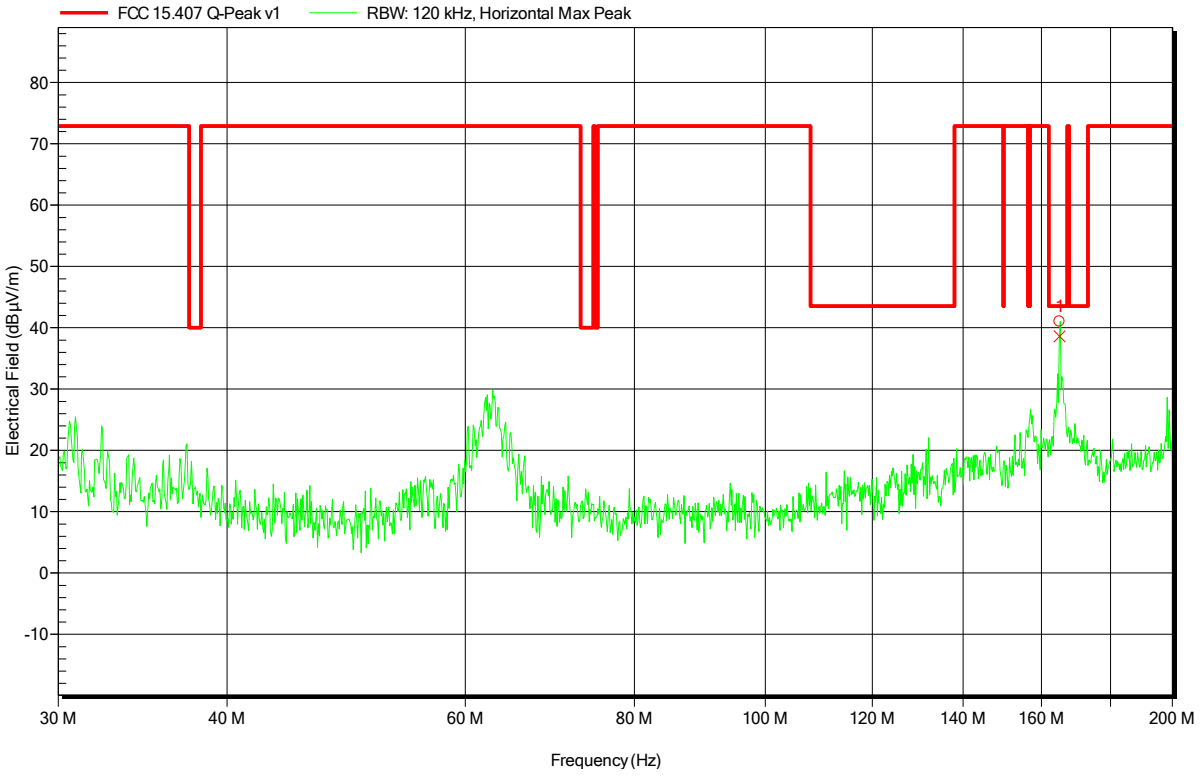

Frequency	Peak	Peak Limit	Peak Difference	Status
164.994 MHz	41 dBµV/m	43.5 dBµV/m	-2.51 dB	Pass

Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status
164.994 MHz	38.6 dBµV/m	43.5 dBµV/m	-4.9 dB	Pass

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Rohde & Schwarz HL 223, Vertical
Measurement distance:	3 m
Mode:	TX; 2 x HT20, CH36; ant.: RAD-ISM-2459-ANT-PAN-9-0-IP67
Test Date:	2016-04-15
Note:	

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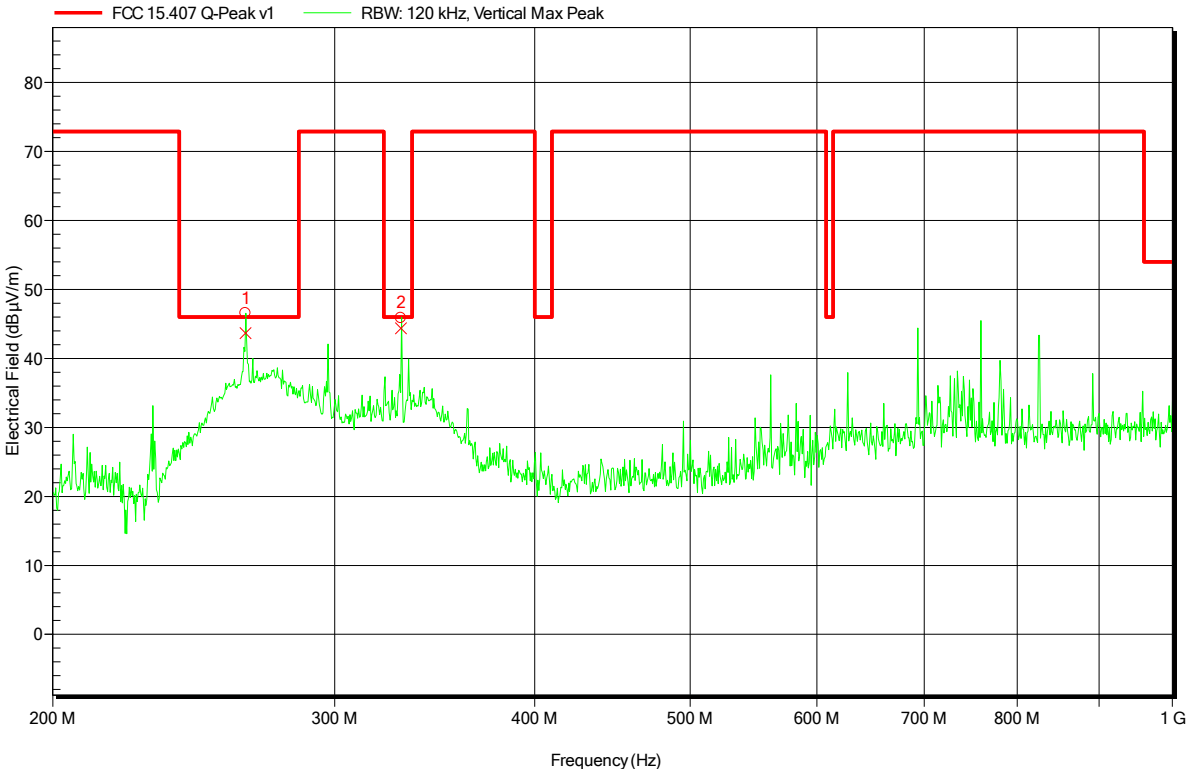

Frequency	Peak	Peak Limit	Peak Difference	Status
264.002 MHz	46.6 dBµV/m	46 dBµV/m	0.56 dB	Fail
329.984 MHz	45.9 dBµV/m	46 dBµV/m	-0.13 dB	Pass

Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status
264.002 MHz	43.7 dBµV/m	46 dBµV/m	-2.34 dB	Pass
329.984 MHz	44.4 dBµV/m	46 dBµV/m	-1.63 dB	Pass

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Rohde & Schwarz HL 223, Horizontal
Measurement distance:	3 m
Mode:	TX; 2 x HT20, CH36; ant.: RAD-ISM-2459-ANT-PAN-9-0-IP67
Test Date:	2016-04-15
Note:	

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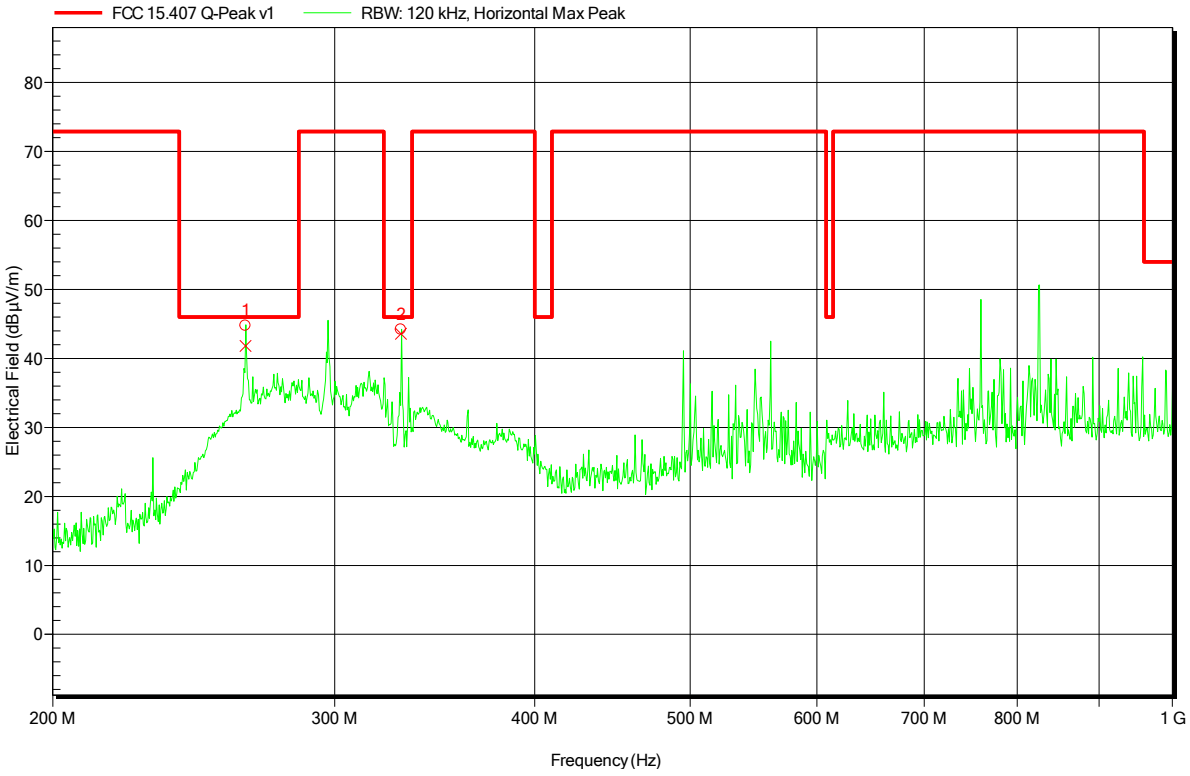

Frequency	Peak	Peak Limit	Peak Difference	Status
264.002 MHz	44.7 dBµV/m	46 dBµV/m	-1.26 dB	Pass
329.996 MHz	44.2 dBµV/m	46 dBµV/m	-1.82 dB	Pass

Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status
264.002 MHz	41.8 dBµV/m	46 dBµV/m	-4.17 dB	Pass
329.996 MHz	43.6 dBµV/m	46 dBµV/m	-2.41 dB	Pass

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Rohde & Schwarz HL 223, Vertical
Measurement distance:	3 m
Mode:	TX; 2 x HT20, CH40; ant.: RAD-ISM-2459-ANT-PAN-9-0-IP67
Test Date:	2016-04-15
Note:	

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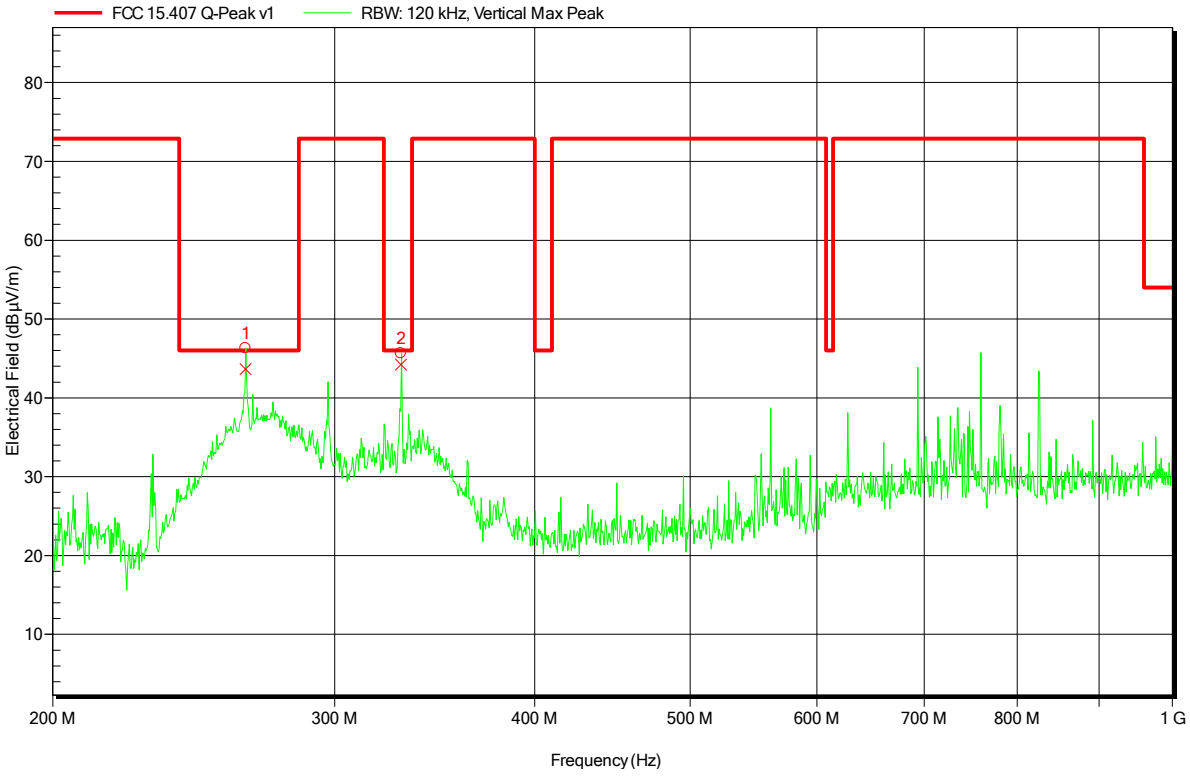

Frequency	Peak	Peak Limit	Peak Difference	Status
264.002 MHz	46.3 dBµV/m	46 dBµV/m	0.29 dB	Fail
329.984 MHz	45.7 dBµV/m	46 dBµV/m	-0.33 dB	Pass

Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status
264.002 MHz	43.7 dBµV/m	46 dBµV/m	-2.34 dB	Pass
329.984 MHz	44.2 dBµV/m	46 dBµV/m	-1.79 dB	Pass

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Rohde & Schwarz HL 223, Horizontal
Measurement distance:	3 m
Mode:	TX; 2 x HT20, CH40; ant.: RAD-ISM-2459-ANT-PAN-9-0-IP67
Test Date:	2016-04-15
Note:	

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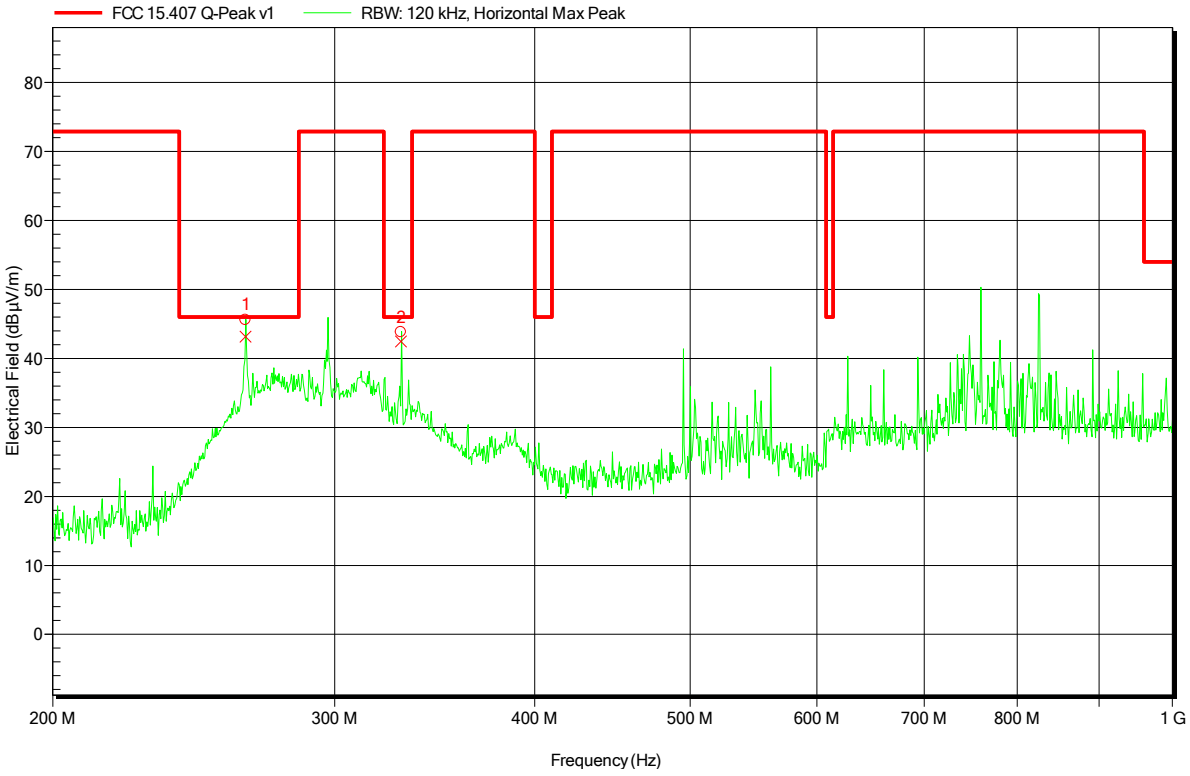

Frequency	Peak	Peak Limit	Peak Difference	Status
263.996 MHz	45.6 dBµV/m	46 dBµV/m	-0.43 dB	Pass
329.984 MHz	43.8 dBµV/m	46 dBµV/m	-2.2 dB	Pass

Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status
263.996 MHz	43.2 dBµV/m	46 dBµV/m	-2.83 dB	Pass
329.984 MHz	42.5 dBµV/m	46 dBµV/m	-3.52 dB	Pass

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Rohde & Schwarz HL 223, Vertical
Measurement distance:	3 m
Mode:	TX; 2 x HT20, CH48; ant.: RAD-ISM-2459-ANT-PAN-9-0-IP67
Test Date:	2016-04-15
Note:	

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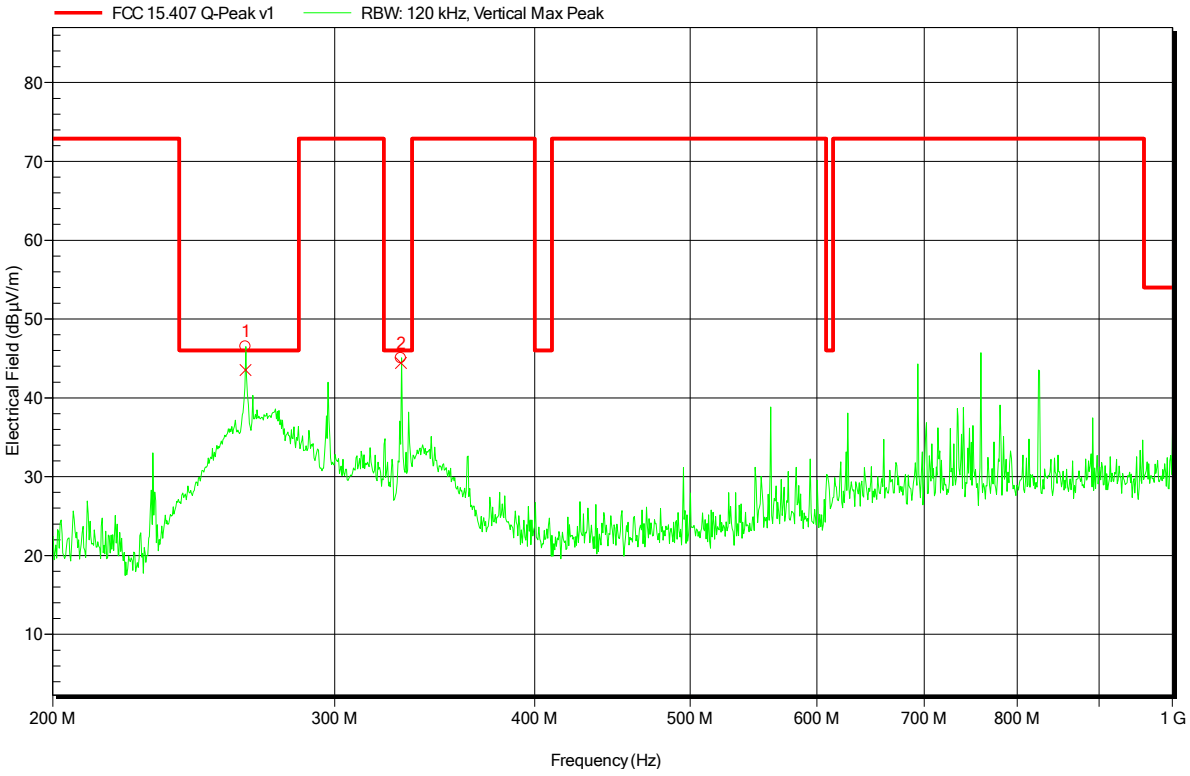

Frequency	Peak	Peak Limit	Peak Difference	Status
263.996 MHz	46.5 dBµV/m	46 dBµV/m	0.51 dB	Fail
329.99 MHz	45.1 dBµV/m	46 dBµV/m	-0.94 dB	Pass

Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status
263.996 MHz	43.5 dBµV/m	46 dBµV/m	-2.48 dB	Pass
329.99 MHz	44.4 dBµV/m	46 dBµV/m	-1.58 dB	Pass

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Rohde & Schwarz HL 223, Horizontal
Measurement distance:	3 m
Mode:	TX; 2 x HT20, CH48; ant.: RAD-ISM-2459-ANT-PAN-9-0-IP67
Test Date:	2016-04-15
Note:	

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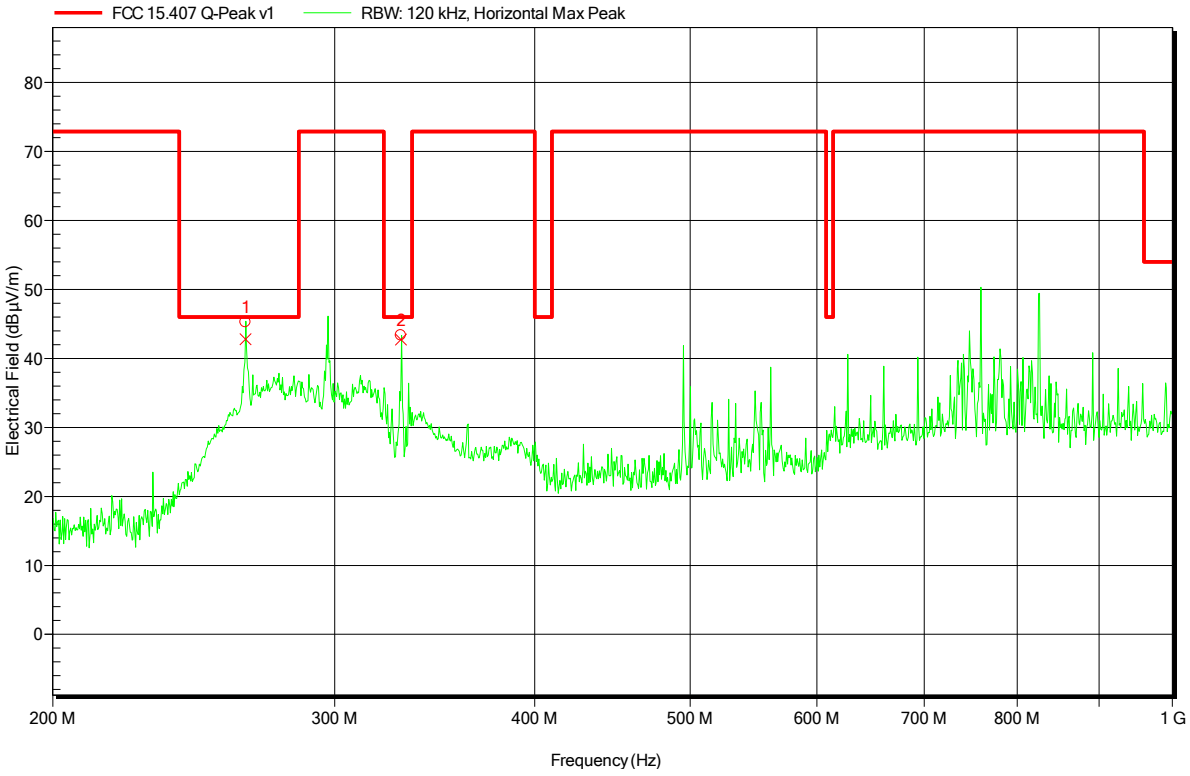

Frequency	Peak	Peak Limit	Peak Difference	Status
264.002 MHz	45.2 dBµV/m	46 dBµV/m	-0.75 dB	Pass
329.996 MHz	43.3 dBµV/m	46 dBµV/m	-2.67 dB	Pass

Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status
264.002 MHz	42.8 dBµV/m	46 dBµV/m	-3.2 dB	Pass
329.996 MHz	42.7 dBµV/m	46 dBµV/m	-3.26 dB	Pass

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Schwarzbeck BBHA 9120D, Vertical
Measurement distance:	3 m
Mode:	TX; 2 x HT20, CH36; ant.: RAD-ISM-2459-ANT-PAN-9-0-IP67
Test Date:	2016-04-21
Note:	

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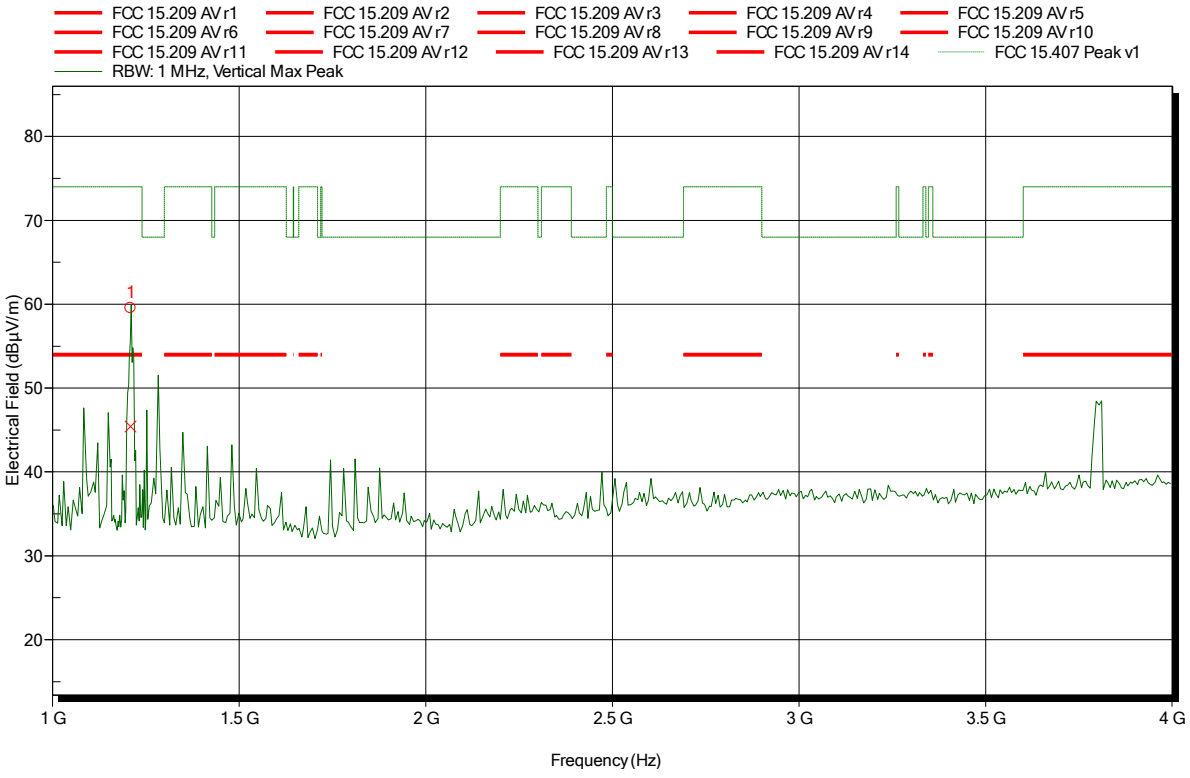

Frequency	Peak	Peak Limit	Peak Difference	Peak Status
1.209 GHz	59.53 dBµV/m	74 dBµV/m	-14.47 dB	Pass

Frequency	Average	Average Limit	Average Difference	Average Status
1.209 GHz	45.41 dBµV/m	54 dBµV/m	-8.59 dB	Pass

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Schwarzbeck BBHA 9120D, Horizontal
Measurement distance:	3 m
Mode:	TX; 2 x HT20, CH36; ant.: RAD-ISM-2459-ANT-PAN-9-0-IP67
Test Date:	2016-04-21
Note:	

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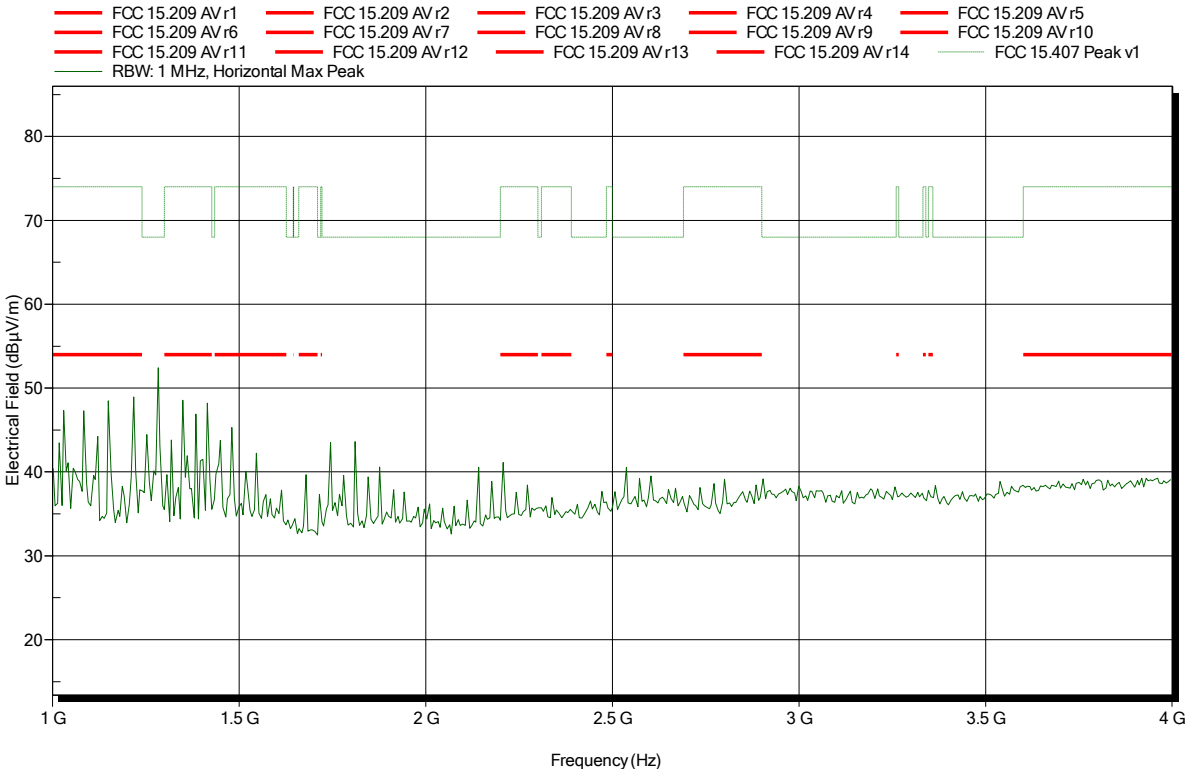

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Schwarzbeck BBHA 9120D, Horizontal
Measurement distance:	3 m
Mode:	TX; 2 x HT20, CH40; ant.: RAD-ISM-2459-ANT-PAN-9-0-IP67
Test Date:	2016-04-21
Note:	

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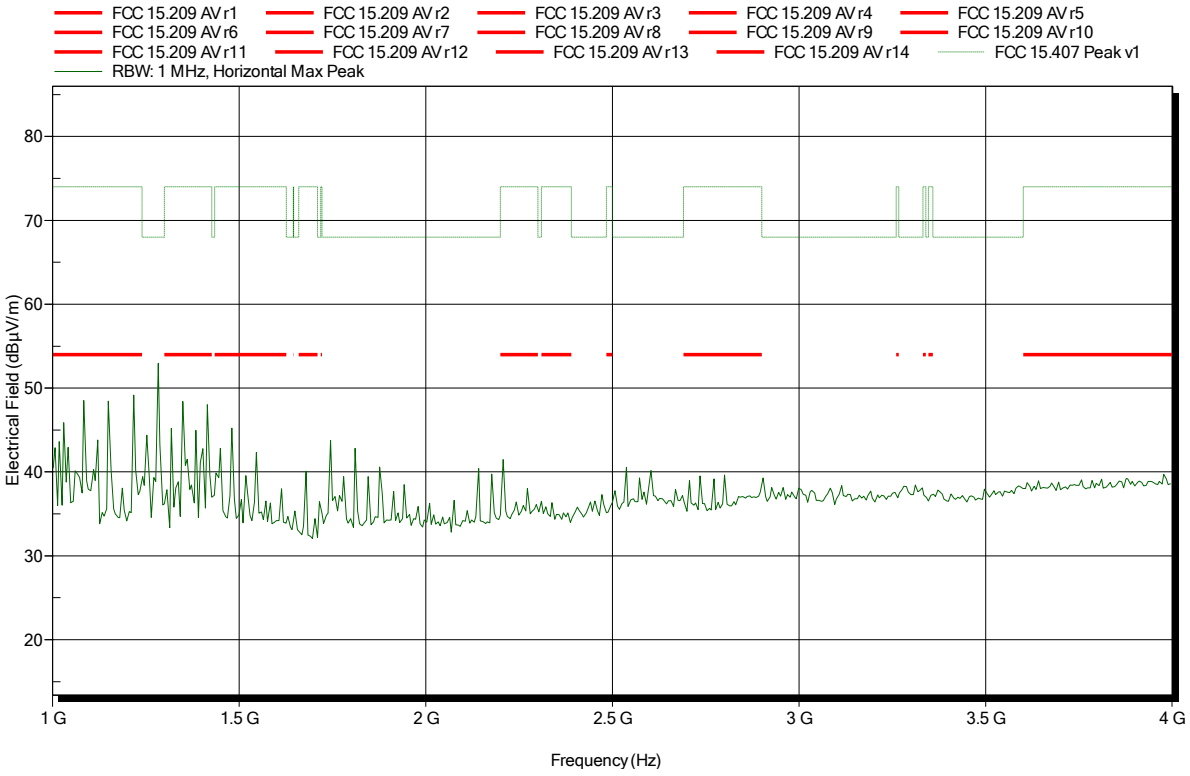

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Schwarzbeck BBHA 9120D, Vertical
Measurement distance:	3 m
Mode:	TX; 2 x HT20, CH40; ant.: RAD-ISM-2459-ANT-PAN-9-0-IP67
Test Date:	2016-04-21
Note:	

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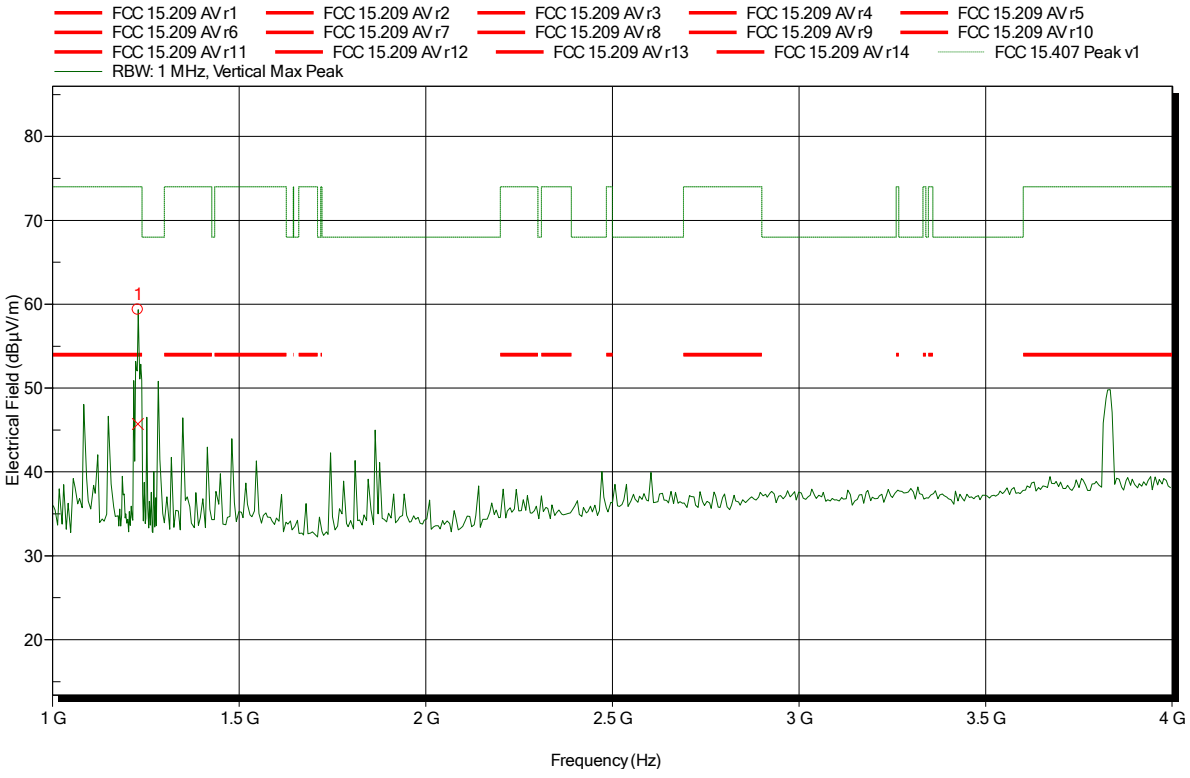

Frequency	Peak	Peak Limit	Peak Difference	Peak Status
1.229 GHz	59.33 dBµV/m	74 dBµV/m	-14.67 dB	Pass

Frequency	Average	Average Limit	Average Difference	Average Status
1.229 GHz	45.72 dBµV/m	54 dBµV/m	-8.28 dB	Pass

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Schwarzbeck BBHA 9120D, Vertical
Measurement distance:	3 m
Mode:	TX; 2 x HT20, CH48; ant.: RAD-ISM-2459-ANT-PAN-9-0-IP67
Test Date:	2016-04-21
Note:	

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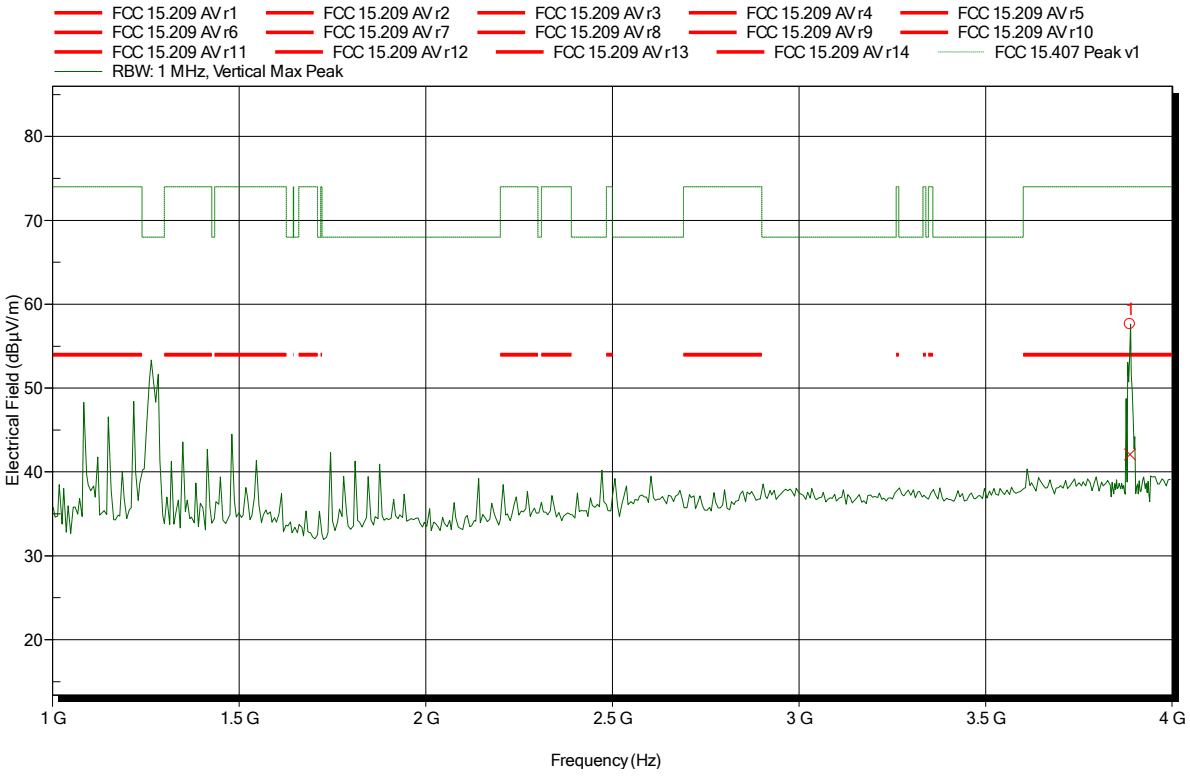

Frequency	Peak	Peak Limit	Peak Difference	Peak Status
3.886 GHz	57.62 dBµV/m	74 dBµV/m	-16.38 dB	Pass

Frequency	Average	Average Limit	Average Difference	Average Status
3.886 GHz	42.08 dBµV/m	54 dBµV/m	-11.92 dB	Pass

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Schwarzbeck BBHA 9120D, Horizontal
Measurement distance:	3 m
Mode:	TX; 2 x HT20, CH48; ant.: RAD-ISM-2459-ANT-PAN-9-0-IP67
Test Date:	2016-04-21
Note:	

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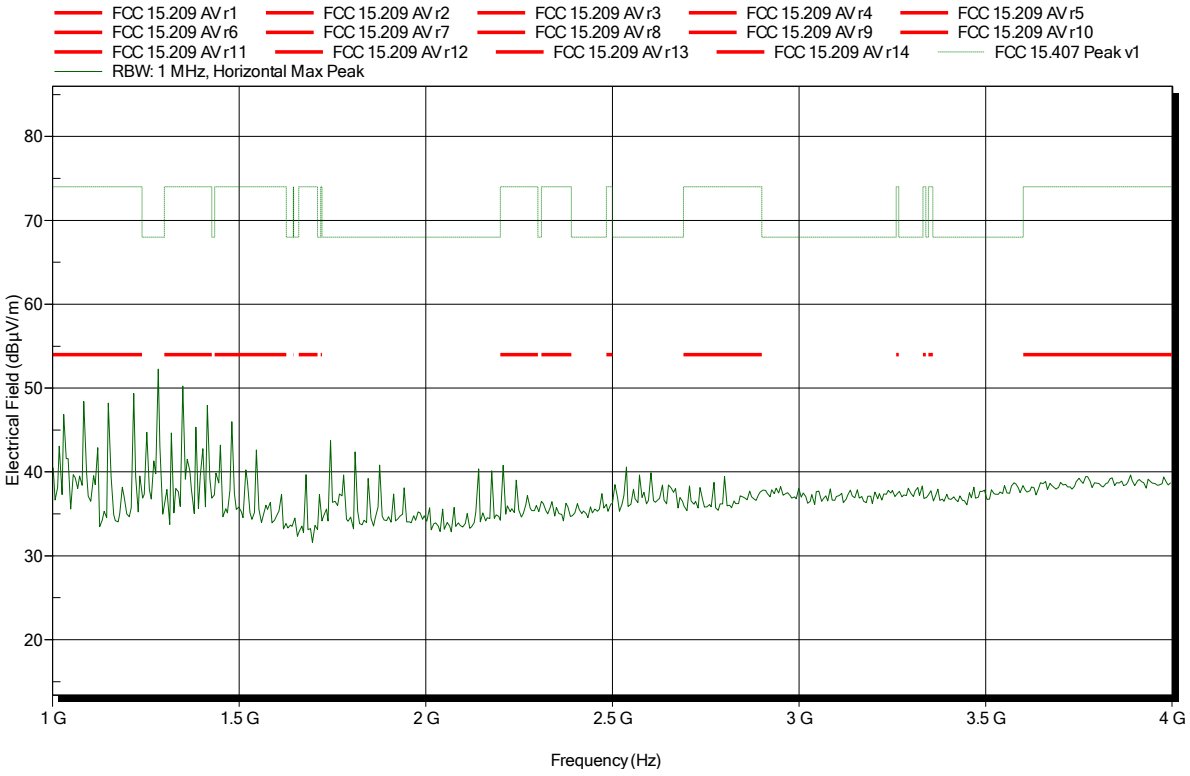

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Schwarzbeck BBHA 9120D, Vertical
Measurement distance:	3 m
Mode:	TX; 2 x HT20, CH36; ant.: RAD-ISM-2459-ANT-PAN-9-0-IP67
Test Date:	2016-04-25
Note:	Emission at the Band edges see direct the Band-Edge measurement

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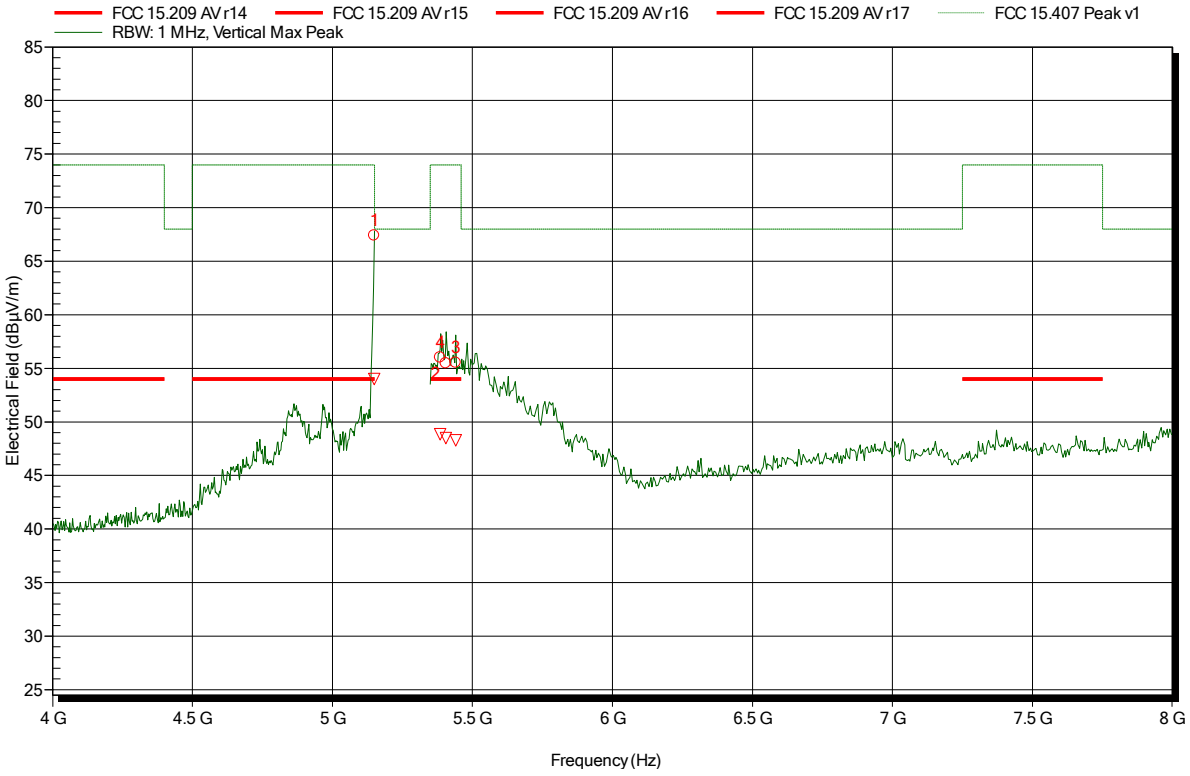

Frequency	Peak	Peak Limit	Peak Difference	Peak Status
5.149 GHz	67.39 dBµV/m	74 dBµV/m	-6.61 dB	Pass
5.385 GHz	56.01 dBµV/m	74 dBµV/m	-17.99 dB	Pass
5.405 GHz	55.46 dBµV/m	74 dBµV/m	-18.54 dB	Pass
5.44 GHz	55.54 dBµV/m	74 dBµV/m	-18.46 dB	Pass

Frequency	RMS	RMS Limit	RMS Difference	RMS Status
5.149 GHz	53.99 dBµV/m	54 dBµV/m	-0.01 dB	Pass
5.385 GHz	48.47dBµV/m	54 dBµV/m	-5.53 dB	Pass
5.405 GHz	48.28 dBµV/m	54 dBµV/m	-5.72 dB	Pass
5.44 GHz	48.84 dBµV/m	54 dBµV/m	-5.16 dB	Pass

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Schwarzbeck BBHA 9120D, Horizontal
Measurement distance:	3 m
Mode:	TX; 2 x HT20, CH36; ant.: RAD-ISM-2459-ANT-PAN-9-0-IP67
Test Date:	2016-04-25
Note:	Emission at the Band edges see direct the Band-Edge measurement

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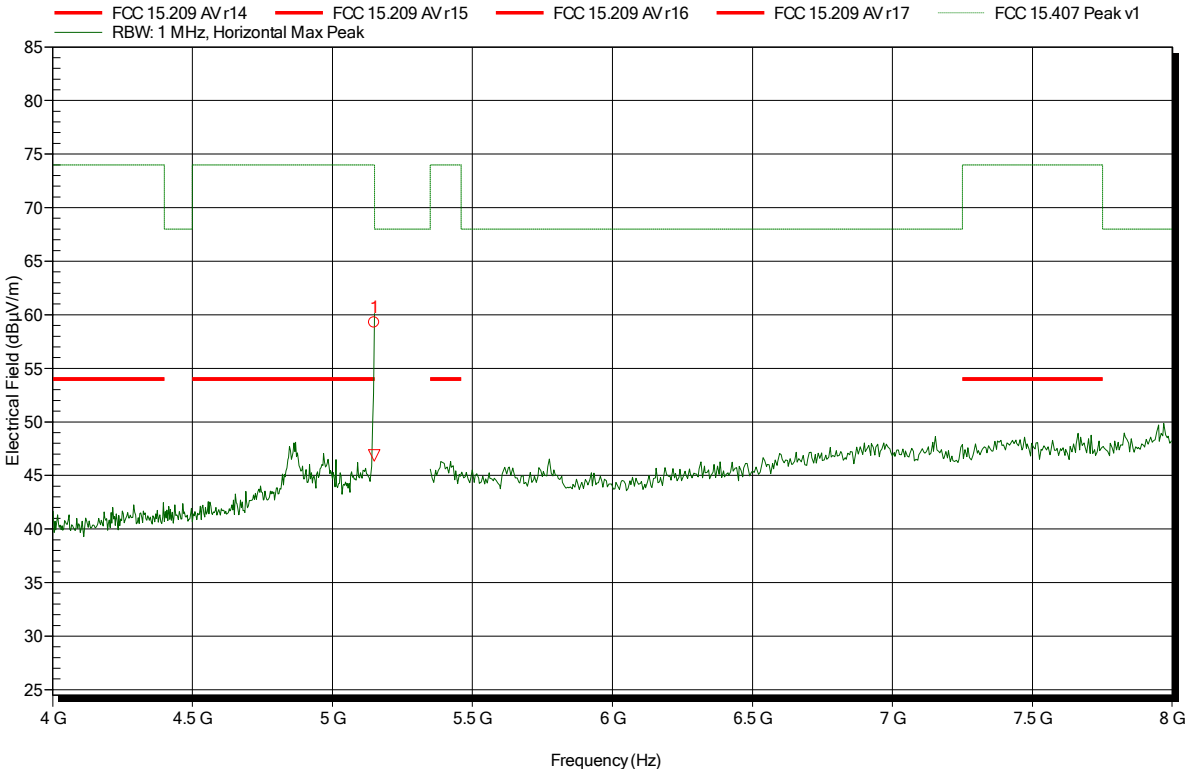

Frequency	Peak	Peak Limit	Peak Difference	Peak Status
5.149 GHz	59.27 dBµV/m	74 dBµV/m	-14.73 dB	Pass

Frequency	RMS	RMS Limit	RMS Difference	RMS Status
5.149 GHz	46.88 dBµV/m	54 dBµV/m	-7.12 dB	Pass

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Schwarzbeck BBHA 9120D, Vertical
Measurement distance:	3 m
Mode:	TX; 2 x HT20, CH40; ant.: RAD-ISM-2459-ANT-PAN-9-0-IP67
Test Date:	2016-04-25
Note:	Emission at the Band edges see direct the Band-Edge measurement

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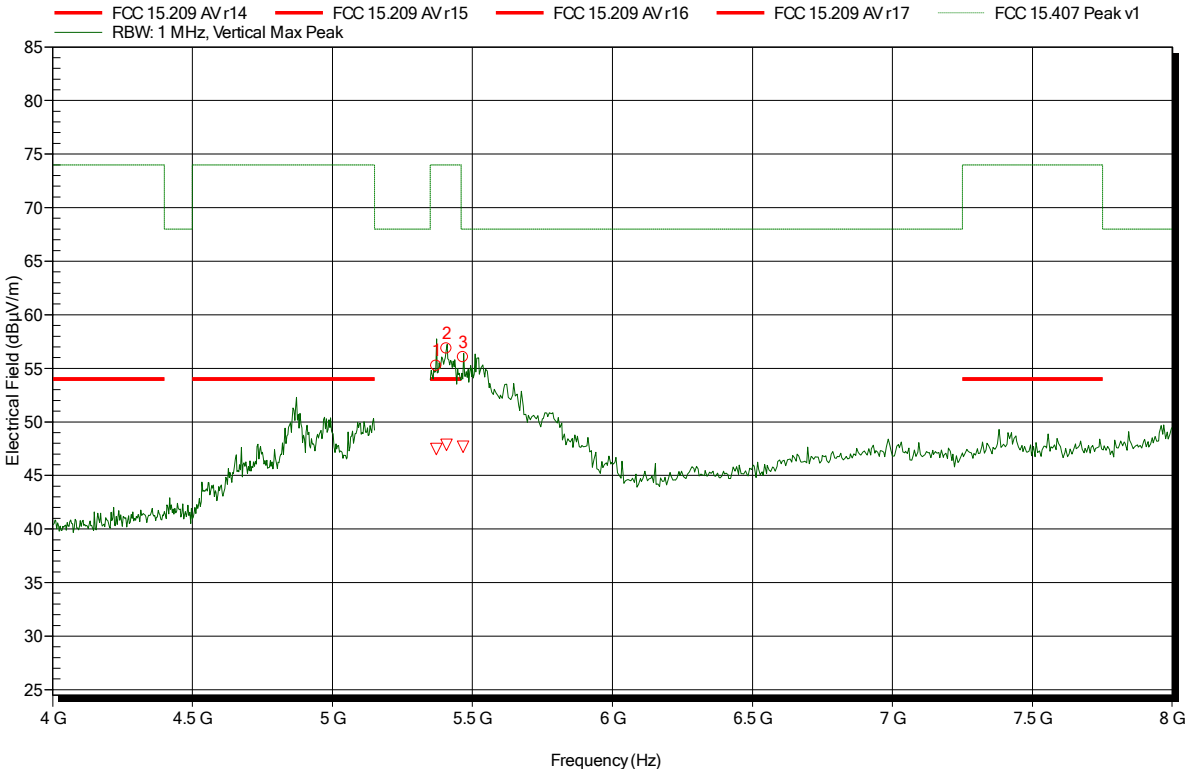

Frequency	Peak	Peak Limit	Peak Difference	Peak Status
5.371 GHz	55.23 dBµV/m	74 dBµV/m	-18.77 dB	Pass
5.407 GHz	56.85 dBµV/m	74 dBµV/m	-17.15 dB	Pass
5.467 GHz	56.03 dBµV/m	68 dBµV/m	-11.97 dB	Pass

Frequency	RMS	RMS Limit	RMS Difference	RMS Status
5.371 GHz	47.46 dBµV/m	54 dBµV/m	-6.54 dB	Pass
5.407 GHz	47.84 dBµV/m	54 dBµV/m	-6.16 dB	Pass
5.467 GHz	47.68 dBµV/m	54 dBµV/m	-6.32 dB	Pass

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Schwarzbeck BBHA 9120D, Horizontal
Measurement distance:	3 m
Mode:	TX; 2 x HT20, CH40; ant.: RAD-ISM-2459-ANT-PAN-9-0-IP67
Test Date:	2016-04-25
Note:	

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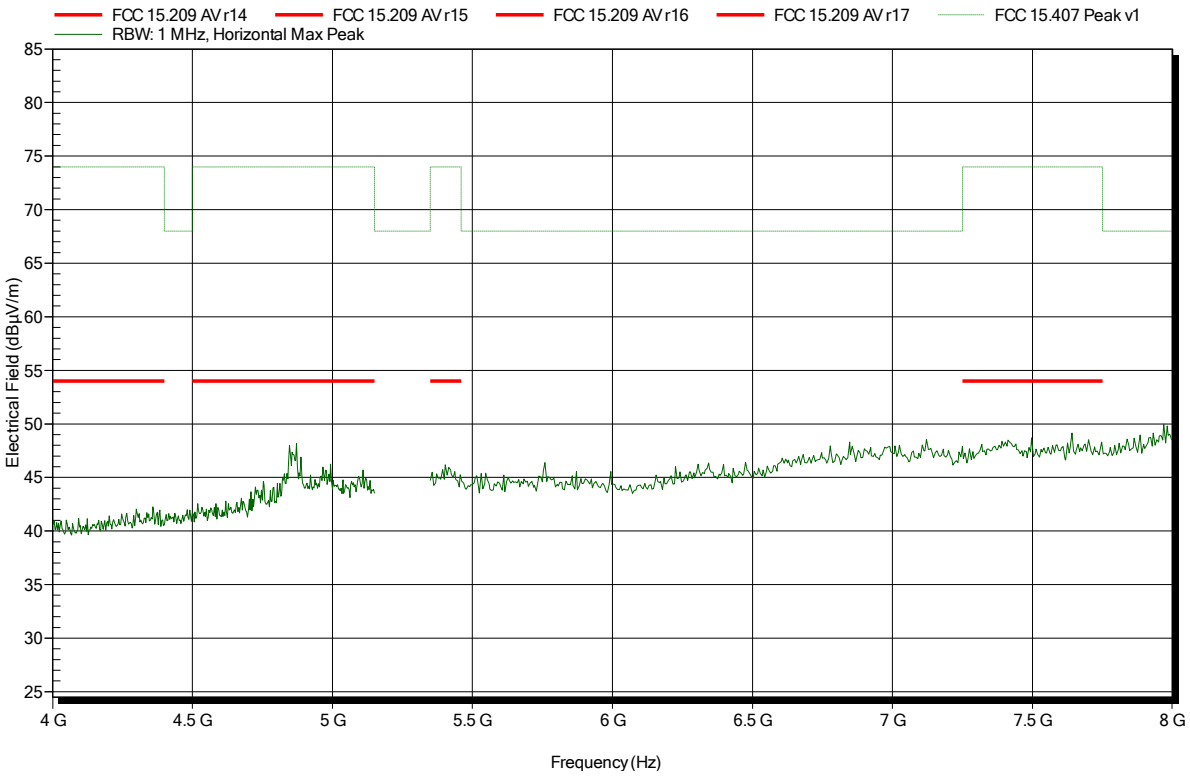

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Schwarzbeck BBHA 9120D, Vertical
Measurement distance:	3 m
Mode:	TX; 2 x HT20, CH48; ant.: RAD-ISM-2459-ANT-PAN-9-0-IP67
Test Date:	2016-04-25
Note:	Emission at the Band edges see direct the Band-Edge measurement

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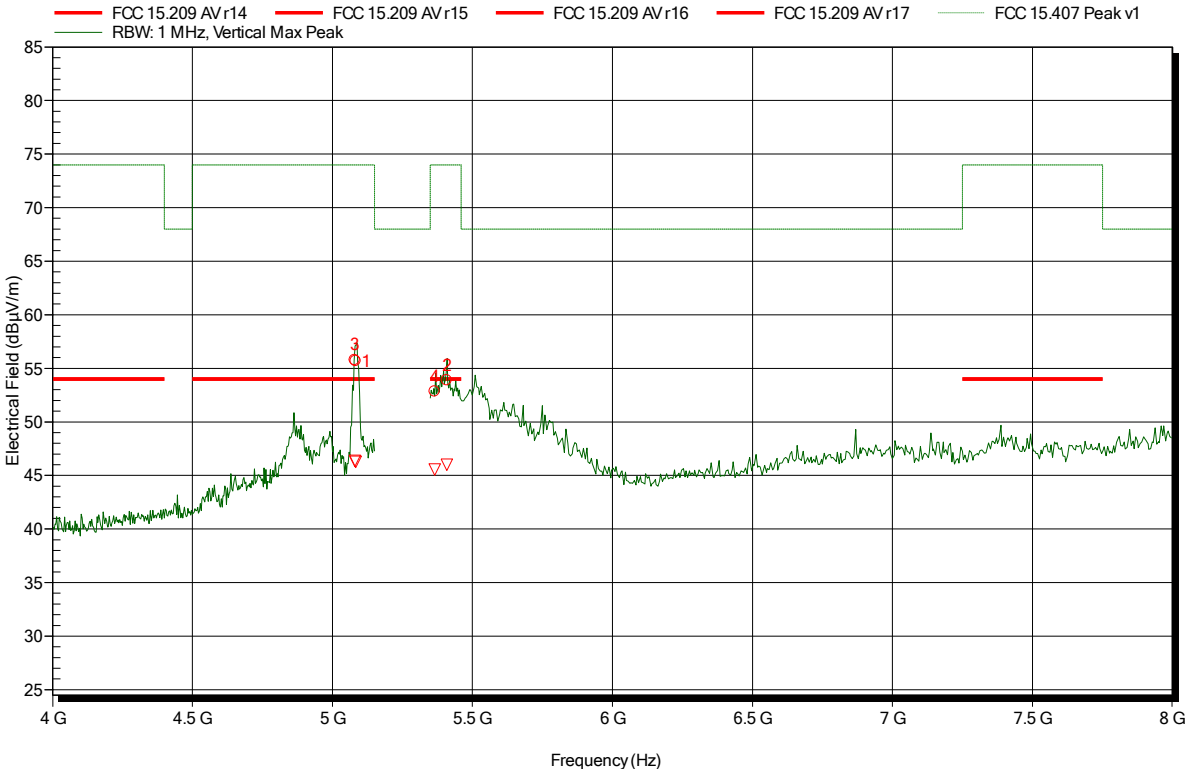

Frequency	Peak	Peak Limit	Peak Difference	Peak Status
5.08 GHz	55.78 dBµV/m	74 dBµV/m	-18.22 dB	Pass
5.084 GHz	55.68 dBµV/m	74 dBµV/m	-18.32 dB	Pass
5.366 GHz	52.82 dBµV/m	74 dBµV/m	-21.18 dB	Pass
5.408 GHz	53.88 dBµV/m	74 dBµV/m	-20.12 dB	Pass

Frequency	RMS	RMS Limit	RMS Difference	RMS Status
5.08 GHz	46.35 dBµV/m	54 dBµV/m	-7.65 dB	Pass
5.084 GHz	46.27 dBµV/m	54 dBµV/m	-7.73 dB	Pass
5.366 GHz	46.35 dBµV/m	54 dBµV/m	-7.65 dB	Pass
5.408 GHz	45.54 dBµV/m	54 dBµV/m	-8.46 dB	Pass

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Schwarzbeck BBHA 9120D, Horizontal
Measurement distance:	3 m
Mode:	TX; 2 x HT20, CH48; ant.: RAD-ISM-2459-ANT-PAN-9-0-IP67
Test Date:	2016-04-25
Note:	

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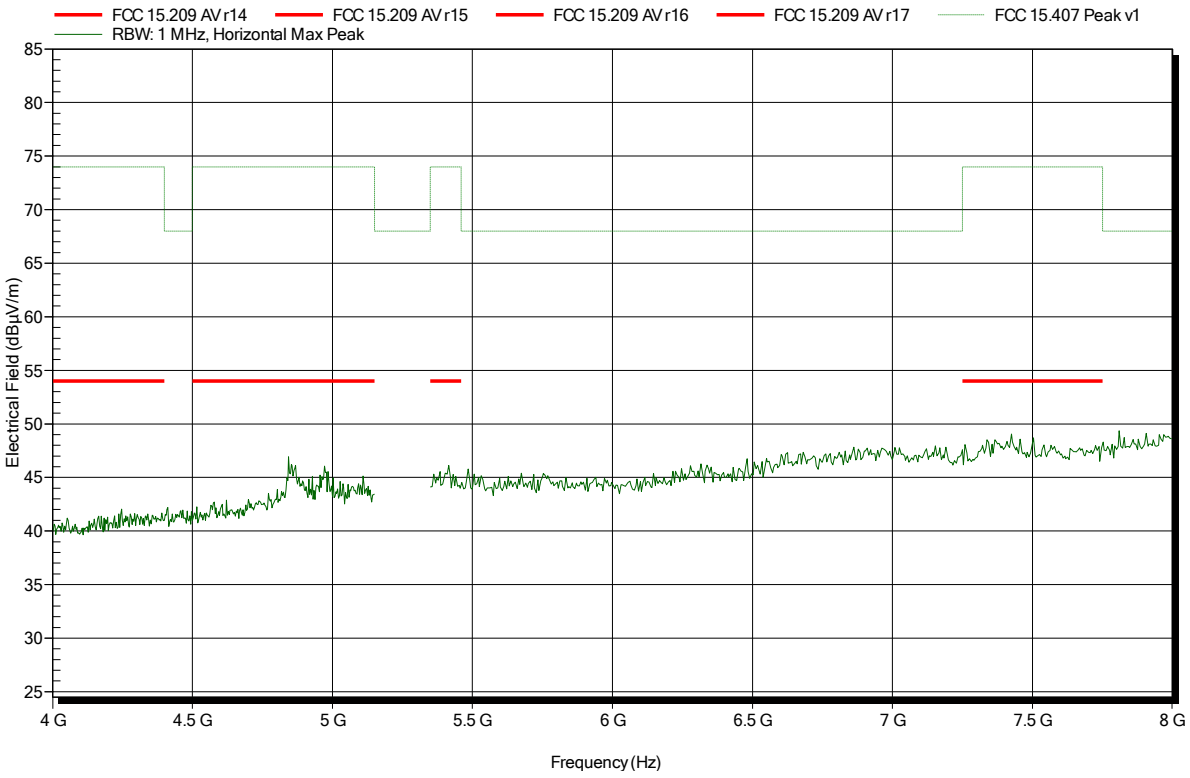

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Schwarzbeck BBHA 9120D, Vertical
Measurement distance:	1 m converted to 3m
Mode:	TX; 2 x HT20, CH36; ant.: RAD-ISM-2459-ANT-PAN-9-0-IP67
Test Date:	2016-04-25
Note:	

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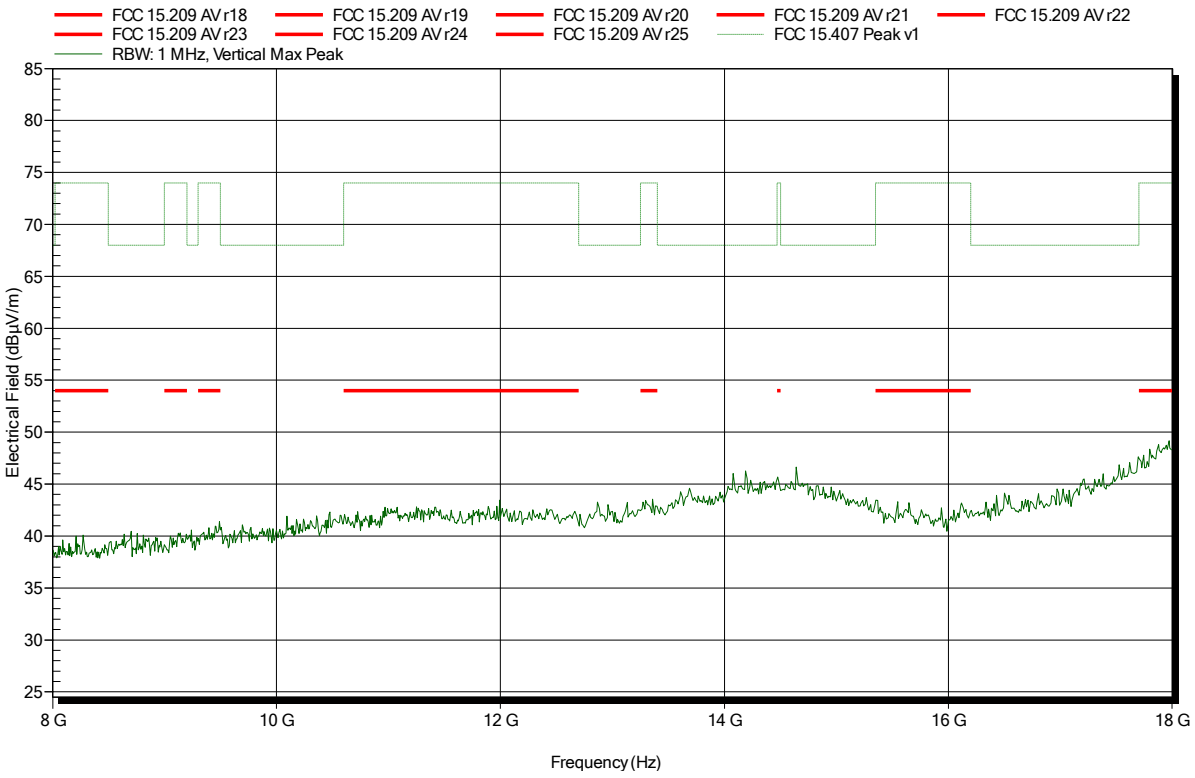

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Schwarzbeck BBHA 9120D, Horizontal
Measurement distance:	1 m converted to 3m
Mode:	TX; 2 x HT20, CH36; ant.: RAD-ISM-2459-ANT-PAN-9-0-IP67
Test Date:	2016-04-25
Note:	

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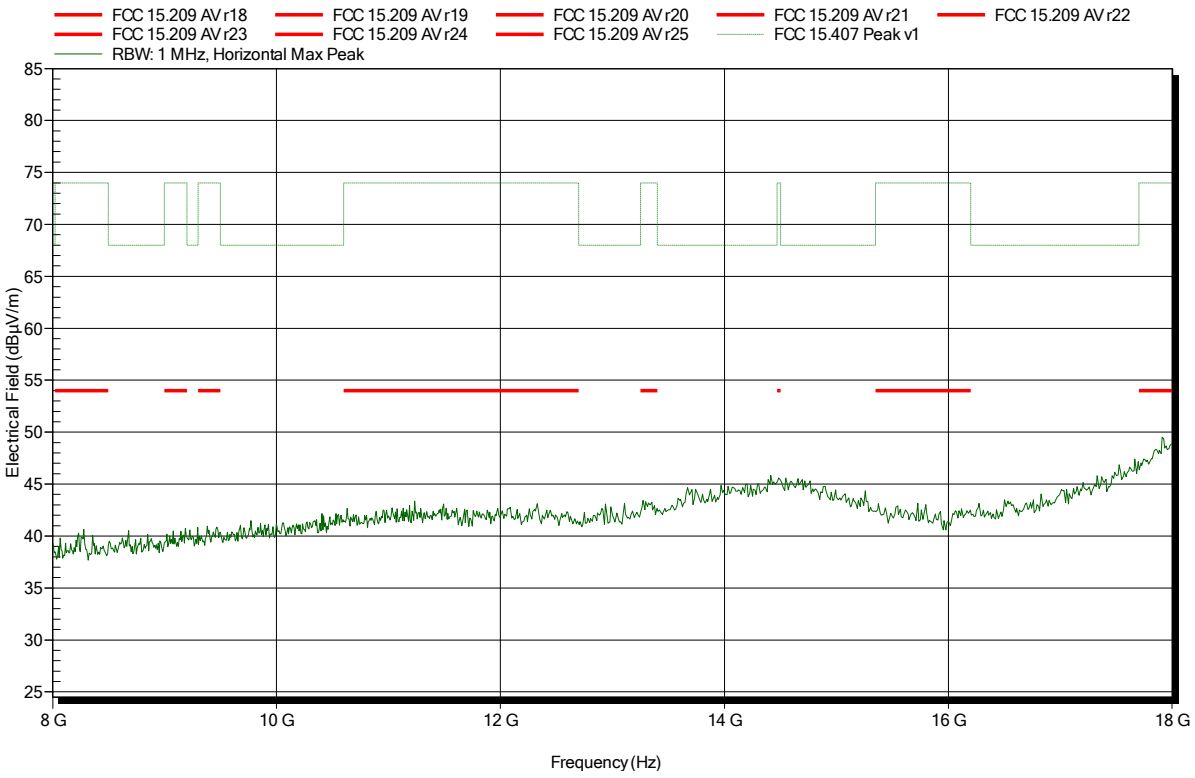

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Schwarzbeck BBHA 9120D, Vertical
Measurement distance:	1 m converted to 3m
Mode:	TX; 2 x HT20, CH40; ant.: RAD-ISM-2459-ANT-PAN-9-0-IP67
Test Date:	2016-04-25
Note:	

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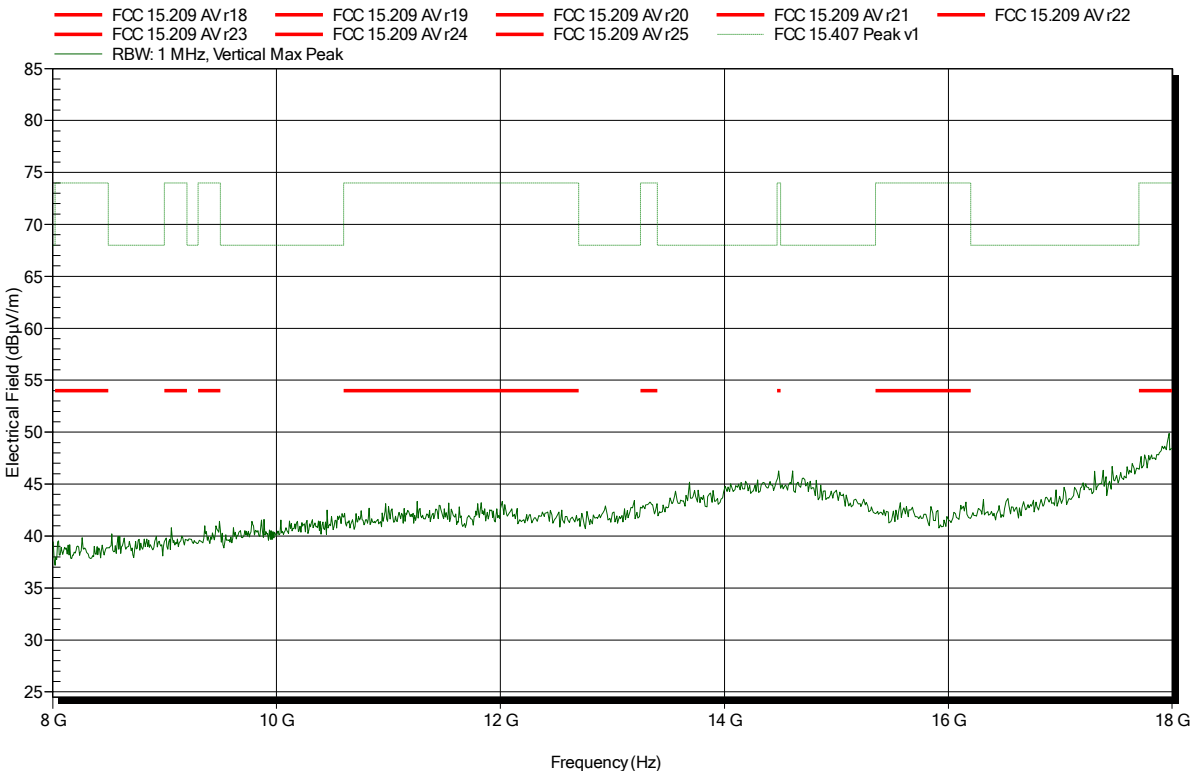

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Schwarzbeck BBHA 9120D, Horizontal
Measurement distance:	1 m converted to 3m
Mode:	TX; 2 x HT20, CH40; ant.: RAD-ISM-2459-ANT-PAN-9-0-IP67
Test Date:	2016-04-25
Note:	

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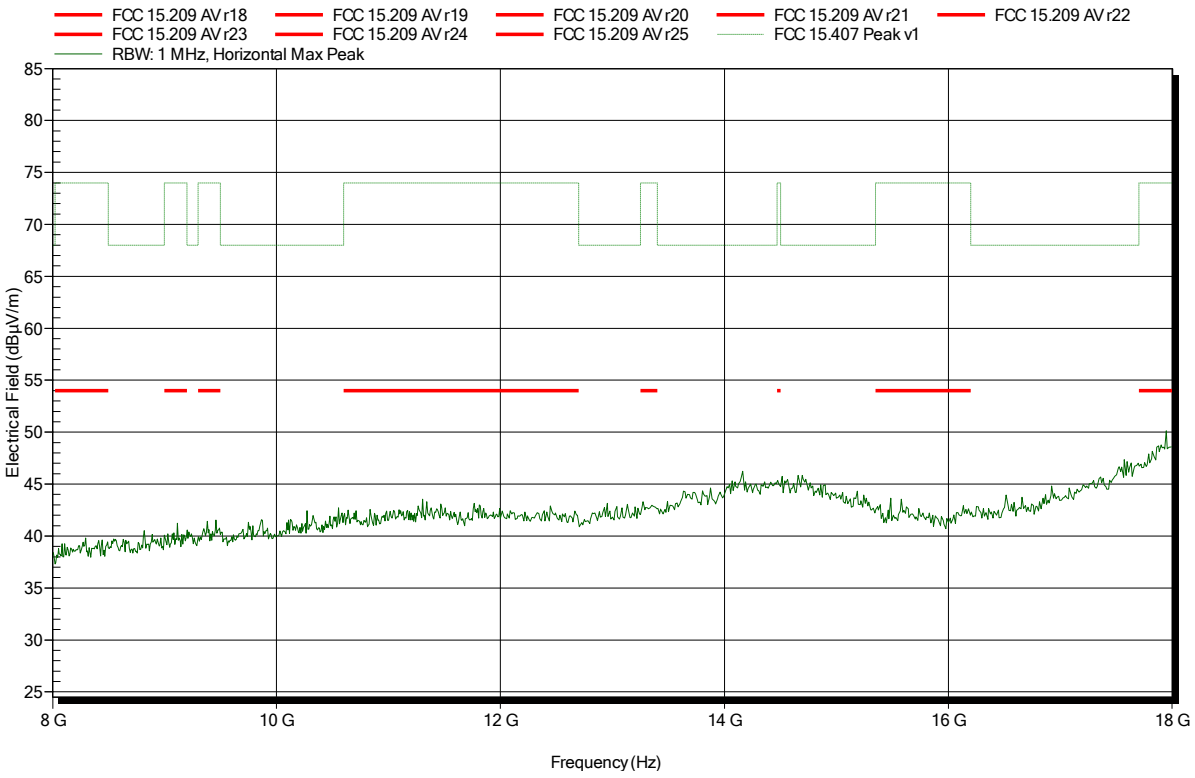

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Schwarzbeck BBHA 9120D, Vertical
Measurement distance:	1 m converted to 3m
Mode:	TX; 2 x HT20, CH48; ant.: RAD-ISM-2459-ANT-PAN-9-0-IP67
Test Date:	2016-04-25
Note:	

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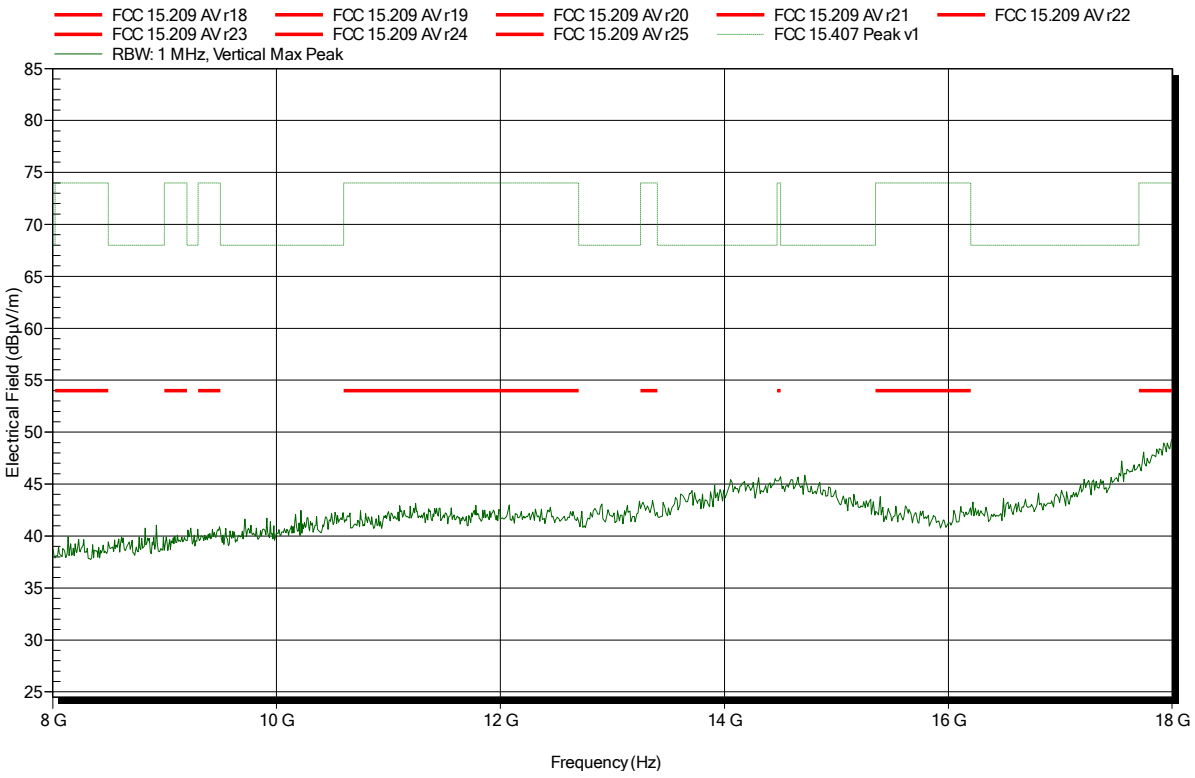

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Schwarzbeck BBHA 9120D, Horizontal
Measurement distance:	1 m converted to 3m
Mode:	TX; 2 x HT20, CH48; ant.: RAD-ISM-2459-ANT-PAN-9-0-IP67
Test Date:	2016-04-25
Note:	

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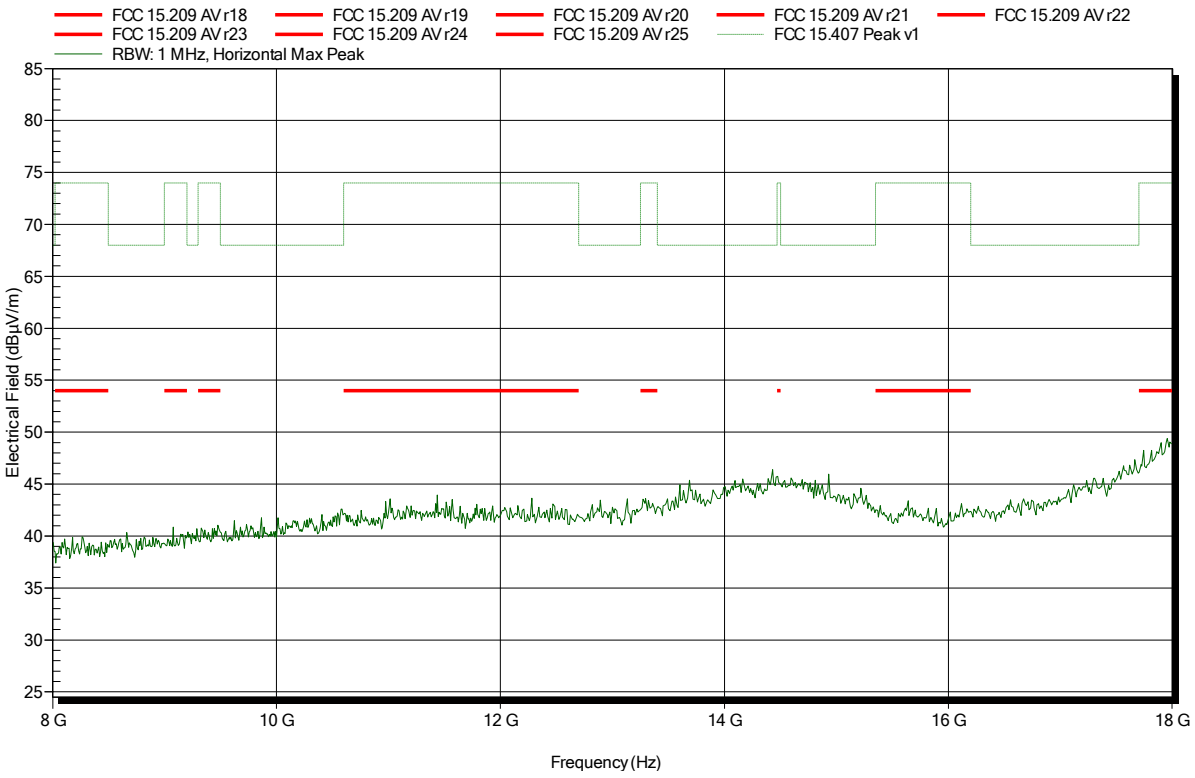

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Rohde & Schwarz HL 025, Vertical
Measurement distance:	1 m converted to 3m
Mode:	TX; 2 x HT20, CH36; ant.: RAD-ISM-2459-ANT-PAN-9-0-IP67
Test Date:	2016-04-25
Note:	

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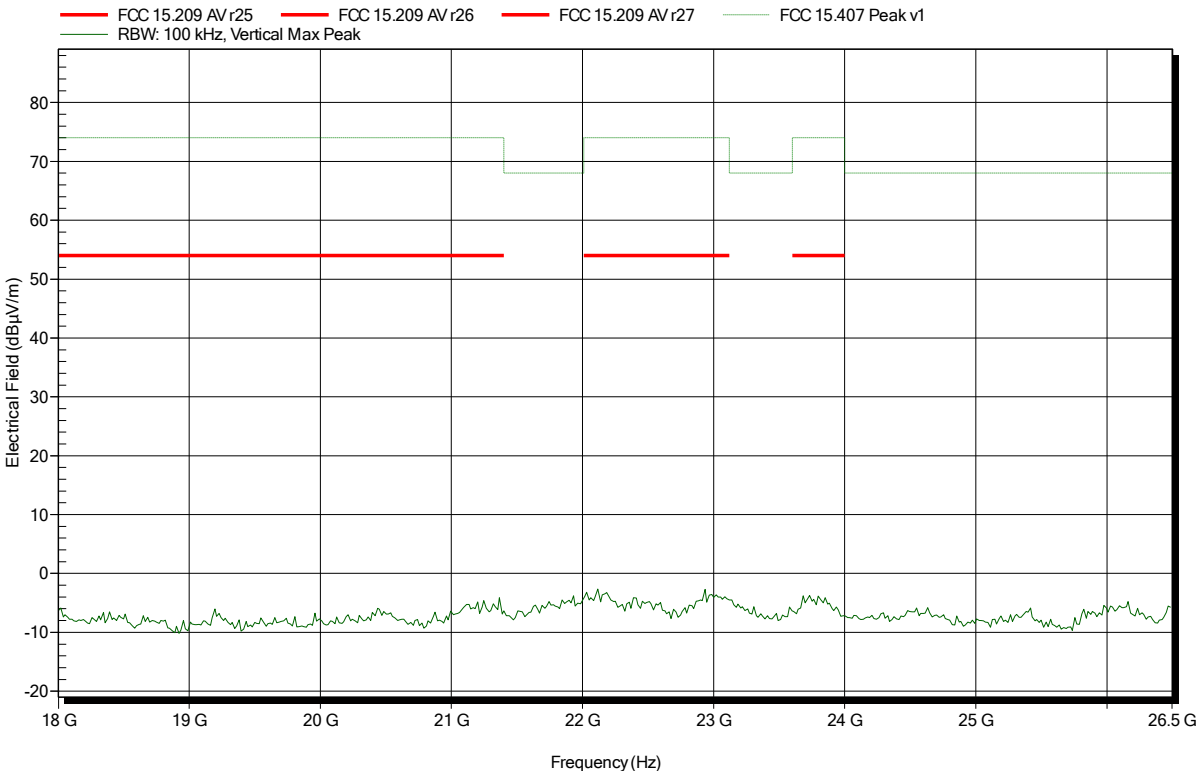

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Rohde & Schwarz HL 025, Horizontal
Measurement distance:	1 m converted to 3m
Mode:	TX; 2 x HT20, CH36; ant.: RAD-ISM-2459-ANT-PAN-9-0-IP67
Test Date:	2016-04-25
Note:	

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Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Rohde & Schwarz HL 025, Vertical
Measurement distance:	1 m converted to 3m
Mode:	TX; 2 x HT20, CH40; ant.: RAD-ISM-2459-ANT-PAN-9-0-IP67
Test Date:	2016-04-25
Note:	

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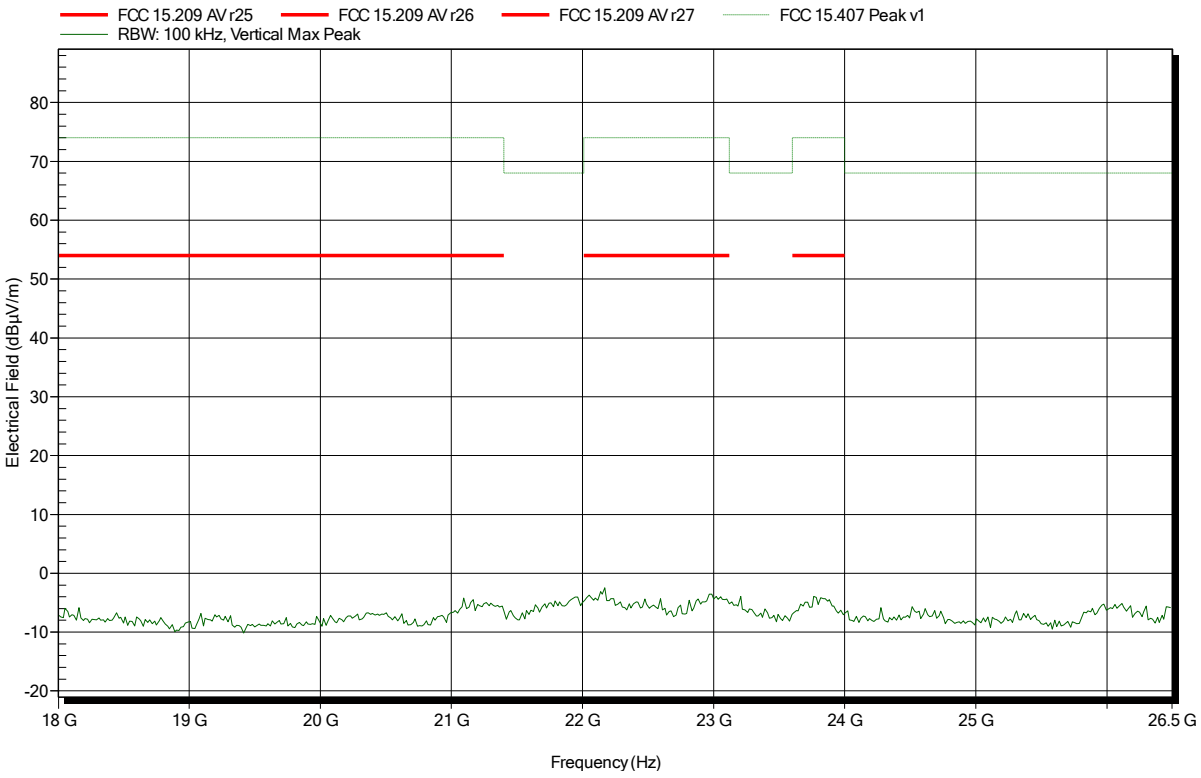

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Rohde & Schwarz HL 025, Horizontal
Measurement distance:	1 m converted to 3m
Mode:	TX; 2 x HT20, CH40; ant.: RAD-ISM-2459-ANT-PAN-9-0-IP67
Test Date:	2016-04-25
Note:	

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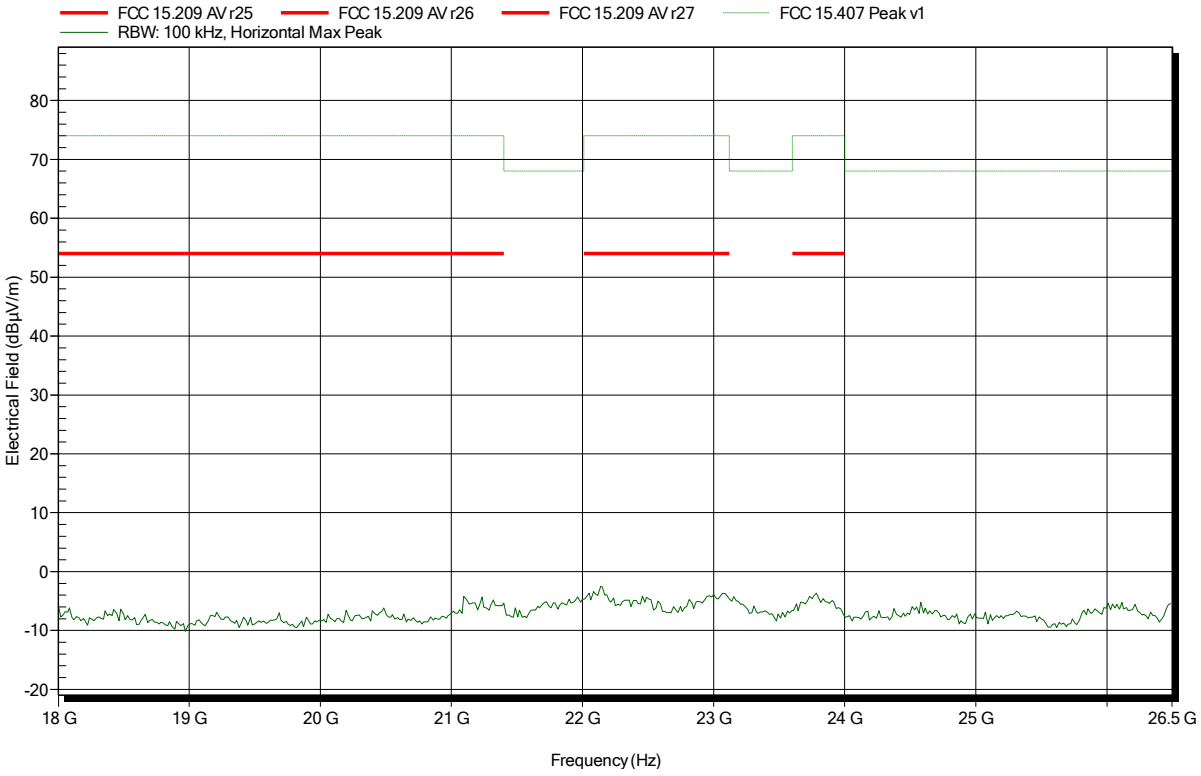

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Rohde & Schwarz HL 025, Vertical
Measurement distance:	1 m converted to 3m
Mode:	TX; 2 x HT20, CH48; ant.: RAD-ISM-2459-ANT-PAN-9-0-IP67
Test Date:	2016-04-25
Note:	

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Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Rohde & Schwarz HL 025, Horizontal
Measurement distance:	1 m converted to 3m
Mode:	TX; 2 x HT20, CH48; ant.: RAD-ISM-2459-ANT-PAN-9-0-IP67
Test Date:	2016-04-25
Note:	

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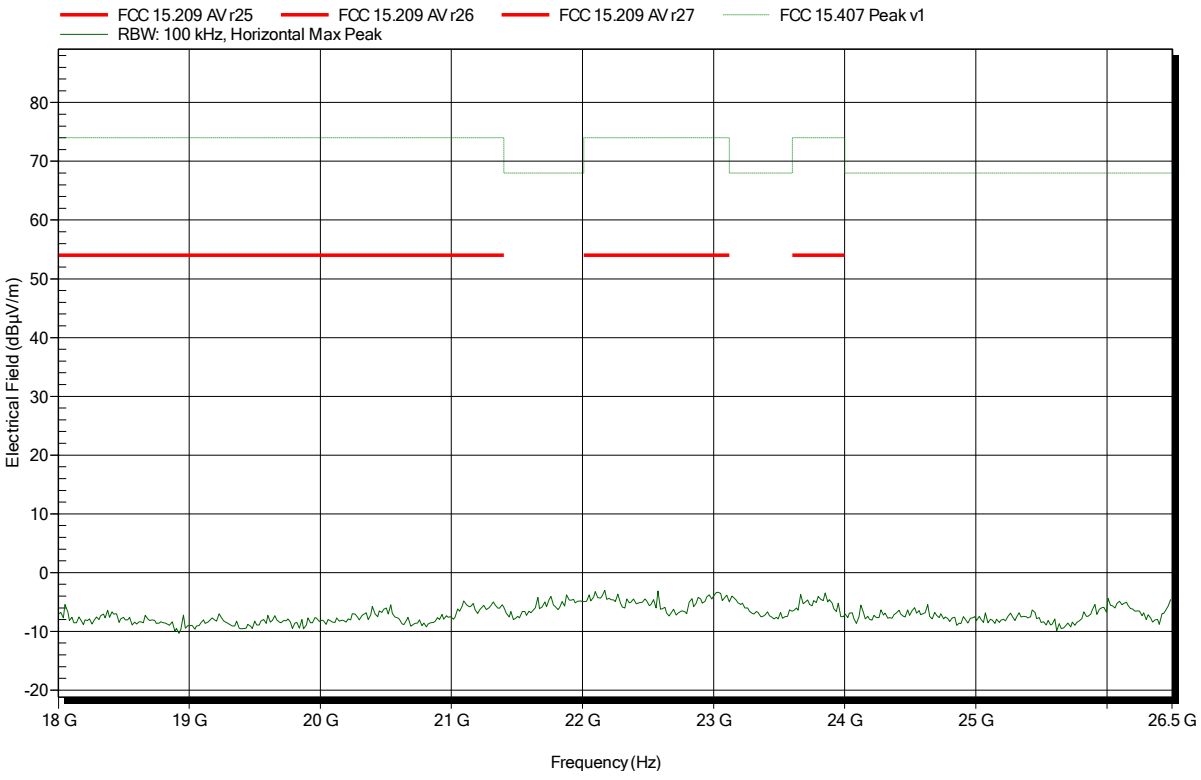

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	22240-25, Vertical
Measurement distance:	1 m converted to 3m
Mode:	TX; 2 x HT20, CH36; ant.: RAD-ISM-2459-ANT-PAN-9-0-IP67
Test Date:	2016-04-25
Note:	

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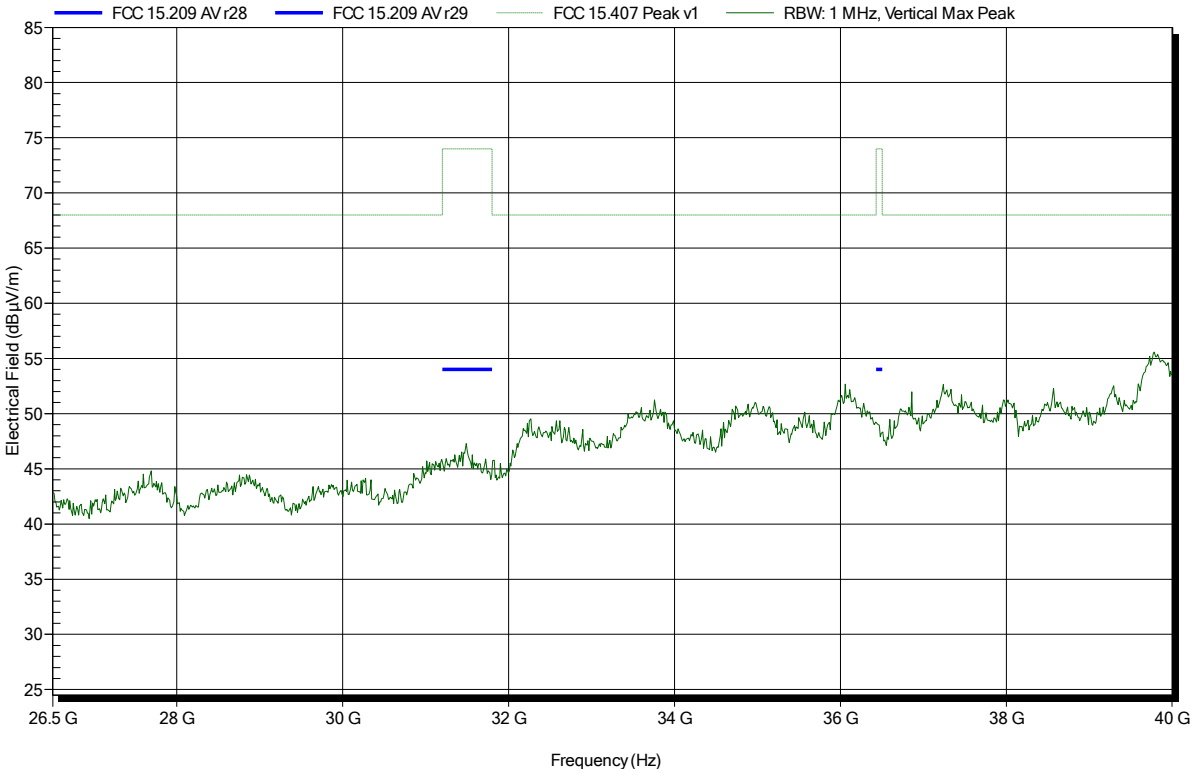

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	22240-25, Horizontal
Measurement distance:	1 m converted to 3m
Mode:	TX; 2 x HT20, CH36; ant.: RAD-ISM-2459-ANT-PAN-9-0-IP67
Test Date:	2016-04-25
Note:	

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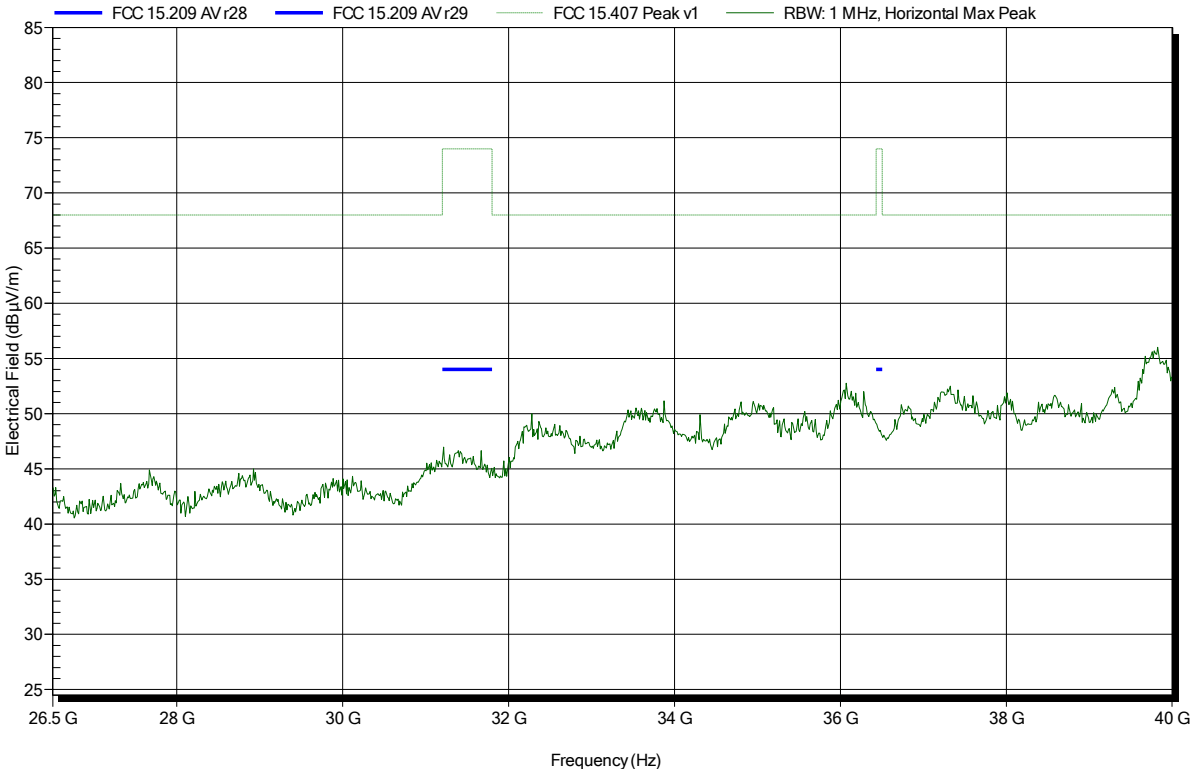

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	22240-25, Vertical
Measurement distance:	1 m converted to 3m
Mode:	TX; 2 x HT20, CH40; ant.: RAD-ISM-2459-ANT-PAN-9-0-IP67
Test Date:	2016-04-25
Note:	

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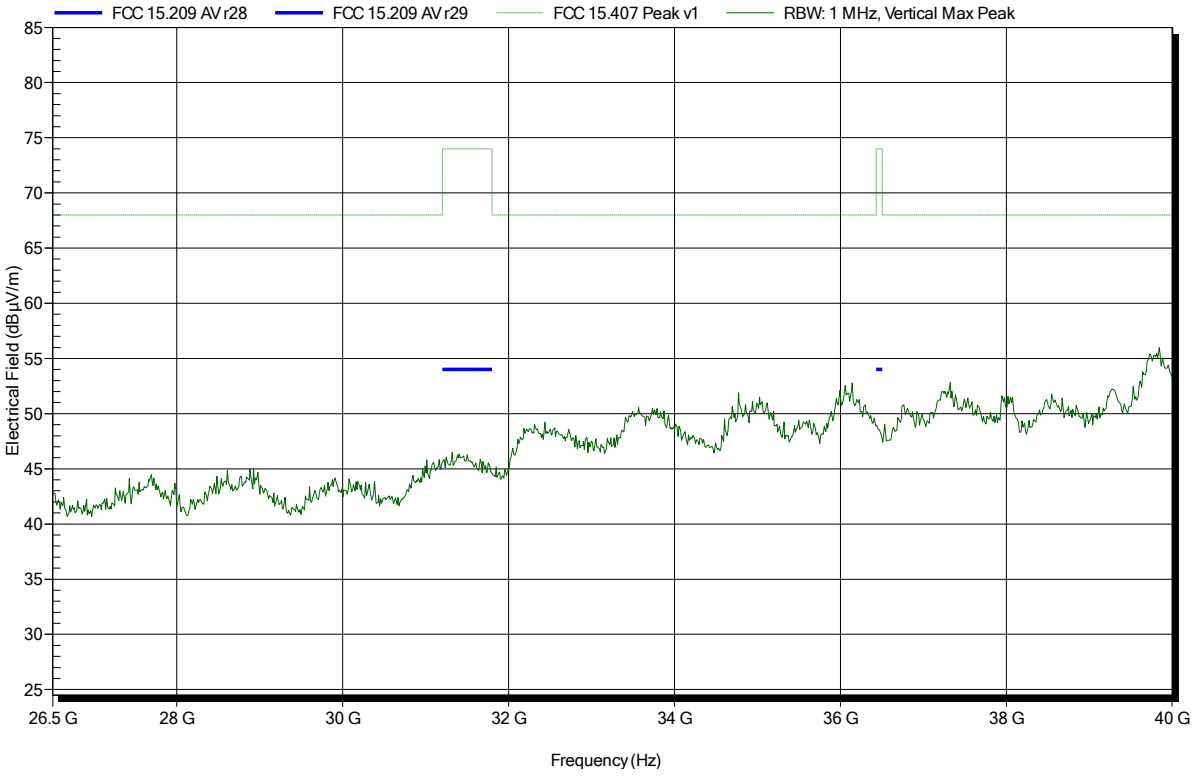

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	22240-25, Horizontal
Measurement distance:	1 m converted to 3m
Mode:	TX; 2 x HT20, CH40; ant.: RAD-ISM-2459-ANT-PAN-9-0-IP67
Test Date:	2016-04-25
Note:	

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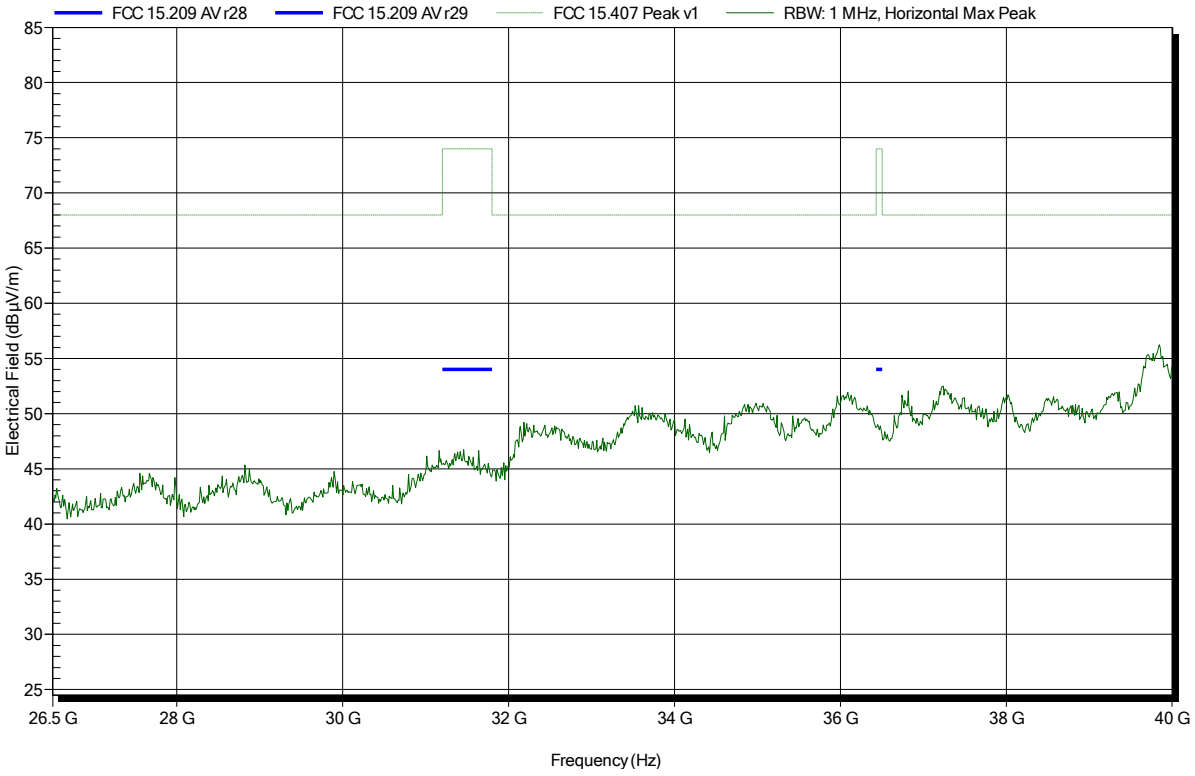

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	22240-25, Vertical
Measurement distance:	1 m converted to 3m
Mode:	TX; 2 x HT20, CH48; ant.: RAD-ISM-2459-ANT-PAN-9-0-IP67
Test Date:	2016-04-25
Note:	

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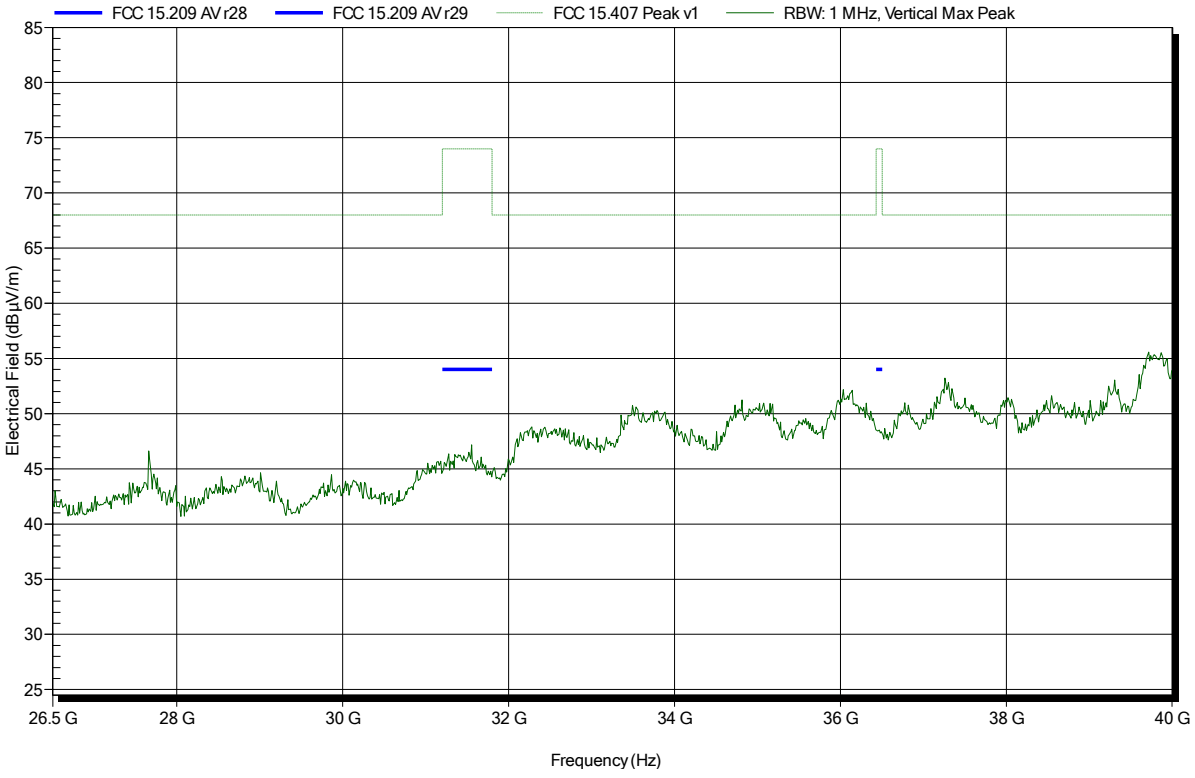

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	22240-25, Horizontal
Measurement distance:	1 m converted to 3m
Mode:	TX; 2 x HT20, CH48; ant.: RAD-ISM-2459-ANT-PAN-9-0-IP67
Test Date:	2016-04-25
Note:	

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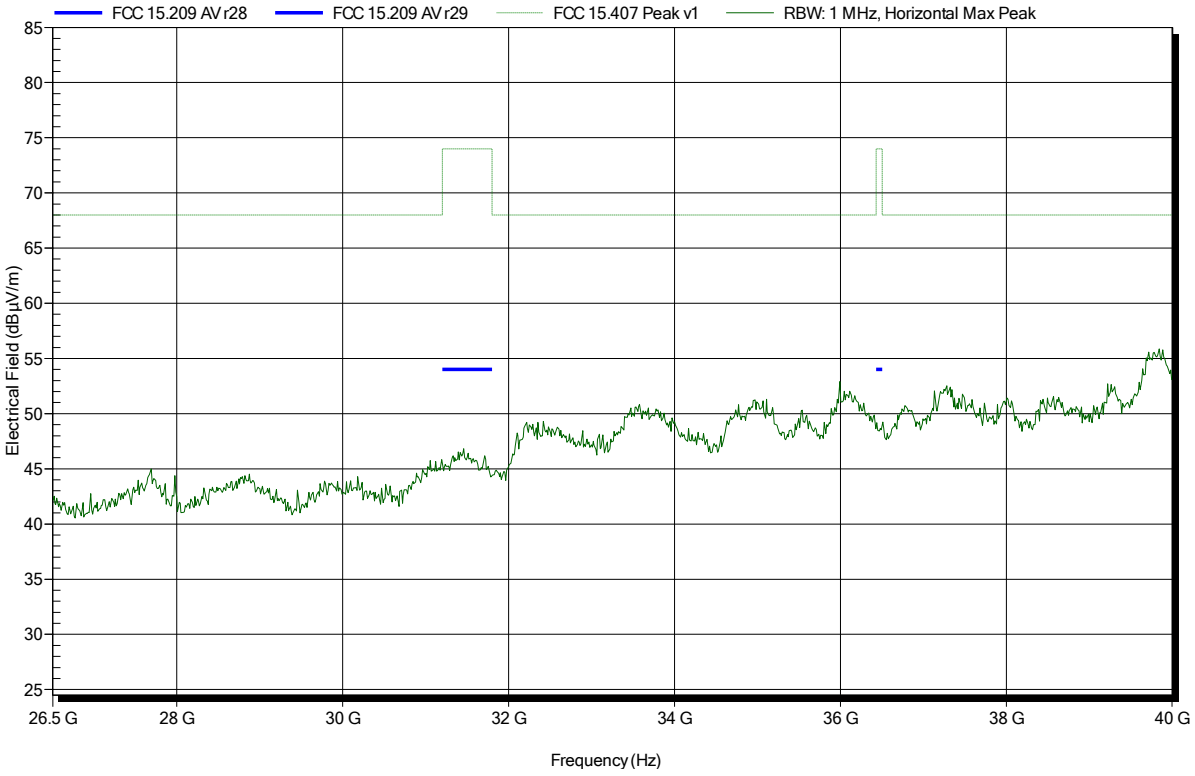

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Schwarzbeck BBHA 9120D, Vertical
Measurement distance:	3 m
Mode:	TX; 2 x HT20, CH36; ant.: RAD-ISM-2459-ANT-FOOD-6-0
Test Date:	2016-04-26
Note:	

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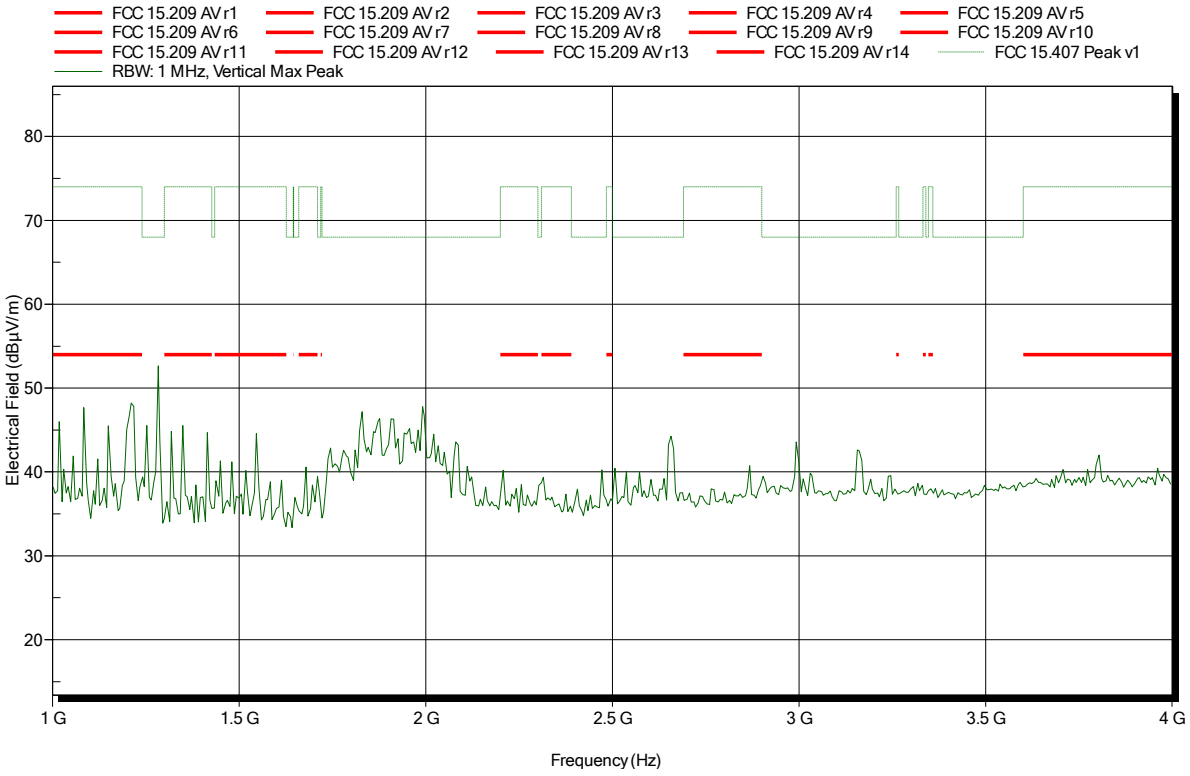

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Schwarzbeck BBHA 9120D, Horizontal
Measurement distance:	3 m
Mode:	TX; 2 x HT20, CH36; ant.: RAD-ISM-2459-ANT-FOOD-6-0
Test Date:	2016-04-26
Note:	

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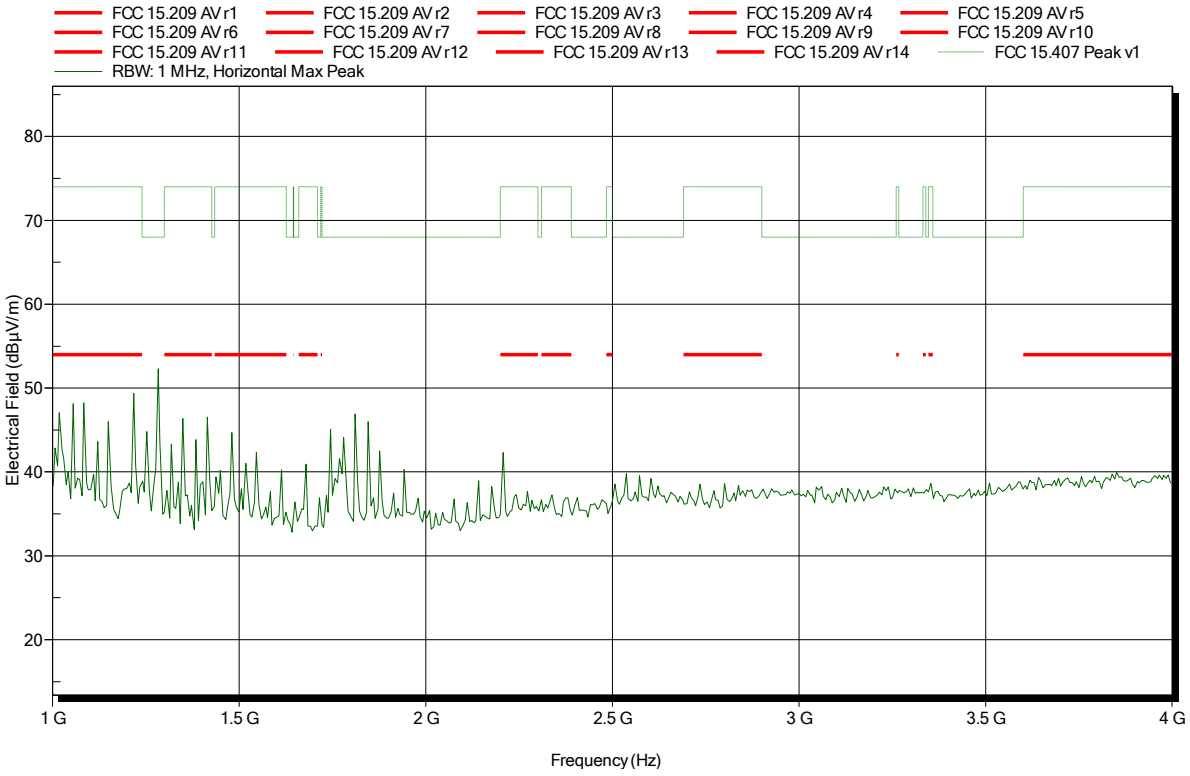

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Schwarzbeck BBHA 9120D, Vertical
Measurement distance:	3 m
Mode:	TX; 2 x HT20, CH40; ant.: RAD-ISM-2459-ANT-FOOD-6-0
Test Date:	2016-04-26
Note:	

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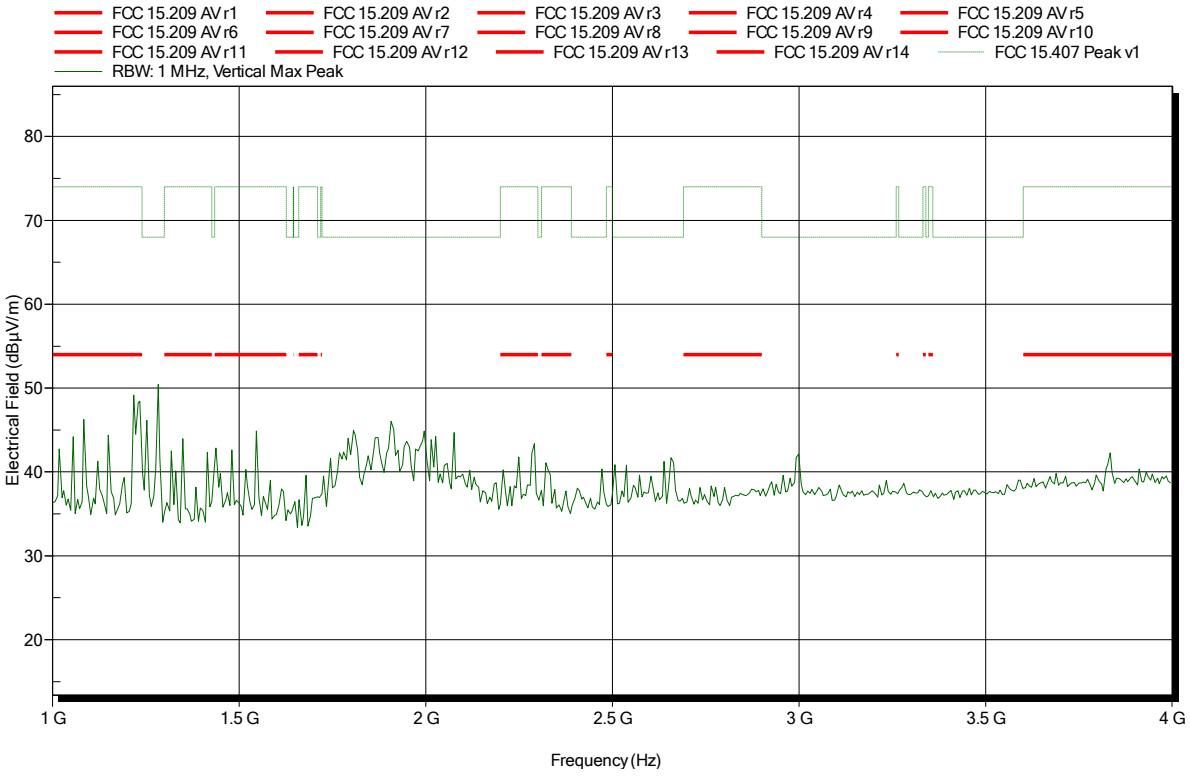

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Schwarzbeck BBHA 9120D, Horizontal
Measurement distance:	3 m
Mode:	TX; 2 x HT20, CH40; ant.: RAD-ISM-2459-ANT-FOOD-6-0
Test Date:	2016-04-26
Note:	

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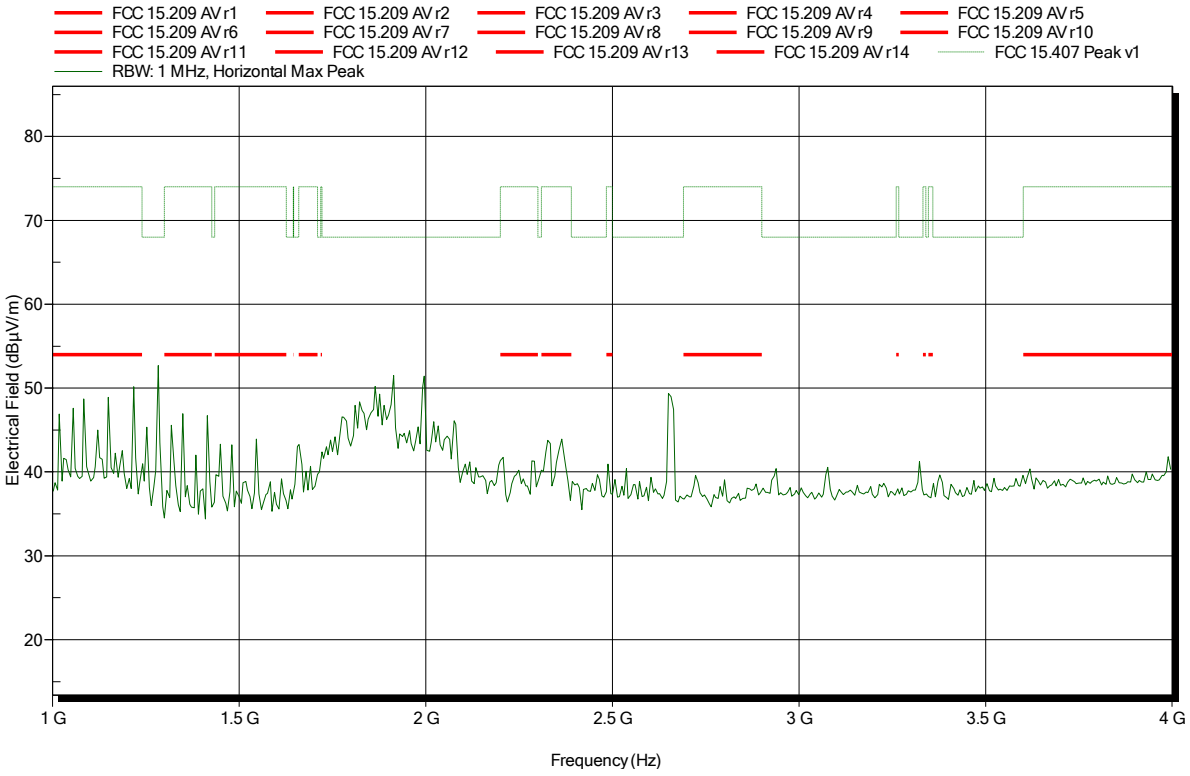

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Schwarzbeck BBHA 9120D, Vertical
Measurement distance:	3 m
Mode:	TX; 2 x HT20, CH48; ant.: RAD-ISM-2459-ANT-FOOD-6-0
Test Date:	2016-04-26
Note:	

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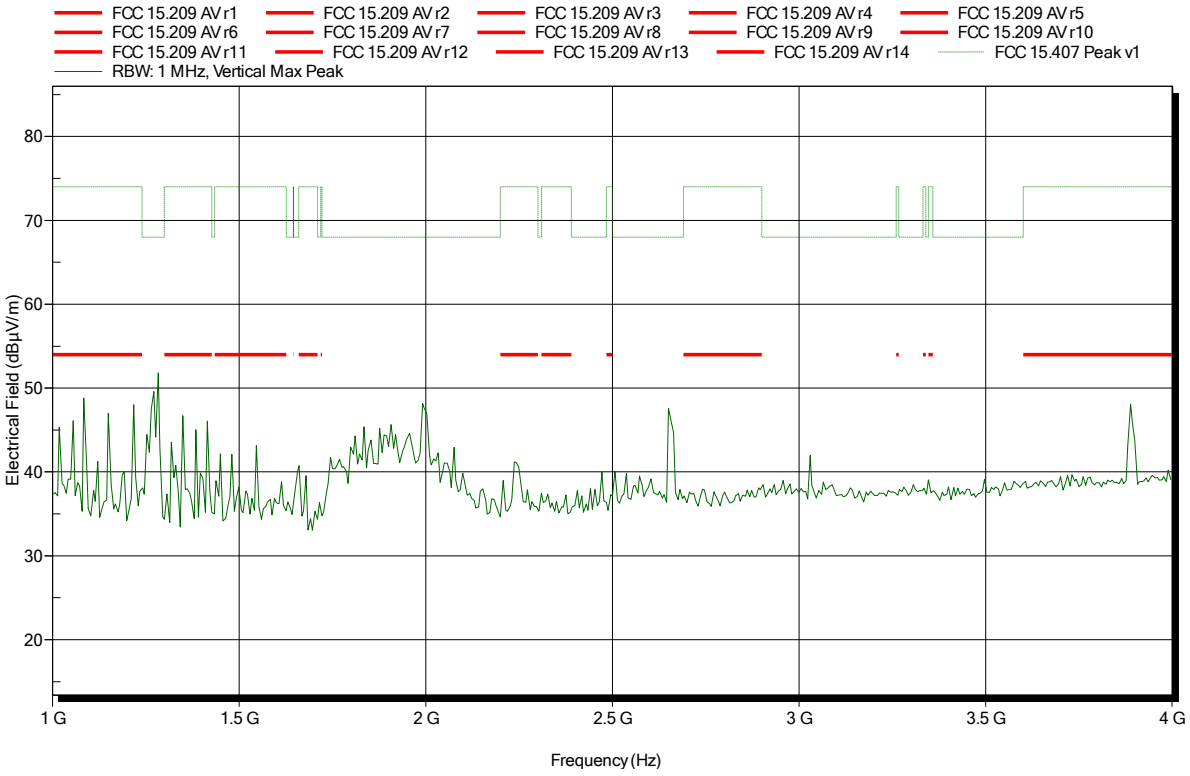

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Schwarzbeck BBHA 9120D, Horizontal
Measurement distance:	3 m
Mode:	TX; 2 x HT20, CH48; ant.: RAD-ISM-2459-ANT-FOOD-6-0
Test Date:	2016-04-26
Note:	

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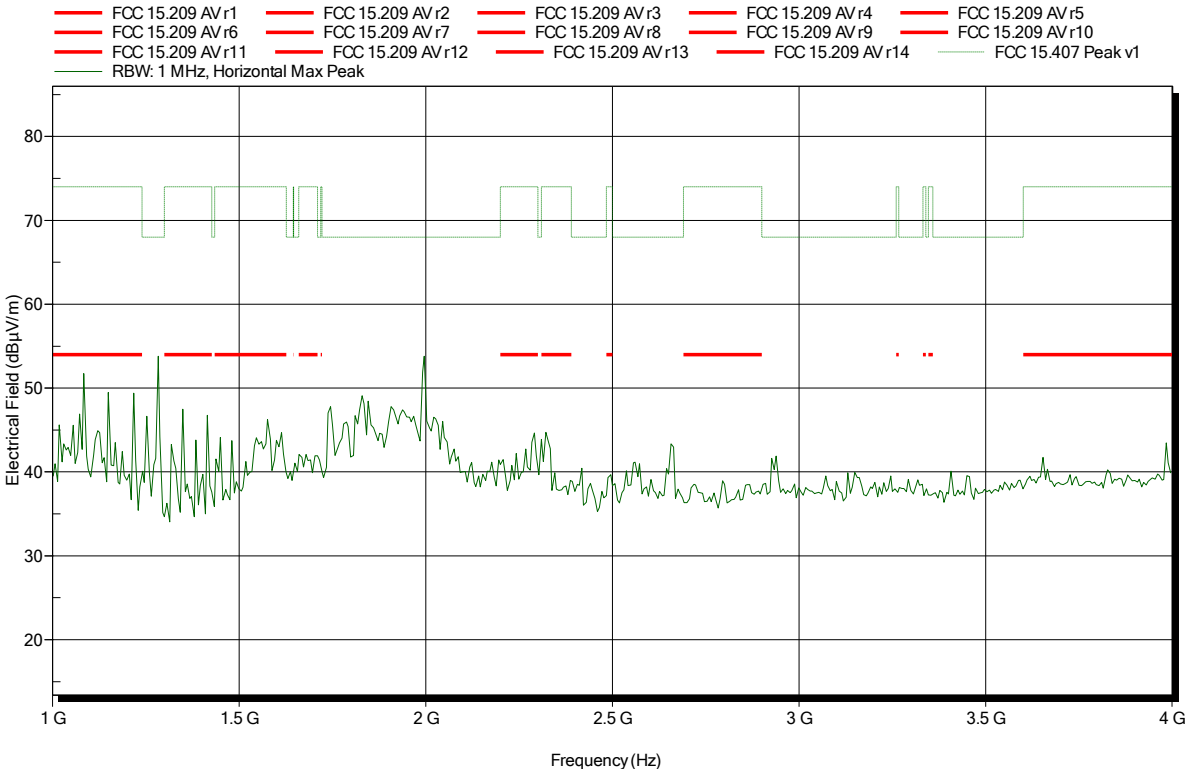

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Schwarzbeck BBHA 9120D, Vertical
Measurement distance:	3 m
Mode:	TX; 2 x HT20, CH36; ant.: RAD-ISM-2459-ANT-FOOD-6-0
Test Date:	2016-04-26
Note:	

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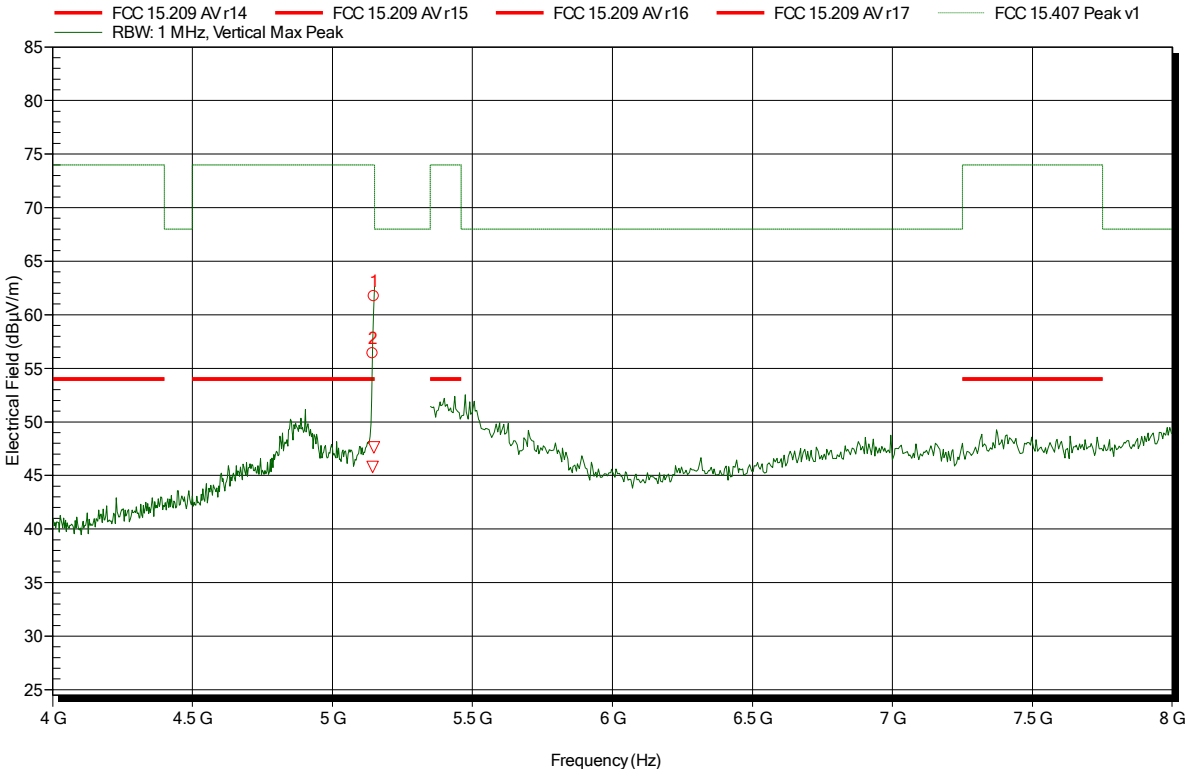

Frequency	Peak	Peak Limit	Peak Difference	Peak Status
5.144 GHz	56.39 dBµV/m	74 dBµV/m	-17.61 dB	Pass
5.149 GHz	61.74 dBµV/m	74 dBµV/m	-12.26 dB	Pass

Frequency	RMS	RMS Limit	RMS Difference	RMS Status
5.144 GHz	45.8 dBµV/m	54 dBµV/m	-8.2 dB	Pass
5.149 GHz	47.62 dBµV/m	54 dBµV/m	-6.38 dB	Pass

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Schwarzbeck BBHA 9120D, Horizontal
Measurement distance:	3 m
Mode:	TX; 2 x HT20, CH36; ant.: RAD-ISM-2459-ANT-FOOD-6-0
Test Date:	2016-04-26
Note:	

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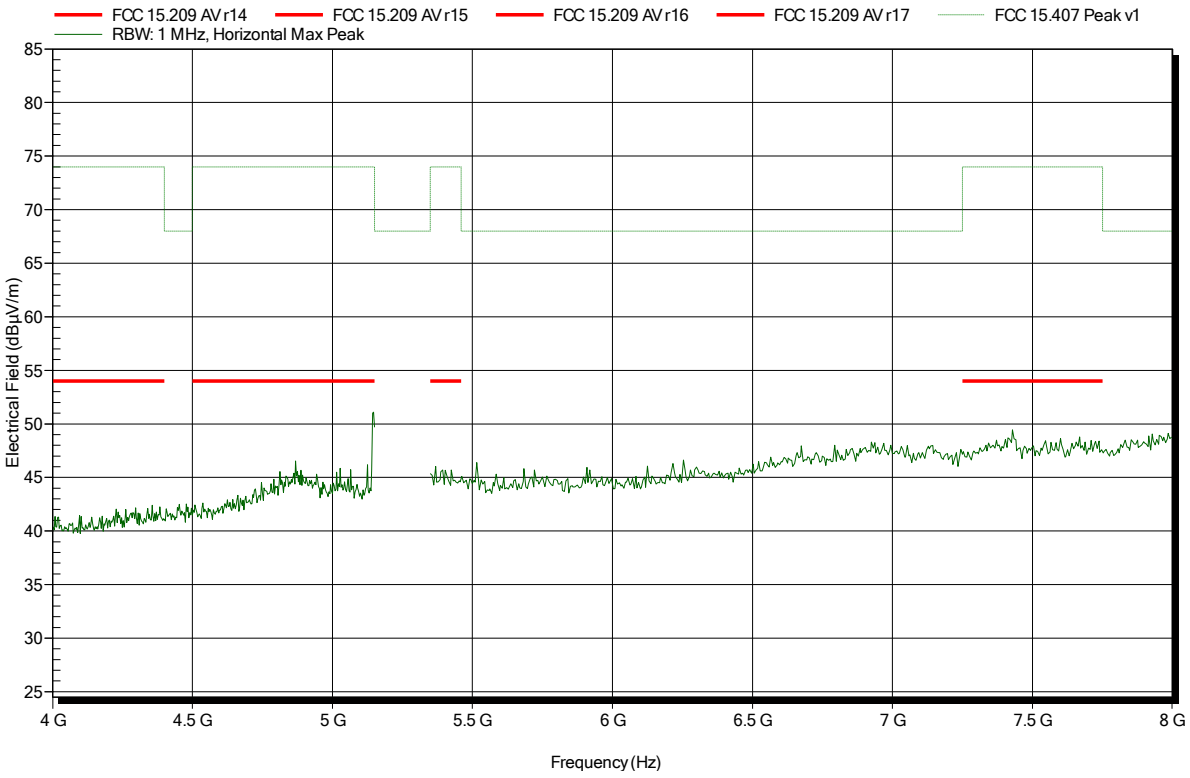

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Schwarzbeck BBHA 9120D, Vertical
Measurement distance:	3 m
Mode:	TX; 2 x HT20, CH40; ant.: RAD-ISM-2459-ANT-FOOD-6-0
Test Date:	2016-04-26
Note:	

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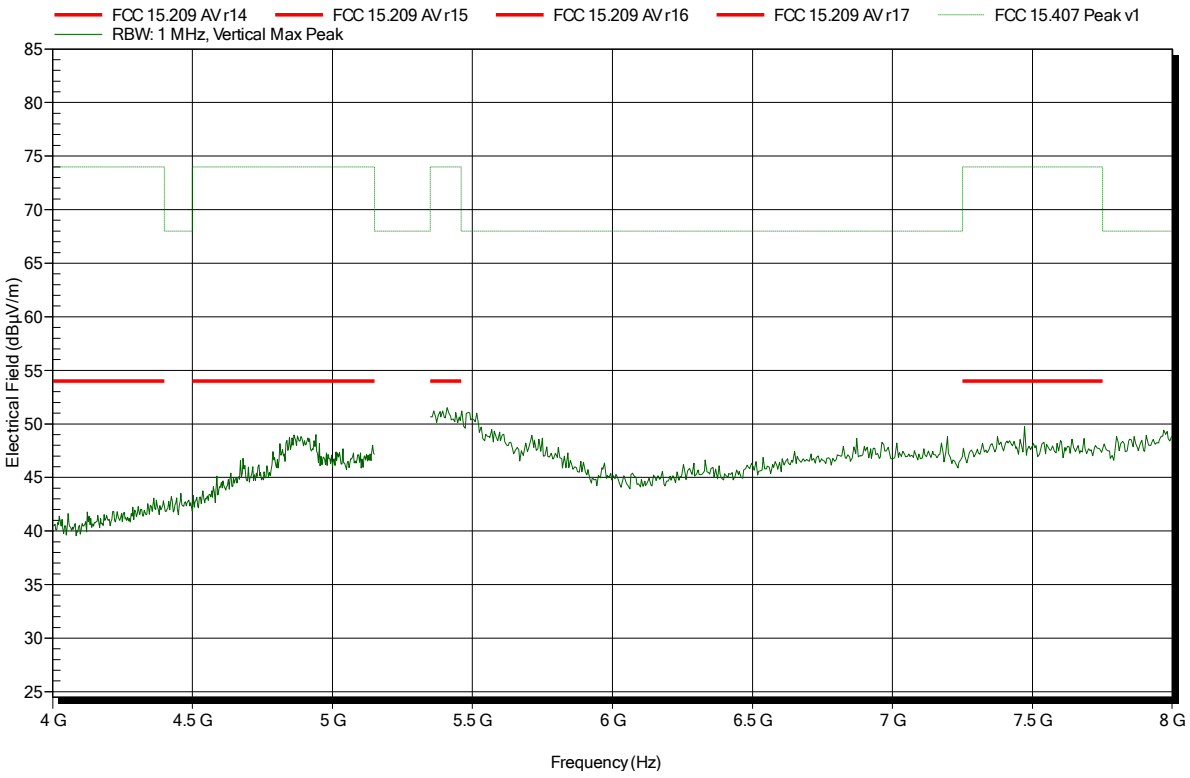

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Schwarzbeck BBHA 9120D, Horizontal
Measurement distance:	3 m
Mode:	TX; 2 x HT20, CH40; ant.: RAD-ISM-2459-ANT-FOOD-6-0
Test Date:	2016-04-26
Note:	

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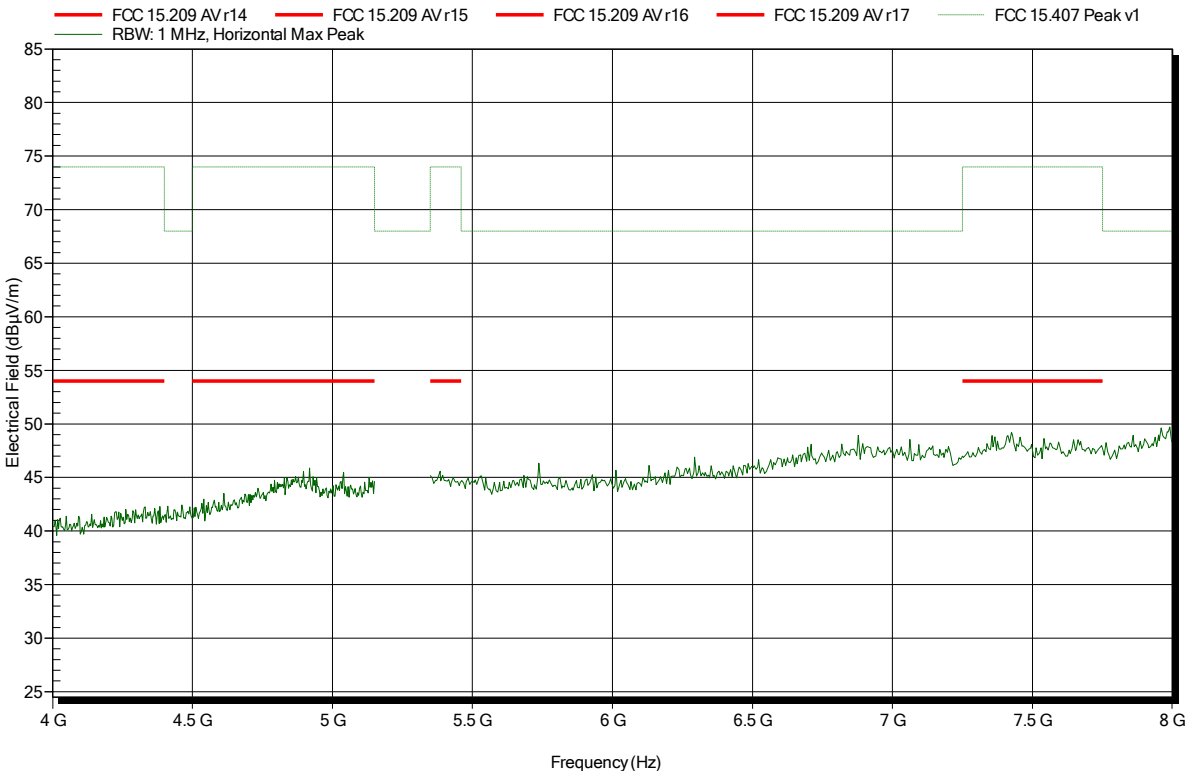

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Schwarzbeck BBHA 9120D, Vertical
Measurement distance:	3 m
Mode:	TX; 2 x HT20, CH48; ant.: RAD-ISM-2459-ANT-FOOD-6-0
Test Date:	2016-04-26
Note:	

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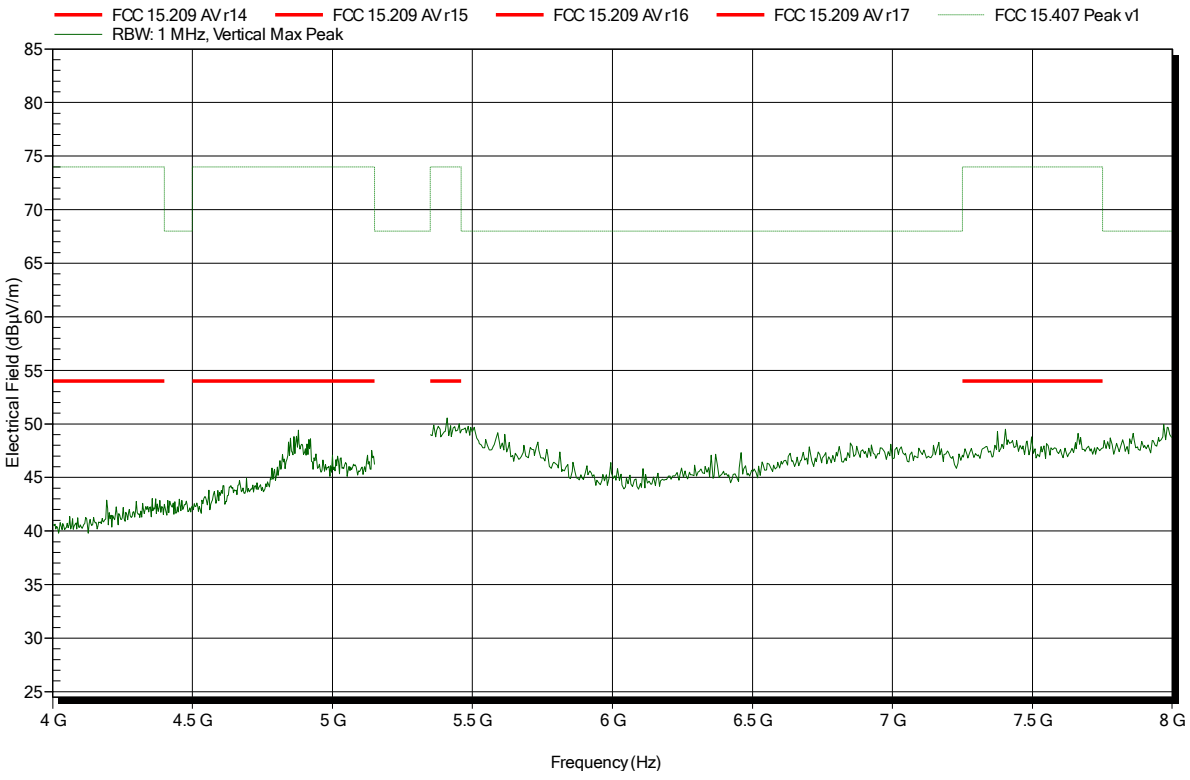

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Schwarzbeck BBHA 9120D, Horizontal
Measurement distance:	3 m
Mode:	TX; 2 x HT20, CH48; ant.: RAD-ISM-2459-ANT-FOOD-6-0
Test Date:	2016-04-26
Note:	

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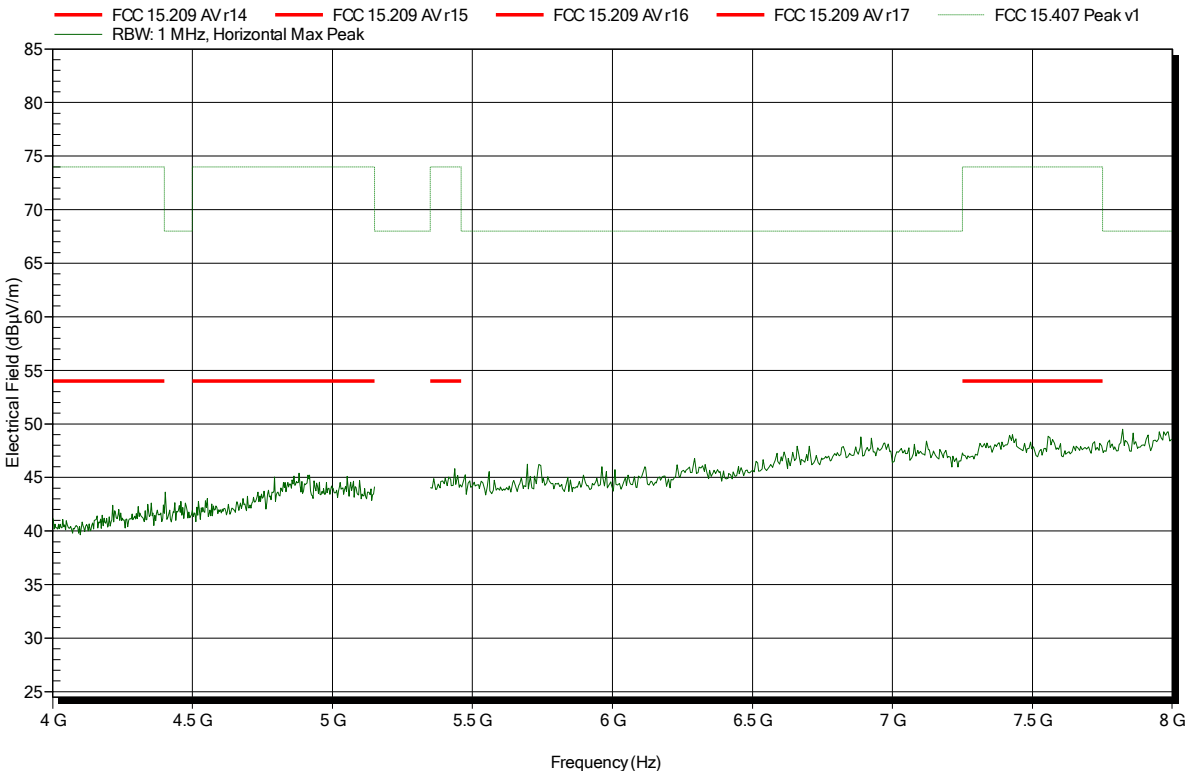

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Treffke
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Schwarzbeck BBHA 9120D, Vertical
Measurement distance:	1 m converted to 3m
Mode:	TX; 2xHT20, CH36
Test Date:	2015-12-01
Note:	

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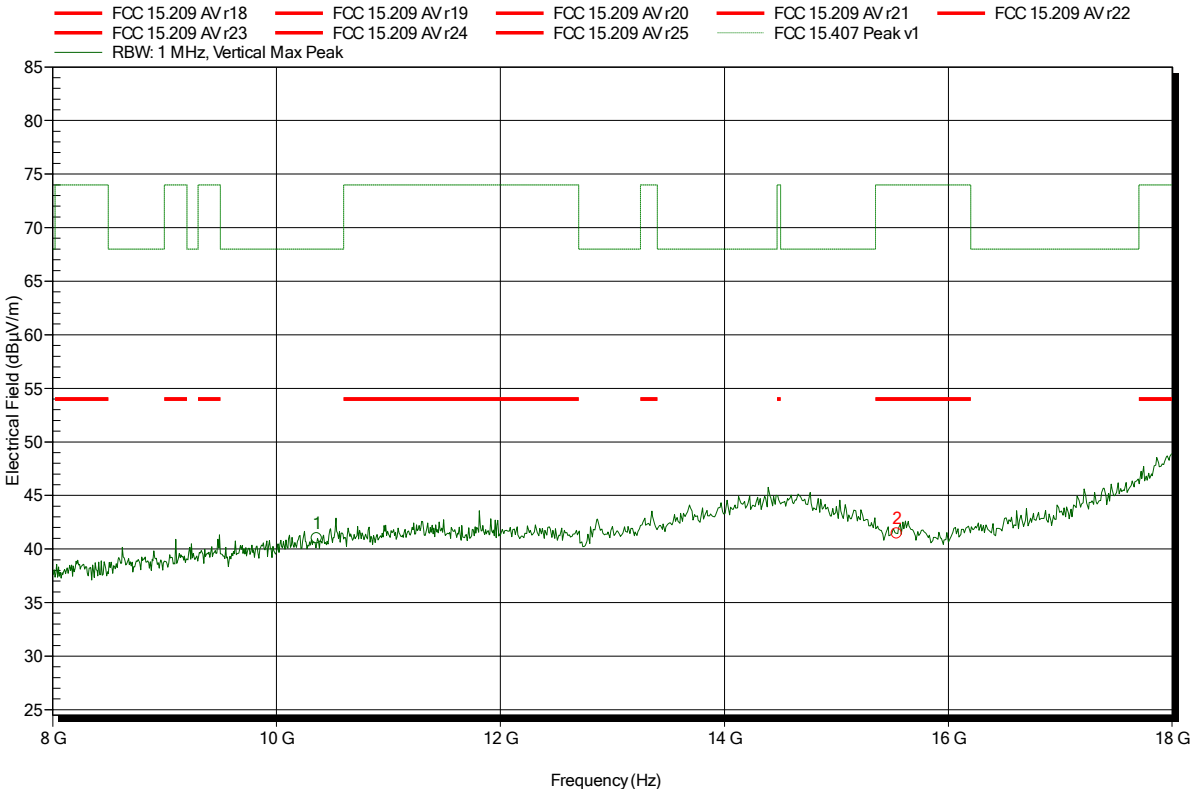

Frequency	Peak	Peak Limit	Peak Difference	Peak Status
10.36 GHz	40.99 dBµV/m	68 dBµV/m	-27.01 dB	Pass
15.54 GHz	41.46 dBµV/m	74 dBµV/m	-32.54 dB	Pass

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Treffke
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Schwarzbeck BBHA 9120D, Horizontal
Measurement distance:	1 m converted to 3m
Mode:	TX; 2xHT20, CH36
Test Date:	2015-12-01
Note:	

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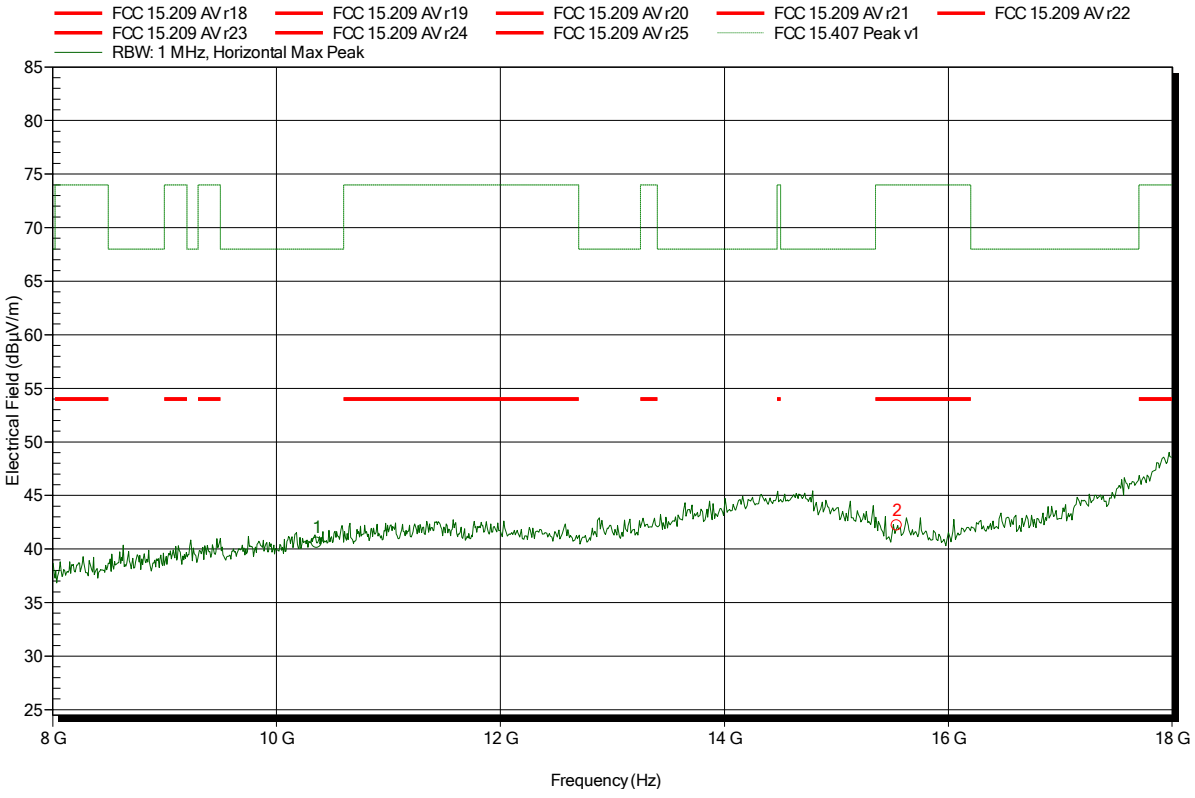

Frequency	Peak	Peak Limit	Peak Difference	Peak Status
10.36 GHz	40.56 dBµV/m	68 dBµV/m	-27.44 dB	Pass
15.54 GHz	42.2 dBµV/m	74 dBµV/m	-31.8 dB	Pass

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Treffke
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Schwarzbeck BBHA 9120D, Vertical
Measurement distance:	1 m converted to 3m
Mode:	TX; 2xHT20, CH40
Test Date:	2015-12-01
Note:	

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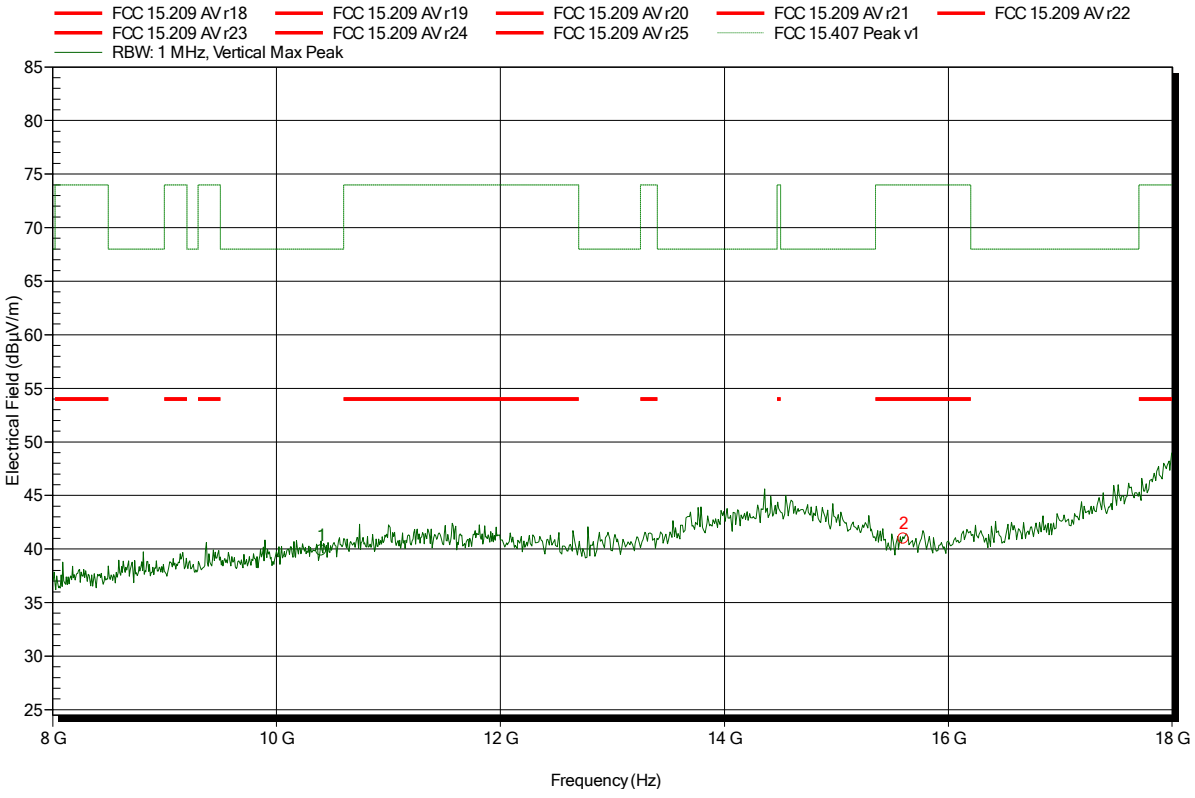

Frequency	Peak	Peak Limit	Peak Difference	Peak Status
10.4 GHz	39.86 dBµV/m	68 dBµV/m	-28.14 dB	Pass
15.6 GHz	40.98 dBµV/m	74 dBµV/m	-33.02 dB	Pass

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Treffke
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Schwarzbeck BBHA 9120D, Horizontal
Measurement distance:	1 m converted to 3m
Mode:	TX; 2xHT20, CH40
Test Date:	2015-12-01
Note:	

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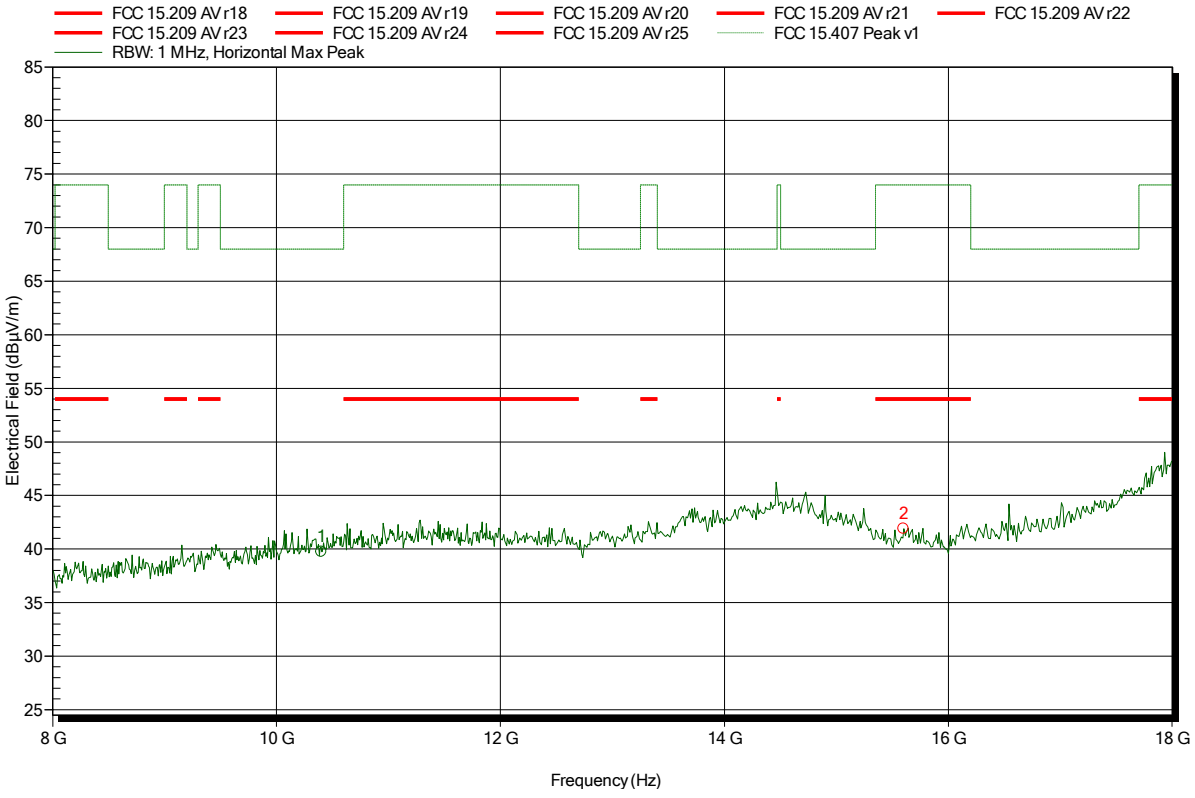

Frequency	Peak	Peak Limit	Peak Difference	Peak Status
10.4 GHz	39.73 dBµV/m	68 dBµV/m	-28.27 dB	Pass
15.6 GHz	41.91 dBµV/m	74 dBµV/m	-32.09 dB	Pass

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Treffke
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Schwarzbeck BBHA 9120D, Vertical
Measurement distance:	1 m converted to 3m
Mode:	TX; 2 x HT20, CH48
Test Date:	2015-12-02
Note:	

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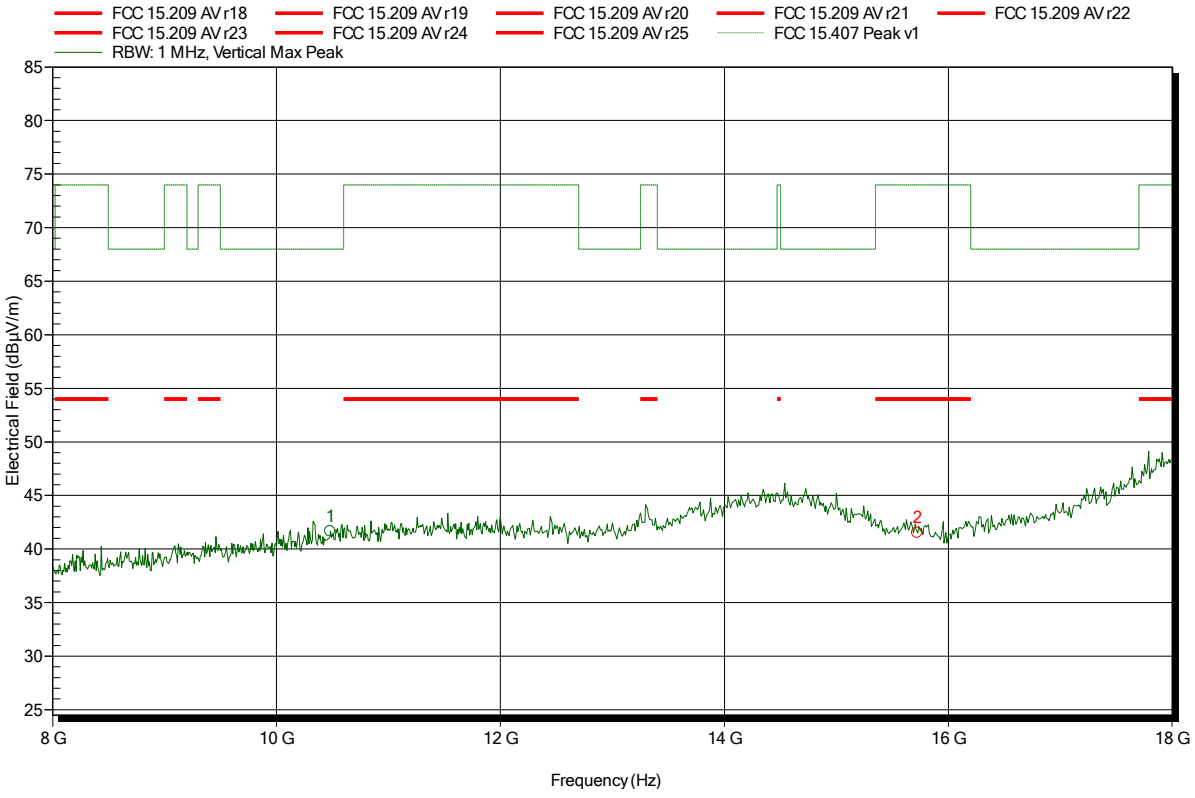

Frequency	Peak	Peak Limit	Peak Difference	Peak Status
10.48 GHz	41.66 dBµV/m	68 dBµV/m	-26.34 dB	Pass
15.72 GHz	41.5 dBµV/m	74 dBµV/m	-32.5 dB	Pass

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Treffke
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Schwarzbeck BBHA 9120D, Horizontal
Measurement distance:	1 m converted to 3m
Mode:	TX; 2 x HT20, CH48
Test Date:	2015-12-02
Note:	

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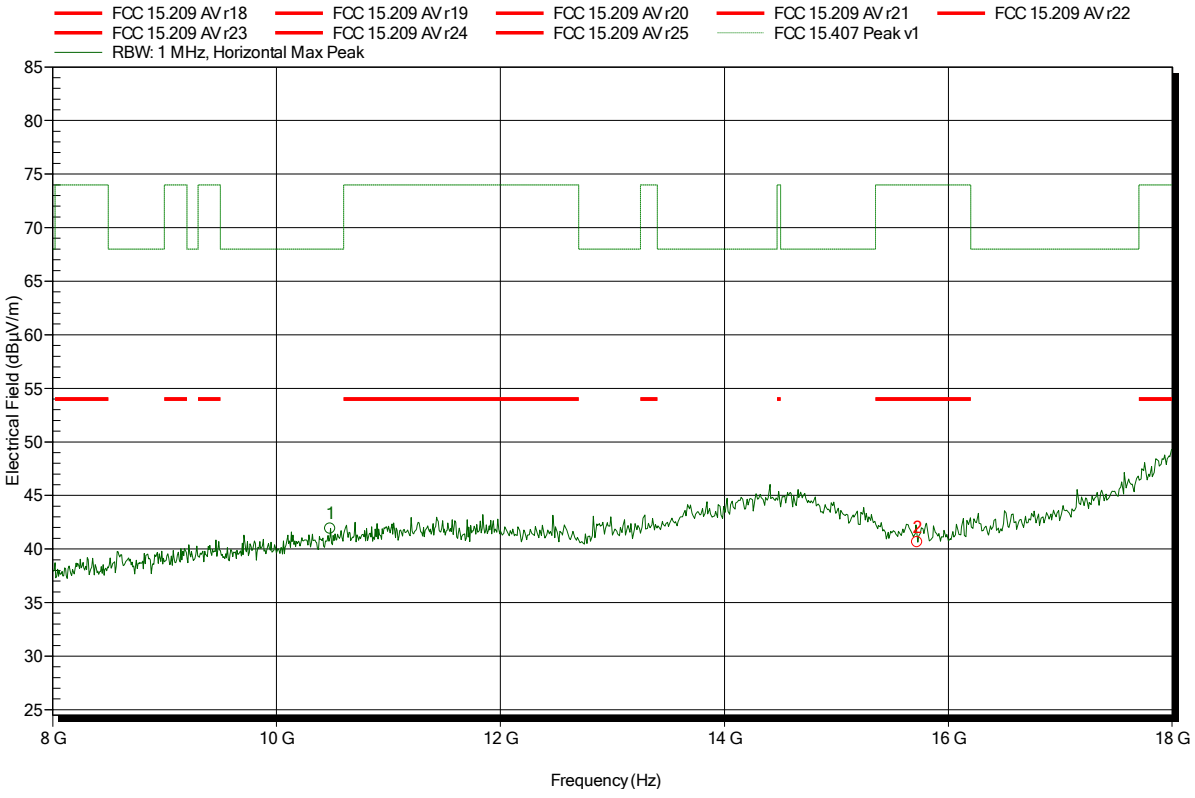

Frequency	Peak	Peak Limit	Peak Difference	Peak Status
10.48 GHz	41.9 dBµV/m	68 dBµV/m	-26.1 dB	Pass
15.72 GHz	40.62 dBµV/m	74 dBµV/m	-33.38 dB	Pass

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Treffke
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Rohde & Schwarz HL 025, Vertical
Measurement distance:	1 m converted to 3m
Mode:	TX; 2xHT20, CH36
Test Date:	2015-12-01
Note:	

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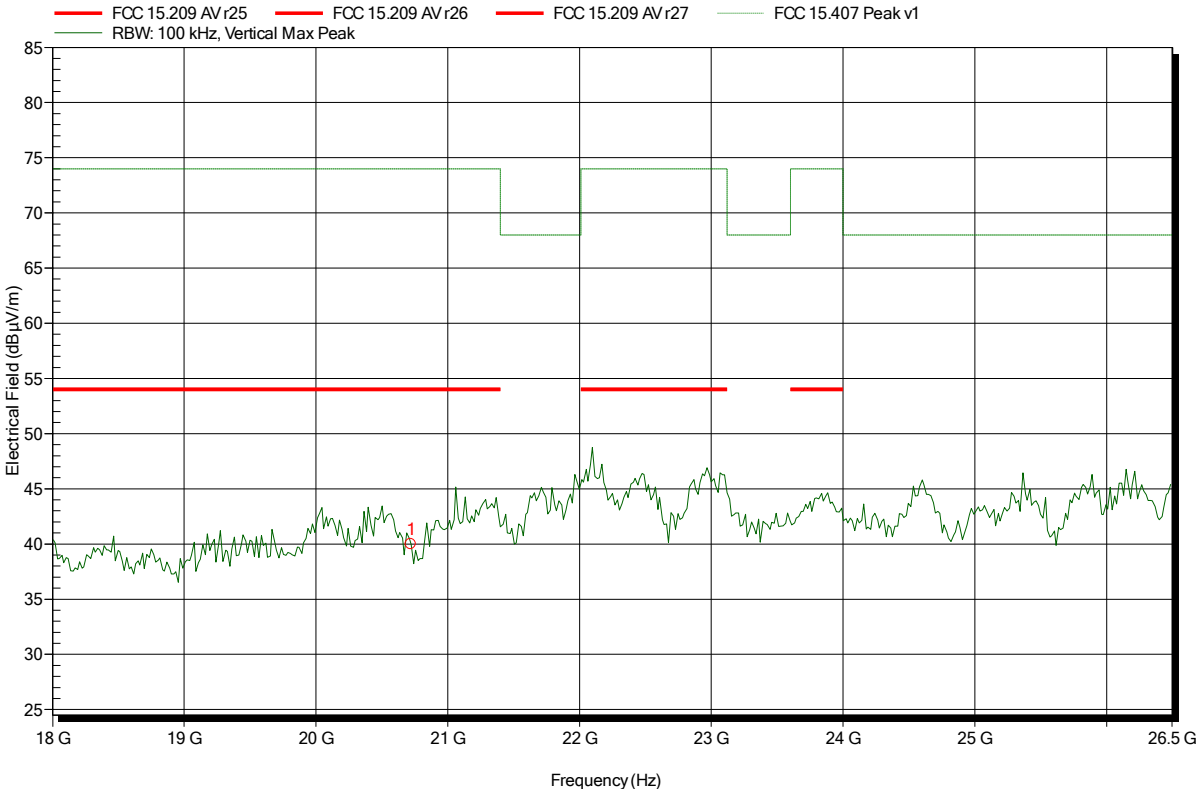

Frequency	Peak	Peak Limit	Peak Difference	Peak Status
20.72 GHz	39.99 dBµV/m	74 dBµV/m	-34.01 dB	Pass

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Treffke
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Rohde & Schwarz HL 025, Horizontal
Measurement distance:	1 m converted to 3m
Mode:	TX; 2xHT20, CH36
Test Date:	2015-12-01
Note:	

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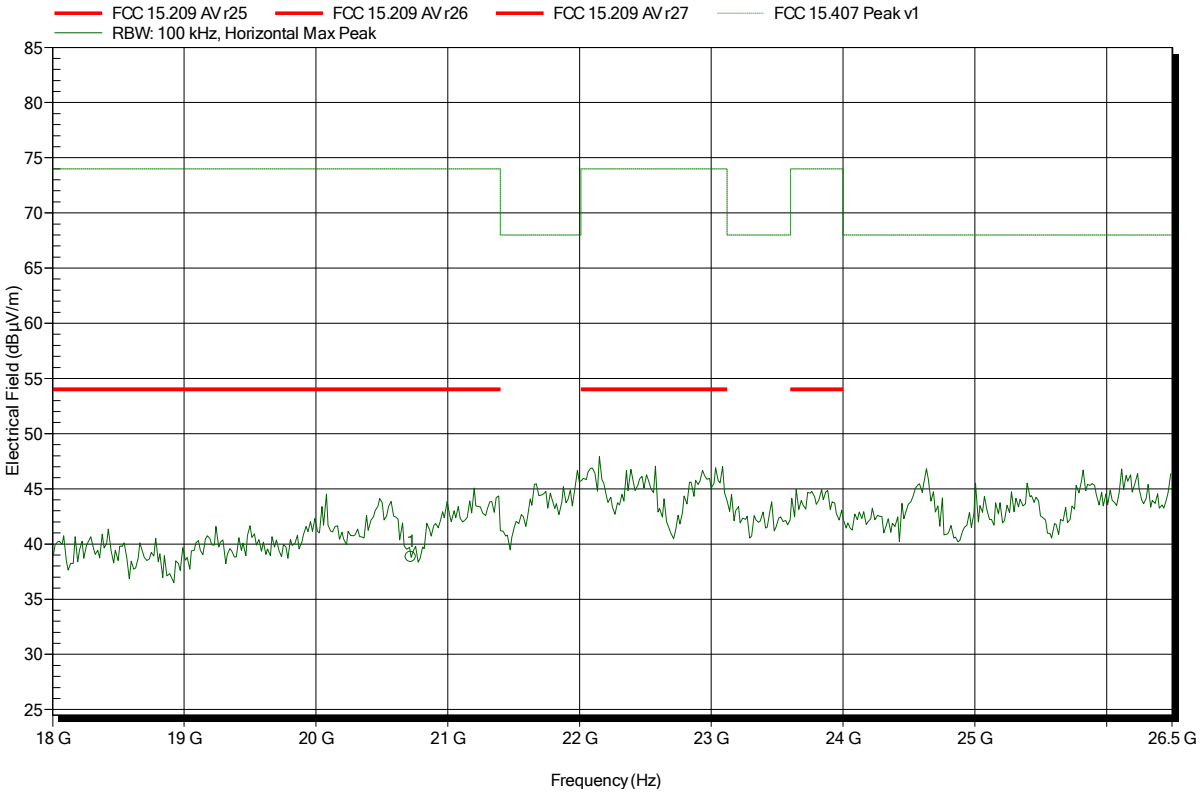

Frequency	Peak	Peak Limit	Peak Difference	Peak Status
20.72 GHz	38.83 dBµV/m	74 dBµV/m	-35.17 dB	Pass

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Treffke
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Rohde & Schwarz HL 025, Vertical
Measurement distance:	1 m converted to 3m
Mode:	TX; 2xHT20, CH40
Test Date:	2015-12-01
Note:	

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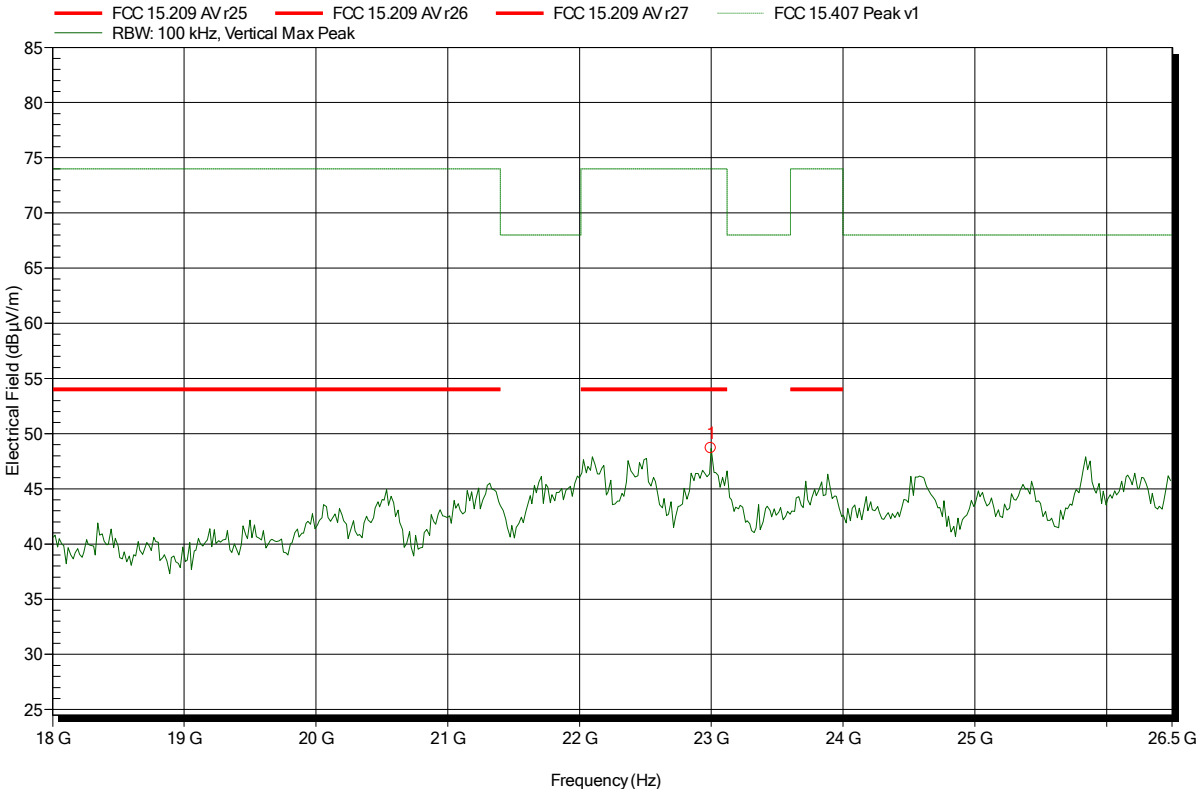

Frequency	Peak	Peak Limit	Peak Difference	Peak Status
22.998 GHz	48.68 dBµV/m	74 dBµV/m	-25.32 dB	Pass

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Treffke
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Rohde & Schwarz HL 025, Horizontal
Measurement distance:	1 m converted to 3m
Mode:	TX; 2xHT20, CH40
Test Date:	2015-12-01
Note:	

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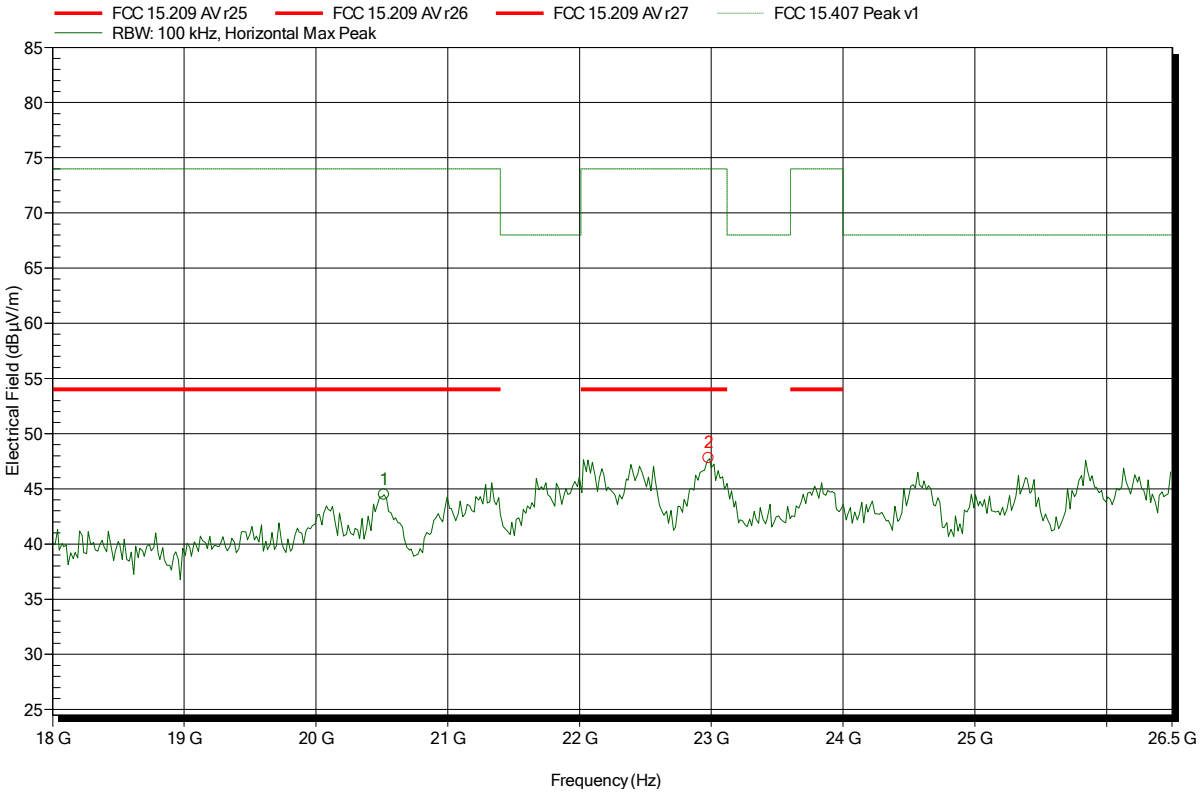

Frequency	Peak	Peak Limit	Peak Difference	Peak Status
20.516 GHz	44.46 dBµV/m	74 dBµV/m	-29.54 dB	Pass
22.981 GHz	47.79 dBµV/m	74 dBµV/m	-26.21 dB	Pass

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Treffke
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Rohde & Schwarz HL 025, Vertical
Measurement distance:	1 m converted to 3m
Mode:	TX; 2 x HT20, CH48
Test Date:	2015-12-02
Note:	

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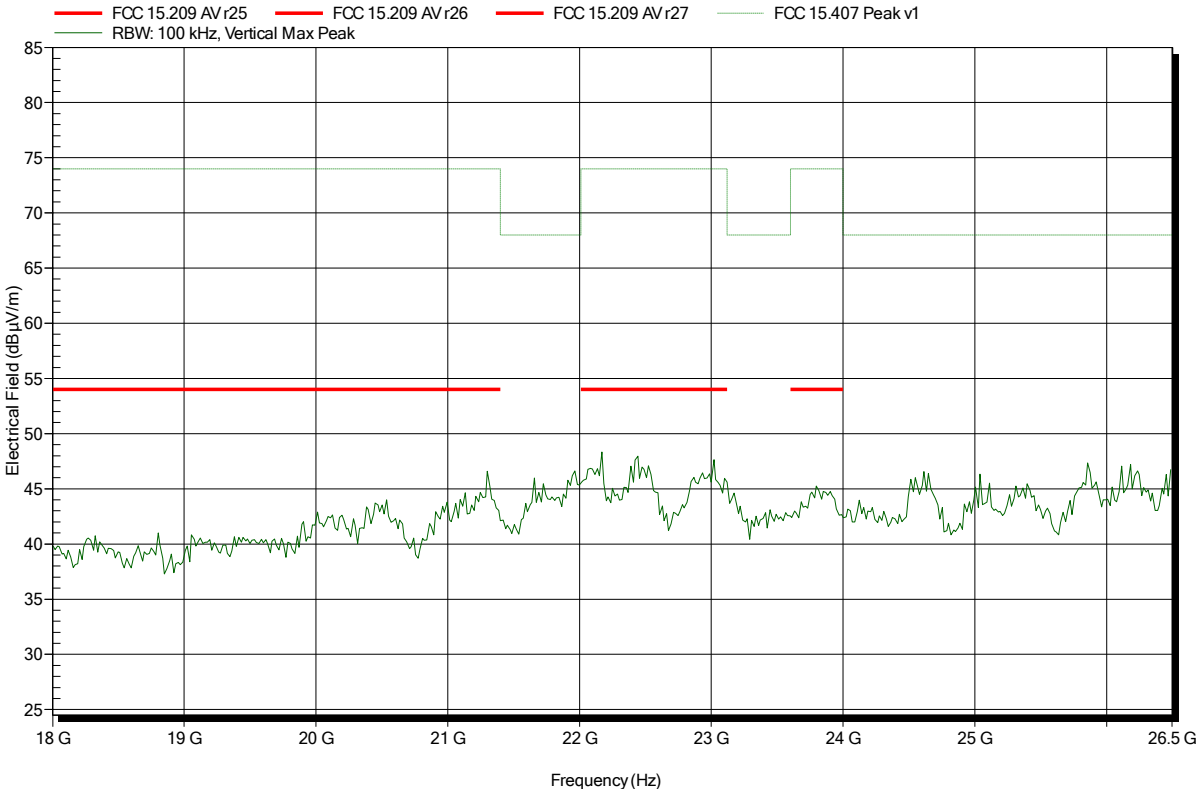

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Treffke
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	Rohde & Schwarz HL 025, Horizontal
Measurement distance:	1 m converted to 3m
Mode:	TX; 2 x HT20, CH48
Test Date:	2015-12-02
Note:	

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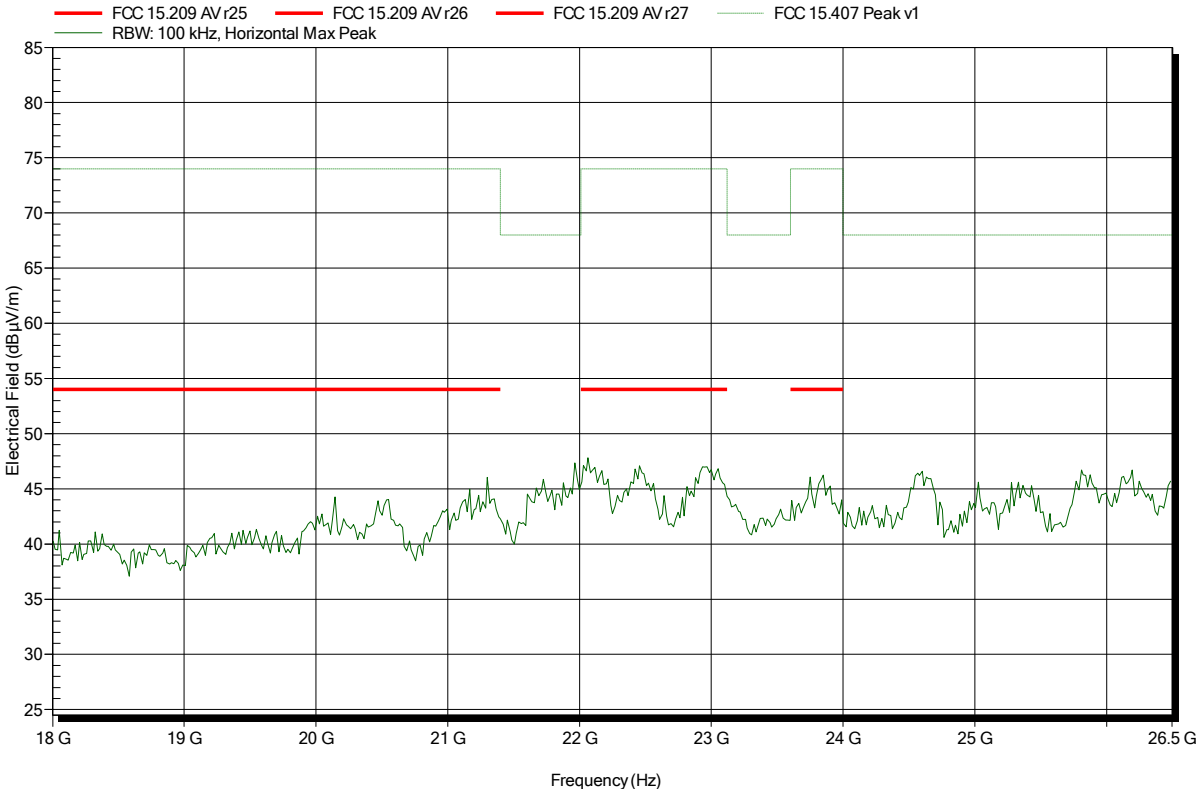

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Treffke
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	22240-25, Vertical
Measurement distance:	1 m converted to 3m
Mode:	TX; 2xHT20, CH36
Test Date:	2015-12-01
Note:	

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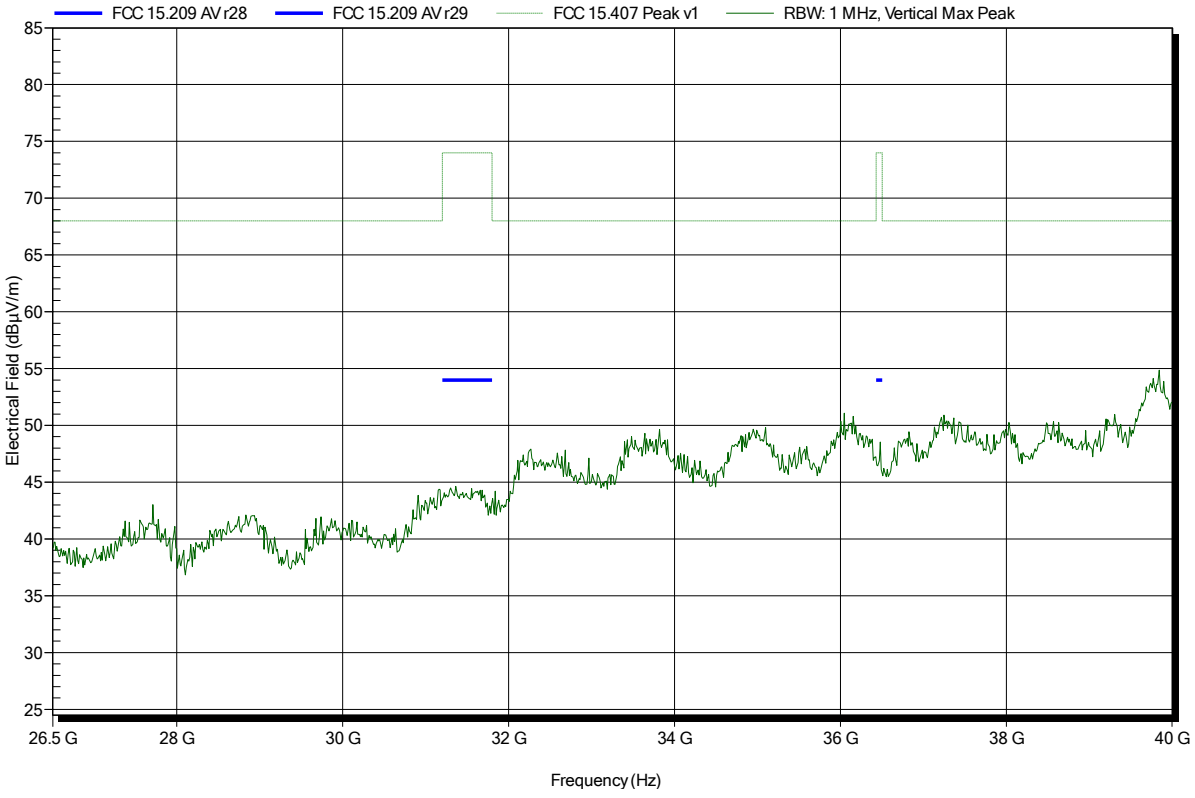

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Treffke
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	22240-25, Horizontal
Measurement distance:	1 m converted to 3m
Mode:	TX; 2xHT20, CH36
Test Date:	2015-12-01
Note:	

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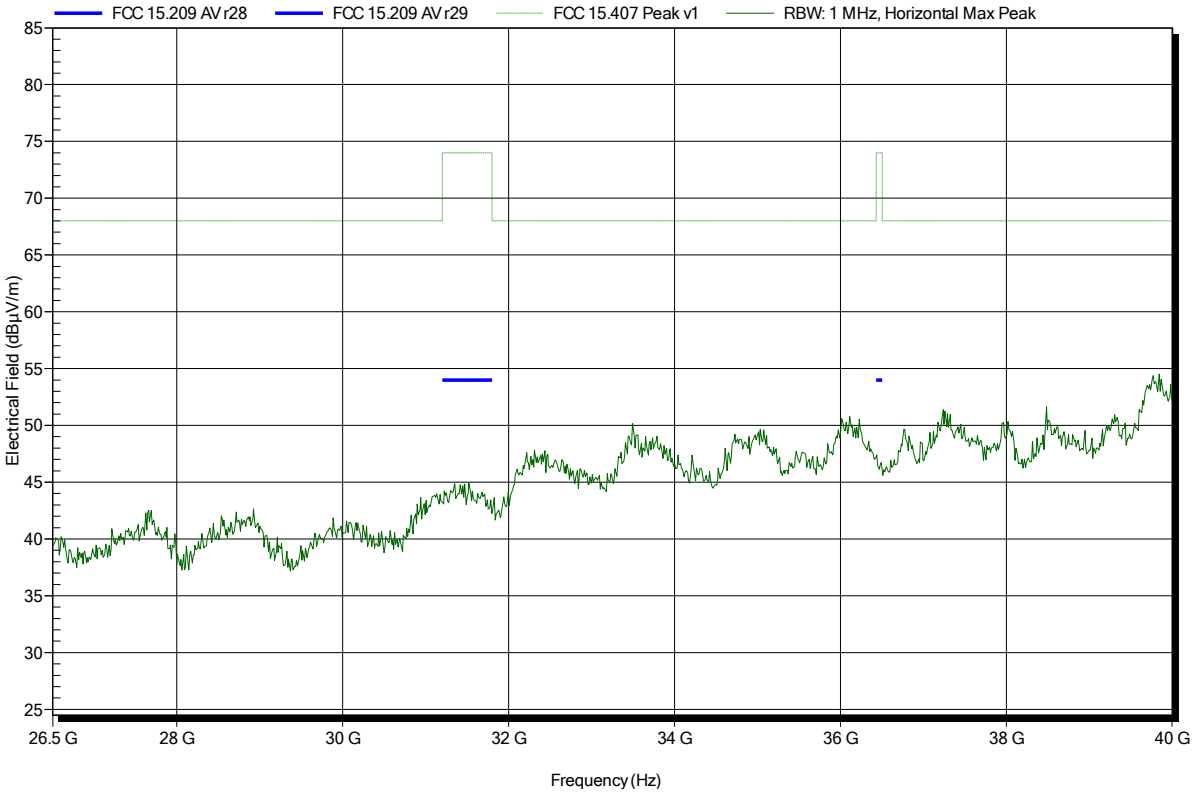

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Treffke
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	22240-25, Vertical
Measurement distance:	1 m converted to 3m
Mode:	TX; 2xHT20, CH40
Test Date:	2015-12-01
Note:	

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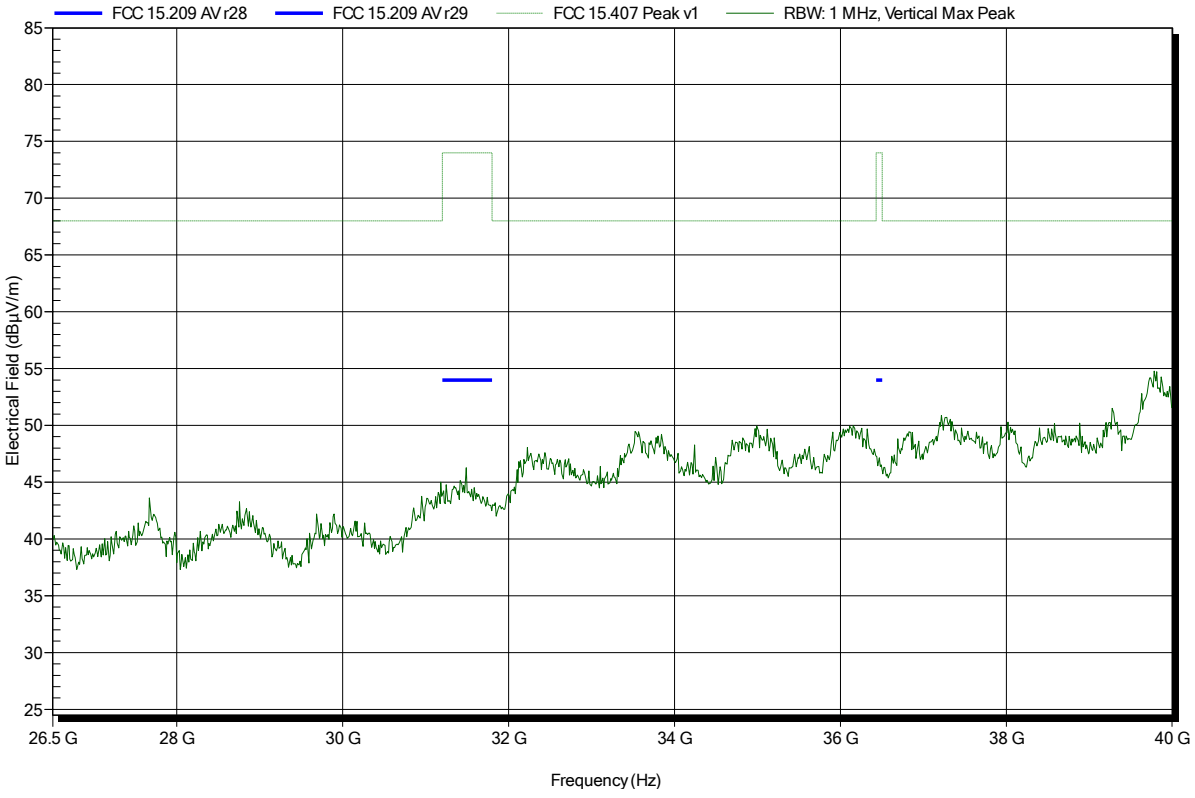

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Treffke
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	22240-25, Horizontal
Measurement distance:	1 m converted to 3m
Mode:	TX; 2xHT20, CH40
Test Date:	2015-12-01
Note:	

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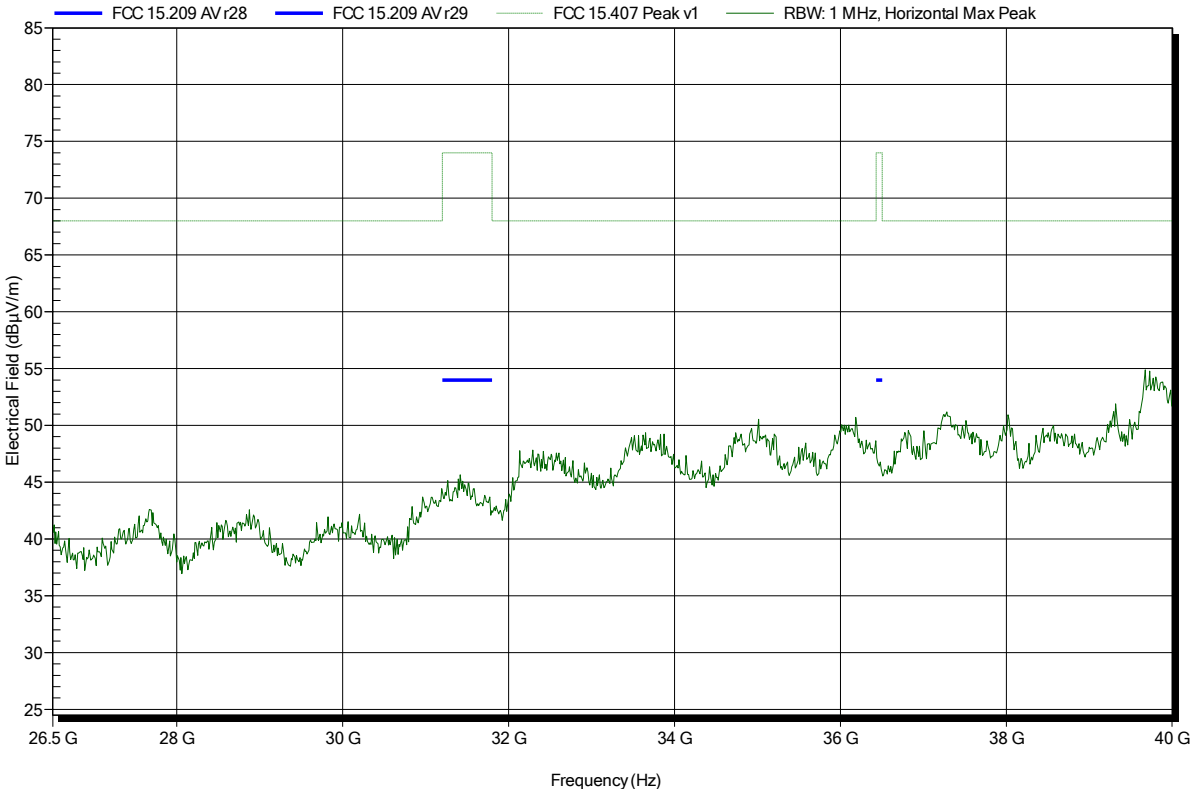

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Treffke
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	22240-25, Vertical
Measurement distance:	1 m converted to 3m
Mode:	TX; 2 x HT20, CH48
Test Date:	2015-12-02
Note:	

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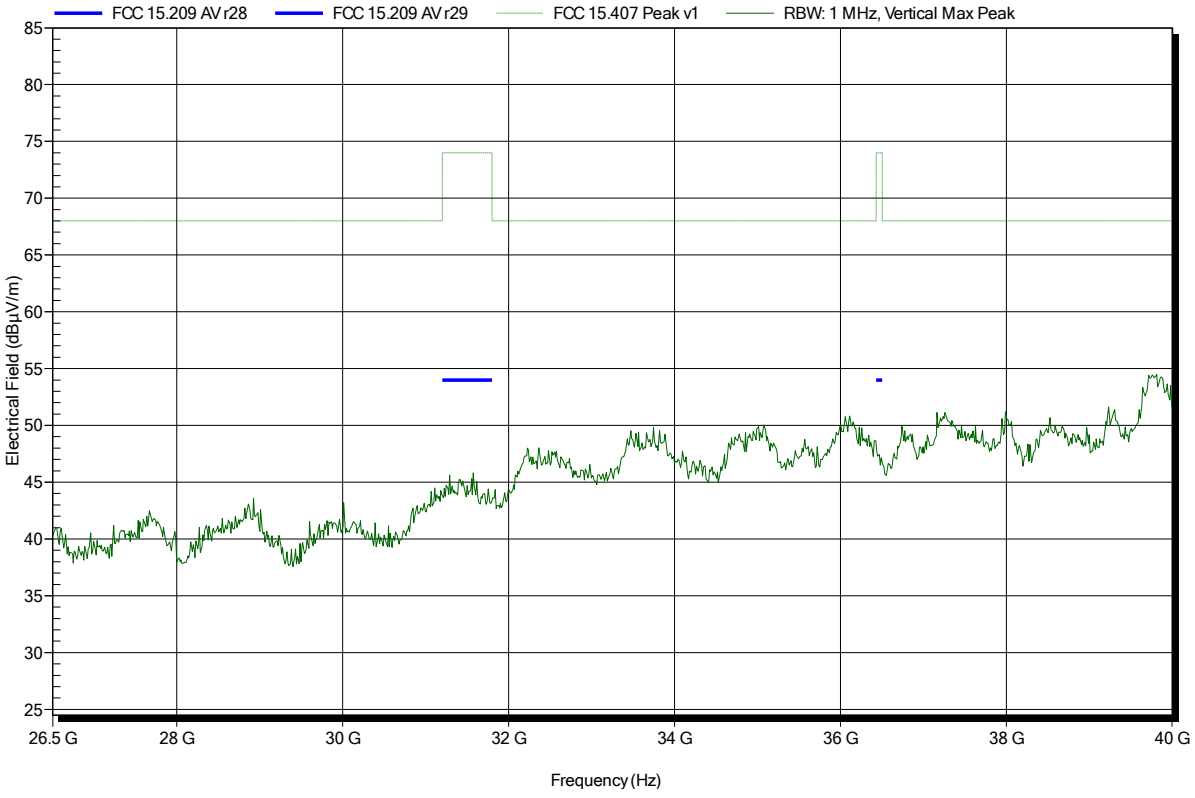

Spurious emissions according to FCC 15.407

Project number: G0M-1510-5164

Applicant:	Phoenix Contact GmbH & Co.KG
EUT Name:	Wireless Access Point / Client
Model:	FL WLAN 5101
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Treffke
Test Conditions:	Tnom: 20°C, Vnom: 24VDC
Antenna:	22240-25, Horizontal
Measurement distance:	1 m converted to 3m
Mode:	TX; 2 x HT20, CH48
Test Date:	2015-12-02
Note:	

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