RADIO TEST REPORT

Test Report No.: 10622710S-E

Applicant	:	**Murata Manufacturing Co., Ltd.**
Type of Equipment	:	**Communication Module**
Model No.	:	**Type1DR**
FCC ID	:	**VPYLB1DR**
Test regulation	:	**FCC Part15 Subpart E: 2015**
Test result	:	**Complied**

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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: December 22, 2014 to February 11, 2015

Tested by:

Tatsuya Arai
Engineer
Consumer Technology Division

Approved by :

Toyokazu Imamura
Leader
Consumer Technology Division

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

RTL02610

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REVISION HISTORY

Original Test Report No.: 10622710S-E

Revision	Test report No.	Date	Page revised	Contents
- (Original)	10622710S-E	March 9, 2015	-	-
1	10622710S-E	March 11, 2015	5,12,14	Correction of description
2	10622710S-E	April 1, 2015	137	Correction of description
3	10622710S-E	April 9, 2015	5,14,162,164,171,172,177,181-183,188,189,194, 200,201,206,207,212	Correction of description

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Contents

SECTION 1: Customer information

Company Name	:	Murata Manufacturing Co., Ltd.
Address	:	10-1, Higashikotari 1-chome, Nagaokakyo-shi, Kyoto 617-8555 Japan
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Facsimile Number	:	+81-75-955-7096
Contact Person	:	Noriko Ueno

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

2.1 Identification of E.U.T.

Type of equipment	:	Communication Module
Model No.	:	Type1DR
Serial No.	:	Refer to 4.2 in this report.
Rating	:	3.2(VBAT), 1.8(VDDXO), 1.8 or 3.3(VIO)
Country of Mass-production	:	China, Japan
Condition of EUT	:	Engineering prototype (Not for Sale: This sample is equivalent to mass-produced items.)
Modification of EUT	:	No modification by the test lab.
Receipt Date of Sample	:	December 22, 2014

2.2 Product description

Model: Type1DR (referred to as the EUT in this report) is Communication Module.

Clock frequency(ies) in the system : 37.4MHz

Radio Specification

Equipment type	:	Transceiver	
Frequency of operation	:	2.4GHz:	2402-2480MHz (Bluetooth BDR/EDR/Low Energy (LE))
			2412-2462MHz (IEEE 802.11b, 11g, 11n (HT20))
		W52:	5180-5240MHz (IEEE 802.11a, 11n (HT20), 11ac (VHT20))
			5190-5230MHz (IEEE 802.11n (HT40), 11ac (VHT40))
			5210MHz (IEEE 802.11ac (VHT80))
		W53:	5260-5320MHz (IEEE 802.11a, 11n (HT20), 11ac (VHT20))
			5270-5310MHz (IEEE 802.11n (HT40) , 11ac (VHT40))
			5290MHz (IEEE 802.11ac (VHT80))
		W56:	5500-5700MHz (IEEE 802.11a, 11n (HT20), 11ac (VHT20))
			5510-5670MHz (IEEE 802.11n (HT40), 11ac (VHT40))
			5530-5610MHz (IEEE 802.11ac (VHT80))
		W58:	5745-5825MHz (IEEE 802.11a, 11n (HT20), 11ac (VHT20))
			5755-5795MHz (IEEE 802.11n (HT40) , 11ac (VHT40))
			5775MHz(IEEE 802.11ac (VHT80))
Bandwidth	:	20MHz (IEEE 802.11a/b/g/n/ac), 40MHz (IEEE 802.11n/ac), 80MHz(IEEE 802.11ac) , 79MHz (Bluetooth BDR/EDR), 1MHz (Bluetooth LE)	
Channel spacing	:	5MHz (Wi-Fi 2.4GHz), 20MHz/40MHz/80MHz (Wi-Fi 5GHz), 1MHz (Bluetooth BDR/EDR), 2MHz (Bluetooth LE)	
Type of modulation	:	DSSS (IEEE 802.11b), OFDM (IEEE 802.11a/g/n/ac), FHSS (Bluetooth BDR/EDR), GFSK (Bluetooth LE)	
Antenna type	:	[2.4GHz] Monopole antenna/Dipole antenna/Dual monopole antenna	
		[5GHz] Monopole antenna/ Dual monopole antenna	
Antenna connector type	:	spring	
Antenna gain	:	[2.4GHz] Monopole antenna:+0.91dBi	
		[2.4GHz] Dipole antenna:-0.15dBi	
		[2.4GHz] Dual monopole antenna:-1.1dBi	
		[5GHz] Monopole antenna:+1.0dBi	
		[5GHz] Dual monopole antenna:+0.28dBi	
ITU code	:	F1D, G1D (Bluetooth BDR/EDR), F1D (Bluetooth LE)	
		D1D, G1D (IEEE802.11b/g/n/a/ac)	
Operation temperature range	:	-20 to +85 deg.C	

* For Bluetooth BDR/EDR part, refer to the test report: 10622710S-A.
For other than the range which is not covered by this report, refer to the following report:
Wireless LAN part (2.4GHz, W58): 10622710S-C, Bluetooth part: 10622710S-A.

FCC 15.31 (e)
The RF Module has its own regulator.
The RF Module is constantly provided voltage (DC 1.2, 1.35, 2.5 and 3.0V) through the regulator regardless of input voltage. Therefore, this EUT complies with the requirement of 15.212.

FCC 15.203
It is impossible for end users to replace the antenna, because it is soldered on the circuit board.
Therefore the equipment complies with the requirement of 15.203/212.

SECTION 3: Test specification, procedures & results

3.1 Test specification

Test specification : FCC Part 15 Subpart E: 2015, final revised on January 21, 2015
Title : FCC 47CFR Part15 Radio Frequency Device Subpart E Unlicensed National Information Infrastructure Devices
Section 15.207 Conducted limits
Section 15.209 Radiated emission limits, general requirements
Section 15.407 General technical requirements

3.2 Procedures & Results

Item	Test Procedure *1)	Specification	Remarks	Deviation	Worst Margin	Results
Conducted emission	ANSI C63.4:2009 7. AC powerline conducted emission measurements	FCC 15.407 (b)(6) & 15.207	-	N/A	21.7dB Freq.: 24.89846MHz Detector: Average Phase: L1 Mode: Tx 5260MHz, IEEE 802.11n (HT20)	Complied
6dB, 26dB & 20dB emission bandwidth	ANSI C63.4:2009 13. Measurement of intentional radiators	FCC 15.407 (a)(1)(2)(3) FCC 15.215 (c)	Conducted	N/A	See data	-
Maximum conducted output power	ANSI C63.4:2009 13. Measurement of intentional radiators	FCC 15.407 (a)(1)(2)(3)	Conducted	N/A		Complied
Peak power spectral density	ANSI C63.4:2009 13. Measurement of intentional radiators	FCC 15.407 (a)(1)(2)(3)	Conducted	N/A		Complied
Spurious emission & Restricted band edges	ANSI C63.4:2009 13. Measurement of intentional radiators	FCC 15.109, 15.407 (b), 15.205 & 15.209	Radiated	N/A	0.2dB Freq.: 5350.000MHz Detector:Peak Polarization: Horizontal Mode: Tx 5310MHz, IEEE 802.11n (HT40)	Complied
Dynamic frequency selection	FCC 06-96 APPENDIX	FCC 15.407 (h)	Conducted	*2)	N/A	N/A

*1) These tests were also referred to KDB 789033 (FCC), "Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - Part 15, Subpart E".
*2) Refer to the test report10622710S-G.
Note: UL Japan's Work Procedures No. 13-EM-W0420 and 13-EM-W0422

3.3 Addition to standard

Item	Test Procedure *1)	Specification	Remarks	Deviation	Worst Margin	Results
Occupied bandwidth (99%)	ANSI C63.4:2009, RSS-Gen 6.6	-	Conducted	N/A	-	-
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	3.4 dB	3.4 dB
Radiated emission (Measurement distance: 3m)	9kHz-30MHz	3.7 dB	3.5 dB	3.5 dB
	30MHz-300MHz	4.9 dB	4.9 dB	4.7 dB
	300MHz-1GHz	5.0 dB	5.0 dB	4.8 dB
	1GHz-15GHz	4.9 dB	4.9 dB	4.9 dB
Radiated emission (Measurement distance: 1m)	15GHz-18GHz	5.7 dB	5.7 dB	5.7 dB
	18GHz-40GHz	4.5 dB	4.3 dB	4.3 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: (±)0.68dB
Conducted emissions, Power Density Measurement (below 1GHz) uncertainty for this test was: (±) 1.5dB
Conducted emissions, Power Density Measurement (1G-3GHz) uncertainty for this test was: (±) 1.7dB
Conducted emissions, Power Density Measurement (3G-18GHz) uncertainty for this test was: (±) 2.4dB
Conducted emissions Measurement (18G-26.5GHz) uncertainty for this test was: (±) 2.5dB
Bandwidth Measurement uncertainty for this test was: (±) 0.66%

3.5 Test location

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JAB Accreditation No. : RTL02610

	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	2973D-1	20.6 x 11.3 x 7.65	20.6 x 11.3	10m
☐ No.2 Semi-anechoic chamber	2973D-2	20.6 x 11.3 x 7.65	20.6 x 11.3	10m
☒ No.3 Semi-anechoic chamber	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	-
☐ No.8 Shielded room	-	3.45 x 5.5 x 2.4	3.45 x 5.5	-
☐ No.1 Measurement room	-	2.55 x 4.1 x 2.5	2.55 x 4.1	-

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	Power setting [dBm] *3)	Worst data mode *1)	Antenna
Conducted emission Radiated emission (below 1GHz)	Transmitting(Tx) IEEE 802.11n (HT20) *2)	5260MHz *2)	13	MCS0	Monopole
	[Simulcasting] Transmitting (Tx) (DH5)	11n (HT20): 5260MHz	13	MCS0	Dual monopole
		Bluetooth: Hopping ON	7	-	
Radiated emission (above 1GHz)	Transmitting(Tx) IEEE 802.11a *4)	[W52/W53] 5180MHz, 5320MHz [W56] 5500MHz, 5700MHz	13	6Mbps	Monopole Dual monopole
		[W58] 5745MHz, 5825MHz	11		
	Transmitting(Tx) IEEE 802.11n (HT20) *5)	[W52/W53] 5180MHz, 5240MHz, 5260MHz, 5320MHz	13	MCS0	Monopole Dual monopole
		[W56] 5500MHz, 5580MHz, 5700MHz	13		
		[W58] 5745MHz, 5785MHz, 5825MHz	11		
	[Simulcasting] *6) Transmitting (Tx) (DH5)	11n (HT20): 5180MHz, 5320MHz, 5500MHz,	13	MCS0	Dual monopole
		5700MHz, 5825MHz	11		
		Bluetooth: Hopping ON	7	-	
	Transmitting(Tx) IEEE 802.11n (HT40) *5)	[W52/W53] 5190MHz	12	MCS0	Monopole Dual monopole
		5230MHz, 5310MHz	13		
		[W56] 5510MHz, 5550MHz, 5670MHz	13		
		[W58] 5755MHz, 5795 MHz	11		
	[Simulcasting] *6) Transmitting (Tx) (DH5)	11n (HT40): 5190MHz	12	MCS0	Dual monopole
		5310MHz, 5510MHz, 5670MHz	13		
		5755MHz, 5795MHz	11		
		Bluetooth: Hopping ON	7	-	

Radiated emission (above 1GHz) *4)	Transmitting(Tx) IEEE 802.11ac (VHT20) *4)	[W52/W53] 5180MHz, 5320MHz	13	MCS0	Monopole Dual monopole
		[W56] 5500MHz, 5700MHz	13		
		[W58] 5745MHz, 5825MHz	11		
	[Simulcasting] *6) Transmitting (Tx) (DH5)	11ac (VHT20): 5825MHz	11	MCS0	Dual monopole
		Bluetooth: Hopping ON	7	-	
	Transmitting(Tx) IEEE 802.11ac (VHT40) *4)	[W52/W53] 5190MHz	12	MCS0	Monopole Dual monopole
		5310MHz	13		
		[W56] 5510MHz, 5670MHz	13		
		[W58] 5755MHz, 5795 MHz	11		
	Transmitting(Tx) IEEE 802.11ac (VHT80) *5)	[W52/W53] 5210MHz, 5290MHz	11.5	MCS0	Monopole Dual monopole
		[W56] 5530MHz, 5610MHz	12		
		[W58] 5775MHz	11		
	[Simulcasting] *6) Transmitting (Tx) (DH5)	11n (HT80): 5210MHz, 5290MHz,	11.5	MCS0	Dual monopole
		5530MHz, 5610MHz,	12		
		5775MHz	11		
		Bluetooth: Hopping ON	7	-	
Other items	Transmitting(Tx) IEEE 802.11a	[W52/W53] 5180MHz, 5220MHz, 5240MHz, 5260MHz, 5300MHz, 5320MHz	High: 13 Low: 5	6Mbps	-
		[W56] 5500MHz, 5580MHz, 5700MHz	High: 13 Low: 5		
		[W58] 5745MHz, 5785MHz, 5825MHz	High: 11 Low: 5		
	(HT20)Transmitting(Tx) IEEE 802.11n	[W52/W53] 5180MHz, 5220MHz, 5240MHz, 5260MHz, 5300MHz, 5320MHz	High: 13 Low: 5	MCS0	
		[W56] 5500MHz, 5580MHz, 5700MHz	High: 13 Low: 5		
		[W58] 5745MHz, 5785MHz, 5825MHz	High: 11 Low: 5		

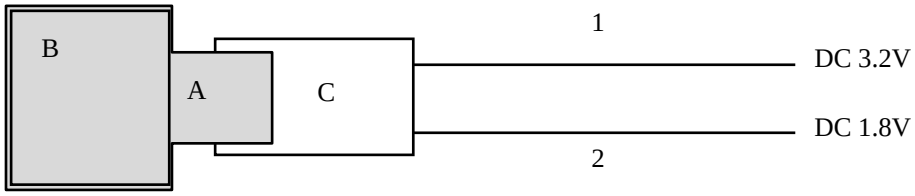
Other items	(HT40)Transmitting(Tx) IEEE 802.11n	[W52/W53] 5190MHz	High: 12 Low: 5	MCS0	-
		5230MHz, 5270MHz, 5310MHz	High: 13 Low: 5		
		[W56] 5510MHz, 5550MHz, 5670MHz	High: 13 Low: 5		
		[W58] 5755MHz, 5795MHz	High: 11 Low: 5		
	(VHT20)Transmitting(Tx) IEEE 802.11ac	[W52/W53] 5180MHz, 5220MHz, 5240MHz, 5260MHz, 5300MHz, 5320MHz	High: 13 Low: 5	MCS0	
		[W56] 5500MHz, 5580MHz, 5700MHz	High: 13 Low: 5		
		[W58] 5745MHz, 5785MHz, 5825MHz	High: 11 Low: 5		
	(VHT40)Transmitting(Tx) IEEE 802.11ac	[W52/W53] 5190MHz	High: 12 Low: 5	MCS0	
		5230MHz, 5270MHz, 5310MHz	High: 13 Low: 5		
		[W56] 5510MHz, 5550MHz, 5670MHz	High: 13 Low: 5		
		[W58] 5755MHz, 5795MHz	High: 11 Low: 5		
	(VHT80)Transmitting(Tx) IEEE 802.11ac	[W52/W53] 5210MHz, 5290MHz	High: 11.5 Low: 5	MCS0	
		[W56] 5530MHz, 5610MHz,	High: 12 Low: 5		
		[W58] 5775MHz	High: 11.5 Low: 5		

*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) Lowest power setting mode was performed only worst mode (maximum peak conducted output power mode).
*4) These were carried out only in Band edge.
*5) Monopole antenna was used in bandwidth 1-40GHz. Dual monopole antenna was used only in Band edge.
*6) The Simulcasting test with Bluetooth (BDR) was carried out only in Band edge of the worst mode from each band edges in WLAN transmitting. Also it was carried out in Worst Power mode: 11n(HT20) 5260MHz with bandwidth 1-40GHz.

Software : Tera Term ver. 4.69

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	FCC ID (Remarks)
A	Module	Type1DR	*1)	Murata Manufacturing Co., Ltd.	EUT
B1	Monopole antenna	5.2-Mono	-	Murata Manufacturing Co., Ltd.	EUT
B2	Dual monopole antenna	Dual-8	-	Murata Manufacturing Co., Ltd.	EUT
C	Jig	-	-	Murata Manufacturing Co., Ltd.	-

*1) 31: used for Antenna terminal tests (W52/W53 band).
40: used for Antenna terminal tests (W56/W58 band)
45: used for Radiated emission tests (Monopole antenna, W52/W53 band)
16: used for Radiated emission tests (Monopole antenna, W56/W58 band)
48: used for Radiated emission tests (Dual monopole antenna)

List of cables used

No.	Cable Name	Length (m)	Shield		Remark
			Cable	Connector	
1	DC cable	1.4	Unshielded	Unshielded	-
2	DC cable	1.1	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 peripheral 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 platform of nominal size, 1m by 1.5m, raised 0.8m (Below 1GHz) and a polystyrene platform of nominal size, 0.5m by 0.5m, raised 0.8m (Above 1GHz) above the conducting ground plane
Photographs of the set up are shown in APPENDIX 3.

6.3 Test conditions

Frequency range : 30MHz - 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). 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. Drawing of the antenna direction is shown in Figure 1.
The radiated emission measurements were made with the following detection.

Frequency	30-1000MHz	1-40GHz	
Detection type	Quasi-Peak	Peak	Average *1)
IF Bandwidth	120kHz	RBW: 1MHz VBW: 3MHz	RBW: 1MHz VBW: *2

*1) The test method was referred to Section G) 6) d) Method VB (Averaging using reduced video bandwidth) of FCC KDB 789033 D02 General UNII Test Procedures New Rules v01 "Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices Part 15, Subpart E (Issued on June 6, 2014)"
*2) When duty cycle > 98 percent, VBW was set at 10Hz.
When duty cycle < 98 percent, VBW (Average) calculation sheet in APPENDIX 1.

Detector and averaging type set for linear voltage averaging.

Below 1GHz
The result also satisfied with the general limits specified in FCC 15.209 (a).

Above 1GHz
Inside of restricted bands (FCC 15.205): Limit in FCC 15.209 (a)
Outside of the restricted bands: Limit 68.2dBuV/m (-27dBm e.i.r.p.*) in FCC 15.407(b)(1)(2)(3)

Restricted band edge: Limit in FCC 15.209(a)
Since this limit is severer than the limit of the inside of restricted bands.

*Electric Field Strength to e.i.r.p. conversion
P [dBm] = E [dBuV/m] -95.2 [dB]
P [dBm] = 10 x LOG (({ (10 ^ (E [dBuV/m] / 20) * 10 ^ (-6) * (Distance = 3[m])) ^ 2 } / 30) x 10^3) (uV/m):
P is the e.i.r.p. (Watts)

* Distance Factor for the measurement at 1m: 20 x log (3.0m/1.0m) = 9.5dB

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.

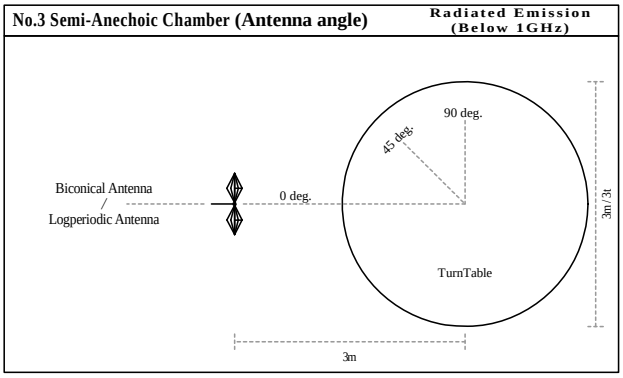
[Monopole antenna]

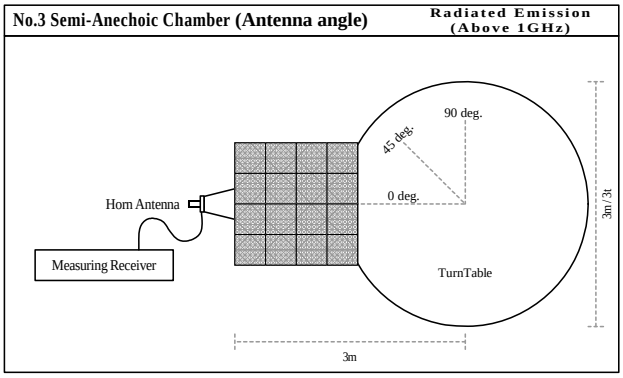
Antenna polarization	Spurious (30-1000MHz)	Carrier	Spurious (1-6.4GHz)	Spurious (6.4-15GHz)	Spurious (15-18GHz)	Spurious (18-26.5GHz)	Spurious (26.5-40GHz)
Horizontal	X	X	X	X	Z	Z	Z
Vertical	X	Z	Z	Z	Y	Y	Y

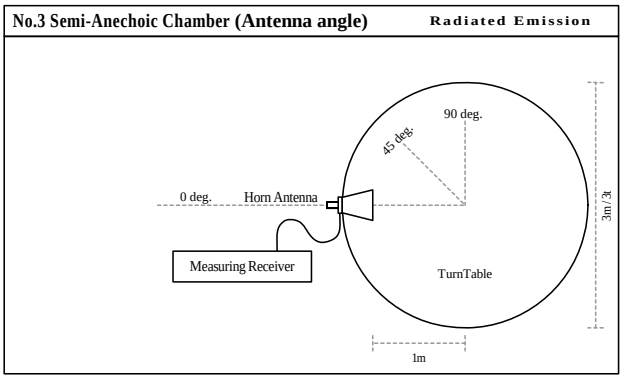
[Dual monopole antenna]

Antenna polarization	Spurious (30-1000MHz)	Carrier	Spurious (1-6.4GHz)	Spurious (6.4-15GHz)	Spurious (15-18GHz)	Spurious (18-26.5GHz)	Spurious (26.5-40GHz)
Horizontal	X	X	X	X	Z	Z	Z
Vertical	X	Z	Z	Z	Y	Y	Y

Figure 1. Antenna angle







6.5 Results

Summary of the test results : Pass
* No noise was detected other than listed points.

Refer to APPENDIX 1

SECTION 7: Antenna terminal conducted tests

Test procedure
The tests were made with below setting connected to the antenna port with the test instrument.

Test	Span	RBW	VBW	Sweep time	Detector	Trace	Instrument used and Test method
26dB bandwidth	Enough width to display	Close to 1% of EBW	Greater than RBW	Auto	Peak	Max Hold	Spectrum Analyzer
6dB bandwidth	Enough width to display	100kHz	300kHz	Auto	Peak	Max Hold	Spectrum Analyzer
99% occupied bandwidth	Enough width to display	Close to 1% of Span	Three times of RBW	Auto	Sample	Max Hold	Spectrum Analyzer
20dB bandwidth	Enough width to display	Close 1% to 5% of OBW	Three times of RBW	Auto	Peak	Max Hold	Spectrum Analyzer
Maximum conducted output power *1)	-	-	50MHz	-	-	-	Power Meter method PM
Peak power spectral density *2)	Enough width to display	1MHz 100kHz*3)	3MHz 300kHz	Auto	RMS-Average Power Averaging (100 times)	Clear Write	Spectrum Analyzer method SA-2

*EBW: Emission Bandwidth

*1) Maximum Conducted Output Power was measured based on Method PM of "Guidance for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - Part 15, Subpart E".
*2) PSD was measured based on Method SA-2 of "Guidance for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - Part 15, Subpart E".
*3) FCC standard says that RBW is set to be 500kHz for 5.725-5850GHz, but it is not possible with spectrum analyzer, so 10log(500kHz/100kHz) was added to the test result.

The test results and limit are rounded off to two decimals place, so some differences might be observed.

Summary of the test results : Pass

Refer to APPENDIX 1

Contents of APPENDIXES

APPENDIX 1: Data of Radio tests

Conducted emission
26dB bandwidth
99% Occupied bandwidth
20dB bandwidth
Maximum conducted output power
Radiated emission
Peak power density

APPENDIX 2: Test instruments

Test instruments

APPENDIX 3: Photographs of test setup

Conducted emission
Radiated emission
Pre-check of worst position

APPENDIX 1: Data of Radio tests

DATA OF CONDUCTED EMISSION TEST

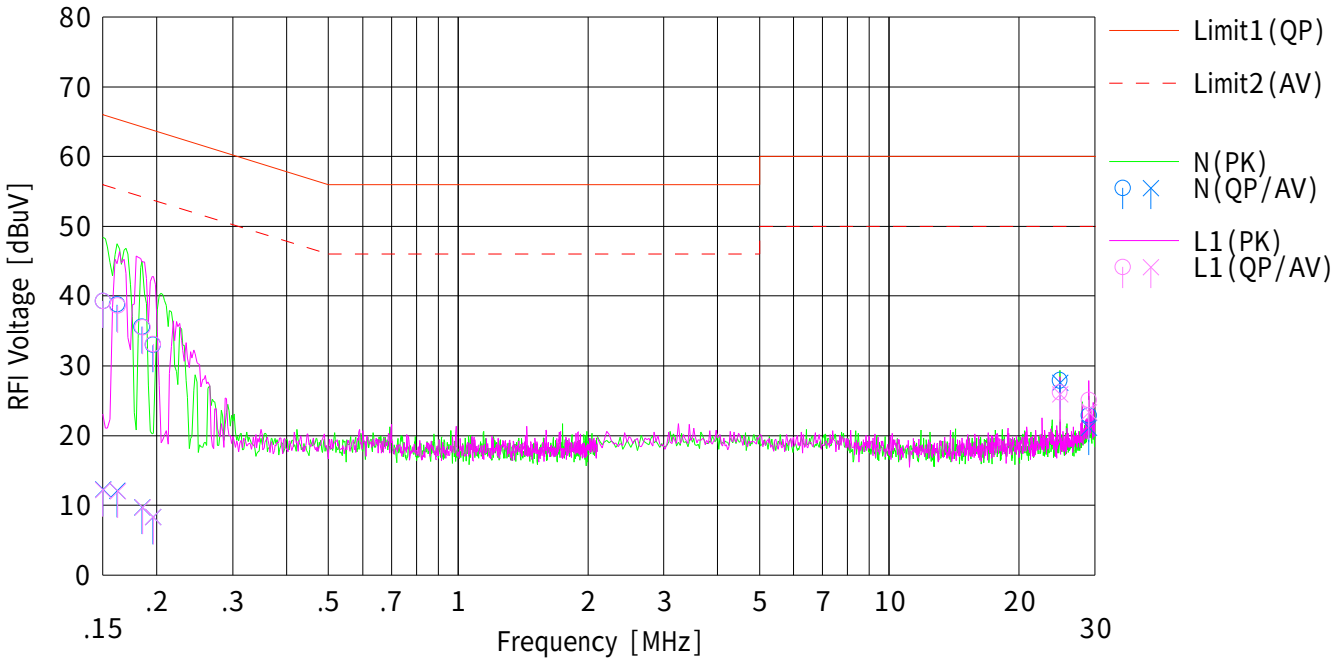
UL Japan, Inc. Shonan EMC Lab. No.3 Shielded Room
Date : 2015/01/17

Company : Murata Manufacturing Co., Ltd.
Kind of EUT : Communication Module
Model No. : **Type1DR**
Serial No. : 45
Remarks : (EUT axis) Hor: X, Ver: X

Mode : IEEE802.11n(HT20), Tx, 5260MHz
Order No. : 10622710S
Power : DC 3.2V/1.8V
Temp./Humi. : 22deg.C / 32%RH

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

Engineer : Shinichi Takano



No.	Freq.	Reading <QP>	Reading <AV>	C.Fac	Results <QP>	Results <AV>	Limit <QP>	Limit <AV>	Margin <QP>	Margin <AV>	Phase	Comment
	[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]		
1	0.15000	26.8	-0.2	12.5	39.3	12.3	65.9	55.9	26.6	43.6	N	
2	0.16194	26.3	-0.4	12.5	38.8	12.1	65.3	55.3	26.5	43.2	N	
3	0.18485	23.1	-2.8	12.5	35.6	9.7	64.2	54.2	28.6	44.5	N	
4	0.19599	20.5	-4.2	12.5	33.0	8.3	63.7	53.7	30.7	45.4	N	
5	24.90020	14.4	14.1	13.5	27.9	27.6	60.0	50.0	32.1	22.4	N	
6	29.05108	9.2	7.4	13.7	22.9	21.1	60.0	50.0	37.1	28.9	N	
7	0.15000	26.8	-0.3	12.5	39.3	12.2	65.9	55.9	26.6	43.7	L1	
8	0.16232	26.1	-0.5	12.5	38.6	12.0	65.3	55.3	26.7	43.3	L1	
9	0.18562	23.0	-2.8	12.5	35.5	9.7	64.2	54.2	28.7	44.5	L1	
10	0.19630	20.6	-4.2	12.5	33.1	8.3	63.7	53.7	30.6	45.4	L1	
11	24.90074	12.7	12.4	13.5	26.2	25.9	60.0	50.0	33.8	24.1	L1	
12	29.05122	11.4	9.6	13.7	25.1	23.3	60.0	50.0	34.9	26.7	L1	

Calculation:Result[dBuV]=Reading[dBuV]+C.Fac(LISN+Cable+ATT)[dB]
LISN:SLS-05

DATA OF CONDUCTED EMISSION TEST

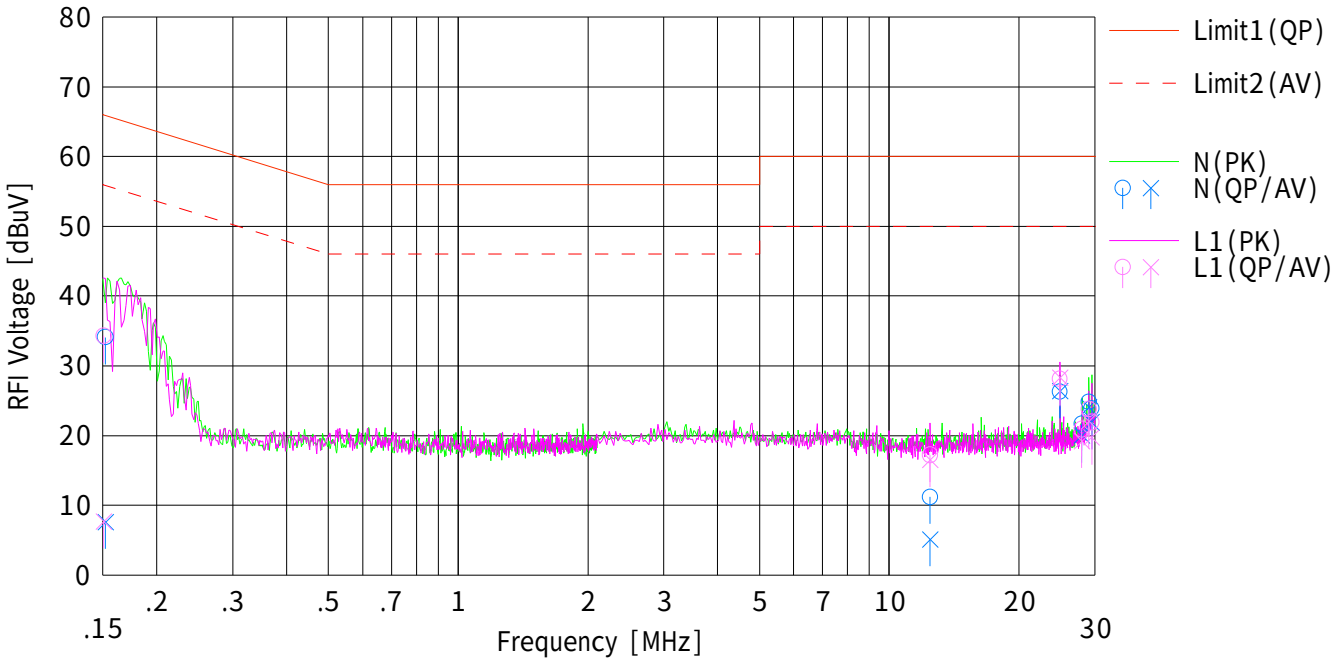
UL Japan, Inc. Shonan EMC Lab. No.3 Shielded Room
Date : 2015/02/11

Company : Murata Manufacturing Co., Ltd.
Kind of EUT : Communication Module
Model No. : **Type1DR**
Serial No. : 48
Remarks : with Bluetooth (BDR, Hopping)

Mode : IEEE802.11n(HT20), Tx, 5260MHz
Order No. : 10622710S
Power : DC 3.2V/1.8V
Temp./Humi. : 22deg.C / 25%RH

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

Engineer : Yosuke Ishikawa



No.	Freq.	Reading <QP>	Reading <AV>	C.Fac	Results <QP>	Results <AV>	Limit <QP>	Limit <AV>	Margin <QP>	Margin <AV>	Phase	Comment
	[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]		
1	0.15211	21.6	-4.9	12.5	34.1	7.6	65.8	55.8	31.7	48.2	N	
2	12.44759	-1.8	-7.9	13.0	11.2	5.1	60.0	50.0	48.8	44.9	N	
3	24.89780	12.8	12.9	13.5	26.3	26.4	60.0	50.0	33.7	23.6	N	
4	28.01173	8.1	6.4	13.6	21.7	20.0	60.0	50.0	38.3	30.0	N	
5	29.04703	11.1	10.4	13.7	24.8	24.1	60.0	50.0	35.2	25.9	N	
6	29.49591	10.2	8.2	13.7	23.9	21.9	60.0	50.0	36.1	28.1	N	
7	0.15070	21.8	-4.8	12.5	34.3	7.7	65.9	55.9	31.6	48.2	L1	
8	12.44849	4.2	3.5	13.0	17.2	16.5	60.0	50.0	42.8	33.5	L1	
9	24.89846	14.6	14.8	13.5	28.1	28.3	60.0	50.0	31.9	21.7	L1	
10	28.00972	7.3	5.6	13.6	20.9	19.2	60.0	50.0	39.1	30.8	L1	
11	29.04739	10.1	8.3	13.7	23.8	22.0	60.0	50.0	36.2	28.0	L1	
12	29.49501	8.2	6.0	13.7	21.9	19.7	60.0	50.0	38.1	30.3	L1	

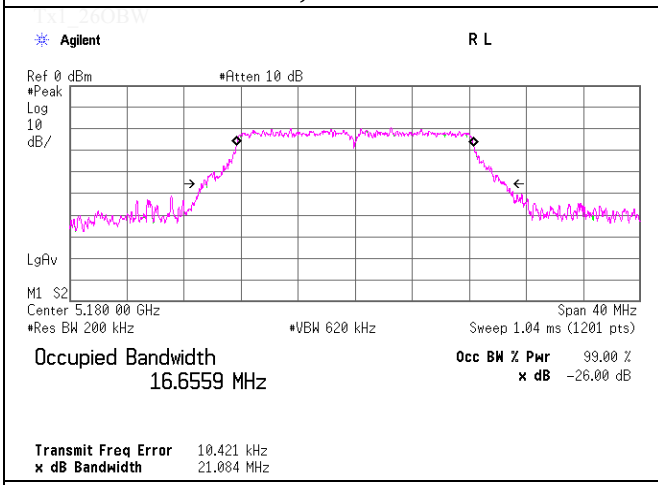
Calculation:Result[dBuV]=Reading[dBuV]+C.Fac(LISN+Cable+ATT)[dB]
LISN:SLS-05

-26dB Bandwidth

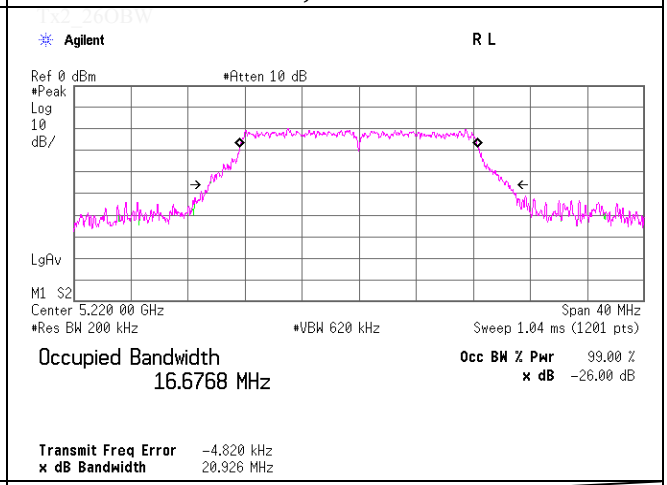
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 6, 2015	
Temperature / Humidity	25 deg.C , 52 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11a, PN9, worst data mode 6Mbps	

Freq. [MHz]	-26dB Bandwidth [MHz]	Limit [MHz]
5180.0000	21.084	-
5220.0000	20.926	-
5240.0000	20.829	-

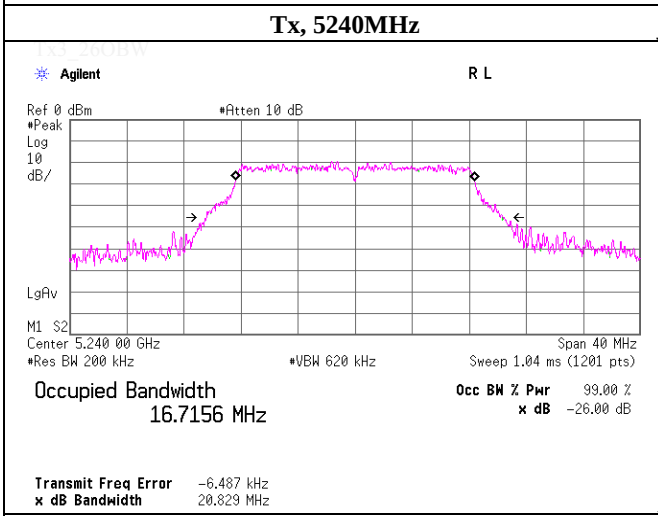
Tx, 5180MHz



Tx, 5220MHz



Tx, 5240MHz



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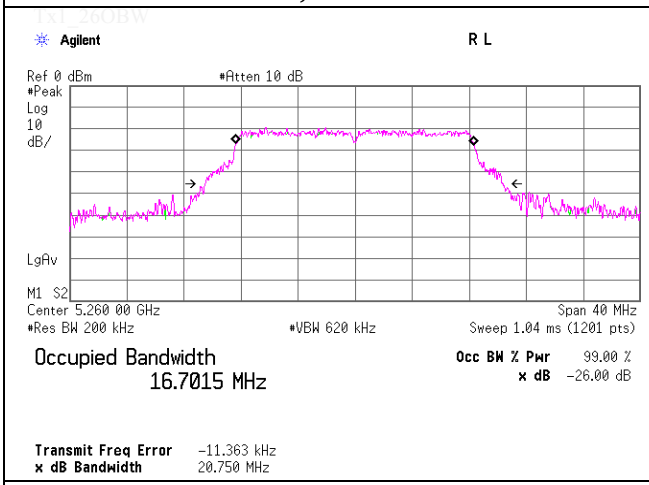
-26dB Bandwidth

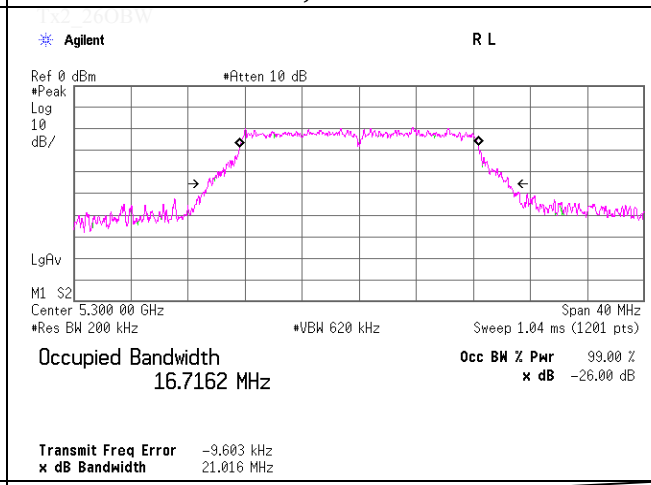
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 6, 2015	
Temperature / Humidity	25 deg.C , 52 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11a, PN9, worst data mode 6Mbps	

Freq. [MHz]	-26dB Bandwidth [MHz]	Limit [MHz]
5260.0000	20.750	-
5300.0000	21.016	-
5320.0000	20.968	-

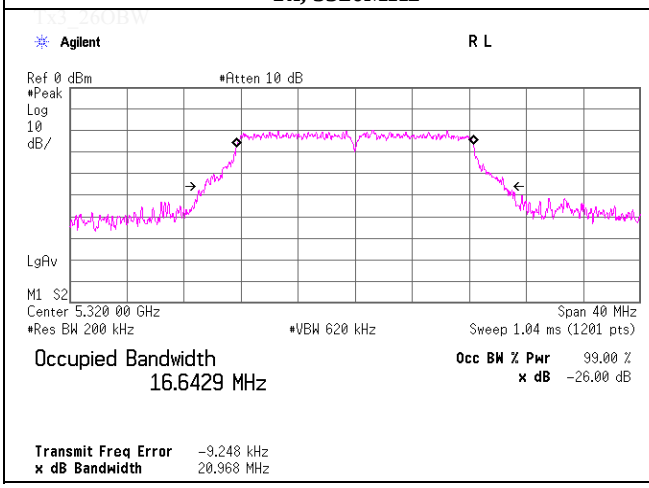
Tx, 5260MHz



Tx, 5300MHz



Tx, 5320MHz



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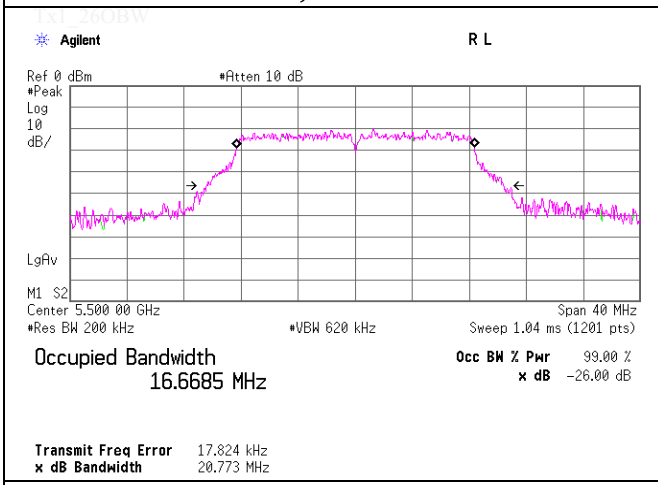
-26dB Bandwidth

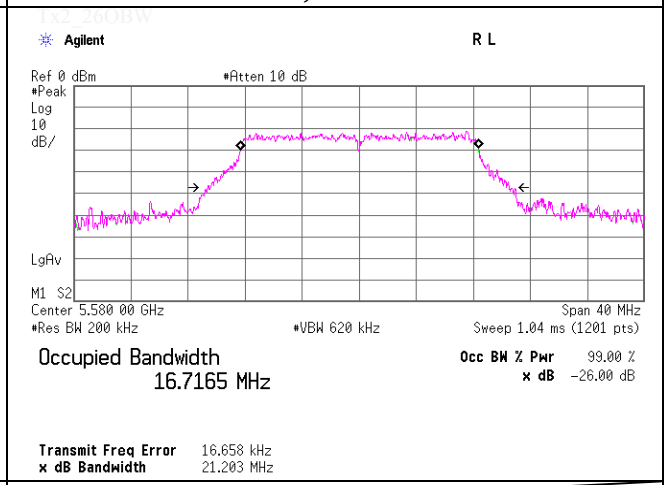
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 7, 2015	
Temperature / Humidity	23 deg.C , 50 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11a, PN9, worst data mode 6Mbps	

Freq. [MHz]	-26dB Bandwidth [MHz]	Limit [MHz]
5500.0000	20.773	-
5580.0000	21.203	-
5700.0000	21.279	-

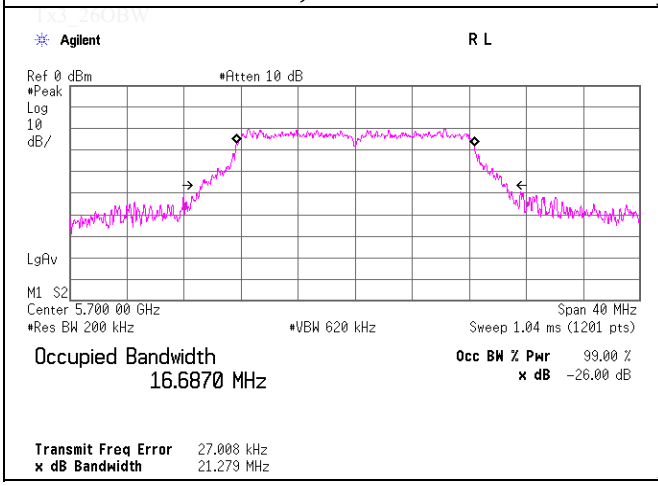
Tx, 5500MHz



Tx, 5580MHz



Tx, 5700MHz



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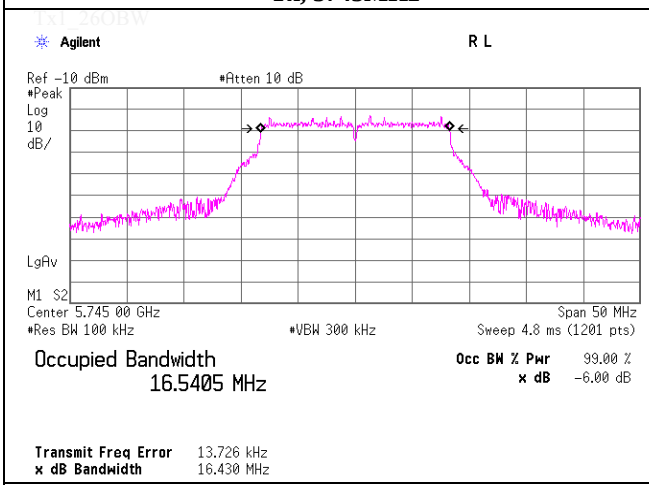
-6dB Bandwidth

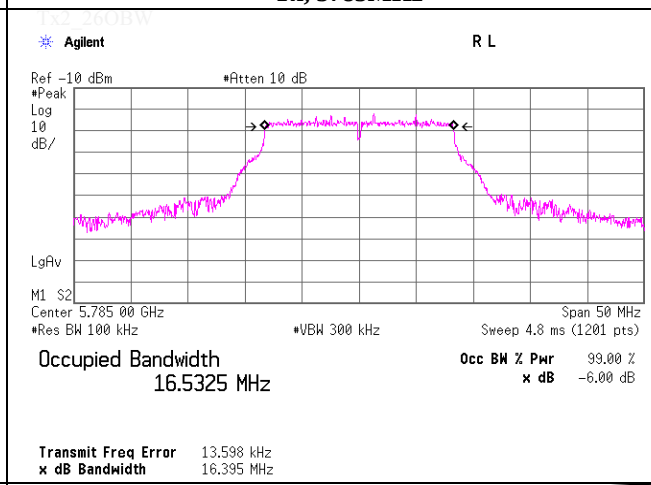
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 7, 2015	
Temperature / Humidity	23 deg.C , 50 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11a, PN9, worst data mode 6Mbps	

Freq. [MHz]	-6dB Bandwidth [MHz]	Limit [MHz]
5745.0000	16.430	> 0.500
5785.0000	16.395	> 0.500
5825.0000	16.388	> 0.500

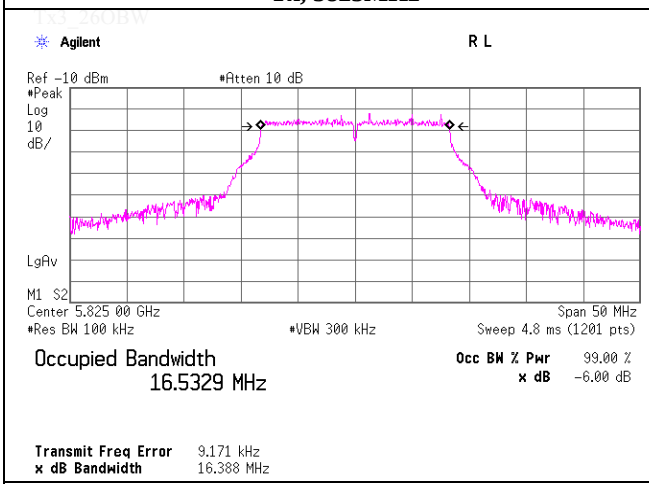
Tx, 5745MHz



Tx, 5785MHz



Tx, 5825MHz



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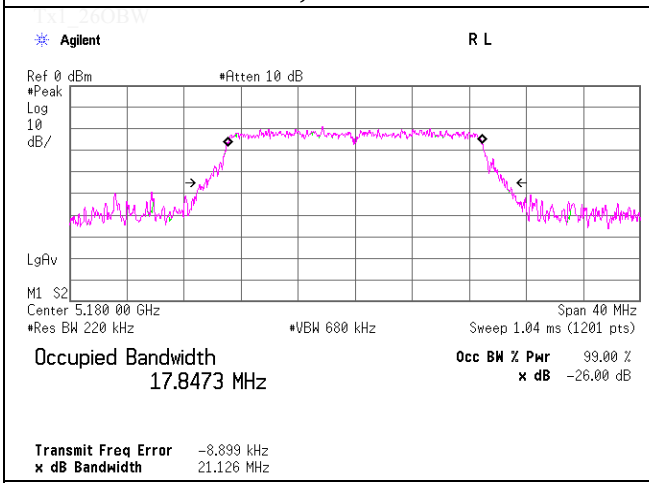
-26dB Bandwidth

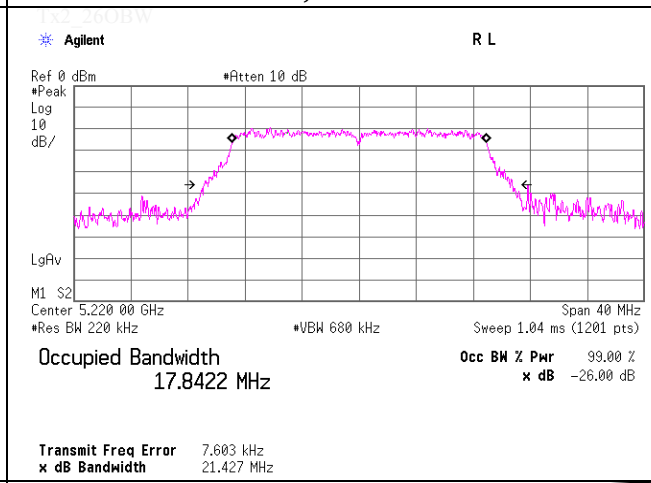
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 6, 2015	
Temperature / Humidity	25 deg.C , 52 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11n(HT20), PN9, worst data mode 0(MCS)	

Freq. [MHz]	-26dB Bandwidth [MHz]	Limit [MHz]
5180.0000	21.126	-
5220.0000	21.427	-
5240.0000	21.432	-

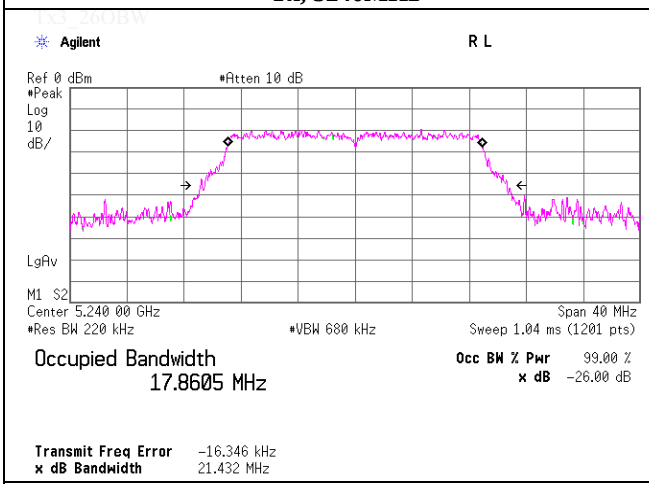
Tx, 5180MHz



Tx, 5220MHz



Tx, 5240MHz



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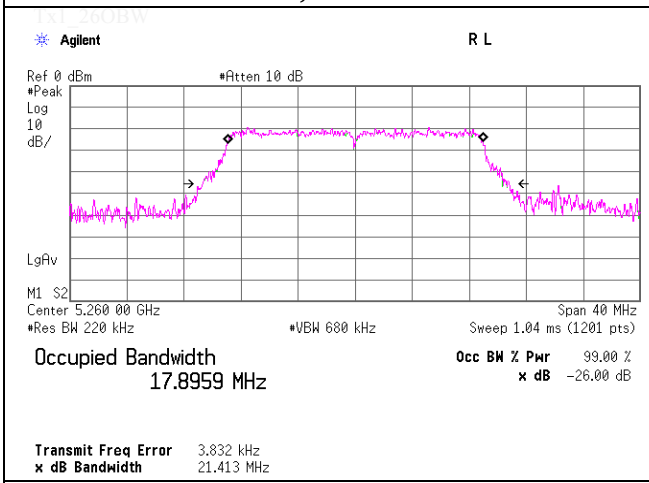
-26dB Bandwidth

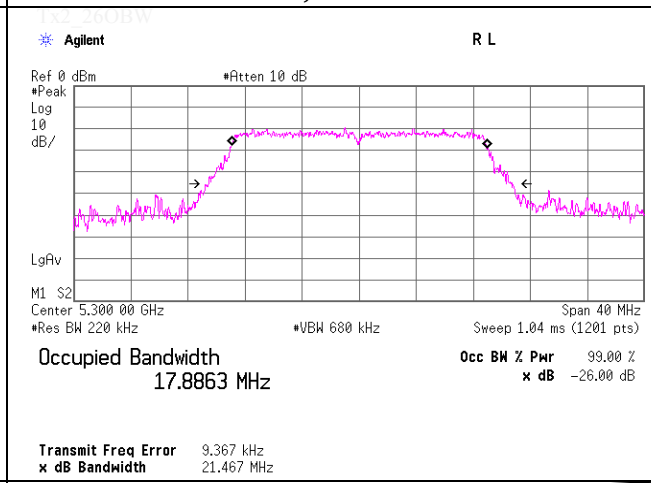
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 6, 2015	
Temperature / Humidity	25 deg.C , 52 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11n(HT20), PN9, worst data mode 0(MCS)	

Freq. [MHz]	-26dB Bandwidth [MHz]	Limit [MHz]
5260.0000	21.413	-
5300.0000	21.467	-
5320.0000	21.375	-

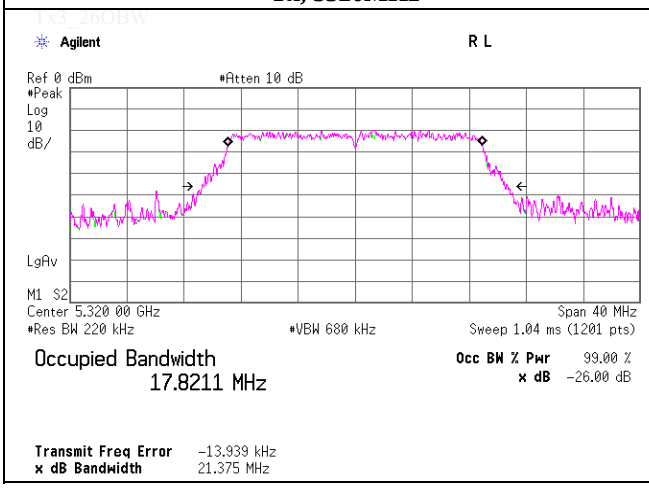
Tx, 5260MHz



Tx, 5300MHz



Tx, 5320MHz



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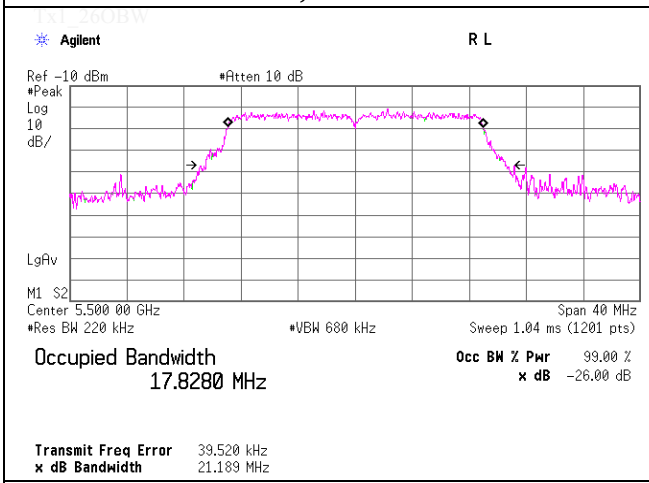
-26dB Bandwidth

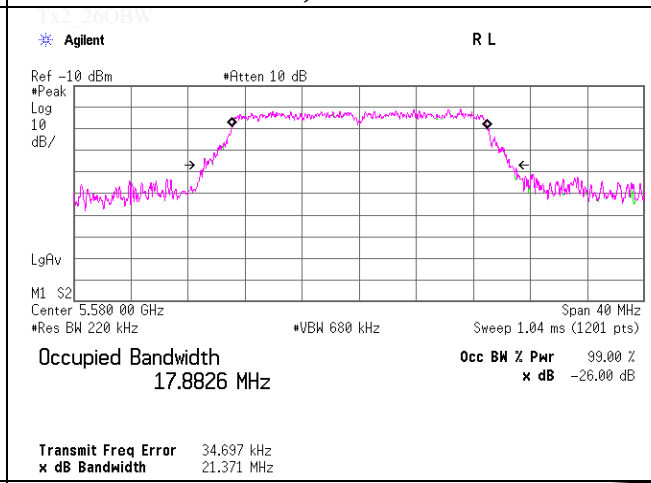
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 7, 2015	
Temperature / Humidity	23 deg.C , 50 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11n(HT20), PN9, worst data mode 0(MCS)	

Freq. [MHz]	-26dB Bandwidth [MHz]	Limit [MHz]
5500.0000	21.189	-
5580.0000	21.371	-
5700.0000	21.492	-

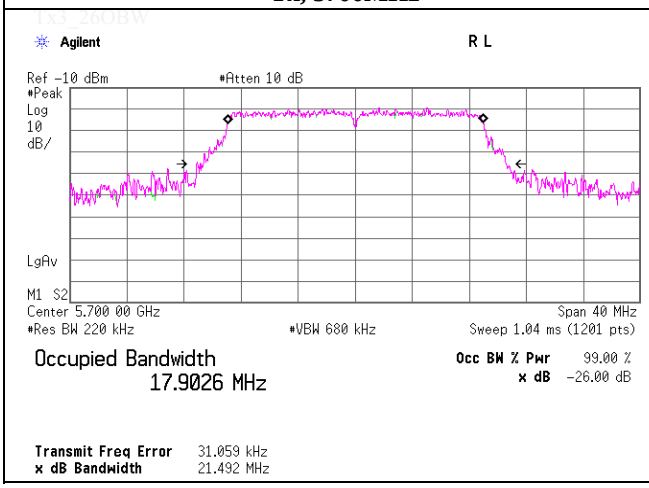
Tx, 5500MHz



Tx, 5580MHz



Tx, 5700MHz



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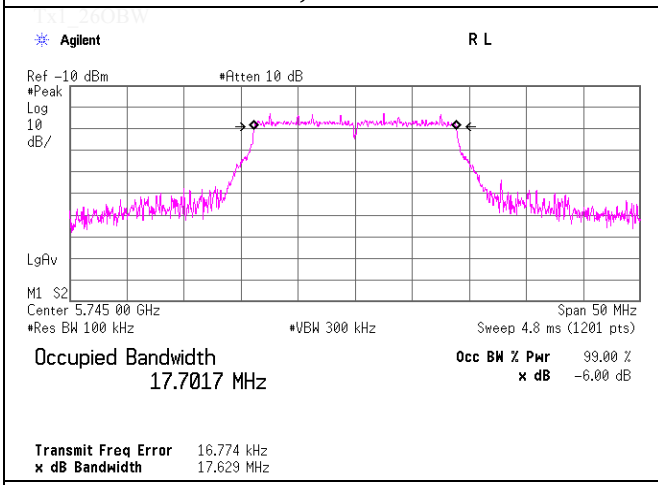
-6dB Bandwidth

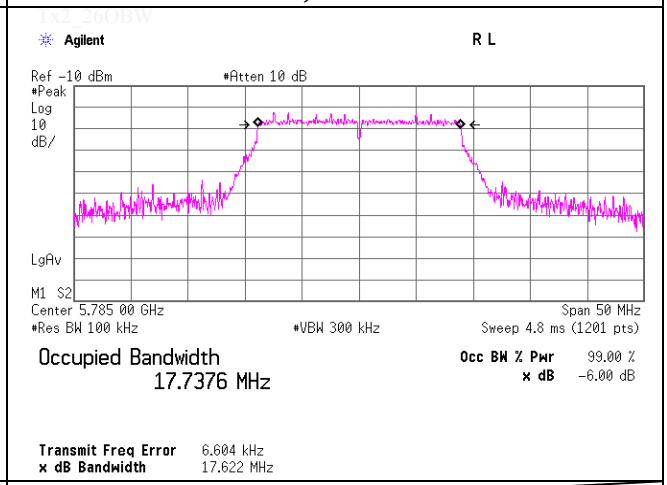
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 7, 2015	
Temperature / Humidity	23 deg.C , 50 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11n(HT20), PN9, worst data mode 0(MCS)	

Freq. [MHz]	-6dB Bandwidth [MHz]	Limit [MHz]
5745.0000	17.629	> 0.500
5785.0000	17.622	> 0.500
5825.0000	17.619	> 0.500

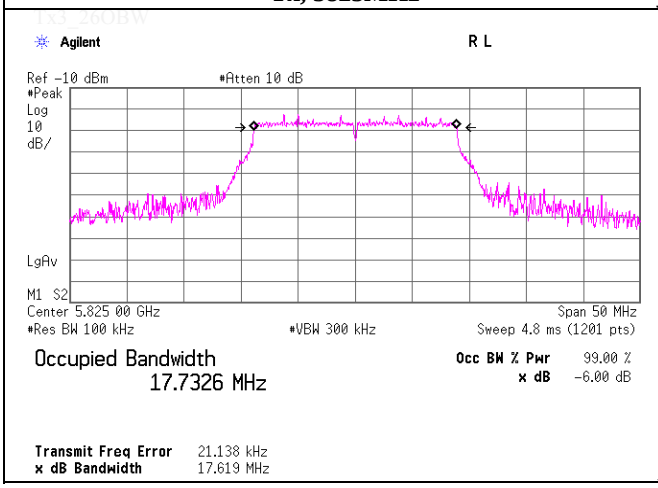
Tx, 5745MHz



Tx, 5785MHz



Tx, 5825MHz



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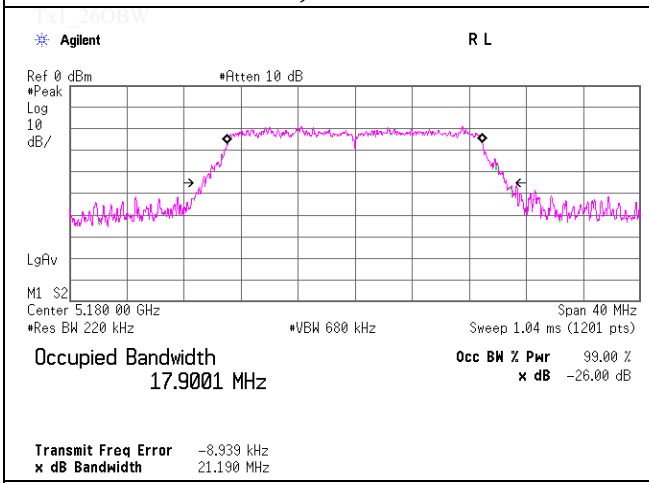
-26dB Bandwidth

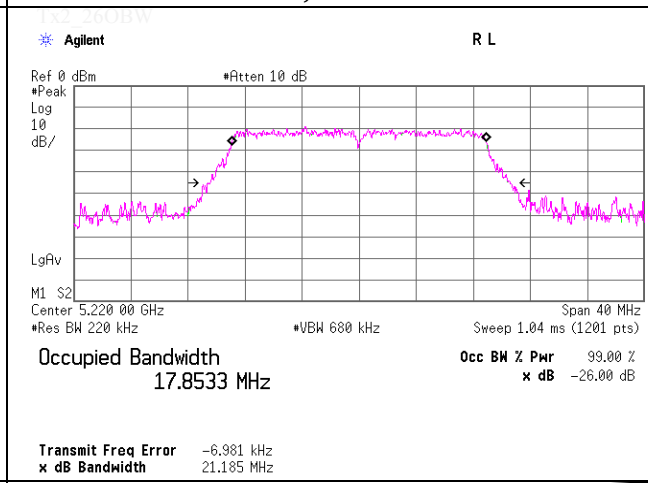
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 23, 2015	
Temperature / Humidity	24deg.C , 50%RH	
Engineer	Shinichi Takano	
Mode	Tx, IEEE802.11ac(VHT20), PN9, worst data mode 0(MCS)	

Freq. [MHz]	-26dB Bandwidth [MHz]	Limit [MHz]
5180.0000	21.190	-
5220.0000	21.185	-
5240.0000	21.293	-

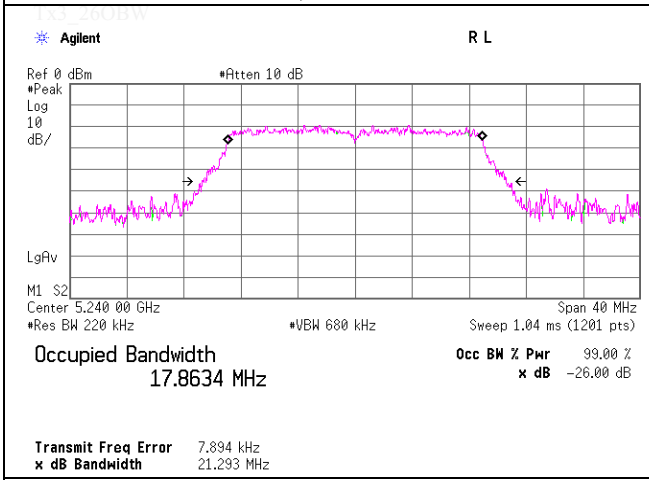
Tx, 5180MHz



Tx, 5220MHz



Tx, 5240MHz



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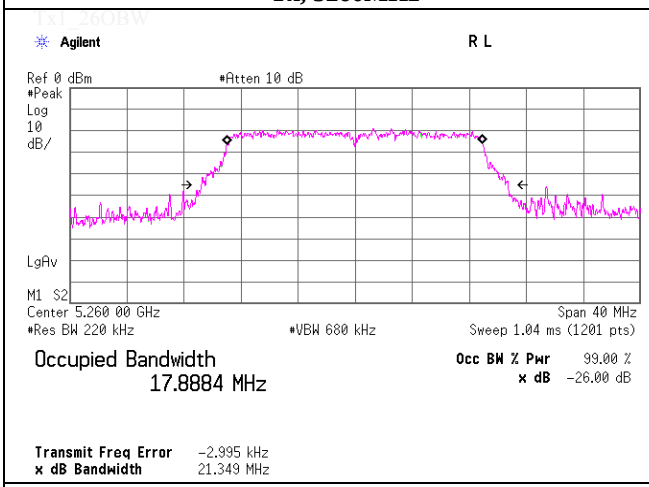
-26dB Bandwidth

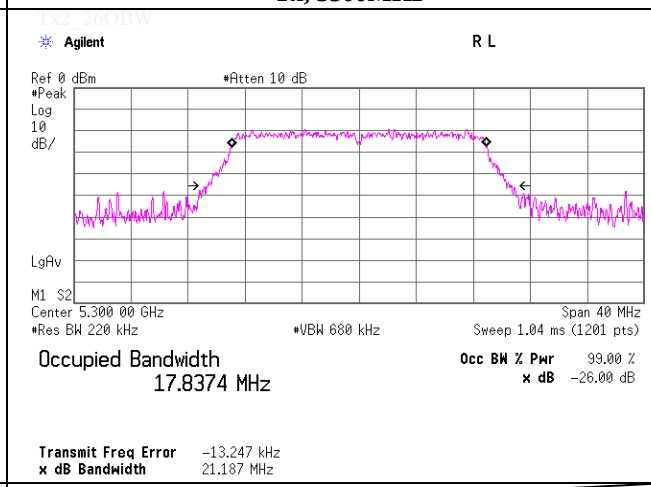
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 23, 2015	
Temperature / Humidity	24deg.C , 50%RH	
Engineer	Shinichi Takano	
Mode	Tx, IEEE802.11ac(VHT20), PN9, worst data mode 0(MCS)	

Freq. [MHz]	-26dB Bandwidth [MHz]	Limit [MHz]
5260.0000	21.349	-
5300.0000	21.187	-
5320.0000	21.281	-

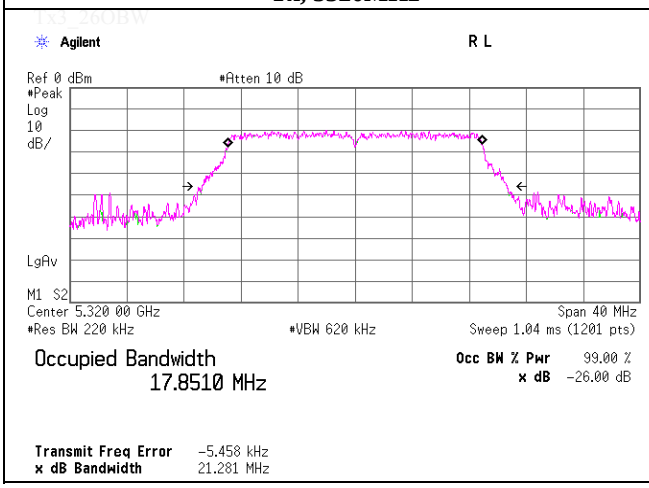
Tx, 5260MHz



Tx, 5300MHz



Tx, 5320MHz



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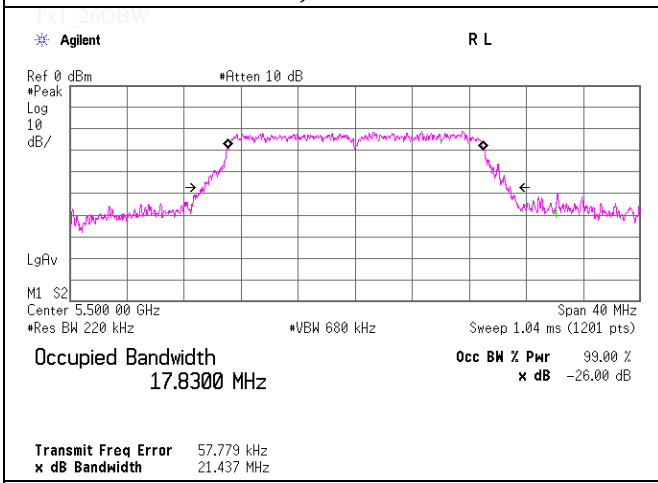
-26dB Bandwidth

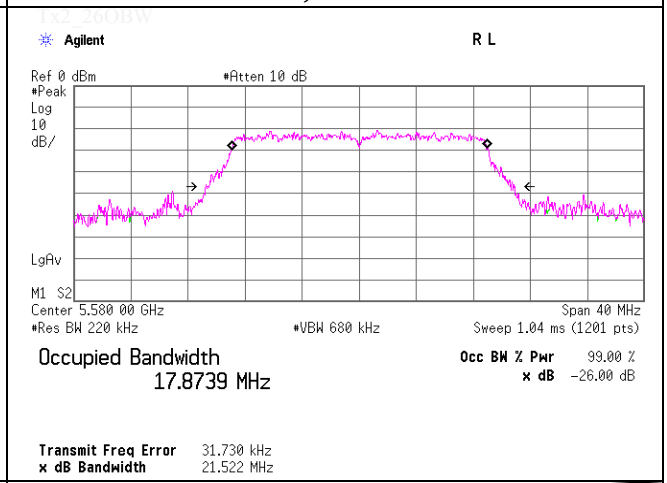
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 23, 2015	
Temperature / Humidity	24deg.C , 50%RH	
Engineer	Shinichi Takano	
Mode	Tx, IEEE802.11ac(VHT20), PN9, worst data mode 0(MCS)	

Freq. [MHz]	-26dB Bandwidth [MHz]	Limit [MHz]
5500.0000	21.437	-
5580.0000	21.522	-
5700.0000	21.223	-

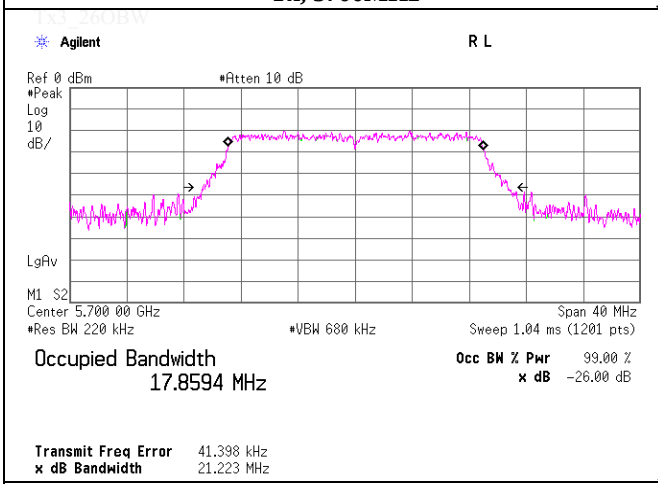
Tx, 5500MHz



Tx, 5580MHz



Tx, 5700MHz



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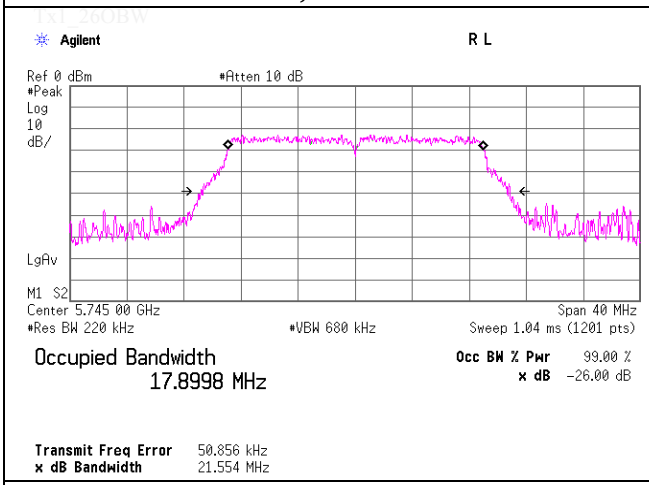
-6dB Bandwidth

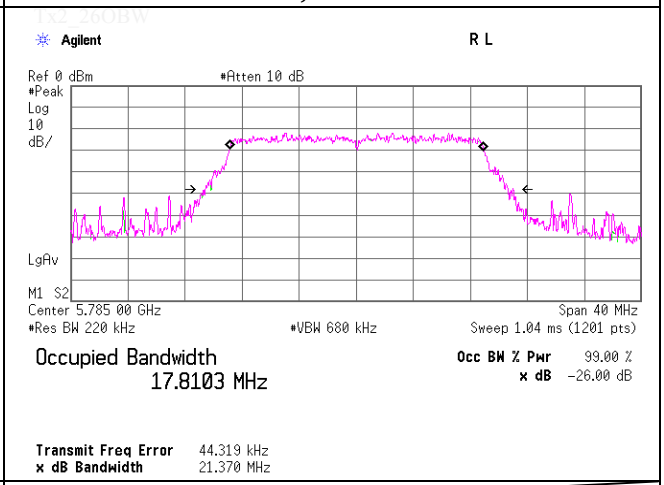
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 23, 2015	
Temperature / Humidity	24deg.C , 50%RH	
Engineer	Shinichi Takano	
Mode	Tx, IEEE802.11ac(VHT20), PN9, worst data mode 0(MCS)	

Freq. [MHz]	-6dB Bandwidth [MHz]	Limit [MHz]
5745.0000	21.554	> 0.500
5785.0000	21.370	> 0.500
5825.0000	21.365	> 0.500

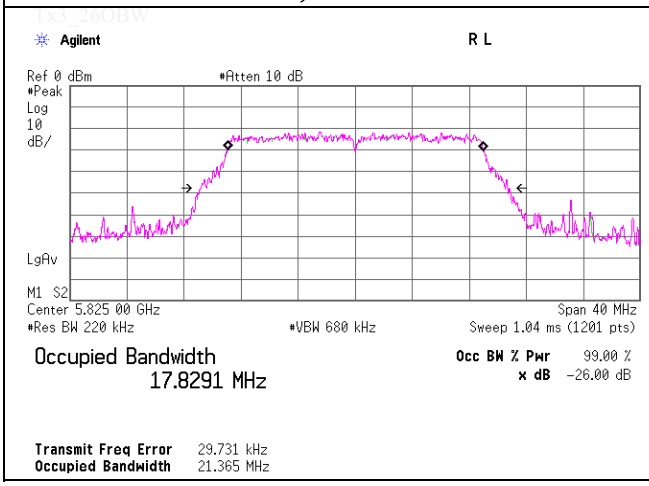
Tx, 5745MHz



Tx, 5785MHz



Tx, 5825MHz



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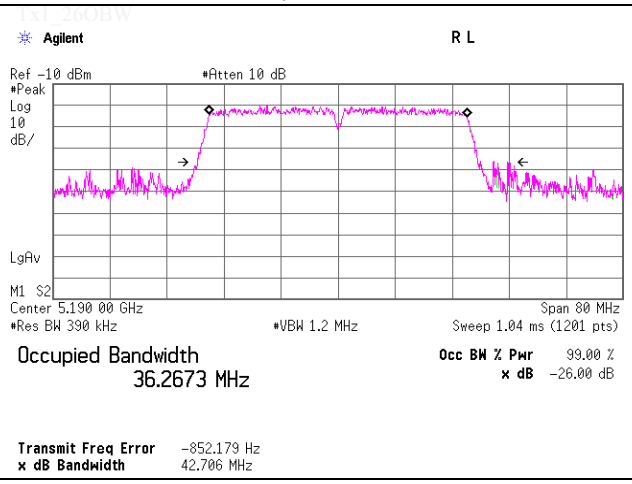
-26dB Bandwidth

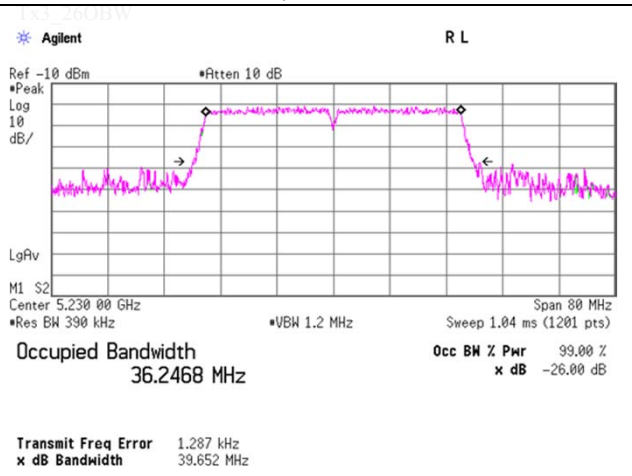
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 6, 2015	
Temperature / Humidity	25 deg.C , 52 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11n(HT40), PN9, worst data mode 0(MCS)	

Freq. [MHz]	-26dB Bandwidth [MHz]	Limit [MHz]
5190.0000	42.706	-
5230.0000	39.652	-

Tx, 5190MHz



Tx, 5230MHz



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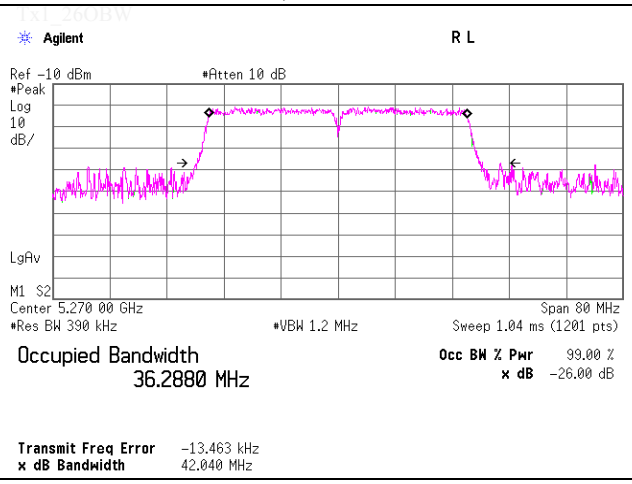
-26dB Bandwidth

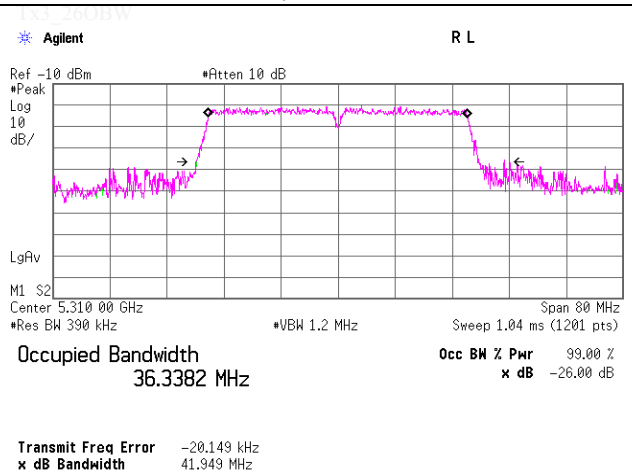
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 6, 2015	
Temperature / Humidity	25 deg.C , 52 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11n(HT40), PN9, worst data mode 0(MCS)	

Freq. [MHz]	-26dB Bandwidth [MHz]	Limit [MHz]
5270.0000	42.040	-
5310.0000	41.949	-

Tx, 5270MHz



Tx, 5310MHz



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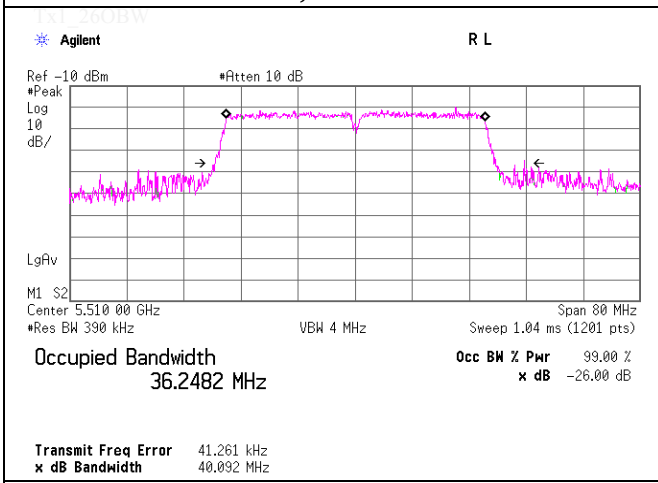
-26dB Bandwidth

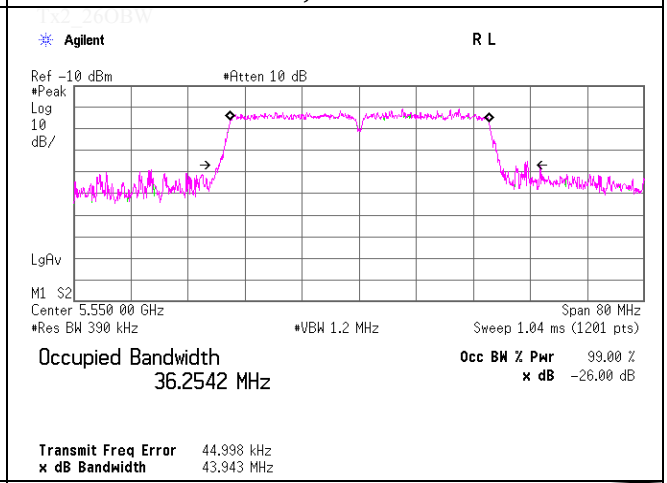
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 7, 2015	
Temperature / Humidity	23 deg.C , 50 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11n(HT40), PN9, worst data mode 0(MCS)	

Freq. [MHz]	-26dB Bandwidth [MHz]	Limit [MHz]
5510.0000	40.092	-
5550.0000	43.943	-
5670.0000	43.103	-

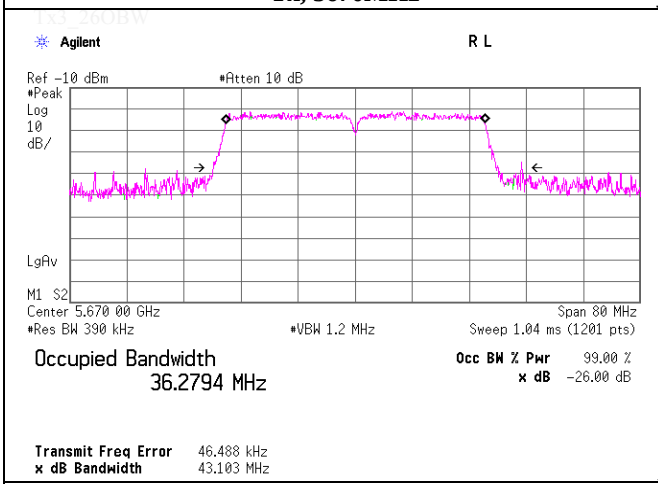
Tx, 5510MHz



Tx, 5550MHz



Tx, 5670MHz



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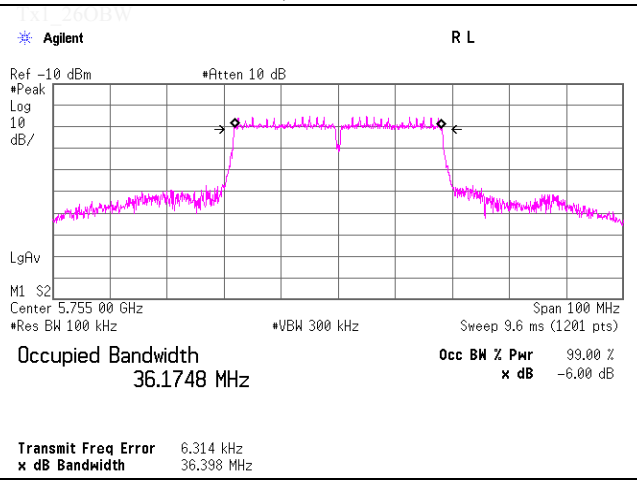
-6dB Bandwidth

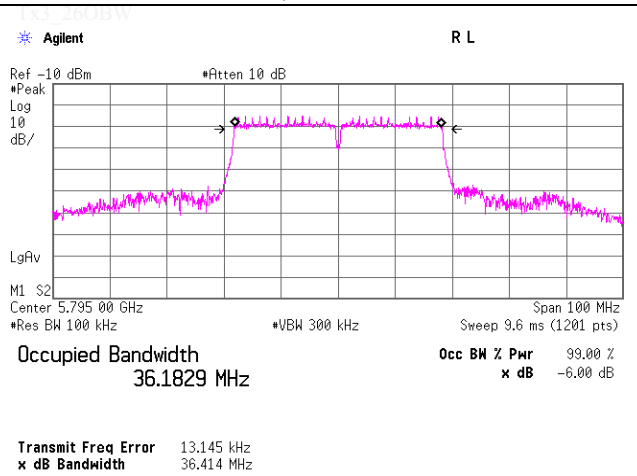
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 7, 2015	
Temperature / Humidity	23 deg.C , 50 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11n(HT40), PN9, worst data mode 0(MCS)	

Freq. [MHz]	-6dB Bandwidth [MHz]	Limit [MHz]
5755.0000	36.398	> 0.500
5795.0000	36.414	> 0.500

Tx, 5755MHz



Tx, 5795MHz



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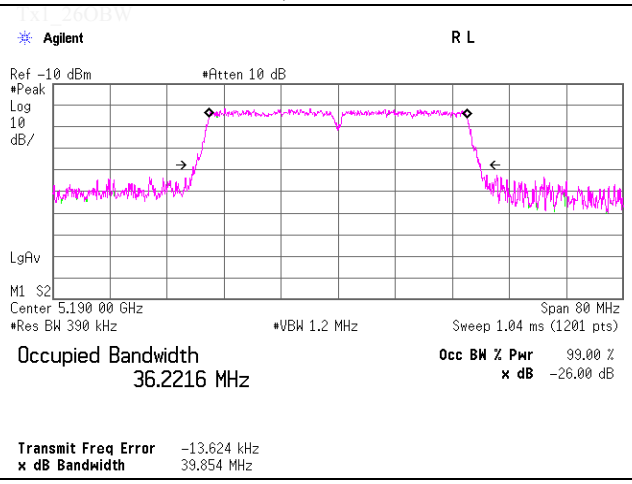
-26dB Bandwidth

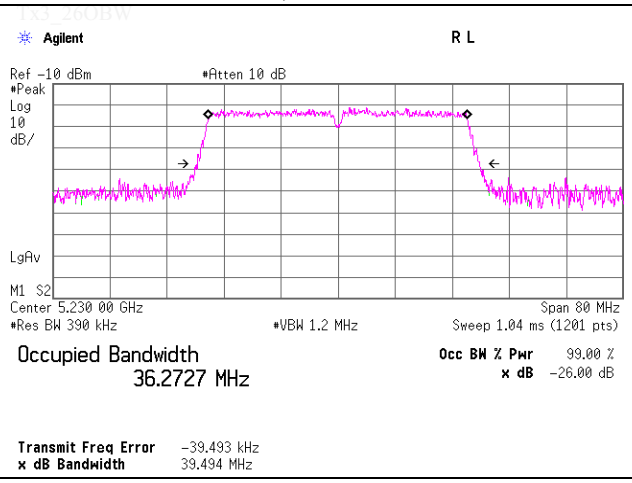
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 6, 2015	
Temperature / Humidity	25 deg.C , 52 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11ac(VHT40), PN9, worst data mode 0(MCS)	

Freq. [MHz]	-26dB Bandwidth [MHz]	Limit [MHz]
5190.0000	39.854	-
5230.0000	39.494	-

Tx, 5190MHz



Tx, 5230MHz



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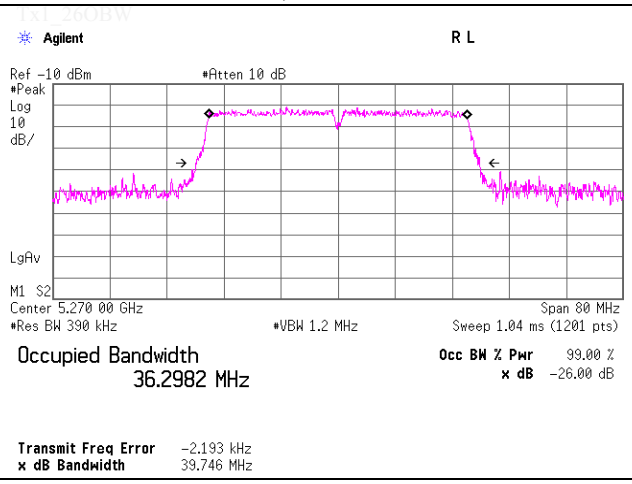
-26dB Bandwidth

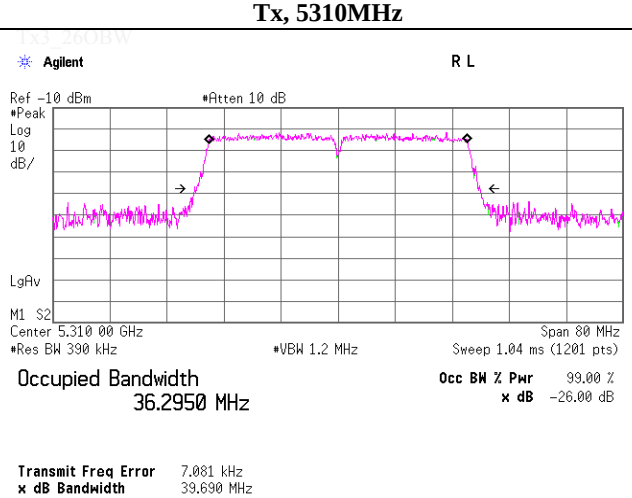
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 6, 2015	
Temperature / Humidity	25 deg.C , 52 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11ac(VHT40), PN9, worst data mode 0(MCS)	

Freq. [MHz]	-26dB Bandwidth [MHz]	Limit [MHz]
5270.0000	39.746	-
5310.0000	39.690	-

Tx, 5270MHz



Tx, 5310MHz



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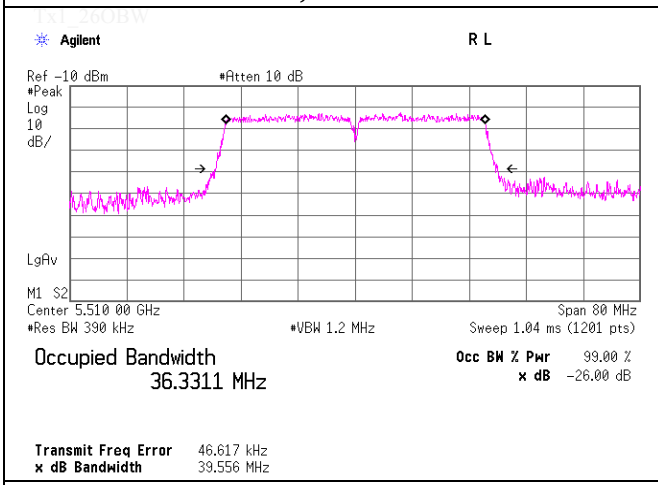
-26dB Bandwidth

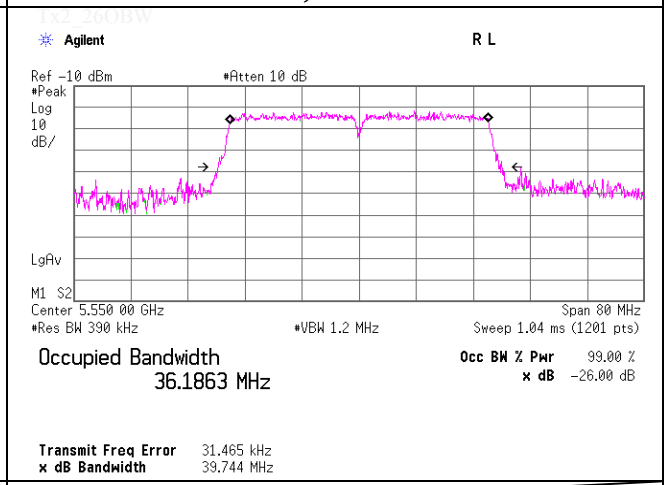
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 7, 2015	
Temperature / Humidity	23 deg.C , 50 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11ac(VHT40), PN9, worst data mode 0(MCS)	

Freq. [MHz]	-26dB Bandwidth [MHz]	Limit [MHz]
5510.0000	39.556	-
5550.0000	39.744	-
5670.0000	39.412	-

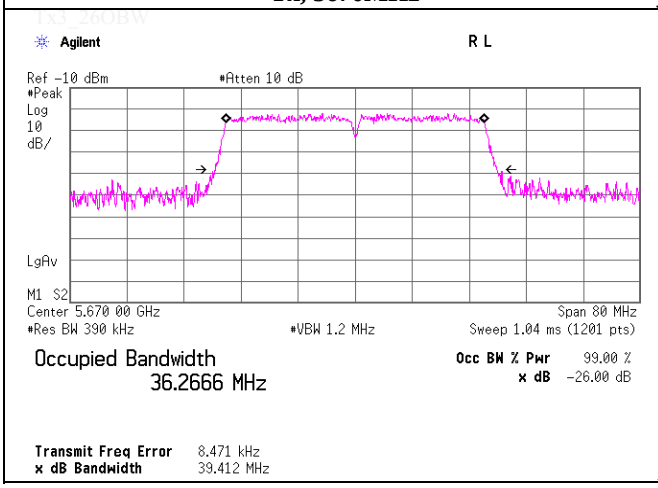
Tx, 5510MHz



Tx, 5550MHz



Tx, 5670MHz



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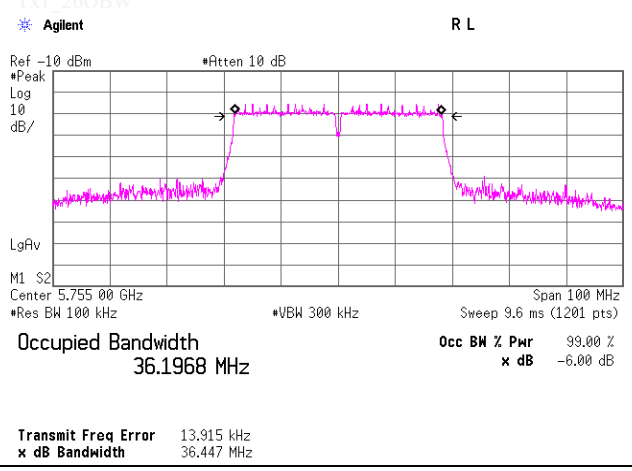
-6dB Bandwidth

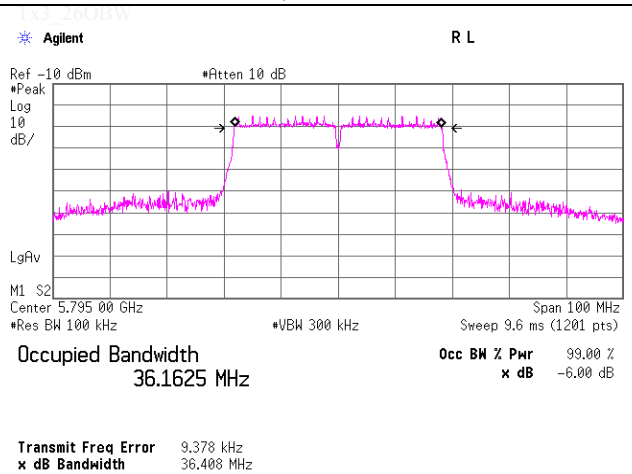
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 7, 2015	
Temperature / Humidity	23 deg.C , 50 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11ac(VHT40), PN9, worst data mode 0(MCS)	

Freq. [MHz]	-6dB Bandwidth [MHz]	Limit [MHz]
5755.0000	36.447	> 0.500
5795.0000	36.408	> 0.500

Tx, 5755MHz



Tx, 5795MHz



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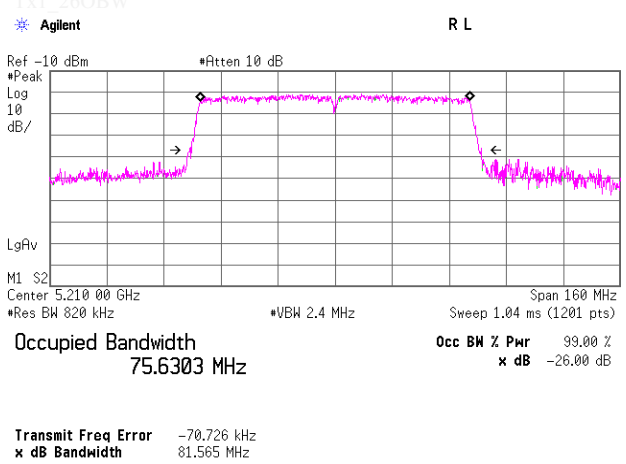
-26dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 6, 2015	
Temperature / Humidity	25 deg.C , 52 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11ac(VHT80), PN9, worst data mode 0(MCS)	

Freq. [MHz]	-26dB Bandwidth [MHz]	Limit [MHz]
5210.0000	81.565	-

Tx, 5210MHz

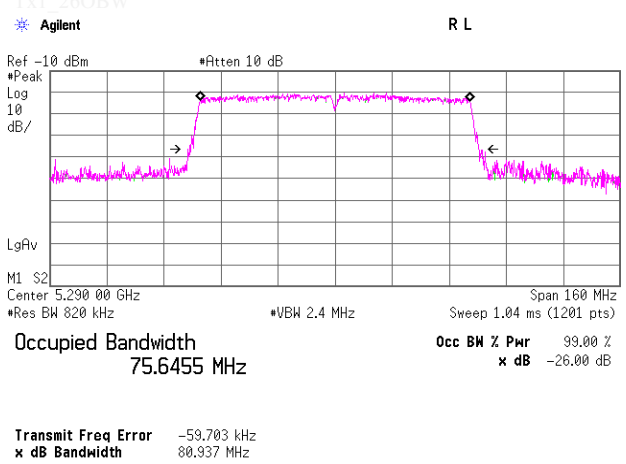


-26dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 6, 2015	
Temperature / Humidity	25 deg.C , 52 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11ac(VHT80), PN9, worst data mode 0(MCS)	

Freq. [MHz]	-26dB Bandwidth [MHz]	Limit [MHz]
5290.0000	80.937	-

Tx, 5290MHz

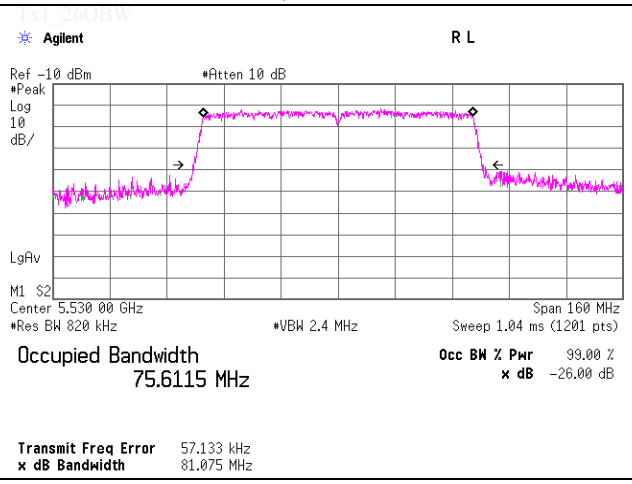


-26dB Bandwidth

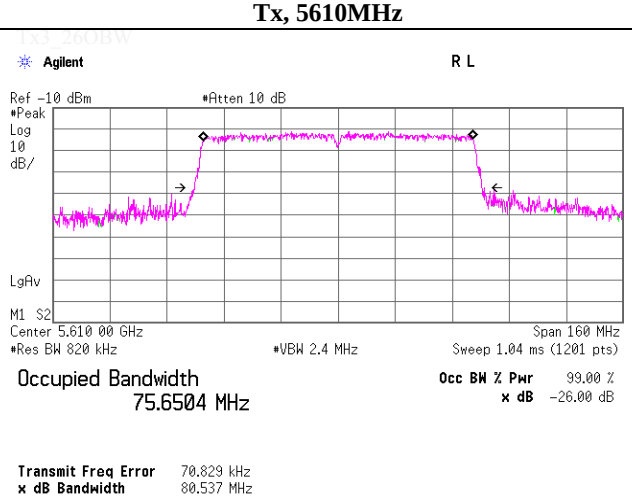
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 7, 2015	
Temperature / Humidity	23 deg.C , 50 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11ac(VHT80), PN9, worst data mode 0(MCS)	

Freq. [MHz]	-26dB Bandwidth [MHz]	Limit [MHz]
5530.0000	81.075	-
5610.0000	80.537	-

Tx, 5530MHz



Tx, 5610MHz



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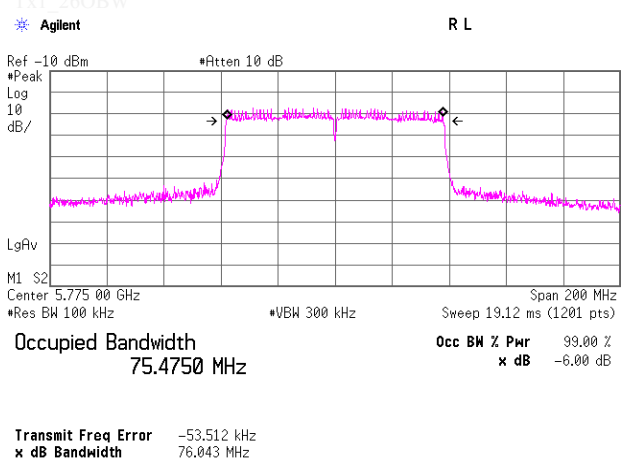
-6dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 7, 2015	
Temperature / Humidity	23 deg.C , 50 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11ac(VHT80), PN9, worst data mode 0(MCS)	

Freq. [MHz]	-6dB Bandwidth [MHz]	Limit [MHz]
5775.0000	76.043	> 0.500

Tx, 5775MHz



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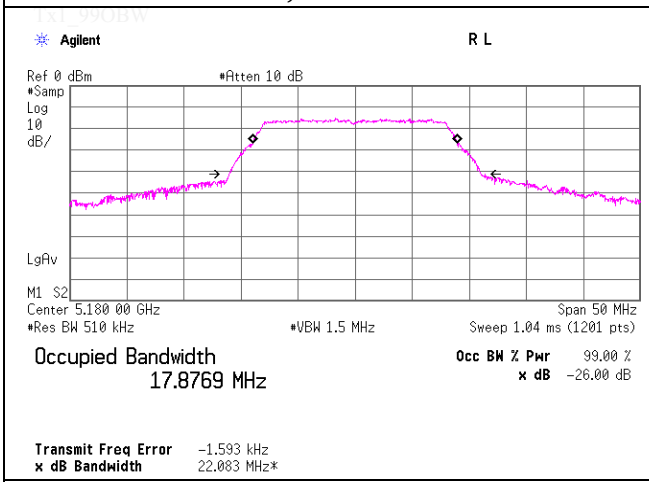
99% Occupied Bandwidth

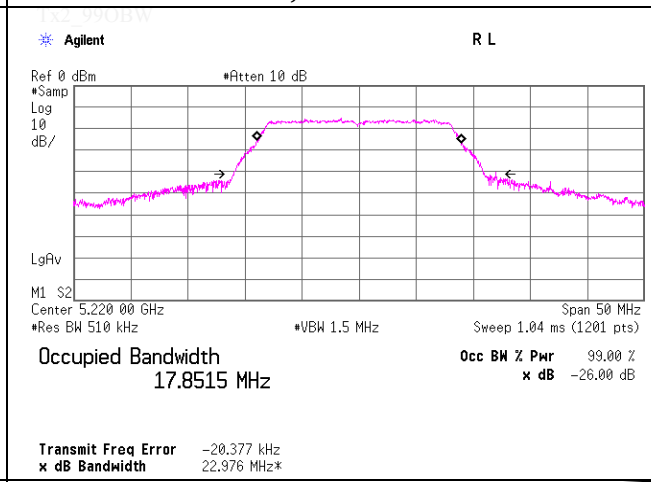
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 6, 2015	
Temperature / Humidity	25 deg.C , 52 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11a, PN9, worst data mode 6Mbps	

Freq. [MHz]	99% Occupied Bandwidth [MHz]
5180.0000	17.877
5220.0000	17.852
5240.0000	17.910

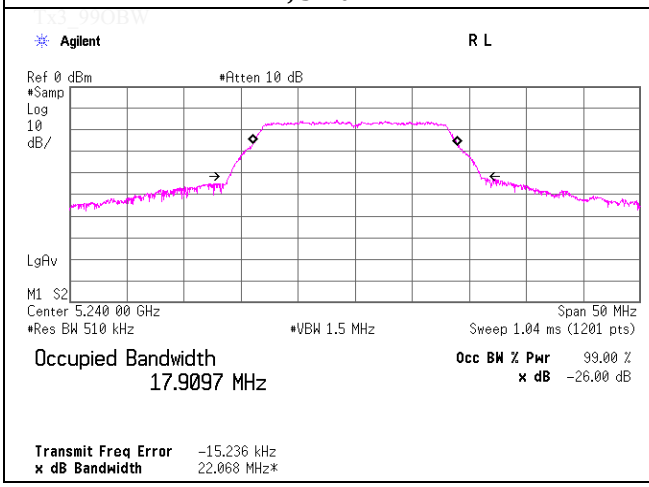
Tx, 5180MHz



Tx, 5220MHz



Tx, 5240MHz



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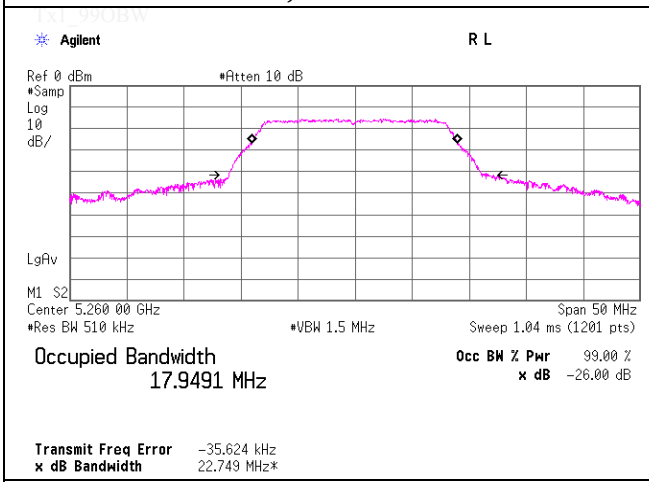
99% Occupied Bandwidth

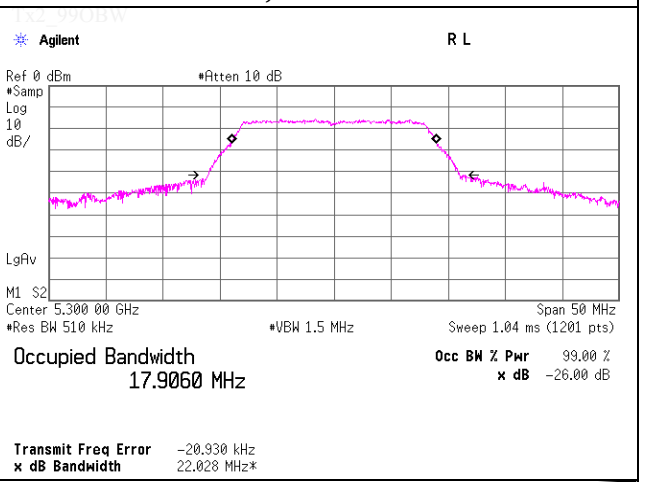
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 6, 2015	
Temperature / Humidity	25 deg.C , 52 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11a, PN9, worst data mode 6Mbps	

Freq. [MHz]	99% Occupied Bandwidth [MHz]
5260.0000	17.949
5300.0000	17.906
5320.0000	17.958

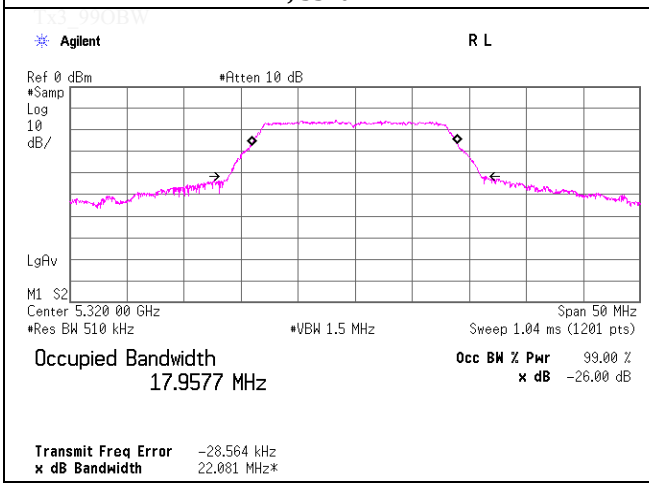
Tx, 5260MHz



Tx, 5300MHz



Tx, 5320MHz



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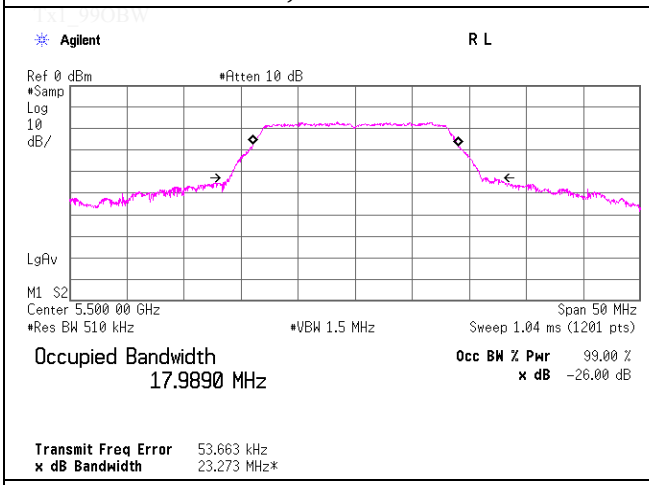
99% Occupied Bandwidth

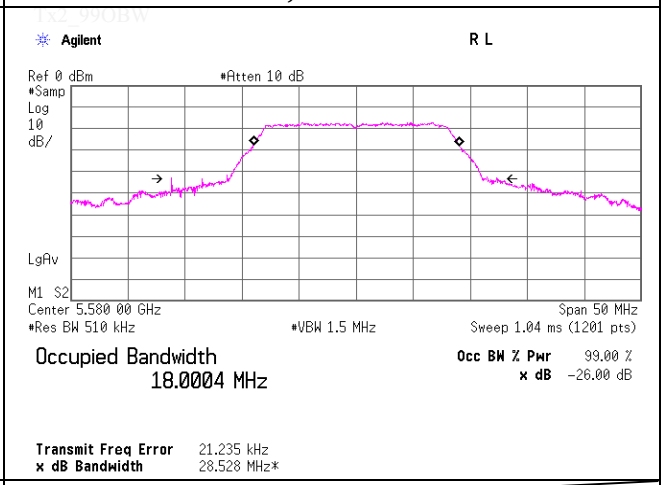
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 7, 2015	
Temperature / Humidity	23 deg.C , 50 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11a, PN9, worst data mode 6Mbps	

Freq. [MHz]	99% Occupied Bandwidth [MHz]
5500.0000	17.989
5580.0000	18.000
5700.0000	17.986

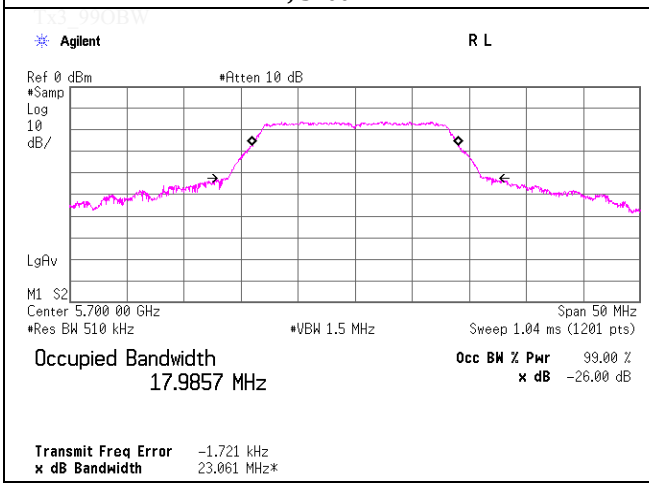
Tx, 5500MHz



Tx, 5580MHz



Tx, 5700MHz



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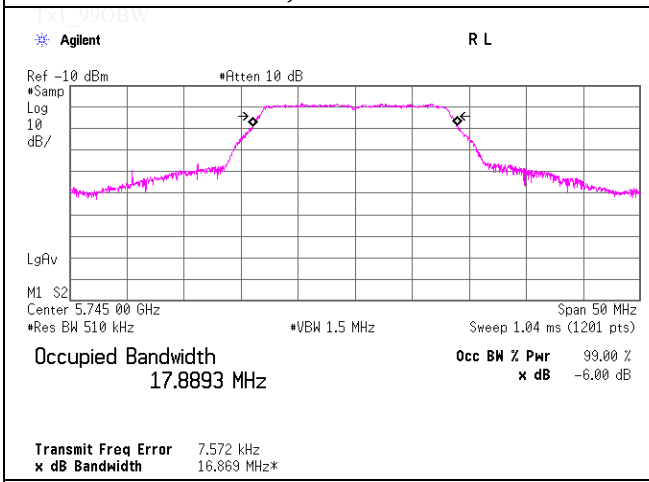
99% Occupied Bandwidth

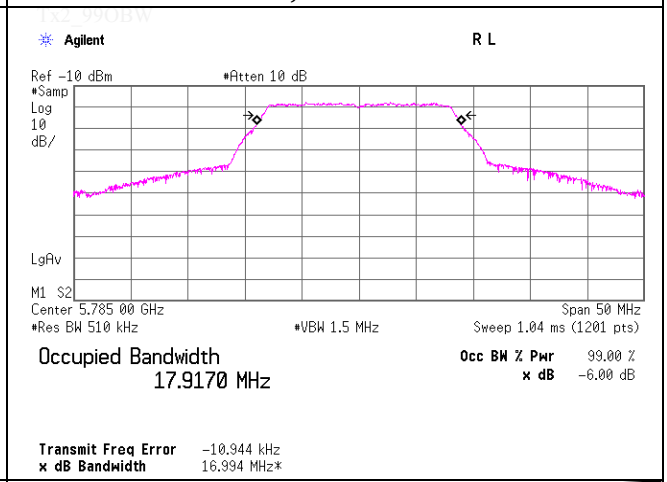
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 7, 2015	
Temperature / Humidity	23 deg.C , 50 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11a, PN9, worst data mode 6Mbps	

Freq. [MHz]	99% Occupied Bandwidth [MHz]
5745.0000	17.889
5785.0000	17.917
5825.0000	17.913

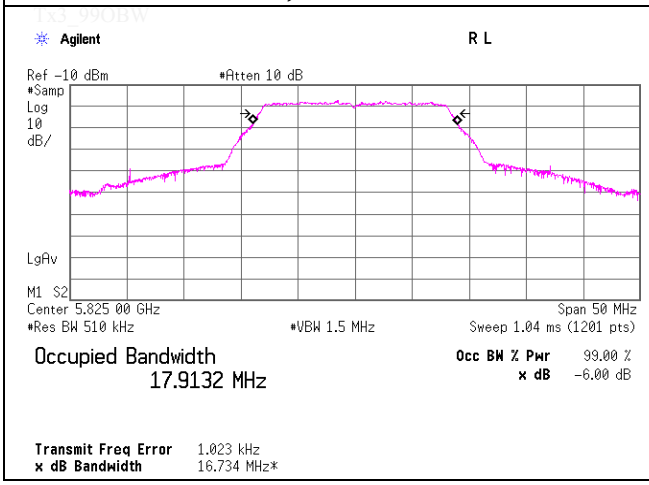
Tx, 5745MHz



Tx, 5785MHz



Tx, 5825MHz



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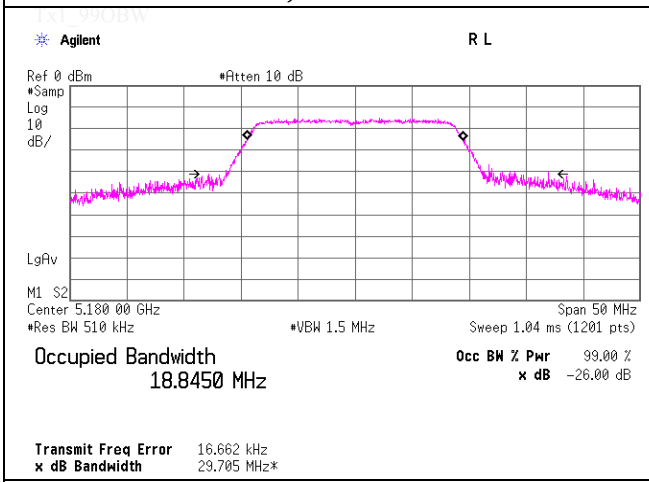
99% Occupied Bandwidth

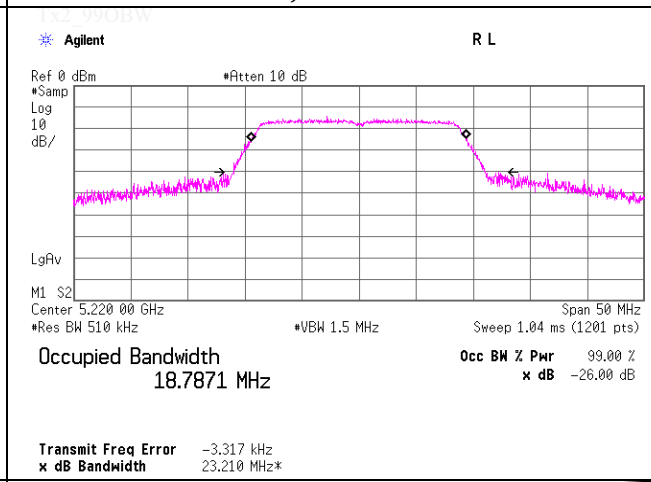
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 6, 2015	
Temperature / Humidity	25 deg.C , 52 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11n(HT20), PN9, worst data mode 0(MCS)	

Freq. [MHz]	99% Occupied Bandwidth [MHz]
5180.0000	18.845
5220.0000	18.787
5240.0000	18.810

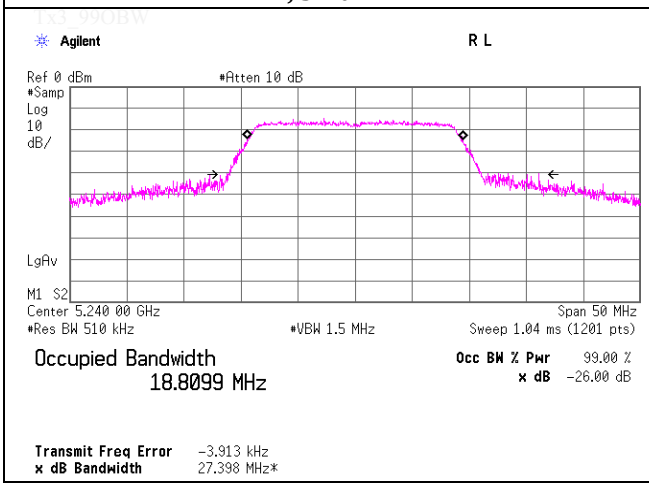
Tx, 5180MHz



Tx, 5220MHz



Tx, 5240MHz



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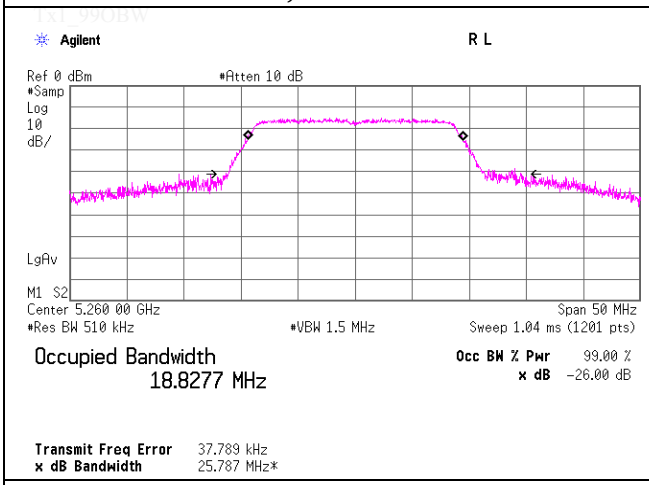
99% Occupied Bandwidth

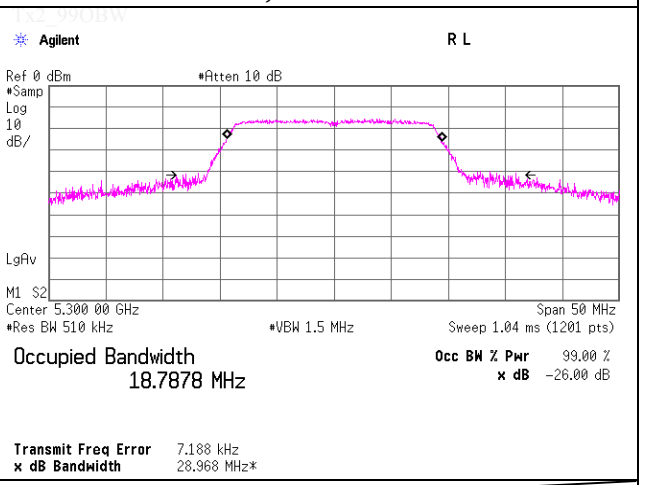
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 6, 2015	
Temperature / Humidity	25 deg.C , 52 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11n(HT20), PN9, worst data mode 0(MCS)	

Freq. [MHz]	99% Occupied Bandwidth [MHz]
5260.0000	18.828
5300.0000	18.788
5320.0000	18.829

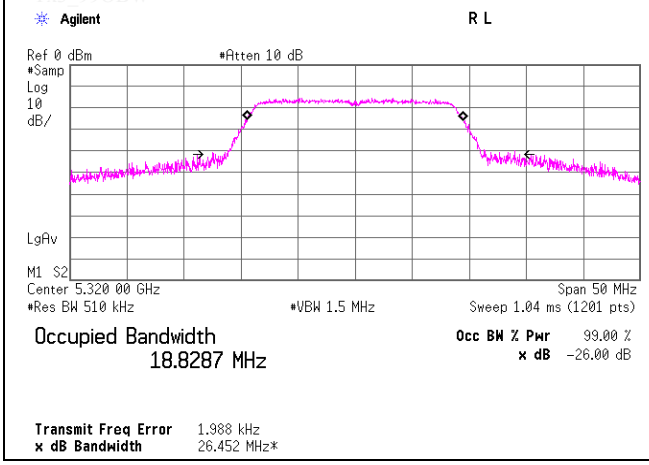
Tx, 5260MHz



Tx, 5300MHz



Tx, 5320MHz



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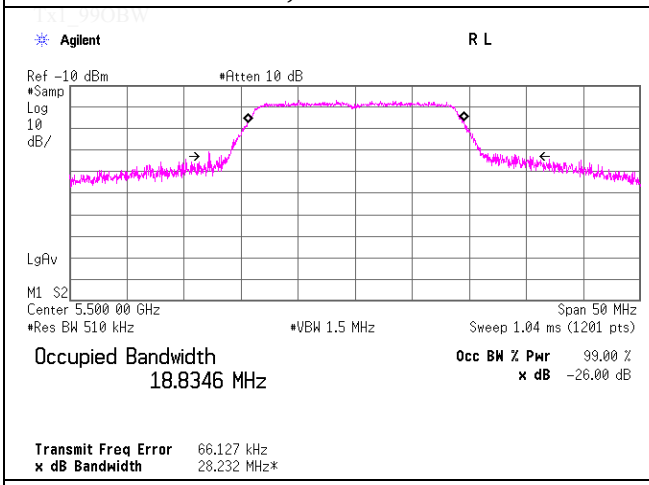
99% Occupied Bandwidth

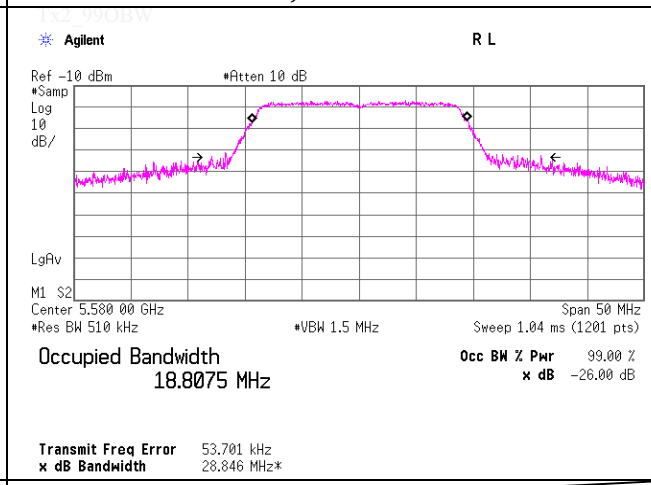
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 7, 2015	
Temperature / Humidity	23 deg.C , 50 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11n(HT20), PN9, worst data mode 0(MCS)	

Freq. [MHz]	99% Occupied Bandwidth [MHz]
5500.0000	18.835
5580.0000	18.808
5700.0000	18.813

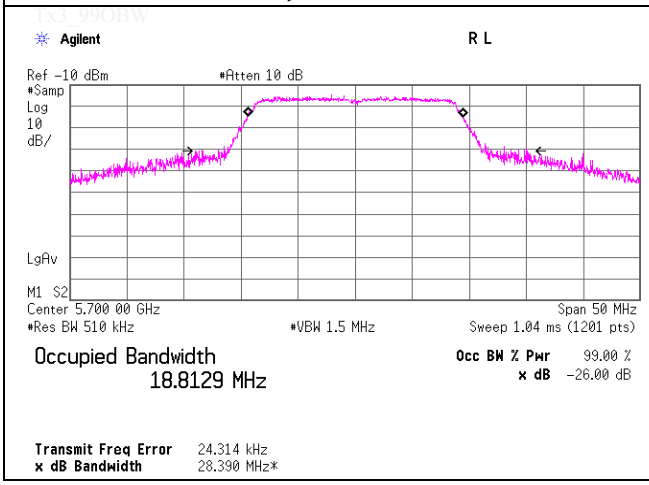
Tx, 5500MHz



Tx, 5580MHz



Tx, 5700MHz



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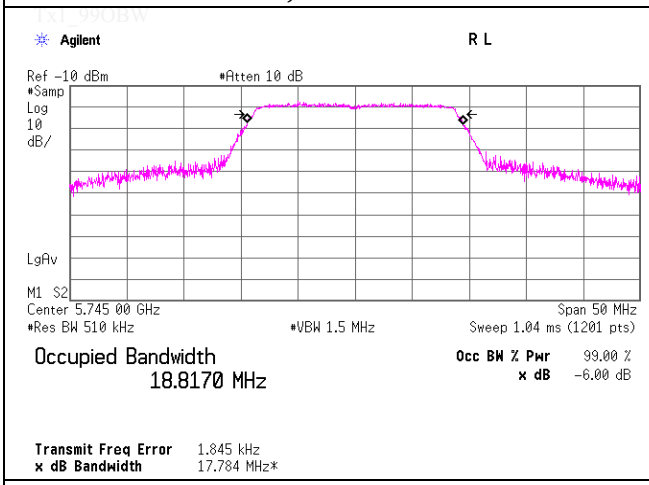
99% Occupied Bandwidth

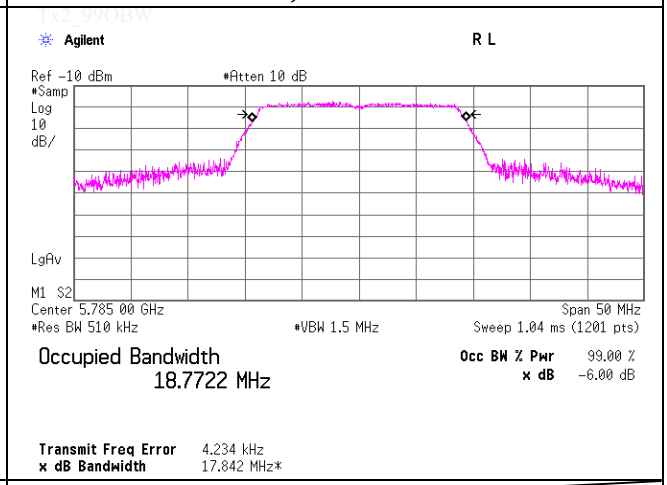
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 7, 2015	
Temperature / Humidity	23 deg.C , 50 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11n(HT20), PN9, worst data mode 0(MCS)	

Freq. [MHz]	99% Occupied Bandwidth [MHz]
5745.0000	18.817
5785.0000	18.772
5825.0000	18.793

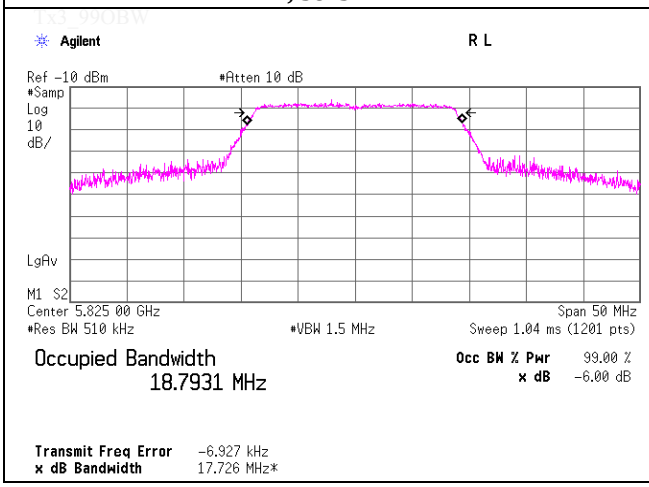
Tx, 5745MHz



Tx, 5785MHz



Tx, 5825MHz



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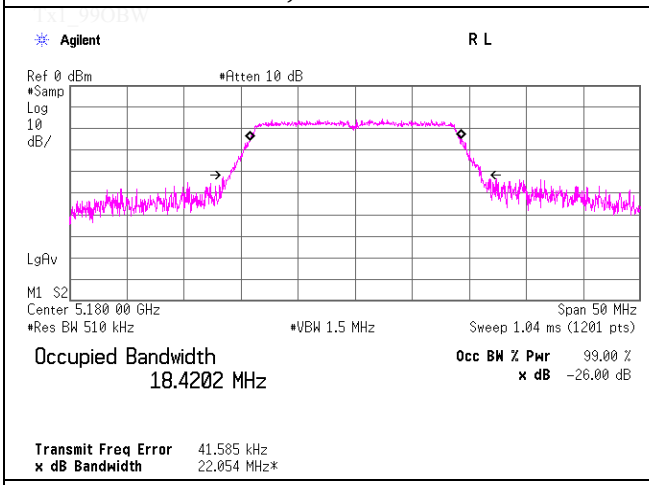
99% Occupied Bandwidth

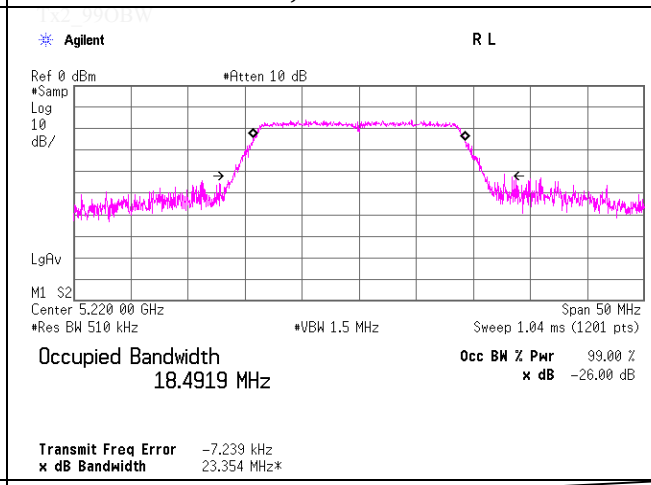
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 23, 2015	
Temperature / Humidity	24deg.C , 50%RH	
Engineer	Shinichi Takano	
Mode	Tx, IEEE802.11ac(VHT20), PN9, worst data mode 0(MCS)	

Freq. [MHz]	99% Occupied Bandwidth [MHz]
5180.0000	18.420
5220.0000	18.492
5240.0000	18.465

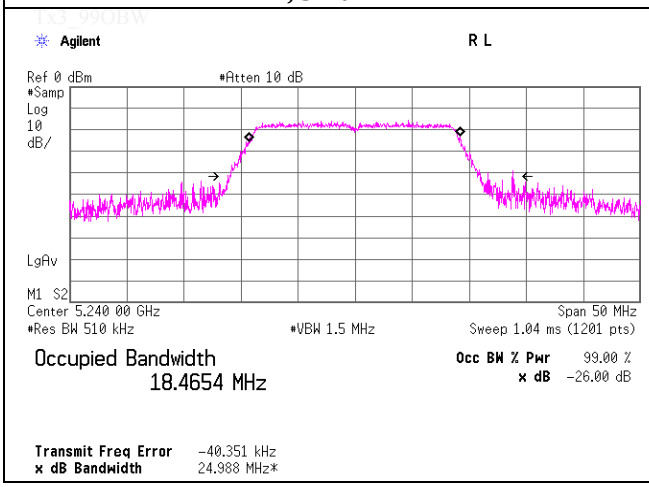
Tx, 5180MHz



Tx, 5220MHz



Tx, 5240MHz



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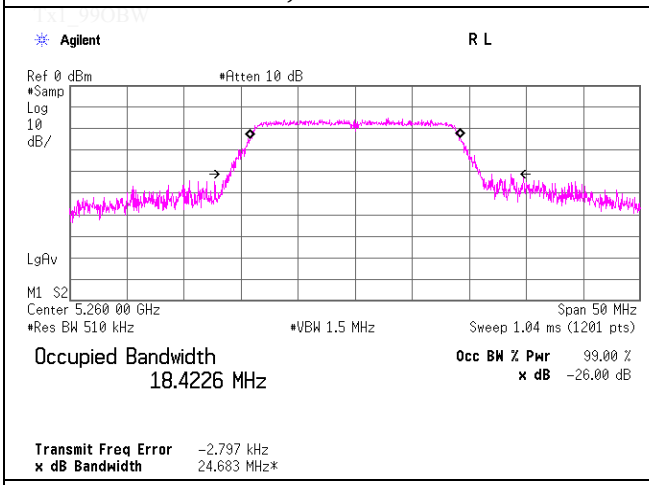
99% Occupied Bandwidth

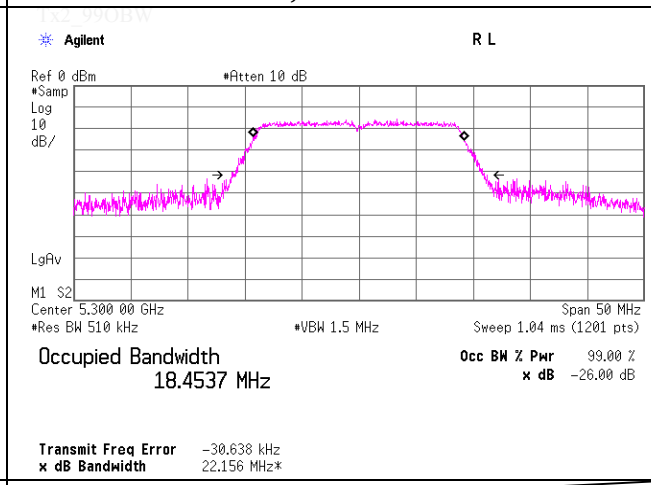
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 23, 2015	
Temperature / Humidity	24deg.C , 50%RH	
Engineer	Shinichi Takano	
Mode	Tx, IEEE802.11ac(VHT20), PN9, worst data mode 0(MCS)	

Freq. [MHz]	99% Occupied Bandwidth [MHz]
5260.0000	18.423
5300.0000	18.454
5320.0000	18.479

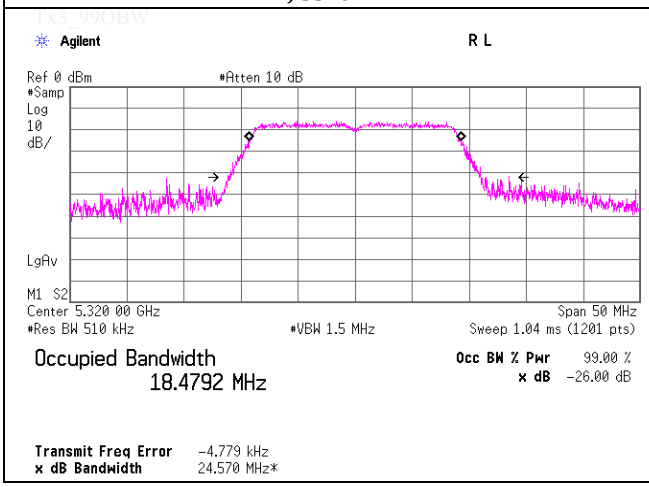
Tx, 5260MHz



Tx, 5300MHz



Tx, 5320MHz



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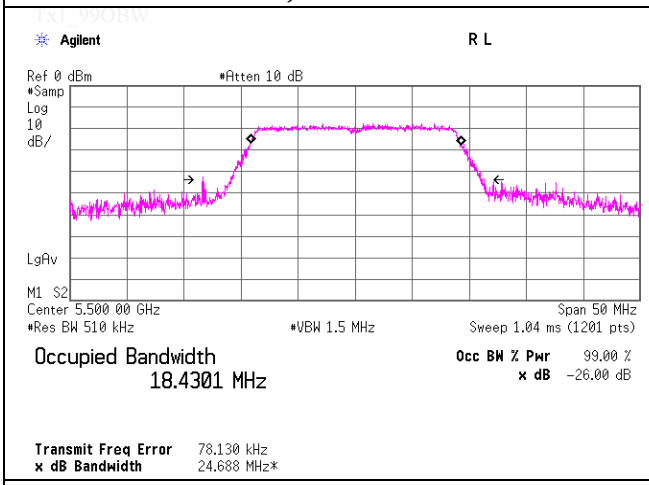
99% Occupied Bandwidth

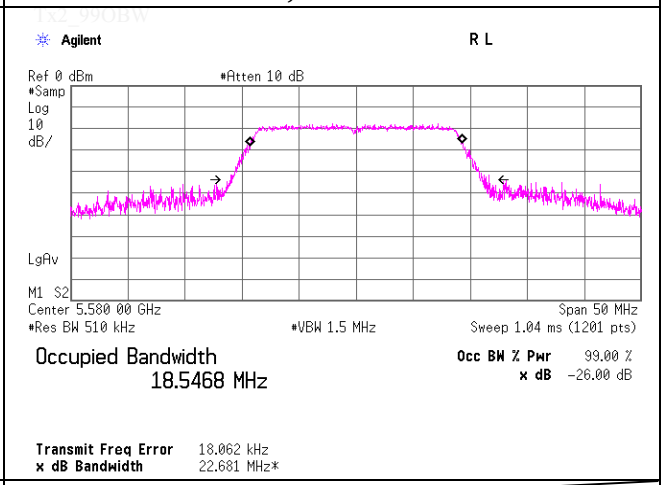
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 23, 2015	
Temperature / Humidity	24deg.C , 50%RH	
Engineer	Shinichi Takano	
Mode	Tx, IEEE802.11ac(VHT20), PN9, worst data mode 0(MCS)	

Freq. [MHz]	99% Occupied Bandwidth [MHz]
5500.0000	18.430
5580.0000	18.547
5700.0000	18.500

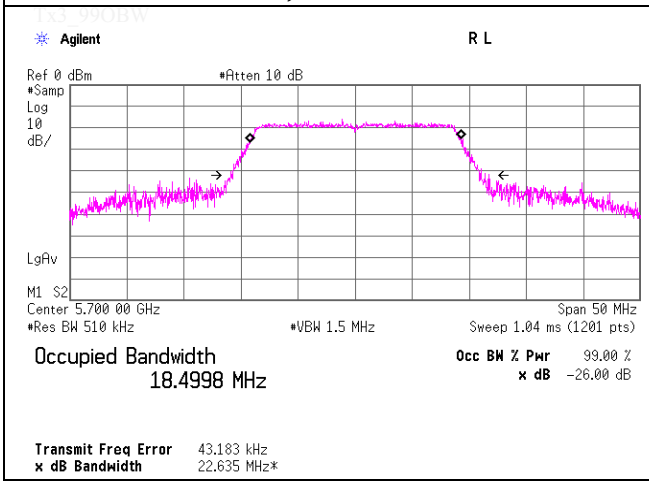
Tx, 5500MHz



Tx, 5580MHz



Tx, 5700MHz



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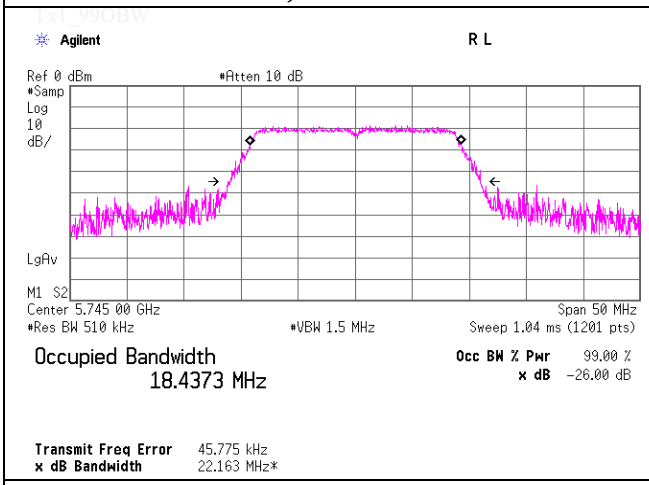
99% Occupied Bandwidth

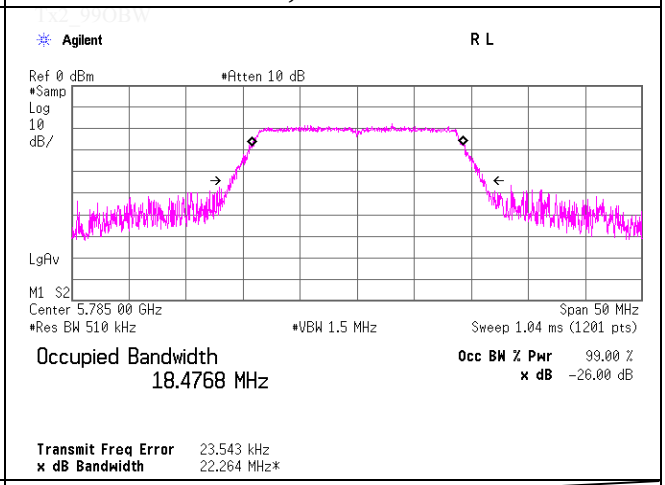
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 23, 2015	
Temperature / Humidity	24deg.C , 50%RH	
Engineer	Shinichi Takano	
Mode	Tx, IEEE802.11ac(VHT20), PN9, worst data mode 0(MCS)	

Freq. [MHz]	99% Occupied Bandwidth [MHz]
5745.0000	18.437
5785.0000	18.477
5825.0000	18.475

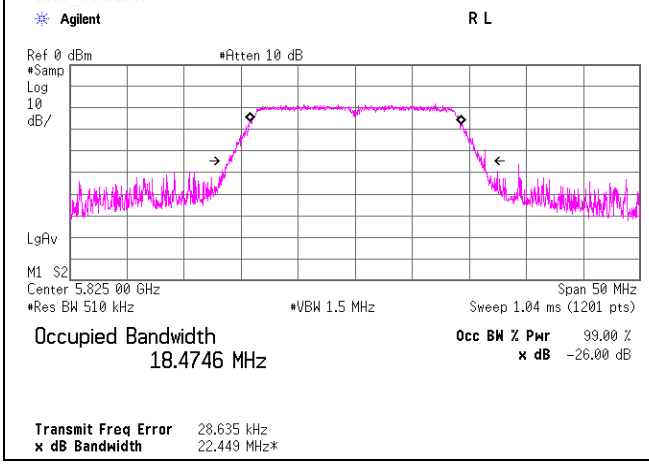
Tx, 5745MHz



Tx, 5785MHz



Tx, 5825MHz



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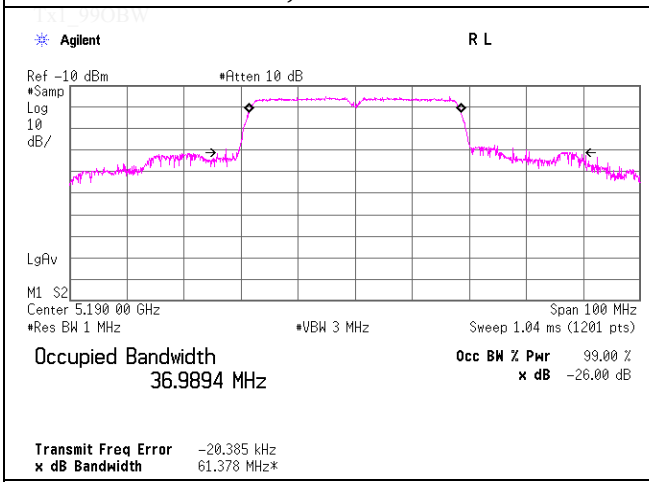
99% Occupied Bandwidth

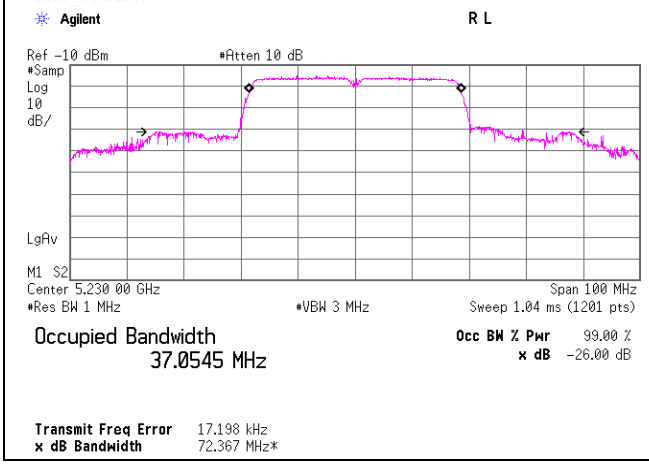
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 6, 2015	
Temperature / Humidity	25 deg.C , 52 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11n(HT40), PN9, worst data mode 0(MCS)	

Freq. [MHz]	99% Occupied Bandwidth [MHz]
5190.0000	36.989
5230.0000	37.055

Tx, 5190MHz



Tx, 5230MHz



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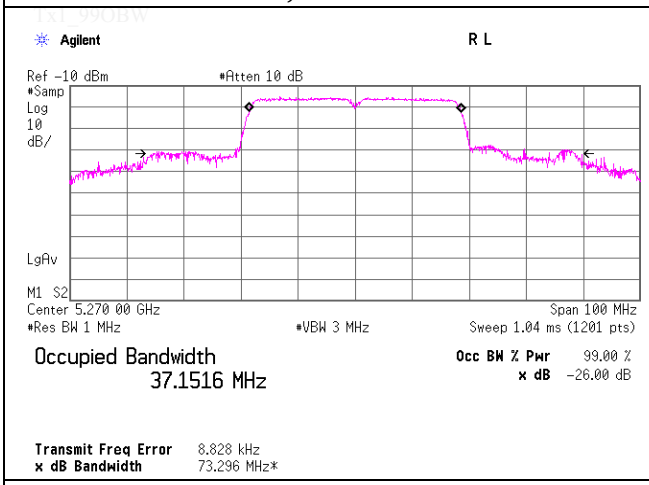
99% Occupied Bandwidth

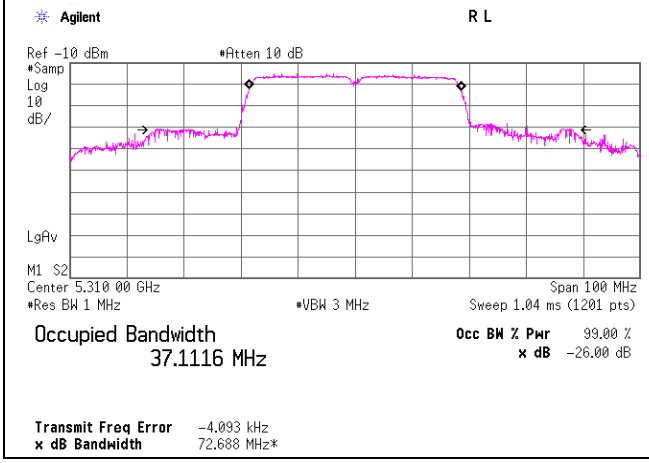
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 6, 2015	
Temperature / Humidity	25 deg.C , 52 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11n(HT40), PN9, worst data mode 0(MCS)	

Freq. [MHz]	99% Occupied Bandwidth [MHz]
5270.0000	37.152
5310.0000	37.112

Tx, 5270MHz



Tx, 5310MHz



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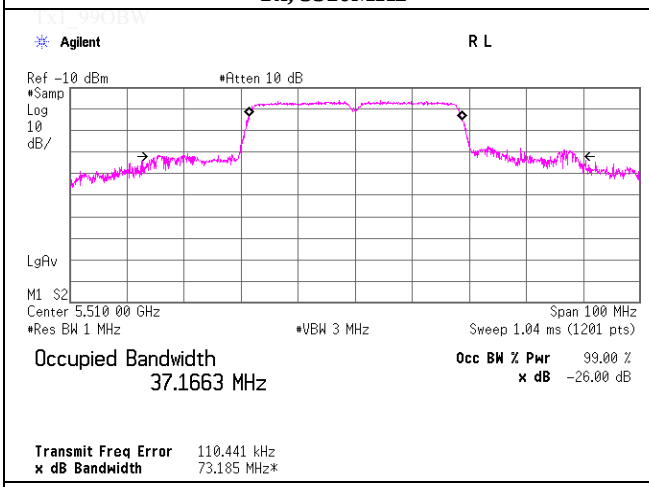
99% Occupied Bandwidth

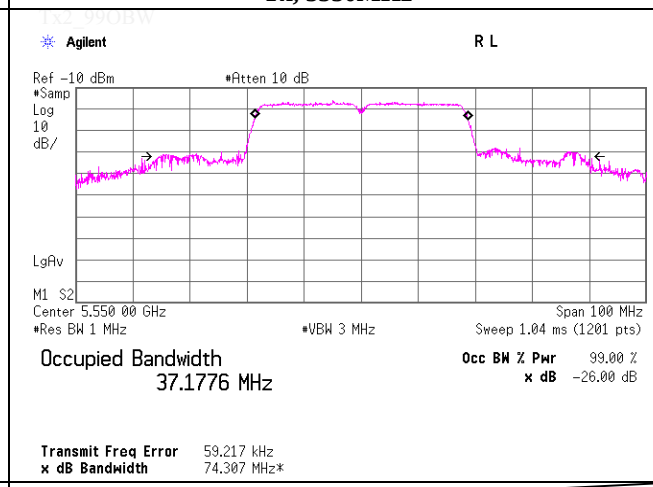
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 7, 2015	
Temperature / Humidity	23 deg.C , 50 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11n(HT40), PN9, worst data mode 0(MCS)	

Freq. [MHz]	99% Occupied Bandwidth [MHz]
5510.0000	37.166
5550.0000	37.178
5670.0000	37.168

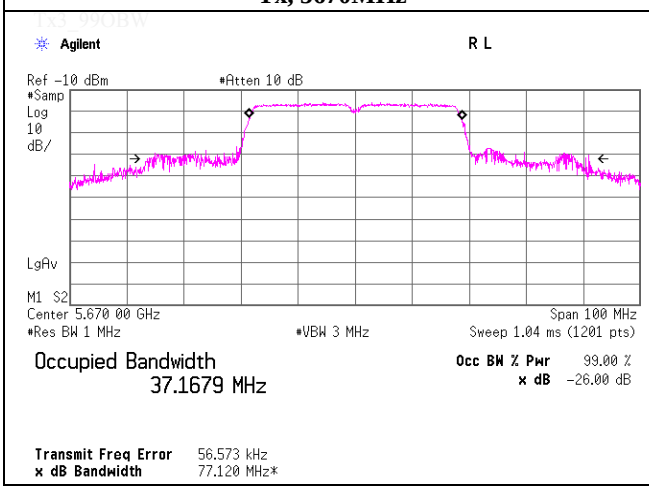
Tx, 5510MHz



Tx, 5550MHz



Tx, 5670MHz



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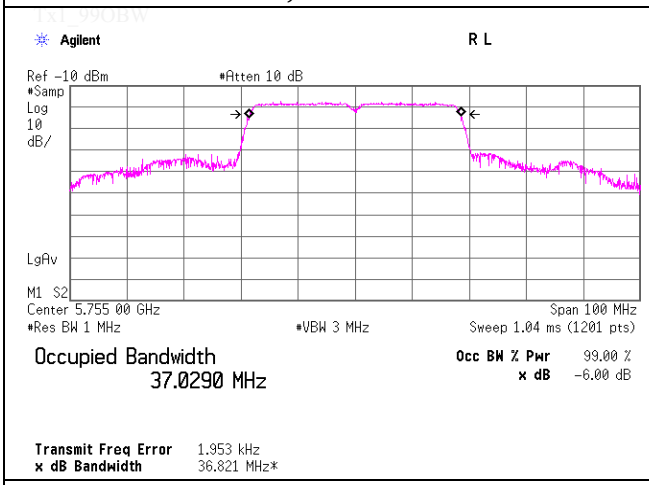
99% Occupied Bandwidth

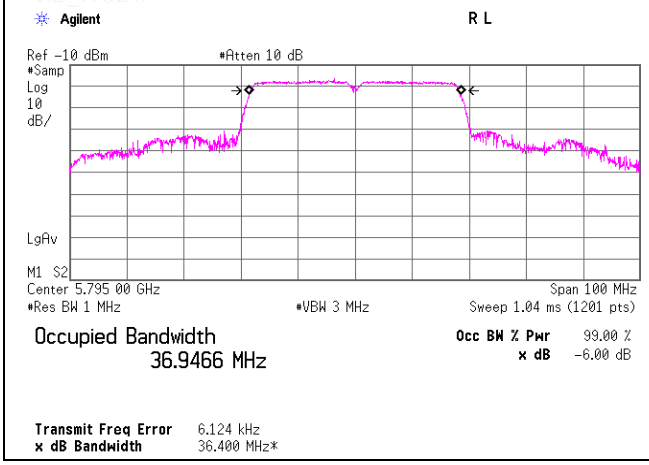
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 7, 2015	
Temperature / Humidity	23 deg.C , 50 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11n(HT40), PN9, worst data mode 0(MCS)	

Freq. [MHz]	99% Occupied Bandwidth [MHz]
5755.0000	37.029
5795.0000	36.947

Tx, 5755MHz



Tx, 5795MHz



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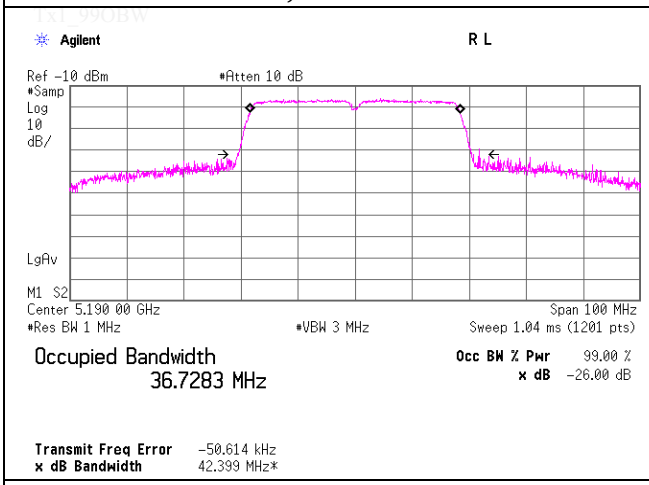
99% Occupied Bandwidth

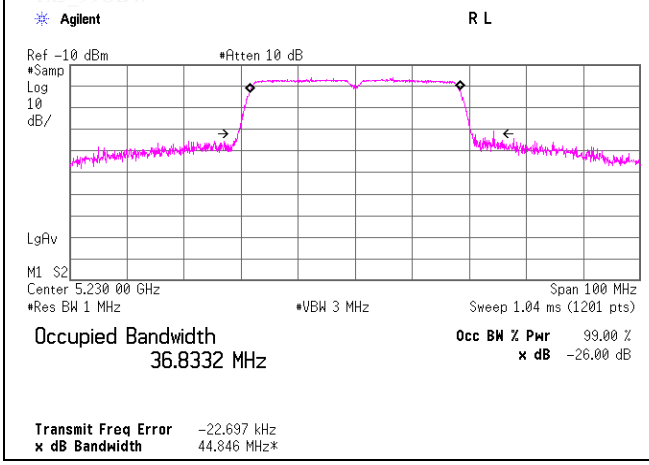
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 6, 2015	
Temperature / Humidity	25 deg.C , 52 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11ac(VHT40), PN9, worst data mode 0(MCS)	

Freq. [MHz]	99% Occupied Bandwidth [MHz]
5190.0000	36.728
5230.0000	36.833

Tx, 5190MHz



Tx, 5230MHz



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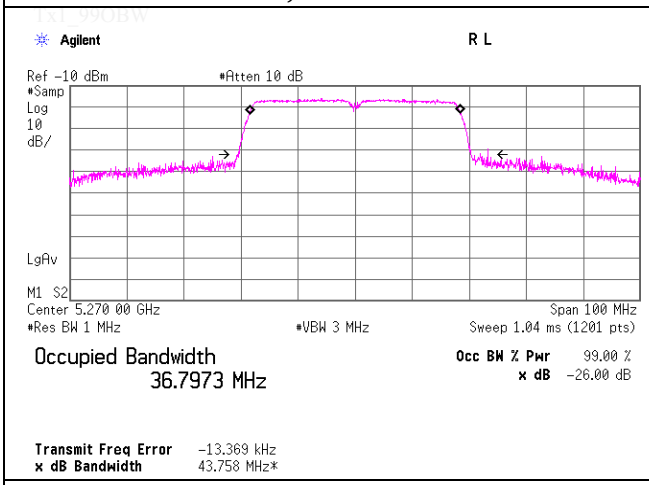
99% Occupied Bandwidth

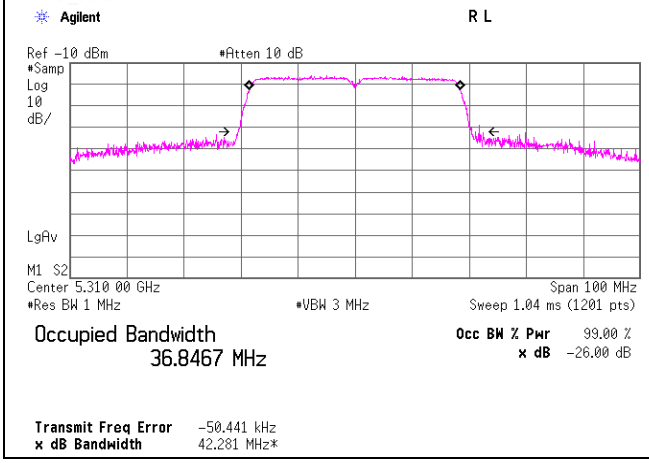
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 6, 2015	
Temperature / Humidity	25 deg.C , 52 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11ac(VHT40), PN9, worst data mode 0(MCS)	

Freq. [MHz]	99% Occupied Bandwidth [MHz]
5270.0000	36.797
5310.0000	36.847

Tx, 5270MHz



Tx, 5310MHz



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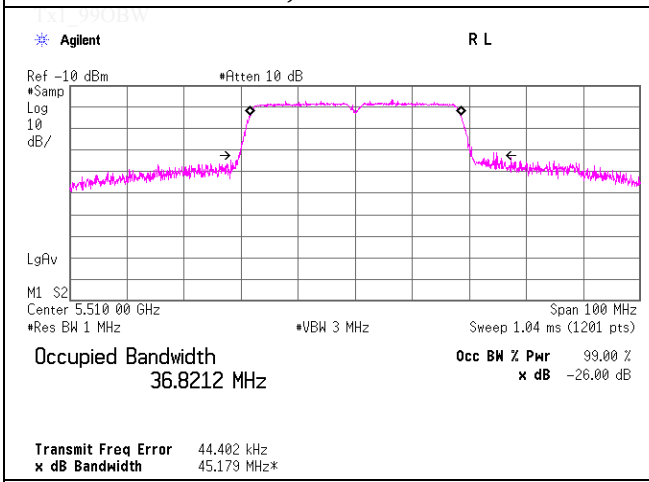
99% Occupied Bandwidth

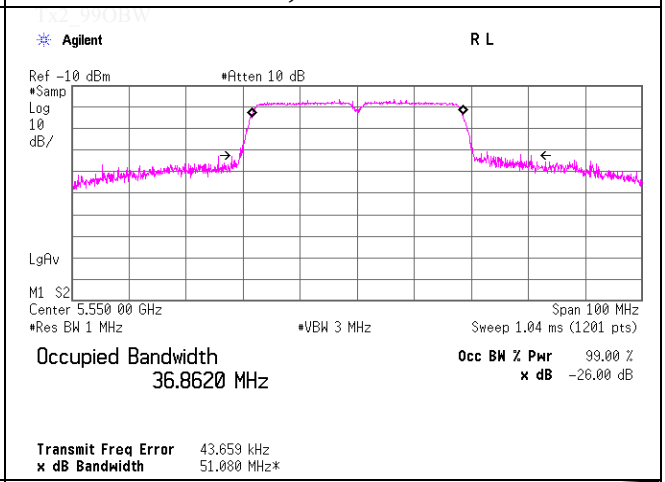
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 7, 2015	
Temperature / Humidity	23 deg.C , 50 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11ac(VHT40), PN9, worst data mode 0(MCS)	

Freq. [MHz]	99% Occupied Bandwidth [MHz]
5510.0000	36.821
5550.0000	36.862
5670.0000	36.837

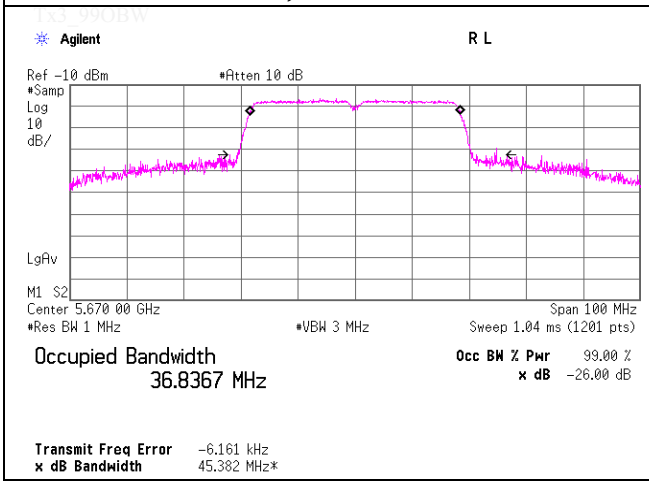
Tx, 5510MHz



Tx, 5550MHz



Tx, 5670MHz



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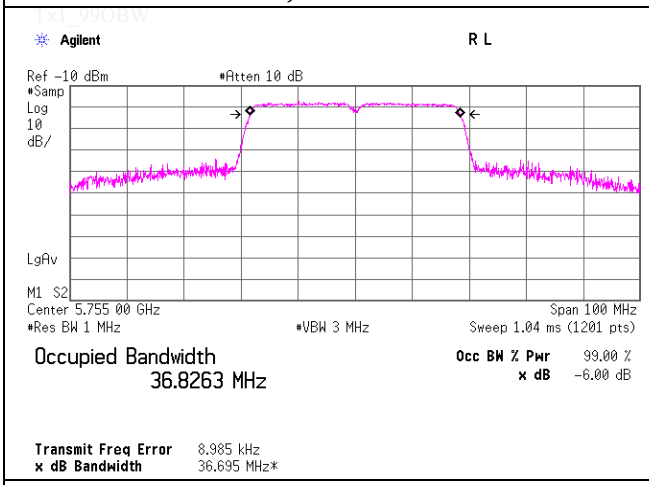
99% Occupied Bandwidth

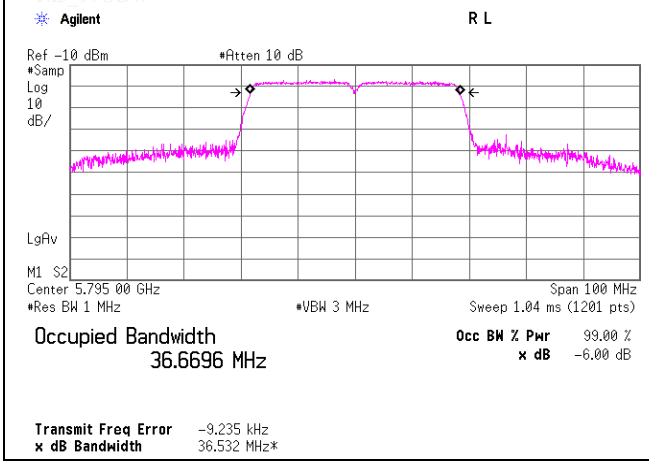
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 7, 2015	
Temperature / Humidity	23 deg.C , 50 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11ac(VHT40), PN9, worst data mode 0(MCS)	

Freq. [MHz]	99% Occupied Bandwidth [MHz]
5755.0000	36.826
5795.0000	36.670

Tx, 5755MHz



Tx, 5795MHz



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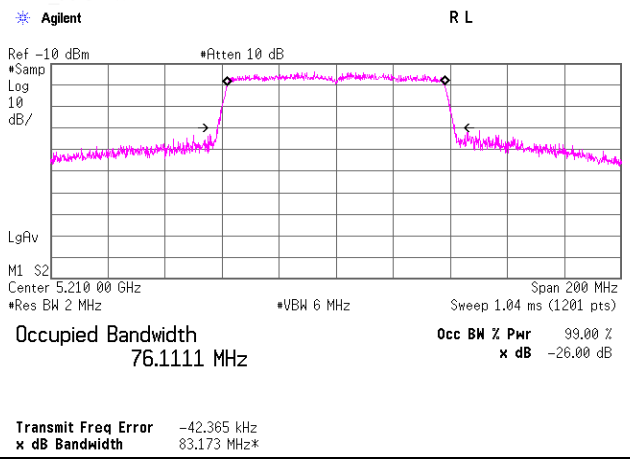
99% Occupied Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 6, 2015	
Temperature / Humidity	25 deg.C , 52 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11ac(VHT80), PN9, worst data mode 0(MCS)	

Freq. [MHz]	99% Occupied Bandwidth [MHz]
5210.0000	76.111

Tx, 5210MHz



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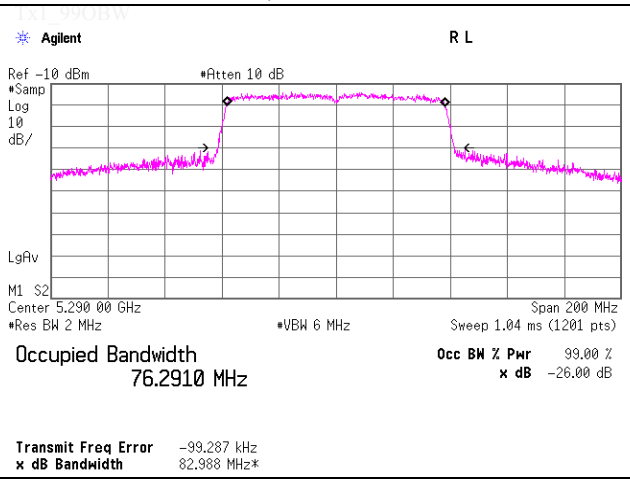
99% Occupied Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 6, 2015	
Temperature / Humidity	25 deg.C , 52 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11ac(VHT80), PN9, worst data mode 0(MCS)	

Freq. [MHz]	99% Occupied Bandwidth [MHz]
5290.0000	76.291

Tx, 5290MHz



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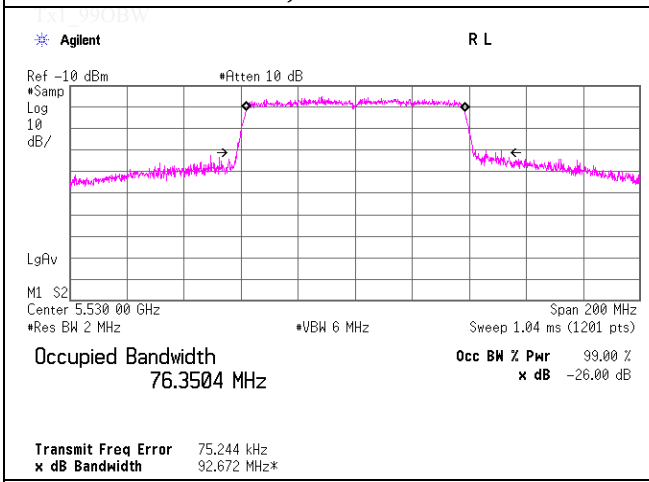
99% Occupied Bandwidth

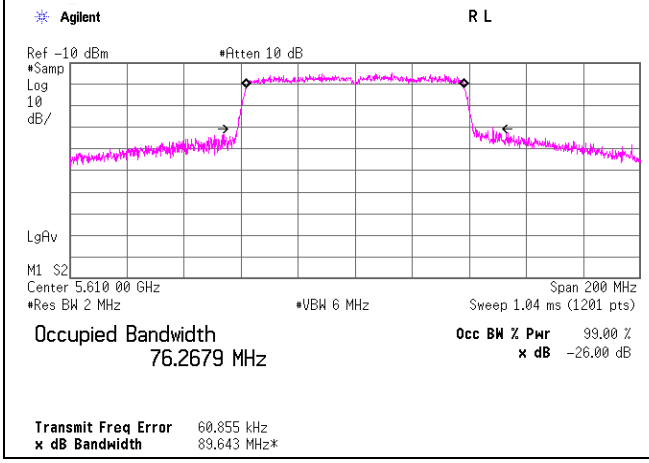
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 7, 2015	
Temperature / Humidity	23 deg.C , 50 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11ac(VHT80), PN9, worst data mode 0(MCS)	

Freq. [MHz]	99% Occupied Bandwidth [MHz]
5530.0000	76.350
5610.0000	76.268

Tx, 5530MHz



Tx, 5610MHz



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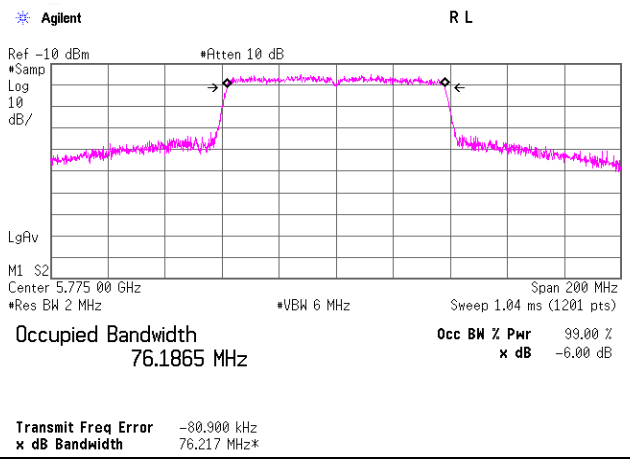
99% Occupied Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 7, 2015	
Temperature / Humidity	23 deg.C , 50 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11ac(VHT80), PN9, worst data mode 0(MCS)	

Freq. [MHz]	99% Occupied Bandwidth [MHz]
5775.0000	76.187

Tx, 5775MHz

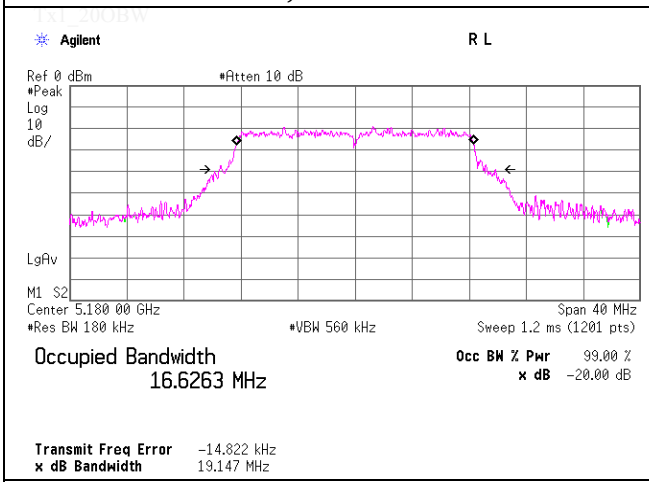


-20dB Bandwidth

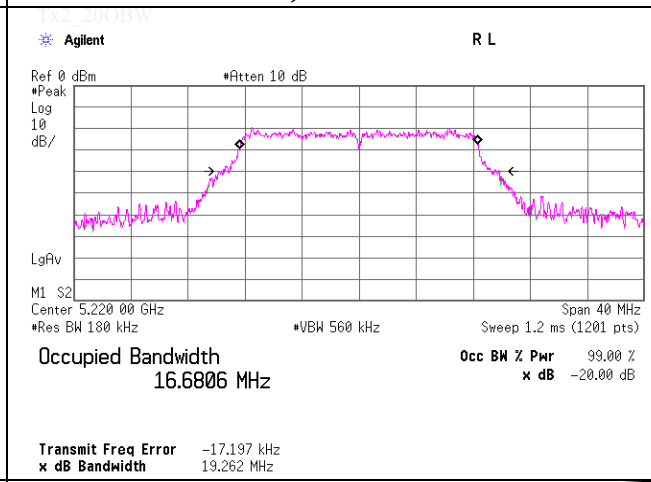
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 6, 2015	
Temperature / Humidity	25 deg.C , 52 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11a, PN9, worst data mode 6Mbps	

Freq. [MHz]	-20dB Bandwidth [MHz]
5180.0000	19.147
5220.0000	19.262
5240.0000	18.726

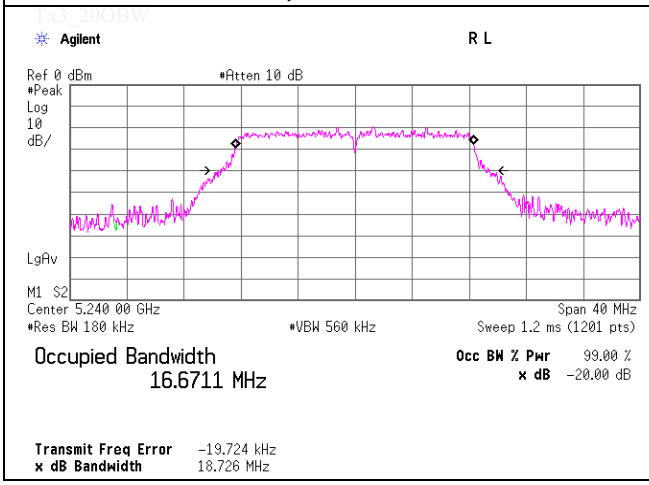
Tx, 5180MHz



Tx, 5220MHz



Tx, 5240MHz



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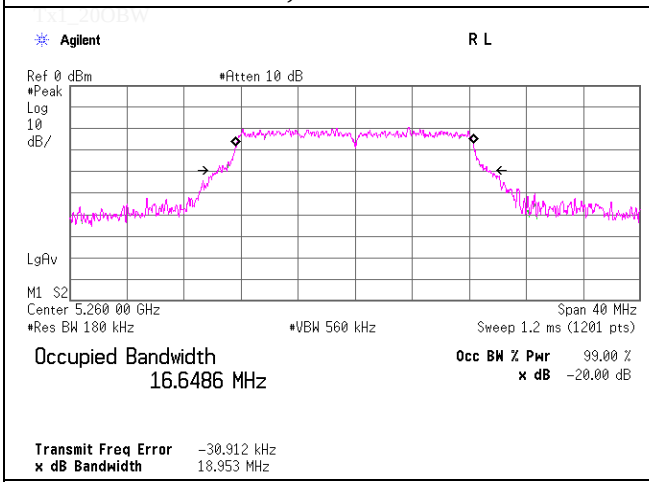
-20dB Bandwidth

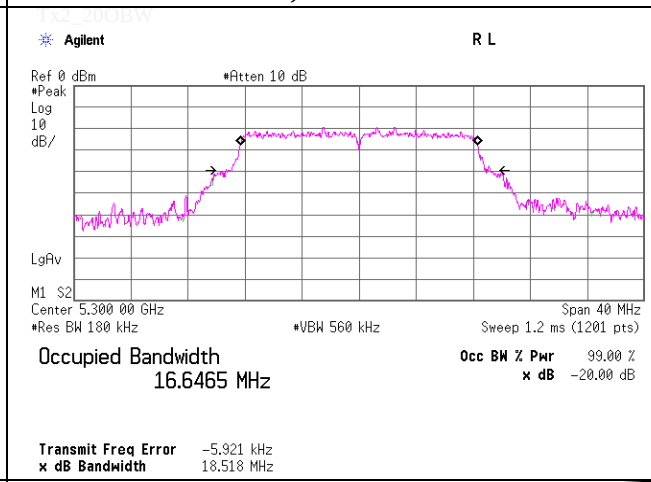
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 6, 2015	
Temperature / Humidity	25 deg.C , 52 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11a, PN9, worst data mode 6Mbps	

Freq. [MHz]	-20dB Bandwidth [MHz]
5260.0000	18.953
5300.0000	18.518
5320.0000	19.463

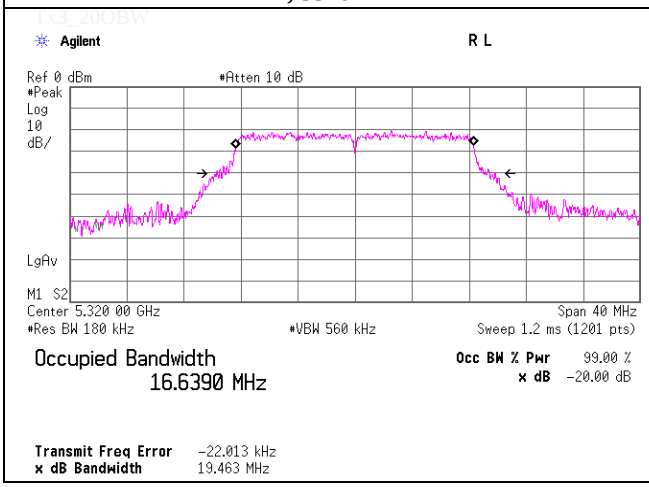
Tx, 5260MHz



Tx, 5300MHz



Tx, 5320MHz



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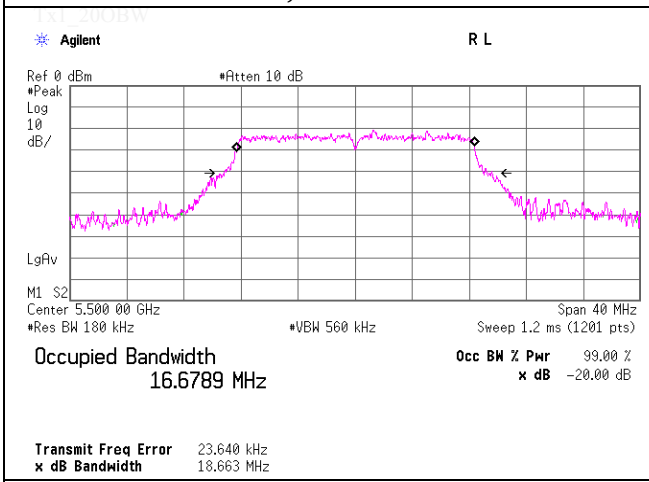
-20dB Bandwidth

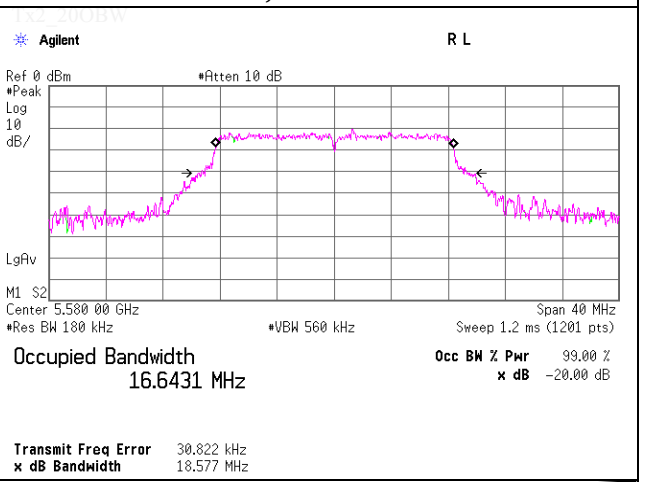
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 7, 2015	
Temperature / Humidity	23 deg.C , 50 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11a, PN9, worst data mode 6Mbps	

Freq. [MHz]	-20dB Bandwidth [MHz]
5500.0000	18.663
5580.0000	18.577
5700.0000	18.976

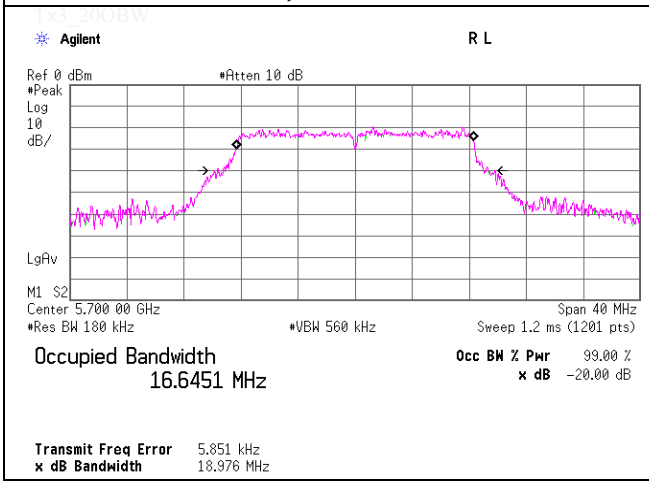
Tx, 5500MHz



Tx, 5580MHz



Tx, 5700MHz



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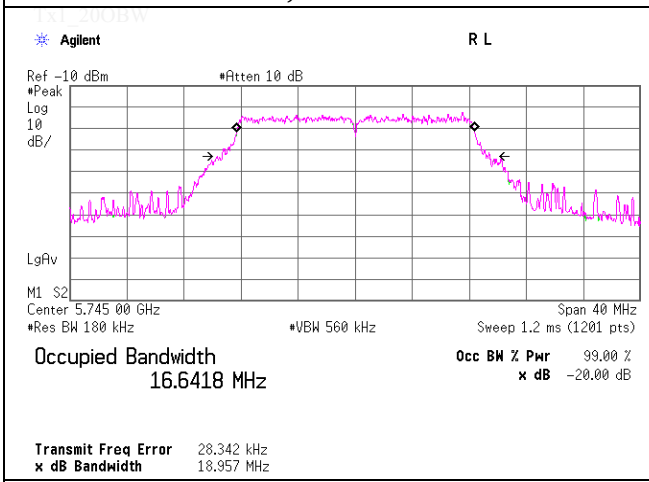
-20dB Bandwidth

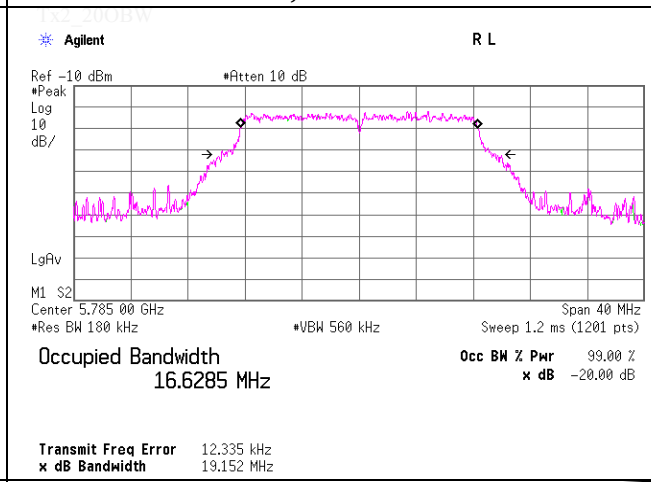
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 7, 2015	
Temperature / Humidity	23 deg.C , 50 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11a, PN9, worst data mode 6Mbps	

Freq. [MHz]	-20dB Bandwidth [MHz]
5745.0000	18.957
5785.0000	19.152
5825.0000	19.590

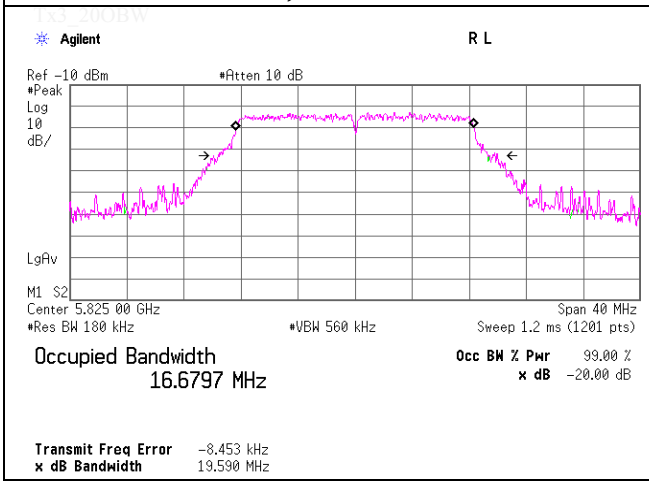
Tx, 5745MHz



Tx, 5785MHz



Tx, 5825MHz



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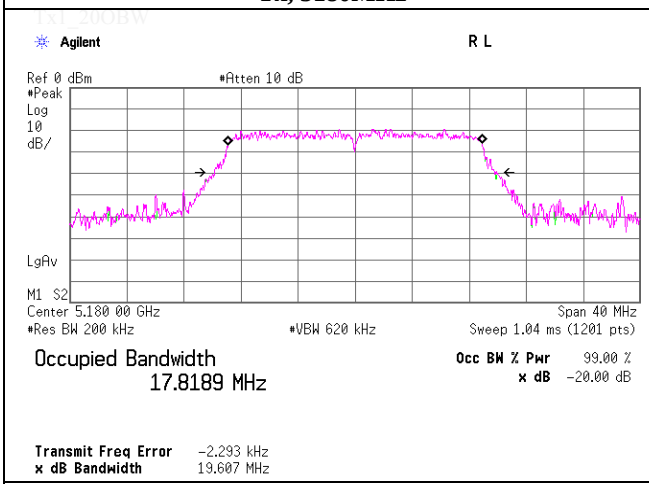
-20dB Bandwidth

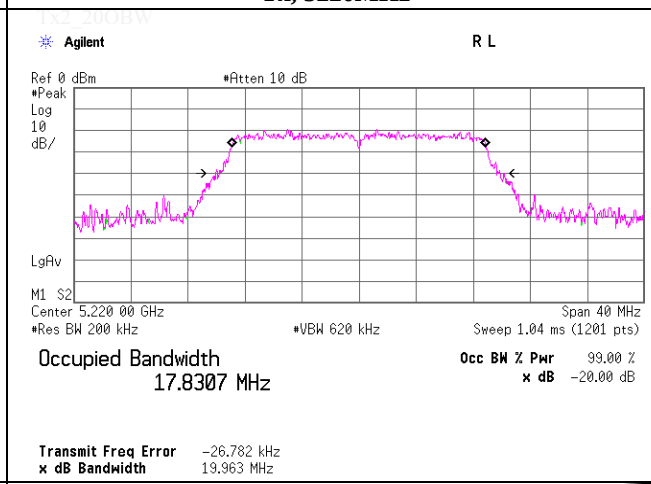
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 6, 2015	
Temperature / Humidity	25 deg.C , 52 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11n(HT20), PN9, worst data mode 0(MCS)	

Freq. [MHz]	-20dB Bandwidth [MHz]
5180.0000	19.607
5220.0000	19.963
5240.0000	19.857

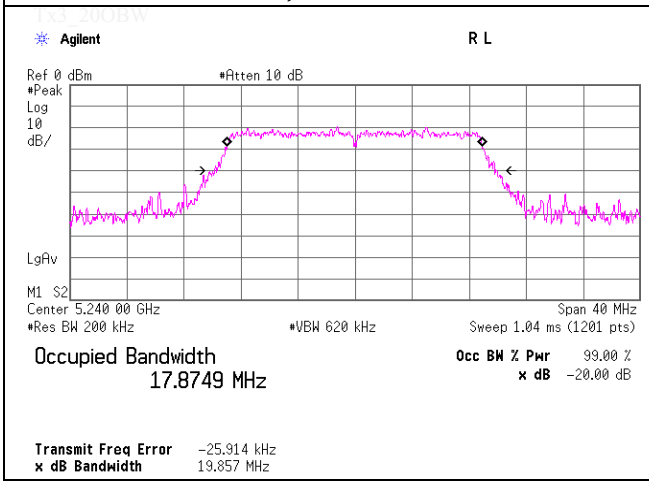
Tx, 5180MHz



Tx, 5220MHz



Tx, 5240MHz



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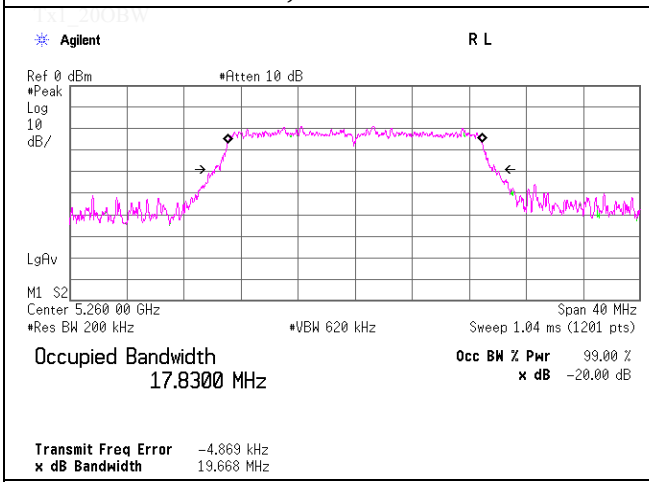
-20dB Bandwidth

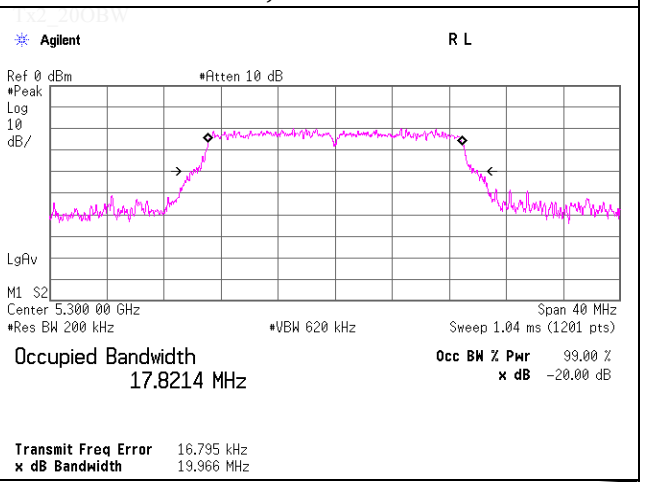
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 6, 2015	
Temperature / Humidity	25 deg.C , 52 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11n(HT20), PN9, worst data mode 0(MCS)	

Freq. [MHz]	-20dB Bandwidth [MHz]
5260.0000	19.668
5300.0000	19.966
5320.0000	19.855

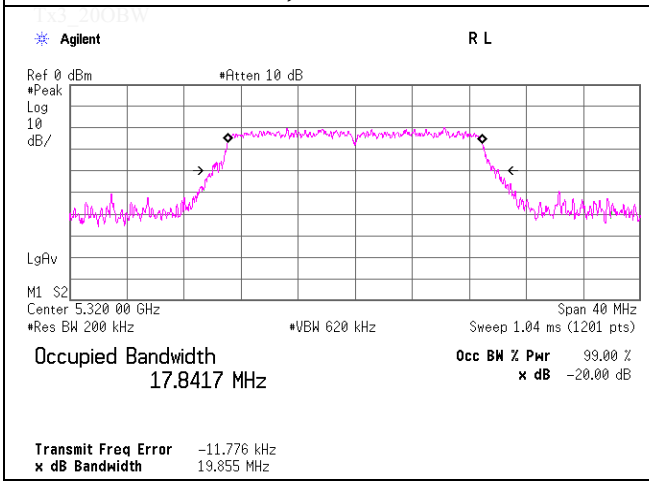
Tx, 5260MHz



Tx, 5300MHz



Tx, 5320MHz



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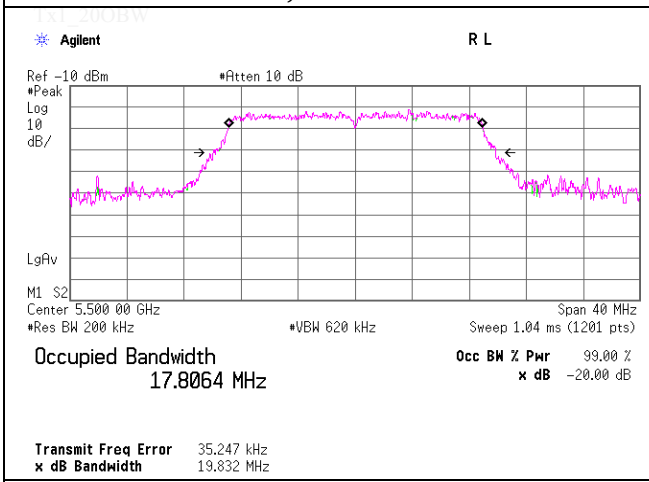
-20dB Bandwidth

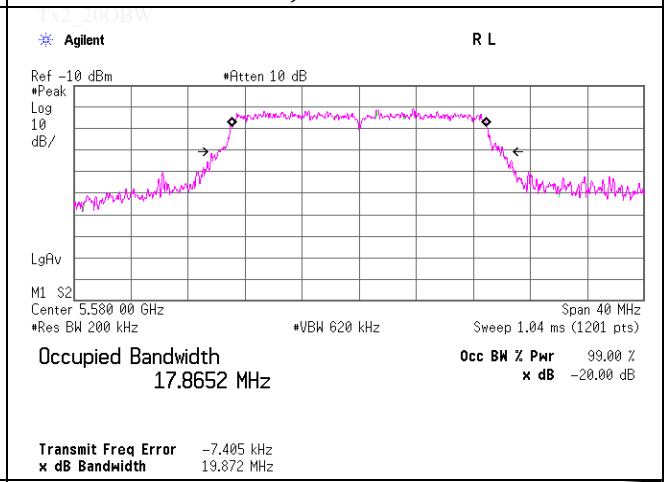
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 7, 2015	
Temperature / Humidity	23 deg.C , 50 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11n(HT20), PN9, worst data mode 0(MCS)	

Freq. [MHz]	-20dB Bandwidth [MHz]
5500.0000	19.832
5580.0000	19.872
5700.0000	19.874

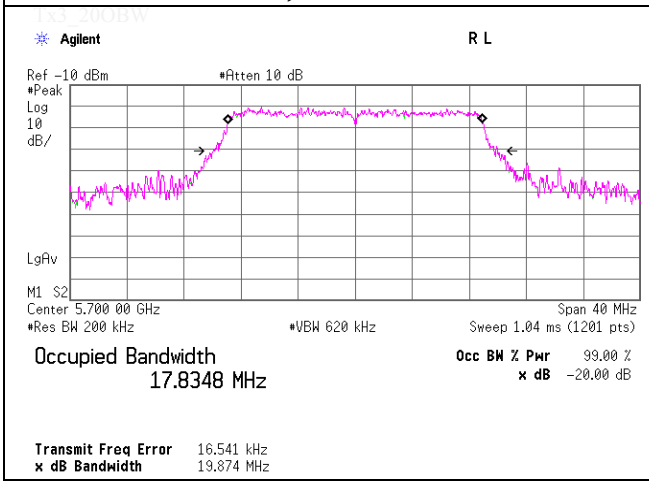
Tx, 5500MHz



Tx, 5580MHz



Tx, 5700MHz



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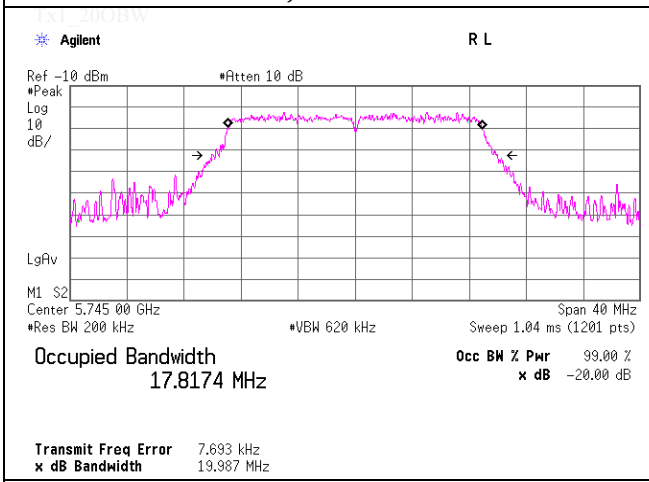
-20dB Bandwidth

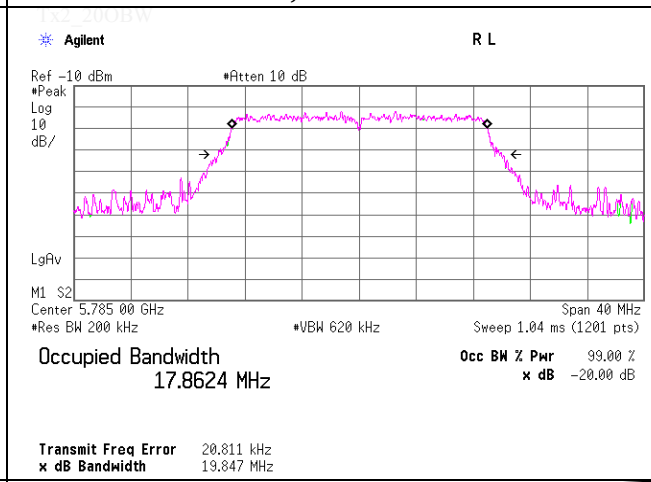
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 7, 2015	
Temperature / Humidity	23 deg.C , 50 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11n(HT20), PN9, worst data mode 0(MCS)	

Freq. [MHz]	-20dB Bandwidth [MHz]
5745.0000	19.987
5785.0000	19.847
5825.0000	19.817

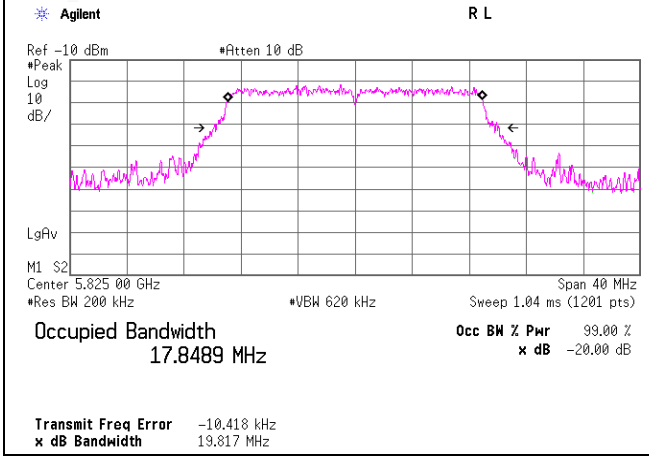
Tx, 5745MHz



Tx, 5785MHz



Tx, 5825MHz



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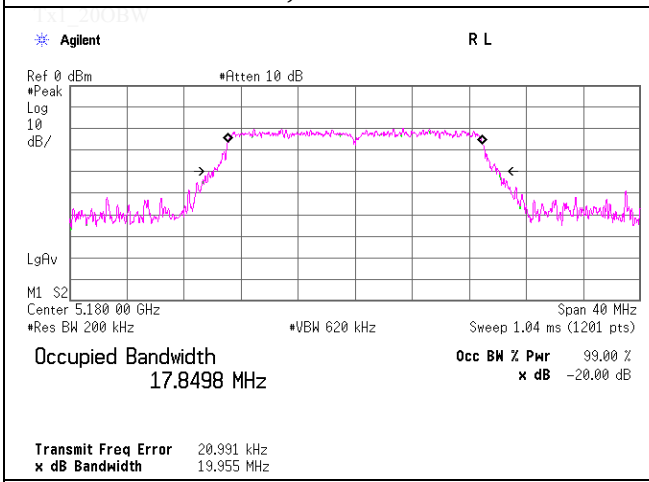
-20dB Bandwidth

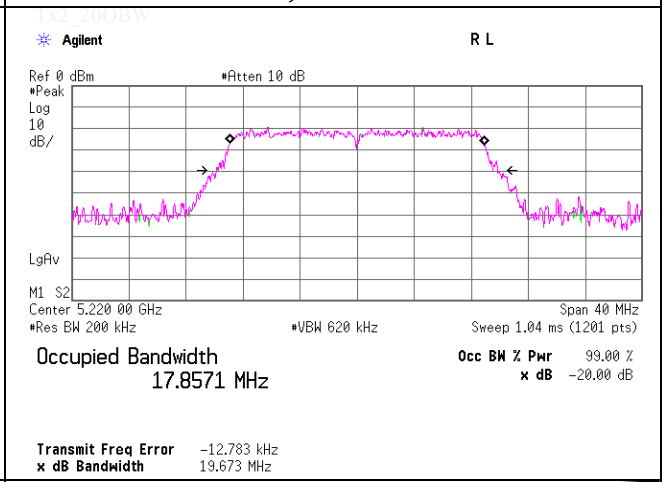
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 23, 2015	
Temperature / Humidity	24deg.C , 50%RH	
Engineer	Shinichi Takano	
Mode	Tx, IEEE802.11ac(VHT20), PN9, worst data mode 0(MCS)	

Freq. [MHz]	-20dB Bandwidth [MHz]
5180.0000	19.955
5220.0000	19.673
5240.0000	19.991

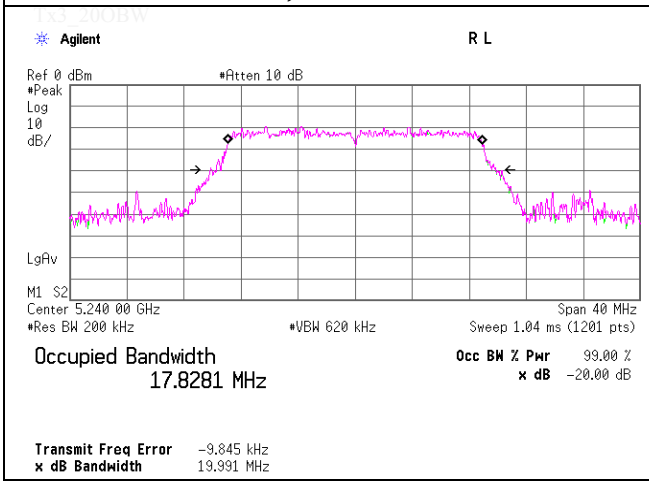
Tx, 5180MHz



Tx, 5220MHz



Tx, 5240MHz



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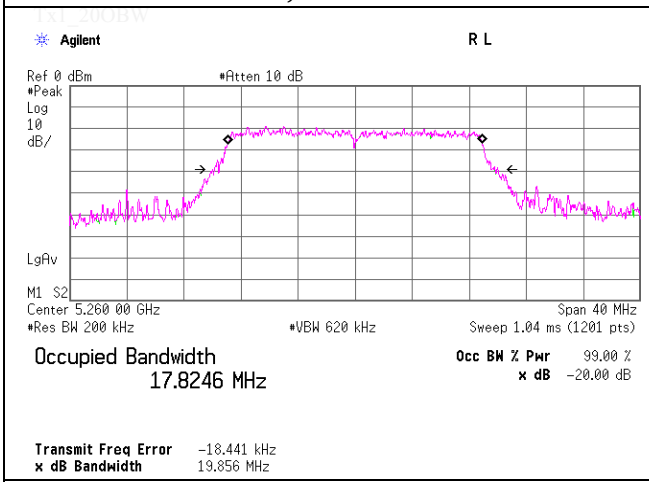
-20dB Bandwidth

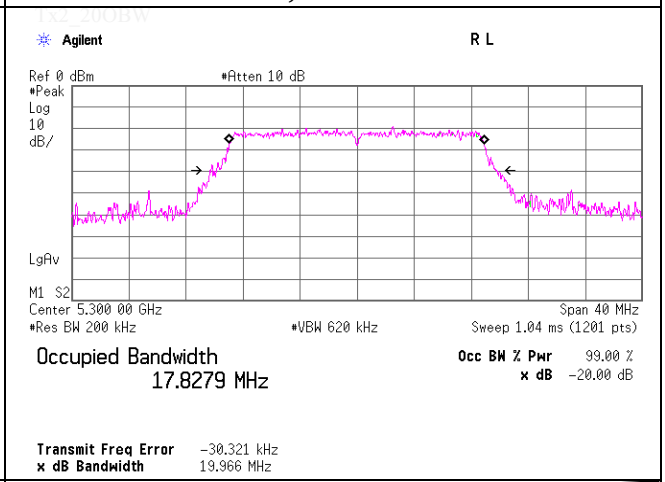
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 23, 2015	
Temperature / Humidity	24deg.C , 50%RH	
Engineer	Shinichi Takano	
Mode	Tx, IEEE802.11ac(VHT20), PN9, worst data mode 0(MCS)	

Freq. [MHz]	-20dB Bandwidth [MHz]
5260.0000	19.856
5300.0000	19.966
5320.0000	19.417

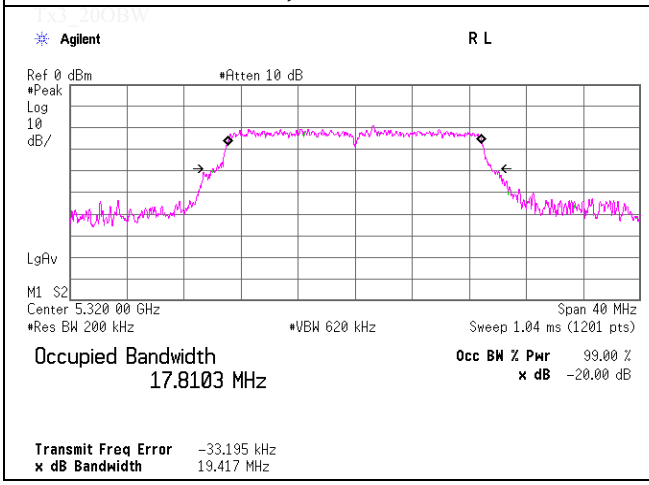
Tx, 5260MHz



Tx, 5300MHz



Tx, 5320MHz



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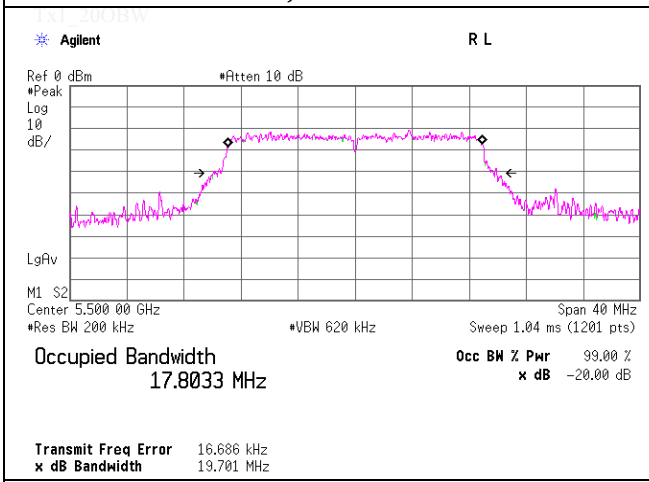
-20dB Bandwidth

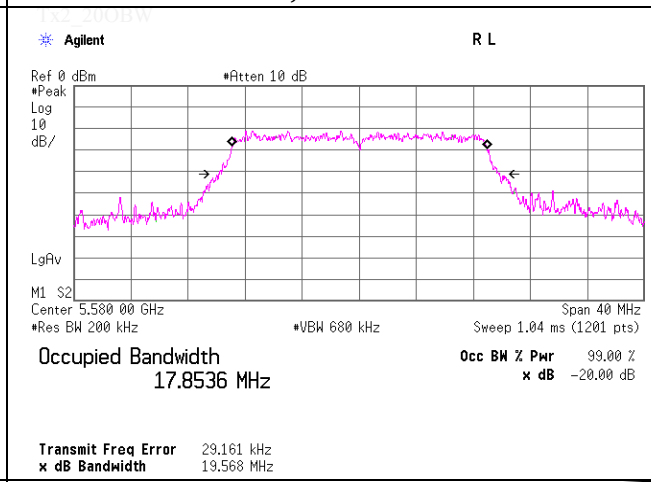
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 23, 2015	
Temperature / Humidity	24deg.C , 50%RH	
Engineer	Shinichi Takano	
Mode	Tx, IEEE802.11ac(VHT20), PN9, worst data mode 0(MCS)	

Freq. [MHz]	-20dB Bandwidth [MHz]
5500.0000	19.701
5580.0000	19.568
5700.0000	19.570

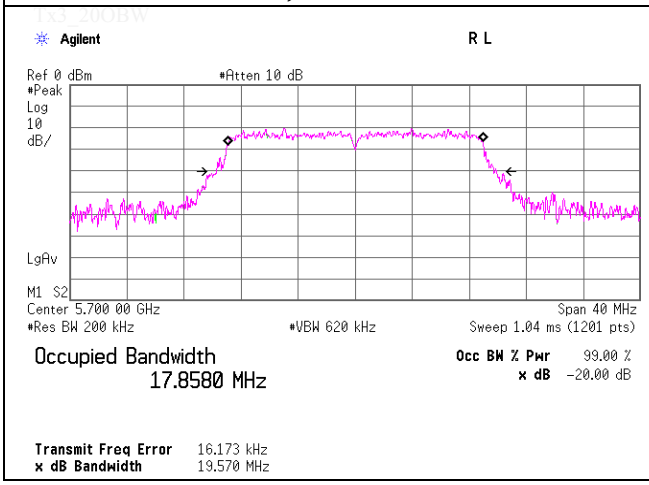
Tx, 5500MHz



Tx, 5580MHz



Tx, 5700MHz



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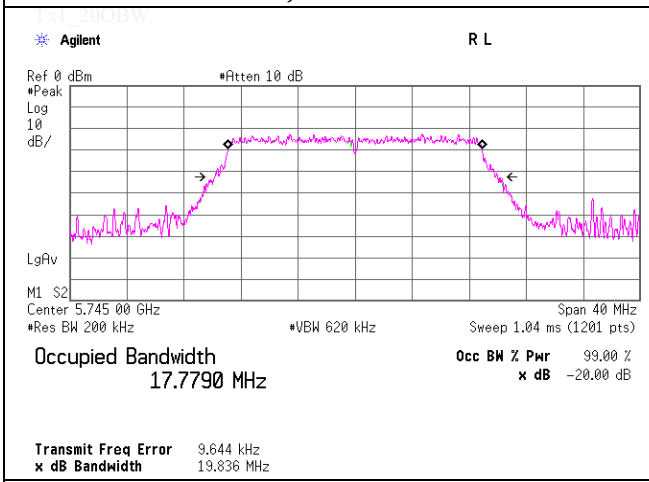
-20dB Bandwidth

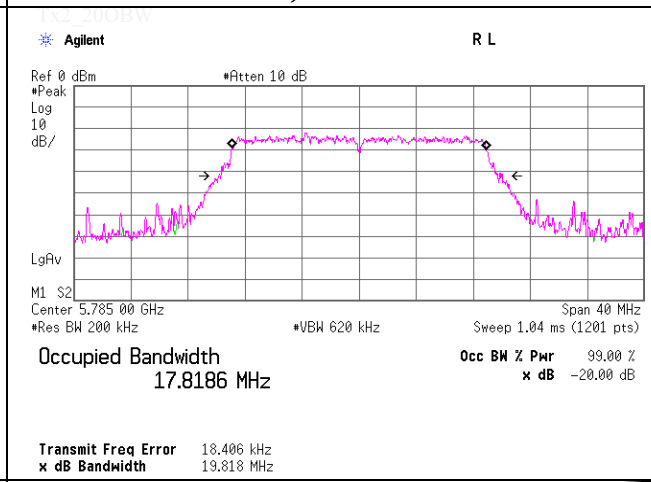
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 23, 2015	
Temperature / Humidity	24deg.C , 50%RH	
Engineer	Shinichi Takano	
Mode	Tx, IEEE802.11ac(VHT20), PN9, worst data mode 0(MCS)	

Freq. [MHz]	-20dB Bandwidth [MHz]
5745.0000	19.836
5785.0000	19.818
5825.0000	19.641

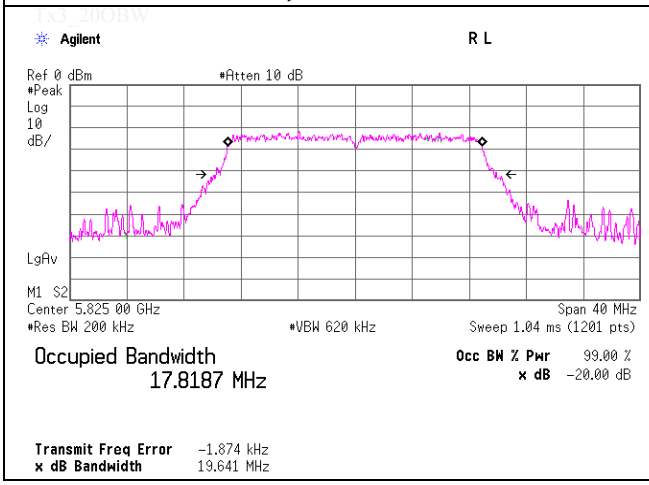
Tx, 5745MHz



Tx, 5785MHz



Tx, 5825MHz



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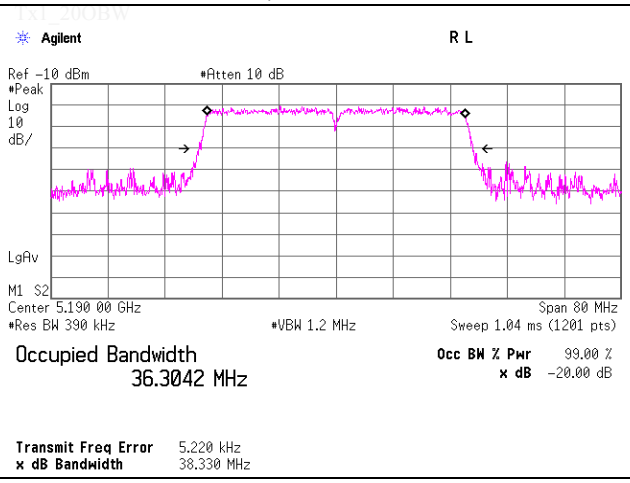
-20dB Bandwidth

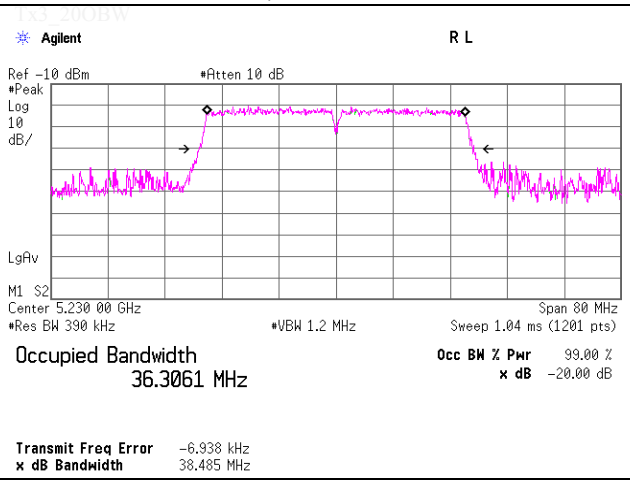
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 6, 2015	
Temperature / Humidity	25 deg.C , 52 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11n(HT40), PN9, worst data mode 0(MCS)	

Freq. [MHz]	-20dB Bandwidth [MHz]
5190.0000	38.330
5230.0000	38.485

Tx, 5190MHz



Tx, 5230MHz



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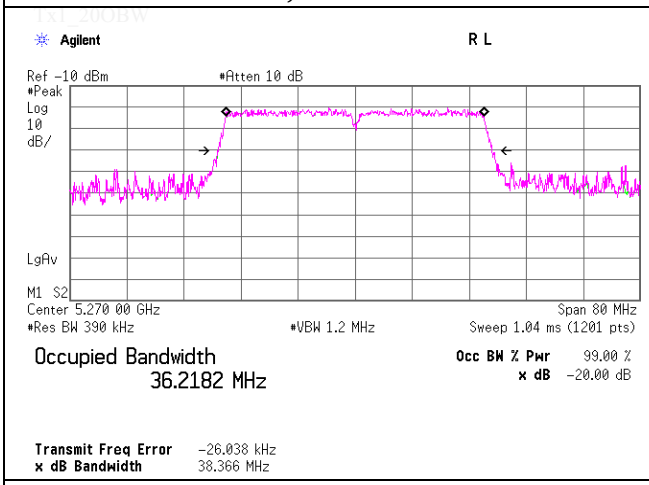
-20dB Bandwidth

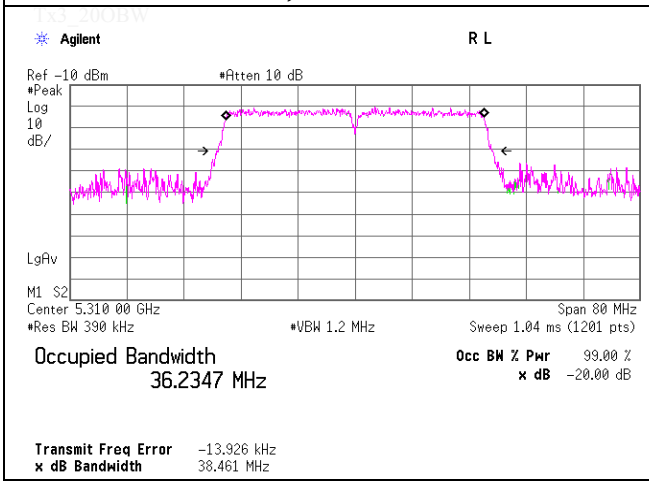
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 6, 2015	
Temperature / Humidity	25 deg.C , 52 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11n(HT40), PN9, worst data mode 0(MCS)	

Freq. [MHz]	-20dB Bandwidth [MHz]
5270.0000	38.366
5310.0000	38.461

Tx, 5270MHz



Tx, 5310MHz



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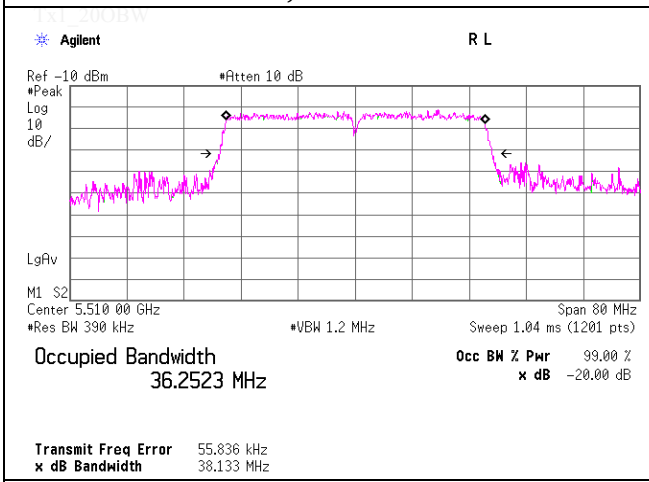
-20dB Bandwidth

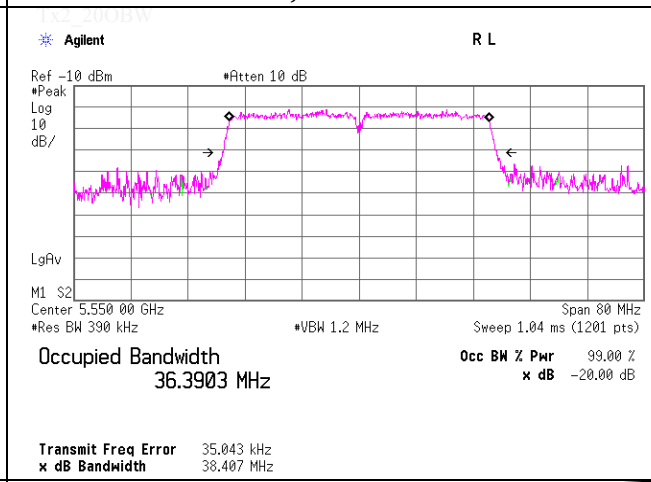
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 7, 2015	
Temperature / Humidity	23 deg.C , 50 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11n(HT40), PN9, worst data mode 0(MCS)	

Freq. [MHz]	-20dB Bandwidth [MHz]
5510.0000	38.133
5550.0000	38.407
5670.0000	38.355

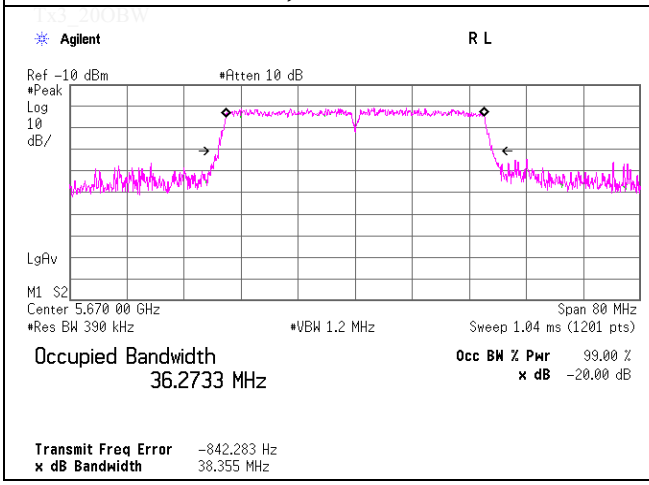
Tx, 5510MHz



Tx, 5550MHz



Tx, 5670MHz



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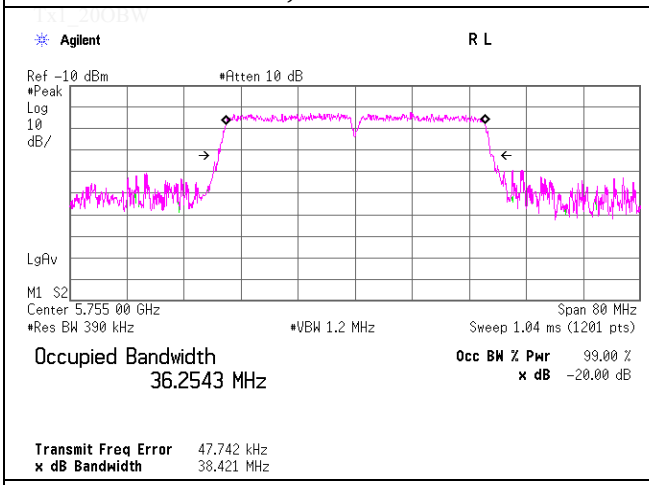
-20dB Bandwidth

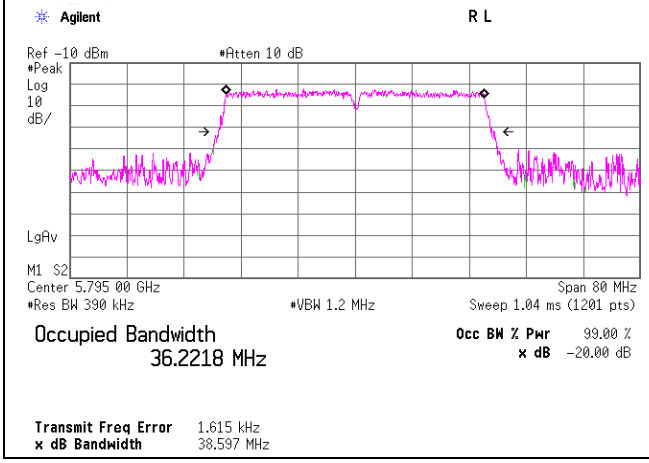
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 7, 2015	
Temperature / Humidity	23 deg.C , 50 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11n(HT40), PN9, worst data mode 0(MCS)	

Freq. [MHz]	-20dB Bandwidth [MHz]
5755.0000	38.421
5795.0000	38.597

Tx, 5755MHz



Tx, 5795MHz



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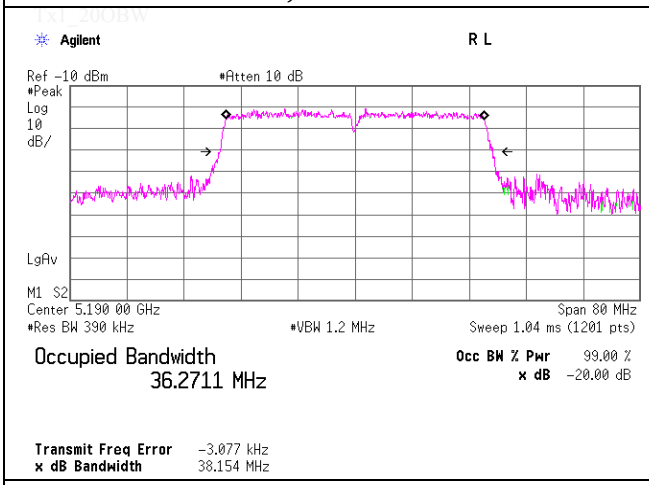
-20dB Bandwidth

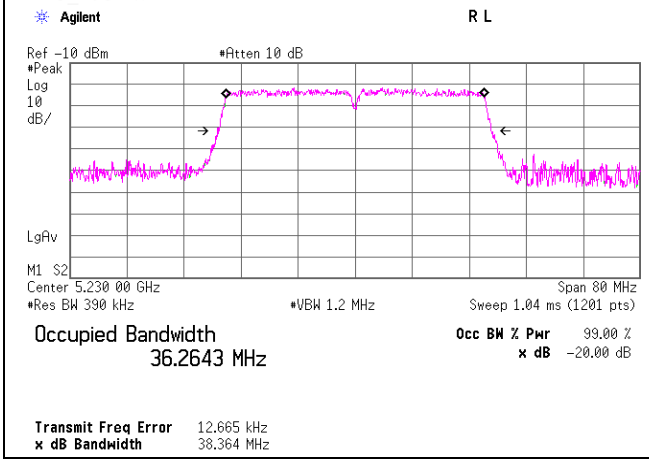
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 6, 2015	
Temperature / Humidity	25 deg.C , 52 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11ac(VHT40), PN9, worst data mode 0(MCS)	

Freq. [MHz]	-20dB Bandwidth [MHz]
5190.0000	38.154
5230.0000	38.364

Tx, 5190MHz



Tx, 5230MHz



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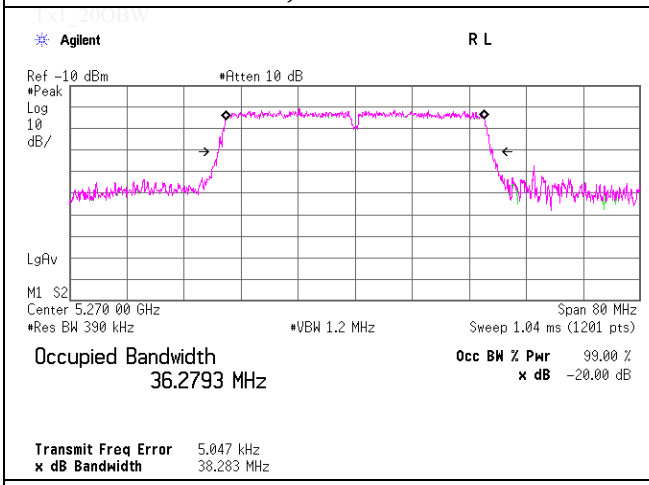
-20dB Bandwidth

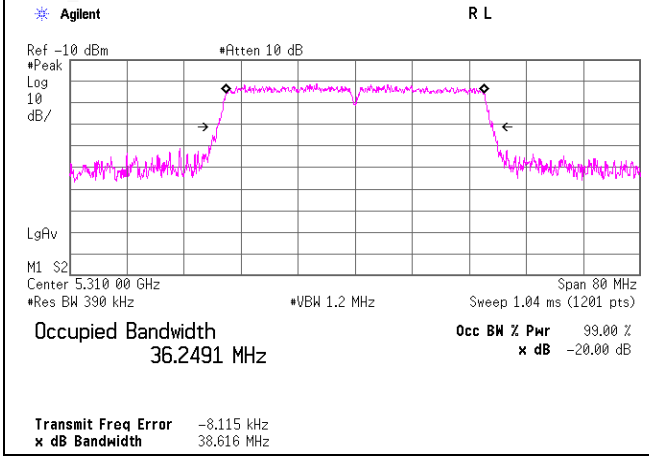
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 6, 2015	
Temperature / Humidity	25 deg.C , 52 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11ac(VHT40), PN9, worst data mode 0(MCS)	

Freq. [MHz]	-20dB Bandwidth [MHz]
5270.0000	38.283
5310.0000	38.616

Tx, 5270MHz



Tx, 5310MHz



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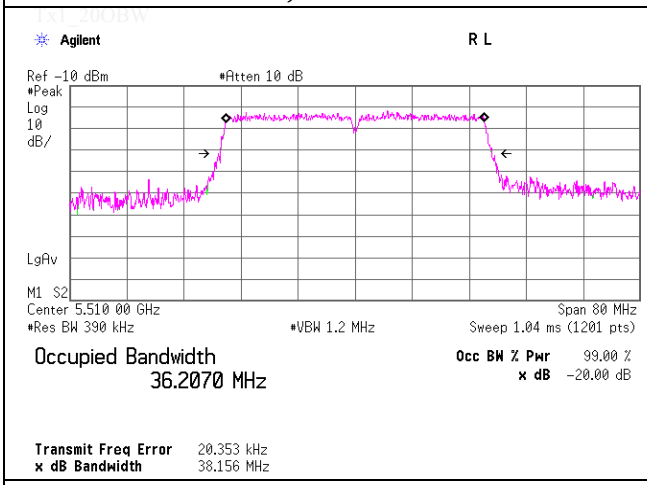
-20dB Bandwidth

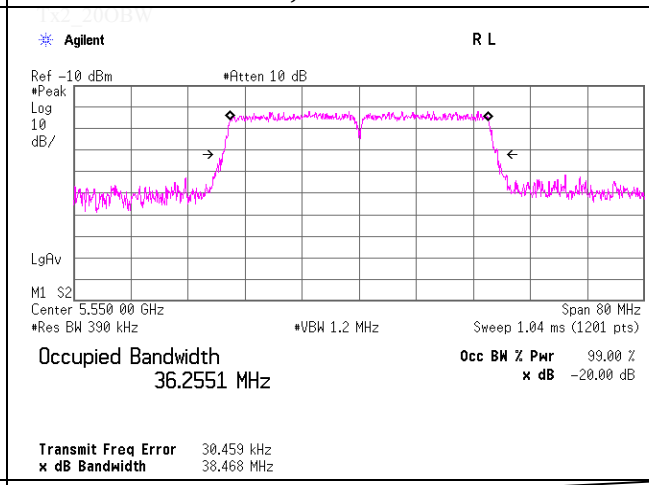
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 7, 2015	
Temperature / Humidity	23 deg.C , 50 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11ac(VHT40), PN9, worst data mode 0(MCS)	

Freq. [MHz]	-20dB Bandwidth [MHz]
5510.0000	38.156
5550.0000	38.468
5670.0000	38.148

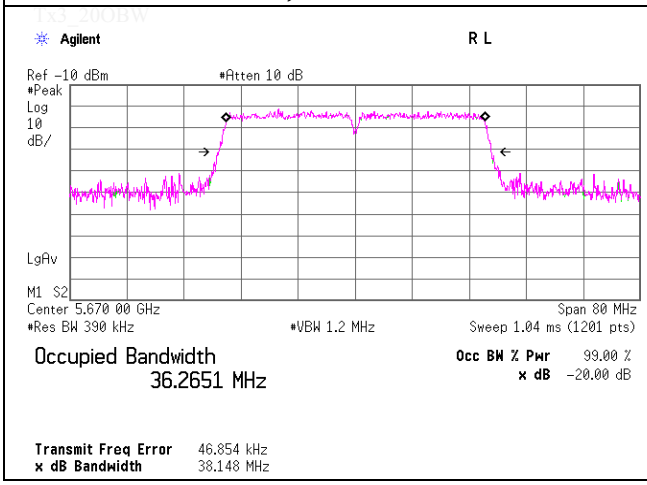
Tx, 5510MHz



Tx, 5550MHz



Tx, 5670MHz



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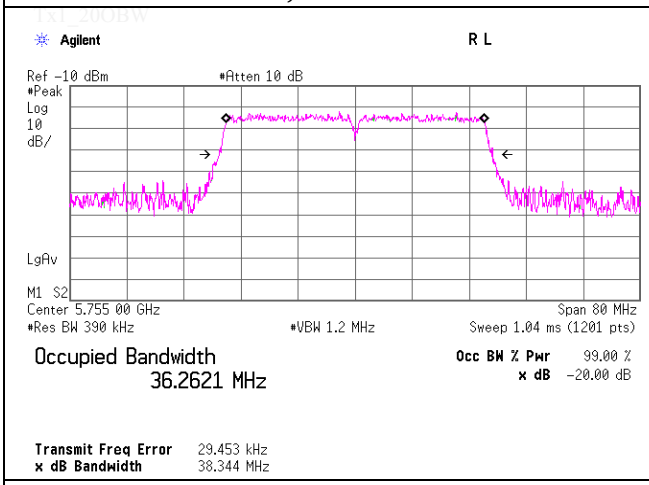
-20dB Bandwidth

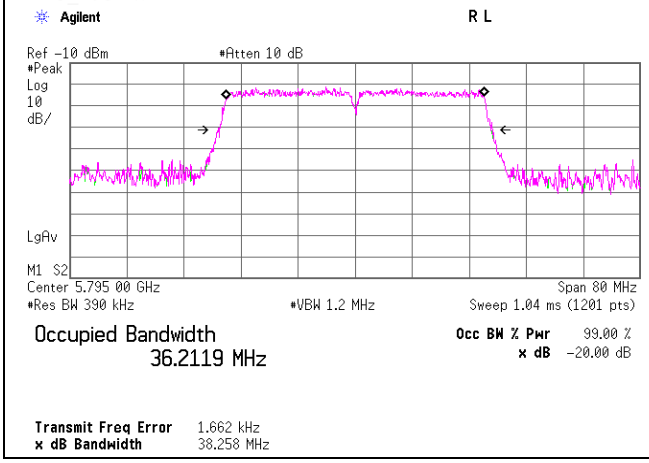
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 7, 2015	
Temperature / Humidity	23 deg.C , 50 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11ac(VHT40), PN9, worst data mode 0(MCS)	

Freq. [MHz]	-20dB Bandwidth [MHz]
5755.0000	38.344
5795.0000	38.258

Tx, 5755MHz



Tx, 5795MHz



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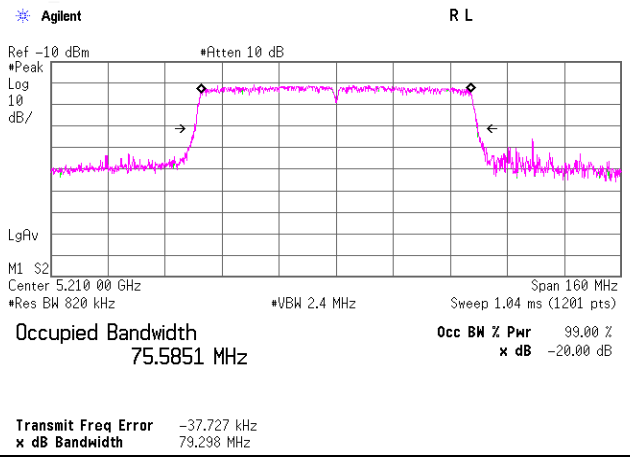
-20dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 6, 2015	
Temperature / Humidity	25 deg.C , 52 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11ac(VHT80), PN9, worst data mode 0(MCS)	

Freq. [MHz]	-20dB Bandwidth [MHz]
5210.0000	79.298

Tx, 5210MHz



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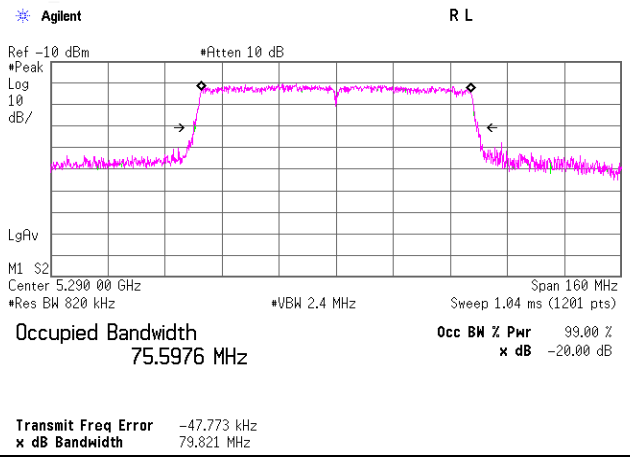
-20dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 6, 2015	
Temperature / Humidity	25 deg.C , 52 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11ac(VHT80), PN9, worst data mode 0(MCS)	

Freq. [MHz]	-20dB Bandwidth [MHz]
5290.0000	79.821

Tx, 5290MHz



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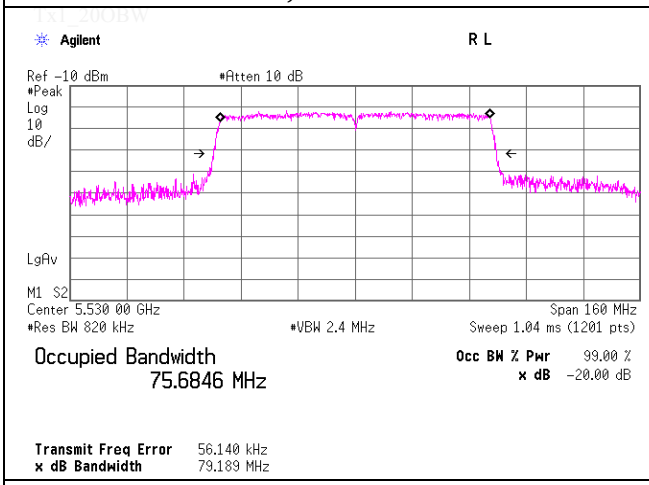
-20dB Bandwidth

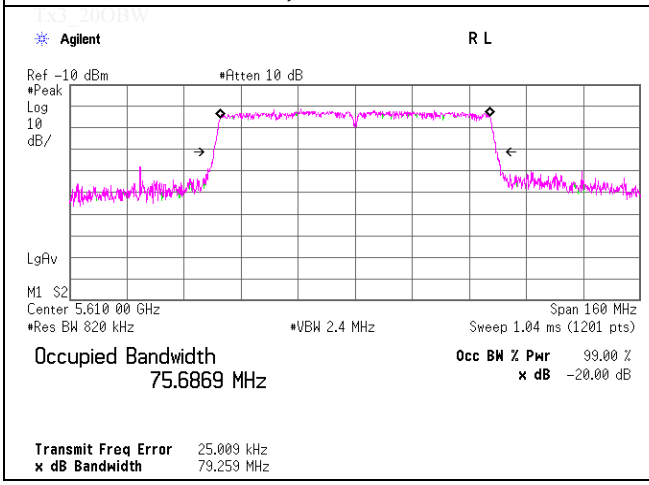
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 7, 2015	
Temperature / Humidity	23 deg.C , 50 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11ac(VHT80), PN9, worst data mode 0(MCS)	

Freq. [MHz]	-20dB Bandwidth [MHz]
5530.0000	79.189
5610.0000	79.259

Tx, 5530MHz



Tx, 5610MHz



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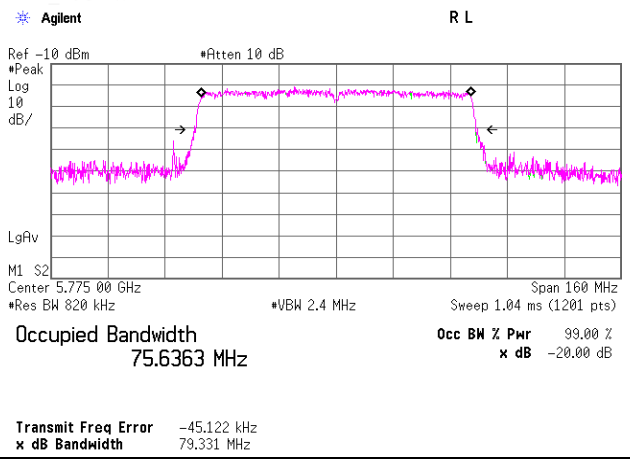
-20dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 7, 2015	
Temperature / Humidity	23 deg.C , 50 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11ac(VHT80), PN9, worst data mode 0(MCS)	

Freq. [MHz]	-20dB Bandwidth [MHz]
5775.0000	79.331

Tx, 5775MHz



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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.	
	No.1 Measurement Room	No.5 Shielded Room
Date	December 23, 2014	January 5, 2015
Temperature / Humidity	23deg.C , 32%RH	26 deg.C , 30 %RH
Engineer	Tatsuya Arai	Yosuke Ishikawa
Mode	Tx, IEEE802.11a, PN9, High power setting	worst data mode : 6 Mbps

mobile/portable client device

Antena terminal power (* P/M: Power Meter with power senser, AV: Average)

Ch	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]		Result [dBm]	Result [mW]	Limit [dBm]	Limit [mW]	Margin [dB]
Low	5180.0	-7.72	1.70	20.24	0.06		14.28	26.79	23.98	250.00	9.70
Mid	5220.0	-7.95	1.71	20.23	0.06		14.05	25.41	23.98	250.00	9.93
High	5240.0	-8.17	1.71	20.23	0.06		13.83	24.15	23.98	250.00	10.15

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

EIRP (* P/M: Power Meter with power senser, AV: Average) **Reference Data**

Ch	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Antenna Gain [dBi]	Result (e.i.r.p.) [dBm]	Result (e.i.r.p.) [mW]	Limit (e.i.r.p.) [dBm]	Limit (e.i.r.p.) [mW]	Margin [dB]
Low	5180.0	-7.72	1.70	20.24	0.06	1.00	15.28	33.73	-	-	-
Mid	5220.0	-7.95	1.71	20.23	0.06	1.00	15.05	31.99	-	-	-
High	5240.0	-8.17	1.71	20.23	0.06	1.00	14.83	30.41	-	-	-

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Antenna Gain

[Pre check]

Antenna

	Data rate [Mbps]	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Result [dBm]	
	6	5180.0	-7.72	1.70	20.24	0.06	14.28	**Worst**
	9	5180.0	-7.77	1.70	20.24	0.09	14.26	
	12	5180.0	-7.85	1.70	20.24	0.18	14.27	
	18	5180.0	-7.89	1.70	20.24	0.17	14.22	
	24	5180.0	-8.04	1.70	20.24	0.23	14.13	
	36	5180.0	-8.18	1.70	20.24	0.32	14.08	
	48	5180.0	-8.22	1.70	20.24	0.41	14.13	
	54	5180.0	-8.29	1.70	20.24	0.46	14.11	

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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room	
Date	January 15, 2015		
Temperature / Humidity	21deg.C , 55%RH		
Engineer	Yosuke Ishikawa		
Mode	Tx, IEEE802.11a, PN9, Low power setting	worst data mode :	6 Mbps

mobile/portable client device

Antena terminal power (* P/M: Power Meter with power senser, AV: Average)

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor		Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dB]		[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5180.0	-16.24	1.70	20.24	0.06		5.76	3.77	23.98	250.00	18.22
Mid	5220.0	-16.39	1.71	20.23	0.06		5.61	3.64	23.98	250.00	18.37
High	5240.0	-16.34	1.71	20.23	0.06		5.66	3.68	23.98	250.00	18.32

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

EIRP (* P/M: Power Meter with power senser, AV: Average) **Reference Data**

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor	Antenna Gain	Result		Limit		Margin
							(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	
	[MHz]	[dBm]	[dB]	[dB]	[dB]	[dBi]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5180.0	-16.24	1.70	20.24	0.06	1.00	6.76	4.74	-	-	-
Mid	5220.0	-16.39	1.71	20.23	0.06	1.00	6.61	4.58	-	-	-
High	5240.0	-16.34	1.71	20.23	0.06	1.00	6.66	4.63	-	-	-

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Antenna Gain

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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room	
Date	January 5, 2015		
Temperature / Humidity	26 deg.C , 30 %RH		
Engineer	Yosuke Ishikawa		
Mode	Tx, IEEE802.11a, PN9, High power setting	worst data mode :	6 Mbps

mobile/portable client device

Antena terminal power (* P/M: Power Meter with power senser, AV: Average)

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor		Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dB]		[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5260.0	-7.74	1.72	20.23	0.06		14.27	26.73	23.98	250.00	9.71
Mid	5300.0	-7.73	1.72	20.23	0.06		14.28	26.79	23.98	250.00	9.70
High	5320.0	-7.72	1.73	20.22	0.06		14.29	26.85	23.98	250.00	9.69

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

EIRP (* P/M: Power Meter with power senser, AV: Average) **Reference Data**

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor	Antenna Gain	Result		Limit		Margin
							(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	
	[MHz]	[dBm]	[dB]	[dB]	[dB]	[dBi]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5260.0	-7.74	1.72	20.23	0.06	1.00	15.27	33.65	-	-	-
Mid	5300.0	-7.73	1.72	20.23	0.06	1.00	15.28	33.73	-	-	-
High	5320.0	-7.72	1.73	20.22	0.06	1.00	15.29	33.81	-	-	-

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Antenna Gain

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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room	
Date	January 15, 2015		
Temperature / Humidity	21deg.C , 55%RH		
Engineer	Yosuke Ishikawa		
Mode	Tx, IEEE802.11a, PN9, Low power setting	worst data mode :	6 Mbps

mobile/portable client device

Antena terminal power (* P/M: Power Meter with power senser, AV: Average)

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor		Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dB]		[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5260.0	-16.08	1.72	20.23	0.06		5.93	3.92	23.98	250.00	18.05
Mid	5300.0	-16.10	1.72	20.23	0.06		5.91	3.90	23.98	250.00	18.07
High	5320.0	-16.12	1.73	20.22	0.06		5.89	3.88	23.98	250.00	18.09

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

EIRP (* P/M: Power Meter with power senser, AV: Average) **Reference Data**

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor	Antenna Gain	Result		Limit		Margin
							(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	
	[MHz]	[dBm]	[dB]	[dB]	[dB]	[dBi]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5260.0	-16.08	1.72	20.23	0.06	1.00	6.93	4.93	-	-	-
Mid	5300.0	-16.10	1.72	20.23	0.06	1.00	6.91	4.91	-	-	-
High	5320.0	-16.12	1.73	20.22	0.06	1.00	6.89	4.89	-	-	-

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Antenna Gain

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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room	
Date	January 5, 2015		
Temperature / Humidity	26 deg.C , 30 %RH		
Engineer	Yosuke Ishikawa		
Mode	Tx, IEEE802.11a, PN9, High power setting	worst data mode :	6 Mbps

mobile/portable client device

Antena terminal power (* P/M: Power Meter with power senser, AV: Average)

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor		Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dB]		[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5500.0	-8.81	1.76	20.21	0.06		13.22	20.99	23.98	250.00	10.76
Mid	5580.0	-8.98	1.75	20.21	0.06		13.04	20.14	23.98	250.00	10.94
High	5700.0	-8.67	1.74	20.20	0.06		13.33	21.53	23.98	250.00	10.65

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

EIRP (* P/M: Power Meter with power senser, AV: Average) **Reference Data**

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor	Antenna Gain	Result		Limit		Margin
							(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	
	[MHz]	[dBm]	[dB]	[dB]	[dB]	[dBi]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5500.0	-8.81	1.76	20.21	0.06	1.00	14.22	26.42	-	-	-
Mid	5580.0	-8.98	1.75	20.21	0.06	1.00	14.04	25.35	-	-	-
High	5700.0	-8.67	1.74	20.20	0.06	1.00	14.33	27.10	-	-	-

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Antenna Gain

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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room	
Date	January 15, 2015		
Temperature / Humidity	21deg.C , 55%RH		
Engineer	Yosuke Ishikawa		
Mode	Tx, IEEE802.11a, PN9, Low power setting	worst data mode :	6 Mbps

mobile/portable client device

Antena terminal power (* P/M: Power Meter with power senser, AV: Average)

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor		Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dB]		[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5500.0	-16.84	1.76	20.21	0.06		5.19	3.30	23.98	250.00	18.79
Mid	5580.0	-16.49	1.75	20.21	0.06		5.53	3.57	23.98	250.00	18.45
High	5700.0	-16.22	1.74	20.20	0.06		5.78	3.78	23.98	250.00	18.20

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

EIRP (* P/M: Power Meter with power senser, AV: Average) **Reference Data**

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor	Antenna Gain	Result		Limit		Margin
							(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	
	[MHz]	[dBm]	[dB]	[dB]	[dB]	[dBi]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5500.0	-16.84	1.76	20.21	0.06	1.00	6.19	4.16	-	-	-
Mid	5580.0	-16.49	1.75	20.21	0.06	1.00	6.53	4.50	-	-	-
High	5700.0	-16.22	1.74	20.20	0.06	1.00	6.78	4.76	-	-	-

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Antenna Gain

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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room	
Date	January 5, 2015		
Temperature / Humidity	26 deg.C , 30 %RH		
Engineer	Yosuke Ishikawa		
Mode	Tx, IEEE802.11a, PN9, High power setting	worst data mode :	6 Mbps

mobile/portable client device

Antena terminal power (* P/M: Power Meter with power senser, AV: Average)

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor		Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dB]		[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5745.0	-10.51	1.74	20.20	0.06		11.49	14.09	30.00	1000.00	18.51
Mid	5785.0	-10.30	1.74	20.19	0.06		11.69	14.76	30.00	1000.00	18.31
High	5825.0	-10.27	1.73	20.19	0.06		11.71	14.83	30.00	1000.00	18.29

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

EIRP (* P/M: Power Meter with power senser, AV: Average) **Reference Data**

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor	Antenna Gain	Result		Limit		Margin
							(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	
	[MHz]	[dBm]	[dB]	[dB]	[dB]	[dBi]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5745.0	-10.51	1.74	20.20	0.06	1.00	12.49	17.74	-	-	-
Mid	5785.0	-10.30	1.74	20.19	0.06	1.00	12.69	18.58	-	-	-
High	5825.0	-10.27	1.73	20.19	0.06	1.00	12.71	18.66	-	-	-

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Antenna Gain

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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room	
Date	January 15, 2015		
Temperature / Humidity	21deg.C , 55%RH		
Engineer	Yosuke Ishikawa		
Mode	Tx, IEEE802.11a, PN9, Low power setting	worst data mode :	6 Mbps

mobile/portable client device

Antena terminal power (* P/M: Power Meter with power senser, AV: Average)

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor		Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dB]		[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5745.0	-16.63	1.74	20.20	0.06		5.37	3.44	30.00	1000.00	24.63
Mid	5785.0	-16.46	1.74	20.19	0.06		5.53	3.57	30.00	1000.00	24.47
High	5825.0	-16.05	1.73	20.19	0.06		5.93	3.92	30.00	1000.00	24.07

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

EIRP (* P/M: Power Meter with power senser, AV: Average) **Reference Data**

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor	Antenna Gain	Result		Limit		Margin
							(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	
	[MHz]	[dBm]	[dB]	[dB]	[dB]	[dBi]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5745.0	-16.63	1.74	20.20	0.06	1.00	6.37	4.34	-	-	-
Mid	5785.0	-16.46	1.74	20.19	0.06	1.00	6.53	4.50	-	-	-
High	5825.0	-16.05	1.73	20.19	0.06	1.00	6.93	4.93	-	-	-

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Antenna Gain

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Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room
Date	December 22, 2014	
Temperature / Humidity	24deg.C , 32%RH	
Engineer	Tatsuya Arai	

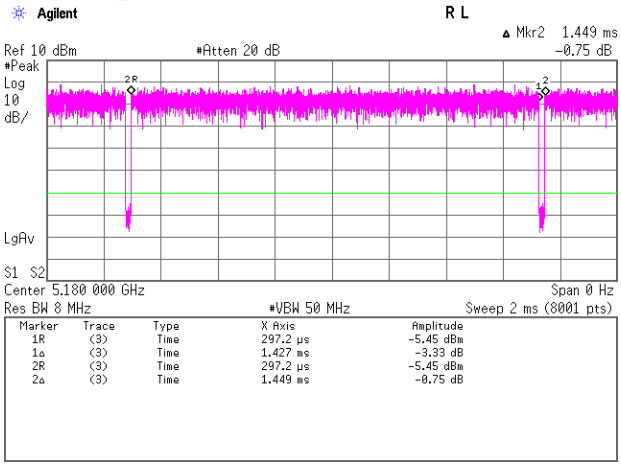
Maximum Conducted Output Power (Conducted)

(Reference) (duty chart)

Tx, IEEE802.11a, (Tx 5180MHz)

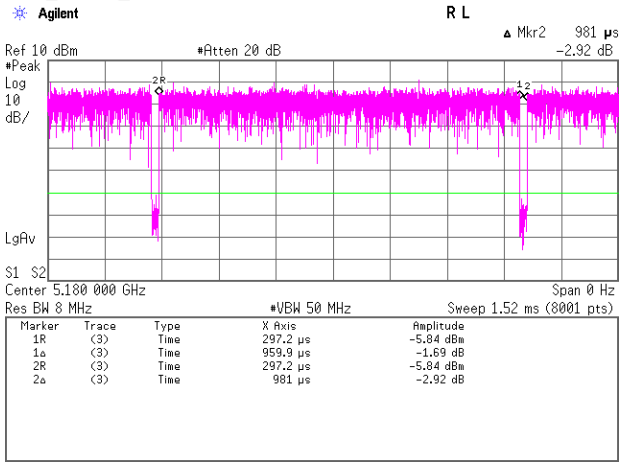
6Mbps

duty factor [dB] = 10 x log (1.45[ms] / 1.43[ms]) = 0.06 [dB]



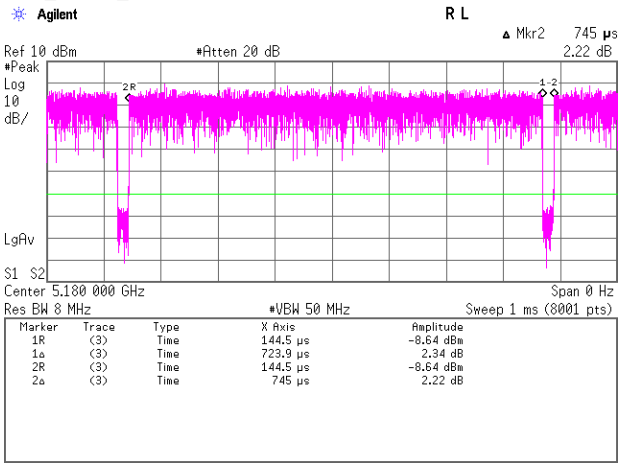
9Mbps

duty factor [dB] = 10 x log (0.98[ms] / 0.96[ms]) = 0.09 [dB]



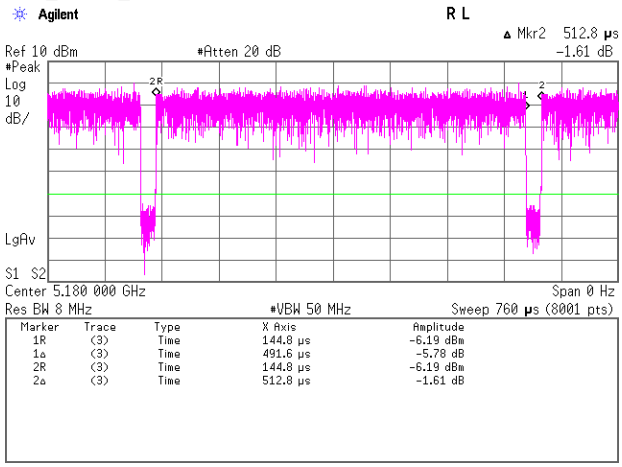
12Mbps

duty factor [dB] = 10 x log (0.75[ms] / 0.72[ms]) = 0.18 [dB]



18Mbps

duty factor [dB] = 10 x log (0.51[ms] / 0.49[ms]) = 0.17 [dB]



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Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room
Date	December 22, 2014	
Temperature / Humidity	24deg.C , 32%RH	
Engineer	Tatsuya Arai	

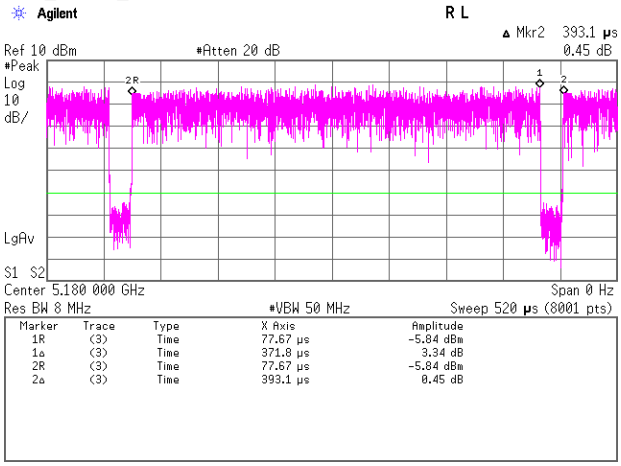
Maximum Conducted Output Power (Conducted)

(Reference) (duty chart)

Tx, IEEE802.11a, (Tx 5180MHz)

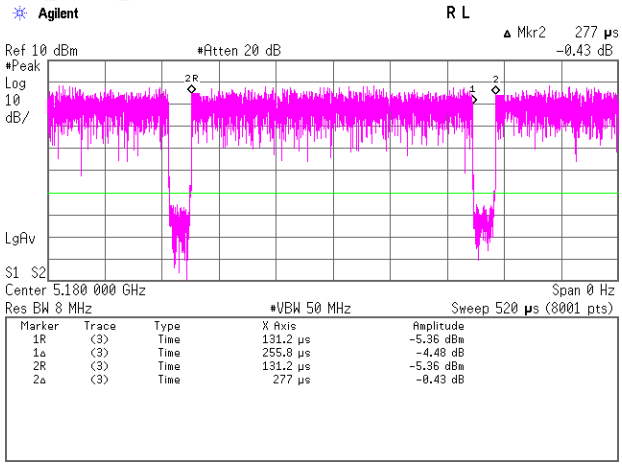
24Mbps

duty factor [dB] = 10 x log (0.39[ms] / 0.37[ms]) = 0.23 [dB]



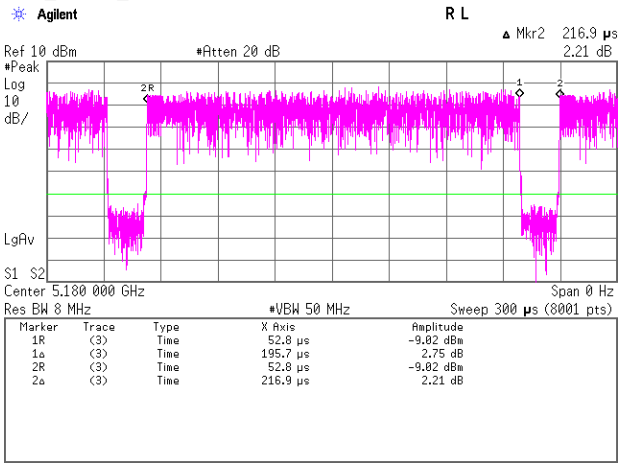
36Mbps

duty factor [dB] = 10 x log (0.28[ms] / 0.26[ms]) = 0.32 [dB]



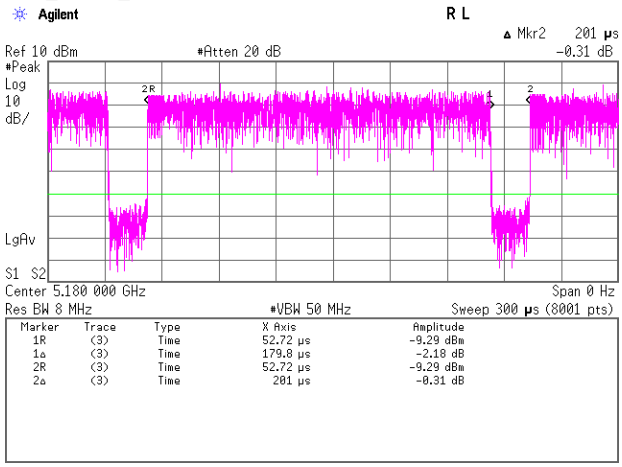
48Mbps

duty factor [dB] = 10 x log (0.22[ms] / 0.2[ms]) = 0.41 [dB]



54Mbps

duty factor [dB] = 10 x log (0.2[ms] / 0.18[ms]) = 0.46 [dB]



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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.	
	No.1 Measurement Room	No.5 Shielded Room
Date	December 23, 2014	January 5, 2015
Temperature / Humidity	23deg.C , 32%RH	26 deg.C , 30 %RH
Engineer	Tatsuya Arai	Yosuke Ishikawa
Mode	Tx, IEEE802.11n(HT20), PN9, High power setting	worst data mode : 0 (MCS)

mobile/portable client device

Antena terminal power (* P/M: Power Meter with power senser, AV: Average)

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor		Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dB]		[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5180.0	-7.80	1.70	20.24	0.06		14.20	26.30	23.98	250.00	9.78
Mid	5220.0	-8.10	1.71	20.23	0.06		13.90	24.55	23.98	250.00	10.08
High	5240.0	-8.20	1.71	20.23	0.06		13.80	23.99	23.98	250.00	10.18

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

EIRP (* P/M: Power Meter with power senser, AV: Average) **Reference Data**

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor	Antenna Gain	Result		Limit		Margin
							(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	
	[MHz]	[dBm]	[dB]	[dB]	[dB]	[dBi]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5180.0	-7.80	1.70	20.24	0.06	1.00	15.20	33.11	-	-	-
Mid	5220.0	-8.10	1.71	20.23	0.06	1.00	14.90	30.90	-	-	-
High	5240.0	-8.20	1.71	20.23	0.06	1.00	14.80	30.20	-	-	-

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Antenna Gain

[Pre check]

Antenna

	Mode	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor	Result	
	(MCS)	[MHz]	[dBm]	[dB]	[dB]	[dB]	[dBm]	
	0	5180.0	-7.80	1.70	20.24	0.06	14.20	**Worst**
	1	5180.0	-7.97	1.70	20.24	0.12	14.09	
	2	5180.0	-8.02	1.70	20.24	0.18	14.10	
	3	5180.0	-8.04	1.70	20.24	0.23	14.13	
	4	5180.0	-8.16	1.70	20.24	0.32	14.10	
	5	5180.0	-8.22	1.70	20.24	0.41	14.13	
	6	5180.0	-8.29	1.70	20.24	0.46	14.11	
	7	5180.0	-8.32	1.70	20.24	0.48	14.10	

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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room	
Date	January 15, 2015		
Temperature / Humidity	21deg.C , 55%RH		
Engineer	Yosuke Ishikawa		
Mode	Tx, IEEE802.11n(HT20), PN9, Low power setting	worst data mode :	0 (MCS)

mobile/portable client device

Antena terminal power (* P/M: Power Meter with power senser, AV: Average)

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor		Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dB]		[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5180.0	-16.02	1.70	20.24	0.06		5.98	3.96	23.98	250.00	18.00
Mid	5220.0	-16.15	1.71	20.23	0.06		5.85	3.85	23.98	250.00	18.13
High	5240.0	-16.53	1.71	20.23	0.06		5.47	3.52	23.98	250.00	18.51

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

EIRP (* P/M: Power Meter with power senser, AV: Average) **Reference Data**

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor	Antenna Gain	Result		Limit		Margin
							(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	
	[MHz]	[dBm]	[dB]	[dB]	[dB]	[dBi]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5180.0	-16.02	1.70	20.24	0.06	1.00	6.98	4.99	-	-	-
Mid	5220.0	-16.15	1.71	20.23	0.06	1.00	6.85	4.84	-	-	-
High	5240.0	-16.53	1.71	20.23	0.06	1.00	6.47	4.44	-	-	-

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Antenna Gain

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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room	
Date	January 5, 2015		
Temperature / Humidity	26 deg.C , 30 %RH		
Engineer	Yosuke Ishikawa		
Mode	Tx, IEEE802.11n(HT20), PN9, Hi power setting	worst data mode :	0 (MCS)

mobile/portable client device

Antena terminal power (* P/M: Power Meter with power senser, AV: Average)

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor		Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dB]		[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5260.0	-7.59	1.72	20.23	0.06		14.42	27.67	23.98	250.00	9.56
Mid	5300.0	-7.74	1.72	20.23	0.06		14.27	26.73	23.98	250.00	9.71
High	5320.0	-7.64	1.73	20.22	0.06		14.37	27.35	23.98	250.00	9.61

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

EIRP (* P/M: Power Meter with power senser, AV: Average) **Reference Data**

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor	Antenna Gain	Result		Limit		Margin
							(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	
	[MHz]	[dBm]	[dB]	[dB]	[dB]	[dBi]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5260.0	-7.59	1.72	20.23	0.06	1.00	15.42	34.83	-	-	-
Mid	5300.0	-7.74	1.72	20.23	0.06	1.00	15.27	33.65	-	-	-
High	5320.0	-7.64	1.73	20.22	0.06	1.00	15.37	34.43	-	-	-

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Antenna Gain

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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room	
Date	January 15, 2015		
Temperature / Humidity	21deg.C , 55%RH		
Engineer	Yosuke Ishikawa		
Mode	Tx, IEEE802.11n(HT20), PN9, Low power setting	worst data mode :	0 (MCS)

mobile/portable client device

Antena terminal power (* P/M: Power Meter with power senser, AV: Average)

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor		Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dB]		[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5260.0	-16.13	1.72	20.23	0.06		5.88	3.87	23.98	250.00	18.10
Mid	5300.0	-16.21	1.72	20.23	0.06		5.80	3.80	23.98	250.00	18.18
High	5320.0	-16.27	1.73	20.22	0.06		5.74	3.75	23.98	250.00	18.24

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

EIRP (* P/M: Power Meter with power senser, AV: Average) **Reference Data**

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor	Antenna Gain	Result		Limit		Margin
							(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	
	[MHz]	[dBm]	[dB]	[dB]	[dB]	[dBi]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5260.0	-16.13	1.72	20.23	0.06	1.00	6.88	4.88	-	-	-
Mid	5300.0	-16.21	1.72	20.23	0.06	1.00	6.80	4.79	-	-	-
High	5320.0	-16.27	1.73	20.22	0.06	1.00	6.74	4.72	-	-	-

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Antenna Gain

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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room	
Date	January 5, 2015		
Temperature / Humidity	26 deg.C , 30 %RH		
Engineer	Yosuke Ishikawa		
Mode	Tx, IEEE802.11n(HT20), PN9, High power setting	worst data mode :	0 (MCS)

mobile/portable client device

Antena terminal power (* P/M: Power Meter with power senser, AV: Average)

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor		Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dB]		[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5500.0	-8.86	1.76	20.21	0.06		13.17	20.75	23.98	250.00	10.81
Mid	5580.0	-8.84	1.75	20.21	0.06		13.18	20.80	23.98	250.00	10.80
High	5700.0	-8.70	1.74	20.20	0.06		13.30	21.38	23.98	250.00	10.68

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

EIRP (* P/M: Power Meter with power senser, AV: Average) **Reference Data**

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor	Antenna Gain	Result		Limit		Margin
							(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	
	[MHz]	[dBm]	[dB]	[dB]	[dB]	[dBi]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5500.0	-8.86	1.76	20.21	0.06	1.00	14.17	26.12	-	-	-
Mid	5580.0	-8.84	1.75	20.21	0.06	1.00	14.18	26.18	-	-	-
High	5700.0	-8.70	1.74	20.20	0.06	1.00	14.30	26.92	-	-	-

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Antenna Gain

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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room	
Date	January 15, 2015		
Temperature / Humidity	21deg.C , 55%RH		
Engineer	Yosuke Ishikawa		
Mode	Tx, IEEE802.11n(HT20), PN9, Low power setting	worst data mode :	0 (MCS)

mobile/portable client device

Antena terminal power (* P/M: Power Meter with power senser, AV: Average)

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor		Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dB]		[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5500.0	-16.78	1.76	20.21	0.06		5.25	3.35	23.98	250.00	18.73
Mid	5580.0	-16.72	1.75	20.21	0.06		5.30	3.39	23.98	250.00	18.68
High	5700.0	-16.14	1.74	20.20	0.06		5.86	3.85	23.98	250.00	18.12

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

EIRP (* P/M: Power Meter with power senser, AV: Average) **Reference Data**

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor	Antenna Gain	Result		Limit		Margin
							(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	
	[MHz]	[dBm]	[dB]	[dB]	[dB]	[dBi]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5500.0	-16.78	1.76	20.21	0.06	1.00	6.25	4.22	-	-	-
Mid	5580.0	-16.72	1.75	20.21	0.06	1.00	6.30	4.27	-	-	-
High	5700.0	-16.14	1.74	20.20	0.06	1.00	6.86	4.85	-	-	-

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Antenna Gain

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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room	
Date	January 5, 2015		
Temperature / Humidity	26 deg.C , 30 %RH		
Engineer	Yosuke Ishikawa		
Mode	Tx, IEEE802.11n(HT20), PN9, High power setting	worst data mode :	0 (MCS)

mobile/portable client device

Antena terminal power (* P/M: Power Meter with power senser, AV: Average)

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor		Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dB]		[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5745.0	-10.50	1.74	20.20	0.06		11.50	14.13	30.00	1000.00	18.50
Mid	5785.0	-10.53	1.74	20.19	0.06		11.46	14.00	30.00	1000.00	18.54
High	5825.0	-10.14	1.73	20.19	0.06		11.84	15.28	30.00	1000.00	18.16

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

EIRP (* P/M: Power Meter with power senser, AV: Average) **Reference Data**

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor	Antenna Gain	Result		Limit		Margin
							(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	
	[MHz]	[dBm]	[dB]	[dB]	[dB]	[dBi]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5745.0	-10.50	1.74	20.20	0.06	1.00	12.50	17.78	-	-	-
Mid	5785.0	-10.53	1.74	20.19	0.06	1.00	12.46	17.62	-	-	-
High	5825.0	-10.14	1.73	20.19	0.06	1.00	12.84	19.23	-	-	-

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Antenna Gain

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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room	
Date	January 15, 2015		
Temperature / Humidity	21deg.C , 55%RH		
Engineer	Yosuke Ishikawa		
Mode	Tx, IEEE802.11n(HT20), PN9, Low power setting	worst data mode :	0 (MCS)

mobile/portable client device

Antena terminal power (* P/M: Power Meter with power senser, AV: Average)

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor		Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dB]		[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5745.0	-16.41	1.74	20.20	0.06		5.59	3.62	30.00	1000.00	24.41
Mid	5785.0	-16.33	1.74	20.19	0.06		5.66	3.68	30.00	1000.00	24.34
High	5825.0	-16.23	1.73	20.19	0.06		5.75	3.76	30.00	1000.00	24.25

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

EIRP (* P/M: Power Meter with power senser, AV: Average) **Reference Data**

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor	Antenna Gain	Result		Limit		Margin
							(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	
	[MHz]	[dBm]	[dB]	[dB]	[dB]	[dBi]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5745.0	-16.41	1.74	20.20	0.06	1.00	6.59	4.56	-	-	-
Mid	5785.0	-16.33	1.74	20.19	0.06	1.00	6.66	4.63	-	-	-
High	5825.0	-16.23	1.73	20.19	0.06	1.00	6.75	4.73	-	-	-

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Antenna Gain

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Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room
Date	December 22, 2014	
Temperature / Humidity	24deg,C , 32%RH	
Engineer	Tatsuya Arai	

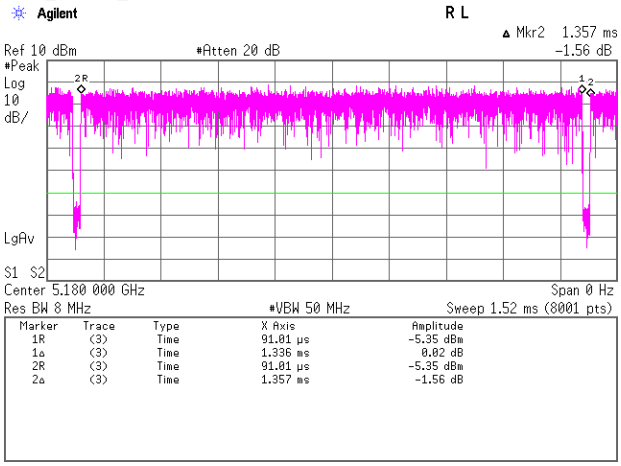
Maximum Conducted Output Power (Conducted)

(Reference) (duty chart)

Tx, IEEE802.11n(HT20), (Tx 5180MHz)

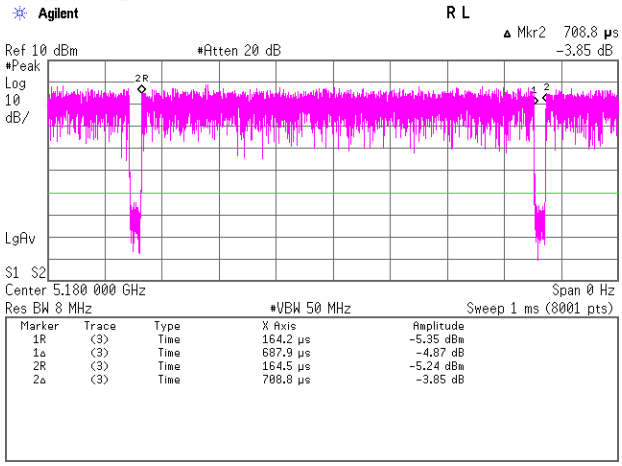
MCS0

duty factor [dB] = 10 x log (1.36[ms] / 1.34[ms]) = 0.06 [dB]



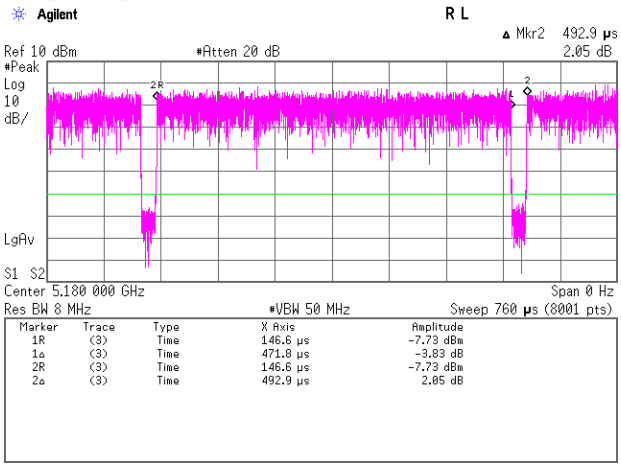
MCS1

duty factor [dB] = 10 x log (0.71[ms] / 0.69[ms]) = 0.12 [dB]



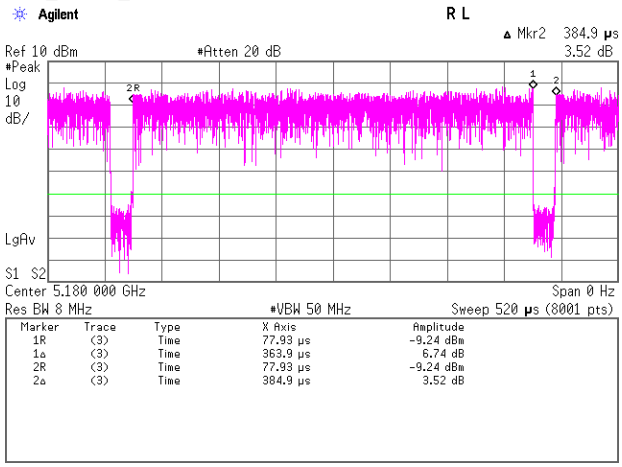
MCS2

duty factor [dB] = 10 x log (0.49[ms] / 0.47[ms]) = 0.18 [dB]



MCS3

duty factor [dB] = 10 x log (0.38[ms] / 0.36[ms]) = 0.23 [dB]



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Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room
Date	December 22, 2014	
Temperature / Humidity	24deg,C , 32%RH	
Engineer	Tatsuya Arai	

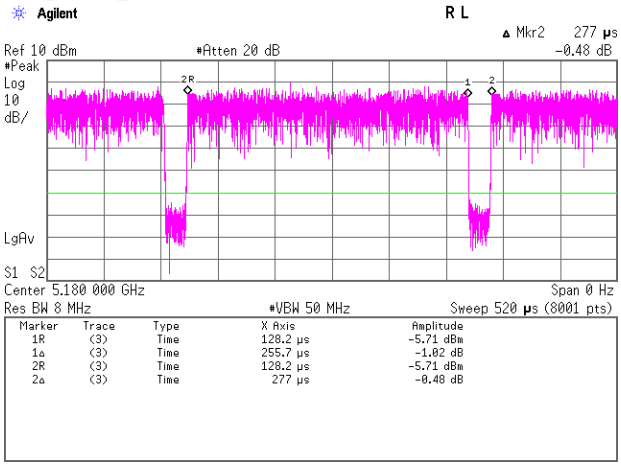
Maximum Conducted Output Power (Conducted)

(Reference) (duty chart)

Tx, IEEE802.11n(HT20), (Tx 5180MHz)

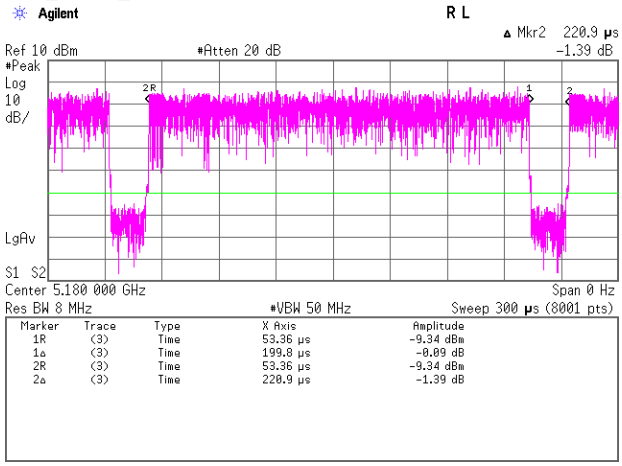
MCS4

duty factor [dB] = 10 x log (0.28[ms] / 0.26[ms]) = 0.32 [dB]



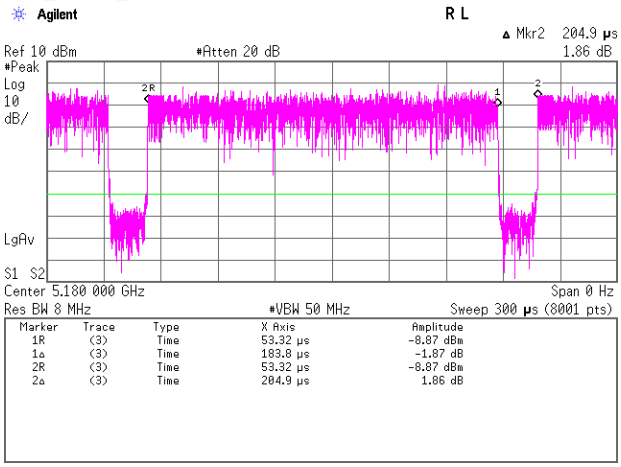
MCS5

duty factor [dB] = 10 x log (0.22[ms] / 0.2[ms]) = 0.41 [dB]



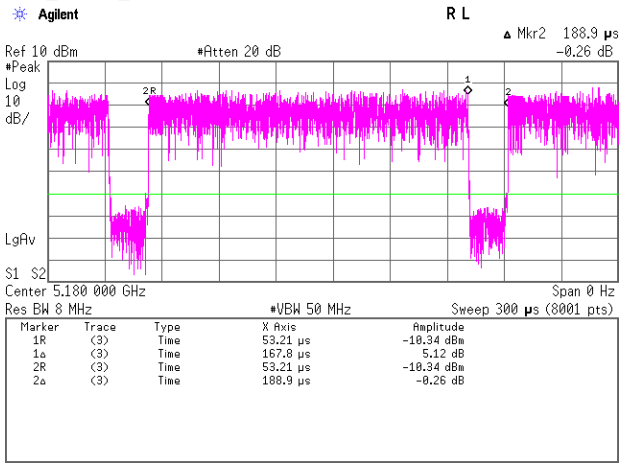
MCS6

duty factor [dB] = 10 x log (0.2[ms] / 0.18[ms]) = 0.46 [dB]



MCS7

duty factor [dB] = 10 x log (0.19[ms] / 0.17[ms]) = 0.48 [dB]



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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room	
Date	January 23, 2015		
Temperature / Humidity	24deg.C , 50%RH		
Engineer	Shinichi Takano		
Mode	Tx, IEEE802.11ac(VHT20), PN9, High power setting	worst data mode :	0 (MCS)

mobile/portable client device

Antena terminal power (* P/M: Power Meter with power senser, AV: Average)

Ch	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]		Result [dBm]	Result [mW]	Limit [dBm]	Limit [mW]	Margin [dB]
Low	5180.0	-7.84	1.70	20.24	0.10		14.20	26.30	23.98	250.00	9.78
Mid	5220.0	-8.08	1.71	20.23	0.10		13.96	24.89	23.98	250.00	10.02
High	5240.0	-8.21	1.71	20.23	0.10		13.83	24.15	23.98	250.00	10.15

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

EIRP (* P/M: Power Meter with power senser, AV: Average) **Reference Data**

Ch	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Antenna Gain [dBi]	Result (e.i.r.p.) [dBm]	Result (e.i.r.p.) [mW]	Limit (e.i.r.p.) [dBm]	Limit (e.i.r.p.) [mW]	Margin [dB]
Low	5180.0	-7.84	1.70	20.24	0.10	1.00	15.20	33.11	-	-	-
Mid	5220.0	-8.08	1.71	20.23	0.10	1.00	14.96	31.33	-	-	-
High	5240.0	-8.21	1.71	20.23	0.10	1.00	14.83	30.41	-	-	-

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Antenna Gain

[Pre check]

Antenna

	Mode (MCS)	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Result [dBm]	
	0	5180.0	-7.74	1.70	20.24	0.10	14.30	**Worst**
	1	5180.0	-7.84	1.70	20.24	0.12	14.22	
	2	5180.0	-8.01	1.70	20.24	0.18	14.11	
	3	5180.0	-8.08	1.70	20.24	0.23	14.09	
	4	5180.0	-8.13	1.70	20.24	0.32	14.13	
	5	5180.0	-8.28	1.70	20.24	0.41	14.07	
	6	5180.0	-8.32	1.70	20.24	0.43	14.05	
	7	5180.0	-8.22	1.70	20.24	0.48	14.20	
	8	5180.0	-9.00	1.70	20.24	0.54	13.48	

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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room	
Date	January 23, 2015		
Temperature / Humidity	24deg.C , 50%RH		
Engineer	Shinichi Takano		
Mode	Tx, IEEE802.11ac(VHT20), PN9, Low power setting	worst data mode :	0 (MCS)

mobile/portable client device

Antena terminal power (* P/M: Power Meter with power senser, AV: Average)

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor		Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dB]		[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5180.0	-15.91	1.70	20.24	0.10		6.13	4.10	23.98	250.00	17.85
Mid	5220.0	-16.03	1.71	20.23	0.10		6.01	3.99	23.98	250.00	17.97
High	5240.0	-16.54	1.71	20.23	0.10		5.50	3.55	23.98	250.00	18.48

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

EIRP (* P/M: Power Meter with power senser, AV: Average) **Reference Data**

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor	Antenna Gain	Result		Limit		Margin
							(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	
	[MHz]	[dBm]	[dB]	[dB]	[dB]	[dBi]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5180.0	-15.91	1.70	20.24	0.10	1.00	7.13	5.16	-	-	-
Mid	5220.0	-16.03	1.71	20.23	0.10	1.00	7.01	5.02	-	-	-
High	5240.0	-16.54	1.71	20.23	0.10	1.00	6.50	4.47	-	-	-

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Antenna Gain

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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room	
Date	January 23, 2015		
Temperature / Humidity	24deg.C , 50%RH		
Engineer	Shinichi Takano		
Mode	Tx, IEEE802.11ac(VHT20), PN9, High power setting	worst data mode :	0 (MCS)

mobile/portable client device

Antena terminal power (* P/M: Power Meter with power senser, AV: Average)

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor		Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dB]		[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5260.0	-7.62	1.72	20.23	0.10		14.43	27.73	23.98	250.00	9.55
Mid	5300.0	-7.71	1.72	20.23	0.10		14.34	27.16	23.98	250.00	9.64
High	5320.0	-7.81	1.73	20.22	0.10		14.24	26.55	23.98	250.00	9.74

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

EIRP (* P/M: Power Meter with power senser, AV: Average) **Reference Data**

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor	Antenna Gain	Result		Limit		Margin
							(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	
	[MHz]	[dBm]	[dB]	[dB]	[dB]	[dBi]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5260.0	-7.62	1.72	20.23	0.10	1.00	15.43	34.91	-	-	-
Mid	5300.0	-7.71	1.72	20.23	0.10	1.00	15.34	34.20	-	-	-
High	5320.0	-7.81	1.73	20.22	0.10	1.00	15.24	33.42	-	-	-

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Antenna Gain

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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room	
Date	January 23, 2015		
Temperature / Humidity	24deg.C , 50%RH		
Engineer	Shinichi Takano		
Mode	Tx, IEEE802.11ac(VHT20), PN9, Low power setting	worst data mode :	0 (MCS)

mobile/portable client device

Antena terminal power (* P/M: Power Meter with power senser, AV: Average)

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor		Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dB]		[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5260.0	-16.03	1.72	20.23	0.10		6.02	4.00	23.98	250.00	17.96
Mid	5300.0	-16.17	1.72	20.23	0.10		5.88	3.87	23.98	250.00	18.10
High	5320.0	-16.18	1.73	20.22	0.10		5.87	3.86	23.98	250.00	18.11

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

EIRP (* P/M: Power Meter with power senser, AV: Average) **Reference Data**

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor	Antenna Gain	Result		Limit		Margin
							(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	
	[MHz]	[dBm]	[dB]	[dB]	[dB]	[dBi]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5260.0	-16.03	1.72	20.23	0.10	1.00	7.02	5.04	-	-	-
Mid	5300.0	-16.17	1.72	20.23	0.10	1.00	6.88	4.88	-	-	-
High	5320.0	-16.18	1.73	20.22	0.10	1.00	6.87	4.86	-	-	-

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Antenna Gain

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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room	
Date	January 23, 2015		
Temperature / Humidity	24deg.C , 50%RH		
Engineer	Shinichi Takano		
Mode	Tx, IEEE802.11ac(VHT20), PN9, High power setting	worst data mode :	0 (MCS)

mobile/portable client device

Antena terminal power (* P/M: Power Meter with power senser, AV: Average)

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor		Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dB]		[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5500.0	-8.73	1.76	20.21	0.10		13.34	21.58	23.98	250.00	10.64
Mid	5580.0	-8.59	1.75	20.21	0.10		13.47	22.23	23.98	250.00	10.51
High	5700.0	-8.27	1.74	20.20	0.10		13.77	23.82	23.98	250.00	10.21

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

EIRP (* P/M: Power Meter with power senser, AV: Average) **Reference Data**

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor	Antenna Gain	Result		Limit		Margin
							(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	
	[MHz]	[dBm]	[dB]	[dB]	[dB]	[dBi]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5500.0	-8.73	1.76	20.21	0.10	1.00	14.34	27.16	-	-	-
Mid	5580.0	-8.59	1.75	20.21	0.10	1.00	14.47	27.99	-	-	-
High	5700.0	-8.27	1.74	20.20	0.10	1.00	14.77	29.99	-	-	-

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Antenna Gain

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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room	
Date	January 23, 2015		
Temperature / Humidity	24deg.C , 50%RH		
Engineer	Shinichi Takano		
Mode	Tx, IEEE802.11ac(VHT20), PN9, Low power setting	worst data mode :	0 (MCS)

mobile/portable client device

Antena terminal power (* P/M: Power Meter with power senser, AV: Average)

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor		Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dB]		[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5500.0	-16.69	1.76	20.21	0.10		5.38	3.45	23.98	250.00	18.60
Mid	5580.0	-16.74	1.75	20.21	0.10		5.32	3.40	23.98	250.00	18.66
High	5700.0	-16.16	1.74	20.20	0.10		5.88	3.87	23.98	250.00	18.10

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

EIRP (* P/M: Power Meter with power senser, AV: Average) **Reference Data**

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor	Antenna Gain	Result		Limit		Margin
							(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	
	[MHz]	[dBm]	[dB]	[dB]	[dB]	[dBi]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5500.0	-16.69	1.76	20.21	0.10	1.00	6.38	4.35	-	-	-
Mid	5580.0	-16.74	1.75	20.21	0.10	1.00	6.32	4.29	-	-	-
High	5700.0	-16.16	1.74	20.20	0.10	1.00	6.88	4.88	-	-	-

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Antenna Gain

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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room	
Date	January 21, 2015		
Temperature / Humidity	23deg.C , 41%RH		
Engineer	Shinichi Takano		
Mode	Tx, IEEE802.11ac(VHT20), PN9, High power setting	worst data mode :	0 (MCS)

mobile/portable client device

Antena terminal power (* P/M: Power Meter with power senser, AV: Average)

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor		Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dB]		[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5745.0	-10.40	1.74	20.20	0.10		11.64	14.59	30.00	1000.00	18.36
Mid	5785.0	-10.35	1.74	20.19	0.10		11.68	14.72	30.00	1000.00	18.32
High	5825.0	-10.18	1.73	20.19	0.10		11.84	15.28	30.00	1000.00	18.16

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

EIRP (* P/M: Power Meter with power senser, AV: Average) **Reference Data**

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor	Antenna Gain	Result		Limit		Margin
							(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	
	[MHz]	[dBm]	[dB]	[dB]	[dB]	[dBi]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5745.0	-10.40	1.74	20.20	0.10	1.00	12.64	18.37	-	-	-
Mid	5785.0	-10.35	1.74	20.19	0.10	1.00	12.68	18.54	-	-	-
High	5825.0	-10.18	1.73	20.19	0.10	1.00	12.84	19.23	-	-	-

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Antenna Gain

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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room	
Date	January 21, 2015		
Temperature / Humidity	23deg.C , 41%RH		
Engineer	Shinichi Takano		
Mode	Tx, IEEE802.11ac(VHT20), PN9, Low power setting	worst data mode :	0 (MCS)

mobile/portable client device

Antena terminal power (* P/M: Power Meter with power senser, AV: Average)

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor		Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dB]		[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5745.0	-16.88	1.74	20.20	0.10		5.16	3.28	30.00	1000.00	24.84
Mid	5785.0	-16.76	1.74	20.19	0.10		5.27	3.37	30.00	1000.00	24.73
High	5825.0	-16.58	1.73	20.19	0.10		5.44	3.50	30.00	1000.00	24.56

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

EIRP (* P/M: Power Meter with power senser, AV: Average) **Reference Data**

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor	Antenna Gain	Result		Limit		Margin
							(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	
	[MHz]	[dBm]	[dB]	[dB]	[dB]	[dBi]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5745.0	-16.88	1.74	20.20	0.10	1.00	6.16	4.13	-	-	-
Mid	5785.0	-16.76	1.74	20.19	0.10	1.00	6.27	4.24	-	-	-
High	5825.0	-16.58	1.73	20.19	0.10	1.00	6.44	4.41	-	-	-

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Antenna Gain

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Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room
Date	January 21, 2015	
Temperature / Humidity	23deg.C , 41%RH	
Engineer	Shinichi Takano	

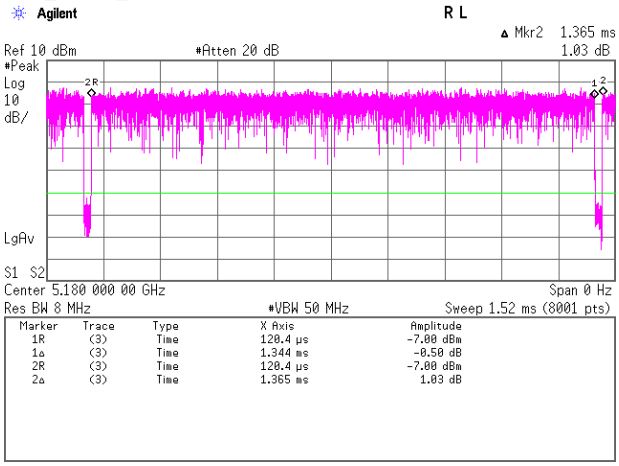
Maximum Conducted Output Power (Conducted)

(Reference) (duty chart)

Tx, IEEE802.11ac(VHT20), (Tx 5180MHz)

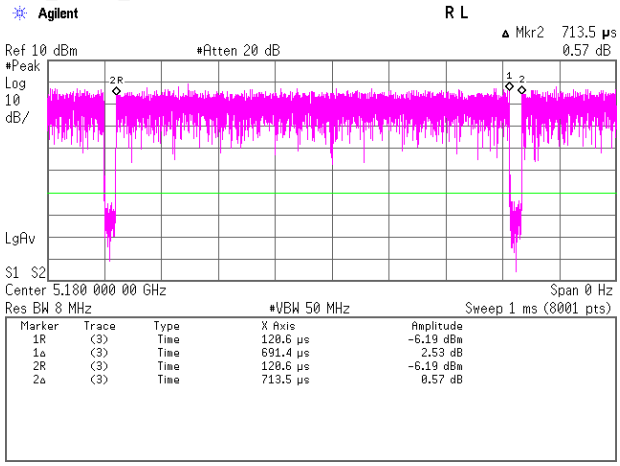
MCS0

duty factor [dB] = 10 x log (1.37[ms] / 1.34[ms]) = 0.10 [dB]



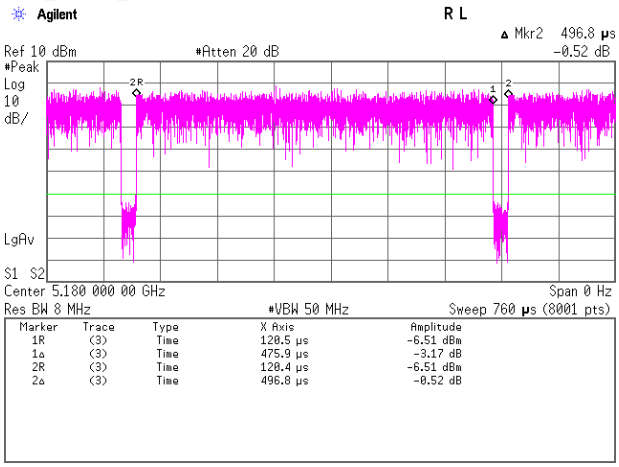
MCS1

duty factor [dB] = 10 x log (0.71[ms] / 0.69[ms]) = 0.12 [dB]



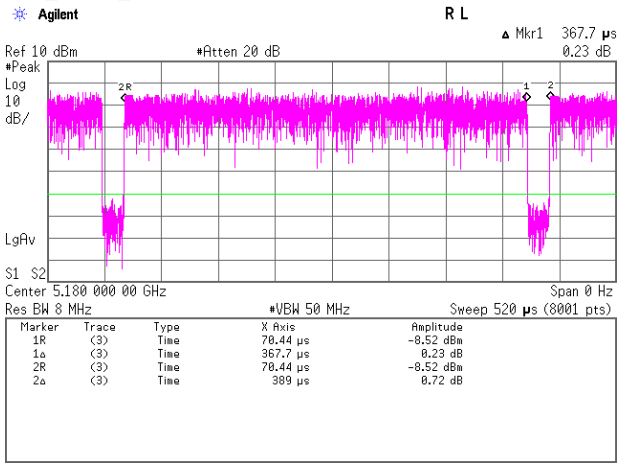
MCS2

duty factor [dB] = 10 x log (0.5[ms] / 0.48[ms]) = 0.18 [dB]



MCS3

duty factor [dB] = 10 x log (0.39[ms] / 0.37[ms]) = 0.23 [dB]



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Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room
Date	January 21, 2015	
Temperature / Humidity	23deg.C , 41%RH	
Engineer	Shinichi Takano	

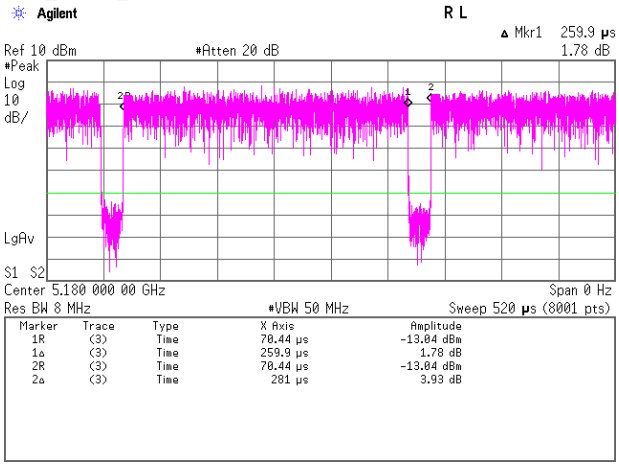
Maximum Conducted Output Power (Conducted)

(Reference) (duty chart)

Tx, IEEE802.11ac(VHT20), (Tx 5180MHz)

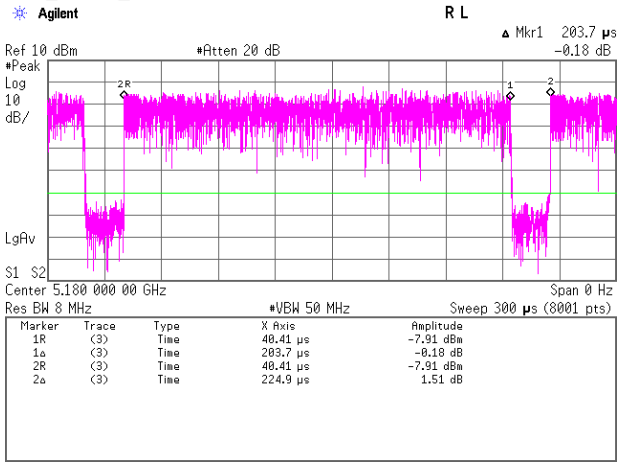
MCS4

duty factor [dB] = 10 x log (0.28[ms] / 0.26[ms]) = 0.32 [dB]



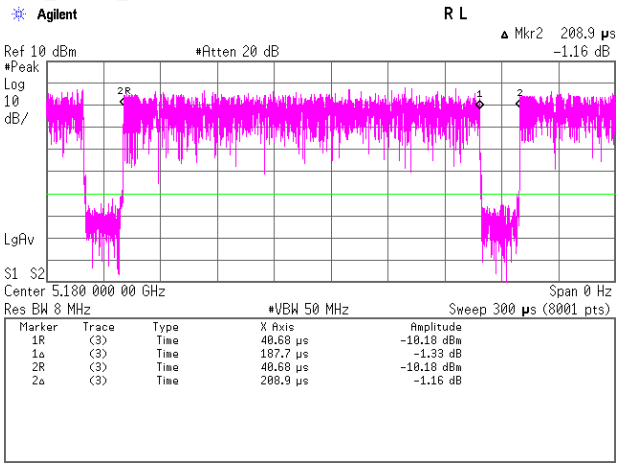
MCS5

duty factor [dB] = 10 x log (0.22[ms] / 0.2[ms]) = 0.41 [dB]



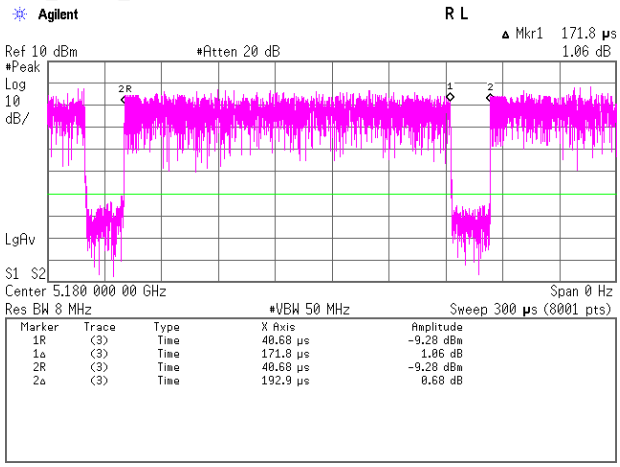
MCS6

duty factor [dB] = 10 x log (0.21[ms] / 0.19[ms]) = 0.43 [dB]



MCS7

duty factor [dB] = 10 x log (0.19[ms] / 0.17[ms]) = 0.48 [dB]



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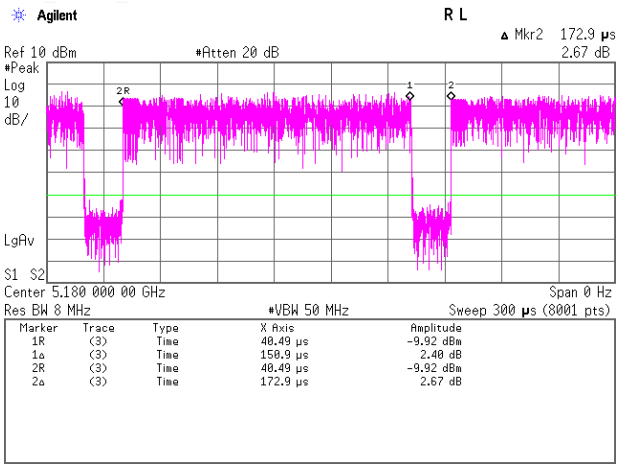
Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room
Date	January 21, 2015	
Temperature / Humidity	23deg.C , 41%RH	
Engineer	Shinichi Takano	

Maximum Conducted Output Power (Conducted)

(Reference) (duty chart)

Tx, IEEE802.11ac(VHT20), (Tx 5180MHz)	
MCS8	
duty factor [dB] = 10 x log (0.17[ms] / 0.15[ms]) = 0.54 [dB]	
Tx2_Rate05_Nom  	Tx2_Rate06_Nom
Tx2_Rate07_Nom	Tx2_Rate08_Nom

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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room	
Date	January 8, 2015		
Temperature / Humidity	23 deg.C , 47 %RH		
Engineer	Yosuke Ishikawa		
Mode	Tx, IEEE802.11n(HT40), PN9, High power setting	worst data mode :	0 (MCS)

mobile/portable client device

Antena terminal power (* P/M: Power Meter with power senser, AV: Average)

Ch	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]		Result [dBm]	Result [mW]	Limit [dBm]	Limit [mW]	Margin [dB]
Low	5190.0	-9.10	1.70	20.23	0.19		13.02	20.04	23.98	250.00	10.96
High	5230.0	-8.32	1.71	20.23	0.19		13.81	24.04	23.98	250.00	10.17

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

EIRP (* P/M: Power Meter with power senser, AV: Average) **Reference Data**

Ch	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Antenna Gain [dBi]	Result (e.i.r.p.) [dBm]	Result (e.i.r.p.) [mW]	Limit (e.i.r.p.) [dBm]	Limit (e.i.r.p.) [mW]	Margin [dB]
Low	5190.0	-9.10	1.70	20.23	0.19	1.00	14.02	25.23	-	-	-
High	5230.0	-8.32	1.71	20.23	0.19	1.00	14.81	30.27	-	-	-

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Antenna Gain

[Pre check]

Antenna

	Mode (MCS)	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Result [dBm]	
	0	5190.0	-9.10	1.70	20.23	0.19	13.02	**Worst**
	1	5190.0	-9.29	1.70	20.23	0.24	12.88	
	2	5190.0	-9.34	1.70	20.23	0.33	12.92	
	3	5190.0	-9.60	1.70	20.23	0.41	12.74	
	4	5190.0	-9.73	1.70	20.23	0.58	12.78	
	5	5190.0	-9.82	1.70	20.23	0.67	12.78	
	6	5190.0	-9.75	1.70	20.23	0.73	12.91	
	7	5190.0	-9.76	1.70	20.23	0.79	12.96	

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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room	
Date	January 15, 2015		
Temperature / Humidity	21deg.C , 55%RH		
Engineer	Yosuke Ishikawa		
Mode	Tx, IEEE802.11n(HT40), PN9, Low power setting	worst data mode :	0 (MCS)

mobile/portable client device

Antena terminal power (* P/M: Power Meter with power senser, AV: Average)

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor		Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dB]		[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5190.0	-16.13	1.70	20.23	0.19		5.99	3.97	23.98	250.00	17.99
High	5230.0	-16.20	1.71	20.23	0.19		5.93	3.92	23.98	250.00	18.05

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

EIRP (* P/M: Power Meter with power senser, AV: Average) **Reference Data**

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor	Antenna Gain	Result		Limit		Margin
							(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	
	[MHz]	[dBm]	[dB]	[dB]	[dB]	[dBi]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5190.0	-16.13	1.70	20.23	0.19	1.00	6.99	5.00	-	-	-
High	5230.0	-16.20	1.71	20.23	0.19	1.00	6.93	4.93	-	-	-

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Antenna Gain

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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room	
Date	January 5, 2015		
Temperature / Humidity	26 deg.C , 30 %RH		
Engineer	Yosuke Ishikawa		
Mode	Tx, IEEE802.11n(HT40), PN9, High power setting	worst data mode :	0 (MCS)

mobile/portable client device

Antena terminal power (* P/M: Power Meter with power senser, AV: Average)

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor		Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dB]		[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5270.0	-8.19	1.72	20.23	0.19		13.95	24.83	23.98	250.00	10.03
High	5310.0	-7.98	1.73	20.23	0.19		14.17	26.12	23.98	250.00	9.81

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

EIRP (* P/M: Power Meter with power senser, AV: Average) **Reference Data**

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor	Antenna Gain	Result		Limit		Margin
							(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	
	[MHz]	[dBm]	[dB]	[dB]	[dB]	[dBi]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5270.0	-8.19	1.72	20.23	0.19	1.00	14.95	31.26	-	-	-
High	5310.0	-7.98	1.73	20.23	0.19	1.00	15.17	32.89	-	-	-

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Antenna Gain

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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room	
Date	January 15, 2015		
Temperature / Humidity	21deg.C , 55%RH		
Engineer	Yosuke Ishikawa		
Mode	Tx, IEEE802.11n(HT40), PN9, Low power setting	worst data mode :	0 (MCS)

mobile/portable client device

Antena terminal power (* P/M: Power Meter with power senser, AV: Average)

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor		Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dB]		[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5270.0	-16.33	1.72	20.23	0.19		5.81	3.81	23.98	250.00	18.17
High	5310.0	-16.19	1.73	20.23	0.19		5.96	3.94	23.98	250.00	18.02

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

EIRP (* P/M: Power Meter with power senser, AV: Average) **Reference Data**

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor	Antenna Gain	Result		Limit		Margin
							(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	
	[MHz]	[dBm]	[dB]	[dB]	[dB]	[dBi]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5270.0	-16.33	1.72	20.23	0.19	1.00	6.81	4.80	-	-	-
High	5310.0	-16.19	1.73	20.23	0.19	1.00	6.96	4.97	-	-	-

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Antenna Gain

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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room	
Date	January 5, 2015		
Temperature / Humidity	26 deg.C , 30 %RH		
Engineer	Yosuke Ishikawa		
Mode	Tx, IEEE802.11n(HT40), PN9, High power setting	worst data mode :	0 (MCS)

mobile/portable client device

Antena terminal power (* P/M: Power Meter with power senser, AV: Average)

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor		Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dB]		[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5510.0	-8.93	1.76	20.21	0.19		13.23	21.04	23.98	250.00	10.75
Mid	5550.0	-8.43	1.76	20.21	0.19		13.73	23.60	23.98	250.00	10.25
High	5670.0	-8.44	1.75	20.20	0.19		13.70	23.44	23.98	250.00	10.28

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

EIRP (* P/M: Power Meter with power senser, AV: Average) **Reference Data**

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor	Antenna Gain	Result		Limit		Margin
							(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	
	[MHz]	[dBm]	[dB]	[dB]	[dB]	[dBi]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5510.0	-8.93	1.76	20.21	0.19	1.00	14.23	26.49	-	-	-
Mid	5550.0	-8.43	1.76	20.21	0.19	1.00	14.73	29.72	-	-	-
High	5670.0	-8.44	1.75	20.20	0.19	1.00	14.70	29.51	-	-	-

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Antenna Gain

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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room	
Date	January 15, 2015		
Temperature / Humidity	21deg.C , 55%RH		
Engineer	Yosuke Ishikawa		
Mode	Tx, IEEE802.11n(HT40), PN9, Power setting 5dBm	worst data mode :	0 (MCS)

mobile/portable client device

Antena terminal power (* P/M: Power Meter with power senser, AV: Average)

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor		Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dB]		[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5510.0	-16.99	1.76	20.21	0.19		5.17	3.29	23.98	250.00	18.81
Mid	5550.0	-16.73	1.76	20.21	0.19		5.43	3.49	23.98	250.00	18.55
High	5670.0	-16.26	1.75	20.20	0.19		5.88	3.87	23.98	250.00	18.10

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

EIRP (* P/M: Power Meter with power senser, AV: Average) **Reference Data**

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor	Antenna Gain	Result		Limit		Margin
							(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	
	[MHz]	[dBm]	[dB]	[dB]	[dB]	[dBi]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5510.0	-16.99	1.76	20.21	0.19	1.00	6.17	4.14	-	-	-
Mid	5550.0	-16.73	1.76	20.21	0.19	1.00	6.43	4.40	-	-	-
High	5670.0	-16.26	1.75	20.20	0.19	1.00	6.88	4.88	-	-	-

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Antenna Gain

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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room	
Date	January 5, 2015		
Temperature / Humidity	26deg.C , 30%RH		
Engineer	Yosuke Ishikawa		
Mode	Tx, IEEE802.11n(HT40), PN9, High power setting	worst data mode :	0 (MCS)

mobile/portable client device

Antena terminal power (* P/M: Power Meter with power senser, AV: Average)

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor		Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dB]		[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5755.0	-10.01	1.74	20.19	0.19		12.11	16.26	30.00	1000.00	17.89
High	5795.0	-10.04	1.74	20.19	0.19		12.08	16.14	30.00	1000.00	17.92

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

EIRP (* P/M: Power Meter with power senser, AV: Average) **Reference Data**

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor	Antenna Gain	Result		Limit		Margin
							(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	
	[MHz]	[dBm]	[dB]	[dB]	[dB]	[dBi]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5755.0	-10.01	1.74	20.19	0.19	1.00	13.11	20.46	-	-	-
High	5795.0	-10.04	1.74	20.19	0.19	1.00	13.08	20.32	-	-	-

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Antenna Gain

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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room	
Date	January 15, 2015		
Temperature / Humidity	21deg.C , 55%RH		
Engineer	Yosuke Ishikawa		
Mode	Tx, IEEE802.11n(HT40), PN9, Low power setting	worst data mode :	0 (MCS)

mobile/portable client device

Antena terminal power (* P/M: Power Meter with power senser, AV: Average)

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor		Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dB]		[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5755.0	-16.65	1.74	20.19	0.19		5.47	3.52	30.00	1000.00	24.53
High	5795.0	-16.62	1.74	20.19	0.19		5.50	3.55	30.00	1000.00	24.50

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

EIRP (* P/M: Power Meter with power senser, AV: Average) **Reference Data**

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor	Antenna Gain	Result (e.i.r.p.)	(e.i.r.p.)	Limit (e.i.r.p.)	(e.i.r.p.)	Margin
	[MHz]	[dBm]	[dB]	[dB]	[dB]	[dBi]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5755.0	-16.65	1.74	20.19	0.19	1.00	6.47	4.44	-	-	-
High	5795.0	-16.62	1.74	20.19	0.19	1.00	6.50	4.47	-	-	-

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Antenna Gain

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Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room
Date	December 22, 2014	
Temperature / Humidity	24deg.C , 32%RH	
Engineer	Tatsuya Arai	

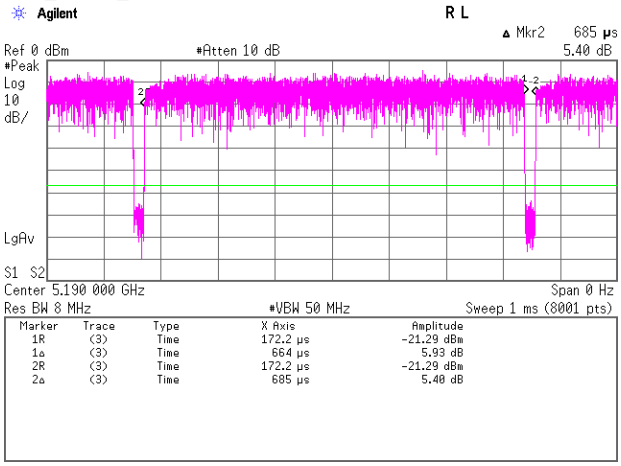
Maximum Conducted Output Power (Conducted)

(Reference) (duty chart)

Tx, IEEE802.11n(HT40), (Tx 5190MHz)

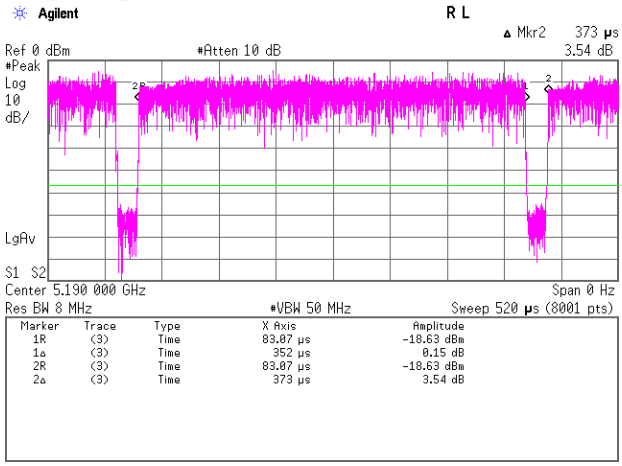
MCS0

duty factor [dB] = 10 x log (0.69[ms] / 0.66[ms]) = 0.19 [dB]



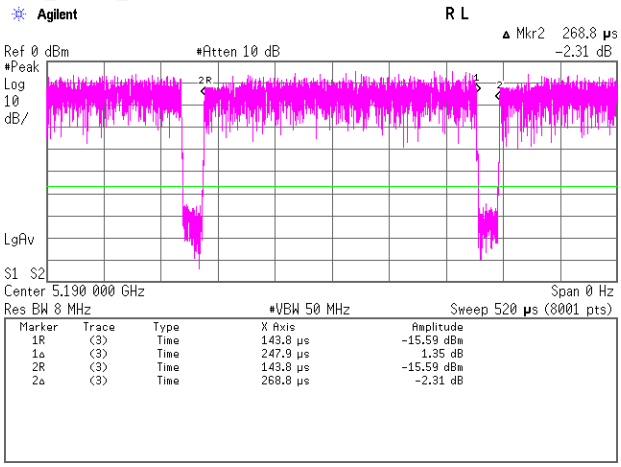
MCS1

duty factor [dB] = 10 x log (0.37[ms] / 0.35[ms]) = 0.24 [dB]



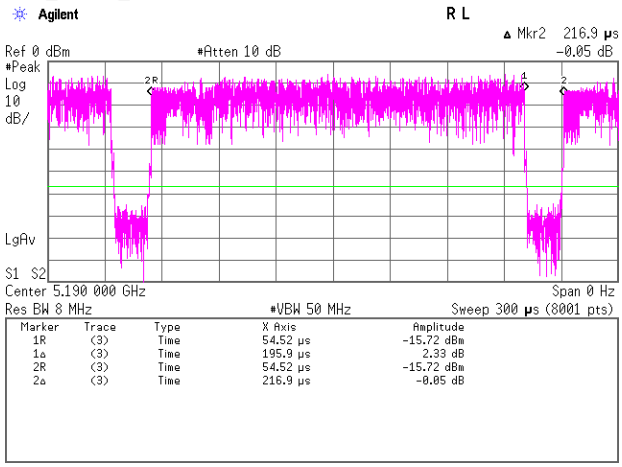
MCS2

duty factor [dB] = 10 x log (0.27[ms] / 0.25[ms]) = 0.33 [dB]



MCS3

duty factor [dB] = 10 x log (0.22[ms] / 0.2[ms]) = 0.41 [dB]



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Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room
Date	December 22, 2014	
Temperature / Humidity	24deg.C , 32%RH	
Engineer	Tatsuya Arai	

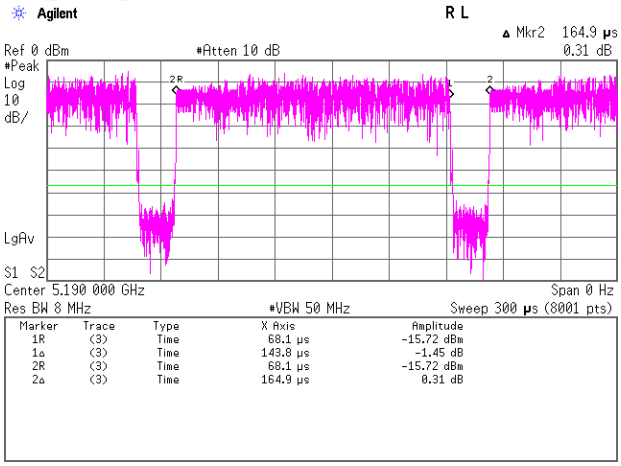
Maximum Conducted Output Power (Conducted)

(Reference) (duty chart)

Tx, IEEE802.11n(HT40), (Tx 5190MHz)

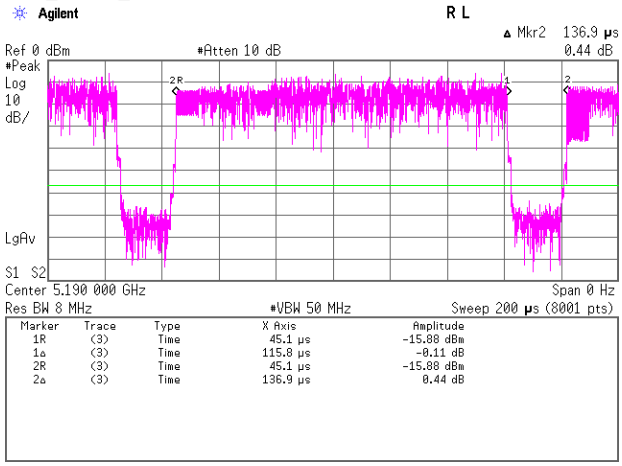
MCS4

duty factor [dB] = 10 x log (0.16[ms] / 0.14[ms]) = 0.58 [dB]



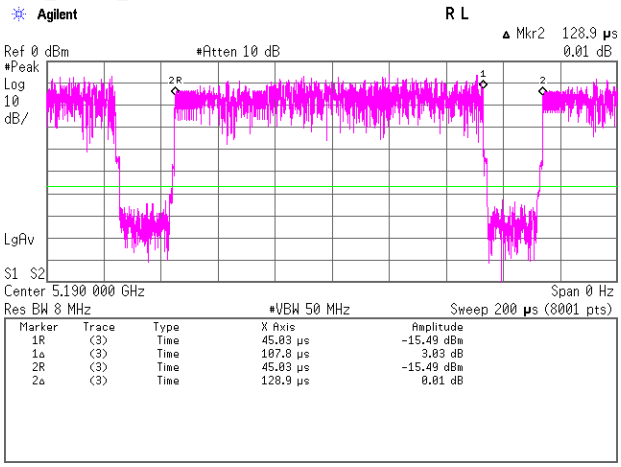
MCS5

duty factor [dB] = 10 x log (0.14[ms] / 0.12[ms]) = 0.67 [dB]



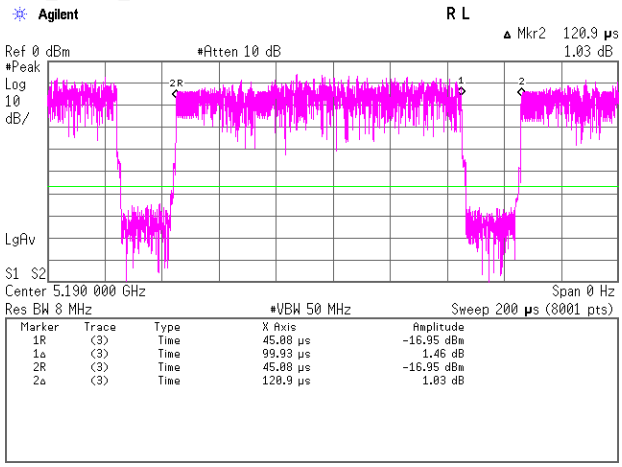
MCS6

duty factor [dB] = 10 x log (0.13[ms] / 0.11[ms]) = 0.73 [dB]



MCS7

duty factor [dB] = 10 x log (0.12[ms] / 0.1[ms]) = 0.79 [dB]



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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.	
	No.1 Measurement Room	No.5 Shielded Room
Date	December 23, 2014	January 23, 2015
Temperature / Humidity	23deg.C , 32%RH	24deg.C , 50%RH
Engineer	Tatsuya Arai	Shinichi Takano
Mode	Tx, IEEE802.11ac(VHT40), PN9, High power setting	worst data mode : 0 (MCS)

mobile/portable client device

Antena terminal power (* P/M: Power Meter with power senser, AV: Average)

Ch	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]		Result [dBm]	Result [mW]	Limit [dBm]	Limit [mW]	Margin [dB]
Low	5190.0	-8.92	1.70	20.23	0.13		13.14	20.61	23.98	250.00	10.84
High	5230.0	-8.54	1.71	20.23	0.13		13.53	22.54	23.98	250.00	10.45

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

EIRP (* P/M: Power Meter with power senser, AV: Average) **Reference Data**

Ch	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Antenna Gain [dBi]	Result (e.i.r.p.) [dBm]	Result (e.i.r.p.) [mW]	Limit (e.i.r.p.) [dBm]	Limit (e.i.r.p.) [mW]	Margin [dB]
Low	5190.0	-8.92	1.70	20.23	0.13	1.00	14.14	25.94	-	-	-
High	5230.0	-8.54	1.71	20.23	0.13	1.00	14.53	28.38	-	-	-

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Antenna Gain

[Pre check]

Antenna

	Mode (MCS)	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Result [dBm]	
	0	5190.0	-8.92	1.70	20.23	0.13	13.14	**Worst**
	1	5190.0	-9.13	1.70	20.23	0.23	13.03	
	2	5190.0	-9.23	1.70	20.23	0.33	13.03	
	3	5190.0	-9.25	1.70	20.23	0.41	13.09	
	4	5190.0	-9.45	1.70	20.23	0.54	13.02	
	5	5190.0	-9.57	1.70	20.23	0.67	13.03	
	6	5190.0	-9.65	1.70	20.23	0.73	13.01	
	7	5190.0	-9.68	1.70	20.23	0.79	13.04	
	8	5190.0	-9.75	1.70	20.23	0.86	13.04	
	9	5190.0	-9.88	1.70	20.23	0.93	12.98	

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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room	
Date	January 15, 2015		
Temperature / Humidity	21deg.C , 55%RH		
Engineer	Yosuke Ishikawa		
Mode	Tx, IEEE802.11ac(VHT40), PN9, Low power setting	worst data mode :	0 (MCS)

mobile/portable client device

Antena terminal power (* P/M: Power Meter with power senser, AV: Average)

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor		Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dB]		[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5190.0	-16.18	1.70	20.23	0.13		5.88	3.87	23.98	250.00	18.10
High	5230.0	-16.24	1.71	20.23	0.13		5.83	3.83	23.98	250.00	18.15

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

EIRP (* P/M: Power Meter with power senser, AV: Average) **Reference Data**

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor	Antenna Gain	Result		Limit		Margin
							(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	
	[MHz]	[dBm]	[dB]	[dB]	[dB]	[dBi]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5190.0	-16.18	1.70	20.23	0.13	1.00	6.88	4.88	-	-	-
High	5230.0	-16.24	1.71	20.23	0.13	1.00	6.83	4.82	-	-	-

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Antenna Gain

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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room	
Date	January 23, 2015		
Temperature / Humidity	24deg.C , 50%RH		
Engineer	Shinichi Takano		
Mode	Tx, IEEE802.11ac(VHT40), PN9, High power setting	worst data mode :	0 (MCS)

mobile/portable client device

Antena terminal power (* P/M: Power Meter with power senser, AV: Average)

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor		Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dB]		[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5270.0	-8.44	1.72	20.23	0.13		13.64	23.12	23.98	250.00	10.34
High	5310.0	-8.49	1.73	20.23	0.13		13.60	22.91	23.98	250.00	10.38

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

EIRP (* P/M: Power Meter with power senser, AV: Average) **Reference Data**

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor	Antenna Gain	Result		Limit		Margin
							(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	
	[MHz]	[dBm]	[dB]	[dB]	[dB]	[dBi]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5270.0	-8.44	1.72	20.23	0.13	1.00	14.64	29.11	-	-	-
High	5310.0	-8.49	1.73	20.23	0.13	1.00	14.60	28.84	-	-	-

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Antenna Gain

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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room	
Date	January 15, 2015		
Temperature / Humidity	21deg.C , 55%RH		
Engineer	Yosuke Ishikawa		
Mode	Tx, IEEE802.11ac(VHT40), PN9, Low power setting	worst data mode :	0 (MCS)

mobile/portable client device

Antena terminal power (* P/M: Power Meter with power senser, AV: Average)

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor		Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dB]		[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5270.0	-16.27	1.72	20.23	0.13		5.81	3.81	23.98	250.00	18.17
High	5310.0	-16.38	1.73	20.23	0.13		5.71	3.72	23.98	250.00	18.27

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

EIRP (* P/M: Power Meter with power senser, AV: Average) **Reference Data**

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor	Antenna Gain	Result		Limit		Margin
							(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	
	[MHz]	[dBm]	[dB]	[dB]	[dB]	[dBi]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5270.0	-16.27	1.72	20.23	0.13	1.00	6.81	4.80	-	-	-
High	5310.0	-16.38	1.73	20.23	0.13	1.00	6.71	4.69	-	-	-

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Antenna Gain

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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room	
Date	January 23, 2015		
Temperature / Humidity	24deg.C , 50%RH		
Engineer	Shinichi Takano		
Mode	Tx, IEEE802.11ac(VHT40), PN9, High power setting	worst data mode :	0 (MCS)

mobile/portable client device

Antena terminal power (* P/M: Power Meter with power senser, AV: Average)

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor		Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dB]		[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5510.0	-8.74	1.76	20.21	0.13		13.36	21.68	23.98	250.00	10.62
Mid	5550.0	-8.52	1.76	20.21	0.13		13.58	22.80	23.98	250.00	10.40
High	5670.0	-8.39	1.75	20.20	0.13		13.69	23.39	23.98	250.00	10.29

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

EIRP (* P/M: Power Meter with power senser, AV: Average) **Reference Data**

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor	Antenna Gain	Result		Limit		Margin
							(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	
	[MHz]	[dBm]	[dB]	[dB]	[dB]	[dBi]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5510.0	-8.74	1.76	20.21	0.13	1.00	14.36	27.29	-	-	-
Mid	5550.0	-8.52	1.76	20.21	0.13	1.00	14.58	28.71	-	-	-
High	5670.0	-8.39	1.75	20.20	0.13	1.00	14.69	29.44	-	-	-

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Antenna Gain

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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room	
Date	January 15, 2015		
Temperature / Humidity	21deg.C , 55%RH		
Engineer	Yosuke Ishikawa		
Mode	Tx, IEEE802.11ac(VHT40), PN9, Low power setting	worst data mode :	0 (MCS)

mobile/portable client device

Antena terminal power (* P/M: Power Meter with power senser, AV: Average)

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor		Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dB]		[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5510.0	-16.92	1.76	20.21	0.13		5.18	3.30	23.98	250.00	18.80
Mid	5550.0	-16.73	1.76	20.21	0.13		5.37	3.44	23.98	250.00	18.61
High	5670.0	-16.20	1.75	20.20	0.13		5.88	3.87	23.98	250.00	18.10

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

EIRP (* P/M: Power Meter with power senser, AV: Average) **Reference Data**

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor	Antenna Gain	Result		Limit		Margin
							(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	
	[MHz]	[dBm]	[dB]	[dB]	[dB]	[dBi]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5510.0	-16.92	1.76	20.21	0.13	1.00	6.18	4.15	-	-	-
Mid	5550.0	-16.73	1.76	20.21	0.13	1.00	6.37	4.34	-	-	-
High	5670.0	-16.20	1.75	20.20	0.13	1.00	6.88	4.88	-	-	-

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Antenna Gain

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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room	
Date	January 5, 2015		
Temperature / Humidity	26 deg.C , 30 %RH		
Engineer	Yosuke Ishikawa		
Mode	Tx, IEEE802.11ac(VHT40), PN9, High power setting	worst data mode :	0 (MCS)

mobile/portable client device

Antena terminal power (* P/M: Power Meter with power senser, AV: Average)

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor		Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dB]		[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5755.0	-10.16	1.74	20.19	0.13		11.90	15.49	30.00	1000.00	18.10
High	5795.0	-10.27	1.74	20.19	0.13		11.79	15.10	30.00	1000.00	18.21

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

EIRP (* P/M: Power Meter with power senser, AV: Average) **Reference Data**

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor	Antenna Gain	Result		Limit		Margin
							(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	
	[MHz]	[dBm]	[dB]	[dB]	[dB]	[dBi]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5755.0	-10.16	1.74	20.19	0.13	1.00	12.90	19.50	-	-	-
High	5795.0	-10.27	1.74	20.19	0.13	1.00	12.79	19.01	-	-	-

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Antenna Gain

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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room	
Date	January 15, 2015		
Temperature / Humidity	21deg.C , 55%RH		
Engineer	Yosuke Ishikawa		
Mode	Tx, IEEE802.11ac(VHT40), PN9, Low power setting	worst data mode :	0 (MCS)

mobile/portable client device

Antena terminal power (* P/M: Power Meter with power senser, AV: Average)

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor		Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dB]		[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5755.0	-16.69	1.74	20.19	0.13		5.37	3.44	30.00	1000.00	24.63
High	5795.0	-16.55	1.74	20.19	0.13		5.51	3.56	30.00	1000.00	24.49

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

EIRP (* P/M: Power Meter with power senser, AV: Average) **Reference Data**

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor	Antenna Gain	Result		Limit		Margin
							(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	
	[MHz]	[dBm]	[dB]	[dB]	[dB]	[dBi]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5755.0	-16.69	1.74	20.19	0.13	1.00	6.37	4.34	-	-	-
High	5795.0	-16.55	1.74	20.19	0.13	1.00	6.51	4.48	-	-	-

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Antenna Gain

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Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room
Date	December 22, 2014	
Temperature / Humidity	24deg.C , 32%RH	
Engineer	Tatsuya Arai	

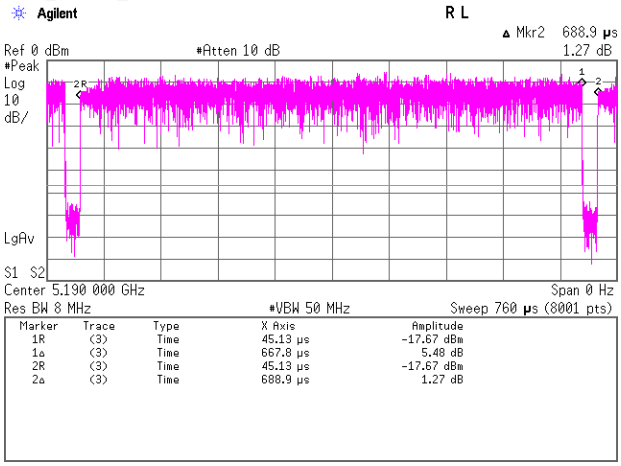
Maximum Conducted Output Power (Conducted)

(Reference) (duty chart)

Tx, IEEE802.11ac(VHT40), (Tx 5190MHz)

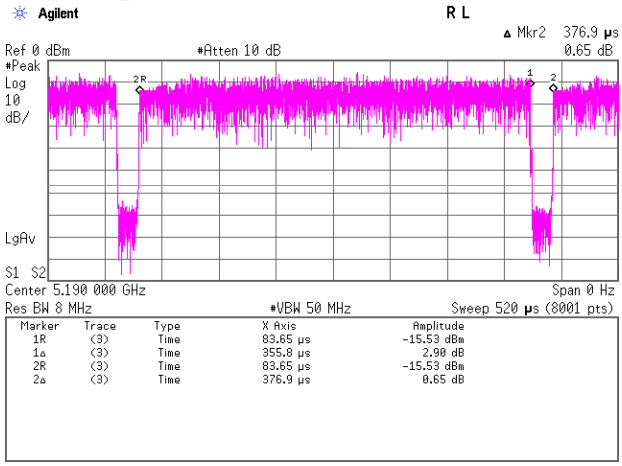
MCS0

duty factor [dB] = 10 x log (0.69[ms] / 0.67[ms]) = 0.13 [dB]



MCS1

duty factor [dB] = 10 x log (0.38[ms] / 0.36[ms]) = 0.23 [dB]

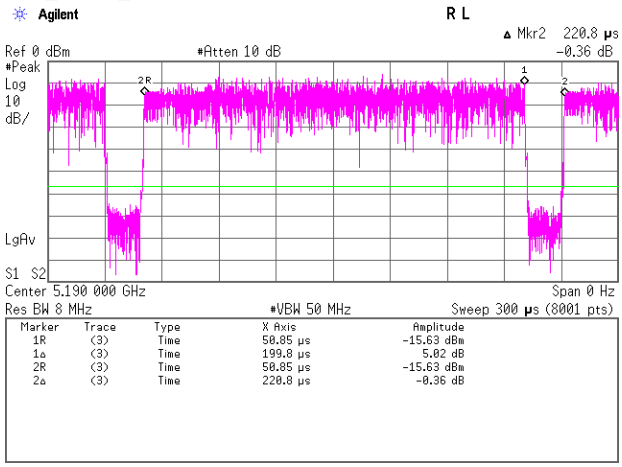


MCS2

duty factor [dB] = 10 x log (0.27[ms] / 0.25[ms]) = 0.33 [dB]

MCS3

duty factor [dB] = 10 x log (0.22[ms] / 0.2[ms]) = 0.41 [dB]



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Facsimile : +81 463 50 6401

Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room
Date	December 22, 2014	
Temperature / Humidity	24deg.C , 32%RH	
Engineer	Tatsuya Arai	

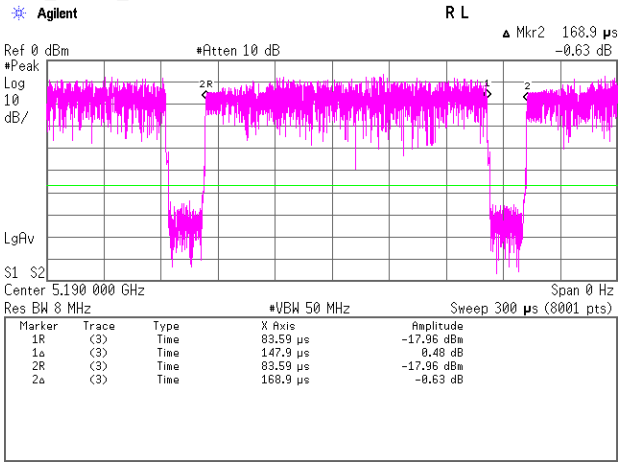
Maximum Conducted Output Power (Conducted)

(Reference) (duty chart)

Tx, IEEE802.11ac(VHT40), (Tx 5190MHz)

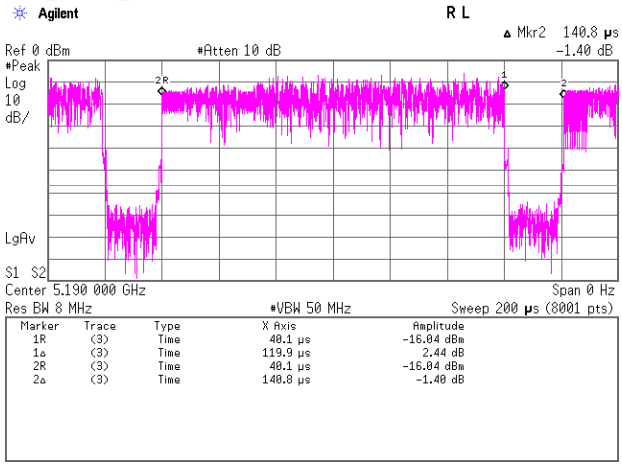
MCS4

duty factor [dB] = 10 x log (0.17[ms] / 0.15[ms]) = 0.54 [dB]



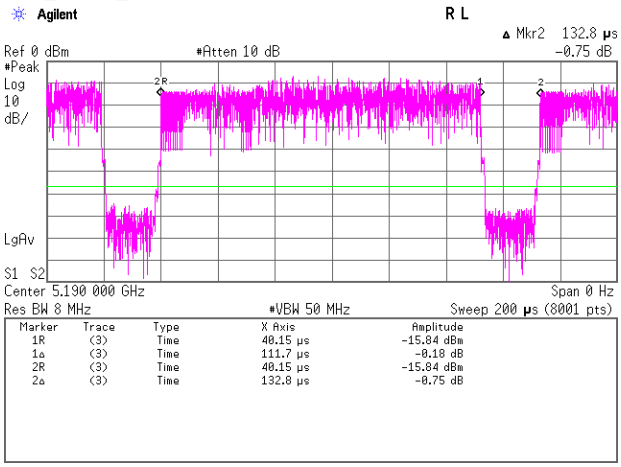
MCS5

duty factor [dB] = 10 x log (0.14[ms] / 0.12[ms]) = 0.67 [dB]



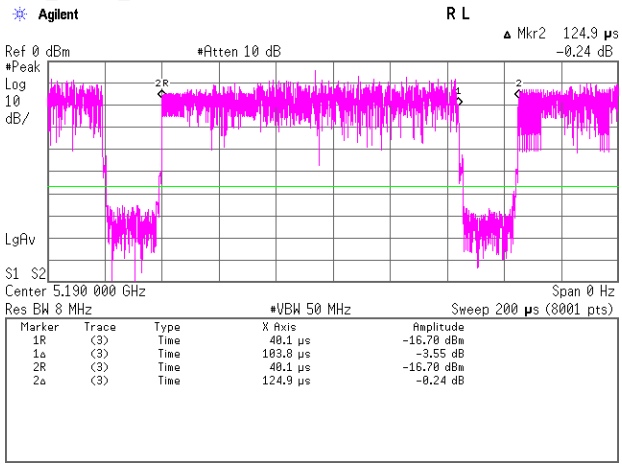
MCS6

duty factor [dB] = 10 x log (0.13[ms] / 0.11[ms]) = 0.73 [dB]



MCS7

duty factor [dB] = 10 x log (0.12[ms] / 0.1[ms]) = 0.79 [dB]



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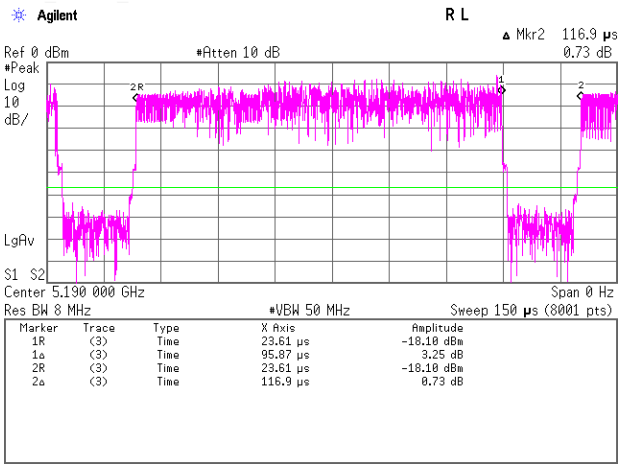
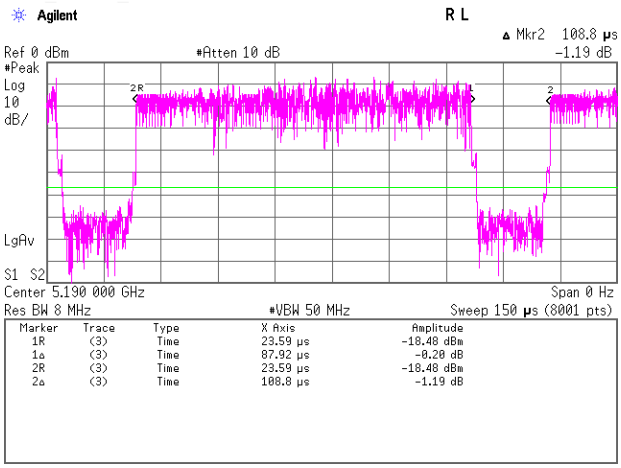
Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room
Date	December 22, 2014	
Temperature / Humidity	24deg.C , 32%RH	
Engineer	Tatsuya Arai	

Maximum Conducted Output Power (Conducted)

(Reference) (duty chart)

Tx, IEEE802.11ac(VHT40), (Tx 5190MHz)

MCS8	MCS9
duty factor [dB] = 10 x log (116.9[ms] / 95.87[ms]) 0.86 [dB]	duty factor [dB] = 10 x log (108.8[ms] / 87.92[ms]) 0.93 [dB]
Tx2_Rate09_Nom	Tx2_Rate10_Nom
	
Tx2_Rate07_Nom	Tx2_Rate08_Nom

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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room	
Date	January 23, 2015		
Temperature / Humidity	24deg.C , 50%RH		
Engineer	Shinichi Takano		
Mode	Tx, IEEE802.11ac(VHT80), PN9, High power setting	worst data mode :	0 (MCS)

mobile/portable client device

Antena terminal power (* P/M: Power Meter with power senser, AV: Average)

Ch	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]		Result [dBm]	Result [mW]	Limit [dBm]	Limit [mW]	Margin [dB]
Low	5210.0	-9.56	1.71	20.23	0.26		12.64	18.37	23.98	250.00	11.34

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

EIRP (* P/M: Power Meter with power senser, AV: Average) **Reference Data**

Ch	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Antenna Gain [dBi]	Result (e.i.r.p.) [dBm]	Result (e.i.r.p.) [mW]	Limit (e.i.r.p.) [dBm]	Limit (e.i.r.p.) [mW]	Margin [dB]
Low	5210.0	-9.56	1.71	20.23	0.26	1.00	13.64	23.12	-	-	-

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Antenna Gain

[Pre check]

Antenna

	Mode (MCS)	Freq. [MHz]	P/M (AV) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	Result [dBm]	
	0	5210.0	-9.56	1.71	20.23	0.26	12.64	**Worst**
	1	5210.0	-9.79	1.71	20.23	0.43	12.58	
	2	5210.0	-9.92	1.71	20.23	0.58	12.60	
	3	5210.0	-10.01	1.71	20.23	0.67	12.60	
	4	5210.0	-10.21	1.71	20.23	0.87	12.60	
	5	5210.0	-10.33	1.71	20.23	0.97	12.58	
	6	5210.0	-10.44	1.71	20.23	0.97	12.47	
	7	5210.0	-10.44	1.71	20.23	1.09	12.59	
	8	5210.0	-10.49	1.71	20.23	1.17	12.62	
	9	5210.0	-10.61	1.71	20.23	1.24	12.57	

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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room	
Date	January 15, 2015		
Temperature / Humidity	21deg.C , 55%RH		
Engineer	Yosuke Ishikawa		
Mode	Tx, IEEE802.11ac(VHT80), PN9, Low power setting	worst data mode :	0 (MCS)

mobile/portable client device

Antena terminal power (* P/M: Power Meter with power senser, AV: Average)

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor		Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dB]		[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5210.0	-16.22	1.71	20.23	0.26		5.98	3.96	23.98	250.00	18.00

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

EIRP (* P/M: Power Meter with power senser, AV: Average) **Reference Data**

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor	Antenna Gain	Result		Limit		Margin
							(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	
	[MHz]	[dBm]	[dB]	[dB]	[dB]	[dBi]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5210.0	-16.22	1.71	20.23	0.26	1.00	6.98	4.99	-	-	-

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Antenna Gain

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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room	
Date	January 23, 2015		
Temperature / Humidity	24deg.C , 50%RH		
Engineer	Shinichi Takano		
Mode	Tx, IEEE802.11ac(VHT80), PN9, High power setting	worst data mode :	0 (MCS)

mobile/portable client device

Antena terminal power (* P/M: Power Meter with power senser, AV: Average)

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor		Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dB]		[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5290.0	-9.24	1.72	20.23	0.26		12.97	19.82	23.98	250.00	11.01

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

EIRP (* P/M: Power Meter with power senser, AV: Average) **Reference Data**

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor	Antenna Gain	Result		Limit		Margin
							(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	
	[MHz]	[dBm]	[dB]	[dB]	[dB]	[dBi]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5290.0	-9.24	1.72	20.23	0.26	1.00	13.97	24.95	-	-	-

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Antenna Gain

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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room	
Date	January 15, 2015		
Temperature / Humidity	21deg.C , 55%RH		
Engineer	Yosuke Ishikawa		
Mode	Tx, IEEE802.11ac(VHT80), PN9, Low power setting	worst data mode :	0 (MCS)

mobile/portable client device

Antena terminal power (* P/M: Power Meter with power senser, AV: Average)

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor		Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dB]		[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5290.0	-16.26	1.72	20.23	0.26		5.95	3.94	23.98	250.00	18.03

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

EIRP (* P/M: Power Meter with power senser, AV: Average) **Reference Data**

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor	Antenna Gain	Result		Limit		Margin
							(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	
	[MHz]	[dBm]	[dB]	[dB]	[dB]	[dBi]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5290.0	-16.26	1.72	20.23	0.26	1.00	6.95	4.95	-	-	-

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Antenna Gain

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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room	
Date	January 5, 2015		
Temperature / Humidity	26 deg.C , 30 %RH		
Engineer	Yosuke Ishikawa		
Mode	Tx, IEEE802.11ac(VHT80), PN9, High power setting	worst data mode :	0 (MCS)

mobile/portable client device

Antena terminal power (* P/M: Power Meter with power senser, AV: Average)

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor		Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dB]		[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5530.0	-9.87	1.76	20.21	0.26		12.36	17.22	23.98	250.00	11.62
High	5610.0	-9.48	1.75	20.20	0.26		12.73	18.75	23.98	250.00	11.25

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

EIRP (* P/M: Power Meter with power senser, AV: Average) **Reference Data**

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor	Antenna Gain	Result		Limit		Margin
							(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	
	[MHz]	[dBm]	[dB]	[dB]	[dB]	[dBi]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5530.0	-9.87	1.76	20.21	0.26	1.00	13.36	21.68	-	-	-
High	5610.0	-9.48	1.75	20.20	0.26	1.00	13.73	23.60	-	-	-

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Antenna Gain

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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room	
Date	January 15, 2015		
Temperature / Humidity	21deg.C , 55%RH		
Engineer	Yosuke Ishikawa		
Mode	Tx, IEEE802.11ac(VHT80), PN9, Low power setting	worst data mode :	0 (MCS)

mobile/portable client device

Antena terminal power (* P/M: Power Meter with power senser, AV: Average)

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor		Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dB]		[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5530.0	-16.56	1.76	20.21	0.26		5.67	3.69	23.98	250.00	18.31
High	5610.0	-16.22	1.75	20.20	0.26		5.99	3.97	23.98	250.00	17.99

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

EIRP (* P/M: Power Meter with power senser, AV: Average) **Reference Data**

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor	Antenna Gain	Result		Limit		Margin
							(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	
	[MHz]	[dBm]	[dB]	[dB]	[dB]	[dBi]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5530.0	-16.56	1.76	20.21	0.26	1.00	6.67	4.65	-	-	-
High	5610.0	-16.22	1.75	20.20	0.26	1.00	6.99	5.00	-	-	-

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Antenna Gain

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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room	
Date	January 5, 2015		
Temperature / Humidity	26deg.C , 30%RH		
Engineer	Yosuke Ishikawa		
Mode	Tx, IEEE802.11ac(VHT80), PN9, High power setting	worst data mode :	0 (MCS)

mobile/portable client device

Antena terminal power (* P/M: Power Meter with power senser, AV: Average)

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor		Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dB]		[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5775.0	-9.84	1.74	20.19	0.26		12.35	17.18	30.00	1000.00	17.65

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

EIRP (* P/M: Power Meter with power senser, AV: Average) **Reference Data**

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor	Antenna Gain	Result		Limit		Margin
							(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	
	[MHz]	[dBm]	[dB]	[dB]	[dB]	[dBi]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5775.0	-9.84	1.74	20.19	0.26	1.00	13.35	21.63	-	-	-

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Antenna Gain

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Maximum Conducted Output Power (Conducted)

(Method: PM)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room	
Date	January 15, 2015		
Temperature / Humidity	21deg.C , 55%RH		
Engineer	Yosuke Ishikawa		
Mode	Tx, IEEE802.11ac(VHT80), PN9, Low power setting	worst data mode :	0 (MCS)

mobile/portable client device

Antena terminal power (* P/M: Power Meter with power senser, AV: Average)

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor		Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dB]		[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5775.0	-16.20	1.74	20.19	0.26		5.99	3.97	30.00	1000.00	24.01

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

EIRP (* P/M: Power Meter with power senser, AV: Average) **Reference Data**

Ch	Freq.	P/M (AV) Reading	Cable Loss	Atten. Loss	Duty factor	Antenna Gain	Result		Limit		Margin
							(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	(e.i.r.p.)	
	[MHz]	[dBm]	[dB]	[dB]	[dB]	[dBi]	[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5775.0	-16.20	1.74	20.19	0.26	1.00	6.99	5.00	-	-	-

Sample Calculation: Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Antenna Gain

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Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room
Date	December 22, 2014	
Temperature / Humidity	24deg.C , 32%RH	
Engineer	Tatsuya Arai	

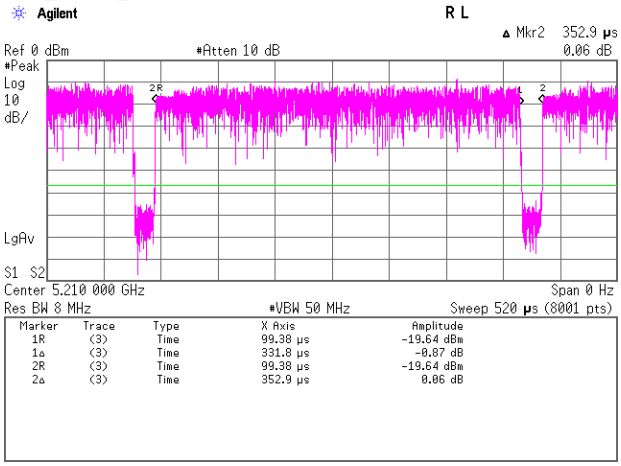
Maximum Conducted Output Power (Conducted)

(Reference) (duty chart)

Tx, IEEE802.11ac(VHT80), (Tx 5210MHz)

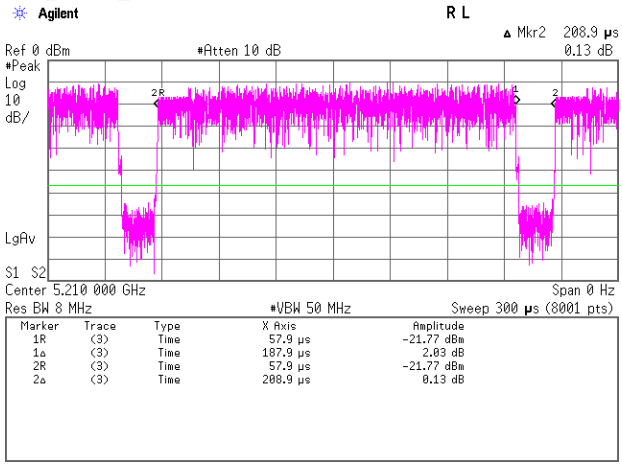
MCS0

duty factor [dB] = 10 x log (0.35[ms] / 0.33[ms]) = 0.26 [dB]



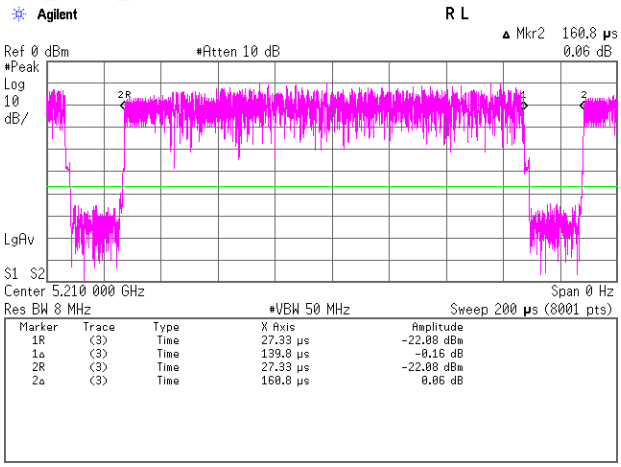
MCS1

duty factor [dB] = 10 x log (0.21[ms] / 0.19[ms]) = 0.43 [dB]



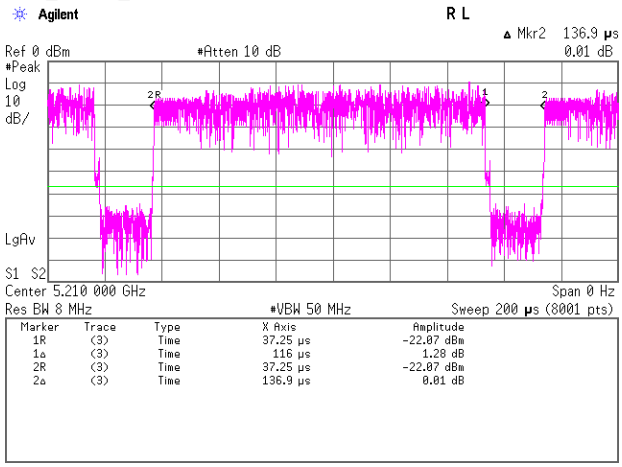
MCS2

duty factor [dB] = 10 x log (0.16[ms] / 0.14[ms]) = 0.58 [dB]



MCS3

duty factor [dB] = 10 x log (0.14[ms] / 0.12[ms]) = 0.67 [dB]



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Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room
Date	December 22, 2014	
Temperature / Humidity	24deg.C , 32%RH	
Engineer	Tatsuya Arai	

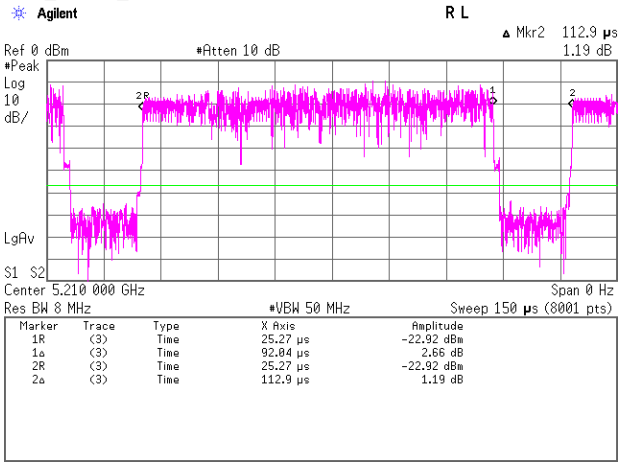
Maximum Conducted Output Power (Conducted)

(Reference) (duty chart)

Tx, IEEE802.11ac(VHT80), (Tx 5210MHz)

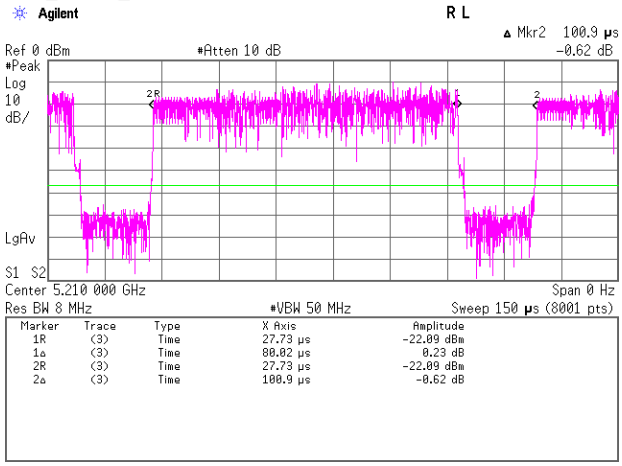
MCS4

duty factor [dB] = 10 x log (0.11[ms] / 0.09[ms]) = 0.87 [dB]



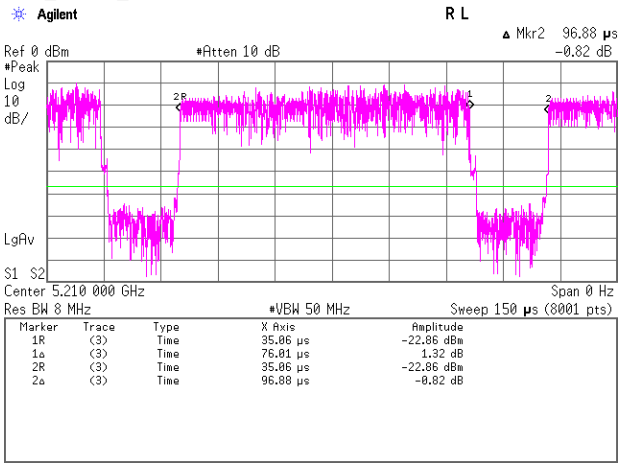
MCS5

duty factor [dB] = 10 x log (0.1[ms] / 0.08[ms]) = 0.97 [dB]



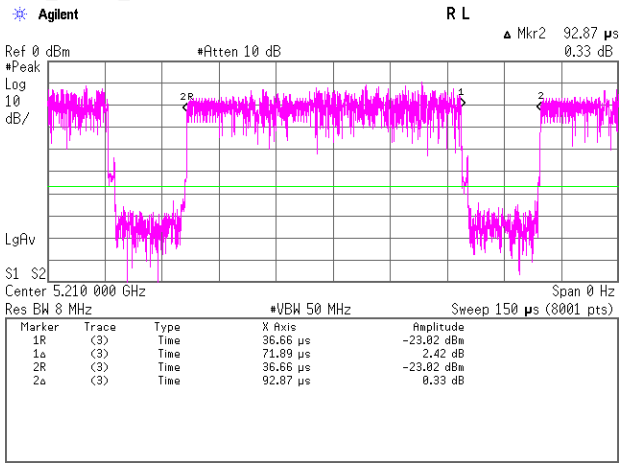
MCS6

duty factor [dB] = 10 x log (0.1[ms] / 0.08[ms]) = 0.97 [dB]



MCS7

duty factor [dB] = 10 x log (0.09[ms] / 0.07[ms]) = 1.09 [dB]



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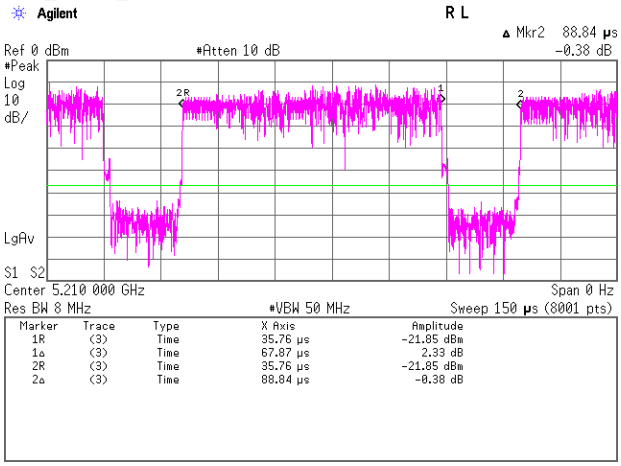
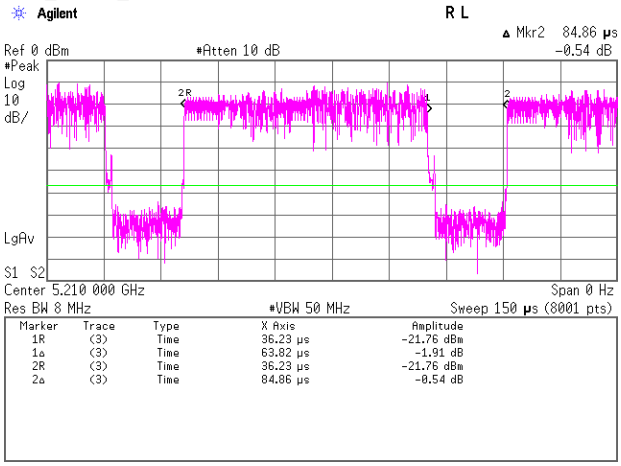
Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Measurement Room
Date	December 22, 2014	
Temperature / Humidity	24deg.C , 32%RH	
Engineer	Tatsuya Arai	

Maximum Conducted Output Power (Conducted)

(Reference) (duty chart)

Tx, IEEE802.11ac(VHT80), (Tx 5210MHz)

MCS8	MCS9
duty factor [dB] = 10 x log (0.0888[ms] / 0.0679[m 1.17 [dB]	duty factor [dB] = 10 x log (0.0849[ms] / 0.0638[m 1.24 [dB]
Tx2_Rate09_Nom	Tx2_Rate10_Nom
	
Tx2_Rate07_Nom	Tx2_Rate08_Nom

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Radiated Emission

Test place	No.3 Semi Anechoic Chamber				
Date	January 5, 2015	January 8, 2015	January 24, 2015	January 25, 2015	January 27, 2015
Temperature / Humidity	22 deg.C, 34 %RH	23 deg.C, 40 %RH	26 deg.C, 34 %RH	22 deg.C, 27 %RH	25 deg.C, 34 %RH
Engineer	Tatsuya Arai	Tatsuya Arai	Shinichi Takano	Tatsuya Arai	Akira Sato
Mode	Tx, 5180 MHz (20MHz BW)				
Antenna	Monopole				

Tx, IEEE802.11a (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5150.000	PK	54.8	31.5	15.2	39.3	62.2	73.9	11.7	100	121	
Hori.	5150.000	AV	37.0	31.5	15.2	39.3	44.4	53.9	**9.5**	100	121	
Vert.	5150.000	PK	54.0	31.5	15.2	39.3	61.4	73.9	12.5	102	107	
Vert.	5150.000	AV	36.0	31.5	15.2	39.3	43.4	53.9	10.5	102	107	

*This mode was perfomed only band edges measurement.

Tx, IEEE802.11n (HT20) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5150.000	PK	59.6	31.5	15.2	39.3	67.0	73.9	**6.9**	100	253	
Hori.	10360.000	PK	47.8	39.3	7.7	39.5	55.3	73.9	18.6	100	12	*1)
Hori.	15540.000	PK	48.4	39.6	0.2	40.6	47.6	73.9	26.3	105	149	
Hori.	5150.000	AV	37.3	31.5	15.2	39.3	44.7	53.9	9.2	100	253	
Hori.	10360.000	AV	35.7	39.3	7.7	39.5	43.2	53.9	10.7	100	12	*1)
Hori.	15540.000	AV	36.6	39.6	0.2	40.6	35.8	53.9	18.1	105	149	
Vert.	5150.000	PK	57.6	31.5	15.2	39.3	65.0	73.9	8.9	107	54	
Vert.	10360.000	PK	45.5	39.3	7.7	39.5	53.0	73.9	20.9	100	128	*1)
Vert.	15540.000	PK	46.9	39.6	0.2	40.6	46.1	73.9	27.8	109	248	
Vert.	5150.000	AV	36.2	31.5	15.2	39.3	43.6	53.9	10.3	107	54	
Vert.	10360.000	AV	34.2	39.3	7.7	39.5	41.7	53.9	12.2	100	128	*1)
Vert.	15540.000	AV	35.8	39.6	0.2	40.6	35.0	53.9	18.9	109	248	

*The 4th harmonic was not seen so the result was its base noise level.
*1) This frequency was an outside of the restricted band, but that was applied the limit of 15.209.

Tx, IEEE802.11ac (VHT20) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5150.000	PK	58.7	31.5	15.2	39.3	66.1	73.9	**7.8**	100	122	
Hori.	5150.000	AV	38.4	31.5	15.2	39.3	45.8	53.9	8.1	100	122	
Vert.	5150.000	PK	58.2	31.5	15.2	39.3	65.6	73.9	8.3	112	93	
Vert.	5150.000	AV	38.1	31.5	15.2	39.3	45.5	53.9	8.4	112	93	

*This mode was perfomed only band edges measurement.

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

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Radiated Emission

Test place	No.3 Semi Anechoic Chamber			
Date	January 20, 2015	January 24, 2015	January 25, 2015	January 27, 2015
Temperature / Humidity	27 deg.C, 31 %RH	26 deg.C, 34 %RH	22 deg.C, 27 %RH	25 deg.C, 34 %RH
Engineer	Yosuke Ishikawa	Shinichi Takano	Tatsuya Arai	Akira Sato
Mode	Tx, 5240 MHz (20MHz BW)			
Antenna	Monopole			

Tx, IEEE802.11n (HT20) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	10480.000	PK	47.2	39.5	7.8	39.4	55.1	73.9	18.8	100	10	*1)
Hori.	15720.000	PK	48.1	38.9	0.4	40.6	46.8	73.9	27.1	105	152	
Hori.	10480.000	AV	35.8	39.5	7.8	39.4	43.7	53.9	**10.2**	100	10	*1)
Hori.	15720.000	AV	36.7	38.9	0.4	40.6	35.4	53.9	18.5	105	152	
Vert.	10480.000	PK	45.6	39.5	7.8	39.4	53.5	73.9	20.4	100	258	*1)
Vert.	15720.000	PK	47.2	38.9	0.4	40.6	45.9	73.9	28.0	111	298	
Vert.	10480.000	AV	34.4	39.5	7.8	39.4	42.3	53.9	11.6	100	258	*1)
Vert.	15720.000	AV	35.6	38.9	0.4	40.6	34.3	53.9	19.6	111	298	

*1) This frequency was an outside of the restricted band, but that was applied the limit of 15.209.
Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

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Radiated Emission

Test place	No.3 Semi Anechoic Chamber		
Date	January 20, 2015	January 17, 2015	February 1, 2015
Temperature / Humidity	27 deg.C, 31 %RH	22 deg.C, 32 %RH	22 deg.C, 35 %RH
Engineer	Yosuke Ishikawa	Shinichi Takano	Tatsuya Arai
Mode	Tx, 5260 MHz	(20MHz BW)	
Antenna	Monopole		

Tx, IEEE802.11n (HT20) (* PK: Peak, AV: Average, QP: Quasi-Peak) (below 1GHz and above 1GHz Inside of the restricted band)

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.	38.367	QP	22.3	14.9	6.5	32.2	11.5	40.0	28.5	304	69	
Hori.	505.097	QP	21.5	17.9	9.3	32.1	16.6	46.0	29.4	100	143	
Hori.	10520.000	PK	46.9	39.6	7.8	39.4	54.9	73.9	19.0	100	11	*1)
Hori.	15780.000	PK	49.8	38.7	0.5	40.7	48.3	73.9	25.6	108	154	
Hori.	10520.000	AV	35.0	39.6	7.8	39.4	43.0	53.9	**10.9**	100	11	*1)
Hori.	15780.000	AV	36.5	38.7	0.5	40.7	35.0	53.9	18.9	108	154	
Vert.	37.555	QP	22.4	15.1	6.5	32.2	11.8	40.0	28.2	100	114	
Vert.	496.937	QP	22.2	17.7	9.2	32.1	17.0	46.0	29.0	100	51	
Vert.	10520.000	PK	45.4	39.6	7.8	39.4	53.4	73.9	20.5	100	256	*1)
Vert.	15780.000	PK	49.0	38.7	0.5	40.7	47.5	73.9	26.4	112	299	
Vert.	10520.000	AV	34.0	39.6	7.8	39.4	42.0	53.9	11.9	100	256	*1)
Vert.	15780.000	AV	35.6	38.7	0.5	40.7	34.1	53.9	19.8	112	299	

*1) This frequency was an outside of the restricted band, but that was applied the limit of 15.209.
Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

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Radiated Emission

Test place	No.3 Semi Anechoic Chamber				
Date	January 5, 2015	January 8, 2015	January 24, 2015	January 25, 2015	January 27, 2015
Temperature / Humidity	22 deg.C, 34 %RH	23 deg.C, 40 %RH	26 deg.C, 34 %RH	22 deg.C, 27 %RH	25 deg.C, 34 %RH
Engineer	Tatsuya Arai	Tatsuya Arai	Shinichi Takano	Tatsuya Arai	Akira Sato
Mode	Tx, 5320 MHz (20MHz BW)				
Antenna	Monopole				

Tx, IEEE802.11a (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5350.000	PK	55.6	31.6	15.2	39.0	63.4	73.9	10.5	100	129	
Hori.	5350.000	AV	37.7	31.6	15.2	39.0	45.5	53.9	8.4	100	129	
Vert.	5350.000	PK	55.9	31.6	15.2	39.0	63.7	73.9	10.2	102	85	
Vert.	5350.000	AV	37.9	31.6	15.2	39.0	45.7	53.9	**8.2**	102	85	

*This mode was perfomed only band edges measurement.

Tx, IEEE802.11n (HT20) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5350.000	PK	60.5	31.6	15.2	39.0	68.3	73.9	**5.6**	100	68	
Hori.	10640.000	PK	46.4	39.7	7.9	39.4	54.6	73.9	19.3	112	11	
Hori.	15960.000	PK	48.3	38.0	0.9	40.7	46.5	73.9	27.4	107	142	
Hori.	5350.000	AV	38.5	31.6	15.2	39.0	46.3	53.9	7.6	100	68	
Hori.	10640.000	AV	35.1	39.7	7.9	39.4	43.3	53.9	10.6	112	11	
Hori.	15960.000	AV	36.0	38.0	0.9	40.7	34.2	53.9	19.7	107	142	
Vert.	5350.000	PK	59.0	31.6	15.2	39.0	66.8	73.9	7.1	105	292	
Vert.	10640.000	PK	46.3	39.7	7.9	39.4	54.5	73.9	19.4	100	257	
Vert.	15960.000	PK	47.3	38.0	0.9	40.7	45.5	73.9	28.4	115	261	
Vert.	5350.000	AV	37.8	31.6	15.2	39.0	45.6	53.9	8.3	105	292	
Vert.	10640.000	AV	34.1	39.7	7.9	39.4	42.3	53.9	11.6	100	257	
Vert.	15960.000	AV	35.7	38.0	0.9	40.7	33.9	53.9	20.0	115	261	

*The 4th harmonic was not seen so the result was its base noise level.

Tx, IEEE802.11ac (VHT20) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5350.000	PK	55.6	31.6	15.2	39.0	63.4	73.9	10.5	100	129	
Hori.	5350.000	AV	37.7	31.6	15.2	39.0	45.5	53.9	8.4	100	129	
Vert.	5350.000	PK	55.9	31.6	15.2	39.0	63.7	73.9	10.2	102	85	
Vert.	5350.000	AV	37.9	31.6	15.2	39.0	45.7	53.9	**8.2**	102	85	

*This mode was perfomed only band edges measurement.

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

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Radiated Emission

Test place	No.3 Semi Anechoic Chamber				
Date	January 5, 2015	January 8, 2015	January 24, 2015	January 25, 2015	January 27, 2015
Temperature / Humidity	22 deg.C, 34 %RH	23 deg.C, 40 %RH	26 deg.C, 34 %RH	22 deg.C, 27 %RH	25 deg.C, 34 %RH
Engineer	Tatsuya Arai	Tatsuya Arai	Shinichi Takano	Tatsuya Arai	Akira Sato
Mode	Tx, 5500 MHz (20MHz BW)				
Antenna	Monopole				

Tx, IEEE802.11a (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5460.000	PK	51.2	31.6	15.3	38.9	59.2	73.9	14.7	100	123	
Hori.	5470.000	PK	56.0	31.6	15.3	38.8	64.1	73.9	9.8	100	123	*1)
Hori.	5460.000	AV	35.4	31.6	15.3	38.9	43.4	53.9	10.5	100	123	
Hori.	5470.000	AV	36.2	31.6	15.3	38.8	44.3	53.9	**9.6**	100	123	*1)
Vert.	5460.000	PK	48.1	31.6	15.3	38.9	56.1	73.9	17.8	110	103	
Vert.	5470.000	PK	53.7	31.6	15.3	38.8	61.8	73.9	12.1	110	103	*1)
Vert.	5460.000	AV	33.9	31.6	15.3	38.9	41.9	53.9	12.0	110	103	
Vert.	5470.000	AV	35.9	31.6	15.3	38.8	44.0	53.9	9.9	110	103	*1)

*This mode was perfomed only band edges measurement.
*1) This frequency was an outside of the restricted band, but that was applied the limit of 15.209.

Tx, IEEE802.11n (HT20) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5460.000	PK	54.7	31.6	15.3	38.9	62.7	73.9	11.2	100	44	
Hori.	5470.000	PK	59.4	31.6	15.3	38.8	67.5	73.9	**6.4**	100	44	*1)
Hori.	11000.000	PK	45.6	40.2	8.3	39.4	54.7	73.9	19.2	100	341	
Hori.	16500.000	PK	47.7	39.2	1.2	40.5	47.6	73.9	26.3	100	208	*1)
Hori.	5460.000	AV	35.6	31.6	15.3	38.9	43.6	53.9	10.3	100	44	
Hori.	5470.000	AV	37.4	31.6	15.3	38.8	45.5	53.9	8.4	100	44	*1)
Hori.	11000.000	AV	33.7	40.2	8.3	39.4	42.8	53.9	11.1	100	341	
Hori.	16500.000	AV	35.5	39.2	1.2	40.5	35.4	53.9	18.5	100	208	*1)
Vert.	5460.000	PK	52.4	31.6	15.3	38.9	60.4	73.9	13.5	100	284	
Vert.	5470.000	PK	58.1	31.6	15.3	38.8	66.2	73.9	7.7	100	284	*1)
Vert.	11000.000	PK	45.9	40.2	8.3	39.4	55.0	73.9	18.9	100	0	
Vert.	16500.000	PK	46.4	39.2	1.2	40.5	46.3	73.9	27.6	112	256	*1)
Vert.	5460.000	AV	34.7	31.6	15.3	38.9	42.7	53.9	11.2	100	284	
Vert.	5470.000	AV	36.7	31.6	15.3	38.8	44.8	53.9	9.1	100	284	*1)
Vert.	11000.000	AV	33.4	40.2	8.3	39.4	42.5	53.9	11.4	100	0	
Vert.	16500.000	AV	35.1	39.2	1.2	40.5	35.0	53.9	18.9	112	256	*1)

*The 4th harmonic was not seen so the result was its base noise level.
*1) This frequency was an outside of the restricted band, but that was applied the limit of 15.209.

Tx, IEEE802.11ac (VHT20) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5460.000	PK	52.6	31.6	15.4	38.9	60.7	73.9	13.2	100	51	
Hori.	5470.000	PK	58.8	31.6	15.4	38.8	67.0	73.9	6.9	100	51	*1)
Hori.	5460.000	AV	36.2	31.6	15.4	38.9	44.3	53.9	9.6	100	51	
Hori.	5470.000	AV	38.5	31.6	15.4	38.8	46.7	53.9	7.2	100	51	*1)
Vert.	5460.000	PK	52.9	31.6	15.4	38.9	61.0	73.9	12.9	100	95	
Vert.	5470.000	PK	59.2	31.6	15.4	38.8	67.4	73.9	**6.5**	100	95	*1)
Vert.	5460.000	AV	35.9	31.6	15.4	38.9	44.0	53.9	9.9	100	95	
Vert.	5470.000	AV	38.3	31.6	15.4	38.8	46.5	53.9	7.4	100	95	*1)

*This mode was perfomed only band edges measurement.
*1) This frequency was an outside of the restricted band, but that was applied the limit of 15.209.
Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).
Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

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Radiated Emission

Test place	No.3 Semi Anechoic Chamber			
Date	January 20, 2015	January 24, 2015	January 25, 2015	January 27, 2015
Temperature / Humidity	27 deg.C, 31 %RH	26 deg.C, 34 %RH	22 deg.C, 27 %RH	25 deg.C, 34 %RH
Engineer	Yosuke Ishikawa	Shinichi Takano	Tatsuya Arai	Akira Sato
Mode	Tx, 5580 MHz	(20MHz BW)		
Antenna	Monopole			

Tx, IEEE802.11n (HT20) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	11160.000	PK	46.8	40.1	8.2	39.3	55.8	73.9	18.1	100	345	
Hori.	16740.000	PK	47.4	39.9	1.1	40.2	48.2	73.9	25.7	100	209	*1)
Hori.	11160.000	AV	34.0	40.1	8.2	39.3	43.0	53.9	**10.9**	100	345	
Hori.	16740.000	AV	35.6	39.9	1.1	40.2	36.4	53.9	17.5	100	209	*1)
Vert.	11160.000	PK	45.8	40.1	8.2	39.3	54.8	73.9	19.1	100	0	
Vert.	16740.000	PK	45.7	39.9	1.1	40.2	46.5	73.9	27.4	107	245	*1)
Vert.	11160.000	AV	33.9	40.1	8.2	39.3	42.9	53.9	11.0	100	0	
Vert.	16740.000	AV	34.4	39.9	1.1	40.2	35.2	53.9	18.7	107	245	*1)

*1) This frequency was an outside of the restricted band, but that was applied the limit of 15.209.
Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor: 15GHz-40GHz

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Radiated Emission

Test place	No.3 Semi Anechoic Chamber		
Date	January 24, 2015	January 25, 2015	January 27, 2015
Temperature / Humidity	26 deg.C, 34 %RH	22 deg.C, 27 %RH	25 deg.C, 34 %RH
Engineer	Shinichi Takano	Tatsuya Arai	Akira Sato
Mode	Tx, 5700 MHz	(20MHz BW)	
Antenna	Monopole		

Tx, IEEE802.11a (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5725.000	PK	56.8	32.2	15.5	38.9	65.6	73.9	8.3	100	64	*1)
Hori.	5725.000	AV	39.1	32.2	15.5	38.9	47.9	53.9	**6.0**	100	64	*1)
Vert.	5725.000	PK	56.3	32.2	15.5	38.9	65.1	73.9	8.8	100	107	*1)
Vert.	5725.000	AV	37.8	32.2	15.5	38.9	46.6	53.9	7.3	100	107	*1)

*This mode was perfomed only band edges measurement.
*1) This frequency was an outside of the restricted band, but that was applied the limit of 15.209.

Tx, IEEE802.11n (HT20) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5725.000	PK	62.7	32.2	15.5	38.9	71.5	73.9	**2.4**	100	39	*1)
Hori.	11400.000	PK	45.2	39.9	8.1	39.2	54.0	73.9	19.9	100	0	
Hori.	17100.000	PK	46.2	41.3	1.1	39.7	48.9	73.9	25.0	100	214	*1)
Hori.	5725.000	AV	39.6	32.2	15.5	38.9	48.4	53.9	5.5	100	39	*1)
Hori.	11400.000	AV	33.7	39.9	8.1	39.2	42.5	53.9	11.4	100	0	
Hori.	17100.000	AV	34.2	41.3	1.1	39.7	36.9	53.9	17.0	100	214	*1)
Vert.	5725.000	PK	61.9	32.2	15.5	38.9	70.7	73.9	3.2	100	100	*1)
Vert.	11400.000	PK	45.0	39.9	8.1	39.2	53.8	73.9	20.1	100	0	
Vert.	17100.000	PK	45.4	41.3	1.1	39.7	48.1	73.9	25.8	108	257	*1)
Vert.	5725.000	AV	38.6	32.2	15.5	38.9	47.4	53.9	6.5	100	100	*1)
Vert.	11400.000	AV	33.6	39.9	8.1	39.2	42.4	53.9	11.5	100	0	
Vert.	17100.000	AV	33.5	41.3	1.1	39.7	36.2	53.9	17.7	108	257	*1)

*The 4th harmonic was not seen so the result was its base noise level.
*1) This frequency was an outside of the restricted band, but that was applied the limit of 15.209.

Tx, IEEE802.11ac (VHT20) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5725.000	PK	59.0	32.2	15.6	38.9	67.9	73.9	6.0	116	243	*1)
Hori.	5725.000	AV	39.2	32.2	15.6	38.9	48.1	53.9	**5.8**	116	243	*1)
Vert.	5725.000	PK	57.2	32.2	15.6	38.9	66.1	73.9	7.8	100	73	*1)
Vert.	5725.000	AV	38.4	32.2	15.6	38.9	47.3	53.9	6.6	100	73	*1)

*This mode was perfomed only band edges measurement.
*1) This frequency was an outside of the restricted band, but that was applied the limit of 15.209.
Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).
Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

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Radiated Emission

Test place	No.3 Semi Anechoic Chamber				
Date	January 6, 2015	January 20, 2015	January 24, 2015	January 26, 2015	January 27, 2015
Temperature / Humidity	23 deg.C, 40 %RH	27 deg.C, 31 %RH	26 deg.C, 34 %RH	24 deg.C, 37 %RH	25 deg.C, 34 %RH
Engineer	Tatsuya Arai	Yosuke Ishikawa	Shinichi Takano	Akira Sato	Akira Sato
Mode	Tx, 5745 MHz (20MHz BW)				
Antenna	Monopole				

Tx, IEEE802.11a (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Outside of the restricted band)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5715.000	PK	51.7	32.1	15.5	38.9	60.4	-34.8	-27.0	**7.8**	100	66	*1)
Hori.	5725.000	PK	56.2	32.2	15.5	38.9	65.0	-30.2	-17.0	13.2	100	66	*1)
Vert.	5715.000	PK	49.7	32.1	15.5	38.9	58.4	-36.8	-27.0	9.8	100	97	*1)
Vert.	5725.000	PK	55.0	32.2	15.5	38.9	63.8	-31.4	-17.0	14.4	100	97	*1)

*This mode was perfomed only band edges measurement.
*1) This frequency was an outside of the restricted band, but that was applied the limit of 15.209.

Tx, IEEE802.11n (HT20) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5715.000	PK	55.4	32.1	15.5	38.9	64.1	73.9	**9.8**	100	74	*1)
Hori.	11490.000	PK	45.0	39.9	8.1	39.2	53.8	73.9	20.1	100	0	
Hori.	17235.000	PK	44.0	42.2	1.2	39.6	47.8	73.9	26.1	100	359	*1)
Hori.	5715.000	AV	33.8	32.1	15.5	38.9	42.5	53.9	11.4	100	74	*1)
Hori.	11490.000	AV	33.2	39.9	8.1	39.2	42.0	53.9	11.9	100	0	
Hori.	17235.000	AV	32.1	42.2	1.2	39.6	35.9	53.9	18.0	100	359	*1)
Vert.	5715.000	PK	53.3	32.1	15.5	38.9	62.0	73.9	11.9	100	297	*1)
Vert.	11490.000	PK	44.8	39.9	8.1	39.2	53.6	73.9	20.3	100	0	
Vert.	17235.000	PK	42.5	42.2	1.2	39.6	46.3	73.9	27.6	100	0	*1)
Vert.	5715.000	AV	33.5	32.1	15.5	38.9	42.2	53.9	11.7	100	297	*1)
Vert.	11490.000	AV	33.2	39.9	8.1	39.2	42.0	53.9	11.9	100	0	
Vert.	17235.000	AV	32.3	42.2	1.2	39.6	36.1	53.9	17.8	100	0	*1)

*1) This frequency was an outside of the restricted band, but that was applied the limit of 15.209.

(above 1GHz Outside of the restricted band)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5725.000	PK	63.1	32.2	15.5	38.9	71.9	-23.3	-17.0	**6.3**	100	74	
Vert.	5725.000	PK	61.3	32.2	15.5	38.9	70.1	-25.1	-17.0	8.1	100	297	

*The 4th harmonic was not seen so the result was its base noise level.

Tx, IEEE802.11ac (VHT20) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5715.000	PK	54.8	32.1	15.6	38.9	63.6	73.9	**10.3**	100	61	*1)
Hori.	5715.000	AV	34.4	32.1	15.6	38.9	43.2	53.9	10.7	100	61	*1)
Vert.	5715.000	PK	51.7	32.1	15.6	38.9	60.5	73.9	13.4	100	70	*1)
Vert.	5715.000	AV	33.8	32.1	15.6	38.9	42.6	53.9	11.3	100	70	*1)

*1) This frequency was an outside of the restricted band, but that was applied the limit of 15.209.

(above 1GHz Outside of the restricted band)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5725.000	PK	63.4	32.2	15.6	38.9	72.3	-22.9	-17.0	**5.9**	100	61	
Vert.	5725.000	PK	60.8	32.2	15.6	38.9	69.7	-25.5	-17.0	8.5	100	70	

*This mode was perfomed only band edges measurement.

Result[dBuV/m] = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)
Resrult(EIRP[dBm])=10*LOG（({ (10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) *10^3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).
Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

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Radiated Emission

Test place	No.3 Semi Anechoic Chamber			
Date	January 20, 2015	January 24, 2015	January 26, 2015	January 27, 2015
Temperature / Humidity	27 deg.C, 31 %RH	26 deg.C, 34 %RH	24 deg.C, 37 %RH	25 deg.C, 34 %RH
Engineer	Yosuke Ishikawa	Shinichi Takano	Akira Sato	Akira Sato
Mode	Tx, 5785 MHz	(20MHz BW)		
Antenna	Monopole			

Tx, IEEE802.11n (HT20) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	11570.000	PK	44.7	39.8	8.2	39.3	53.4	73.9	20.5	100	0	
Hori.	17355.000	PK	42.3	43.0	1.4	39.5	47.2	73.9	26.7	100	22	*1)
Hori.	11570.000	AV	33.0	39.8	8.2	39.3	41.7	53.9	**12.2**	100	0	
Hori.	17355.000	AV	31.7	43.0	1.4	39.5	36.6	53.9	17.3	100	22	*1)
Vert.	11570.000	PK	44.2	39.8	8.2	39.3	52.9	73.9	21.0	100	0	
Vert.	17355.000	PK	43.6	43.0	1.4	39.5	48.5	73.9	25.4	100	355	*1)
Vert.	11570.000	AV	33.0	39.8	8.2	39.3	41.7	53.9	**12.2**	100	0	
Vert.	17355.000	AV	31.7	43.0	1.4	39.5	36.6	53.9	17.3	100	355	*1)

*1) This frequency was an outside of the restricted band, but that was applied the limit of 15.209.
Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

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Radiated Emission

Test place	No.3 Semi Anechoic Chamber				
Date	January 6, 2015	January 20, 2015	January 24, 2015	January 26, 2015	January 27, 2015
Temperature / Humidity	23 deg.C, 40 %RH	27 deg.C, 31 %RH	26 deg.C, 34 %RH	24 deg.C, 37 %RH	25 deg.C, 34 %RH
Engineer	Tatsuya Arai	Yosuke Ishikawa	Shinichi Takano	Akira Sato	Akira Sato
Mode	Tx, 5825 MHz (20MHz BW)				
Antenna	Monopole				

Tx, IEEE802.11a (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Outside of the restricted band)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5850.000	PK	54.2	32.4	15.6	38.9	63.3	-31.9	-17.0	14.9	100	69	
Hori.	5860.000	PK	48.7	32.5	15.6	38.9	57.9	-37.3	-27.0	**10.3**	100	69	
Vert.	5850.000	PK	50.5	32.4	15.6	38.9	59.6	-35.6	-17.0	18.6	100	85	
Vert.	5860.000	PK	47.7	32.5	15.6	38.9	56.9	-38.3	-27.0	11.3	100	85	

*This mode was perfomed only band edges measurement.

Tx, IEEE802.11n (HT20) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5860.000	PK	51.7	32.5	15.6	38.9	60.9	73.9	13.0	106	118	*1)
Hori.	11650.000	PK	43.9	39.7	8.2	39.3	52.5	73.9	21.4	100	0	
Hori.	17475.000	PK	44.0	43.8	1.4	39.4	49.8	73.9	24.1	100	359	*1)
Hori.	5860.000	AV	33.4	32.5	15.6	38.9	42.6	53.9	**11.3**	106	118	*1)
Hori.	11650.000	AV	32.2	39.7	8.2	39.3	40.8	53.9	13.1	100	0	
Hori.	17475.000	AV	31.5	43.8	1.4	39.4	37.3	53.9	16.6	100	359	*1)
Vert.	5860.000	PK	48.3	32.5	15.6	38.9	57.5	73.9	16.4	100	60	*1)
Vert.	11650.000	PK	43.3	39.7	8.2	39.3	51.9	73.9	22.0	100	0	
Vert.	17475.000	PK	42.2	43.8	1.4	39.4	48.0	73.9	25.9	100	0	*1)
Vert.	5860.000	AV	33.1	32.5	15.6	38.9	42.3	53.9	11.6	100	60	*1)
Vert.	11650.000	AV	32.2	39.7	8.2	39.3	40.8	53.9	13.1	100	0	
Vert.	17475.000	AV	31.1	43.8	1.4	39.4	36.9	53.9	17.0	100	0	*1)

*1) This frequency was an outside of the restricted band, but that was applied the limit of 15.209.

(above 1GHz Outside of the restricted band)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5850.000	PK	58.5	32.4	15.6	38.9	67.6	-27.6	-17.0	**10.6**	106	118	
Vert.	5850.000	PK	56.9	32.4	15.6	38.9	66.0	-29.2	-17.0	12.2	100	60	

*The 4th harmonic was not seen so the result was its base noise level.

Tx, IEEE802.11ac (VHT20) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5860.000	PK	48.7	32.5	15.6	38.9	57.9	73.9	16.0	108	69	*1)
Hori.	5860.000	AV	33.5	32.5	15.6	38.9	42.7	53.9	**11.2**	108	69	*1)
Vert.	5860.000	PK	46.8	32.5	15.6	38.9	56.0	73.9	17.9	100	96	*1)
Vert.	5860.000	AV	33.3	32.5	15.6	38.9	42.5	53.9	11.4	100	96	*1)

*1) This frequency was an outside of the restricted band, but that was applied the limit of 15.209.

(above 1GHz Outside of the restricted band)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5850.000	PK	58.3	32.4	15.6	38.9	67.4	-27.8	-17.0	**10.8**	108	69	
Vert.	5850.000	PK	55.7	32.4	15.6	38.9	64.8	-30.4	-17.0	13.4	100	96	

*This mode was perfomed only band edges measurement.

Result[dBuV/m] = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)
Resrult(EIRP[dBm])=10*LOG({ (10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) *10^3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).
Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

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Radiated Emission

Test place	No.3 Semi Anechoic Chamber				
Date	January 5, 2015	January 6, 2015	January 25, 2015	January 26, 2015	January 27, 2015
Temperature / Humidity	22 deg.C, 34 %RH	23 deg.C, 40 %RH	22 deg.C, 27 %RH	24 deg.C, 37 %RH	25 deg.C, 34 %RH
Engineer	Tatsuya Arai	Tatsuya Arai	Tatsuya Arai	Akira Sato	Akira Sato
Mode	Tx, 5190 MHz (40MHz BW)				
Antenna	Monopole				

Tx, IEEE802.11n (HT40) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5150.000	PK	63.1	31.5	15.2	39.3	70.5	73.9	3.4	100	253	
Hori.	10380.000	PK	46.4	39.3	7.7	39.5	53.9	73.9	20.0	100	345	*1)
Hori.	15570.000	PK	44.7	39.5	0.2	40.6	43.8	73.9	30.1	100	149	
Hori.	5150.000	AV	44.0	31.5	15.2	39.3	51.4	53.9	**2.5**	100	253	
Hori.	10380.000	AV	35.5	39.3	7.7	39.5	43.0	53.9	10.9	100	345	*1)
Hori.	15570.000	AV	35.7	39.5	0.2	40.6	34.8	53.9	19.1	100	149	
Vert.	5150.000	PK	61.9	31.5	15.2	39.3	69.3	73.9	4.6	103	104	
Vert.	10380.000	PK	46.1	39.3	7.7	39.5	53.6	73.9	20.3	100	0	*1)
Vert.	15570.000	PK	44.6	39.5	0.2	40.6	43.7	73.9	30.2	100	359	
Vert.	5150.000	AV	43.2	31.5	15.2	39.3	50.6	53.9	3.3	103	104	
Vert.	10380.000	AV	34.4	39.3	7.7	39.5	41.9	53.9	12.0	100	0	*1)
Vert.	15570.000	AV	35.5	39.5	0.2	40.6	34.6	53.9	19.3	100	359	

*The 4th harmonic was not seen so the result was its base noise level.
*1) This frequency was an outside of the restricted band, but that was applied the limit of 15.209.

Tx, IEEE802.11ac (VHT40) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5150.000	PK	60.5	31.5	15.2	39.3	67.9	73.9	6.0	100	123	
Hori.	5150.000	AV	43.1	31.5	15.2	39.3	50.5	53.9	**3.4**	100	123	
Vert.	5150.000	PK	58.8	31.5	15.2	39.3	66.2	73.9	7.7	102	51	
Vert.	5150.000	AV	42.0	31.5	15.2	39.3	49.4	53.9	4.5	102	51	

*This mode was perfomed only band edges measurement.

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

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Radiated Emission

Test place	No.3 Semi Anechoic Chamber			
Date	January 20, 2015	January 25, 2015	January 26, 2015	January 27, 2015
Temperature / Humidity	27 deg.C, 31 %RH	22 deg.C, 27 %RH	24 deg.C, 37 %RH	25 deg.C, 34 %RH
Engineer	Yosuke Ishikawa	Tatsuya Arai	Akira Sato	Akira Sato
Mode	Tx, 5230 MHz	(40MHz BW)		
Antenna	Monopole			

Tx, IEEE802.11n (HT40) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	10460.000	PK	47.5	39.5	7.8	39.4	55.4	73.9	18.5	100	341	*1)
Hori.	15690.000	PK	45.0	39.0	0.4	40.6	43.8	73.9	30.1	100	141	
Hori.	10460.000	AV	35.8	39.5	7.8	39.4	43.7	53.9	**10.2**	100	341	*1)
Hori.	15690.000	AV	35.2	39.0	0.4	40.6	34.0	53.9	19.9	100	141	
Vert.	10460.000	PK	46.0	39.5	7.8	39.4	53.9	73.9	20.0	100	0	*1)
Vert.	15690.000	PK	45.8	39.0	0.4	40.6	44.6	73.9	29.3	100	37	
Vert.	10460.000	AV	34.9	39.5	7.8	39.4	42.8	53.9	11.1	100	0	*1)
Vert.	15690.000	AV	35.0	39.0	0.4	40.6	33.8	53.9	20.1	100	37	

*1) This frequency was an outside of the restricted band, but that was applied the limit of 15.209.
Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor: 15GHz-40GHz

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Radiated Emission

Test place	No.3 Semi Anechoic Chamber				
Date	January 5, 2015	January 20, 2015	January 25, 2015	January 26, 2015	January 27, 2015
Temperature / Humidity	22 deg.C, 34 %RH	27 deg.C, 31 %RH	22 deg.C, 27 %RH	24 deg.C, 37 %RH	25 deg.C, 34 %RH
Engineer	Tatsuya Arai	Yosuke Ishikawa	Tatsuya Arai	Akira Sato	Akira Sato
Mode	Tx, 5310 MHz (40MHz BW)				
Antenna	Monopole				

Tx, IEEE802.11n (HT40) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5350.000	PK	65.9	31.6	15.2	39.0	73.7	73.9	**0.2**	100	62	
Hori.	10620.000	PK	46.0	39.7	7.8	39.4	54.1	73.9	19.8	100	343	
Hori.	15930.000	PK	44.0	38.1	0.8	40.7	42.2	73.9	31.7	100	132	
Hori.	5350.000	AV	45.5	31.6	15.2	39.0	53.3	53.9	0.6	100	62	
Hori.	10620.000	AV	35.7	39.7	7.8	39.4	43.8	53.9	10.1	100	343	
Hori.	15930.000	AV	34.5	38.1	0.8	40.7	32.7	53.9	21.2	100	132	
Vert.	5350.000	PK	64.3	31.6	15.2	39.0	72.1	73.9	1.8	105	284	
Vert.	10620.000	PK	45.2	39.7	7.8	39.4	53.3	73.9	20.6	100	0	
Vert.	15930.000	PK	43.8	38.1	0.8	40.7	42.0	73.9	31.9	100	306	
Vert.	5350.000	AV	44.0	31.6	15.2	39.0	51.8	53.9	2.1	105	284	
Vert.	10620.000	AV	34.6	39.7	7.8	39.4	42.7	53.9	11.2	100	0	
Vert.	15930.000	AV	34.5	38.1	0.8	40.7	32.7	53.9	21.2	100	306	

*The 4th harmonic was not seen so the result was its base noise level.

Tx, IEEE802.11ac (VHT40) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5350.000	PK	63.9	31.6	15.2	39.0	71.7	73.9	2.2	100	52	
Hori.	5350.000	AV	45.4	31.6	15.2	39.0	53.2	53.9	**0.7**	100	52	
Vert.	5350.000	PK	60.3	31.6	15.2	39.0	68.1	73.9	5.8	100	87	
Vert.	5350.000	AV	44.6	31.6	15.2	39.0	52.4	53.9	1.5	100	87	

*This mode was perfomed only band edges measurement.

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

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Radiated Emission

Test place	No.3 Semi Anechoic Chamber				
Date	January 5, 2015	January 20, 2015	January 25, 2015	January 26, 2015	January 27, 2015
Temperature / Humidity	22 deg.C, 34 %RH	27 deg.C, 31 %RH	22 deg.C, 27 %RH	24 deg.C, 37 %RH	25 deg.C, 34 %RH
Engineer	Tatsuya Arai	Yosuke Ishikawa	Tatsuya Arai	Akira Sato	Akira Sato
Mode	Tx, 5510 MHz (40MHz BW)				
Antenna	Monopole				

Tx, IEEE802.11n (HT40) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5460.000	PK	58.0	31.6	15.3	38.9	66.0	73.9	7.9	100	46	
Hori.	5470.000	PK	65.0	31.6	15.3	38.8	73.1	73.9	**0.8**	100	46	*1)
Hori.	11020.000	PK	44.9	40.2	8.3	39.4	54.0	73.9	19.9	100	344	
Hori.	16530.000	PK	42.7	39.3	1.2	40.5	42.7	73.9	31.2	100	208	*1)
Hori.	5460.000	AV	40.4	31.6	15.3	38.9	48.4	53.9	5.5	100	46	
Hori.	5470.000	AV	42.8	31.6	15.3	38.8	50.9	53.9	3.0	100	46	*1)
Hori.	11020.000	AV	34.5	40.2	8.3	39.4	43.6	53.9	10.3	100	344	
Hori.	16530.000	AV	33.8	39.3	1.2	40.5	33.8	53.9	20.1	100	208	*1)
Vert.	5460.000	PK	56.8	31.6	15.3	38.9	64.8	73.9	9.1	112	265	
Vert.	5470.000	PK	61.9	31.6	15.3	38.8	70.0	73.9	3.9	112	265	*1)
Vert.	11020.000	PK	44.1	40.2	8.3	39.4	53.2	73.9	20.7	100	0	
Vert.	16530.000	PK	43.0	39.3	1.2	40.5	43.0	73.9	30.9	100	302	*1)
Vert.	5460.000	AV	39.1	31.6	15.3	38.9	47.1	53.9	6.8	112	265	
Vert.	5470.000	AV	40.5	31.6	15.3	38.8	48.6	53.9	5.3	112	265	*1)
Vert.	11020.000	AV	34.1	40.2	8.3	39.4	43.2	53.9	10.7	100	0	
Vert.	16530.000	AV	33.6	39.3	1.2	40.5	33.6	53.9	20.3	100	302	*1)

*The 4th harmonic was not seen so the result was its base noise level.
*1) This frequency was an outside of the restricted band, but that was applied the limit of 15.209.

Tx, IEEE802.11ac (VHT40) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5460.000	PK	58.6	31.6	15.3	38.9	66.6	73.9	7.3	100	55	
Hori.	5470.000	PK	63.3	31.6	15.3	38.8	71.4	73.9	2.5	100	55	*1)
Hori.	5460.000	AV	42.0	31.6	15.3	38.9	50.0	53.9	3.9	100	55	
Hori.	5470.000	AV	44.1	31.6	15.3	38.8	52.2	53.9	**1.7**	100	55	*1)
Vert.	5460.000	PK	57.6	31.6	15.3	38.9	65.6	73.9	8.3	100	90	
Vert.	5470.000	PK	60.1	31.6	15.3	38.8	68.2	73.9	5.7	100	90	*1)
Vert.	5460.000	AV	40.1	31.6	15.3	38.9	48.1	53.9	5.8	100	90	
Vert.	5470.000	AV	42.2	31.6	15.3	38.8	50.3	53.9	3.6	100	90	*1)

*This mode was perfomed only band edges measurement.
*1) This frequency was an outside of the restricted band, but that was applied the limit of 15.209.

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

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Radiated Emission

Test place	No.3 Semi Anechoic Chamber			
Date	January 20, 2015	January 25, 2015	January 26, 2015	January 27, 2015
Temperature / Humidity	27 deg.C, 31 %RH	22 deg.C, 27 %RH	24 deg.C, 37 %RH	25 deg.C, 34 %RH
Engineer	Yosuke Ishikawa	Tatsuya Arai	Akira Sato	Akira Sato
Mode	Tx, 5550 MHz	(40MHz BW)		
Antenna	Monopole			

Tx, IEEE802.11n (HT40) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	11100.000	PK	45.0	40.1	8.2	39.4	53.9	73.9	20.0	100	341	
Hori.	16650.000	PK	43.3	39.7	1.1	40.3	43.8	73.9	30.1	100	180	*1)
Hori.	11100.000	AV	34.6	40.1	8.2	39.4	43.5	53.9	**10.4**	100	341	
Hori.	16650.000	AV	34.1	39.7	1.1	40.3	34.6	53.9	19.3	100	180	*1)
Vert.	11100.000	PK	44.8	40.1	8.2	39.4	53.7	73.9	20.2	100	0	
Vert.	16650.000	PK	43.5	39.7	1.1	40.3	44.0	73.9	29.9	100	262	*1)
Vert.	11100.000	AV	34.4	40.1	8.2	39.4	43.3	53.9	10.6	100	0	
Vert.	16650.000	AV	33.7	39.7	1.1	40.3	34.2	53.9	19.7	100	262	*1)

*The 4th harmonic was not seen so the result was its base noise level.
*1) This frequency was an outside of the restricted band, but that was applied the limit of 15.209.
Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).
Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

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Radiated Emission

Test place	No.3 Semi Anechoic Chamber				
Date	January 20, 2015	January 20, 2015	January 25, 2015	January 26, 2015	January 27, 2015
Temperature / Humidity	27 deg.C, 31 %RH	27 deg.C, 31 %RH	22 deg.C, 27 %RH	24 deg.C, 37 %RH	25 deg.C, 34 %RH
Engineer	Yosuke Ishikawa	Yosuke Ishikawa	Tatsuya Arai	Akira Sato	Akira Sato
Mode	Tx, 5670 MHz (40MHz BW)				
Antenna	Monopole				

Tx, IEEE802.11n (HT40) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5725.000	PK	54.2	32.2	15.5	38.9	63.0	73.9	10.9	100	45	*1)
Hori.	11340.000	PK	45.6	40.0	8.1	39.3	54.4	73.9	19.5	100	345	
Hori.	17010.000	PK	42.8	40.7	1.1	39.8	44.8	73.9	29.1	100	0	*1)
Hori.	5725.000	AV	39.8	32.2	15.5	38.9	48.6	53.9	**5.3**	100	45	*1)
Hori.	11340.000	AV	34.6	40.0	8.1	39.3	43.4	53.9	10.5	100	345	
Hori.	17010.000	AV	33.6	40.7	1.1	39.8	35.6	53.9	18.3	100	0	*1)
Vert.	5725.000	PK	52.1	32.2	15.5	38.9	60.9	73.9	13.0	100	86	*1)
Vert.	11340.000	PK	45.0	40.0	8.1	39.3	53.8	73.9	20.1	100	0	
Vert.	17010.000	PK	43.3	40.7	1.1	39.8	45.3	73.9	28.6	100	359	*1)
Vert.	5725.000	AV	38.3	32.2	15.5	38.9	47.1	53.9	6.8	100	86	*1)
Vert.	11340.000	AV	34.5	40.0	8.1	39.3	43.3	53.9	10.6	100	0	
Vert.	17010.000	AV	33.6	40.7	1.1	39.8	35.6	53.9	18.3	100	359	*1)

*The 4th harmonic was not seen so the result was its base noise level.
*1) This frequency was an outside of the restricted band, but that was applied the limit of 15.209.

Tx, IEEE802.11ac (VHT40) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5725.000	PK	52.7	32.2	15.5	38.9	61.5	73.9	12.4	100	47	*1)
Hori.	5725.000	AV	39.4	32.2	15.5	38.9	48.2	53.9	**5.7**	100	47	*1)
Vert.	5725.000	PK	51.1	32.2	15.5	38.9	59.9	73.9	14.0	100	99	*1)
Vert.	5725.000	AV	38.3	32.2	15.5	38.9	47.1	53.9	6.8	100	99	*1)

*This mode was perfomed only band edges measurement.
*1) This frequency was an outside of the restricted band, but that was applied the limit of 15.209.

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

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Radiated Emission

Test place	No.3 Semi Anechoic Chamber			
Date	January 6, 2015	January 25, 2015	January 26, 2015	January 27, 2015
Temperature / Humidity	23 deg.C, 40 %RH	22 deg.C, 27 %RH	24 deg.C, 37 %RH	25 deg.C, 34 %RH
Engineer	Tatsuya Arai	Tatsuya Arai	Akira Sato	Akira Sato
Mode	Tx, 5755 MHz	(40MHz BW)		
Antenna	Monopole			

Tx, IEEE802.11n (HT40) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5715.000	PK	56.9	32.1	15.5	38.9	65.6	73.9	8.3	112	70	*1)
Hori.	11510.000	PK	45.5	39.9	8.1	39.2	54.3	73.9	19.6	100	0	
Hori.	17265.000	PK	43.2	42.4	1.2	39.6	47.2	73.9	26.7	100	359	*1)
Hori.	5715.000	AV	37.0	32.1	15.5	38.9	45.7	53.9	8.2	112	70	*1)
Hori.	11510.000	AV	34.6	39.9	8.1	39.2	43.4	53.9	10.5	100	0	
Hori.	17265.000	AV	33.1	42.4	1.2	39.6	37.1	53.9	16.8	100	359	*1)
Vert.	5715.000	PK	56.7	32.1	15.5	38.9	65.4	73.9	8.5	100	98	*1)
Vert.	11510.000	PK	45.6	39.9	8.1	39.2	54.4	73.9	19.5	100	0	
Vert.	17265.000	PK	43.4	42.4	1.2	39.6	47.4	73.9	26.5	100	0	*1)
Vert.	5715.000	AV	37.0	32.1	15.5	38.9	45.7	53.9	8.2	100	98	*1)
Vert.	11510.000	AV	34.6	39.9	8.1	39.2	43.4	53.9	10.5	100	0	
Vert.	17265.000	AV	33.2	42.4	1.2	39.6	37.2	53.9	16.7	100	0	*1)

*1) This frequency was an outside of the restricted band, but that was applied the limit of 15.209.

(above 1GHz Outside of the restricted band)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5725.000	PK	63.2	32.2	15.5	38.9	72.0	-23.2	-17.0	**6.2**	112	70	
Vert.	5725.000	PK	61.0	32.2	15.5	38.9	69.8	-25.4	-17.0	8.4	100	98	

*The 4th harmonic was not seen so the result was its base noise level.

Tx, IEEE802.11ac (VHT40) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5715.000	PK	56.9	32.1	15.5	38.9	65.6	73.9	8.3	100	52	*1)
Hori.	5715.000	AV	37.6	32.1	15.5	38.9	46.3	53.9	**7.6**	100	52	*1)
Vert.	5715.000	PK	54.3	32.1	15.5	38.9	63.0	73.9	10.9	170	92	*1)
Vert.	5715.000	AV	36.3	32.1	15.5	38.9	45.0	53.9	8.9	170	92	*1)

*1) This frequency was an outside of the restricted band, but that was applied the limit of 15.209.

(above 1GHz Outside of the restricted band)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5725.000	PK	62.1	32.2	15.5	38.9	70.9	-24.3	-17.0	**7.3**	100	52	
Vert.	5725.000	PK	61.5	32.2	15.5	38.9	70.3	-24.9	-17.0	7.9	170	92	

*This mode was perfomed only band edges measurement.

Result[dBuV/m] = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)
Resrult(EIRP[dBm])=10*LOG（({ (10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) *10^3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).
Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

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Radiated Emission

Test place	No.3 Semi Anechoic Chamber			
Date	January 6, 2015	January 25, 2015	January 26, 2015	January 27, 2015
Temperature / Humidity	23 deg.C, 40 %RH	22 deg.C, 27 %RH	24 deg.C, 37 %RH	25 deg.C, 34 %RH
Engineer	Tatsuya Arai	Tatsuya Arai	Akira Sato	Akira Sato
Mode	Tx, 5795 MHz	(40MHz BW)		
Antenna	Monopole			

Tx, IEEE802.11n (HT40) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	11590.000	PK	45.5	39.8	8.2	39.3	54.2	73.9	19.7	100	0	
Hori.	17385.000	PK	42.9	43.2	1.4	39.5	48.0	73.9	25.9	100	0	*1)
Hori.	11590.000	AV	34.2	39.8	8.2	39.3	42.9	53.9	**11.0**	100	0	
Hori.	17385.000	AV	32.6	43.2	1.4	39.5	37.7	53.9	16.2	100	0	*1)
Vert.	11590.000	PK	44.8	39.8	8.2	39.3	53.5	73.9	20.4	100	0	
Vert.	17385.000	PK	43.6	43.2	1.4	39.5	48.7	73.9	25.2	100	359	*1)
Vert.	11590.000	AV	34.1	39.8	8.2	39.3	42.8	53.9	11.1	100	0	
Vert.	17385.000	AV	32.5	43.2	1.4	39.5	37.6	53.9	16.3	100	359	*1)

*1) This frequency was an outside of the restricted band, but that was applied the limit of 15.209.

(above 1GHz Outside of the restricted band)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5850.000	PK	49.4	32.4	15.6	38.9	58.5	-36.7	-17.0	19.7	107	114	
Hori.	5860.000	PK	46.4	32.5	15.6	38.9	55.6	-39.6	-27.0	12.6	107	114	
Vert.	5850.000	PK	48.2	32.4	15.6	38.9	57.3	-37.9	-17.0	20.9	100	108	
Vert.	5860.000	PK	46.6	32.5	15.6	38.9	55.8	-39.4	-27.0	**12.4**	100	108	

*The 4th harmonic was not seen so the result was its base noise level.

Tx, IEEE802.11ac (VHT40) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Outside of the restricted band)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5850.000	PK	48.6	32.4	15.6	38.9	57.7	-37.5	-17.0	20.5	100	111	
Hori.	5860.000	PK	46.2	32.5	15.6	38.9	55.4	-39.8	-27.0	12.8	100	111	
Vert.	5850.000	PK	47.6	32.4	15.6	38.9	56.7	-38.5	-17.0	21.5	100	74	
Vert.	5860.000	PK	46.4	32.5	15.6	38.9	55.6	-39.6	-27.0	**12.6**	100	74	

*This mode was perfomed only band edges measurement.

Result[dBuV/m] = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)
Resrult(EIRP[dBm])=10*LOG({ (10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) *10^3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).
Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

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Radiated Emission

Test place	No.3 Semi Anechoic Chamber			
Date	January 6, 2015	January 25, 2015	January 26, 2015	January 27, 2015
Temperature / Humidity	23 deg.C, 40 %RH	22 deg.C, 27 %RH	24 deg.C, 37 %RH	25 deg.C, 34 %RH
Engineer	Tatsuya Arai	Tatsuya Arai	Akira Sato	Akira Sato
Mode	Tx, 5210 MHz	(80MHz BW)		
Antenna	Monopole			

Tx, IEEE802.11ac (VHT80) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5150.000	PK	60.7	31.5	15.2	39.3	68.1	73.9	5.8	100	246	
Hori.	10420.000	PK	45.5	39.4	7.8	39.5	53.2	73.9	20.7	100	341	*1)
Hori.	15630.000	PK	44.7	39.3	0.3	40.6	43.7	73.9	30.2	100	359	
Hori.	5150.000	AV	43.9	31.5	15.2	39.3	51.3	53.9	**2.6**	100	246	
Hori.	10420.000	AV	35.9	39.4	7.8	39.5	43.6	53.9	10.3	100	341	*1)
Hori.	15630.000	AV	35.2	39.3	0.3	40.6	34.2	53.9	19.7	100	359	
Vert.	5150.000	PK	59.0	31.5	15.2	39.3	66.4	73.9	7.5	189	89	
Vert.	10420.000	PK	45.0	39.4	7.8	39.5	52.7	73.9	21.2	100	0	*1)
Vert.	15630.000	PK	46.4	39.3	0.3	40.6	45.4	73.9	28.5	100	0	
Vert.	5150.000	AV	43.1	31.5	15.2	39.3	50.5	53.9	3.4	189	89	
Vert.	10420.000	AV	35.3	39.4	7.8	39.5	43.0	53.9	10.9	100	0	*1)
Vert.	15630.000	AV	35.9	39.3	0.3	40.6	34.9	53.9	19.0	100	0	

*The 4th harmonic was not seen so the result was its base noise level.
*1) This frequency was an outside of the restricted band, but that was applied the limit of 15.209.
Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).
Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

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Radiated Emission

Test place	No.3 Semi Anechoic Chamber			
Date	January 5, 2015	January 25, 2015	January 26, 2015	January 27, 2015
Temperature / Humidity	22 deg.C, 34 %RH	22 deg.C, 27 %RH	24 deg.C, 37 %RH	25 deg.C, 34 %RH
Engineer	Tatsuya Arai	Tatsuya Arai	Akira Sato	Akira Sato
Mode	Tx, 5290 MHz	(80MHz BW)		
Antenna	Monopole			

Tx, IEEE802.11ac (VHT80) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5350.000	PK	61.5	31.6	15.2	39.0	69.3	73.9	4.6	100	65	
Hori.	10580.000	PK	45.9	39.6	7.8	39.4	53.9	73.9	20.0	100	343	*1)
Hori.	15870.000	PK	44.8	38.3	0.8	40.7	43.2	73.9	30.7	100	0	
Hori.	5350.000	AV	42.9	31.6	15.2	39.0	50.7	53.9	**3.2**	100	65	
Hori.	10580.000	AV	35.6	39.6	7.8	39.4	43.6	53.9	10.3	100	343	*1)
Hori.	15870.000	AV	34.7	38.3	0.8	40.7	33.1	53.9	20.8	100	0	
Vert.	5350.000	PK	59.6	31.6	15.2	39.0	67.4	73.9	6.5	106	277	
Vert.	10580.000	PK	45.5	39.6	7.8	39.4	53.5	73.9	20.4	100	0	*1)
Vert.	15870.000	PK	45.0	38.3	0.8	40.7	43.4	73.9	30.5	100	359	
Vert.	5350.000	AV	41.5	31.6	15.2	39.0	49.3	53.9	4.6	106	277	
Vert.	10580.000	AV	35.4	39.6	7.8	39.4	43.4	53.9	10.5	100	0	*1)
Vert.	15870.000	AV	34.7	38.3	0.8	40.7	33.1	53.9	20.8	100	359	

*The 4th harmonic was not seen so the result was its base noise level.
*1) This frequency was an outside of the restricted band, but that was applied the limit of 15.209.
Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).
Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

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Radiated Emission

Test place	No.3 Semi Anechoic Chamber			
Date	January 5, 2015	January 25, 2015	January 26, 2015	January 27, 2015
Temperature / Humidity	22 deg.C, 34 %RH	22 deg.C, 27 %RH	24 deg.C, 37 %RH	25 deg.C, 34 %RH
Engineer	Tatsuya Arai	Tatsuya Arai	Akira Sato	Akira Sato
Mode	Tx, 5530 MHz	(80MHz BW)		
Antenna	Monopole			

Tx, IEEE802.11ac (VHT80) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5460.000	PK	58.0	31.6	15.3	38.9	66.0	73.9	7.9	100	46	
Hori.	5470.000	PK	59.7	31.6	15.3	38.8	67.8	73.9	6.1	100	46	*1)
Hori.	11060.000	PK	44.8	40.2	8.2	39.4	53.8	73.9	20.1	100	344	
Hori.	16590.000	PK	43.9	39.5	1.1	40.4	44.1	73.9	29.8	100	359	*1)
Hori.	5460.000	AV	41.7	31.6	15.3	38.9	49.7	53.9	4.2	100	46	
Hori.	5470.000	AV	43.2	31.6	15.3	38.8	51.3	53.9	**2.6**	100	46	*1)
Hori.	11060.000	AV	35.0	40.2	8.2	39.4	44.0	53.9	9.9	100	344	
Hori.	16590.000	AV	34.5	39.5	1.1	40.4	34.7	53.9	19.2	100	359	*1)
Vert.	5460.000	PK	55.0	31.6	15.3	38.9	63.0	73.9	10.9	109	97	
Vert.	5470.000	PK	59.1	31.6	15.3	38.8	67.2	73.9	6.7	109	97	*1)
Vert.	11060.000	PK	44.5	40.2	8.2	39.4	53.5	73.9	20.4	100	0	
Vert.	16590.000	PK	43.9	39.5	1.1	40.4	44.1	73.9	29.8	100	0	*1)
Vert.	5460.000	AV	39.8	31.6	15.3	38.9	47.8	53.9	6.1	109	97	
Vert.	5470.000	AV	42.1	31.6	15.3	38.8	50.2	53.9	3.7	109	97	*1)
Vert.	11060.000	AV	34.9	40.2	8.2	39.4	43.9	53.9	10.0	100	0	
Vert.	16590.000	AV	34.5	39.5	1.1	40.4	34.7	53.9	19.2	100	0	*1)

*The 4th harmonic was not seen so the result was its base noise level.
1) This frequency was an outside of the restricted band, but that was applied the limit of 15.209.
Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).
Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

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Radiated Emission

Test place	No.3 Semi Anechoic Chamber			
Date	January 20, 2015	January 25, 2015	January 26, 2015	January 27, 2015
Temperature / Humidity	27 deg.C, 31 %RH	22 deg.C, 27 %RH	24 deg.C, 37 %RH	25 deg.C, 34 %RH
Engineer	Yosuke Ishikawa	Tatsuya Arai	Akira Sato	Akira Sato
Mode	Tx, 5610 MHz	(80MHz BW)		
Antenna	Monopole			

Tx, IEEE802.11ac (VHT80) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5725.000	PK	48.7	32.2	15.5	38.9	57.5	73.9	16.4	100	51	*1)
Hori.	11220.000	PK	45.5	40.1	8.1	39.3	54.4	73.9	19.5	100	343	
Hori.	16830.000	PK	43.4	40.2	1.1	40.1	44.6	73.9	29.3	100	0	*1)
Hori.	5725.000	AV	37.0	32.2	15.5	38.9	45.8	53.9	**8.1**	100	51	*1)
Hori.	11220.000	AV	35.8	40.1	8.1	39.3	44.7	53.9	9.2	100	343	
Hori.	16830.000	AV	34.3	40.2	1.1	40.1	35.5	53.9	18.4	100	0	*1)
Vert.	5725.000	PK	47.5	32.2	15.5	38.9	56.3	73.9	17.6	100	100	*1)
Vert.	11220.000	PK	45.3	40.1	8.1	39.3	54.2	73.9	19.7	100	0	
Vert.	16830.000	PK	43.9	40.2	1.1	40.1	45.1	73.9	28.8	100	359	*1)
Vert.	5725.000	AV	36.1	32.2	15.5	38.9	44.9	53.9	9.0	100	100	*1)
Vert.	11220.000	AV	35.4	40.1	8.1	39.3	44.3	53.9	9.6	100	0	
Vert.	16830.000	AV	33.7	40.2	1.1	40.1	34.9	53.9	19.0	100	359	*1)

*The 4th harmonic was not seen so the result was its base noise level.
1) This frequency was an outside of the restricted band, but that was applied the limit of 15.209.
Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).
Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

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Radiated Emission

Test place	No.3 Semi Anechoic Chamber			
Date	January 6, 2015	January 25, 2015	January 26, 2015	January 27, 2015
Temperature / Humidity	23 deg.C, 40 %RH	22 deg.C, 27 %RH	24 deg.C, 37 %RH	25 deg.C, 34 %RH
Engineer	Tatsuya Arai	Tatsuya Arai	Akira Sato	Akira Sato
Mode	Tx, 5775 MHz	(80MHz BW)		
Antenna	Monopole			

Tx, IEEE802.11ac (VHT80) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5715.000	PK	57.8	32.1	15.5	38.9	66.5	73.9	7.4	110	74	*1)
Hori.	11550.000	PK	44.8	39.8	8.2	39.2	53.6	73.9	20.3	100	0	
Hori.	17325.000	PK	42.8	42.8	1.3	39.5	47.4	73.9	26.5	100	359	*1)
Hori.	5715.000	AV	38.9	32.1	15.5	38.9	47.6	53.9	**6.3**	110	74	*1)
Hori.	11550.000	AV	35.1	39.8	8.2	39.2	43.9	53.9	10.0	100	0	
Hori.	17325.000	AV	33.1	42.8	1.3	39.5	37.7	53.9	16.2	100	359	*1)
Vert.	5715.000	PK	56.4	32.1	15.5	38.9	65.1	73.9	8.8	100	290	*1)
Vert.	11550.000	PK	45.0	39.8	8.2	39.2	53.8	73.9	20.1	100	0	
Vert.	17325.000	PK	43.1	42.8	1.3	39.5	47.7	73.9	26.2	100	0	*1)
Vert.	5715.000	AV	38.1	32.1	15.5	38.9	46.8	53.9	7.1	100	290	*1)
Vert.	11550.000	AV	35.1	39.8	8.2	39.2	43.9	53.9	10.0	100	0	
Vert.	17325.000	AV	33.6	42.8	1.3	39.5	38.2	53.9	15.7	100	0	*1)

*1) This frequency was an outside of the restricted band, but that was applied the limit of 15.209.

(above 1GHz Outside of the restricted band)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5725.000	PK	59.7	32.2	15.5	38.9	68.5	-26.7	-17.0	9.7	110	74	
Hori.	5850.000	PK	55.1	32.4	15.6	38.9	64.2	-31.0	-17.0	14.0	105	49	
Hori.	5860.000	PK	52.1	32.5	15.6	38.9	61.3	-33.9	-27.0	6.9	105	49	
Vert.	5725.000	PK	57.6	32.2	15.5	38.9	66.4	-28.8	-17.0	11.8	100	290	
Vert.	5850.000	PK	54.7	32.4	15.6	38.9	63.8	-31.4	-17.0	14.4	100	93	
Vert.	5860.000	PK	51.9	32.5	15.6	38.9	61.1	-34.1	-27.0	**7.1**	100	0	

Result[dBuV/m] = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)
Resrult(EIRP[dBm])=10*LOG({ (10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) *10^3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

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Radiated Emission

Test place	No.3 Semi Anechoic Chamber	
Date	January 29, 2015	January 31, 2015
Temperature / Humidity	24 deg.C, 35 %RH	24 deg.C, 40 %RH
Engineer	Akira Sato	Yosuke Ishikawa
Mode	Tx, 5180 MHz	(20MHz BW)
Antenna	Dual	

Tx, IEEE802.11a (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5150.000	PK	52.1	31.5	15.2	39.3	59.5	73.9	14.4	100	236	
Hori.	5150.000	AV	36.2	31.5	15.2	39.3	43.6	53.9	**10.3**	100	236	
Vert.	5150.000	PK	53.5	31.5	15.2	39.3	60.9	73.9	13.0	100	89	
Vert.	5150.000	AV	35.7	31.5	15.2	39.3	43.1	53.9	10.8	100	89	

*This mode was perfomed only band edges measurement.

Tx, IEEE802.11n (HT20) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5150.000	PK	57.6	31.5	15.2	39.3	65.0	73.9	**8.9**	100	23	
Hori.	5150.000	AV	37.1	31.5	15.2	39.3	44.5	53.9	9.4	100	23	
Vert.	5150.000	PK	57.4	31.5	15.2	39.3	64.8	73.9	9.1	100	95	
Vert.	5150.000	AV	36.0	31.5	15.2	39.3	43.4	53.9	10.5	100	95	

*This mode was perfomed only band edges measurement.

Tx, IEEE802.11ac (VHT20) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5150.000	PK	57.5	31.5	15.2	39.3	64.9	73.9	9.0	100	87	
Hori.	5150.000	AV	35.7	31.5	15.2	39.3	43.1	53.9	10.8	100	87	
Vert.	5150.000	PK	58.4	31.5	15.2	39.3	65.8	73.9	**8.1**	100	109	
Vert.	5150.000	AV	36.9	31.5	15.2	39.3	44.3	53.9	9.6	100	109	

*This mode was perfomed only band edges measurement.

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

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Radiated Emission

Test place	No.3 Semi Anechoic Chamber		
Date	January 29, 2015	January 31, 2015	
Temperature / Humidity	24 deg.C, 35 %RH	24 deg.C, 40 %RH	
Engineer	Akira Sato	Yosuke Ishikawa	
Mode	Tx,	5320 MHz	(20MHz BW)
Antenna	Dual		

Tx, IEEE802.11a (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5350.000	PK	54.5	31.6	15.2	39.0	62.3	73.9	11.6	100	212	
Hori.	5350.000	AV	37.5	31.6	15.2	39.0	45.3	53.9	**8.6**	100	212	
Vert.	5350.000	PK	55.4	31.6	15.2	39.0	63.2	73.9	10.7	100	114	
Vert.	5350.000	AV	37.4	31.6	15.2	39.0	45.2	53.9	8.7	100	114	

*This mode was perfomed only band edges measurement.

Tx, IEEE802.11n (HT20) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5350.000	PK	57.3	31.6	15.2	39.0	65.1	73.9	8.8	113	248	
Hori.	5350.000	AV	38.3	31.6	15.2	39.0	46.1	53.9	**7.8**	113	248	
Vert.	5350.000	PK	56.7	31.6	15.2	39.0	64.5	73.9	9.4	100	119	
Vert.	5350.000	AV	37.5	31.6	15.2	39.0	45.3	53.9	8.6	100	119	

*This mode was perfomed only band edges measurement.

Tx, IEEE802.11ac (VHT20) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5350.000	PK	59.8	31.6	15.2	39.0	67.6	73.9	**6.3**	100	50	
Hori.	5350.000	AV	38.2	31.6	15.2	39.0	46.0	53.9	7.9	100	50	
Vert.	5350.000	PK	57.5	31.6	15.2	39.0	65.3	73.9	8.6	100	113	
Vert.	5350.000	AV	37.0	31.6	15.2	39.0	44.8	53.9	9.1	100	113	

*This mode was perfomed only band edges measurement.

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

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Radiated Emission

Test place	No.3 Semi Anechoic Chamber	
Date	January 29, 2015	January 31, 2015
Temperature / Humidity	24 deg.C, 35 %RH	24 deg.C, 40 %RH
Engineer	Akira Sato	Yosuke Ishikawa
Mode	Tx, 5500 MHz	(20MHz BW)
Antenna	Dual	

Tx, IEEE802.11a (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5460.000	PK	48.4	31.6	15.3	38.9	56.4	73.9	17.5	100	70	
Hori.	5470.000	PK	53.1	31.6	15.3	38.8	61.2	73.9	12.7	100	70	*1)
Hori.	5460.000	AV	34.5	31.6	15.3	38.9	42.5	53.9	11.4	100	70	
Hori.	5470.000	AV	36.0	31.6	15.3	38.8	44.1	53.9	**9.8**	100	70	*1)
Vert.	5460.000	PK	48.0	31.6	15.3	38.9	56.0	73.9	17.9	100	73	
Vert.	5470.000	PK	53.0	31.6	15.3	38.8	61.1	73.9	12.8	100	73	*1)
Vert.	5460.000	AV	33.5	31.6	15.3	38.9	41.5	53.9	12.4	100	73	
Vert.	5470.000	AV	35.7	31.6	15.3	38.8	43.8	53.9	10.1	100	73	*1)

*This mode was perfomed only band edges measurement.
*1) This frequency was an outside of the restricted band, but that was applied the limit of 15.209.

Tx, IEEE802.11n (HT20) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5460.000	PK	54.1	31.6	15.3	38.9	62.1	73.9	11.8	100	44	
Hori.	5470.000	PK	59.2	31.6	15.3	38.8	67.3	73.9	**6.6**	100	44	*1)
Hori.	5460.000	AV	35.3	31.6	15.3	38.9	43.3	53.9	10.6	100	44	
Hori.	5470.000	AV	37.2	31.6	15.3	38.8	45.3	53.9	8.6	100	44	*1)
Vert.	5460.000	PK	49.3	31.6	15.3	38.9	57.3	73.9	16.6	100	161	
Vert.	5470.000	PK	56.9	31.6	15.3	38.8	65.0	73.9	8.9	100	161	*1)
Vert.	5460.000	AV	34.2	31.6	15.3	38.9	42.2	53.9	11.7	100	161	
Vert.	5470.000	AV	36.3	31.6	15.3	38.8	44.4	53.9	9.5	100	161	*1)

*This mode was perfomed only band edges measurement.
*1) This frequency was an outside of the restricted band, but that was applied the limit of 15.209.

Tx, IEEE802.11ac (VHT20) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5460.000	PK	56.1	31.6	15.3	38.9	64.1	73.9	9.8	100	53	
Hori.	5470.000	PK	59.2	31.6	15.3	38.8	67.3	73.9	**6.6**	100	53	*1)
Hori.	5460.000	AV	35.0	31.6	15.3	38.9	43.0	53.9	10.9	100	53	
Hori.	5470.000	AV	36.8	31.6	15.3	38.8	44.9	53.9	9.0	100	53	*1)
Vert.	5460.000	PK	50.6	31.6	15.3	38.9	58.6	73.9	15.3	100	0	
Vert.	5470.000	PK	56.2	31.6	15.3	38.8	64.3	73.9	9.6	100	0	*1)
Vert.	5460.000	AV	34.8	31.6	15.3	38.9	42.8	53.9	11.1	100	0	
Vert.	5470.000	AV	36.4	31.6	15.3	38.8	44.5	53.9	9.4	100	0	*1)

*This mode was perfomed only band edges measurement.
*1) This frequency was an outside of the restricted band, but that was applied the limit of 15.209.
Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).
Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

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Radiated Emission

Test place	No.3 Semi Anechoic Chamber		
Date	January 29, 2015		
Temperature / Humidity	24 deg.C, 35 %RH		
Engineer	Akira Sato		
Mode	Tx,	5700 MHz	(20MHz BW)
Antenna	Dual		

Tx, IEEE802.11a (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5725.000	PK	51.7	32.2	15.5	38.9	60.5	73.9	13.4	100	240	*1)
Hori.	5725.000	AV	37.1	32.2	15.5	38.9	45.9	53.9	**8.0**	100	240	*1)
Vert.	5725.000	PK	51.2	32.2	15.5	38.9	60.0	73.9	13.9	100	159	*1)
Vert.	5725.000	AV	35.4	32.2	15.5	38.9	44.2	53.9	9.7	100	159	*1)

*This mode was perfomed only band edges measurement.
*1) This frequency was an outside of the restricted band, but that was applied the limit of 15.209.

Tx, IEEE802.11n (HT20) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5725.000	PK	59.5	32.2	15.5	38.9	68.3	73.9	**5.6**	100	38	*1)
Hori.	5725.000	AV	38.1	32.2	15.5	38.9	46.9	53.9	7.0	100	38	*1)
Vert.	5725.000	PK	57.9	32.2	15.5	38.9	66.6	73.9	7.3	100	281	*1)
Vert.	5725.000	AV	36.8	32.2	15.5	38.9	45.6	53.9	8.3	100	281	*1)

*This mode was perfomed only band edges measurement.
*1) This frequency was an outside of the restricted band, but that was applied the limit of 15.209.

Tx, IEEE802.11ac (VHT20) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5725.000	PK	56.0	32.2	15.5	38.9	64.8	73.9	9.1	100	236	*1)
Hori.	5725.000	AV	38.6	32.2	15.5	38.9	47.4	53.9	**6.5**	100	236	*1)
Vert.	5725.000	PK	56.0	32.2	15.5	38.9	64.8	73.9	9.1	100	144	*1)
Vert.	5725.000	AV	36.1	32.2	15.5	38.9	44.9	53.9	9.0	100	144	*1)

*This mode was perfomed only band edges measurement.
*1) This frequency was an outside of the restricted band, but that was applied the limit of 15.209.
Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).
Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

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Radiated Emission

Test place	No.3 Semi Anechoic Chamber		
Date	January 30, 2015	January 31, 2015	
Temperature / Humidity	24 deg.C, 37 %RH	24 deg.C, 40 %RH	
Engineer	Akira Sato	Yosuke Ishikawa	
Mode	Tx, 5745 MHz	(20MHz BW)	
Antenna	Dual		

Tx, IEEE802.11a (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5715.000	PK	48.3	32.1	15.5	38.9	57.0	73.9	16.9	119	50	*1)
Hori.	5715.000	AV	33.0	32.1	15.5	38.9	41.7	53.9	**12.2**	119	50	*1)
Vert.	5715.000	PK	48.5	32.1	15.5	38.9	57.2	73.9	16.7	100	93	*1)
Vert.	5715.000	AV	33.0	32.1	15.5	38.9	41.7	53.9	**12.2**	100	93	*1)

*1) This frequency was an outside of the restricted band, but that was applied the limit of 15.209.

(above 1GHz Outside of the restricted band)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5725.000	PK	53.7	32.2	15.5	38.9	62.5	-32.7	-17.0	15.7	119	50	
Vert.	5725.000	PK	54.2	32.2	15.5	38.9	63.0	-32.2	-17.0	**15.2**	100	93	

*This mode was perfomed only band edges measurement.

Tx, IEEE802.11n (HT20) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5715.000	PK	54.0	32.1	15.5	38.9	62.7	73.9	11.2	100	61	*1)
Hori.	5715.000	AV	33.7	32.1	15.5	38.9	42.4	53.9	11.5	100	61	*1)
Hori.	5725.000	AV	36.3	32.2	15.5	38.9	45.1	53.9	8.8	100	61	*1)
Vert.	5725.000	PK	58.0	32.2	15.5	38.9	66.8	73.9	**7.1**	100	114	*1)

*1) This frequency was an outside of the restricted band, but that was applied the limit of 15.209.

(above 1GHz Outside of the restricted band)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5725.000	PK	59.8	32.2	15.5	38.9	68.6	-26.6	-17.0	**9.6**	100	61	
Vert.	5725.000	PK	58.0	32.2	15.5	38.9	66.8	-28.4	-17.0	11.4	100	114	

*This mode was perfomed only band edges measurement.

Tx, IEEE802.11ac (VHT20) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5715.000	PK	53.0	32.1	15.5	38.9	61.7	73.9	12.2	100	37	*1)
Hori.	5715.000	AV	33.1	32.1	15.5	38.9	41.8	53.9	**12.1**	100	37	*1)

*1) This frequency was an outside of the restricted band, but that was applied the limit of 15.209.

(above 1GHz Outside of the restricted band)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5725.000	PK	60.3	32.2	15.5	38.9	69.1	-26.1	-17.0	**9.1**	100	37	
Vert.	5715.000	PK	47.2	32.1	15.5	38.9	55.9	-39.3	-27.0	12.3	100	225	
Vert.	5725.000	PK	54.2	32.2	15.5	38.9	63.0	-32.2	-17.0	15.2	100	225	

*This mode was perfomed only band edges measurement.

Result[dBuV/m] = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)
Resrult(EIRP[dBm])=10*LOG（({ (10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) *10^3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).
Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

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Radiated Emission

Test place	No.3 Semi Anechoic Chamber		
Date	January 30, 2015	January 31, 2015	
Temperature / Humidity	24 deg.C, 37 %RH	24 deg.C, 40 %RH	
Engineer	Akira Sato	Yosuke Ishikawa	
Mode	Tx, 5825 MHz	(20MHz BW)	
Antenna	Dual		

Tx, IEEE802.11a (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Outside of the restricted band)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5850.000	PK	49.7	32.4	15.6	38.9	58.8	-36.4	-17.0	19.4	100	62	
Hori.	5860.000	PK	45.7	32.5	15.6	38.9	54.9	-40.3	-27.0	**13.3**	100	62	
Vert.	5850.000	PK	47.7	32.4	15.6	38.9	56.8	-38.4	-17.0	21.4	100	98	
Vert.	5860.000	PK	45.1	32.5	15.6	38.9	54.3	-40.9	-27.0	13.9	100	98	

*This mode was perfomed only band edges measurement.

Tx, IEEE802.11n (HT20) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5860.000	PK	47.1	32.5	15.6	38.9	56.3	73.9	17.6	100	32	*1)
Hori.	5860.000	AV	32.7	32.5	15.6	38.9	41.9	53.9	**12.0**	100	32	*1)

*1) This frequency was an outside of the restricted band, but that was applied the limit of 15.209.

(above 1GHz Outside of the restricted band)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5850.000	PK	53.1	32.4	15.6	38.9	62.2	-33.0	-17.0	16.0	100	32	
Vert.	5850.000	PK	51.2	32.4	15.6	38.9	60.3	-34.9	-17.0	17.9	100	304	
Vert.	5860.000	PK	46.1	32.5	15.6	38.9	55.3	-39.9	-27.0	**12.9**	100	304	

*This mode was perfomed only band edges measurement.

Tx, IEEE802.11ac (VHT20) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Outside of the restricted band)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5850.000	PK	55.3	32.4	15.6	38.9	64.4	-30.8	-17.0	13.8	100	63	
Hori.	5860.000	PK	47.3	32.5	15.6	38.9	56.5	-38.7	-27.0	**11.7**	100	63	
Vert.	5850.000	PK	51.4	32.4	15.6	38.9	60.5	-34.7	-17.0	17.7	100	105	
Vert.	5860.000	PK	45.0	32.5	15.6	38.9	54.2	-41.0	-27.0	14.0	100	105	

*This mode was perfomed only band edges measurement.

Result[dBuV/m] = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)
Resrult(EIRP[dBm])=10*LOG({ (10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) *10^3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).
Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

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Radiated Emission

Test place	No.3 Semi Anechoic Chamber
Date	January 29, 2015
Temperature / Humidity	24 deg.C, 35 %RH
Engineer	Akira Sato
Mode	Tx, 5190 MHz (40MHz BW)
Antenna	Dual

Tx, IEEE802.11n (HT40) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5150.000	PK	62.3	31.5	15.2	39.3	69.7	73.9	4.2	100	242	
Hori.	5150.000	AV	43.8	31.5	15.2	39.3	51.2	53.9	**2.7**	100	242	
Vert.	5150.000	PK	63.0	31.5	15.2	39.3	70.4	73.9	3.5	100	135	
Vert.	5150.000	AV	43.0	31.5	15.2	39.3	50.4	53.9	3.5	100	135	

*This mode was perfomed only band edges measurement.

Tx, IEEE802.11ac (VHT40) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5150.000	PK	60.7	31.5	15.2	39.3	68.1	73.9	5.8	100	0	
Hori.	5150.000	AV	42.7	31.5	15.2	39.3	50.1	53.9	**3.8**	100	0	
Vert.	5150.000	PK	58.7	31.5	15.2	39.3	66.1	73.9	7.8	100	72	
Vert.	5150.000	AV	41.6	31.5	15.2	39.3	49.0	53.9	4.9	100	72	

*This mode was perfomed only band edges measurement.

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

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Radiated Emission

Test place	No.3 Semi Anechoic Chamber
Date	January 29, 2015
Temperature / Humidity	24 deg.C, 35 %RH
Engineer	Akira Sato
Mode	Tx, 5310 MHz (40MHz BW)
Antenna	Dual

Tx, IEEE802.11n (HT40) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5350.000	PK	60.1	31.6	15.2	39.0	67.9	73.9	6.0	100	98	
Hori.	5350.000	AV	41.9	31.6	15.2	39.0	49.7	53.9	4.2	100	98	VBW:1.6kHz
Vert.	5350.000	PK	62.2	31.6	15.2	39.0	70.0	73.9	3.9	100	87	
Vert.	5350.000	AV	43.5	31.6	15.2	39.0	51.3	53.9	**2.6**	100	87	

*This mode was perfomed only band edges measurement.

Tx, IEEE802.11ac (VHT40) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5350.000	PK	63.1	31.6	15.2	39.0	70.9	73.9	3.0	100	0	
Hori.	5350.000	AV	45.2	31.6	15.2	39.0	53.0	53.9	**0.9**	100	0	
Vert.	5350.000	PK	60.3	31.6	15.2	39.0	68.1	73.9	5.8	100	112	
Vert.	5350.000	AV	44.4	31.6	15.2	39.0	52.2	53.9	1.7	100	112	

*This mode was perfomed only band edges measurement.

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

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Radiated Emission

Test place	No.3 Semi Anechoic Chamber		
Date	January 29, 2015	January 30, 2015	
Temperature / Humidity	24 deg.C, 35 %RH	24 deg.C, 37 %RH	
Engineer	Akira Sato	Akira Sato	
Mode	Tx,	5510 MHz	(40MHz BW)
Antenna	Dual		

Tx, IEEE802.11n (HT40) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5460.000	PK	55.6	31.6	15.3	38.9	63.6	73.9	10.3	100	67	
Hori.	5470.000	PK	61.7	31.6	15.3	38.8	69.8	73.9	**4.1**	100	67	*1)
Hori.	5460.000	AV	39.2	31.6	15.3	38.9	47.2	53.9	6.7	100	67	
Hori.	5470.000	AV	41.3	31.6	15.3	38.8	49.4	53.9	4.5	100	67	*1)
Vert.	5460.000	PK	55.5	31.6	15.3	38.9	63.5	73.9	10.4	100	76	
Vert.	5470.000	PK	61.2	31.6	15.3	38.8	69.3	73.9	4.6	100	76	*1)
Vert.	5460.000	AV	38.8	31.6	15.3	38.9	46.8	53.9	7.1	100	76	
Vert.	5470.000	AV	40.4	31.6	15.3	38.8	48.5	53.9	5.4	100	76	*1)

*This mode was perfomed only band edges measurement.
*1) This frequency was an outside of the restricted band, but that was applied the limit of 15.209.

Tx, IEEE802.11ac (VHT40) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5460.000	PK	54.0	31.6	15.3	38.9	62.0	73.9	11.9	100	63	
Hori.	5470.000	PK	58.2	31.6	15.3	38.8	66.3	73.9	7.6	100	63	*1)
Hori.	5460.000	AV	40.0	31.6	15.3	38.9	48.0	53.9	5.9	100	63	
Hori.	5470.000	AV	40.1	31.6	15.3	38.8	48.2	53.9	5.7	100	63	*1)
Vert.	5460.000	PK	53.4	31.6	15.3	38.9	61.4	73.9	12.5	100	119	
Vert.	5470.000	PK	58.2	31.6	15.3	38.8	66.3	73.9	7.6	100	119	*1)
Vert.	5460.000	AV	38.3	31.6	15.3	38.9	46.3	53.9	7.6	100	119	
Vert.	5470.000	AV	40.9	31.6	15.3	38.8	49.0	53.9	**4.9**	100	119	*1)

*This mode was perfomed only band edges measurement.
*1) This frequency was an outside of the restricted band, but that was applied the limit of 15.209.

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

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Radiated Emission

Test place	No.3 Semi Anechoic Chamber	
Date	January 29, 2015	January 30, 2015
Temperature / Humidity	24 deg.C, 35 %RH	24 deg.C, 37 %RH
Engineer	Akira Sato	Akira Sato
Mode	Tx, 5670 MHz	(40MHz BW)
Antenna	Dual	

Tx, IEEE802.11n (HT40) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5725.000	PK	53.6	32.2	15.5	38.9	62.4	73.9	11.5	100	27	*1)
Hori.	5725.000	AV	37.2	32.2	15.5	38.9	46.0	53.9	**7.9**	100	27	*1)
Vert.	5725.000	PK	51.2	32.2	15.5	38.9	60.0	73.9	13.9	100	89	*1)
Vert.	5725.000	AV	35.5	32.2	15.5	38.9	44.3	53.9	9.6	100	89	*1)

*This mode was perfomed only band edges measurement.
*1) This frequency was an outside of the restricted band, but that was applied the limit of 15.209.

Tx, IEEE802.11ac (VHT40) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5725.000	PK	52.3	32.2	15.5	38.9	61.1	73.9	12.8	100	60	*1)
Hori.	5725.000	AV	37.5	32.2	15.5	38.9	46.3	53.9	**7.6**	100	60	*1)
Vert.	5725.000	PK	49.9	32.2	15.5	38.9	58.7	73.9	15.2	100	111	*1)
Vert.	5725.000	AV	34.2	32.2	15.5	38.9	43.0	53.9	10.9	100	111	*1)

*This mode was perfomed only band edges measurement.
*1) This frequency was an outside of the restricted band, but that was applied the limit of 15.209.

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

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Radiated Emission

Test place	No.3 Semi Anechoic Chamber		
Date	January 30, 2015		
Temperature / Humidity	24 deg.C, 37 %RH		
Engineer	Akira Sato		
Mode	Tx,	5755 MHz	(40MHz BW)
Antenna	Dual		

Tx, IEEE802.11n (HT40) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5715.000	PK	56.3	32.1	15.5	38.9	65.0	73.9	**8.9**	100	42	*1)
Hori.	5715.000	AV	36.2	32.1	15.5	38.9	44.9	53.9	9.0	100	42	*1)
Vert.	5715.000	PK	54.9	32.1	15.5	38.9	63.6	73.9	10.3	100	183	*1)
Vert.	5715.000	AV	34.2	32.1	15.5	38.9	42.9	53.9	11.0	100	183	*1)

*1) This frequency was an outside of the restricted band, but that was applied the limit of 15.209.

(above 1GHz Outside of the restricted band)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5725.000	PK	61.2	32.2	15.5	38.9	70.0	-25.2	-17.0	**8.2**	100	42	
Vert.	5725.000	PK	59.7	32.2	15.5	38.9	68.5	-26.7	-17.0	9.7	100	183	

*This mode was perfomed only band edges measurement.

Tx, IEEE802.11ac (VHT40) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5715.000	PK	54.8	32.1	15.5	38.9	63.5	73.9	10.4	100	238	*1)
Hori.	5715.000	AV	36.9	32.1	15.5	38.9	45.6	53.9	**8.3**	100	238	*1)
Vert.	5715.000	PK	52.4	32.1	15.5	38.9	61.1	73.9	12.8	100	287	*1)
Vert.	5715.000	AV	35.6	32.1	15.5	38.9	44.3	53.9	9.6	100	287	*1)

*1) This frequency was an outside of the restricted band, but that was applied the limit of 15.209.

(above 1GHz Outside of the restricted band)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5725.000	PK	59.7	32.2	15.5	38.9	68.5	-26.7	-17.0	**9.7**	100	238	
Vert.	5725.000	PK	55.4	32.2	15.5	38.9	64.1	-31.1	-17.0	14.1	100	287	

*This mode was perfomed only band edges measurement.

Result[dBuV/m] = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)
Resrult(EIRP[dBm])=10*LOG({ (10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) *10^3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).
Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

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Radiated Emission

Test place	No.3 Semi Anechoic Chamber
Date	January 30, 2015
Temperature / Humidity	24 deg.C, 37 %RH
Engineer	Akira Sato
Mode	Tx, 5795 MHz (40MHz BW)
Antenna	Dual

Tx, IEEE802.11n (HT40) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Outside of the restricted band)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5850.000	PK	44.9	32.4	15.6	38.9	54.0	-41.2	-17.0	24.2	100	302	
Hori.	5860.000	PK	44.3	32.5	15.6	38.9	53.5	-41.7	-27.0	14.7	100	302	
Vert.	5850.000	PK	46.5	32.4	15.6	38.9	55.6	-39.6	-17.0	22.6	100	282	
Vert.	5860.000	PK	44.6	32.5	15.6	38.9	53.8	-41.4	-27.0	**14.4**	100	282	

*This mode was perfomed only band edges measurement.

Tx, IEEE802.11ac (VHT40) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Outside of the restricted band)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5850.000	PK	45.8	32.4	15.6	38.9	54.9	-40.3	-17.0	23.3	100	320	
Hori.	5860.000	PK	44.6	32.5	15.6	38.9	53.8	-41.4	-27.0	14.4	100	320	
Vert.	5850.000	PK	45.1	32.4	15.6	38.9	54.2	-41.0	-17.0	24.0	100	311	
Vert.	5860.000	PK	45.5	32.5	15.6	38.9	54.7	-40.5	-27.0	**13.5**	100	311	

*This mode was perfomed only band edges measurement.

Result[dBuV/m] = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)
Resrult(EIRP[dBm])=10*LOG（{ (10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) *10^3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).
Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

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Radiated Emission

Test place	No.3 Semi Anechoic Chamber
Date	January 30, 2015
Temperature / Humidity	24 deg.C, 37 %RH
Engineer	Akira Sato
Mode	Tx, 5210 MHz (80MHz BW)
Antenna	Dual

Tx, IEEE802.11ac (VHT80) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5150.000	PK	57.7	31.5	15.2	39.3	65.1	73.9	8.8	100	68	
Hori.	5150.000	AV	43.7	31.5	15.2	39.3	51.1	53.9	**2.8**	100	68	
Vert.	5150.000	PK	59.2	31.5	15.2	39.3	66.6	73.9	7.3	100	112	
Vert.	5150.000	AV	43.0	31.5	15.2	39.3	50.4	53.9	3.5	100	112	

*This mode was perfomed only band edges measurement.

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

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Radiated Emission

Test place	No.3 Semi Anechoic Chamber
Date	January 30, 2015
Temperature / Humidity	24 deg.C, 37 %RH
Engineer	Akira Sato
Mode	Tx, 5290 MHz (80MHz BW)
Antenna	Dual

Tx, IEEE802.11ac (VHT80) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5350.000	PK	59.9	31.6	15.2	39.0	67.7	73.9	6.2	100	76	
Hori.	5350.000	AV	38.0	31.6	15.2	39.0	45.8	53.9	8.1	100	76	
Vert.	5350.000	PK	58.8	31.6	15.2	39.0	66.6	73.9	7.3	100	115	
Vert.	5350.000	AV	40.8	31.6	15.2	39.0	48.6	53.9	**5.3**	100	115	

*This mode was perfomed only band edges measurement.

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

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Radiated Emission

Test place	No.3 Semi Anechoic Chamber
Date	January 30, 2015
Temperature / Humidity	24 deg.C, 37 %RH
Engineer	Akira Sato
Mode	Tx, 5530 MHz (80MHz BW)
Antenna	Dual

Tx, IEEE802.11ac (VHT80) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5460.000	PK	55.2	31.6	15.3	38.9	63.2	73.9	10.7	100	51	
Hori.	5470.000	PK	58.6	31.6	15.3	38.8	66.7	73.9	7.2	100	51	*1)
Hori.	5460.000	AV	40.3	31.6	15.3	38.9	48.3	53.9	5.6	100	51	
Hori.	5470.000	AV	41.5	31.6	15.3	38.8	49.6	53.9	**4.3**	100	51	*1)
Vert.	5460.000	PK	54.3	31.6	15.3	38.9	62.3	73.9	11.6	100	72	
Vert.	5470.000	PK	55.3	31.6	15.3	38.8	63.4	73.9	10.5	100	72	*1)
Vert.	5460.000	AV	39.3	31.6	15.3	38.9	47.3	53.9	6.6	100	72	
Vert.	5470.000	AV	39.6	31.6	15.3	38.8	47.7	53.9	6.2	100	72	*1)

*This mode was perfomed only band edges measurement.
1) This frequency was an outside of the restricted band, but that was applied the limit of 15.209.
Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).
Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

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Radiated Emission

Test place	No.3 Semi Anechoic Chamber
Date	January 30, 2015
Temperature / Humidity	24 deg.C, 37 %RH
Engineer	Akira Sato
Mode	Tx, 5610 MHz (80MHz BW)
Antenna	Dual

Tx, IEEE802.11ac (VHT80) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5725.000	PK	47.2	32.2	15.5	38.9	56.0	73.9	17.9	100	56	*1)
Hori.	5725.000	AV	35.7	32.2	15.5	38.9	44.5	53.9	**9.4**	100	56	*1)
Vert.	5725.000	PK	44.6	32.2	15.5	38.9	53.4	73.9	20.5	100	358	*1)
Vert.	5725.000	AV	34.2	32.2	15.5	38.9	43.0	53.9	10.9	100	358	*1)

*This mode was perfomed only band edges measurement.
1) This frequency was an outside of the restricted band, but that was applied the limit of 15.209.
Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).
Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

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Radiated Emission

Test place	No.3 Semi Anechoic Chamber		
Date	January 30, 2015		
Temperature / Humidity	24 deg.C, 37 %RH		
Engineer	Akira Sato		
Mode	Tx,	5775 MHz	(80MHz BW)
Antenna	Dual		

Tx, IEEE802.11ac (VHT80) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5715.000	PK	53.1	32.1	15.5	38.9	61.8	73.9	12.1	100	107	*1)
Hori.	5715.000	AV	38.5	32.1	15.5	38.9	47.2	53.9	**6.7**	100	107	*1)
Vert.	5715.000	PK	55.0	32.1	15.5	38.9	63.7	73.9	10.2	100	81	*1)
Vert.	5715.000	AV	37.5	32.1	15.5	38.9	46.2	53.9	7.7	100	81	*1)

*1) This frequency was an outside of the restricted band, but that was applied the limit of 15.209.

(above 1GHz Outside of the restricted band)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5725.000	PK	57.9	32.2	15.5	38.9	66.6	-28.6	-17.0	11.6	100	35	
Hori.	5850.000	PK	51.5	32.4	15.6	38.9	60.6	-34.6	-17.0	17.6	109	260	
Hori.	5860.000	PK	48.5	32.5	15.6	38.9	57.7	-37.5	-27.0	10.5	109	260	
Vert.	5725.000	PK	54.4	32.2	15.5	38.9	63.2	-32.0	-17.0	15.0	100	267	
Vert.	5850.000	PK	50.0	32.4	15.6	38.9	59.1	-36.1	-17.0	19.1	100	75	
Vert.	5860.000	PK	50.2	32.5	15.6	38.9	59.4	-35.8	-27.0	**8.8**	100	75	

Result[dBuV/m] = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)
Resrult(EIRP[dBm])=10*LOG（{ (10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) *10^3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).
*This mode was perfomed only band edges measurement.
Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

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Radiated Emission

Test place	No.3 Semi Anechoic Chamber
Date	January 31, 2015
Temperature / Humidity	24 deg.C, 40 %RH
Engineer	Yosuke Ishikawa
Mode	Tx, 5180 MHz (20MHz BW)
Antenna	Dual, with Bluetooth (BDR, Hopping)

Tx, IEEE802.11n (HT20) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5150.000	PK	57.7	31.5	15.4	39.3	65.3	73.9	**8.6**	100	90	
Hori.	5150.000	AV	37.1	31.5	15.4	39.3	44.7	53.9	9.2	100	90	
Vert.	5150.000	PK	57.7	31.5	15.4	39.3	65.3	73.9	**8.6**	100	124	
Vert.	5150.000	AV	37.4	31.5	15.4	39.3	45.0	53.9	8.9	100	124	

*This mode was perfomed only band edges measurement.

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

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Radiated Emission

Test place	No.3 Semi Anechoic Chamber
Date	February 1, 2015
Temperature / Humidity	22 deg.C, 35 %RH
Engineer	Tatsuya Arai
Mode	Tx, 5260 MHz (20MHz BW)
Antenna	Dual, with Bluetooth (BDR, Hopping)

Tx, IEEE802.11n (HT20) (* PK: Peak, AV: Average, QP: Quasi-Peak) (below 1GHz and above 1GHz Inside of the restricted band)

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.	38.365	QP	22.3	14.9	6.7	32.2	11.7	40.0	28.3	100	321	
Hori.	505.094	QP	21.6	17.9	9.5	32.1	16.9	46.0	29.1	100	210	
Hori.	10520.000	PK	46.1	39.6	7.8	39.4	54.1	73.9	19.8	100	345	*1)
Hori.	15780.000	PK	49.6	38.7	0.5	40.7	48.1	73.9	25.8	109	154	
Hori.	10520.000	AV	33.0	39.6	7.8	39.4	41.0	53.9	**12.9**	100	345	*1)
Hori.	15780.000	AV	36.3	38.7	0.5	40.7	34.8	53.9	19.1	109	154	
Vert.	37.500	QP	22.6	15.1	6.7	32.2	12.2	40.0	27.8	100	21	
Vert.	496.940	QP	21.4	17.7	9.4	32.1	16.4	46.0	29.6	100	143	
Vert.	10520.000	PK	45.9	39.6	7.8	39.4	53.9	73.9	20.0	100	173	*1)
Vert.	15780.000	PK	49.2	38.7	0.5	40.7	47.7	73.9	26.2	112	301	
Vert.	10520.000	AV	32.8	39.6	7.8	39.4	40.8	53.9	13.1	100	173	*1)
Vert.	15780.000	AV	35.7	38.7	0.5	40.7	34.2	53.9	19.7	112	301	

*1) This frequency was an outside of the restricted band, but that was applied the limit of 15.209.
Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

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Radiated Emission

Test place	No.3 Semi Anechoic Chamber
Date	January 31, 2015
Temperature / Humidity	24 deg.C, 40 %RH
Engineer	Yosuke Ishikawa
Mode	Tx, 5320 MHz (20MHz BW)
Antenna	Dual, with Bluetooth (BDR, Hopping)

Tx, IEEE802.11n (HT20) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5350.000	PK	56.2	31.6	15.5	39.0	64.3	73.9	9.6	100	87	
Hori.	5350.000	AV	37.2	31.6	15.5	39.0	45.3	53.9	8.6	100	87	
Vert.	5350.000	PK	56.6	31.6	15.5	39.0	64.7	73.9	9.2	100	121	
Vert.	5350.000	AV	37.9	31.6	15.5	39.0	46.0	53.9	**7.9**	100	121	

*This mode was perfomed only band edges measurement.

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

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Radiated Emission

Test place	No.3 Semi Anechoic Chamber
Date	January 31, 2015
Temperature / Humidity	24 deg.C, 40 %RH
Engineer	Yosuke Ishikawa
Mode	Tx, 5500 MHz (20MHz BW)
Antenna	Dual, with Bluetooth (BDR, Hopping)

Tx, IEEE802.11n (HT20) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5460.000	PK	54.1	31.6	15.6	38.9	62.4	73.9	11.5	100	43	
Hori.	5470.000	PK	55.9	31.6	15.6	38.8	64.3	73.9	9.6	100	43	*1)
Hori.	5460.000	AV	34.5	31.6	15.6	38.9	42.8	53.9	11.1	100	43	
Hori.	5470.000	AV	36.8	31.6	15.6	38.8	45.2	53.9	**8.7**	100	43	*1)
Vert.	5460.000	PK	51.9	31.6	15.6	38.9	60.2	73.9	13.7	100	119	
Vert.	5470.000	PK	56.0	31.6	15.6	38.8	64.4	73.9	9.5	100	119	*1)
Vert.	5460.000	AV	34.3	31.6	15.6	38.9	42.6	53.9	11.3	100	119	
Vert.	5470.000	AV	35.6	31.6	15.6	38.8	44.0	53.9	9.9	100	119	*1)

*This mode was perfomed only band edges measurement.
*1) This frequency was an outside of the restricted band, but that was applied the limit of 15.209.
Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).
Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

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Radiated Emission

Test place	No.3 Semi Anechoic Chamber
Date	January 31, 2015
Temperature / Humidity	24 deg.C, 40 %RH
Engineer	Yosuke Ishikawa
Mode	Tx, 5700 MHz (20MHz BW)
Antenna	Dual, with Bluetooth (BDR, Hopping)

Tx, IEEE802.11n (HT20) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5725.000	PK	58.0	32.2	15.8	38.9	67.1	73.9	**6.8**	100	46	*1)
Hori.	5725.000	AV	37.2	32.2	15.8	38.9	46.3	53.9	7.6	100	46	*1)
Vert.	5725.000	PK	55.6	32.2	15.8	38.9	64.7	73.9	9.2	100	111	*1)
Vert.	5725.000	AV	35.6	32.2	15.8	38.9	44.7	53.9	9.2	100	111	*1)

*This mode was perfomed only band edges measurement.
*1) This frequency was an outside of the restricted band, but that was applied the limit of 15.209.
Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).
Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

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Radiated Emission

Test place	No.3 Semi Anechoic Chamber
Date	January 31, 2015
Temperature / Humidity	24 deg.C, 40 %RH
Engineer	Yosuke Ishikawa
Mode	Tx, 5745 MHz (20MHz BW)
Antenna	Dual, with Bluetooth (BDR, Hopping)

Tx, IEEE802.11ac (VHT20) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5715.000	PK	52.9	32.1	15.8	38.9	61.9	73.9	12.0	100	61	*1)
Hori.	5715.000	AV	33.3	32.1	15.8	38.9	42.3	53.9	**11.6**	100	61	*1)
Vert.	5715.000	PK	50.0	32.1	15.8	38.9	59.0	73.9	14.9	100	0	*1)
Vert.	5715.000	AV	32.9	32.1	15.8	38.9	41.9	53.9	12.0	100	0	*1)

*1) This frequency was an outside of the restricted band, but that was applied the limit of 15.209.

(above 1GHz Outside of the restricted band)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5725.000	PK	59.5	32.2	15.8	38.9	68.6	-26.6	-17.0	**9.6**	100	61	
Vert.	5725.000	PK	57.1	32.2	15.8	38.9	66.2	-29.0	-17.0	12.0	100	0	

*This mode was perfomed only band edges measurement.

Result[dBuV/m] = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)
Resrult(EIRP[dBm])=10*LOG({ (10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) *10^3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).
Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

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Radiated Emission

Test place	No.3 Semi Anechoic Chamber
Date	January 31, 2015
Temperature / Humidity	24 deg.C, 40 %RH
Engineer	Yosuke Ishikawa
Mode	Tx, 5825 MHz (20MHz BW)
Antenna	Dual, with Bluetooth (BDR, Hopping)

Tx, IEEE802.11n (HT20) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5860.000	PK	47.9	32.5	15.8	38.9	57.3	73.9	16.6	100	60	*1)
Hori.	5860.000	AV	32.9	32.5	15.8	38.9	42.3	53.9	**11.6**	100	60	*1)

*1) This frequency was an outside of the restricted band, but that was applied the limit of 15.209.

(above 1GHz Outside of the restricted band)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5850.000	PK	55.9	32.4	15.8	38.9	65.2	-30.0	-17.0	**13.0**	100	60	
Vert.	5850.000	PK	52.1	32.4	15.8	38.9	61.4	-33.8	-17.0	16.8	100	114	
Vert.	5860.000	PK	44.5	32.5	15.8	38.9	53.9	-41.3	-27.0	14.3	100	114	

*This mode was perfomed only band edges measurement.

Result[dBuV/m] = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)
Resrult(EIRP[dBm])=10*LOG({ (10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) *10^3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).
Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

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Radiated Emission

Test place	No.3 Semi Anechoic Chamber
Date	January 31, 2015
Temperature / Humidity	24 deg.C, 40 %RH
Engineer	Yosuke Ishikawa
Mode	Tx, 5190 MHz (40MHz BW)
Antenna	Dual, with Bluetooth (BDR, Hopping)

Tx, IEEE802.11n (HT40) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5150.000	PK	57.6	31.5	15.4	39.3	65.2	73.9	8.7	100	39	
Hori.	5150.000	AV	39.7	31.5	15.4	39.3	47.3	53.9	6.6	100	39	
Vert.	5150.000	PK	62.0	31.5	15.4	39.3	69.6	73.9	4.3	100	104	
Vert.	5150.000	AV	42.3	31.5	15.4	39.3	49.9	53.9	**4.0**	100	104	

*This mode was perfomed only band edges measurement.

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

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Radiated Emission

Test place	No.3 Semi Anechoic Chamber
Date	January 31, 2015
Temperature / Humidity	24 deg.C, 40 %RH
Engineer	Yosuke Ishikawa
Mode	Tx, 5310 MHz (40MHz BW)
Antenna	Dual, with Bluetooth (BDR, Hopping)

Tx, IEEE802.11n (HT40) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5350.000	PK	64.9	31.6	15.5	39.0	73.0	73.9	0.9	100	47	
Hori.	5350.000	AV	43.0	31.6	15.5	39.0	51.1	53.9	2.8	100	47	
Vert.	5350.000	PK	65.2	31.6	15.5	39.0	73.3	73.9	**0.6**	100	130	
Vert.	5350.000	AV	43.1	31.6	15.5	39.0	51.2	53.9	2.7	100	130	

*This mode was perfomed only band edges measurement.

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

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Radiated Emission

Test place	No.3 Semi Anechoic Chamber
Date	January 31, 2015
Temperature / Humidity	24 deg.C, 40 %RH
Engineer	Yosuke Ishikawa
Mode	Tx, 5510 MHz (40MHz BW)
Antenna	Dual, with Bluetooth (BDR, Hopping)

Tx, IEEE802.11n (HT40) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5460.000	PK	56.6	31.6	15.6	38.9	64.9	73.9	9.0	100	45	
Hori.	5470.000	PK	62.4	31.6	15.6	38.8	70.8	73.9	**3.1**	100	45	*1)
Hori.	5460.000	AV	39.1	31.6	15.6	38.9	47.4	53.9	6.5	100	45	
Hori.	5470.000	AV	41.1	31.6	15.6	38.8	49.5	53.9	4.4	100	45	*1)
Vert.	5460.000	PK	56.9	31.6	15.6	38.9	65.2	73.9	8.7	100	128	
Vert.	5470.000	PK	59.9	31.6	15.6	38.8	68.3	73.9	5.6	100	128	*1)
Vert.	5460.000	AV	38.2	31.6	15.6	38.9	46.5	53.9	7.4	100	128	
Vert.	5470.000	AV	39.2	31.6	15.6	38.8	47.6	53.9	6.3	100	128	*1)

*This mode was perfomed only band edges measurement.
*1) This frequency was an outside of the restricted band, but that was applied the limit of 15.209.

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

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Radiated Emission

Test place	No.3 Semi Anechoic Chamber
Date	January 31, 2015
Temperature / Humidity	24 deg.C, 40 %RH
Engineer	Yosuke Ishikawa
Mode	Tx, 5670 MHz (40MHz BW)
Antenna	Dual, with Bluetooth (BDR, Hopping)

Tx, IEEE802.11n (HT40) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5725.000	PK	53.1	32.2	15.8	38.9	62.2	73.9	11.7	100	54	*1)
Hori.	5725.000	AV	37.1	32.2	15.8	38.9	46.2	53.9	**7.7**	100	54	*1)
Vert.	5725.000	PK	51.5	32.2	15.8	38.9	60.6	73.9	13.3	100	106	*1)
Vert.	5725.000	AV	35.6	32.2	15.8	38.9	44.7	53.9	9.2	100	106	*1)

*This mode was perfomed only band edges measurement.
*1) This frequency was an outside of the restricted band, but that was applied the limit of 15.209.

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

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Radiated Emission

Test place	No.3 Semi Anechoic Chamber
Date	January 31, 2015
Temperature / Humidity	24 deg.C, 40 %RH
Engineer	Yosuke Ishikawa
Mode	Tx, 5755 MHz (40MHz BW)
Antenna	Dual, with Bluetooth (BDR, Hopping)

Tx, IEEE802.11n (HT40) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5715.000	PK	56.8	32.1	15.8	38.9	65.8	73.9	**8.1**	100	45	*1)
Hori.	5715.000	AV	36.8	32.1	15.8	38.9	45.8	53.9	**8.1**	100	45	*1)
Vert.	5715.000	PK	53.6	32.1	15.8	38.9	62.6	73.9	11.3	100	124	*1)
Vert.	5715.000	AV	35.8	32.1	15.8	38.9	44.8	53.9	9.1	100	124	*1)

*1) This frequency was an outside of the restricted band, but that was applied the limit of 15.209.

(above 1GHz Outside of the restricted band)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5725.000	PK	60.9	32.2	15.8	38.9	70.0	-25.2	-17.0	**8.2**	100	45	
Vert.	5725.000	PK	56.8	32.2	15.8	38.9	65.9	-29.3	-17.0	12.3	100	124	

*This mode was perfomed only band edges measurement.

Result[dBuV/m] = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)
Resrult(EIRP[dBm])=10*LOG({ (10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) *10^3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).
Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

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Radiated Emission

Test place	No.3 Semi Anechoic Chamber
Date	January 31, 2015
Temperature / Humidity	24 deg.C, 40 %RH
Engineer	Yosuke Ishikawa
Mode	Tx, 5795 MHz (40MHz BW)
Antenna	Dual, with Bluetooth (BDR, Hopping)

Tx, IEEE802.11n (HT40) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Outside of the restricted band)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5850.000	PK	47.3	32.4	15.8	38.9	56.6	-38.6	-17.0	21.6	100	57	
Hori.	5860.000	PK	45.2	32.5	15.8	38.9	54.6	-40.6	-27.0	**13.6**	100	57	
Vert.	5850.000	PK	45.7	32.4	15.8	38.9	55.0	-40.2	-17.0	23.2	100	153	
Vert.	5860.000	PK	44.8	32.5	15.8	38.9	54.2	-41.0	-27.0	14.0	100	153	

*This mode was perfomed only band edges measurement.

Result[dBuV/m] = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)
Resrult(EIRP[dBm])=10*LOG（{ (10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) *10^3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).
Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

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Radiated Emission

Test place	No.3 Semi Anechoic Chamber
Date	January 31, 2015
Temperature / Humidity	24 deg.C, 40 %RH
Engineer	Yosuke Ishikawa
Mode	Tx, 5210 MHz (80MHz BW)
Antenna	Dual, with Bluetooth (BDR, Hopping)

Tx, IEEE802.11ac (VHT80) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5150.000	PK	56.5	31.5	15.4	39.3	64.1	73.9	9.8	100	67	
Hori.	5150.000	AV	41.8	31.5	15.4	39.3	49.4	53.9	4.5	100	67	
Vert.	5150.000	PK	58.3	31.5	15.4	39.3	65.9	73.9	8.0	100	101	
Vert.	5150.000	AV	42.7	31.5	15.4	39.3	50.3	53.9	**3.6**	100	101	

*This mode was perfomed only band edges measurement.

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

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Radiated Emission

Test place	No.3 Semi Anechoic Chamber
Date	January 31, 2015
Temperature / Humidity	24 deg.C, 40 %RH
Engineer	Yosuke Ishikawa
Mode	Tx, 5290 MHz (80MHz BW)
Antenna	Dual, with Bluetooth (BDR, Hopping)

Tx, IEEE802.11ac (VHT80) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5350.000	PK	59.8	31.6	15.5	39.0	67.9	73.9	6.0	100	37	
Hori.	5350.000	AV	41.5	31.6	15.5	39.0	49.6	53.9	**4.3**	100	37	
Vert.	5350.000	PK	59.0	31.6	15.5	39.0	67.1	73.9	6.8	100	127	
Vert.	5350.000	AV	41.2	31.6	15.5	39.0	49.3	53.9	4.6	100	127	

*This mode was perfomed only band edges measurement.

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

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Radiated Emission

Test place	No.3 Semi Anechoic Chamber
Date	February 1, 2015
Temperature / Humidity	22 deg.C, 35 %RH
Engineer	Tatsuya Arai
Mode	Tx, 5530 MHz (80MHz BW)
Antenna	Dual, with Bluetooth (BDR, Hopping)

Tx, IEEE802.11ac (VHT80) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5460.000	PK	54.8	31.6	15.6	38.9	63.1	73.9	10.8	100	54	
Hori.	5470.000	PK	58.0	31.6	15.6	38.8	66.4	73.9	7.5	100	54	*1)
Hori.	5460.000	AV	39.2	31.6	15.6	38.9	47.5	53.9	6.4	100	54	
Hori.	5470.000	AV	41.0	31.6	15.6	38.8	49.4	53.9	**4.5**	100	54	*1)
Vert.	5460.000	PK	51.8	31.6	15.6	38.9	60.1	73.9	13.8	100	163	
Vert.	5470.000	PK	55.4	31.6	15.6	38.8	63.8	73.9	10.1	100	163	*1)
Vert.	5460.000	AV	37.4	31.6	15.6	38.9	45.7	53.9	8.2	100	163	
Vert.	5470.000	AV	38.9	31.6	15.6	38.8	47.3	53.9	6.6	100	163	*1)

*This mode was perfomed only band edges measurement.
1) This frequency was an outside of the restricted band, but that was applied the limit of 15.209.
Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).
Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

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Radiated Emission

Test place	No.3 Semi Anechoic Chamber
Date	February 1, 2015
Temperature / Humidity	22 deg.C, 35 %RH
Engineer	Tatsuya Arai
Mode	Tx, 5610 MHz (80MHz BW)
Antenna	Dual, with Bluetooth (BDR, Hopping)

Tx, IEEE802.11ac (VHT80) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5725.000	PK	47.0	32.2	15.8	38.9	56.1	73.9	17.8	100	240	*1)
Hori.	5725.000	AV	35.5	32.2	15.8	38.9	44.6	53.9	**9.3**	100	240	*1)
Vert.	5725.000	PK	45.8	32.2	15.8	38.9	54.9	73.9	19.0	100	89	*1)
Vert.	5725.000	AV	35.0	32.2	15.8	38.9	44.1	53.9	9.8	100	89	*1)

*This mode was perfomed only band edges measurement.
1) This frequency was an outside of the restricted band, but that was applied the limit of 15.209.
Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).
Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

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Radiated Emission

Test place	No.3 Semi Anechoic Chamber
Date	February 1, 2015
Temperature / Humidity	22 deg.C, 35 %RH
Engineer	Tatsuya Arai
Mode	Tx, 5775 MHz (80MHz BW)
Antenna	Dual, with Bluetooth (BDR, Hopping)

Tx, IEEE802.11ac (VHT80) (* PK: Peak, AV: Average, QP: Quasi-Peak) (above 1GHz Inside of the restricted band)

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.	5715.000	PK	56.7	32.1	15.8	38.9	65.7	73.9	8.2	113	239	*1)
Hori.	5715.000	AV	37.2	32.1	15.8	38.9	46.2	53.9	**7.7**	113	239	*1)
Vert.	5715.000	PK	54.5	32.1	15.8	38.9	63.5	73.9	10.4	100	84	*1)
Vert.	5715.000	AV	36.0	32.1	15.8	38.9	45.0	53.9	8.9	100	84	*1)

*1) This frequency was an outside of the restricted band, but that was applied the limit of 15.209.

(above 1GHz Outside of the restricted band)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5725.000	PK	58.8	32.2	15.8	38.9	67.9	-27.3	-17.0	10.3	113	239	
Hori.	5850.000	PK	53.9	32.4	15.8	38.9	63.2	-32.0	-17.0	15.0	100	49	
Hori.	5860.000	PK	50.5	32.5	15.8	38.9	59.9	-35.3	-27.0	**8.3**	100	49	
Vert.	5725.000	PK	56.2	32.2	15.8	38.9	65.3	-29.9	-17.0	12.9	100	84	
Vert.	5850.000	PK	52.4	32.4	15.8	38.9	61.7	-33.5	-17.0	16.5	100	97	
Vert.	5860.000	PK	49.1	32.5	15.8	38.9	58.5	-36.7	-27.0	9.7	100	97	

Result[dBuV/m] = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)
Resrult(EIRP[dBm])=10*LOG（{ (10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) *10^3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).
*This mode was perfomed only band edges measurement.
Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

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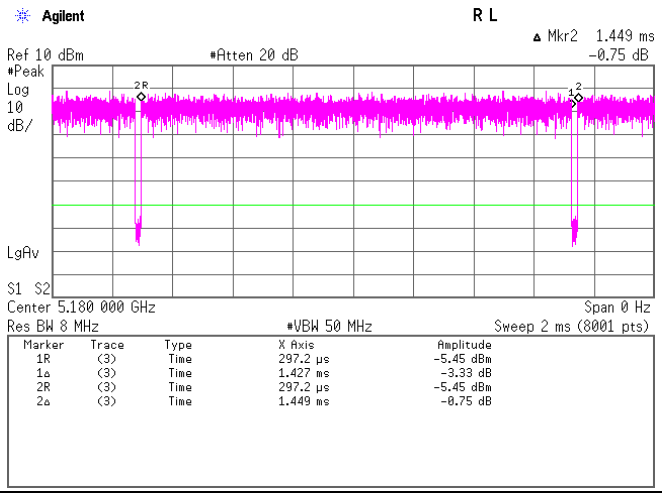
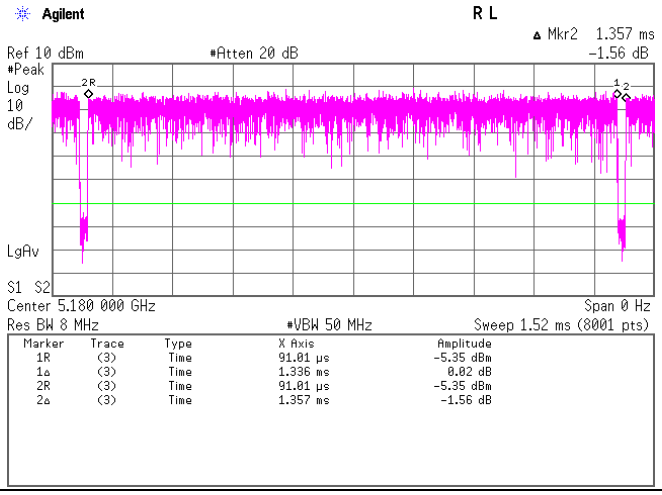
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 6, 2015	
Temperature / Humidity	25 deg.C , 52 %RH	
Engineer	Yosuke Ishikawa	

Burst rate confirmation

Tx, IEEE802.11a, PN9, worst data mode 6Mbps

duty cycle = 1.427/1.449 = 0.985 (98.5%)	
Tx2_BurstRate1  	Tx2_BurstRate2

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

duty cycle = 1.336 / 1.357 = 0.985 (98.5%)	
Tx2_BurstRate1  	Tx2_BurstRate2

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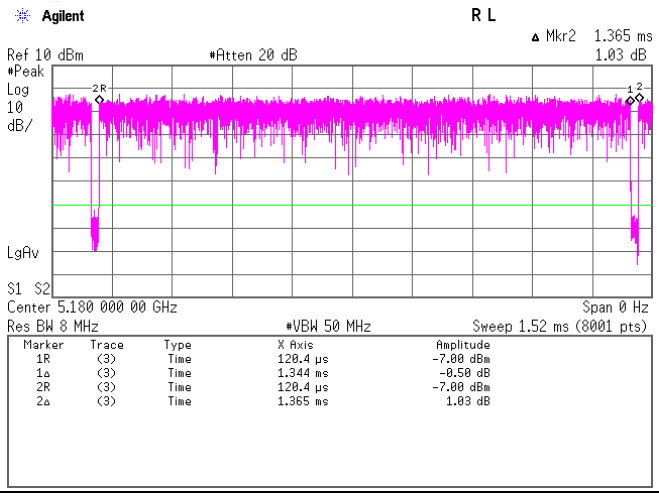
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 6, 2015	
Temperature / Humidity	25 deg.C , 52 %RH	
Engineer	Yosuke Ishikawa	

Burst rate confirmation

Tx, IEEE802.11ac(VHT20), PN9, worst data mode 0(MCS)

duty cycle = 0.001344 / 0.001365 = 0.985 (98.5%)	
Tx2_BurstRate1	Tx2_BurstRate2



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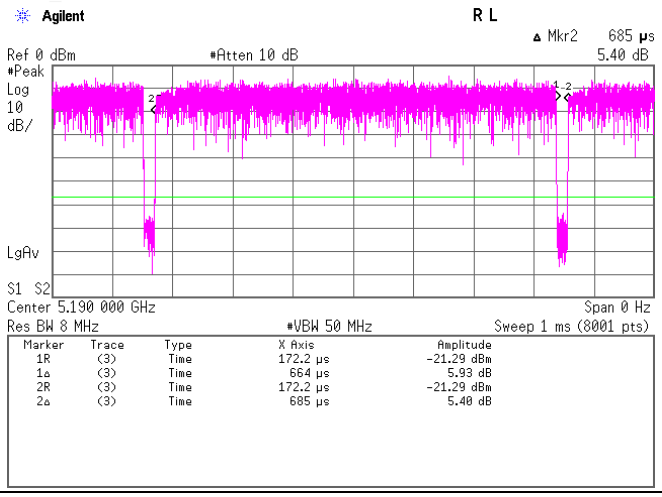
Telephone : +81 463 50 6400
Facsimile : +81 463 50 6401

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 6, 2015	
Temperature / Humidity	25 deg.C , 52 %RH	
Engineer	Yosuke Ishikawa	

VBW (Average) Calculation & Duty chart

Tx, IEEE802.11n(HT40), PN9, worst data mode 0(MCS)

VBW: 1/（On time) = 1506.02Hz<1600Hz On time =0.664ms	
	

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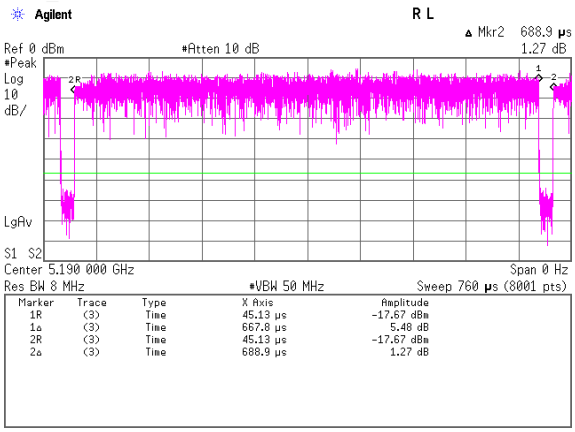
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 6, 2015	
Temperature / Humidity	25 deg.C , 52 %RH	
Engineer	Yosuke Ishikawa	

VBW (Average) Calculation & Duty chart

Tx, IEEE802.11ac(VHT40), PN9, worst data mode 0(MCS)

VBW: 1/(On time) = 1497.45Hz<1500Hz **On time =0.6678ms**	
Tx2_BurstRate1	Tx2_BurstRate2



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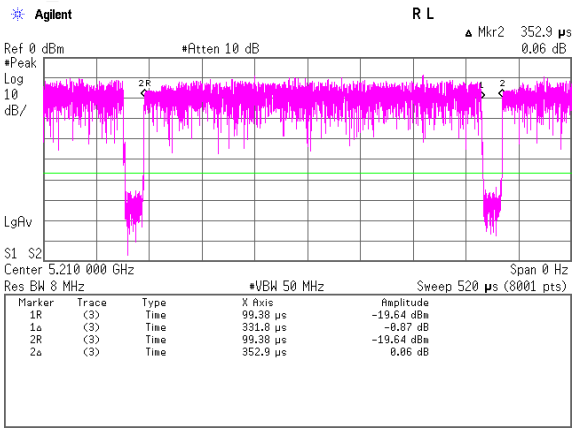
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 6, 2015	
Temperature / Humidity	25 deg.C , 52 %RH	
Engineer	Yosuke Ishikawa	

VBW (Average) Calculation & Duty chart

Tx, IEEE802.11ac(VHT80), PN9, worst data mode 0(MCS)

VBW: 1/(On time) = 3013.86Hz<3300Hz **On time =0.3318ms**	
Tx2_BurstRate1	Tx2_BurstRate2



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Telephone : +81 463 50 6400
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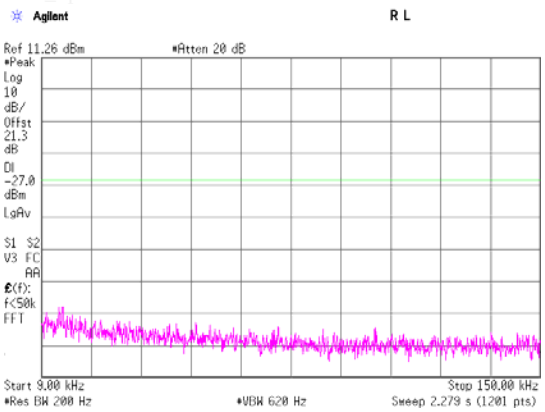
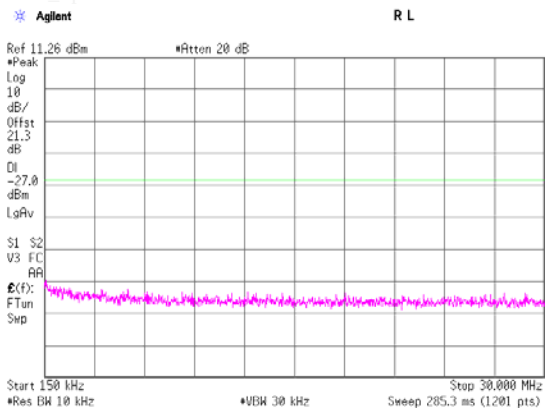
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 6, 2015	
Temperature / Humidity	25 deg.C , 52 %RH	
Engineer	Yosuke Ishikawa	

Spurious emission (Conducted)

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

Tx, 5260MHz (below 30MHz)

9kHz - 150kHz	150kHz - 30MHz
	

FREQ [MHz]	Regulation [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Antenna Gain [dBi]	Offset [dB]
30.00	-27.00	0.09	20.17	1.00	21.26

Offset = Cable Loss + Atten. Loss + Antenna Gain

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Peak Power Spectral Density

(Method: SA-2)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 6, 2015	
Temperature / Humidity	25 deg.C , 52 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11a, PN9, worst data mode 6Mbps	

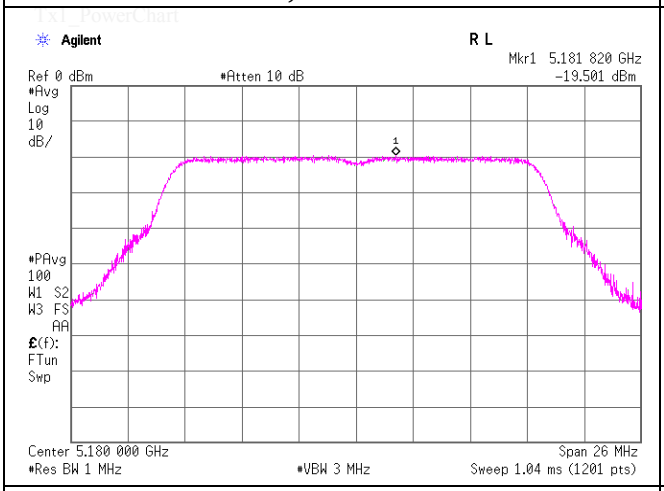
mobile/portable client device

Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm/MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]		Result [dBm/MHz]	Limit [dBm/MHz]	Margin [dB]
5180.0000	5181.82	-19.50	1.70	20.24	0.06		2.50	11.00	8.50
5220.0000	5223.55	-19.74	1.71	20.23	0.06		2.26	11.00	8.74
5240.0000	5234.00	-19.97	1.71	20.23	0.06		2.03	11.00	8.97

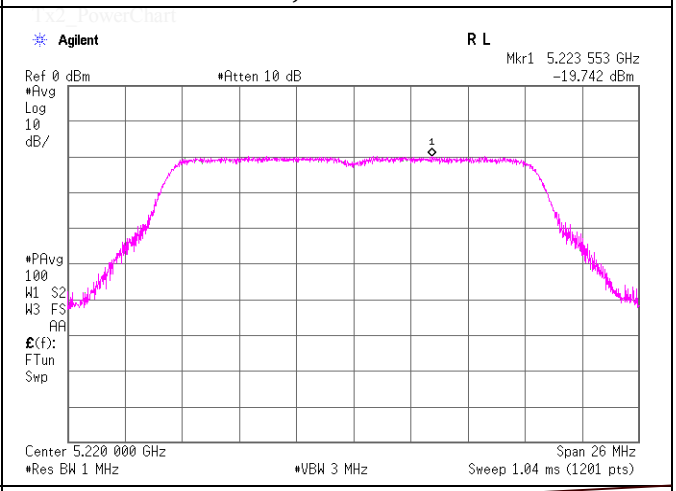
Sample Calculation:

Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten.Loss + Duty factor

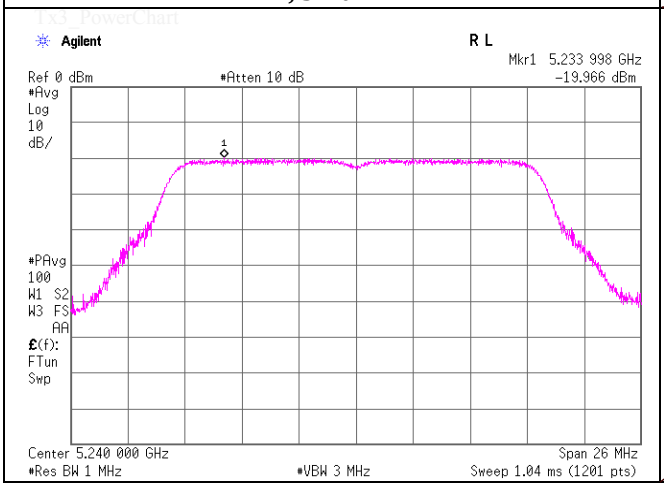
Tx, 5180MHz



Tx, 5220MHz



Tx, 5240MHz



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Peak Power Spectral Density

(Method: SA-2)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 6, 2015	
Temperature / Humidity	25 deg.C , 52 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11a, PN9, worst data mode 6Mbps	

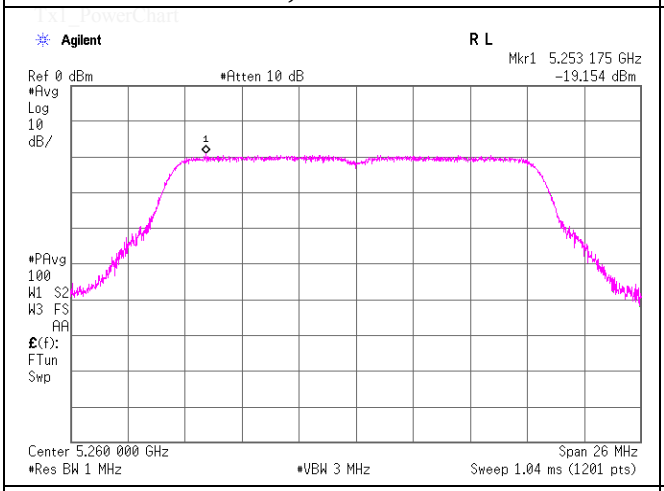
mobile/portable client device

Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm/MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]		Result [dBm/MHz]	Limit [dBm/MHz]	Margin [dB]
5260.0000	5253.18	-19.15	1.72	20.23	0.06		2.86	11.00	8.14
5300.0000	5297.10	-19.80	1.72	20.23	0.06		2.21	11.00	8.79
5320.0000	5315.95	-19.79	1.73	20.22	0.06		2.22	11.00	8.78

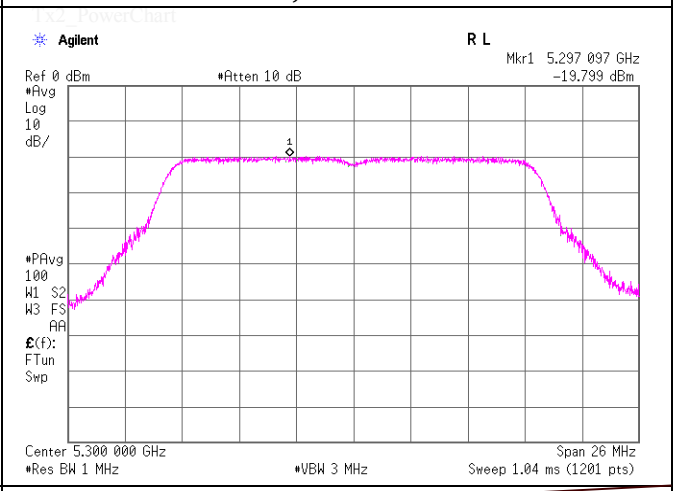
Sample Calculation:

Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten.Loss + Duty factor

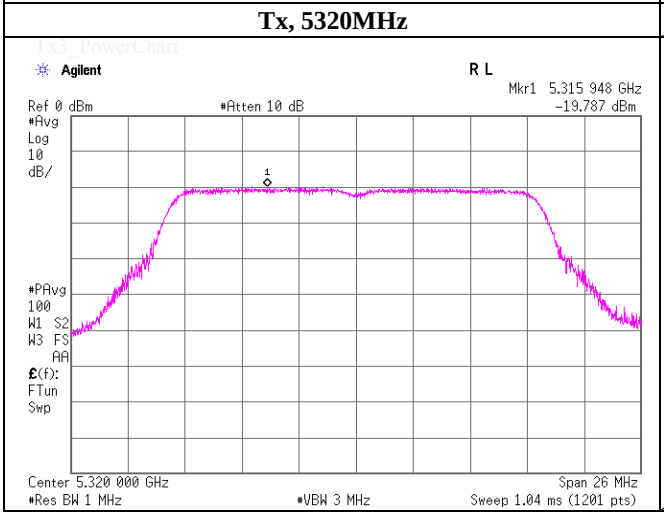
Tx, 5260MHz



Tx, 5300MHz



Tx, 5320MHz



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Peak Power Spectral Density

(Method: SA-2)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 7, 2015	
Temperature / Humidity	23 deg.C , 50 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11a, PN9, worst data mode 6Mbps	

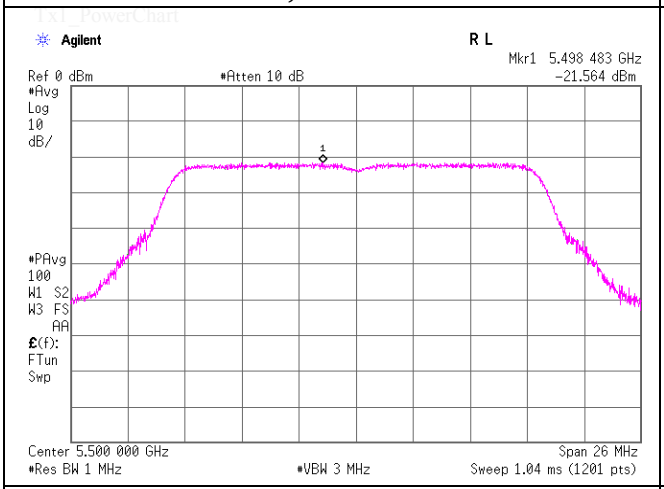
mobile/portable client device

Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm/MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]		Result [dBm/MHz]	Limit [dBm/MHz]	Margin [dB]
5500.0000	5498.48	-21.56	1.76	20.21	0.06		0.47	11.00	10.53
5580.0000	5578.90	-20.97	1.75	20.21	0.06		1.06	11.00	9.95
5700.0000	5697.27	-20.27	1.74	20.20	0.06		1.73	11.00	9.27

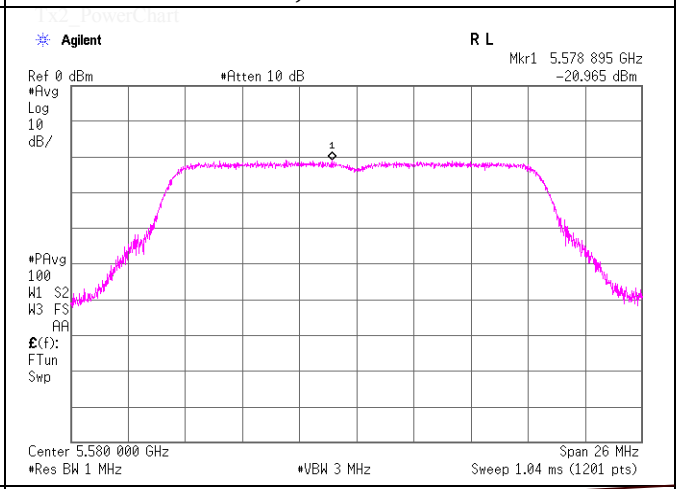
Sample Calculation:

Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten.Loss + Duty factor

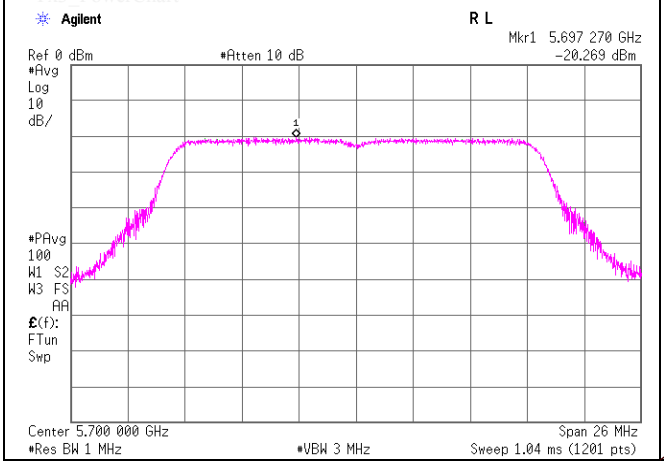
Tx, 5500MHz



Tx, 5580MHz



Tx, 5700MHz



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Peak Power Spectral Density

(Method: SA-2)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 7, 2015	
Temperature / Humidity	23 deg.C , 50 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11a, PN9, worst data mode 6Mbps	

mobile/portable client device

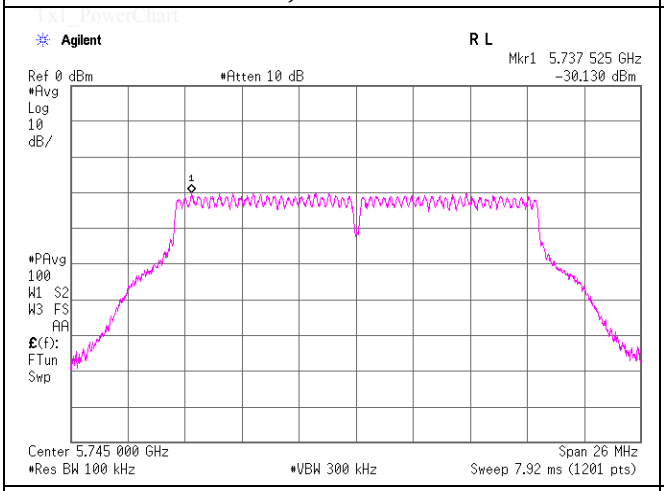
Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm/MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	RBW Corr. Factor [dB]	Result [dBm/500kHz]	Limit [dBm/500kHz]	Margin [dB]
5745.0000	5737.53	-30.13	1.74	20.20	0.06	6.99	-1.14	30.00	31.14
5785.0000	5783.14	-29.74	1.74	20.19	0.06	6.99	-0.76	30.00	30.76
5825.0000	5823.77	-29.63	1.73	20.19	0.06	6.99	-0.66	30.00	30.66

Sample Calculation:

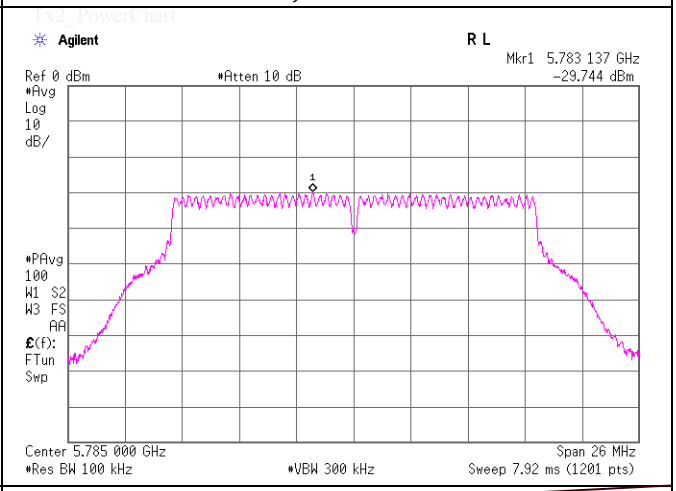
Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten.Loss + Duty factor + RBW Correction factor

RBW Correction factor: 10*Log (500kHz/RBW)

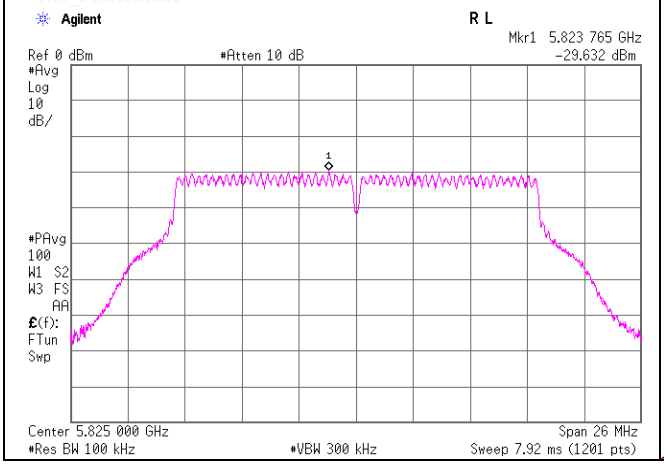
Tx, 5745MHz



Tx, 5785MHz



Tx, 5825MHz



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Peak Power Spectral Density

(Method: SA-2)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 6, 2015	
Temperature / Humidity	25 deg.C , 52 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11n(HT20), PN9, worst data mode 0(MCS)	

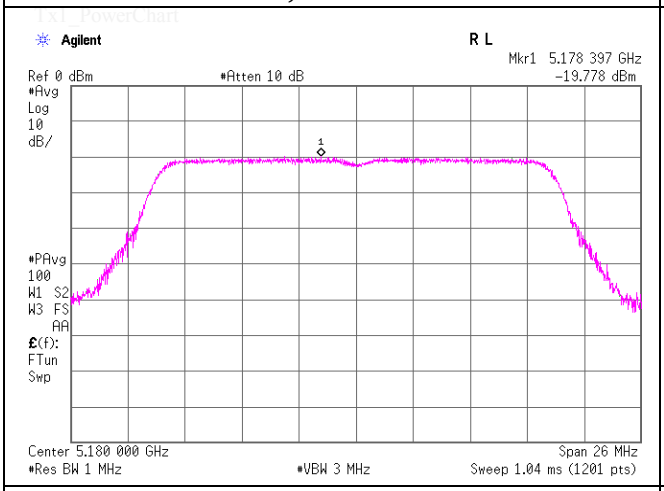
mobile/portable client device

Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm/MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]		Result [dBm/MHz]	Limit [dBm/MHz]	Margin [dB]
5180.0000	5178.40	-19.78	1.70	20.24	0.06		2.22	11.00	8.78
5220.0000	5218.57	-20.07	1.71	20.23	0.06		1.93	11.00	9.07
5240.0000	5242.34	-20.42	1.71	20.23	0.06		1.58	11.00	9.42

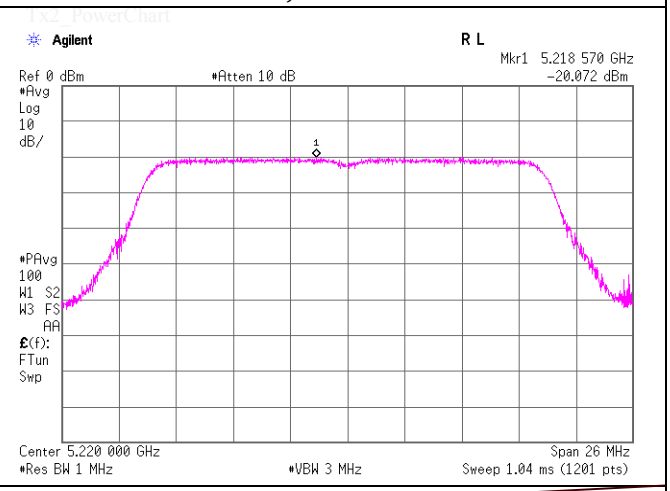
Sample Calculation:

Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten.Loss + Duty factor

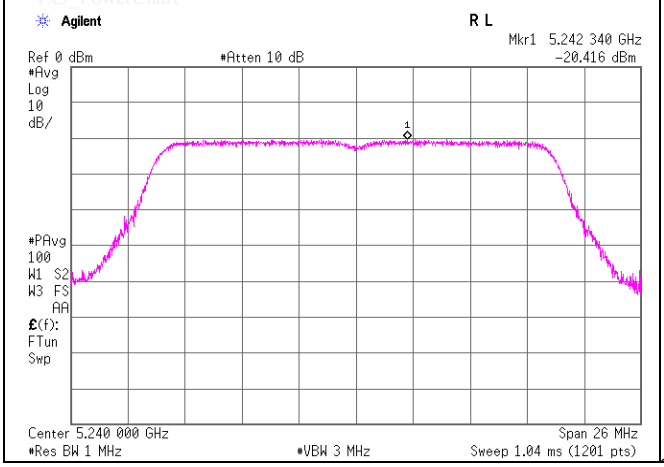
Tx, 5180MHz



Tx, 5220MHz



Tx, 5240MHz



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Peak Power Spectral Density

(Method: SA-2)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 6, 2015	
Temperature / Humidity	25 deg.C , 52 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11n(HT20), PN9, worst data mode 0(MCS)	

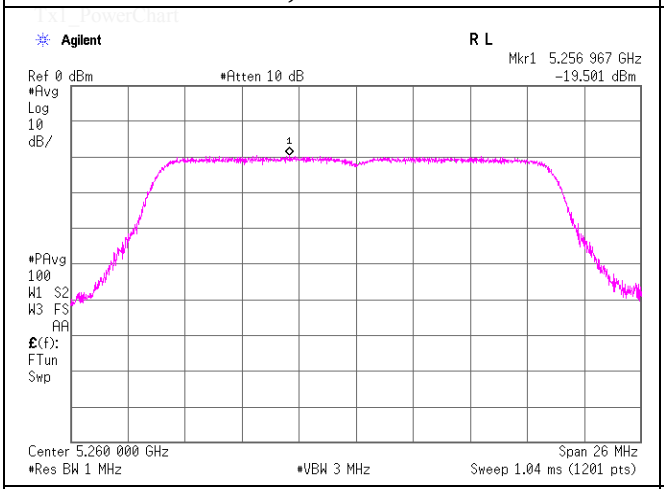
mobile/portable client device

Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm/MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]		Result [dBm/MHz]	Limit [dBm/MHz]	Margin [dB]
5260.0000	5256.97	-19.50	1.72	20.23	0.06		2.51	11.00	8.49
5300.0000	5303.60	-20.12	1.72	20.23	0.06		1.90	11.00	9.11
5320.0000	5317.86	-20.08	1.73	20.22	0.06		1.93	11.00	9.07

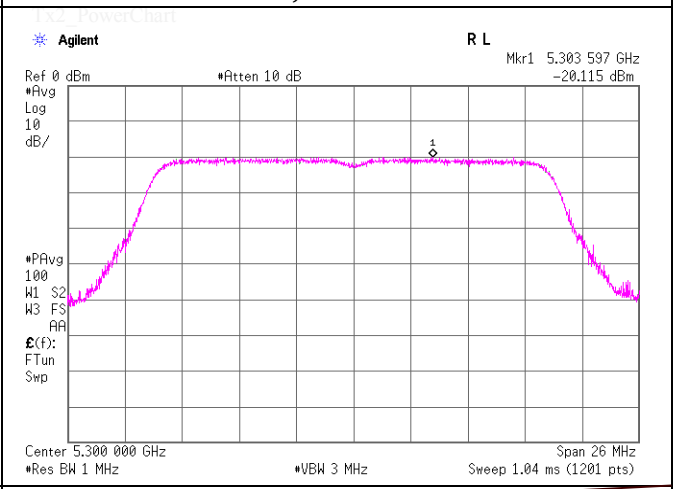
Sample Calculation:

Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten.Loss + Duty factor

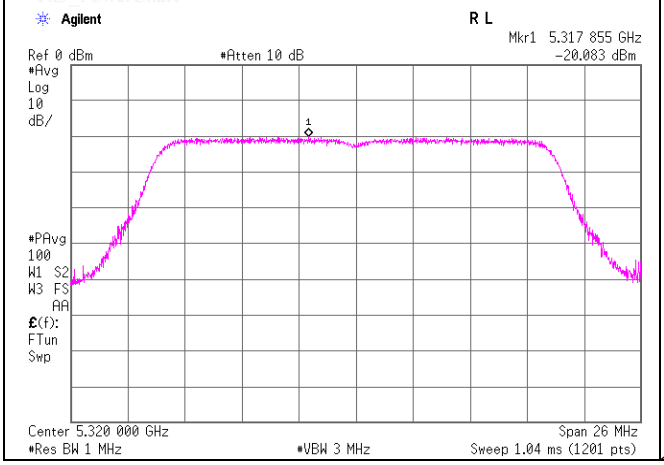
Tx, 5260MHz



Tx, 5300MHz



Tx, 5320MHz



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Peak Power Spectral Density

(Method: SA-2)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 7, 2015	
Temperature / Humidity	23 deg.C , 50 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11n(HT20), PN9, worst data mode 0(MCS)	

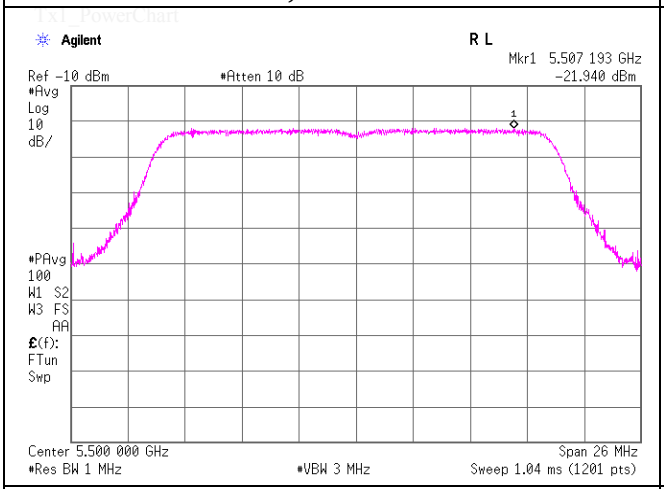
mobile/portable client device

Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm/MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]		Result [dBm/MHz]	Limit [dBm/MHz]	Margin [dB]
5500.0000	5507.19	-21.94	1.76	20.21	0.06		0.09	11.00	10.91
5580.0000	5583.71	-21.61	1.75	20.21	0.06		0.41	11.00	10.59
5700.0000	5701.11	-20.66	1.74	20.20	0.06		1.34	11.00	9.66

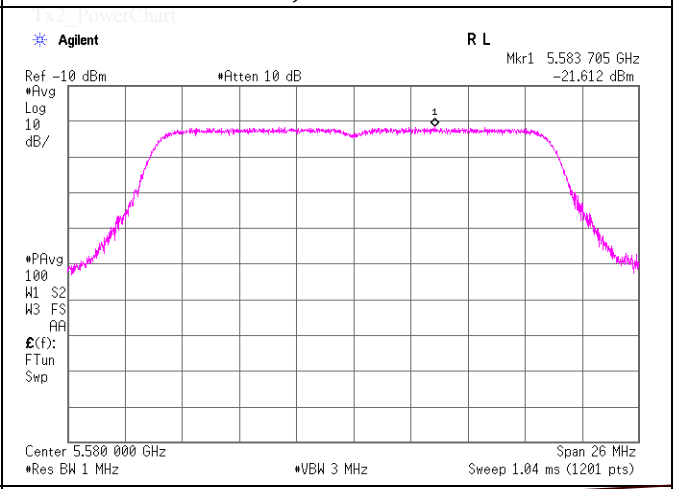
Sample Calculation:

Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten.Loss + Duty factor

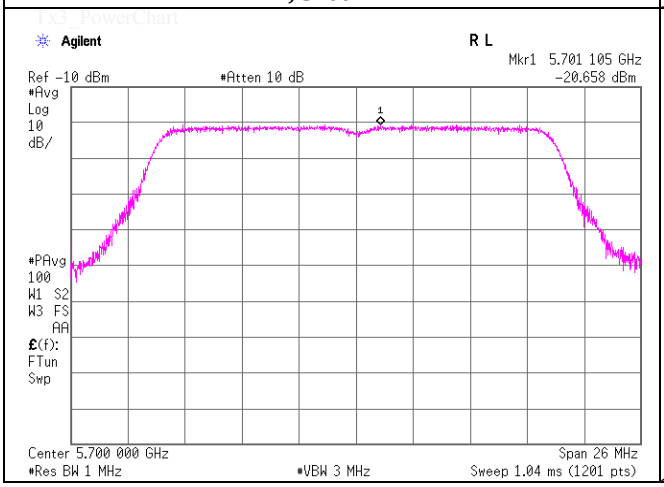
Tx, 5500MHz



Tx, 5580MHz



Tx, 5700MHz



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Peak Power Spectral Density

(Method: SA-2)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 7, 2015	
Temperature / Humidity	23 deg.C , 50 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11n(HT20), PN9, worst data mode 0(MCS)	

mobile/portable client device

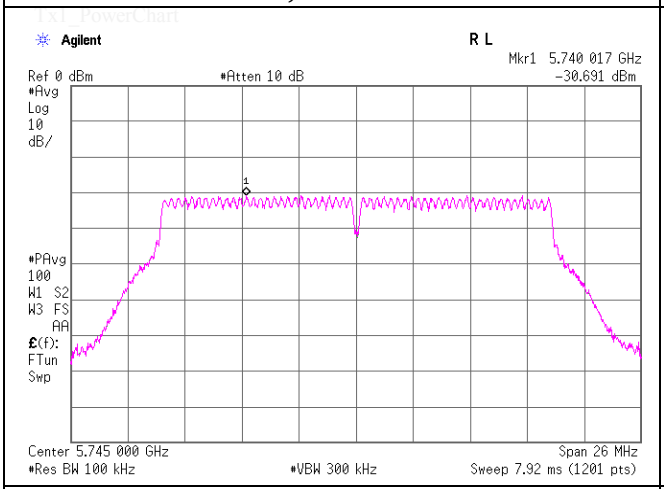
Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm/MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	RBW Corr. Factor [dB]	Result [dBm/500kHz]	Limit [dBm/500kHz]	Margin [dB]
5745.0000	5740.02	-30.69	1.74	20.20	0.06	6.99	-1.70	30.00	31.70
5785.0000	5792.52	-30.10	1.74	20.19	0.06	6.99	-1.12	30.00	31.12
5825.0000	5822.51	-30.51	1.73	20.19	0.06	6.99	-1.54	30.00	31.54

Sample Calculation:

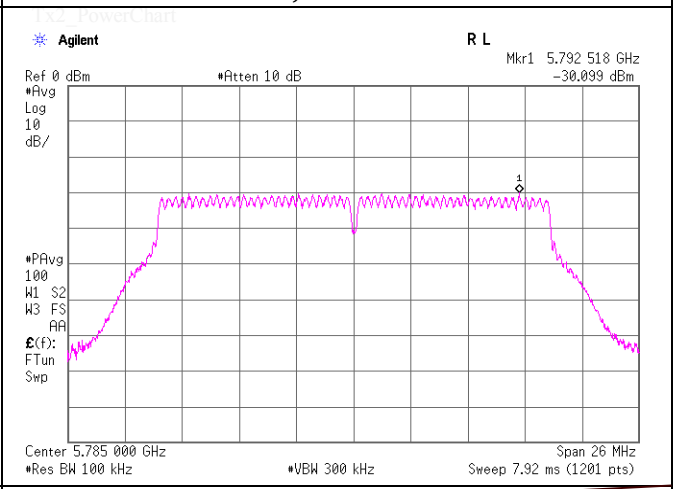
Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten.Loss + Duty factor + RBW Correction factor

RBW Correction factor: 10*Log (500kHz/RBW)

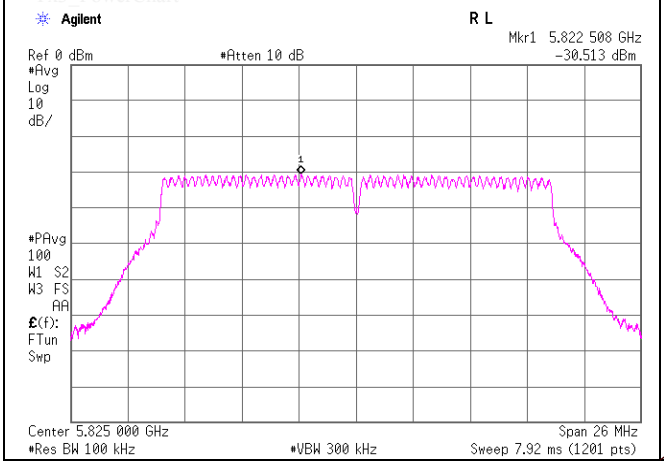
Tx, 5745MHz



Tx, 5785MHz



Tx, 5825MHz



UL Japan, Inc.

Shonan EMC Lab.

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Peak Power Spectral Density

(Method: SA-2)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 23, 2015	
Temperature / Humidity	24deg.C , 50%RH	
Engineer	Shinichi Takano	
Mode	Tx, IEEE802.11ac(VHT20), PN9, worst data mode 0(MCS)	

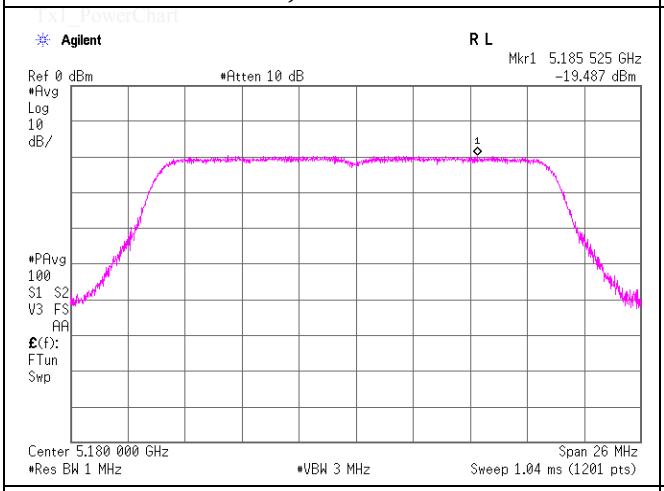
mobile/portable client device

Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm/MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]		Result [dBm/MHz]	Limit [dBm/MHz]	Margin [dB]
5180.0000	5185.53	-19.49	1.70	20.24	0.10		2.55	11.00	8.45
5220.0000	5213.09	-19.87	1.71	20.23	0.10		2.17	11.00	8.83
5240.0000	5236.38	-20.15	1.71	20.23	0.10		1.89	11.00	9.11

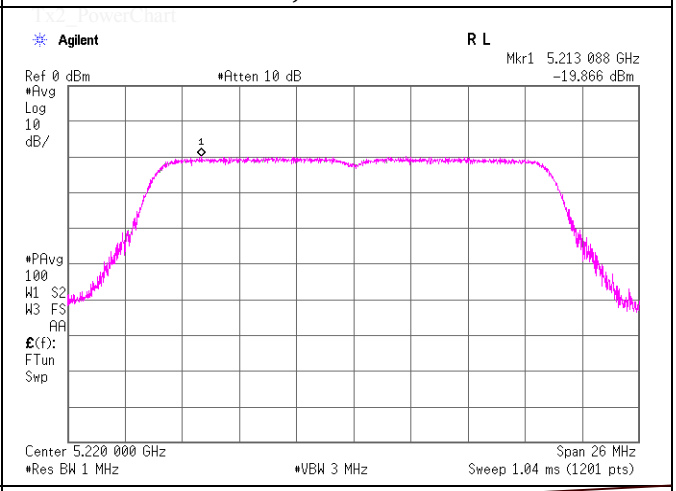
Sample Calculation:

Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten.Loss + Duty factor

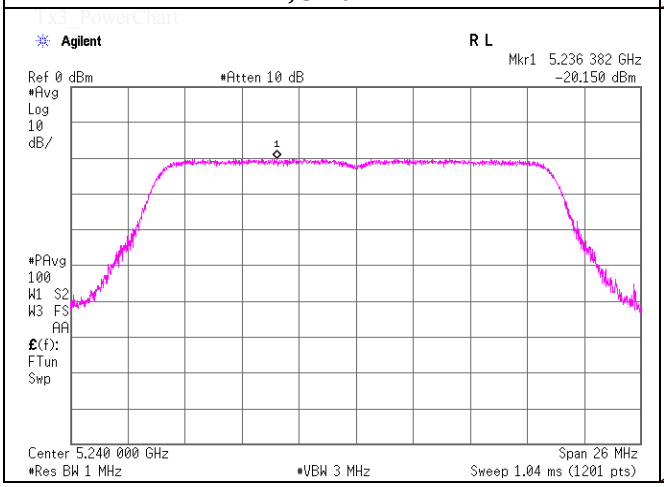
Tx, 5180MHz



Tx, 5220MHz



Tx, 5240MHz



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Peak Power Spectral Density

(Method: SA-2)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 23, 2015	
Temperature / Humidity	24deg.C , 50%RH	
Engineer	Shinichi Takano	
Mode	Tx, IEEE802.11ac(VHT20), PN9, worst data mode 0(MCS)	

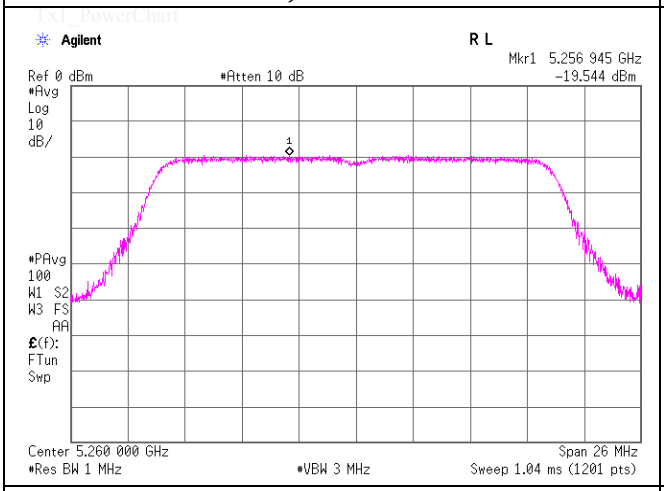
mobile/portable client device

Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm/MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]		Result [dBm/MHz]	Limit [dBm/MHz]	Margin [dB]
5260.0000	5256.95	-19.54	1.72	20.23	0.10		2.51	11.00	8.49
5300.0000	5297.25	-19.55	1.72	20.23	0.10		2.51	11.00	8.50
5320.0000	5316.34	-20.10	1.73	20.22	0.10		1.95	11.00	9.05

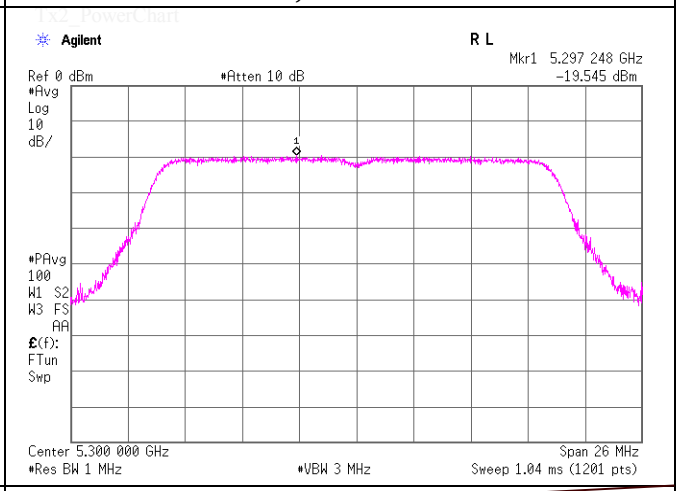
Sample Calculation:

Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten.Loss + Duty factor

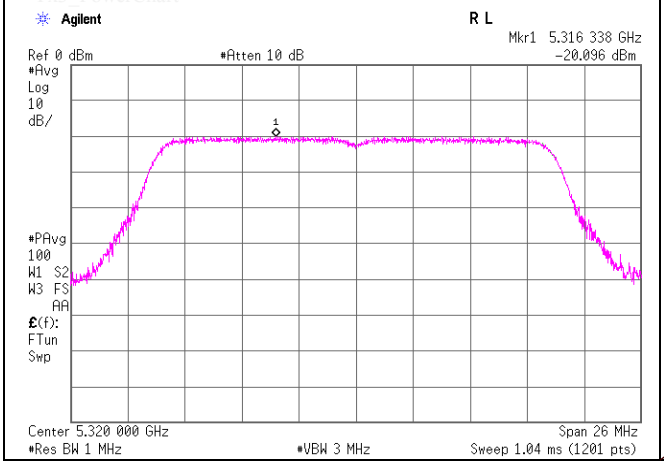
Tx, 5260MHz



Tx, 5300MHz



Tx, 5320MHz



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Peak Power Spectral Density

(Method: SA-2)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 23, 2015	
Temperature / Humidity	24deg.C , 50%RH	
Engineer	Shinichi Takano	
Mode	Tx, IEEE802.11ac(VHT20), PN9, worst data mode 0(MCS)	

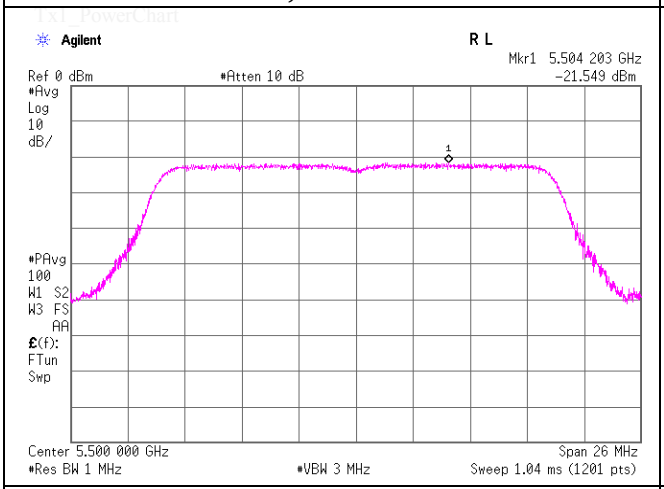
mobile/portable client device

Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm/MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]		Result [dBm/MHz]	Limit [dBm/MHz]	Margin [dB]
5500.0000	5504.20	-21.55	1.76	20.21	0.10		0.52	11.00	10.48
5580.0000	5581.65	-21.41	1.75	20.21	0.10		0.65	11.00	10.35
5700.0000	5696.97	-20.63	1.74	20.20	0.10		1.41	11.00	9.59

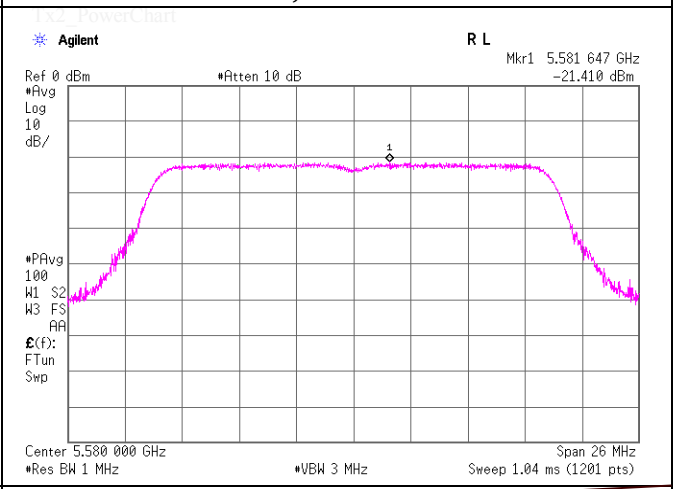
Sample Calculation:

Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten.Loss + Duty factor

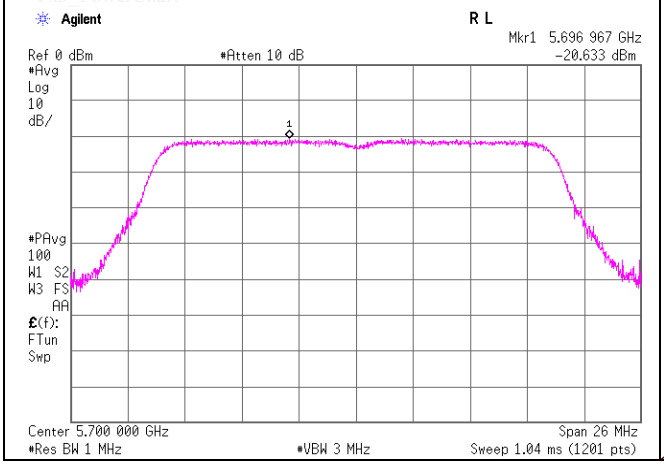
Tx, 5500MHz



Tx, 5580MHz



Tx, 5700MHz



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Peak Power Spectral Density

(Method: SA-2)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 23, 2015	
Temperature / Humidity	24deg.C , 50%RH	
Engineer	Shinichi Takano	
Mode	Tx, IEEE802.11ac(VHT20), PN9, worst data mode 0(MCS)	

mobile/portable client device

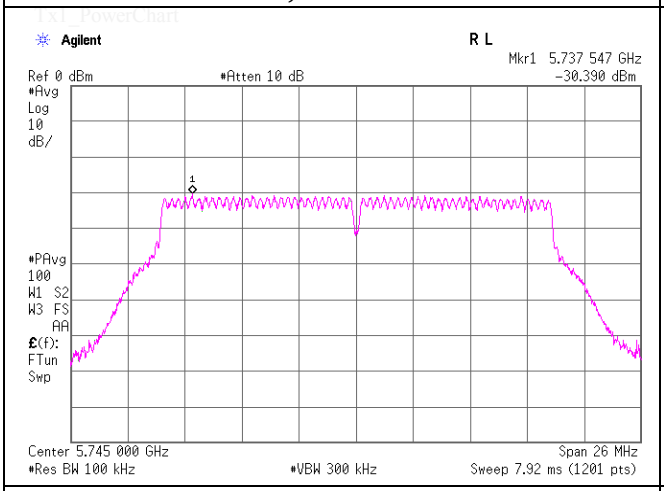
Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm/MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	RBW Corr. Factor [dB]	Result [dBm/500kHz]	Limit [dBm/500kHz]	Margin [dB]
5745.0000	5737.55	-30.39	1.74	20.20	0.10	6.99	-1.36	30.00	31.36
5785.0000	5787.54	-30.36	1.74	20.19	0.10	6.99	-1.34	30.00	31.34
5825.0000	5817.55	-30.17	1.73	20.19	0.10	6.99	-1.16	30.00	31.16

Sample Calculation:

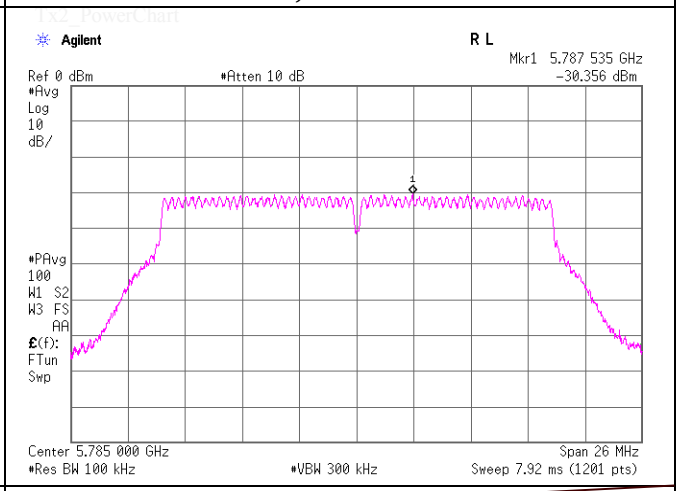
Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten.Loss + Duty factor + RBW Correction factor

RBW Correction factor: 10*Log (500kHz/RBW)

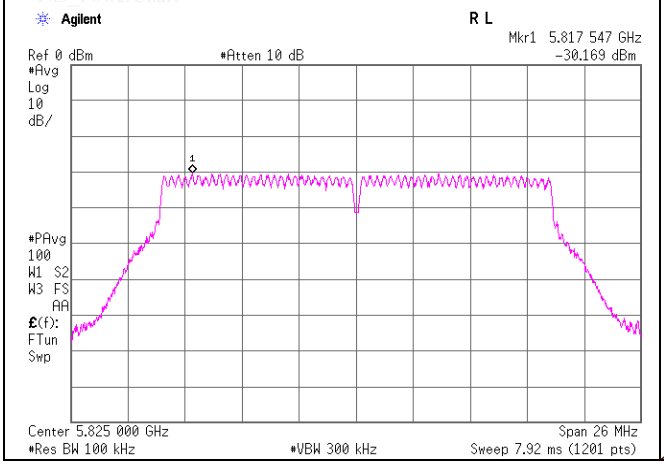
Tx, 5745MHz



Tx, 5785MHz



Tx, 5825MHz



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Peak Power Spectral Density

(Method: SA-2)

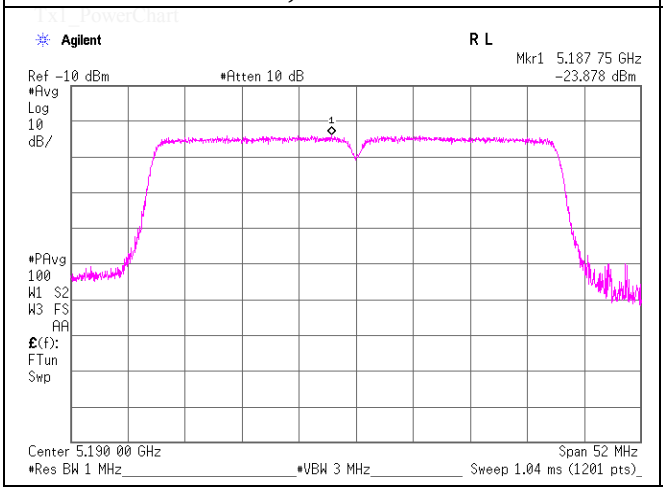
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 8, 2015	
Temperature / Humidity	23 deg.C , 47 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11n(HT40), PN9, worst data mode 0(MCS)	

mobile/portable client device

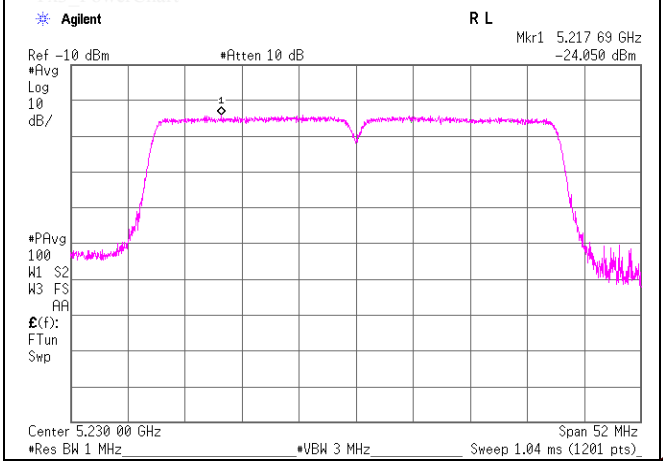
Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm/MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]		Result [dBm/MHz]	Limit [dBm/MHz]	Margin [dB]
5190.0000	5187.75	-23.88	1.70	20.23	0.19		-1.76	11.00	12.76
5230.0000	5217.69	-24.05	1.71	20.23	0.19		-1.92	11.00	12.92

Sample Calculation:
Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten.Loss + Duty factor

Tx, 5190MHz



Tx, 5230MHz



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Peak Power Spectral Density

(Method: SA-2)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 6, 2015	
Temperature / Humidity	25 deg.C , 52 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11n(HT40), PN9, worst data mode 0(MCS)	

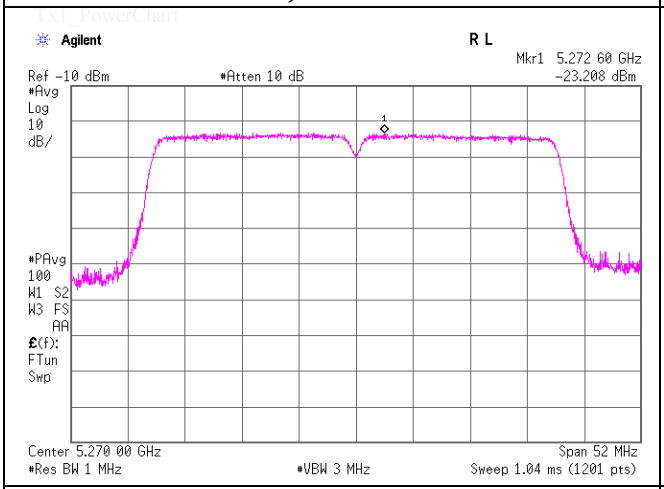
mobile/portable client device

Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm/MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]		Result [dBm/MHz]	Limit [dBm/MHz]	Margin [dB]
5270.0000	5272.60	-23.21	1.72	20.23	0.19		-1.07	11.00	12.07
5310.0000	5316.15	-23.57	1.73	20.23	0.19		-1.42	11.00	12.42

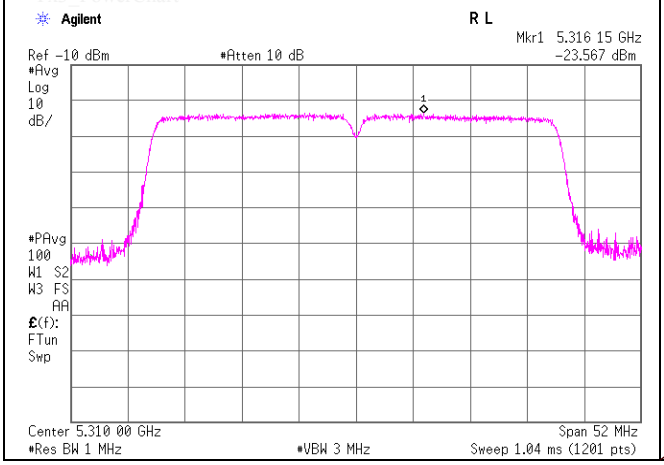
Sample Calculation:

Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten.Loss + Duty factor

Tx, 5270MHz



Tx, 5310MHz



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Peak Power Spectral Density

(Method: SA-2)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 7, 2015	
Temperature / Humidity	23 deg.C , 50 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11n(HT40), PN9, worst data mode 0(MCS)	

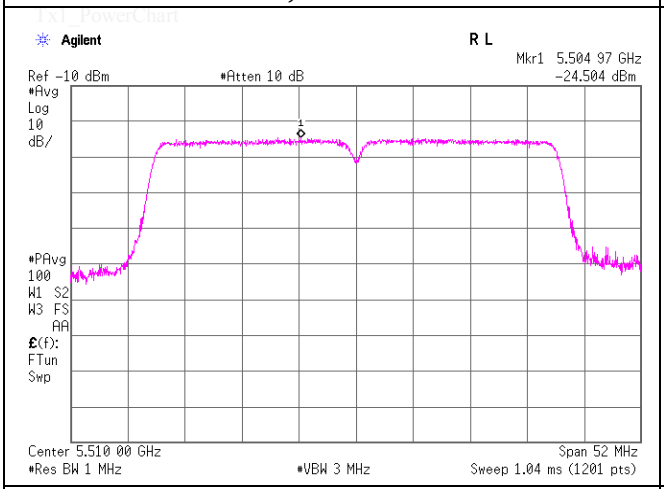
mobile/portable client device

Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm/MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]		Result [dBm/MHz]	Limit [dBm/MHz]	Margin [dB]
5510.0000	5504.97	-24.50	1.76	20.21	0.19		-2.34	11.00	13.34
5550.0000	5557.06	-24.36	1.76	20.21	0.19		-2.20	11.00	13.20
5670.0000	5668.14	-23.78	1.75	20.20	0.19		-1.64	11.00	12.64

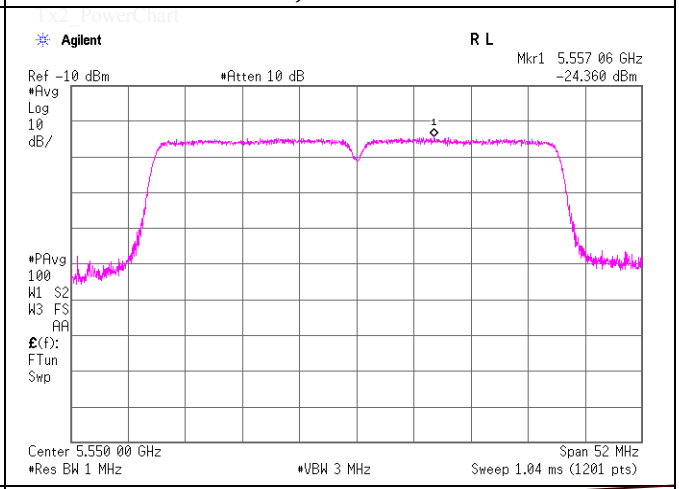
Sample Calculation:

Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten.Loss + Duty factor

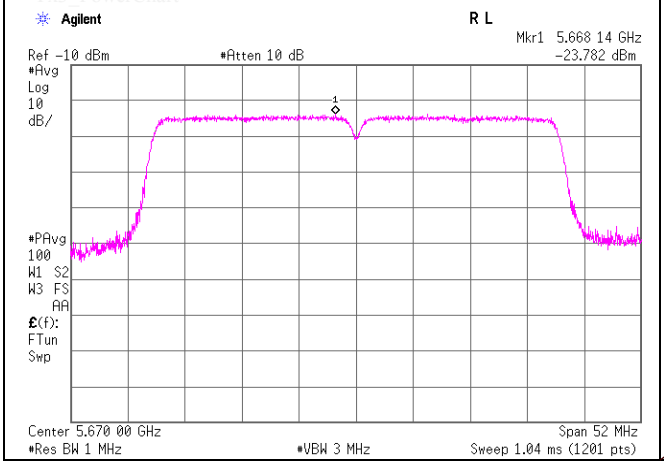
Tx, 5510MHz



Tx, 5550MHz



Tx, 5670MHz



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Peak Power Spectral Density

(Method: SA-2)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 7, 2015	
Temperature / Humidity	23 deg.C , 50 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11n(HT40), PN9, worst data mode 0(MCS)	

mobile/portable client device

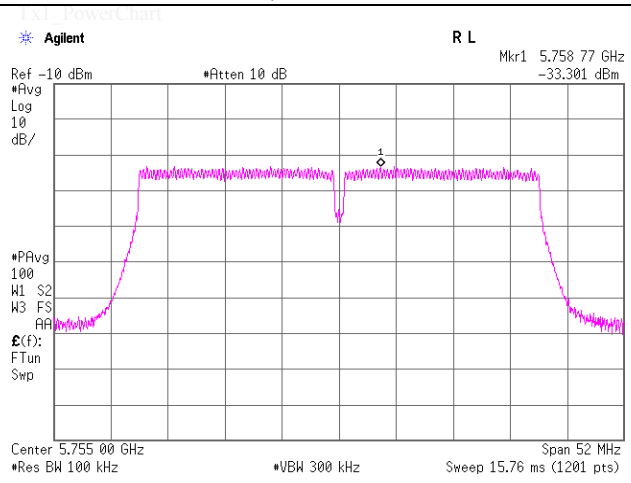
Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm/MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	RBW Corr. Factor [dB]	Result [dBm/500kHz]	Limit [dBm/500kHz]	Margin [dB]
5755.0000	5758.77	-33.30	1.74	20.19	0.19	6.99	-4.19	30.00	34.19
5795.0000	5792.49	-33.03	1.74	20.19	0.19	6.99	-3.92	30.00	33.92

Sample Calculation:

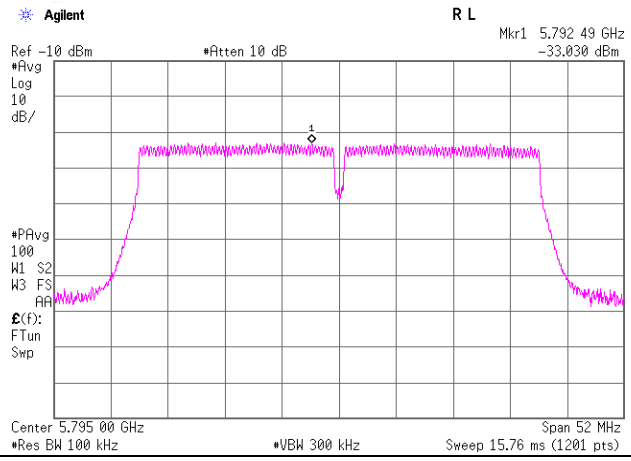
Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten.Loss + Duty factor + RBW Correction factor

RBW Correction factor: 10*Log (500kHz/RBW)

Tx, 5755MHz



Tx, 5795MHz



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Peak Power Spectral Density

(Method: SA-2)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 6, 2015	January 23, 2015
Temperature / Humidity	25 deg.C , 52 %RH	24deg.C , 50%RH
Engineer	Yosuke Ishikawa	Shinichi Takano
Mode	Tx, IEEE802.11ac(VHT40), PN9, worst data mode 0(MCS)	

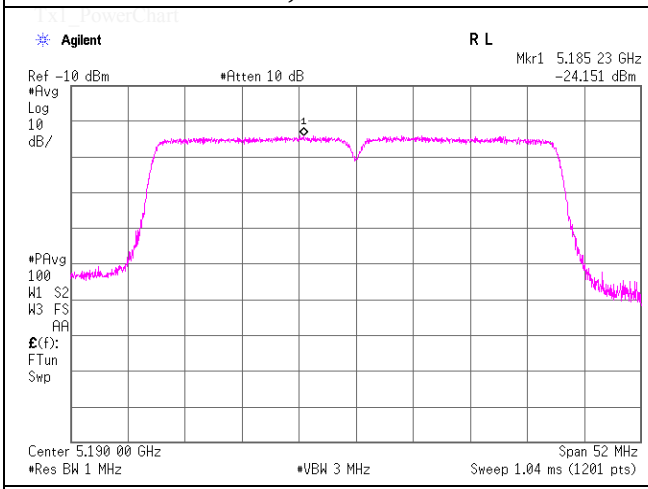
mobile/portable client device

Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm/MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]		Result [dBm/MHz]	Limit [dBm/MHz]	Margin [dB]
5190.0000	5185.23	-24.15	1.70	20.23	0.13		-2.09	11.00	13.09
5230.0000	5226.58	-23.23	1.71	20.23	0.13		-1.16	11.00	12.16

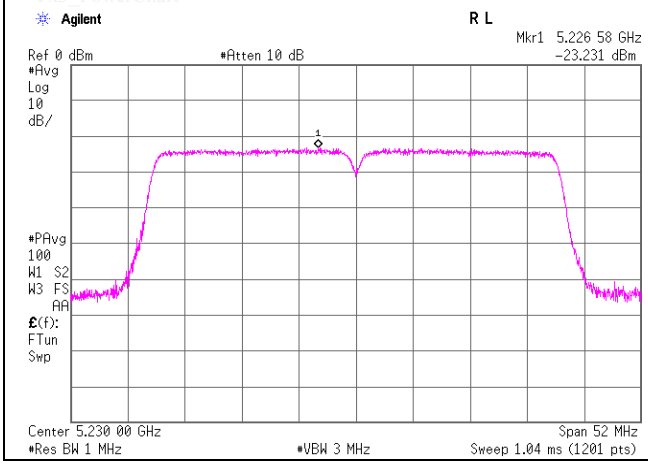
Sample Calculation:

Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten.Loss + Duty factor

Tx, 5190MHz



Tx, 5230MHz



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Peak Power Spectral Density

(Method: SA-2)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 23, 2015	
Temperature / Humidity	24deg.C , 50%RH	
Engineer	Shinichi Takano	
Mode	Tx, IEEE802.11ac(VHT40), PN9, worst data mode 0(MCS)	

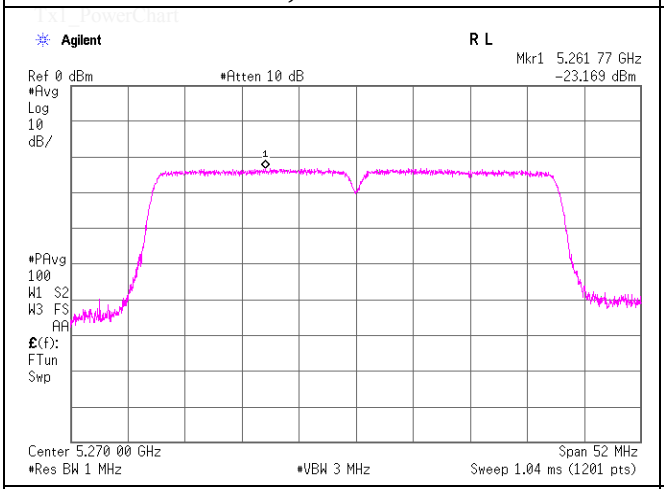
mobile/portable client device

Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm/MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]		Result [dBm/MHz]	Limit [dBm/MHz]	Margin [dB]
5270.0000	5261.77	-23.17	1.72	20.23	0.13		-1.09	11.00	12.09
5310.0000	5304.45	-23.40	1.73	20.23	0.13		-1.31	11.00	12.31

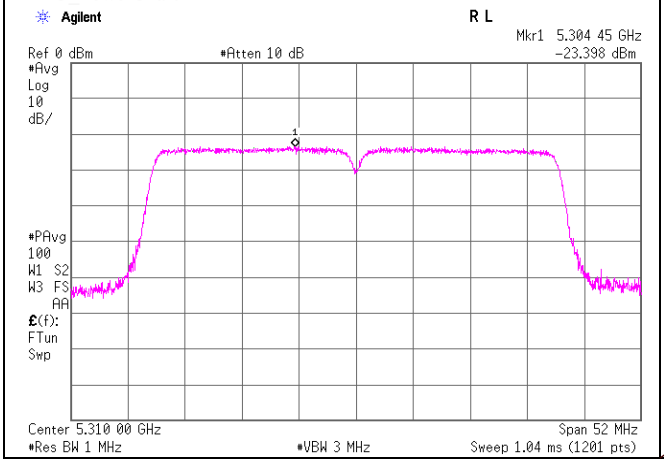
Sample Calculation:

Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten.Loss + Duty factor

Tx, 5270MHz



Tx, 5310MHz



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Peak Power Spectral Density

(Method: SA-2)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 23, 2015	
Temperature / Humidity	24deg.C , 50%RH	
Engineer	Shinichi Takano	
Mode	Tx, IEEE802.11ac(VHT40), PN9, worst data mode 0(MCS)	

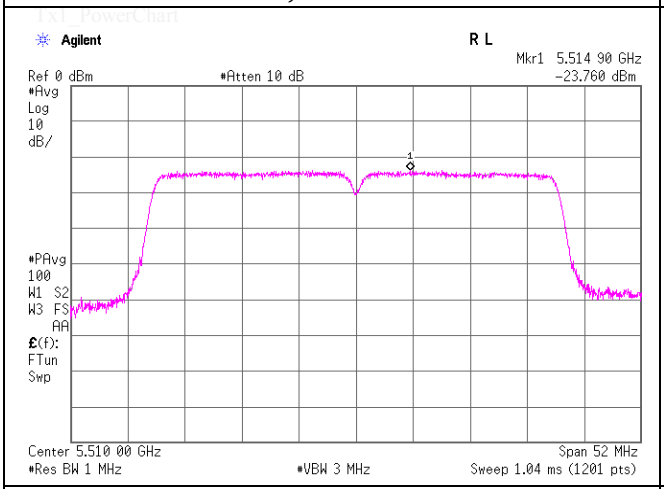
mobile/portable client device

Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm/MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]		Result [dBm/MHz]	Limit [dBm/MHz]	Margin [dB]
5510.0000	5514.90	-23.76	1.76	20.21	0.13		-1.66	11.00	12.66
5550.0000	5554.94	-23.80	1.76	20.21	0.13		-1.70	11.00	12.70
5670.0000	5667.57	-23.59	1.75	20.20	0.13		-1.51	11.00	12.51

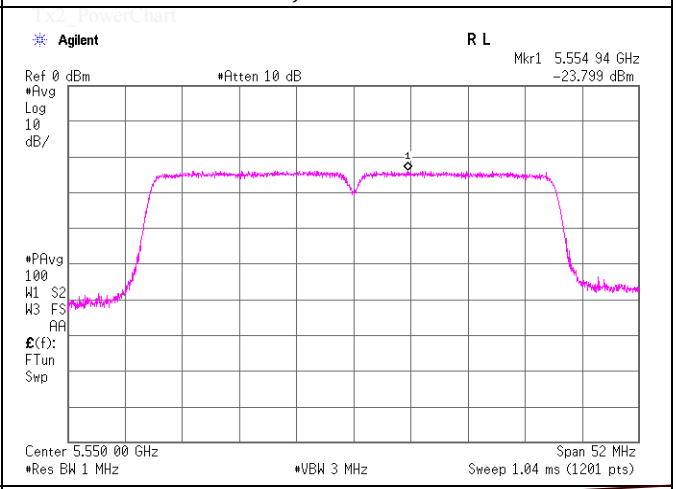
Sample Calculation:

Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten.Loss + Duty factor

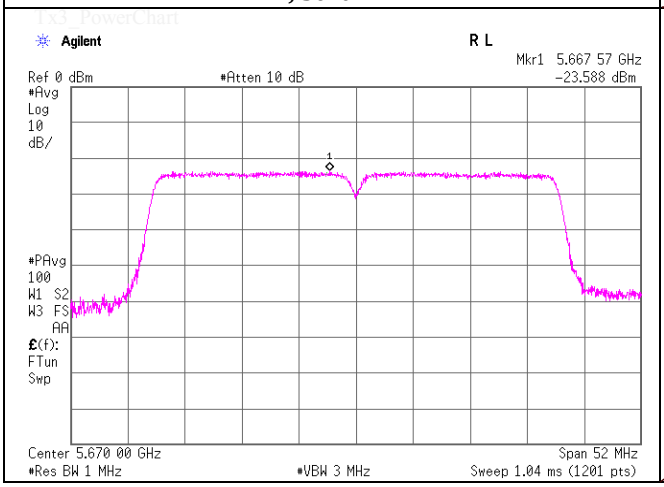
Tx, 5510MHz



Tx, 5550MHz



Tx, 5670MHz



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Peak Power Spectral Density

(Method: SA-2)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 7, 2015	
Temperature / Humidity	23 deg.C , 50 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11ac(VHT40), PN9, worst data mode 0(MCS)	

mobile/portable client device

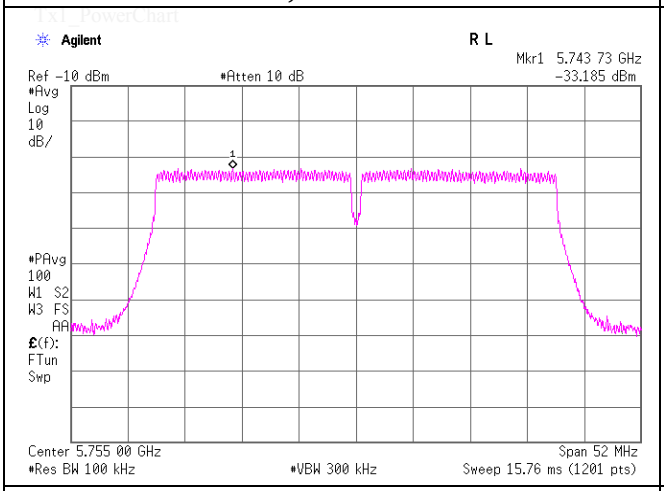
Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm/MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	RBW Corr. Factor [dB]	Result [dBm/500kHz]	Limit [dBm/500kHz]	Margin [dB]
5755.0000	5743.73	-33.19	1.74	20.19	0.13	6.99	-4.14	30.00	34.14
5795.0000	5792.53	-32.74	1.74	20.19	0.13	6.99	-3.69	30.00	33.69

Sample Calculation:

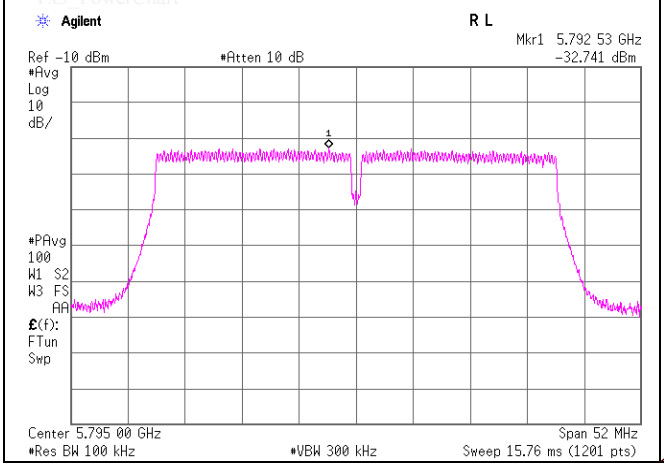
Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten.Loss + Duty factor + RBW Correction factor

RBW Correction factor: 10*Log (500kHz/RBW)

Tx, 5755MHz



Tx, 5795MHz



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Peak Power Spectral Density

(Method: SA-2)

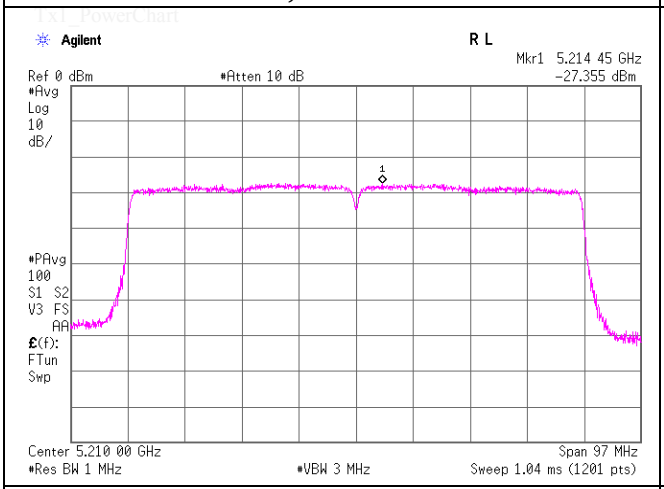
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 23, 2015	
Temperature / Humidity	24deg.C , 50%RH	
Engineer	Shinichi Takano	
Mode	Tx, IEEE802.11ac(VHT80), PN9, worst data mode 0(MCS)	

mobile/portable client device

Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm/MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]		Result [dBm/MHz]	Limit [dBm/MHz]	Margin [dB]
5210.0000	5214.45	-27.36	1.71	20.23	0.26		-5.16	11.00	16.16

Sample Calculation:
Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten.Loss + Duty factor

Tx, 5210MHz



Peak Power Spectral Density

(Method: SA-2)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 23, 2015	
Temperature / Humidity	24deg.C , 50%RH	
Engineer	Shinichi Takano	
Mode	Tx, IEEE802.11ac(VHT80), PN9, worst data mode 0(MCS)	

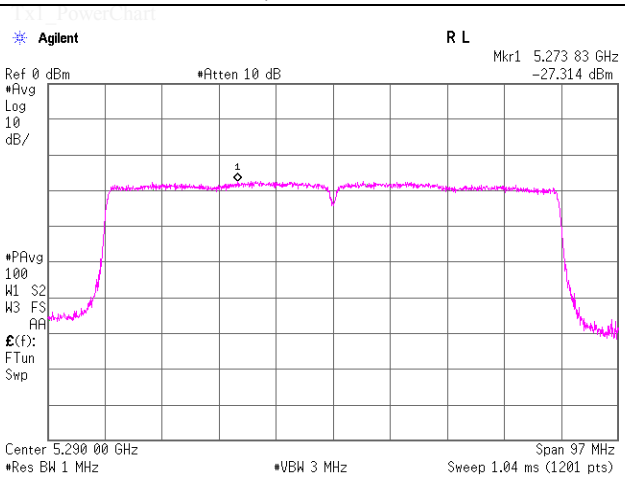
mobile/portable client device

Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm/MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]		Result [dBm/MHz]	Limit [dBm/MHz]	Margin [dB]
5290.0000	5273.83	-27.31	1.72	20.23	0.26		-5.10	11.00	16.10

Sample Calculation:

Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten.Loss + Duty factor

Tx, 5290MHz



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Peak Power Spectral Density

(Method: SA-2)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 7, 2015	
Temperature / Humidity	23 deg.C , 50 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11ac(VHT80), PN9, worst data mode 0(MCS)	

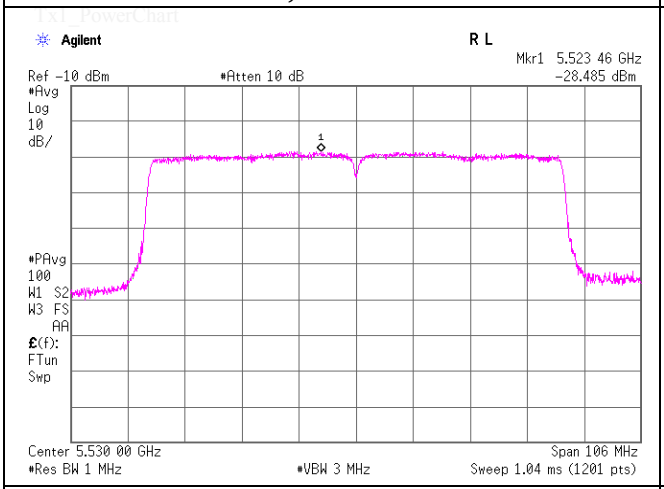
mobile/portable client device

Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm/MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]		Result [dBm/MHz]	Limit [dBm/MHz]	Margin [dB]
5530.0000	5523.46	-28.49	1.76	20.21	0.26		-6.26	11.00	17.26
5610.0000	5599.01	-28.15	1.75	20.20	0.26		-5.94	11.00	16.94

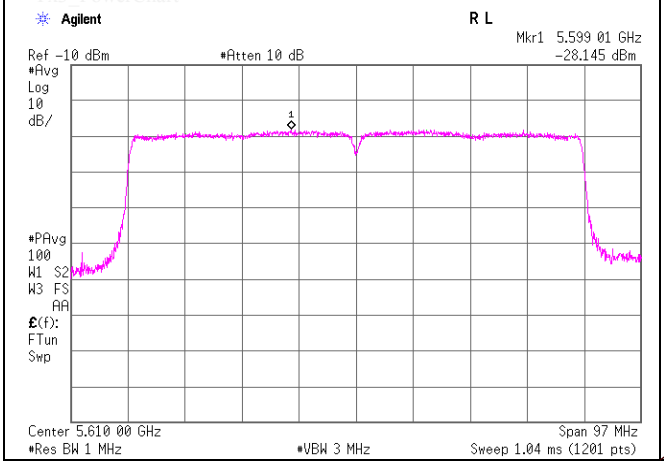
Sample Calculation:

Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten.Loss + Duty factor

Tx, 5530MHz



Tx, 5610MHz



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Peak Power Spectral Density

(Method: SA-2)

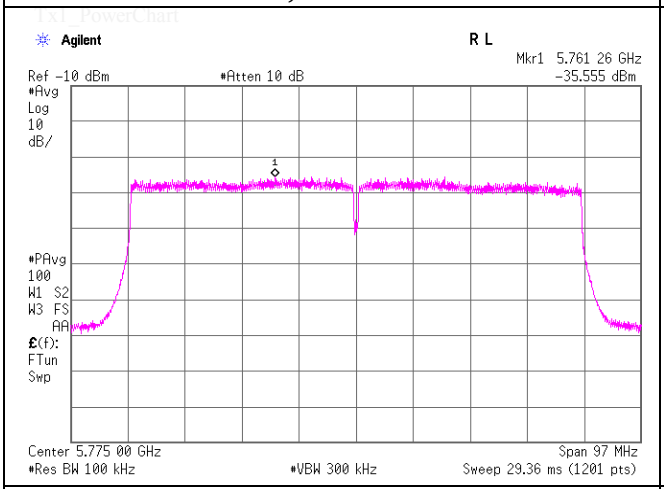
Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	January 7, 2015	
Temperature / Humidity	23 deg.C , 50 %RH	
Engineer	Yosuke Ishikawa	
Mode	Tx, IEEE802.11ac(VHT80), PN9, worst data mode 0(MCS)	

mobile/portable client device

Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm/MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty factor [dB]	RBW Corr. Factor [dB]	Result [dBm/500kHz]	Limit [dBm/500kHz]	Margin [dB]
5775.0000	5761.26	-35.56	1.74	20.19	0.26	6.99	-6.38	30.00	36.38

Sample Calculation:
Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten.Loss + Duty factor + RBW Correction factor
RBW Correction factor: 10*Log (500kHz/RBW)

Tx, 5775MHz



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APPENDIX 2
Test Instruments

EMI test equipment

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
SCC-G12	Coaxial Cable	Suhner	SUCOFLEX 102	30790/2	AT	2014/03/13 * 12
SAT20-07	Attenuator	Weinschel Corp.	54A-20	31484	AT	2014/04/22 * 12
SPM-07	Power Meter	Agilent	8990B	MY5100272	AT	2014/04/04 * 12
SPSS-04	Power sensor	Agilent	N1923A	MY5326009	AT	2014/04/04 * 12
SOS-09	Humidity Indicator	A&D	AD-5681	4061484	AT	2014/12/24 * 12
SSA-03	Spectrum Analyzer	Agilent	E4448A	MY48250152	AT	2014/02/03 * 12
SAEC-03(NSA)	Semi-Anechoic Chamber	TDK	SAEC-03(NSA)	3	RE	2014/07/14 * 12
SAF-06	Pre Amplifier	TOYO Corporation	TPA0118-36	1440491	RE	2014/05/23 * 12
SCC-G04	Coaxial Cable	Junkosha	J12J102207-00	JUN-12-14-018	RE	2014/06/24 * 12
SCC-G23	Coaxial Cable	Suhner	SUCOFLEX 104	297342/4	RE	2014/05/15 * 12
SHA-03	Horn Antenna	Schwarzbeck	BBHA9120D	9120D-739	RE	2014/08/12 * 12
SOS-05	Humidity Indicator	A&D	AD-5681	4062518	RE	2014/10/30 * 12
KSA-08	Spectrum Analyzer	Agilent	E4446A	MY46180525	RE	2014/03/04 * 12
SJM-15	Measure	ASKUL	-	-	RE,CE	-
COTS-SEMI-1	EMI Software	TSJ	TEPTO-DV(RE,CE, RFI,MF)	-	RE,CE	-
SAT10-06	Attenuator	Agilent	8493C-010	74865	RE	2014/11/21 * 12
SFL-03	Highpass Filter	MICRO-TRONICS	HPM50112	028	RE	2014/11/21 * 12
SCC-G04	Coaxial Cable	Junkosha	J12J102207-00	JUN-12-14-018	RE	2014/06/24 * 12
SCC-G23	Coaxial Cable	Suhner	SUCOFLEX 104	297342/4	RE	2014/05/15 * 12
SHA-05	Horn Antenna	ETS LINDGREN	3160-09	LM4210	RE	2014/03/15 * 12
SCC-G18	Coaxial Cable	Suhner	SUCOFLEX 104A	46292/4A	RE	2014/03/14 * 12
SAF-09	Pre Amplifier	TOYO Corporation	HAP18-26W	00000018	RE	2014/05/15 * 12
SHA-06	Horn Antenna	ETS LINDGREN	3160-10	LM3459	RE	2014/03/15 * 12
SCC-G19	Coaxial Cable	Suhner	SUCOFLEX 102A	1188/2A	RE	2014/03/14 * 12
SAF-10	Pre Amplifier	TOYO Corporation	HAP26-40W	00000010	RE	2014/03/14 * 12
SAT10-05	Attenuator(above1GHz)	Agilent	8493C-010	74864	RE	2014/11/21 * 12
SBA-03	Biconical Antenna	Schwarzbeck	BBA9106	91032666	RE	2014/10/18 * 12
SLA-03	Logperiodic Antenna	Schwarzbeck	UHALP9108A	UHALP 9108-A 0901	RE	2014/10/18 * 12
SAT6-08	Attenuator	HIROSE ELECTRIC CO.,LTD.	AT-406(40)	-	RE	2014/08/27 * 12
SCC-C1/C2/C3/C4/C5/C10/SRSE-03	Coaxial Cable&RF Selector	Fujikura/Fujikura/Suhner/Suhner/Suhner/TOYO	8D2W/12DSFA/141PE/141PE/141PE/141PE/NS4906	-/0901-271(RF Selector)	RE	2014/04/25 * 12
SAF-03	Pre Amplifier	SONOMA	310N	290213	RE	2015/02/18 * 12
STR-06	Test Receiver	Rohde & Schwarz	ESCI	101259	RE,CE	2014/03/04 * 12
SCC-C9/C10/SRSE-03	Coaxial Cable&RF Selector	Suhner/Suhner/TOYO	RG223U/141PE/NS4906	-/0901-271(RF Selector)	CE	2014/04/25 * 12
SLS-05	LISN	Rohde & Schwarz	ENV216	100516	CE	2014/02/26 * 12
SAT3-06	Attenuator	JFW	50HF-003N	-	CE	2015/02/18 * 12
SOS-06	Humidity Indicator	A&D	AD-5681	4062118	CE	2014/12/24 * 12
STM-05	Terminator	TME	CT-01 BP	-	CE	2014/12/19 * 12

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

All equipment is calibrated with valid calibrations . Each measurement data is traceable to the national or international standards.
Test Item :
CE: Conducted emission,
RE: Radiated emission,
AT: Antenna terminal disturbance voltage