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FCC TEST REPORT

FCC 47 CFR Part 15E
Industry Canada RSS-210
Digital transmission systems operating within the 5150 – 5350 and 5470 – 5850 MHz band

Report Reference No.....:	G0M-1410-4225-TFC407WF-V01_Cradle
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 IC OATS Filing assigned code: 3470A
Applicant's name.....:	Panasonic Europe Ltd.
Address.....:	Panasonic Testing Centre Winsbergring 15 PETC01 22525 Hamburg GERMANY
Test specification:	
Standard.....:	47 CFR Part 15E KDB Publication No. 789033 D02 v01 RSS-210, Issue 8, 2010-12 RSS-Gen, Issue 4, 2014-11 ANSI C63.4:2009
Test scope…….....:	complete Radio compliance test
Equipment under test (EUT):	
Product description	W-LAN Module
Model No.	J3FYY0000061
Additional Model(s)	None
Brand Name(s)	None
Hardware version	Rev. NEW
Firmware / Software version	Ver. 14.68.29.p26
	FCC-ID: 2ADHS-M12011 IC: 12465A-M12011
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 .....:	2014-11-26	
Date (s) of performance of tests .....:	2014-11-26 - 2014-11-28	
Compiled by ..... :	Toralf Jahn	
Tested by (+ signature)..... : (Responsible for Test)	Toralf Jahn	.....
Approved by (+ signature) ..... :	Christian Weber	.....
Date of issue ..... :	2015-02-19	
Total number of pages ..... :	64	

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:

The module was tested in the dedicated host environment IPSC 3 Cradle.

Version History

Version	Issue Date	Remarks	Revised by
01	2015-02-19	Initial Release	

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1 Equipment (Test item) Description

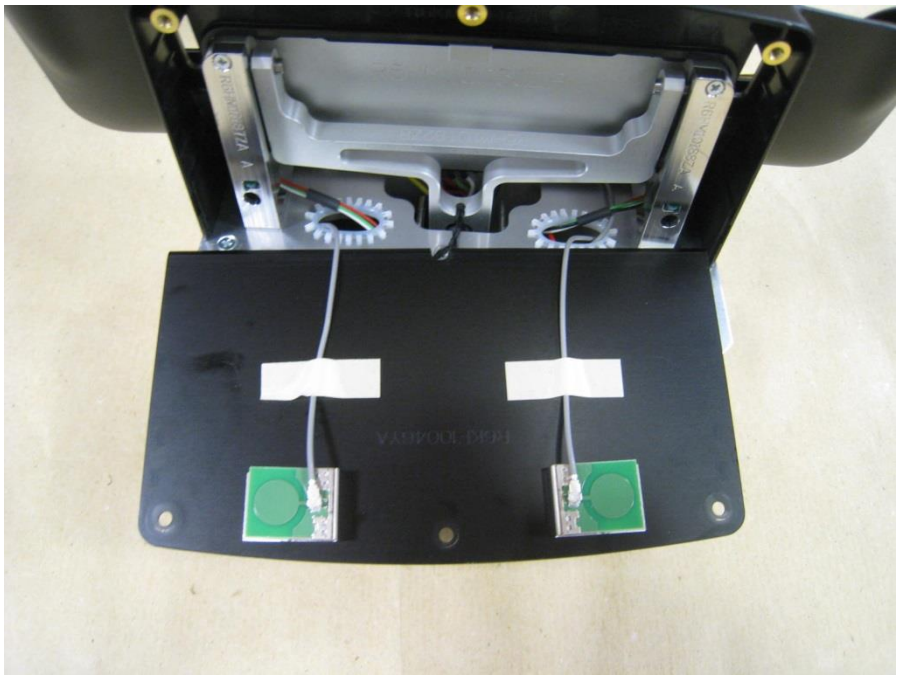
Description	W-LAN Module	
Model	J3FYY0000061	
Additional Model(s)	None	
Brand Name(s)	None	
Serial number	None	
Hardware version	Rev. NEW	
Software / Firmware version	Ver. 14.68.29.p26	
FCC-ID	2ADHS-M12011	
IC	12465A-M12011	
Equipment type	Radio module	
Radio type	Transceiver	
Radio technology	IEEE 802.11 a/n (20 MHz only)	
Master / Client capabilities	Client without radar detection	
Operating frequency range	5180 - 5240 MHz	
Assigned frequency band	5150 - 5250 MHz	
Main test frequencies	Channel 36	5180 MHz
	Channel 40	5200 MHz
	Channel 48	5240 MHz
Spreading	OFDM	
Modulations	BPSK, QPSK, 16-QAM, 64-QAM	
Number of channels	4	
Channel spacing	20 MHz	
Number of antennas	2	
Antenna (2 broadband PCB antennas)	Type	external dedicated
	Model	A501000093
	Manufacturer	Panasonic Corporation
	Gain	+5 dBi (manufacturer declaration)
Manufacturer	Panasonic Corporation 2-15, Matsuba-cho 571-0056 Kadoma City Japan	
Power supply	V_{NOM}	5.0 VDC
	V_{MIN}	4.5 VDC
	V_{MAX}	5.5 VDC
Temperature range	T_{NOM}	+25°C
	T_{MIN}	-30°C
	T_{MAX}	+85°C

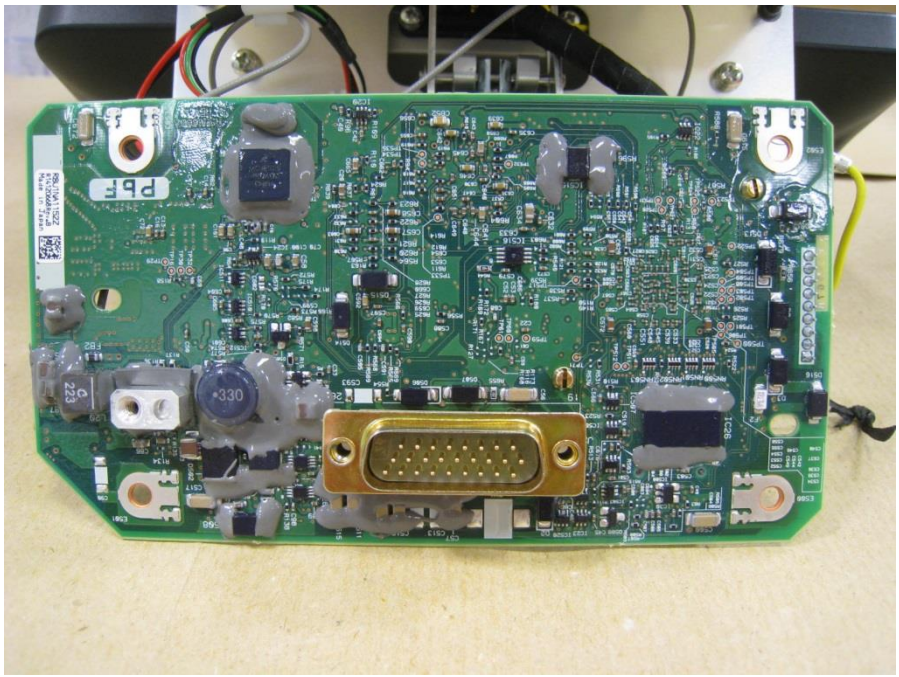
1.1 Photos – Equipment External

IPSC 3 Cradle Bottom

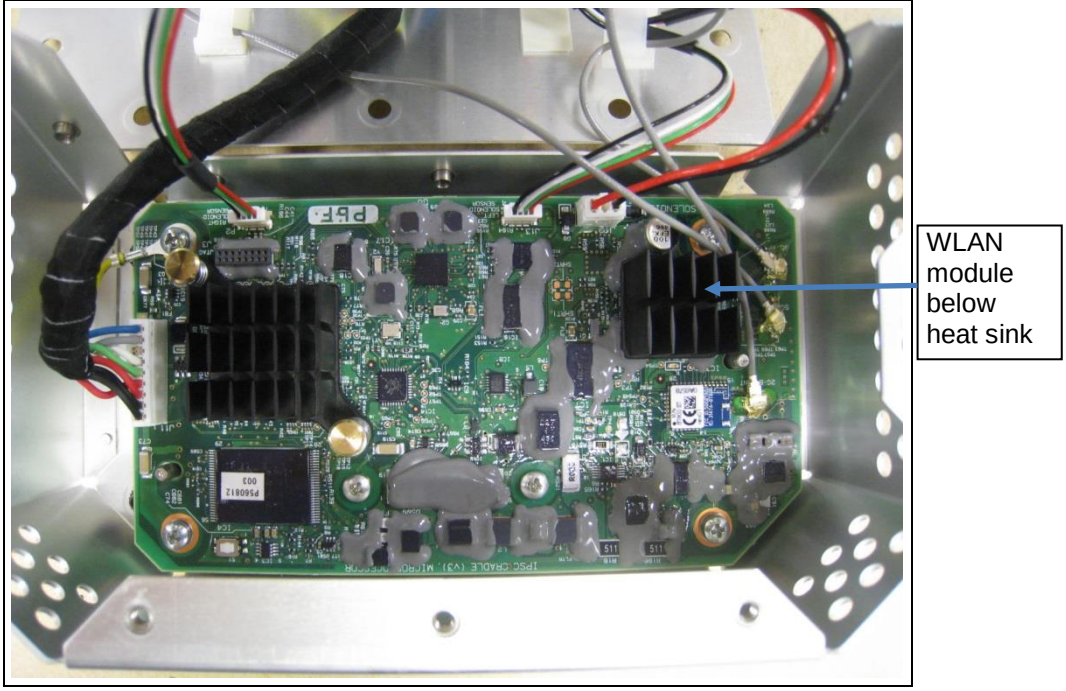
IPSC 3 Cradle Top

1.2 Photos – Equipment internal

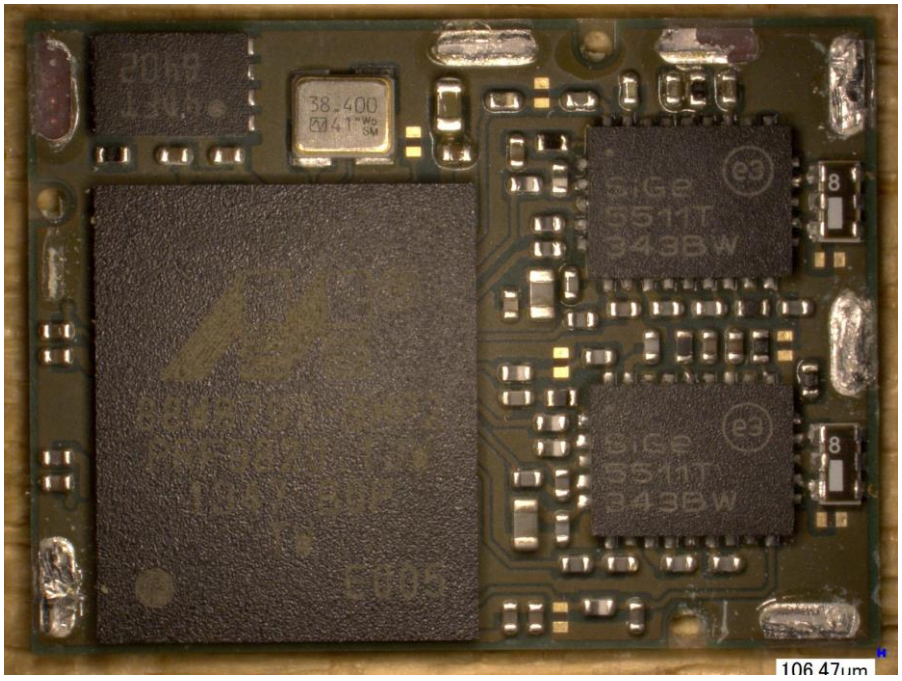
IPSC 3 Cradle Antennas


IPSC 3 Cradle PCB


IPSC 3 Cradle PCB



Module with shielding

Module without shielding


1.3 Photos – Test setup

Radiated

1.4 Supporting Equipment Used During Testing

Product Type*	Type	Description	Manufacturer	Model No.
AE	IPSC 3	Handheld LRU	Panasonic	RD-NA1106-01U1
AE	HD PSEB to IPSC Cradle Cable	A1 Cradle Cable	Panasonic	QP-NA1152-01ENV/A1

***Note:** Use the fol1ing abbreviations:

AE : Auxiliary/Associated Equipment, or

SIM : Simulator (Not Subjected to Test)

CABL : Connecting cables

1.5 Test Modes

Mode #	Description	
OFDM	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 = 100 % Power level = 8 dBm firmware setting
HT20	General conditions:	EUT powered via power supply.
	Radio conditions:	Mode = standalone transmit Spreading = OFDM Modulation = MCS0 (BPSK) Data rate = 6.5 Mbps Bandwidth = 20 MHz Duty cycle = 100 % Power level = 8 dBm firmware setting
Unmodulated	General conditions:	EUT powered via power supply.
	Radio conditions:	Mode = standalone transmit Modulation =none Duty cycle = 100 % Power level = 8 dBm firmware setting
Receive	General conditions:	EUT powered via power supply.
	Radio conditions:	Mode = standalone receive Spreading = DSSS / OFDM

1.6 Test Equipment Used During Testing

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

Occupied Bandwidth					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Spectrum analyzer	R&S	FSW43	EF00896	2014-02	2015-02

6dB Bandwidth					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Spectrum analyzer	R&S	FSW43	EF00896	2014-02	2015-02

Maximum peak conducted power					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Spectrum analyzer	R&S	FSW43	EF00896	2014-02	2015-02

Power spectral density					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Spectrum analyzer	R&S	FSW43	EF00896	2014-02	2015-02

Band edge compliance					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Spectrum analyzer	R&S	FSW43	EF00896	2014-02	2015-02

Frequency stability					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Spectrum analyzer	R&S	FSW43	EF00896	2014-02	2015-02

Conducted spurious emissions					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Spectrum analyzer	R&S	FSW43	EF00896	2014-02	2015-02

Radiated spurious emissions					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Semi-anechoic chamber	Frankonia	AC 1	EF00062	-	-
Spectrum Analyzer	R&S	FSIQ26	EF00242	2014-03	2015-03
Biconical Antenna	R&S	HK 116	EF00012	2013-02	2016-02
LPD Antenna	R&S	HL 223	EF00187	2014-03	2017-03
LPD Antenna	R&S	HL 025	EF00327	2013-02	2016-02

1.7 Sample emission level calculation

The fol1ing 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 Class B radiated emission limit (in units of dBµV/m). The FCC limits are given in units of µV/m. The fol1ing 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 be1 the FCC limit. The units are given in dB. A negative margin indicates the emission was be1 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-210				
Product Specific Standard Section	**Requirement – Test**	**Reference Method**	**Result**	**Remarks**
RSS-Gen 6.6	Occupied Bandwidth	RSS-Gen 6.6	N/R	No limit. Basis for other measurements.
FCC § 15.407(a)(h)	26 dB emission bandwidth	KDB Publication No. 789033	N/R	No limit. Basis for other measurements.
FCC § 15.407(a) IC RSS-210 § A8.4 IC RSS-210 § A9.2	Maximum output power	KDB Publication No. 789033	PASS	
FCC § 15.407(a) IC RSS-210 § A8.2 IC RSS-210 § A9.2	Maximum power spectral density	KDB Publication No. 789033	PASS	
FCC § 15.407(b) IC RSS-210 § A8.5 IC RSS-210 § A9.2	Conducted spurious emissions at antenna port	KDB Publication No. 789033	PASS	
FCC § 15.407(b) IC RSS-210 § A8.5 IC RSS-210 § A9.2	Band edge compliance	KDB Publication No. 789033	PASS	
FCC § 15.407(g)	Frequency stability	KDB Publication No. 789033	PASS	
FCC § 15.407(a)(e) IC RSS-210 § A8.2	Minimum 6 dB Bandwidth	KDB Publication No. 789033	N/R	Only required in 5725 – 5850 MHz band.
FCC § 15.407(h) IC RSS-210 § A9.2	Transmit Power Control (TPC)	KDB Publication No. 789033	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-210 § A9.3	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 RSS-Gen 8.8	AC power line conducted emissions	KDB Publication No. 789033 / ANSI C63.4	N/R	No connection to public network
FCC § 15.407(b) FCC § 15.209 IC RSS-210 A8.5 IC RSS-Gen 8.10	Transmitter radiated spurious emissions	KDB Publication No. 789033 / ANSI C 63.4	PASS	
IC RSS-Gen 7.1	Receiver radiated spurious emissions	ANSI C 63.4	PASS	
Remarks:				

3 Test Conditions and Results

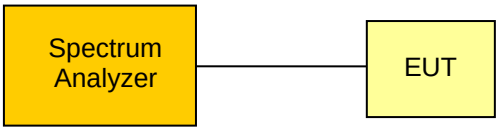
3.1 Test Conditions and Results – Occupied Bandwidth

Occupied Bandwidth acc. to IC RSS-Gen	**Verdict: PASS**
Test according to measurement reference	Reference Method
	RSS-Gen 6.6

Limits

None (Informational only)

Test setup



Test procedure

1. EUT set to test mode (Communication tester is used if needed)
2. Span set to at least twice the emission spectrum
3. Resolution bandwidth set to 1 % of span
4. Occupied Bandwidth (99 %) measurement with spectrum analyzer built in measurement function

Test results

Antenna port A Channel	Frequency [MHz]	Mode	Occupied Bandwidth [MHz]
36	5180 MHz	HT20	18.4
40	5200 MHz	HT20	18.4
48	5240 MHz	HT20	18.4
36	5180 MHz	OFDM	16.8
40	5200 MHz	OFDM	16.8
48	5240 MHz	OFDM	16.8
Antenna port B Channel	Frequency [MHz]	Mode	Occupied Bandwidth [MHz]
36	5180 MHz	HT20	18.3
40	5200 MHz	HT20	18.3
48	5240 MHz	HT20	18.3
36	5180 MHz	OFDM	16.8
40	5200 MHz	OFDM	16.8
48	5240 MHz	OFDM	16.8

Comments:

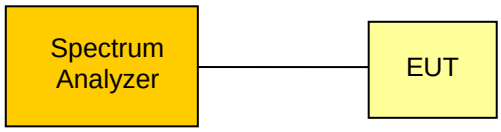
3.2 Test Conditions and Results – 26 dB Emission Bandwidth

26dB Bandwidth acc. FCC 15.407	**Verdict: PASS**
EUT requirement rule parts and clause	Reference
	FCC 15.407(a), (h)
Test according to measurement reference	Reference Method
	FCC KDB Publication No. 789033 C.1

Limits

No limit. Basis for other measurements.

Test setup



Test procedure

1. EUT set to test mode
2. RBW is set to approximately 1% of emission 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

Test results

Antenna port A Channel	Frequency [MHz]	Mode	26 dB bandwidth [MHz]
36	5180 MHz	HT20	22.6
40	5200 MHz	HT20	22.5
48	5240 MHz	HT20	22.4
36	5180 MHz	OFDM	20.1
40	5200 MHz	OFDM	20.1
48	5240 MHz	OFDM	20.1
Antenna port B Channel	Frequency [MHz]	Mode	26 dB bandwidth [MHz]
36	5180 MHz	HT20	22.5
40	5200 MHz	HT20	22.5
48	5240 MHz	HT20	22.4
36	5180 MHz	OFDM	20.1
40	5200 MHz	OFDM	20.1
48	5240 MHz	OFDM	20.1

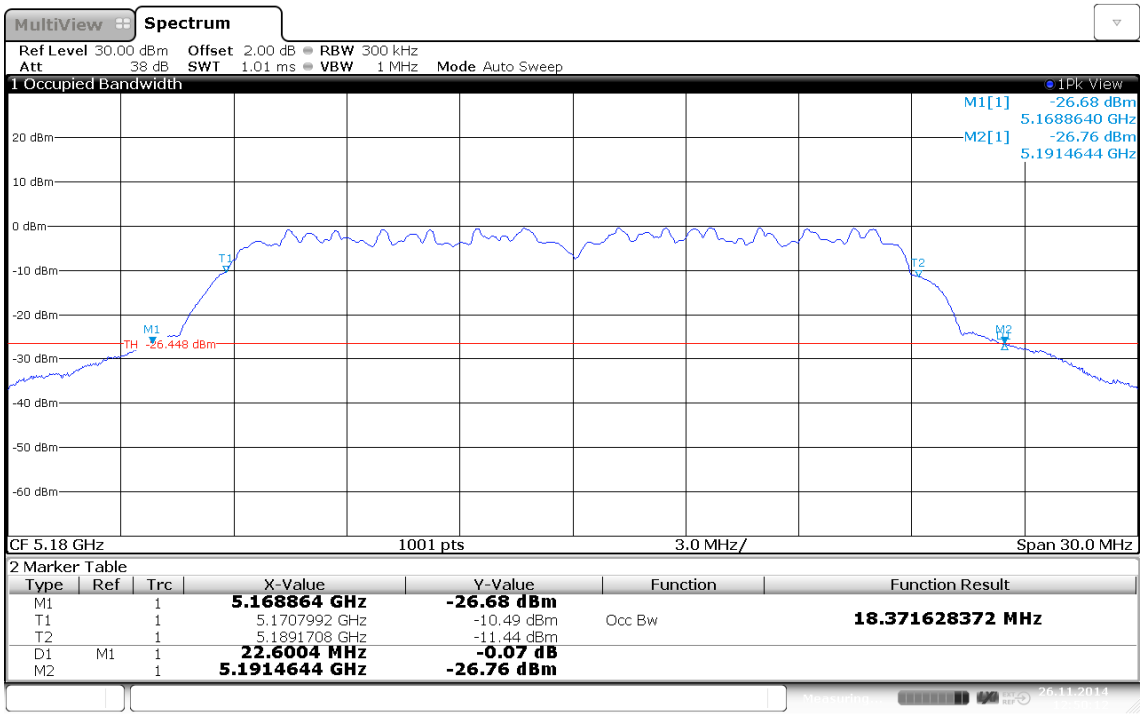
Comments:

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

99% Occupied Bandwidth and 26 dB Emission Bandwidth

Project Number: G0M-1410-4225

Applicant:	Panasonic Europe Ltd.
EUT Name:	W-LAN Module
Model:	J3FYY0000061
Test Site:	Eurofins Product Service GmbH
Operator:	Toralf Jahn
Test Conditions:	Tnom / Vnom
Mode:	Tx, WLAN HT20, 5180 MHz, CH A
Test Date:	2014-11-26
Verdict:	NONE (INFORMATION ONLY)
Note 1:	RSS Gen
Note 2:	C.1. (789033 D02 General UNII Test Procedure New Rules v01)



99% Occupied bandwidth: 18.4 MHz; 26dB Bandwidth: 22.6 MHz

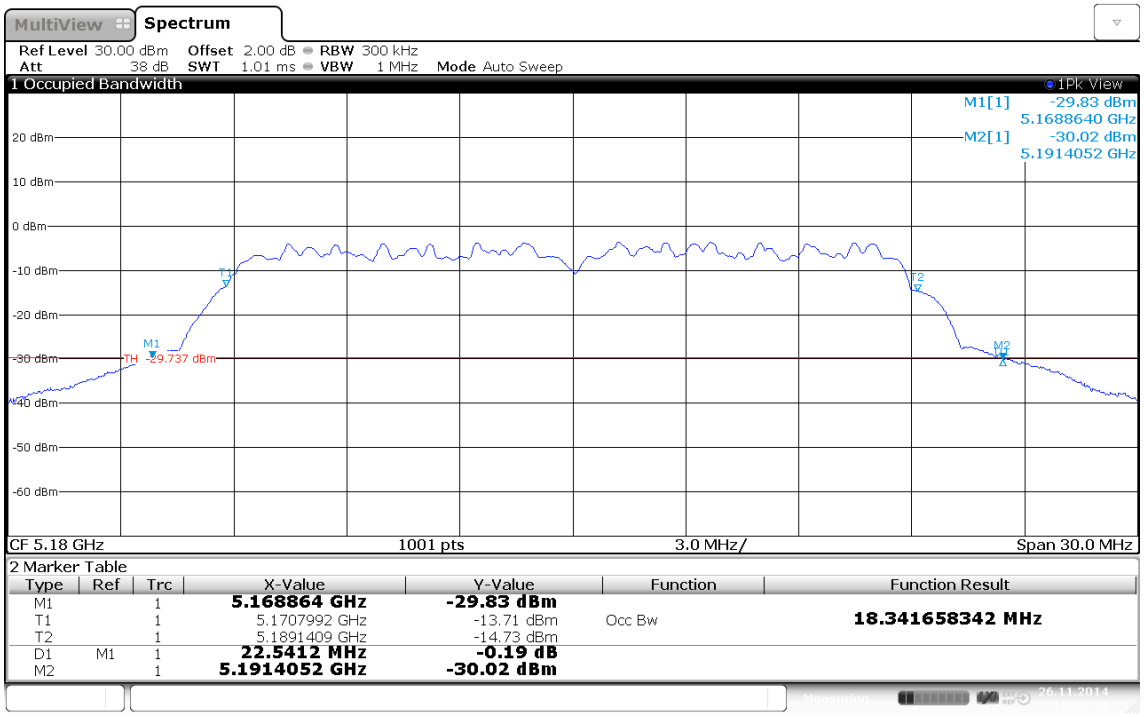
Date: 26.NOV.2014 12:50:12

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

99% Occupied Bandwidth and 26 dB Emission Bandwidth

Project Number: G0M-1410-4225

Applicant:	Panasonic Europe Ltd.
EUT Name:	W-LAN Module
Model:	J3FYY0000061
Test Site:	Eurofins Product Service GmbH
Operator:	Toralf Jahn
Test Conditions:	Tnom / Vnom
Mode:	Tx, WLAN HT20, 5180 MHz, CH B
Test Date:	2014-11-26
Verdict:	PASS
Note 1:	RSS Gen
Note 2:	C.1. (789033 D02 General UNII Test Procedure New Rules v01)



99% Occupied bandwidth: 18.3 MHz; 26dB Bandwidth: 22.5 MHz

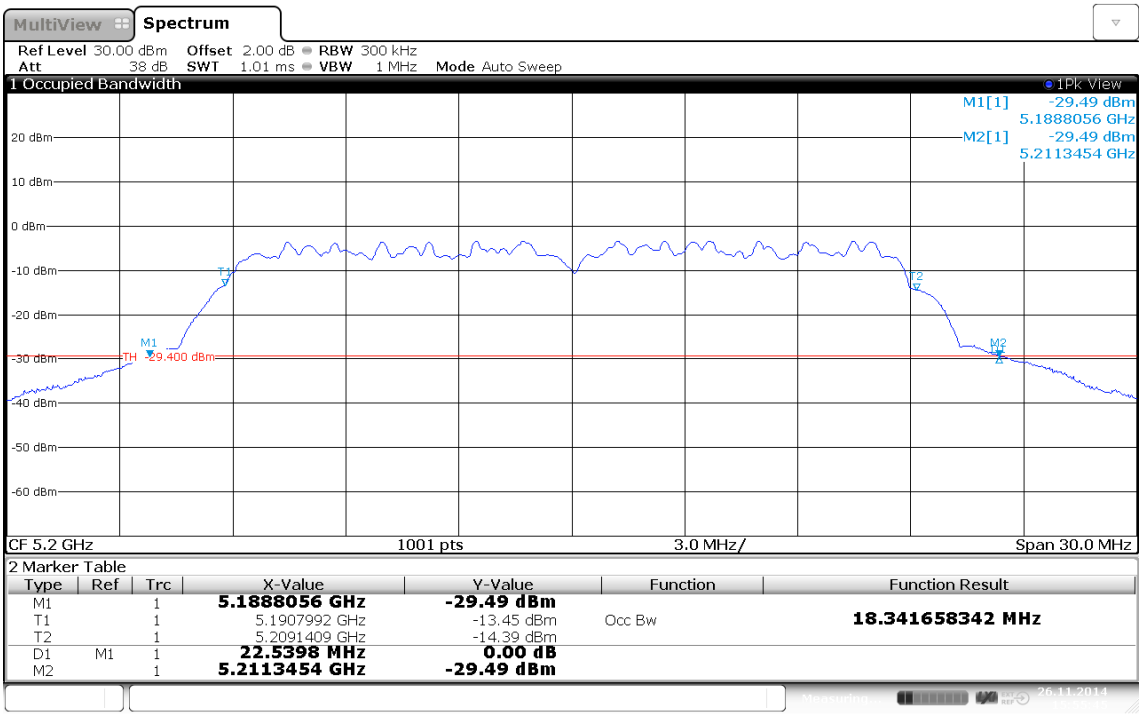
Date: 26.NOV.2014 15:54:33

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

99% Occupied Bandwidth and 26 dB Emission Bandwidth

Project Number: G0M-1410-4225

Applicant:	Panasonic Europe Ltd.
EUT Name:	W-LAN Module
Model:	J3FYY0000061
Test Site:	Eurofins Product Service GmbH
Operator:	Toralf Jahn
Test Conditions:	Tnom / Vnom
Mode:	Tx, WLAN HT20, 5200 MHz, CH B
Test Date:	2014-11-26
Verdict:	PASS
Note 1:	RSS Gen
Note 2:	C.1. (789033 D02 General UNII Test Procedure New Rules v01)



99% Occupied bandwidth: 18.3 MHz; 26dB Bandwidth: 22.5 MHz

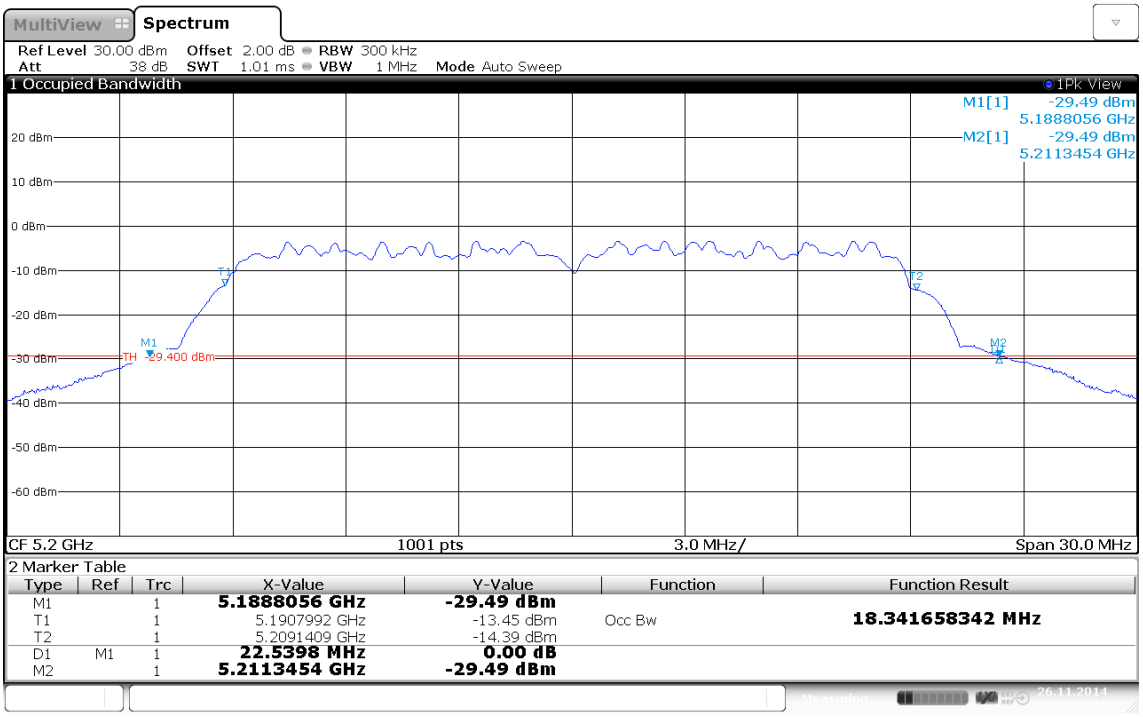
Date: 26.NOV.2014 15:55:44

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

99% Occupied Bandwidth and 26 dB Emission Bandwidth

Project Number: G0M-1410-4225

Applicant:	Panasonic Europe Ltd.
EUT Name:	W-LAN Module
Model:	J3FYY0000061
Test Site:	Eurofins Product Service GmbH
Operator:	Toralf Jahn
Test Conditions:	Tnom / Vnom
Mode:	Tx, WLAN HT20, 5200 MHz, CH B
Test Date:	2014-11-26
Verdict:	PASS
Note 1:	RSS Gen
Note 2:	C.1. (789033 D02 General UNII Test Procedure New Rules v01)



99% Occupied bandwidth: 18.3 MHz; 26dB Bandwidth: 22.5 MHz

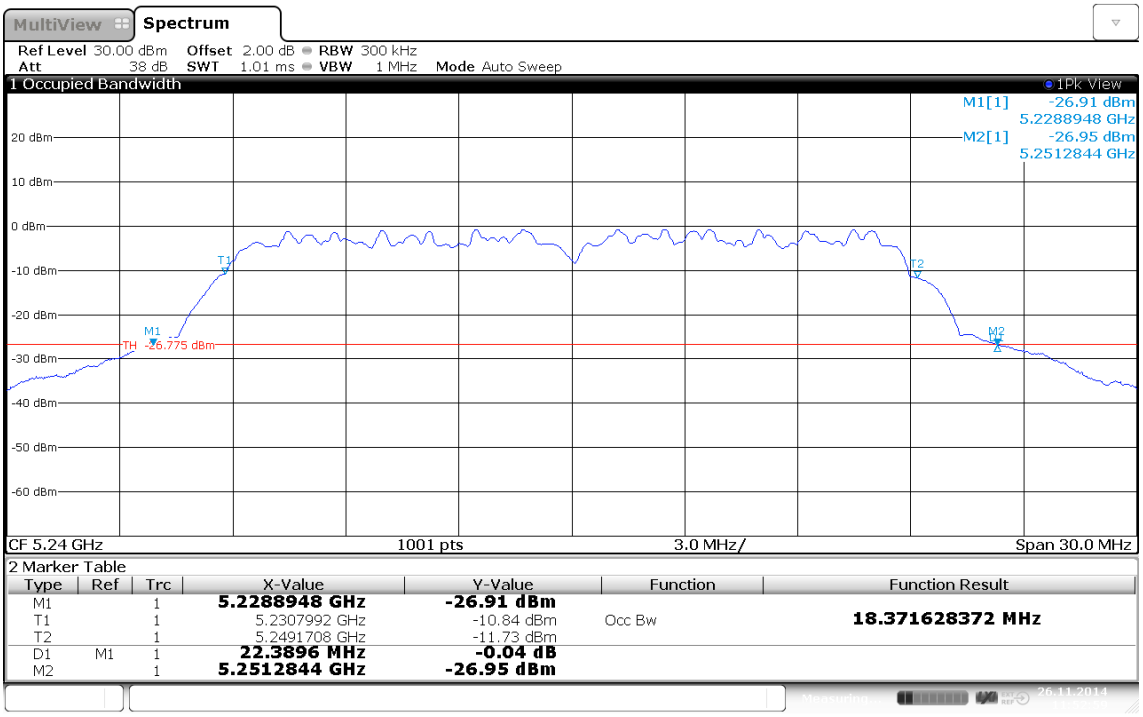
Date: 26.NOV.2014 15:55:44

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

99% Occupied Bandwidth and 26 dB Emission Bandwidth

Project Number: G0M-1410-4225

Applicant:	Panasonic Europe Ltd.
EUT Name:	W-LAN Module
Model:	J3FYY0000061
Test Site:	Eurofins Product Service GmbH
Operator:	Toralf Jahn
Test Conditions:	Tnom / Vnom
Mode:	Tx, WLAN HT20, 5240 MHz, CH A
Test Date:	2014-11-26
Verdict:	NONE (INFORMATION ONLY)
Note 1:	RSS Gen
Note 2:	C.1. (789033 D02 General UNII Test Procedure New Rules v01)



99% Occupied bandwidth: 18.4 MHz; 26dB Bandwidth: 22.4 MHz

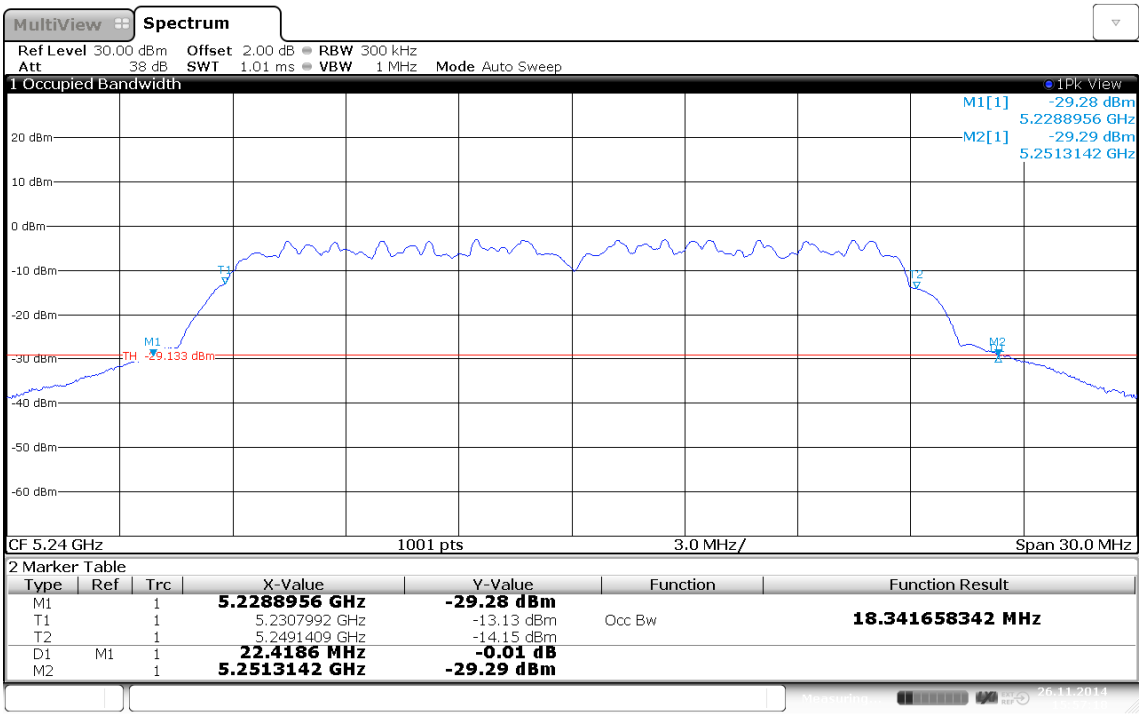
Date: 26.NOV.2014 11:52:59

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

99% Occupied Bandwidth and 26 dB Emission Bandwidth

Project Number: G0M-1410-4225

Applicant:	Panasonic Europe Ltd.
EUT Name:	W-LAN Module
Model:	J3FYY0000061
Test Site:	Eurofins Product Service GmbH
Operator:	Toralf Jahn
Test Conditions:	Tnom / Vnom
Mode:	Tx, WLAN HT20, 5240 MHz, CH B
Test Date:	2014-11-26
Verdict:	PASS
Note 1:	RSS Gen
Note 2:	C.1. (789033 D02 General UNII Test Procedure New Rules v01)



99% Occupied bandwidth: 18.3 MHz; 26dB Bandwidth: 22.4 MHz

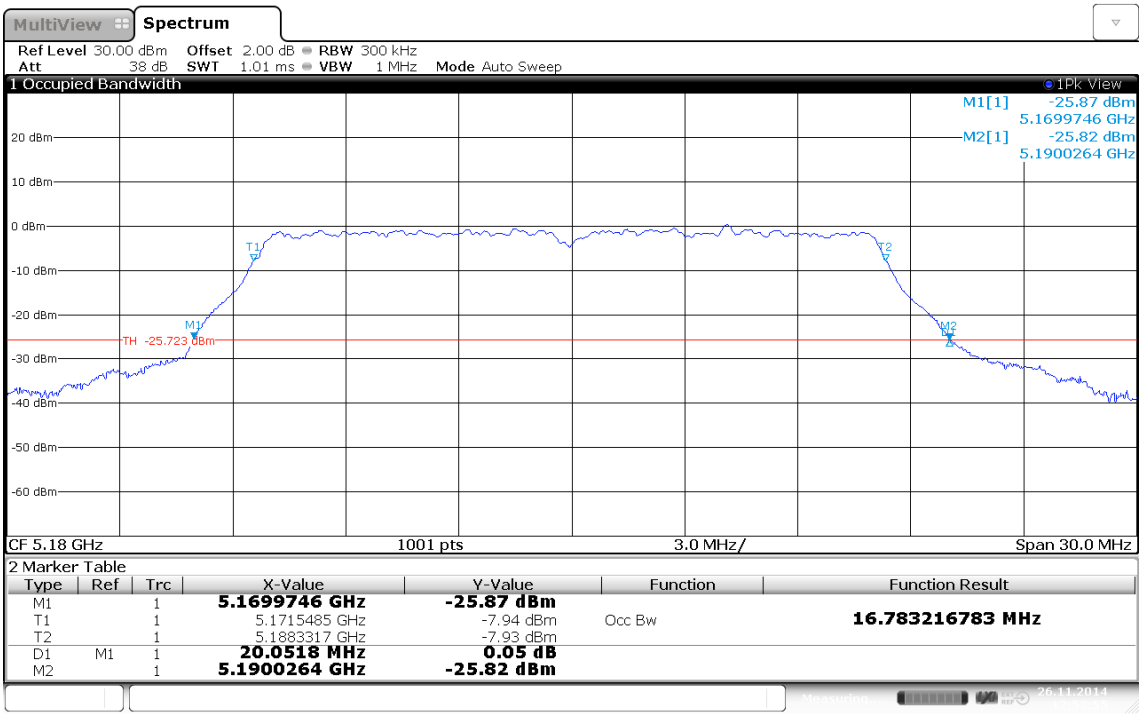
Date: 26.NOV.2014 15:57:18

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

99% Occupied Bandwidth and 26 dB Emission Bandwidth

Project Number: G0M-1410-4225

Applicant:	Panasonic Europe Ltd.
EUT Name:	W-LAN Module
Model:	J3FYY0000061
Test Site:	Eurofins Product Service GmbH
Operator:	Toralf Jahn
Test Conditions:	Tnom / Vnom
Mode:	Tx, WLAN OFDM, 5180 MHz, CH A
Test Date:	2014-11-26
Verdict:	NONE (INFORMATION ONLY)
Note 1:	RSS Gen
Note 2:	C.1. (789033 D02 General UNII Test Procedure New Rules v01)



99% Occupied bandwidth: 16.8 MHz; 26dB Bandwidth: 20.1 MHz

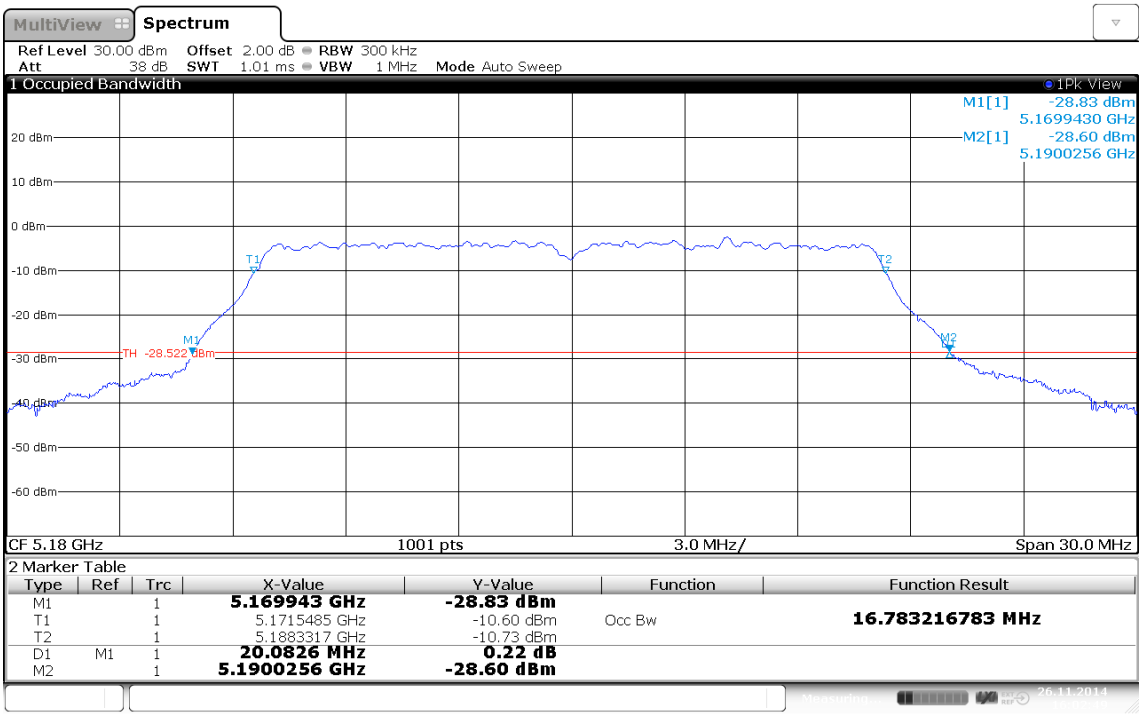
Date: 26.NOV.2014 12:53:55

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

99% Occupied Bandwidth and 26 dB Emission Bandwidth

Project Number: G0M-1410-4225

Applicant:	Panasonic Europe Ltd.
EUT Name:	W-LAN Module
Model:	J3FYY0000061
Test Site:	Eurofins Product Service GmbH
Operator:	Toralf Jahn
Test Conditions:	Tnom / Vnom
Mode:	Tx, WLAN OFDM, 5180 MHz, CH B
Test Date:	2014-11-26
Verdict:	PASS
Note 1:	RSS Gen
Note 2:	C.1. (789033 D02 General UNII Test Procedure New Rules v01)



99% Occupied bandwidth: 16.8 MHz; 26dB Bandwidth: 20.1 MHz

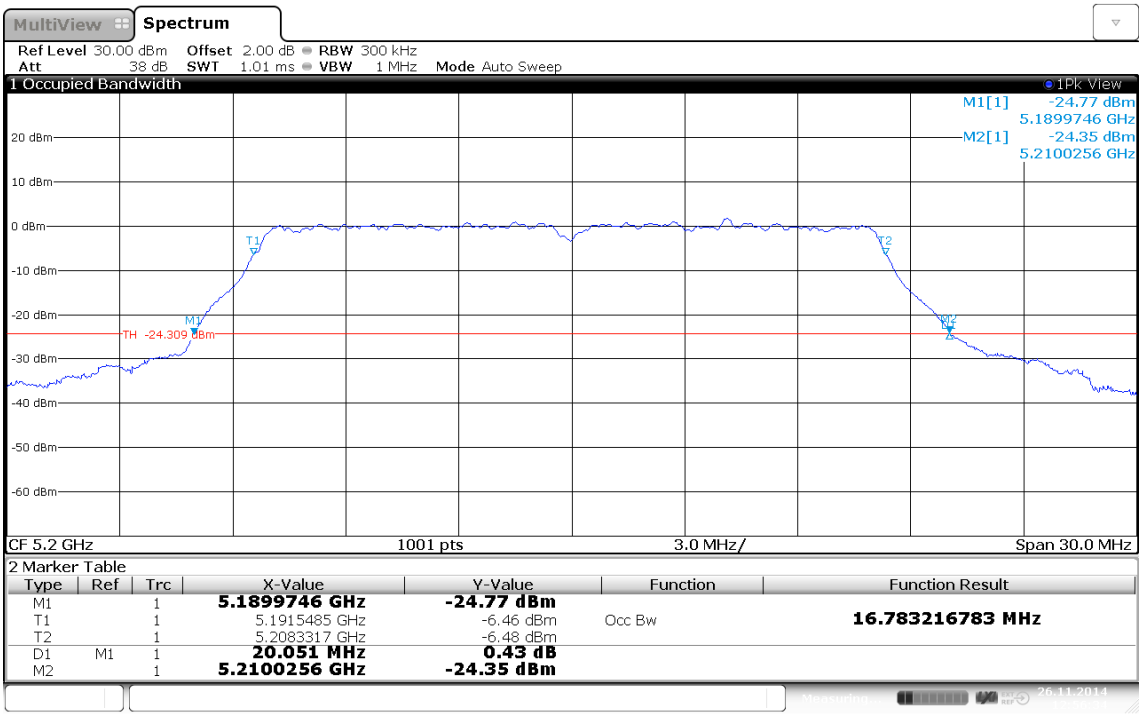
Date: 26.NOV.2014 16:02:49

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

99% Occupied Bandwidth and 26 dB Emission Bandwidth

Project Number: G0M-1410-4225

Applicant:	Panasonic Europe Ltd.
EUT Name:	W-LAN Module
Model:	J3FYY0000061
Test Site:	Eurofins Product Service GmbH
Operator:	Toralf Jahn
Test Conditions:	Tnom / Vnom
Mode:	Tx, WLAN OFDM, 5200 MHz, CH A
Test Date:	2014-11-26
Verdict:	NONE (INFORMATION ONLY)
Note 1:	RSS Gen
Note 2:	C.1. (789033 D02 General UNII Test Procedure New Rules v01)



99% Occupied bandwidth: 16.8 MHz; 26dB Bandwidth: 20.1 MHz

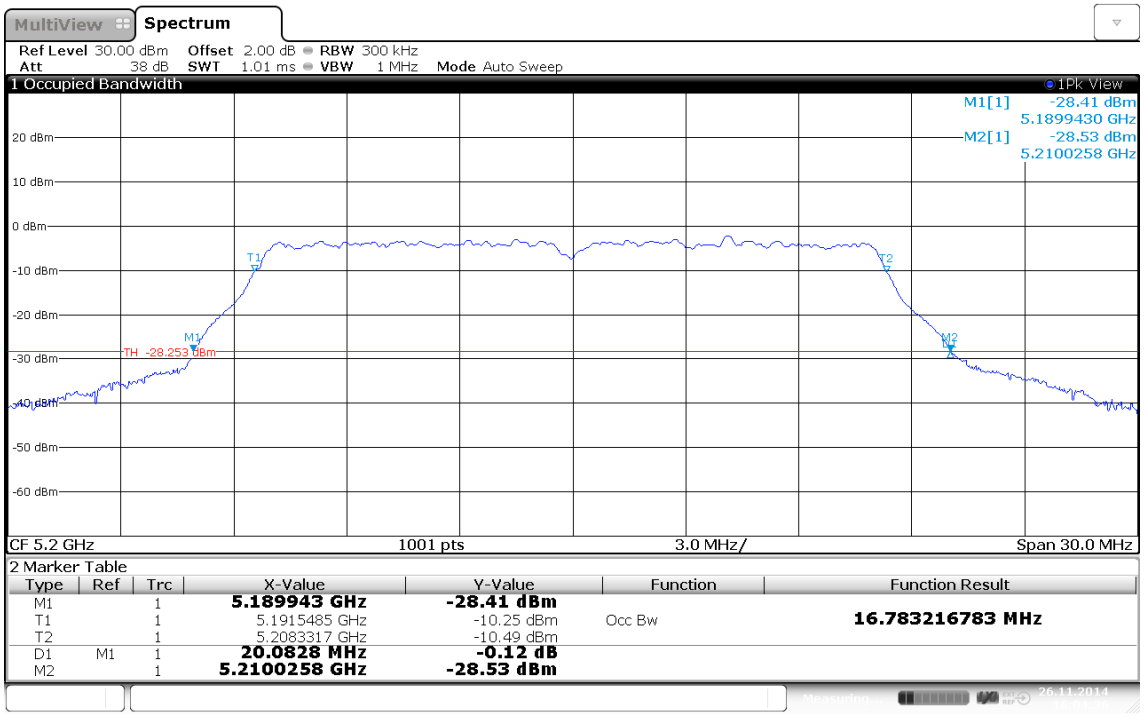
Date: 26.NOV.2014 12:56:33

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

99% Occupied Bandwidth and 26 dB Emission Bandwidth

Project Number: G0M-1410-4225

Applicant:	Panasonic Europe Ltd.
EUT Name:	W-LAN Module
Model:	J3FYY0000061
Test Site:	Eurofins Product Service GmbH
Operator:	Toralf Jahn
Test Conditions:	Tnom / Vnom
Mode:	Tx, WLAN OFDM, 5200 MHz, CH B
Test Date:	2014-11-26
Verdict:	PASS
Note 1:	RSS Gen
Note 2:	C.1. (789033 D02 General UNII Test Procedure New Rules v01)



99% Occupied bandwidth: 16.8 MHz; 26dB Bandwidth: 20.1 MHz

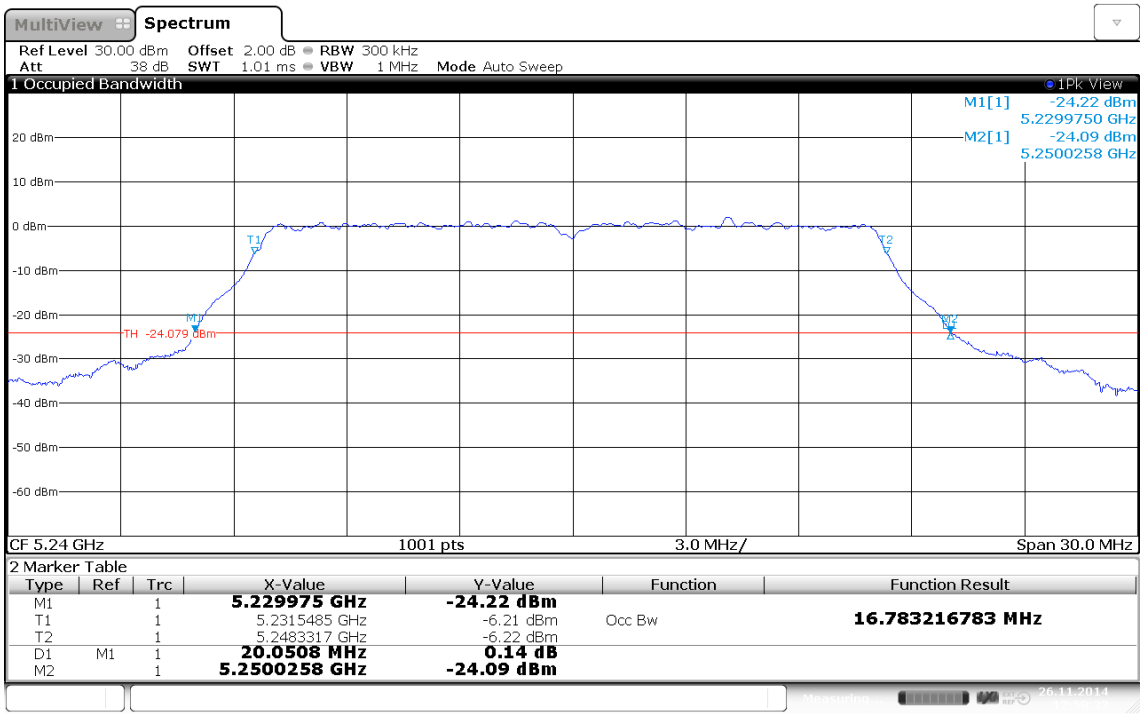
Date: 26.NOV.2014 16:04:36

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

99% Occupied Bandwidth and 26 dB Emission Bandwidth

Project Number: G0M-1410-4225

Applicant:	Panasonic Europe Ltd.
EUT Name:	W-LAN Module
Model:	J3FYY0000061
Test Site:	Eurofins Product Service GmbH
Operator:	Toralf Jahn
Test Conditions:	Tnom / Vnom
Mode:	Tx, WLAN OFDM, 5240 MHz, CH A
Test Date:	2014-11-26
Verdict:	NONE (INFORMATION ONLY)
Note 1:	RSS Gen
Note 2:	C.1. (789033 D02 General UNII Test Procedure New Rules v01)



99% Occupied bandwidth: 16.8 MHz; 26dB Bandwidth: 20.1 MHz

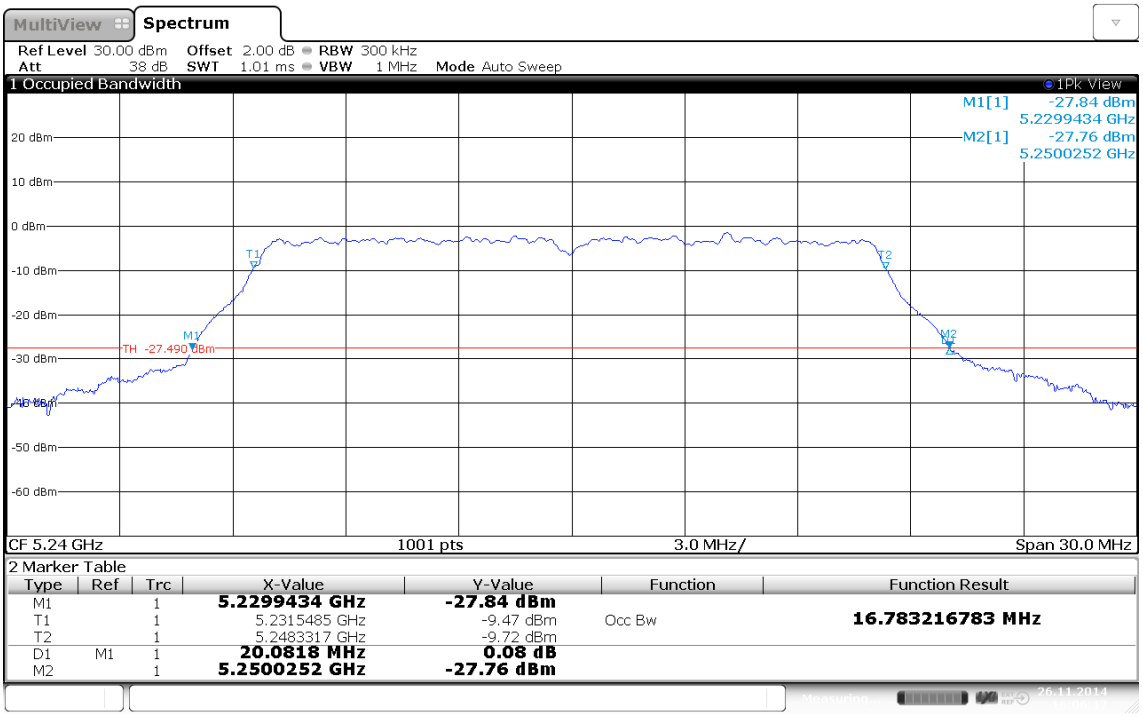
Date: 26.NOV.2014 12:58:31

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

99% Occupied Bandwidth and 26 dB Emission Bandwidth

Project Number: G0M-1410-4225

Applicant:	Panasonic Europe Ltd.
EUT Name:	W-LAN Module
Model:	J3FYY0000061
Test Site:	Eurofins Product Service GmbH
Operator:	Toralf Jahn
Test Conditions:	Tnom / Vnom
Mode:	Tx, WLAN OFDM, 5240 MHz, CH B
Test Date:	2014-11-26
Verdict:	PASS
Note 1:	RSS Gen
Note 2:	C.1. (789033 D02 General UNII Test Procedure New Rules v01)



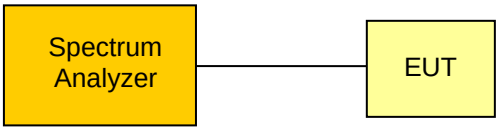
99% Occupied bandwidth: 16.8 MHz; 26dB Bandwidth: 20.1 MHz

Date: 26.NOV.2014 16:06:17

3.3 Test Conditions and Results – Maximum output power

Maximum output power acc. to FCC 15.407 / IC RSS-210			**Verdict: PASS**
EUT requirement rule parts and clause		Reference	
		FCC 15.407(a) / IC RSS-210 A8.4, A9.2	
Test according to measurement reference		Reference Method	
		FCC KDB Publication No. 789033 SA-3 (RMS with max hold)	
Maximum antenna gain		5 dBi ⇒ Limit correction = 0 dB	
Limits FCC 15.407			
Frequency band [MHz]	Application	Limit	Max antenna gain without limit correction
5150 - 5250	outdoor / 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.			
Limits IC RSS-210			
Frequency band [MHz]	Application	Conducted limit	e.i.r.p. limit
5150 - 5250	indoor only	N/A	The lesser of 200 mW (23 dBm) or 10 dBm + 10 log (99% emission BW)
5250 - 5350	All	The lesser of 250 mW (24 dBm) or 11 dBm + 10 log (99% dB emission BW)	The lesser of 1 W (30 dBm) or 17 dBm + 10 log (99% dB emission BW)
5470 - 5600 5650 - 5725	All	The lesser of 250 mW (24 dBm) or 11 dBm + 10 log (99% dB emission BW)	The lesser of 1 W (30 dBm) or 17 dBm + 10 log (99% dB emission BW)
5725 - 5825	All	The lesser of 1 W (30 dBm) or 17 dBm + 10 log (99% dB emission BW)	The lesser of 4 W (36 dBm) or 23 dBm + 10 log (99% dB emission BW)

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

Channel	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]	Conducted limit [dBm]	Margin [dB]
36	HT20	9.2	9.2	12.2	10 dBm +10 log(18.4) – 5.0 dBi	17.6	-05.4
40	HT20	9.9	9.9	12.9	10 dBm +10 log(18.4) – 5.0 dBi	17.6	-04.7
48	HT20	10.1	10.1	13.1	10 dBm +10 log(18.4) – 5.0 dBi	17.6	-04.5
36	OFDM	10.0	10.0	13	10 dBm +10 log(16.8) – 5.0 dBi	17.3	-04.3
40	OFDM	10.3	10.3	13.3	10 dBm +10 log(16.8) – 5.0 dBi	17.3	-04.0
48	OFDM	10.8	10.8	13.8	10 dBm +10 log(16.8) – 5.0 dBi	17.3	-03.5

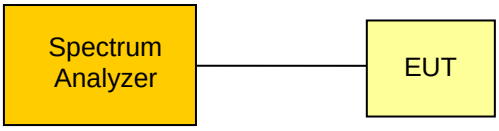
Calculation of most stringent conducted limit:

- 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-210			**Verdict: PASS**
EUT requirement rule parts and clause	Reference		
	FCC 15.407(a) / IC RSS-210 A8.2, A9.2		
Test according to measurement reference	Reference Method		
	FCC KDB Publication No. 789033 F. and SA-3 (RMS with max hold)		
Limits FCC 15.407			
Frequecy 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-210			
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 - 5825	N/A	Conducted: 17 dBm/MHz	
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 100 kHz and VBW ≥ 300 kHz
5. Set detector to RMS and trace to max hold
6. Allow max hold to run for at least 60 seconds
7. Set marker to maximum of emission envelope
8. Result is scaled to final results with 10*log10(Limit Bandwidth / 100 kHz)

Test results

Channel	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]	Margin [dB]
36	HT20	-1.7	-1.7	1.3	10 dBm/MHz – 5 dBi	5	-03.7
40	HT20	-0.3	-1.3	2.2	10 dBm/MHz – 5 dBi	5	-02.8
48	HT20	-0.1	-0.5	2.7	10 dBm/MHz – 5 dBi	5	-02.3
36	OFDM	0.9	-0.6	3.2	10 dBm/MHz – 5 dBi	5	-01.8
40	OFDM	0.6	-1.0	2.9	10 dBm/MHz – 5 dBi	5	-02.1
48	OFDM	0.8	0.7	3.8	10 dBm/MHz – 5 dBi	5	-01.2

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 – Conducted spurious emissions

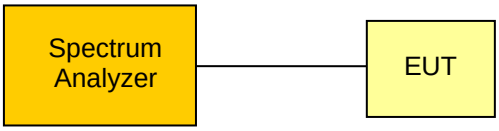
Conducted spurious emissions acc. to FCC 15.407 / IC RSS-210	**Verdict: PASS**
EUT requirement rule parts and clause	Reference
	FCC 15.407(b) (1) – (4) / IC RSS-210 A8.5, A9.2
Test according to measurement reference	Reference Method
	FCC KDB Publication No. 789033 G.2, 3, 4, 5.
Test frequency range	Tested frequencies
	10 MHz – 10th Harmonic

Limits

Frequecy band [MHz]	Out of frequency band limit [e.i.r.p.]
5150 - 5250	-27 dBm/MHz
5250 – 5350	-27 dBm/MHz
5470 - 5725	-27 dBm/MHz
5725 – (5825) 5850	-17 dBm/MHz (within 10 MHz outside the band edges)
5725 – (5825) 5850	-27 dBm/MHz

Comments: Below 1 GHz peak detector is permitted as alternative to quasi-peak detector.
Above 1 GHz peak detector is requested.

Test setup



Test procedure

1. Set EUT to test mode
2. Adjust reference level according to antenna gain
3. Set sweep time to auto
4. Set detector to peak and trace to max hold
5. Allow max hold to run until trace has stabilized
6. Set markers to emission peaks

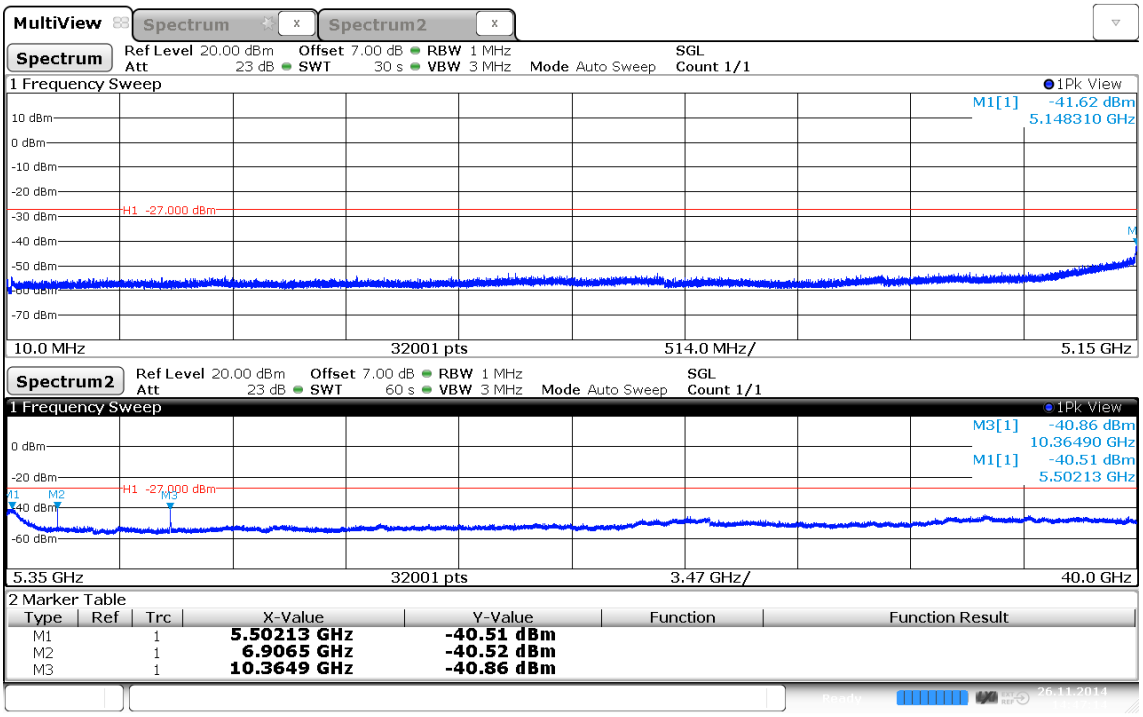
Test results						
Antenna port A Channel	Frequency [MHz]	Mode	Emission [MHz]	Emission Level [dbm]	Limit [dBm]	Margin [dB]
36	5180 MHz	HT20	6906	-40.5	-27	-13.5
48	5240 MHz	HT20	10484	-38.7	-27	-11.7
36	5180 MHz	OFDM	6908	-41.8	-27	-14.8
48	5240 MHz	OFDM	5586	-40.1	-27	-13.1
Antenna port B Channel	Frequency [MHz]	Mode	Emission [MHz]	Emission Level [dbm]	Limit [dBm]	Margin [dB]
36	5180 MHz	HT20	6906	-41.1	-27	-14.1
48	5240 MHz	HT20	6987	-42.7	-27	-15.7
36	5180 MHz	OFDM	6906	-40.6	-27	-13.6
48	5240 MHz	OFDM	6987	-42.6	-27	-15.6
Comments:						

Conducted spurious emissions – HT20 5180MHz antenna port A

Spurious Emissions acc. to FCC 15.407

Project Number: G0M-1410-4225

Applicant:	Panasonic Europe Ltd.
EUT Name:	W-LAN Module
Model:	J3FYY0000061
Test Site:	Eurofins Product Service GmbH
Operator:	Toralf Jahn
Test Conditions:	Tnom / Vnom
Mode:	Tx, HT20, 5180 MHz, CH A
Test Date:	2014-11-26
Verdict:	PASS
Note 1:	G.6.(iii) (789033 D02 General UNII Test Procedure New Rules v01)
Note 2:	conducted measurement



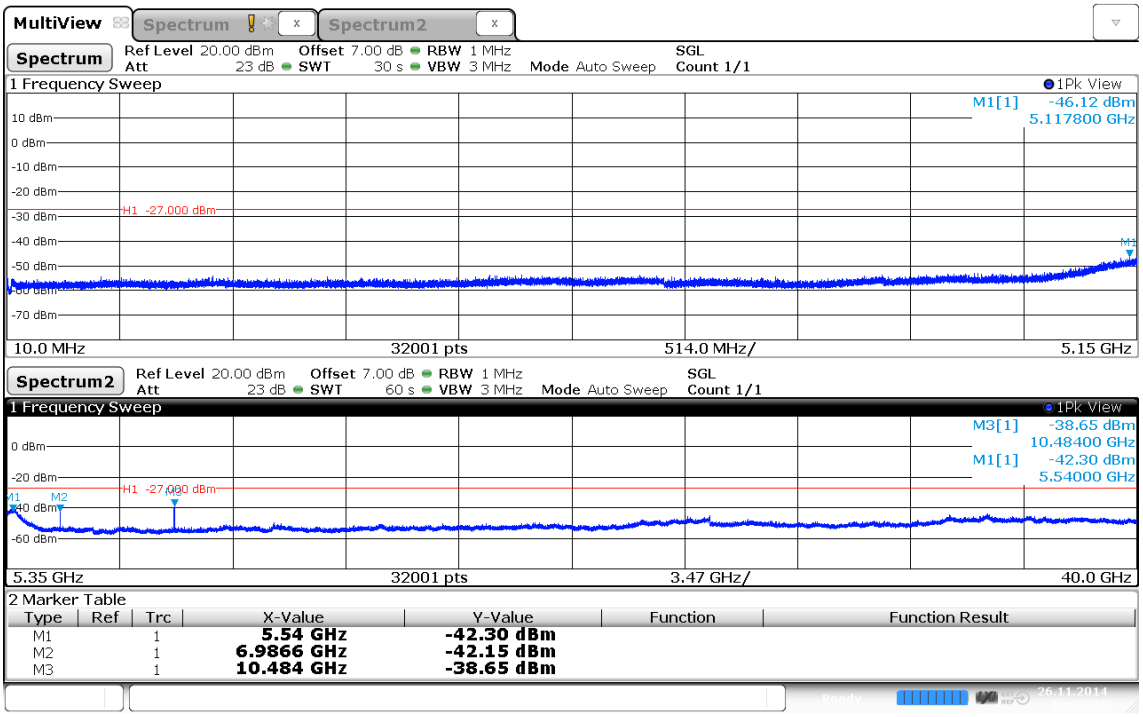
Date: 26.NOV.2014 14:47:14

Conducted spurious emissions – HT20 5240MHz antenna port A

Spurious Emissions acc. to FCC 15.407

Project Number: G0M-1410-4225

Applicant:	Panasonic Europe Ltd.
EUT Name:	W-LAN Module
Model:	J3FYY0000061
Test Site:	Eurofins Product Service GmbH
Operator:	Toralf Jahn
Test Conditions:	Tnom / Vnom
Mode:	Tx, HT20, 5240 MHz, CH A
Test Date:	2014-11-26
Verdict:	PASS
Note 1:	G.6.(iii) (789033 D02 General UNII Test Procedure New Rules v01)
Note 2:	conducted measurement



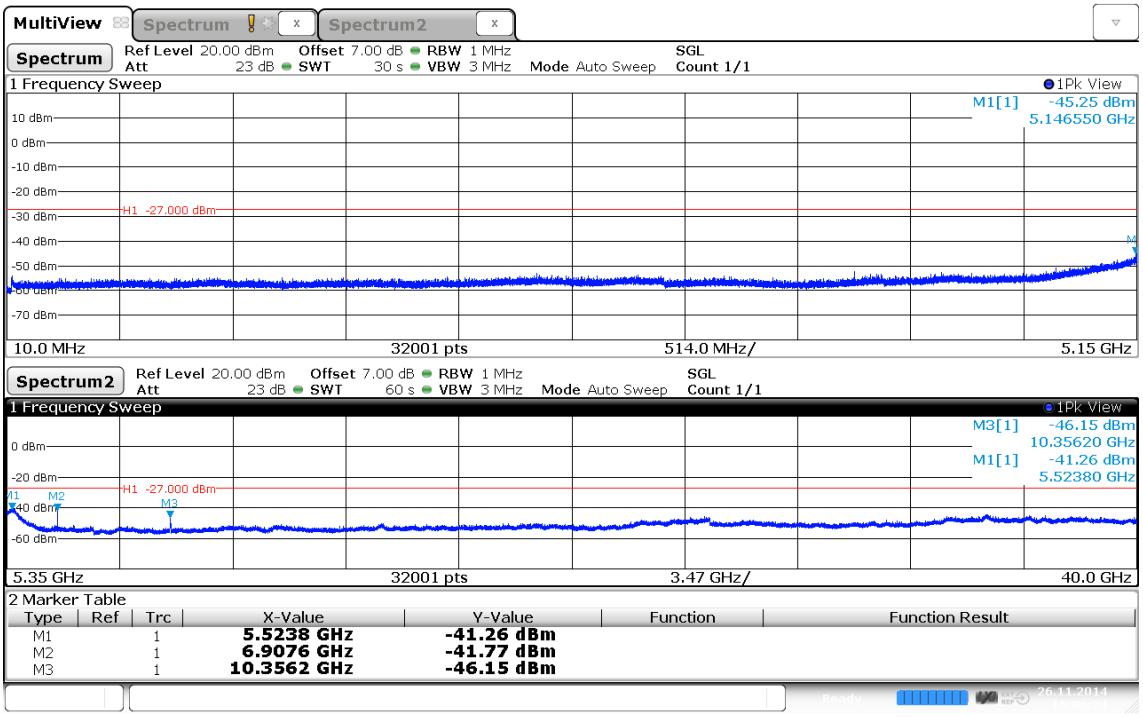
Date: 26.NOV.2014 14:52:25

Conducted spurious emissions – OFDM 5180MHz antenna port A

Spurious Emissions acc. to FCC 15.407

Project Number: G0M-1410-4225

Applicant:	Panasonic Europe Ltd.
EUT Name:	W-LAN Module
Model:	J3FYY0000061
Test Site:	Eurofins Product Service GmbH
Operator:	Toralf Jahn
Test Conditions:	Tnom / Vnom
Mode:	Tx, OFDM, 5180 MHz, CH A
Test Date:	2014-11-26
Verdict:	PASS
Note 1:	G.6.(iii) (789033 D02 General UNII Test Procedure New Rules v01)
Note 2:	conducted measurement



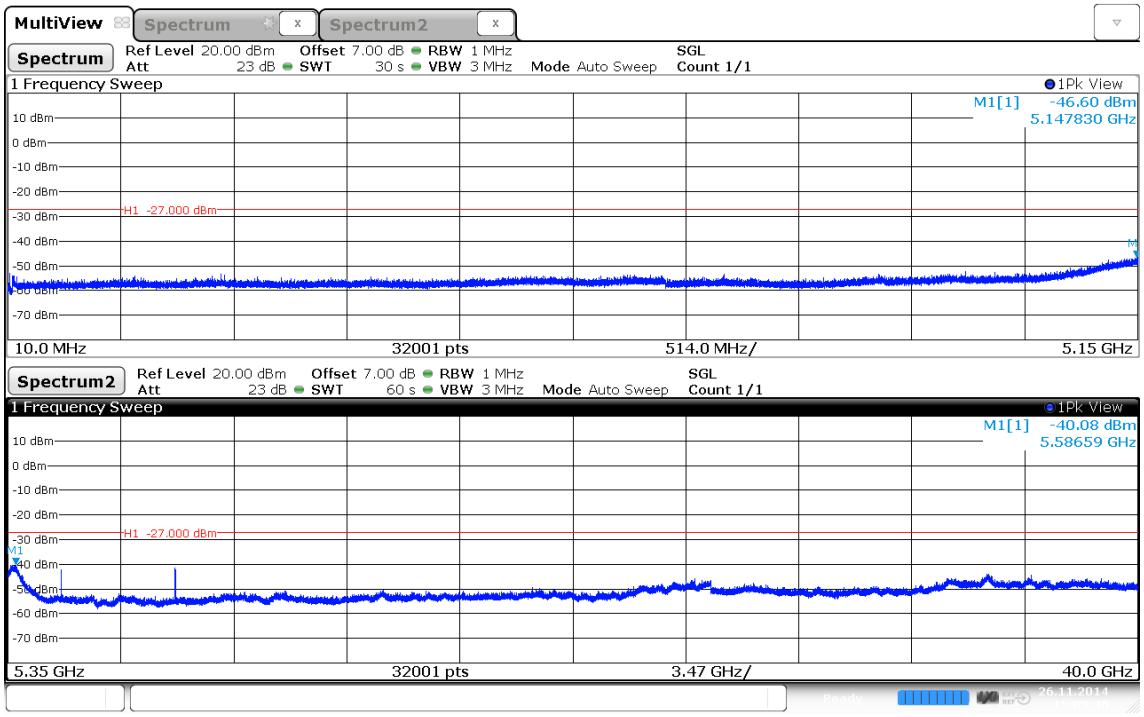
Date: 26.NOV.2014 15:06:23

Conducted spurious emissions – OFDM 5240MHz antenna port A

Spurious Emissions acc. to FCC 15.407

Project Number: G0M-1410-4225

Applicant:	Panasonic Europe Ltd.
EUT Name:	W-LAN Module
Model:	J3FYY0000061
Test Site:	Eurofins Product Service GmbH
Operator:	Toralf Jahn
Test Conditions:	Tnom / Vnom
Mode:	Tx, OFDM, 5240 MHz, CH A
Test Date:	2014-11-26
Verdict:	PASS
Note 1:	G.6.(iii) (789033 D02 General UNII Test Procedure New Rules v01)
Note 2:	conducted measurement



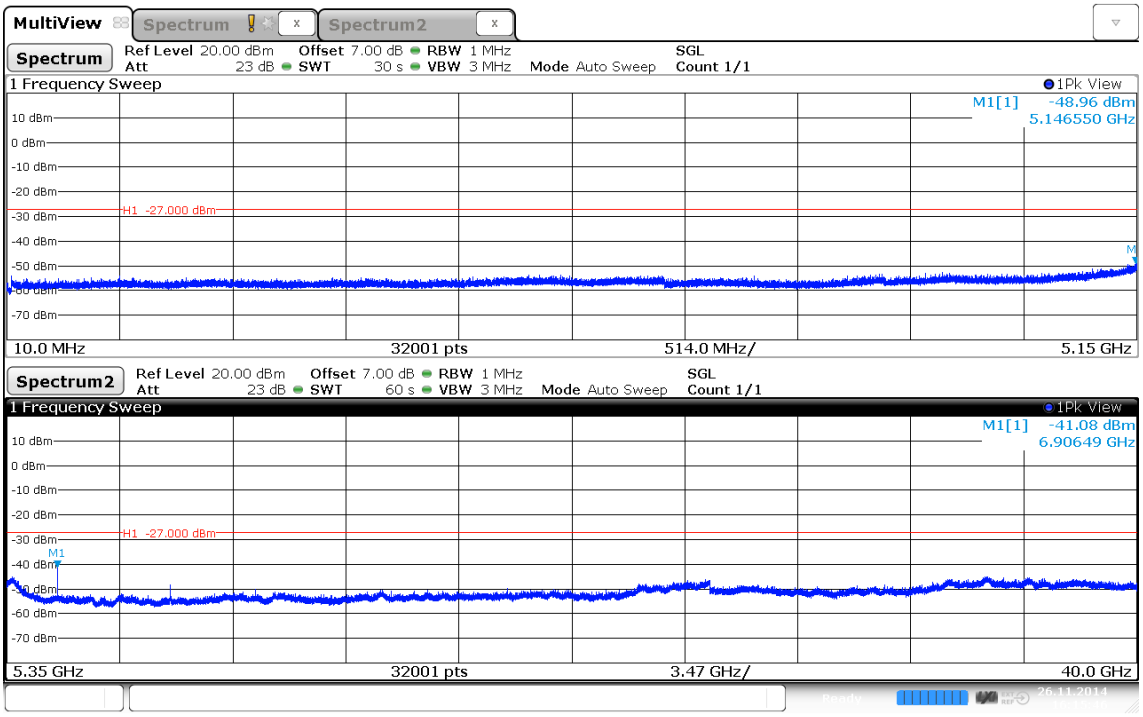
Date: 26.NOV.2014 15:09:30

Conducted spurious emissions – HT20 5180MHz antenna port B

Spurious Emissions acc. to FCC 15.407

Project Number: G0M-1410-4225

Applicant:	Panasonic Europe Ltd.
EUT Name:	W-LAN Module
Model:	J3FYY0000061
Test Site:	Eurofins Product Service GmbH
Operator:	Toralf Jahn
Test Conditions:	Tnom / Vnom
Mode:	Tx, HT20, 5180 MHz, CH B
Test Date:	2014-11-26
Verdict:	PASS
Note 1:	G.6.(iii) (789033 D02 General UNII Test Procedure New Rules v01)
Note 2:	conducted measurement

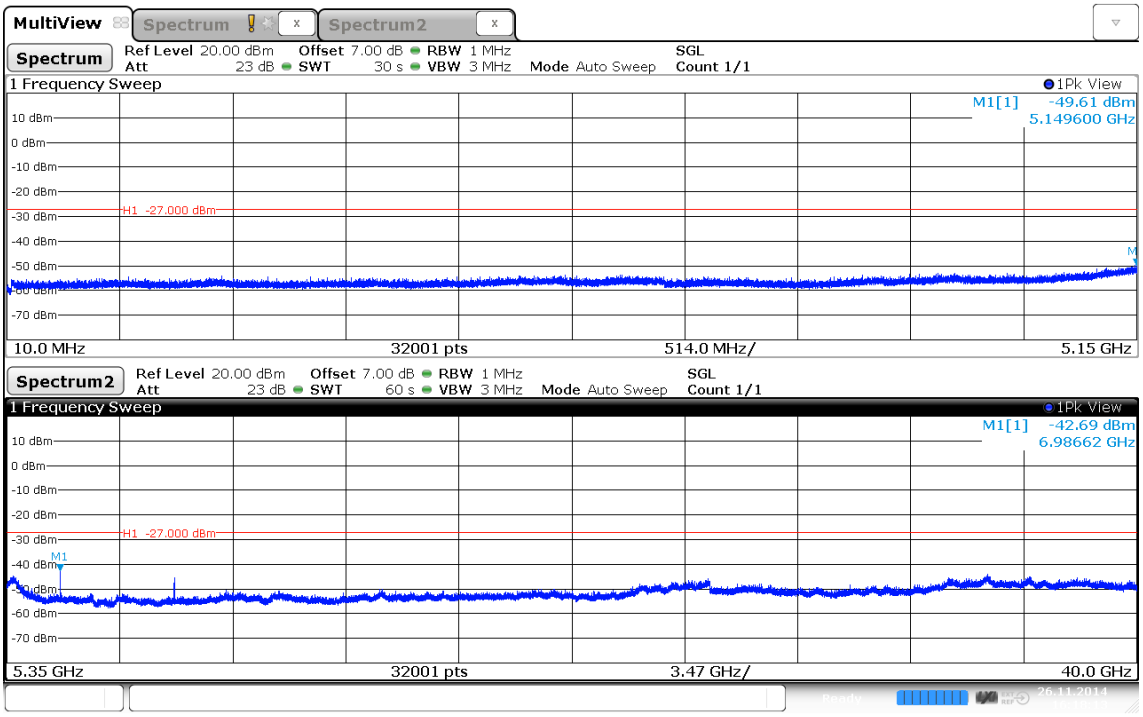


Conducted spurious emissions – HT20 5240MHz antenna port B

Spurious Emissions acc. to FCC 15.407

Project Number: G0M-1410-4225

Applicant:	Panasonic Europe Ltd.
EUT Name:	W-LAN Module
Model:	J3FYY0000061
Test Site:	Eurofins Product Service GmbH
Operator:	Toralf Jahn
Test Conditions:	Tnom / Vnom
Mode:	Tx, HT20, 5240 MHz, CH B
Test Date:	2014-11-26
Verdict:	PASS
Note 1:	G.6.(iii) (789033 D02 General UNII Test Procedure New Rules v01)
Note 2:	conducted measurement



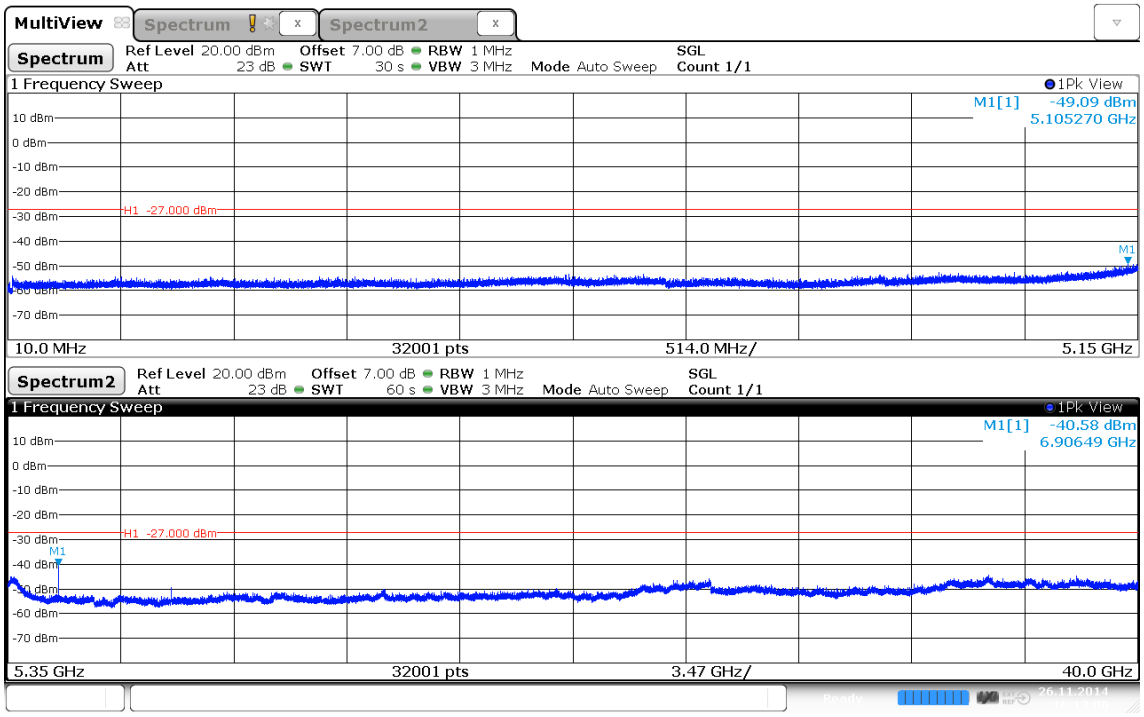
Date: 26.NOV.2014 16:18:14

Conducted spurious emissions – OFDM 5180MHz antenna port B

Spurious Emissions acc. to FCC 15.407

Project Number: G0M-1410-4225

Applicant:	Panasonic Europe Ltd.
EUT Name:	W-LAN Module
Model:	J3FYY0000061
Test Site:	Eurofins Product Service GmbH
Operator:	Toralf Jahn
Test Conditions:	Tnom / Vnom
Mode:	Tx, OFDM, 5180 MHz, CH B
Test Date:	2014-11-26
Verdict:	PASS
Note 1:	G.6.(iii) (789033 D02 General UNII Test Procedure New Rules v01)
Note 2:	conducted measurement



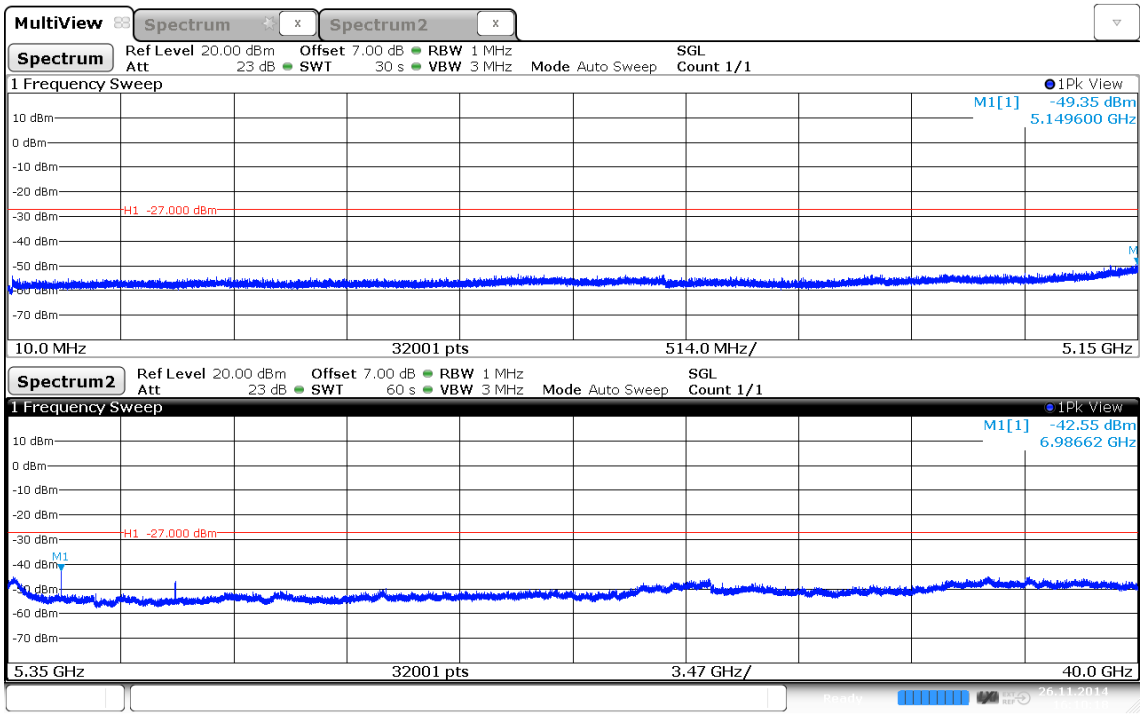
Date: 26.NOV.2014 16:12:59

Conducted spurious emissions – OFDM 5240MHz antenna port B

Spurious Emissions acc. to FCC 15.407

Project Number: G0M-1410-4225

Applicant:	Panasonic Europe Ltd.
EUT Name:	W-LAN Module
Model:	J3FYY0000061
Test Site:	Eurofins Product Service GmbH
Operator:	Toralf Jahn
Test Conditions:	Tnom / Vnom
Mode:	Tx, OFDM, 5240 MHz, CH B
Test Date:	2014-11-26
Verdict:	PASS
Note 1:	G.6.(iii) (789033 D02 General UNII Test Procedure New Rules v01)
Note 2:	conducted measurement



Date: 26.NOV.2014 16:10:18

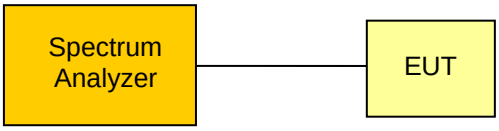
3.6 Test Conditions and Results – Band edge compliance

Band-edge compliance acc. FCC 15.407 / IC RSS-210	**Verdict: PASS**
EUT requirement rule parts and clause	Reference
	FCC 15.407(b) / IC RSS-210 A8.5
Test according to measurement reference	Reference Method
	FCC KDB Publication No. 789033 G.3.(ii), G.6.c)(iii)
Measurement mode	RMS Integration

Limits

Frequecy band [MHz]	Out of frequency band limit e.i.r.p.
5150 - 5250	-27 dBm/MHz
5250 – 5350	-27 dBm/MHz
5470 - 5725	-27 dBm/MHz
5725 - 5850	-17 dBm/MHz

Test setup



Test procedure

1. Set EUT to test mode
2. Adjust reference level according to antenna gain
3. Set sweep time to auto
4. Set RBW to 100 kHz and VBW ≥ 300 kHz
5. Set detector to RMS and trace to max hold
6. Allow max hold to run until trace has stabilized
7. Compute power by integrating across 1 MHz

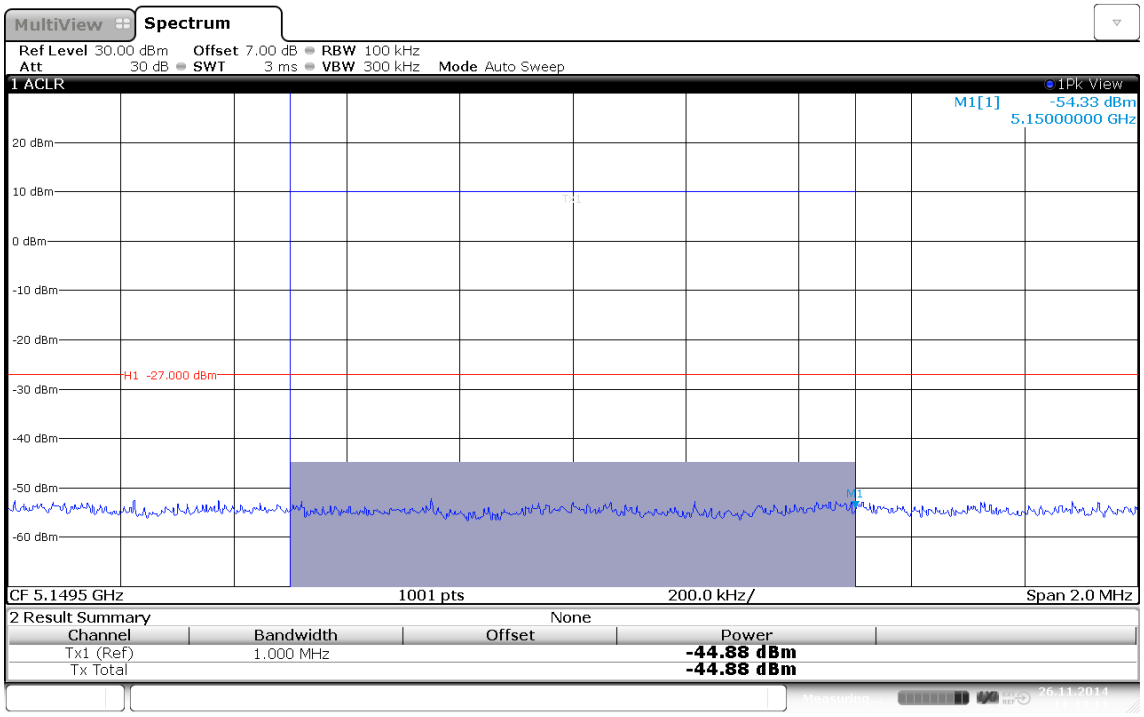
Test results					
Antenna port A Channel	Frequency [MHz]	Mode	Emission Level [dbm]	Limit [dBm]	Margin [dB]
36	5180 MHz	HT20	-44.9	-27	-17.9
48	5240 MHz	HT20	-43.4	-27	-16.4
36	5180 MHz	OFDM	-45.1	-27	-18.1
48	5240 MHz	OFDM	-43.9	-27	-16.9
Antenna port B Channel	Frequency [MHz]	Mode	Emission Level [dbm]	Limit [dBm]	Margin [dB]
36	5180 MHz	HT20	-52.1	-27	-25.1
48	5240 MHz	HT20	-49.8	-27	-22.8
36	5180 MHz	OFDM	-52.1	-27	-25.1
48	5240 MHz	OFDM	-49.9	-27	-22.9
Comments:					

Band-edge compliance – HT20 5180 MHz antenna port A

Band Edge Compliance acc. to FCC 15.407

Project Number: G0M-1410-4225

Applicant:	Panasonic Europe Ltd.
EUT Name:	W-LAN Module
Model:	J3FYY0000061
Test Site:	Eurofins Product Service GmbH
Operator:	Toralf Jahn
Test Conditions:	Tnom / Vnom
Mode:	Tx, HT20, 5180 MHz, CH A
Test Date:	2014-11-26
Verdict:	PASS
Note 1:	G.6.(iii) (789033 D02 General UNII Test Procedure New Rules v01)
Note 2:	conducted measurement, integration method with RMS detector, gated



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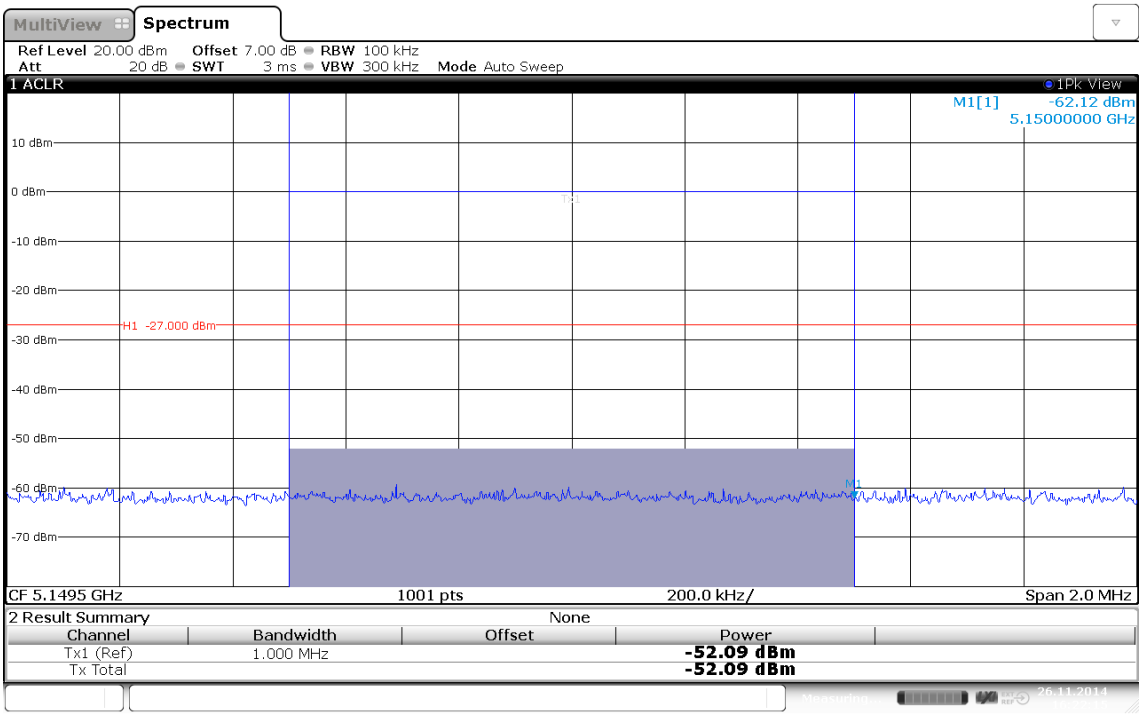
Band-edge compliance – HT20 5180 MHz antenna port B

Band Edge Compliance acc. to FCC 15.407

Project Number: G0M-1410-4225

Applicant:	Panasonic Europe Ltd.
EUT Name:	W-LAN Module
Model:	J3FYY0000061
Test Site:	Eurofins Product Service GmbH
Operator:	Toralf Jahn
Test Conditions:	Tnom / Vnom
Mode:	Tx, HT20, 5180 MHz, CH B
Test Date:	2014-11-26
Verdict:	PASS
Note 1:	G.6.(iii) (789033 D02 General UNII Test Procedure New Rules v01)
Note 2:	conducted measurement, integration method with RMS detector, gated



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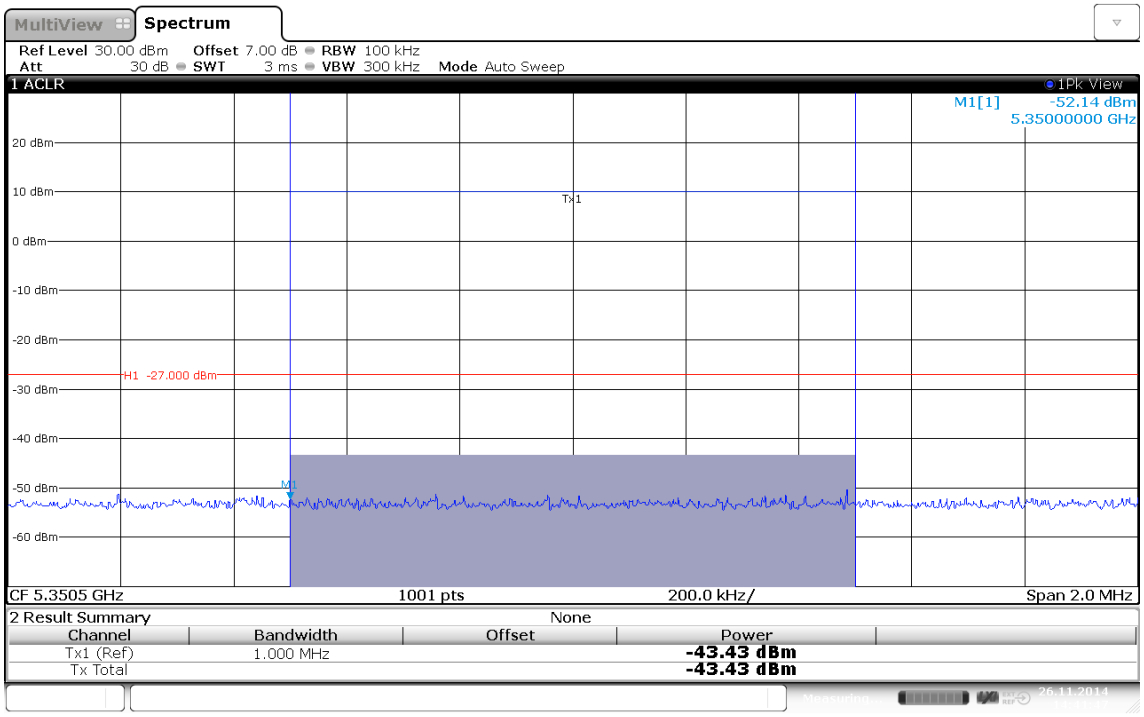
Band-edge compliance – HT20 5240 MHz antenna port A

Band Edge Compliance acc. to FCC 15.407

Project Number: G0M-1410-4225

Applicant:	Panasonic Europe Ltd.
EUT Name:	W-LAN Module
Model:	J3FYY0000061
Test Site:	Eurofins Product Service GmbH
Operator:	Toralf Jahn
Test Conditions:	Tnom / Vnom
Mode:	Tx, HT20, 5240 MHz, CH A
Test Date:	2014-11-26
Verdict:	PASS
Note 1:	G.6.(iii) (789033 D02 General UNII Test Procedure New Rules v01)
Note 2:	conducted measurement, integration method with RMS detector, gated



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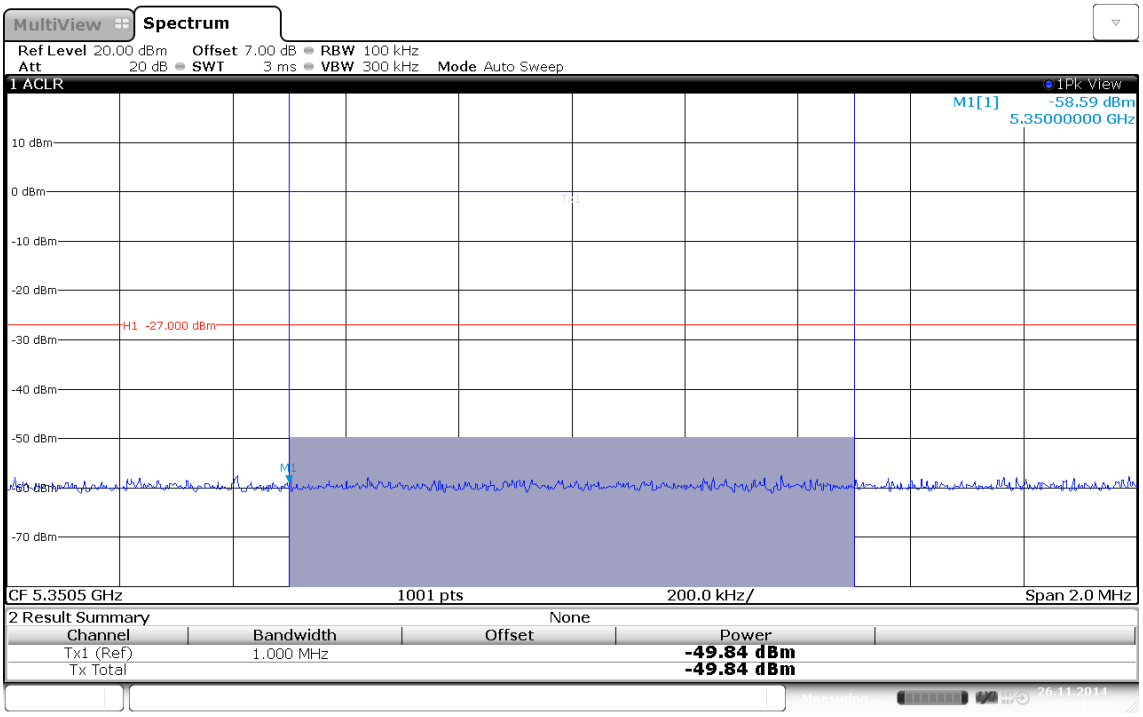
Band-edge compliance – HT20 5240 MHz antenna port B

Band Edge Compliance acc. to FCC 15.407

Project Number: G0M-1410-4225

Applicant:	Panasonic Europe Ltd.
EUT Name:	W-LAN Module
Model:	J3FYY0000061
Test Site:	Eurofins Product Service GmbH
Operator:	Toralf Jahn
Test Conditions:	Tnom / Vnom
Mode:	Tx, HT20, 5240 MHz, CH B
Test Date:	2014-11-26
Verdict:	PASS
Note 1:	G.6.(iii) (789033 D02 General UNII Test Procedure New Rules v01)
Note 2:	conducted measurement, integration method with RMS detector, gated



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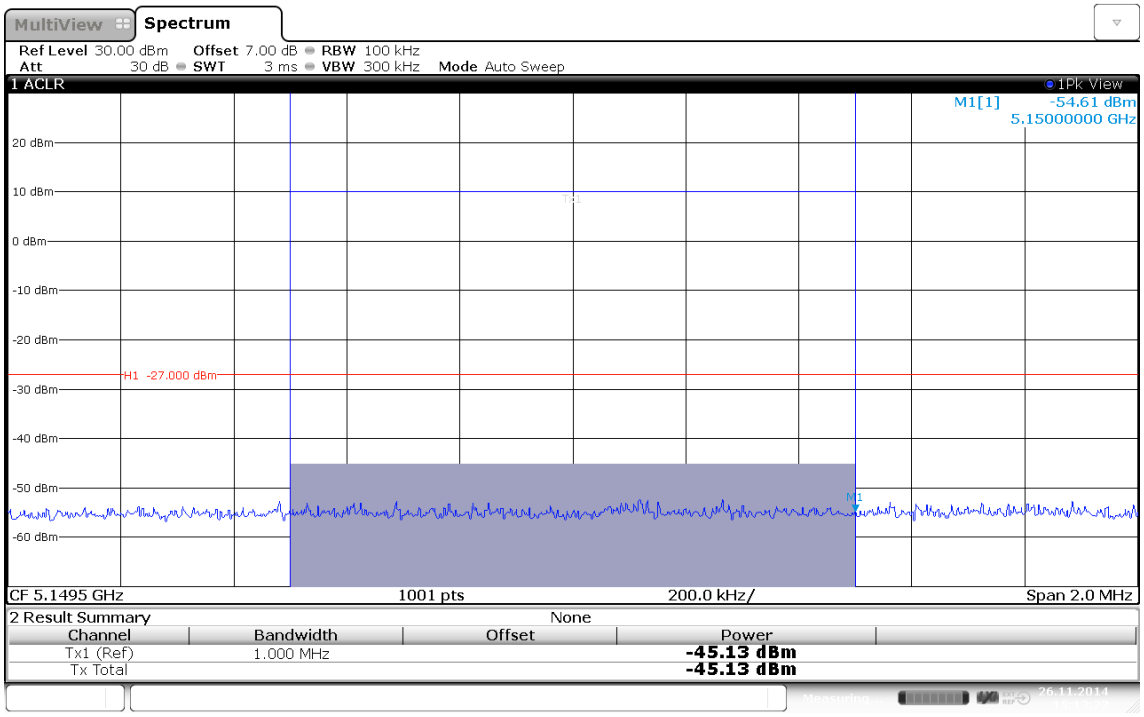
Band-edge compliance – OFDM 5180 MHz antenna port A

Band Edge Compliance acc. to FCC 15.407

Project Number: G0M-1410-4225

Applicant:	Panasonic Europe Ltd.
EUT Name:	W-LAN Module
Model:	J3FYY0000061
Test Site:	Eurofins Product Service GmbH
Operator:	Toralf Jahn
Test Conditions:	Tnom / Vnom
Mode:	Tx, OFDM, 5180 MHz, CH A
Test Date:	2014-11-26
Verdict:	PASS
Note 1:	G.6.(iii) (789033 D02 General UNII Test Procedure New Rules v01)
Note 2:	conducted measurement, integration method with RMS detector, gated

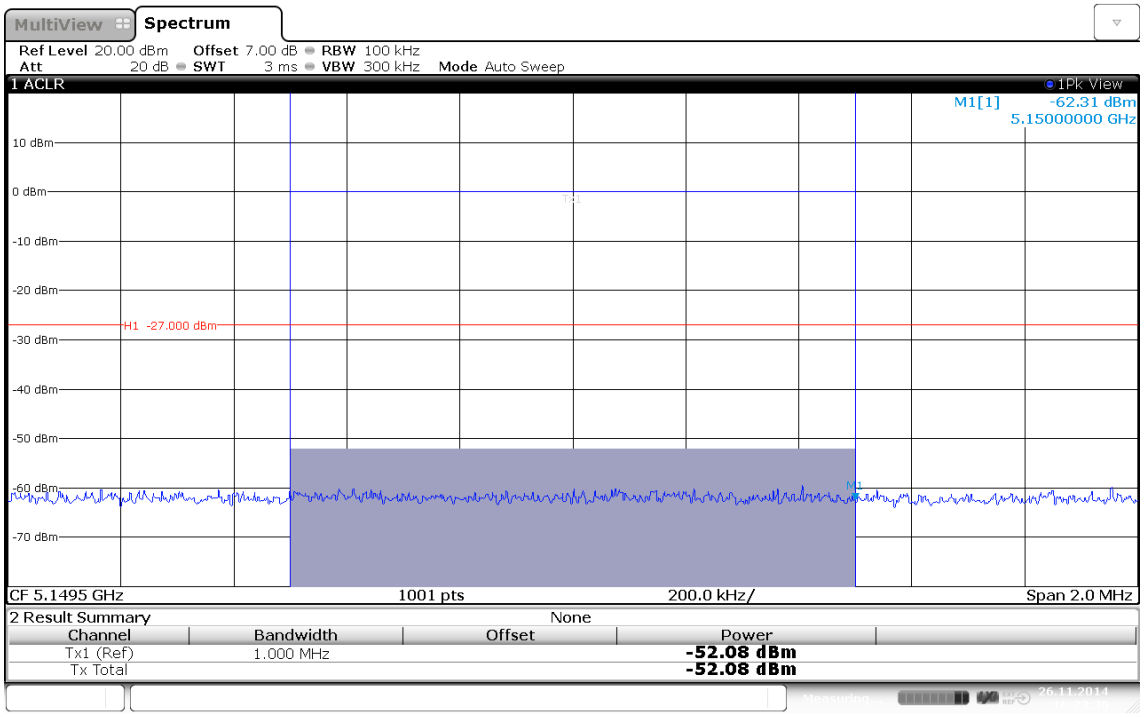


Band-edge compliance – OFDM 5180 MHz antenna port B

Band Edge Compliance acc. to FCC 15.407

Project Number: G0M-1410-4225

Applicant:	Panasonic Europe Ltd.
EUT Name:	W-LAN Module
Model:	J3FYY0000061
Test Site:	Eurofins Product Service GmbH
Operator:	Toralf Jahn
Test Conditions:	Tnom / Vnom
Mode:	Tx, OFDM, 5180 MHz, CH B
Test Date:	2014-11-26
Verdict:	PASS
Note 1:	G.6.(iii) (789033 D02 General UNII Test Procedure New Rules v01)
Note 2:	conducted measurement, integration method with RMS detector, gated



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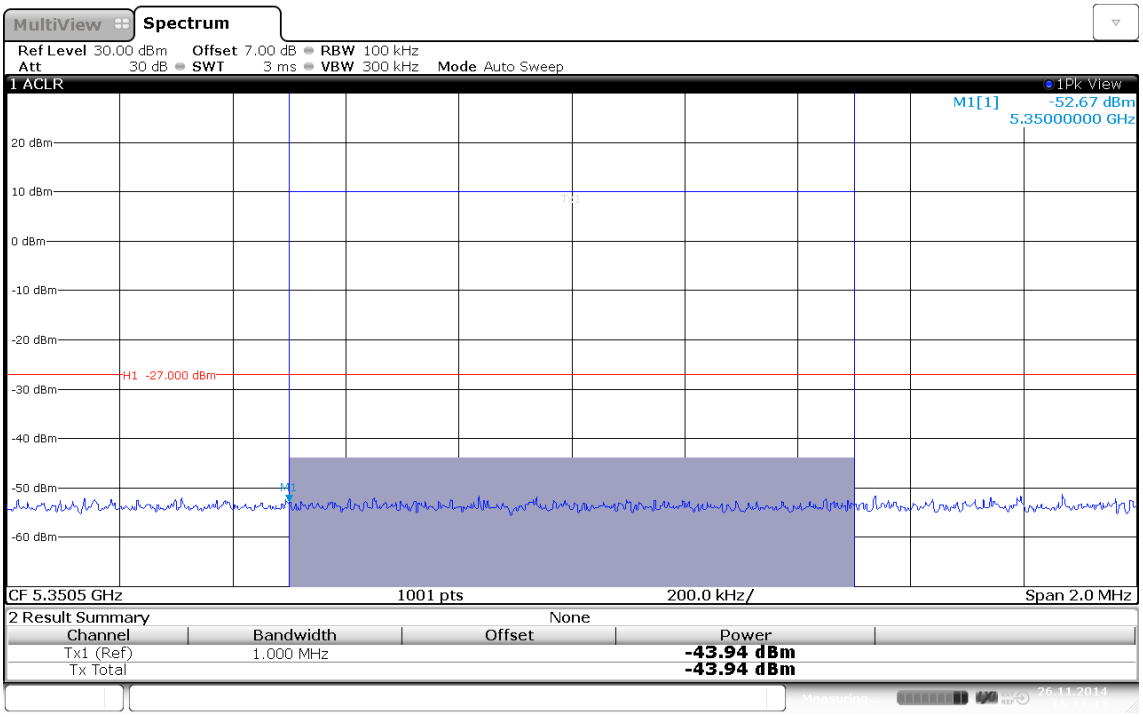
Band-edge compliance – OFDM 5240 MHz antenna port A

Band Edge Compliance acc. to FCC 15.407

Project Number: G0M-1410-4225

Applicant:	Panasonic Europe Ltd.
EUT Name:	W-LAN Module
Model:	J3FYY0000061
Test Site:	Eurofins Product Service GmbH
Operator:	Toralf Jahn
Test Conditions:	Tnom / Vnom
Mode:	Tx, OFDM, 5240 MHz, CH A
Test Date:	2014-11-26
Verdict:	PASS
Note 1:	G.6.(iii) (789033 D02 General UNII Test Procedure New Rules v01)
Note 2:	conducted measurement, integration method with RMS detector, gated



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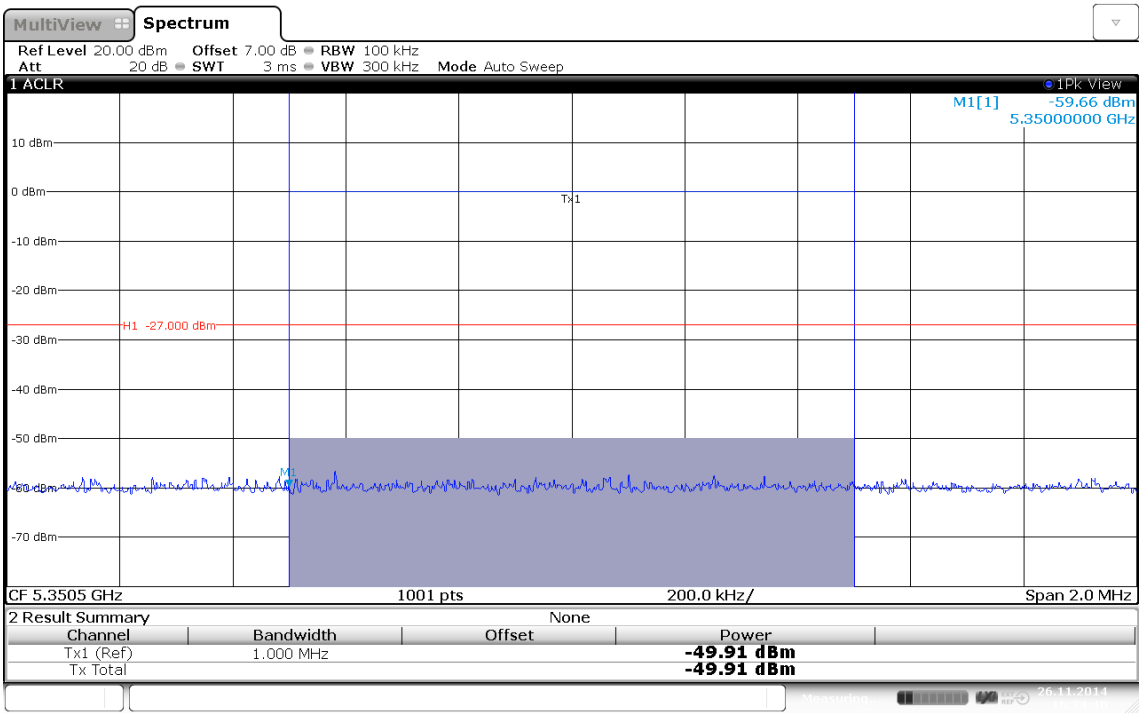
Band-edge compliance – OFDM 5240 MHz antenna port B

Band Edge Compliance acc. to FCC 15.407

Project Number: G0M-1410-4225

Applicant:	Panasonic Europe Ltd.
EUT Name:	W-LAN Module
Model:	J3FYY0000061
Test Site:	Eurofins Product Service GmbH
Operator:	Toralf Jahn
Test Conditions:	Tnom / Vnom
Mode:	Tx, OFDM, 5240 MHz, CH B
Test Date:	2014-11-26
Verdict:	PASS
Note 1:	G.6.(iii) (789033 D02 General UNII Test Procedure New Rules v01)
Note 2:	conducted measurement, integration method with RMS detector, gated



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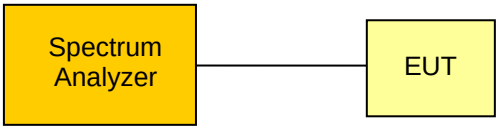
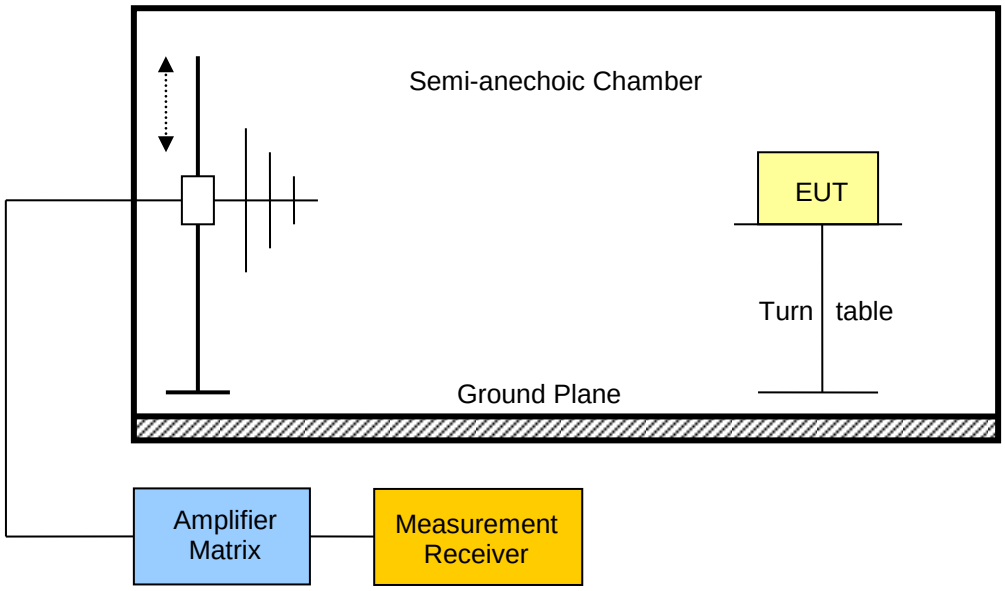
3.7 Test Conditions and Results – Frequency stability

Band-edge compliance acc. FCC 15.407 / IC RSS-210	**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 under all conditions of normal operations as specified in user manual	

Test results				
Voltage	Temperature	Frequency Error [ppm]	Limit [ppm]	Margin [ppm]
5.0 VDC	+25°C	0	20	-20
4.5 VDC	+25°C	0	20	-20
5.5 VDC	+25°C	0	20	-20
5.0 VDC	-30°C	7	20	-13
5.0 VDC	-20°C	9	20	-11
5.0 VDC	-10°C	9	20	-11
5.0 VDC	0°C	7	20	-13
5.0 VDC	10°C	4	20	-16
5.0 VDC	20°C	0	20	-20
5.0 VDC	30°C	-3	-20	17
5.0 VDC	40°C	-6	-20	14
5.0 VDC	50°C	-9	-20	11
5.0 VDC	60°C	-9	-20	11
5.0 VDC	70°C	-6	-20	14
5.0 VDC	80°C	-1	-20	19
5.0 VDC	+85°C	4	20	-16

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

Transmitter radiated emissions acc. FCC 47 CFR 15.407 / IC RSS-210				**Verdict: PASS**
Test according referenced standards		Reference Method		
		FCC 15.407(b) (7) / IC RSS-210 A8.5		
Test according to measurement reference		Reference Method		
		FCC KDB Publication No. 789033 G.1., / ANSI C63.4		
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
1. Set EUT to test mode 2. Set span according to measurement range 3. 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 4. Set markers to peak emission levels within restricted bands

Test results – Below 1GHz – A501000093 antenna; Port A+B (worst case)								
Channel	Channel Frequency [MHz]	Test Mode	Emission Frequency [MHz]	Emission Level [dbµV/m]	Det.	Pol.	Limit [dbµV/m]	Margin [dB]
36	5180	HT20	233.6	26.40	pk	ver	46.00	-19.60
36	5180	HT20	236.8	28.82	pk	hor	46.00	-17.18
36	5180	HT20	243.2	27.91	pk	ver	46.00	-18.09
36	5180	HT20	480	23.31	pk	hor	46.00	-22.69
36	5180	HT20	718.4	35.02	pk	hor	46.00	-10.98
36	5180	HT20	720	35.47	pk	ver	46.00	-10.53
36	5180	HT20	884.8	29.91	pk	hor	46.00	-16.09
40	5200	HT20	238.4	29.90	pk	hor	46.00	-16.10
40	5200	HT20	243.2	29.33	pk	ver	46.00	-16.67
40	5200	HT20	480	26.91	pk	hor	46.00	-19.09
40	5200	HT20	480	24.06	pk	ver	46.00	-21.94
40	5200	HT20	718.4	36.46	pk	hor	46.00	-09.54
40	5200	HT20	718.4	35.81	pk	ver	46.00	-10.19
40	5200	HT20	851.2	38.42	pk	hor	46.00	-07.58
40	5200	HT20	860.8	37.70	pk	hor	46.00	-08.30
40	5200	HT20	894.4	36.77	pk	ver	46.00	-09.23
48	5240	HT20	238.4	28.86	pk	hor	46.00	-17.14
48	5240	HT20	243.2	28.55	pk	ver	46.00	-17.45
48	5240	HT20	480	27.29	pk	hor	46.00	-18.71
48	5240	HT20	480	23.96	pk	ver	46.00	-22.04
48	5240	HT20	720	35.29	pk	hor	46.00	-10.71
48	5240	HT20	720	35.60	pk	ver	46.00	-10.40
48	5240	HT20	854.4	38.59	pk	ver	46.00	-07.41
48	5240	HT20	860.8	40.59	pk	ver	46.00	-05.41
48	5240	HT20	881.6	40.51	pk	hor	46.00	-05.49

Test results – Below 1GHz – A5010000095+A5010000098 antenna; Port A+B (worst case)								
Channel	Channel Frequency [MHz]	Test Mode	Emission Frequency [MHz]	Emission Level [dbµV/m]	Det.	Pol.	Limit [dbµV/m]	Margin [dB]
36	5180 MHz	HT20	No significant spurious emissions					
40	5200 MHz	HT20	No significant spurious emissions					
48	5240 MHz	HT20	No significant spurious emissions					

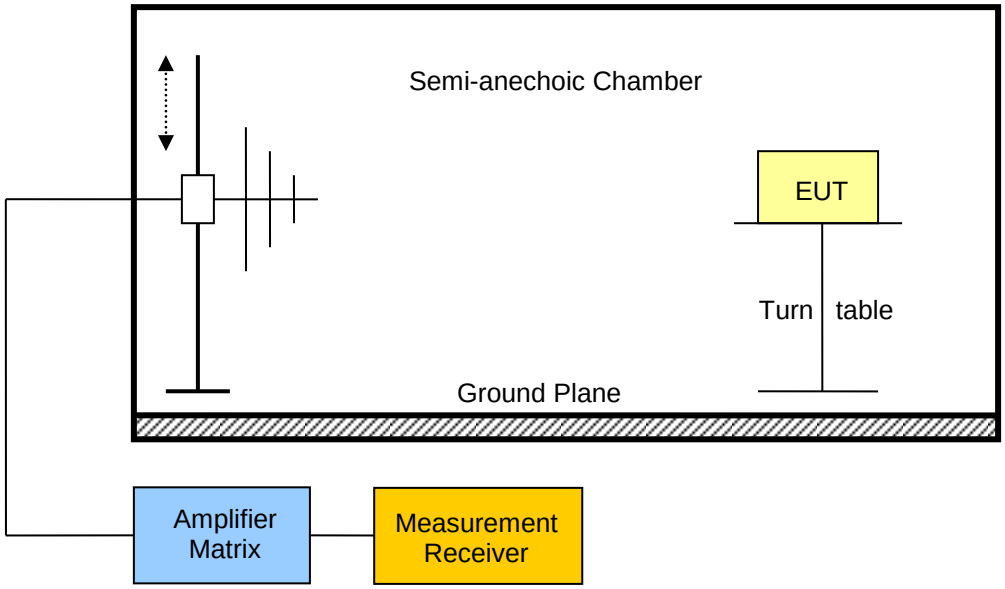
Test results – Above 1GHz – A501000093 antenna; Port A								
Channel	Channel Frequency [MHz]	Test Mode	Emission Frequency [MHz]	Emission Level [dbµV/m]	Det.	Pol.	Limit [dbµV/m]	Margin [dB]
36	5180 MHz	OFDM	6906	54.85	pk	ver	74	-19.15
36	5180 MHz	OFDM	6906	58.50	pk	hor	74	-15.50
36	5180 MHz	OFDM	10360	40.65	pk	ver	74	-33.35
36	5180 MHz	OFDM	10360	40.43	pk	hor	74	-33.57
40	5200 MHz	OFDM	6933	46.50	pk	ver	74	-27.50
40	5200 MHz	OFDM	6933	54.01	pk	hor	74	-19.99
40	5200 MHz	OFDM	10400	39.57	pk	ver	74	-34.43
40	5200 MHz	OFDM	10400	39.79	pk	hor	74	-34.21
48	5240 MHz	OFDM	7164	48.42	pk	ver	74	-25.58
48	5240 MHz	OFDM	7186	48.99	pk	hor	74	-25.01
48	5240 MHz	OFDM	10480	40.40	pk	ver	74	-33.60
48	5240 MHz	OFDM	10480	41.04	pk	hor	74	-32.96

Test results – Above 1GHz – A501000093 antenna; Port B								
Channel	Channel Frequency [MHz]	Test Mode	Emission Frequency [MHz]	Emission Level [dbµV/m]	Det.	Pol.	Limit [dbµV/m]	Margin [dB]
36	5180 MHz	OFDM	7197	49.03	pk	hor	74	-24.97
36	5180 MHz	OFDM	10360	40.14	pk	ver	74	-33.86
36	5180 MHz	OFDM	10360	40.97	pk	hor	74	-33.03
40	5200 MHz	OFDM	7104	48.18	pk	ver	74	-25.82
40	5200 MHz	OFDM	7010	48.12	pk	hor	74	-25.88
40	5200 MHz	OFDM	10400	40.13	pk	ver	74	-33.87
40	5200 MHz	OFDM	10400	39.96	pk	hor	74	-34.04
48	5240 MHz	OFDM	7120	47.93	pk	hor	74	-26.07
48	5240 MHz	OFDM	7087	47.83	pk	ver	74	-26.17
48	5240 MHz	OFDM	10480	39.45	pk	ver	74	-34.55
48	5240 MHz	OFDM	10480	40.71	pk	hor	74	-33.29

Test results – Above 1GHz – A501000093 antenna; Port A+B								
Channel	Channel Frequency [MHz]	Test Mode	Emission Frequency [MHz]	Emission Level [dbµV/m]	Det.	Pol.	Limit [dbµV/m]	Margin [dB]
36	5180 MHz	HT20	6906	54.38	pk	ver	74	-19.62
36	5180 MHz	HT20	6906	54.32	pk	hor	74	-19.68
36	5180 MHz	HT20	10360	41.64	pk	ver	74	-32.36
36	5180 MHz	HT20	10360	41.67	pk	hor	74	-32.33
40	5200 MHz	HT20	6933	53.62	pk	ver	74	-20.38
40	5200 MHz	HT20	6933	54.84	pk	hor	74	-19.16
40	5200 MHz	HT20	10400	40.65	pk	ver	74	-33.35
40	5200 MHz	HT20	10400	40.84	pk	hor	74	-33.16
48	5240 MHz	HT20	6983	52.22	pk	ver	74	-21.78
48	5240 MHz	HT20	5250	83.39	pk	hor	74	09.39
48	5240 MHz	HT20	6983	53.72	pk	hor	74	-20.28
48	5240 MHz	HT20	10480	40.36	pk	ver	74	-33.64
48	5240 MHz	HT20	10480	41.72	pk	hor	74	-32.28

3.9 Test Conditions and Results – Receiver radiated emissions

Receiver radiated emissions acc. IC RSS-210				**Verdict: PASS**
Test according referenced standards	Reference Method			
	IC RSS-210 A8.5			
Test according to measurement reference	Reference Method			
	ANSI C63.4			
Test frequency range	Tested frequencies			
	30 MHz – 3th Harmonic			
EUT test mode	Receive			
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
Test setup				



Test procedure
1. Set EUT to test mode 2. Set span according to measurement range 3. 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 4. Set markers to peak emission levels

Test results - A501000093 antenna

Channel	Channel Frequency [MHz]	Emission Frequency [MHz]	Emission Level [dbµV/m]	Detector	Polarizat.	Limit [dBµV/m]	Margin [dB]
40	5200	6184	44.57	pk	ver	53.98	-09.41
40	5200	6352	45.34	pk	ver	53.98	-08.64
40	5200	6552	45.44	pk	hor	53.98	-08.54
40	5200	7160	47.87	pk	ver	53.98	-06.11
40	5200	7208	48.00	pk	hor	53.98	-05.98
40	5200	7856	48.72	pk	hor	53.98	-05.26
40	5200	14460	47.14	pk	ver	53.98	-06.84
40	5200	14580	45.17	pk	hor	53.98	-08.81