



ADDENDUM TEST REPORT

Test Report No.: 10420214S-B-1

Applicant : Canon Inc.
Type of Equipment : Wireless LAN Module
Model No. : K30365
Test standard : EN 300 328 V1.9.1
Test result : Complied

1. This test report shall not be reproduced in full or partial, without the written approval of UL Japan, Inc.
2. The results in this report apply only to the sample tested.
3. This sample tested is in compliance with the limits of the above standard.
4. The test results in this test report are traceable to the national or international standards.

This is an addendum test report to the test report 10420214S-B.

The test report has been issued for the purpose of updating the test standard.

Approved by: 
Toyokazu Imamura
Leader
Consumer Technology Division

UL Japan, Inc.

Shonan EMC Lab.

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13-EM-F0429



RADIO TEST REPORT

Test Report No. : 10420214S-B

Applicant : Canon Inc.
Type of Equipment : Wireless LAN Module
Model No. : K30365
Test standard : EN 300 328 V1.8.1: 2012-06
Test Result : Complied

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5. The opinions and the interpretations to the result of the description in this report are outside scopes where UL Japan has been accredited.

Date of test: July 29 to August 15, 2014

Representative test engineer:

S. Takano

Shinichi Takano
Engineer
Consumer Technology Division

Approved by :

I. Isozaki

Ichiro Isozaki
Leader
Consumer Technology Division



- ☒ The testing in which "Non-accreditation" is displayed is outside the accreditation scopes in UL Japan.
☐ There is no testing item of "Non-accreditation".

REVISION HISTORY

Original Test Report No.: 10420214S-B

[illegible]

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SECTION 1: Customer information

Company Name : Canon Inc.
Brand name : Canon
Address : 3-451 Tsukagoshi, Saiwai-ku, Kawasaki, kanagawa 212-8530 Japan
Telephone Number : +81-44-542-2111
Facsimile Number : +81-44-548-7513
Contact Person : Kenichi Nampei

SECTION 2: Equipment under test (E.U.T.)

2.1 Identification of E.U.T.

Type of Equipment : Wireless LAN Module
Model Number : K30365
Serial Number : Refer to 4.2
Rating : DC3.3V
Country of Mass-production : Thailand, Vietnam
Condition of EUT : Engineering prototype
(Not for sale: This sample is equivalent to mass-produced items.)
Receipt Date of Sample : July 28, 2014
Modification of EUT : No modification by the test lab.

2.2 Product Description

Model: K30365 (referred to as the EUT in this report) is a Wireless LAN Module.
The clock frequencies used in the EUT: 38.4MHz

Radio specification

Equipment type : Transceiver
Frequency of operation : 2412-2472MHz (IEEE 802.11b, 11g, 11n(HT20))
Bandwidth : 20MHz (IEEE 802.11b, 11g, 11n(HT20))
Channel spacing : 5MHz
Type of modulation : DSSS (IEEE 802.11b), OFDM (IEEE 802.11g/n)
Antenna type : Pattern antenna (meander)
Antenna connector type : U.FL
Antenna gain : -0.92 dBi
ITU code : D1D, G1D
Operation temperature range : -5 to +55 deg.C

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SECTION 3: Test specification, procedures & results

3.1 Test Specification

Radio : EN 300 328 V1.8.1:2012-06

Title : Electromagnetic compatibility and Radio spectrum Matters (ERM);
Wideband transmission systems; Data transmission equipment operating
in the 2.4GHz ISM band and using wide band modulation techniques;
Harmonised EN covering the essential requirements of article 3.2 of the
R&TTE Directive

Purpose of test : Compliance with the R&TTE directive 1999/5/EC.

3.2 Procedures and results

Modulation type: Other types of wide band modulation

No.	Item	Test Procedure	Limit	Remarks	Worst margin	Deviations	Results
1	RF output power	Clause 5.3.2	Clause 4.3.2.1	Conducted	N/A	N/A	Complied
2	Power Spectral Density	Clause 5.3.3	Clause 4.3.2.2	Conducted	-	N/A	Complied
3	Duty cycle, Tx-sequence, Tx-gap	Clause 5.3.2	Clause 4.3.2.3	Conducted	-	N/A *1)	N/A
4	Medium Utilisation (MU) factor	Clause 5.3.2	Clause 4.3.2.4	Conducted	-	N/A *1)	N/A
5	Adaptivity (adaptive equipment using modulations other than FHSS)	Clause 5.3.7	Clause 4.3.2.5	Conducted	-	N/A	Complied *2)
6	Occupied Channel Bandwidth	Clause 5.3.8	Clause 4.3.2.6	Conducted	-	N/A	Complied
7	Transmitter unwanted emissions in the out-of-band domain	Clause 5.3.9	Clause 4.3.2.7	Conducted	-	N/A	Complied
8	Transmitter unwanted emissions in the spurious domain	Clause 5.3.10	Clause 4.3.2.8	Radiated	24.2 dB, 4824.000 MHz, Vertical, (Tx 11b 2412MHz)	N/A	Complied
9	Receiver Spurious emissions	Clause 5.3.11	Clause 4.3.2.9	Radiated	17.2 dB, 3296.000 MHz, Vertical , (Rx 11b 2472MHz)	N/A	Complied
10	Receiver Blocking	Clause 5.3.7	Clause 4.3.2.10	Conducted	-	N/A	Complied

Note: UL Japan, Inc.'s EMI Work Procedure 13-EM-W0420.

*1) The test is not applicable since the EUT is an adaptive equipment and does not operate in a non-adaptive mode.

*2) For the decision of this applicability, it should be considered to perform in laboratory accreditation scope, subject to confirmation of the R&TTE Directive Annex 3 due to Notified Body (UL Japan 1731). As it is very difficult to measure the CCA time, we applied manufacturer's declaration or measurement time based on the confirmation to align IEEE 802.11x. It should be acceptable by the confirmation of Notified Body UL Japan 1731.

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3.3 Additions or deviations to standards

Other than above, no addition, exclusion nor deviation has been made from the standard.

3.4 Uncertainty

EMI

The following uncertainties have been calculated to provide a confidence level of 95% using a coverage factor k=2.

(Substitution measurement)

Item	Frequency range	No.1 SAC ^{*1} (±)	No.2 SAC(±)	No.3 SAC (±)
Radiated emission (Substitution measurement;3m) (EUT height 1.5m)	30MHz-300MHz	4.7 dB	4.7 dB	4.7 dB
	300MHz-1GHz	3.5 dB	3.5 dB	3.5 dB
	1GHz-12.75GHz	5.3 dB	5.3 dB	5.3 dB

*1: SAC=Semi-Anechoic Chamber

Radiated Emission Test

The data listed in this test report has enough margin, more than site margin.

Power Measurement uncertainty above 1GHz for this test was: (±) 1.5dB

Conducted emissions Measurement (below 1GHz) uncertainty for this test was: (±) 1.6dB

Conducted emissions, Power Density Measurement (1G-3GHz) uncertainty for this test was: (±) 1.4dB

Conducted emissions Measurement (3G-18GHz) uncertainty for this test was: (±) 2.8dB

Conducted emissions Measurement (18G-26.5GHz) uncertainty for this test was: (±) 2.5dB

Frequency Measurement uncertainty for this test was: (±) 5.3×10^{-6} .

Bandwidth Measurement uncertainty for this test was: (±) 5.4%

Duty cycle and Time Measurement uncertainty for this test was: (±) 0.012%

3.5 Test Location

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JAB Accreditation No. : RTL02610

Test room	Width x Depth x Height (m)	Test room	Width x Depth x Height (m)
No.1 Semi-Anechoic Chamber	20.6 x 11.3 x 7.65 Maximum measurement distance: 10m	No.1 Shielded room	6.8 x 4.1 x 2.7
No.2 Semi-Anechoic Chamber	20.6 x 11.3 x 7.65 Maximum measurement distance: 10m	No.2 Shielded room	6.8 x 4.1 x 2.7
No.3 Semi-Anechoic Chamber	12.7 x 7.7 x 5.35 Maximum measurement distance: 5m	No.3 Shielded room	6.3 x 4.7 x 2.7
No.4 Semi-Anechoic Chamber	8.1 x 5.1 x 3.55	No.4 Shielded room	4.4 x 4.7 x 2.7
		No.5 Shielded room	7.8 x 6.4 x 2.7
		No.6 Shielded room	7.8 x 6.4 x 2.7
		No.1 Measurement room	2.55 x 4.1 x 2.5

3.6 Test setup, Data of EMI test and Test instruments

Refer to APPENDIX 1 to 3.

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SECTION 4: Operation of E.U.T. during testing

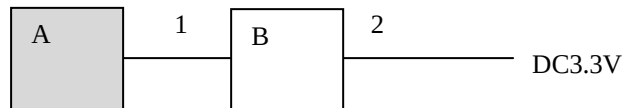
4.1 Operating modes

Test item	Mode	Tested frequency	Power setting *1)	Worst data rate *2)
RF output power, Power Spectral Density	Transmitting (Tx) IEEE 802.11b	2412MHz, 2472MHz	12dBm	1Mbps, PN9
	Transmitting (Tx) IEEE 802.11g	2412MHz, 2472MHz	10dBm	6Mbps, PN9
	Transmitting (Tx) IEEE 802.11n(HT20)	2412MHz, 2472MHz	10dBm	MCS0, PN9
Occupied Channel Bandwidth, Transmitter unwanted emissions	Transmitting (Tx) IEEE 802.11b	2412MHz, 2472MHz	12dBm	1Mbps, PN9
	Transmitting (Tx) IEEE 802.11g	2412MHz, 2472MHz	10dBm	6Mbps, PN9
	Transmitting (Tx) IEEE 802.11n(HT20)	2412MHz, 2472MHz	10dBm	MCS0, PN9
Adaptivity, Receiver blocking	Communication to companion device, IEEE 802.11b *4)	2412MHz, 2472MHz	-	-
Receiver Spurious emissions	Receiving	2412MHz, 2472MHz	-	-

*1) Software used for the test: DutApiWiFi8801BrdigeEth.exe, Ver.2.0.0.79. This power setting is average value and maximum except tolerance, and any user cannot set over this value.
*2) The worst condition was determined based on the test result of RF output power.
*3) Transmitting duty was 100% on all tests.
*4) Since the RF output power with IEEE 802.11b is more than 10dBm, it was tested at only IEEE 802.11b.

Extreme test condition :
Temperature : -5deg.C to + 55deg.C
Voltage : DC2.97V to DC3.63V

4.2 Configuration and peripherals



* Test data was taken under worse case conditions.

Description of EUT and support equipment

No.	Item	Model number	Serial number	Manufacturer	Remarks
A	Wireless LAN Module	K30365	*1)	Canon	EUT
B	WLAN JOINT PCB	-	-	Canon	-

*1) 1406NK110: Radiated emission (Above 1GHz), 1406NK109: Other test

List of cables used

No.	Name	Length (m)	Shield-Cable	Shield-Connector	Remarks
1	Flat	0.1	Unshielded	Unshielded	-
2	DC	2.2	Unshielded	Unshielded	-

SECTION 5: Antenna terminal conducted tests

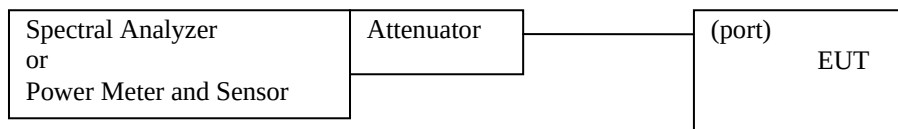
Test procedure

The tests were made with below setting connected to the antenna port.

Test	Instrument used	Remark
RF Output Power	Power Meter (1MS/s or more)	Normal and Extreme conditions Refer to EN 300 328 clause 5.3.2 only power meter & sensor 1set was used.
Power Spectral Density	Spectrum Analyzer	Normal condition Refer to EN 300 328 clause 5.3.3
Occupied Channel Bandwidth	Spectrum Analyzer	Normal condition Refer to EN 300 328 clause 5.3.8
Transmitter unwanted emissions in the out-of band domain	Spectrum Analyzer	Normal and Extreme conditions Refer to EN 300 328 clause 5.3.9 - Detector mode: RMS (power average) - Filter mode: Gaussian filter Since this filter mode is severer than channel filter. - Band power and zero-span mode was used on behalf of the time domain power function.
Adaptivity and Receiver Blocking	Spectrum Analyzer	Normal condition Refer to EN 300 328 clause 5.3.7 The test was performed by mounting the projector and carried out under the worst case condition.

The test results are rounded off to two decimals place, so some differences might be observed.
The equipment and cables were not used for factor 0.0dB of the data sheets.

Test Setup



Results

Summary of the test results : Pass
Refer to APPENDIX 2.

SECTION 6: Transmitter unwanted emissions in the spurious domain and Receiver spurious emissions

Operating environment

The test was carried out in semi-anechoic chamber.

Ambient temperature : See data in APPENDIX 2.

Relative humidity : See data in APPENDIX 2.

Test procedure

- 1) EUT was placed on a urethane plate form of nominal size, 0.5m by 0.5m raised 1.5m above the conducting ground plane.
The Radiated Electric Field Strength intensity has been measured in semi anechoic chamber on a ground plane and at a distance of 3m.
The measuring antenna height was varied between 1 to 4m and the turn table was rotated a full revolution in order to obtain the maximum value of the electric field strength.
The measurements were performed for both vertical and horizontal antenna polarization.
- 2) Exchanged the EUT to the Substitution Antenna, the measurement was set for the same height 1.5m as the EUT. The frequency below 1GHz of the Substitution Antenna was used the Half wave dipole Antenna, which was tuned the measured frequency in 1).
The frequency above 1GHz of the Substitution Antenna was used Horn Antenna.
The Substitution Antenna was connected to the Signal Generator, and the polarized electromagnetic radiation of the Substitution Antenna was matched with the one of the measuring Antenna, which was set with the Signal Generator to the measured frequency in 1). Then, we set with the Output power (CW) of the Signal Generator where the measuring electromagnetic field strength is equal to the measured value in 1) by means of varying the measuring antenna height between 1 to 4m to obtain maximum receiving level.
Its Output power of Signal Generator was recorded.
- 3) Below 1GHz:
Effective radiated power was calculated by subtracting the cable loss and the attenuator loss connected between the Signal Generator and the Substitution Antenna from the Output power of the Signal Generator recorded in 2).
For the usage of the Antenna (Horn Antenna) except for the Half wave dipole Antenna (2.15dBi) for the Substitution Antenna, the Effective radiated power was calculated by compensating the finite difference in the Antenna gain of the Half wave dipole Antenna, and Substitution Antenna.
Above 1GHz:
Equivalent isotropic radiated power was calculated by subtracting the cable loss and the attenuator loss connected between the signal generator and the substitution antenna from the output power of the signal generator recorded in 2).
For the usage of the antenna (horn antenna) for the substitution antenna, the equivalent isotropic radiated power was calculated by compensating the finite substitution antenna.

Pre-check scan setting

Frequency	Below 1GHz	Above 1GHz
Instrument used	Spectrum Analyzer	Spectrum Analyzer
IF Bandwidth	Peak,; RBW: 100kHz/VBW: 300kHz	Peak,; RBW: 1MHz/VBW: 3MHz
Trace mode	Max hold	Max hold
Sweep points	30MHz to 1GHz: more than 9970	1GHz to 12.75GHz: more than 11750

Measured setting

Frequency	Below 1GHz	Above 1GHz
Instrument used	Spectrum Analyzer	Spectrum Analyzer
IF Bandwidth **	RMS,; RBW: 100kHz/VBW: 300kHz	RMS,; RBW: 1MHz/VBW: 3MHz
Span / sweep time	Wide enough to capture each individual emission identified / auto	Wide enough to capture each individual emission identified / auto

** The measurement was measured with RMS detector though the display in data was "PK or AV".

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The carrier level and noise levels were confirmed at each position of X, Y and Z axes of EUT to see the position of maximum noise, and the test was made at the position that has the maximum noise.

Antenna polarization	Tx Below 1GHz	Tx Above 1GHz	Rx Below 1GHz	Rx Above 1GHz
Horizontal	X	X	X	X
Vertical	X	Y	X	Z

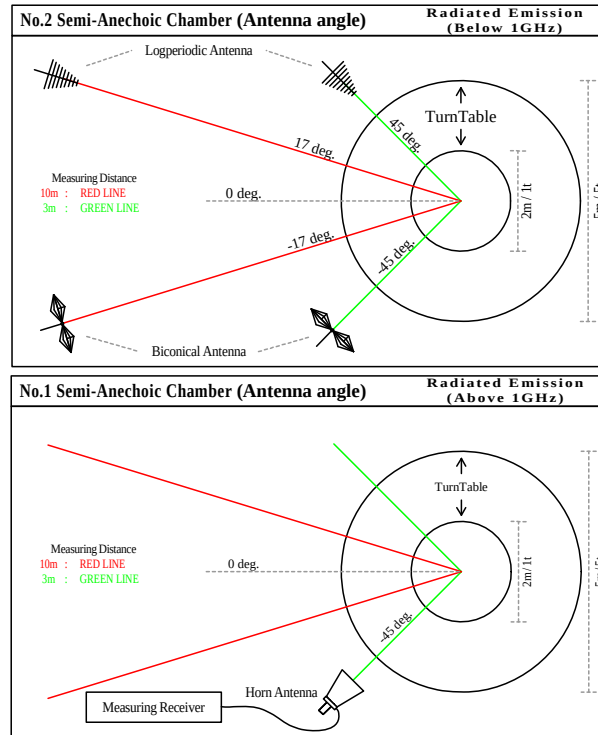


Figure 1. Antenna angle

Results

Summary of the test results : Pass
Refer to APPENDIX 2

Contents of APPENDIXES

APPENDIX 1: Photographs of test setup

Radiated emission

Adaptivity and Receiver blocking

APPENDIX 2: Data of Radio tests

RF output power

Power spectral density

Occupied channel bandwidth

Transmitter unwanted emissions in the out-of-band domain

Transmitter unwanted emissions in the spurious domain

Receiver spurious emissions

Adaptivity and Receiver blocking

APPENDIX 3: Test instruments

Test instruments

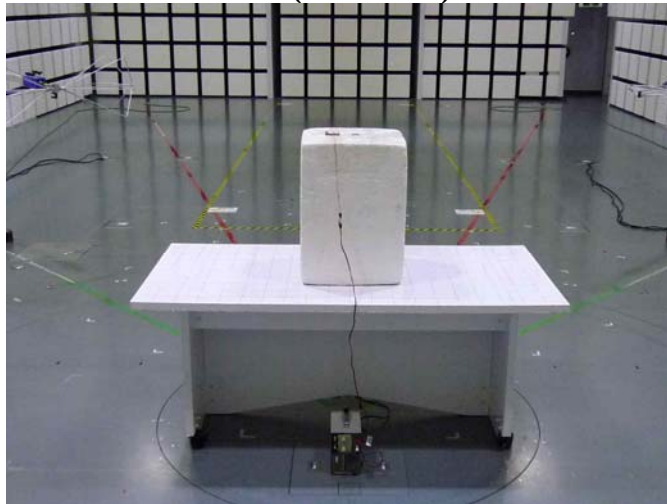
APPENDIX 1: Photographs of test setup

Radiated emission

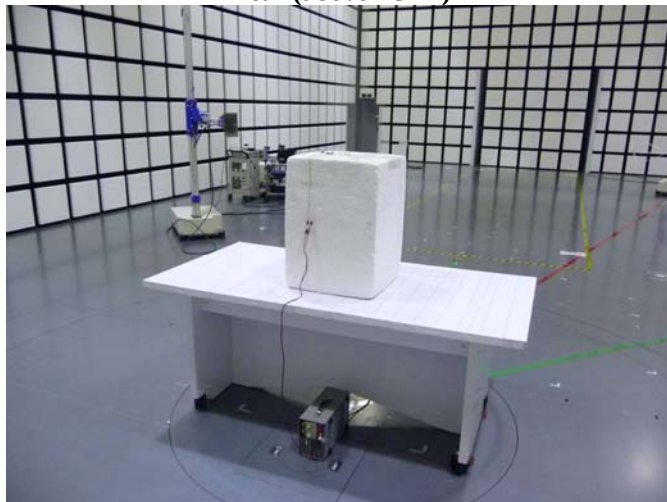
Front



Rear (below 1GHz)



Rear (above 1GHz)

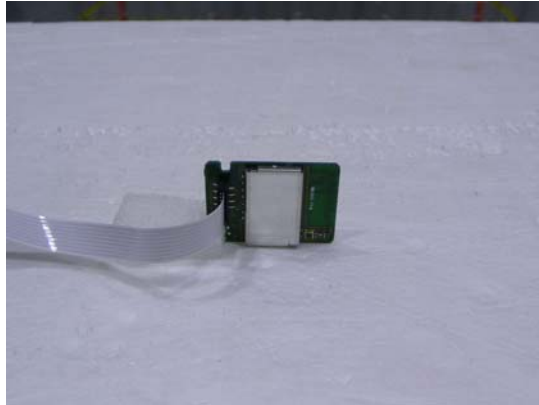


Pre-check of the worst position

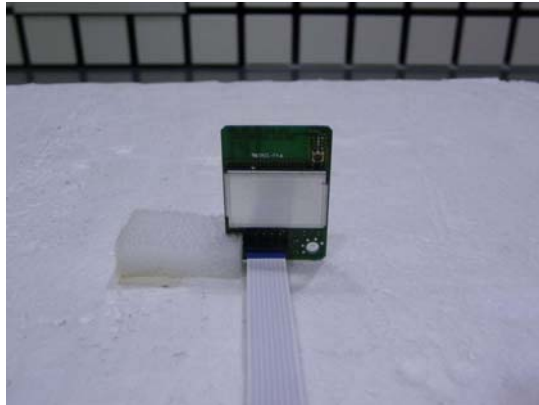
X-axis



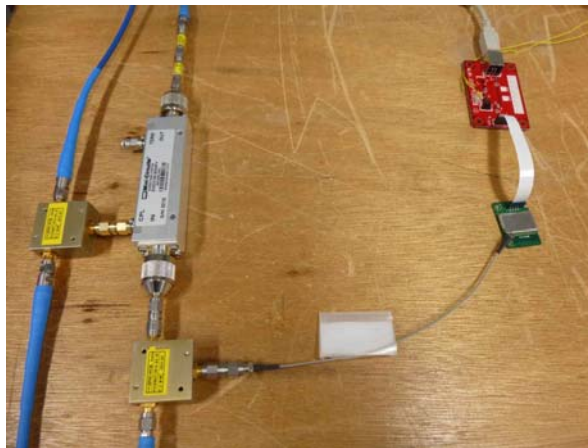
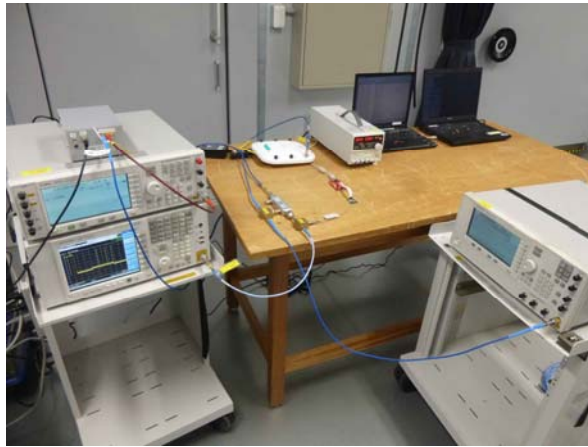
Y-axis



Z-axis



Adaptivity tests



APPENDIX 2: Data of Radio tests**Data of RF output power**

Test place UL Japan, Inc. Shonan EMC Lab. No.5 Shielded Room
 Date July 30, 2014 August 1, 2014
 Temperature / Humidity 26 deg.C , 51%RH 26 deg.C , 50%RH
 Engineer Shinichi Takano Shinichi Takano
 Serial No. 1406NK109
 Mode Tx, IEEE802.11b, PN9, worst data mode : 1 [Mbps]

(* P/M: Power Meter with power sensor, AV: Average)

Test Conditions		Frequency	P/M (AV) Reading	Cable Loss	Atten. Loss	Antenna Gain		Result	Limit (100mW)	Margin
Temp.	Volt.	[MHz]	[dBm]	[dB]	[dB]	[dBi]		[dBm]	[dBm]	[dB]
Nom	Nom	2412.00	0.34	1.83	9.90	-0.92		11.15	20.00	8.85
		2442.00	-0.24	1.84	9.89	-0.92		10.57	20.00	9.43
		2472.00	-0.40	1.85	9.89	-0.92		10.42	20.00	9.58
Min	Min	2412.00	-0.38	1.83	9.90	-0.92		10.43	20.00	9.57
		2442.00	-0.73	1.84	9.89	-0.92		10.08	20.00	9.92
		2472.00	-1.35	1.85	9.89	-0.92		9.47	20.00	10.53
	Max	2412.00	0.72	1.83	9.90	-0.92		11.53	20.00	8.47
		2442.00	-0.03	1.84	9.89	-0.92		10.78	20.00	9.22
		2472.00	-0.62	1.85	9.89	-0.92		10.20	20.00	9.80
Max	Min	2412.00	-0.45	1.83	9.90	-0.92		10.36	20.00	9.64
		2442.00	-1.36	1.84	9.89	-0.92		9.45	20.00	10.55
		2472.00	-1.30	1.85	9.89	-0.92		9.52	20.00	10.48
	Max	2412.00	0.38	1.83	9.90	-0.92		11.19	20.00	8.81
		2442.00	-0.47	1.84	9.89	-0.92		10.34	20.00	9.66
		2472.00	-0.61	1.85	9.89	-0.92		10.21	20.00	9.79

Sample Calculation:

Result = P/M (AV) Reading + Cable Loss (including the cable(s) customer supplied) + Atten.Loss + Antenna Gain

(EUT's temperature specification: -5deg.C to +55deg.C)

Data	Tnom / Vnom : Normal test condition	26 deg.C deg.C. * Voltage	DC3.3V
	Tmin / Vmin : Extreme test conditions Temp.	-5 deg.C. * Voltage	DC2.97V
	Tmin / Vmax : Extreme test conditions Temp.	-5 deg.C. * Voltage	DC3.63V
	Tmax / Vmin : Extreme test conditions Temp.	55 deg.C. * Voltage	DC2.97V
	Tmax / Vmax : Extreme test conditions Temp.	55 deg.C. * Voltage	DC3.63V

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Data of RF output power

Test place UL Japan, Inc. Shonan EMC Lab. No.5 Shielded Room
 Date July 29, 2014 July 30, 2014
 Temperature / Humidity 27 deg.C , 45%RH 26 deg.C , 51%RH
 Engineer Akio Hayashi Shinichi Takano
 Serial No. 1406NK109
 Mode Tx, IEEE802.11b, PN9,

worst data mode : 1 [Mbps]

(Worst mode check)

(* P/M: Power Meter with power sensor, AV: Average)

	Freq. [MHz]	Rate [Mbps]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Antenna Gain [dBi]		Result [dBm]	Limit (100mW) [dBm]	Margin [dB]	
	2442.0	1	-0.24	1.84	9.89	-0.92		10.57	20.00	9.43	Worst
	2442.0	2	-0.31	1.84	9.89	-0.92		10.50	20.00	9.50	
	2442.0	5.5	-0.65	1.84	9.89	-0.92		10.16	20.00	9.84	
	2442.0	11	-0.42	1.84	9.89	-0.92		10.39	20.00	9.61	

Sample Calculation:

Result = P/M (AV) Reading + Cable Loss (including the cable(s) customer supplied) + Atten.Loss + Antenna Gain

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Data of RF output power

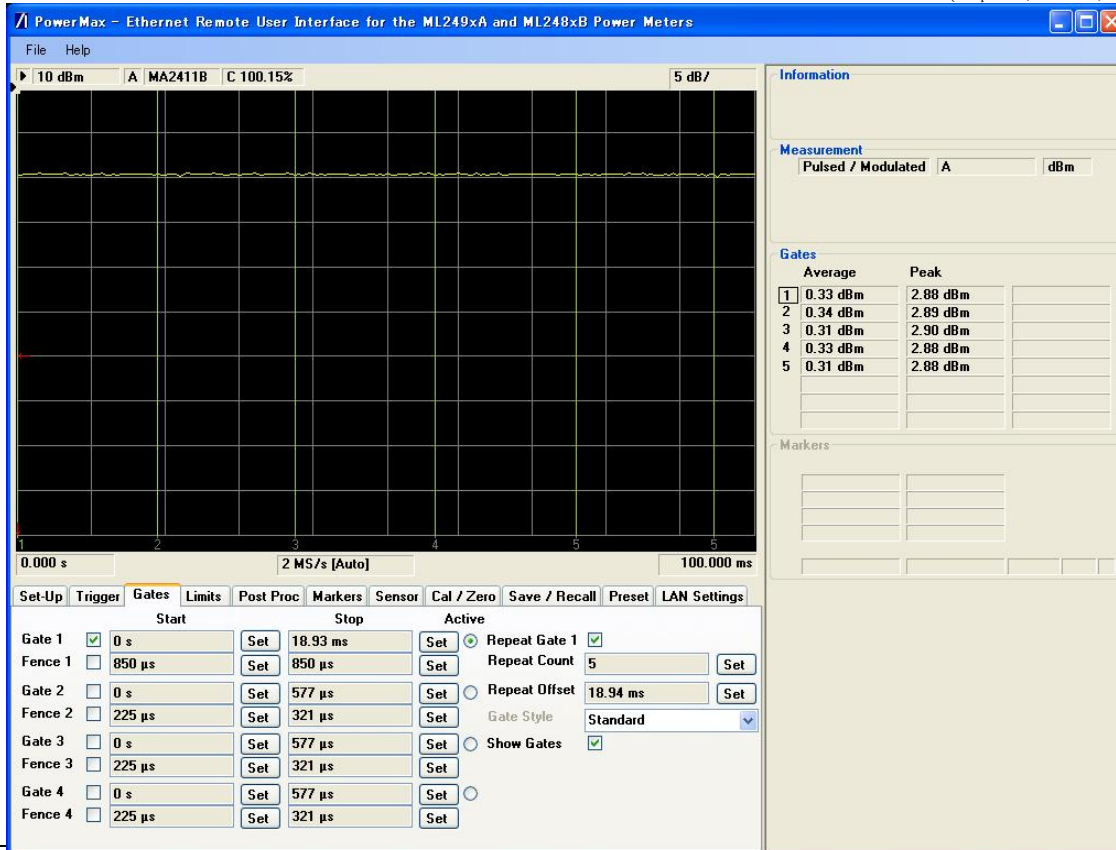
The chart of Power Meter

Test was performed by the setting of the Power Meter in the below chart.

The Reading value of the Power Meter is a value obtained by averaging the readings of ten values of each gate in the below chart.

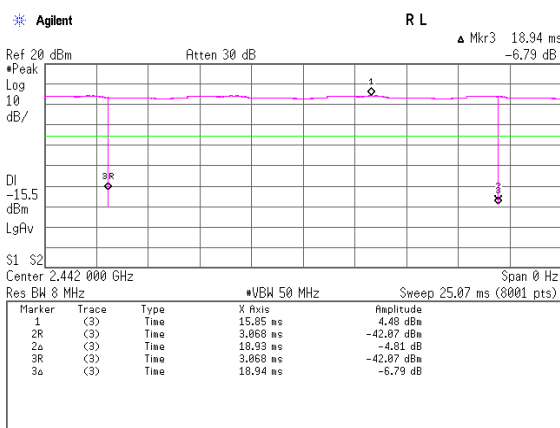
Measurements of each gate display the one that the value calculated in power meter was taken into the personal computer.

(Temp.: Nom, Volt.: Nom, 2412MHz, 1st to 5th value)



Confirmation of gate setting

The gate of Power Meter was set based on the time of pulse in the spectrum analyzer chart below.



	Freq. [MHz]	Average measured value (10 burst) [dBm]									
Temp.	2412	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
Nom	0.34	0.33	0.34	0.31	0.33	0.31	0.32	0.31	0.28	0.31	0.30
Volt.	2442	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
Nom	-0.24	-0.31	-0.30	-0.29	-0.29	-0.30	-0.25	-0.24	-0.24	-0.25	-0.25
Min	2472	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
Max	-0.40	-0.45	-0.46	-0.46	-0.44	-0.45	-0.40	-0.43	-0.43	-0.42	-0.43
Temp.	2412	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
Min	-0.38	-0.41	-0.42	-0.40	-0.38	-0.41	-0.42	-0.40	-0.42	-0.41	-0.42
Volt.	2442	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
Min	-0.73	-0.75	-0.75	-0.77	-0.73	-0.76	-0.75	-0.76	-0.76	-0.76	-0.76
Max	2472	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
Min	-1.35	-1.38	-1.36	-1.36	-1.35	-1.38	-1.39	-1.38	-1.37	-1.36	-1.38
Temp.	2412	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
Min	0.72	0.70	0.70	0.71	0.72	0.70	0.64	0.66	0.62	0.63	0.63
Volt.	2442	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
Max	-0.03	-0.52	-0.22	-0.03	-0.32	-0.51	-0.53	-0.12	-0.06	-0.43	-0.51
Max	2472	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
Max	-0.62	-0.65	-0.65	-0.66	-0.65	-0.62	-0.66	-0.67	-0.64	-0.67	-0.68
Temp.	2412	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
Max	-0.45	-0.93	-0.63	-0.45	-0.48	-0.46	-0.54	-0.52	-0.53	-0.54	-0.50
Volt.	2442	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
Min	-1.36	-1.51	-1.51	-1.48	-1.49	-1.47	-1.38	-1.38	-1.36	-1.38	-1.37
Min	2472	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
Min	-1.30	-1.30	-1.30	-1.31	-1.31	-1.33	-1.40	-1.40	-1.41	-1.42	-1.42
Temp.	2412	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
Max	0.38	0.09	0.32	0.30	0.30	0.30	0.36	0.37	0.37	0.38	0.37
Volt.	2442	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
Max	-0.47	-0.47	-0.48	-0.49	-0.51	-0.49	-0.56	-0.56	-0.59	-0.55	-0.54
Max	2472	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
Max	-0.61	-0.62	-0.62	-0.61	-0.62	-0.62	-0.71	-0.72	-0.73	-0.74	-0.74

UL Japan, Inc.

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Data of RF output power

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	July 30, 2014	August 1, 2014
Temperature / Humidity	26 deg.C , 51%RH	26 deg.C , 50%RH
Engineer	Shinichi Takano	Shinichi Takano
Serial No.	1406NK109	
Mode	Tx, IEEE802.11g, PN9,	worst data mode : 6 [Mbps]

(* P/M: Power Meter with power sensor, AV: Average)

Test Conditions		Frequency	P/M (AV) Reading	Cable Loss	Atten. Loss	Antenna Gain		Result	Limit (100mW)	Margin
Temp.	Volt.	[MHz]	[dBm]	[dB]	[dB]	[dBi]		[dBm]	[dBm]	[dB]
Nom	Nom	2412.00	-1.90	1.83	9.90	-0.92		8.91	20.00	11.09
		2442.00	-2.21	1.84	9.89	-0.92		8.60	20.00	11.40
		2472.00	-2.51	1.85	9.89	-0.92		8.31	20.00	11.69
Min	Min	2412.00	-2.68	1.83	9.90	-0.92		8.13	20.00	11.87
		2442.00	-2.95	1.84	9.89	-0.92		7.86	20.00	12.14
		2472.00	-3.16	1.85	9.89	-0.92		7.66	20.00	12.34
	Max	2412.00	-1.54	1.83	9.90	-0.92		9.27	20.00	10.73
		2442.00	-2.29	1.84	9.89	-0.92		8.52	20.00	11.48
		2472.00	-2.44	1.85	9.89	-0.92		8.38	20.00	11.62
Max	Min	2412.00	-2.54	1.83	9.90	-0.92		8.27	20.00	11.73
		2442.00	-3.37	1.84	9.89	-0.92		7.44	20.00	12.56
		2472.00	-3.48	1.85	9.89	-0.92		7.34	20.00	12.66
	Max	2412.00	-2.34	1.83	9.90	-0.92		8.47	20.00	11.53
		2442.00	-2.63	1.84	9.89	-0.92		8.18	20.00	11.82
		2472.00	-2.75	1.85	9.89	-0.92		8.07	20.00	11.93

Sample Calculation:

Result = P/M (AV) Reading + Cable Loss (including the cable(s) customer supplied) + Atten.Loss + Antenna Gain

* Test Conditions is refer to the sheet of RF output power. (mode: Tx, IEEE802.11b)

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Data of RF output power

Test place UL Japan, Inc. Shonan EMC Lab. No.5 Shielded Room
 Date July 29, 2014 July 30, 2014
 Temperature / Humidity 27 deg.C , 45%RH 26 deg.C , 51%RH
 Engineer Akio Hayashi Shinichi Takano
 Serial No. 1406NK109
 Mode Tx, IEEE802.11g, PN9,

worst data mode : 6 [Mbps]

(Worst mode check)

(* P/M: Power Meter with power sensor, AV: Average)

	Freq. [MHz]	Rate [Mbps]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Antenna Gain [dBi]		Result [dBm]	Limit (100mW) [dBm]	Margin [dB]	
	2442.0	6	-2.21	1.84	9.89	-0.92		8.60	20.00	11.40	Worst
	2442.0	9	-2.30	1.84	9.89	-0.92		8.51	20.00	11.49	
	2442.0	12	-2.43	1.84	9.89	-0.92		8.38	20.00	11.62	
	2442.0	18	-2.28	1.84	9.89	-0.92		8.53	20.00	11.47	
	2442.0	24	-2.37	1.84	9.89	-0.92		8.44	20.00	11.56	
	2442.0	36	-2.38	1.84	9.89	-0.92		8.43	20.00	11.57	
	2442.0	48	-2.39	1.84	9.89	-0.92		8.42	20.00	11.58	
	2442.0	54	-2.41	1.84	9.89	-0.92		8.40	20.00	11.60	

Sample Calculation:

Result = P/M (AV) Reading + Cable Loss (including the cable(s) customer supplied) + Atten.Loss + Antenna Gain

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Data of RF output power

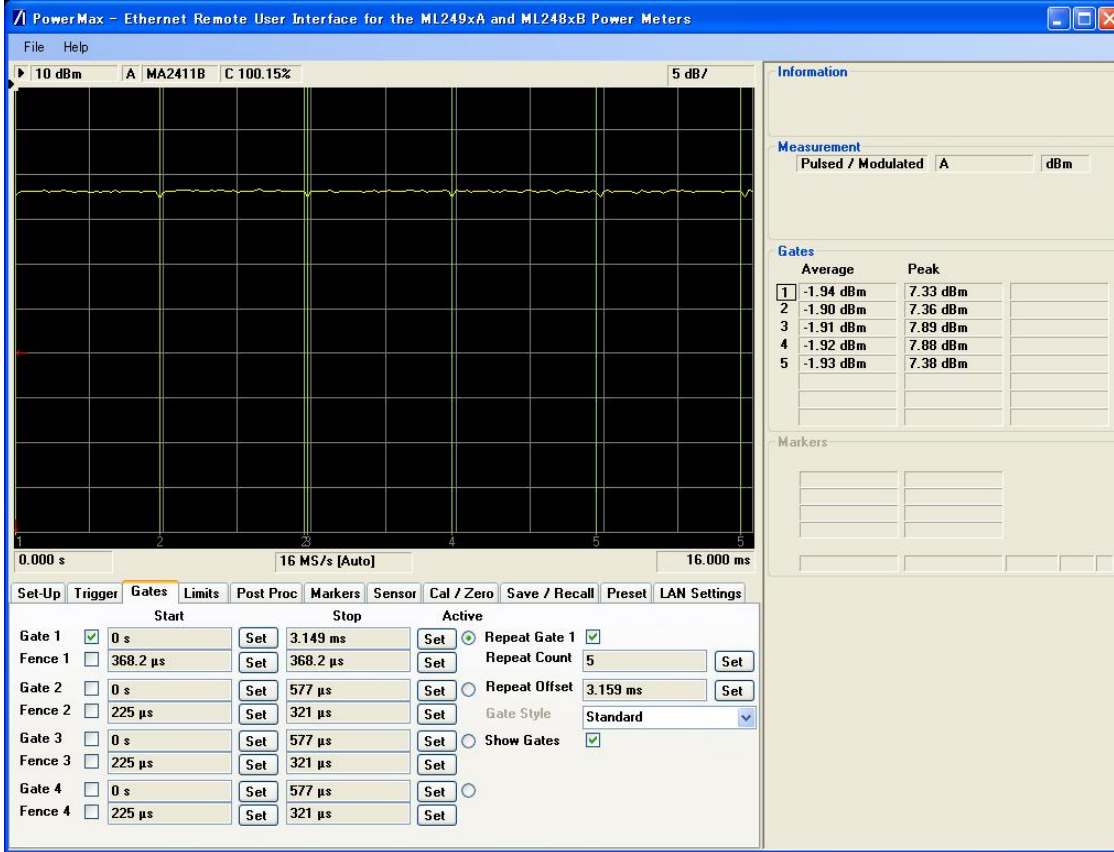
The chart of Power Meter

Test was performed by the setting of the Power Meter in the below chart.

The Reading value of the Power Meter is a value obtained by averaging the readings of ten values of each gate in the below chart.

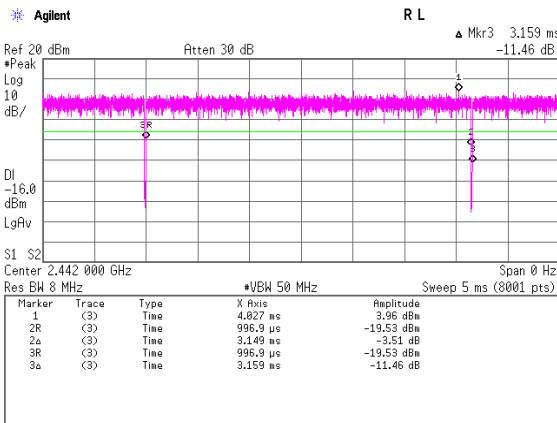
Measurements of each gate display the one that the value calculated in power meter was taken into the personal computer.

(Temp.: Nom, Volt.: Nom, 2412MHz, 1st to 5th value)



Confirmation of gate setting

The gate of Power Meter was set based on the time of pulse in the spectrum analyzer chart below.



	Freq. [MHz]	Average measured value (10 burst) [dBm]									
Temp.	2412	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
Nom	-1.90	-1.94	-1.90	-1.91	-1.92	-1.93	-1.95	-1.93	-1.97	-1.96	-1.94
Volt.	2442	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
Nom	-2.21	-2.21	-2.24	-2.23	-2.24	-2.23	-2.25	-2.25	-2.27	-2.25	-2.26
Min	2472	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
Max	-2.51	-2.52	-2.54	-2.55	-2.54	-2.52	-2.51	-2.54	-2.53	-2.54	-2.53
Temp.	2412	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
Min	-2.68	-3.15	-3.16	-2.74	-2.68	-2.69	-2.76	-2.74	-2.75	-2.74	-2.74
Volt.	2442	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
Min	-2.95	-2.97	-2.95	-2.98	-2.99	-2.96	-3.02	-3.03	-3.01	-3.03	-3.02
Max	2472	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
Min	-3.16	-3.18	-3.16	-3.19	-3.18	-3.20	-3.19	-3.21	-3.20	-3.20	-3.22
Temp.	2412	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
Min	-1.54	-1.54	-1.55	-1.56	-1.55	-1.55	-1.67	-1.68	-1.65	-1.66	-1.68
Volt.	2442	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
Max	-2.29	-2.29	-2.29	-2.31	-2.30	-2.30	-2.35	-2.36	-2.37	-2.36	-2.51
Min	2472	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
Max	-2.44	-2.44	-2.45	-2.47	-2.45	-2.47	-2.46	-2.50	-2.49	-2.50	-2.48
Temp.	2412	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
Max	-2.54	-2.57	-2.57	-2.57	-2.55	-2.57	-2.56	-2.56	-2.54	-2.54	-2.57
Volt.	2442	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
Min	-3.37	-3.39	-3.38	-3.39	-3.37	-3.37	-3.39	-3.37	-3.38	-3.40	-3.38
Max	2472	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
Max	-3.48	-3.48	-3.48	-3.49	-3.50	-3.49	-3.56	-3.57	-3.56	-3.59	-3.56
Temp.	2412	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
Max	-2.34	-2.34	-2.36	-2.35	-2.35	-2.36	-2.40	-2.40	-2.39	-2.41	-2.38
Volt.	2442	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
Max	-2.63	-2.63	-2.67	-2.66	-2.65	-2.65	-2.65	-2.67	-2.67	-2.69	-2.69
Min	2472	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
Min	-2.75	-2.75	-2.76	-2.76	-2.78	-2.78	-2.84	-2.85	-2.84	-2.84	-2.83

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Data of RF output power

Test place UL Japan, Inc. Shonan EMC Lab. No.5 Shielded Room
 Date July 31, 2014 August 1, 2014
 Temperature / Humidity 26deg.C , 47%RH 26 deg.C , 50%RH
 Engineer Shinichi Takano Shinichi Takano
 Serial No. 1406NK109
 Mode Tx, IEEE802.11n(HT20), PN9,

worst data mode : 0 (MCS)

(* P/M: Power Meter with power sensor, AV: Average)

Test Conditions		Frequency	P/M (AV) Reading	Cable Loss	Atten. Loss	Antenna Gain		Result	Limit (100mW)	Margin
Temp.	Volt.	[MHz]	[dBm]	[dB]	[dB]	[dBi]		[dBm]	[dBm]	[dB]
Nom	Nom	2412.00	-1.71	1.83	9.90	-0.92		9.10	20.00	10.90
		2442.00	-2.26	1.84	9.89	-0.92		8.55	20.00	11.45
		2472.00	-2.36	1.85	9.89	-0.92		8.46	20.00	11.54
Min	Min	2412.00	-2.43	1.83	9.90	-0.92		8.38	20.00	11.62
		2442.00	-3.06	1.84	9.89	-0.92		7.75	20.00	12.25
		2472.00	-3.21	1.85	9.89	-0.92		7.61	20.00	12.39
	Max	2412.00	-1.82	1.83	9.90	-0.92		8.99	20.00	11.01
		2442.00	-1.83	1.84	9.89	-0.92		8.98	20.00	11.02
		2472.00	-1.84	1.85	9.89	-0.92		8.98	20.00	11.02
Max	Min	2412.00	-2.48	1.83	9.90	-0.92		8.33	20.00	11.67
		2442.00	-3.30	1.84	9.89	-0.92		7.51	20.00	12.49
		2472.00	-3.49	1.85	9.89	-0.92		7.33	20.00	12.67
	Max	2412.00	-2.34	1.83	9.90	-0.92		8.47	20.00	11.53
		2442.00	-2.39	1.84	9.89	-0.92		8.42	20.00	11.58
		2472.00	-2.39	1.85	9.89	-0.92		8.43	20.00	11.57

Sample Calculation:

Result = P/M (AV) Reading + Cable Loss (including the cable(s) customer supplied) + Atten.Loss + Antenna Gain

* Test Conditions is refer to the sheet of RF output power. (mode: Tx, IEEE802.11b)

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Data of RF output power

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	July 29, 2014	July 31, 2014
Temperature / Humidity	27deg.C , 45%RH	26deg.C , 47%RH
Engineer	Akio Hayashi	Shinichi Takano
Serial No.	1406NK109	
Mode	Tx, IEEE802.11n(HT20), PN9,	worst data mode : 0 (MCS)

(Worst mode check)

(* P/M: Power Meter with power sensor, AV: Average)

	Freq. [MHz]	MCS (MCS)	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Antenna Gain [dBi]		Result [dBm]	Limit (100mW) [dBm]	Margin [dB]	
	2442.0	0	-2.26	1.84	9.89	-0.92		8.55	20.00	11.45	Worst
	2442.0	1	-2.34	1.84	9.89	-0.92		8.47	20.00	11.53	
	2442.0	2	-2.37	1.84	9.89	-0.92		8.44	20.00	11.56	
	2442.0	3	-2.38	1.84	9.89	-0.92		8.43	20.00	11.57	
	2442.0	4	-2.35	1.84	9.89	-0.92		8.46	20.00	11.54	
	2442.0	5	-2.41	1.84	9.89	-0.92		8.40	20.00	11.60	
	2442.0	6	-2.38	1.84	9.89	-0.92		8.43	20.00	11.57	
	2442.0	7	-2.41	1.84	9.89	-0.92		8.40	20.00	11.60	

Sample Calculation:

Result = P/M (AV) Reading + Cable Loss (including the cable(s) customer supplied) + Atten.Loss + Antenna Gain

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Data of RF output power

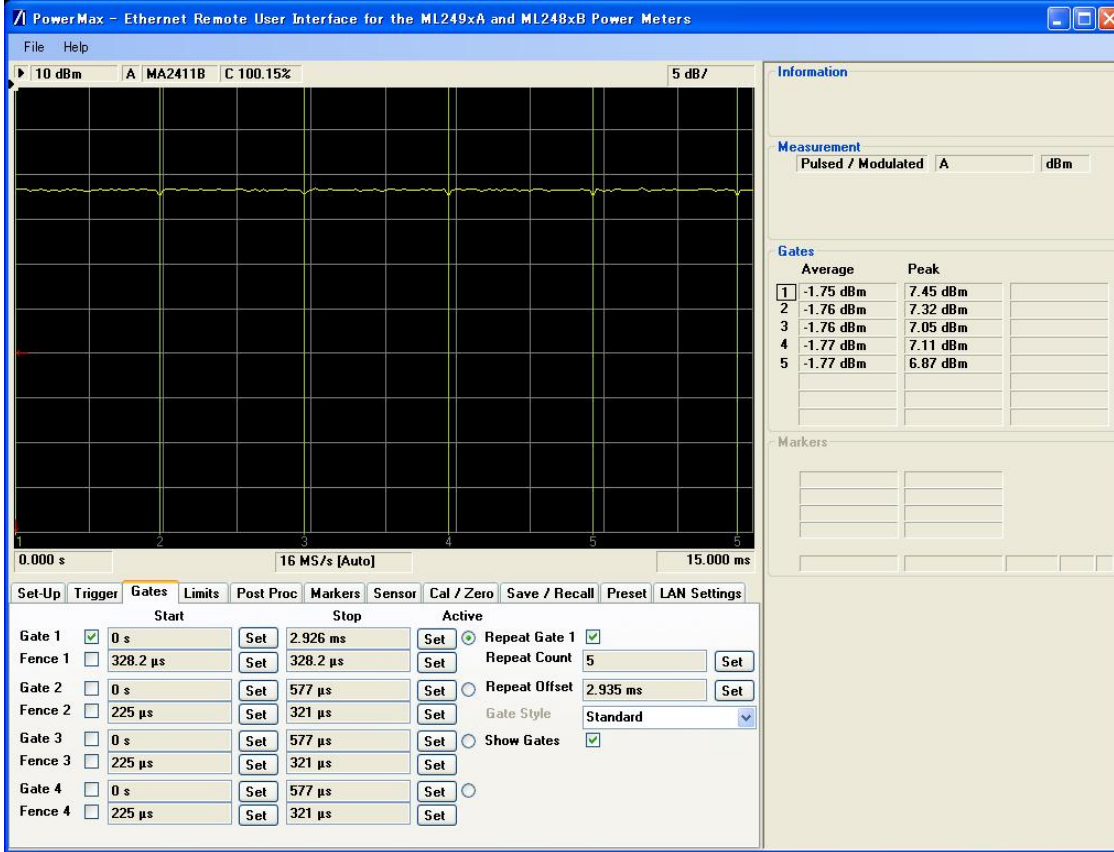
The chart of Power Meter

Test was performed by the setting of the Power Meter in the below chart.

The Reading value of the Power Meter is a value obtained by averaging the readings of ten values of each gate in the below chart.

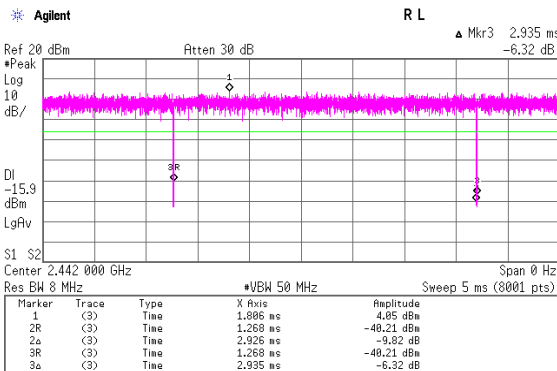
Measurements of each gate display the one that the value calculated in power meter was taken into the personal computer.

(Temp.: Nom, Volt.: Nom, 2412MHz, 1st to 5th value)



Confirmation of gate setting

The gate of Power Meter was set based on the time of pulse in the spectrum analyzer chart below.



	Freq. [MHz]	Average measured value (10 burst) [dBm]									
Temp.	2412	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
Nom	-1.71	-1.75	-1.76	-1.76	-1.77	-1.77	-1.71	-1.74	-1.75	-1.74	-1.76
Volt.	2442	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
Nom	-2.26	-2.29	-2.32	-2.32	-2.32	-2.32	-2.27	-2.29	-2.27	-2.29	-2.26
Temp.	2472	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
Min	-2.36	-2.42	-2.40	-2.40	-2.40	-2.38	-2.36	-2.36	-2.37	-2.41	-2.39
Temp.	2412	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
Min	-2.43	-2.47	-2.46	-2.44	-2.46	-2.43	-2.43	-2.46	-2.45	-2.45	-2.46
Volt.	2442	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
Min	-3.06	-3.07	-3.06	-3.07	-3.06	-3.08	-3.08	-3.10	-3.06	-3.10	-3.09
Temp.	2472	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
Min	-3.21	-3.23	-3.24	-3.21	-3.24	-3.24	-3.25	-3.24	-3.24	-3.23	-3.25
Temp.	2412	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
Max	-1.82	-1.82	-1.93	-1.83	-1.85	-1.85	-1.86	-1.83	-1.85	-1.85	-1.85
Volt.	2442	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
Max	-1.83	-1.83	-1.84	-1.85	-1.85	-1.83	-1.84	-1.88	-1.86	-1.85	-1.88
Temp.	2472	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
Max	-1.84	-1.86	-1.87	-1.87	-1.87	-1.86	-1.87	-1.86	-1.86	-1.87	-1.84
Temp.	2412	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
Max	-2.48	-2.50	-2.50	-2.49	-2.49	-2.49	-2.50	-2.48	-2.49	-2.50	-2.49
Volt.	2442	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
Max	-3.30	-3.30	-3.32	-3.30	-3.32	-3.30	-3.33	-3.35	-3.34	-3.34	-3.33
Temp.	2472	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
Max	-3.49	-3.49	-3.50	-3.50	-3.52	-3.50	-3.56	-3.53	-3.55	-3.55	-3.56
Temp.	2412	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
Max	-2.34	-2.35	-2.37	-2.34	-2.36	-2.35	-2.38	-2.37	-2.38	-2.38	-2.40
Volt.	2442	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
Max	-2.39	-2.39	-2.39	-2.40	-2.39	-2.40	-2.42	-2.42	-2.41	-2.42	-2.40
Temp.	2472	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
Max	-2.39	-2.41	-2.42	-2.39	-2.43	-2.42	-2.43	-2.44	-2.45	-2.44	-2.43

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Data of Power Spectral Density

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	July 31, 2014	Regulation : EN300 328 Clause 5.3.3
Temperature / Humidity	26 deg.C , 47%RH	
Engineer	Shinichi Takano	
Serial No.	1406NK109	
Mode	IEEE802.11b	worst data mode : 1 [Mbps]

(* S/A: Spectrum Analyzer)

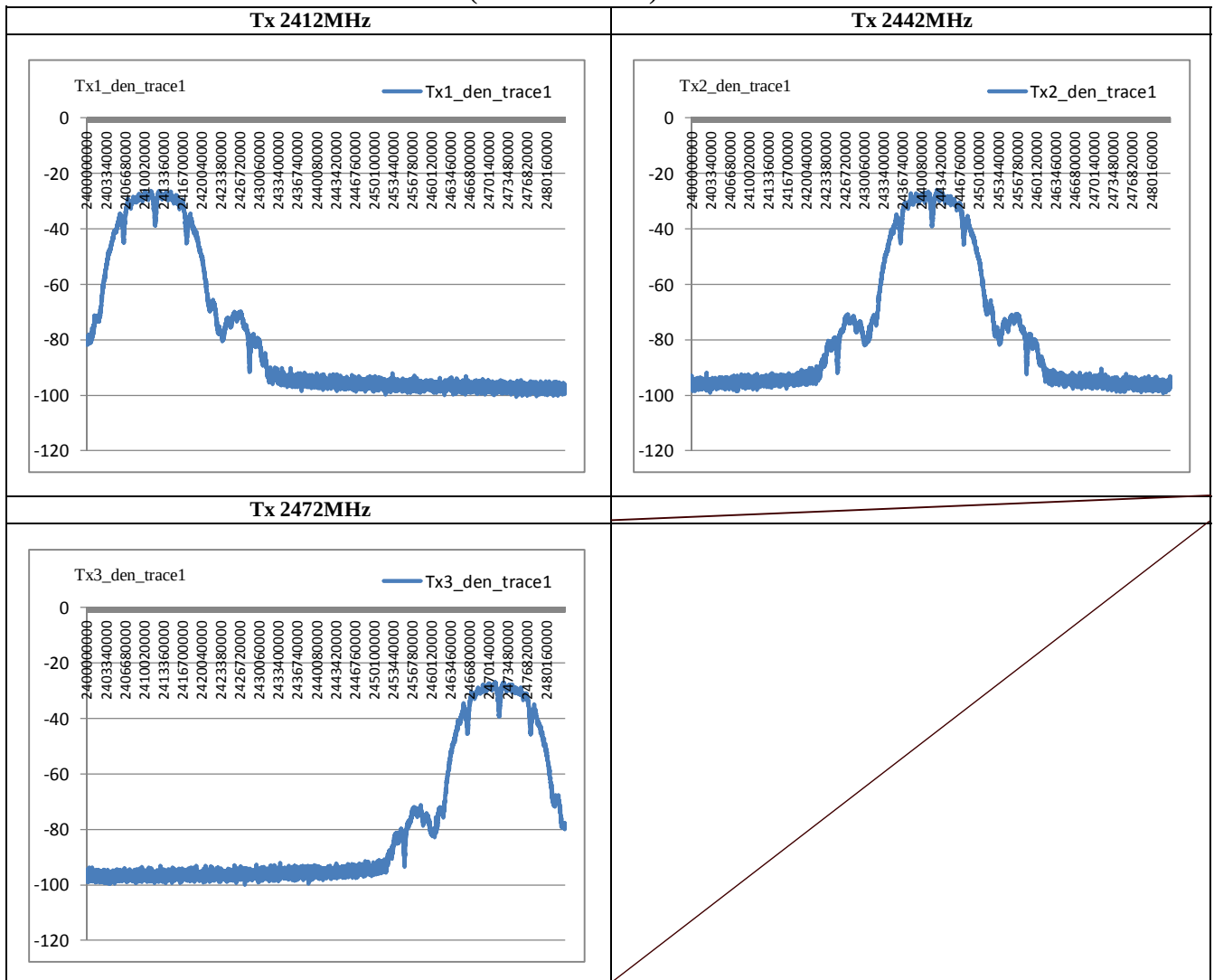
Test Condition	Ch	S/A	S/A	RF output	Result	Limit	Margin
Temp.	Volt.	Freq.	maximum reading	total power reading		10mW per 1MHz	
		[MHz]	[dBm/MHz]	[dBm]	[dBm/MHz]	[dBm/MHz]	[dB]
nom	nom	2412.00	-7.86	1.07	11.15	2.21	7.79
		2442.00	-8.26	0.61	10.57	1.70	8.30
		2472.00	-8.45	0.40	10.42	1.57	8.43

Sample Calculation:

Result [dBm/MHz] = RF output power [dBm] (*1)- (S/A total power reading [dBm] - S/A maximum reading [dBm/MHz])

(*1) Refer to Data of RF output power

(Reference chart)



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Data of Power Spectral Density (Reference measured value sheet(Low))

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	July 31, 2014	Regulation : EN300 328 Clause 5.3.3
Temperature / Humidity	26 deg.C , 47%RH	
Engineer	Shinichi Takano	
Serial No.	1406NK109	
Mode	IEEE802.11b	worst data mode : 1 [Mbps]
	Tx 2412 MHz	

Frequency [MHz]	Measured max value @ 1MHz [dBm/MHz]	Normalize value [dBm/MHz]
2401	-53.698	-43.622
2402	-45.483	-35.407
2403	-32.045	-21.969
2404	-23.809	-13.733
2405	-17.698	-7.622
2406	-16.988	-6.912
2407	-11.116	-1.040
2408	-9.644	0.432
2409	-8.705	1.372
2410	-8.097	1.979
2411	-7.873	2.203
2412	-8.800	1.276
2413	-7.861	2.215
2414	-8.202	1.874
2415	-8.701	1.376
2416	-9.712	0.364
2417	-11.289	-1.213
2418	-17.266	-7.190
2419	-18.199	-8.123
2420	-24.726	-14.650
2421	-33.708	-23.631
2422	-46.980	-36.904
2423	-49.478	-39.402
2424	-53.912	-43.836
2425	-52.301	-42.225
2426	-51.359	-41.283
2427	-51.319	-41.243
2428	-54.137	-44.061
2429	-60.204	-50.128
2430	-60.504	-50.427

Frequency [MHz]	Measured max value @ 1MHz [dBm/MHz]	Normalize value [dBm/MHz]
2431	-63.875	-53.799
2432	-69.739	-59.663
2433	-72.866	-62.790
2434	-73.437	-63.361
2435	-74.151	-64.075
2436	-74.314	-64.238
2437	-74.479	-64.403
2438	-74.510	-64.434
2439	-74.790	-64.714
2440	-74.804	-64.728
2441	-74.974	-64.898
2442	-75.197	-65.120
2443	-74.998	-64.922
2444	-75.311	-65.235
2445	-75.554	-65.478
2446	-75.668	-65.592
2447	-75.710	-65.634
2448	-75.731	-65.654
2449	-75.735	-65.659
2450	-75.648	-65.572
2451	-75.689	-65.613
2452	-76.009	-65.933
2453	-76.034	-65.958
2454	-76.152	-66.076
2455	-76.323	-66.247
2456	-76.284	-66.208
2457	-76.353	-66.277
2458	-76.474	-66.398
2459	-76.533	-66.457
2460	-76.515	-66.439

Frequency [MHz]	Measured max value @ 1MHz [dBm/MHz]	Normalize value [dBm/MHz]
2461	-76.590	-66.514
2462	-76.588	-66.512
2463	-76.507	-66.431
2464	-76.546	-66.470
2465	-76.805	-66.729
2466	-76.862	-66.786
2467	-76.783	-66.707
2468	-76.758	-66.682
2469	-76.766	-66.690
2470	-76.907	-66.831
2471	-76.952	-66.876
2472	-76.944	-66.868
2473	-76.988	-66.912
2474	-77.200	-67.123
2475	-77.068	-66.992
2476	-77.055	-66.979
2477	-77.287	-67.211
2478	-77.218	-67.142
2479	-77.323	-67.247
2480	-77.338	-67.262
2481	-77.257	-67.181
2482	-77.194	-67.118
2483	-77.415	-67.339
2483.5	-80.621	-70.545

RF output power [dBm] (*1)
11.15 dBm (e.i.r.p.)
S/A total power reading [dBm]
(total 8350 points sum data)
1.07 dBm

Sample Calculation:

Normalize value [dBm/MHz] = RF output power [dBm] (*1)- (S/A total power reading [dBm] - Measured max value@1MHz [dBm/MHz])

(*1): Refer to Data of RF output power sheet.

(*2): Measured max. value @1MHz [dBm/MHz] was the maximum value in 100 data added up by 100 points.

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Data of Power Spectral Density (Reference measured value sheet(Middle))

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	July 31, 2014	Regulation : EN300 328 Clause 5.3.3
Temperature / Humidity	26 deg.C , 47%RH	
Engineer	Shinichi Takano	
Serial No.	1406NK109	
Mode	IEEE802.11b	worst data mode : 1 [Mbps]
	Tx 2442 MHz	

Frequency [MHz]	Measured max value @ 1MHz [dBm/MHz]	Normalize value [dBm/MHz]
2401	-75.968	-66.009
2402	-75.875	-65.916
2403	-75.801	-65.842
2404	-75.693	-65.734
2405	-75.608	-65.649
2406	-75.450	-65.491
2407	-75.372	-65.413
2408	-75.188	-65.229
2409	-75.109	-65.150
2410	-75.096	-65.137
2411	-75.038	-65.079
2412	-74.758	-64.799
2413	-74.764	-64.805
2414	-74.586	-64.627
2415	-74.493	-64.534
2416	-74.303	-64.344
2417	-74.253	-64.294
2418	-74.061	-64.102
2419	-73.789	-63.829
2420	-73.299	-63.340
2421	-73.050	-63.091
2422	-70.141	-60.182
2423	-64.370	-54.411
2424	-61.509	-51.550
2425	-61.178	-51.219
2426	-54.945	-44.986
2427	-52.492	-42.533
2428	-52.581	-42.622
2429	-53.802	-43.843
2430	-55.456	-45.497

Frequency [MHz]	Measured max value @ 1MHz [dBm/MHz]	Normalize value [dBm/MHz]
2431	-53.976	-44.017
2432	-46.103	-36.143
2433	-32.455	-22.496
2434	-24.084	-14.125
2435	-18.001	-8.042
2436	-17.345	-7.386
2437	-11.554	-1.595
2438	-9.989	-0.030
2439	-9.077	0.882
2440	-8.595	1.364
2441	-8.268	1.691
2442	-9.230	0.729
2443	-8.262	1.697
2444	-8.655	1.304
2445	-9.317	0.642
2446	-10.271	-0.312
2447	-11.850	-1.891
2448	-17.793	-7.834
2449	-18.746	-8.787
2450	-25.299	-15.340
2451	-34.290	-24.331
2452	-47.783	-37.824
2453	-50.367	-40.408
2454	-54.837	-44.878
2455	-53.257	-43.298
2456	-52.261	-42.302
2457	-52.165	-42.206
2458	-54.800	-44.841
2459	-60.761	-50.802
2460	-61.074	-51.115

Frequency [MHz]	Measured max value @ 1MHz [dBm/MHz]	Normalize value [dBm/MHz]
2461	-64.536	-54.577
2462	-69.922	-59.963
2463	-73.082	-63.122
2464	-73.524	-63.565
2465	-73.861	-63.902
2466	-74.563	-64.604
2467	-74.533	-64.573
2468	-74.768	-64.809
2469	-74.783	-64.824
2470	-75.120	-65.161
2471	-75.106	-65.147
2472	-75.129	-65.170
2473	-75.493	-65.534
2474	-75.686	-65.726
2475	-75.937	-65.978
2476	-75.848	-65.889
2477	-75.786	-65.827
2478	-75.959	-65.999
2479	-75.945	-65.986
2480	-76.065	-66.106
2481	-76.091	-66.132
2482	-76.179	-66.220
2483	-76.399	-66.440
2483.5	-79.161	-69.202

RF output power [dBm] (*1)
10.57 dBm (e.i.r.p.)
S/A total power reading [dBm]
(total 8350 points sum data)
0.61 dBm

Sample Calculation:

Normalize value [dBm/MHz] = RF output power [dBm] (*1)- (S/A total power reading [dBm] - Measured max value@1MHz [dBm/MHz])

(*1): Refer to Data of RF output power sheet.

(*2): Measured max. value @1MHz [dBm/MHz] was the maximum value in 100 data added up by 100 points.

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Data of Power Spectral Density (Reference measured value sheet(High))

Test place UL Japan, Inc. Shonan EMC Lab. No.5 Shielded Room
 Date July 31, 2014 Regulation : EN300 328 Clause 5.3.3
 Temperature / Humidity 26 deg.C , 47%RH
 Engineer Shinichi Takano
 Serial No. 1406NK109
 Mode IEEE802.11b worst data mode : 1 [Mbps]
 Tx 2472 MHz

Frequency [MHz]	Measured max value @ 1MHz [dBm/MHz]	Normalize value [dBm/MHz]
2401	-76.648	-66.630
2402	-76.660	-66.641
2403	-76.903	-66.884
2404	-76.917	-66.898
2405	-76.694	-66.675
2406	-76.635	-66.617
2407	-76.586	-66.567
2408	-76.660	-66.641
2409	-76.547	-66.528
2410	-76.591	-66.572
2411	-76.551	-66.532
2412	-76.526	-66.508
2413	-76.504	-66.485
2414	-76.494	-66.475
2415	-76.384	-66.365
2416	-76.310	-66.291
2417	-76.422	-66.403
2418	-76.265	-66.247
2419	-76.125	-66.106
2420	-76.341	-66.322
2421	-76.330	-66.312
2422	-76.158	-66.139
2423	-76.251	-66.232
2424	-76.329	-66.310
2425	-76.275	-66.257
2426	-76.113	-66.094
2427	-76.132	-66.113
2428	-75.948	-65.929
2429	-75.926	-65.907
2430	-75.887	-65.868

Frequency [MHz]	Measured max value @ 1MHz [dBm/MHz]	Normalize value [dBm/MHz]
2431	-75.869	-65.850
2432	-75.893	-65.874
2433	-75.824	-65.806
2434	-75.653	-65.634
2435	-75.678	-65.659
2436	-75.675	-65.656
2437	-75.610	-65.591
2438	-75.734	-65.715
2439	-75.623	-65.605
2440	-75.527	-65.508
2441	-75.550	-65.532
2442	-75.281	-65.262
2443	-75.292	-65.273
2444	-75.189	-65.170
2445	-75.073	-65.054
2446	-74.840	-64.821
2447	-74.604	-64.585
2448	-74.482	-64.463
2449	-74.289	-64.271
2450	-74.034	-64.016
2451	-73.463	-63.444
2452	-70.800	-60.781
2453	-65.116	-55.097
2454	-62.200	-52.182
2455	-61.939	-51.920
2456	-55.781	-45.762
2457	-53.343	-43.324
2458	-53.433	-43.414
2459	-54.614	-44.595
2460	-56.310	-46.291

Frequency [MHz]	Measured max value @ 1MHz [dBm/MHz]	Normalize value [dBm/MHz]
2461	-54.539	-44.520
2462	-46.620	-36.601
2463	-32.747	-22.729
2464	-24.322	-14.303
2465	-18.181	-8.162
2466	-17.506	-7.487
2467	-11.724	-1.705
2468	-10.243	-0.224
2469	-9.287	0.732
2470	-8.768	1.251
2471	-8.453	1.566
2472	-9.476	0.542
2473	-8.542	1.477
2474	-8.902	1.116
2475	-9.528	0.490
2476	-10.427	-0.409
2477	-12.073	-2.054
2478	-18.041	-8.022
2479	-19.001	-8.983
2480	-25.573	-15.555
2481	-34.445	-24.427
2482	-48.213	-38.194
2483	-51.006	-40.988
2483.5	-61.734	-51.715

RF output power [dBm] (*1)

10.42 dBm (e.i.r.p.)

S/A total power reading [dBm]

(total 8350 points sum data)

0.40 dBm

Sample Calculation:

Normalize value [dBm/MHz] = RF output power [dBm] (*1)- (S/A total power reading [dBm] - Measured max value@1MHz [dBm/MHz])

(*1): Refer to Data of RF output power sheet.

(*2): Measured max. value @1MHz [dBm/MHz] was the maximum value in 100 data added up by 100 points.

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Data of Power Spectral Density

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	July 31, 2014	Regulation : EN300 328 Clause 5.3.3
Temperature / Humidity	26 deg.C , 47%RH	
Engineer	Shinichi Takano	
Serial No.	1406NK109	
Mode	IEEE802.11g	worst data mode : 6 [Mbps]

(* S/A: Spectrum Analyzer)

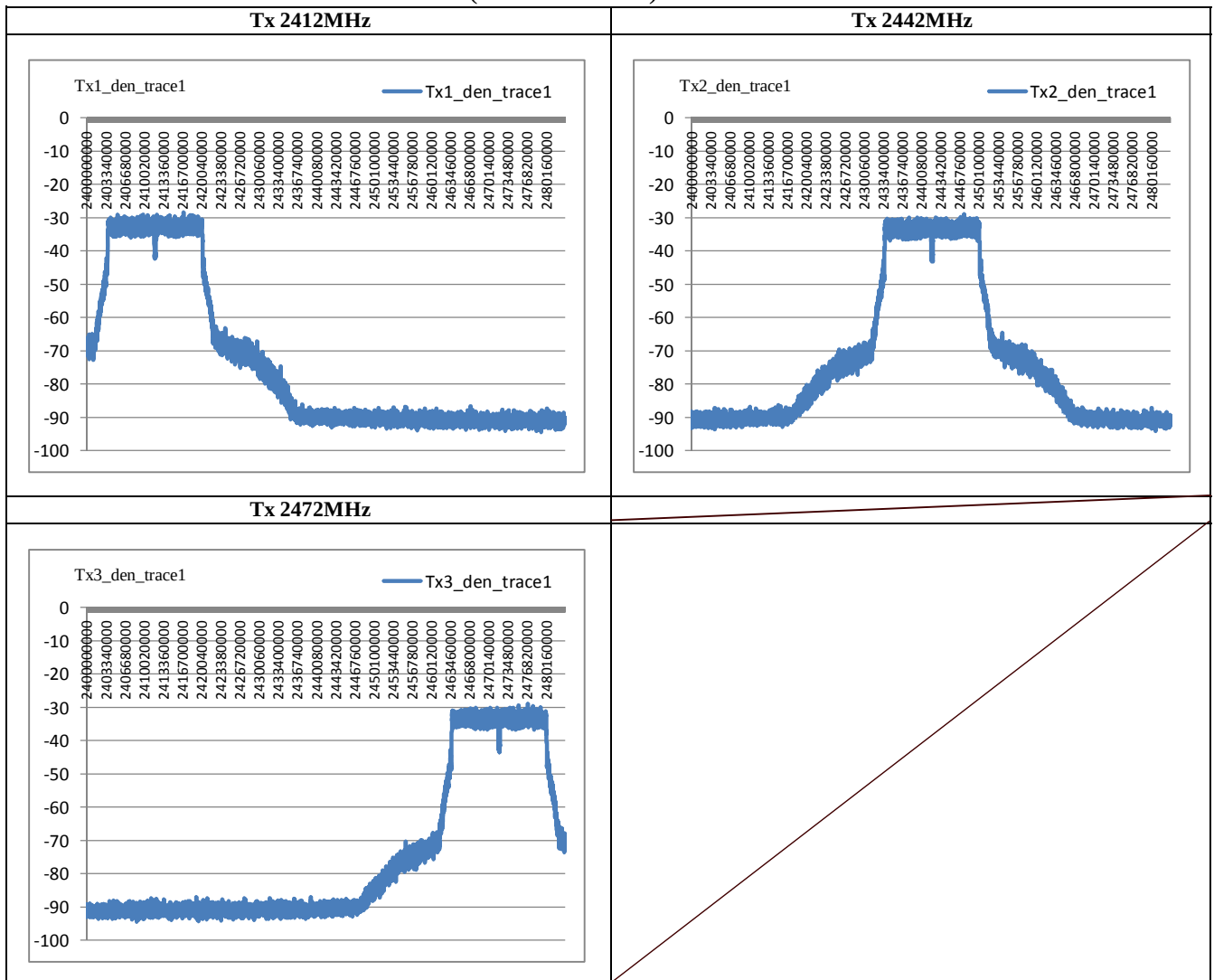
Test Condition	Ch	S/A	S/A	RF output	Result	Limit	Margin
Temp.	Volt.	Freq.	maximum reading	total power reading		10mW per 1MHz	
		[MHz]	[dBm/MHz]	[dBm]	[dBm/MHz]	[dBm/MHz]	[dB]
nom	nom	2412.00	-11.79	-0.10	8.91	-2.78	10.00
		2442.00	-12.53	-0.78	8.60	-3.15	10.00
		2472.00	-12.66	-0.91	8.31	-3.44	10.00

Sample Calculation:

Result [dBm/MHz] = RF output power [dBm] (*1) - (S/A total power reading [dBm] - S/A maximum reading [dBm/MHz])

(*1) Refer to Data of RF output power

(Reference chart)



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Data of Power Spectral Density (Reference measured value sheet(Low))

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	July 31, 2014	Regulation : EN300 328 Clause 5.3.3
Temperature / Humidity	26 deg.C , 47%RH	
Engineer	Shinichi Takano	
Serial No.	1406NK109	
Mode	IEEE802.11g	worst data mode : 6 [Mbps]
	Tx 2412 MHz	

Frequency [MHz]	Measured max value @ 1MHz [dBm/MHz]	Normalize value [dBm/MHz]
2401	-45.668	-36.653
2402	-35.193	-26.178
2403	-17.491	-8.477
2404	-12.483	-3.468
2405	-12.204	-3.189
2406	-11.974	-2.959
2407	-11.978	-2.963
2408	-12.229	-3.214
2409	-12.198	-3.184
2410	-12.080	-3.065
2411	-11.968	-2.953
2412	-12.451	-3.437
2413	-11.897	-2.882
2414	-11.919	-2.904
2415	-12.206	-3.191
2416	-12.163	-3.148
2417	-11.873	-2.858
2418	-11.792	-2.777
2419	-11.893	-2.878
2420	-12.428	-3.413
2421	-17.918	-8.903
2422	-35.450	-26.435
2423	-45.191	-36.176
2424	-47.038	-38.023
2425	-47.866	-38.851
2426	-48.577	-39.562
2427	-49.444	-40.429
2428	-49.960	-40.945
2429	-50.787	-41.772
2430	-52.003	-42.988

Frequency [MHz]	Measured max value @ 1MHz [dBm/MHz]	Normalize value [dBm/MHz]
2431	-54.106	-45.092
2432	-55.896	-46.881
2433	-57.755	-48.740
2434	-59.606	-50.591
2435	-62.248	-53.233
2436	-65.588	-56.573
2437	-68.712	-59.697
2438	-69.334	-60.319
2439	-69.728	-60.713
2440	-69.770	-60.755
2441	-69.703	-60.688
2442	-69.833	-60.818
2443	-70.179	-61.164
2444	-70.040	-61.025
2445	-70.111	-61.097
2446	-70.039	-61.025
2447	-70.002	-60.987
2448	-70.305	-61.290
2449	-70.256	-61.241
2450	-70.366	-61.351
2451	-70.271	-61.256
2452	-70.330	-61.315
2453	-70.189	-61.175
2454	-70.206	-61.191
2455	-70.513	-61.498
2456	-70.433	-61.418
2457	-70.615	-61.600
2458	-70.731	-61.716
2459	-70.598	-61.583
2460	-70.587	-61.572

Frequency [MHz]	Measured max value @ 1MHz [dBm/MHz]	Normalize value [dBm/MHz]
2461	-70.539	-61.524
2462	-70.819	-61.804
2463	-70.918	-61.903
2464	-70.620	-61.605
2465	-70.566	-61.552
2466	-70.788	-61.773
2467	-70.769	-61.754
2468	-70.725	-61.711
2469	-70.732	-61.717
2470	-70.699	-61.684
2471	-70.754	-61.739
2472	-70.752	-61.737
2473	-70.805	-61.790
2474	-70.885	-61.870
2475	-70.770	-61.755
2476	-70.751	-61.736
2477	-70.942	-61.927
2478	-71.008	-61.993
2479	-71.024	-62.009
2480	-70.836	-61.821
2481	-70.836	-61.821
2482	-70.862	-61.848
2483	-70.999	-61.985
2483.5	-74.079	-65.064

RF output power [dBm] (*1)

8.91 dBm (e.i.r.p.)

S/A total power reading [dBm]

(total 8350 points sum data)

-0.10 dBm

Sample Calculation:

$$\text{Normalize value [dBm/MHz]} = \text{RF output power [dBm]} (*1) - (\text{S/A total power reading [dBm]} - \text{Measured max value@1MHz [dBm/MHz]})$$

(*1): Refer to Data of RF output power sheet.

(*2): Measured max. value @1MHz [dBm/MHz] was the maximum value in 100 data added up by 100 points.

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Data of Power Spectral Density (Reference measured value sheet(Middle))

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	July 31, 2014	Regulation : EN300 328 Clause 5.3.3
Temperature / Humidity	26 deg.C , 47%RH	
Engineer	Shinichi Takano	
Serial No.	1406NK109	
Mode	IEEE802.11g	worst data mode : 6 [Mbps]
	Tx 2442 MHz	

Frequency [MHz]	Measured max value @ 1MHz [dBm/MHz]	Normalize value [dBm/MHz]
2401	-70.641	-61.262
2402	-70.615	-61.236
2403	-70.403	-61.023
2404	-70.293	-60.913
2405	-70.424	-61.045
2406	-70.466	-61.087
2407	-70.270	-60.890
2408	-70.269	-60.889
2409	-70.186	-60.806
2410	-69.908	-60.529
2411	-70.041	-60.661
2412	-70.056	-60.676
2413	-70.107	-60.728
2414	-69.864	-60.485
2415	-69.812	-60.432
2416	-69.691	-60.312
2417	-69.216	-59.836
2418	-67.287	-57.907
2419	-65.028	-55.649
2420	-63.110	-53.730
2421	-61.091	-51.711
2422	-59.163	-49.783
2423	-57.600	-48.221
2424	-55.270	-45.890
2425	-54.044	-44.664
2426	-53.457	-44.078
2427	-52.922	-43.542
2428	-52.042	-42.662
2429	-51.287	-41.907
2430	-50.575	-41.196

Frequency [MHz]	Measured max value @ 1MHz [dBm/MHz]	Normalize value [dBm/MHz]
2431	-47.364	-37.985
2432	-35.906	-26.526
2433	-18.011	-8.632
2434	-12.995	-3.615
2435	-12.799	-3.419
2436	-12.665	-3.286
2437	-12.742	-3.362
2438	-12.964	-3.584
2439	-13.056	-3.676
2440	-12.658	-3.279
2441	-12.551	-3.171
2442	-13.127	-3.748
2443	-12.598	-3.218
2444	-12.717	-3.338
2445	-12.864	-3.485
2446	-12.742	-3.363
2447	-12.561	-3.181
2448	-12.529	-3.149
2449	-12.624	-3.245
2450	-12.972	-3.592
2451	-18.365	-8.985
2452	-36.150	-26.770
2453	-46.927	-37.548
2454	-49.176	-39.797
2455	-49.838	-40.459
2456	-50.629	-41.250
2457	-51.344	-41.965
2458	-51.788	-42.409
2459	-52.658	-43.278
2460	-53.518	-44.138

Frequency [MHz]	Measured max value @ 1MHz [dBm/MHz]	Normalize value [dBm/MHz]
2461	-55.815	-46.436
2462	-57.537	-48.158
2463	-59.282	-49.902
2464	-61.049	-51.669
2465	-63.623	-54.243
2466	-66.506	-57.126
2467	-69.263	-59.883
2468	-69.774	-60.395
2469	-69.920	-60.541
2470	-70.316	-60.936
2471	-70.339	-60.959
2472	-70.453	-61.073
2473	-70.468	-61.089
2474	-70.648	-61.269
2475	-70.555	-61.175
2476	-70.639	-61.260
2477	-70.760	-61.380
2478	-70.788	-61.409
2479	-70.868	-61.489
2480	-70.954	-61.575
2481	-71.022	-61.642
2482	-71.009	-61.629
2483	-70.960	-61.581
2483.5	-74.151	-64.772

RF output power [dBm] (*1)

8.60 dBm (e.i.r.p.)

S/A total power reading [dBm]

(total 8350 points sum data)

-0.78 dBm

Sample Calculation:

Normalize value [dBm/MHz] = RF output power [dBm] (*1)- (S/A total power reading [dBm] - Measured max value@1MHz [dBm/MHz])

(*1): Refer to Data of RF output power sheet.

(*2): Measured max. value @1MHz [dBm/MHz] was the maximum value in 100 data added up by 100 points.

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Data of Power Spectral Density (Reference measured value sheet(High))

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	July 31, 2014	Regulation : EN300 328 Clause 5.3.3
Temperature / Humidity	26 deg.C , 47%RH	
Engineer	Shinichi Takano	
Serial No.	1406NK109	
Mode	IEEE802.11g	worst data mode : 6 [Mbps]
	Tx 2472 MHz	

Frequency [MHz]	Measured max value @ 1MHz [dBm/MHz]	Normalize value [dBm/MHz]
2401	-71.012	-61.792
2402	-71.023	-61.804
2403	-70.972	-61.753
2404	-70.999	-61.780
2405	-70.915	-61.696
2406	-70.892	-61.673
2407	-70.938	-61.719
2408	-70.889	-61.670
2409	-70.973	-61.753
2410	-70.803	-61.584
2411	-70.775	-61.556
2412	-70.851	-61.631
2413	-70.876	-61.657
2414	-70.957	-61.737
2415	-70.860	-61.641
2416	-70.619	-61.400
2417	-70.623	-61.404
2418	-70.692	-61.472
2419	-70.654	-61.435
2420	-70.894	-61.675
2421	-70.706	-61.487
2422	-70.736	-61.517
2423	-70.622	-61.403
2424	-70.626	-61.407
2425	-70.965	-61.746
2426	-70.957	-61.738
2427	-70.505	-61.286
2428	-70.445	-61.226
2429	-70.903	-61.684
2430	-70.700	-61.481

Frequency [MHz]	Measured max value @ 1MHz [dBm/MHz]	Normalize value [dBm/MHz]
2431	-70.598	-61.379
2432	-70.537	-61.318
2433	-70.525	-61.306
2434	-70.753	-61.533
2435	-70.776	-61.557
2436	-70.517	-61.298
2437	-70.503	-61.283
2438	-70.820	-61.601
2439	-70.577	-61.358
2440	-70.522	-61.303
2441	-70.472	-61.253
2442	-70.386	-61.166
2443	-70.380	-61.161
2444	-70.356	-61.137
2445	-70.197	-60.977
2446	-70.097	-60.878
2447	-69.832	-60.612
2448	-67.948	-58.729
2449	-65.823	-56.603
2450	-63.747	-54.527
2451	-62.333	-53.114
2452	-60.447	-51.228
2453	-58.728	-49.509
2454	-56.563	-47.344
2455	-55.447	-46.228
2456	-54.827	-45.608
2457	-54.160	-44.941
2458	-53.137	-43.918
2459	-52.551	-43.332
2460	-51.571	-42.352

Frequency [MHz]	Measured max value @ 1MHz [dBm/MHz]	Normalize value [dBm/MHz]
2461	-47.893	-38.674
2462	-36.032	-26.812
2463	-18.084	-8.865
2464	-13.220	-4.001
2465	-12.834	-3.615
2466	-12.664	-3.444
2467	-12.686	-3.467
2468	-12.955	-3.735
2469	-12.922	-3.703
2470	-12.714	-3.495
2471	-12.773	-3.554
2472	-13.314	-4.095
2473	-12.739	-3.519
2474	-12.928	-3.709
2475	-13.120	-3.901
2476	-12.822	-3.602
2477	-12.703	-3.484
2478	-12.714	-3.495
2479	-12.855	-3.636
2480	-13.326	-4.106
2481	-18.667	-9.448
2482	-36.477	-27.258
2483	-47.487	-38.268
2483.5	-53.168	-43.949

RF output power [dBm] (*1)

8.31 dBm (e.i.r.p.)

S/A total power reading [dBm]

(total 8350 points sum data)

-0.91 dBm

Sample Calculation:

$$\text{Normalize value [dBm/MHz]} = \text{RF output power [dBm]} (*1) - (\text{S/A total power reading [dBm]} - \text{Measured max value@1MHz [dBm/MHz]})$$

(*1): Refer to Data of RF output power sheet.

(*2): Measured max. value @1MHz [dBm/MHz] was the maximum value in 100 data added up by 100 points.

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Data of Power Spectral Density

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	July 30, 2014	Regulation : EN300 328 Clause 5.3.3
Temperature / Humidity	26 deg.C , 51%RH	
Engineer	Shinichi Takano	
Serial No.	1406NK109	
Mode	IEEE802.11n(HT20)	worst data mode : 0 (MCS)

(* S/A: Spectrum Analyzer)

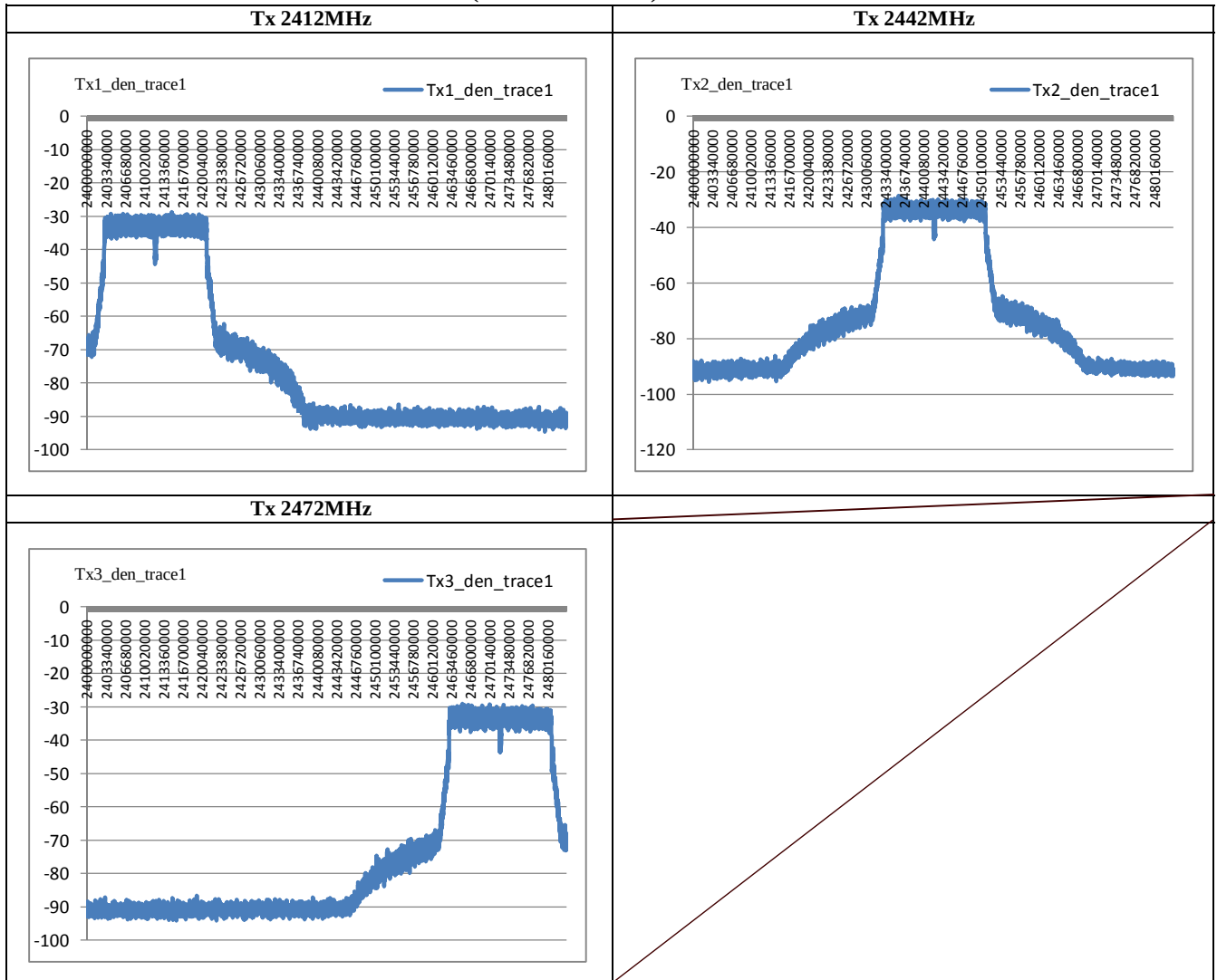
Test Condition	Ch	S/A	S/A	RF output	Result	Limit	Margin
Temp.	Volt.	Freq.	maximum reading	total power reading		10mW per 1MHz	
		[MHz]	[dBm/MHz]	[dBm]	[dBm/MHz]	[dBm/MHz]	[dB]
nom	nom	2412.00	-12.18	-0.13	9.10	-2.95	10.00
		2442.00	-12.86	-0.82	8.55	-3.48	10.00
		2472.00	-12.47	-0.61	8.46	-3.40	10.00

Sample Calculation:

Result [dBm/MHz] = RF output power [dBm] (*1) - (S/A total power reading [dBm] - S/A maximum reading [dBm/MHz])

(*1) Refer to Data of RF output power

(Reference chart)



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Data of Power Spectral Density (Reference measured value sheet(Low))

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	July 30, 2014	Regulation : EN300 328 Clause 5.3.3
Temperature / Humidity	26 deg.C , 51%RH	
Engineer	Shinichi Takano	
Serial No.	1406NK109	
Mode	IEEE802.11n(HT20)	worst data mode : 0 (MCS)
	Tx 2412 MHz	

Frequency [MHz]	Measured max value @ 1MHz [dBm/MHz]	Normalize value [dBm/MHz]
2401	-44.775	-35.548
2402	-29.578	-20.351
2403	-13.198	-3.972
2404	-12.762	-3.535
2405	-12.396	-3.169
2406	-12.296	-3.069
2407	-12.286	-3.059
2408	-12.591	-3.364
2409	-12.402	-3.175
2410	-12.341	-3.114
2411	-12.362	-3.135
2412	-12.928	-3.701
2413	-12.356	-3.129
2414	-12.274	-3.047
2415	-12.293	-3.066
2416	-12.479	-3.252
2417	-12.192	-2.965
2418	-12.216	-2.989
2419	-12.181	-2.954
2420	-12.713	-3.486
2421	-13.279	-4.052
2422	-29.770	-20.543
2423	-44.673	-35.447
2424	-47.543	-38.316
2425	-48.425	-39.198
2426	-48.540	-39.313
2427	-49.506	-40.279
2428	-49.987	-40.760
2429	-50.918	-41.691
2430	-51.631	-42.404

Frequency [MHz]	Measured max value @ 1MHz [dBm/MHz]	Normalize value [dBm/MHz]
2431	-52.973	-43.746
2432	-53.468	-44.241
2433	-54.554	-45.327
2434	-56.714	-47.487
2435	-58.448	-49.222
2436	-60.208	-50.981
2437	-63.113	-53.886
2438	-66.491	-57.264
2439	-70.039	-60.812
2440	-69.652	-60.425
2441	-69.469	-60.242
2442	-69.618	-60.391
2443	-69.685	-60.458
2444	-69.903	-60.676
2445	-69.850	-60.623
2446	-70.038	-60.811
2447	-70.083	-60.856
2448	-70.301	-61.074
2449	-70.161	-60.934
2450	-70.248	-61.022
2451	-70.290	-61.063
2452	-70.358	-61.131
2453	-70.283	-61.056
2454	-70.421	-61.194
2455	-70.405	-61.178
2456	-70.373	-61.146
2457	-70.239	-61.012
2458	-70.299	-61.072
2459	-70.291	-61.064
2460	-70.291	-61.064

Frequency [MHz]	Measured max value @ 1MHz [dBm/MHz]	Normalize value [dBm/MHz]
2461	-70.397	-61.170
2462	-70.502	-61.275
2463	-70.489	-61.262
2464	-70.477	-61.250
2465	-70.456	-61.230
2466	-70.458	-61.232
2467	-70.525	-61.298
2468	-70.565	-61.338
2469	-70.514	-61.287
2470	-70.482	-61.255
2471	-70.592	-61.365
2472	-70.585	-61.358
2473	-70.609	-61.382
2474	-70.593	-61.366
2475	-70.553	-61.326
2476	-70.774	-61.548
2477	-70.718	-61.491
2478	-70.566	-61.339
2479	-70.700	-61.473
2480	-70.756	-61.529
2481	-70.787	-61.560
2482	-70.814	-61.587
2483	-70.749	-61.522
2483.5	-73.847	-64.620

RF output power [dBm] (*1)

9.10 dBm (e.i.r.p.)

S/A total power reading [dBm]

(total 8350 points sum data)

-0.13 dBm

Sample Calculation:

$$\text{Normalize value [dBm/MHz]} = \text{RF output power [dBm]} (*1) - (\text{S/A total power reading [dBm]} - \text{Measured max value@1MHz [dBm/MHz]})$$

(*1): Refer to Data of RF output power sheet.

(*2): Measured max. value @1MHz [dBm/MHz] was the maximum value in 100 data added up by 100 points.

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Data of Power Spectral Density (Reference measured value sheet(Middle))

Test place UL Japan, Inc. Shonan EMC Lab. No.5 Shielded Room
 Date July 30, 2014 Regulation : EN300 328 Clause 5.3.3
 Temperature / Humidity 26 deg.C , 51%RH
 Engineer Shinichi Takano
 Serial No. 1406NK109
 Mode IEEE802.11n(HT20) worst data mode : 0 (MCS)
 Tx 2442 MHz

Frequency [MHz]	Measured max value @ 1MHz [dBm/MHz]	Normalize value [dBm/MHz]
2401	-71.350	-61.976
2402	-71.308	-61.933
2403	-71.051	-61.677
2404	-71.056	-61.682
2405	-71.095	-61.721
2406	-71.014	-61.640
2407	-70.941	-61.566
2408	-70.984	-61.610
2409	-70.865	-61.490
2410	-70.819	-61.445
2411	-70.782	-61.408
2412	-70.641	-61.267
2413	-70.631	-61.257
2414	-70.509	-61.135
2415	-70.445	-61.070
2416	-68.266	-58.892
2417	-65.782	-56.408
2418	-63.384	-54.010
2419	-61.915	-52.541
2420	-59.659	-50.284
2421	-58.420	-49.046
2422	-57.087	-47.713
2423	-56.323	-46.949
2424	-55.521	-46.147
2425	-54.256	-44.882
2426	-53.373	-43.998
2427	-52.637	-43.263
2428	-52.241	-42.866
2429	-51.856	-42.482
2430	-51.243	-41.869

Frequency [MHz]	Measured max value @ 1MHz [dBm/MHz]	Normalize value [dBm/MHz]
2431	-46.042	-36.668
2432	-30.092	-20.718
2433	-13.672	-4.298
2434	-13.261	-3.887
2435	-12.939	-3.565
2436	-12.947	-3.573
2437	-12.969	-3.594
2438	-13.325	-3.951
2439	-13.285	-3.911
2440	-13.128	-3.754
2441	-13.058	-3.684
2442	-13.654	-4.280
2443	-13.044	-3.670
2444	-13.036	-3.662
2445	-13.096	-3.722
2446	-13.172	-3.798
2447	-12.856	-3.482
2448	-12.966	-3.592
2449	-12.978	-3.604
2450	-13.394	-4.020
2451	-13.937	-4.563
2452	-30.562	-21.187
2453	-46.024	-36.650
2454	-49.629	-40.255
2455	-50.631	-41.257
2456	-50.609	-41.235
2457	-51.221	-41.847
2458	-51.874	-42.500
2459	-52.892	-43.518
2460	-53.621	-44.247

Frequency [MHz]	Measured max value @ 1MHz [dBm/MHz]	Normalize value [dBm/MHz]
2461	-54.831	-45.456
2462	-55.597	-46.223
2463	-56.155	-46.781
2464	-57.876	-48.502
2465	-60.125	-50.751
2466	-61.760	-52.386
2467	-64.354	-54.979
2468	-67.132	-57.758
2469	-69.691	-60.317
2470	-70.116	-60.742
2471	-69.925	-60.551
2472	-70.179	-60.804
2473	-70.303	-60.929
2474	-70.403	-61.029
2475	-70.511	-61.137
2476	-70.675	-61.301
2477	-70.732	-61.357
2478	-70.842	-61.468
2479	-70.912	-61.537
2480	-70.861	-61.487
2481	-70.845	-61.471
2482	-70.837	-61.463
2483	-71.083	-61.709
2483.5	-74.376	-65.002

RF output power [dBm] (*1)

8.55 dBm (e.i.r.p.)

S/A total power reading [dBm]

(total 8350 points sum data)

-0.82 dBm

Sample Calculation:

Normalize value [dBm/MHz] = RF output power [dBm] (*1)- (S/A total power reading [dBm] - Measured max value@1MHz [dBm/MHz])

(*1): Refer to Data of RF output power sheet.

(*2): Measured max. value @1MHz [dBm/MHz] was the maximum value in 100 data added up by 100 points.

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Data of Power Spectral Density (Reference measured value sheet(High))

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	July 30, 2014	Regulation : EN300 328 Clause 5.3.3
Temperature / Humidity	26 deg.C , 51%RH	
Engineer	Shinichi Takano	
Serial No.	1406NK109	
Mode	IEEE802.11n(HT20)	worst data mode : 0 (MCS)
	Tx 2472 MHz	

Frequency [MHz]	Measured max value @ 1MHz [dBm/MHz]	Normalize value [dBm/MHz]
2401	-70.792	-61.724
2402	-70.587	-61.519
2403	-70.568	-61.501
2404	-70.758	-61.691
2405	-70.877	-61.810
2406	-70.907	-61.840
2407	-70.752	-61.685
2408	-70.844	-61.776
2409	-70.727	-61.660
2410	-70.729	-61.662
2411	-70.615	-61.548
2412	-70.609	-61.541
2413	-70.538	-61.471
2414	-70.545	-61.477
2415	-70.701	-61.634
2416	-70.722	-61.655
2417	-70.784	-61.717
2418	-70.687	-61.619
2419	-70.575	-61.507
2420	-70.568	-61.501
2421	-70.599	-61.531
2422	-70.620	-61.552
2423	-70.574	-61.507
2424	-70.786	-61.719
2425	-70.654	-61.587
2426	-70.516	-61.449
2427	-70.551	-61.484
2428	-70.752	-61.684
2429	-70.647	-61.580
2430	-70.558	-61.490

Frequency [MHz]	Measured max value @ 1MHz [dBm/MHz]	Normalize value [dBm/MHz]
2431	-70.475	-61.408
2432	-70.481	-61.414
2433	-70.381	-61.313
2434	-70.555	-61.487
2435	-70.542	-61.475
2436	-70.615	-61.548
2437	-70.706	-61.639
2438	-70.656	-61.589
2439	-70.618	-61.551
2440	-70.527	-61.460
2441	-70.323	-61.256
2442	-70.221	-61.153
2443	-70.346	-61.278
2444	-70.226	-61.158
2445	-70.049	-60.982
2446	-67.913	-58.845
2447	-65.731	-56.664
2448	-63.344	-54.277
2449	-62.150	-53.083
2450	-59.920	-50.853
2451	-58.666	-49.599
2452	-57.172	-48.104
2453	-56.567	-47.499
2454	-55.700	-46.632
2455	-54.651	-45.583
2456	-53.516	-44.448
2457	-53.240	-44.173
2458	-52.334	-43.267
2459	-51.880	-42.813
2460	-51.056	-41.988

Frequency [MHz]	Measured max value @ 1MHz [dBm/MHz]	Normalize value [dBm/MHz]
2461	-45.895	-36.827
2462	-29.919	-20.851
2463	-13.373	-4.306
2464	-12.977	-3.910
2465	-12.573	-3.505
2466	-12.467	-3.400
2467	-12.613	-3.546
2468	-12.963	-3.895
2469	-12.994	-3.926
2470	-12.814	-3.747
2471	-12.812	-3.745
2472	-13.452	-4.384
2473	-12.846	-3.779
2474	-12.862	-3.795
2475	-12.910	-3.842
2476	-13.051	-3.983
2477	-12.727	-3.659
2478	-12.860	-3.792
2479	-13.008	-3.941
2480	-13.365	-4.298
2481	-13.950	-4.883
2482	-30.395	-21.328
2483	-45.838	-36.771
2483.5	-52.770	-43.703

RF output power [dBm] (*1)

8.46 dBm (e.i.r.p.)

S/A total power reading [dBm]

(total 8350 points sum data)

-0.61 dBm

Sample Calculation:

Normalize value [dBm/MHz] = RF output power [dBm] (*1)- (S/A total power reading [dBm] - Measured max value@1MHz [dBm/MHz])

(*1): Refer to Data of RF output power sheet.

(*2): Measured max. value @1MHz [dBm/MHz] was the maximum value in 100 data added up by 100 points.

UL Japan, Inc.
Shonan EMC Lab.

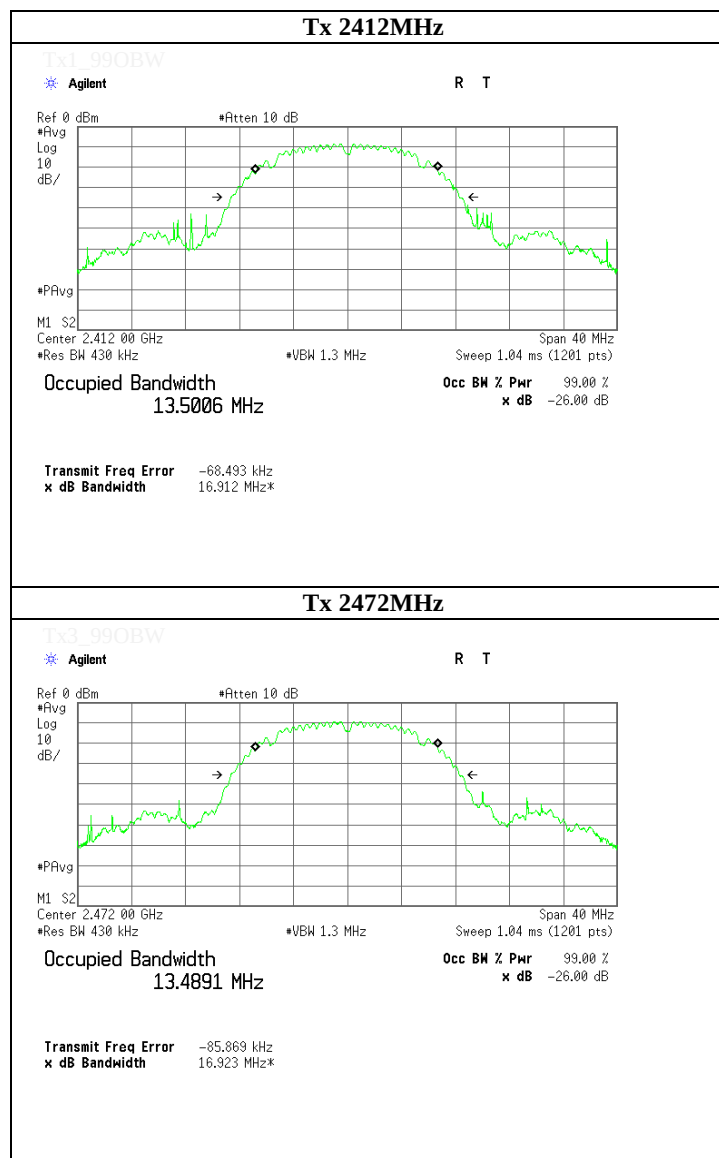
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	July 31, 2014	Regulation : EN300 328 Clause 5.3.8
Temperature / Humidity	26 deg.C , 47%RH	
Engineer	Shinichi Takano	
Serial No.	1406NK109	
Mode	IEEE802.11b	worst data mode : 1 [Mbps]

Frequency [MHz]	Occupied bandwidth [MHz]
2412.00	13.501
2472.00	13.489



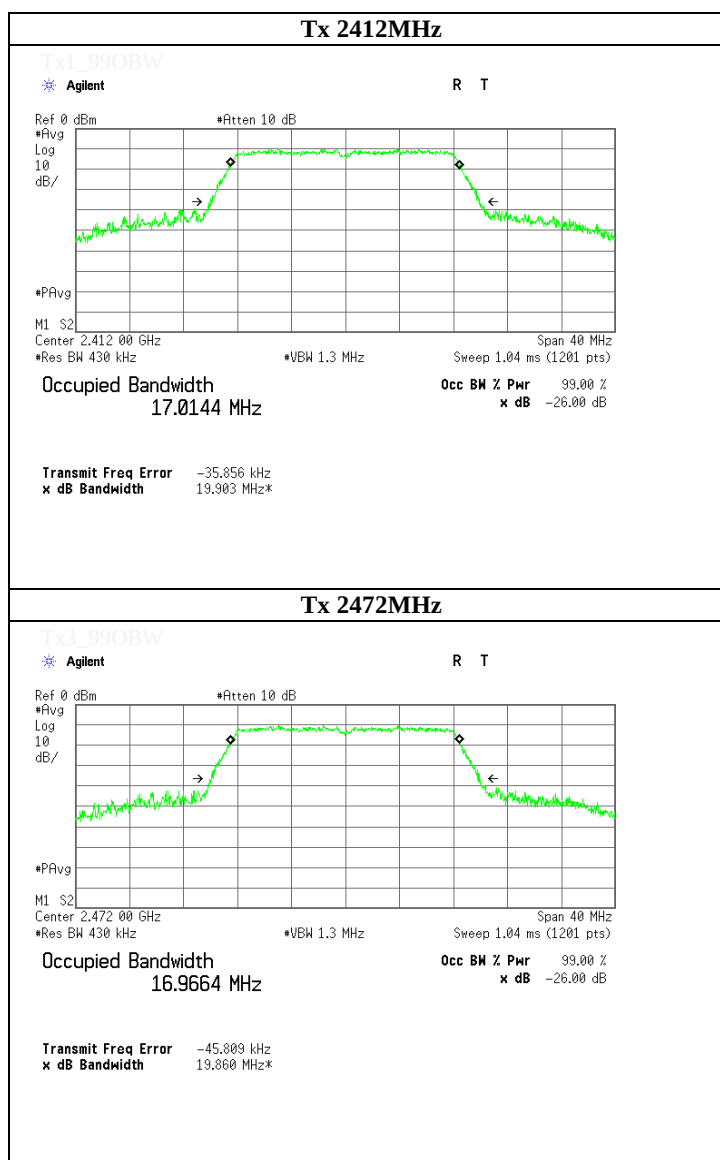
Data of Occupied Channel Bandwidth

Test place UL Japan, Inc. Shonan EMC Lab.
 Date July 31, 2014
 Temperature / Humidity 26 deg.C , 47%RH
 Engineer Shinichi Takano
 Serial No. 1406NK109
 Mode IEEE802.11g

No.5 Shielded Room
 Regulation : EN300 328 Clause 5.3.8

worst data mode : 6 [Mbps]

Frequency [MHz]	Occupied bandwidth [MHz]
2412.00	17.014
2472.00	16.966



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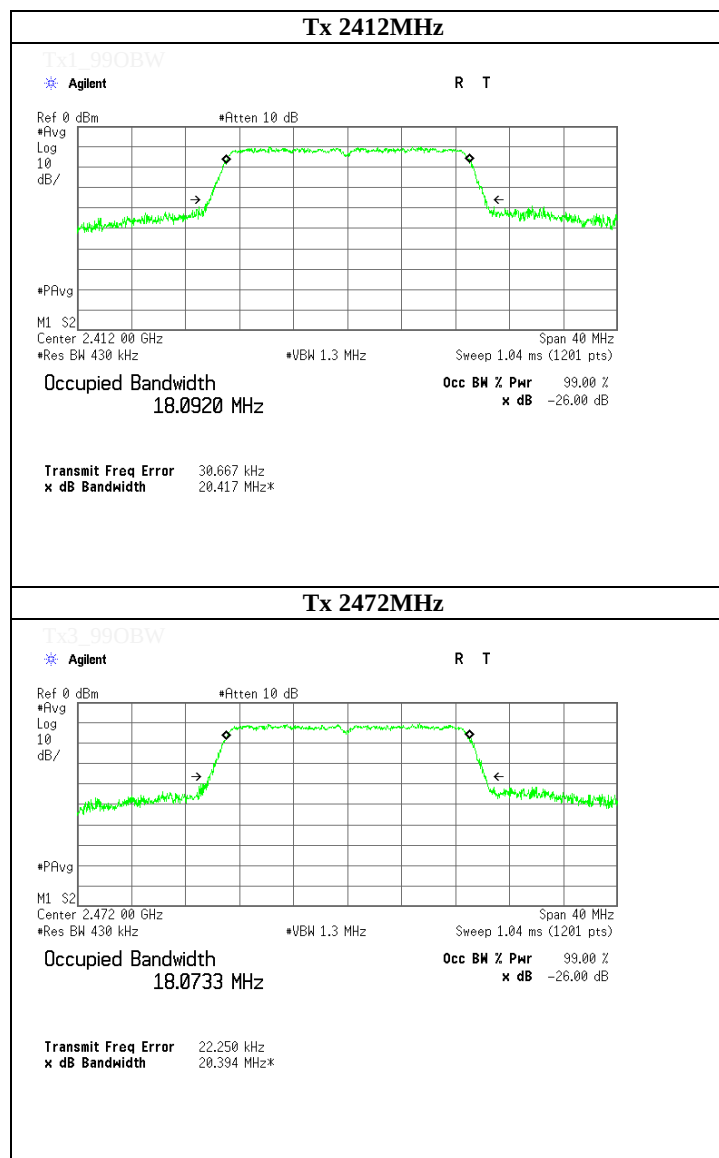
Data of Occupied Channel Bandwidth

Test place UL Japan, Inc. Shonan EMC Lab.
 Date July 30, 2014
 Temperature / Humidity 26 deg.C , 51%RH
 Engineer Shinichi Takano
 Serial No. 1406NK109
 Mode IEEE802.11n(HT20)

No.5 Shielded Room
 Regulation : EN300 328 Clause 5.3.8

worst data mode : 0 (MCS)

Frequency [MHz]	Occupied bandwidth [MHz]
2412.00	18.092
2472.00	18.073



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Data of Transmitter unwanted emissions in the out-of-band domain

Test place UL Japan, Inc. Shonan EMC Lab. No.5 Shielded Room
 Date July 31, 2014 August 1, 2014 Regulation : EN300 328 Clause 5.3.9
 Temperature / Humidity 26 deg.C , 47%RH 26 deg.C , 50%RH
 Engineer Shinichi Takano Shinichi Takano
 Serial No. 1406NK109
 Mode IEEE802.11b worst data mode : 1 [Mbps]
 (Tx 2412MHz for 2400MHz-2BW, 2400MHz-BW, Tx 2472MHz for 2483.5MHz+BW, 2483.5MHz+2BW)

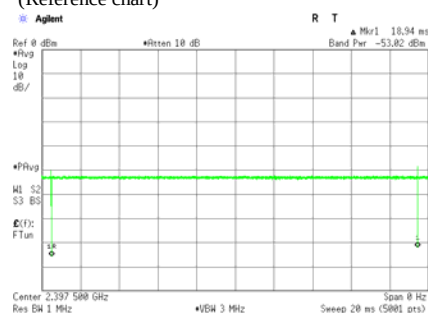
Test Conditions		value max.	Band power	Cable	Atten.	Antenna	Result	Limit	Margin	Remarks
Temp.	Volt.	frequency [MHz]	max. reading [dBm/MHz]	Loss [dB]	Loss [dB]	Gain [dBi]	[dBm/MHz]	[dBm/MHz]	[dB]	
Nom	Nom	2386.00	-76.65	1.83	9.90	-0.92	-65.84	-20.00	45.84	2400MHz-2BW
		2397.50	-53.02	1.83	9.90	-0.92	-42.21	-10.00	32.21	2400MHz-BW
		2486.00	-54.30	1.85	9.89	-0.92	-43.48	-10.00	33.48	2483.5MHz+BW
		2497.49	-76.86	1.85	9.89	-0.92	-66.04	-20.00	46.04	2483.5MHz+2BW
Min	Min	2386.00	-76.84	1.83	9.90	-0.92	-66.03	-20.00	46.03	2400MHz-2BW
		2397.50	-53.72	1.83	9.90	-0.92	-42.91	-10.00	32.91	2400MHz-BW
		2486.00	-55.01	1.85	9.89	-0.92	-44.19	-10.00	34.19	2483.5MHz+BW
		2497.49	-77.49	1.85	9.89	-0.92	-66.67	-20.00	46.67	2483.5MHz+2BW
	Max	2386.00	-75.71	1.83	9.90	-0.92	-64.90	-20.00	44.90	2400MHz-2BW
		2397.50	-55.91	1.83	9.90	-0.92	-45.10	-10.00	35.10	2400MHz-BW
		2486.00	-55.38	1.85	9.89	-0.92	-44.56	-10.00	34.56	2483.5MHz+BW
		2497.49	-76.11	1.85	9.89	-0.92	-65.29	-20.00	45.29	2483.5MHz+2BW
Max	Min	2386.00	-76.21	1.83	9.90	-0.92	-65.40	-20.00	45.40	2400MHz-2BW
		2397.50	-51.67	1.83	9.90	-0.92	-40.86	-10.00	30.86	2400MHz-BW
		2486.00	-53.13	1.85	9.89	-0.92	-42.31	-10.00	32.31	2483.5MHz+BW
		2497.49	-76.49	1.85	9.89	-0.92	-65.67	-20.00	45.67	2483.5MHz+2BW
	Max	2386.00	-76.33	1.83	9.90	-0.92	-65.52	-20.00	45.52	2400MHz-2BW
		2397.50	-55.69	1.83	9.90	-0.92	-44.88	-10.00	34.88	2400MHz-BW
		2486.00	-55.21	1.85	9.89	-0.92	-44.39	-10.00	34.39	2483.5MHz+BW
		2497.49	-76.43	1.85	9.89	-0.92	-65.61	-20.00	45.61	2483.5MHz+2BW

Sample Calculation:

Result = Band power reading + Cable Loss (including the cable(s) customer supplied) + Atten.Loss + Antenna Gain

*Above test result was maximum value on each 1BW.

(Reference chart)



* Test Conditions is refer to the sheet of RF output power.
(mode: Tx, IEEE802.11b)

UL Japan, Inc.

Shonan EMC Lab.

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Data of Transmitter unwanted emissions in the out-of-band domain

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room	
Date	July 31, 2014	August 1, 2014	Regulation : EN300 328 Clause 5.3.9
Temperature / Humidity	26 deg.C , 47%RH	26 deg.C , 50%RH	
Engineer	Shinichi Takano	Shinichi Takano	
Serial No.	1406NK109		
Mode	IEEE802.11g	worst data mode :	6 [Mbps]
(Tx 2412MHz for 2400MHz-2BW, 2400MHz-BW, Tx 2472MHz for 2483.5MHz+BW, 2483.5MHz+2BW)			

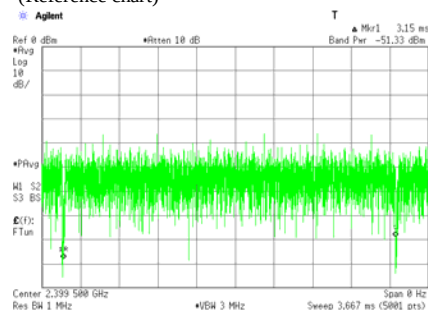
Test Conditions		value max.	Band power	Cable	Atten.	Antenna	Result	Limit	Margin	Remarks
Temp.	Volt.	frequency [MHz]	max. reading [dBm/MHz]	Loss [dB]	Loss [dB]	Gain [dBi]	[dBm/MHz]	[dBm/MHz]	[dB]	
Nom	Nom	2382.49	-73.01	1.83	9.90	-0.92	-62.20	-20.00	42.20	2400MHz-2BW
		2399.50	-51.33	1.83	9.90	-0.92	-40.52	-10.00	30.52	2400MHz-BW
		2484.00	-51.81	1.85	9.89	-0.92	-40.99	-10.00	30.99	2483.5MHz+BW
		2500.97	-73.32	1.85	9.89	-0.92	-62.50	-20.00	42.50	2483.5MHz+2BW
Min	Min	2382.49	-75.64	1.83	9.90	-0.92	-64.83	-20.00	44.83	2400MHz-2BW
		2399.50	-50.50	1.83	9.90	-0.92	-39.69	-10.00	29.69	2400MHz-BW
		2484.00	-51.83	1.85	9.89	-0.92	-41.01	-10.00	31.01	2483.5MHz+BW
		2500.97	-75.82	1.85	9.89	-0.92	-65.00	-20.00	45.00	2483.5MHz+2BW
	Max	2382.49	-75.56	1.83	9.90	-0.92	-64.75	-20.00	44.75	2400MHz-2BW
		2399.50	-54.24	1.83	9.90	-0.92	-43.43	-10.00	33.43	2400MHz-BW
		2484.00	-54.57	1.85	9.89	-0.92	-43.75	-10.00	33.75	2483.5MHz+BW
		2500.97	-75.78	1.85	9.89	-0.92	-64.96	-20.00	44.96	2483.5MHz+2BW
Max	Min	2382.49	-73.99	1.83	9.90	-0.92	-63.18	-20.00	43.18	2400MHz-2BW
		2399.50	-48.48	1.83	9.90	-0.92	-37.67	-10.00	27.67	2400MHz-BW
		2484.00	-49.72	1.85	9.89	-0.92	-38.90	-10.00	28.90	2483.5MHz+BW
		2500.97	-74.63	1.85	9.89	-0.92	-63.81	-20.00	43.81	2483.5MHz+2BW
	Max	2382.49	-73.59	1.83	9.90	-0.92	-62.78	-20.00	42.78	2400MHz-2BW
		2399.50	-53.53	1.83	9.90	-0.92	-42.72	-10.00	32.72	2400MHz-BW
		2484.00	-53.63	1.85	9.89	-0.92	-42.81	-10.00	32.81	2483.5MHz+BW
		2500.97	-74.32	1.85	9.89	-0.92	-63.50	-20.00	43.50	2483.5MHz+2BW

Sample Calculation:

Result = Band power reading + Cable Loss (including the cable(s) customer supplied) + Atten.Loss + Antenna Gain

*Above test result was maximum value on each 1BW.

(Reference chart)



* Test Conditions is refer to the sheet of RF output power.
(mode: Tx, IEEE802.11b)

UL Japan, Inc.

Shonan EMC Lab.

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Facsimile : +81 463 50 6401

Data of Transmitter unwanted emissions in the out-of-band domain

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room	
Date	July 30, 2014	August 1, 2014	Regulation : EN300 328 Clause 5.3.9
Temperature / Humidity	26 deg.C , 51%RH	26 deg.C , 50%RH	
Engineer	Shinichi Takano	Shinichi Takano	
Serial No.	1406NK109		
Mode	IEEE802.11n(HT20)	worst data mode :	0 (MCS)
(Tx 2412MHz for 2400MHz-2BW, 2400MHz-BW, Tx 2472MHz for 2483.5MHz+BW, 2483.5MHz+2BW)			

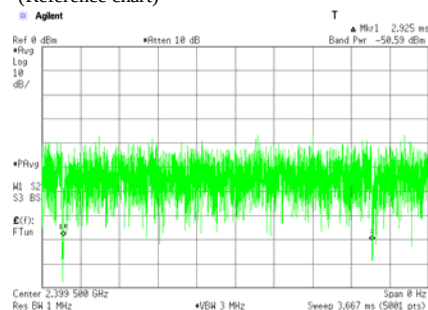
Test Conditions	value max.		Band power max. reading	Cable Loss	Atten. Loss	Antenna Gain	Result	Limit	Margin	Remarks
	Temp.	Volt.	frequency [MHz]							
Nom	Nom		2381.41	-72.84	1.83	9.90	-0.92	-62.03	-20.00	2400MHz-2BW
			2399.50	-50.59	1.83	9.90	-0.92	-39.78	-10.00	2400MHz-BW
			2484.00	-51.38	1.85	9.89	-0.92	-40.56	-10.00	2483.5MHz+BW
			2502.07	-73.52	1.85	9.89	-0.92	-62.70	-20.00	2483.5MHz+2BW
Min	Min		2381.41	-75.82	1.83	9.90	-0.92	-65.01	-20.00	2400MHz-2BW
			2399.50	-50.28	1.83	9.90	-0.92	-39.47	-10.00	2400MHz-BW
			2484.00	-50.96	1.85	9.89	-0.92	-40.14	-10.00	2483.5MHz+BW
			2502.07	-76.11	1.85	9.89	-0.92	-65.29	-20.00	2483.5MHz+2BW
	Max		2381.41	-75.62	1.83	9.90	-0.92	-64.81	-20.00	2400MHz-2BW
			2399.50	-53.59	1.83	9.90	-0.92	-42.78	-10.00	2400MHz-BW
			2484.00	-53.15	1.85	9.89	-0.92	-42.33	-10.00	2483.5MHz+BW
			2502.07	-75.26	1.85	9.89	-0.92	-64.44	-20.00	2483.5MHz+2BW
Max	Min		2381.41	-73.91	1.83	9.90	-0.92	-63.10	-20.00	2400MHz-2BW
			2399.50	-49.49	1.83	9.90	-0.92	-38.68	-10.00	2400MHz-BW
			2484.00	-50.50	1.85	9.89	-0.92	-39.68	-10.00	2483.5MHz+BW
			2502.07	-74.74	1.85	9.89	-0.92	-63.92	-20.00	2483.5MHz+2BW
	Max		2381.41	-74.00	1.83	9.90	-0.92	-63.19	-20.00	2400MHz-2BW
			2399.50	-53.91	1.83	9.90	-0.92	-43.10	-10.00	2400MHz-BW
			2484.00	-53.51	1.85	9.89	-0.92	-42.69	-10.00	2483.5MHz+BW
			2502.07	-74.46	1.85	9.89	-0.92	-63.64	-20.00	2483.5MHz+2BW

Sample Calculation:

Result = Band power reading + Cable Loss (including the cable(s) customer supplied) + Atten.Loss + Antenna Gain

*Above test result was maximum value on each 1BW.

(Reference chart)



* Test Conditions is refer to the sheet of RF output power.
(mode: Tx, IEEE802.11b)

UL Japan, Inc.**Shonan EMC Lab.**

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DATA OF RADIATED EMISSION (SUBSTITUTION) TEST

UL Japan, Inc. Shonan EMC Lab. No.2 Semi-Anechoic Chamber
Date : 2014/08/10

Company : CANON INC.
Kind of EUT : Wireless LAN Module
Model No. : K30365
Serial No. : 1406NK109
Remarks : EUTaxis : Hor=X, Ver=X

Mode : IEEE802.11b Tx 2412MHz
Order No. : 10420214S
Power : DC3.3V
Temp./Humi. : 25deg.C/60%RH

Limit : EN300328 Operating 3m, Substitution limit, 30MHz-12.75GHz

Engineer : Wataru Kojima

<< ERP DATA >>

No.	Freq. [MHz]	Reading <PK> [dBuV]	SG Level [dBm]	TX Ant.Gain [dBi]	TX Loss [dB]	ERP		Margin [dB]	Pola.	Height [cm]	Angle [deg]	TX Ant.Type	Comment
						Result [dBm]	Limit [dBm]						
1	38.400	26.9	-51.6	-25.2	11.1	-90.1	-36.0	54.1	Hori.	150	329	Dipol	
2	384.000	28.8	-78.2	2.2	14.4	-92.6	-36.0	56.6	Hori.	150	348	Dipol	
3	960.000	28.1	-69.1	2.2	17.6	-86.7	-36.0	50.7	Hori.	150	335	Dipol	
4	38.400	28.0	-51.3	-25.2	11.1	-89.8	-36.0	53.8	Vert.	150	343	Dipol	
5	384.000	27.7	-78.7	2.2	14.4	-93.1	-36.0	57.1	Vert.	150	33	Dipol	
6	960.000	28.0	-66.0	2.2	17.6	-83.6	-36.0	47.6	Vert.	150	358	Dipol	

DATA OF RADIATED EMISSION (SUBSTITUTION) TEST

UL Japan, Inc. Shonan EMC Lab. No.2 Semi-Anechoic Chamber
Date : 2014/08/10

Company : CANON INC.
Kind of EUT : Wireless LAN Module
Model No. : K30365
Serial No. : 1406NK109
Remarks : EUTaxis : Hor=X, Ver=X

Mode : IEEE802.11b Tx 2472MHz
Order No. : 10420214S
Power : DC3.3V
Temp./Humi. : 25deg.C/60%RH

Limit : EN300328 Operating 3m, Substitution limit, 30MHz-12.75GHz
Engineer

: Wataru Kojima

<< ERP DATA >>

No.	Freq. [MHz]	Reading <PK> [dBuV]	SG Level [dBm]	TX Ant.Gain [dBi]	TX Loss [dB]	ERP		Margin [dB]	Pola.	Height [cm]	Angle [deg]	TX Ant.Type	Comment
						Result [dBm]	Limit [dBm]						
1	38.400	27.3	-51.2	-25.2	11.1	-89.7	-36.0	53.7	Hori.	150	358	Dipol	
2	384.000	28.8	-78.2	2.2	14.4	-92.6	-36.0	56.6	Hori.	150	19	Dipol	
3	960.000	28.0	-69.2	2.2	17.6	-86.8	-36.0	50.8	Hori.	150	358	Dipol	
4	38.400	28.0	-51.3	-25.2	11.1	-89.8	-36.0	53.8	Vert.	150	3	Dipol	
5	384.000	28.0	-78.4	2.2	14.4	-92.8	-36.0	56.8	Vert.	150	358	Dipol	
6	960.000	27.7	-66.3	2.2	17.6	-83.9	-36.0	47.9	Vert.	150	0	Dipol	

DATA OF RADIATED EMISSION (SUBSTITUTION) TEST

UL Japan, Inc. Shonan EMC Lab. No.2 Semi-Anechoic Chamber
Date : 2014/08/10

Company : CANON INC.
Kind of EUT : Wireless LAN Module
Model No. : K30365
Serial No. : 1406NK109
Remarks : EUTaxis : Hor=X, Ver=X

Mode : IEEE802.11g Tx 2412MHz
Order No. : 10420214S
Power : DC3.3V
Temp./Humi. : 25deg.C/60%RH

Limit : EN300328 Operating 3m, Substitution limit, 30MHz-12.75GHz

Engineer : Wataru Kojima

<< ERP DATA >>

No.	Freq. [MHz]	Reading <PK> [dBuV]	SG Level [dBm]	TX Ant.Gain [dBi]	TX Loss [dB]	ERP		Margin [dB]	Pola.	Height [cm]	Angle [deg]	TX Ant.Type	Comment
						Result [dBm]	Limit [dBm]						
1	38.400	27.2	-51.3	-25.2	11.1	-89.8	-36.0	53.8	Hori.	300	353	Dipol	
2	384.000	28.5	-78.5	2.2	14.4	-92.9	-36.0	56.9	Hori.	150	1	Dipol	
3	960.000	28.2	-69.0	2.2	17.6	-86.6	-36.0	50.6	Hori.	150	358	Dipol	
4	38.400	28.0	-51.3	-25.2	11.1	-89.8	-36.0	53.8	Vert.	150	352	Dipol	
5	384.000	28.3	-78.1	2.2	14.4	-92.5	-36.0	56.5	Vert.	150	3	Dipol	
6	960.000	28.0	-66.0	2.2	17.6	-83.6	-36.0	47.6	Vert.	150	3	Dipol	

DATA OF RADIATED EMISSION (SUBSTITUTION) TEST

UL Japan, Inc. Shonan EMC Lab. No.2 Semi-Anechoic Chamber
Date : 2014/08/10

Company : CANON INC.
Kind of EUT : Wireless LAN Module
Model No. : K30365
Serial No. : 1406NK109
Remarks : EUTaxis : Hor=X, Ver=X

Mode : IEEE802.11g Tx 2472MHz
Order No. : 10420214S
Power : DC3.3V
Temp./Humi. : 25deg.C/60%RH

Limit : EN300328 Operating 3m, Substitution limit, 30MHz-12.75GHz
Engineer

: Wataru Kojima

<< ERP DATA >>

No.	Freq. [MHz]	Reading <PK> [dBuV]	SG Level [dBm]	TX Ant.Gain [dBi]	TX Loss [dB]	ERP		Margin [dB]	Pola.	Height [cm]	Angle [deg]	TX Ant.Type	Comment
						Result [dBm]	Limit [dBm]						
1	38.400	26.9	-51.6	-25.2	11.1	-90.1	-36.0	54.1	Hori.	200	351	Dipol	
2	384.000	28.7	-78.3	2.2	14.4	-92.7	-36.0	56.7	Hori.	150	0	Dipol	
3	960.000	28.0	-69.2	2.2	17.6	-86.8	-36.0	50.8	Hori.	150	14	Dipol	
4	38.400	27.9	-51.4	-25.2	11.1	-89.9	-36.0	53.9	Vert.	150	3	Dipol	
5	384.000	27.8	-78.6	2.2	14.4	-93.0	-36.0	57.0	Vert.	150	357	Dipol	
6	960.000	27.8	-66.2	2.2	17.6	-83.8	-36.0	47.8	Vert.	150	1	Dipol	

DATA OF RADIATED EMISSION (SUBSTITUTION) TEST

UL Japan, Inc. Shonan EMC Lab. No.2 Semi-Anechoic Chamber
Date : 2014/08/10

Company : CANON INC.
Kind of EUT : Wireless LAN Module
Model No. : K30365
Serial No. : 1406NK109
Remarks : EUTaxis : Hor=X, Ver=X

Mode : IEEE802.11n(HT20) Tx 2412MHz
Order No. : 10420214S
Power : DC3.3V
Temp./Humi. : 25deg.C/60%RH

Limit : EN300328 Operating 3m, Substitution limit, 30MHz-12.75GHz

Engineer : Wataru Kojima

<< ERP DATA >>

No.	Freq. [MHz]	Reading <PK> [dBuV]	SG Level [dBm]	TX Ant.Gain [dBi]	TX Loss [dB]	ERP		Margin [dB]	Pola.	Height [cm]	Angle [deg]	TX Ant.Type	Comment
						Result [dBm]	Limit [dBm]						
1	38.400	27.3	-51.2	-25.2	11.1	-89.7	-36.0	53.7	Hori.	200	357	Dipol	
2	384.000	29.0	-78.0	2.2	14.4	-92.4	-36.0	56.4	Hori.	150	326	Dipol	
3	960.000	27.9	-69.3	2.2	17.6	-86.9	-36.0	50.9	Hori.	150	288	Dipol	
4	38.400	27.9	-51.4	-25.2	11.1	-89.9	-36.0	53.9	Vert.	150	1	Dipol	
5	384.000	27.7	-78.7	2.2	14.4	-93.1	-36.0	57.1	Vert.	150	3	Dipol	
6	960.000	27.8	-66.2	2.2	17.6	-83.8	-36.0	47.8	Vert.	150	1	Dipol	

DATA OF RADIATED EMISSION (SUBSTITUTION) TEST

UL Japan, Inc. Shonan EMC Lab. No.2 Semi-Anechoic Chamber
Date : 2014/08/10

Company : CANON INC.
Kind of EUT : Wireless LAN Module
Model No. : K30365
Serial No. : 1406NK109
Remarks : EUTaxis : Hor=X, Ver=X

Mode : IEEE802.11n(HT20) Tx 2472MHz
Order No. : 10420214S
Power : DC3.3V
Temp./Humi. : 25deg.C/60%RH

Limit : EN300328 Operating 3m, Substitution limit, 30MHz-12.75GHz

Engineer : Wataru Kojima

<< ERP DATA >>

No.	Freq. [MHz]	Reading <PK> [dBuV]	SG Level [dBm]	TX Ant.Gain [dBi]	TX Loss [dB]	ERP		Margin [dB]	Pola.	Height [cm]	Angle [deg]	TX Ant.Type	Comment
						Result [dBm]	Limit [dBm]						
1	38.400	27.4	-51.1	-25.2	11.1	-89.6	-36.0	53.6	Hori.	300	256	Dipol	
2	384.000	28.4	-78.6	2.2	14.4	-93.0	-36.0	57.0	Hori.	150	2	Dipol	
3	960.000	27.8	-69.4	2.2	17.6	-87.0	-36.0	51.0	Hori.	150	238	Dipol	
4	38.400	28.0	-51.3	-25.2	11.1	-89.8	-36.0	53.8	Vert.	150	356	Dipol	
5	384.000	28.3	-78.1	2.2	14.4	-92.5	-36.0	56.5	Vert.	150	357	Dipol	
6	960.000	27.6	-66.4	2.2	17.6	-84.0	-36.0	48.0	Vert.	150	355	Dipol	

Calculation: Result[dBm] = SG level[dB] + Tx Ant Gain[dBi] - Tx Loss (Cable) [dB] - 2.15[dB]
Tx Ant: 120MHz turned Dipole (30M - 120M), Dipole (120M - 1G) / Rx - Ant: Biconical (25M - 300M), Logperiodic (300M - 1G)

DATA OF RADIATED EMISSION (SUBSTITUTION) TEST

UL Japan, Inc. Shonan EMC Lab. No.2 Semi-Anechoic Chamber
Date : 2014/08/10

Company : CANON INC.
Kind of EUT : Wireless LAN Module
Model No. : K30365
Serial No. : 1406NK109
Remarks : EUTaxis : Hor=X, Ver=X

Mode : IEEE802.11b Rx 2412MHz
Order No. : 10420214S
Power : DC3.3V
Temp./Humi. : 25deg.C/60%RH

Limit : EN300328 Receiving or Standby 3m, Substitution limit, 30MHz-12.75GHz

Engineer : Wataru Kojima

<< ERP DATA >>

No.	Freq. [MHz]	Reading <PK> [dBuV]	SG Level [dBm]	TX Ant.Gain [dBi]	TX Loss [dB]	ERP		Margin [dB]	Pola.	Height [cm]	Angle [deg]	TX Ant.Type	Comment
						Result [dBm]	Limit [dBm]						
1	38.400	28.0	-50.5	-25.2	11.1	-89.0	-57.0	32.0	Hori.	200	0	Dipol	
2	384.000	28.4	-78.6	2.2	14.4	-93.0	-57.0	36.0	Hori.	150	84	Dipol	
3	960.000	27.8	-69.4	2.2	17.6	-87.0	-57.0	30.0	Hori.	150	319	Dipol	
4	38.400	27.9	-51.4	-25.2	11.1	-89.9	-57.0	32.9	Vert.	150	156	Dipol	
5	384.000	27.9	-78.5	2.2	14.4	-92.9	-57.0	35.9	Vert.	150	108	Dipol	
6	960.000	27.8	-66.2	2.2	17.6	-83.8	-57.0	26.8	Vert.	150	357	Dipol	

DATA OF RADIATED EMISSION (SUBSTITUTION) TEST

UL Japan, Inc. Shonan EMC Lab. No.2 Semi-Anechoic Chamber
Date : 2014/08/10

Company : CANON INC.
Kind of EUT : Wireless LAN Module
Model No. : K30365
Serial No. : 1406NK109
Remarks : EUTaxis : Hor=X, Ver=X

Mode : IEEE802.11b Rx 2472MHz
Order No. : 10420214S
Power : DC3.3V
Temp./Humi. : 25deg.C/60%RH

Limit : EN300328 Receiving or Standby 3m, Substitution limit, 30MHz-12.75GHz

Engineer : Wataru Kojima

<< ERP DATA >>

No.	Freq. [MHz]	Reading <PK> [dBuV]	SG Level [dBm]	TX Ant.Gain [dBi]	TX Loss [dB]	ERP		Margin [dB]	Pola.	Height [cm]	Angle [deg]	TX Ant.Type	Comment
						Result [dBm]	Limit [dBm]						
1	38.400	28.0	-50.5	-25.2	11.1	-89.0	-57.0	32.0	Hori.	300	316	Dipol	
2	384.000	28.5	-78.5	2.2	14.4	-92.9	-57.0	35.9	Hori.	150	304	Dipol	
3	960.000	28.0	-69.2	2.2	17.6	-86.8	-57.0	29.8	Hori.	150	343	Dipol	
4	38.400	27.9	-51.4	-25.2	11.1	-89.9	-57.0	32.9	Vert.	150	54	Dipol	
5	384.000	27.8	-78.6	2.2	14.4	-93.0	-57.0	36.0	Vert.	150	343	Dipol	
6	960.000	27.7	-66.3	2.2	17.6	-83.9	-57.0	26.9	Vert.	150	273	Dipol	

DATA OF RADIATED EMISSION (SUBSTITUTION) TEST

UL Japan, Inc. Shonan EMC Lab. No.2 Semi-Anechoic Chamber
Date : 2014/08/10

Company : CANON INC.
Kind of EUT : Wireless LAN Module
Model No. : K30365
Serial No. : 1406NK109
Remarks : EUTaxis : Hor=X, Ver=X

Mode : IEEE802.11n(HT20) Rx 2412MHz
Order No. : 10420214S
Power : DC3.3V
Temp./Humi. : 25deg.C/60%RH

Limit : EN300328 Receiving or Standby 3m, Substitution limit, 30MHz-12.75GHz

Engineer : Wataru Kojima

<< ERP DATA >>

No.	Freq. [MHz]	Reading <PK> [dBuV]	SG Level [dBm]	TX Ant.Gain [dBi]	TX Loss [dB]	ERP		Margin [dB]	Pola.	Height [cm]	Angle [deg]	TX Ant.Type	Comment
						Result [dBm]	Limit [dBm]						
1	38.400	27.4	-51.1	-25.2	11.1	-89.6	-57.0	32.6	Hori.	150	357	Dipol	
2	384.000	28.2	-78.8	2.2	14.4	-93.2	-57.0	36.2	Hori.	150	357	Dipol	
3	960.000	27.6	-69.6	2.2	17.6	-87.2	-57.0	30.2	Hori.	150	357	Dipol	
4	38.400	28.0	-51.3	-25.2	11.1	-89.8	-57.0	32.8	Vert.	150	357	Dipol	
5	384.000	28.4	-78.0	2.2	14.4	-92.4	-57.0	35.4	Vert.	150	358	Dipol	
6	960.000	27.7	-66.3	2.2	17.6	-83.9	-57.0	26.9	Vert.	150	358	Dipol	

DATA OF RADIATED EMISSION (SUBSTITUTION) TEST

UL Japan, Inc. Shonan EMC Lab. No.2 Semi-Anechoic Chamber
Date : 2014/08/10

Company : CANON INC.
Kind of EUT : Wireless LAN Module
Model No. : K30365
Serial No. : 1406NK109
Remarks : EUTaxis : Hor=X, Ver=X

Mode : IEEE802.11n(HT20) Rx 2472MHz
Order No. : 10420214S
Power : DC3.3V
Temp./Humi. : 25deg.C/60%RH

Limit : EN300328 Receiving or Standby 3m, Substitution limit, 30MHz-12.75GHz

Engineer : Wataru Kojima

<< ERP DATA >>

No.	Freq. [MHz]	Reading <PK> [dBuV]	SG Level [dBm]	TX Ant.Gain [dBi]	TX Loss [dB]	ERP		Margin [dB]	Pola.	Height [cm]	Angle [deg]	TX Ant.Type	Comment
						Result [dBm]	Limit [dBm]						
1	38.400	28.5	-50.0	-25.2	11.1	-88.5	-57.0	31.5	Hori.	300	220	Dipol	
2	384.000	28.6	-78.4	2.2	14.4	-92.8	-57.0	35.8	Hori.	150	1	Dipol	
3	960.000	27.9	-69.3	2.2	17.6	-86.9	-57.0	29.9	Hori.	150	2	Dipol	
4	38.400	28.3	-51.0	-25.2	11.1	-89.5	-57.0	32.5	Vert.	150	2	Dipol	
5	384.000	27.7	-78.7	2.2	14.4	-93.1	-57.0	36.1	Vert.	150	321	Dipol	
6	960.000	27.9	-66.1	2.2	17.6	-83.7	-57.0	26.7	Vert.	150	239	Dipol	

DATA OF RADIATED EMISSION (SUBSTITUTION) TEST

UL Japan, Inc. Shonan EMC Lab. No.1 Semi-Anechoic Chamber
Date : 2014/08/12

Company : CANON INC.
Kind of EUT : Wireless LAN Module
Model No. : K30365
Serial No. : 1406NK110
Remarks : EUTaxis : Hor=X, Ver=Y

Mode : IEEE802.11b Tx 2472MHz
Order No. : 10420214S
Power : DC3.3V
Temp./Humi. : 25deg.C/65%RH

Limit : EN300328 Operating 3m, Substitution limit, 30MHz-12.75GHz
Engineer

: Shinichi Takano

<< EIRP DATA >>

No.	Freq. [MHz]	Reading <PK> [dBuV]	SG Level [dBm]	TX Ant.Gain [dBi]	TX Loss [dB]	EIRP		Margin [dB]	Pola.	Height [cm]	Angle [deg]	TX Ant.Type	Comment
						Result [dBm]	Limit [dBm]						
1	4944.000	51.0	-57.8	12.0	9.2	-55.0	-30.0	25.0	Hori.	146	323	Horn	
2	4944.000	50.4	-58.9	12.0	9.2	-56.1	-30.0	26.1	Vert.	157	94	Horn	

Calculation: Result [dBm] = SG level [dB] +Tx Ant Gain [dBi] -Tx Loss (Cable) [dB]
Tx Antenna: Horn (1G-40G) / Rx-Antenna: Horn (1G-40G)

DATA OF RADIATED EMISSION (SUBSTITUTION) TEST

UL Japan, Inc. Shonan EMC Lab. No.1 Semi-Anechoic Chamber
Date : 2014/08/12

Company : CANON INC.
Kind of EUT : Wireless LAN Module
Model No. : K30365
Serial No. : 1406NK110
Remarks : EUTaxis : Hor=X, Ver=Y

Mode : IEEE802.11g Tx 2412MHz
Order No. : 10420214S
Power : DC3.3V
Temp./Humi. : 25deg.C/65%RH

Limit : EN300328 Operating 3m, Substitution limit, 30MHz-12.75GHz
Engineer

: Shinichi Takano

<< EIRP DATA >>

No.	Freq. [MHz]	Reading <PK>	SG Level [dBm]	TX Ant. Gain [dBi]	TX Loss [dB]	EIRP		Margin [dB]	Pola.	Height [cm]	Angle [deg]	TX Ant. Type	Comment
		[dBuV]				Result [dBm]	Limit [dBm]						
1	4824.000	49.3	-63.7	12.1	9.1	-60.7	-30.0	30.7	Hori.	150	0	Horn	
2	4824.000	48.7	-67.7	12.1	9.1	-64.7	-30.0	34.7	Vert.	150	0	Horn	

Calculation: Result [dBm] = SG level [dB] + Tx Ant Gain [dBi] - Tx Loss (Cable) [dB]
Tx Antenna: Horn (1G-40G) / Rx-Antenna: Horn (1G-40G)

DATA OF RADIATED EMISSION (SUBSTITUTION) TEST

UL Japan, Inc. Shonan EMC Lab. No.1 Semi-Anechoic Chamber
Date : 2014/08/12

Company : CANON INC.
Kind of EUT : Wireless LAN Module
Model No. : K30365
Serial No. : 1406NK110
Remarks : EUTaxis : Hor=X, Ver=Y

Mode : IEEE802.11n (HT20) Tx 2412MHz
Order No. : 10420214S
Power : DC3.3V
Temp./Humi. : 25deg.C/65%RH

Limit : EN300328 Operating 3m, Substitution limit, 30MHz-12.75GHz
Engineer

: Shinichi Takano

<< EIRP DATA >>

No.	Freq. [MHz]	Reading <PK>	SG Level [dBm]	TX Ant. Gain [dBi]	TX Loss [dB]	EIRP		Margin [dB]	Pola.	Height [cm]	Angle [deg]	TX Ant. Type	Comment
		[dBuV]				Result [dBm]	Limit [dBm]						
1	4824.000	49.4	-63.6	12.1	9.1	-60.6	-30.0	30.6	Hori.	150	0	Horn	
2	4824.000	48.9	-67.5	12.1	9.1	-64.5	-30.0	34.5	Vert.	150	0	Horn	

Calculation: Result [dBm] = SG level [dB] + Tx Ant Gain [dBi] - Tx Loss (Cable) [dB]
Tx Antenna: Horn (1G-40G) / Rx-Antenna: Horn (1G-40G)

Data of Adaptivity and Receiver blocking

Test place	UL Japan, Inc. Shonan EMC Lab.	No.6 Shielded Room
Date	August 4, 2014	Regulation : EN300 328 Clause 5.3.7
Temperature / Humidity	25 deg.C , 47%RH	
Engineer	Shinichi Takano	
Serial No.	1406NK109	
Mode	IEEE802.11b	

Declared By Manufacturer

CCA Time [usec]	q factor	Extended CCA Time [usec]		Channel occupancy time [msec]
		Min	Max	
20	32	20	640	13

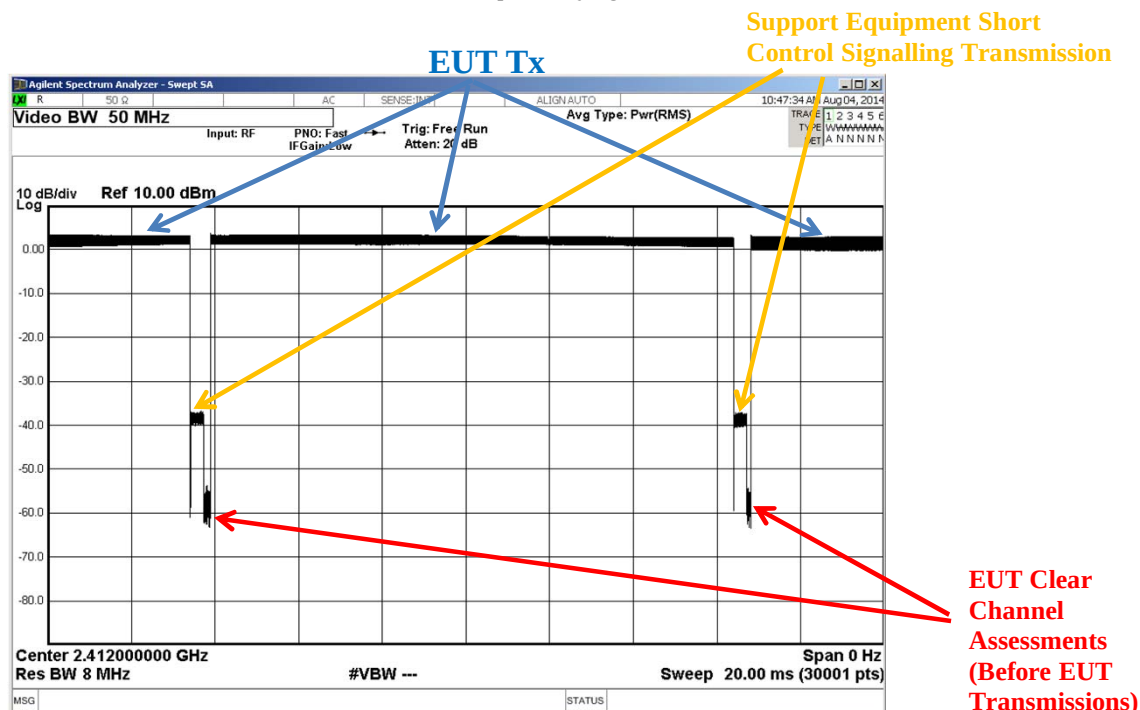
*Extended CCA Time: $R \times \text{CCA}$ (where R is 1 to q)

*Channel occupancy time: $[13/32] \times q \text{ ms}$

[DATA]

Opeatating Frequency [MHz]	Idle time (include Extended CCA)		Channel occupancy time [msec]
	Min [usec]	Max [usec]	
2412.00	41.33	167.33	12.50

*Idle time is the minimum and maximum value upon carrying out 10 times confirmed.



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Data of Adaptivity and Receiver blocking

(Reference chart)

Test place UL Japan, Inc. Shonan EMC Lab.

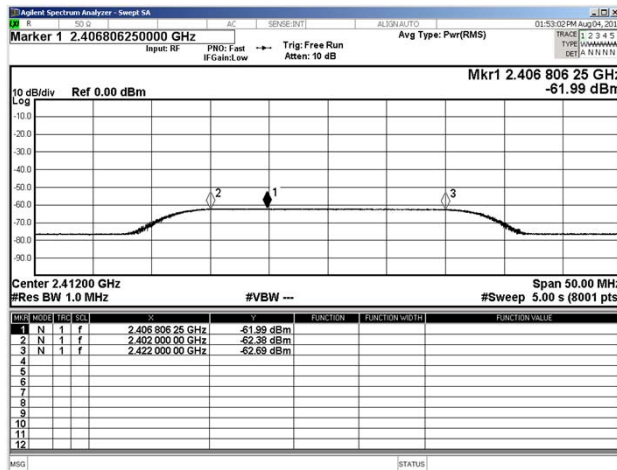
No.6 Shielded Room

Date August 4, 2014

Engineer: Shinichi Takano

Temperature / Humidity 25 deg.C , 47%RH

SSG-01 output setting (Lowest and Highest is same setting)
 for antenna gain 0dBi flat width above 20MHz
 -1.7 dBm (without customer cable loss 0.48dB)
 (+/- 1.5dB maximum ripple)

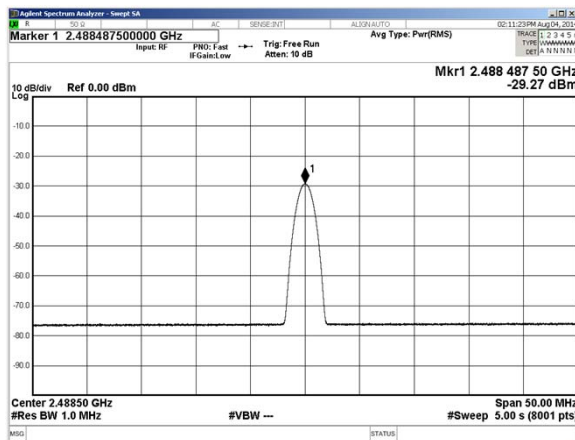


SSG-02 output setting

13.5 dBm (for 2488.5MHz)

14 dBm (for 2395MHz)

(without customer cable loss 0.48dB)

**UL Japan, Inc.****Shonan EMC Lab.**

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Data of Adaptivity and Receiver blocking

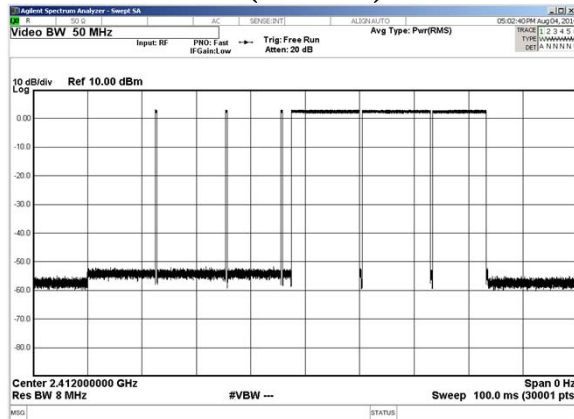
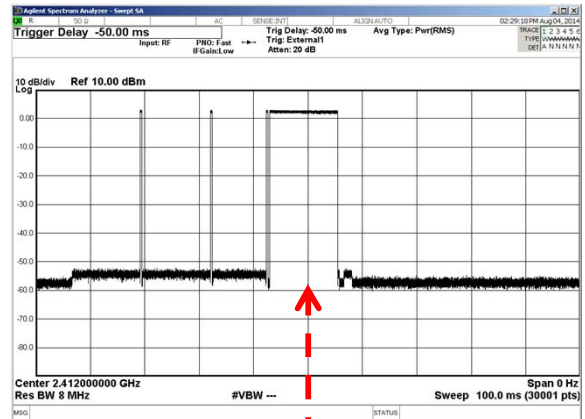
Test place	UL Japan, Inc. Shonan EMC Lab.	No.6 Shielded Room
Date	August 4, 2014	Regulation EN300 328 Clause 5.3.7
Temperature / Humidity	25 deg.C , 47%RH	Engineer: Shinichi Takano

(Standard requirement)

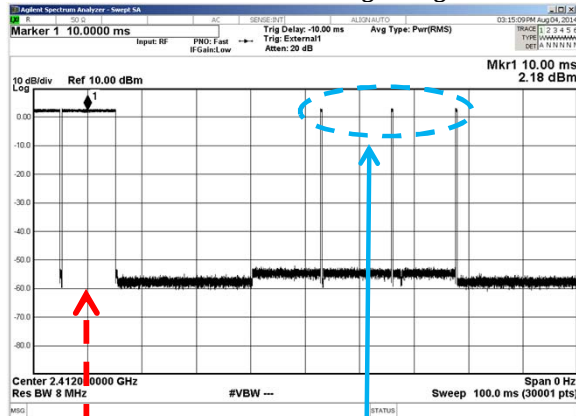
Interference level	-62.07 dBm (-70dBm/MHz + 20 - maximum RF output power [dBm] + EUT antenna gain [dBi])
maximum RF output power	11.15 dBm e.i.r.p. (with antenna gain -0.92 dBi)
EUT antenna gain	-0.92 dBi

(AP to EUT communication) 11b, 1Mbps

Interference level -62.47 dBm (SG setting 2412 MHz -1.7 dBm)

without the Interferer (Reference)**Test with the Interferer**

Interference start timing

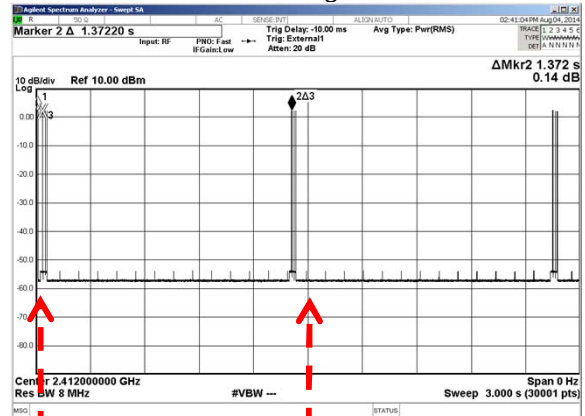
Conformation of Short Control Signalling Transmission

Interference start timing

Short Control Signalling Transmission time

0.927 msec / 50msec

1.85 % (Limit value: 10%)

Conformation of Short Control Signalling Transmission Interval and Receiver blocking

Interference start timing

Blocking signal start timing

*The interval of Short Control Signalling Transmission is 50msec or more.

*There was no affect of blocking signal.

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Data of Adaptivity and Receiver blocking

Test place	UL Japan, Inc. Shonan EMC Lab.	No.6 Shielded Room
Date	August 4, 2014	Regulation EN300 328 Clause 5.3.7
Temperature / Humidity	25 deg.C , 47%RH	Engineer: Shinichi Takano

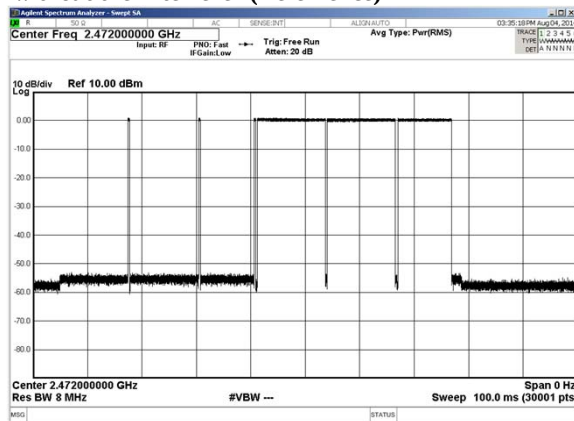
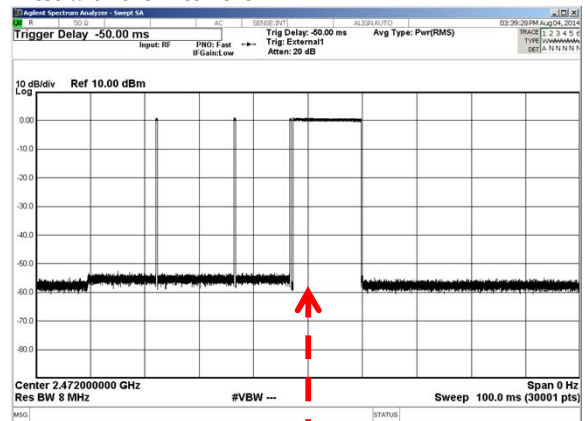
(Standard requirement)

Interference level	-62.07 dBm (-70dBm/MHz + 20 - maximum RF output power [dBm] + EUT antenna gain [dBi])
maximum RF output power	11.15 dBm e.i.r.p. (with antenna gain -0.92 dBi)
EUT antenna gain	-0.92 dBi

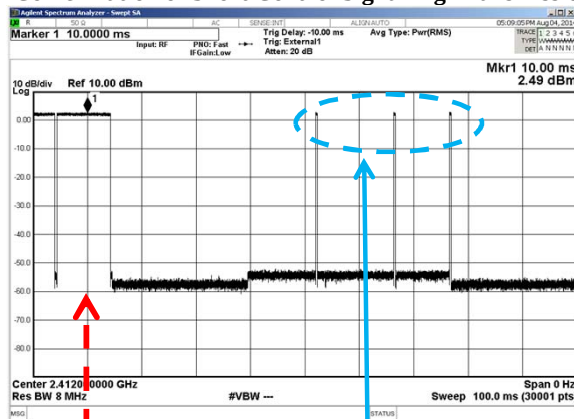
(AP to EUT communication) 11b, 1Mbps

2472 MHz

Interference level -62.24 dBm (SG setting -1.7 dBm)

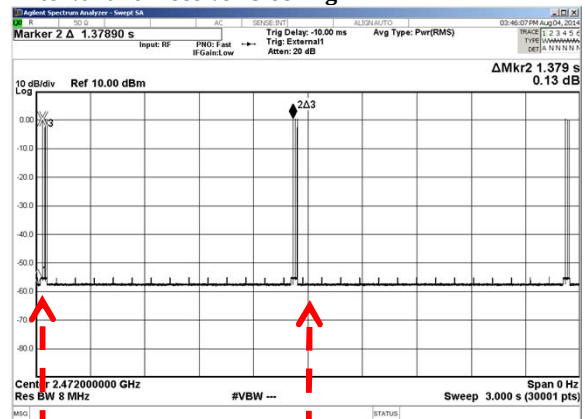
without the Interferer (Reference)**Test with the Interferer**

Interference start timing

Conformation of Short Control Signalling Transmission

Interference start timing

:Short Control Signalling Transmission time
 0.923 msec / 50msec
 1.85 % (Limit value: 10%)

Conformation of Short Control Signalling Transmission Interval and Receiver blocking

Interference start timing

Blocking signal start timing

*The interval of Short Control Signalling Transmission
 is 50msec or more.

*There was no affect of blocking signal.

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APPENDIX 3 Test Instruments

EMI test equipment

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
SSA-02	Spectrum Analyzer	Agilent	E4448A	MY48250106	AT	2014/03/17 * 12
SAT10-11	Attenuator	Weinschel Corp.	54A-10	37588	AT	2014/04/22 * 12
SCC-G11	Coaxial Cable	Suhner	SUCOFLEX 102	31595/2	AT	2014/03/13 * 12
KPM-08	Power meter	Anritsu	ML2495A	6K00003356	AT	2013/09/04 * 12
KPSS-04	Power sensor	Anritsu	MA2411B	012088	AT	2013/09/04 * 12
SOS-13	Humidity Indicator	Custom	CTH-202	Q.C.17	AT	2014/04/22 * 12
SSA-03	Spectrum Analyzer	Agilent	E4448A	MY48250152	AT	2014/02/03 * 12
SPM-06	Power Meter	Anritsu	ML2495A	0850009	AT	2014/04/08 * 12
SPSS-03	Power sensor	Anritsu	MA2411B	0917063	AT	2014/04/08 * 12
SCC-G14	Coaxial Cable	Suhner	SUCOFLEX 102	31600/2	AT	2014/03/13 * 12
SCH-01	Temperature and Humidity Chamber	Espec	PL-1KT	14020837	AT	2014/04/15 * 12
SOS-09	Humidity Indicator	A&D	AD-5681	4061484	AT	2014/03/07 * 12
SAF-02	Pre Amplifier	SONOMA	310N	290212	RE	2014/02/17 * 12
SAT6-02	Attenuator	JFW	50HF-006N	-	RE	2014/02/17 * 12
KAT3-11	Attenuator	JFW IND. INC.	50HF-003N	-	RE	2013/08/19 * 12
SBA-02	Biconical Antenna	Schwarzbeck	BBA9106	91032665	RE	2013/11/24 * 12
SCC-B1/B3/B5/B7/B8/B13/SRSE-02	Coaxial Cable&RF Selector	Fujikura/Fujikura/Suhner/Suhner/Suhner/TOYO	8D2W/12DSFA/141PE/141PE/141PE/141PE/NS4906	-/0901-270(RF Selector)	RE	2014/04/25 * 12
SCC-B2/B4/B6/B7/B8/B13/SRSE-02	Coaxial Cable&RF Selector	Fujikura/Fujikura/Suhner/Suhner/Suhner/TOYO	8D2W/12DSFA/141PE/141PE/141PE/141PE/NS4906	-/0901-270(RF Selector)	RE	2014/04/25 * 12
SLA-02	Logperiodic Antenna	Schwarzbeck	UHALP9108A	UHALP 9108-A 0893	RE	2013/11/24 * 12
SOS-03	Humidity Indicator	A&D	AD-5681	4063325	RE	2014/02/21 * 12
STR-07	Test Receiver	Rohde & Schwarz	ESU26	100484	RE	2014/02/18 * 12
SJM-14	Measure	ASKUL	-	-	RE	-
SAEC-02(NSA)	Semi-Anechoic Chamber	TDK	SAEC-02(NSA)	2	RE	2014/07/08 * 12
COTS-SEMI-1	EMI Software	TSJ	TEPTO-DV(RE,CE,RF,IMF)	-	RE	-
SSG-02	Signal Generator	Agilent	E8257D-540	MY48051404	RE	2014/03/20 * 12
SCC-07	Coaxial Cable	Fujikura	5D2W	-	RE	2013/09/03 * 12
SDA-07	Dipole Antenna	Schwarzbeck	VHAP	1177	RE	2014/04/02 * 12
SDA-08	Dipole Antenna	Schwarzbeck	UHAP	1158	RE	2014/04/02 * 12
SAEC-01(NSA)	Semi-Anechoic Chamber	TDK	SAEC-01(NSA)	1	RE	2014/07/09 * 12
SAF-04	Pre Amplifier	TOYO Corporation	TPA0118-36	1440489	RE	2014/03/14 * 12
SCC-G01	Coaxial Cable	Suhner	SUCOFLEX 104A	46497/4A	RE	2014/04/22 * 12
SCC-G21	Coaxial Cable	Suhner	SUCOFLEX 104	296169/4	RE	2014/05/15 * 12
MHA-05	Horn Antenna 1-18GHz	Schwarzbeck	BBHA9120D	253	RE	2014/05/16 * 12
SOS-01	Humidity Indicator	A&D	AD-5681	4062555	RE	2014/02/21 * 12

The expiration date of the calibration is the end of the expired month .
As for some calibrations performed after the tested dates , those test equipment have been controlled by means of an unbroken chains of calibrations .

All equipment is calibrated with valid calibrations . Each measurement data is traceable to the national or international standards .

Test Item :

RE: Radiated emission ,

AT: Antenna terminal conducted test

APPENDIX 3 Test Instruments

EMI test equipment

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
KSA-08	Spectrum Analyzer	Agilent	E4446A	MY46180525	RE	2014/03/04 * 12
SJM-13	Measure	ASKUL	-	-	RE	-
SAT10-06	Attenuator	Agilent	8493C-010	74865	RE	2013/11/22 * 12
SFL-02	Highpass Filter	MICRO-TRONICS	HPM50111	051	RE	2013/11/22 * 12
KHA-08	DRG Horn Antenna	A.H.Systems	SAS-200/571	224	RE	2014/05/26 * 12
SCC-G16	Coaxial Cable	Suhner	SUCOFLEX 102	32704/2	RE	2014/03/13 * 12
SHA-01	Horn Antenna	Schwarzbeck	BBHA9120D	9120D-725	RE	2013/08/12 * 12
SHA-RS01	Horn Antenna	Schwarzbeck	BBHA9120D	770	RE	2013/08/19 * 12

The expiration date of the calibration is the end of the expired month .

As for some calibrations performed after the tested dates , those test equipment have been controlled by means of an unbroken chains of calibrations .

All equipment is calibrated with valid calibrations . Each measurement data is traceable to the national or international standards .

Test Item :

RE: Radiated emission

APPENDIX 3 Test Instruments

EMI test equipment

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
SSA-01	Spectrum Analyzer	Agilent	N9010A-526	MY48031482	Ad	2014/04/07 * 12
SSG-01	Signal Generator	Agilent	E4438C	MY47271584	Ad	2014/03/03 * 12
SSG-02	Signal Generator	Agilent	E8257D-540	MY48051404	Ad	2014/03/20 * 12
SJG-10	RF switch circuit	UL Japan	-	1	Ad	-
SPSC-02	Power Splitters/Combiners	Mini-Circuits	ZFSC-2-10G+	-	Ad	2014/04/22 * 12
SPSC-03	Power Splitters/Combiners	Mini-Circuits	ZFSC-2-10G+	-	Ad	2014/04/22 * 12
SDCPL-10	Directional Coupler	Mini-Circuits	ZGDC35-93HP+	0210	Ad	2013/07/05 * 12
SAT10-09	Attenuator	Weinschel Corp.	54A-10	W5692	Ad	2013/11/27 * 12
SAT20-05	Attenuator	Weinschel Corp.	54A-20	Y5649	Ad	2013/11/27 * 12
SAT20-06	Attenuator	Weinschel Corp.	54A-20	31506	Ad	2014/04/22 * 12
SRE-118	Wireless LAN access point	Cisco Systems	AIR-AP1262N-Q-K	FGL1508S67P9	Ad	
SCC-G11	Coaxial Cable	Suhner	SUCOFLEX 102	31595/2	Ad	2014/03/13 * 12
SCC-G26	Coaxial Cable	Suhner	141PE	-	Ad	2014/07/10 * 12
SCC-G27	Coaxial Cable	Junkosha	MWX241-01000KM SKMS	SEP-20-12-001	Ad	2013/09/25 * 12
SCC-G32	Coaxial Cable	Junkosha	MWX241-02000KM SKMS	OCT-09-13-005	Ad	2013/10/21 * 12
SCC-G33	Coaxial Cable	Junkosha	MWX241-01000KM SKMS	-	Ad	2014/05/15 * 12
SOS-10	Humidity Indicator	A&D	AD-5681	4064561	Ad	2014/02/21 * 12

The expiration date of the calibration is the end of the expired month .

As for some calibrations performed after the tested dates , those test equipment have been controlled by means of an unbroken chains of calibrations .

AdAll equipment is calibrated with valid calibrations . Each measurement data is traceable to the national or international standards .

Test Item :

Ad: Adaptivity & Receiver blocking

End of Report