RADIO TEST REPORT

Test Report No.: 10009516S-A

Applicant	**:**	**Japan Radio Co., Ltd.**
Type of Equipment	**:**	**Wireless LAN Module**
Model No.	**:**	**CMN-851A**
FCC ID	**:**	**CKECMN851A**
Test regulation	**:**	**FCC Part15 Subpart C: 2012**
Test result	**:**	**Complied**

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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 regulation.
4. The test results in this test report are traceable to the national or international standards.
5. This test report must not be used by the customer to claim product certification, approval, or endorsement by any agency of the Federal Government.
6. 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: April 26 to May 15, 2013

Tested by: M. Hosaka

Makoto Hosaka
Engineer of WiSE Japan,
UL Verification Service

Approved by : J. Ishiwata

Go Ishiwata
Manager of WiSE Japan,
UL Verification Service

RTL02610

☐ 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.: 10009516S-A

Revision	Test report No.	Date	Page revised	Contents
- (Original)	10009516S-A	June 11, 2013	-	-
1	10009516S-A	June 18, 2013	-P5 -P6,12,14,28-38,61-63,146-159 -P150-152, 157-159 -P150-159	-15.31 (e) was corrected. - The version of KDB558074 was changed into v03. - Correction of a clerical error - The version of KDB662911 was changed into v02.

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Contents

SECTION 1: Customer information

Company Name	:	Japan Radio Co., Ltd.
Address	:	1-1, Shimorenjaku 5-chome, Mitaka-shi, Tokyo, 181-8510 Japan
Telephone Number	:	+81 422 45 9311
Facsimile Number	:	+81 422 45 9956
Contact Person	:	Shinsuke Miyazaki

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

2.1 Identification of E.U.T.

Type of Equipment	:	Wireless LAN Module
Model Number	:	CMN-851A
Serial Number	:	Refer to 4.2 in this report.
Rating	:	DC3.3V
Country of Mass-production	:	Japan
Condition of EUT	:	Production prototype (Not for Sale: This sample is equivalent to mass-produced items.)
Receipt Date of Sample	:	April 23, 2013
Modification of EUT	:	No modification by the test lab.

2.2 Product description

Model: CMN-851A (referred to as the EUT in this report) is a Wireless LAN Module.

Clock frequency(ies) in the system : 40MHz

Radio specification:

Equipment type	:	Transceiver	
Frequency of operation *1)	:	2.4GHz:	2412-2462MHz (IEEE 802.11b, 11g, 11n-HT20)
			2422-2452MHz (IEEE 802.11n-HT40)
		W52:	5180-5240MHz (IEEE 802.11a, 11n-HT20)
			5190-5230MHz (IEEE 802.11n-HT40)
		W53:	5260-5320MHz (IEEE 802.11a, 11n-HT20)
			5270-5310MHz (IEEE 802.11n-HT40)
		W56:	5500-5700MHz (IEEE 802.11a, 11n-HT20)
			5510-5670MHz (IEEE 802.11n-HT40)
		W58:	5745-5825MHz (IEEE 802.11a, 11n-HT20)
			5755-5795MHz (IEEE 802.11n-HT40)
Bandwidth	:	20MHz (IEEE 802.11a/b/g/n), 40MHz (IEEE 802.11n)	
Channel spacing	:	5MHz (2.4GHz),	
		20MHz (11a, 11n (HT20, 5GHz)), 40MHz (11n (HT40, 5GHz))	
Type of modulation	:	DSSS, OFDM	
Antenna type	:	Dual (2.4GHz band: Planar patch, 5GHz band: Inverted F)	
Antenna gain with cable loss	:	2.4GHz band: 0.58dBi	
		3.73dBi (Antenna gain) – 3.15dB (cable loss(18ft))	
		5GHz band: -0.98dBi	
		4.06dBi (Antenna gain) – 5.04dB (cable loss(18ft))	
Antenna connector type	:	Module side: U.FL	
		Antenna side: RP-SMA	
ITU code	:	D1D, G1D	

*1) Refer to the test report 10009516S-B for FCC 15.407.
* The EUT does not perform simultaneous transmission of 2.4GHz and 5GHz Wireless LAN.

Operation temperature range	:	0 to +50 deg.C

FCC 15.31 (e)
The host device provides stable voltage (DC3.3V) constantly to the EUT regardless of input voltage. Therefore, this EUT complies with the requirement.

FCC 15.203
The EUT has a unique coupling/antenna connector. Therefore the equipment complies with the requirement.

SECTION 3: Test specification, procedures & results

3.1 Test specification

Test specification : Test specification: FCC Part 15 Subpart C: 2012, final revised on December 27, 2012 and effective January 28, 2013

Title : FCC 47CFR Part15 Radio Frequency Device Subpart C Intentional Radiators
Section 15.207 Conducted limits
Section 15.209 Radiated emission limits, general requirements
Section 15.247 Operation within the bands 902-928MHz, 2400-2483.5MHz, and 5725-5850MHz

3.2 Procedures & Results

Item	Test Procedure *1)	Specification	Remarks	Deviation	Worst Margin	Results
Conducted emission	ANSI C63.10:2009	FCC 15.207	-	N/A	7.9dB Freq.: 0.18069MHz Detection: Average Phase: L1 Mode: Tx 2412MHz, IEEE 802.11n (HT20)	Complied
6dB bandwidth	ANSI C63.10:2009	FCC 15.247 (a)(2)	Conducted	N/A	* See data	Complied
Maximum peak output power	ANSI C63.10:2009	FCC 15.247 (b)(3)	Conducted	N/A		Complied
Out of band emission & Restricted band edges	ANSI C63.10:2009	FCC 15.109, 15.247 (d) & 15.209	Conducted / Radiated	N/A	0.2dB Freq.: 2483.500MHz Polarization: Horizontal Detection: Average Mode: Tx 2452MHz, IEEE 802.11n (HT40)	Complied
Power density	ANSI C63.10:2009	FCC 15.247 (e)	Conducted	N/A	* See data	Complied
Note: UL Japan's EMI Work Procedures No.13-EM-W0420 and 13-EM-W0422. *1) These tests were also referred to KDB 558074 v03r01 (FCC), "Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under §15.247".						

3.3 Addition to standard

Item	Test Procedure	Specification	Remarks	Worst Margin	Results
Occupied Bandwidth (99%)	ANSI C63.10:2009, RSS-Gen 4.6.1	-	Conducted	-	-
Note: UL Japan's Work Procedures No. 13-EM-W0420 and 13-EM-W0422					

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

3.4 Uncertainty

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

Item	Frequency range	No.1 SAC*1/SR*2 (±)	No.2 SAC/SR (±)	No.3 SAC/SR (±)
Conducted emission (AC Mains) LISN	150kHz-30MHz	3.6 dB	3.6 dB	3.5 dB
Radiated emission (Measurement distance: 3m)	9kHz-30MHz	3.7 dB	3.7 dB	3.6 dB
	30MHz-300MHz	4.9 dB	5.1 dB	4.9 dB
	300MHz-1GHz	5.0 dB	5.2 dB	4.9 dB
	1GHz-15GHz	4.8 dB	4.8 dB	4.9 dB
Radiated emission (Measurement distance: 1m)	15GHz-18GHz	5.6 dB	5.6 dB	5.6 dB
	18GHz-40GHz	4.6 dB	4.3 dB	4.4 dB

*1: SAC=Semi-Anechoic Chamber
*2: SR= Shielded Room is applied besides radiated emission

Conducted emission test

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

Radiated emission test

The data listed in this report meets the limits unless the uncertainty is taken into consideration.

Antenna port conducted test

Power measurement uncertainty above 1GHz for this test was: (±) 1.5dB
Spurious emission (Conducted) measurement (below 1GHz) uncertainty for this test was: (±) 1.7dB
Spurious emission (Conducted) measurement (1G-3GHz) uncertainty for this test was: (±) 2.3dB
Spurious emission (Conducted) measurement (3G-18GHz) uncertainty for this test was: (±) 3.0dB
Spurious emission (Conducted) measurement (18G-26.5GHz) uncertainty for this test was: (±) 2.9dB
Bandwidth measurement uncertainty for this test was: (±) 5.4%

3.5 Test location

UL Japan, Inc. Shonan EMC Lab.
1-22-3, Megumigaoka, Hiratsuka-shi, Kanagawa-ken 259-1220 JAPAN
Telephone number : +81 463 50 6400
Facsimile number : +81 463 50 6401
JAB Accreditation No. : RTL02610

	FCC Registration No.	IC Registration No.	Width x Depth x Height (m)	Size of reference ground plane (m) / horizontal conducting plane	Maximum measurement distance
☒ No.1 semi-anechoic chamber	697847	2973D-1	20.6 x 11.3 x 7.65	20.6 x 11.3	10m
☒ No.2 semi-anechoic chamber	697847	2973D-2	20.6 x 11.3 x 7.65	20.6 x 11.3	10m
☐ No.3 semi-anechoic chamber	697847	2973D-3	12.7 x 7.7 x 5.35	12.7 x 7.7	5m
☐ No.4 semi-anechoic chamber	-	-	8.1 x 5.1 x 3.55	8.1 x 5.1	-
☐ No.1 shielded room	-	-	6.8 x 4.1 x 2.7	6.8 x 4.1	-
☒ No.2 shielded room	-	-	6.8 x 4.1 x 2.7	6.8 x 4.1	-
☐ No.3 shielded room	-	-	6.3 x 4.7 x 2.7	6.3 x 4.7	-
☐ No.4 shielded room	-	-	4.4 x 4.7 x 2.7	4.4 x 4.7	-
☒ No.5 shielded room	-	-	7.8 x 6.4 x 2.7	7.8 x 6.4	-
☐ No.6 shielded room	-	-	7.8 x 6.4 x 2.7	7.8 x 6.4	-
☐ No.7 shielded room	-	-	2.76 x 3.76 x 2.4	2.76 x 3.76	-

3.6 Test setup, Test data & Test instruments

Refer to APPENDIX 1 to 3.

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

4.1 Operating mode

Test item	Mode	Tested frequency	Worst data mode *1)
Conducted emission Radiated emission (below 1GHz) *2)	Transmitting IEEE 802.11n (HT20) (MIMO)	2412MHz	PN9, MCS8
Radiated emission (above 1GHz)	Transmitting IEEE 802.11b	2412MHz, 2437MHz, 2462MHz	PN9, 1Mbps
	Transmitting IEEE 802.11g	2412MHz, 2437MHz, 2462MHz	PN9, 6Mbps
	Transmitting IEEE 802.11n (HT20) (MIMO) *3)	2412MHz, 2437MHz, 2462MHz	PN9, MCS8
	Transmitting IEEE 802.11n (HT40) (MIMO) *3)	2422MHz, 2437MHz, 2452MHz	PN9, MCS8
	Transmitting IEEE 802.11a	5745MHz, 5785MHz, 5825MHz	PN9, 9Mbps
	Transmitting IEEE 802.11n (HT20) (MIMO) *3)	5745MHz, 5785MHz, 5825MHz	PN9, MCS10
	Transmitting IEEE 802.11n (HT40) (MIMO) *3)	5755MHz, 5795MHz	PN9, MCS8
Other items	Transmitting IEEE 802.11b	2412MHz, 2437MHz, 2462MHz	PN9, 1Mbps
	Transmitting IEEE 802.11g	2412MHz, 2437MHz, 2462MHz	PN9, 6Mbps
	Transmitting IEEE 802.11n (HT20) (SISO)	2412MHz, 2437MHz, 2462MHz	PN9, MCS0
	Transmitting IEEE 802.11n (HT20) (MIMO) *3)	2412MHz, 2437MHz, 2462MHz	PN9, MCS8
	Transmitting IEEE 802.11n (HT40) (SISO)	2422MHz, 2437MHz, 2452MHz	PN9, MCS0
	Transmitting IEEE 802.11n (HT40) (MIMO) *3)	2422MHz, 2437MHz, 2452MHz	PN9, MCS8
	Transmitting IEEE 802.11a	5745MHz, 5785MHz, 5825MHz	PN9, 9Mbps
	Transmitting IEEE 802.11n (HT20) (SISO)	5745MHz, 5785MHz, 5825MHz	PN9, MCS0
	Transmitting IEEE 802.11n (HT20) (MIMO) *3)	5745MHz, 5785MHz, 5825MHz	PN9, MCS10
	Transmitting IEEE 802.11n (HT40) (SISO)	5755MHz, 5795MHz	PN9, MCS0
	Transmitting IEEE 802.11n (HT40) (MIMO) *3)	5755MHz, 5795MHz	PN9, MCS8

*1) The worst condition was determined based on the test result of Maximum Peak Output Power.
*2) Test operating mode was determined as follows according to "Section 1 of 6 802.11 a/b/g/n testing- Managing Complex Regulatory Approvals - "of TCB Council Workshop October 2009.
*3) As this transmitter has MIMO mode for only MCS8 to MCS15, we need not to consider array gains.

EUT has the power settings by the software as follows;
Test software: ART v0.9 b34
Power settings: Fixed

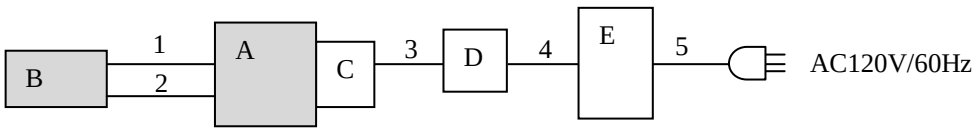
Antenna port used:

	Single output (11a, 11b, 11g, 11n (SISO))	Multi output (11n (MIMO))
Maximum peak output power	- Antenna 1 - Antenna 2	Antenna 1 + Antenna 2
Radiated emission	- Antenna 1 *4)	Antenna 1 + Antenna 2
Other tests	- Antenna 1 or Antenna 2 *4)	Antenna 1 or Antenna 2 *4)

*4) The worse antenna port was determined based on the test result of Maximum Peak Output Power.

Justification: The system was configured in typical fashion (as customer would normally use it) for testing.

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	CMN-851A	983109021212	Japan Radio Co., Ltd.	EUT
B	AP-Double WiFi Antenna	APP-WW	-	Antenna Plus LLC	EUT
C	Jig	PE-MINI-FLEX8-FH	-	-	-
D	Jig	-	-	-	-
E	PC	HP Compaq dc7800p	JPA831010C	HP	-

List of cables used

No.	Cable Name	Length (m)	Shield		Remarks
			Cable	Connector	
1	Coaxial	5.5	Shielded	Shielded	-
2	Coaxial	5.5	Shielded	Shielded	-
3	Flat	0.2	Unshielded	Unshielded	-
4	HDMI	1.4	Shielded	Shielded	-
5	AC	1.9	Unshielded	Unshielded	-

SECTION 5: Conducted emission

5.1 Operating environment

Test place : See test data (APPENDIX 1)
Temperature : See test data (APPENDIX 1)
Humidity : See test data (APPENDIX 1)

5.2 Test configuration

EUT was placed on a platform of nominal size, 1m by 1.5m, raised 0.8m above the conducting ground plane.
The table is made of Styrofoam and covered with polyvinyl chloride. That has very low permittivity.
The rear of tabletop was located 40cm to the vertical conducting plane. The rear of EUT, including peripherals was aligned and was flushed with rear of tabletop. All other surfaces of tabletop were at least 80cm from any other grounded conducting surface. EUT was located 80cm from LISN.
Each EUT current-carrying power lead, except the ground (safety) lead, was individually connected through a LISN to the input power source. All unused 50ohm connectors of the LISN were resistively terminated in 50ohm when not connected to the measuring equipment.
Photographs of the set up are shown in APPENDIX 3.

5.3 Test conditions

Frequency range : 0.15 - 30MHz
EUT position : Table top

5.4 Test procedure

The AC Mains Terminal Continuous disturbance Voltage had been measured with the EUT within a Shielded room.
The EUT was connected to a Line Impedance Stabilization Network (LISN).
An overview sweep with peak detection has been performed.
The measurements had been performed with a quasi-peak detector and if required, a CISPR average detector.
The conducted emission measurements were made with the following detection of the test receiver.

Detection Type : Quasi-Peak/ CISPR Average
IF Bandwidth : 9kHz

5.5 Results

Summary of the test results : Pass
Refer to APPENDIX 1

SECTION 6: Radiated emission

6.1 Operating environment

Test place : See test data (APPENDIX 1)
Temperature : See test data (APPENDIX 1)
Humidity : See test data (APPENDIX 1)

6.2 Test configuration

EUT was placed on a urethane platform of nominal size, 0.5m by 0.5m, raised 0.8m above the conducting ground plane. The rear of EUT was aligned and flushed with rear of tabletop.
Photographs of the set up are shown in APPENDIX 3.

6.3 Test conditions

Frequency range : 30MHz to 40GHz
EUT position : Table top

6.4 Test procedure

The Radiated Electric Field Strength intensity has been measured on a semi-anechoic chamber with a ground plane and at a distance of 3m (below 15GHz) / 1m (above 15GHz) (Refer to Figure 1). Measurements were performed with quasi-peak, peak and average detector. The measuring antenna height was varied between 1 and 4m and EUT was rotated a full revolution in order to obtain the maximum value of the electric field intensity. The measurements were performed for both vertical and horizontal antenna polarization.
The radiated emission measurements were made with the following detection.

Frequency	30-1000MHz	1-40GHz		20dBc
Detection type	Quasi-Peak	Peak	Average *1)	Peak
IF Bandwidth	120kHz	RBW: 1MHz VBW: 3MHz	RBW: 1MHz VBW: 3MHz Detector: RMS	RBW: 100kHz VBW: 300kHz

*1) Average Power Measurement was measured based on 12.2.5.1 and 12.2.5.2 of "Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under §15.247".

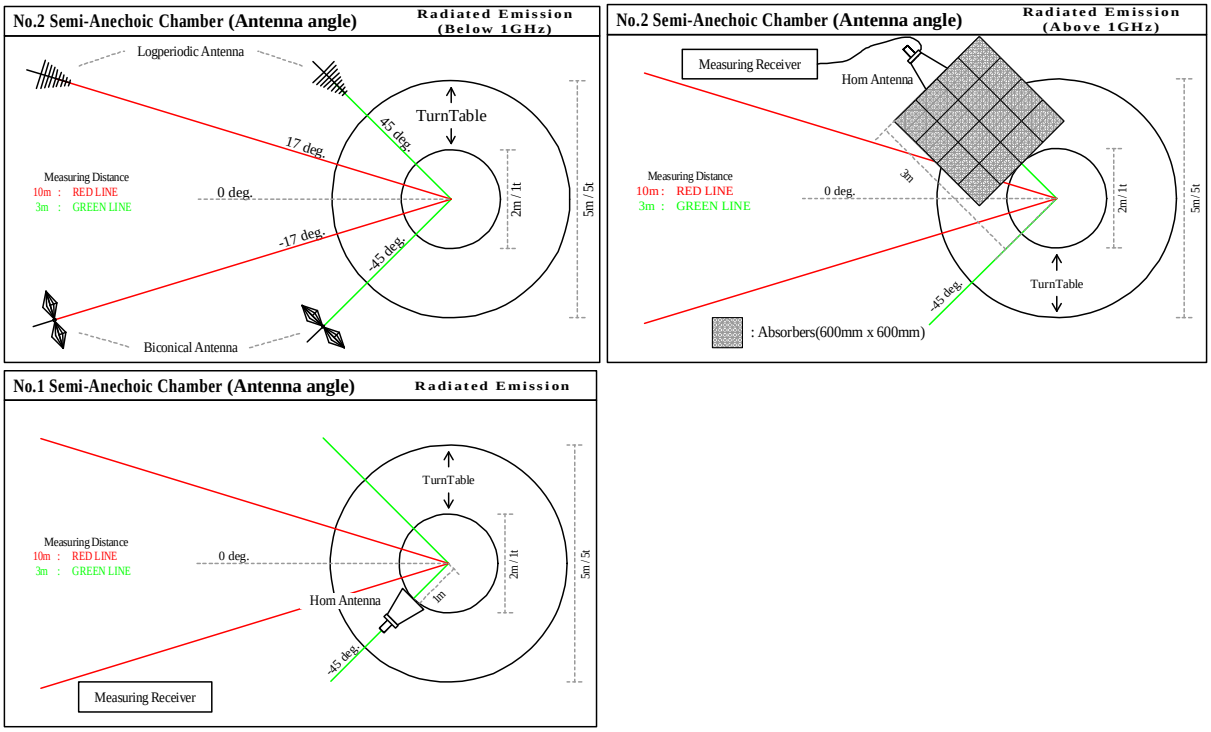
The carrier levels and noise levels were confirmed at each position of X, Y and Z axes to see the position of maximum noise, and the test was made at the position that has the maximum noise.
Worst case:
2.4GHz band

Subject	Antenna polarization	Carrier	Spurious (Below 1GHz)	Spurious (Above 1GHz)
Module	Horizontal	X	X	X
Antenna		Y	X	Y
Module	Vertical	X	X	X
Antenna		X	X	X

5GHz band

Subject	Antenna polarization	Carrier	Spurious (Below 1GHz)	Spurious (Above 1GHz)
Module	Horizontal	X	X	X
Antenna		Z	X	Z
Module	Vertical	X	X	X
Antenna		X	X	X

Figure 1. Antenna angle



6.5 Band edge

Band edge level at 2390MHz, 2483.5MHz, 5725MHz and 5850MHz is below the limits of FCC 15.209 and band edge level at 2400MHz is below the 20dBc. Refer to the data.

6.6 Results

Summary of the test results : Pass
* No noise was detected above the 3rd order harmonics.

Refer to APPENDIX 1

SECTION 7: Out of band emissions (Antenna port conducted)

Test procedure
The Out of Band Emissions was measured with a spectrum analyzer connected to the antenna port.
In any 100kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator confirmed 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on a radiated measurement.
In the frequency range below 30MHz, RBW was narrowed to separate the noise contents.
Then, wide-band noise near the limit was checked separately, however the noise was not detected as shown in the chart.
(9kHz-150kHz:RBW=200Hz, 150kHz-30MHz:RBW=10kHz)

Summary of the test results: Pass
Refer to APPENDIX 1

SECTION 8: 6dB bandwidth & Occupied bandwidth (99%)

Test procedure
The bandwidth was measured with a spectrum analyzer connected to the antenna port.
The test was measured based on Method 8.1 Option 1 and 8.2 Option 2 of "Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under §15.247".

Summary of the test results: Pass
Refer to APPENDIX 1

SECTION 9: Maximum peak output power

Test procedure
The Maximum Peak Output Power was measured with a power meter connected to the antenna port.
The test was measured based on Method 9.1.3 PKPM1 of "Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under §15.247".

Summary of the test results: Pass
Refer to APPENDIX 1

SECTION 10: Peak power density

Test procedure
The peak power density was measured with a spectrum analyzer connected to the antenna port.

Instrument used	:	Spectrum Analyzer
RBW / VBW	:	3kHz / 9.1kHz

The test was measured based on Method 10.2 PKPSD of "Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under §15.247".

Summary of the test results: Pass
Refer to APPENDIX 1

Contents of APPENDIXES

APPENDIX 1: Data of Radio tests

Conducted emission
6dB bandwidth
Maximum peak output power
Radiated emission
Spurious emission (Antenna port conducted)
Peak power density
Occupied bandwidth

APPENDIX 2: Test instruments

Test instruments

APPENDIX 3: Photographs of test setup

Conducted emission
Radiated emission
Pre-check of the worst position

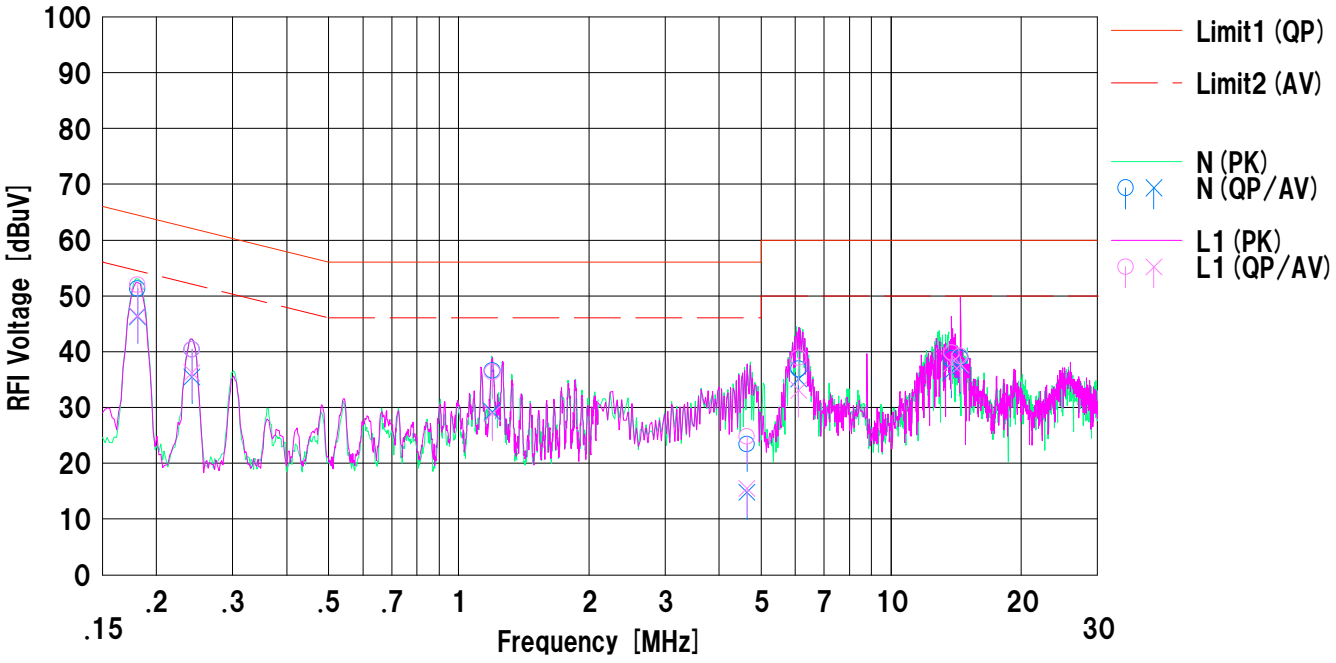
DATA OF CONDUCTED EMISSION TEST

UL Japan,Inc. Shonan EMC Lab. No.2 Shielded Room
Date : 2013/05/15

Company	: Japan Radio Co., Ltd	Mode	: Tx 11n20-HT 2412MHz
Kind of EUT	: WLAN MODULE	Order No.	: 10009516S
Model No.	: CMN-851A	Power	: AC 120V / 60Hz
Serial No.	: -	Temp./Humi.	: 23deg.C. / 45%RH
Remarks	:		

Limit1 : FCC 15C (15.207) QP
Limit2 : FCC 15C (15.207) AV

Engineer : Makoto Hosaka



No.	Freq.	Reading		C.Fac	Results		Limit		Margin		Phase	Comment
		<QP>	<AV>		<QP>	<AV>	<QP>	<AV>	<QP>	<AV>		
	[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]		
1	0.18069	38.7	33.7	12.6	51.3	46.3	64.4	54.4	13.1	8.1	N	
2	0.24154	27.8	22.9	12.6	40.4	35.5	62.0	52.0	21.6	16.5	N	
3	1.19624	23.9	16.5	12.7	36.6	29.2	56.0	46.0	19.4	16.8	N	
4	4.63697	10.6	2.0	12.8	23.4	14.8	56.0	46.0	32.6	31.2	N	
5	6.11169	23.9	22.1	13.0	36.9	35.1	60.0	50.0	23.1	14.9	N	
6	13.78827	25.3	23.1	13.4	38.7	36.5	60.0	50.0	21.3	13.5	N	
7	14.46138	25.5	24.0	13.4	38.9	37.4	60.0	50.0	21.1	12.6	N	
8	0.18069	39.4	33.9	12.6	52.0	46.5	64.4	54.4	12.4	7.9	L1	
9	0.24154	27.8	23.6	12.6	40.4	36.2	62.0	52.0	21.6	15.8	L1	
10	1.19624	23.6	16.2	12.7	36.3	28.9	56.0	46.0	19.7	17.1	L1	
11	4.63697	12.0	2.7	12.8	24.8	15.5	56.0	46.0	31.2	30.5	L1	
12	6.11169	25.9	20.1	13.0	38.9	33.1	60.0	50.0	21.1	16.9	L1	
13	13.79775	26.4	24.5	13.4	39.8	37.9	60.0	50.0	20.2	12.1	L1	
14	14.46138	25.8	24.3	13.4	39.2	37.7	60.0	50.0	20.8	12.3	L1	

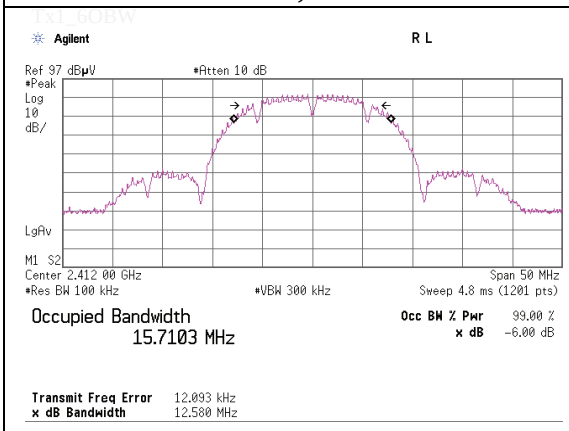
Calculation:Result [dBuV] =Reading [dBuV] +C.Fac (LISN+Cable+ATT) [dB]
LISN: SLS-03

-6dB Bandwidth

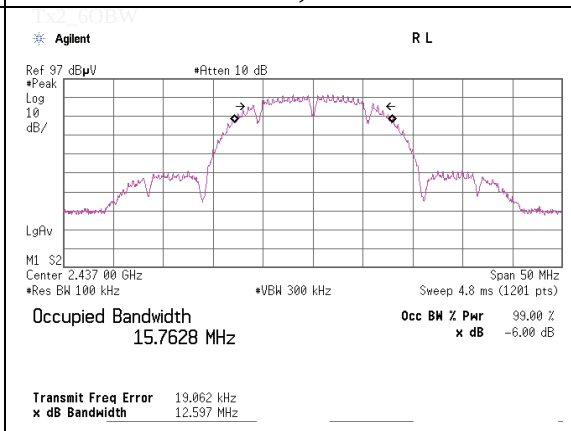
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	May 2, 2013	
Temperature / Humidity	24deg.C , 40%RH	
Engineer	Makoto Hosaka	
Mode	Tx, IEEE802.11b , PN9, worst antenna port 1, worst data mode 1Mbps	

Freq. [MHz]	-6dB Bandwidth [MHz]	Limit [MHz]
2412.0000	12.580	> 0.500
2437.0000	12.597	> 0.500
2462.0000	12.100	> 0.500

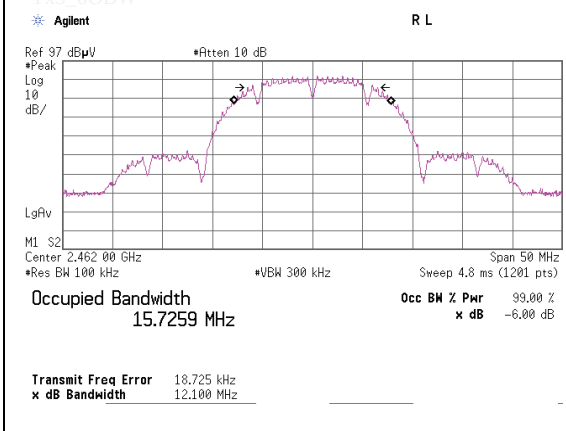
Tx, 2412MHz



Tx, 2437MHz



Tx, 2462MHz



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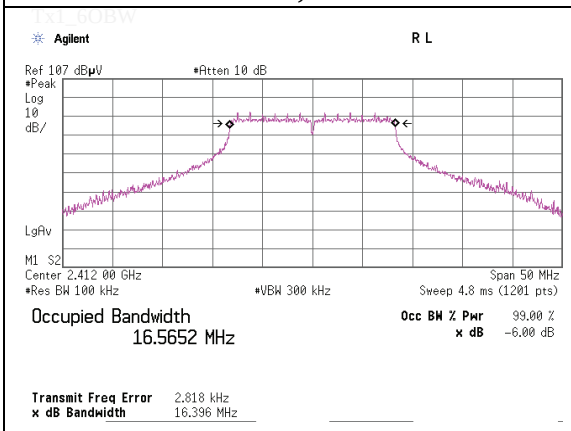
-6dB Bandwidth

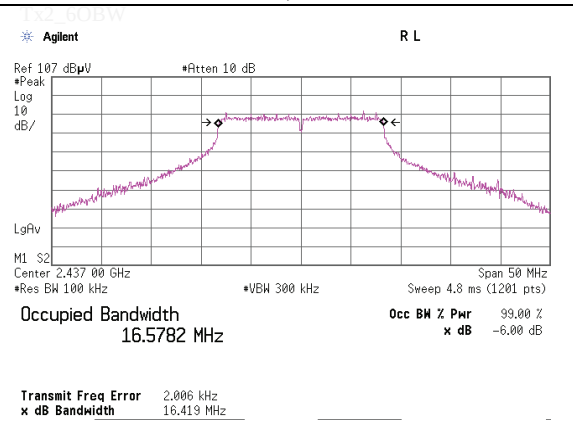
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	May 2, 2013	
Temperature / Humidity	24deg.C , 40%RH	
Engineer	Makoto Hosaka	
Mode	Tx, IEEE802.11g, PN9, worst antenna port 1, worst data mode 6Mbps	

Freq. [MHz]	-6dB Bandwidth [MHz]	Limit [MHz]
2412.0000	16.396	> 0.500
2437.0000	16.419	> 0.500
2462.0000	16.416	> 0.500

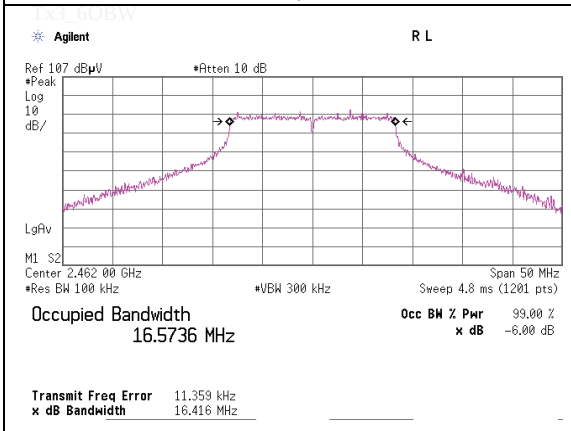
Tx, 2412MHz



Tx, 2437MHz



Tx, 2462MHz



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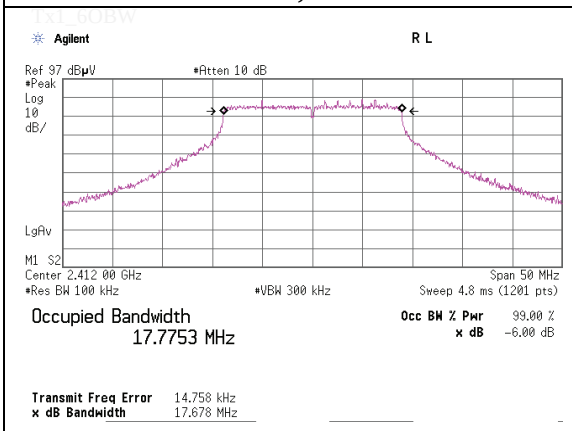
-6dB Bandwidth

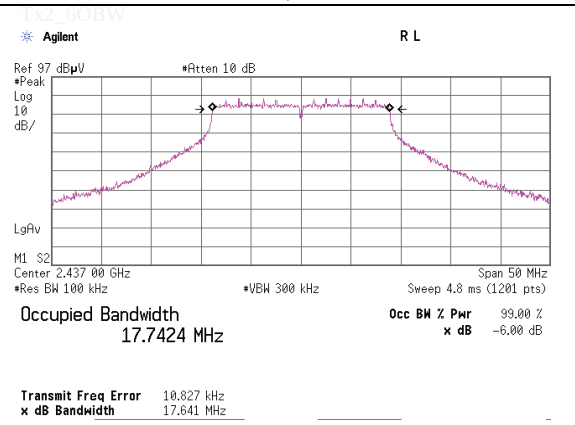
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	May 2, 2013	
Temperature / Humidity	24deg.C , 40%RH	
Engineer	Makoto Hosaka	
Mode	Tx, IEEE802.11n(HT20), PN9, worst antenna port 1, worst data mode 0(MCS)	

Freq. [MHz]	-6dB Bandwidth [MHz]	Limit [MHz]
2412.0000	17.678	> 0.500
2437.0000	17.641	> 0.500
2462.0000	17.679	> 0.500

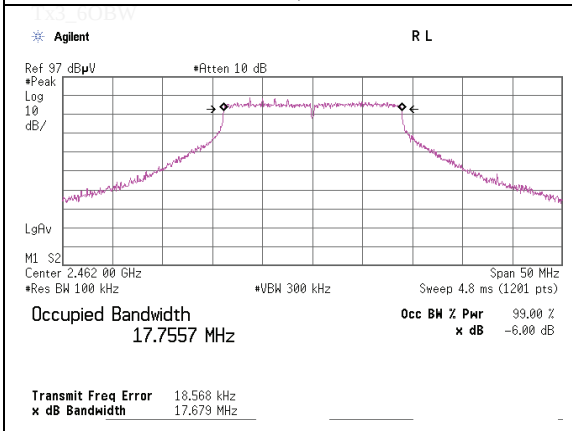
Tx, 2412MHz



Tx, 2437MHz



Tx, 2462MHz



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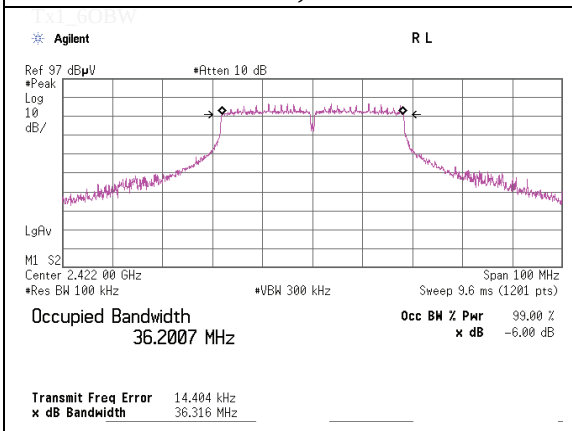
-6dB Bandwidth

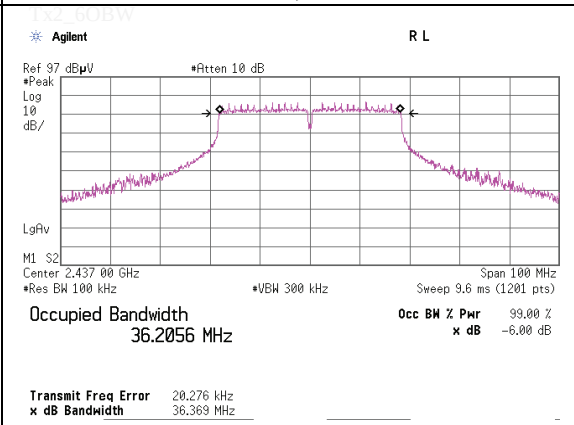
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	May 2, 2013	
Temperature / Humidity	24deg.C , 40%RH	
Engineer	Makoto Hosaka	
Mode	Tx, IEEE802.11n(HT40), PN9, worst antenna port 1, worst data mode 0(MCS)	

Freq. [MHz]	-6dB Bandwidth [MHz]	Limit [MHz]
2422.0000	36.316	> 0.500
2437.0000	36.369	> 0.500
2452.0000	36.362	> 0.500

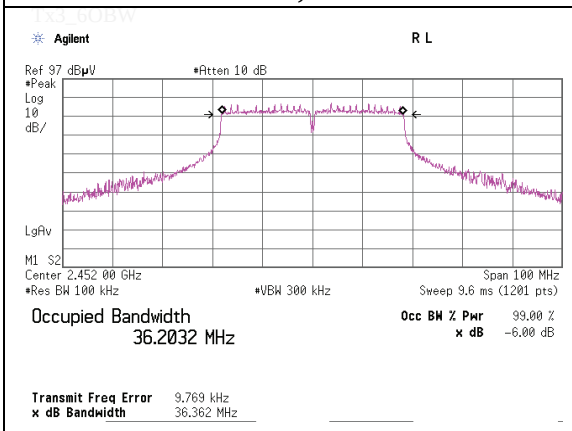
Tx, 2422MHz



Tx, 2437MHz



Tx, 2452MHz



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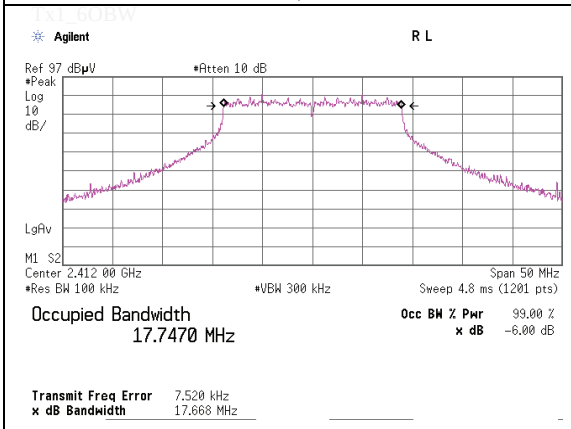
-6dB Bandwidth

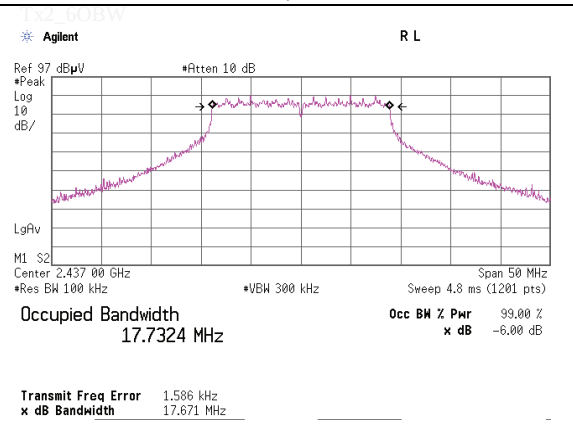
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	May 2, 2013	
Temperature / Humidity	24deg.C , 40%RH	
Engineer	Makoto Hosaka	
Mode	Tx, IEEE802.11n (HT20), PN9, antenna port 1, worst data mode 8(MCS)	

Freq. [MHz]	-6dB Bandwidth [MHz]	Limit [MHz]
2412.0000	17.668	> 0.500
2437.0000	17.671	> 0.500
2462.0000	17.685	> 0.500

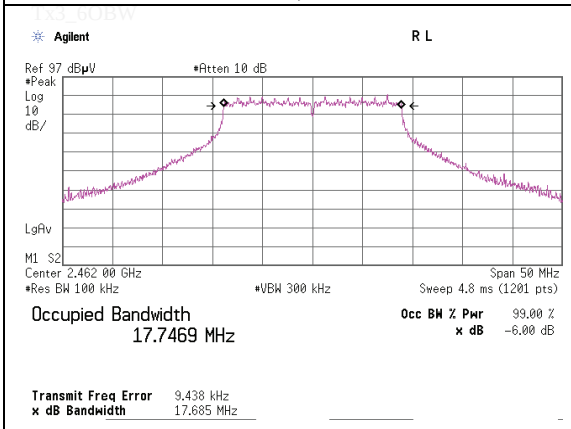
Tx, 2412MHz



Tx, 2437MHz



Tx, 2462MHz



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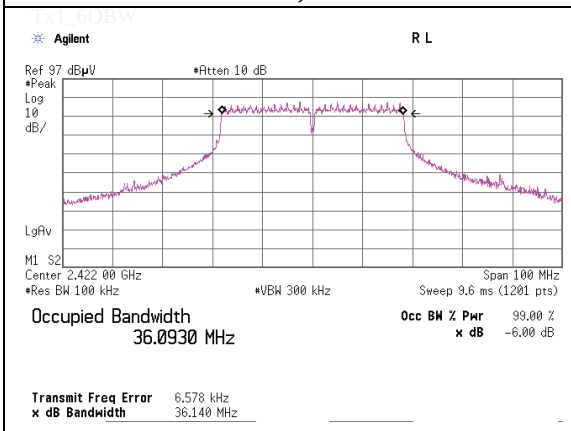
-6dB Bandwidth

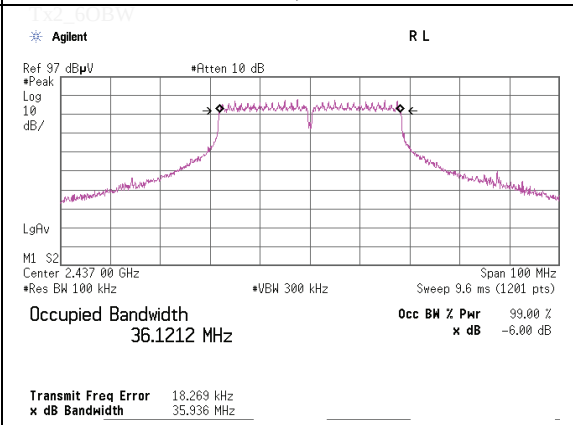
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	May 2, 2013	
Temperature / Humidity	24deg.C , 40%RH	
Engineer	Makoto Hosaka	
Mode	Tx, IEEE802.11n (HT40), PN9, antenna port 1, worst data mode 8(MCS)	

Freq. [MHz]	-6dB Bandwidth [MHz]	Limit [MHz]
2422.0000	36.140	> 0.500
2437.0000	35.936	> 0.500
2452.0000	36.142	> 0.500

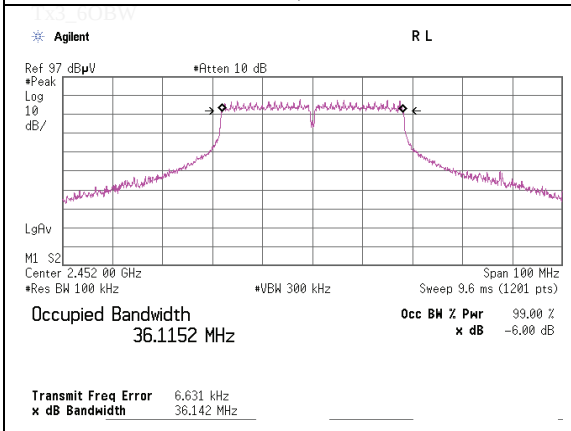
Tx, 2422MHz



Tx, 2437MHz



Tx, 2452MHz



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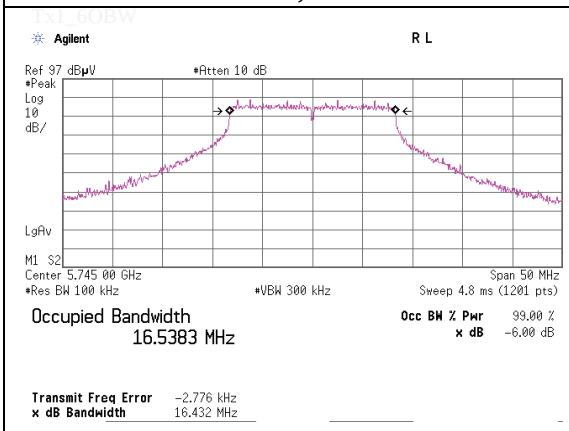
-6dB Bandwidth

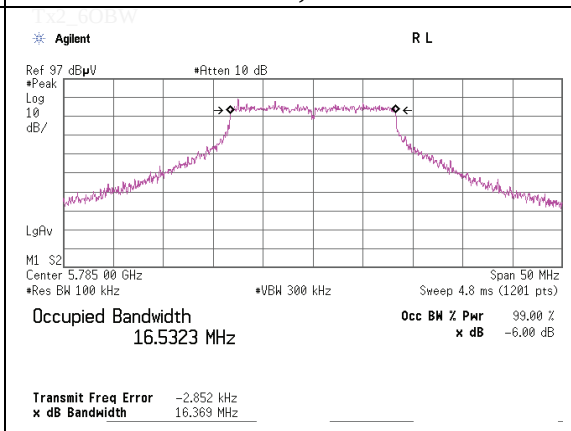
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	May 2, 2013	
Temperature / Humidity	24deg.C , 40%RH	
Engineer	Makoto Hosaka	
Mode	Tx, IEEE802.11a, PN9, worst antenna port 1, worst data mode 9Mbps	

Freq. [MHz]	-6dB Bandwidth [MHz]	Limit [MHz]
5745.0000	16.432	> 0.500
5785.0000	16.369	> 0.500
5825.0000	16.448	> 0.500

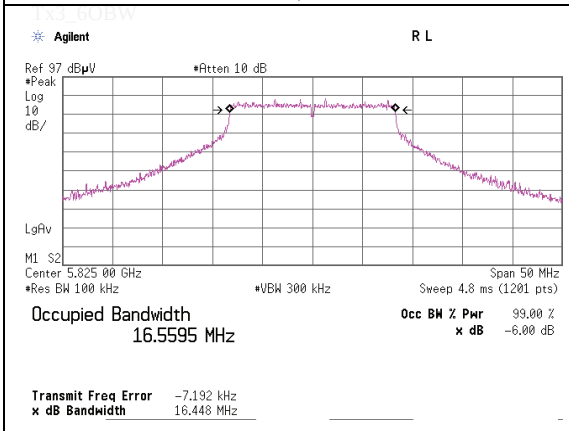
Tx, 5745MHz



Tx, 5785MHz



Tx, 5825MHz



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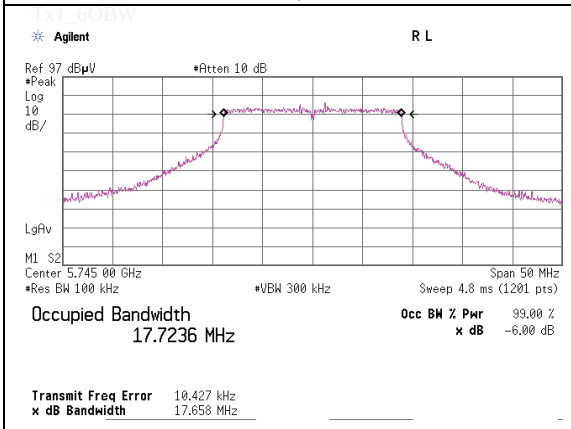
-6dB Bandwidth

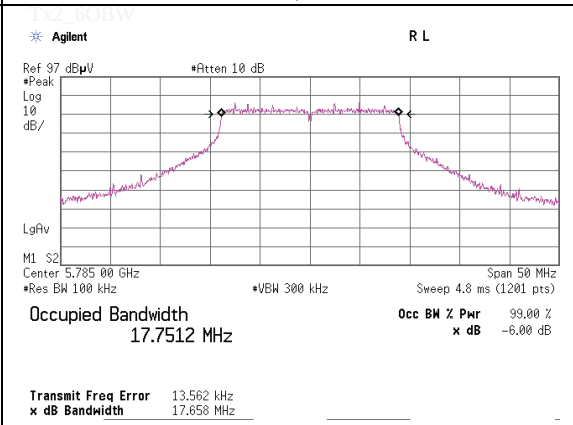
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	May 2, 2013	
Temperature / Humidity	24deg.C , 40%RH	
Engineer	Makoto Hosaka	
Mode	Tx, IEEE802.11n(HT20), PN9, worst antenna port 2, worst data mode 0(MCS)	

Freq. [MHz]	-6dB Bandwidth [MHz]	Limit [MHz]
5745.0000	17.658	> 0.500
5785.0000	17.658	> 0.500
5825.0000	17.679	> 0.500

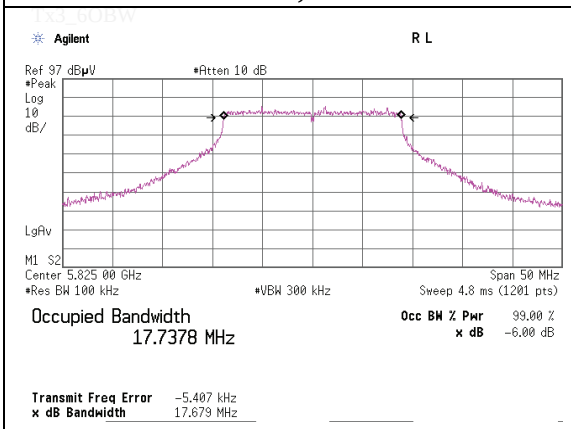
Tx, 5745MHz



Tx, 5785MHz



Tx, 5825MHz



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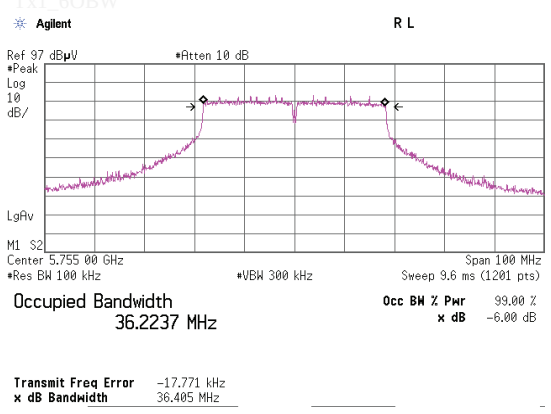
-6dB Bandwidth

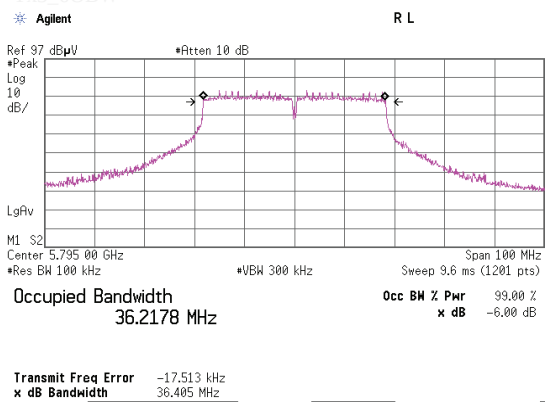
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	May 2, 2013	
Temperature / Humidity	24deg.C , 40%RH	
Engineer	Makoto Hosaka	
Mode	Tx, IEEE802.11n(HT40), PN9, worst antenna port 1, worst data mode 0(MCS)	

Freq. [MHz]	-6dB Bandwidth [MHz]	Limit [MHz]
5755.0000	36.405	> 0.500
5795.0000	36.405	> 0.500

Tx, 5755MHz



Tx, 5795MHz



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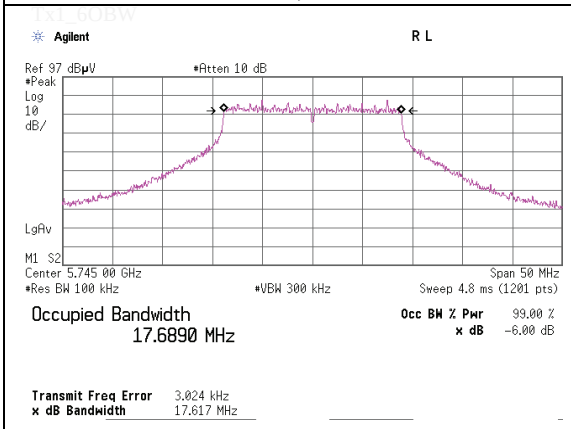
-6dB Bandwidth

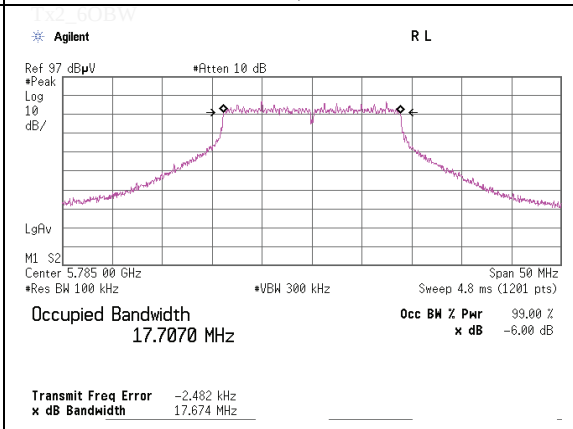
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	May 2, 2013	
Temperature / Humidity	24deg.C , 40%RH	
Engineer	Makoto Hosaka	
Mode	Tx, IEEE802.11n (HT20), PN9, antenna port 1, worst data mode 10(MCS)	

Freq. [MHz]	-6dB Bandwidth [MHz]	Limit [MHz]
5745.0000	17.617	> 0.500
5785.0000	17.674	> 0.500
5825.0000	17.649	> 0.500

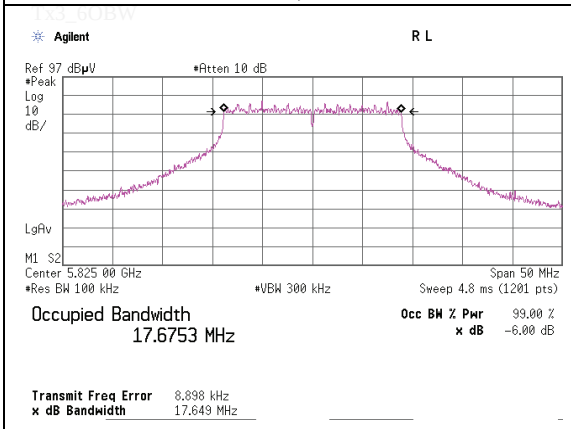
Tx, 5745MHz



Tx, 5785MHz



Tx, 5825MHz



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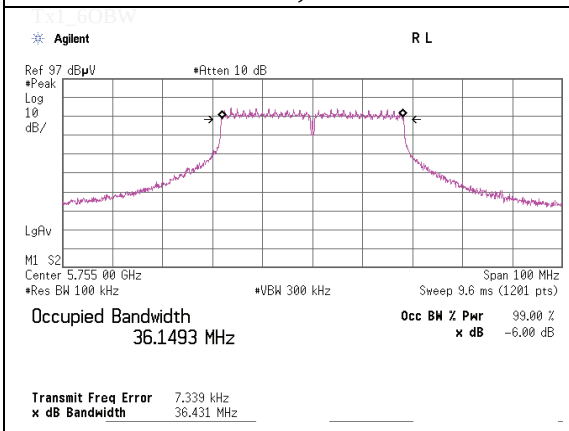
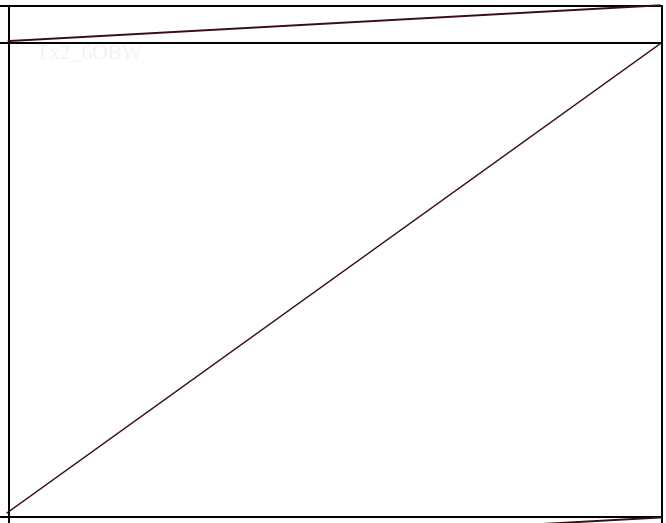
-6dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	May 2, 2013	
Temperature / Humidity	24deg.C , 40%RH	
Engineer	Makoto Hosaka	
Mode	Tx, IEEE802.11n (HT40), PN9, antenna port 2, worst data mode 8(MCS)	

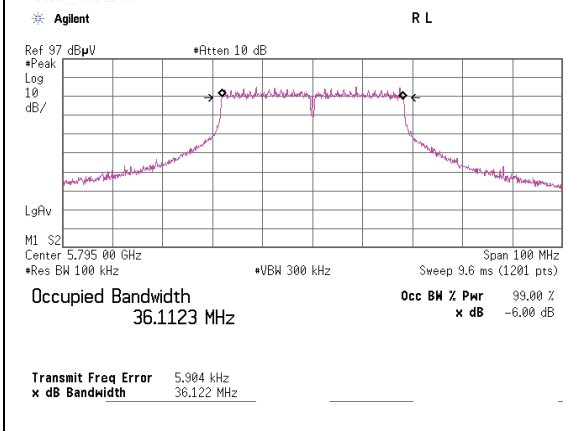
Freq. [MHz]	-6dB Bandwidth [MHz]	Limit [MHz]
5755.0000	36.431	> 0.500
5795.0000	36.122	> 0.500

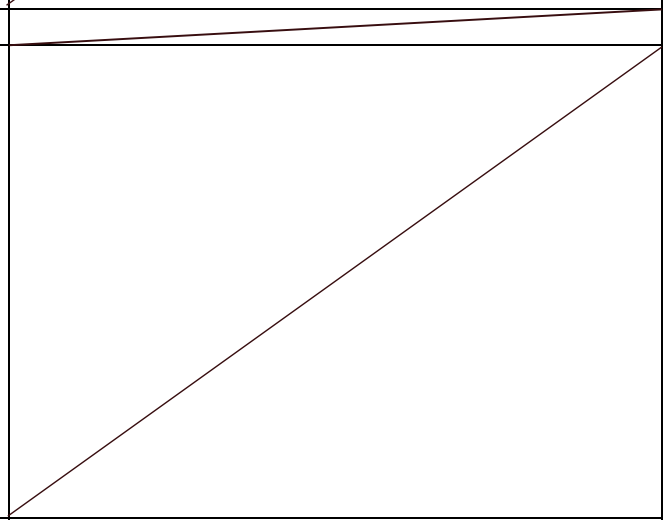
Tx, 5755MHz





Tx, 5795MHz





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Revised date: June 18, 2013

Maximum Peak Conducted Output Power

(Method 9.1.3 PKPM1)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room			
Date	April 26, 2013				
Temperature / Humidity	23deg.C , 45%RH				
Engineer	Makoto Hosaka				
Mode	Tx, IEEE802.11b , PN9,	worst antenna :	1	worst data mode :	1 Mbps

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

Ch	Freq.	P/M (Peak) Reading	Cable Loss	Atten. Loss	Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	2412.0	-5.52	1.50	20.21	16.19	41.59	30.00	1000	13.81
Mid	2437.0	-5.56	1.50	20.21	16.15	41.21	30.00	1000	13.85
High	2462.0	-5.80	1.51	20.21	15.92	39.08	30.00	1000	14.08

Sample Calculation:
Result = Reading + Cable Loss + Atten. Loss

[Pre check]
Antenna 1

	Data rate	Freq.	P/M (Peak) Reading	Cable Loss	Atten. Loss	Result		Limit		Margin	
	[Mbps]	[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[dBm]	[mW]	[dB]	
1	1	2412.0	-5.52	1.50	20.21	**16.19**	41.59	30.00	1000	**13.81**	**Worst**
1	2	2412.0	-5.55	1.50	20.21	16.16	41.30	30.00	1000	13.84	
1	5.5	2412.0	-5.68	1.50	20.21	16.03	40.09	30.00	1000	13.97	
1	11	2412.0	-5.60	1.50	20.21	16.11	40.83	30.00	1000	13.89	

Antenna 2

	Data rate	Freq.	P/M (Peak) Reading	Cable Loss	Atten. Loss	Result		Limit		Margin
	[Mbps]	[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[dBm]	[mW]	[dB]
2	1	2412.0	-6.05	1.52	20.21	15.68	36.98	30.00	1000	14.32
2	2	2412.0	-5.69	1.52	20.21	16.04	40.18	30.00	1000	13.96
2	6	2412.0	-5.83	1.52	20.21	15.90	38.90	30.00	1000	14.10
2	11	2412.0	-5.82	1.52	20.21	15.91	38.99	30.00	1000	14.09

Sample Calculation:
Result = Reading + Cable Loss + Atten. Loss

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Revised date: June 18, 2013

Maximum Peak Conducted Output Power

(Method 9.1.3 PKPM1)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room			
Date	April 26, 2013				
Temperature / Humidity	23deg.C , 45%RH				
Engineer	Makoto Hosaka				
Mode	Tx, IEEE802.11g, PN9,	worst antenna :	1	worst data mode :	6 Mbps

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

Ch	Freq.	P/M (Peak) Reading	Cable Loss	Atten. Loss	Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	2412.0	1.91	1.50	20.21	23.62	230.14	30.00	1000	6.38
Mid	2437.0	1.87	1.50	20.21	23.58	228.03	30.00	1000	6.42
High	2462.0	1.63	1.51	20.21	23.35	216.27	30.00	1000	6.65

Sample Calculation:
Result = Reading + Cable Loss + Atten. Loss

[Pre check]
Antenna 1

	Data rate	Freq.	P/M (Peak) Reading	Cable Loss	Atten. Loss	Result		Limit		Margin	
	[Mbps]	[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[dBm]	[mW]	[dB]	
1	6	2412.0	1.91	1.50	20.21	**23.62**	230.14	30.00	1000	**6.38**	**Worst**
1	9	2412.0	1.89	1.50	20.21	23.60	229.09	30.00	1000	6.40	
1	12	2412.0	1.69	1.50	20.21	23.40	218.78	30.00	1000	6.60	
1	18	2412.0	1.71	1.50	20.21	23.42	219.79	30.00	1000	6.58	
1	24	2412.0	1.67	1.50	20.21	23.38	217.77	30.00	1000	6.62	
1	36	2412.0	1.54	1.50	20.21	23.25	211.35	30.00	1000	6.75	
1	48	2412.0	1.40	1.50	20.21	23.11	204.64	30.00	1000	6.89	
1	54	2412.0	1.64	1.50	20.21	23.35	216.27	30.00	1000	6.65	

Antenna 2

	Data rate	Freq.	P/M (Peak) Reading	Cable Loss	Atten. Loss	Result		Limit		Margin
	[Mbps]	[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[dBm]	[mW]	[dB]
2	6	2412.0	1.68	1.52	20.21	23.41	219.28	30.00	1000	6.59
2	9	2412.0	1.59	1.52	20.21	23.32	214.78	30.00	1000	6.68
2	12	2412.0	1.54	1.52	20.21	23.27	212.32	30.00	1000	6.73
2	18	2412.0	1.59	1.52	20.21	23.32	214.78	30.00	1000	6.68
2	24	2412.0	1.49	1.52	20.21	23.22	209.89	30.00	1000	6.78
2	36	2412.0	1.30	1.52	20.21	23.03	200.91	30.00	1000	6.97
2	48	2412.0	1.27	1.52	20.21	23.00	199.53	30.00	1000	7.00
2	54	2412.0	1.47	1.52	20.21	23.20	208.93	30.00	1000	6.80

Sample Calculation:
Result = Reading + Cable Loss + Atten. Loss

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Revised date: June 18, 2013

Maximum Peak Conducted Output Power

(Method 9.1.3 PKPM1)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room			
Date	April 26, 2013				
Temperature / Humidity	23deg.C , 45%RH				
Engineer	Makoto Hosaka				
Mode	Tx, IEEE802.11n(HT20), PN9,	worst antenna :	1	worst data mode :	0 (MCS)

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

Ch	Freq. [MHz]	P/M (Peak) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result [dBm]	Result [mW]	Limit [dBm]	Limit [mW]	Margin [dB]
Low	2412.0	0.71	1.50	20.21	22.42	174.58	30.00	1000	7.58
Mid	2437.0	0.41	1.50	20.21	22.12	162.93	30.00	1000	7.88
High	2462.0	0.39	1.51	20.21	22.11	162.55	30.00	1000	7.89

Sample Calculation:
Result = Reading + Cable Loss + Atten. Loss

[Pre check]
Antenna 1

	Mode (MCS)	Freq. [MHz]	P/M (Peak) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result [dBm]	Result [mW]	Limit [dBm]	Limit [mW]	Margin [dB]	
1	0	2412.0	0.71	1.50	20.21	**22.42**	174.58	30.00	1000	**7.58**	**Worst**
1	1	2412.0	0.47	1.50	20.21	22.18	165.20	30.00	1000	7.82	
1	2	2412.0	0.33	1.50	20.21	22.04	159.96	30.00	1000	7.96	
1	3	2412.0	0.37	1.50	20.21	22.08	161.44	30.00	1000	7.92	
1	4	2412.0	0.40	1.50	20.21	22.11	162.55	30.00	1000	7.89	
1	5	2412.0	0.41	1.50	20.21	22.12	162.93	30.00	1000	7.88	
1	6	2412.0	0.36	1.50	20.21	22.07	161.06	30.00	1000	7.93	
1	7	2412.0	-2.72	1.50	20.21	18.99	79.25	30.00	1000	11.01	

Antenna 2

	Mode (MCS)	Freq. [MHz]	P/M (Peak) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result [dBm]	Result [mW]	Limit [dBm]	Limit [mW]	Margin [dB]
2	0	2412.0	0.50	1.52	20.21	22.23	167.11	30.00	1000	7.77
2	1	2412.0	-0.18	1.52	20.21	21.55	142.89	30.00	1000	8.45
2	2	2412.0	-0.11	1.52	20.21	21.62	145.21	30.00	1000	8.38
2	3	2412.0	-0.27	1.52	20.21	21.46	139.96	30.00	1000	8.54
2	4	2412.0	-0.17	1.52	20.21	21.56	143.22	30.00	1000	8.44
2	5	2412.0	-0.18	1.52	20.21	21.55	142.89	30.00	1000	8.45
2	6	2412.0	-0.44	1.52	20.21	21.29	134.59	30.00	1000	8.71
2	7	2412.0	-3.03	1.52	20.21	18.70	74.13	30.00	1000	11.30

Sample Calculation:
Result = Reading + Cable Loss + Atten. Loss

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Maximum Peak Conducted Output Power

(Method 9.1.3 PKPM1)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room			
Date	April 26, 2013				
Temperature / Humidity	23deg.C , 45%RH				
Engineer	Makoto Hosaka				
Mode	Tx, IEEE802.11n(HT40), PN9,	worst antenna :	1	worst data mode :	0 (MCS)

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

Ch	Freq. [MHz]	P/M (Peak) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result [dBm]	Result [mW]	Limit [dBm]	Limit [mW]	Margin [dB]
Low	2422.0	1.23	1.50	20.21	22.94	196.79	30.00	1000	7.06
Mid	2437.0	1.19	1.50	20.21	22.90	194.98	30.00	1000	7.10
High	2452.0	1.15	1.50	20.21	22.86	193.20	30.00	1000	7.14

Sample Calculation:
Result = Reading + Cable Loss + Atten. Loss

[Pre check]
Antenna 1

	Mode (MCS)	Freq. [MHz]	P/M (Peak) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result [dBm]	Result [mW]	Limit [dBm]	Limit [mW]	Margin [dB]	
1	0	2422.0	1.23	1.50	20.21	**22.94**	196.79	30.00	1000	**7.06**	**Worst**
1	1	2422.0	0.12	1.50	20.21	21.83	152.41	30.00	1000	8.17	
1	2	2422.0	0.29	1.50	20.21	22.00	158.49	30.00	1000	8.00	
1	3	2422.0	0.36	1.50	20.21	22.07	161.06	30.00	1000	7.93	
1	4	2422.0	0.49	1.50	20.21	22.20	165.96	30.00	1000	7.80	
1	5	2422.0	0.54	1.50	20.21	22.25	167.88	30.00	1000	7.75	
1	6	2422.0	0.22	1.50	20.21	21.93	155.96	30.00	1000	8.07	
1	7	2422.0	-2.94	1.50	20.21	18.77	75.34	30.00	1000	11.23	

Antenna 2

	Mode (MCS)	Freq. [MHz]	P/M (Peak) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result [dBm]	Result [mW]	Limit [dBm]	Limit [mW]	Margin [dB]
2	0	2422.0	0.98	1.52	20.21	22.71	186.64	30.00	1000	7.29
2	1	2422.0	0.26	1.52	20.21	21.99	158.12	30.00	1000	8.01
2	2	2422.0	0.13	1.52	20.21	21.86	153.46	30.00	1000	8.14
2	3	2422.0	0.02	1.52	20.21	21.75	149.62	30.00	1000	8.25
2	4	2422.0	0.31	1.52	20.21	22.04	159.96	30.00	1000	7.96
2	5	2422.0	0.32	1.52	20.21	22.05	160.32	30.00	1000	7.95
2	6	2422.0	0.04	1.52	20.21	21.77	150.31	30.00	1000	8.23
2	7	2422.0	-2.78	1.52	20.21	18.95	78.52	30.00	1000	11.05

Sample Calculation:
Result = Reading + Cable Loss + Atten. Loss

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Maximum Peak Conducted Output Power

(Method 9.1.3 PKPM1)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room	
Date	April 26, 2013		
Temperature / Humidity	23deg.C , 45%RH		
Engineer	Makoto Hosaka		
Mode	Tx, IEEE802.11n (HT20), PN9,	worst data mode :	8 (MCS)

Antenna 1 + Antenna 2

Ch	Freq.	Result Ant 1	Result Ant 2		Result Ant 1 + Ant 2		Limit		Margin
	[MHz]	[mW]	[mW]		[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	2412.0	167.49	156.31		25.10	323.81	30.00	1000	4.90
Mid	2437.0	151.01	157.04		24.89	308.04	30.00	1000	5.11
High	2462.0	155.60	142.89		24.75	298.49	30.00	1000	5.25

Antenna 1

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

Ch	Freq.	P/M (Peak) Reading	Cable Loss	Atten. Loss	Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	2412.0	0.53	1.50	20.21	22.24	167.49	30.00	1000	7.76
Mid	2437.0	0.08	1.50	20.21	21.79	151.01	30.00	1000	8.21
High	2462.0	0.20	1.51	20.21	21.92	155.60	30.00	1000	8.08

Antenna 2

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

Ch	Freq.	P/M (Peak) Reading	Cable Loss	Atten. Loss	Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	2412.0	0.21	1.52	20.21	21.94	156.31	30.00	1000	8.06
Mid	2437.0	0.24	1.51	20.21	21.96	157.04	30.00	1000	8.04
High	2462.0	-0.17	1.51	20.21	21.55	142.89	30.00	1000	8.45

Sample Calculation:
Result = Reading + Cable Loss + Atten. Loss

[Pre check]

Mode	Freq.	Reading Antenna 1		Reading Antenna 2		Reading Antenna 1 + 2		
(MCS)	[MHz]	[dBm]	[mW]	[dBm]	[mW]	[dBm]	[mW]	
8	2412.0	0.53	1.13	0.21	1.05	3.38	2.18	**Worst**
9	2412.0	0.27	1.06	0.07	1.02	3.18	2.08	
10	2412.0	0.20	1.05	-0.03	0.99	3.10	2.04	
11	2412.0	0.03	1.01	-0.14	0.97	2.96	1.98	
12	2412.0	-0.05	0.99	-0.10	0.98	2.94	1.97	
13	2412.0	0.43	1.10	-0.24	0.95	3.12	2.05	
14	2412.0	0.34	1.08	-0.17	0.96	3.10	2.04	
15	2412.0	-2.98	0.50	-2.86	0.52	0.09	1.02	

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Maximum Peak Conducted Output Power

(Method 9.1.3 PKPM1)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room	
Date	April 26, 2013		
Temperature / Humidity	23deg.C , 45%RH		
Engineer	Makoto Hosaka		
Mode	Tx, IEEE802.11n (HT40), PN9,	worst data mode :	8 (MCS)

Antenna 1 + Antenna 2

Ch	Freq.	Result Ant 1	Result Ant 2		Result Ant 1 + Ant 2		Limit		Margin
	[MHz]	[mW]	[mW]		[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	2422.0	157.40	156.68		24.97	314.07	30.00	1000	5.03
Mid	2437.0	152.05	142.89		24.70	294.94	30.00	1000	5.30
High	2452.0	155.96	141.58		24.74	297.53	30.00	1000	5.26

Antenna 1 (* P/M: Power Meter with power sensor)

Ch	Freq.	P/M (Peak) Reading	Cable Loss	Atten. Loss	Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	2422.0	0.26	1.50	20.21	21.97	157.40	30.00	1000	8.03
Mid	2437.0	0.11	1.50	20.21	21.82	152.05	30.00	1000	8.18
High	2452.0	0.22	1.50	20.21	21.93	155.96	30.00	1000	8.07

Antenna 2 (* P/M: Power Meter with power sensor)

Ch	Freq.	P/M (Peak) Reading	Cable Loss	Atten. Loss	Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	2422.0	0.22	1.52	20.21	21.95	156.68	30.00	1000	8.05
Mid	2437.0	-0.17	1.51	20.21	21.55	142.89	30.00	1000	8.45
High	2452.0	-0.21	1.51	20.21	21.51	141.58	30.00	1000	8.49

Sample Calculation:
Result = Reading + Cable Loss + Atten. Loss

[Pre check]

Mode	Freq.	Reading Antenna 1		Reading Antenna 2		Reading Antenna 1 + 2		
(MCS)	[MHz]	[dBm]	[mW]	[dBm]	[mW]	[dBm]	[mW]	
8	2422.0	0.26	1.06	0.22	1.05	3.25	2.11	**Worst**
9	2422.0	0.10	1.02	-0.08	0.98	3.02	2.01	
10	2422.0	0.18	1.04	0.14	1.03	3.17	2.08	
11	2422.0	0.20	1.05	-0.24	0.95	3.00	1.99	
12	2422.0	0.14	1.03	0.20	1.05	3.18	2.08	
13	2422.0	-0.11	0.97	-0.18	0.96	2.87	1.93	
14	2422.0	0.03	1.01	-0.29	0.94	2.88	1.94	
15	2422.0	-2.48	0.56	-2.29	0.59	0.63	1.16	

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Maximum Peak Conducted Output Power

(Method 9.1.3 PKPM1)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room			
Date	April 26, 2013				
Temperature / Humidity	23deg.C , 45%RH				
Engineer	Makoto Hosaka				
Mode	Tx, IEEE802.11a, PN9,	worst antenna :	1	worst data mode :	9 Mbps

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

Ch	Freq.	P/M (Peak) Reading	Cable Loss	Atten. Loss	Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5745.0	-0.35	2.31	20.09	22.05	160.32	30.00	1000	7.95
Mid	5785.0	-0.34	2.32	20.09	22.07	161.06	30.00	1000	7.93
High	5825.0	-0.60	2.65	20.10	22.15	164.06	30.00	1000	7.85

Sample Calculation:
Result = Reading + Cable Loss + Atten. Loss

[Pre check]
Antenna 1

	Data rate	Freq.	P/M (Peak) Reading	Cable Loss	Atten. Loss	Result		Limit		Margin	
	[Mbps]	[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[dBm]	[mW]	[dB]	
1	6	2412.0	-0.57	2.31	20.09	21.83	152.41	30.00	1000	8.17	
1	9	2412.0	-0.35	2.31	20.09	**22.05**	160.32	30.00	1000	**7.95**	**Worst**
1	12	2412.0	-0.82	2.31	20.09	21.58	143.88	30.00	1000	8.42	
1	18	2412.0	-0.46	2.31	20.09	21.94	156.31	30.00	1000	8.06	
1	24	2412.0	-0.76	2.31	20.09	21.64	145.88	30.00	1000	8.36	
1	36	2412.0	-0.82	2.31	20.09	21.58	143.88	30.00	1000	8.42	
1	48	2412.0	-1.07	2.31	20.09	21.33	135.83	30.00	1000	8.67	
1	54	2412.0	-2.42	2.31	20.09	19.98	99.54	30.00	1000	10.02	

Antenna 2

	Data rate	Freq.	P/M (Peak) Reading	Cable Loss	Atten. Loss	Result		Limit		Margin
	[Mbps]	[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[dBm]	[mW]	[dB]
2	6	2412.0	-0.92	2.36	20.09	21.53	142.23	30.00	1000	8.47
2	9	2412.0	-0.59	2.36	20.09	21.86	153.46	30.00	1000	8.14
2	12	2412.0	-0.92	2.36	20.09	21.53	142.23	30.00	1000	8.47
2	18	2412.0	-0.82	2.36	20.09	21.63	145.55	30.00	1000	8.37
2	24	2412.0	-0.95	2.36	20.09	21.50	141.25	30.00	1000	8.50
2	36	2412.0	-1.00	2.36	20.09	21.45	139.64	30.00	1000	8.55
2	48	2412.0	-1.18	2.36	20.09	21.27	133.97	30.00	1000	8.73
2	54	2412.0	-2.80	2.36	20.09	19.65	92.26	30.00	1000	10.35

Sample Calculation:
Result = Reading + Cable Loss + Atten. Loss

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Maximum Peak Conducted Output Power

(Method 9.1.3 PKPM1)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room			
Date	April 26, 2013				
Temperature / Humidity	23deg.C , 45%RH				
Engineer	Makoto Hosaka				
Mode	Tx, IEEE802.11n(HT20), PN9,	worst antenna :	2	worst data mode :	0 (MCS)

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

Ch	Freq.	P/M (Peak) Reading	Cable Loss	Atten. Loss	Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5745.0	-1.51	2.36	20.09	20.94	124.17	30.00	1000	9.06
Mid	5785.0	-1.78	2.38	20.09	20.69	117.22	30.00	1000	9.31
High	5825.0	-2.19	2.42	20.10	20.33	107.89	30.00	1000	9.67

Sample Calculation:
Result = Reading + Cable Loss + Atten. Loss

[Pre check]
Antenna 1

	Mode	Freq.	P/M (Peak) Reading	Cable Loss	Atten. Loss	Result		Limit		Margin
	(MCS)	[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[dBm]	[mW]	[dB]
1	0	5745.0	-2.42	2.31	20.09	19.98	99.54	30.00	1000	10.02
1	1	5745.0	-2.82	2.31	20.09	19.58	90.78	30.00	1000	10.42
1	2	5745.0	-2.79	2.31	20.09	19.61	91.41	30.00	1000	10.39
1	3	5745.0	-2.14	2.31	20.09	20.26	106.17	30.00	1000	9.74
1	4	5745.0	-2.39	2.31	20.09	20.01	100.23	30.00	1000	9.99
1	5	5745.0	-2.54	2.31	20.09	19.86	96.83	30.00	1000	10.14
1	6	5745.0	-4.53	2.31	20.09	17.87	61.24	30.00	1000	12.13
1	7	5745.0	-4.92	2.31	20.09	17.48	55.98	30.00	1000	12.52

Antenna 2

	Mode	Freq.	P/M (Peak) Reading	Cable Loss	Atten. Loss	Result		Limit		Margin	
	(MCS)	[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[dBm]	[mW]	[dB]	
2	0	5745.0	-1.51	2.36	20.09	**20.94**	124.17	30.00	1000	**9.06**	**Worst**
2	1	5745.0	-2.39	2.36	20.09	20.06	101.39	30.00	1000	9.94	
2	2	5745.0	-1.83	2.36	20.09	20.62	115.35	30.00	1000	9.38	
2	3	5745.0	-2.47	2.36	20.09	19.98	99.54	30.00	1000	10.02	
2	4	5745.0	-2.52	2.36	20.09	19.93	98.40	30.00	1000	10.07	
2	5	5745.0	-2.55	2.36	20.09	19.90	97.72	30.00	1000	10.10	
2	6	5745.0	-4.89	2.36	20.09	17.56	57.02	30.00	1000	12.44	
2	7	5745.0	-4.52	2.36	20.09	17.93	62.09	30.00	1000	12.07	

Sample Calculation:
Result = Reading + Cable Loss + Atten. Loss

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Revised date: June 18, 2013

Maximum Peak Conducted Output Power

(Method 9.1.3 PKPM1)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room			
Date	April 26, 2013				
Temperature / Humidity	23deg.C , 45%RH				
Engineer	Makoto Hosaka				
Mode	Tx, IEEE802.11n(HT40), PN9,	worst antenna :	1	worst data mode :	0 (MCS)

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

Ch	Freq. [MHz]	P/M (Peak) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result [dBm]	Result [mW]	Limit [dBm]	Limit [mW]	Margin [dB]
Low	5755.0	-1.14	2.31	20.09	21.26	133.66	30.00	1000	8.74
High	5795.0	-1.44	2.32	20.09	20.97	125.03	30.00	1000	9.03

Sample Calculation:
Result = Reading + Cable Loss + Atten. Loss

[Pre check]
Antenna 1

	Mode (MCS)	Freq. [MHz]	P/M (Peak) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result [dBm]	Result [mW]	Limit [dBm]	Limit [mW]	Margin [dB]	
1	0	5755.0	-1.14	2.31	20.09	**21.26**	133.66	30.00	1000	**8.74**	**Worst**
1	1	5755.0	-2.34	2.31	20.09	20.06	101.39	30.00	1000	9.94	
1	2	5755.0	-2.54	2.31	20.09	19.86	96.83	30.00	1000	10.14	
1	3	5755.0	-2.14	2.31	20.09	20.26	106.17	30.00	1000	9.74	
1	4	5755.0	-2.11	2.31	20.09	20.29	106.91	30.00	1000	9.71	
1	5	5755.0	-1.94	2.31	20.09	20.46	111.17	30.00	1000	9.54	
1	6	5755.0	-4.31	2.31	20.09	18.09	64.42	30.00	1000	11.91	
1	7	5755.0	-4.89	2.31	20.09	17.51	56.36	30.00	1000	12.49	

Antenna 2

	Mode (MCS)	Freq. [MHz]	P/M (Peak) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result [dBm]	Result [mW]	Limit [dBm]	Limit [mW]	Margin [dB]
2	0	5755.0	-1.29	2.37	20.09	21.17	130.92	30.00	1000	8.83
2	1	5755.0	-1.80	2.37	20.09	20.66	116.41	30.00	1000	9.34
2	2	5755.0	-2.18	2.37	20.09	20.28	106.66	30.00	1000	9.72
2	3	5755.0	-2.18	2.37	20.09	20.28	106.66	30.00	1000	9.72
2	4	5755.0	-2.23	2.37	20.09	20.23	105.44	30.00	1000	9.77
2	5	5755.0	-2.20	2.37	20.09	20.26	106.17	30.00	1000	9.74
2	6	5755.0	-4.15	2.37	20.09	18.31	67.76	30.00	1000	11.69
2	7	5755.0	-4.11	2.37	20.09	18.35	68.39	30.00	1000	11.65

Sample Calculation:
Result = Reading + Cable Loss + Atten. Loss

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Revised date: June 18, 2013

Maximum Peak Conducted Output Power

(Method 9.1.3 PKPM1)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room	
Date	April 26, 2013		
Temperature / Humidity	23deg.C , 45%RH		
Engineer	Makoto Hosaka		
Mode	Tx, IEEE802.11n (HT20), PN9,	worst data mode :	10 (MCS)

Antenna 1 + Antenna 2

Ch	Freq.	Result Ant 1	Result Ant 2		Result Ant 1 + Ant 2		Limit		Margin
	[MHz]	[mW]	[mW]		[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5745.0	111.69	101.86		23.29	213.55	30.00	1000	6.71
Mid	5785.0	95.72	99.54		22.91	195.26	30.00	1000	7.09
High	5825.0	93.97	93.97		22.74	187.94	30.00	1000	7.26

Antenna 1

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

Ch	Freq.	P/M (Peak) Reading	Cable Loss	Atten. Loss	Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5745.0	-1.92	2.31	20.09	20.48	111.69	30.00	1000	9.52
Mid	5785.0	-2.60	2.32	20.09	19.81	95.72	30.00	1000	10.19
High	5825.0	-3.02	2.65	20.10	19.73	93.97	30.00	1000	10.27

Antenna 2

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

Ch	Freq.	P/M (Peak) Reading	Cable Loss	Atten. Loss	Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5745.0	-2.37	2.36	20.09	20.08	101.86	30.00	1000	9.92
Mid	5785.0	-2.49	2.38	20.09	19.98	99.54	30.00	1000	10.02
High	5825.0	-2.79	2.42	20.10	19.73	93.97	30.00	1000	10.27

Sample Calculation:
Result = Reading + Cable Loss + Atten. Loss

[Pre check]

Mode	Freq.	Reading Antenna 1		Reading Antenna 2		Reading Antenna 1 + 2		
(MCS)	[MHz]	[dBm]	[mW]	[dBm]	[mW]	[dBm]	[mW]	
8	5745.0	-2.95	0.51	-2.02	0.63	0.55	1.14	
9	5745.0	-2.75	0.53	-2.30	0.59	0.49	1.12	
10	5745.0	-1.92	0.64	-2.37	0.58	0.87	1.22	**Worst**
11	5745.0	-2.83	0.52	-2.11	0.62	0.56	1.14	
12	5745.0	-2.53	0.56	-2.32	0.59	0.59	1.14	
13	5745.0	-2.11	0.62	-2.20	0.60	0.86	1.22	
14	5745.0	-4.71	0.34	-4.43	0.36	-1.56	0.70	
15	5745.0	-5.46	0.28	-4.88	0.33	-2.15	0.61	

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Maximum Peak Conducted Output Power

(Method 9.1.3 PKPM1)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room	
Date	April 26, 2013		
Temperature / Humidity	23deg.C , 45%RH		
Engineer	Makoto Hosaka		
Mode	Tx, IEEE802.11n (HT40), PN9,	worst data mode :	8 (MCS)

Antenna 1 + Antenna 2

Ch	Freq.	Result Ant 1	Result Ant 2		Result Ant 1 + Ant 2		Limit		Margin
	[MHz]	[mW]	[mW]		[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5755.0	94.84	111.43		23.14	206.27	30.00	1000	6.86
High	5795.0	87.30	100.46		22.74	187.76	30.00	1000	7.26

Antenna 1 (* P/M: Power Meter with power sensor)

Ch	Freq.	P/M (Peak) Reading	Cable Loss	Atten. Loss	Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5755.0	-2.63	2.31	20.09	19.77	94.84	30.00	1000	10.23
High	5795.0	-3.00	2.32	20.09	19.41	87.30	30.00	1000	10.59

Antenna 2 (* P/M: Power Meter with power sensor)

Ch	Freq.	P/M (Peak) Reading	Cable Loss	Atten. Loss	Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5755.0	-1.99	2.37	20.09	20.47	111.43	30.00	1000	9.53
High	5795.0	-2.45	2.38	20.09	20.02	100.46	30.00	1000	9.98

Sample Calculation:
Result = Reading + Cable Loss + Atten. Loss

[Pre check]

Mode	Freq.	Reading Antenna 1		Reading Antenna 2		Reading Antenna 1 + 2		
(MCS)	[MHz]	[dBm]	[mW]	[dBm]	[mW]	[dBm]	[mW]	
8	5755.0	-2.63	0.55	-1.99	0.63	0.71	1.18	**Worst**
9	5755.0	-2.54	0.56	-2.25	0.60	0.62	1.15	
10	5755.0	-2.71	0.54	-2.21	0.60	0.56	1.14	
11	5755.0	-2.62	0.55	-2.36	0.58	0.52	1.13	
12	5755.0	-2.72	0.53	-2.01	0.63	0.66	1.16	
13	5755.0	-2.88	0.52	-2.56	0.55	0.29	1.07	
14	5755.0	-5.48	0.28	-4.57	0.35	-1.99	0.63	
15	5755.0	-4.61	0.35	-3.88	0.41	-1.22	0.76	

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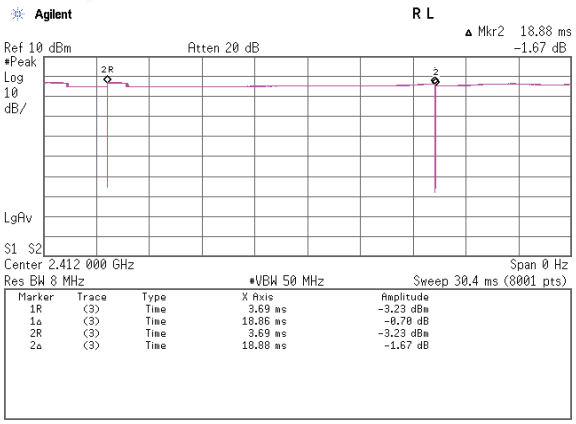
Burst rate confirmation

Tx, IEEE802.11b , PN9, worst antenna port 1, worst data mode 1Mbps

duty cycle = 18.86 / 18.88 = 0.999 (99.9%)	
	

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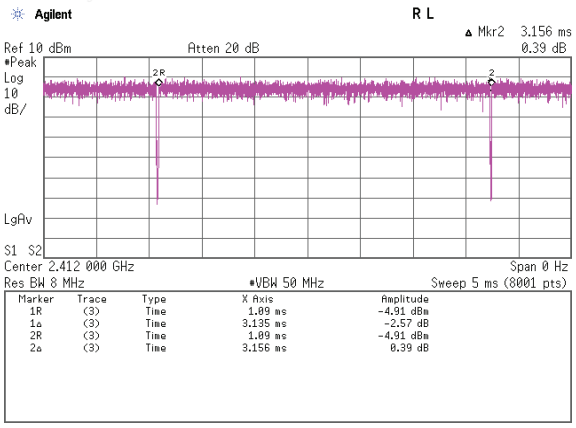
Burst rate confirmation

Tx, IEEE802.11g, PN9, worst antenna port 1, worst data mode 6Mbps

duty cycle = 3.135 / 3.156 = 0.993 (99.3%)	
	

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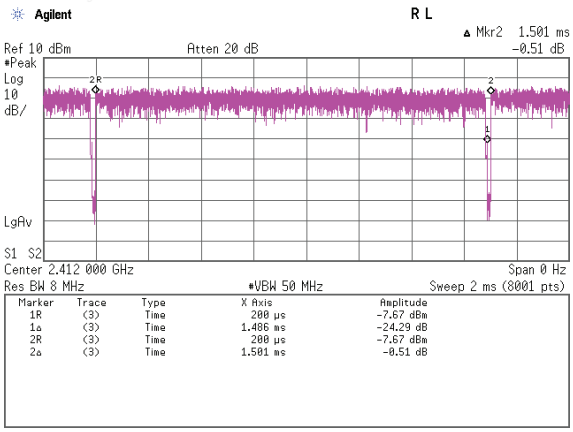
Burst rate confirmation

Tx, IEEE802.11n (HT20), PN9, worst data mode 8(MCS)

duty cycle = 1.486 / 1.501 = 0.99 (99%)	
	

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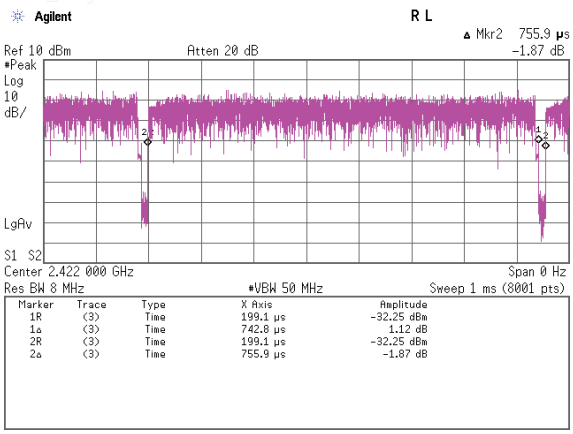
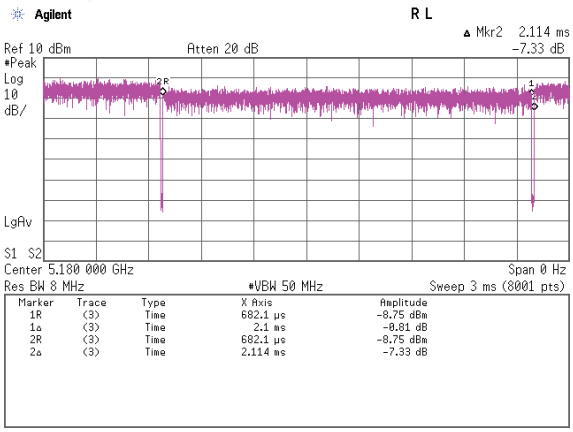
Burst rate confirmation

Tx, IEEE802.11n (HT40), PN9, worst data mode 8(MCS)

duty cycle = 0.742 / 0.7559 = 0.982 (98.2%)	
	

Burst rate confirmation

Tx, IEEE802.11a, PN9, worst antenna port 1, worst data mode 9Mbps

duty cycle = 2.1 / 2.114 = 0.993 (99.3%)	
	

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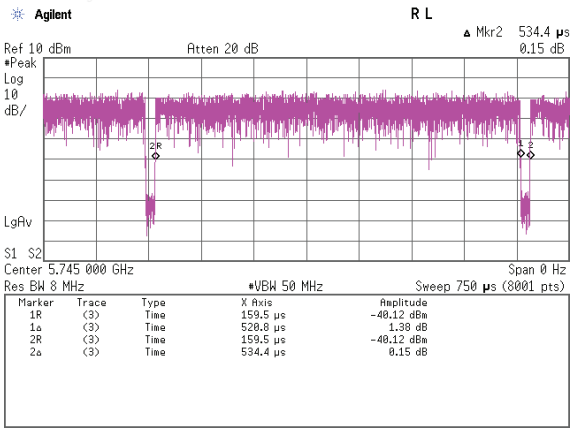
Duty Factor Calculation chart

Tx, IEEE802.11n (HT20), PN9, worst data mode 10(MCS)

Duty Factor Calculation	
Duty Factor: 20log (1/duty cycle) = 0.2dB	
duty cycle = 0.5208 / 0.5344 = 0.975 (97.5%)	
Tx2_duty1 	Tx2_duty2

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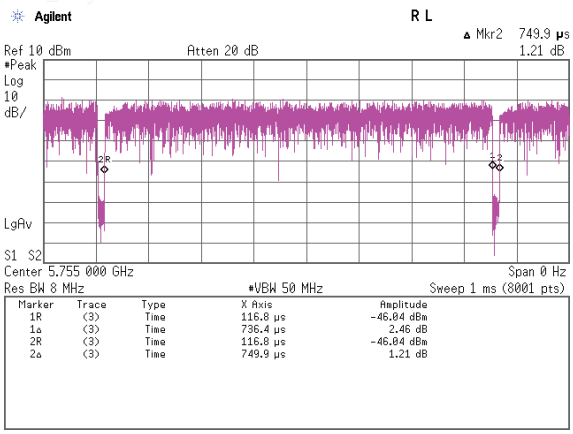
Burst rate confirmation

Tx, IEEE802.11n (HT40), PN9, worst data mode 8(MCS)

duty cycle = 0.7364 / 0.7499 = 0.982 (98.2%)	
	

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Radiated Emission

Test place	No.2 Semi Anechoic Chamber	No.1 Semi Anechoic Chamber	No.1 Semi Anechoic Chamber
Date	May 6, 2013	May 7, 2013	May 8, 2013
Temperature / Humidity	19 deg.C, 45 %RH	22 deg.C, 43 %RH	23 deg.C, 30 %RH
Engineer	Hikaru Shirasawa	Makoto Hosaka	Makoto Hosaka
Mode	Tx, 2412 MHz		
	Tx, IEEE802.11b		

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	2390.000	PK	43.7	27.2	24.7	38.4	57.2	73.9	16.7	100	0	
Hori.	2496.170	PK	47.8	27.4	24.8	38.3	61.7	73.9	12.2	100	189	
Hori.	4824.000	PK	45.3	30.8	7.1	37.2	46.0	73.9	27.9	100	294	
Hori.	7236.000	PK	45.5	36.2	8.6	39.5	50.8	73.9	23.1	100	0	
Hori.	9648.000	PK	43.4	38.3	9.8	37.3	54.2	73.9	19.7	100	17	
Hori.	12060.000	PK	43.9	39.2	11.1	38.1	56.1	73.9	17.8	100	0	
Hori.	2390.000	AV	34.3	27.2	24.7	38.4	47.8	53.9	6.1	100	0	
Hori.	2496.170	AV	35.9	27.4	24.8	38.3	49.8	53.9	**4.1**	100	189	
Hori.	4824.000	AV	37.8	30.8	7.1	37.2	38.5	53.9	15.4	100	294	
Hori.	7236.000	AV	35.8	36.2	8.6	39.5	41.1	53.9	12.8	100	0	
Hori.	9648.000	AV	34.1	38.3	9.8	37.3	44.9	53.9	9.0	100	17	
Hori.	12060.000	AV	34.0	39.2	11.1	38.1	46.2	53.9	7.7	100	0	
Vert.	2390.000	PK	44.7	27.2	24.7	38.4	58.2	73.9	15.7	100	0	
Vert.	4824.000	PK	46.5	30.8	7.1	37.2	47.2	73.9	26.7	100	132	
Vert.	7236.000	PK	46.4	36.2	8.6	39.5	51.7	73.9	22.2	100	0	
Vert.	9648.000	PK	42.8	38.3	9.8	37.3	53.6	73.9	20.3	155	269	
Vert.	12060.000	PK	44.0	39.2	11.1	38.1	56.2	73.9	17.7	100	0	
Vert.	2390.000	AV	34.4	27.2	24.7	38.4	47.9	53.9	6.0	100	0	
Vert.	4824.000	AV	40.9	30.8	7.1	37.2	41.6	53.9	12.3	100	132	
Vert.	7236.000	AV	35.5	36.2	8.6	39.5	40.8	53.9	13.1	100	0	
Vert.	9648.000	AV	34.1	38.3	9.8	37.3	44.9	53.9	9.0	155	269	
Vert.	12060.000	AV	34.0	39.2	11.1	38.1	46.2	53.9	7.7	100	0	

Result = Reading + Ant.Fac. + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)
Distance factor : 15GHz -40GHz : 20log(3.0m/1.0m)= 9.5dB
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

20dBc Data Sheet **(RBW 100kHz, VBW 300kHz)**

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2412.000	PK	83.2	27.3	24.7	38.3	96.9	-	-	
Hori.	2400.000	PK	44.3	27.3	24.7	38.4	57.9	76.9	19.0	
Vert.	2412.000	PK	81.1	27.3	24.7	38.3	94.8	-	-	
Vert.	2400.000	PK	41.2	27.3	24.7	38.4	54.8	74.8	20.0	

Result = Reading + Ant.Fac. + Loss(Cable+Attenuator+Filter) - Gain(Amplifier)

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Radiated Emission

Test place	No.2 Semi Anechoic Chamber	No.1 Semi Anechoic Chamber	No.1 Semi Anechoic Chamber
Date	May 6, 2013	May 7, 2013	May 8, 2013
Temperature / Humidity	19 deg.C, 45 %RH	22 deg.C, 43 %RH	23 deg.C, 30 %RH
Engineer	Hikaru Shirasawa	Makoto Hosaka	Makoto Hosaka
Mode	Tx, 2437 MHz		
	Tx, IEEE802.11b		

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	2496.880	PK	47.2	27.4	24.8	38.3	61.1	73.9	12.8	100	183	
Hori.	4874.000	PK	46.2	31.0	7.1	37.2	47.1	73.9	26.8	114	233	
Hori.	7311.000	PK	45.7	36.2	8.6	39.6	50.9	73.9	23.0	100	0	
Hori.	9748.000	PK	44.1	38.4	9.7	37.4	54.8	73.9	19.1	100	15	
Hori.	12185.000	PK	43.1	39.2	11.0	38.1	55.2	73.9	18.7	100	0	
Hori.	2496.880	AV	35.8	27.4	24.8	38.3	49.7	53.9	**4.2**	100	183	
Hori.	4874.000	AV	38.0	31.0	7.1	37.2	38.9	53.9	15.0	114	233	
Hori.	7311.000	AV	35.7	36.2	8.6	39.6	40.9	53.9	13.0	100	0	
Hori.	9748.000	AV	34.2	38.4	9.7	37.4	44.9	53.9	9.0	100	15	
Hori.	12185.000	AV	33.9	39.2	11.0	38.1	46.0	53.9	7.9	100	0	
Vert.	4874.000	PK	47.1	31.0	7.1	37.2	48.0	73.9	25.9	100	131	
Vert.	7311.000	PK	45.1	36.2	8.6	39.6	50.3	73.9	23.6	100	0	
Vert.	9748.000	PK	43.3	38.4	9.7	37.4	54.0	73.9	19.9	100	317	
Vert.	12185.000	PK	42.2	39.2	11.0	38.1	54.3	73.9	19.6	100	0	
Vert.	4874.000	AV	40.7	31.0	7.1	37.2	41.6	53.9	12.3	100	131	
Vert.	7311.000	AV	35.6	36.2	8.6	39.6	40.8	53.9	13.1	100	0	
Vert.	9748.000	AV	34.7	38.4	9.7	37.4	45.4	53.9	8.5	100	317	
Vert.	12185.000	AV	33.4	39.2	11.0	38.1	45.5	53.9	8.4	100	0	

Result = Reading + Ant.Fac. + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)

Distance factor : 15GHz -40GHz : 20log(3.0m/1.0m)= 9.5dB

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

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Radiated Emission

Test place	No.2 Semi Anechoic Chamber	No.1 Semi Anechoic Chamber	No.1 Semi Anechoic Chamber
Date	May 6, 2013	May 7, 2013	May 8, 2013
Temperature / Humidity	19 deg.C, 45 %RH	22 deg.C, 43 %RH	23 deg.C, 30 %RH
Engineer	Hikaru Shirasawa	Makoto Hosaka	Makoto Hosaka
Mode	Tx, 2462 MHz		
	Tx, IEEE802.11b		

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	2483.500	PK	44.4	27.4	24.8	38.3	58.3	73.9	15.6	100	0	
Hori.	2495.840	PK	48.4	27.4	24.8	38.3	62.3	73.9	11.6	100	133	
Hori.	4924.000	PK	46.0	31.1	7.1	37.2	47.0	73.9	26.9	100	289	
Hori.	7386.000	PK	46.1	36.3	8.6	39.6	51.4	73.9	22.5	100	0	
Hori.	9848.000	PK	44.0	38.6	9.6	37.5	54.7	73.9	19.2	100	14	
Hori.	12310.000	PK	43.5	39.1	10.9	38.1	55.4	73.9	18.5	100	0	
Hori.	2483.500	AV	34.3	27.4	24.8	38.3	48.2	53.9	5.7	100	0	
Hori.	2495.840	AV	35.8	27.4	24.8	38.3	49.7	53.9	**4.2**	100	133	
Hori.	4924.000	AV	39.3	31.1	7.1	37.2	40.3	53.9	13.6	100	289	
Hori.	7386.000	AV	36.2	36.3	8.6	39.6	41.5	53.9	12.4	100	0	
Hori.	9848.000	AV	34.8	38.6	9.6	37.5	45.5	53.9	8.4	100	14	
Hori.	12310.000	AV	34.0	39.1	10.9	38.1	45.9	53.9	8.0	100	0	
Vert.	2483.500	PK	43.7	27.4	24.8	38.3	57.6	73.9	16.3	100	130	
Vert.	4924.000	PK	47.3	31.1	7.1	37.2	48.3	73.9	25.6	100	143	
Vert.	7386.000	PK	45.4	36.3	8.6	39.6	50.7	73.9	23.2	100	0	
Vert.	9848.000	PK	43.9	38.6	9.6	37.5	54.6	73.9	19.3	100	317	
Vert.	12310.000	PK	43.3	39.1	10.9	38.1	55.2	73.9	18.7	100	0	
Vert.	2483.500	AV	34.1	27.4	24.8	38.3	48.0	53.9	5.9	100	130	
Vert.	4924.000	AV	41.3	31.1	7.1	37.2	42.3	53.9	11.6	100	143	
Vert.	7386.000	AV	35.6	36.3	8.6	39.6	40.9	53.9	13.0	100	0	
Vert.	9848.000	AV	34.6	38.6	9.6	37.5	45.3	53.9	8.6	100	317	
Vert.	12310.000	AV	33.8	39.1	10.9	38.1	45.7	53.9	8.2	100	0	

Result = Reading + Ant.Fac. + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)
Distance factor : 15GHz -40GHz : 20log(3.0m/1.0m)= 9.5dB
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

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Radiated Emission

Test place	No.2 Semi Anechoic Chamber	No.1 Semi Anechoic Chamber	No.1 Semi Anechoic Chamber
Date	May 6, 2013	May 7, 2013	May 8, 2013
Temperature / Humidity	19 deg.C, 45 %RH	22 deg.C, 43 %RH	23 deg.C, 30 %RH
Engineer	Hikaru Shirasawa	Makoto Hosaka	Makoto Hosaka
Mode	Tx, 2412 MHz		
	Tx, IEEE802.11g		

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	2390.000	PK	54.2	27.2	24.7	38.4	67.7	73.9	6.2	100	0	
Hori.	2495.660	PK	47.2	27.4	24.8	38.3	61.1	73.9	12.8	100	165	
Hori.	4824.000	PK	47.6	30.8	7.1	37.2	48.3	73.9	25.6	117	299	
Hori.	7236.000	PK	45.8	36.2	8.6	39.5	51.1	73.9	22.8	100	0	
Hori.	9648.000	PK	43.1	38.3	9.8	37.3	53.9	73.9	20.0	100	15	
Hori.	12060.000	PK	43.8	39.2	11.1	38.1	56.0	73.9	17.9	100	0	
Hori.	2390.000	AV	38.1	27.2	24.7	38.4	51.6	53.9	**2.3**	100	0	
Hori.	2495.660	AV	35.9	27.4	24.8	38.3	49.8	53.9	4.1	100	165	
Hori.	4824.000	AV	35.6	30.8	7.1	37.2	36.3	53.9	17.6	117	299	
Hori.	7236.000	AV	35.9	36.2	8.6	39.5	41.2	53.9	12.7	100	0	
Hori.	9648.000	AV	33.9	38.3	9.8	37.3	44.7	53.9	9.2	100	15	
Hori.	12060.000	AV	34.3	39.2	11.1	38.1	46.5	53.9	7.4	100	0	
Vert.	2390.000	PK	53.1	27.2	24.7	38.4	66.6	73.9	7.3	100	0	
Vert.	4824.000	PK	48.5	30.8	7.1	37.2	49.2	73.9	24.7	100	141	
Vert.	7236.000	PK	45.7	36.2	8.6	39.5	51.0	73.9	22.9	100	0	
Vert.	9648.000	PK	42.6	38.3	9.8	37.3	53.4	73.9	20.5	100	251	
Vert.	12060.000	PK	43.5	39.2	11.1	38.1	55.7	73.9	18.2	100	0	
Vert.	2390.000	AV	37.5	27.2	24.7	38.4	51.0	53.9	2.9	100	0	
Vert.	4824.000	AV	37.2	30.8	7.1	37.2	37.9	53.9	16.0	100	141	
Vert.	7236.000	AV	35.7	36.2	8.6	39.5	41.0	53.9	12.9	100	0	
Vert.	9648.000	AV	33.9	38.3	9.8	37.3	44.7	53.9	9.2	100	251	
Vert.	12060.000	AV	34.0	39.2	11.1	38.1	46.2	53.9	7.7	100	0	

Result = Reading + Ant.Fac. + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)
Distance factor : 15GHz -40GHz : 20log(3.0m/1.0m)= 9.5dB
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

20dBc Data Sheet **(RBW 100kHz, VBW 300kHz)**

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2412.000	PK	84.2	27.3	24.7	38.3	97.9	-	-	
Hori.	2400.000	PK	56.5	27.3	24.7	38.4	70.1	77.9	7.8	
Vert.	2412.000	PK	82.2	27.3	24.7	38.3	95.9	-	-	
Vert.	2400.000	PK	54.8	27.3	24.7	38.4	68.4	75.9	7.5	

Result = Reading + Ant.Fac. + Loss(Cable+Attenuator+Filter) - Gain(Amplifier)

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Radiated Emission

Test place	No.2 Semi Anechoic Chamber	No.1 Semi Anechoic Chamber	No.1 Semi Anechoic Chamber
Date	May 6, 2013	May 7, 2013	May 8, 2013
Temperature / Humidity	19 deg.C, 45 %RH	22 deg.C, 43 %RH	23 deg.C, 30 %RH
Engineer	Hikaru Shirasawa	Makoto Hosaka	Makoto Hosaka
Mode	Tx, 2437 MHz		
	Tx, IEEE802.11g		

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	2495.530	PK	47.8	27.4	24.8	38.3	61.7	73.9	12.2	100	164	
Hori.	4874.000	PK	45.7	31.0	7.1	37.2	46.6	73.9	27.3	100	158	
Hori.	7311.000	PK	45.7	36.2	8.6	39.6	50.9	73.9	23.0	100	0	
Hori.	9748.000	PK	43.2	38.4	9.7	37.4	53.9	73.9	20.0	100	15	
Hori.	12185.000	PK	44.5	39.2	11.0	38.1	56.6	73.9	17.3	100	0	
Hori.	2495.530	AV	35.6	27.4	24.8	38.3	49.5	53.9	**4.4**	100	164	
Hori.	4874.000	AV	34.2	31.0	7.1	37.2	35.1	53.9	18.8	100	158	
Hori.	7311.000	AV	35.7	36.2	8.6	39.6	40.9	53.9	13.0	100	0	
Hori.	9748.000	AV	34.1	38.4	9.7	37.4	44.8	53.9	9.1	100	15	
Hori.	12185.000	AV	33.9	39.2	11.0	38.1	46.0	53.9	7.9	100	0	
Vert.	4874.000	PK	49.6	31.0	7.1	37.2	50.5	73.9	23.4	100	141	
Vert.	7311.000	PK	44.9	36.2	8.6	39.6	50.1	73.9	23.8	100	0	
Vert.	9748.000	PK	44.1	38.4	9.7	37.4	54.8	73.9	19.1	120	267	
Vert.	12185.000	PK	43.0	39.2	11.0	38.1	55.1	73.9	18.8	100	0	
Vert.	4874.000	AV	36.8	31.0	7.1	37.2	37.7	53.9	16.2	100	141	
Vert.	7311.000	AV	35.8	36.2	8.6	39.6	41.0	53.9	12.9	100	0	
Vert.	9748.000	AV	34.8	38.4	9.7	37.4	45.5	53.9	8.4	120	267	
Vert.	12185.000	AV	33.9	39.2	11.0	38.1	46.0	53.9	7.9	100	0	

Result = Reading + Ant.Fac. + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)

Distance factor : 15GHz -40GHz : 20log(3.0m/1.0m)= 9.5dB

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

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Radiated Emission

Test place	No.2 Semi Anechoic Chamber	No.1 Semi Anechoic Chamber	No.1 Semi Anechoic Chamber
Date	May 6, 2013	May 7, 2013	May 8, 2013
Temperature / Humidity	19 deg.C, 45 %RH	22 deg.C, 43 %RH	23 deg.C, 30 %RH
Engineer	Hikaru Shirasawa	Makoto Hosaka	Makoto Hosaka
Mode	Tx, 2462 MHz Tx, IEEE802.11g		

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	2483.500	PK	57.3	27.4	24.8	38.3	71.2	73.9	2.7	100	0	
Hori.	2495.000	PK	47.1	27.4	24.8	38.3	61.0	73.9	12.9	100	166	
Hori.	4924.000	PK	46.3	31.1	7.1	37.2	47.3	73.9	26.6	100	152	
Hori.	7386.000	PK	45.5	36.3	8.6	39.6	50.8	73.9	23.1	100	0	
Hori.	9848.000	PK	43.8	38.6	9.6	37.5	54.5	73.9	19.4	100	14	
Hori.	12310.000	PK	43.2	39.1	10.9	38.1	55.1	73.9	18.8	100	0	
Hori.	2483.500	AV	39.6	27.4	24.8	38.3	53.5	53.9	**0.4**	100	0	
Hori.	2495.000	AV	35.5	27.4	24.8	38.3	49.4	53.9	4.5	100	166	
Hori.	4924.000	AV	35.8	31.1	7.1	37.2	36.8	53.9	17.1	100	152	
Hori.	7386.000	AV	35.6	36.3	8.6	39.6	40.9	53.9	13.0	100	0	
Hori.	9848.000	AV	34.4	38.6	9.6	37.5	45.1	53.9	8.8	100	14	
Hori.	12310.000	AV	33.8	39.1	10.9	38.1	45.7	53.9	8.2	100	0	
Vert.	2483.500	PK	56.3	27.4	24.8	38.3	70.2	73.9	3.7	111	133	
Vert.	4924.000	PK	46.6	31.1	7.1	37.2	47.6	73.9	26.3	100	163	
Vert.	7386.000	PK	45.0	36.3	8.6	39.6	50.3	73.9	23.6	100	0	
Vert.	9848.000	PK	43.2	38.6	9.6	37.5	53.9	73.9	20.0	135	261	
Vert.	12310.000	PK	43.7	39.1	10.9	38.1	55.6	73.9	18.3	100	0	
Vert.	2483.500	AV	38.1	27.4	24.8	38.3	52.0	53.9	1.9	100	0	
Vert.	4924.000	AV	35.9	31.1	7.1	37.2	36.9	53.9	17.0	100	163	
Vert.	7386.000	AV	35.6	36.3	8.6	39.6	40.9	53.9	13.0	100	0	
Vert.	9848.000	AV	35.0	38.6	9.6	37.5	45.7	53.9	8.2	135	261	
Vert.	12310.000	AV	33.7	39.1	10.9	38.1	45.6	53.9	8.3	100	0	

Result = Reading + Ant.Fac. + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)
Distance factor : 15GHz -40GHz : 20log(3.0m/1.0m)= 9.5dB
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

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Radiated Emission

Test place	No.2 Semi Anechoic Chamber	No.1 Semi Anechoic Chamber	No.1 Semi Anechoic Chamber	
Date	May 3, 2013	May 7, 2013	May 8, 2013	May 14, 2013
Temperature / Humidity	21 deg.C, 40 %RH	22 deg.C, 43 %RH	23 deg.C, 30 %RH	25 deg.C, 40 %RH
Engineer	Makoto Hosaka	Makoto Hosaka	Makoto Hosaka	Makoto Hosaka
Mode	Tx, 2412 MHz			
	Tx, IEEE802.11n HT20			

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	299.263	QP	34.5	18.9	11.0	31.7	32.7	46.0	13.3	163	164	
Hori.	335.989	QP	48.9	14.9	7.6	31.6	39.8	46.0	6.2	100	28	
Hori.	899.921	QP	32.3	22.9	10.2	30.9	34.5	46.0	11.5	100	90	
Hori.	2390.000	PK	48.9	27.2	24.7	38.4	62.4	73.9	11.5	100	0	
Hori.	2488.900	PK	48.5	27.4	24.8	38.3	62.4	73.9	11.5	148	142	
Hori.	4824.000	PK	42.9	30.8	7.1	37.2	43.6	73.9	30.3	100	280	
Hori.	7236.000	PK	44.9	36.2	8.6	39.5	50.2	73.9	23.7	100	0	
Hori.	9648.000	PK	41.1	38.3	9.8	37.3	51.9	73.9	22.0	100	0	
Hori.	12060.000	PK	42.9	39.2	11.1	38.1	55.1	73.9	18.8	100	0	
Hori.	2390.000	AV	36.2	27.2	24.7	38.4	49.7	53.9	**4.2**	100	0	
Hori.	2488.900	AV	35.8	27.4	24.8	38.3	49.7	53.9	**4.2**	148	142	
Hori.	4824.000	AV	33.9	30.8	7.1	37.2	34.6	53.9	19.3	100	280	
Hori.	7236.000	AV	35.2	36.2	8.6	39.5	40.5	53.9	13.4	100	0	
Hori.	9648.000	AV	32.9	38.3	9.8	37.3	43.7	53.9	10.2	100	0	
Hori.	12060.000	AV	34.0	39.2	11.1	38.1	46.2	53.9	7.7	100	0	
Vert.	70.373	QP	41.6	6.7	7.4	31.9	23.8	40.0	16.2	100	329	
Vert.	99.753	QP	43.2	10.6	8.1	31.9	30.0	43.5	13.5	100	108	
Vert.	144.000	QP	41.3	14.9	8.8	31.8	33.2	43.5	10.3	100	133	
Vert.	199.453	QP	33.5	16.9	9.4	31.8	28.0	43.5	15.5	100	81	
Vert.	2390.000	PK	46.9	27.2	24.7	38.4	60.4	73.9	13.5	100	227	
Vert.	4824.000	PK	43.9	30.8	7.1	37.2	44.6	73.9	29.3	100	135	
Vert.	7236.000	PK	45.2	36.2	8.6	39.5	50.5	73.9	23.4	100	0	
Vert.	9648.000	PK	41.5	38.3	9.8	37.3	52.3	73.9	21.6	100	0	
Vert.	12060.000	PK	42.9	39.2	11.1	38.1	55.1	73.9	18.8	100	0	
Vert.	2390.000	AV	35.1	27.2	24.7	38.4	48.6	53.9	5.3	100	227	
Vert.	4824.000	AV	34.4	30.8	7.1	37.2	35.1	53.9	18.8	100	135	
Vert.	7236.000	AV	35.4	36.2	8.6	39.5	40.7	53.9	13.2	100	0	
Vert.	9648.000	AV	32.8	38.3	9.8	37.3	43.6	53.9	10.3	100	0	
Vert.	12060.000	AV	34.1	39.2	11.1	38.1	46.3	53.9	7.6	100	0	

Result = Reading + Ant.Fac. + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)
Distance factor : 15GHz -40GHz : 20log(3.0m/1.0m)= 9.5dB
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

20dBc Data Sheet **(RBW 100kHz, VBW 300kHz)**

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2412.000	PK	85.2	27.3	24.7	38.3	98.9	-	-	
Hori.	2400.000	PK	55.2	27.3	24.7	38.4	68.8	78.9	10.1	
Vert.	2412.000	PK	84.2	27.3	24.7	38.3	97.9	-	-	
Vert.	2400.000	PK	52.2	27.3	24.7	38.4	65.8	77.9	12.1	

Result = Reading + Ant.Fac. + Loss(Cable+Attenuator+Filter) - Gain(Amplifier)

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Radiated Emission

Test place	No.2 Semi Anechoic Chamber	No.1 Semi Anechoic Chamber	No.1 Semi Anechoic Chamber
Date	May 3, 2013	May 7, 2013	May 8, 2013
Temperature / Humidity	21 deg.C, 40 %RH	22 deg.C, 43 %RH	23 deg.C, 30 %RH
Engineer	Makoto Hosaka	Makoto Hosaka	Makoto Hosaka
Mode	Tx, 2437 MHz		
	Tx, IEEE802.11n HT20		

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	4874.000	PK	42.8	31.0	7.1	37.2	43.7	73.9	30.2	100	335	
Hori.	7311.000	PK	44.6	36.2	8.6	39.6	49.8	73.9	24.1	100	0	
Hori.	9748.000	PK	41.5	38.4	9.7	37.4	52.2	73.9	21.7	100	0	
Hori.	12185.000	PK	42.5	39.2	11.0	38.1	54.6	73.9	19.3	100	0	
Hori.	4874.000	AV	33.9	31.0	7.1	37.2	34.8	53.9	19.1	100	335	
Hori.	7311.000	AV	35.8	36.2	8.6	39.6	41.0	53.9	12.9	100	0	
Hori.	9748.000	AV	33.0	38.4	9.7	37.4	43.7	53.9	10.2	100	0	
Hori.	12185.000	AV	33.8	39.2	11.0	38.1	45.9	53.9	8.0	100	0	
Vert.	4874.000	PK	43.2	31.0	7.1	37.2	44.1	73.9	29.8	100	133	
Vert.	7311.000	PK	44.1	36.2	8.6	39.6	49.3	73.9	24.6	100	0	
Vert.	9748.000	PK	42.3	38.4	9.7	37.4	53.0	73.9	20.9	100	0	
Vert.	12185.000	PK	43.3	39.2	11.0	38.1	55.4	73.9	18.5	100	0	
Vert.	4874.000	AV	34.0	31.0	7.1	37.2	34.9	53.9	19.0	100	133	
Vert.	7311.000	AV	35.6	36.2	8.6	39.6	40.8	53.9	13.1	100	0	
Vert.	9748.000	AV	33.3	38.4	9.7	37.4	44.0	53.9	9.9	100	0	
Vert.	12185.000	AV	34.2	39.2	11.0	38.1	46.3	53.9	**7.6**	100	0	

Result = Reading + Ant.Fac. + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)
Distance factor : 15GHz -40GHz : 20log(3.0m/1.0m)= 9.5dB
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

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Radiated Emission

Test place	No.2 Semi Anechoic Chamber	No.1 Semi Anechoic Chamber	No.1 Semi Anechoic Chamber
Date	May 3, 2013	May 7, 2013	May 8, 2013
Temperature / Humidity	21 deg.C, 40 %RH	22 deg.C, 43 %RH	23 deg.C, 30 %RH
Engineer	Makoto Hosaka	Makoto Hosaka	Makoto Hosaka
Mode	Tx, 2462 MHz		
	Tx, IEEE802.11n HT20		

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	2483.500	PK	51.2	27.4	24.8	38.3	65.1	73.9	8.8	100	0	
Hori.	4924.000	PK	42.7	31.1	7.1	37.2	43.7	73.9	30.2	100	234	
Hori.	7386.000	PK	44.1	36.3	8.6	39.6	49.4	73.9	24.5	100	0	
Hori.	9848.000	PK	42.4	38.6	9.6	37.5	53.1	73.9	20.8	100	0	
Hori.	12310.000	PK	42.5	39.1	10.9	38.1	54.4	73.9	19.5	100	0	
Hori.	2483.500	AV	37.6	27.4	24.8	38.3	51.5	53.9	**2.4**	100	0	
Hori.	4924.000	AV	33.8	31.1	7.1	37.2	34.8	53.9	19.1	100	234	
Hori.	7386.000	AV	35.6	36.3	8.6	39.6	40.9	53.9	13.0	100	0	
Hori.	9848.000	AV	33.3	38.6	9.6	37.5	44.0	53.9	9.9	100	0	
Hori.	12310.000	AV	34.1	39.1	10.9	38.1	46.0	53.9	7.9	100	0	
Vert.	2483.500	PK	50.3	27.4	24.8	38.3	64.2	73.9	9.7	100	229	
Vert.	4924.000	PK	43.9	31.1	7.1	37.2	44.9	73.9	29.0	100	135	
Vert.	7386.000	PK	45.3	36.3	8.6	39.6	50.6	73.9	23.3	100	0	
Vert.	9848.000	PK	42.0	38.6	9.6	37.5	52.7	73.9	21.2	100	0	
Vert.	12310.000	PK	44.3	39.1	10.9	38.1	56.2	73.9	17.7	100	0	
Vert.	2483.500	AV	36.5	27.4	24.8	38.3	50.4	53.9	3.5	100	229	
Vert.	4924.000	AV	34.6	31.1	7.1	37.2	35.6	53.9	18.3	100	135	
Vert.	7386.000	AV	36.2	36.3	8.6	39.6	41.5	53.9	12.4	100	0	
Vert.	9848.000	AV	33.2	38.6	9.6	37.5	43.9	53.9	10.0	100	0	
Vert.	12310.000	AV	34.0	39.1	10.9	38.1	45.9	53.9	8.0	100	0	

Result = Reading + Ant.Fac. + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)
Distance factor : 15GHz -40GHz : 20log(3.0m/1.0m)= 9.5dB
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

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Radiated Emission

Test place	No.2 Semi Anechoic Chamber	No.1 Semi Anechoic Chamber	No.1 Semi Anechoic Chamber
Date	May 3, 2013	May 7, 2013	May 8, 2013
Temperature / Humidity	21 deg.C, 40 %RH	22 deg.C, 43 %RH	23 deg.C, 30 %RH
Engineer	Makoto Hosaka	Makoto Hosaka	Makoto Hosaka
Mode	Tx, 2422 MHz		
	Tx, IEEE802.11n HT40		

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	2390.000	PK	55.0	27.2	24.7	38.4	68.5	73.9	5.4	100	0	
Hori.	4844.000	PK	45.3	30.9	7.1	37.2	46.1	73.9	27.8	100	335	
Hori.	7266.000	PK	44.0	36.2	8.6	39.5	49.3	73.9	24.6	100	0	
Hori.	9688.000	PK	42.1	38.3	9.7	37.3	52.8	73.9	21.1	100	0	
Hori.	12110.000	PK	43.4	39.2	11.1	38.1	55.6	73.9	18.3	100	0	
Hori.	2390.000	AV	39.1	27.2	24.7	38.4	52.6	53.9	**1.3**	100	0	
Hori.	4844.000	AV	33.6	30.9	7.1	37.2	34.4	53.9	19.5	100	335	
Hori.	7266.000	AV	35.6	36.2	8.6	39.5	40.9	53.9	13.0	100	0	
Hori.	9688.000	AV	33.0	38.3	9.7	37.3	43.7	53.9	10.2	100	0	
Hori.	12110.000	AV	34.5	39.2	11.1	38.1	46.7	53.9	7.2	100	0	
Vert.	2390.000	PK	51.5	27.2	24.7	38.4	65.0	73.9	8.9	100	224	
Vert.	4844.000	PK	43.6	30.9	7.1	37.2	44.4	73.9	29.5	100	144	
Vert.	7266.000	PK	44.8	36.2	8.6	39.5	50.1	73.9	23.8	100	0	
Vert.	9688.000	PK	42.4	38.3	9.7	37.3	53.1	73.9	20.8	154	314	
Vert.	12110.000	PK	43.4	39.2	11.1	38.1	55.6	73.9	18.3	100	0	
Vert.	2390.000	AV	37.4	27.2	24.7	38.4	50.9	53.9	3.0	100	224	
Vert.	4844.000	AV	33.5	30.9	7.1	37.2	34.3	53.9	19.6	100	144	
Vert.	7266.000	AV	35.5	36.2	8.6	39.5	40.8	53.9	13.1	100	0	
Vert.	9688.000	AV	33.1	38.3	9.7	37.3	43.8	53.9	10.1	154	314	
Vert.	12110.000	AV	34.1	39.2	11.1	38.1	46.3	53.9	7.6	100	0	

Result = Reading + Ant.Fac. + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)
Distance factor : 15GHz -40GHz : 20log(3.0m/1.0m)= 9.5dB
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

20dBc Data Sheet **(RBW 100kHz, VBW 300kHz)**

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2422.000	PK	83.1	27.3	24.7	38.3	96.8	-	-	
Hori.	2400.000	PK	53.9	27.3	24.7	38.4	67.5	76.8	9.3	
Vert.	2422.000	PK	81.5	27.3	24.7	38.3	95.2	-	-	
Vert.	2400.000	PK	50.9	27.3	24.7	38.4	64.5	75.2	10.7	

Result = Reading + Ant.Fac. + Loss(Cable+Attenuator+Filter) - Gain(Amplifier)

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Radiated Emission

Test place	No.2 Semi Anechoic Chamber	No.1 Semi Anechoic Chamber	No.1 Semi Anechoic Chamber
Date	May 3, 2013	May 7, 2013	May 8, 2013
Temperature / Humidity	21 deg.C, 40 %RH	22 deg.C, 43 %RH	23 deg.C, 30 %RH
Engineer	Makoto Hosaka	Makoto Hosaka	Makoto Hosaka
Mode	Tx, 2437 MHz		
	Tx, IEEE802.11n HT40		

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	4874.000	PK	42.4	31.0	7.1	37.2	43.3	73.9	30.6	112	278	
Hori.	7311.000	PK	44.3	36.2	8.6	39.6	49.5	73.9	24.4	100	0	
Hori.	9748.000	PK	42.0	38.4	9.7	37.4	52.7	73.9	21.2	100	0	
Hori.	12185.000	PK	43.2	39.2	11.0	38.1	55.3	73.9	18.6	100	0	
Hori.	4874.000	AV	33.6	31.0	7.1	37.2	34.5	53.9	19.4	112	278	
Hori.	7311.000	AV	35.6	36.2	8.6	39.6	40.8	53.9	13.1	100	0	
Hori.	9748.000	AV	33.3	38.4	9.7	37.4	44.0	53.9	9.9	100	0	
Hori.	12185.000	AV	34.1	39.2	11.0	38.1	46.2	53.9	**7.7**	100	0	
Vert.	4874.000	PK	44.7	31.0	7.1	37.2	45.6	73.9	28.3	100	113	
Vert.	7311.000	PK	44.6	36.2	8.6	39.6	49.8	73.9	24.1	100	0	
Vert.	9748.000	PK	42.0	38.4	9.7	37.4	52.7	73.9	21.2	100	0	
Vert.	12185.000	PK	43.9	39.2	11.0	38.1	56.0	73.9	17.9	100	0	
Vert.	4874.000	AV	33.5	31.0	7.1	37.2	34.4	53.9	19.5	100	113	
Vert.	7311.000	AV	35.6	36.2	8.6	39.6	40.8	53.9	13.1	100	0	
Vert.	9748.000	AV	32.9	38.4	9.7	37.4	43.6	53.9	10.3	100	0	
Vert.	12185.000	AV	34.0	39.2	11.0	38.1	46.1	53.9	7.8	100	0	

Result = Reading + Ant.Fac. + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)
Distance factor : 15GHz -40GHz : 20log(3.0m/1.0m)= 9.5dB
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

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Radiated Emission

Test place	No.2 Semi Anechoic Chamber	No.1 Semi Anechoic Chamber	No.1 Semi Anechoic Chamber
Date	May 3, 2013	May 7, 2013	May 8, 2013
Temperature / Humidity	21 deg.C, 40 %RH	22 deg.C, 43 %RH	23 deg.C, 30 %RH
Engineer	Makoto Hosaka	Makoto Hosaka	Makoto Hosaka
Mode	Tx, 2452 MHz		
	Tx, IEEE802.11n HT40		

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	2483.500	PK	55.7	27.4	24.8	38.3	69.6	73.9	4.3	100	0	
Hori.	4904.000	PK	43.4	31.1	7.1	37.2	44.4	73.9	29.5	100	280	
Hori.	7356.000	PK	44.7	36.3	8.5	39.6	49.9	73.9	24.0	100	0	
Hori.	9808.000	PK	42.4	38.5	9.7	37.5	53.1	73.9	20.8	100	0	
Hori.	12260.000	PK	43.3	39.2	10.9	38.1	55.3	73.9	18.6	100	0	
Hori.	2483.500	AV	39.8	27.4	24.8	38.3	53.7	53.9	**0.2**	100	0	
Hori.	4904.000	AV	34.6	31.1	7.1	37.2	35.6	53.9	18.3	100	280	
Hori.	7356.000	AV	36.0	36.3	8.5	39.6	41.2	53.9	12.7	100	0	
Hori.	9808.000	AV	33.0	38.5	9.7	37.5	43.7	53.9	10.2	100	0	
Hori.	12260.000	AV	34.5	39.2	10.9	38.1	46.5	53.9	7.4	100	0	
Vert.	2483.500	PK	53.6	27.4	24.8	38.3	67.5	73.9	6.4	100	227	
Vert.	4904.000	PK	42.8	31.1	7.1	37.2	43.8	73.9	30.1	100	159	
Vert.	7356.000	PK	45.6	36.3	8.5	39.6	50.8	73.9	23.1	100	0	
Vert.	9808.000	PK	42.2	38.5	9.7	37.5	52.9	73.9	21.0	100	0	
Vert.	12260.000	PK	43.9	39.2	10.9	38.1	55.9	73.9	18.0	100	0	
Vert.	2483.500	AV	38.9	27.4	24.8	38.3	52.8	53.9	1.1	100	227	
Vert.	4904.000	AV	34.0	31.1	7.1	37.2	35.0	53.9	18.9	100	159	
Vert.	7356.000	AV	36.2	36.3	8.5	39.6	41.4	53.9	12.5	100	0	
Vert.	9808.000	AV	33.0	38.5	9.7	37.5	43.7	53.9	10.2	100	0	
Vert.	12260.000	AV	34.4	39.2	10.9	38.1	46.4	53.9	7.5	100	0	

Result = Reading + Ant.Fac. + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)
Distance factor : 15GHz -40GHz : 20log(3.0m/1.0m)= 9.5dB
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

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Radiated Emission

Test place	No.2 Semi Anechoic Chamber	No.1 Semi Anechoic Chamber	No.1 Semi Anechoic Chamber	No.1 Semi Anechoic Chamber
Date	May 6, 2013	May 7, 2013	May 9, 2013	May 10, 2013
Temperature / Humidity	19 deg.C, 45 %RH	22 deg.C, 43 %RH	25 deg.C, 40 %RH	24 deg.C, 41 %RH
Engineer	Hikaru Shirasawa	Makoto Hosaka	Makoto Hosaka	Makoto Hosaka
Mode	Tx, 5745 MHz Tx, IEEE802.11a			

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	3830.000	PK	45.2	29.4	15.8	37.9	52.5	73.9	21.4	100	350	
Hori.	5725.000	PK	52.6	32.3	17.1	37.7	64.3	73.9	9.6	100	16	
Hori.	7660.000	PK	47.4	36.6	8.6	39.5	53.1	73.9	20.8	100	97	
Hori.	11490.000	PK	44.5	39.8	9.8	38.9	55.2	73.9	18.7	100	354	
Hori.	3830.000	AV	34.6	29.4	15.8	37.9	41.9	53.9	12.0	100	350	
Hori.	5725.000	AV	36.8	32.3	17.1	37.7	48.5	53.9	**5.4**	100	16	
Hori.	7660.000	AV	38.4	36.6	8.6	39.5	44.1	53.9	9.8	100	97	
Hori.	11490.000	AV	34.6	39.8	9.8	38.9	45.3	53.9	8.6	100	354	
Vert.	3830.000	PK	44.3	29.4	15.8	37.9	51.6	73.9	22.3	100	9	
Vert.	5725.000	PK	50.1	32.3	17.1	37.7	61.8	73.9	12.1	100	66	
Vert.	7660.000	PK	46.9	36.6	8.6	39.5	52.6	73.9	21.3	100	349	
Vert.	11490.000	PK	44.5	39.8	9.8	38.9	55.2	73.9	18.7	115	97	
Vert.	3830.000	AV	34.3	29.4	15.8	37.9	41.6	53.9	12.3	100	9	
Vert.	5725.000	AV	36.8	32.3	17.1	37.7	48.5	53.9	**5.4**	100	66	
Vert.	7660.000	AV	37.9	36.6	8.6	39.5	43.6	53.9	10.3	100	349	
Vert.	11490.000	AV	34.2	39.8	9.8	38.9	44.9	53.9	9.0	115	97	

Result = Reading + Ant.Fac. + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)
Distance factor : 15GHz -40GHz : 20log(3.0m/1.0m)= 9.5dB
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

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Radiated Emission

Test place	No.2 Semi Anechoic Chamber	No.1 Semi Anechoic Chamber	No.1 Semi Anechoic Chamber	No.1 Semi Anechoic Chamber
Date	May 6, 2013	May 7, 2013	May 9, 2013	May 10, 2013
Temperature / Humidity	19 deg.C, 45 %RH	22 deg.C, 43 %RH	25 deg.C, 40 %RH	24 deg.C, 41 %RH
Engineer	Hikaru Shirasawa	Makoto Hosaka	Makoto Hosaka	Makoto Hosaka
Mode	Tx, 5785 MHz Tx, IEEE802.11a			

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	3856.670	PK	43.9	29.4	15.8	37.8	51.3	73.9	22.6	100	357	
Hori.	7713.330	PK	46.9	36.7	8.6	39.4	52.8	73.9	21.1	100	95	
Hori.	11570.000	PK	43.5	39.8	9.9	38.8	54.4	73.9	19.5	100	7	
Hori.	3856.670	AV	34.3	29.4	15.8	37.8	41.7	53.9	12.2	100	357	
Hori.	7713.330	AV	38.0	36.7	8.6	39.4	43.9	53.9	10.0	100	95	
Hori.	11570.000	AV	34.3	39.8	9.9	38.8	45.2	53.9	8.7	100	7	
Vert.	3856.670	PK	43.2	29.4	15.8	37.8	50.6	73.9	23.3	100	6	
Vert.	7713.330	PK	46.9	36.7	8.6	39.4	52.8	73.9	21.1	100	262	
Vert.	11570.000	PK	44.3	39.8	9.9	38.8	55.2	73.9	18.7	100	8	
Vert.	3856.670	AV	34.0	29.4	15.8	37.8	41.4	53.9	12.5	100	6	
Vert.	7713.330	AV	37.6	36.7	8.6	39.4	43.5	53.9	10.4	100	262	
Vert.	11570.000	AV	34.6	39.8	9.9	38.8	45.5	53.9	**8.4**	100	8	

Result = Reading + Ant.Fac. + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)

Distance factor : 15GHz -40GHz : 20log(3.0m/1.0m)= 9.5dB

*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

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Radiated Emission

Test place	No.2 Semi Anechoic Chamber	No.1 Semi Anechoic Chamber	No.1 Semi Anechoic Chamber	No.1 Semi Anechoic Chamber
Date	May 6, 2013	May 7, 2013	May 9, 2013	May 10, 2013
Temperature / Humidity	19 deg.C, 45 %RH	22 deg.C, 43 %RH	25 deg.C, 40 %RH	24 deg.C, 41 %RH
Engineer	Hikaru Shirasawa	Makoto Hosaka	Makoto Hosaka	Makoto Hosaka
Mode	Tx, 5825 MHz Tx, IEEE802.11a			

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	3883.330	PK	44.3	29.4	15.8	37.8	51.7	73.9	22.2	100	0	
Hori.	5850.000	PK	45.1	32.7	17.2	37.9	57.1	73.9	16.8	100	262	
Hori.	7766.670	PK	46.0	36.8	8.6	39.3	52.1	73.9	21.8	100	95	
Hori.	11650.000	PK	44.2	39.7	10.0	38.6	55.3	73.9	18.6	100	4	
Hori.	3883.330	AV	34.2	29.4	15.8	37.8	41.6	53.9	12.3	100	0	
Hori.	5850.000	AV	34.8	32.7	17.2	37.9	46.8	53.9	7.1	100	262	
Hori.	7766.670	AV	36.9	36.8	8.6	39.3	43.0	53.9	10.9	100	95	
Hori.	11650.000	AV	35.2	39.7	10.0	38.6	46.3	53.9	7.6	100	4	
Vert.	3883.330	PK	43.7	29.4	15.8	37.8	51.1	73.9	22.8	100	328	
Vert.	5850.000	PK	44.2	32.7	17.2	37.9	56.2	73.9	17.7	100	136	
Vert.	7766.670	PK	47.1	36.8	8.6	39.3	53.2	73.9	20.7	100	258	
Vert.	11650.000	PK	44.8	39.7	10.0	38.6	55.9	73.9	18.0	100	4	
Vert.	3883.330	AV	34.2	29.4	15.8	37.8	41.6	53.9	12.3	100	328	
Vert.	5850.000	AV	35.2	32.7	17.2	37.9	47.2	53.9	**6.7**	100	136	
Vert.	7766.670	AV	37.7	36.8	8.6	39.3	43.8	53.9	10.1	100	258	
Vert.	11650.000	AV	34.4	39.7	10.0	38.6	45.5	53.9	8.4	100	4	

Result = Reading + Ant.Fac. + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)
Distance factor : 15GHz -40GHz : 20log(3.0m/1.0m)= 9.5dB
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

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Radiated Emission

Test place	No.2 Semi Anechoic Chamber	No.1 Semi Anechoic Chamber	No.1 Semi Anechoic Chamber	No.1 Semi Anechoic Chamber
Date	May 4, 2013	May 7, 2013	May 9, 2013	May 10, 2013
Temperature / Humidity	20 deg.C, 41 %RH	22 deg.C, 43 %RH	25 deg.C, 40 %RH	24 deg.C, 41 %RH
Engineer	Makoto Hosaka	Makoto Hosaka	Makoto Hosaka	Makoto Hosaka
Mode	Tx, 5745 MHz			
	Tx, IEEE802.11n HT20			

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	3830.000	PK	44.5	29.4	15.8	37.9	51.8	73.9	22.1	125	0	
Hori.	5725.000	PK	46.1	32.3	17.1	37.7	57.8	73.9	16.1	100	195	
Hori.	7660.000	PK	47.0	36.6	8.6	39.5	52.7	73.9	21.2	114	100	
Hori.	11490.000	PK	44.1	39.8	9.8	38.9	54.8	73.9	19.1	116	252	
Hori.	3830.000	AV	35.2	29.4	15.8	37.9	42.5	53.9	11.4	125	0	
Hori.	5725.000	AV	35.7	32.3	17.1	37.7	47.4	53.9	6.5	100	195	
Hori.	7660.000	AV	38.3	36.6	8.6	39.5	44.0	53.9	9.9	114	100	
Vert.	3830.000	PK	44.8	29.4	15.8	37.9	52.1	73.9	21.8	100	277	
Vert.	5725.000	PK	46.1	32.3	17.1	37.7	57.8	73.9	16.1	100	0	
Vert.	7660.000	PK	46.3	36.6	8.6	39.5	52.0	73.9	21.9	100	343	
Vert.	11490.000	PK	45.1	39.8	9.8	38.9	55.8	73.9	18.1	100	286	
Vert.	3830.000	AV	35.5	29.4	15.8	37.9	42.8	53.9	11.1	100	277	
Vert.	5725.000	AV	35.8	32.3	17.1	37.7	47.5	53.9	**6.4**	100	0	
Vert.	7660.000	AV	37.9	36.6	8.6	39.5	43.6	53.9	10.3	100	343	

Result = Reading + Ant.Fac. + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)
Distance factor : 15GHz -40GHz : 20log(3.0m/1.0m)= 9.5dB
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

Average measurement value with duty factor

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	11490.000	AV	34.2	39.8	9.8	38.9	0.2	45.1	53.9	8.8	
Vert.	11490.000	AV	34.6	39.8	9.8	38.9	0.2	45.5	53.9	**8.4**	

Result = Reading + Ant.Fac. + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier) + Duty factor
*12.2.5.2 was applied to AV detection, since the duty cycle is less than 98% and video triggering or signal gating cannot be used.
Distance factor : 15GHz -40GHz : 20log(3.0m/1.0m)= 9.5dB
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

Radiated Emission

Test place	No.2 Semi Anechoic Chamber	No.1 Semi Anechoic Chamber	No.1 Semi Anechoic Chamber	No.1 Semi Anechoic Chamber
Date	May 4, 2013	May 7, 2013	May 9, 2013	May 10, 2013
Temperature / Humidity	20 deg.C, 41 %RH	22 deg.C, 43 %RH	25 deg.C, 40 %RH	24 deg.C, 41 %RH
Engineer	Makoto Hosaka	Makoto Hosaka	Makoto Hosaka	Makoto Hosaka
Mode	Tx, 5785 MHz			
	Tx, IEEE802.11n HT20			

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	3856.670	PK	45.1	29.4	15.8	37.8	52.5	73.9	21.4	100	349	
Hori.	7713.330	PK	47.4	36.7	8.6	39.4	53.3	73.9	20.6	104	94	
Hori.	11570.000	PK	44.0	39.8	9.9	38.8	54.9	73.9	19.0	109	0	
Hori.	3856.670	AV	35.9	29.4	15.8	37.8	43.3	53.9	10.6	100	349	
Hori.	7713.330	AV	39.3	36.7	8.6	39.4	45.2	53.9	**8.7**	104	94	
Vert.	3856.670	PK	44.4	29.4	15.8	37.8	51.8	73.9	22.1	100	105	
Vert.	7713.330	PK	47.0	36.7	8.6	39.4	52.9	73.9	21.0	109	258	
Vert.	11570.000	PK	45.5	39.8	9.9	38.8	56.4	73.9	17.5	128	283	
Vert.	3856.670	AV	35.4	29.4	15.8	37.8	42.8	53.9	11.1	100	105	
Vert.	7713.330	AV	38.6	36.7	8.6	39.4	44.5	53.9	9.4	109	258	

Result = Reading + Ant.Fac. + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)
Distance factor : 15GHz -40GHz : 20log(3.0m/1.0m)= 9.5dB
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

Average measurement value with duty factor

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	11570.000	AV	34.5	39.8	9.9	38.8	0.2	45.6	53.9	8.3	
Vert.	11570.000	AV	35.2	39.8	9.9	38.8	0.2	46.3	53.9	**7.6**	

Result = Reading + Ant.Fac. + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier) + Duty factor
*12.2.5.2 was applied to AV detection, since the duty cycle is less than 98% and video triggering or signal gating cannot be used.
Distance factor : 15GHz -40GHz : 20log(3.0m/1.0m)= 9.5dB
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

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Radiated Emission

Test place	No.2 Semi Anechoic Chamber	No.1 Semi Anechoic Chamber	No.1 Semi Anechoic Chamber	No.1 Semi Anechoic Chamber
Date	May 4, 2013	May 7, 2013	May 9, 2013	May 10, 2013
Temperature / Humidity	20 deg.C, 41 %RH	22 deg.C, 43 %RH	25 deg.C, 40 %RH	24 deg.C, 41 %RH
Engineer	Makoto Hosaka	Makoto Hosaka	Makoto Hosaka	Makoto Hosaka
Mode	Tx, 5825 MHz Tx, IEEE802.11n HT20			

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	3883.330	PK	44.6	29.4	15.8	37.8	52.0	73.9	21.9	100	337	
Hori.	5850.000	PK	44.2	32.7	17.2	37.9	56.2	73.9	17.7	100	0	
Hori.	7766.670	PK	46.6	36.8	8.6	39.3	52.7	73.9	21.2	100	93	
Hori.	11650.000	PK	44.7	39.7	10.0	38.6	55.8	73.9	18.1	100	9	
Hori.	3883.330	AV	35.4	29.4	15.8	37.8	42.8	53.9	11.1	100	337	
Hori.	5850.000	AV	34.6	32.7	17.2	37.9	46.6	53.9	7.3	100	0	
Hori.	7766.670	AV	38.0	36.8	8.6	39.3	44.1	53.9	9.8	100	93	
Vert.	3883.330	PK	44.5	29.4	15.8	37.8	51.9	73.9	22.0	100	291	
Vert.	5850.000	PK	44.4	32.7	17.2	37.9	56.4	73.9	17.5	100	0	
Vert.	7766.670	PK	46.1	36.8	8.6	39.3	52.2	73.9	21.7	100	270	
Vert.	11650.000	PK	45.9	39.7	10.0	38.6	57.0	73.9	16.9	123	284	
Vert.	3883.330	AV	35.5	29.4	15.8	37.8	42.9	53.9	11.0	100	291	
Vert.	5850.000	AV	34.8	32.7	17.2	37.9	46.8	53.9	**7.1**	100	0	
Vert.	7766.670	AV	37.6	36.8	8.6	39.3	43.7	53.9	10.2	100	270	

Result = Reading + Ant.Fac. + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)
Distance factor : 15GHz -40GHz : 20log(3.0m/1.0m)= 9.5dB
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

Average measurement value with duty factor

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	11650.000	AV	34.9	39.7	10.0	38.6	0.2	46.2	53.9	7.7	
Vert.	11650.000	AV	35.8	39.7	10.0	38.6	0.2	47.1	53.9	**6.8**	

Result = Reading + Ant.Fac. + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier) + Duty factor
*12.2.5.2 was applied to AV detection, since the duty cycle is less than 98% and video triggering or signal gating cannot be used.
Distance factor : 15GHz -40GHz : 20log(3.0m/1.0m)= 9.5dB
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

Radiated Emission

Test place	No.2 Semi Anechoic Chamber	No.1 Semi Anechoic Chamber	No.1 Semi Anechoic Chamber	No.1 Semi Anechoic Chamber
Date	May 4, 2013	May 8, 2013	May 9, 2013	May 10, 2013
Temperature / Humidity	20 deg.C, 41 %RH	22 deg.C, 30 %RH	25 deg.C, 40 %RH	24 deg.C, 41 %RH
Engineer	Makoto Hosaka	Makoto Hosaka	Makoto Hosaka	Makoto Hosaka
Mode	Tx, 5755 MHz Tx, IEEE802.11n HT40			

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	3836.670	PK	44.0	29.4	15.8	37.9	51.3	73.9	22.6	100	331	
Hori.	5725.000	PK	51.6	32.3	17.1	37.7	63.3	73.9	10.6	100	191	
Hori.	7673.330	PK	47.7	36.6	8.6	39.5	53.4	73.9	20.5	102	95	
Hori.	11510.000	PK	45.1	39.8	9.9	38.9	55.9	73.9	18.0	162	8	
Hori.	3836.670	AV	35.2	29.4	15.8	37.9	42.5	53.9	11.4	100	331	
Hori.	5725.000	AV	38.4	32.3	17.1	37.7	50.1	53.9	3.8	100	191	
Hori.	7673.330	AV	39.5	36.6	8.6	39.5	45.2	53.9	8.7	102	95	
Hori.	11510.000	AV	34.1	39.8	9.9	38.9	44.9	53.9	9.0	162	8	
Vert.	3836.670	PK	44.1	29.4	15.8	37.9	51.4	73.9	22.5	126	82	
Vert.	5725.000	PK	52.7	32.3	17.1	37.7	64.4	73.9	9.5	100	91	
Vert.	7673.330	PK	46.4	36.6	8.6	39.5	52.1	73.9	21.8	119	259	
Vert.	11510.000	PK	44.2	39.8	9.9	38.9	55.0	73.9	18.9	125	280	
Vert.	3836.670	AV	35.0	29.4	15.8	37.9	42.3	53.9	11.6	126	82	
Vert.	5725.000	AV	38.7	32.3	17.1	37.7	50.4	53.9	**3.5**	100	91	
Vert.	7673.330	AV	38.3	36.6	8.6	39.5	44.0	53.9	9.9	119	259	
Vert.	11510.000	AV	34.4	39.8	9.9	38.9	45.2	53.9	8.7	125	280	

Result = Reading + Ant.Fac. + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)
Distance factor : 15GHz -40GHz : 20log(3.0m/1.0m)= 9.5dB
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

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Radiated Emission

Test place	No.2 Semi Anechoic Chamber	No.1 Semi Anechoic Chamber	No.1 Semi Anechoic Chamber	No.1 Semi Anechoic Chamber
Date	May 4, 2013	May 8, 2013	May 9, 2013	May 10, 2013
Temperature / Humidity	20 deg.C, 41 %RH	22 deg.C, 30 %RH	25 deg.C, 40 %RH	24 deg.C, 41 %RH
Engineer	Makoto Hosaka	Makoto Hosaka	Makoto Hosaka	Makoto Hosaka
Mode	Tx, 5795 MHz			
	Tx, IEEE802.11n HT40			

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	3863.330	PK	44.1	29.4	15.8	37.8	51.5	73.9	22.4	107	354	
Hori.	5850.000	PK	44.1	32.7	17.2	37.9	56.1	73.9	17.8	100	257	
Hori.	7726.670	PK	47.4	36.7	8.6	39.4	53.3	73.9	20.6	100	94	
Hori.	11590.000	PK	44.2	39.7	9.9	38.7	55.1	73.9	18.8	100	9	
Hori.	3863.330	AV	35.2	29.4	15.8	37.8	42.6	53.9	11.3	107	354	
Hori.	5850.000	AV	34.8	32.7	17.2	37.9	46.8	53.9	**7.1**	100	257	
Hori.	7726.670	AV	38.9	36.7	8.6	39.4	44.8	53.9	9.1	100	94	
Hori.	11590.000	AV	34.4	39.7	9.9	38.7	45.3	53.9	8.6	100	9	
Vert.	3863.330	PK	44.3	29.4	15.8	37.8	51.7	73.9	22.2	100	279	
Vert.	5850.000	PK	44.2	32.7	17.2	37.9	56.2	73.9	17.7	100	293	
Vert.	7726.670	PK	46.8	36.7	8.6	39.4	52.7	73.9	21.2	108	267	
Vert.	11590.000	PK	44.9	39.7	9.9	38.7	55.8	73.9	18.1	100	282	
Vert.	3863.330	AV	35.7	29.4	15.8	37.8	43.1	53.9	10.8	100	279	
Vert.	5850.000	AV	34.6	32.7	17.2	37.9	46.6	53.9	7.3	100	293	
Vert.	7726.670	AV	38.9	36.7	8.6	39.4	44.8	53.9	9.1	108	267	
Vert.	11590.000	AV	35.0	39.7	9.9	38.7	45.9	53.9	8.0	100	282	

Result = Reading + Ant.Fac. + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)
Distance factor : 15GHz -40GHz : 20log(3.0m/1.0m)= 9.5dB
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

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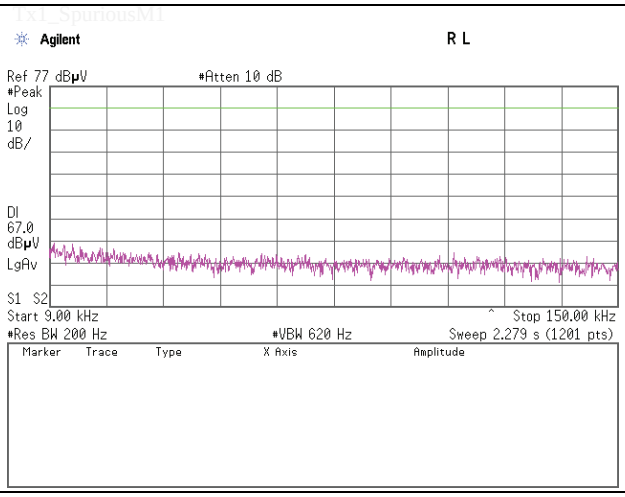
(Reference chart) Spurious emission (Conducted)

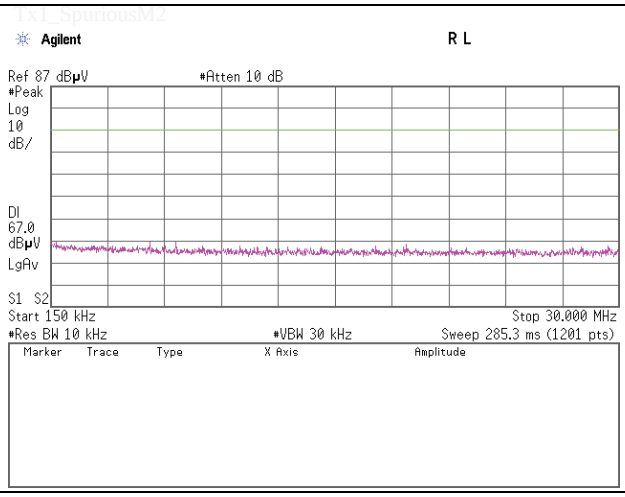
Tx, IEEE802.11b , PN9, worst antenna port 1, worst data mode 1Mbps

Tx, 2412MHz (below 1GHz)

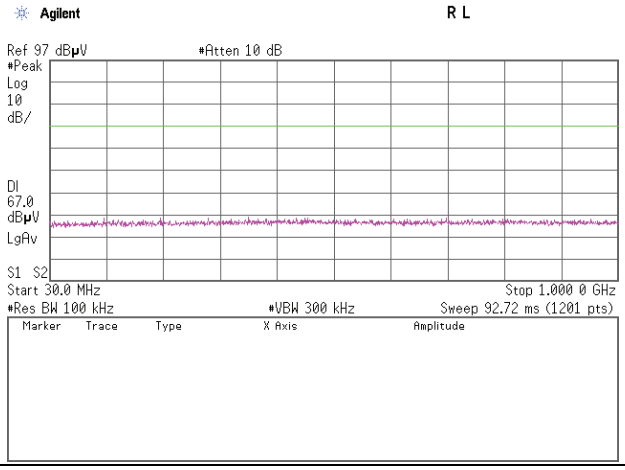
9kHz - 150kHz



150kHz - 30MHz



30MHz - 1GHz



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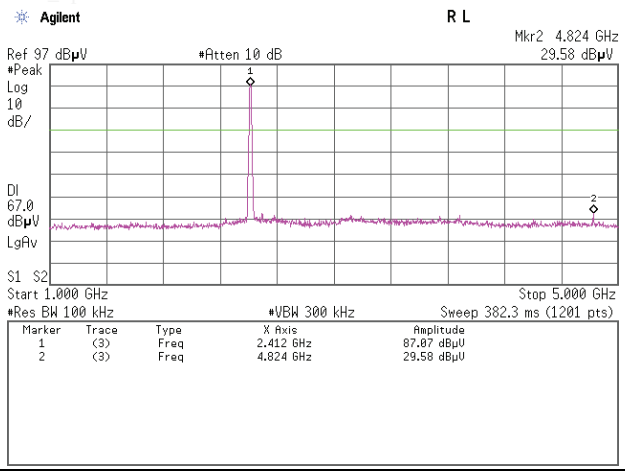
(Reference chart) Spurious emission (Conducted)

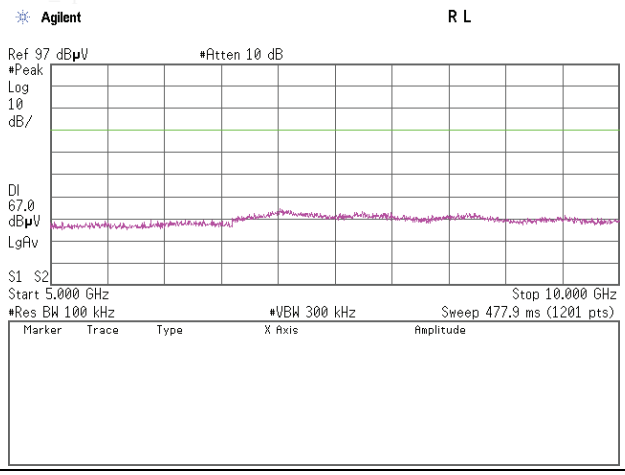
Tx, IEEE802.11b , PN9, worst antenna port 1, worst data mode 1Mbps

Tx, 2412MHz (above 1GHz)

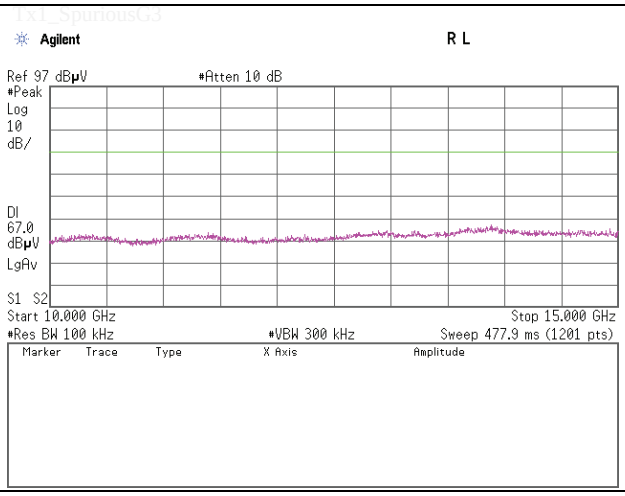
1GHz - 5GHz



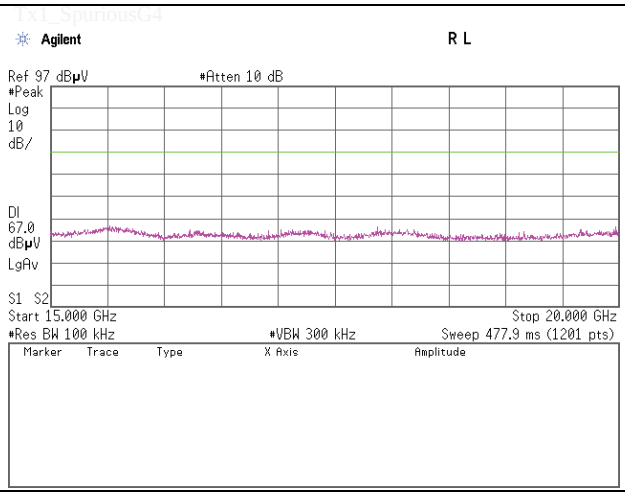
5GHz - 10GHz



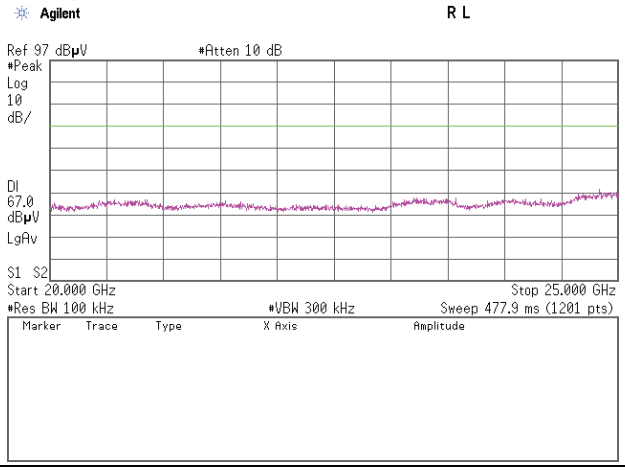
10GHz - 15GHz



15GHz - 20GHz



20GHz - 25GHz



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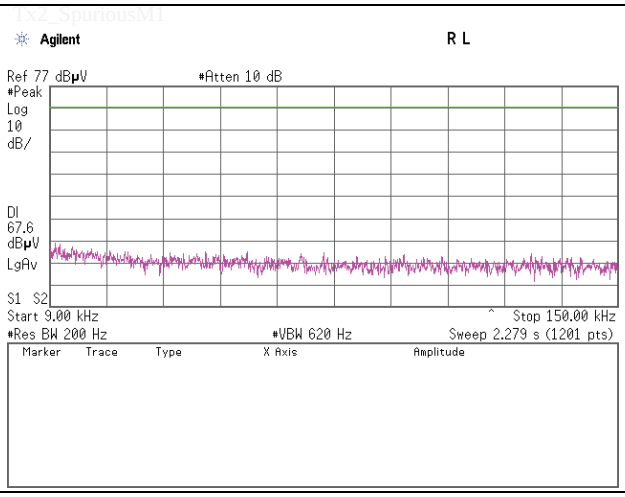
(Reference chart) Spurious emission (Conducted)

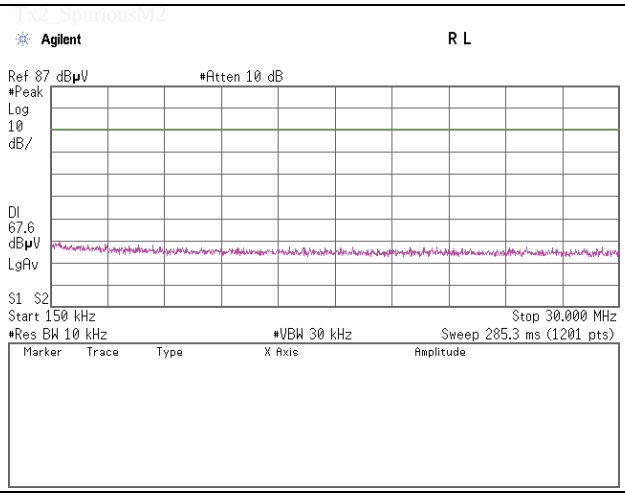
Tx, IEEE802.11b , PN9, worst antenna port 1, worst data mode 1Mbps

Tx, 2437MHz (below 1GHz)

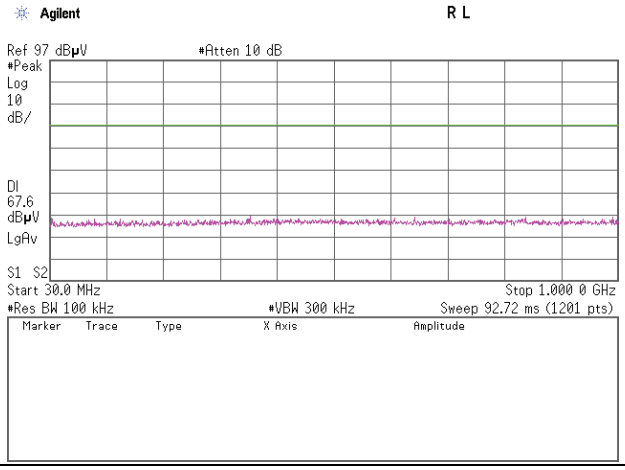
9kHz - 150kHz



150kHz - 30MHz



30MHz - 1GHz



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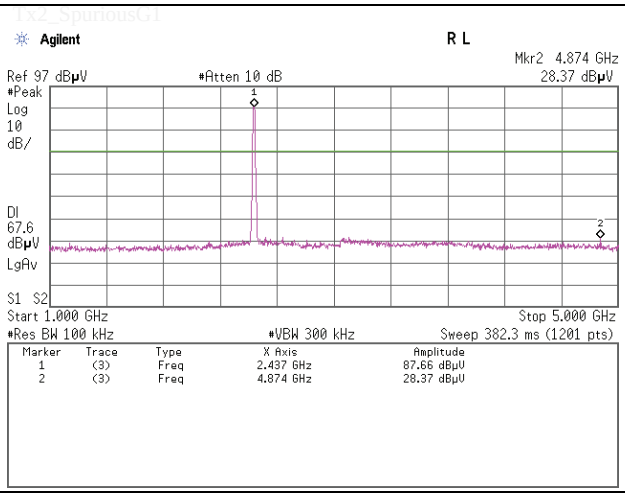
(Reference chart) Spurious emission (Conducted)

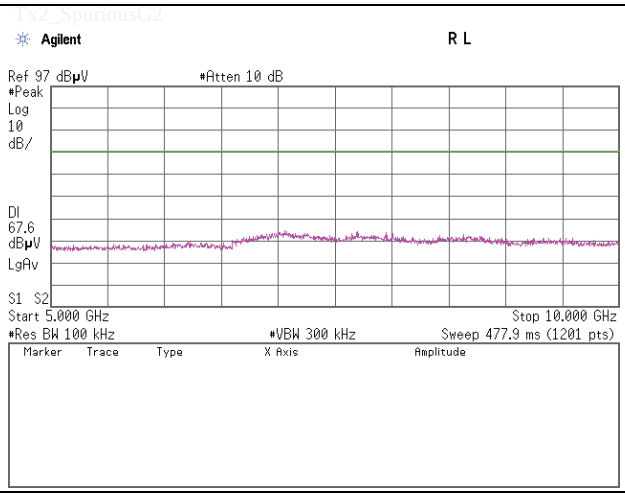
Tx, IEEE802.11b , PN9, worst antenna port 1, worst data mode 1Mbps

Tx, 2437MHz (above 1GHz)

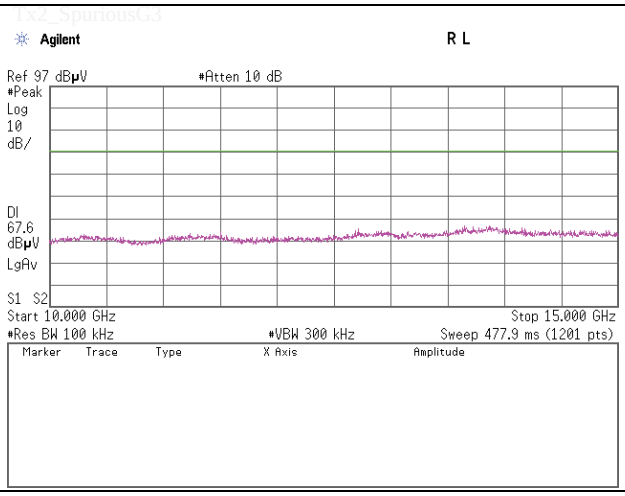
1GHz - 5GHz



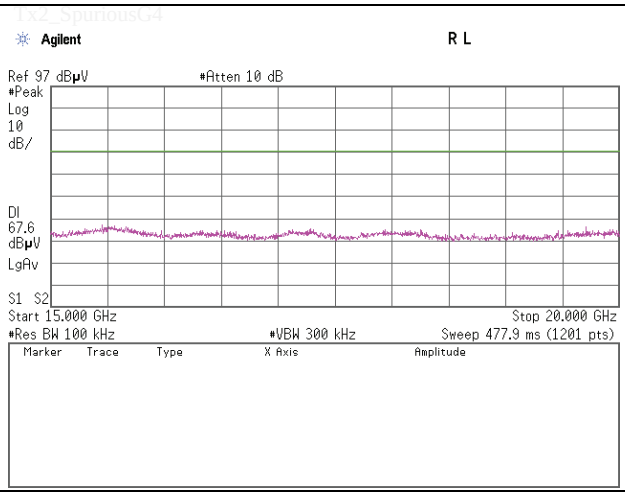
5GHz - 10GHz



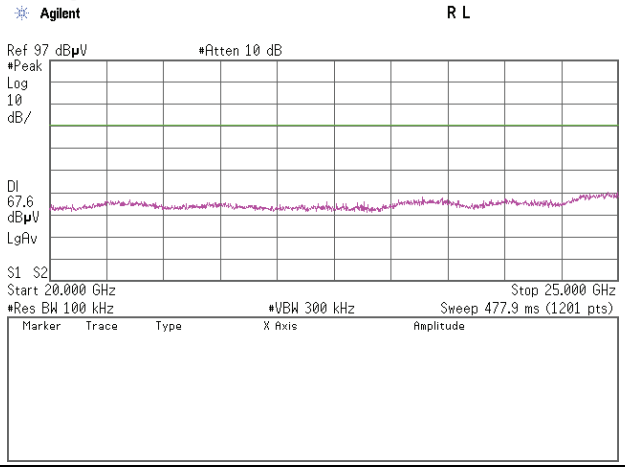
10GHz - 15GHz



15GHz - 20GHz



20GHz - 25GHz



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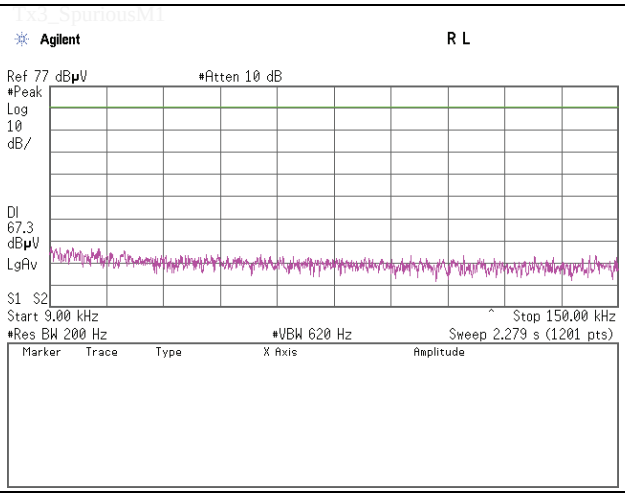
(Reference chart) Spurious emission (Conducted)

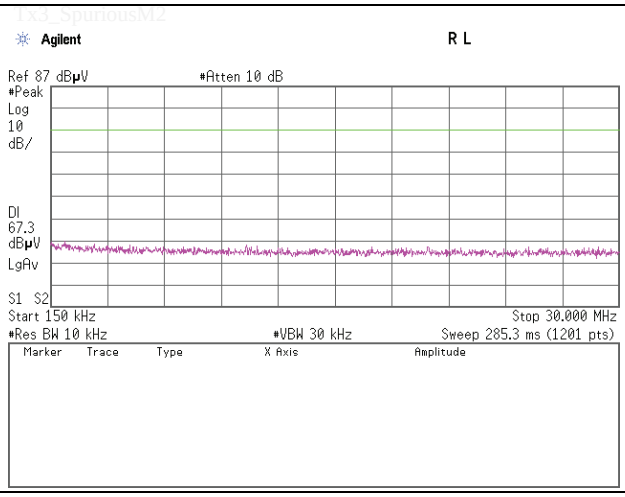
Tx, IEEE802.11b , PN9, worst antenna port 1, worst data mode 1Mbps

Tx, 2462MHz (below 1GHz)

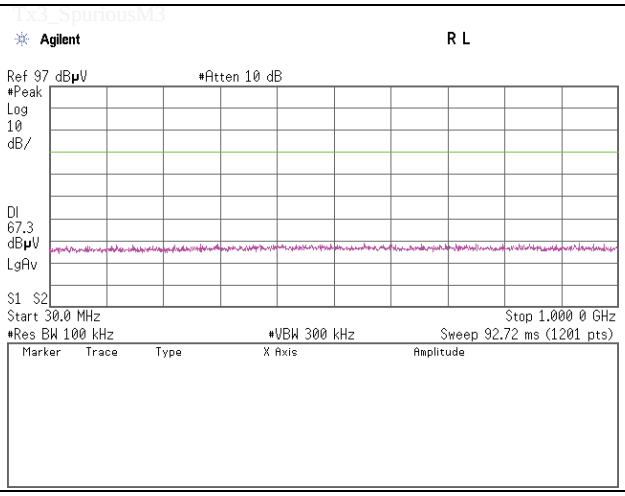
9kHz - 150kHz



150kHz - 30MHz



30MHz - 1GHz



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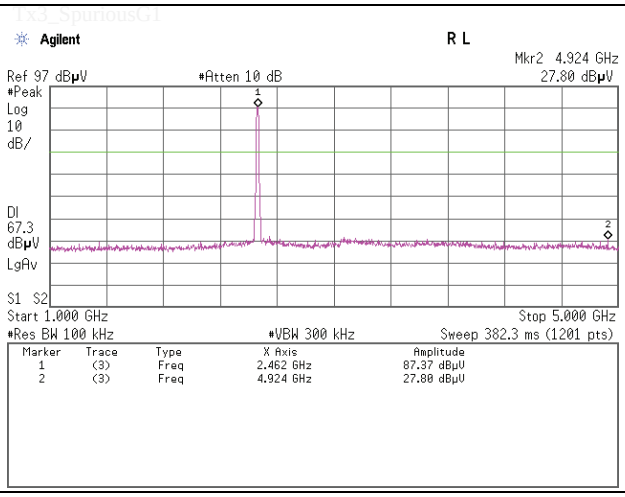
(Reference chart) Spurious emission (Conducted)

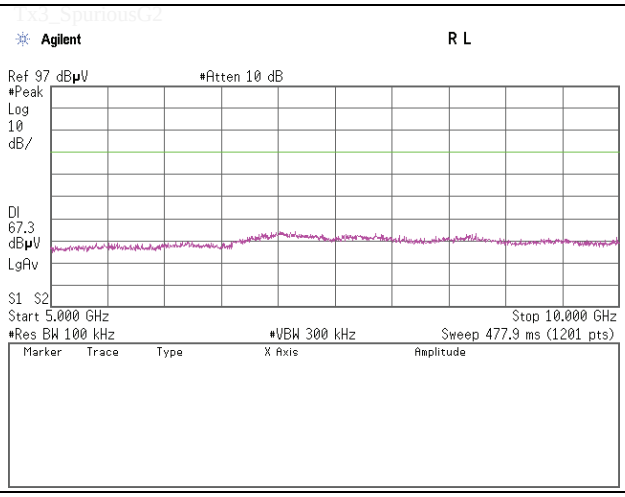
Tx, IEEE802.11b , PN9, worst antenna port 1, worst data mode 1Mbps

Tx, 2462MHz (above 1GHz)

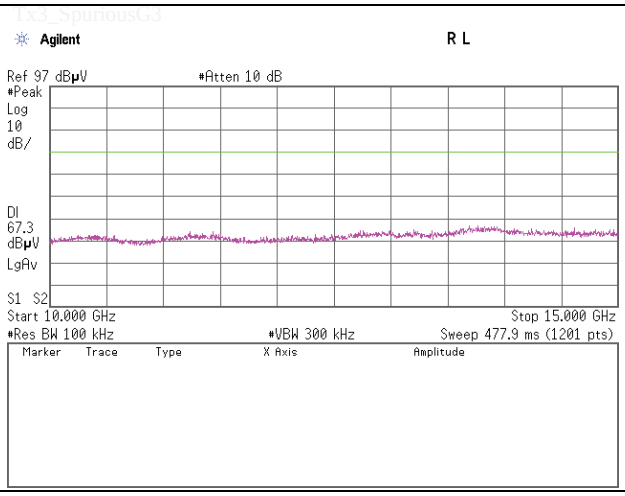
1GHz - 5GHz



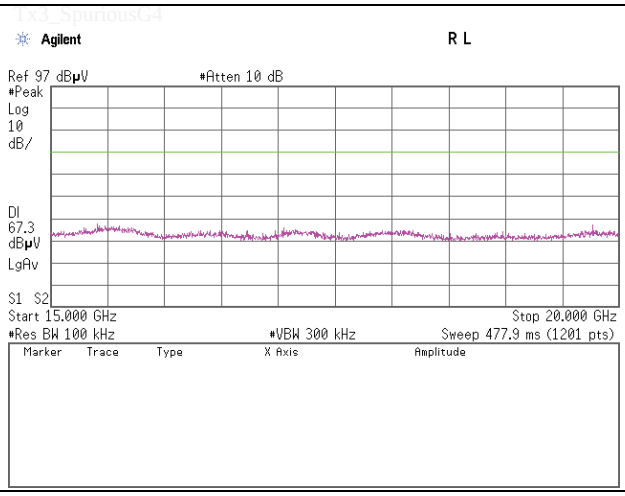
5GHz - 10GHz



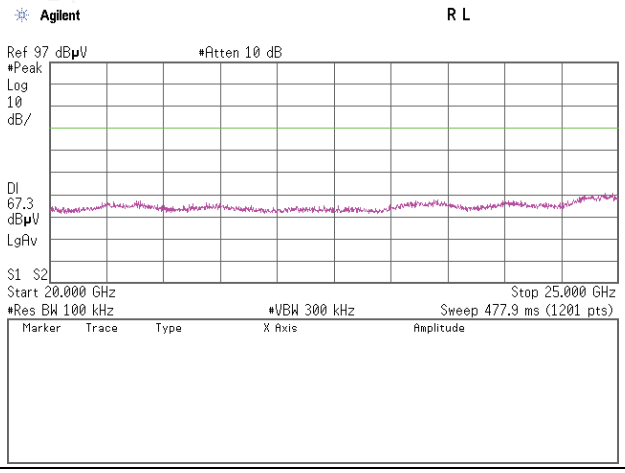
10GHz - 15GHz



15GHz - 20GHz



20GHz - 25GHz



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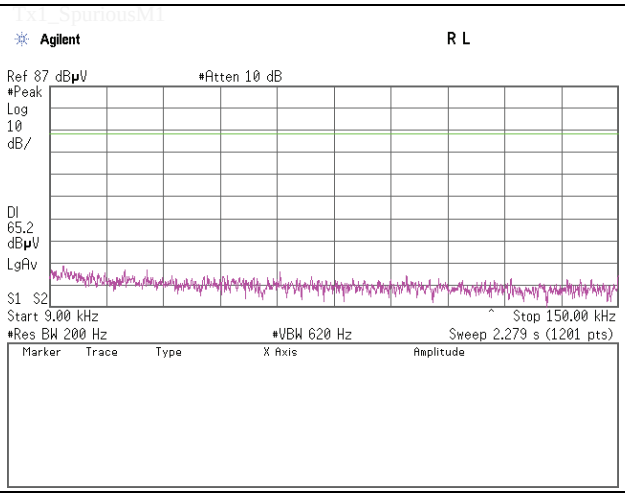
(Reference chart) Spurious emission (Conducted)

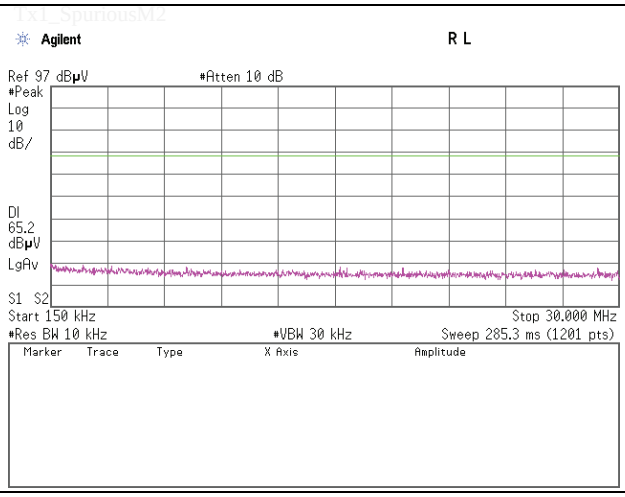
Tx, IEEE802.11g, PN9, worst antenna port 1, worst data mode 6Mbps

Tx, 2412MHz (below 1GHz)

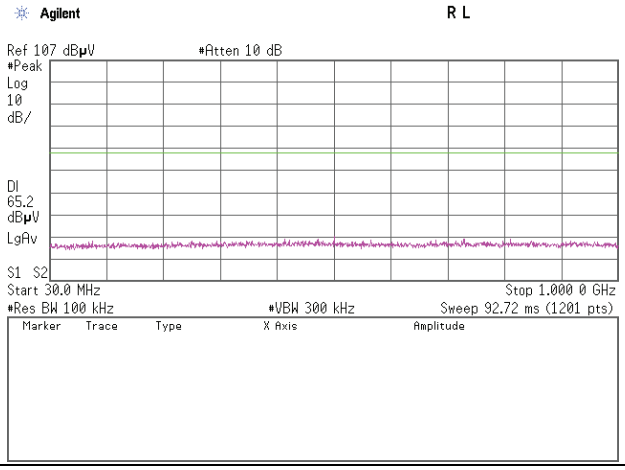
9kHz - 150kHz



150kHz - 30MHz



30MHz - 1GHz



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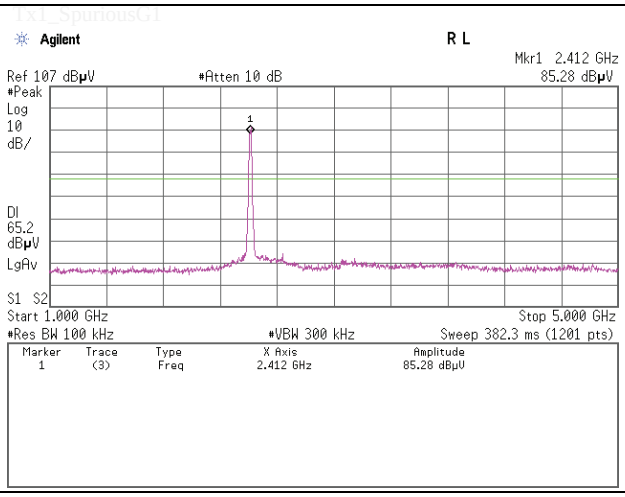
(Reference chart) Spurious emission (Conducted)

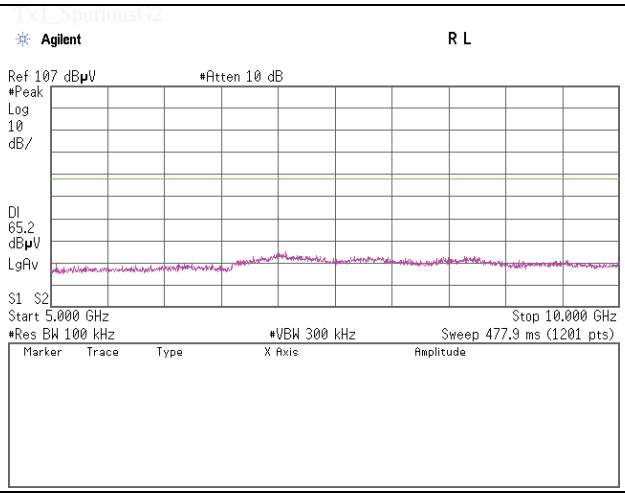
Tx, IEEE802.11g, PN9, worst antenna port 1, worst data mode 6Mbps

Tx, 2412MHz (above 1GHz)

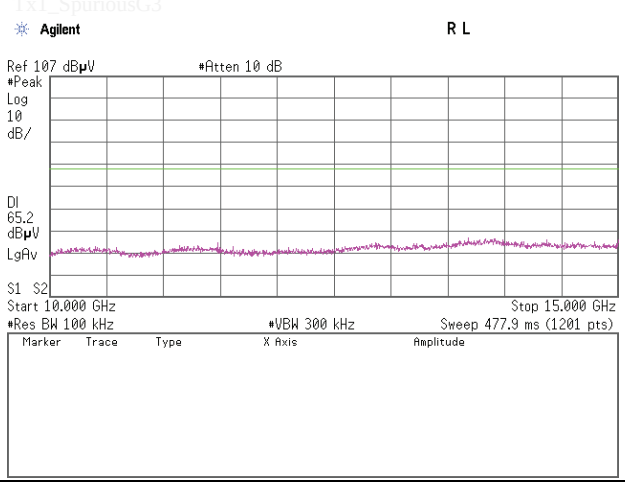
1GHz - 5GHz



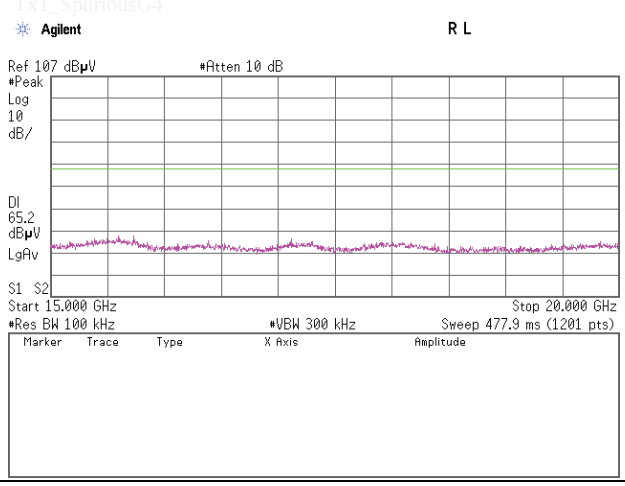
5GHz - 10GHz



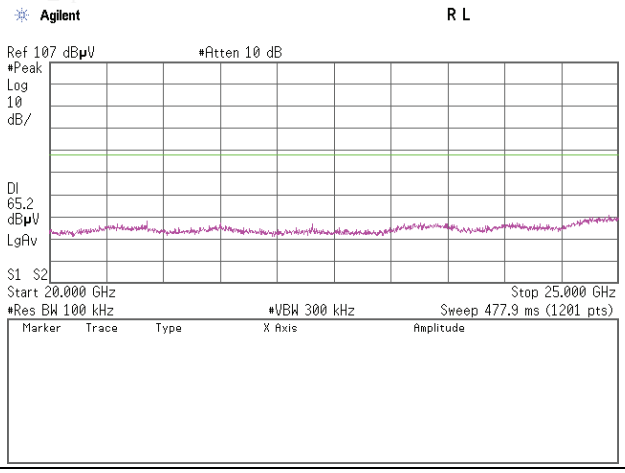
10GHz - 15GHz



15GHz - 20GHz



20GHz - 25GHz



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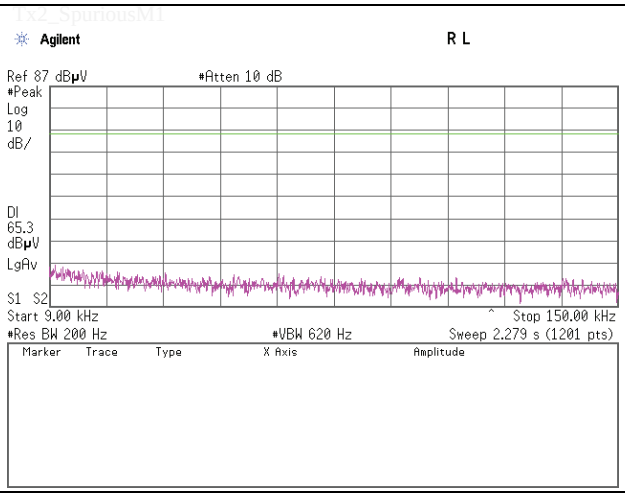
(Reference chart) Spurious emission (Conducted)

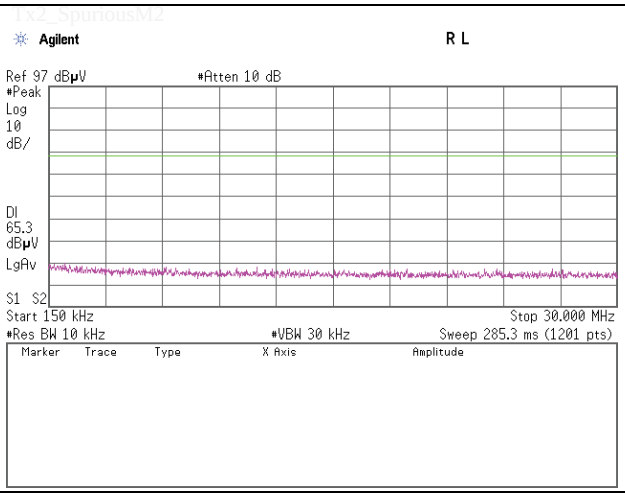
Tx, IEEE802.11g, PN9, worst antenna port 1, worst data mode 6Mbps

Tx, 2437MHz (below 1GHz)

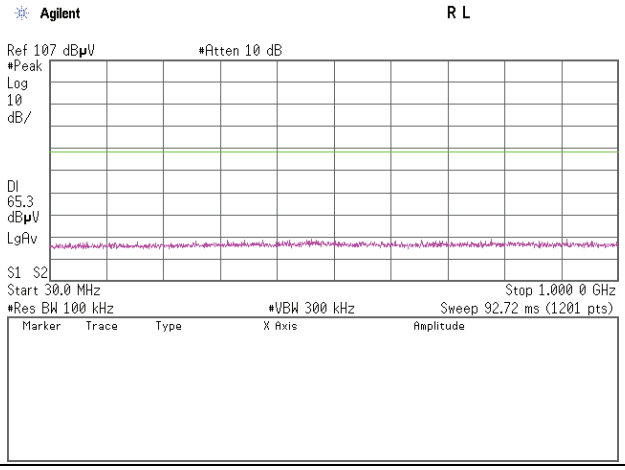
9kHz - 150kHz



150kHz - 30MHz



30MHz - 1GHz



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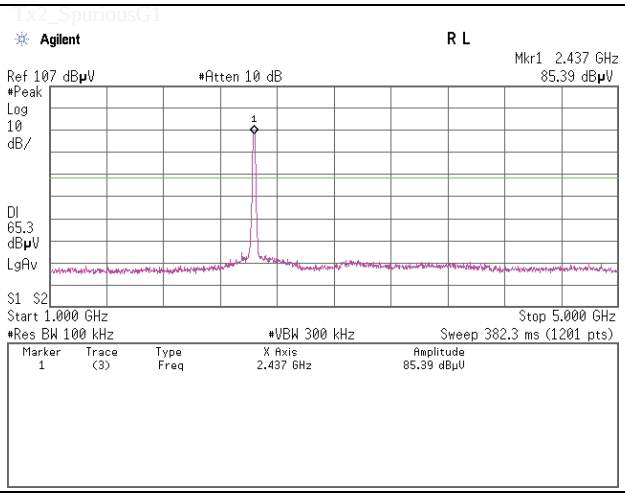
(Reference chart) Spurious emission (Conducted)

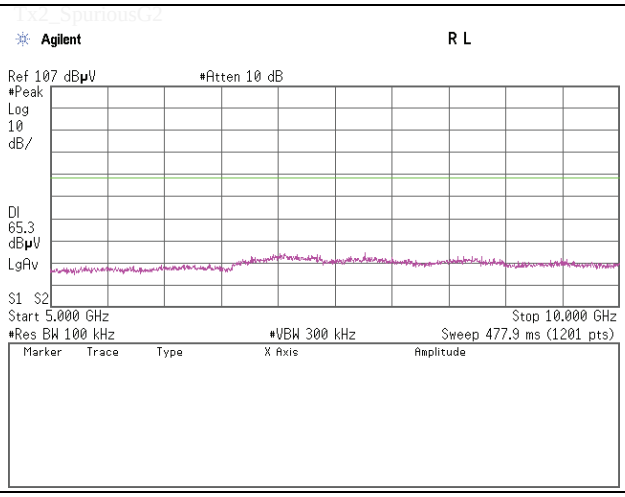
Tx, IEEE802.11g, PN9, worst antenna port 1, worst data mode 6Mbps

Tx, 2437MHz (above 1GHz)

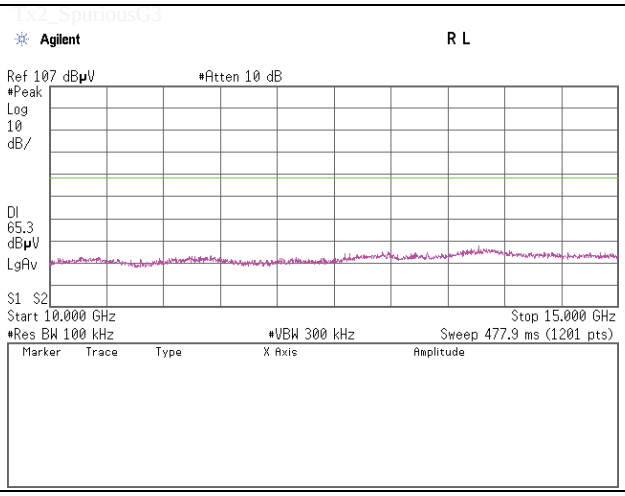
1GHz - 5GHz



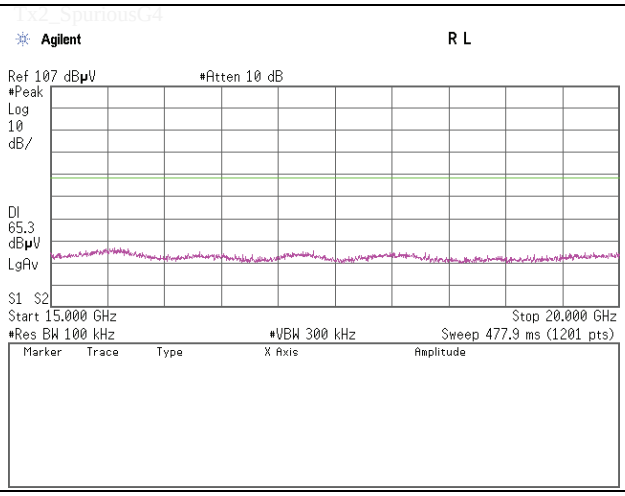
5GHz - 10GHz



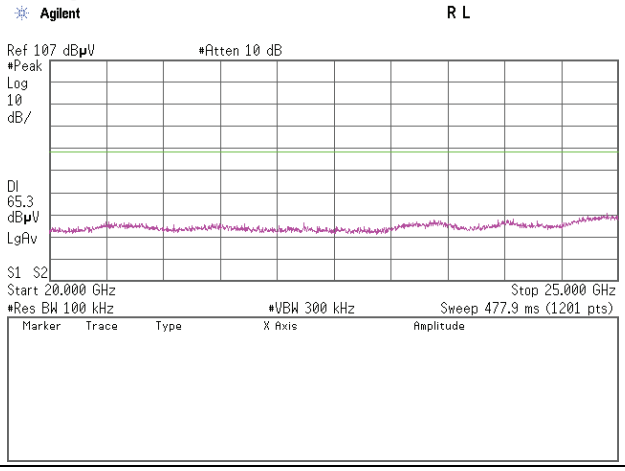
10GHz - 15GHz



15GHz - 20GHz



20GHz - 25GHz



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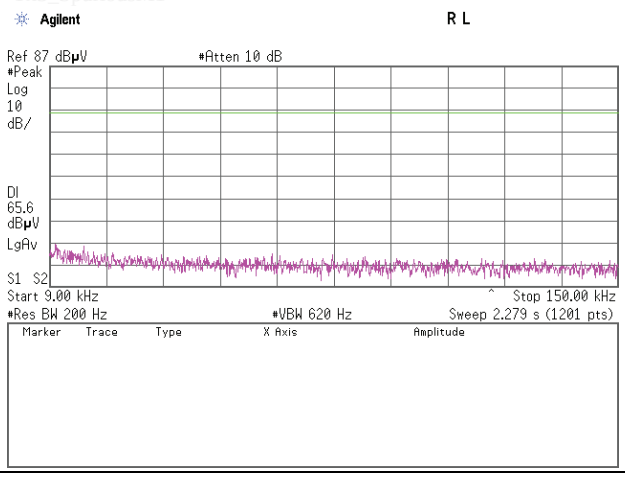
(Reference chart) Spurious emission (Conducted)

Tx, IEEE802.11g, PN9, worst antenna port 1, worst data mode 6Mbps

Tx, 2462MHz (below 1GHz)

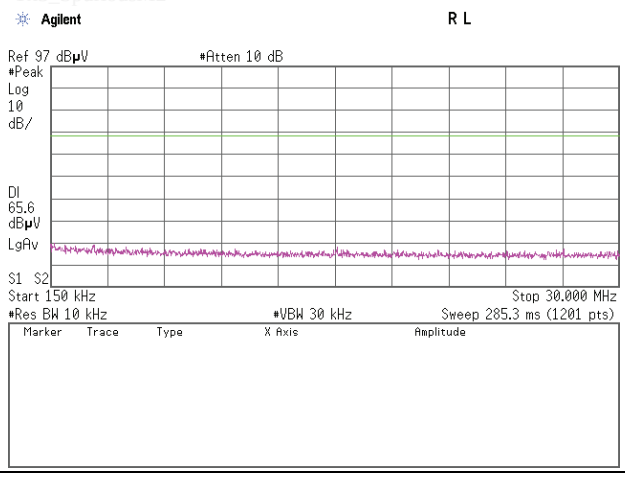
9kHz - 150kHz

Tx3_SpuriousM1



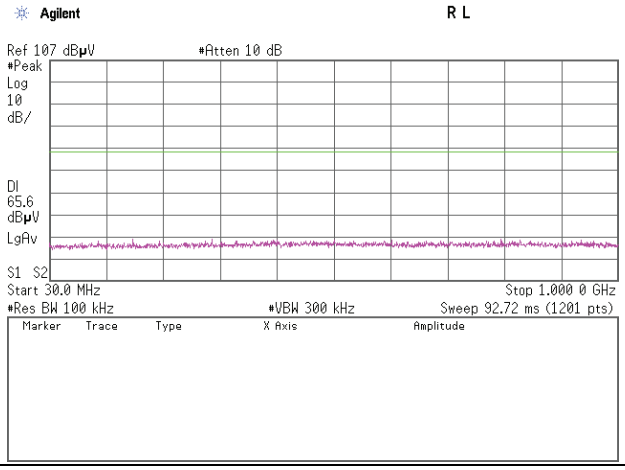
150kHz - 30MHz

Tx3_SpuriousM2



30MHz - 1GHz

Tx3_SpuriousM3



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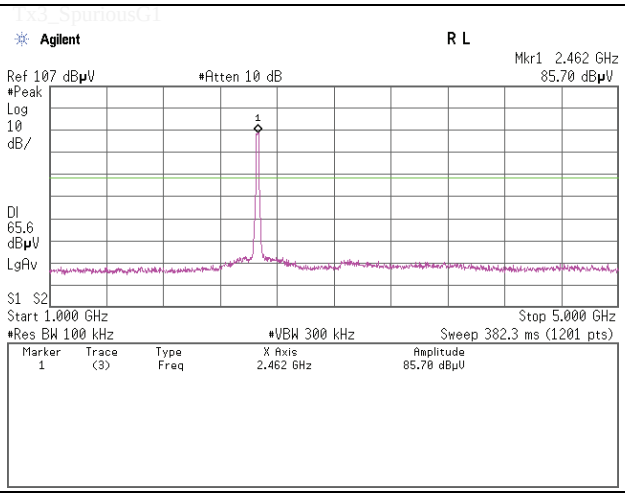
(Reference chart) Spurious emission (Conducted)

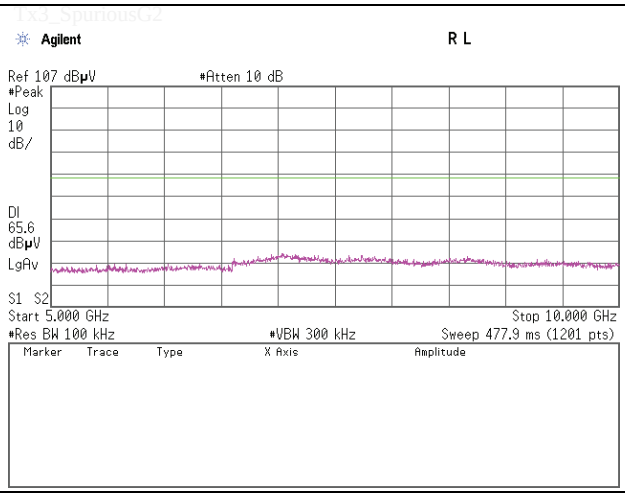
Tx, IEEE802.11g, PN9, worst antenna port 1, worst data mode 6Mbps

Tx, 2462MHz (above 1GHz)

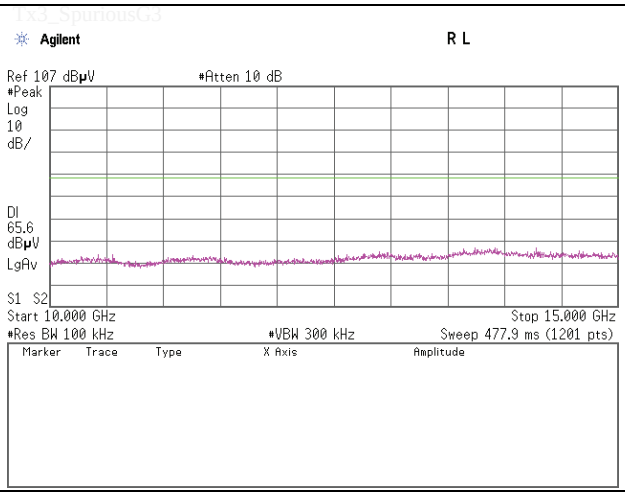
1GHz - 5GHz



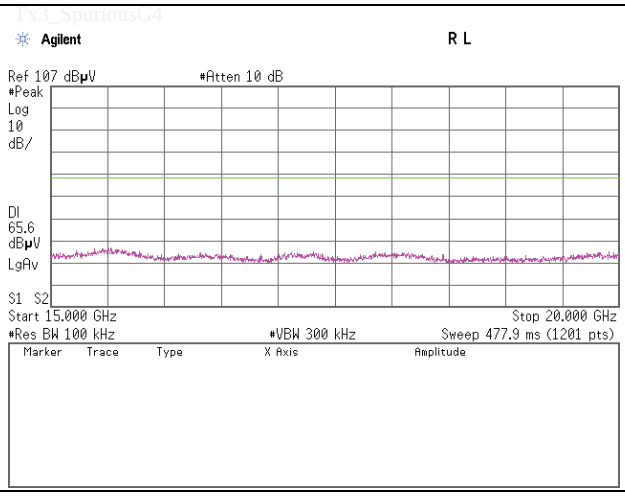
5GHz - 10GHz



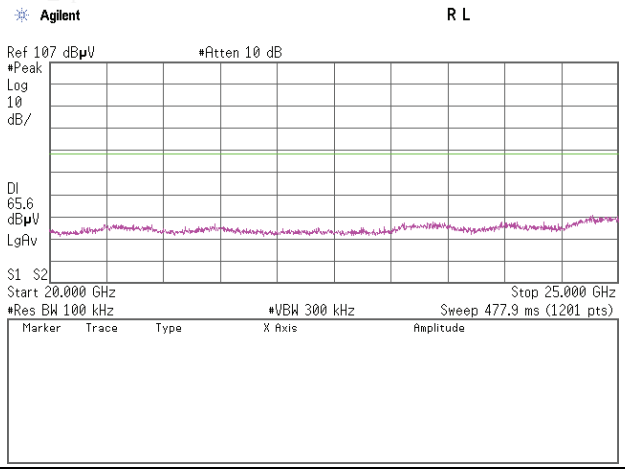
10GHz - 15GHz



15GHz - 20GHz



20GHz - 25GHz



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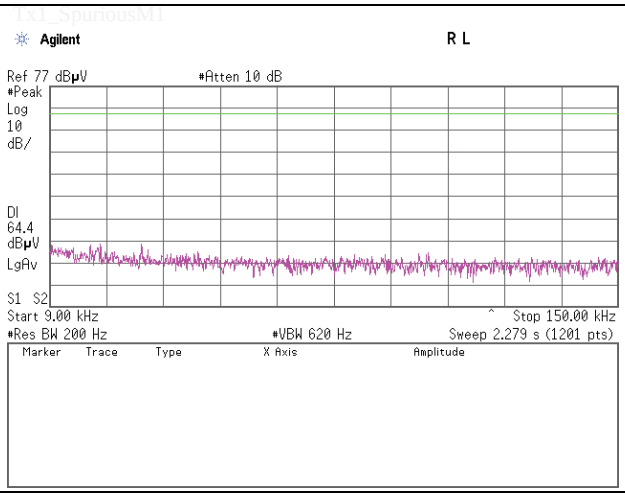
(Reference chart) Spurious emission (Conducted)

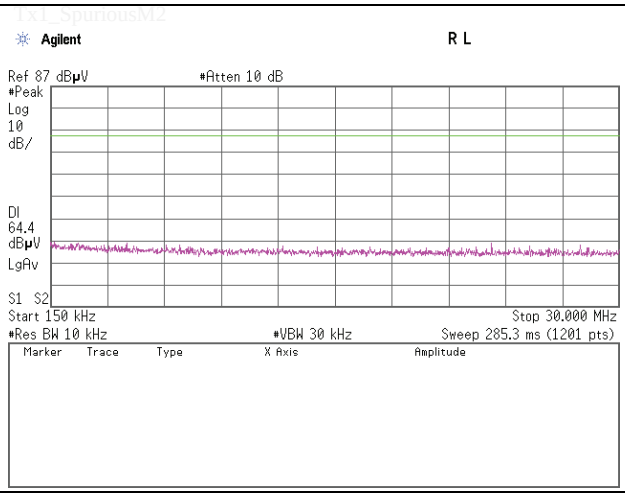
Tx, IEEE802.11n(HT20), PN9, worst antenna port 1, worst data mode 0(MCS)

Tx, 2412MHz (below 1GHz)

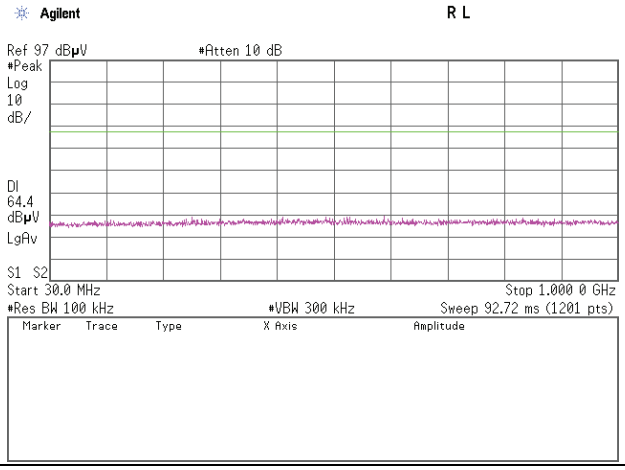
9kHz - 150kHz



150kHz - 30MHz



30MHz - 1GHz



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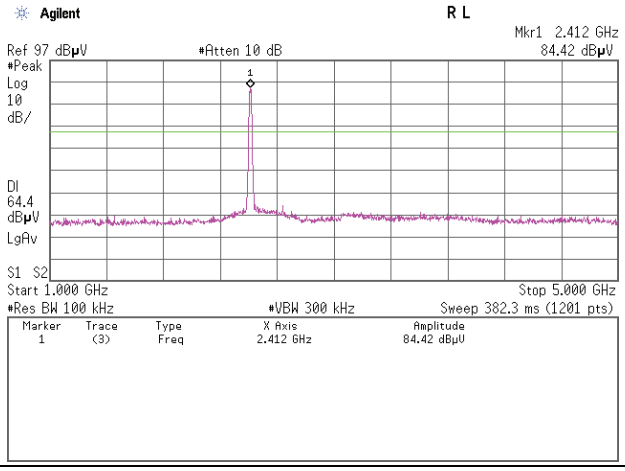
(Reference chart) Spurious emission (Conducted)

Tx, IEEE802.11n(HT20), PN9, worst antenna port 1, worst data mode 0(MCS)

Tx, 2412MHz (above 1GHz)

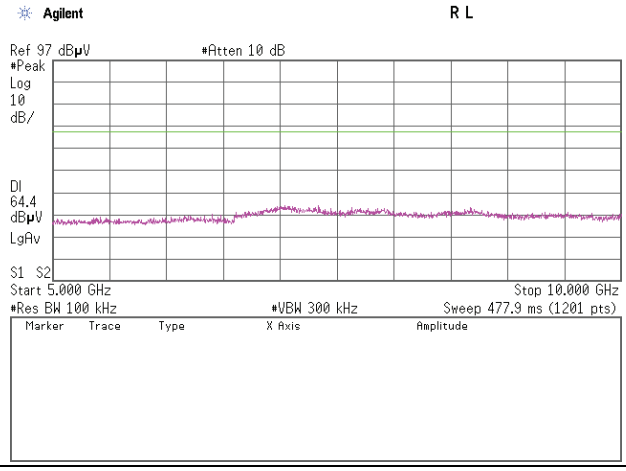
1GHz - 5GHz

Tx1_SpuriousG1



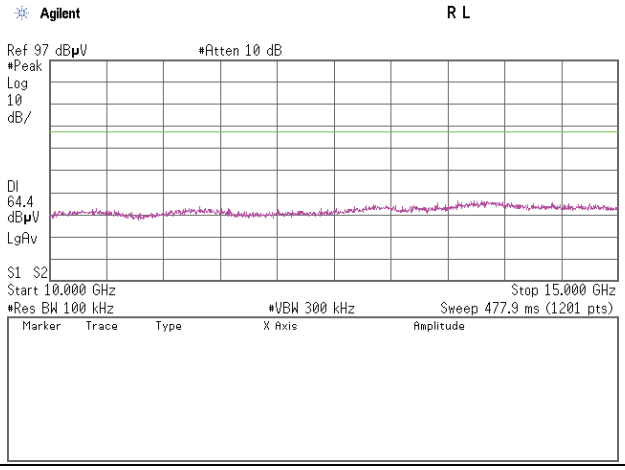
5GHz - 10GHz

Tx1_SpuriousG2



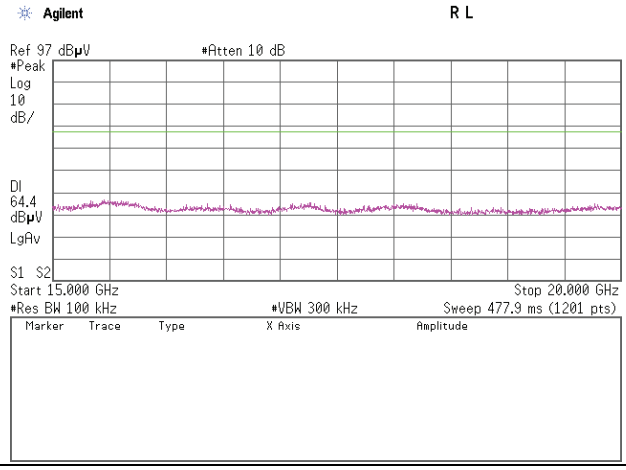
10GHz - 15GHz

Tx1_SpuriousG3



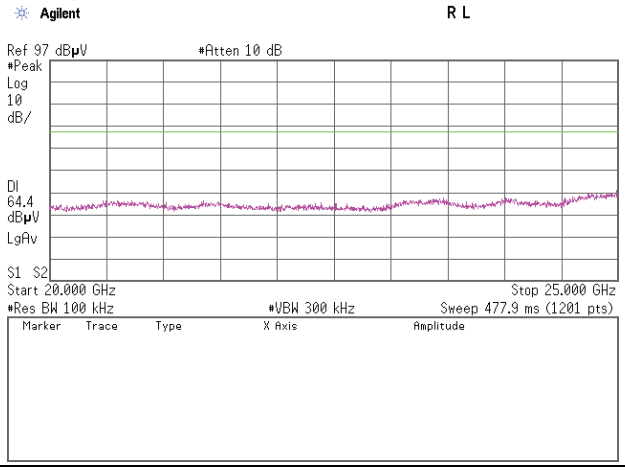
15GHz - 20GHz

Tx1_SpuriousG4



20GHz - 25GHz

Tx1_SpuriousG5



Tx1_SpuriousG6

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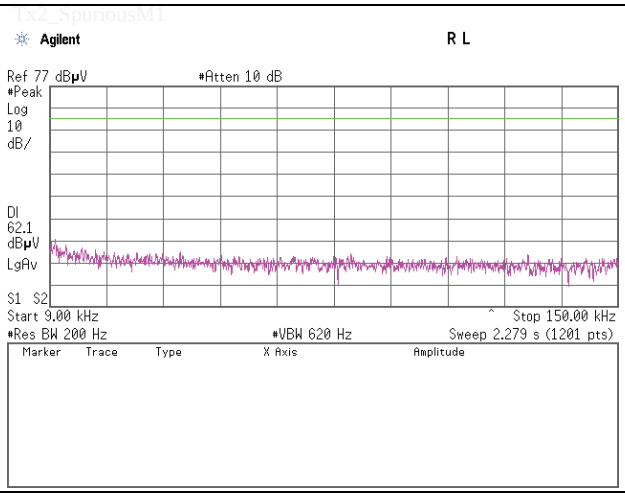
(Reference chart) Spurious emission (Conducted)

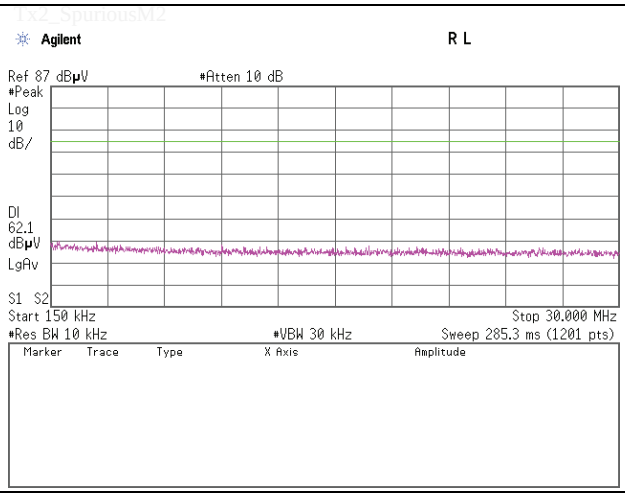
Tx, IEEE802.11n(HT20), PN9, worst antenna port 1, worst data mode 0(MCS)

Tx, 2437MHz (below 1GHz)

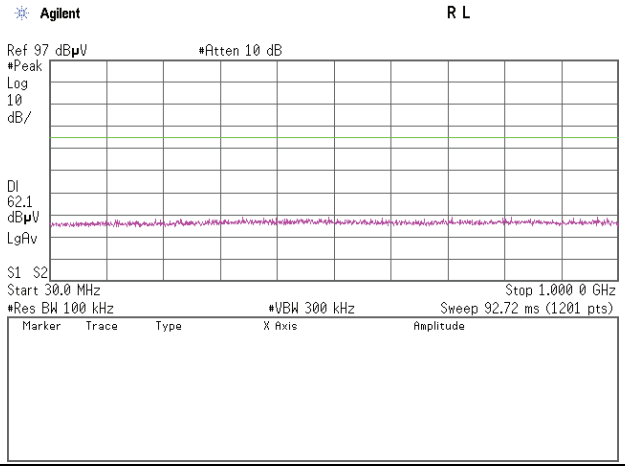
9kHz - 150kHz



150kHz - 30MHz



30MHz - 1GHz



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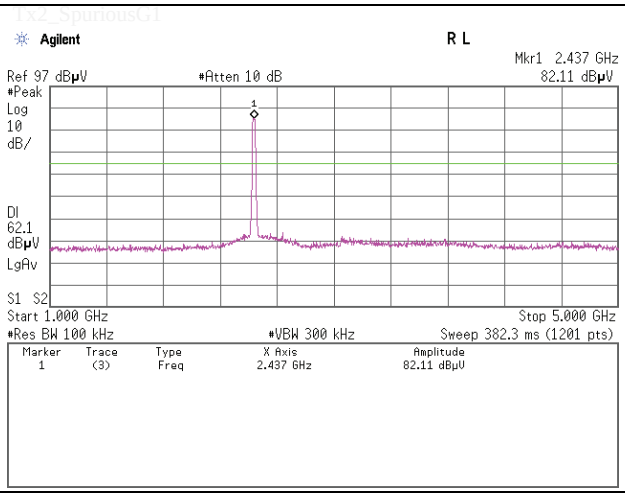
(Reference chart) Spurious emission (Conducted)

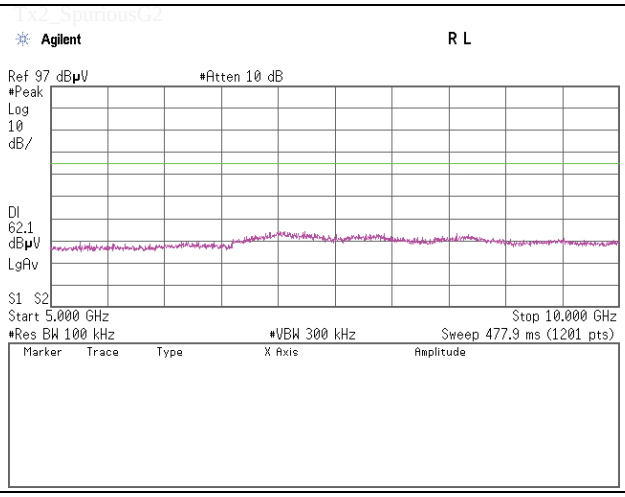
Tx, IEEE802.11n(HT20), PN9, worst antenna port 1, worst data mode 0(MCS)

Tx, 2437MHz (above 1GHz)

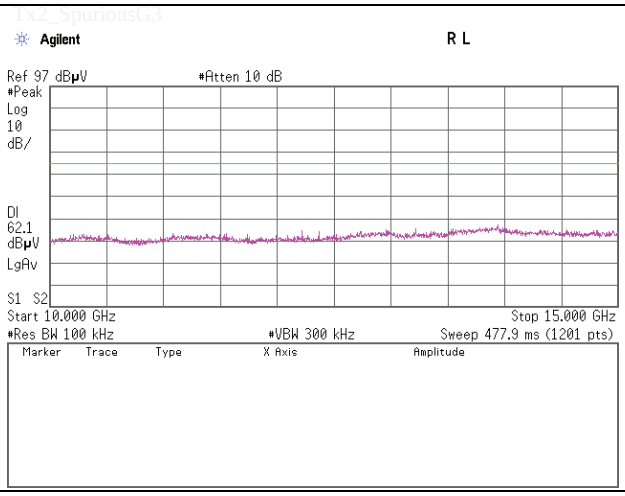
1GHz - 5GHz



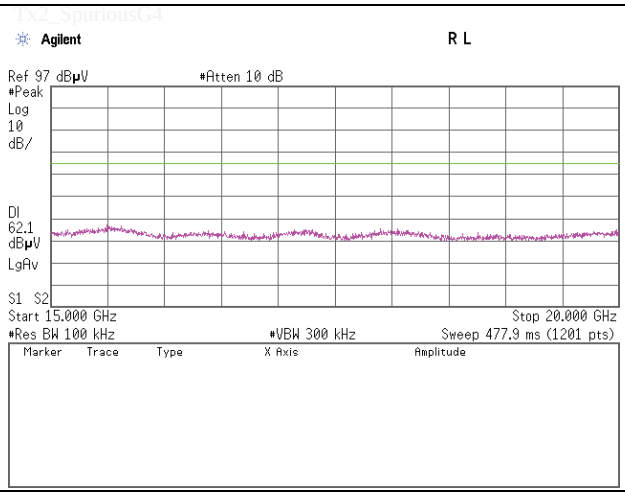
5GHz - 10GHz



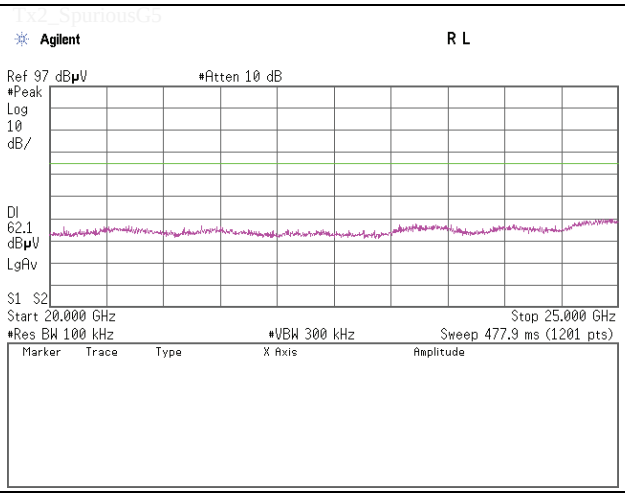
10GHz - 15GHz



15GHz - 20GHz



20GHz - 25GHz



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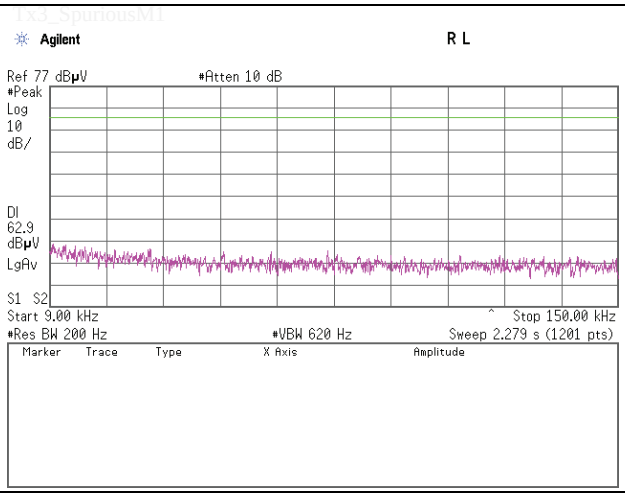
(Reference chart) Spurious emission (Conducted)

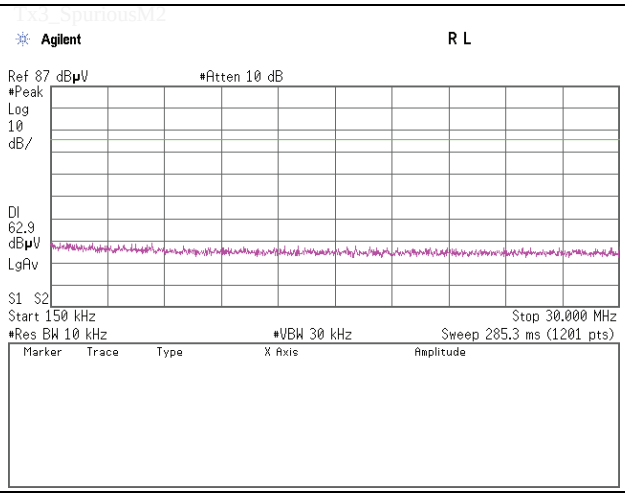
Tx, IEEE802.11n(HT20), PN9, worst antenna port 1, worst data mode 0(MCS)

Tx, 2462MHz (below 1GHz)

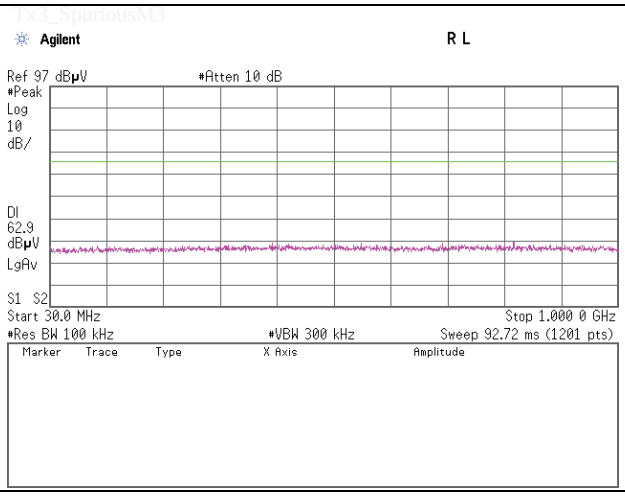
9kHz - 150kHz



150kHz - 30MHz



30MHz - 1GHz



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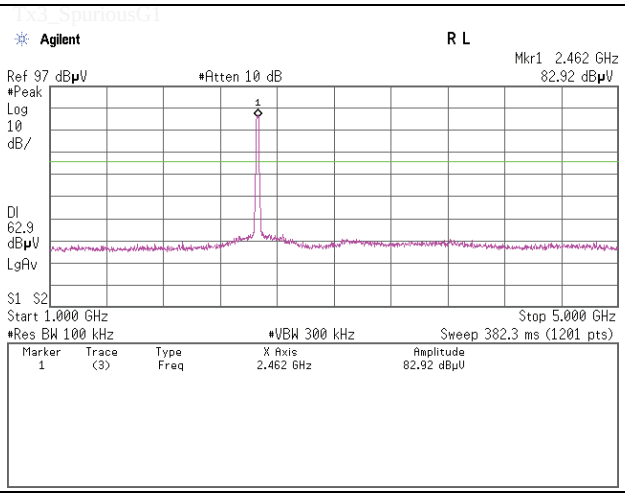
(Reference chart) Spurious emission (Conducted)

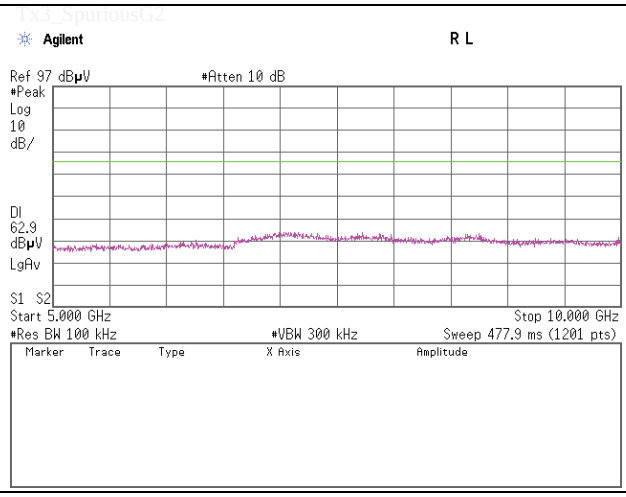
Tx, IEEE802.11n(HT20), PN9, worst antenna port 1, worst data mode 0(MCS)

Tx, 2462MHz (above 1GHz)

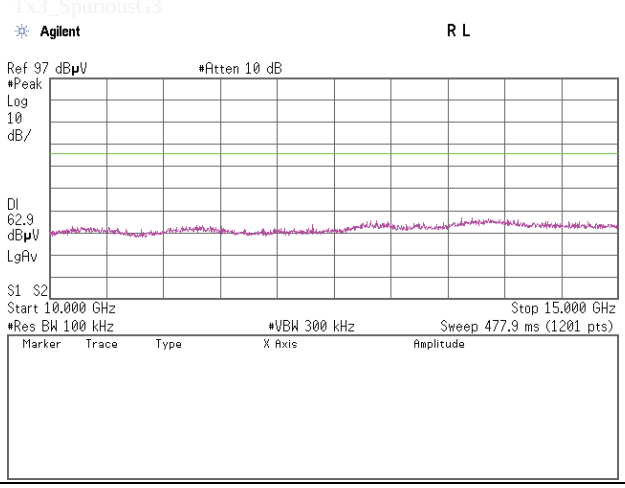
1GHz - 5GHz



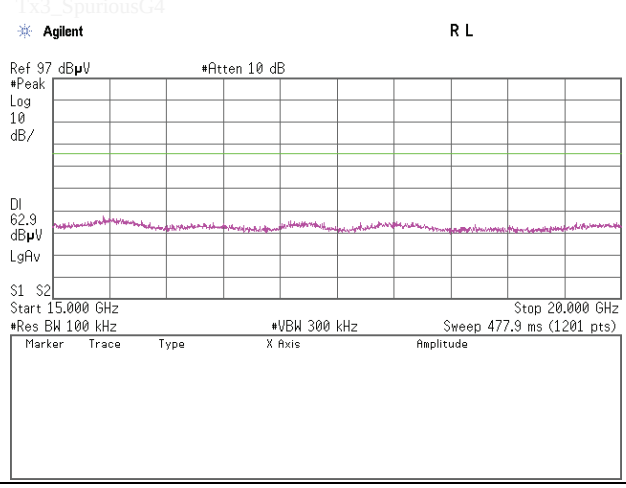
5GHz - 10GHz



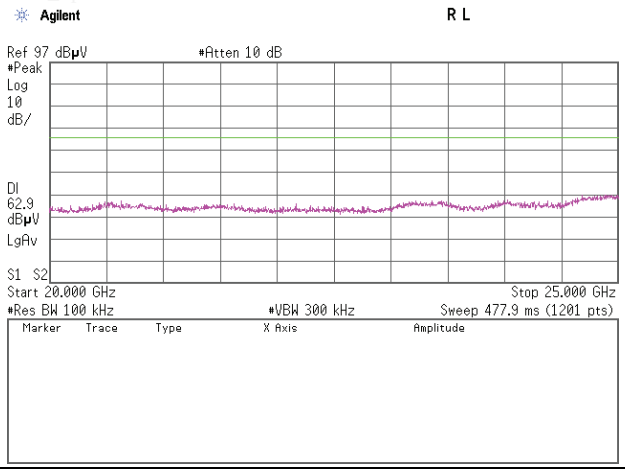
10GHz - 15GHz



15GHz - 20GHz



20GHz - 25GHz



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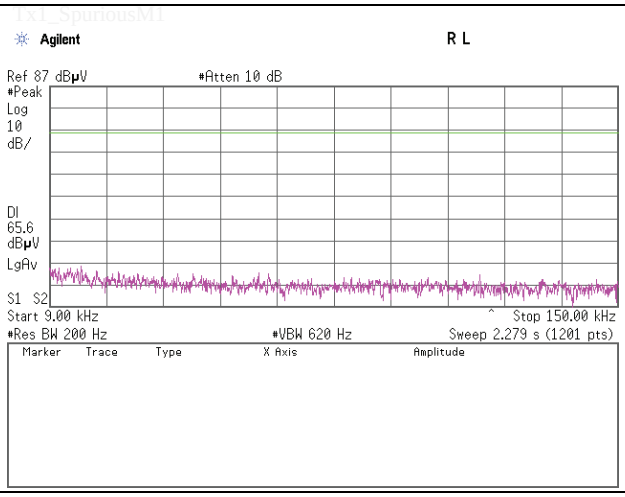
Spurious emission (Conducted)

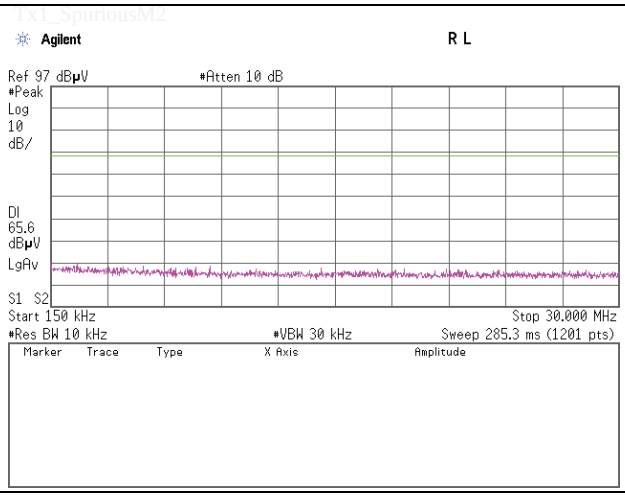
Tx, IEEE802.11n (HT20), PN9, antenna port 1, worst data mode 8(MCS)

Tx, 2412MHz (below 1GHz)

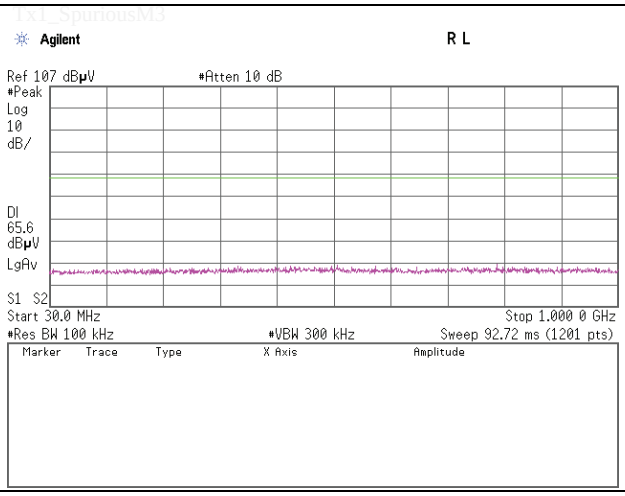
9kHz - 150kHz



150kHz - 30MHz



30MHz - 1GHz



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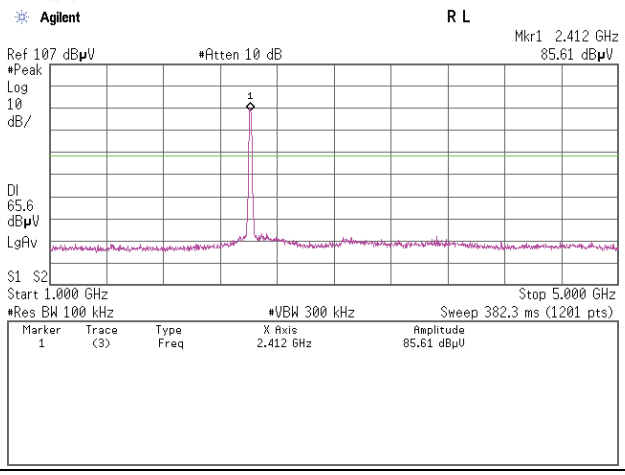
Spurious emission (Conducted)

Tx, IEEE802.11n (HT20), PN9, antenna port 1, worst data mode 8(MCS)

Tx, 2412MHz (above 1GHz)

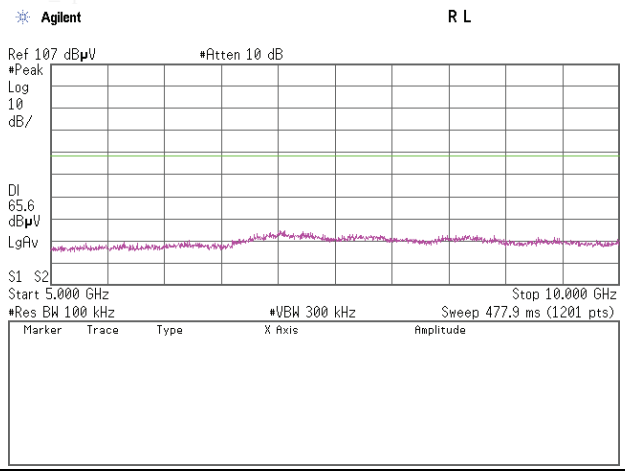
1GHz - 5GHz

Tx1_SpuriousG1



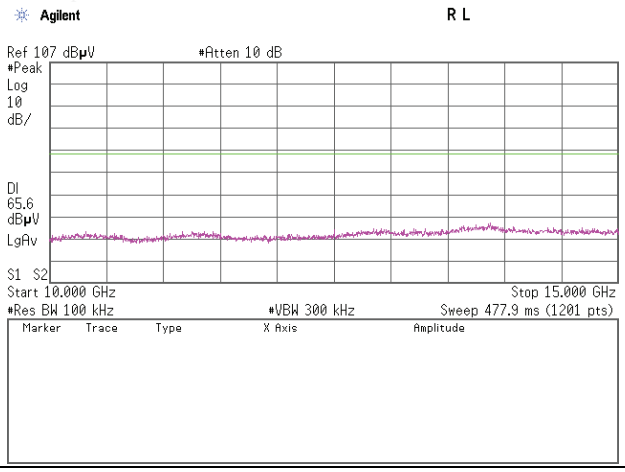
5GHz - 10GHz

Tx1_SpuriousG2



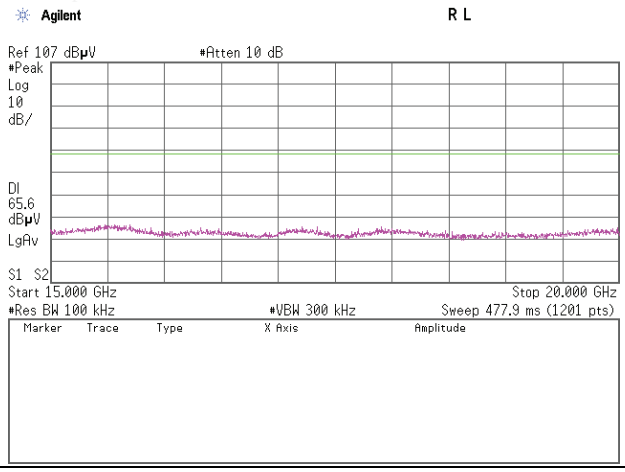
10GHz - 15GHz

Tx1_SpuriousG3



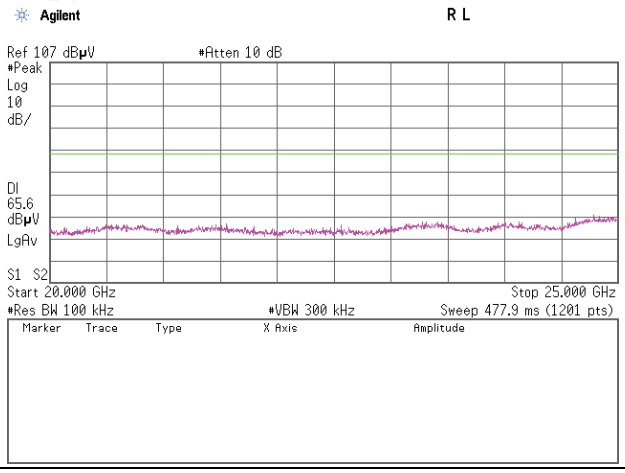
15GHz - 20GHz

Tx1_SpuriousG4



20GHz - 25GHz

Tx1_SpuriousG5



Tx1_SpuriousG6

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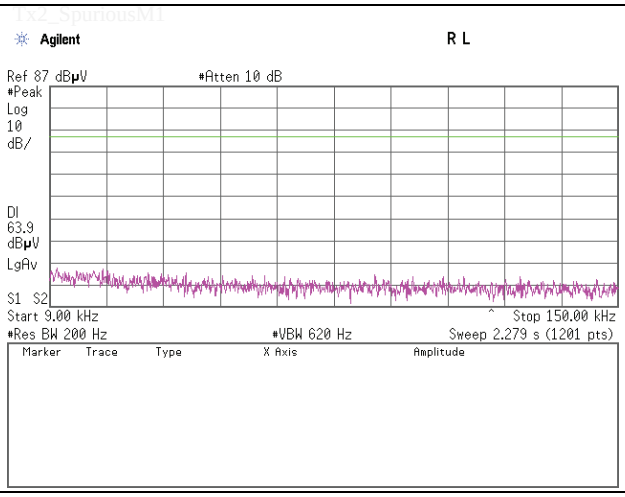
Spurious emission (Conducted)

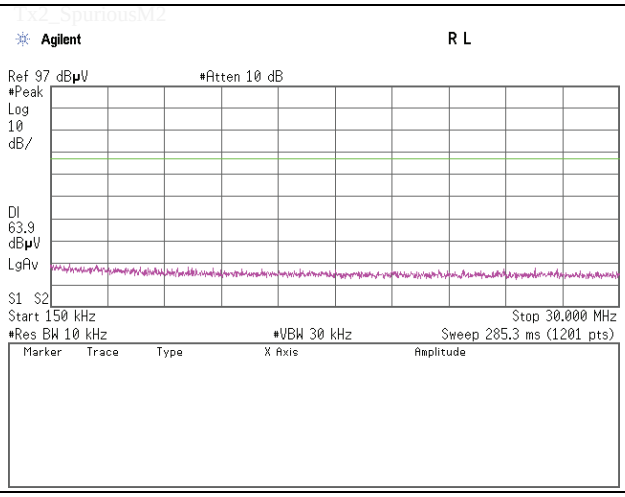
Tx, IEEE802.11n (HT20), PN9, antenna port 1, worst data mode 8(MCS)

Tx, 2437MHz (below 1GHz)

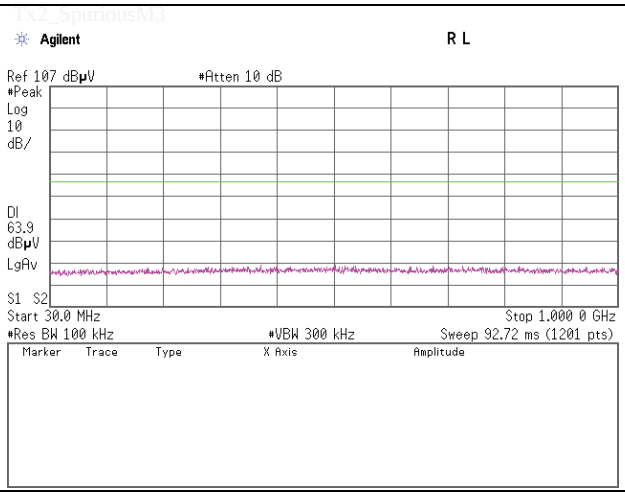
9kHz - 150kHz



150kHz - 30MHz



30MHz - 1GHz



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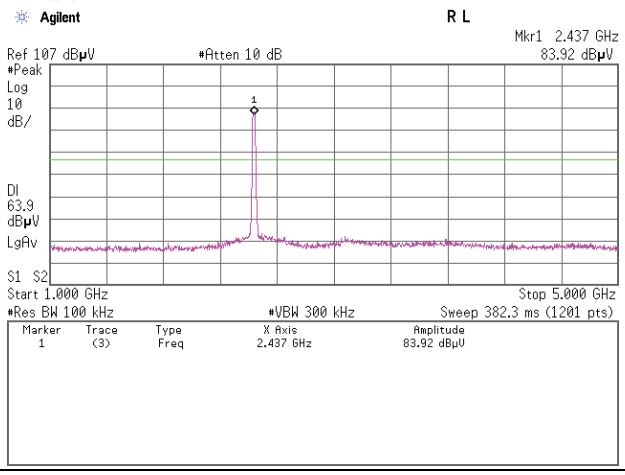
Spurious emission (Conducted)

Tx, IEEE802.11n (HT20), PN9, antenna port 1, worst data mode 8(MCS)

Tx, 2437MHz (above 1GHz)

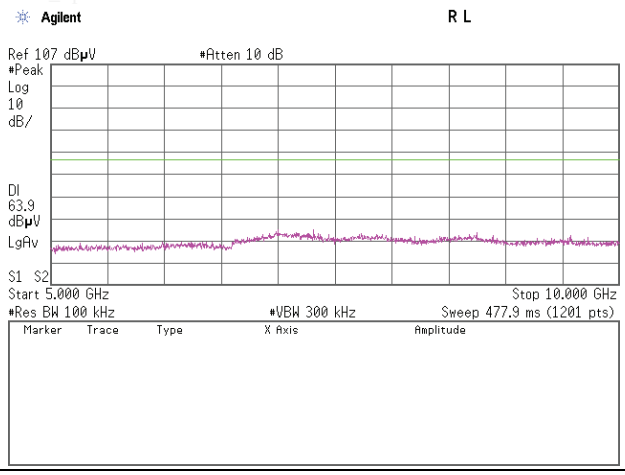
1GHz - 5GHz

Tx2_SpuriousG1



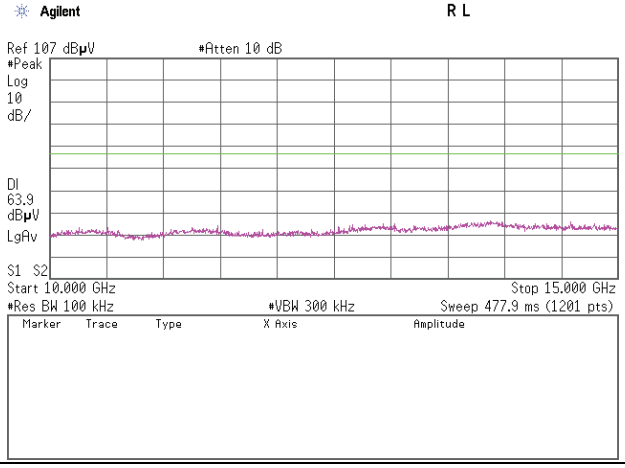
5GHz - 10GHz

Tx2_SpuriousG2



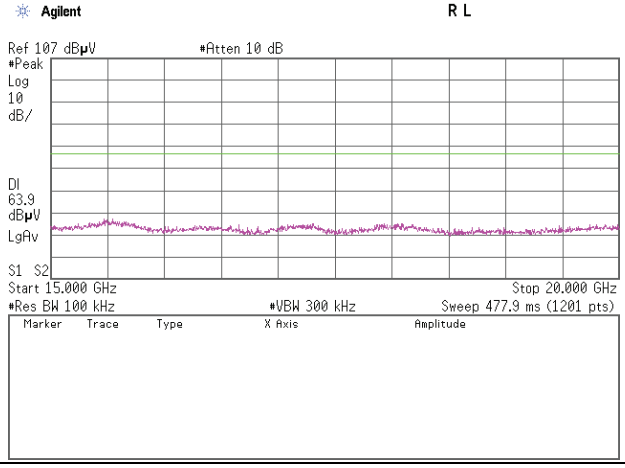
10GHz - 15GHz

Tx2_SpuriousG3



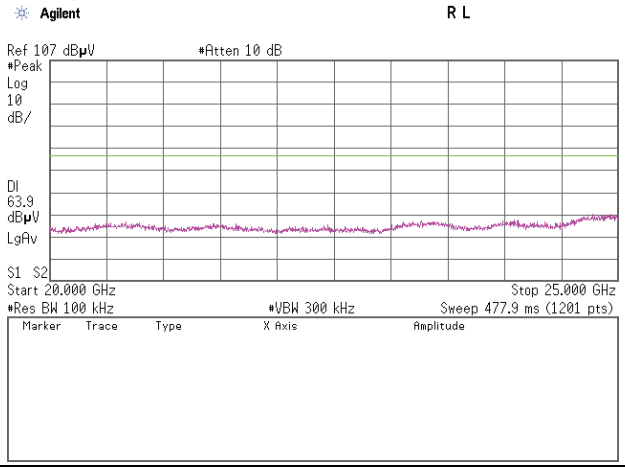
15GHz - 20GHz

Tx2_SpuriousG4



20GHz - 25GHz

Tx2_SpuriousG5



Tx2_SpuriousG6

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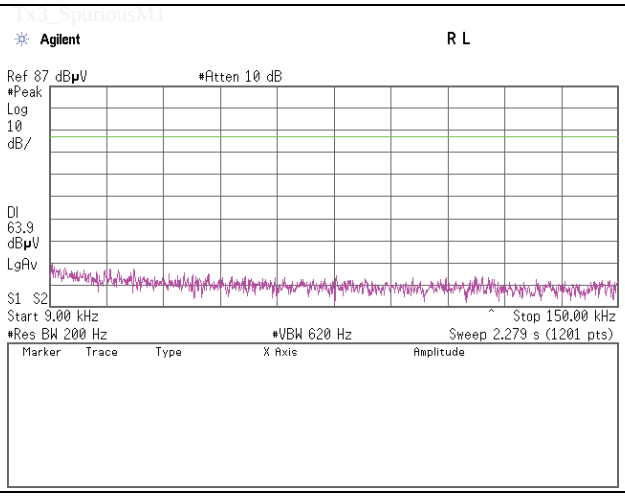
Spurious emission (Conducted)

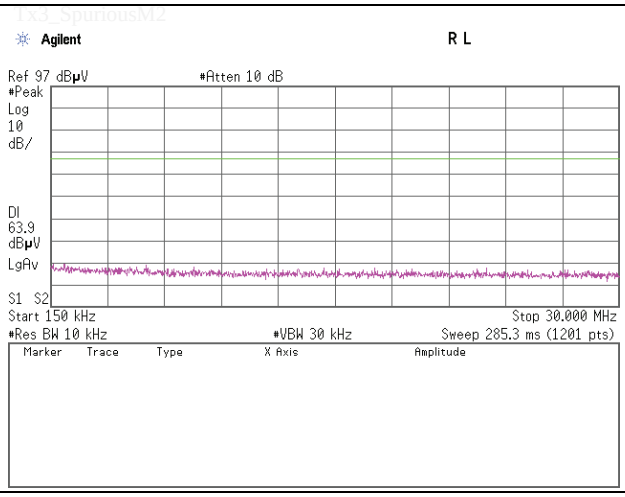
Tx, IEEE802.11n (HT20), PN9, antenna port 1, worst data mode 8(MCS)

Tx, 2462MHz (below 1GHz)

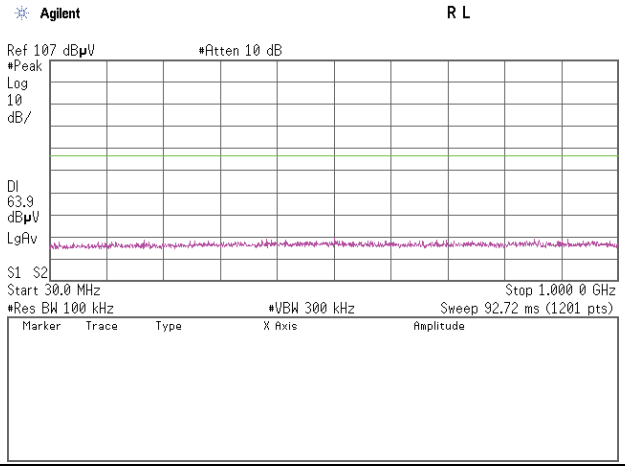
9kHz - 150kHz



150kHz - 30MHz



30MHz - 1GHz



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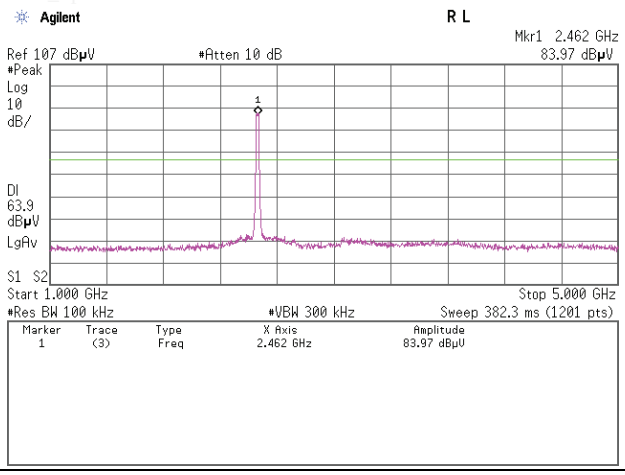
Spurious emission (Conducted)

Tx, IEEE802.11n (HT20), PN9, antenna port 1, worst data mode 8(MCS)

Tx, 2462MHz (above 1GHz)

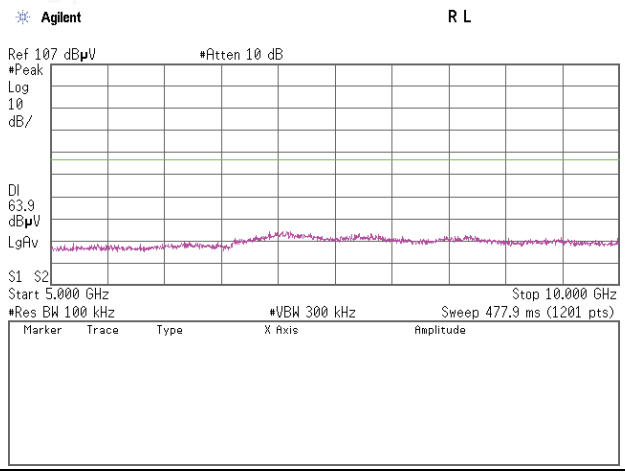
1GHz - 5GHz

Tx3_SpuriousG1



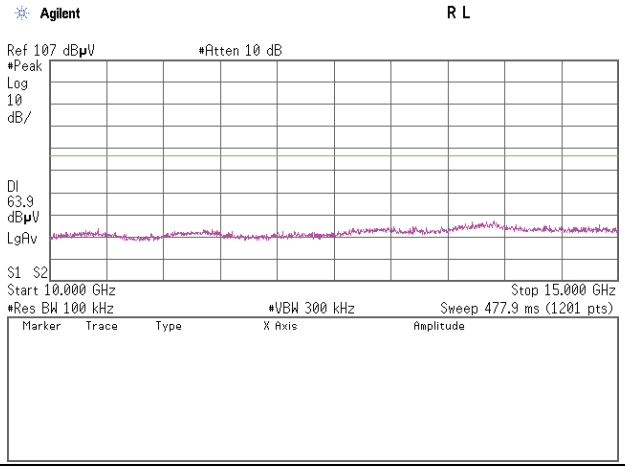
5GHz - 10GHz

Tx3_SpuriousG2



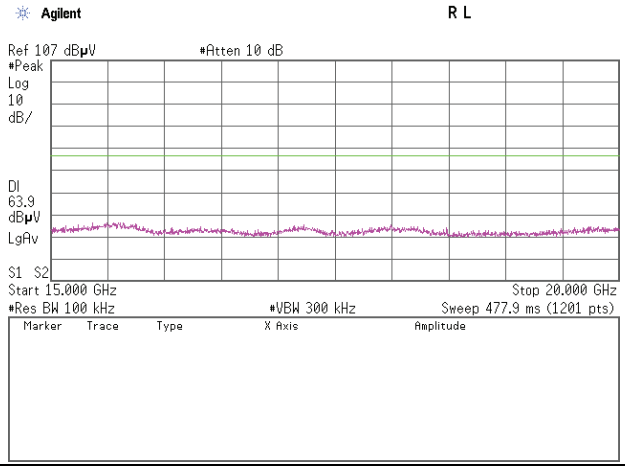
10GHz - 15GHz

Tx3_SpuriousG3



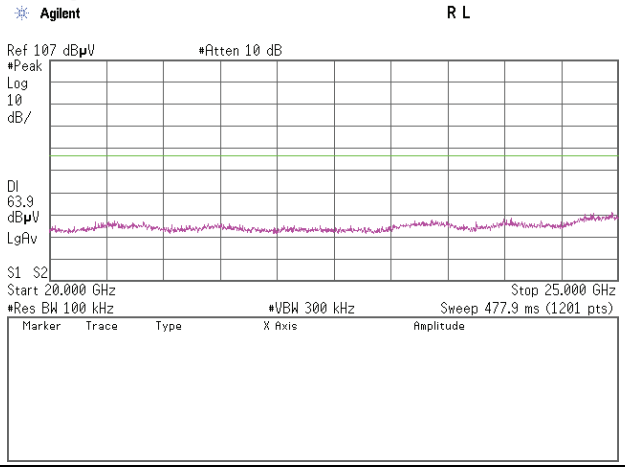
15GHz - 20GHz

Tx3_SpuriousG4



20GHz - 25GHz

Tx3_SpuriousG5



Tx3_SpuriousG6

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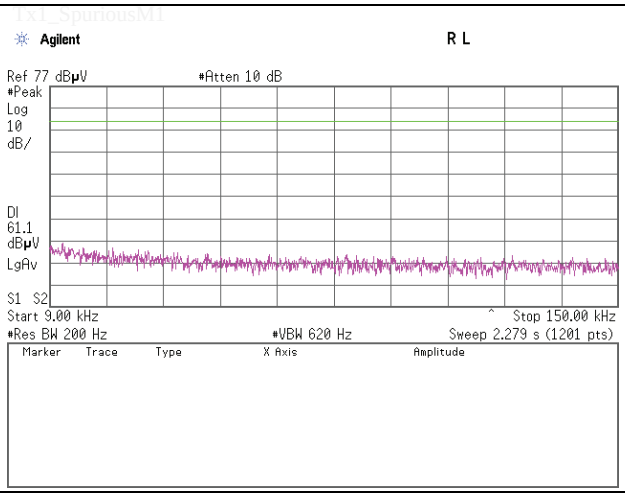
Spurious emission (Conducted)

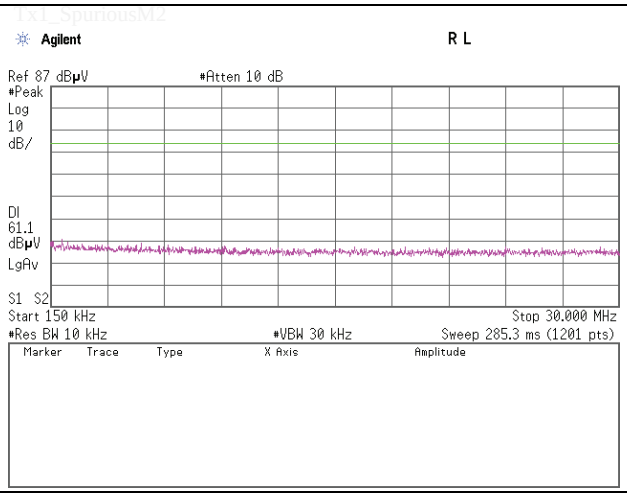
Tx, IEEE802.11n (HT40), PN9, antenna port 1, worst data mode 8(MCS)

Tx, 2422MHz (below 1GHz)

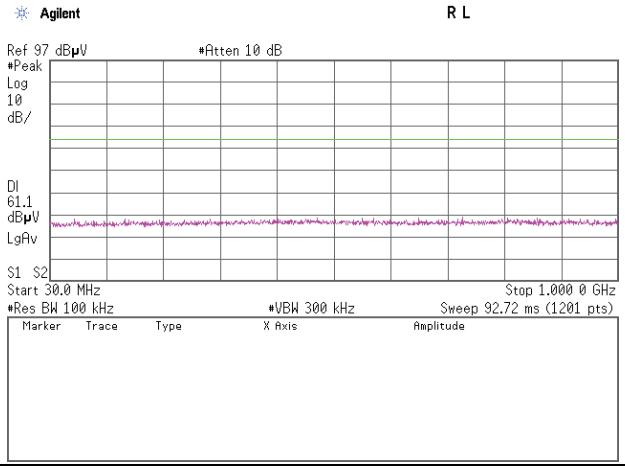
9kHz - 150kHz



150kHz - 30MHz



30MHz - 1GHz



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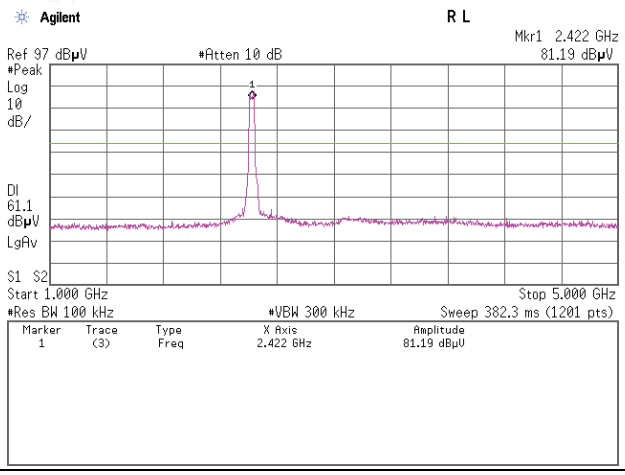
Spurious emission (Conducted)

Tx, IEEE802.11n (HT40), PN9, antenna port 1, worst data mode 8(MCS)

Tx, 2422MHz (above 1GHz)

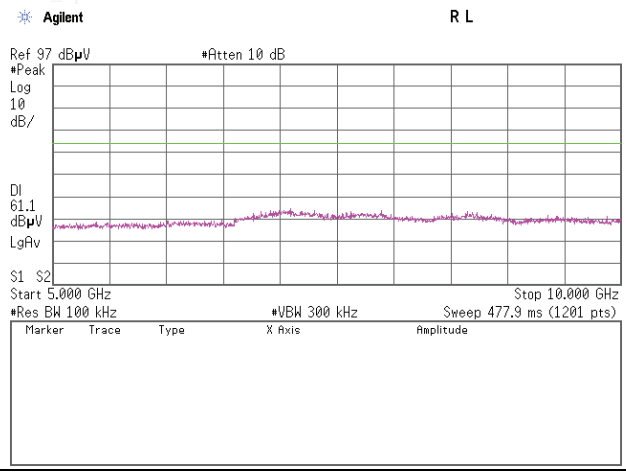
1GHz - 5GHz

Tx1_SpuriousG1



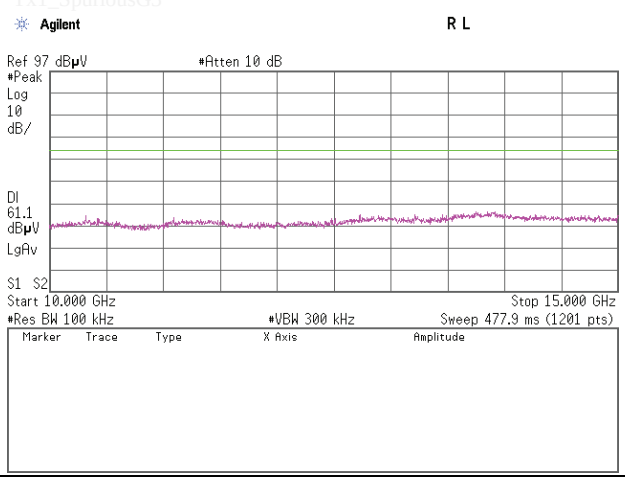
5GHz - 10GHz

Tx1_SpuriousG2



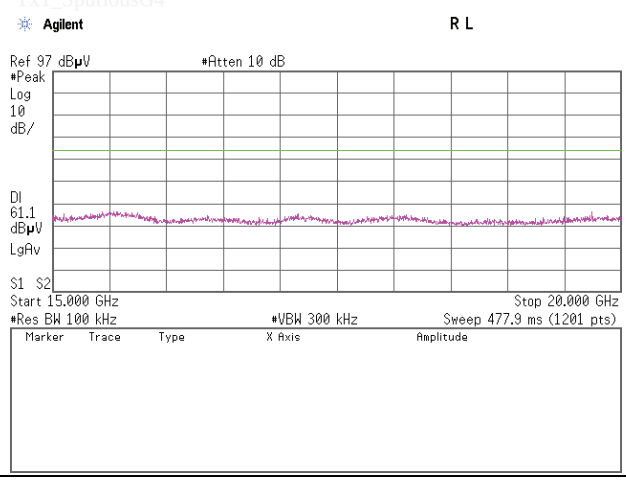
10GHz - 15GHz

Tx1_SpuriousG3



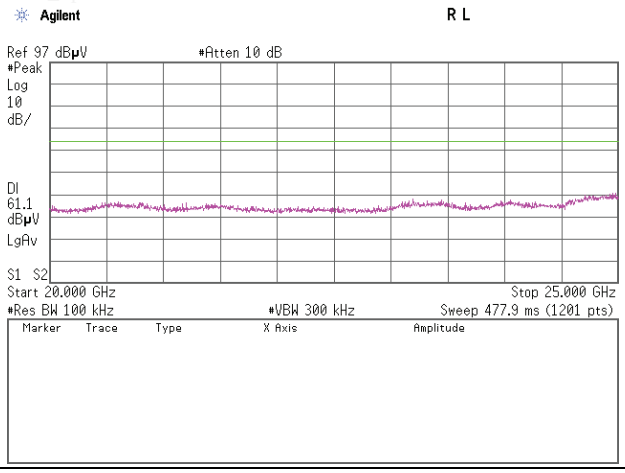
15GHz - 20GHz

Tx1_SpuriousG4



20GHz - 25GHz

Tx1_SpuriousG5



Tx1_SpuriousG6

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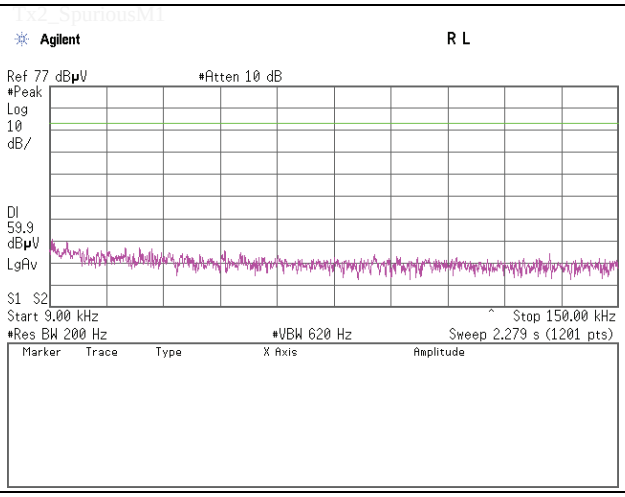
Spurious emission (Conducted)

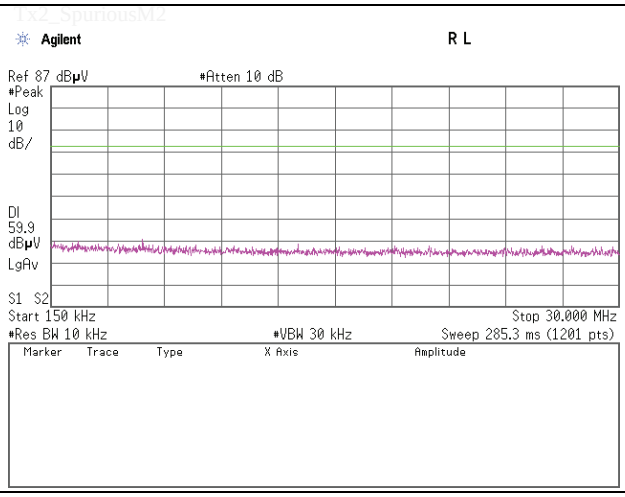
Tx, IEEE802.11n (HT40), PN9, antenna port 1, worst data mode 8(MCS)

Tx, 2437MHz (below 1GHz)

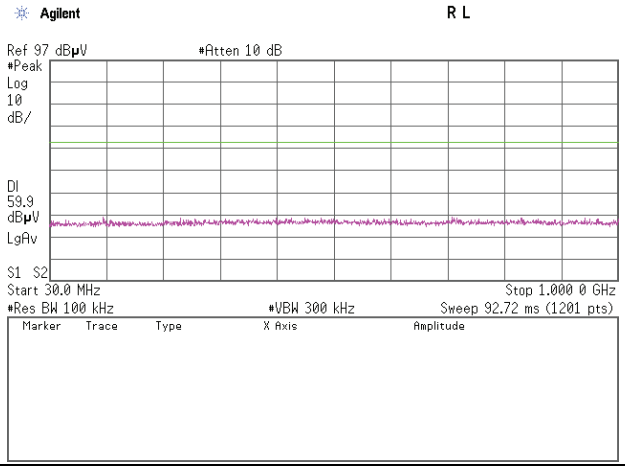
9kHz - 150kHz



150kHz - 30MHz



30MHz - 1GHz



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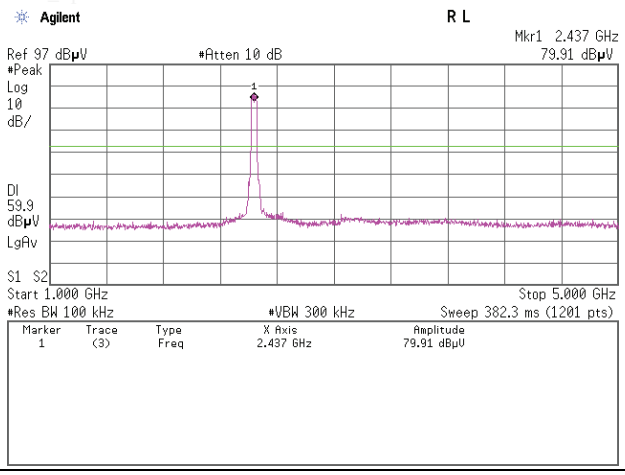
Spurious emission (Conducted)

Tx, IEEE802.11n (HT40), PN9, antenna port 1, worst data mode 8(MCS)

Tx, 2437MHz (above 1GHz)

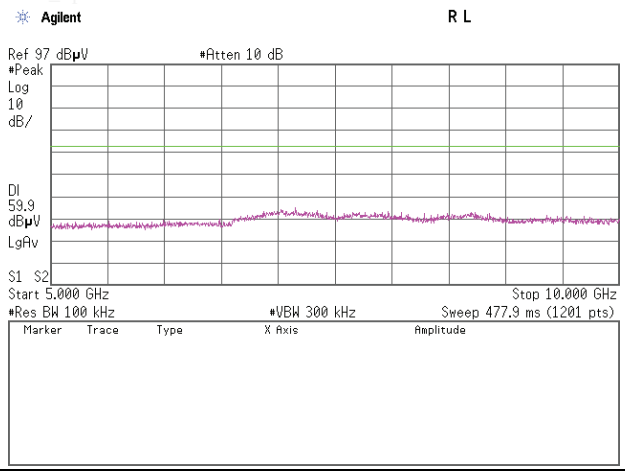
1GHz - 5GHz

Tx2_SpuriousG1



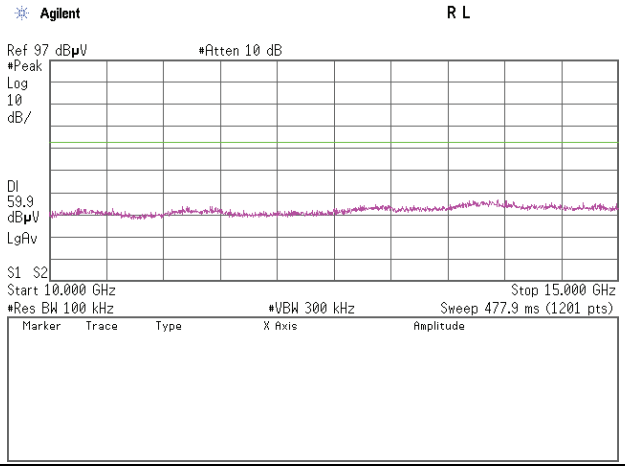
5GHz - 10GHz

Tx2_SpuriousG2



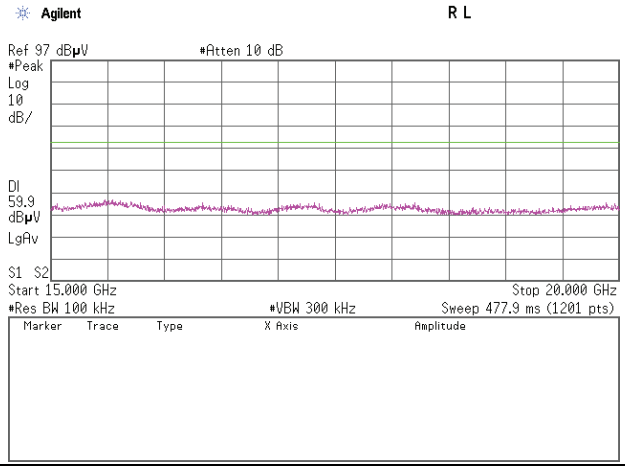
10GHz - 15GHz

Tx2_SpuriousG3



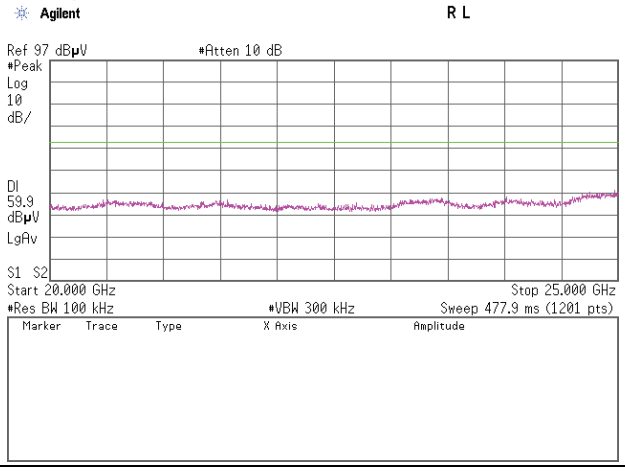
15GHz - 20GHz

Tx2_SpuriousG4



20GHz - 25GHz

Tx2_SpuriousG5



Tx2_SpuriousG6

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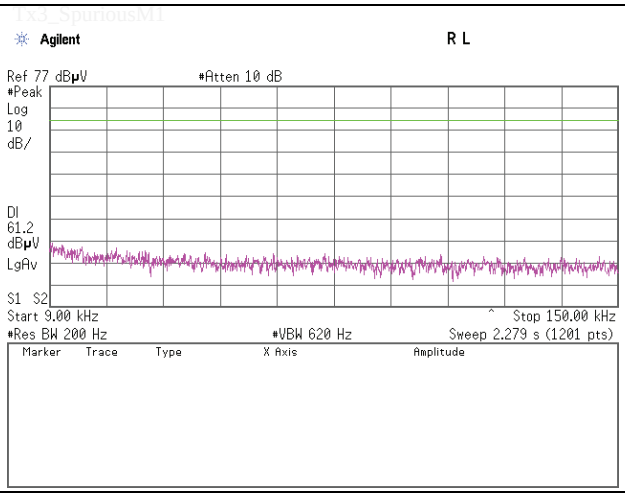
Spurious emission (Conducted)

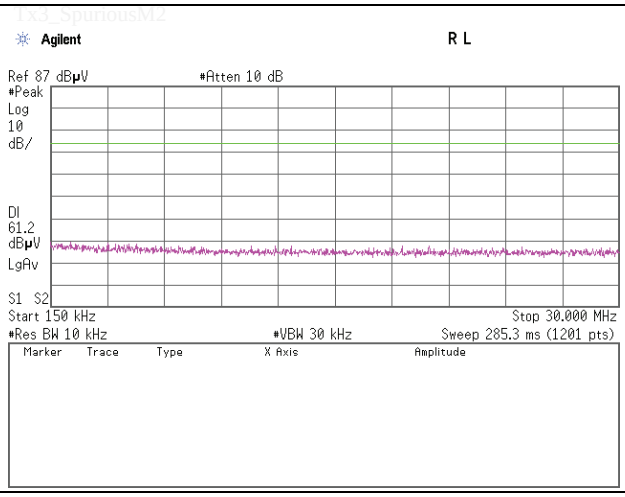
Tx, IEEE802.11n (HT40), PN9, antenna port 1, worst data mode 8(MCS)

Tx, 2452MHz (below 1GHz)

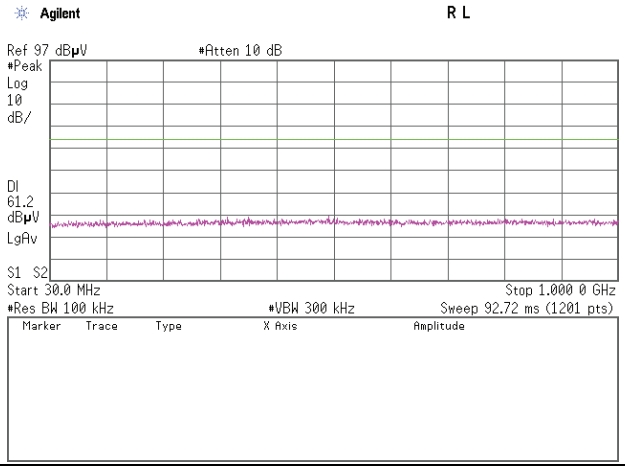
9kHz - 150kHz



150kHz - 30MHz



30MHz - 1GHz



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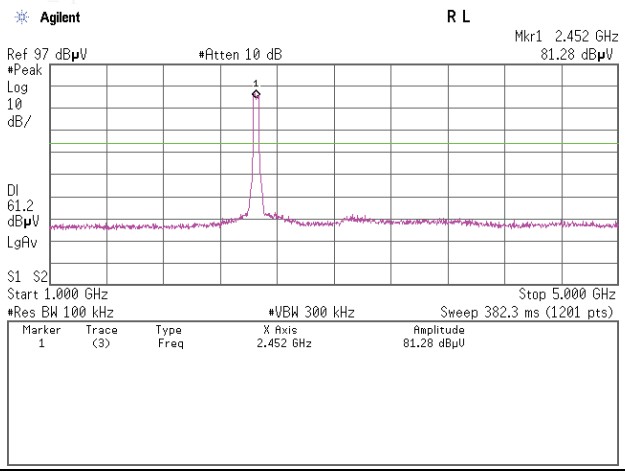
Spurious emission (Conducted)

Tx, IEEE802.11n (HT40), PN9, antenna port 1, worst data mode 8(MCS)

Tx, 2452MHz (above 1GHz)

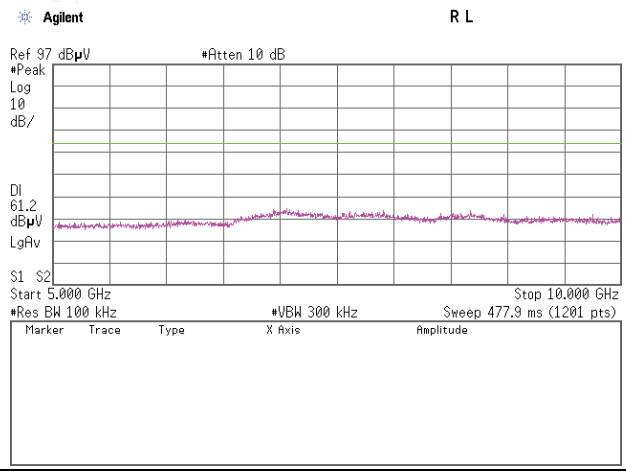
1GHz - 5GHz

Tx3_SpuriousG1



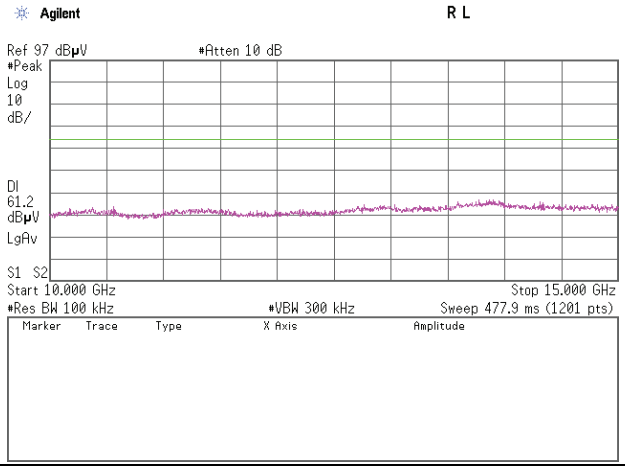
5GHz - 10GHz

Tx3_SpuriousG2



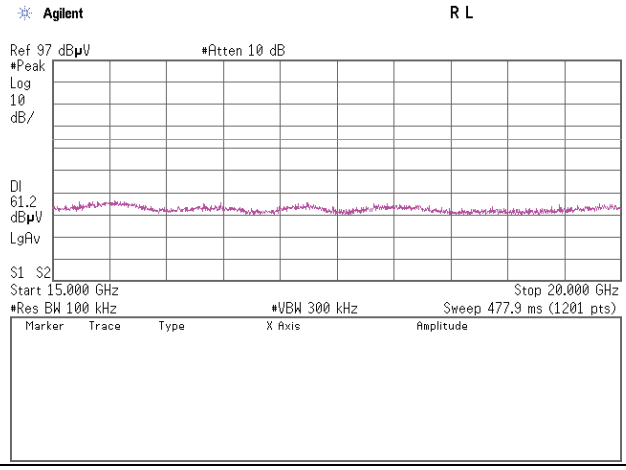
10GHz - 15GHz

Tx3_SpuriousG3



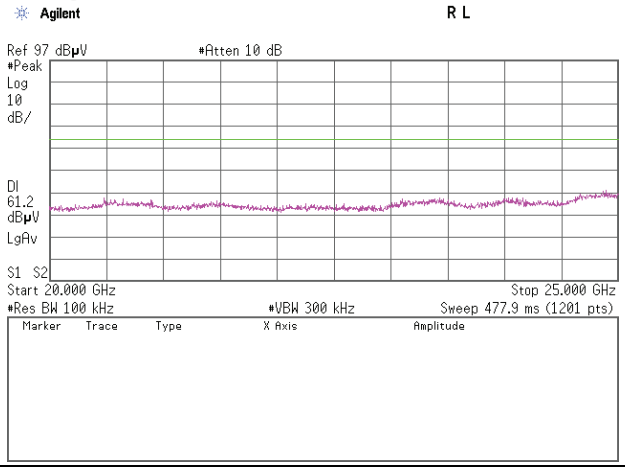
15GHz - 20GHz

Tx3_SpuriousG4



20GHz - 25GHz

Tx3_SpuriousG5



Tx3_SpuriousG6

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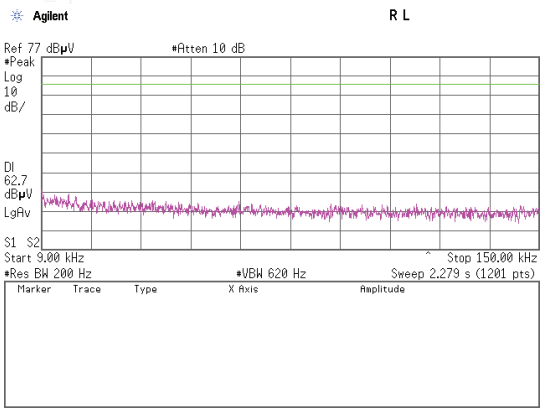
(Reference chart) Spurious emission (Conducted)

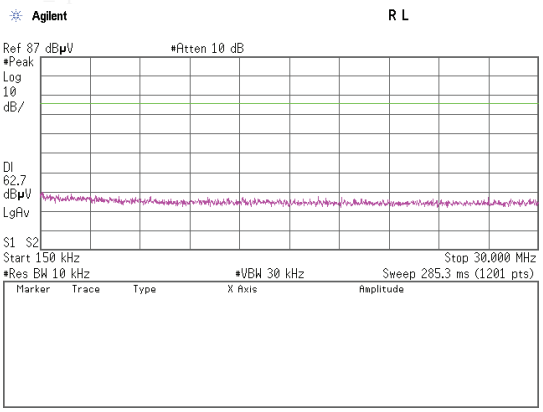
Tx, IEEE802.11a, PN9, worst antenna port 1, worst data mode 9Mbps

Tx, 5745MHz (below 1GHz)

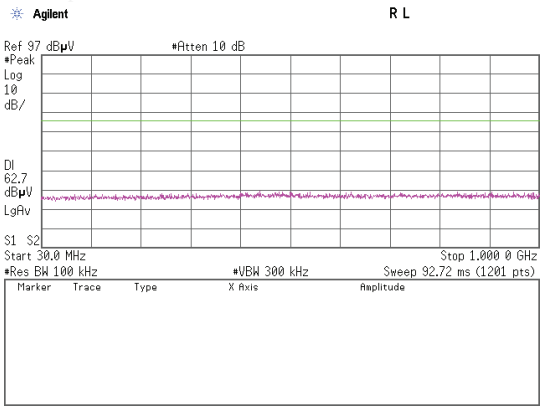
9kHz - 150kHz



150kHz - 30MHz



30MHz - 1GHz



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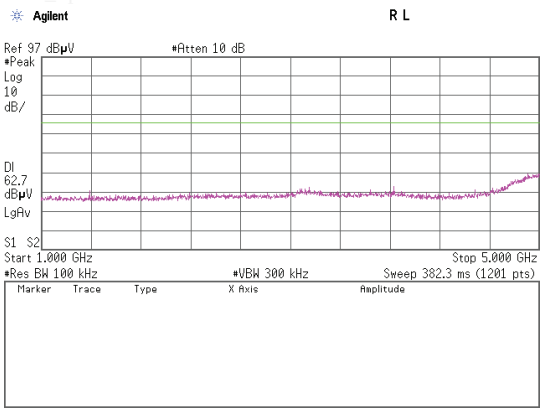
(Reference chart) Spurious emission (Conducted)

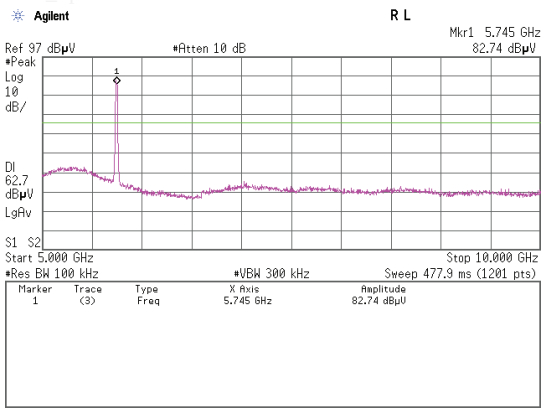
Tx, IEEE802.11a, PN9, worst antenna port 1, worst data mode 9Mbps

Tx, 5745MHz (above 1GHz)(1/2)

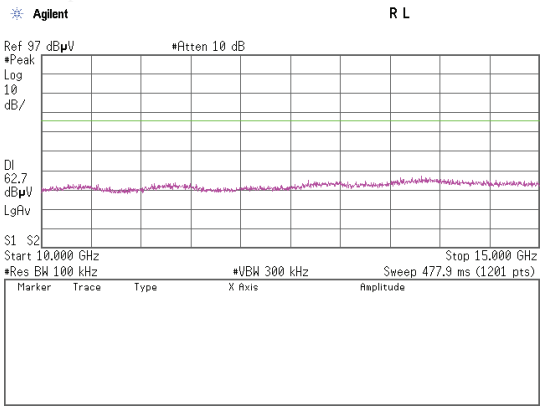
1GHz - 5GHz



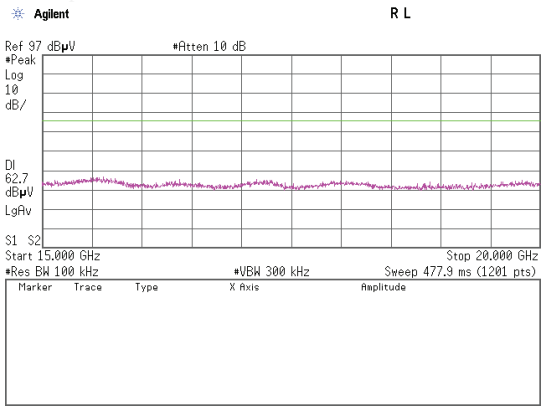
5GHz - 10GHz



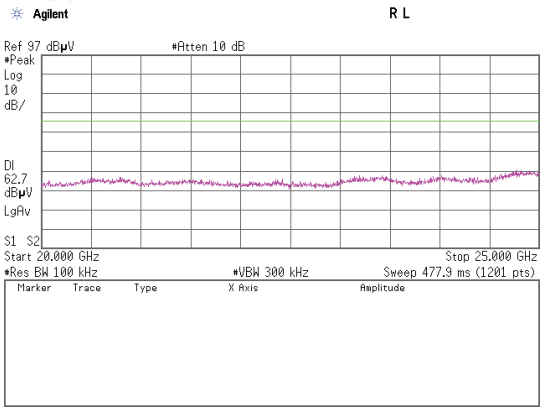
10GHz - 15GHz



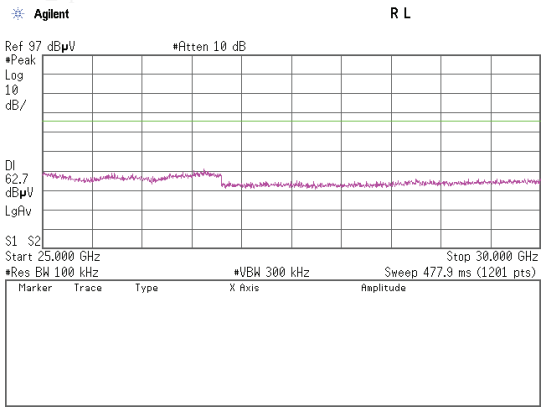
15GHz - 20GHz



20GHz - 25GHz



25GHz - 30GHz



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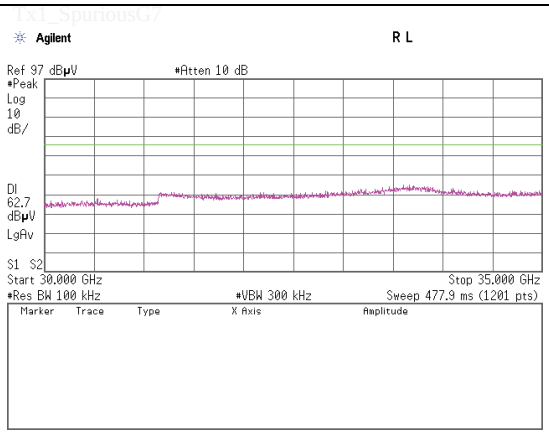
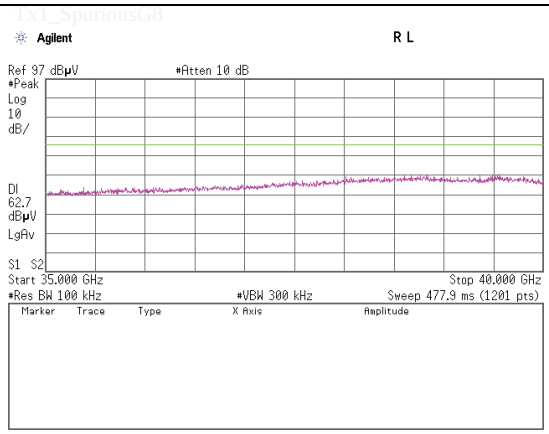
(Reference chart) Spurious emission (Conducted)

Tx, IEEE802.11a, PN9, worst antenna port 1, worst data mode 9Mbps

Tx, 5745MHz (above 1GHz)(2/2)	
30GHz - 35GHz	**35GHz - 40GHz**
	

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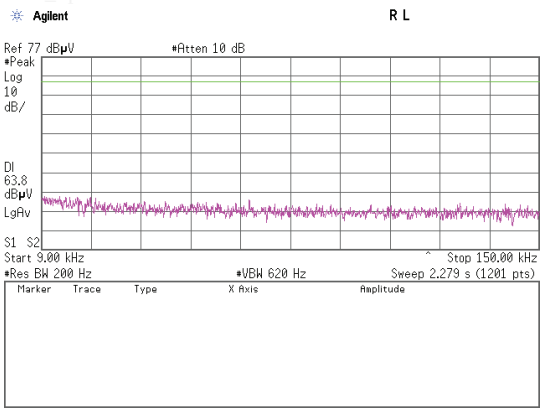
(Reference chart) Spurious emission (Conducted)

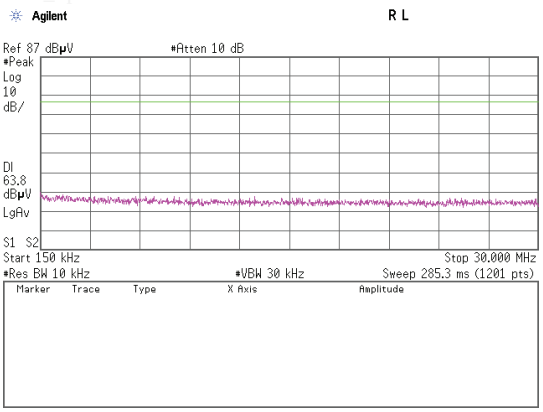
Tx, IEEE802.11a, PN9, worst antenna port 1, worst data mode 9Mbps

Tx, 5785MHz (below 1GHz)

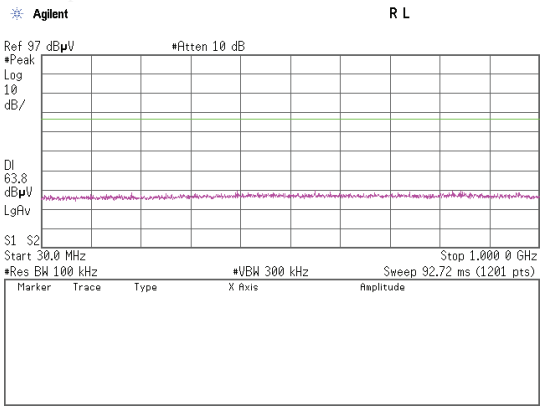
9kHz - 150kHz



150kHz - 30MHz



30MHz - 1GHz



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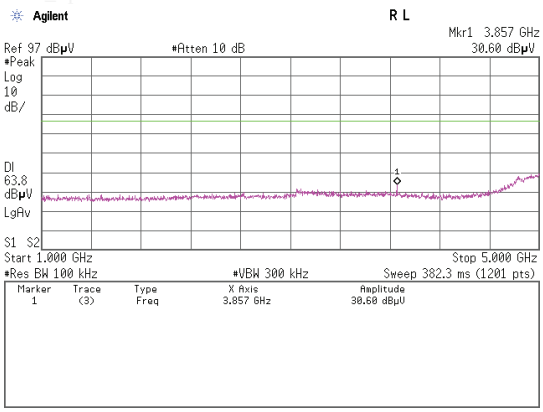
(Reference chart) Spurious emission (Conducted)

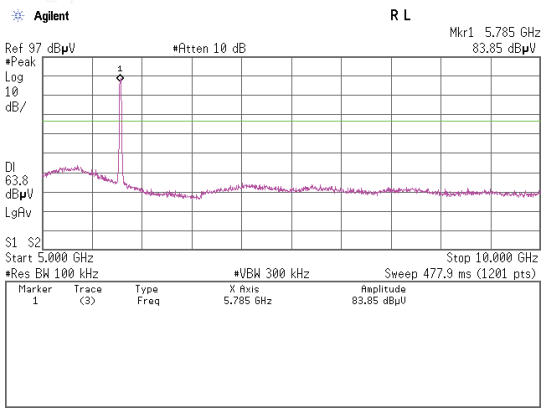
Tx, IEEE802.11a, PN9, worst antenna port 1, worst data mode 9Mbps

Tx, 5785MHz (above 1GHz)(1/2)

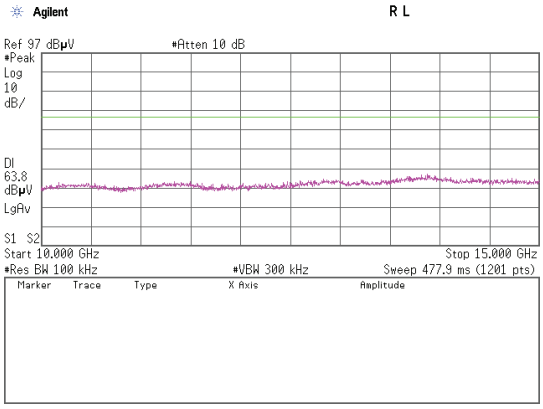
1GHz - 5GHz



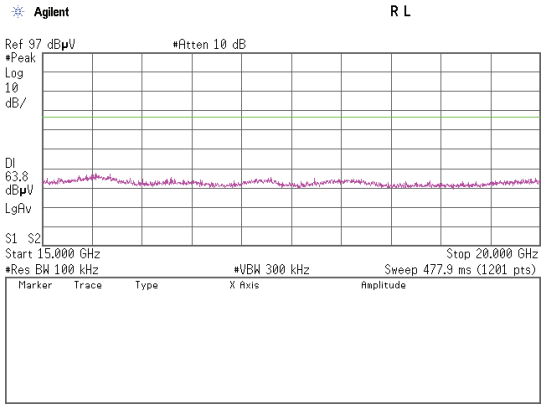
5GHz - 10GHz



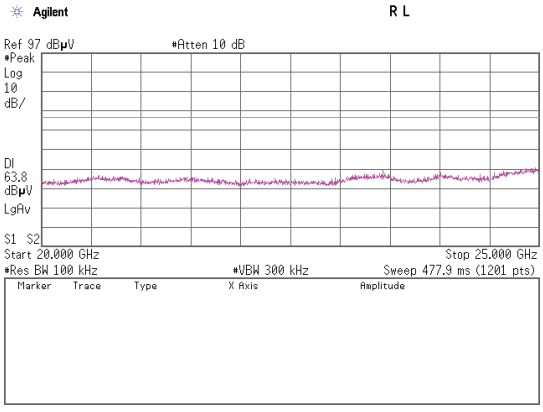
10GHz - 15GHz



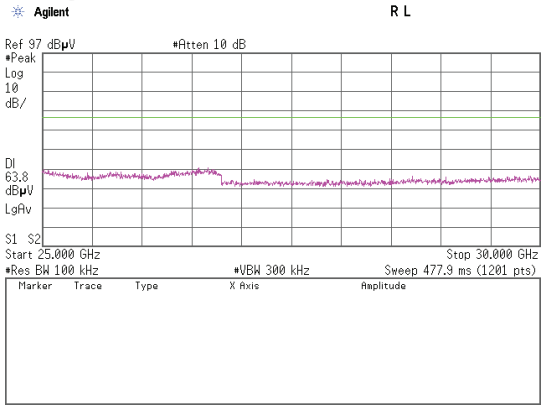
15GHz - 20GHz



20GHz - 25GHz



25GHz - 30GHz



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