



Test report No. : 10882638S-N
Page : 1 of 177
Issued date : December 1, 2015
Revised date : December 21, 2015
FCC ID : AZD233

RADIO TEST REPORT

Test Report No. : 10882638S-N

Applicant : Canon Inc.
Type of Equipment : Wireless Module
Model No. : ES201
FCC ID : AZD233
Test regulation : FCC Part 15 Subpart E: 2015
Test Result : Complied

1. This test report shall not be reproduced in full or partial, without the written approval of UL Japan, Inc.
2. The results in this report apply only to the sample tested.
3. This sample tested is in compliance with the above regulation.
4. The test results in this report are traceable to the national or international standards.
5. The opinions and the interpretations to the result of the description in this report are outside scopes where UL Japan has been accredited.
6. This test report covers Radio technical requirements. It does not cover administrative issues such as Manual or non-Radio test related Requirements. (if applicable)

Date of test: August 7 to September 3, 2015

Representative test engineer:

S. Takano

Shinichi Takano
Engineer

Consumer Technology Division

Approved by:

T. Imamura

Toyokazu Imamura
Leader
Consumer Technology Division



JAB
Testing
RTL02610

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

UL Japan, Inc.

Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

13-EM-F0429

CONTENTS	PAGE
SECTION 1: Customer information.....	4
SECTION 2: Equipment under test (E.U.T.).....	4
SECTION 3: Test specification, procedures & results.....	5
SECTION 4: Operation of E.U.T. during testing.....	8
SECTION 5: Conducted Emission.....	11
SECTION 6: Radiated Spurious Emission and Band Edge Compliance	12
SECTION 7: Antenna Terminal Conducted Tests.....	14
APPENDIX 1: Test data	15
Conducted Emission	15
26 dB Emission Bandwidth and 99 % Occupied Bandwidth	17
20 dB Emission Bandwidth.....	40
6 dB Bandwidth	54
Maximum Conducted Output Power	60
Average Output Power	73
Maximum Power Spectral Density	80
Radiated Spurious Emission	94
Conducted Spurious Emission	172
APPENDIX 2: Test instruments	173
APPENDIX 3: Photographs of test setup	175
Conducted Emission	175
Radiated Spurious Emission	176
Precheck of Worst Case Position	177

SECTION 1: Customer information

Company Name	:	Canon Inc.
Address	:	30-2, Shimomaruko 3-chome, Ohta-ku, Tokyo 146-8501, Japan
Telephone Number	:	+81- 3-3757-6218
Facsimile Number	:	+81- 3-3757-8431
Contact Person	:	Takato Matsuura

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

2.1 Identification of E.U.T.

Type of Equipment	:	Wireless Module
Model No.	:	ES201
Serial No.	:	Refer to Section 4, Clause 4.2
Rating	:	DC 3.3 V
Receipt Date of Sample	:	July 30, 2015
Country of Mass-production	:	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

2.2 Product Description

Model: ES201 (referred to as the EUT in this report) is a Wireless Module.

General Specification

Clock frequency(ies) in the system	:	37.4 MHz
------------------------------------	---	----------

Radio specification:

Radio Type	:	Transceiver
Antenna type	:	Planar Inverted F Antenna
Antenna Gain	:	2 GHz Band (2400/2450/2500 MHz) : 1.95 dBi 5 GHzs Band-1 (5160/5250/5340 MHz) : -1.32 dBi 5 GHzs Band-2 (5480/5600/5720 MHz) : 0.3 dBi 5 GHzs Band-3 (5725/5785/5845 MHz) : -0.43 dBi

	IEEE802.11b	IEEE802.11g	IEEE802.11n (20 MHz band)	IEEE802.11n (40 MHz band)
Frequency of operation *1)	2412-2462 MHz	2412-2462 MHz	2412-2462 MHz 5180-5320 MHz 5500-5700 MHz 5745-5825 MHz	2422-2452 MHz 5190-5310 MHz 5510-5670 MHz 5755-5795 MHz
Type of modulation	DSSS (CCK, DQPSK, DBPSK)	OFDM-CCK (64QAM, 16QAM, QPSK, BPSK)	OFDM (64QAM, 16QAM, QPSK, BPSK)	
Channel spacing			2.4 GHz band 5 MHz 5 GHz band 20 MHz	2.4 GHz band 5 MHz 5 GHz band 40 MHz
	IEEE802.11a	IEEE802.11ac (20 MHz band)	IEEE802.11ac (40 MHz band)	IEEE802.11ac (80 MHz band)
Frequency of operation	5180-5320 MHz 5500-5700 MHz 5745-5825 MHz	5180-5320 MHz 5500-5700 MHz 5745-5825 MHz	5190-5310 MHz 5510-5670 MHz 5755-5795 MHz	5210 MHz 5290 MHz 5530-5610 MHz 5775 MHz
Type of modulation	OFDM (64QAM, 16QAM, QPSK, BPSK)			
Channel spacing	20 MHz		40 MHz	80 MHz

*1) Refer to the test reports: 10882638S-M for FCC 15.247.

UL Japan, Inc.

Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

SECTION 3: Test specification, procedures & results

3.1 Test Specification

Test Specification : FCC Part 15 Subpart E: 2015, final revised on November 23, 2015

Title : FCC 47CFR Part15 Radio Frequency Device Subpart E
Unlicensed National Information Infrastructure Devices
Section 15.407 General technical requirements

*Some parts are effective on and after December 17, 2015 or December 23, 2015. The revision does not affect the test specification applied to the EUT.

3.2 Procedures and results

Item	Test Procedure	Specification	Worst margin	Results	Remarks
Conducted Emission	FCC: ANSI C63.4-2009	FCC: 15.407 (b) (6) / 15.207	12.8 dB, L1,AV Normal Power mode 24.00048 MHz Low Power mode 24.00044 MHz	Complied	-
	IC: RSS-Gen 8.8	IC: RSS-Gen 8.8			
26 dB Emission Bandwidth	FCC: KDB Publication Number 789033 IC: -	FCC: 15.407 (a) (1) (2) (3) IC: -	See data	N/A	Conducted
Maximum Conducted Output Power	FCC: KDB Publication Number 789033 IC: -	FCC: 15.407 (a) (1) (2) (3) IC: RSS-247 6.2.1 (1) 6.2.2 (1) 6.2.3 (1) 6.2.4 (1)		Complied	Conducted
Maximum Power Spectral Density	FCC: KDB Publication Number 789033 IC: -	FCC : 15.407 (a) (1) (2) (3) IC: RSS-247 6.2.1 (1) 6.2.2 (1) 6.2.3 (1) 6.2.4 (1)		Complied	Conducted
Spurious Emission Restricted Band Edge	FCC: ANSI C63.4-2009 KDB Publication Number 789033 IC: -	FCC: 15.407 (b), 15.205 and 15.209 IC: RSS-247 6.2.1 (2) 6.2.2 (2) 6.2.3 (2) 6.2.4 (2)	0.9 dB 5725.000 MHz, AV, Vert.	Complied	Conducted (< 30 MHz) / Radiated (> 30 MHz) *1)
6 dB Emission Bandwidth	FCC: ANSI C63.4-2009 IC: -	FCC: 15.407 (e) IC: RSS-247 6.2.4 (1)	See data	Complied	Conducted

Note: UL Japan, Inc.'s EMI Work Procedures No. 13-EM-W0420 and 13-EM-W0422.

* For DFS tests, please see the test report number 10882638S-O issued by UL Japan, Inc.

*1) Radiated test was selected over 30 MHz based on section FCC 15.407 (b) and KDB 789033 D02 G.3.b).

* In case any questions arise about test procedure, ANSI C 63.10:2013 is also referred.

However, there is one deviation from ANSI C 63.10:2013. (ANSI C63.10:2013 is Non-accreditation)

Measurement height is not 1.5 m, but 0.8 m.

FCC 15.31 (e) / 212

The RF Module has its own regulator. The RF Module is constantly provided voltage (DC 1.1 V / 1.8 V) through the regulator regardless of input voltage. Therefore, this EUT complies with the requirement.

FCC 15.203 / 212

The EUT has a U.FL connector. Therefore the equipment complies with the requirement of 15.203.

3.3 Addition to standard

Item	Test Procedure	Specification	Worst margin	Results	Remarks
99 % Occupied Band Width	RSS-Gen 6.6	IC: -	N/A	N/A	Conducted

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

UL Japan, Inc.

Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

3.4 Uncertainty

EMI

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

Item	Frequency range	Uncertainty (+/-)		
		No. 1 SAC / SR	No. 2 SAC / SR	No. 3 SAC / SR
Conducted emission (AC Mains) LISN	150 kHz-30 MHz	3.6 dB	3.4 dB	3.4 dB
Radiated emission (Measurement distance: 3 m)	9 kHz-30 MHz	3.7 dB	3.5 dB	3.5 dB
	30 MHz-300 MHz	4.9 dB	4.9 dB	4.7 dB
	300 MHz-1 GHz	5.0 dB	5.0 dB	4.8 dB
	1 GHz-15 GHz	4.9 dB	4.9 dB	4.9 dB
Radiated emission (Measurement distance: 1 m)	15 GHz-18 GHz	5.7 dB	5.7 dB	5.7 dB
	18 GHz-40 GHz	4.5 dB	4.3 dB	4.3 dB

SAC=Semi-Anechoic Chamber

SR= Shielded Room is applied besides radiated emission

Antenna terminal test	Uncertainty (+/-)
Power Measurement above 1 GHz	0.68 dB
Spurious emission (Conducted) below 1GHz	1.5 dB
Spurious emission (Conducted) 1 GHz-3 GHz	1.7 dB
Spurious emission (Conducted) 3 GHz-18 GHz	2.4 dB
Spurious emission (Conducted) 18 GHz-26.5 GHz	2.5 dB
Bandwidth Measurement	0.66%

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.

3.5 Test Location

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

Test site	IC Registration Number	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	10 m
No.2 Semi-anechoic chamber	2973D-2	20.6 x 11.3 x 7.65	20.6 x 11.3	10 m
No.3 Semi-anechoic chamber	2973D-3	12.7 x 7.7 x 5.35	12.7 x 7.7	5 m
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.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	-	-

3.6 Test data, Test instruments, and Test set up

Refer to APPENDIX.

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

4.1 Operating Mode(s)

Test item	Mode	Tested frequency	Power setting [dBm] *3)	Worst data mode *1)
Conducted emission, Radiated emission (below 1 GHz) *2)	Transmitting(Tx) IEEE 802.11ac (VHT20)	5320 MHz	12 (Normal power mode)	MCS0
	Transmitting(Tx) IEEE 802.11ac (VHT40)	5775 MHz	8 (Low power mode)	MCS0
Radiated emission (above 1 GHz)	Transmitting(Tx) IEEE 802.11a *3)	[W52/W53] 5180 MHz, 5320 MHz [W56] 5500 MHz, 5700 MHz [W58] 5745 MHz, 5825 MHz	12 (Normal power mode), 8 (Low power mode)	6 Mbps
	Transmitting(Tx) IEEE 802.11n (HT20) *3)	[W52/W53] 5180 MHz, 5320 MHz [W56] 5500 MHz, 5700 MHz [W58] 5745 MHz, 5825 MHz	12 (Normal power mode), 8 (Low power mode)	MCS0
	Transmitting(Tx) IEEE 802.11ac (VHT20)	[W52/W53] 5180 MHz, 5240 MHz, 5260 MHz, 5320 MHz [W56] 5500 MHz, 5580 MHz 5700 MHz [W58] 5745 MHz, 5785 MHz, 5825 MHz	12 (Normal power mode)	MCS0
			8 (Low power mode) *3)	MCS0
	Transmitting(Tx) IEEE 802.11n (HT40) *3)	[W52/W53] 5190 MHz, 5310 MHz [W56] 5510 MHz, 5670 MHz [W58] 5755 MHz, 5795 MHz	9 (Normal power mode), 8 (Low power mode)	MCS0
	Transmitting(Tx) IEEE 802.11ac (VHT40)	[W52/W53] 5190 MHz, 5310 MHz [W56] 5510 MHz, 5550 MHz, 5670 MHz [W58] 5755 MHz, 5795 MHz	9 (Normal power mode),	MCS0
			8 (Low power mode) *3)	
	Transmitting(Tx) IEEE 802.11ac (VHT80)	[W52/W53] 5210 MHz, 5290 MHz [W56] 5530 MHz, 5610 MHz [W58] 5775 MHz	8 (Normal / Low power mode)	MCS0

UL Japan, Inc.

Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Test item	Mode	Tested frequency	Power setting [dBm] *3)	Worst data mode *1)
Other items	Transmitting(Tx) IEEE 802.11a,	[W52/W53] 5180 MHz, 5220 MHz, 5240 MHz, 5260 MHz, 5300 MHz, 5320 MHz [W56] 5500 MHz, 5580 MHz 5700 MHz [W58] 5745 MHz, 5785 MHz, 5825 MHz	12 (Normal power mode), 8 (Low power mode)	6 Mbps
	Transmitting(Tx) IEEE 802.11n (HT20), Transmitting(Tx) IEEE 802.11ac (VHT20)	[W52/W53] 5180 MHz, 5220 MHz, 5240 MHz, 5260 MHz, 5300 MHz, 5320 MHz [W56] 5500 MHz, 5580 MHz 5700 MHz [W58] 5745 MHz, 5785 MHz, 5825 MHz	12 (Normal power mode), 8 (Low power mode)	MCS0
	Transmitting(Tx) IEEE 802.11n (HT40) Transmitting(Tx) IEEE 802.11ac (VHT40)	[W52/W53] 5190 MHz, 5230 MHz, 5270 MHz, 5310 MHz [W56] 5510 MHz, 5550 MHz, 5670 MHz [W58] 5755 MHz, 5795 MHz	9 (Normal power mode), 8 (Low power mode)	MCS0
	Transmitting(Tx) IEEE 802.11ac (VHT80)	[W52/W53] 5210 MHz, 5290 MHz [W56] 5530 MHz, 5610 MHz [W58] 5775 MHz	8 (Normal / Low power mode)	MCS0

Software: Tera Term Version 4.83

This setting of software is the worst case.

Any conditions under the normal use do not exceed the condition of setting.

In addition, end users cannot change the settings of the output power of the product.

*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) These were carried out only in Band edge.

*4) The actual output power differs from the setting value.

UL Japan, Inc.

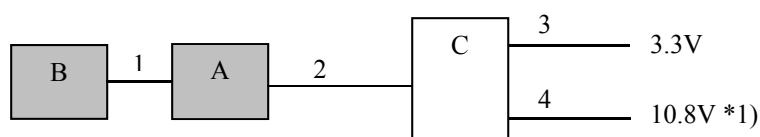
Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

4.2 Configuration and peripherals



* Cabling and setup(s) were taken into consideration and test data was taken under worse case conditions.

*1) This is power supply of Jig System for setting Operating Mode. This doesn't be supplied during Radiated Emission Test.

Description of EUT

No.	Item	Model number	Serial number	Manufacturer	Remarks
A	Wireless Module	ES201	5I52	Canon	EUT
B	Antenna	Dual Band WLAN Antenna Cable Assembly 2011	001	Canon	EUT
C	Jig System	-	-	Canon	-

List of cables used

No.	Name	Length (m)	Shield		Remarks
			Cable	Connector	
1	Antenna	0.02	Unshielded	Unshielded	-
2	Jig	0.1	Unshielded	Unshielded	-
3	DC	1.3	Unshielded	Unshielded	-
4	DC	1.0	Unshielded	Unshielded	-

SECTION 5: Conducted Emission

Test Procedure and conditions

EUT was placed on a platform of nominal size, 1.0 m by 1.5 m, raised 0.8 m above the conducting ground plane. The rear of tabletop was located 40cm to the vertical conducting plane. The rear of EUT, including peripherals aligned and 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 a Line Impedance Stabilization Network (LISN) / Artificial mains Network (AMN) and excess AC cable was bundled in center.

Each EUT current-carrying power lead, except the ground (safety) lead, was individually connected through a LISN / (AMN) to the input power source.

The AC Mains Terminal Continuous disturbance Voltage has been measured with the EUT via DC power supply in a Shielded room. The EUT via DC power supply was connected to a LISN (AMN).

An overview sweep with peak detection has been performed.

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

Detector	: QP and CISPR Average
Measurement range	: 0.15 MHz-30 MHz
Test data	: APPENDIX
Test result	: Pass

SECTION 6: Radiated Spurious Emission and Band Edge Compliance

Test Procedure

EUT was placed on a urethane platform of nominal size, 0.5 m by 0.5 m, raised 0.8 m above the conducting ground plane.

The Radiated Electric Field Strength has been measured in a Semi Anechoic Chamber with a ground plane.

The height of the measuring antenna varied between 1 and 4m and EUT was rotated a full revolution in order to obtain the maximum value of the electric field strength.

The measurements were made with the following detector function of the test receiver and the Spectrum analyzer (in linear mode).

The measurements were performed for both vertical and horizontal antenna polarization with the Test Receiver, or the Spectrum Analyzer.

The test was made with the detector (RBW/VBW) in the following table.

When using Spectrum analyzer, the test was made with adjusting span to zero by using peak hold.

< Below 1GHz >

The result also satisfied with the general limits specified in section 15.209 (a).

< Above 1GHz >

Inside of restricted bands (Section 15.205):

Apply to limit in the Section 15.209 (a).

Outside of the restricted bands:

Apply to limit 68.2 dBuV/m, 3 m (-27 dBm e.i.r.p. *) in the Section 15.407 (b) (1) (2) (3).

Apply to limit 68.2 dBuV/m, 3 m (-27 dBm e.i.r.p. *) or

78.2 dBuV/m, 3 m (-17 dBm e.i.r.p. *) in the Section 15.407 (b).

Restricted band edge:

Apply to limit in the Section 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:

$$E = \frac{1000000\sqrt{30P}}{3} \text{ (uV/m)} \quad : P \text{ is the e.i.r.p. (Watts)}$$

Test Antennas are used as below;

Frequency	30 MHz to 300 MHz	300 MHz to 1 GHz	Above 1 GHz
Antenna Type	Biconical	Logperiodic	Horn

Frequency	Below 1 GHz	Above 1 GHz	
Instrument used	Test Receiver	Spectrum Analyzer	
Detector	QP	Peak	Average *1)
IF Bandwidth	BW: 120 kHz	RBW: 1 MHz VBW: 3 MHz	RBW: 1MHz VBW: *2)
Test Distance	3 m	3 m (below 15 GHz), 1 m*3) (above 15 GHz),	

*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 10 Hz.

When duty cycle < 98 percent, VBW (Average) calculation sheet in APPENDIX 1.

*3) Distance Factor: $20 \times \log(3.0 \text{ m}/1.0 \text{ m}) = 9.5 \text{ dB}$

UL Japan, Inc.

Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

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

	Test Antenna	Frequency Carrier	Spurious				
			30 MHz-1 GHz	1-15 GHz	15-18 GHz	18-26.5 GHz	26.5-40 GHz
Module	Horizontal	Y	X	Y	Y	Z	X
	Vertical	Y	X	Y	Y	Z	X
Antenna	Horizontal	Y	X	Y	Y	X	X
	Vertical	X	X	X	Y	X	X

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

Measurement range : 30 MHz-40 GHz
Test data : APPENDIX
Test result : Pass

SECTION 7: Antenna Terminal Conducted Tests

Test Procedure

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

Test	Span	RBW	VBW	Sweep time	Detector	Trace	Instrument used and Test method
26 dB Bandwidth	Enough to capture the emission	Close to 1 % of EBW	> RBW	Auto	Peak	Max Hold	Spectrum Analyzer
99 % Occupied Bandwidth *1)	Enough width to display emission skirts	1 % to 5 % of OBW	≥ 3 RBW	Auto	Sample	Max Hold	Spectrum Analyzer
20 dB Bandwidth	Enough to capture the emission	Close to 1 % of EBW	> RBW	Auto	Peak	Max Hold	Spectrum Analyzer
6 dB Bandwidth	Enough to capture the emission	100 kHz	300 kHz	Auto	Peak	Max Hold	Spectrum Analyzer
Maximum Conducted Output Power	-	-	-	Auto	Average	-	Power Meter (Sensor: 80 MHz BW) (Method PM)
Maximum Power Spectral Density	Encompass the entire EBW	1 MHz or 100 kHz *2)	≥ 3 RBW	Auto	RMS or Sample Power Averaging (100 times)	Clear Write	Spectrum Analyzer
Conducted Spurious Emission*3)	9 kHz – 150 kHz 150 kHz – 30 MHz	200 Hz 10 kHz	620 Hz 30 kHz	Auto	Peak	Max Hold	Spectrum Analyzer

* The test method was also referred to 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)".

*1) Peak hold was applied as Worst-case measurement.

*2) FCC standard says that RBW is set to be 500 kHz for 5.725 GHz-5.850 GHz, but it is not possible with spectrum analyzer, so $10\log(500\text{ kHz}/100\text{ kHz})$ was added to the test result.

*3) In the frequency range below 30 MHz, RBW was narrowed to separate the noise contents.

Then, wide-band noise near the limit was checked separately, however the noise was not detected as shown in the chart. (9 kHz-150 kHz: RBW = 200 Hz, 150 kHz-30 MHz: RBW = 10 kHz)

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

Test data : APPENDIX

Test result : Pass

UL Japan, Inc.

Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

APPENDIX 1: Test data

Conducted Emission

[Normal Power mode]

DATA OF CONDUCTED EMISSION TEST

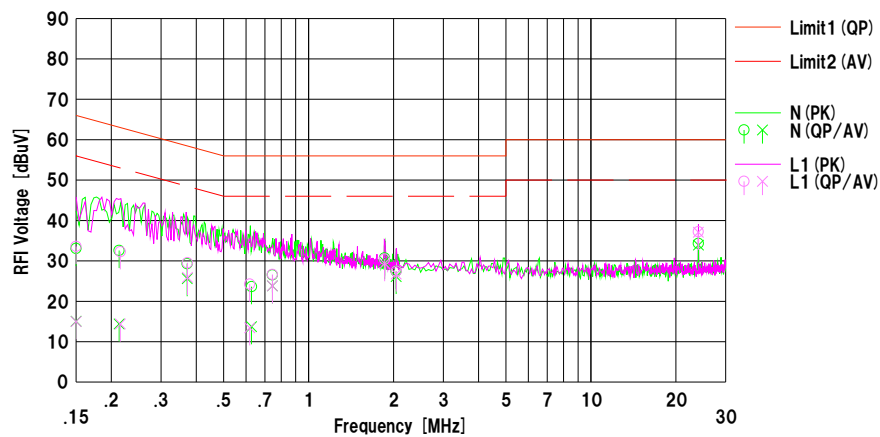
UL Japan, Inc. Shonan EMC Lab. No.1 Shielded Room
Date : 2015/08/28

Mode : Tx, 11ac VHT20, 5320MHz, Power: 12dBm
Power : DC3.3 V
Temp./Humi. : 23 deg.C. / 52 %RH

Remarks : -

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

Engineer : Yosuke Ishikawa



No.	Freq. [MHz]	Reading		C.Fac [dB]	Results		Limit		Margin		Phase	Comment
		<QP> [dBuV]	<AV> [dBuV]		<QP> [dBuV]	<AV> [dBuV]	<QP> [dBuV]	<AV> [dBuV]	<QP> [dB]	<AV> [dB]		
1	0.15001	20.40	2.40	12.68	33.08	15.08	66.00	56.00	32.9	40.9	N	
2	0.21304	19.90	1.70	12.67	32.57	14.37	63.09	53.09	30.5	38.7	N	
3	0.37131	16.60	12.90	12.71	29.31	25.61	58.47	48.47	29.1	22.8	N	
4	0.82779	10.90	1.00	12.72	23.62	13.72	56.00	46.00	32.3	32.2	N	
5	0.74372	13.80	11.10	12.73	26.53	23.83	56.00	46.00	29.4	22.1	N	
6	1.85808	17.90	17.00	12.82	30.72	29.82	56.00	46.00	25.2	16.1	N	
7	2.04237	14.60	13.30	12.83	27.43	26.13	56.00	46.00	28.5	19.8	N	
8	24.03186	20.50	20.10	13.81	34.31	33.91	60.00	50.00	25.6	16.0	N	
9	0.15001	20.90	2.30	12.68	33.58	14.98	66.00	56.00	32.4	41.0	L1	
10	0.21519	19.60	1.70	12.67	32.27	14.37	63.00	53.00	30.7	38.6	L1	
11	0.37234	16.80	13.20	12.71	29.51	25.91	58.45	48.45	28.9	22.5	L1	
12	0.81844	11.50	0.70	12.73	24.23	13.43	56.00	46.00	31.7	32.5	L1	
13	0.74412	13.90	11.10	12.73	26.63	23.83	56.00	46.00	29.3	22.1	L1	
14	1.85808	17.60	16.50	12.82	30.42	29.32	56.00	46.00	25.5	16.6	L1	
15	2.04268	14.60	13.90	12.83	27.43	26.73	56.00	46.00	28.5	19.2	L1	
16	24.00044	23.40	23.30	13.81	37.21	37.11	60.00	50.00	22.7	12.8	L1	

Calculation: Result [dBuV] = Reading [dBuV] + C.Fac (LISN + Cable + ATT) [dB]
LISN: SLS-01

UL Japan, Inc.

Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Conducted Emission

[Low Power mode]

DATA OF CONDUCTED EMISSION TEST

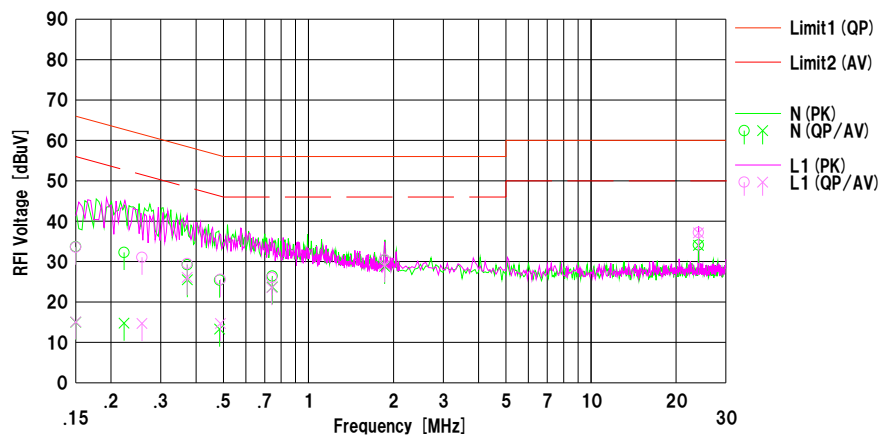
UL Japan, Inc. Shonan EMC Lab. No.1 Shielded Room
Date : 2015/08/28

Mode : Tx.11ac VHT40.5755MHz, Power:8dBm
Power : DC3.3 V
Temp./Humi. : 23 deg.C. / 52 %RH

Remarks : -

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

Engineer : Yosuke Ishikawa



No.	Freq. [MHz]	Reading		C.Fac	Results		Limit		Margin		Phase	Comment
		<QP> [dBuV]	<AV> [dBuV]		<QP> [dBuV]	<AV> [dBuV]	<QP> [dBuV]	<AV> [dBuV]	<QP> [dB]	<AV> [dB]		
1	0.15001	21.00	2.30	12.68	33.68	14.98	66.00	56.00	32.3	41.0	N	
2	0.22249	19.60	2.10	12.67	32.27	14.77	62.73	52.73	30.4	37.9	N	
3	0.37244	16.50	12.80	12.71	29.21	25.51	58.45	48.45	29.2	22.9	N	
4	0.48496	12.70	0.60	12.71	25.41	13.31	56.25	46.25	30.8	32.9	N	
5	0.74438	13.70	11.00	12.73	26.43	23.73	56.00	46.00	29.5	22.2	N	
6	1.85953	17.60	16.00	12.82	30.42	28.82	56.00	46.00	25.5	17.1	N	
7	24.00024	20.30	20.20	13.81	34.11	34.01	60.00	50.00	25.8	15.9	N	
8	0.15001	20.90	2.40	12.68	33.58	15.08	66.00	56.00	32.4	40.9	L1	
9	0.25747	18.40	2.00	12.67	31.07	14.67	61.51	51.51	30.4	36.8	L1	
10	0.37187	16.80	13.40	12.71	29.51	26.11	58.46	48.46	28.9	22.3	L1	
11	0.48798	12.90	2.00	12.71	25.61	14.71	56.20	46.20	30.5	31.4	L1	
12	0.74151	13.30	10.80	12.73	26.03	23.53	56.00	46.00	29.9	22.4	L1	
13	1.85928	17.70	16.40	12.82	30.52	29.22	56.00	46.00	25.4	16.7	L1	
14	24.00048	23.40	23.30	13.81	37.21	37.11	60.00	50.00	22.7	12.8	L1	

Calculation: Result [dBuV] = Reading [dBuV] + C.Fac (LISN+Cable+ATT) [dB]
LISN:SLS-01

UL Japan, Inc.

Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

26 dB Emission Bandwidth and 99 % Occupied Bandwidth

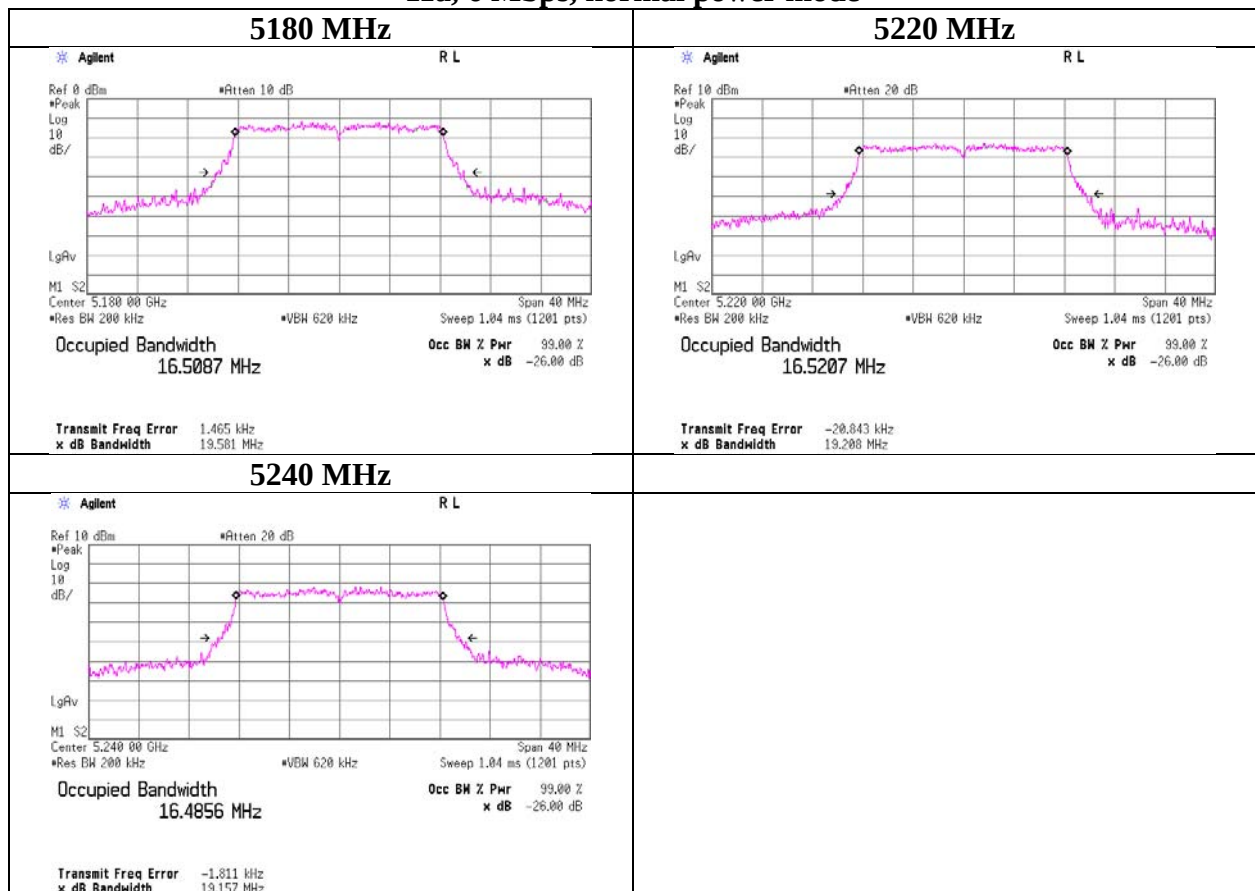
Test place	Shonan EMC Lab. No.1 Measurement Room
Report No.	10882638S-N
Date	August 25, 2015
Temperature / Humidity	25 deg. C / 49 % RH
Engineer	Kenichi Adachi
Mode	Tx 11a, normal power mode *1)

*1) 11a mode was omitted only to the normal power because it was the normal power and the low power, and there was no difference the normal power and the low power in 11ac mode.

11a

Tested Frequency [MHz]	26 dB Emission Bandwidth [MHz]	99 % Occupied Bandwidth [MHz]	Limit [MHz]
5180	19.581	16.945	-
5220	19.208	16.937	-
5240	19.157	17.003	-
5260	18.962	16.923	-
5300	19.155	16.912	-
5320	18.929	16.915	-
5500	19.261	16.939	-
5580	19.401	16.946	-
5700	19.259	16.991	-
5745	-	16.920	-
5785	-	16.898	-
5825	-	16.929	-

11a, 6 Mbps, normal power mode



UL Japan, Inc.

Shonan EMC Lab.

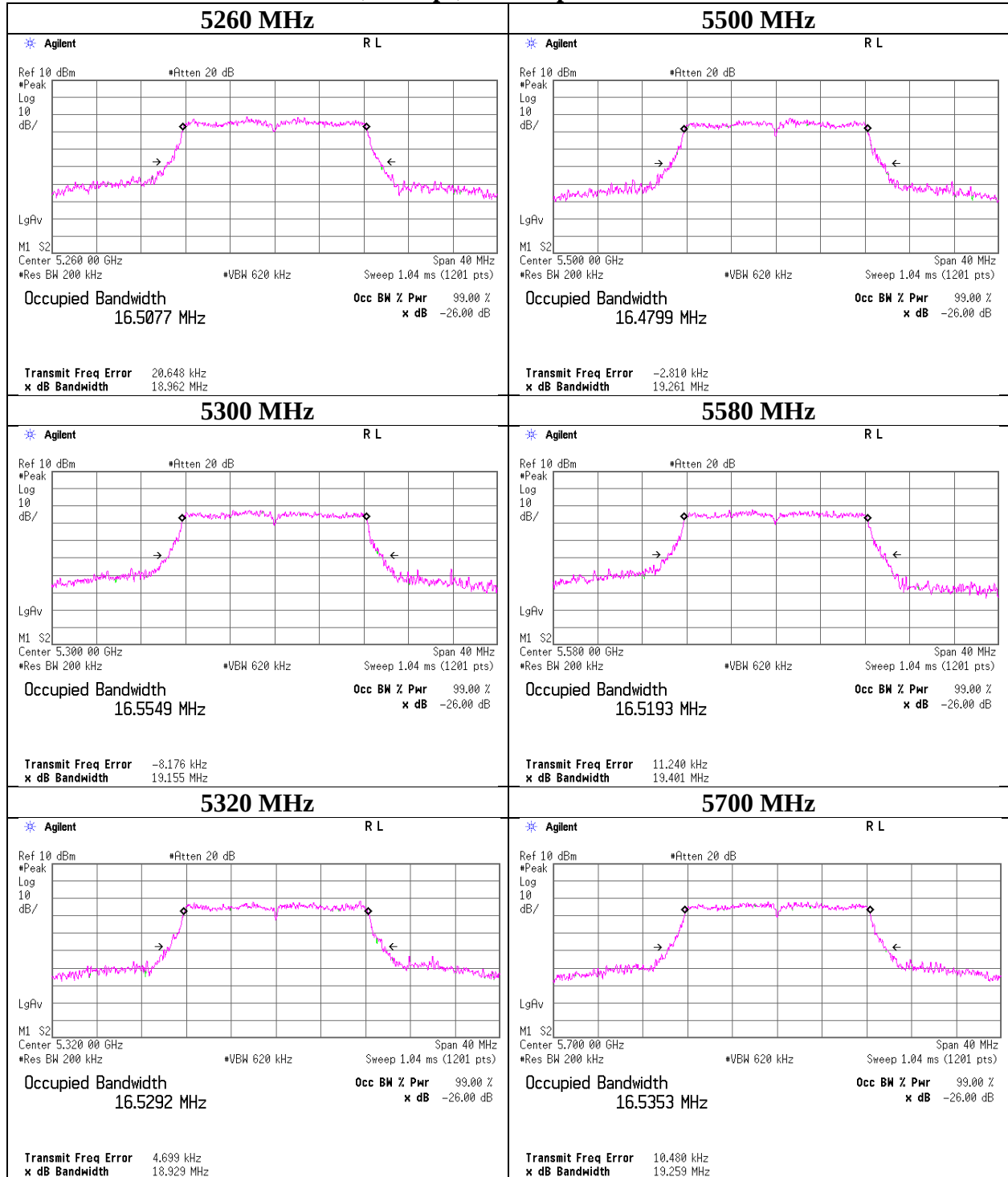
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

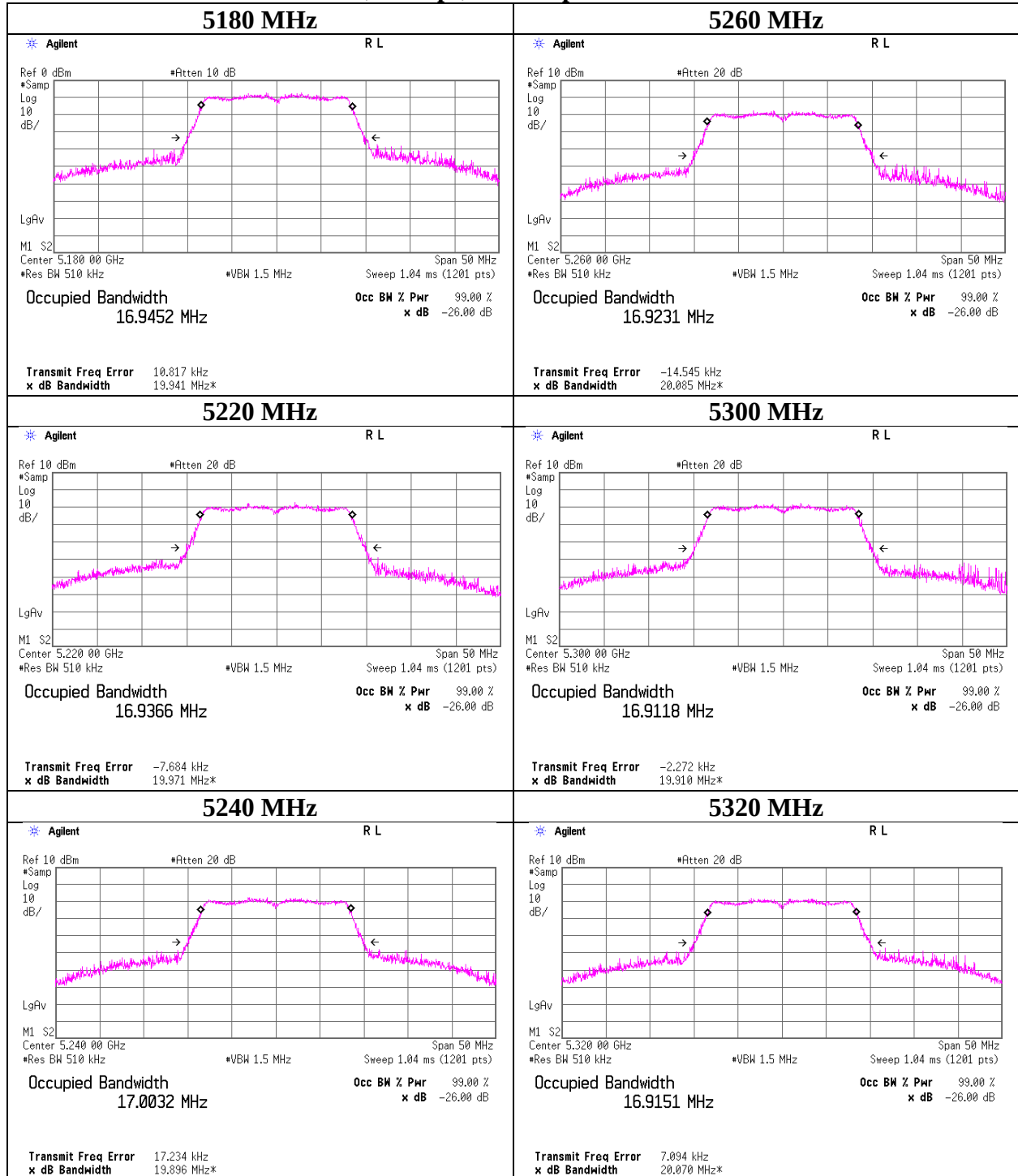
26 dB Emission Bandwidth

11a, 6 Mbps, normal power mode



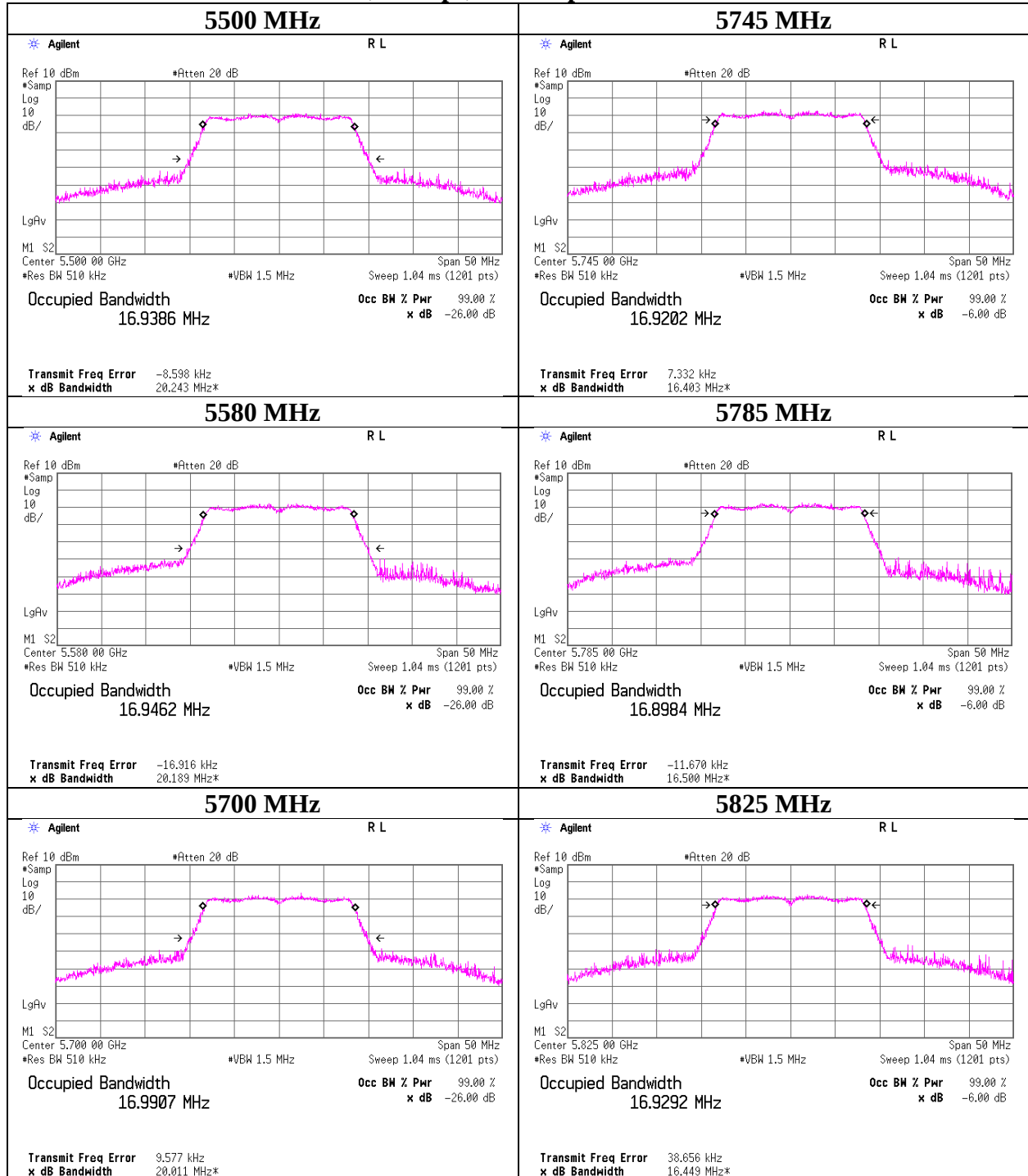
99 % Occupied Bandwidth

11a, 6 Mbps, normal power mode



99 % Occupied Bandwidth

11a, 6 Mbps, normal power mode



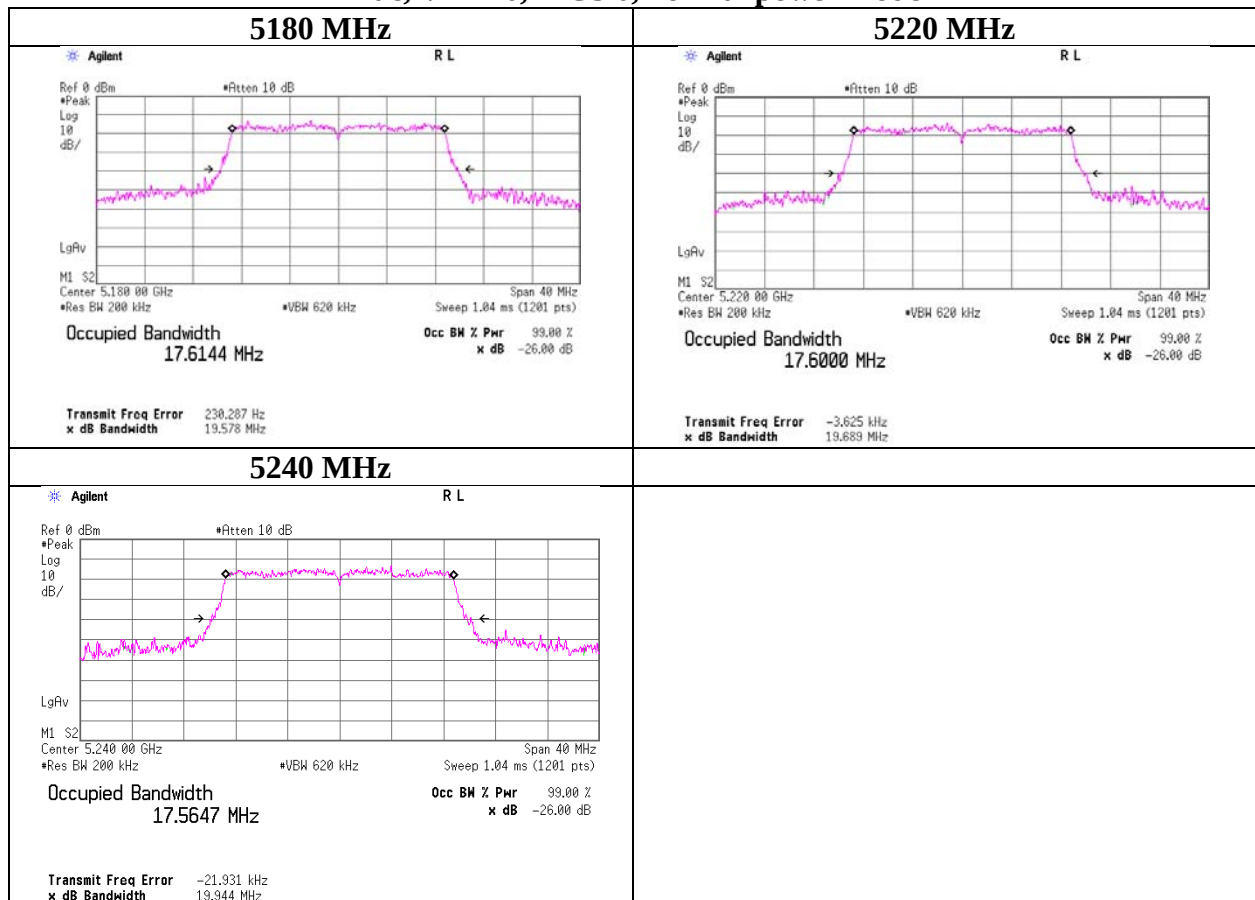
26 dB Emission Bandwidth and 99 % Occupied Bandwidth

Test place	Shonan EMC Lab. No.5 Shielded Room
Report No.	10882638S-N
Date	August 26, 2015
Temperature / Humidity	26 deg. C / 54 % RH
Engineer	Kenichi Adachi
Mode	Tx 11ac VHT20, normal power mode

11ac VHT20

Tested Frequency [MHz]	26 dB Emission Bandwidth [MHz]	99 % Occupied Bandwidth [MHz]	Limit [MHz]
5180	19.578	17.831	-
5220	19.689	17.796	-
5240	19.944	17.801	-
5260	19.676	17.793	-
5300	19.583	17.843	-
5320	19.555	17.808	-
5500	19.748	17.842	-
5580	19.976	17.837	-
5700	19.706	17.856	-
5745	-	17.795	-
5785	-	17.847	-
5825	-	17.816	-

11ac, VHT20, MCS 0, normal power mode



UL Japan, Inc.

Shonan EMC Lab.

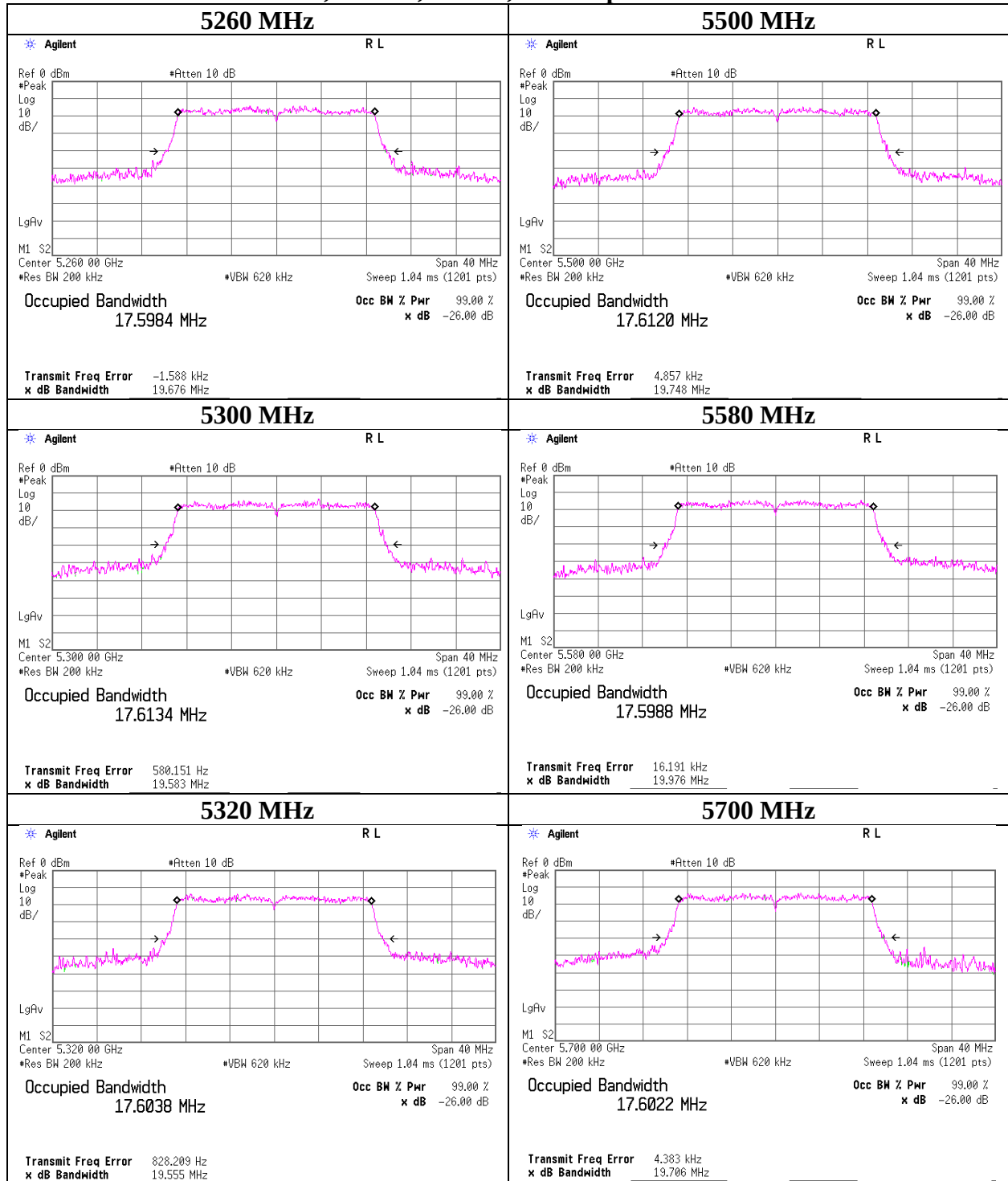
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

26 dB Emission Bandwidth

11ac, VHT20, MCS 0, normal power mode



UL Japan, Inc.

Shonan EMC Lab.

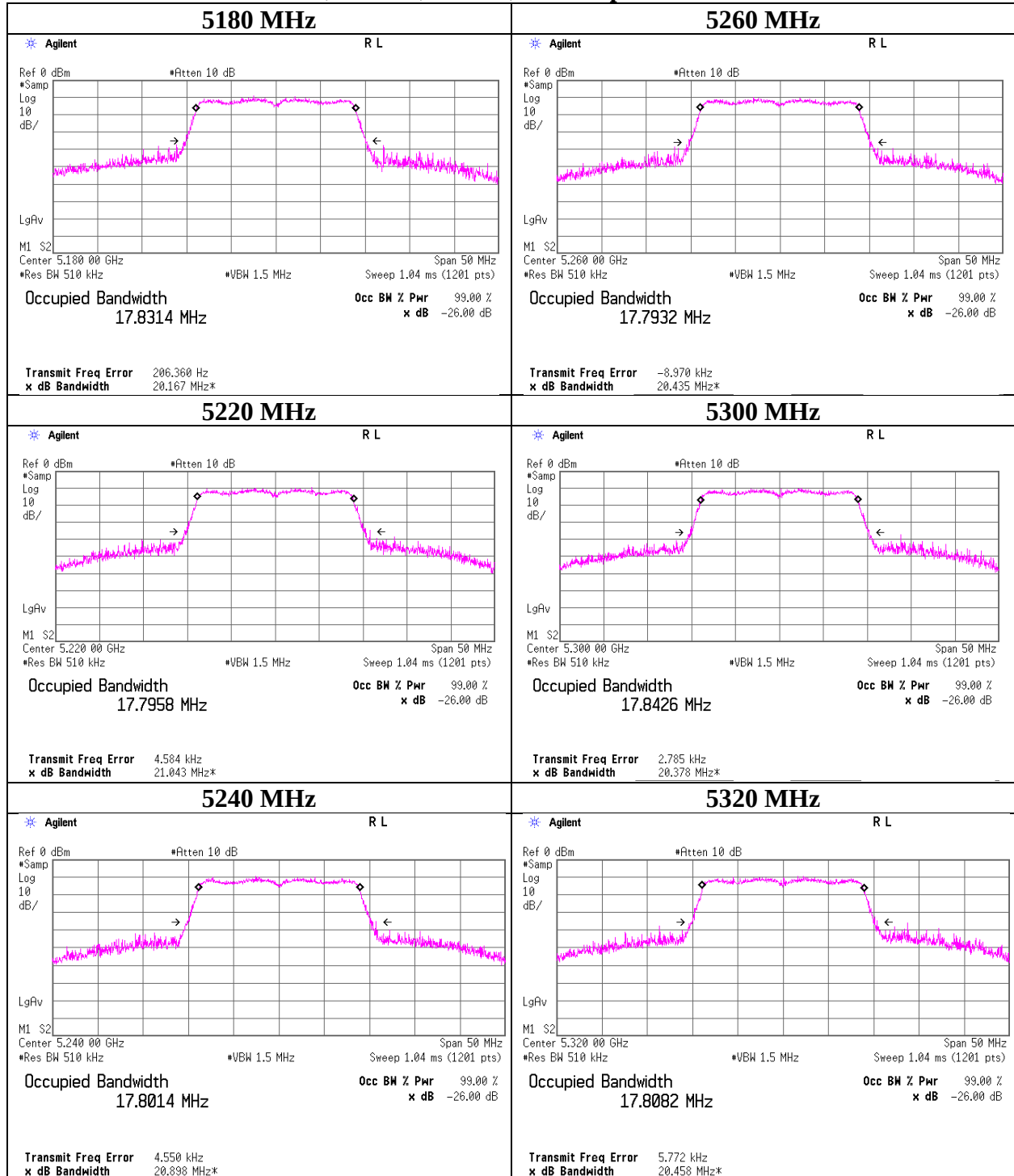
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

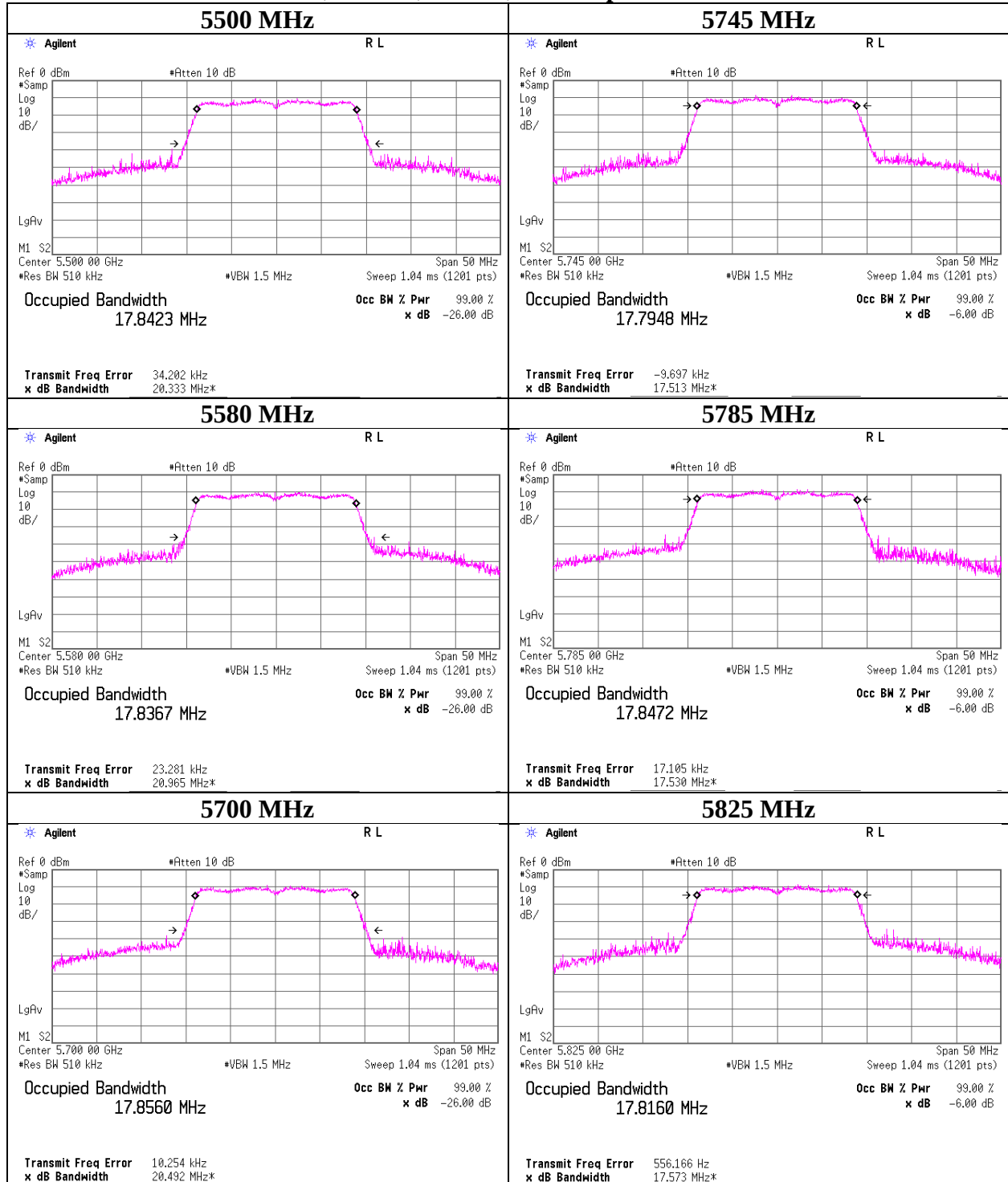
99 % Occupied Bandwidth

11ac, VHT20, MCS 0, normal power mode



99 % Occupied Bandwidth

11ac, VHT20, MCS 0, normal power mode



UL Japan, Inc.

Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

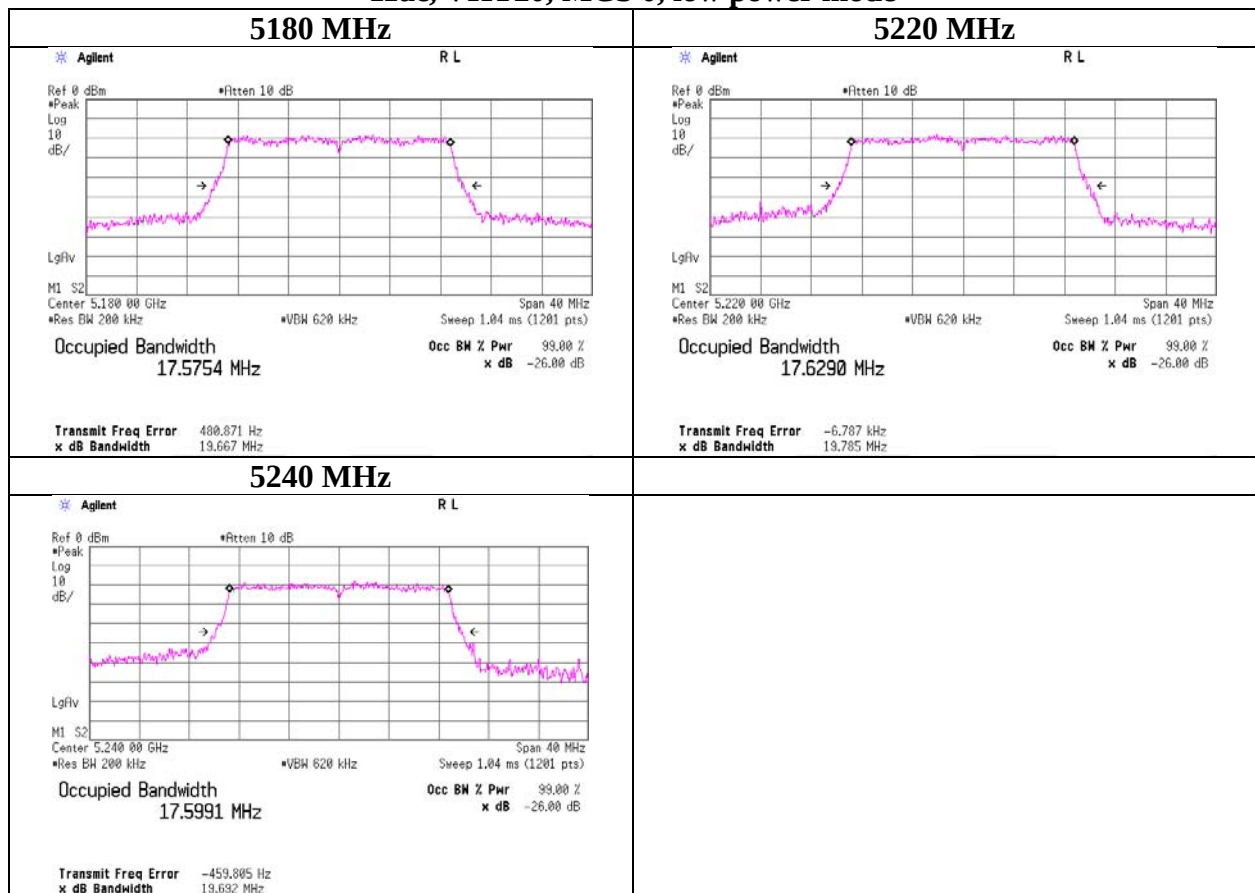
26 dB Emission Bandwidth and 99 % Occupied Bandwidth

Test place	Shonan EMC Lab. No.5 Shielded Room
Report No.	10882638S-N
Date	August 26, 2015
Temperature / Humidity	26 deg. C / 54 % RH
Engineer	Kenichi Adachi
Mode	Tx 11ac VHT20, low power mode

11ac VHT20

Tested Frequency [MHz]	26 dB Emission Bandwidth [MHz]	99 % Occupied Bandwidth [MHz]	Limit [MHz]
5180	19.667	17.855	-
5220	19.785	17.801	-
5240	19.692	17.822	-
5260	19.663	17.820	-
5300	19.528	17.780	-
5320	19.852	17.818	-
5500	19.812	17.807	-
5580	19.834	17.801	-
5700	19.646	17.817	-
5745	-	17.865	-
5785	-	17.824	-
5825	-	17.797	-

11ac, VHT20, MCS 0, low power mode



UL Japan, Inc.

Shonan EMC Lab.

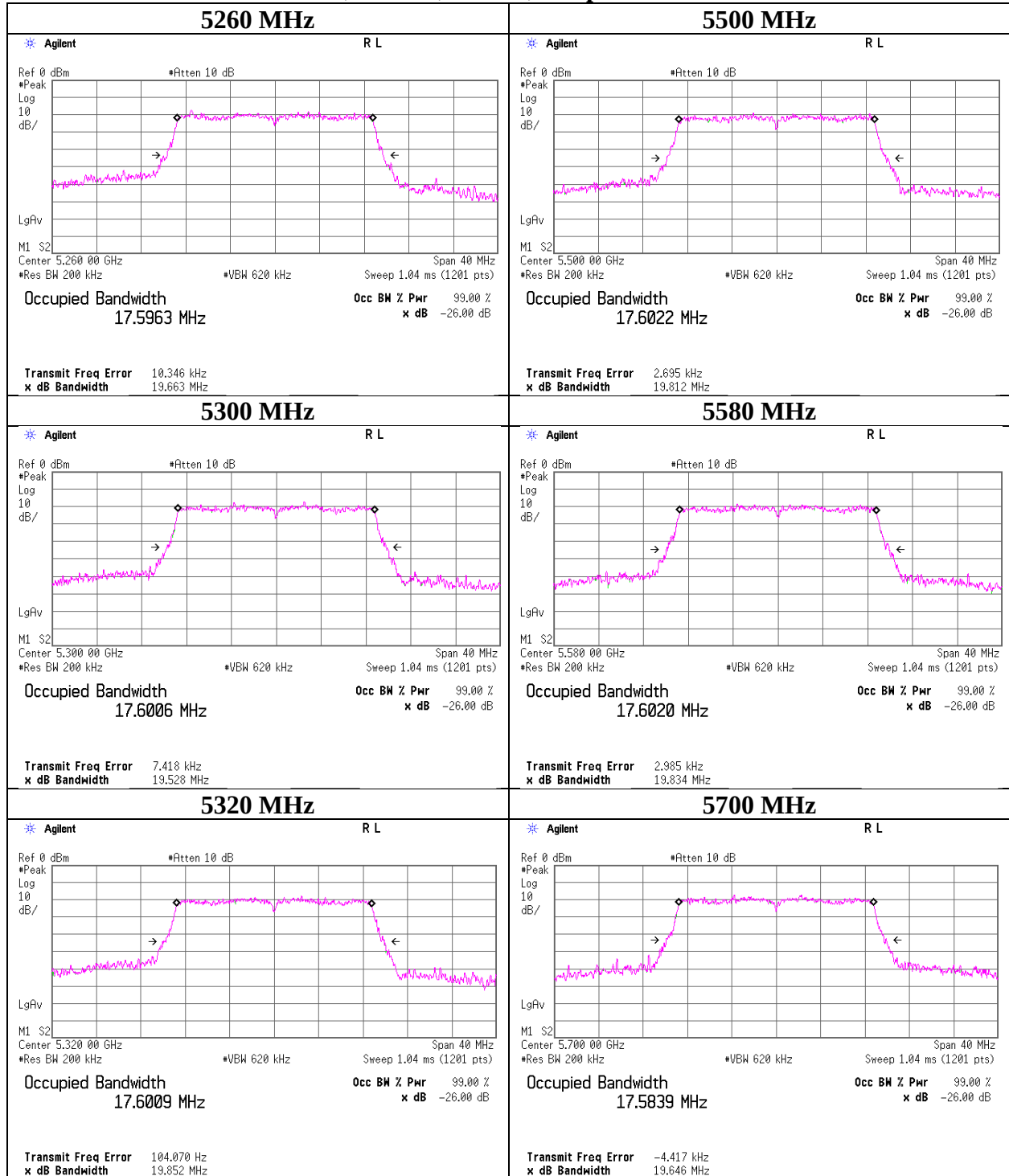
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

26 dB Emission Bandwidth

11ac, VHT20, MCS 0, low power mode



UL Japan, Inc.

Shonan EMC Lab.

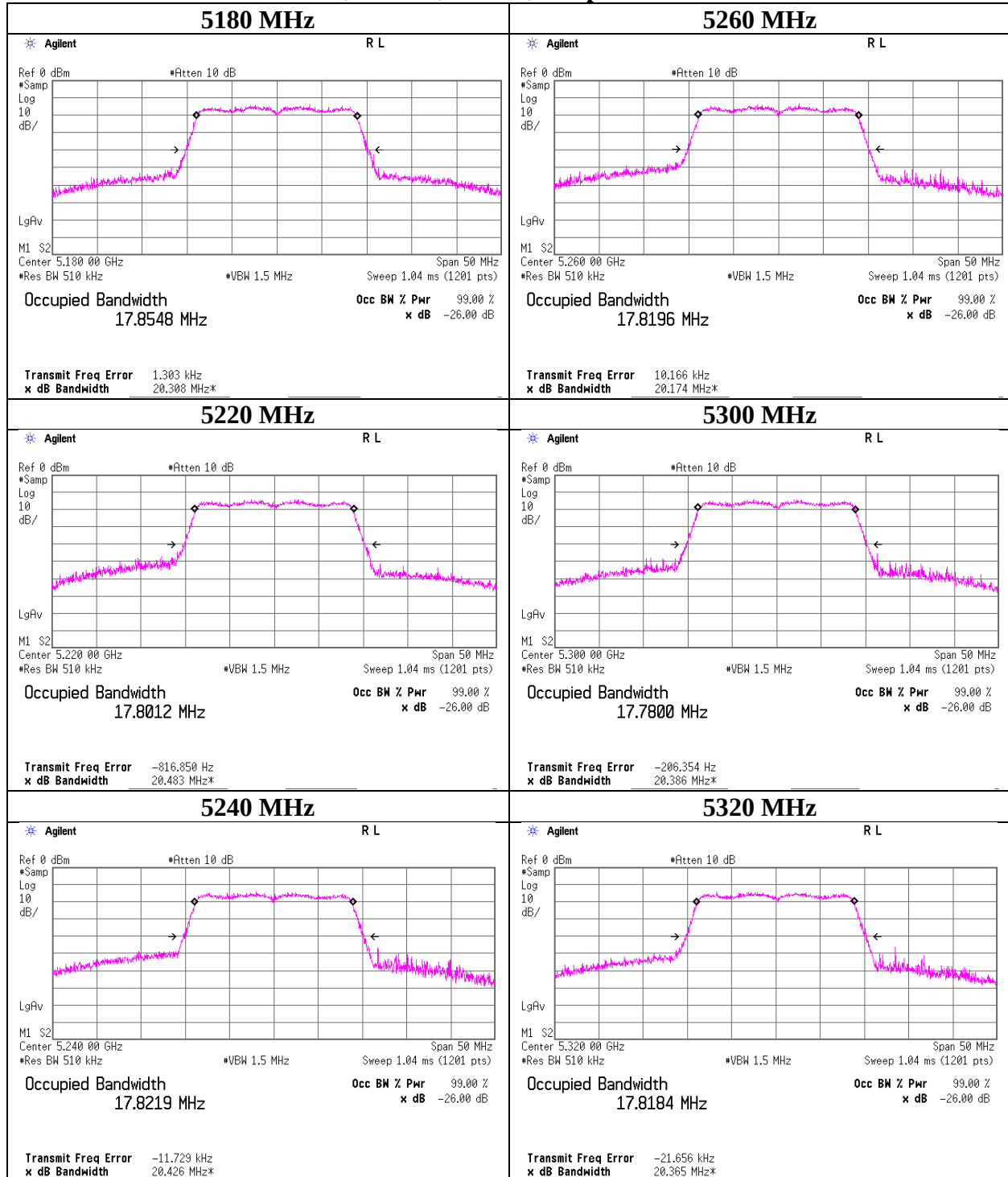
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

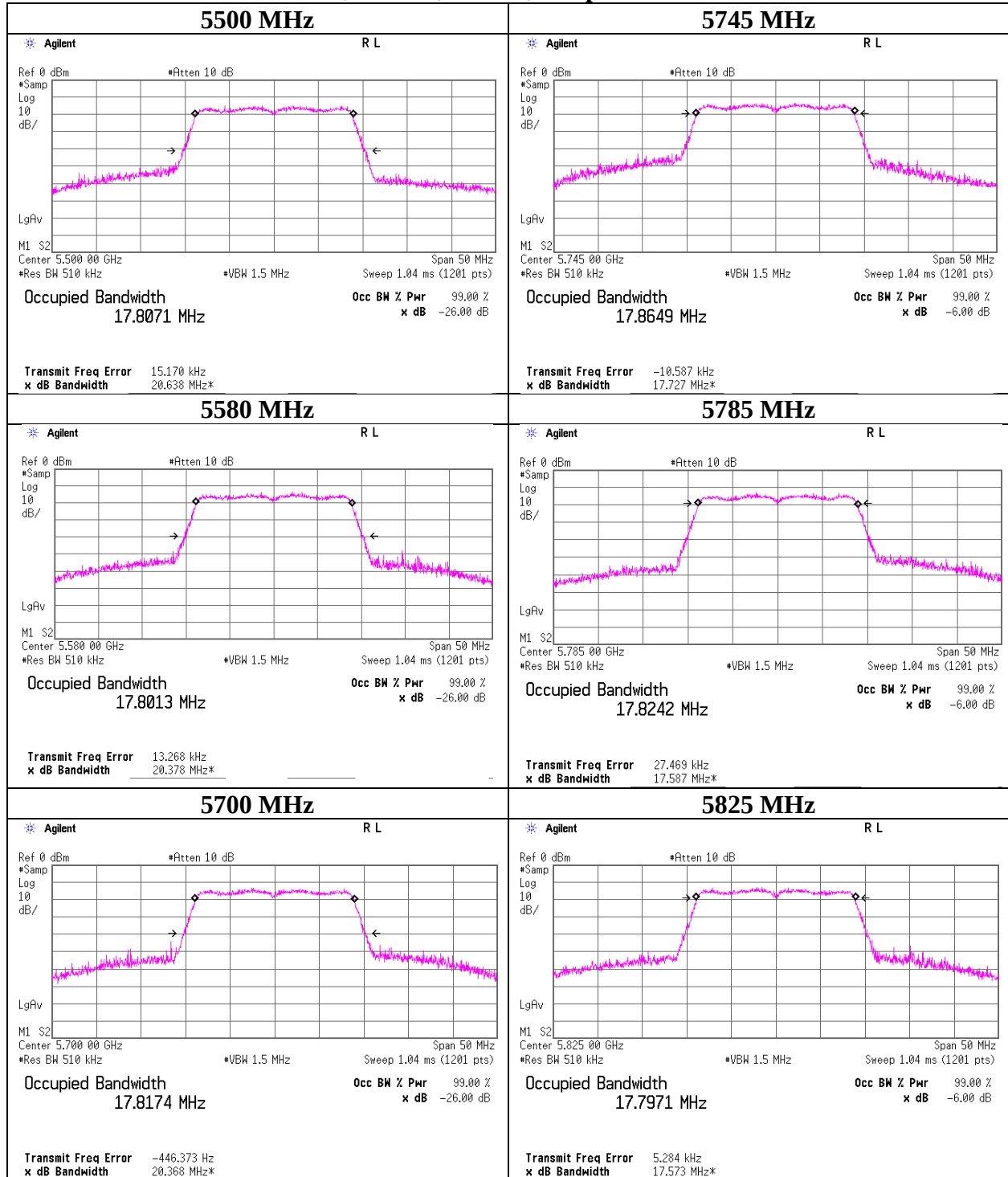
99 % Occupied Bandwidth

11ac, VHT20, MCS 0, low power mode



99 % Occupied Bandwidth

11ac, VHT20, MCS 0, low power mode



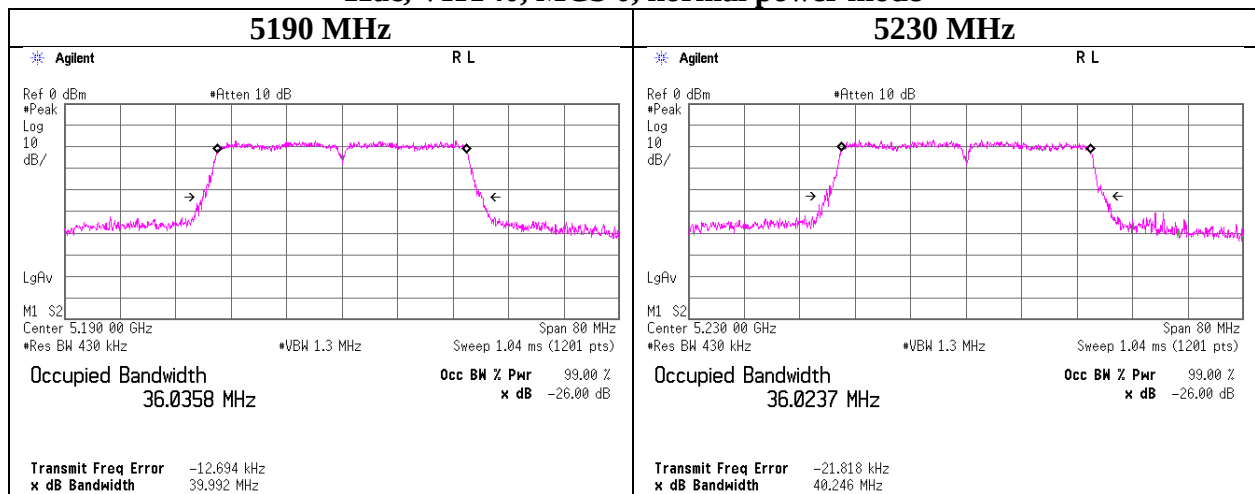
26 dB Emission Bandwidth and 99 % Occupied Bandwidth

Test place	Shonan EMC Lab. No.5 Shielded Room
Report No.	10882638S-N
Date	August 26, 2015
Temperature / Humidity	26 deg. C / 54 % RH
Engineer	Kenichi Adachi
Mode	Tx 11ac VHT40, normal power mode

11ac VHT40

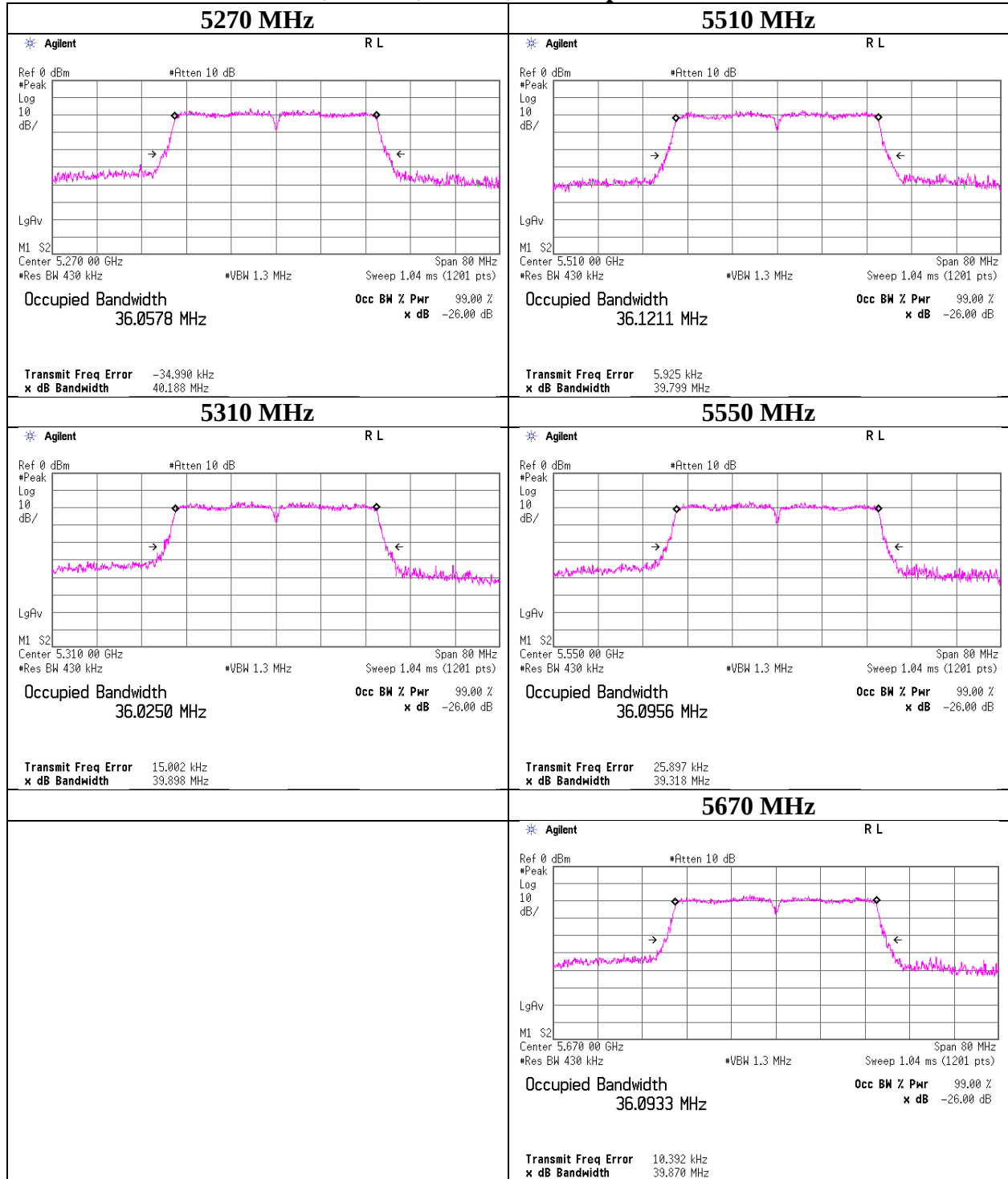
Tested Frequency [MHz]	26 dB Emission Bandwidth [MHz]	99 % Occupied Bandwidth [MHz]	Limit [MHz]
5190	39.992	36.238	-
-	-	-	-
5230	40.246	36.208	-
5270	40.188	36.262	-
-	-	-	-
5310	39.898	36.260	-
5510	39.799	36.230	-
5550	39.318	36.252	-
5670	39.870	36.288	-
5755	-	36.311	-
-	-	-	-
5795	-	36.271	-

11ac, VHT40, MCS 0, normal power mode



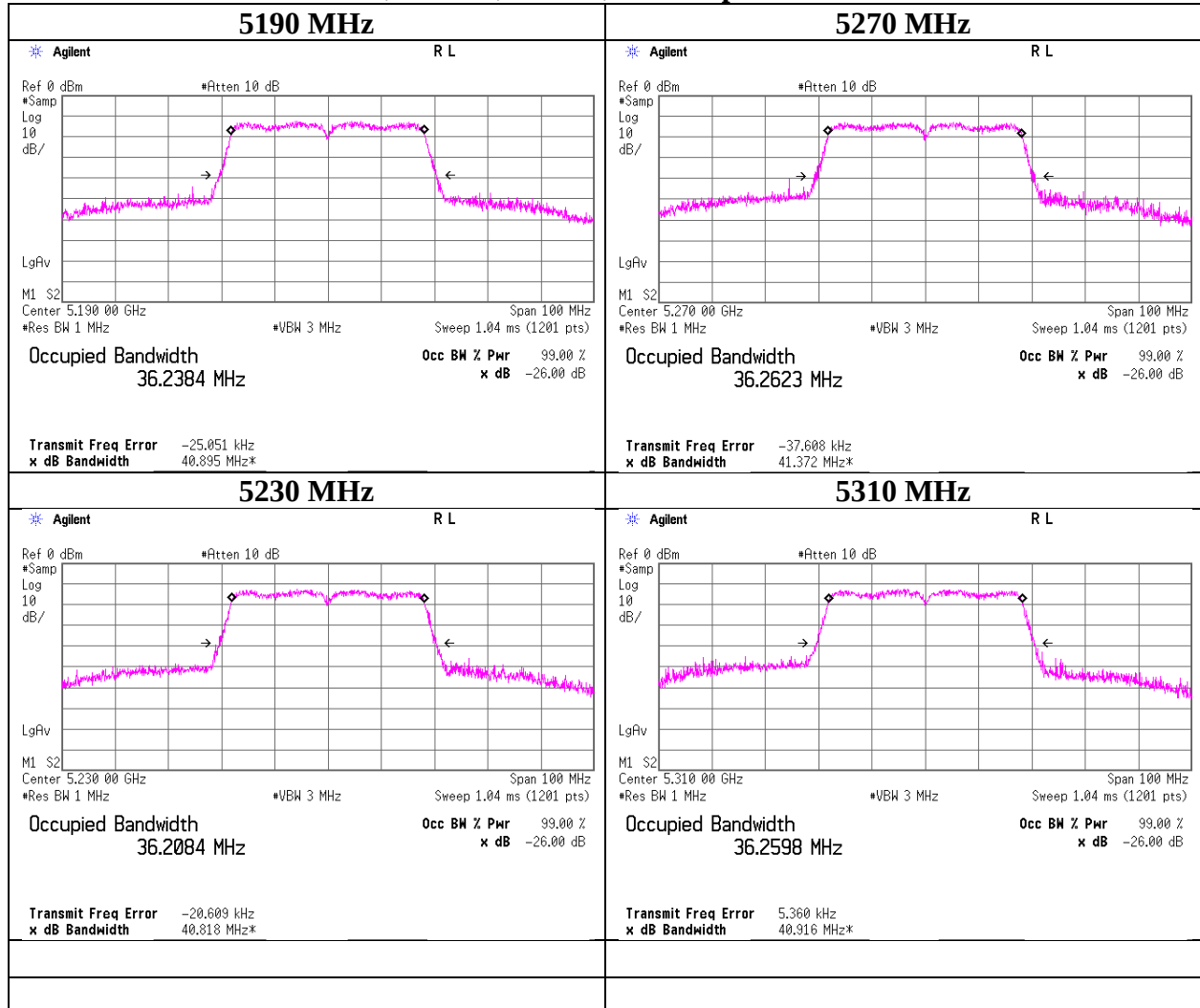
26 dB Emission Bandwidth

11ac, VHT40, MCS 0, normal power mode



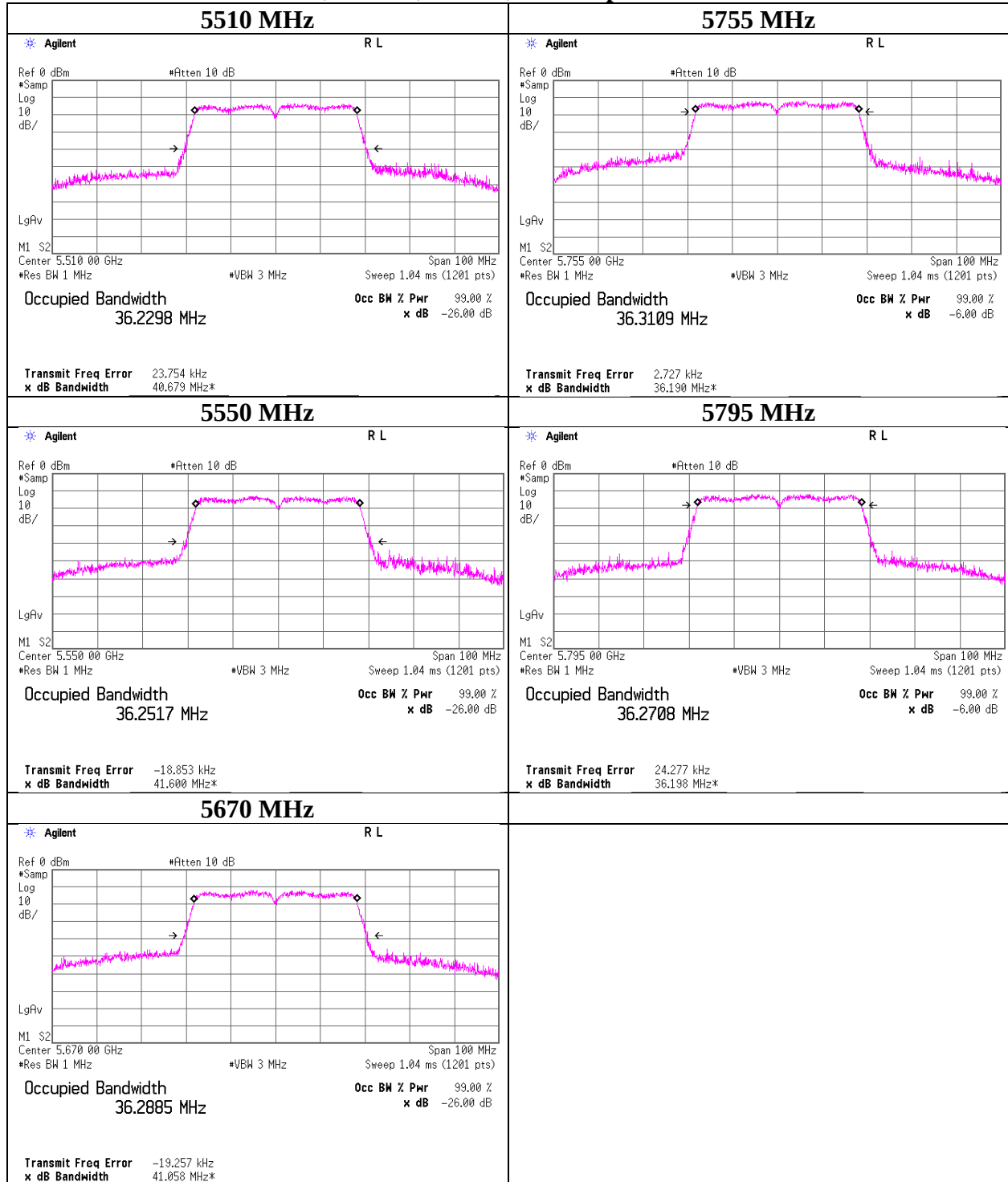
99 % Occupied Bandwidth

11ac, VHT40, MCS 0, normal power mode



99 % Occupied Bandwidth

11ac, VHT40, MCS 0, normal power mode



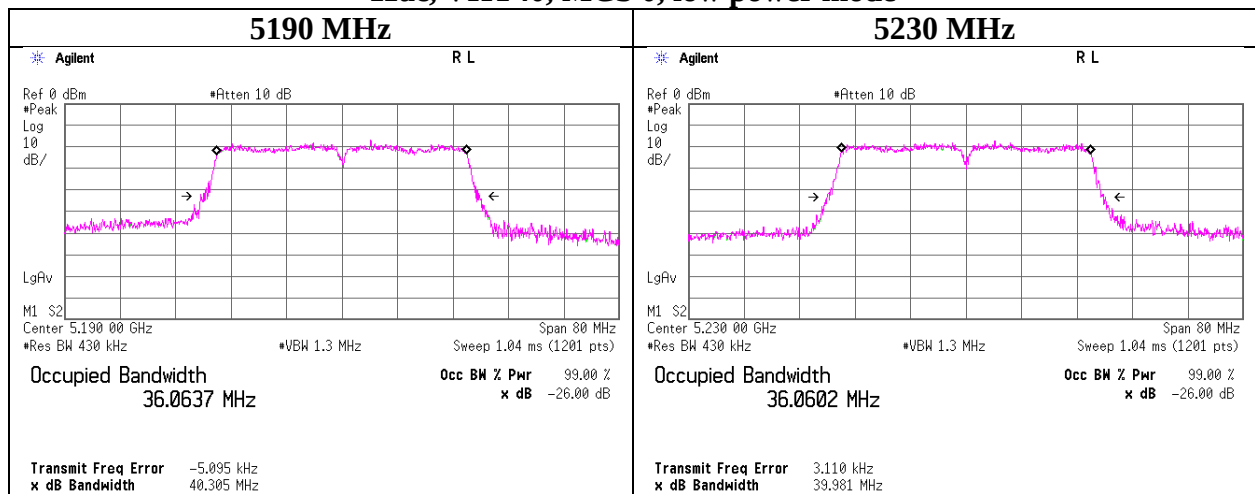
26 dB Emission Bandwidth and 99 % Occupied Bandwidth

Test place	Shonan EMC Lab. No.5 Shielded Room
Report No.	10882638S-N
Date	August 26, 2015
Temperature / Humidity	26 deg. C / 54 % RH
Engineer	Kenichi Adachi
Mode	Tx 11ac VHT40, low power mode

11ac VHT40

Tested Frequency [MHz]	26 dB Emission Bandwidth [MHz]	99 % Occupied Bandwidth [MHz]	Limit [MHz]
5190	40.305	36.282	-
-	-	-	-
5230	39.981	36.179	-
5270	39.641	36.311	-
-	-	-	-
5310	39.577	36.223	-
5510	40.534	36.209	-
5550	40.307	36.220	-
5670	40.061	36.282	-
5755	-	36.305	-
-	-	-	-
5795	-	36.247	-

11ac, VHT40, MCS 0, low power mode



UL Japan, Inc.

Shonan EMC Lab.

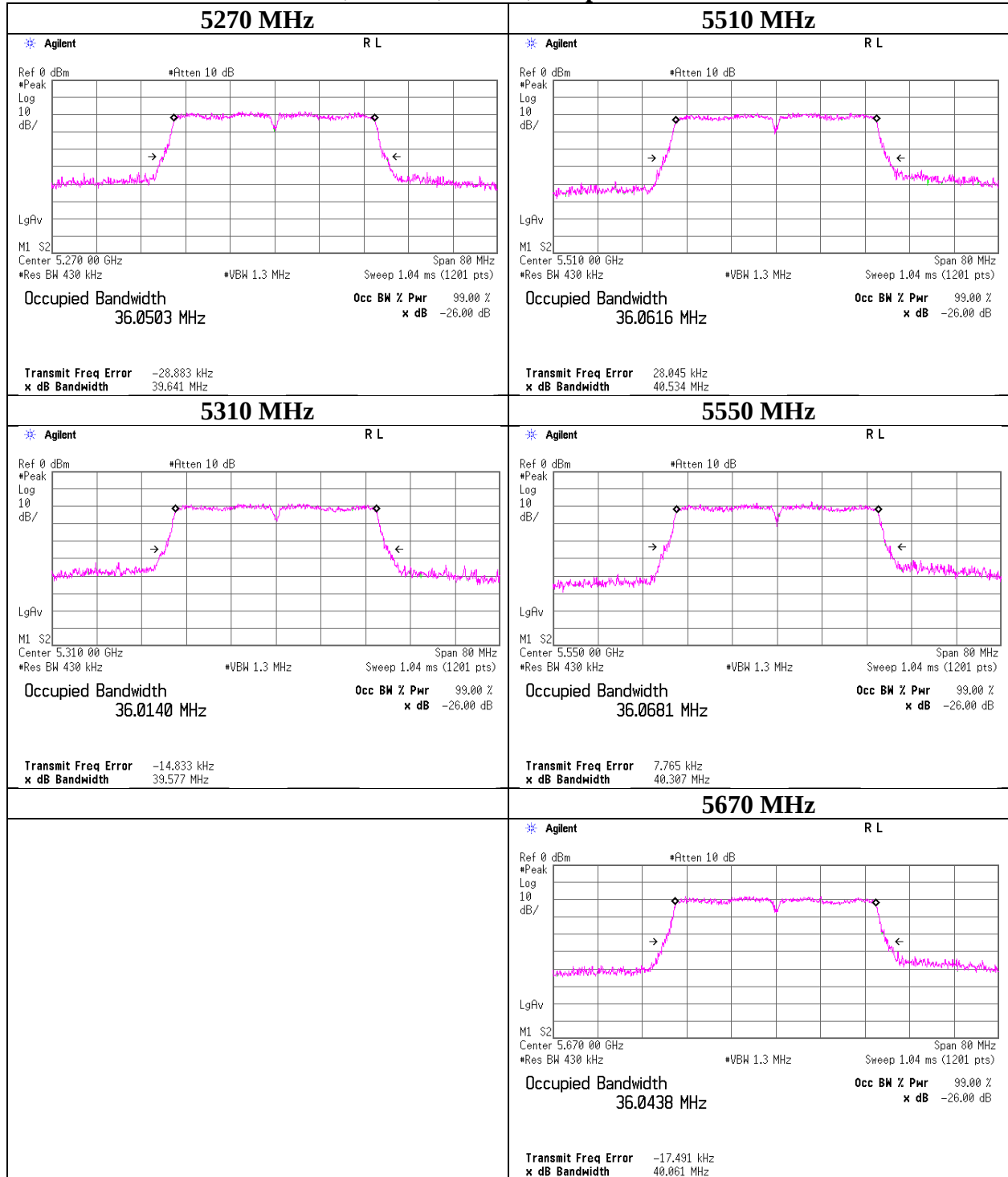
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

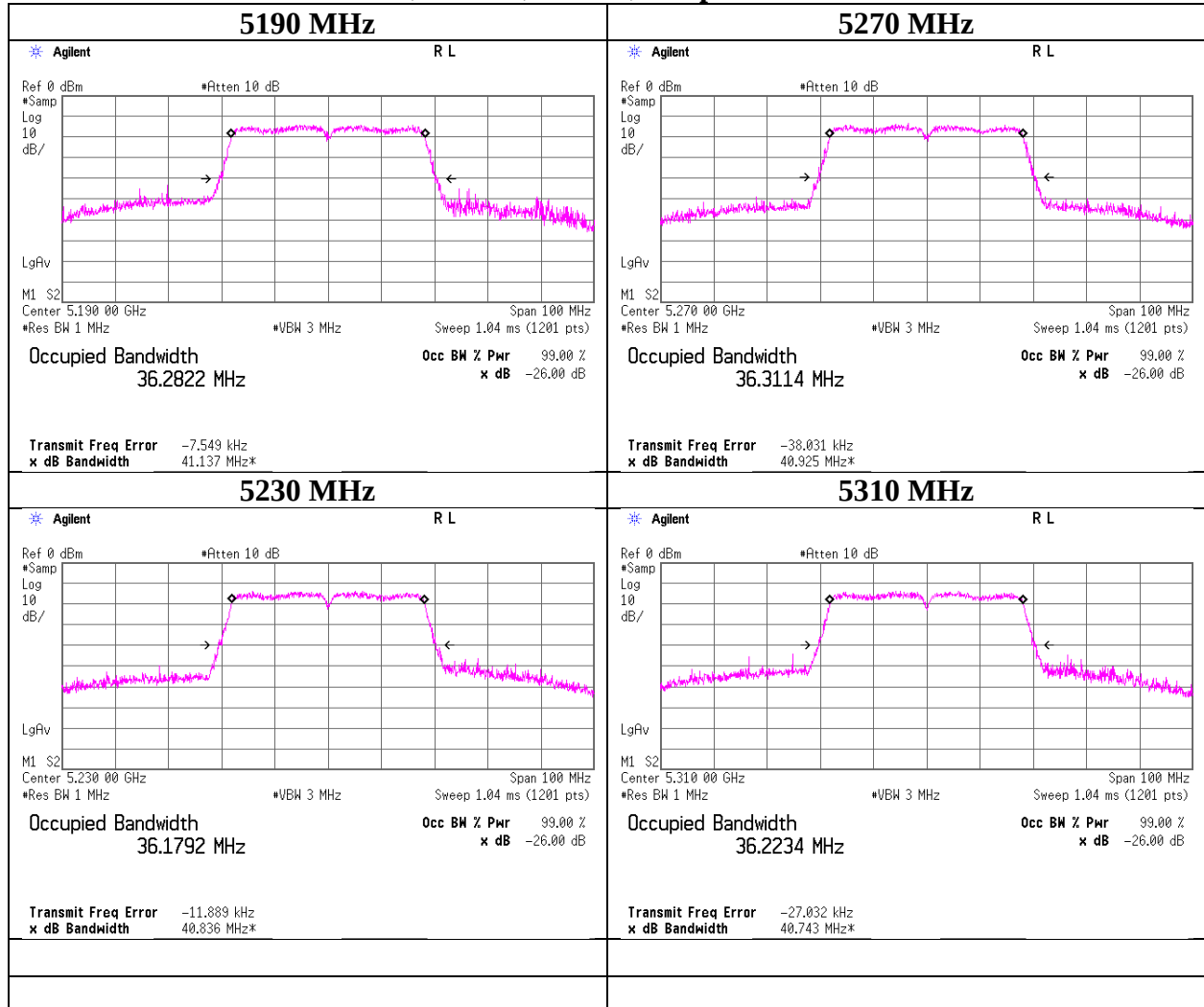
26 dB Emission Bandwidth

11ac, VHT40, MCS 0, low power mode



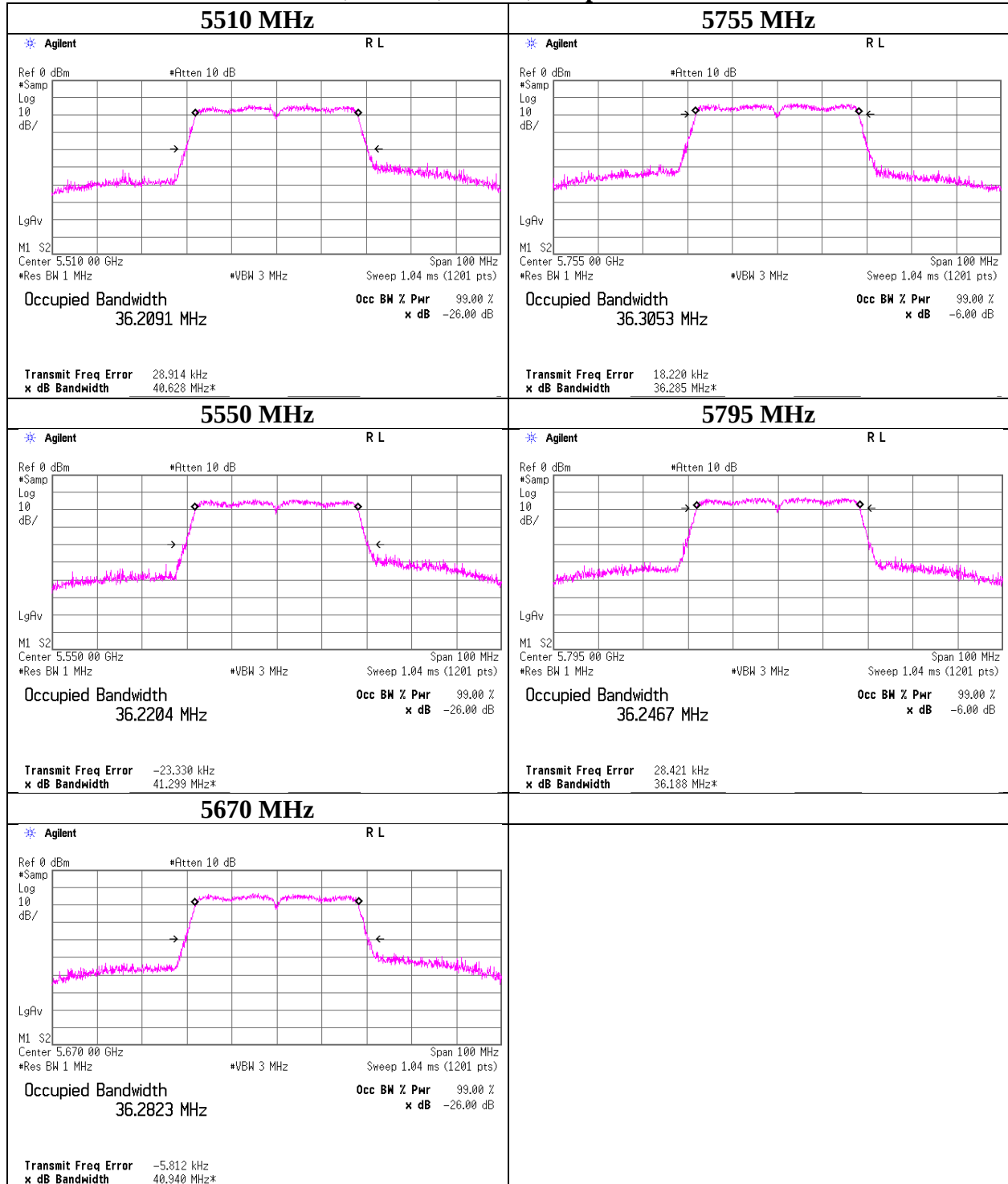
99 % Occupied Bandwidth

11ac, VHT40, MCS 0, low power mode



99 % Occupied Bandwidth

11ac, VHT40, MCS 0, low power mode



26 dB Emission Bandwidth and 99 % Occupied Bandwidth

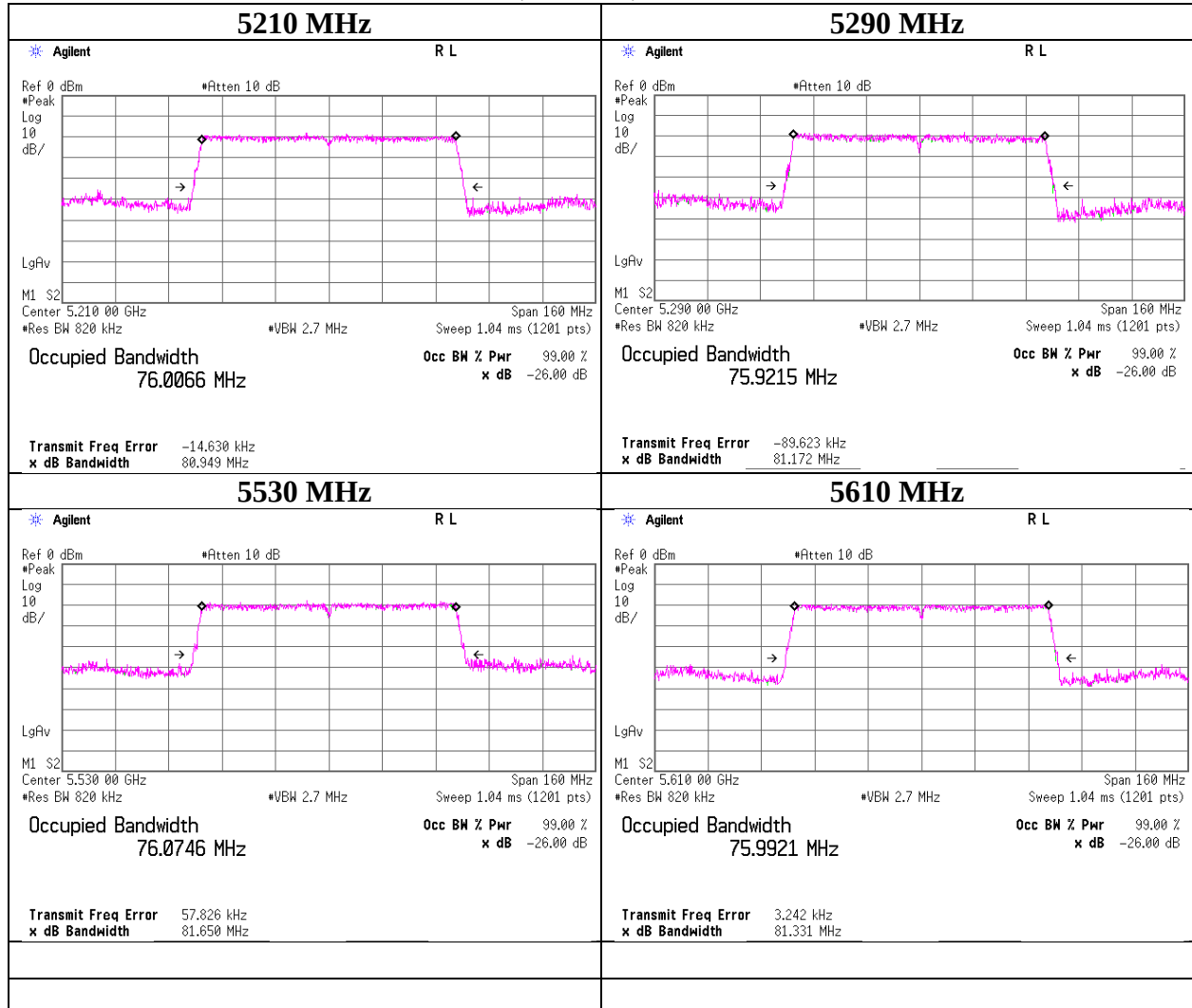
Test place Shonan EMC Lab. No.5 Shielded Room
Report No. 10882638S-N
Date August 27, 2015
Temperature / Humidity 26 deg. C / 50 % RH
Engineer Kenichi Adachi
Mode Tx 11ac VHT80

11ac VHT80

Tested Frequency [MHz]	26 dB Emission Bandwidth [MHz]	99 % Occupied Bandwidth [MHz]	Limit [MHz]
5210	80.949	76.739	-
-	-	-	-
-	-	-	-
5290	81.172	76.600	-
-	-	-	-
-	-	-	-
5530	81.650	76.688	-
-	-	-	-
5610	81.331	76.628	-
5775	-	76.556	-
-	-	-	-
-	-	-	-

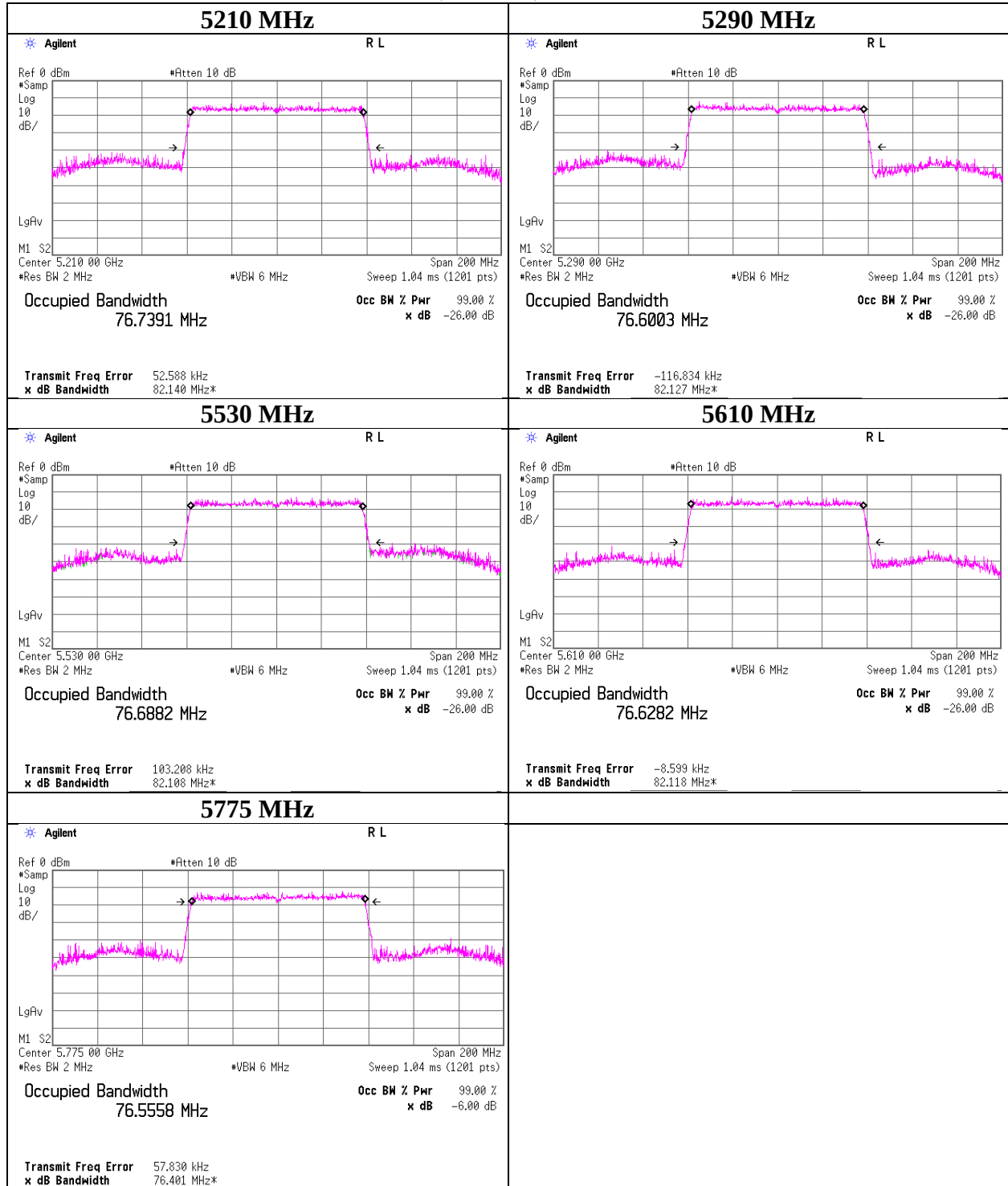
26 dB Emission Bandwidth

11ac, VHT80, MCS 0



99 % Occupied Bandwidth

11ac, VHT80, MCS 0



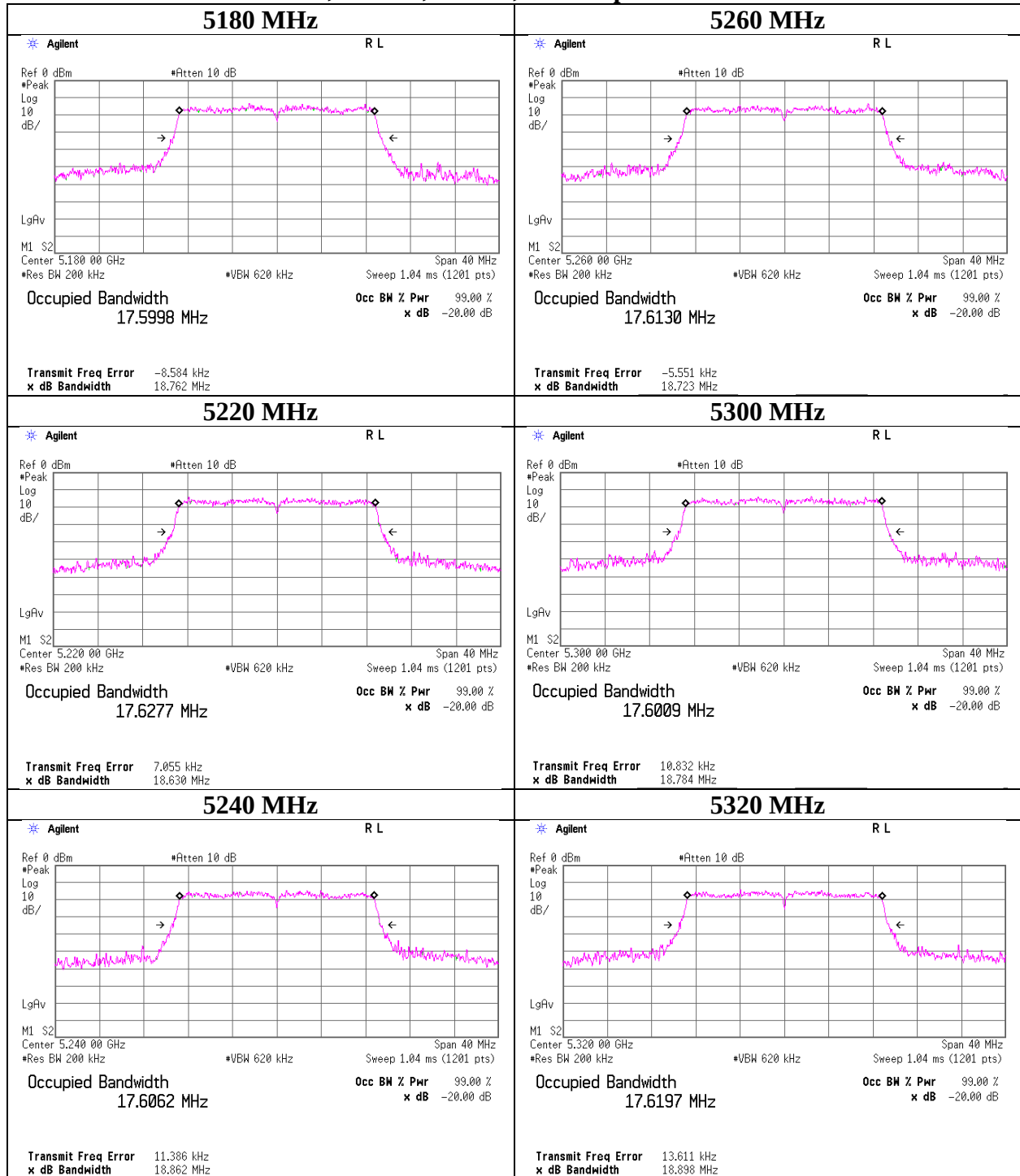
20 dB Emission Bandwidth

Test place Shonan EMC Lab. No.5 Shielded Room
Report No. 10882638S-N
Date August 26, 2015
Temperature / Humidity 26 deg. C / 54 % RH
Engineer Kenichi Adachi
Mode Tx 11ac VHT20, normal power mode

Tested Frequency [MHz]	20 dB Emission Bandwidth [MHz]
5180	18.762
5220	18.630
5240	18.862
5260	18.723
5300	18.784
5320	18.898
5500	18.638
5580	18.789
5700	18.838
5745	18.710
5785	18.861
5825	18.635

20 dB Emission Bandwidth

11ac, VHT20, MCS 0, normal power mode



UL Japan, Inc.

Shonan EMC Lab.

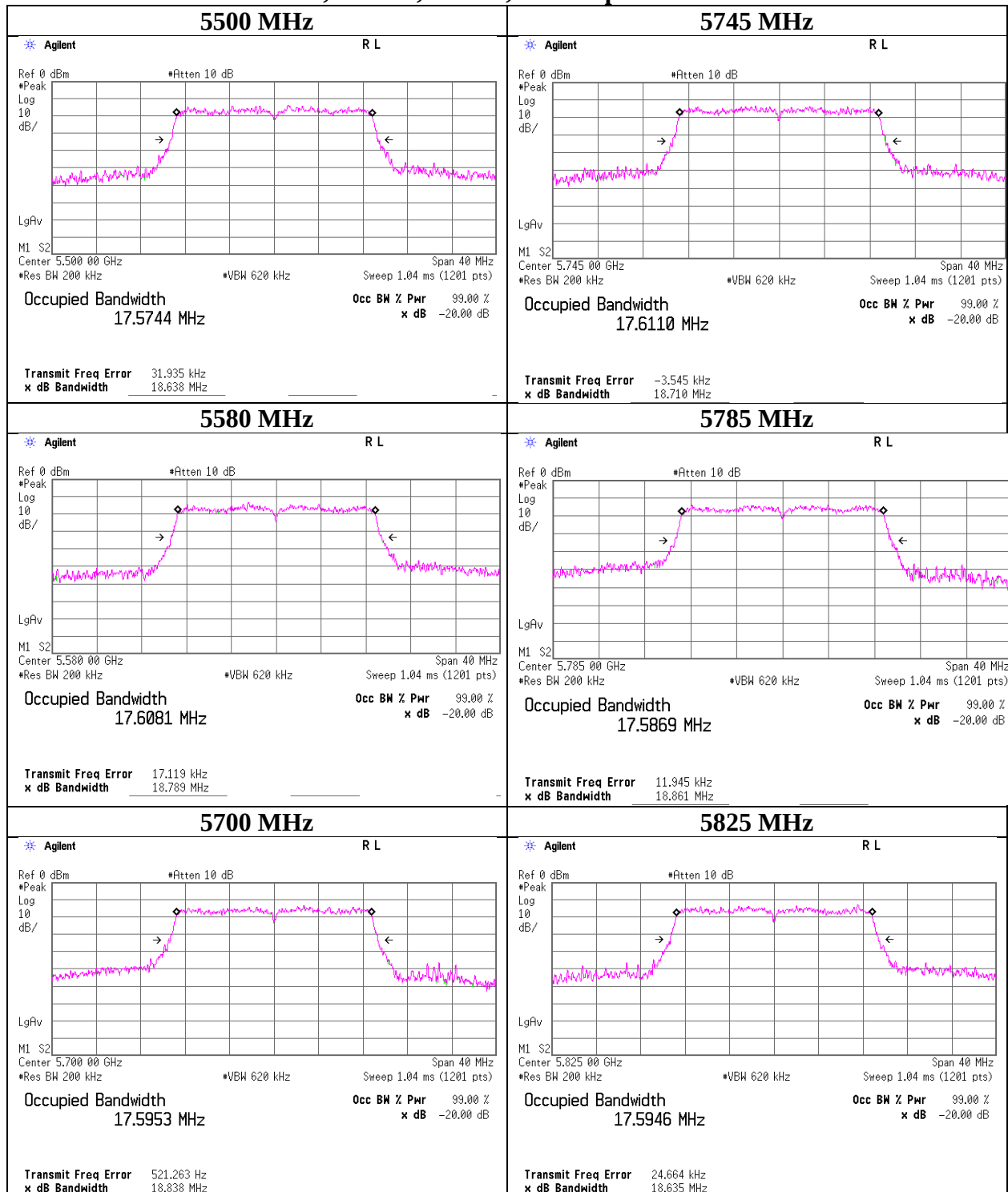
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

20 dB Emission Bandwidth

11ac, VHT20, MCS 0, normal power mode



UL Japan, Inc.

Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

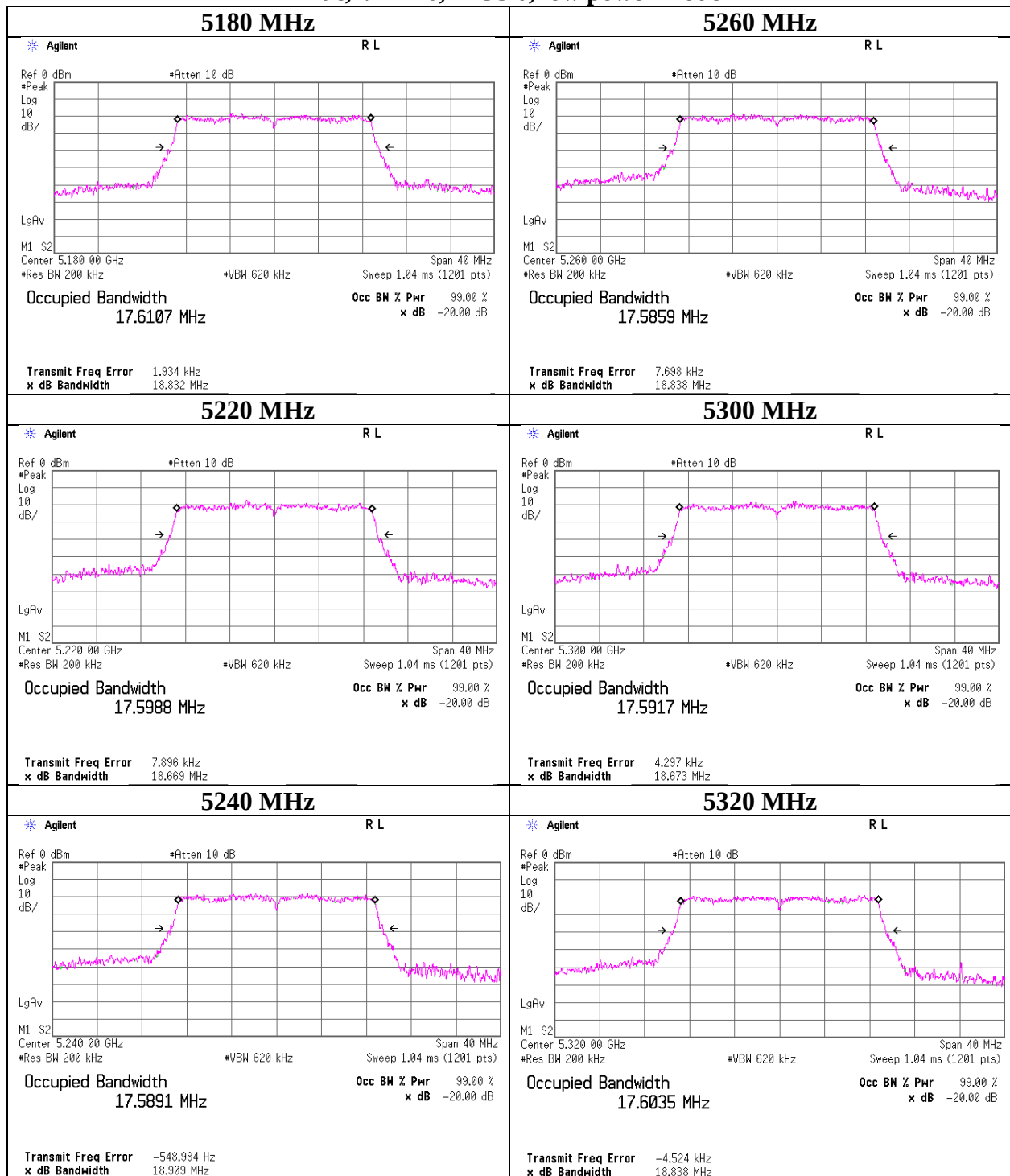
20 dB Emission Bandwidth

Test place Shonan EMC Lab. No.5 Shielded Room
Report No. 10882638S-N
Date August 26, 2015
Temperature / Humidity 26 deg. C / 54 % RH
Engineer Kenichi Adachi
Mode Tx 11ac VHT20, low power mode

Tested Frequency [MHz]	20 dB Emission Bandwidth [MHz]
5180	18.832
5220	18.669
5240	18.909
5260	18.838
5300	18.673
5320	18.839
5500	18.618
5580	18.721
5700	18.916
5745	18.729
5785	18.662
5825	18.661

20 dB Emission Bandwidth

11ac, VHT20, MCS 0, low power mode



UL Japan, Inc.

Shonan EMC Lab.

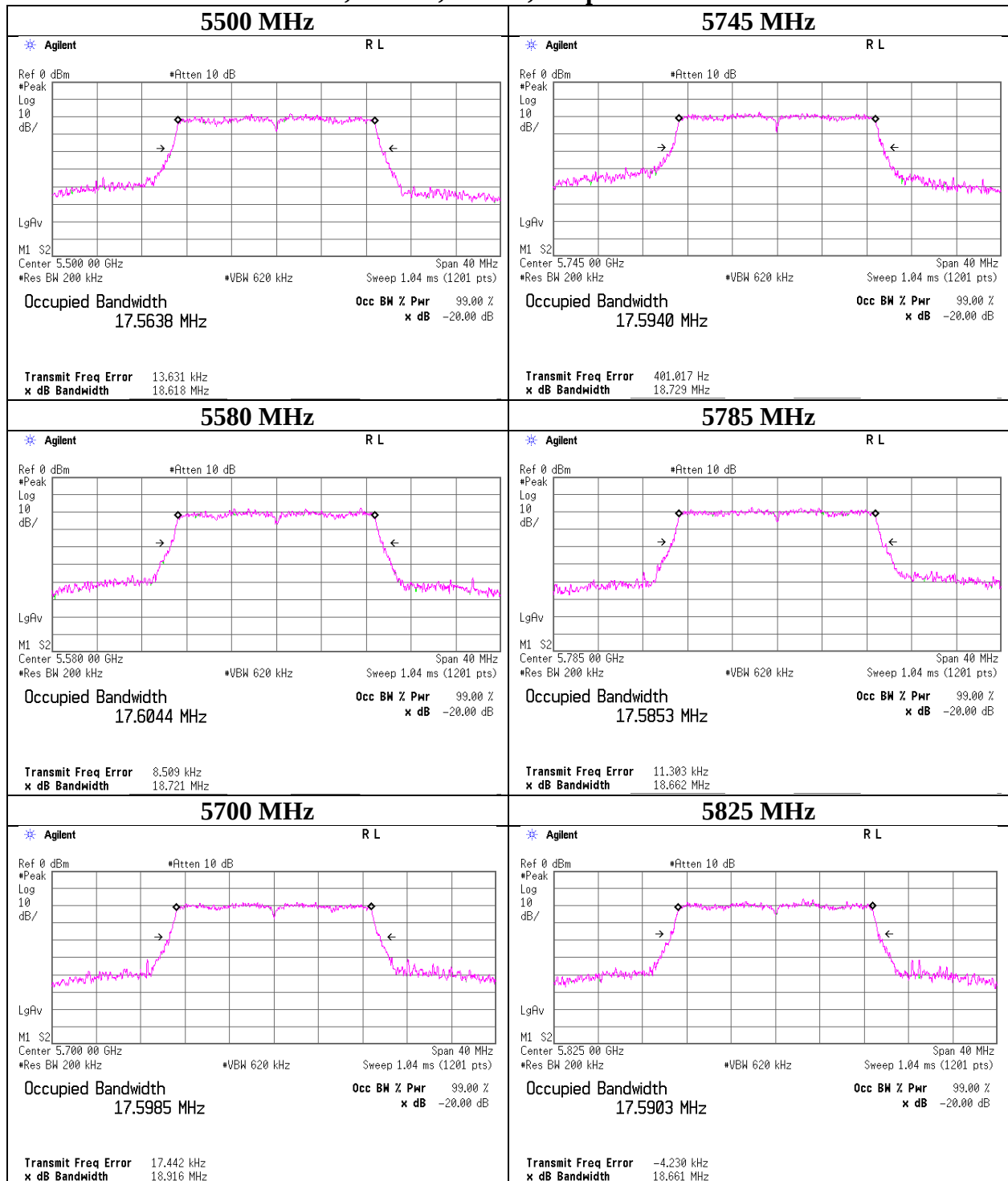
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

20 dB Emission Bandwidth

11ac, VHT20, MCS 0, low power mode



UL Japan, Inc.

Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

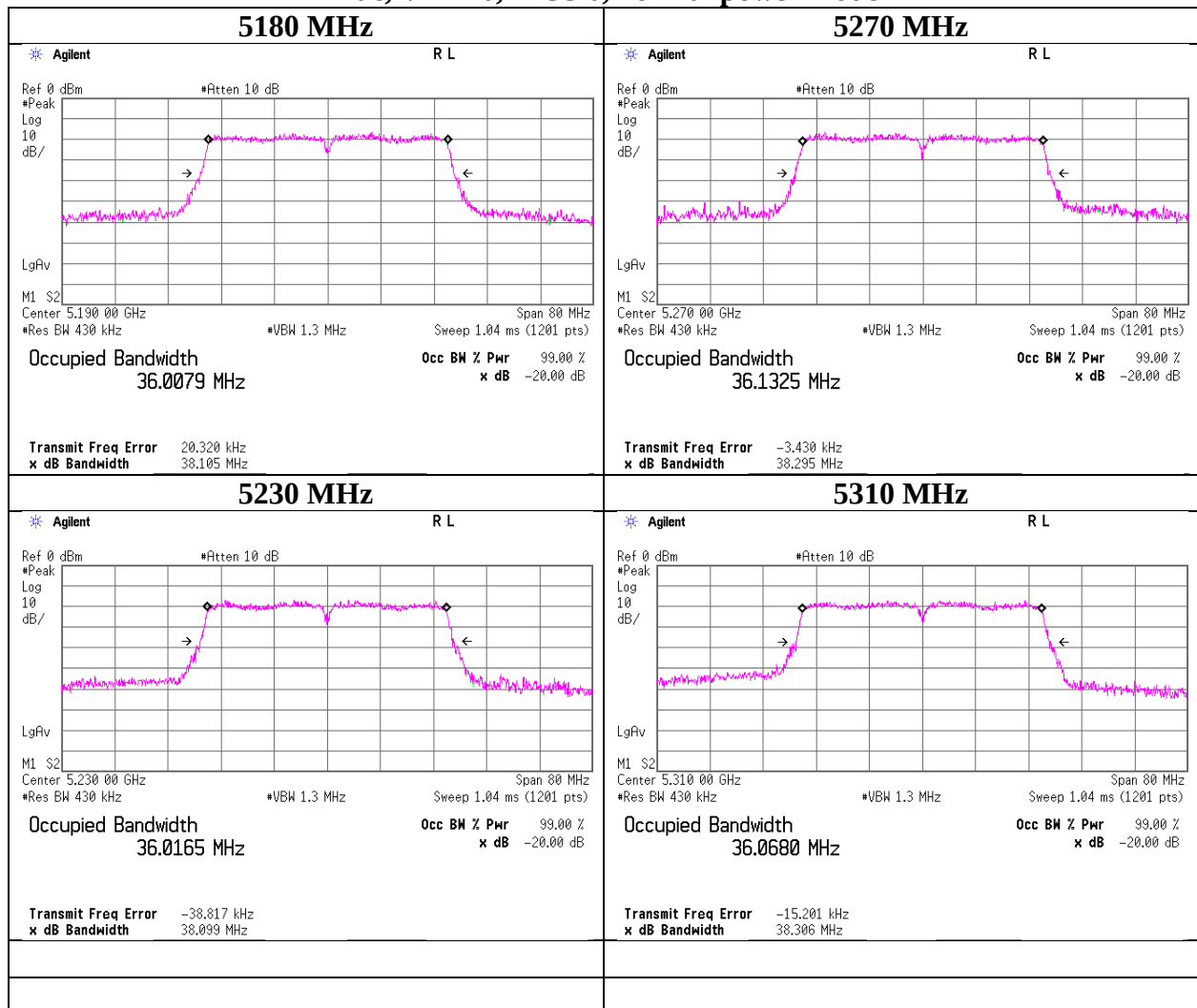
20 dB Emission Bandwidth

Test place : Shonan EMC Lab. No.5 Shielded Room
Report No. : 10882638S-N
Date : August 26, 2015
Temperature / Humidity : 26 deg. C / 54 % RH
Engineer : Kenichi Adachi
Mode : Tx 11ac VHT40, normal power mode

Tested Frequency [MHz]	20 dB Emission Bandwidth [MHz]
5190	38.106
5230	38.099
5270	38.295
5310	38.306
5510	38.158
5550	38.144
5670	38.125
5755	38.572
5795	38.229

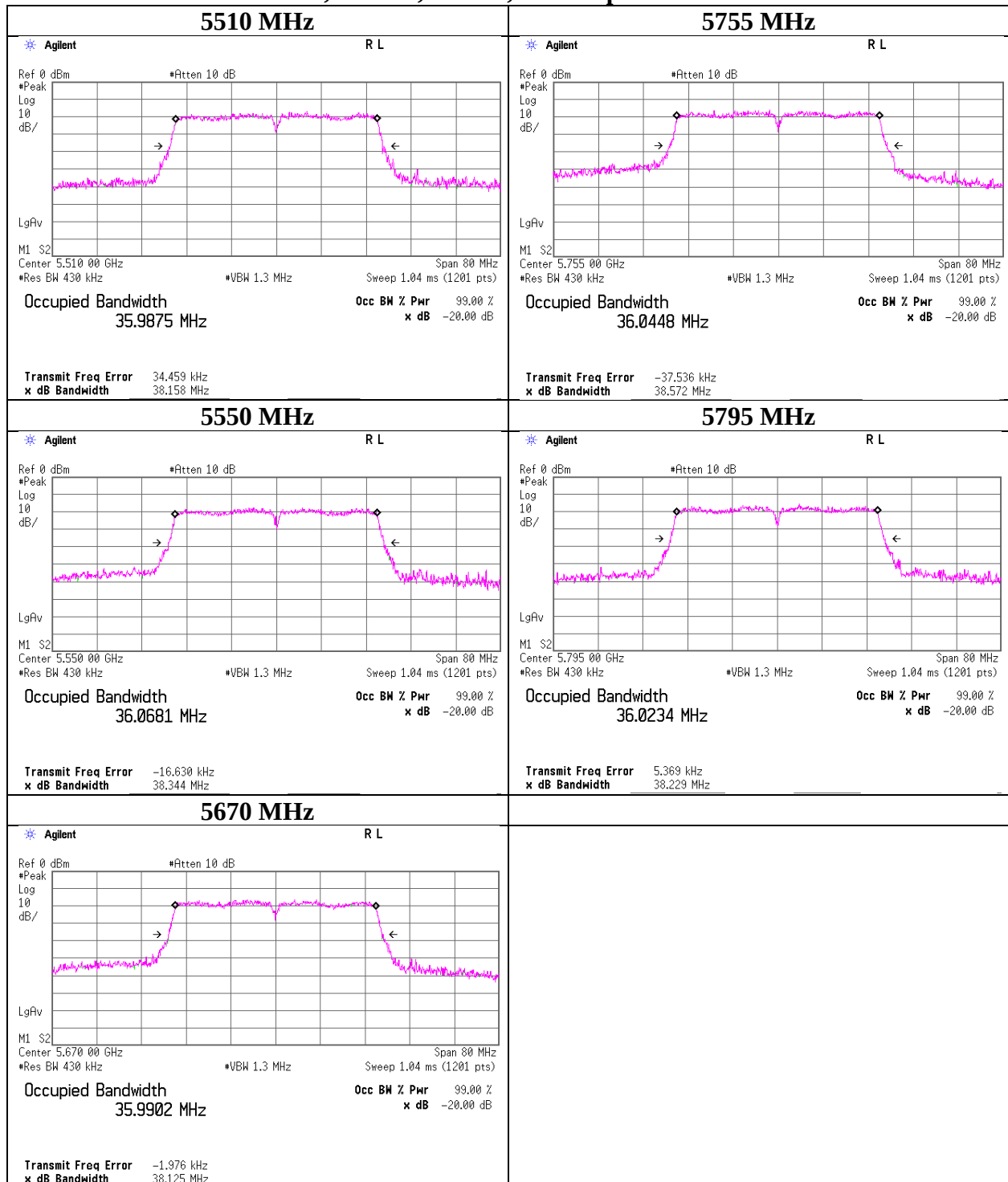
20 dB Emission Bandwidth

11ac, VHT40, MCS 0, normal power mode



20 dB Emission Bandwidth

11ac, VHT40, MCS 0, normal power mode



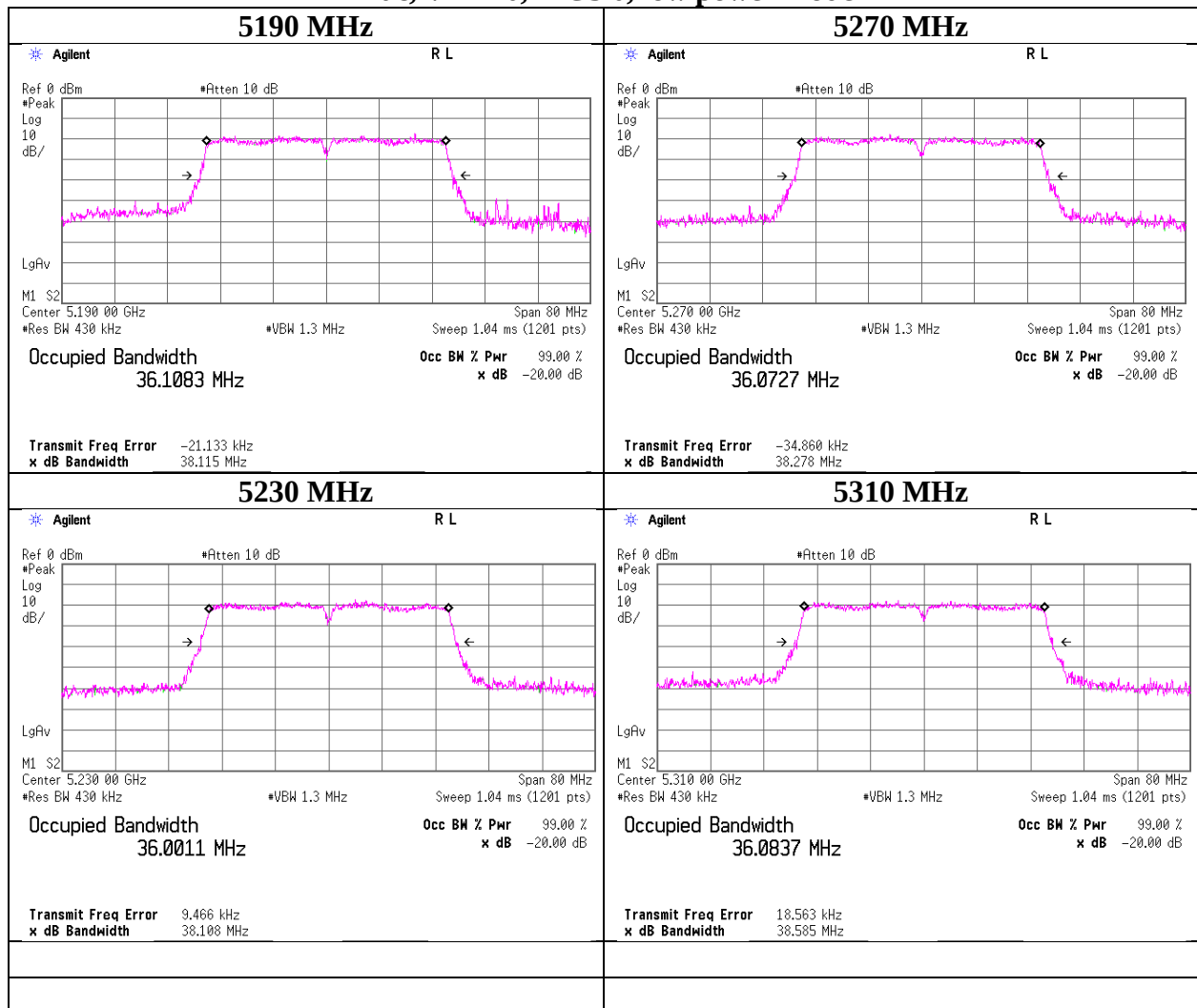
20 dB Emission Bandwidth

Test place Shonan EMC Lab. No.5 Shielded Room
Report No. 10882638S-N
Date August 26, 2015
Temperature / Humidity 26 deg. C / 54 % RH
Engineer Kenichi Adachi
Mode Tx 11ac VHT40, low power mode

Tested Frequency [MHz]	20 dB Emission Bandwidth [MHz]
5190	38.115
5230	38.108
5270	38.278
5310	38.585
5510	38.184
5550	38.162
5670	38.569
5755	38.189
5795	38.094

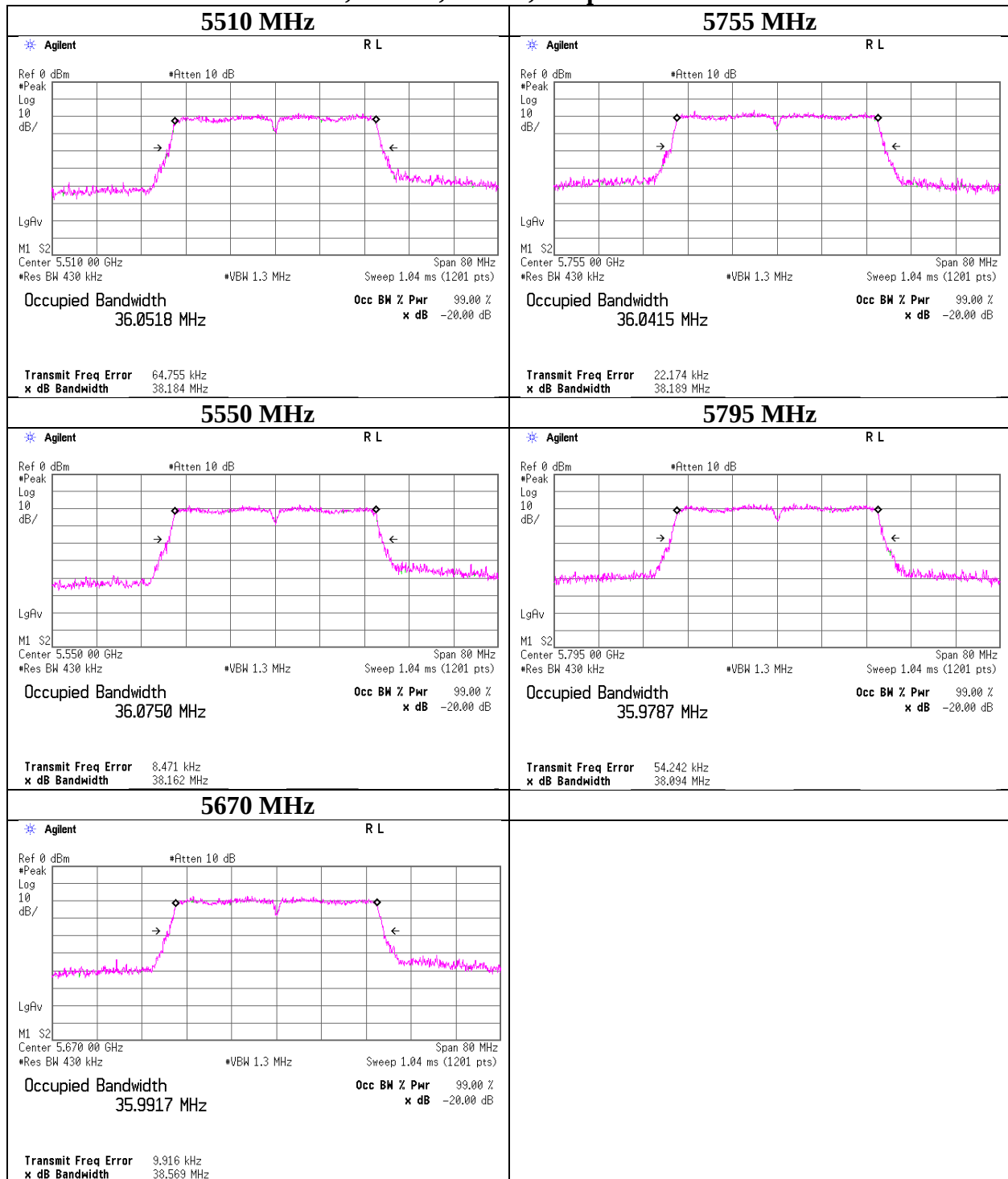
20 dB Emission Bandwidth

11ac, VHT40, MCS 0, low power mode



20 dB Emission Bandwidth

11ac, VHT40, MCS 0, low power mode



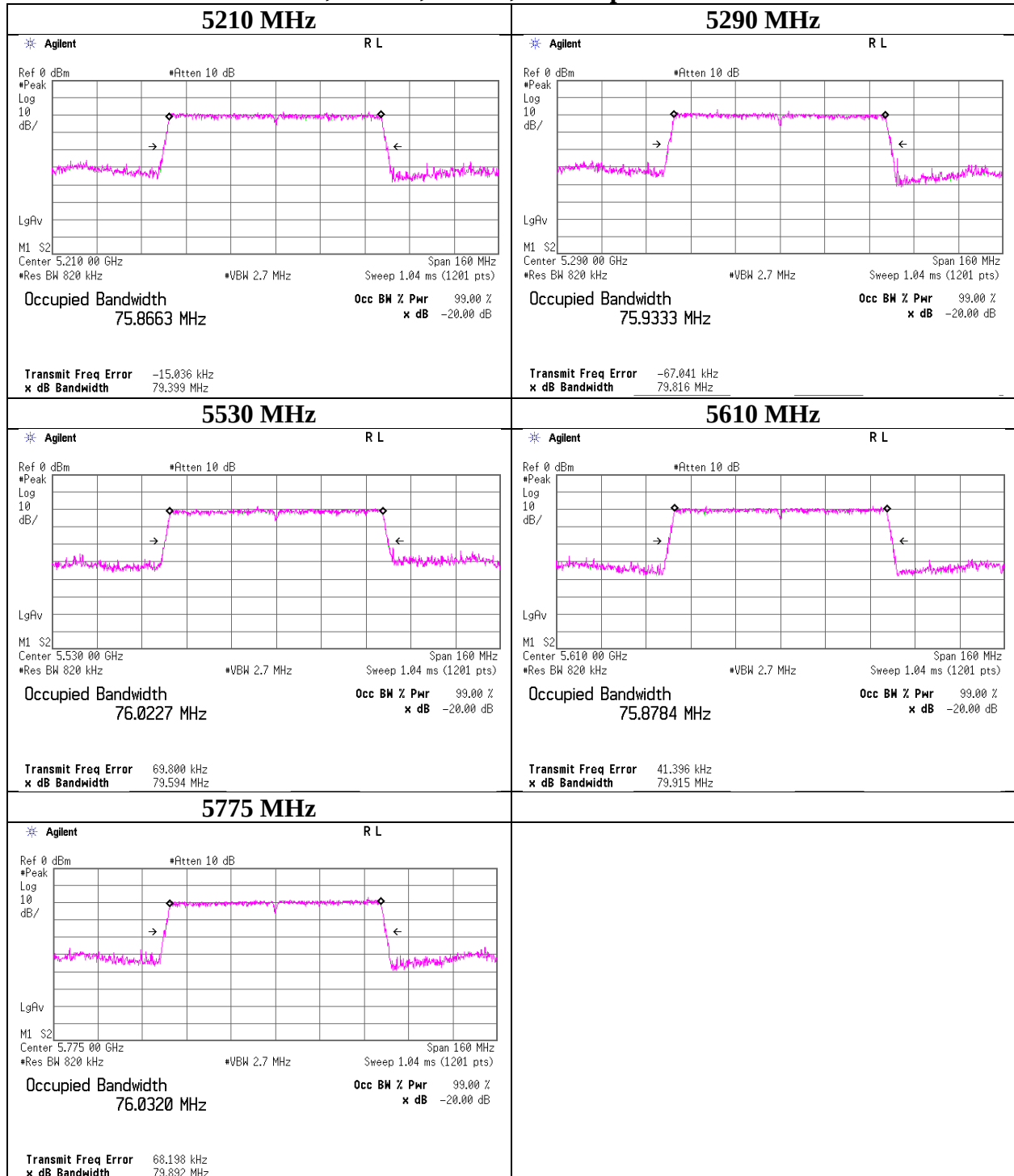
20 dB Emission Bandwidth

Test place Shonan EMC Lab. No.5 Shielded Room
Report No. 10882638S-N
Date August 27, 2015
Temperature / Humidity 26 deg. C / 50 % RH
Engineer Kenichi Adachi
Mode Tx 11ac VHT80

Tested Frequency [MHz]	20 dB Emission Bandwidth [MHz]
5210	79.399
5290	79.816
5530	79.595
5610	79.915
5775	79.892

20 dB Emission Bandwidth

11ac, VHT80, MCS 0, normal power mode



6 dB Bandwidth

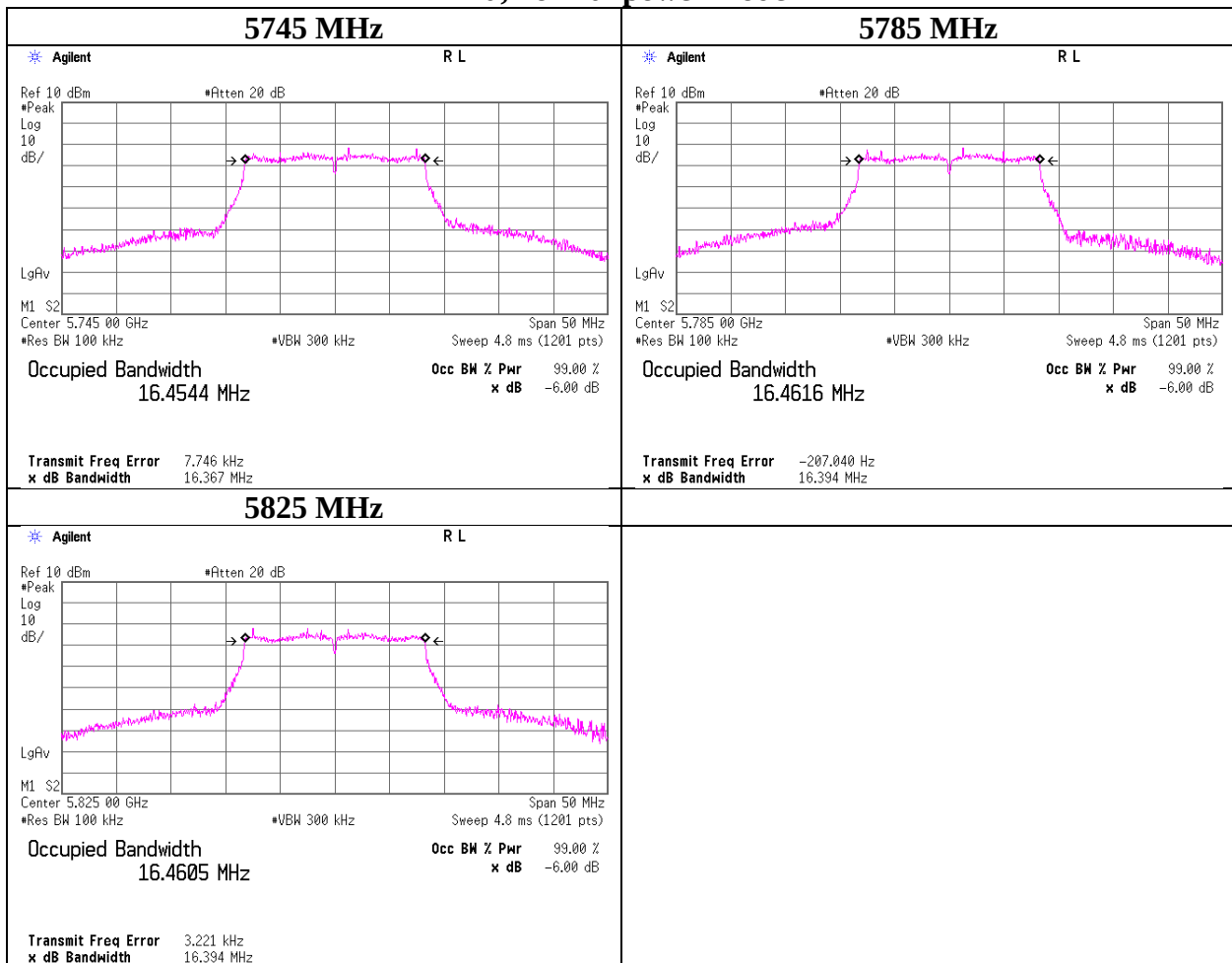
Test place	Shonan EMC Lab. No.1 Measurement Room
Report No.	10882638S-N
Date	August 25, 2015
Temperature / Humidity	25 deg. C / 49 % RH
Engineer	Kenichi Adachi
Mode	Tx 11a, normal power mode *1)

*1) 11a mode was omitted only to the normal power because it was the normal power and the low power, and there was no difference the normal power and the low power in 11ac mode.

11a, normal power mode

Tested Frequency [MHz]	6 dB Bandwidth [MHz]	Limit [kHz]
5745	16.367	> 500
5785	16.394	> 500
5825	16.394	> 500

11a, normal power mode



UL Japan, Inc.

Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

6 dB Bandwidth

Test place Shonan EMC Lab. No.5 Shielded Room
Report No. 10882638S-N
Date August 26, 2015
Temperature / Humidity 26 deg. C / 54 % RH
Engineer Kenichi Adachi
Mode Tx 11ac VHT20

11ac VHT20, normal power mode

Tested Frequency [MHz]	6 dB Bandwidth [MHz]	Limit [kHz]
5745	17.624	> 500
5785	17.636	> 500
5825	17.336	> 500

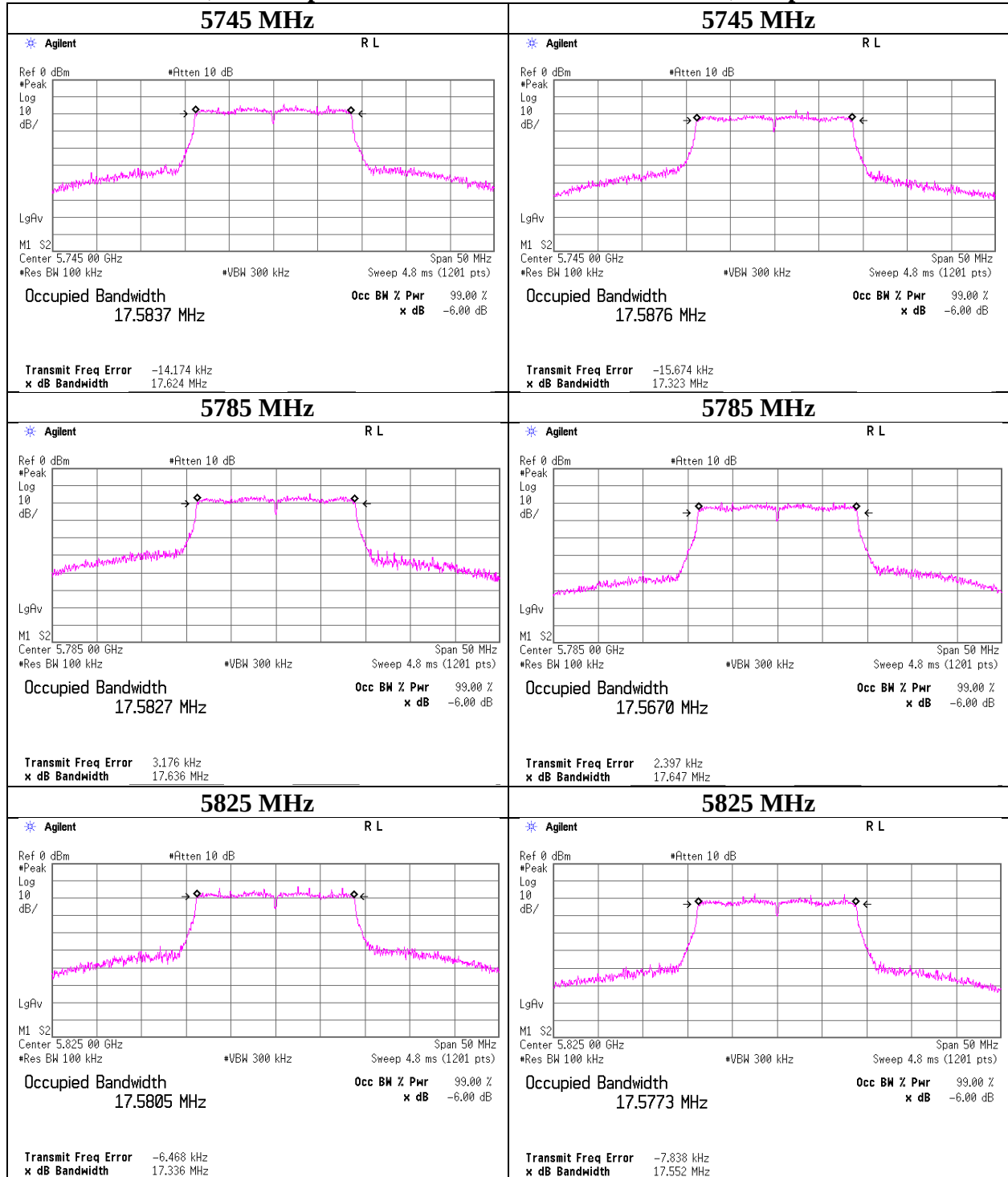
11ac VHT20, low power mode

Tested Frequency [MHz]	6 dB Bandwidth [MHz]	Limit [kHz]
5745	17.323	> 500
5785	17.647	> 500
5825	17.552	> 500

6 dB Bandwidth

11ac VHT20, normal power mode

11ac VHT20, low power mode



6 dB Bandwidth

Test place Shonan EMC Lab. No.5 Shielded Room
Report No. 10882638S-N
Date August 26, 2015
Temperature / Humidity 26 deg. C / 54 % RH
Engineer Kenichi Adachi
Mode Tx 11ac VHT40

11ac VHT40, normal power mode

Tested Frequency [MHz]	6 dB Bandwidth [MHz]	Limit [kHz]
5755	35.674	> 500
5795	35.698	> 500

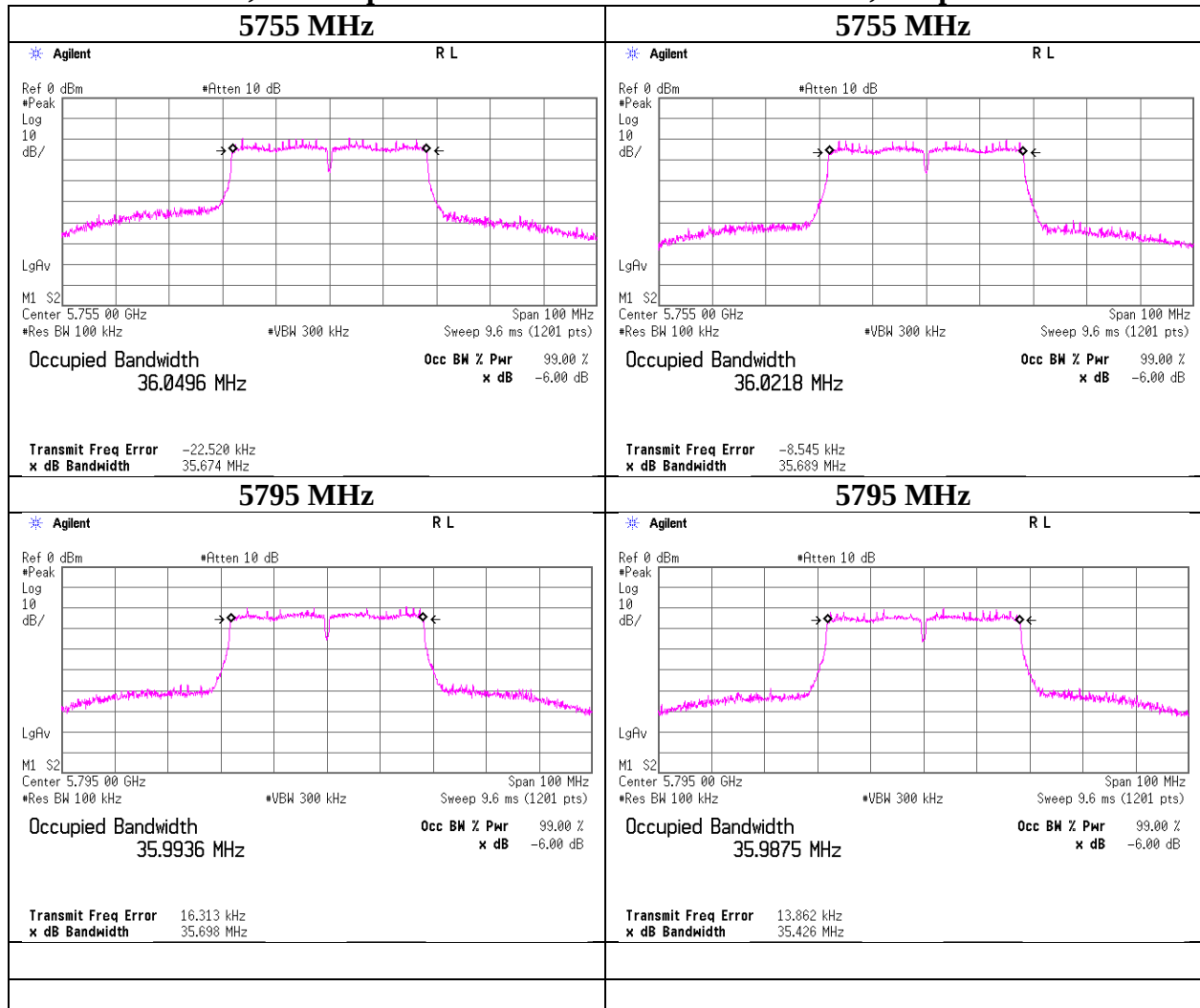
11ac VHT40, low power mode

Tested Frequency [MHz]	6 dB Bandwidth [MHz]	Limit [kHz]
5755	35.689	> 500
5795	35.426	> 500

6 dB Bandwidth

11ac VHT40, normal power mode

11ac VHT40, low power mode



UL Japan, Inc.

Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

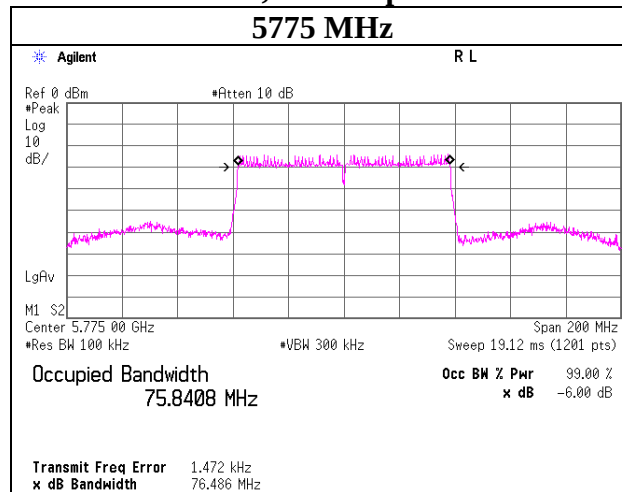
6 dB Bandwidth

Test place	Shonan EMC Lab. No.5 Shielded Room
Report No.	10882638S-N
Date	August 27, 2015
Temperature / Humidity	26 deg. C / 50 % RH
Engineer	Kenichi Adachi
Mode	Tx 11ac VHT80

11ac VHT80, normal power mode

Tested Frequency [MHz]	6 dB Bandwidth [MHz]	Limit [kHz]
5775	76.486	> 500

11ac VHT80, normal power mode



Maximum Conducted Output Power

Test place	Shonan EMC Lab. No.1 Measurement Room		
Report No.	10882638S-N		
Date	August 7, 2015	August 10, 2015	August 11, 2015
Temperature / Humidity	24deg. C / 48 % RH	26 deg.C, 49%RH	26 deg.C, 49%RH
Engineer	Shinichi Takano	Tomohiro Hara	Tomohiro Hara
Mode	Tx 11a, normal power mode		

11a, normal power

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	Power Meter Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty Factor [dB]	Antenna Gain [dBi]	26 dB EBW (B for FCC) [MHz]	99% OBW (B for IC) [MHz]	Conducted Power				e.i.r.p.			
								Result	Limit	Margin		Result	Limit	Margin	
								[dBm]	[mW]	[dBm]	[dB]	[dBm]	[mW]	[dBm]	[dB]
5180	-0.33	2.53	10.04	0.03	-1.32	19.581	16.945	12.27	16.86	23.97	11.70	10.95	12.44	29.97	19.02
5220	-0.44	2.52	10.04	0.03	-1.32	19.208	16.937	12.15	16.40	23.97	11.82	10.83	12.10	29.97	19.14
5240	-0.50	2.51	10.04	0.03	-1.32	19.157	17.003	12.08	16.13	23.97	11.89	10.76	11.91	29.97	19.21
5260	-0.53	2.51	10.05	0.03	-1.32	18.962	16.923	12.06	16.06	23.77	11.71	10.74	11.85	29.97	19.23
5300	-0.47	2.50	10.05	0.03	-1.32	19.155	16.912	12.11	16.25	23.82	11.71	10.79	11.99	29.97	19.18
5320	-0.46	2.49	10.05	0.03	-1.32	18.929	16.915	12.11	16.25	23.77	11.66	10.79	11.99	29.97	19.18
5500	-0.47	2.45	10.05	0.03	0.30	19.261	16.939	12.06	16.06	23.84	11.78	12.36	17.21	29.97	17.61
5580	-0.49	2.46	10.05	0.03	0.30	19.401	16.946	12.05	16.02	23.87	11.82	12.35	17.17	29.97	17.62
5700	-0.53	2.47	10.05	0.03	0.30	19.259	16.991	12.02	15.91	23.84	11.82	12.32	17.05	29.97	17.65
5745	-0.49	2.47	10.05	0.03	-0.43	-	-	12.06	16.06	30.00	17.94	11.63	14.55	36.00	24.37
5785	-0.39	2.47	10.06	0.03	-0.43	-	-	12.17	16.47	30.00	17.83	11.74	14.92	36.00	24.26
5825	-0.37	2.48	10.06	0.03	-0.43	-	-	12.20	16.59	30.00	17.80	11.77	15.02	36.00	24.23

Sample Calculation:

Conducted Power Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Duty Factor

e.i.r.p. Result = Conducted Power Result + Antenna Gain

Conducted Power Limit (5250 MHz-5350 MHz, 5470 MHz-5725 MHz) = 250 mW or (11 + 10logB) dBm, whichever is lower

Although the EUT operates on Master mode, more stringent limit for Client device was applied.

Maximum Conducted Output Power

Test place	Shonan EMC Lab. No.1 Measurement Room		
Report No.	10882638S-N		
Date	August 7, 2015	August 10, 2015	August 11, 2015
Temperature / Humidity	24deg. C / 48 % RH	26 deg.C, 49%RH	26 deg.C, 49%RH
Engineer	Shinichi Takano	Tomohiro Hara	Tomohiro Hara
Mode	Tx 11a, low power mode		

11a, low power

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	Power Meter Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty Factor [dB]	Antenna Gain [dBi]	26 dB EBW (B for FCC) [MHz]	99% OBW (B for IC) [MHz]	Conducted Power				e.i.r.p.			
								Result	Limit	Margin		Result	Limit	Margin	
								[dBm]	[mW]	[dBm]	[dB]	[dBm]	[mW]	[dBm]	[dB]
5180	-4.48	2.53	10.04	0.03	-1.32	19.581	16.945	8.12	6.48	23.97	15.85	6.80	4.78	29.97	23.17
5220	-4.50	2.52	10.04	0.03	-1.32	19.208	16.937	8.09	6.44	23.97	15.88	6.77	4.75	29.97	23.20
5240	-4.53	2.51	10.04	0.03	-1.32	19.157	17.003	8.05	6.38	23.97	15.92	6.73	4.71	29.97	23.24
5260	-4.52	2.51	10.05	0.03	-1.32	18.962	16.923	8.07	6.41	23.77	15.70	6.75	4.73	29.97	23.22
5300	-4.57	2.50	10.05	0.03	-1.32	19.155	16.912	8.01	6.32	23.82	15.81	6.69	4.66	29.97	23.28
5320	-4.49	2.49	10.05	0.03	-1.32	18.929	16.915	8.08	6.42	23.77	15.69	6.76	4.74	29.97	23.21
5500	-4.80	2.45	10.05	0.03	0.30	19.261	16.939	7.73	5.93	23.84	16.11	8.03	6.35	29.97	21.94
5580	-4.60	2.46	10.05	0.03	0.30	19.401	16.946	7.94	6.22	23.87	15.93	8.24	6.66	29.97	21.73
5700	-4.58	2.47	10.05	0.03	0.30	19.259	16.991	7.97	6.26	23.84	15.87	8.27	6.71	29.97	21.70
5745	-4.55	2.47	10.05	0.03	-0.43	-	-	8.00	6.31	30.00	22.00	7.57	5.71	36.00	28.43
5785	-4.49	2.47	10.06	0.03	-0.43	-	-	8.07	6.41	30.00	21.93	7.64	5.80	36.00	28.36
5825	-4.41	2.48	10.06	0.03	-0.43	-	-	8.16	6.54	30.00	21.84	7.73	5.93	36.00	28.27

Sample Calculation:

Conducted Power Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Duty Factor

e.i.r.p. Result = Conducted Power Result + Antenna Gain

Conducted Power Limit (5250 MHz-5350 MHz, 5470 MHz-5725 MHz) = 250 mW or (11 + 10logB) dBm, whichever is lower

Although the EUT operates on Master mode, more stringent limit for Client device was applied.

Maximum Conducted Output Power

Test place	Shonan EMC Lab. No.1 Measurement Room		
Report No.	10882638S-N		
Date	August 7, 2015	August 10, 2015	August 11, 2015
Temperature / Humidity	24deg. C / 48 % RH	26 deg.C, 49%RH	26 deg.C, 49%RH
Engineer	Shinichi Takano	Tomohiro Hara	Tomohiro Hara
Mode	Tx 11n HT20, normal power mode		

11n HT20, normal power

*1)

*1)

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	Power Meter Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty Factor [dB]	Antenna Gain [dBi]	26 dB EBW (B for FCC) [MHz]	99% OBW (B for IC) [MHz]	Conducted Power				e.i.r.p.			
								Result	Limit	Margin		Result	Limit	Margin	
								[dBm]	[mW]	[dBm]	[dB]	[dBm]	[mW]	[dBm]	[dB]
5180	-0.36	2.53	10.04	0.01	-1.32	19.578	17.831	12.22	16.69	23.97	11.75	10.90	12.32	29.97	19.07
5220	-0.45	2.52	10.04	0.01	-1.32	19.689	17.796	12.12	16.31	23.97	11.85	10.80	12.04	29.97	19.17
5240	-0.55	2.51	10.04	0.01	-1.32	19.944	17.801	12.01	15.90	23.97	11.96	10.69	11.74	29.97	19.28
5260	-0.36	2.51	10.05	0.01	-1.32	19.676	17.793	12.21	16.65	23.93	11.72	10.89	12.29	29.97	19.08
5300	-0.29	2.50	10.05	0.01	-1.32	19.583	17.843	12.27	16.88	23.91	11.64	10.95	12.46	29.97	19.02
5320	-0.26	2.49	10.05	0.01	-1.32	19.555	17.808	12.29	16.96	23.91	11.62	10.97	12.52	29.97	19.00
5500	-0.63	2.45	10.05	0.01	0.30	19.748	17.842	11.88	15.43	23.95	12.07	12.18	16.54	29.97	17.79
5580	-0.55	2.46	10.05	0.01	0.30	19.976	17.837	11.97	15.76	23.97	12.00	12.27	16.88	29.97	17.70
5700	-0.48	2.47	10.05	0.01	0.30	19.706	17.856	12.05	16.05	23.94	11.89	12.35	17.20	29.97	17.62
5745	-0.38	2.47	10.05	0.01	-0.43	-	-	12.15	16.42	30.00	17.85	11.72	14.88	36.00	24.28
5785	-0.33	2.47	10.06	0.01	-0.43	-	-	12.21	16.65	30.00	17.79	11.78	15.08	36.00	24.22
5825	-0.26	2.48	10.06	0.01	-0.43	-	-	12.29	16.96	30.00	17.71	11.86	15.36	36.00	24.14

Sample Calculation:

*1) This bandwidth was 11ac VHT20 mode, since 11n HT20 and 11ac VHT20 are same bandwidth.

Conducted Power Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Duty Factor

e.i.r.p. Result = Conducted Power Result + Antenna Gain

Conducted Power Limit (5250 MHz-5350 MHz, 5470 MHz-5725 MHz) = 250 mW or (11 + 10logB) dBm, whichever is lower

Although the EUT operates on Master mode, more stringent limit for Client device was applied.

Maximum Conducted Output Power

Test place	Shonan EMC Lab. No.1 Measurement Room		
Report No.	10882638S-N		
Date	August 7, 2015	August 10, 2015	August 11, 2015
Temperature / Humidity	24deg. C / 48 % RH	26 deg.C, 49%RH	26 deg.C, 49%RH
Engineer	Shinichi Takano	Tomohiro Hara	Tomohiro Hara
Mode	Tx 11n HT20, low power mode		

11n HT20, low power

*1)

*1)

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	Power Meter Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty Factor [dB]	Antenna Gain [dBi]	26 dB EBW (B for FCC) [MHz]	99% OBW (B for IC) [MHz]	Conducted Power				e.i.r.p.			
								Result	Limit	Margin		Result	Limit	Margin	
								[dBm]	[mW]	[dBm]	[dB]	[dBm]	[mW]	[dBm]	[dB]
5180	-4.55	2.53	10.04	0.01	-1.32	19.667	17.855	8.03	6.36	23.97	15.94	6.71	4.69	29.97	23.26
5220	-4.57	2.52	10.04	0.01	-1.32	19.785	17.801	8.00	6.32	23.97	15.97	6.68	4.66	29.97	23.29
5240	-4.57	2.51	10.04	0.01	-1.32	19.692	17.822	7.99	6.30	23.97	15.98	6.67	4.65	29.97	23.30
5260	-4.47	2.51	10.05	0.01	-1.32	19.663	17.820	8.10	6.46	23.93	15.83	6.78	4.77	29.97	23.19
5300	-4.43	2.50	10.05	0.01	-1.32	19.528	17.780	8.13	6.51	23.90	15.77	6.81	4.80	29.97	23.16
5320	-4.41	2.49	10.05	0.01	-1.32	19.852	17.818	8.14	6.52	23.97	15.83	6.82	4.81	29.97	23.15
5500	-4.72	2.45	10.05	0.01	0.30	19.812	17.807	7.79	6.02	23.96	16.17	8.09	6.45	29.97	21.88
5580	-4.68	2.46	10.05	0.01	0.30	19.834	17.801	7.84	6.09	23.97	16.13	8.14	6.52	29.97	21.83
5700	-4.52	2.47	10.05	0.01	0.30	19.646	17.817	8.01	6.33	23.93	15.92	8.31	6.78	29.97	21.66
5745	-4.64	2.47	10.05	0.01	-0.43	-	-	7.89	6.16	30.00	22.11	7.46	5.58	36.00	28.54
5785	-4.57	2.47	10.06	0.01	-0.43	-	-	7.97	6.27	30.00	22.03	7.54	5.68	36.00	28.46
5825	-4.52	2.48	10.06	0.01	-0.43	-	-	8.03	6.36	30.00	21.97	7.60	5.76	36.00	28.40

Sample Calculation:

*1) This bandwidth was 11ac VHT20 mode, since 11n HT20 and 11ac VHT20 are same bandwidth.

Conducted Power Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Duty Factor

e.i.r.p. Result = Conducted Power Result + Antenna Gain

Conducted Power Limit (5250 MHz-5350 MHz, 5470 MHz-5725 MHz) = 250 mW or (11 + 10logB) dBm, whichever is lower

Although the EUT operates on Master mode, more stringent limit for Client device was applied.

Maximum Conducted Output Power

Test place	Shonan EMC Lab. No.1 Measurement Room		
Report No.	10882638S-N		
Date	August 7, 2015	August 10, 2015	August 11, 2015
Temperature / Humidity	24deg. C / 48 % RH	26 deg.C, 49%RH	26 deg.C, 49%RH
Engineer	Shinichi Takano	Tomohiro Hara	Tomohiro Hara
Mode	Tx 11n HT40, normal power mode		

11n HT40, normal power

*1)

*1)

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	Power Meter Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty Factor [dB]	Antenna Gain [dBi]	26 dB EBW (B for FCC) [MHz]	99% OBW (B for IC) [MHz]	Conducted Power				e.i.r.p.			
								Result	Limit	Margin		Result	Limit	Margin	
								[dBm]	[mW]	[dBm]	[dB]	[dBm]	[mW]	[dBm]	[dB]
5190	-3.30	2.52	10.04	0.06	-1.32	39.992	36.238	9.32	8.55	23.97	14.65	8.00	6.31	29.97	21.97
5230	-3.51	2.51	10.04	0.06	-1.32	40.246	36.208	9.10	8.13	23.97	14.87	7.78	6.00	29.97	22.19
5270	-3.39	2.51	10.05	0.06	-1.32	40.188	36.262	9.23	8.38	23.97	14.74	7.91	6.18	29.97	22.06
5310	-3.40	2.50	10.05	0.06	-1.32	39.898	36.260	9.21	8.34	23.97	14.76	7.89	6.15	29.97	22.08
5510	-3.62	2.45	10.05	0.06	0.30	39.799	36.230	8.94	7.83	23.97	15.03	9.24	8.40	29.97	20.73
5550	-3.59	2.45	10.05	0.06	0.30	39.318	36.252	8.97	7.89	23.97	15.00	9.27	8.45	29.97	20.70
5670	-3.52	2.46	10.05	0.06	0.30	39.870	36.288	9.05	8.04	23.97	14.92	9.35	8.61	29.97	20.62
5755	-3.41	2.47	10.06	0.06	-0.43	-	-	9.18	8.28	30.00	20.82	8.75	7.50	36.00	27.25
5795	-3.37	2.47	10.06	0.06	-0.43	-	-	9.22	8.36	30.00	20.78	8.79	7.57	36.00	27.21

Sample Calculation:

*1) This bandwidth was 11ac VHT40 mode, since 11n HT40 and 11ac VHT40 are same bandwidth.

Conducted Power Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Duty Factor

e.i.r.p. Result = Conducted Power Result + Antenna Gain

Conducted Power Limit (5250 MHz-5350 MHz, 5470 MHz-5725 MHz) = 250 mW or (11 + 10logB) dBm, whichever is lower

Although the EUT operates on Master mode, more stringent limit for Client device was applied.

UL Japan, Inc.

Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Maximum Conducted Output Power

Test place	Shonan EMC Lab. No.1 Measurement Room		
Report No.	10882638S-N		
Date	August 7, 2015	August 10, 2015	August 11, 2015
Temperature / Humidity	24deg. C / 48 % RH	26 deg.C, 49%RH	26 deg.C, 49%RH
Engineer	Shinichi Takano	Tomohiro Hara	Tomohiro Hara
Mode	Tx 11n HT40, low power mode		

11n HT40, low power

*1)

*1)

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	Power Meter Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty Factor [dB]	Antenna Gain [dBi]	26 dB EBW (B for FCC) [MHz]	99% OBW (B for IC) [MHz]	Conducted Power				e.i.r.p.			
								Result	Limit	Margin		Result	Limit	Margin	
								[dBm]	[mW]	[dBm]	[dB]	[dBm]	[mW]	[dBm]	[dB]
5190	-4.52	2.52	10.04	0.06	-1.32	40.305	36.282	8.10	6.46	23.97	15.87	6.78	4.76	29.97	23.19
5230	-4.67	2.51	10.04	0.06	-1.32	39.981	36.179	7.94	6.22	23.97	16.03	6.62	4.59	29.97	23.35
5270	-4.51	2.51	10.05	0.06	-1.32	39.641	36.311	8.11	6.47	23.97	15.86	6.79	4.78	29.97	23.18
5310	-4.42	2.50	10.05	0.06	-1.32	39.577	36.223	8.19	6.59	23.97	15.78	6.87	4.86	29.97	23.10
5510	-4.69	2.45	10.05	0.06	0.30	40.534	36.209	7.87	6.12	23.97	16.10	8.17	6.56	29.97	21.80
5550	-4.61	2.45	10.05	0.06	0.30	40.307	36.220	7.95	6.24	23.97	16.02	8.25	6.68	29.97	21.72
5670	-4.52	2.46	10.05	0.06	0.30	40.061	36.282	8.05	6.38	23.97	15.92	8.35	6.84	29.97	21.62
5755	-4.50	2.47	10.06	0.06	-0.43	-	-	8.09	6.44	30.00	21.91	7.66	5.83	36.00	28.34
5795	-4.44	2.47	10.06	0.06	-0.43	-	-	8.15	6.53	30.00	21.85	7.72	5.92	36.00	28.28

Sample Calculation:

*1) This bandwidth was 11ac VHT40 mode, since 11n HT40 and 11ac VHT40 are same bandwidth.

Conducted Power Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Duty Factor

e.i.r.p. Result = Conducted Power Result + Antenna Gain

Conducted Power Limit (5250 MHz-5350 MHz, 5470 MHz-5725 MHz) = 250 mW or (11 + 10logB) dBm, whichever is lower

Although the EUT operates on Master mode, more stringent limit for Client device was applied.

UL Japan, Inc.

Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Maximum Conducted Output Power

Test place	Shonan EMC Lab. No.1 Measurement Room		
Report No.	10882638S-N		
Date	August 7, 2015	August 10, 2015	August 11, 2015
Temperature / Humidity	24deg. C / 48 % RH	26 deg.C, 49%RH	26 deg.C, 49%RH
Engineer	Shinichi Takano	Tomohiro Hara	Tomohiro Hara
Mode	Tx 11ac VHT20, normal power mode		

11ac VHT20, normal power

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	Power Meter Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty Factor [dB]	Antenna Gain [dBi]	26 dB EBW (B for FCC) [MHz]	99% OBW (B for IC) [MHz]	Conducted Power				e.i.r.p.			
								Result	Limit	Margin		Result	Limit	Margin	
								[dBm]	[mW]	[dBm]	[dB]	[dBm]	[mW]	[dBm]	[dB]
5180	-0.46	2.53	10.04	0.03	-1.32	19.578	17.831	12.14	16.37	23.97	11.83	10.82	12.08	29.97	19.15
5220	-0.48	2.52	10.04	0.03	-1.32	19.689	17.796	12.11	16.25	23.97	11.86	10.79	11.99	29.97	19.18
5240	-0.58	2.51	10.04	0.03	-1.32	19.944	17.801	12.00	15.85	23.97	11.97	10.68	11.69	29.97	19.29
5260	-0.36	2.51	10.05	0.03	-1.32	19.676	17.793	12.23	16.71	23.93	11.70	10.91	12.33	29.97	19.06
5300	-0.29	2.50	10.05	0.03	-1.32	19.583	17.843	12.29	16.94	23.91	11.62	10.97	12.50	29.97	19.00
5320	-0.24	2.49	10.05	0.03	-1.32	19.555	17.808	12.33	17.10	23.91	11.58	11.01	12.62	29.97	18.96
5500	-0.51	2.45	10.05	0.03	0.30	19.748	17.842	12.02	15.92	23.95	11.93	12.32	17.06	29.97	17.65
5580	-0.48	2.46	10.05	0.03	0.30	19.976	17.837	12.06	16.07	23.97	11.91	12.36	17.22	29.97	17.61
5700	-0.43	2.47	10.05	0.03	0.30	19.706	17.856	12.12	16.29	23.94	11.82	12.42	17.46	29.97	17.55
5745	-0.42	2.47	10.05	0.03	-0.43	-	-	12.13	16.33	30.00	17.87	11.70	14.79	36.00	24.30
5785	-0.31	2.47	10.06	0.03	-0.43	-	-	12.25	16.79	30.00	17.75	11.82	15.20	36.00	24.18
5825	-0.30	2.48	10.06	0.03	-0.43	-	-	12.27	16.86	30.00	17.73	11.84	15.27	36.00	24.16

Sample Calculation:

Conducted Power Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Duty Factor

e.i.r.p. Result = Conducted Power Result + Antenna Gain

Conducted Power Limit (5250 MHz-5350 MHz, 5470 MHz-5725 MHz) = 250 mW or (11 + 10logB) dBm, whichever is lower

Although the EUT operates on Master mode, more stringent limit for Client device was applied.

Maximum Conducted Output Power

Test place	Shonan EMC Lab. No.1 Measurement Room		
Report No.	10882638S-N		
Date	August 7, 2015	August 10, 2015	August 11, 2015
Temperature / Humidity	24deg. C / 48 % RH	26 deg.C, 49%RH	26 deg.C, 49%RH
Engineer	Shinichi Takano	Tomohiro Hara	Tomohiro Hara
Mode	Tx 11ac VHT20, low power mode		

11ac VHT20, low power

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	Power Meter Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty Factor [dB]	Antenna Gain [dBi]	26 dB EBW (B for FCC) [MHz]	99% OBW (B for IC) [MHz]	Conducted Power				e.i.r.p.			
								Result	Limit	Margin		Result	Limit	Margin	
								[dBm]	[mW]	[dBm]	[dB]	[dBm]	[mW]	[dBm]	[dB]
5180	-4.55	2.53	10.04	0.03	-1.32	19.667	17.855	8.05	6.38	23.97	15.92	6.73	4.71	29.97	23.24
5220	-4.57	2.52	10.04	0.03	-1.32	19.785	17.801	8.02	6.34	23.97	15.95	6.70	4.68	29.97	23.27
5240	-4.60	2.51	10.04	0.03	-1.32	19.692	17.822	7.98	6.28	23.97	15.99	6.66	4.63	29.97	23.31
5260	-4.75	2.51	10.05	0.03	-1.32	19.663	17.820	7.84	6.08	23.93	16.09	6.52	4.49	29.97	23.45
5300	-4.88	2.50	10.05	0.03	-1.32	19.528	17.780	7.70	5.89	23.90	16.20	6.38	4.34	29.97	23.59
5320	-4.91	2.49	10.05	0.03	-1.32	19.852	17.818	7.66	5.83	23.97	16.31	6.34	4.30	29.97	23.63
5500	-4.51	2.45	10.05	0.03	0.30	19.812	17.807	8.02	6.34	23.96	15.94	8.32	6.79	29.97	21.65
5580	-4.59	2.46	10.05	0.03	0.30	19.834	17.801	7.95	6.24	23.97	16.02	8.25	6.68	29.97	21.72
5700	-4.64	2.47	10.05	0.03	0.30	19.646	17.817	7.91	6.18	23.93	16.02	8.21	6.62	29.97	21.76
5745	-4.55	2.47	10.05	0.03	-0.43	-	-	8.00	6.31	30.00	22.00	7.57	5.71	36.00	28.43
5785	-4.50	2.47	10.06	0.03	-0.43	-	-	8.06	6.40	30.00	21.94	7.63	5.79	36.00	28.37
5825	-4.48	2.48	10.06	0.03	-0.43	-	-	8.09	6.44	30.00	21.91	7.66	5.83	36.00	28.34

Sample Calculation:

Conducted Power Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Duty Factor

e.i.r.p. Result = Conducted Power Result + Antenna Gain

Conducted Power Limit (5250 MHz-5350 MHz, 5470 MHz-5725 MHz) = 250 mW or (11 + 10logB) dBm, whichever is lower

Although the EUT operates on Master mode, more stringent limit for Client device was applied.

Maximum Conducted Output Power

Test place	Shonan EMC Lab. No.1 Measurement Room		
Report No.	10882638S-N		
Date	August 7, 2015	August 10, 2015	August 11, 2015
Temperature / Humidity	24deg. C / 48 % RH	26 deg.C, 49%RH	26 deg.C, 49%RH
Engineer	Shinichi Takano	Tomohiro Hara	Tomohiro Hara
Mode	Tx 11ac VHT40, normal power mode		

11ac VHT40, normal power

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	Power Meter Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty Factor [dB]	Antenna Gain [dBi]	26 dB EBW (B for FCC) [MHz]	99% OBW (B for IC) [MHz]	Conducted Power				e.i.r.p.			
								Result	Limit	Margin		Result	Limit	Margin	
								[dBm]	[mW]	[dBm]	[dB]	[dBm]	[mW]	[dBm]	[dB]
5190	-3.30	2.52	10.04	0.03	-1.32	39.992	36.238	9.29	8.49	23.97	14.68	7.97	6.27	29.97	22.00
5230	-3.49	2.51	10.04	0.03	-1.32	40.246	36.208	9.09	8.11	23.97	14.88	7.77	5.98	29.97	22.20
5270	-3.35	2.51	10.05	0.03	-1.32	40.188	36.262	9.24	8.39	23.97	14.73	7.92	6.19	29.97	22.05
5310	-3.25	2.50	10.05	0.03	-1.32	39.898	36.260	9.33	8.57	23.97	14.64	8.01	6.32	29.97	21.96
5510	-3.73	2.45	10.05	0.03	0.30	39.799	36.230	8.80	7.59	23.97	15.17	9.10	8.13	29.97	20.87
5550	-3.65	2.45	10.05	0.03	0.30	39.318	36.252	8.88	7.73	23.97	15.09	9.18	8.28	29.97	20.79
5670	-3.53	2.46	10.05	0.03	0.30	39.870	36.288	9.01	7.96	23.97	14.96	9.31	8.53	29.97	20.66
5755	-3.36	2.47	10.06	0.03	-0.43	-	-	9.20	8.32	30.00	20.80	8.77	7.53	36.00	27.23
5795	-3.34	2.47	10.06	0.03	-0.43	-	-	9.22	8.36	30.00	20.78	8.79	7.57	36.00	27.21

Sample Calculation:

Conducted Power Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Duty Factor

e.i.r.p. Result = Conducted Power Result + Antenna Gain

Conducted Power Limit (5250 MHz-5350 MHz, 5470 MHz-5725 MHz) = 250 mW or (11 + 10logB) dBm, whichever is lower

Although the EUT operates on Master mode, more stringent limit for Client device was applied.

UL Japan, Inc.

Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Maximum Conducted Output Power

Test place	Shonan EMC Lab. No.1 Measurement Room		
Report No.	10882638S-N		
Date	August 7, 2015	August 10, 2015	August 11, 2015
Temperature / Humidity	24deg. C / 48 % RH	26 deg.C, 49%RH	26 deg.C, 49%RH
Engineer	Shinichi Takano	Tomohiro Hara	Tomohiro Hara
Mode	Tx 11ac VHT40, low power mode		

11ac VHT40, low power

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	Power Meter Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty Factor [dB]	Antenna Gain [dBi]	26 dB EBW (B for FCC) [MHz]	99% OBW (B for IC) [MHz]	Conducted Power				e.i.r.p.			
								Result	Limit	Margin		Result	Limit	Margin	
								[dBm]	[mW]	[dBm]	[dB]	[dBm]	[mW]	[dBm]	[dB]
5190	-4.55	2.52	10.04	0.03	-1.32	40.305	36.282	8.04	6.37	23.97	15.93	6.72	4.70	29.97	23.25
5230	-4.67	2.51	10.04	0.03	-1.32	39.981	36.179	7.91	6.18	23.97	16.06	6.59	4.56	29.97	23.38
5270	-4.47	2.51	10.05	0.03	-1.32	39.641	36.311	8.12	6.49	23.97	15.85	6.80	4.79	29.97	23.17
5310	-4.51	2.50	10.05	0.03	-1.32	39.577	36.223	8.07	6.41	23.97	15.90	6.75	4.73	29.97	23.22
5510	-4.65	2.45	10.05	0.03	0.30	40.534	36.209	7.88	6.14	23.97	16.09	8.18	6.58	29.97	21.79
5550	-4.61	2.45	10.05	0.03	0.30	40.307	36.220	7.92	6.19	23.97	16.05	8.22	6.64	29.97	21.75
5670	-4.53	2.46	10.05	0.03	0.30	40.061	36.282	8.01	6.32	23.97	15.96	8.31	6.78	29.97	21.66
5755	-4.52	2.47	10.06	0.03	-0.43	-	-	8.04	6.37	30.00	21.96	7.61	5.77	36.00	28.39
5795	-4.53	2.47	10.06	0.03	-0.43	-	-	8.03	6.35	30.00	21.97	7.60	5.75	36.00	28.40

Sample Calculation:

Conducted Power Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Duty Factor

e.i.r.p. Result = Conducted Power Result + Antenna Gain

Conducted Power Limit (5250 MHz-5350 MHz, 5470 MHz-5725 MHz) = 250 mW or (11 + 10logB) dBm, whichever is lower

Although the EUT operates on Master mode, more stringent limit for Client device was applied.

Maximum Conducted Output Power

Test place	Shonan EMC Lab. No.1 Measurement Room		
Report No.	10882638S-N		
Date	August 7, 2015	August 10, 2015	August 11, 2015
Temperature / Humidity	24deg. C / 48 % RH	26 deg.C, 49%RH	26 deg.C, 49%RH
Engineer	Shinichi Takano	Tomohiro Hara	Tomohiro Hara
Mode	Tx 11ac VHT80		

11ac VHT80

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	Power Meter Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty Factor [dB]	Antenna Gain [dBi]	26 dB EBW (B for FCC) [MHz]	99% OBW (B for IC) [MHz]	Conducted Power				e.i.r.p.			
								Result	Limit	Margin		Result	Limit	Margin	
								[dBm]	[mW]	[dBm]	[dB]	[dBm]	[mW]	[dBm]	[dB]
5210	-4.40	2.52	10.04	0.06	-1.32	80.949	76.739	8.22	6.64	23.97	15.75	6.90	4.90	29.97	23.07
5290	-4.36	2.50	10.05	0.06	-1.32	81.172	76.600	8.25	6.69	23.97	15.72	6.93	4.93	29.97	23.04
5530	-4.61	2.45	10.05	0.06	0.30	81.650	76.688	7.95	6.24	23.97	16.02	8.25	6.69	29.97	21.72
5610	-4.54	2.46	10.05	0.06	0.30	81.331	76.628	8.03	6.36	23.97	15.94	8.33	6.81	29.97	21.64
5775	-4.29	2.47	10.06	0.06	-0.43	-	-	8.30	6.76	30.00	21.70	7.87	6.13	36.00	28.13

Sample Calculation:

Conducted Power Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Duty Factor

e.i.r.p. Result = Conducted Power Result + Antenna Gain

Conducted Power Limit (5250 MHz-5350 MHz, 5470 MHz-5725 MHz) = 250 mW or (11 + 10logB) dBm, whichever is lower

Although the EUT operates on Master mode, more stringent limit for Client device was applied.

UL Japan, Inc.

Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Maximum Conducted Output Power

Test place	Shonan EMC Lab. No.1 Measurement Room		
Report No.	10882638S-N		
Date	August 7, 2015	August 7, 2015	August 10, 2015
Temperature / Humidity	25deg. C / 46 % RH	24deg. C / 48 % RH	26 deg.C, 49%RH
Engineer	Yosuke Ishikawa	Shinichi Takano	Tomohiro Hara
Mode	Tx		

11a, 5220 MHz

Mode	Rate Mbps	Reading (timed average) [dBm]	Duty factor [dB]	Burst power [dBm]	Remarks
11a	6	-0.44	0.03	-0.41	*
	9	-0.47	0.04	-0.43	
	12	-0.57	0.05	-0.52	
	18	-0.51	0.08	-0.43	
	24	-0.66	0.11	-0.55	
	36	-0.65	0.16	-0.49	
	48	-0.73	0.21	-0.52	
	54	-0.72	0.23	-0.49	

* Worst rate

Sample Calculation:

Burst power = Reading (timed average) + Duty factor

All comparison were carried out on same frequency and measurement factors.

11n HT20, 5220 MHz

Mode	MCS Number	Reading (timed average) [dBm]	Duty factor [dB]	Burst power [dBm]	Remarks
11n	0	-0.45	0.01	-0.44	*
	1	-0.55	0.06	-0.49	
	2	-0.56	0.09	-0.47	
	3	-0.58	0.11	-0.47	
	4	-0.69	0.16	-0.53	
	5	-0.68	0.21	-0.47	
	6	-0.74	0.24	-0.50	
	7	-0.78	0.26	-0.52	

* Worst rate

Sample Calculation:

Burst power = Reading (timed average) + Duty factor

All comparison were carried out on same frequency and measurement factors.

11n HT40, 5190 MHz

Mode	MCS Number	Reading (timed average) [dBm]	Duty factor [dB]	Burst power [dBm]	Remarks
11n	0	-3.30	0.06	-3.24	*
	1	-3.38	0.12	-3.26	
	2	-3.43	0.17	-3.26	
	3	-3.51	0.22	-3.29	
	4	-3.59	0.31	-3.28	
	5	-3.81	0.40	-3.41	
	6	-3.79	0.42	-3.37	
	7	-3.86	0.46	-3.40	

* Worst rate

Sample Calculation:

Burst power = Reading (timed average) + Duty factor

All comparison were carried out on same frequency and measurement factors.

UL Japan, Inc.

Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

11ac VHT20, 5220 MHz

Mode	MCS Number	Reading (timed average) [dBm]	Duty factor [dB]	Burst power [dBm]	Remarks
11ac	0	-0.48	0.03	-0.45	*
	1	-0.55	0.06	-0.49	
	2	-0.57	0.09	-0.48	
	3	-0.61	0.11	-0.50	
	4	-0.63	0.16	-0.47	
	5	-0.69	0.21	-0.48	
	6	-0.73	0.23	-0.50	
	7	-0.76	0.26	-0.50	
	8	-0.81	0.29	-0.52	

* Worst rate

Sample Calculation:

$$\text{Burst power} = \text{Reading (timed average)} + \text{Duty factor}$$

All comparison were carried out on same frequency and measurement factors.

11ac VHT40, 5190 MHz

Mode	MCS Number	Reading (timed average) [dBm]	Duty factor [dB]	Burst power [dBm]	Remarks
11ac	0	-3.30	0.03	-3.27	*
	1	-3.48	0.12	-3.36	
	2	-3.52	0.17	-3.35	
	3	-3.57	0.22	-3.35	
	4	-3.65	0.31	-3.34	
	5	-3.73	0.38	-3.35	
	6	-3.74	0.43	-3.31	
	7	-3.77	0.46	-3.31	
	8	-3.87	0.51	-3.36	
	9	-3.92	0.54	-3.38	

* Worst rate

Sample Calculation:

$$\text{Burst power} = \text{Reading (timed average)} + \text{Duty factor}$$

All comparison were carried out on same frequency and measurement factors.

11ac VHT80, 5210 MHz

Mode	MCS Number	Reading (timed average) [dBm]	Duty factor [dB]	Burst power [dBm]	Remarks
11ac	0	-4.40	0.06	-4.34	*
	1	-4.59	0.23	-4.36	
	2	-4.69	0.32	-4.37	
	3	-4.78	0.40	-4.38	
	4	-4.93	0.54	-4.39	
	5	-5.06	0.62	-4.44	
	6	-5.14	0.69	-4.45	
	7	-5.17	0.73	-4.44	
	8	-5.19	0.79	-4.40	
	9	-5.25	0.87	-4.38	

* Worst rate

Sample Calculation:

$$\text{Burst power} = \text{Reading (timed average)} + \text{Duty factor}$$

All comparison were carried out on same frequency and measurement factors.

Average Output Power (Reference data for RF Exposure)

Test place	Shonan EMC Lab. No.1 Measurement Room		
Report No.	10882638S-N		
Date	August 7, 2015	August 10, 2015	August 11, 2015
Temperature / Humidity	24deg. C / 48 % RH	26 deg.C, 49%RH	26 deg.C, 49%RH
Engineer	Shinichi Takano	Tomohiro Hara	Tomohiro Hara
Mode	Tx 11a		

11a, normal power mode

Tested Frequency [MHz]	Power Meter Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result (Timed average)	
				[dBm]	[mW]
5180	-0.33	2.53	10.04	12.24	16.75
5220	-0.44	2.52	10.04	12.12	16.29
5240	-0.50	2.51	10.04	12.05	16.03
5260	-0.53	2.51	10.05	12.03	15.96
5300	-0.47	2.50	10.05	12.08	16.14
5320	-0.46	2.49	10.05	12.08	16.14
5500	-0.47	2.45	10.05	12.03	15.96
5580	-0.49	2.46	10.05	12.02	15.92
5700	-0.53	2.47	10.05	11.99	15.81
5745	-0.49	2.47	10.05	12.03	15.96
5785	-0.39	2.47	10.06	12.14	16.37
5825	-0.37	2.48	10.06	12.17	16.48

Sample Calculation:

Result (Timed average) = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

*The equipment and cables were not used for factor 0 dB of the data sheets.

11a, low power mode

Tested Frequency [MHz]	Power Meter Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result (Timed average)	
				[dBm]	[mW]
5180	-4.48	2.53	10.04	8.09	6.44
5220	-4.50	2.52	10.04	8.06	6.40
5240	-4.53	2.51	10.04	8.02	6.34
5260	-4.52	2.51	10.05	8.04	6.37
5300	-4.57	2.50	10.05	7.98	6.28
5320	-4.49	2.49	10.05	8.05	6.38
5500	-4.80	2.45	10.05	7.70	5.89
5580	-4.60	2.46	10.05	7.91	6.18
5700	-4.58	2.47	10.05	7.94	6.22
5745	-4.55	2.47	10.05	7.97	6.27
5785	-4.49	2.47	10.06	8.04	6.37
5825	-4.41	2.48	10.06	8.13	6.50

Sample Calculation:

Result (Timed average) = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

*The equipment and cables were not used for factor 0 dB of the data sheets.

UL Japan, Inc.

Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Average Output Power (Reference data for RF Exposure)

Test place	Shonan EMC Lab. No.1 Measurement Room		
Report No.	10882638S-N		
Date	August 7, 2015	August 10, 2015	August 11, 2015
Temperature / Humidity	24deg. C / 48 % RH	26 deg.C, 49%RH	26 deg.C, 49%RH
Engineer	Shinichi Takano	Tomohiro Hara	Tomohiro Hara
Mode	Tx 11n HT20		

11n HT20, normal power mode

Tested Frequency [MHz]	Power Meter Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result (Timed average)	
				[dBm]	[mW]
5180	-0.36	2.53	10.04	12.21	16.63
5220	-0.45	2.52	10.04	12.11	16.26
5240	-0.55	2.51	10.04	12.00	15.85
5260	-0.36	2.51	10.05	12.20	16.60
5300	-0.29	2.50	10.05	12.26	16.83
5320	-0.26	2.49	10.05	12.28	16.90
5500	-0.63	2.45	10.05	11.87	15.38
5580	-0.55	2.46	10.05	11.96	15.70
5700	-0.48	2.47	10.05	12.04	16.00
5745	-0.38	2.47	10.05	12.14	16.37
5785	-0.33	2.47	10.06	12.20	16.60
5825	-0.26	2.48	10.06	12.28	16.90

Sample Calculation:

Result (Timed average) = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

*The equipment and cables were not used for factor 0 dB of the data sheets.

11n HT20, low power mode

Tested Frequency [MHz]	Power Meter Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result (Timed average)	
				[dBm]	[mW]
5180	-4.55	2.53	10.04	8.02	6.34
5220	-4.57	2.52	10.04	7.99	6.30
5240	-4.57	2.51	10.04	7.98	6.28
5260	-4.47	2.51	10.05	8.09	6.44
5300	-4.43	2.50	10.05	8.12	6.49
5320	-4.41	2.49	10.05	8.13	6.50
5500	-4.72	2.45	10.05	7.78	6.00
5580	-4.68	2.46	10.05	7.83	6.07
5700	-4.52	2.47	10.05	8.00	6.31
5745	-4.64	2.47	10.05	7.88	6.14
5785	-4.57	2.47	10.06	7.96	6.25
5825	-4.52	2.48	10.06	8.02	6.34

Sample Calculation:

Result (Timed average) = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

*The equipment and cables were not used for factor 0 dB of the data sheets.

UL Japan, Inc.

Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Average Output Power
(Reference data for RF Exposure)

Test place	Shonan EMC Lab. No.1 Measurement Room		
Report No.	10882638S-N		
Date	August 7, 2015	August 10, 2015	August 11, 2015
Temperature / Humidity	24deg. C / 48 % RH	26 deg.C, 49%RH	26 deg.C, 49%RH
Engineer	Shinichi Takano	Tomohiro Hara	Tomohiro Hara
Mode	Tx 11n HT40		

11n HT40, normal power mode

Tested Frequency [MHz]	Power Meter Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result (Timed average)	
				[dBm]	[mW]
5190	-3.30	2.52	10.04	9.26	8.43
5230	-3.51	2.51	10.04	9.04	8.02
5270	-3.39	2.51	10.05	9.17	8.26
5310	-3.40	2.50	10.05	9.15	8.22
5510	-3.62	2.45	10.05	8.88	7.73
5550	-3.59	2.45	10.05	8.91	7.78
5670	-3.52	2.46	10.05	8.99	7.93
5755	-3.41	2.47	10.06	9.12	8.17
5795	-3.37	2.47	10.06	9.16	8.24

Sample Calculation:

Result (Timed average) = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

*The equipment and cables were not used for factor 0 dB of the data sheets.

11n HT40, low power mode

Tested Frequency [MHz]	Power Meter Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result (Timed average)	
				[dBm]	[mW]
5190	-4.52	2.52	10.04	8.04	6.37
5230	-4.67	2.51	10.04	7.88	6.14
5270	-4.51	2.51	10.05	8.05	6.38
5310	-4.42	2.50	10.05	8.13	6.50
5510	-4.69	2.45	10.05	7.81	6.04
5550	-4.61	2.45	10.05	7.89	6.15
5670	-4.52	2.46	10.05	7.99	6.30
5755	-4.50	2.47	10.06	8.03	6.35
5795	-4.44	2.47	10.06	8.09	6.44

Sample Calculation:

Result (Timed average) = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

*The equipment and cables were not used for factor 0 dB of the data sheets.

Average Output Power (Reference data for RF Exposure)

Test place	Shonan EMC Lab. No.1 Measurement Room		
Report No.	10882638S-N		
Date	August 7, 2015	August 10, 2015	August 11, 2015
Temperature / Humidity	24deg. C / 48 % RH	26 deg.C, 49%RH	26 deg.C, 49%RH
Engineer	Shinichi Takano	Tomohiro Hara	Tomohiro Hara
Mode	Tx 11ac VHT20		

11ac VHT20, normal power mode

Tested Frequency [MHz]	Power Meter Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result (Timed average)	
				[dBm]	[mW]
5180	-0.46	2.53	10.04	12.11	16.26
5220	-0.48	2.52	10.04	12.08	16.14
5240	-0.58	2.51	10.04	11.97	15.74
5260	-0.36	2.51	10.05	12.20	16.60
5300	-0.29	2.50	10.05	12.26	16.83
5320	-0.24	2.49	10.05	12.30	16.98
5500	-0.51	2.45	10.05	11.99	15.81
5580	-0.48	2.46	10.05	12.03	15.96
5700	-0.43	2.47	10.05	12.09	16.18
5745	-0.42	2.47	10.05	12.10	16.22
5785	-0.31	2.47	10.06	12.22	16.67
5825	-0.30	2.48	10.06	12.24	16.75

Sample Calculation:

Result (Timed average) = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

*The equipment and cables were not used for factor 0 dB of the data sheets.

11ac VHT20, low power mode

Tested Frequency [MHz]	Power Meter Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result (Timed average)	
				[dBm]	[mW]
5180	-4.55	2.53	10.04	8.02	6.34
5220	-4.57	2.52	10.04	7.99	6.30
5240	-4.60	2.51	10.04	7.95	6.24
5260	-4.75	2.51	10.05	7.81	6.04
5300	-4.88	2.50	10.05	7.67	5.85
5320	-4.91	2.49	10.05	7.63	5.79
5500	-4.51	2.45	10.05	7.99	6.30
5580	-4.59	2.46	10.05	7.92	6.19
5700	-4.64	2.47	10.05	7.88	6.14
5745	-4.55	2.47	10.05	7.97	6.27
5785	-4.50	2.47	10.06	8.03	6.35
5825	-4.48	2.48	10.06	8.06	6.40

Sample Calculation:

Result (Timed average) = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

*The equipment and cables were not used for factor 0 dB of the data sheets.

UL Japan, Inc.

Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Average Output Power (Reference data for RF Exposure)

Test place	Shonan EMC Lab. No.1 Measurement Room		
Report No.	10882638S-N		
Date	August 7, 2015	August 10, 2015	August 11, 2015
Temperature / Humidity	24deg. C / 48 % RH	26 deg.C, 49%RH	26 deg.C, 49%RH
Engineer	Shinichi Takano	Tomohiro Hara	Tomohiro Hara
Mode	Tx 11ac VHT40		

11ac VHT40, normal power mode

Tested Frequency [MHz]	Power Meter Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result (Timed average)	
				[dBm]	[mW]
5190	-3.30	2.52	10.04	9.26	8.43
5230	-3.49	2.51	10.04	9.06	8.05
5270	-3.35	2.51	10.05	9.21	8.34
5310	-3.25	2.50	10.05	9.30	8.51
5510	-3.73	2.45	10.05	8.77	7.53
5550	-3.65	2.45	10.05	8.85	7.67
5670	-3.53	2.46	10.05	8.98	7.91
5755	-3.36	2.47	10.06	9.17	8.26
5795	-3.34	2.47	10.06	9.19	8.30

Sample Calculation:

Result (Timed average) = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

*The equipment and cables were not used for factor 0 dB of the data sheets.

11ac VHT40, low power mode

Tested Frequency [MHz]	Power Meter Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result (Timed average)	
				[dBm]	[mW]
5190	-4.55	2.52	10.04	8.01	6.32
5230	-4.67	2.51	10.04	7.88	6.14
5270	-4.47	2.51	10.05	8.09	6.44
5310	-4.51	2.50	10.05	8.04	6.37
5510	-4.65	2.45	10.05	7.85	6.10
5550	-4.61	2.45	10.05	7.89	6.15
5670	-4.53	2.46	10.05	7.98	6.28
5755	-4.52	2.47	10.06	8.01	6.32
5795	-4.53	2.47	10.06	8.00	6.31

Sample Calculation:

Result (Timed average) = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

*The equipment and cables were not used for factor 0 dB of the data sheets.

UL Japan, Inc.

Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Average Output Power
(Reference data for RF Exposure)

Test place	Shonan EMC Lab. No.1 Measurement Room		
Report No.	10882638S-N		
Date	August 7, 2015	August 10, 2015	August 11, 2015
Temperature / Humidity	24deg. C / 48 % RH	26 deg.C, 49%RH	26 deg.C, 49%RH
Engineer	Shinichi Takano	Tomohiro Hara	Tomohiro Hara
Mode	Tx 11ac VHT80		

11ac VHT80, normal power mode

Tested Frequency [MHz]	Power Meter Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result (Timed average)	
				[dBm]	[mW]
5210	-4.40	2.52	10.04	8.16	6.55
5290	-4.36	2.50	10.05	8.19	6.59
5530	-4.61	2.45	10.05	7.89	6.15
5610	-4.54	2.46	10.05	7.97	6.27
5775	-4.29	2.47	10.06	8.24	6.67

Sample Calculation:

Result (Timed average) = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

*The equipment and cables were not used for factor 0 dB of the data sheets.

Burst rate confirmation

Test place Shonan EMC Lab. No.5 Shielded Room
Report No. 10882638S-N
Date August 26, 2015
Temperature / Humidity 26 deg. C / 54 % RH
Engineer Kenichi Adachi
Mode Tx
August 27, 2015
26 deg. C / 50 % RH
Kenichi Adachi



Maximum Power Spectral Density

Test place : Shonan EMC Lab. No.5 Shielded Room
Report No. : 10882638S-N
Date : August 26, 2015
Temperature / Humidity : 26 deg. C / 54 % RH
Engineer : Kenichi Adachi
Mode : Tx 11ac VHT20, normal power mode

11ac VHT20, normal power

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	PSD Reading [dBm /MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty Factor [dB]	Antenna Gain [dBi]	RBW Correction Factor [dB]	PSD (Conducted)			PSD (e.i.r.p.)		
							Result [dBm /MHz]	Limit [dBm /MHz]	Margin [dB]	Result [dBm /MHz]	Limit [dBm /MHz]	Margin [dB]
5180	-13.66	2.53	10.04	0.03	-1.32	0.00	-1.06	11.00	12.06	-2.38	17.00	19.38
5220	-13.52	2.52	10.04	0.03	-1.32	0.00	-0.93	11.00	11.93	-2.25	17.00	19.25
5240	-13.58	2.51	10.04	0.03	-1.32	0.00	-1.00	11.00	12.00	-2.32	17.00	19.32
5260	-13.69	2.51	10.05	0.03	-1.32	0.00	-1.10	11.00	12.10	-2.42	17.00	19.42
5300	-13.70	2.50	10.05	0.03	-1.32	0.00	-1.12	11.00	12.12	-2.44	17.00	19.44
5320	-13.48	2.49	10.05	0.03	-1.32	0.00	-0.91	11.00	11.91	-2.23	17.00	19.23
5500	-14.20	2.45	10.05	0.03	0.30	0.00	-1.67	11.00	12.67	-1.37	17.00	18.37
5580	-14.03	2.46	10.05	0.03	0.30	0.00	-1.49	11.00	12.49	-1.19	17.00	18.19
5700	-13.18	2.47	10.05	0.03	0.30	0.00	-0.63	11.00	11.63	-0.33	17.00	17.33
5745	-21.90	2.47	10.05	0.03	-0.43	6.99	-2.36	30.00	32.36	-2.79	36.00	38.79
5785	-21.83	2.47	10.06	0.03	-0.43	6.99	-2.28	30.00	32.28	-2.71	36.00	38.71
5825	-22.12	2.48	10.06	0.03	-0.43	6.99	-2.56	30.00	32.56	-2.99	36.00	38.99

Sample Calculation:

PSD: Power Spectral Density

The PSD within 5725 MHz to 5825 MHz are based on any 500 kHz band.

RBW Correction Factor = $10 * \log(\text{Specified bandwidth} / \text{Measured bandwidth})$

PSD Result (Conducted) = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Duty Factor + RBW Correction

PSD Result (e.i.r.p.) = Conducted PSD Result + Antenna Gain

Although the EUT operates on Master mode, more stringent limit for Client device was applied.

UL Japan, Inc.

Shonan EMC Lab.

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

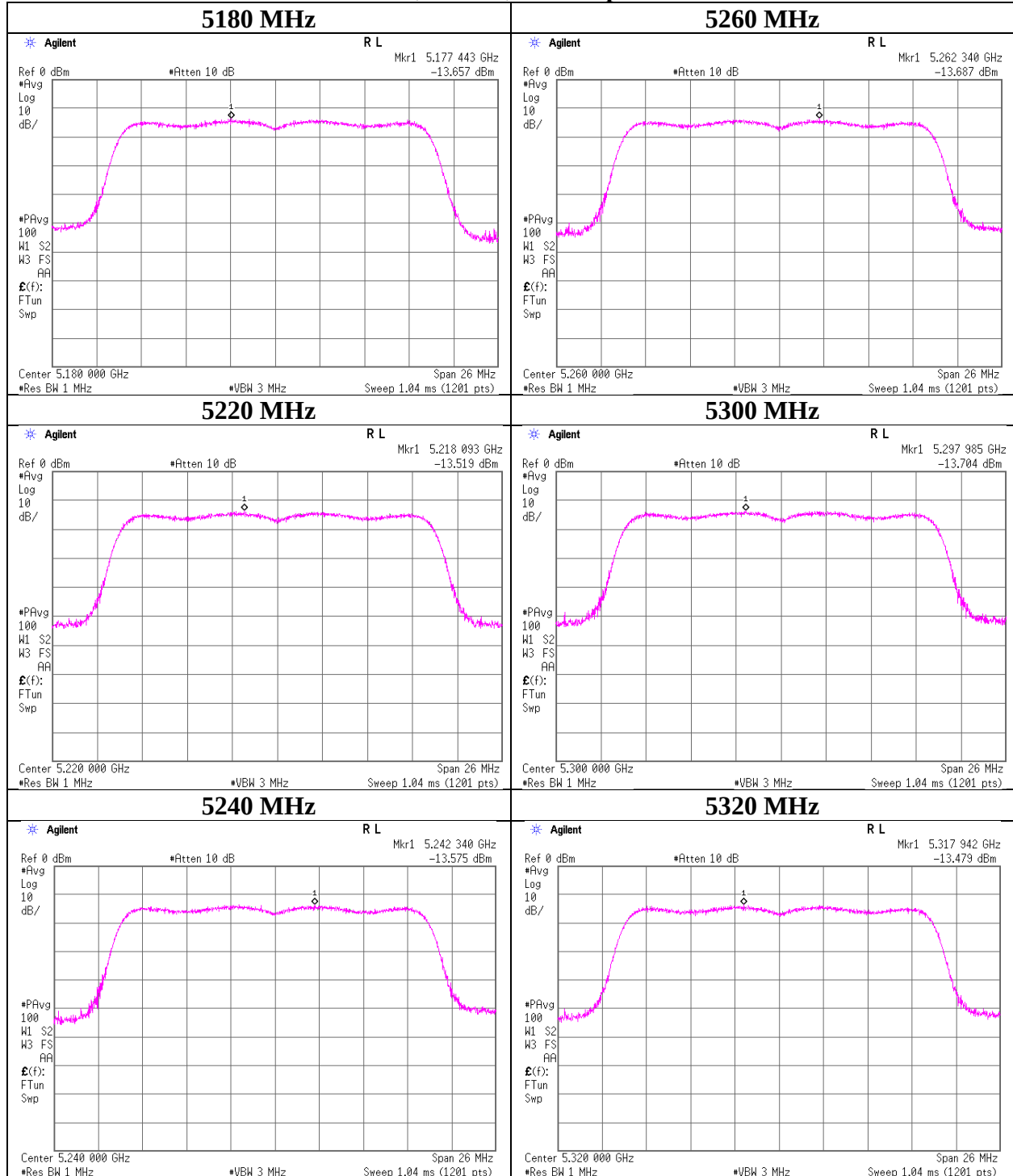
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Maximum Power Spectral Density

Test place	Shonan EMC Lab. No.5 Shielded Room
Report No.	10882638S-N
Date	August 26, 2015
Temperature / Humidity	26 deg. C / 54 % RH
Engineer	Kenichi Adachi
Mode	Tx 11ac VHT20, normal power mode

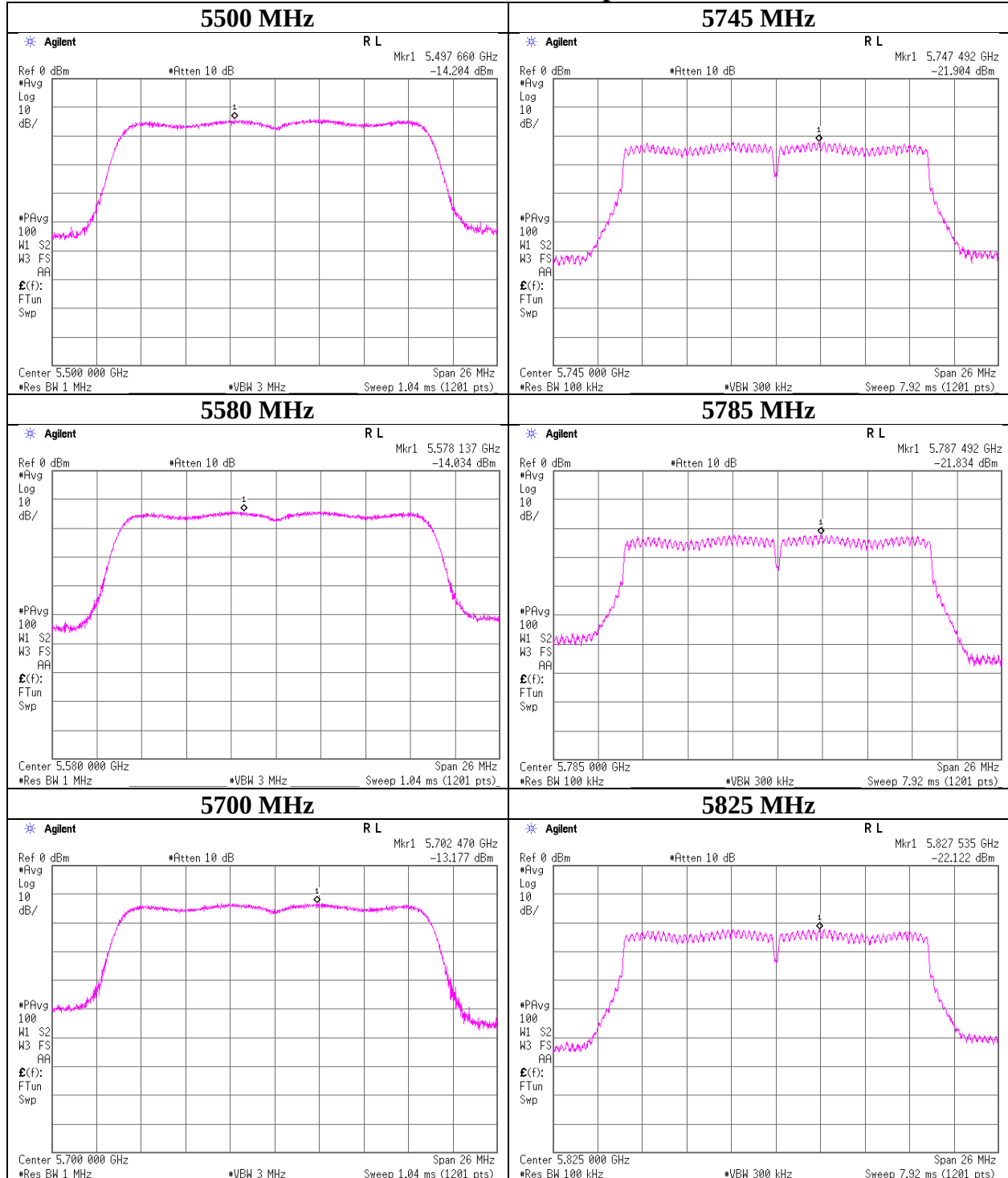
11ac VHT20, MCS 0, normal power mode



Maximum Power Spectral Density

Test place : Shonan EMC Lab. No.5 Shielded Room
Report No. : 10882638S-N
Date : August 26, 2015
Temperature / Humidity : 26 deg. C / 54 % RH
Engineer : Kenichi Adachi
Mode : Tx 11ac VHT20, normal power mode

11ac VHT20, MCS 0, normal power mode



UL Japan, Inc.

Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Maximum Power Spectral Density

Test place : Shonan EMC Lab. No.5 Shielded Room
Report No. : 10882638S-N
Date : August 26, 2015
Temperature / Humidity : 26 deg. C / 54 % RH
Engineer : Kenichi Adachi
Mode : Tx 11ac VHT20, low power mode

11ac VHT20, low power

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	PSD Reading [dBm /MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty Factor [dB]	Antenna Gain [dBi]	RBW Correction Factor [dB]	PSD (Conducted)			PSD (e.i.r.p.)		
							Result [dBm /MHz]	Limit [dBm /MHz]	Margin [dB]	Result [dBm /MHz]	Limit [dBm /MHz]	Margin [dB]
5180	-17.60	2.53	10.04	0.03	-1.32	0.00	-5.00	11.00	16.00	-6.32	17.00	23.32
5220	-17.69	2.52	10.04	0.03	-1.32	0.00	-5.10	11.00	16.10	-6.42	17.00	23.42
5240	-17.92	2.51	10.04	0.03	-1.32	0.00	-5.34	11.00	16.34	-6.66	17.00	23.66
5260	-17.77	2.51	10.05	0.03	-1.32	0.00	-5.18	11.00	16.18	-6.50	17.00	23.50
5300	-17.99	2.50	10.05	0.03	-1.32	0.00	-5.41	11.00	16.41	-6.73	17.00	23.73
5320	-17.78	2.49	10.05	0.03	-1.32	0.00	-5.21	11.00	16.21	-6.53	17.00	23.53
5500	-18.62	2.45	10.05	0.03	0.30	0.00	-6.09	11.00	17.09	-5.79	17.00	22.79
5580	-17.82	2.46	10.05	0.03	0.30	0.00	-5.28	11.00	16.28	-4.98	17.00	21.98
5700	-17.26	2.47	10.05	0.03	0.30	0.00	-4.71	11.00	15.71	-4.41	17.00	21.41
5745	-25.98	2.47	10.05	0.03	-0.43	6.99	-6.44	30.00	36.44	-6.87	36.00	42.87
5785	-25.96	2.47	10.06	0.03	-0.43	6.99	-6.41	30.00	36.41	-6.84	36.00	42.84
5825	-25.75	2.48	10.06	0.03	-0.43	6.99	-6.19	30.00	36.19	-6.62	36.00	42.62

Sample Calculation:

PSD: Power Spectral Density

The PSD within 5725 MHz to 5825 MHz are based on any 500 kHz band.

RBW Correction Factor = $10 * \log(\text{Specified bandwidth} / \text{Measured bandwidth})$

PSD Result (Conducted) = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Duty Factor + RBW Correction

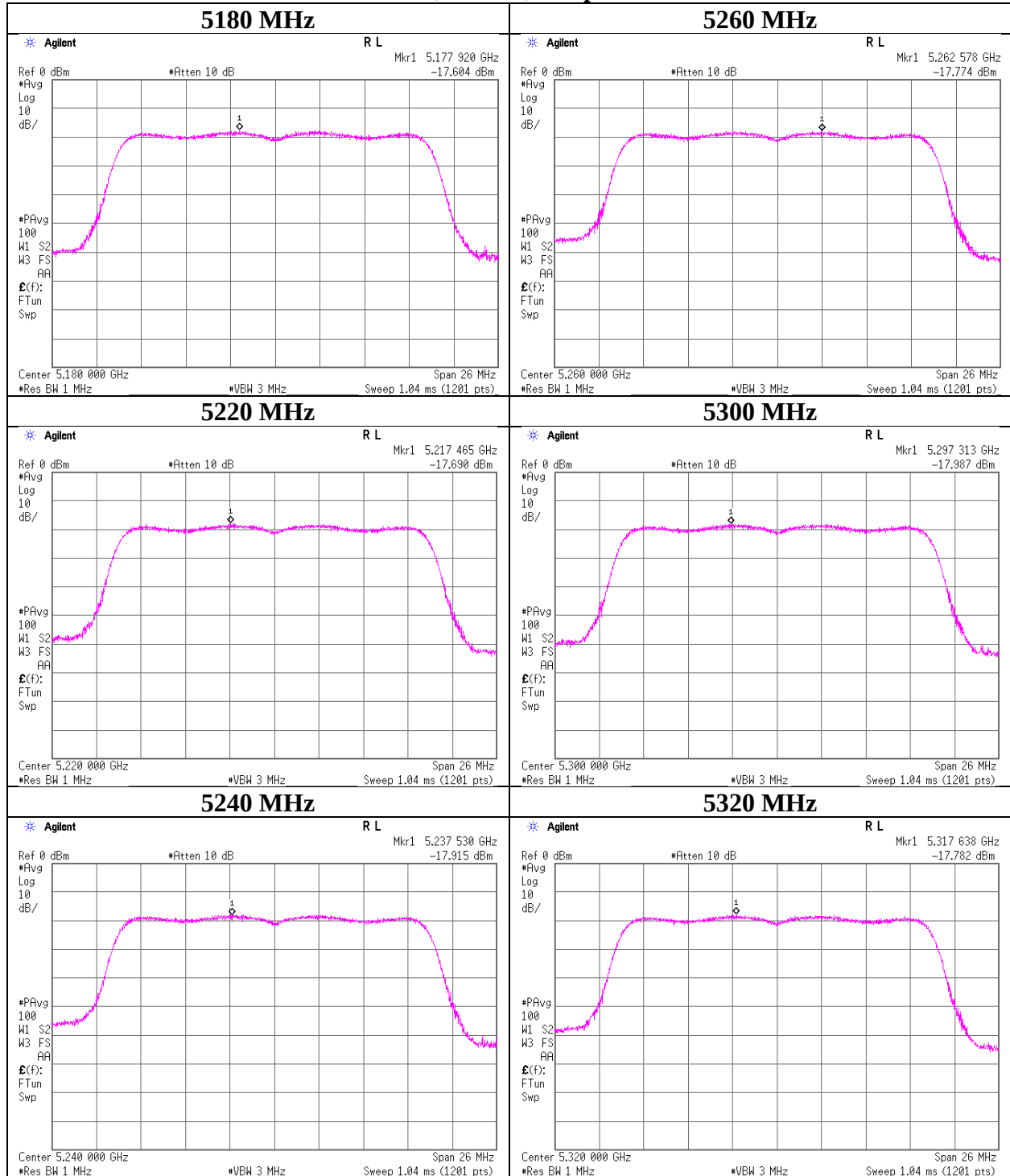
PSD Result (e.i.r.p.) = Conducted PSD Result + Antenna Gain

Although the EUT operates on Master mode, more stringent limit for Client device was applied.

Maximum Power Spectral Density

Test place : Shonan EMC Lab. No.5 Shielded Room
Report No. : 10882638S-N
Date : August 26, 2015
Temperature / Humidity : 26 deg. C / 54 % RH
Engineer : Kenichi Adachi
Mode : Tx 11ac VHT20, low power mode

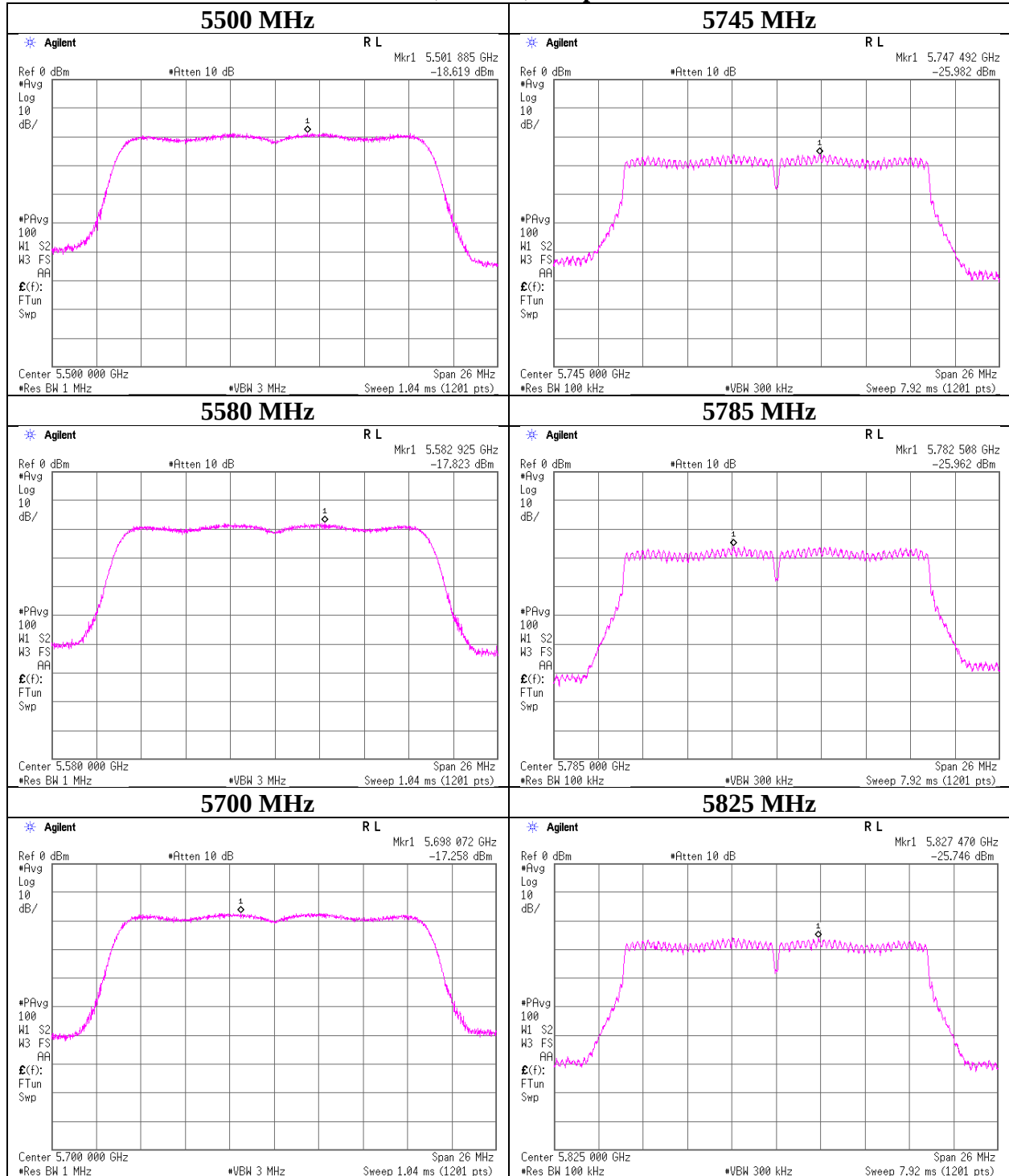
11ac VHT20, MCS 0, low power mode



Maximum Power Spectral Density

Test place : Shonan EMC Lab. No.5 Shielded Room
Report No. : 10882638S-N
Date : August 26, 2015
Temperature / Humidity : 26 deg. C / 54 % RH
Engineer : Kenichi Adachi
Mode : Tx 11ac VHT20, low power mode

11ac VHT20, MCS 0, low power mode



UL Japan, Inc.

Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Maximum Power Spectral Density

Test place : Shonan EMC Lab. No.5 Shielded Room
Report No. : 10882638S-N
Date : August 26, 2015
Temperature / Humidity : 26 deg. C / 54 % RH
Engineer : Kenichi Adachi
Mode : Tx 11ac VHT40, normal power mode

11ac VHT40, normal power

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	PSD Reading [dBm /MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty Factor [dB]	Antenna Gain [dBi]	RBW Correction Factor [dB]	PSD (Conducted)			PSD (e.i.r.p.)		
							Result [dBm /MHz]	Limit [dBm /MHz]	Margin [dB]	Result [dBm /MHz]	Limit [dBm /MHz]	Margin [dB]
5190	-19.57	2.52	10.04	0.03	-1.32	0.00	-6.98	11.00	17.98	-8.30	17.00	25.30
5230	-19.96	2.51	10.04	0.03	-1.32	0.00	-7.38	11.00	18.38	-8.70	17.00	25.70
5270	-19.48	2.51	10.05	0.03	-1.32	0.00	-6.89	11.00	17.89	-8.21	17.00	25.21
5310	-19.94	2.50	10.05	0.03	-1.32	0.00	-7.36	11.00	18.36	-8.68	17.00	25.68
5510	-20.03	2.45	10.05	0.03	0.30	0.00	-7.50	11.00	18.50	-7.20	17.00	24.20
5550	-20.07	2.45	10.05	0.03	0.30	0.00	-7.54	11.00	18.54	-7.24	17.00	24.24
5670	-19.30	2.46	10.05	0.03	0.30	0.00	-6.76	11.00	17.76	-6.46	17.00	23.46
5755	-28.14	2.47	10.06	0.03	-0.43	6.99	-8.59	30.00	38.59	-9.02	36.00	45.02
5795	-28.59	2.47	10.06	0.03	-0.43	6.99	-9.04	30.00	39.04	-9.47	36.00	45.47

Sample Calculation:

PSD: Power Spectral Density

The PSD within 5725 MHz to 5825 MHz are based on any 500 kHz band.

RBW Correction Factor = $10 * \log(\text{Specified bandwidth} / \text{Measured bandwidth})$

PSD Result (Conducted) = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Duty Factor + RBW Correction

PSD Result (e.i.r.p.) = Conducted PSD Result + Antenna Gain

Although the EUT operates on Master mode, more stringent limit for Client device was applied.

UL Japan, Inc.

Shonan EMC Lab.

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

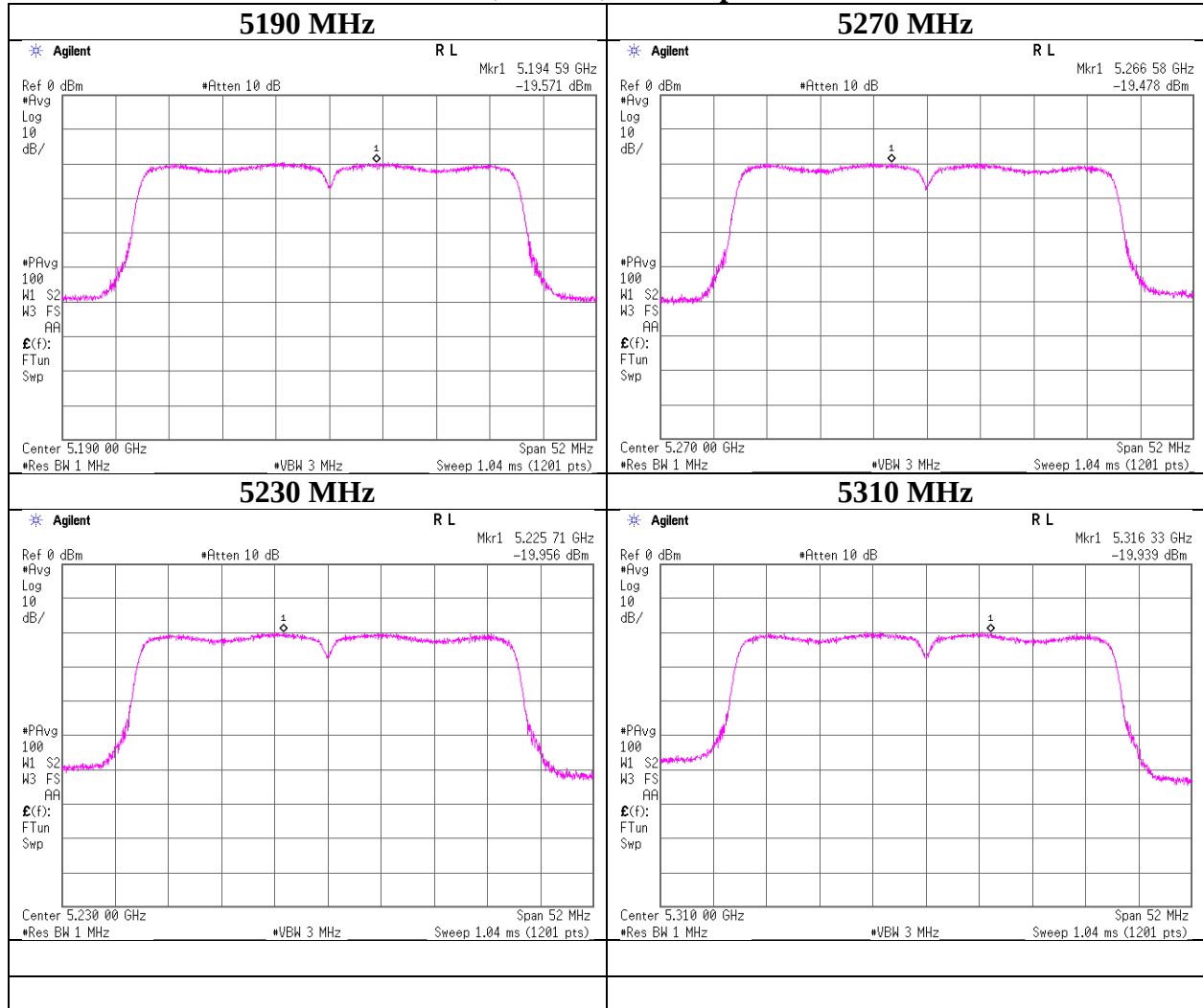
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Maximum Power Spectral Density

Test place : Shonan EMC Lab. No.5 Shielded Room
Report No. : 10882638S-N
Date : August 26, 2015
Temperature / Humidity : 26 deg. C / 54 % RH
Engineer : Kenichi Adachi
Mode : Tx 11ac VHT40, normal power mode

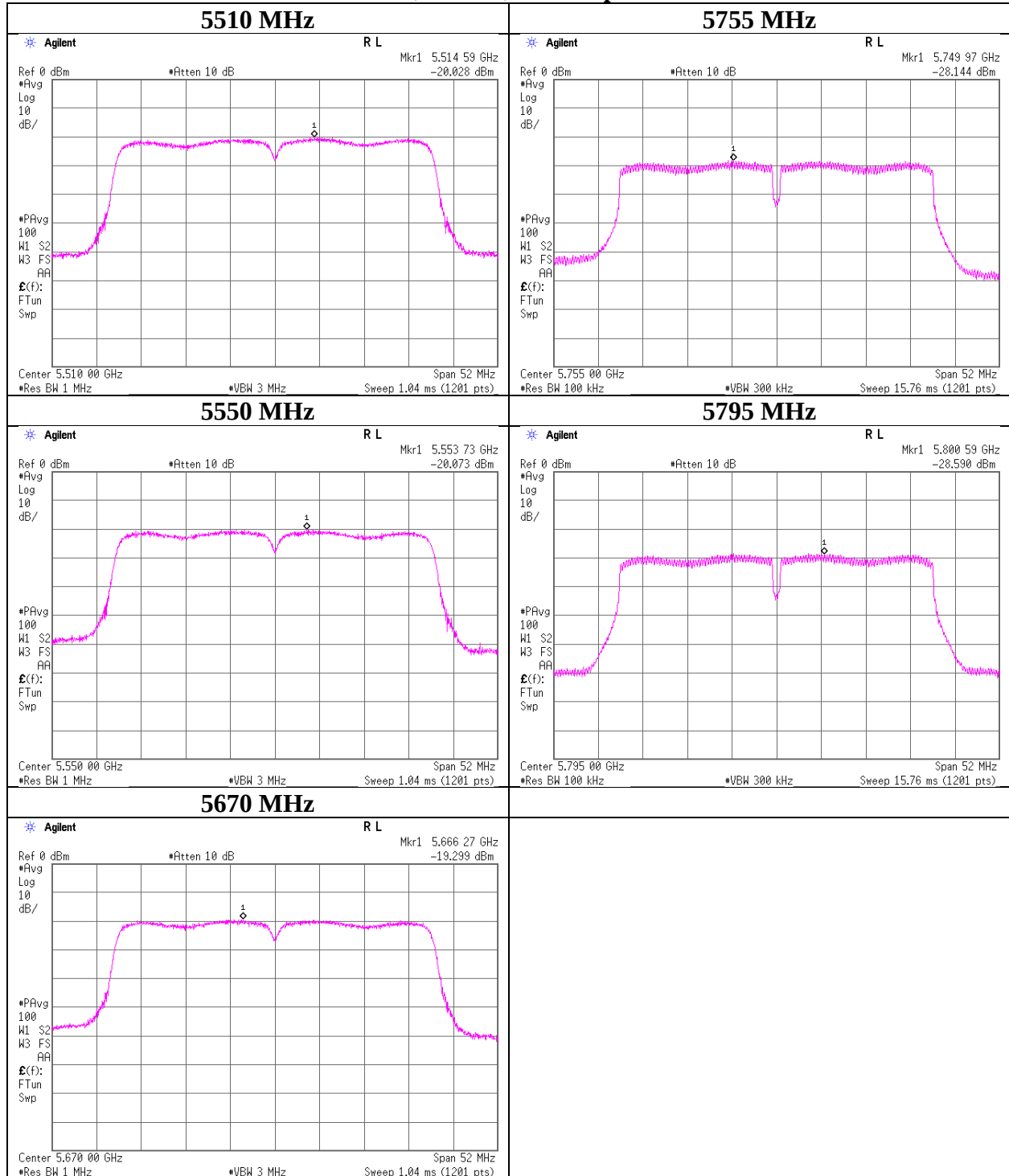
11ac VHT40, MCS 0, normal power mode



Maximum Power Spectral Density

Test place : Shonan EMC Lab. No.5 Shielded Room
Report No. : 10882638S-N
Date : August 26, 2015
Temperature / Humidity : 26 deg. C / 54 % RH
Engineer : Kenichi Adachi
Mode : Tx 11ac VHT40, normal power mode

11ac VHT40, MCS 0, normal power mode



UL Japan, Inc.

Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Maximum Power Spectral Density

Test place : Shonan EMC Lab. No.5 Shielded Room
Report No. : 10882638S-N
Date : August 26, 2015
Temperature / Humidity : 26 deg. C / 54 % RH
Engineer : Kenichi Adachi
Mode : Tx 11ac VHT40, low power mode

11ac VHT40, low power

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	PSD Reading [dBm /MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty Factor [dB]	Antenna Gain [dBi]	RBW Correction Factor [dB]	PSD (Conducted)			PSD (e.i.r.p.)		
							Result [dBm /MHz]	Limit [dBm /MHz]	Margin [dB]	Result [dBm /MHz]	Limit [dBm /MHz]	Margin [dB]
5190	-21.09	2.52	10.04	0.03	-1.32	0.00	-8.50	11.00	19.50	-9.82	17.00	26.82
5230	-21.12	2.51	10.04	0.03	-1.32	0.00	-8.54	11.00	19.54	-9.86	17.00	26.86
5270	-21.20	2.51	10.05	0.03	-1.32	0.00	-8.61	11.00	19.61	-9.93	17.00	26.93
5310	-20.80	2.50	10.05	0.03	-1.32	0.00	-8.22	11.00	19.22	-9.54	17.00	26.54
5510	-21.12	2.45	10.05	0.03	0.30	0.00	-8.59	11.00	19.59	-8.29	17.00	25.29
5550	-21.37	2.45	10.05	0.03	0.30	0.00	-8.84	11.00	19.84	-8.54	17.00	25.54
5670	-20.56	2.46	10.05	0.03	0.30	0.00	-8.02	11.00	19.02	-7.72	17.00	24.72
5755	-29.48	2.47	10.06	0.03	-0.43	6.99	-9.93	30.00	39.93	-10.36	36.00	46.36
5795	-29.49	2.47	10.06	0.03	-0.43	6.99	-9.94	30.00	39.94	-10.37	36.00	46.37

Sample Calculation:

PSD: Power Spectral Density

The PSD within 5725 MHz to 5825 MHz are based on any 500 kHz band.

RBW Correction Factor = $10 * \log(\text{Specified bandwidth} / \text{Measured bandwidth})$

PSD Result (Conducted) = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Duty Factor + RBW Correction

PSD Result (e.i.r.p.) = Conducted PSD Result + Antenna Gain

Although the EUT operates on Master mode, more stringent limit for Client device was applied.

UL Japan, Inc.

Shonan EMC Lab.

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

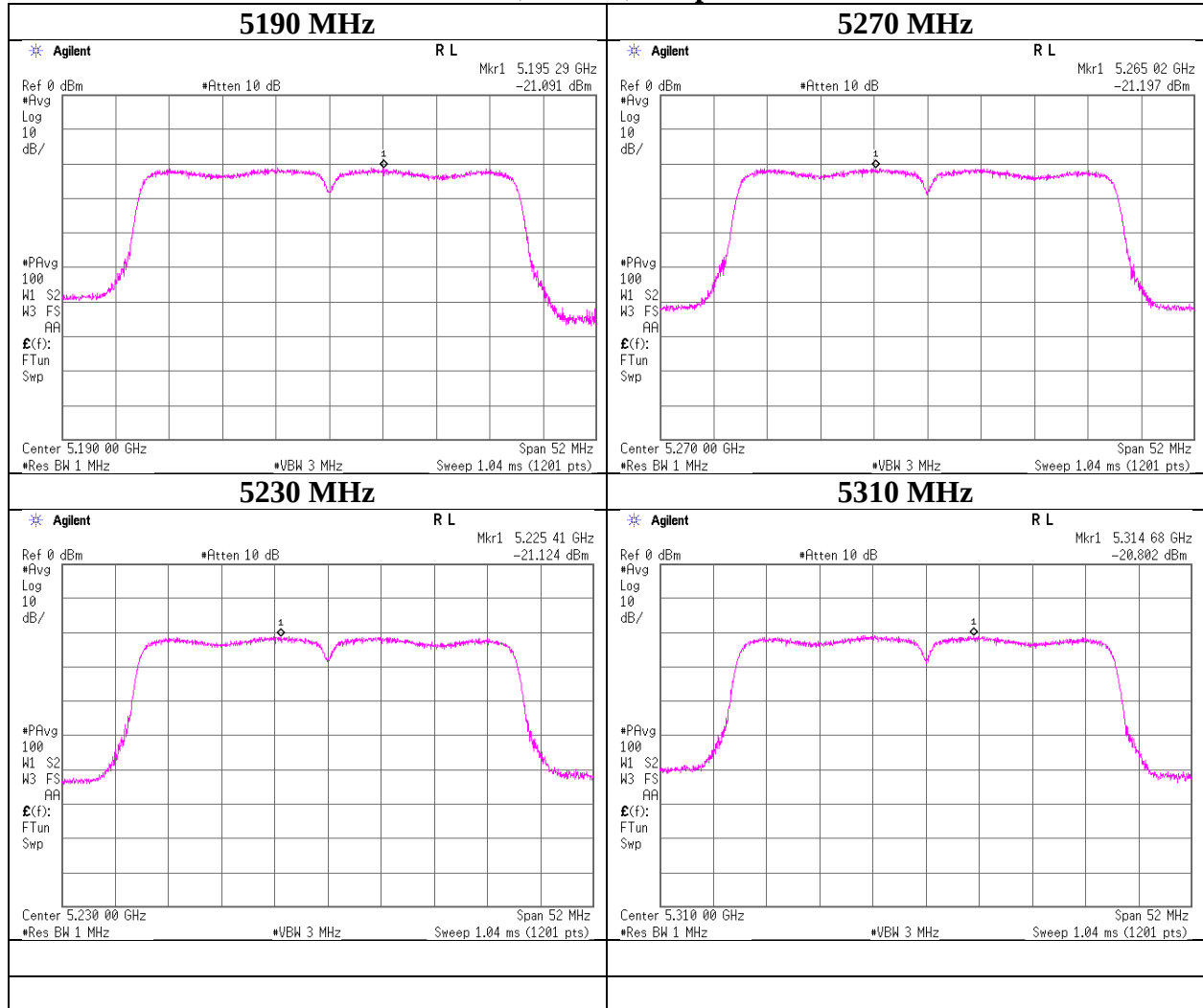
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Maximum Power Spectral Density

Test place : Shonan EMC Lab. No.5 Shielded Room
Report No. : 10882638S-N
Date : August 26, 2015
Temperature / Humidity : 26 deg. C / 54 % RH
Engineer : Kenichi Adachi
Mode : Tx 11ac VHT40, low power mode

11ac VHT40, MCS 0, low power mode



UL Japan, Inc.

Shonan EMC Lab.

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

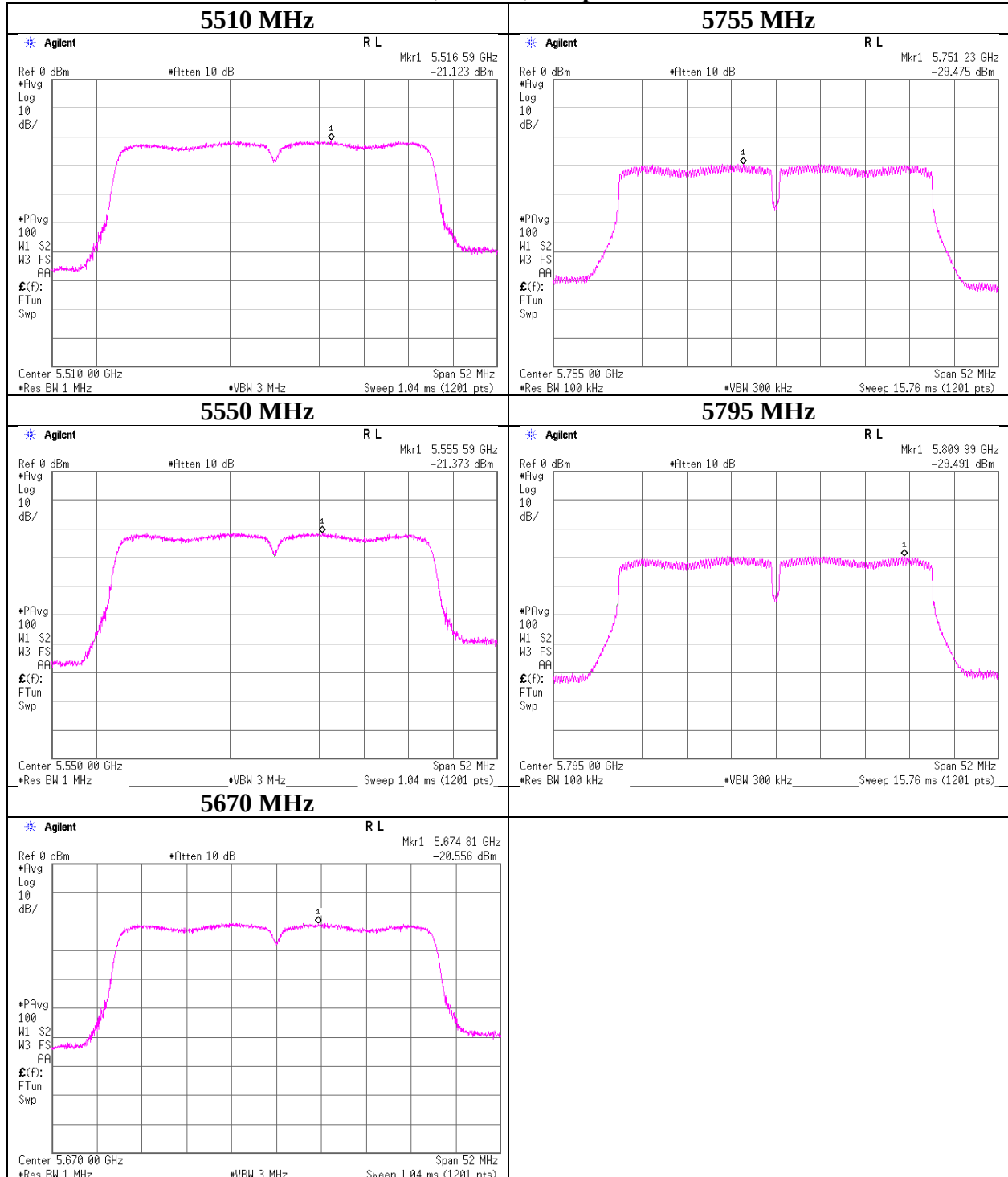
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Maximum Power Spectral Density

Test place : Shonan EMC Lab. No.5 Shielded Room
Report No. : 10882638S-N
Date : August 26, 2015
Temperature / Humidity : 26 deg. C / 54 % RH
Engineer : Kenichi Adachi
Mode : Tx 11ac VHT40, low power mode

11ac VHT40, MCS 0, low power mode



UL Japan, Inc.

Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Maximum Power Spectral Density

Test place : Shonan EMC Lab. No.5 Shielded Room
Report No. : 10882638S-N
Date : August 27, 2015
Temperature / Humidity : 26 deg. C / 50 % RH
Engineer : Kenichi Adachi
Mode : Tx 11ac VHT80

11ac VHT80

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	PSD Reading [dBm /MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty Factor [dB]	Antenna Gain [dBi]	RBW Correction Factor [dB]	PSD (Conducted)			PSD (e.i.r.p.)		
							Result [dBm /MHz]	Limit [dBm /MHz]	Margin [dB]	Result [dBm /MHz]	Limit [dBm /MHz]	Margin [dB]
5210	-24.90	2.52	10.04	0.06	-1.32	0.00	-12.28	11.00	23.28	-13.60	17.00	30.60
5290	-24.54	2.50	10.05	0.06	-1.32	0.00	-11.93	11.00	22.93	-13.25	17.00	30.25
5530	-25.54	2.45	10.05	0.06	0.30	0.00	-12.98	11.00	23.98	-12.68	17.00	29.68
5610	-25.15	2.46	10.05	0.06	0.30	0.00	-12.58	11.00	23.58	-12.28	17.00	29.28
5775	-33.26	2.47	10.06	0.06	-0.43	6.99	-13.68	30.00	43.68	-14.11	36.00	50.11

Sample Calculation:

PSD: Power Spectral Density

The PSD within 5725 MHz to 5825 MHz are based on any 500 kHz band.

RBW Correction Factor = $10 * \log(\text{Specified bandwidth} / \text{Measured bandwidth})$

PSD Result (Conducted) = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Duty Factor + RBW Correction

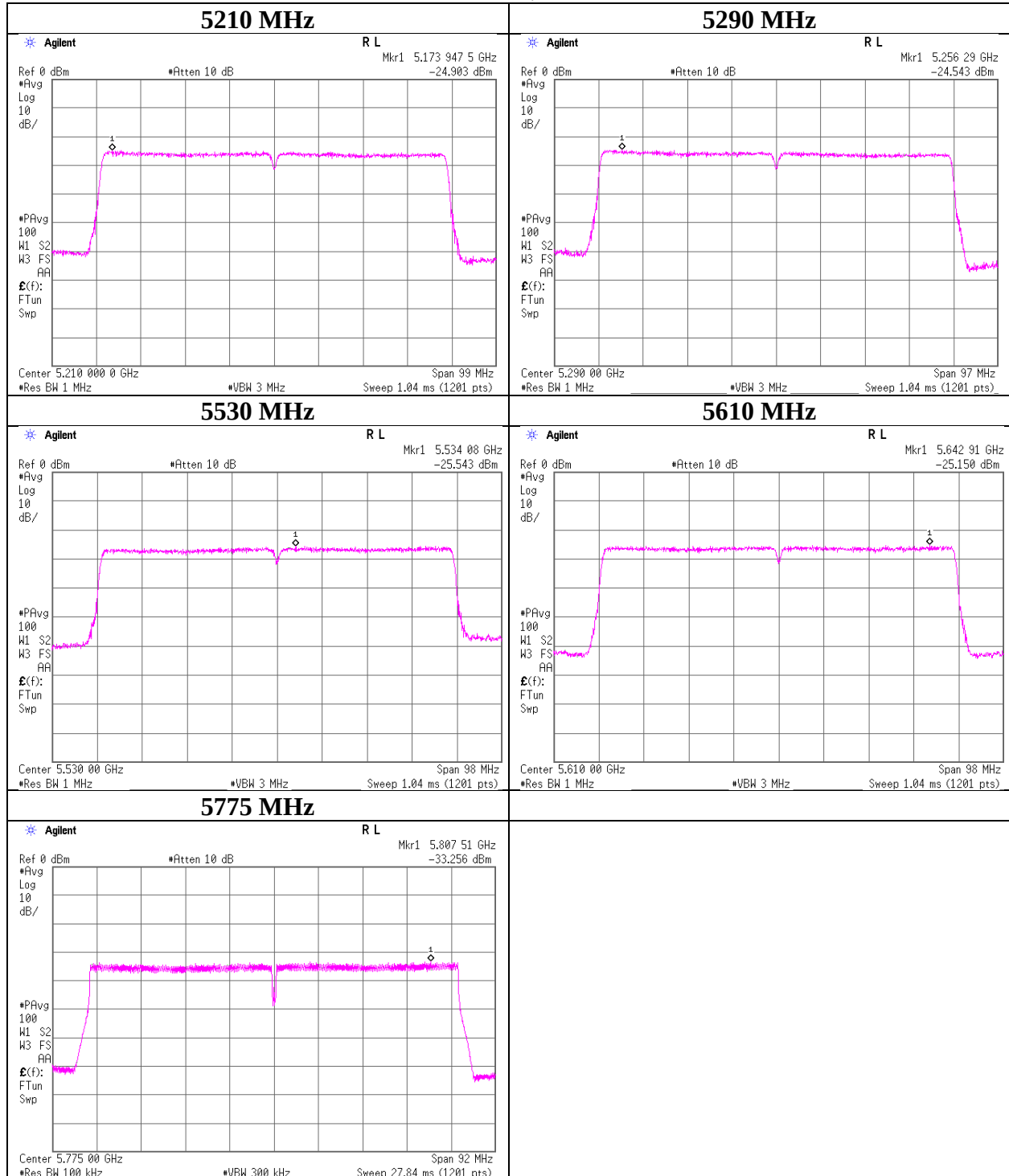
PSD Result (e.i.r.p.) = Conducted PSD Result + Antenna Gain

Although the EUT operates on Master mode, more stringent limit for Client device was applied.

Maximum Power Spectral Density

Test place	Shonan EMC Lab. No.5 Shielded Room
Report No.	10882638S-N
Date	August 27, 2015
Temperature / Humidity	26 deg. C / 50 % RH
Engineer	Kenichi Adachi
Mode	Tx 11ac VHT80

11ac VHT80, MCS 0



UL Japan, Inc.

Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Radiated Spurious Emission

Test place Shonan EMC Lab. No.2, 3 Semi Anechoic Chamber
Report No. 10882638S-N
Date August 13, 2015 August 16, 2015 August 24, 2015 August 29, 2015 September 2, 2015
Temperature / Humidity 26 deg. C / 65 % RH 26 deg. C / 58 % RH 26 deg. C / 57 % RH 26 deg. C / 63 % RH 24 deg. C / 55 % RH
Engineer Shinichi Takano Shinichi Takano Yosuke Ishikawa Tomohiro Hara Shinichi Takano
(No.2 SAC) (No.2 SAC) (No.3 SAC) (No.3 SAC) (No.3 SAC)
Mode Tx, normal power mode, 5180 MHz, (20 MHz BW)

[Tx 11a]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5150.000	PK	48.9	32.0	16.0	41.2	2.4	58.1	73.9	15.8	121	328	
Hori.	5150.000	AV	37.3	32.0	16.0	41.2	2.4	46.5	53.9	7.4	121	328	
Vert.	5150.000	PK	47.7	32.0	16.0	41.2	2.4	56.9	73.9	17.0	100	273	
Vert.	5150.000	AV	36.5	32.0	16.0	41.2	2.4	45.7	53.9	8.2	100	273	

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 15 GHz : 20log (3.95 m / 3.0 m) = 2.4 dB

*This mode was performed only band edges measurement.

[Tx 11n HT20]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5150.000	PK	52.6	32.5	15.4	39.2	3.4	64.7	73.9	9.2	100	311	
Hori.	5150.000	AV	36.7	32.5	15.4	39.2	3.4	48.8	53.9	5.1	100	311	
Vert.	5150.000	PK	49.2	32.5	15.4	39.2	3.4	61.3	73.9	12.6	100	290	
Vert.	5150.000	AV	34.4	32.5	15.4	39.2	3.4	46.5	53.9	7.4	100	290	

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 15 GHz : 20log (4.45 m / 3.0 m) = 3.4 dB

*This mode was performed only band edges measurement.

[Tx 11ac VHT20]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5150.000	PK	49.6	32.0	16.0	41.2	2.4	58.8	73.9	15.1	100	337	
Hori.	10360.000	PK	47.1	39.1	8.4	39.9	2.4	57.1	73.9	16.8	175	189	*1)
Hori.	15540.000	PK	46.5	40.0	10.4	40.9	-9.5	46.5	73.9	27.4	100	0	
Hori.	20720.000	PK	51.0	40.3	11.9	47.0	-9.5	46.7	73.9	27.2	100	117	
Hori.	5150.000	AV	36.1	32.0	16.0	41.2	2.4	45.3	53.9	8.6	100	337	
Hori.	10360.000	AV	35.2	39.1	8.4	39.9	2.4	45.2	53.9	8.7	175	189	*1)
Hori.	15540.000	AV	36.8	40.0	10.4	40.9	-9.5	36.8	53.9	17.1	100	0	
Hori.	20720.000	AV	47.5	40.3	11.9	47.0	-9.5	43.2	53.9	10.7	100	117	
Vert.	5150.000	PK	49.4	32.0	16.0	41.2	2.4	58.6	73.9	15.3	114	278	
Vert.	10360.000	PK	45.8	39.1	8.4	39.9	2.4	55.8	73.9	18.1	100	179	*1)
Vert.	15540.000	PK	46.3	40.0	10.4	40.9	-9.5	46.3	73.9	27.6	100	0	
Vert.	20720.000	PK	53.4	40.3	11.9	47.0	-9.5	49.1	73.9	24.8	105	146	
Vert.	5150.000	AV	35.8	32.0	16.0	41.2	2.4	45.0	53.9	8.9	114	278	
Vert.	10360.000	AV	34.2	39.1	8.4	39.9	2.4	44.2	53.9	9.7	100	179	*1)
Vert.	15540.000	AV	36.7	40.0	10.4	40.9	-9.5	36.7	53.9	17.2	100	0	
Vert.	20720.000	AV	50.5	40.3	11.9	47.0	-9.5	46.2	53.9	7.7	105	146	

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 15 GHz : 20log (3.95 m / 3.0 m) = 2.4 dB

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

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

UL Japan, Inc.

Shonan EMC Lab.

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

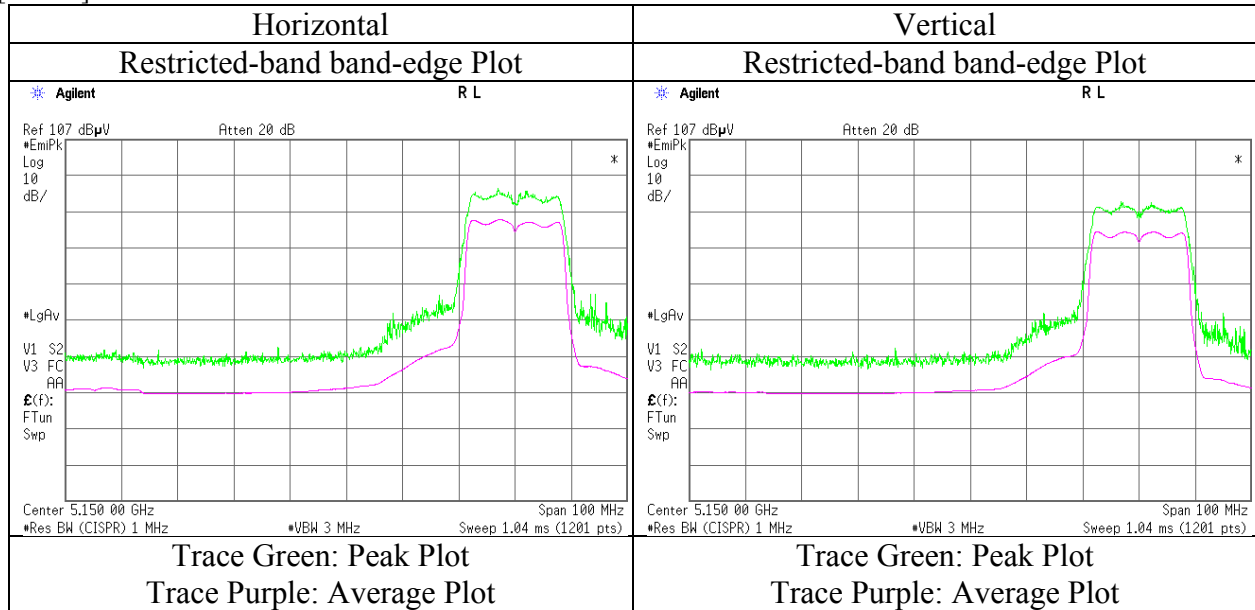
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

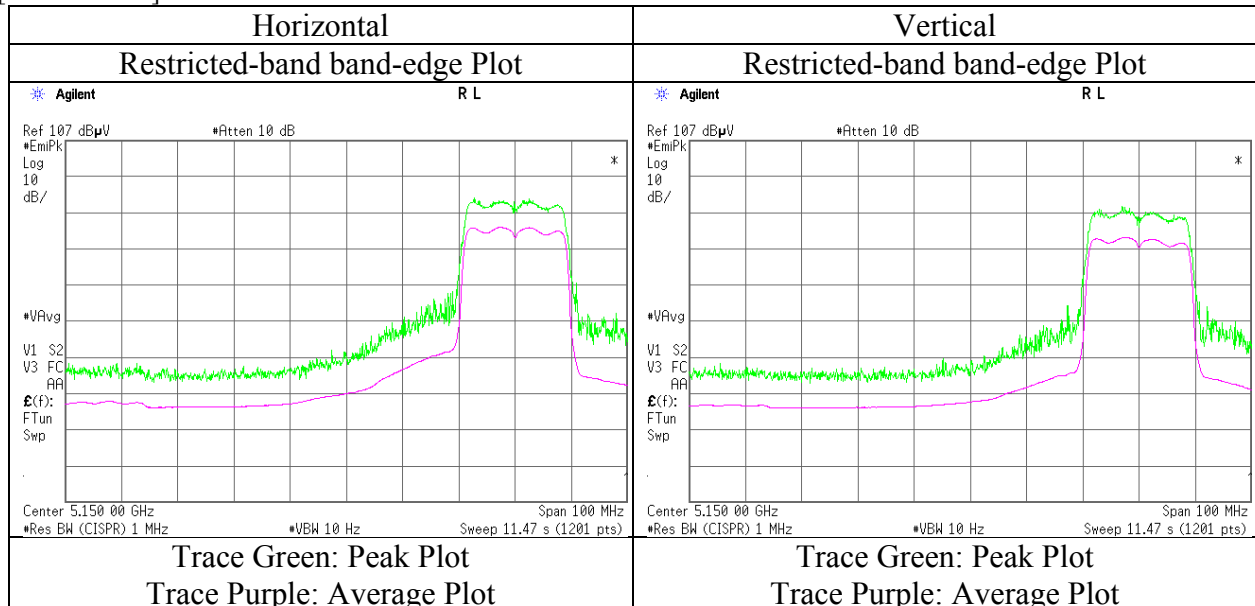
Radiated Spurious Emission

Test place	Shonan EMC Lab. No.2, 3 Semi Anechoic Chamber		
Report No.	10882638S-N		
Date	August 13, 2015	August 16, 2015	August 24, 2015
Temperature / Humidity	26 deg. C / 65 % RH	26 deg. C / 58 % RH	26 deg. C / 57 % RH
Engineer	Shinichi Takano (No.2 SAC)	Shinichi Takano (No.2 SAC)	Yosuke Ishikawa (No.3 SAC)
Mode	Tx, normal power mode, 5180 MHz, (20 MHz BW)		

[Tx 11a]

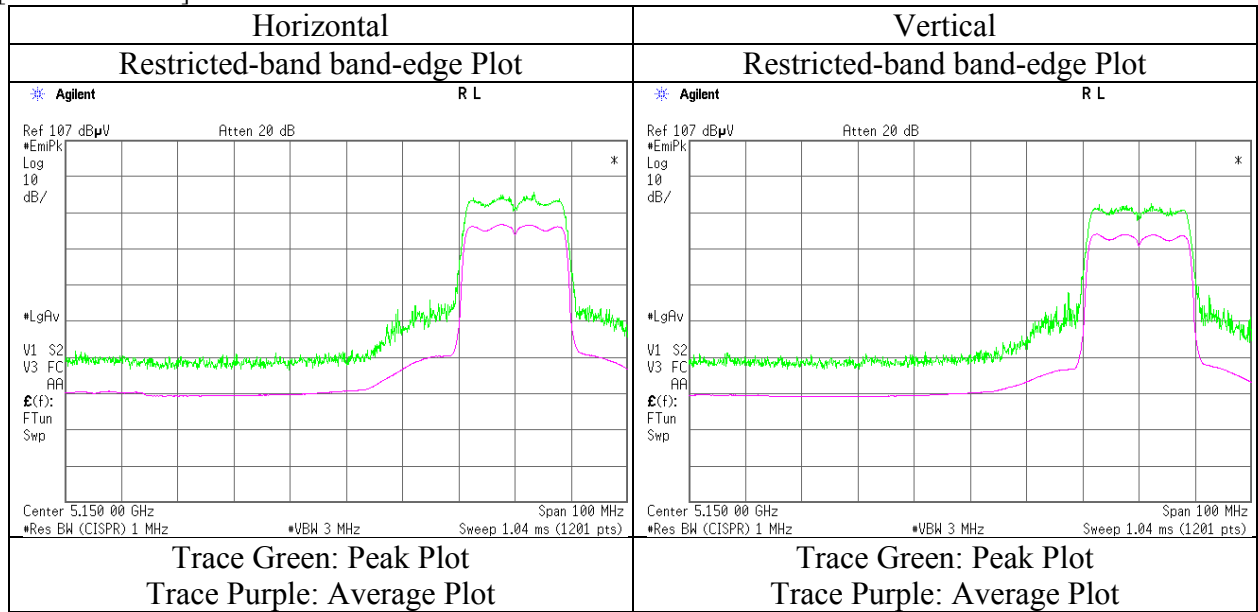


[Tx 11n HT20]



* Final result of restricted band edge was shown in tabular data.

[Tx 11ac VHT20]



* Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Test place	Shonan EMC Lab. No.2, 3 Semi Anechoic Chamber		
Report No.	10882638S-N		
Date	August 15, 2015	August 29, 2015	September 2, 2015
Temperature / Humidity	25 deg. C / 59 % RH	26 deg. C / 63 % RH	24 deg. C / 55 % RH
Engineer	Shinichi Takano	Tomohiro Hara	Shinichi Takano
	(No.2 SAC)	(No.3 SAC)	(No.3 SAC)
Mode	Tx, normal power mode, 5240 MHz, (20 MHz BW)		

[Tx 11ac VHT20]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	10480.000	PK	45.8	39.5	8.7	39.9	2.4	56.5	73.9	17.4	172	203	*1)
Hori.	15720.000	PK	46.0	39.9	10.6	40.8	-9.5	46.2	73.9	27.7	100	0	
Hori.	20960.000	PK	50.6	40.3	12.0	47.0	-9.5	46.4	73.9	27.5	100	121	
Hori.	10480.000	AV	34.7	39.5	8.7	39.9	2.4	45.4	53.9	8.5	172	203	*1)
Hori.	15720.000	AV	36.6	39.9	10.6	40.8	-9.5	36.8	53.9	17.1	100	0	
Hori.	20960.000	AV	46.4	40.3	12.0	47.0	-9.5	42.2	53.9	11.7	100	121	
Vert.	10480.000	PK	45.4	39.5	8.7	39.9	2.4	56.1	73.9	17.8	100	0	*1)
Vert.	15720.000	PK	46.2	39.9	10.6	40.8	-9.5	46.4	73.9	27.5	100	0	
Vert.	20960.000	PK	53.3	40.3	12.0	47.0	-9.5	49.1	73.9	24.8	109	143	
Vert.	10480.000	AV	33.9	39.5	8.7	39.9	2.4	44.6	53.9	9.3	100	0	*1)
Vert.	15720.000	AV	37.2	39.9	10.6	40.8	-9.5	37.4	53.9	16.5	100	0	
Vert.	20960.000	AV	50.6	40.3	12.0	47.0	-9.5	46.4	53.9	7.5	109	143	

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 15 GHz : $20\log(3.95\text{ m} / 3.0\text{ m}) = 2.4\text{ dB}$

15 GHz - 40 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.5\text{ dB}$

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

UL Japan, Inc.

Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Radiated Spurious Emission

Test place	Shonan EMC Lab. No.2, 3 Semi Anechoic Chamber		
Report No.	10882638S-N		
Date	August 15, 2015	August 29, 2015	September 2, 2015
Temperature / Humidity	25 deg. C / 59 % RH	26 deg. C / 63 % RH	24 deg. C / 55 % RH
Engineer	Shinichi Takano	Tomohiro Hara	Shinichi Takano
	(No.2 SAC)	(No.3 SAC)	(No.3 SAC)
Mode	Tx, normal power mode, 5260 MHz, (20 MHz BW)		

[Tx 11ac VHT20]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	10520.000	PK	46.4	39.6	8.7	39.9	2.4	57.2	73.9	16.7	158	203	*1)
Hori.	15780.000	PK	46.8	39.9	10.7	40.8	-9.5	47.1	73.9	26.8	100	0	
Hori.	21040.000	PK	51.8	40.3	12.0	47.0	-9.5	47.6	73.9	26.3	100	128	
Hori.	10520.000	AV	35.5	39.6	8.7	39.9	2.4	46.3	53.9	7.6	158	203	*1)
Hori.	15780.000	AV	36.2	39.9	10.7	40.8	-9.5	36.5	53.9	17.4	100	0	
Hori.	21040.000	AV	48.5	40.3	12.0	47.0	-9.5	44.3	53.9	9.6	100	128	
Vert.	10520.000	PK	45.5	39.6	8.7	39.9	2.4	56.3	73.9	17.6	100	0	*1)
Vert.	15780.000	PK	46.0	39.9	10.7	40.8	-9.5	46.3	73.9	27.6	100	0	
Vert.	21040.000	PK	55.1	40.3	12.0	47.0	-9.5	50.9	73.9	23.0	107	142	
Vert.	10520.000	AV	34.3	39.6	8.7	39.9	2.4	45.1	53.9	8.8	100	0	*1)
Vert.	15780.000	AV	36.8	39.9	10.7	40.8	-9.5	37.1	53.9	16.8	100	0	
Vert.	21040.000	AV	53.0	40.3	12.0	47.0	-9.5	48.8	53.9	5.1	107	142	

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 15 GHz : $20\log(3.95\text{ m} / 3.0\text{ m}) = 2.4\text{ dB}$

15 GHz - 40 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.5\text{ dB}$

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

UL Japan, Inc.

Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Radiated Spurious Emission

Test place Shonan EMC Lab. No.2, 3 Semi Anechoic Chamber
Report No. 10882638S-N
Date August 15, 2015 August 28, 2015 August 29, 2015 September 2, 2015
Temperature / Humidity 25 deg. C / 59 % RH 22 deg. C / 59 % RH 26 deg. C / 63 % RH 24 deg. C / 55 % RH
Engineer Shinichi Takano Yosuke Ishikawa Tomohiro Hara Shinichi Takano
(No.2 SAC) (No.2 SAC) (No.3 SAC) (No.3 SAC)
Mode Tx, normal power mode, 5320 MHz, (20 MHz BW)

[Tx 11a]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5350.000	PK	48.4	31.8	16.0	40.7	2.4	57.9	73.9	16.0	100	316	
Hori.	5350.000	AV	36.8	31.8	16.0	40.7	2.4	46.3	53.9	7.6	100	316	
Vert.	5350.000	PK	48.6	31.8	16.0	40.7	2.4	58.1	73.9	15.8	100	275	
Vert.	5350.000	AV	36.6	31.8	16.0	40.7	2.4	46.1	53.9	7.8	100	275	

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 15 GHz : 20log (3.95 m / 3.0 m) = 2.4 dB

*This mode was performed only band edges measurement.

[Tx 11n HT20]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5350.000	PK	48.2	32.4	15.5	38.9	3.4	60.6	73.9	13.3	100	315	
Hori.	5350.000	AV	34.6	32.4	15.5	38.9	3.4	47.0	53.9	6.9	100	315	
Vert.	5350.000	PK	47.6	32.4	15.5	38.9	3.4	60.0	73.9	13.9	100	283	
Vert.	5350.000	AV	34.4	32.4	15.5	38.9	3.4	46.8	53.9	7.1	100	283	

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 15 GHz : 20log (4.45 m / 3.0 m) = 3.4 dB

*This mode was performed only band edges measurement.

[Tx 11ac VHT20]

(below 1GHz and above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	212.897	QP	21.9	16.5	9.0	31.7	0.0	15.7	43.5	27.8	100	312	
Hori.	346.843	QP	29.7	15.0	6.9	31.6	0.0	20.0	46.0	26.0	100	115	
Hori.	764.988	QP	21.6	20.5	9.1	31.4	0.0	19.8	46.0	26.2	100	22	
Hori.	966.535	QP	20.6	22.6	10.0	30.3	0.0	22.9	53.9	31.0	100	2	
Hori.	5350.000	PK	49.1	31.8	16.0	40.7	2.4	58.6	73.9	15.3	100	315	
Hori.	10640.000	PK	47.2	39.7	8.7	39.9	2.4	58.1	73.9	15.8	171	196	
Hori.	15960.000	PK	45.7	39.8	11.0	40.7	-9.5	46.3	73.9	27.6	100	0	
Hori.	21280.000	PK	51.2	40.4	12.1	47.1	-9.5	47.1	73.9	26.8	100	124	
Hori.	5350.000	AV	36.5	31.8	16.0	40.7	2.4	46.0	53.9	7.9	100	315	
Hori.	10640.000	AV	36.1	39.7	8.7	39.9	2.4	47.0	53.9	6.9	171	196	
Hori.	15960.000	AV	36.6	39.8	11.0	40.7	-9.5	37.2	53.9	16.7	100	0	
Hori.	21280.000	AV	46.9	40.4	12.1	47.1	-9.5	42.8	53.9	11.1	100	124	
Vert.	201.095	QP	22.4	16.4	8.9	31.8	0.0	15.9	43.5	27.6	100	336	
Vert.	353.995	QP	25.9	15.2	6.9	31.6	0.0	16.4	46.0	29.6	100	4	
Vert.	949.773	QP	20.9	22.6	9.9	30.5	0.0	22.9	46.0	23.1	100	31	
Vert.	5350.000	PK	48.5	31.8	16.0	40.7	2.4	58.0	73.9	15.9	100	278	
Vert.	10640.000	PK	46.8	39.7	8.7	39.9	2.4	57.7	73.9	16.2	134	181	
Vert.	15960.000	PK	45.6	39.8	11.0	40.7	-9.5	46.2	73.9	27.7	100	0	
Vert.	21280.000	PK	53.4	40.4	12.1	47.1	-9.5	49.3	73.9	24.6	107	142	
Vert.	5350.000	AV	36.1	31.8	16.0	40.7	2.4	45.6	53.9	8.3	100	278	
Vert.	10640.000	AV	35.1	39.7	8.7	39.9	2.4	46.0	53.9	7.9	134	181	
Vert.	15960.000	AV	36.4	39.8	11.0	40.7	-9.5	37.0	53.9	16.9	100	0	
Vert.	21280.000	AV	51.2	40.4	12.1	47.1	-9.5	47.1	53.9	6.8	107	142	

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

*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 : 1 GHz - 15 GHz : 20log (3.95 m / 3.0 m) = 2.4 dB

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

UL Japan, Inc.

Shonan EMC Lab.

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

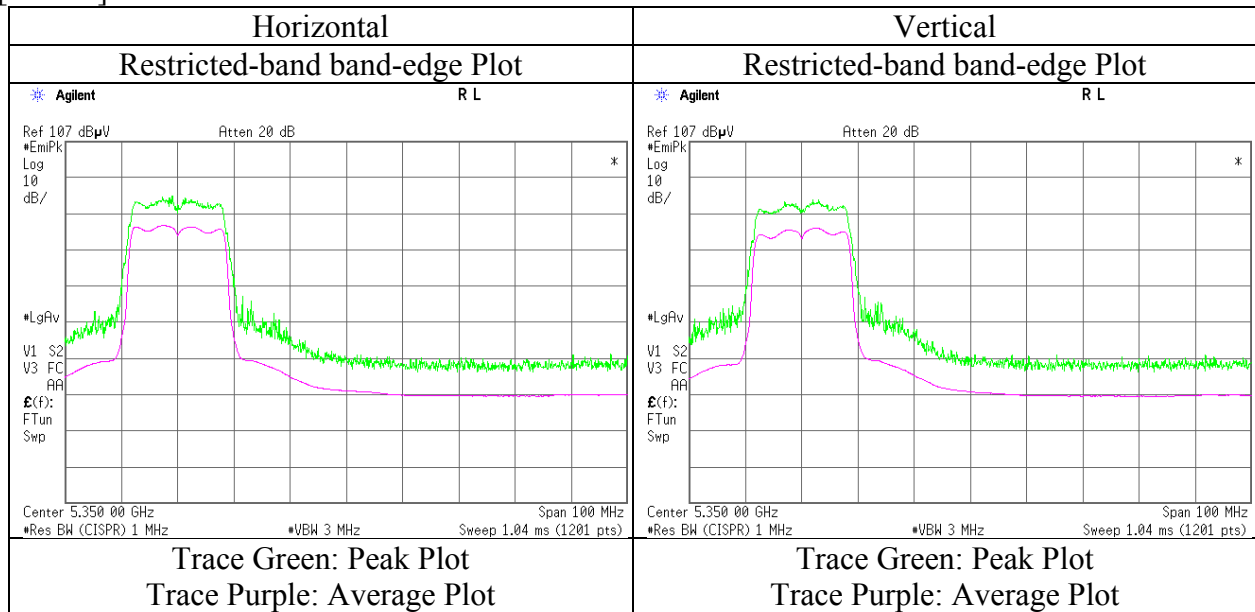
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

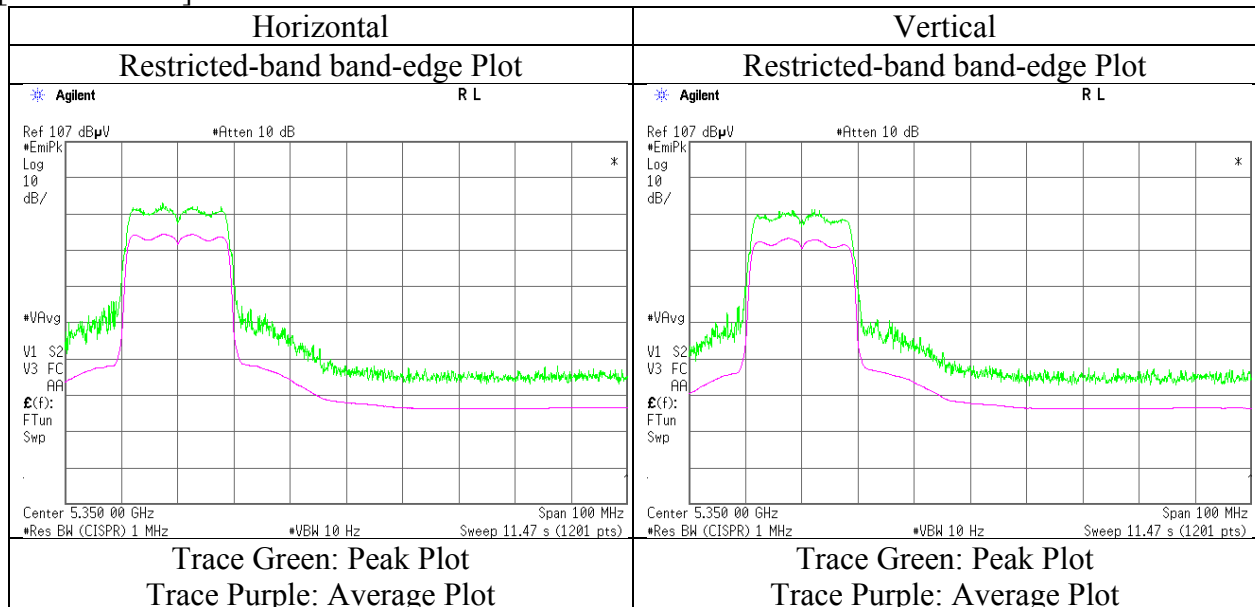
Radiated Spurious Emission

Test place	Shonan EMC Lab. No.2, 3 Semi Anechoic Chamber		
Report No.	10882638S-N		
Date	August 15, 2015	August 16, 2015	August 24, 2015
Temperature / Humidity	25 deg. C / 59 % RH	26 deg. C / 58 % RH	26 deg. C / 57 % RH
Engineer	Shinichi Takano (No.2 SAC)	Shinichi Takano (No.2 SAC)	Yosuke Ishikawa (No.2 SAC)
Mode	Tx, normal power mode, 5320 MHz, (20 MHz BW)		

[Tx 11a]

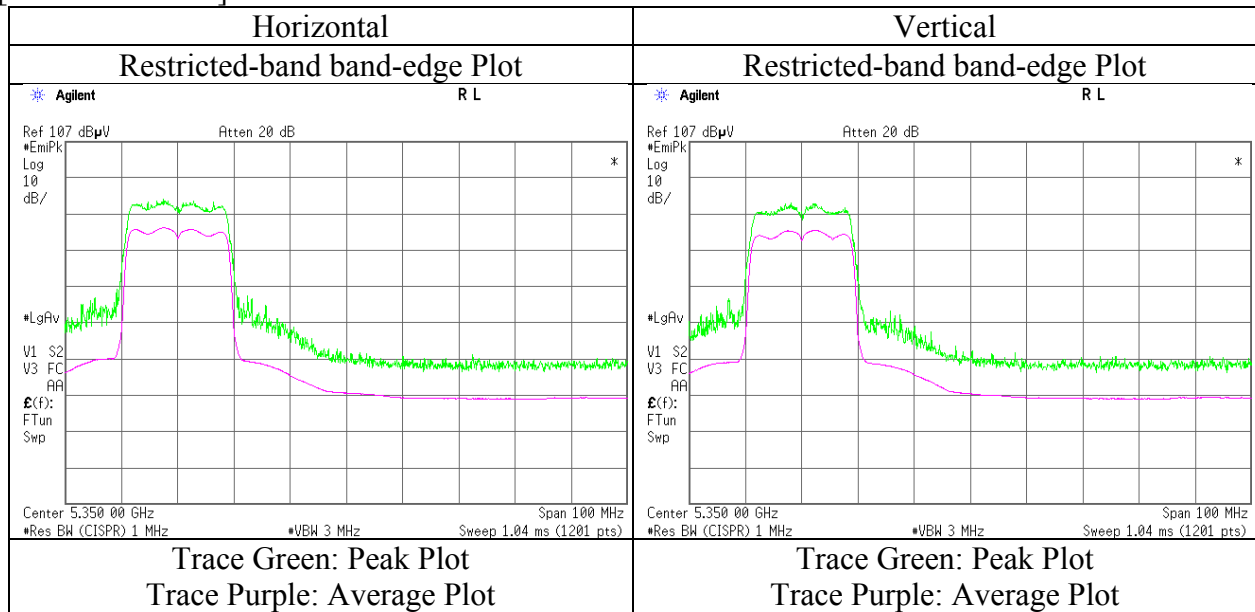


[Tx 11n HT20]



* Final result of restricted band edge was shown in tabular data.

[Tx 11ac VHT20]



* Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Test place	Shonan EMC Lab. No.2, 3 Semi Anechoic Chamber			
Report No.	10882638S-N			
Date	August 15, 2015	August 24, 2015	August 29, 2015	September 2, 2015
Temperature / Humidity	25 deg. C / 59 % RH	26 deg. C / 57 % RH	26 deg. C / 63 % RH	24 deg. C / 55 % RH
Engineer	Shinichi Takano	Yosuke Ishikawa	Tomohiro Hara	Shinichi Takano
	(No.2 SAC)	(No.2 SAC)	(No.3 SAC)	(No.3 SAC)
Mode	Tx, normal power mode, 5500 MHz, (20 MHz BW)			

[Tx 11a]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5460.000	PK	41.9	32.3	15.5	38.8	3.4	54.3	73.9	19.6	103	291	
Hori.	5470.000	PK	44.5	32.3	15.5	38.8	3.4	56.9	73.9	17.0	103	291	*1)
Hori.	5460.000	AV	33.2	32.3	15.5	38.8	3.4	45.6	53.9	8.3	103	291	
Hori.	5470.000	AV	34.0	32.3	15.5	38.8	3.4	46.4	53.9	7.5	103	291	*1)
Vert.	5460.000	PK	43.3	32.3	15.5	38.8	3.4	55.7	73.9	18.2	100	339	
Vert.	5470.000	PK	46.7	32.3	15.5	38.8	3.4	59.1	73.9	14.8	100	339	*1)
Vert.	5460.000	AV	33.8	32.3	15.5	38.8	3.4	46.2	53.9	7.7	100	339	
Vert.	5470.000	AV	35.5	32.3	15.5	38.8	3.4	47.9	53.9	6.0	100	339	*1)

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 15 GHz : $20\log(4.45\text{ m} / 3.0\text{ m}) = 3.4\text{ dB}$

*This mode was performed only band edges measurement.

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

[Tx 11n HT20]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5460.000	PK	45.5	32.3	15.5	38.8	3.4	57.9	73.9	16.0	100	275	
Hori.	5470.000	PK	47.0	32.3	15.5	38.8	3.4	59.4	73.9	14.5	100	275	*1)
Hori.	5460.000	AV	33.0	32.3	15.5	38.8	3.4	45.4	53.9	8.5	100	275	
Hori.	5470.000	AV	33.5	32.3	15.5	38.8	3.4	45.9	53.9	8.0	100	275	*1)
Vert.	5460.000	PK	46.1	32.3	15.5	38.8	3.4	58.5	73.9	15.4	100	94	
Vert.	5470.000	PK	46.8	32.3	15.5	38.8	3.4	59.2	73.9	14.7	100	94	*1)
Vert.	5460.000	AV	32.9	32.3	15.5	38.8	3.4	45.3	53.9	8.6	100	94	
Vert.	5470.000	AV	33.5	32.3	15.5	38.8	3.4	45.9	53.9	8.0	100	94	*1)

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 15 GHz : $20\log(4.45\text{ m} / 3.0\text{ m}) = 3.4\text{ dB}$

*This mode was performed only band edges measurement.

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

UL Japan, Inc.

Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

[Tx 11ac VHT20]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5460.000	PK	46.3	31.8	16.0	40.5	2.4	56.0	73.9	17.9	100	286	
Hori.	5470.000	PK	47.6	31.7	16.0	40.5	2.4	57.2	73.9	16.7	100	286	*1)
Hori.	11000.000	PK	47.0	40.3	8.9	40.0	2.4	58.6	73.9	15.3	161	203	
Hori.	16500.000	PK	44.8	40.5	10.9	40.5	-9.5	46.2	73.9	27.7	100	0	*1)
Hori.	22000.000	PK	54.8	40.7	12.4	47.4	-9.5	51.0	73.9	22.9	102	129	
Hori.	5460.000	AV	34.8	31.8	16.0	40.5	2.4	44.5	53.9	9.4	100	286	
Hori.	5470.000	AV	35.9	31.7	16.0	40.5	2.4	45.5	53.9	8.4	100	286	*1)
Hori.	11000.000	AV	37.2	40.3	8.9	40.0	2.4	48.8	53.9	5.1	161	203	
Hori.	16500.000	AV	35.6	40.5	10.9	40.5	-9.5	37.0	53.9	16.9	100	0	*1)
Hori.	22000.000	AV	51.7	40.7	12.4	47.4	-9.5	47.9	53.9	6.0	102	129	
Vert.	5460.000	PK	47.2	31.8	16.0	40.5	2.4	56.9	73.9	17.0	100	258	
Vert.	5470.000	PK	49.2	31.7	16.0	40.5	2.4	58.8	73.9	15.1	100	258	*1)
Vert.	11000.000	PK	46.8	40.3	8.9	40.0	2.4	58.4	73.9	15.5	100	183	
Vert.	16500.000	PK	44.7	40.5	10.9	40.5	-9.5	46.1	73.9	27.8	100	0	*1)
Vert.	22000.000	PK	55.7	40.7	12.4	47.4	-9.5	51.9	73.9	22.0	108	143	
Vert.	5460.000	AV	34.7	31.8	16.0	40.5	2.4	44.4	53.9	9.5	100	258	
Vert.	5470.000	AV	35.8	31.7	16.0	40.5	2.4	45.4	53.9	8.5	100	258	*1)
Vert.	11000.000	AV	36.2	40.3	8.9	40.0	2.4	47.8	53.9	6.1	100	183	
Vert.	16500.000	AV	35.7	40.5	10.9	40.5	-9.5	37.1	53.9	16.8	100	0	*1)
Vert.	22000.000	AV	53.5	40.7	12.4	47.4	-9.5	49.7	53.9	4.2	108	143	

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

*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 : 1 GHz - 15 GHz : $20\log(3.95\text{ m} / 3.0\text{ m}) = 2.4\text{ dB}$

15 GHz - 40 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.5\text{ dB}$

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

UL Japan, Inc.

Shonan EMC Lab.

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

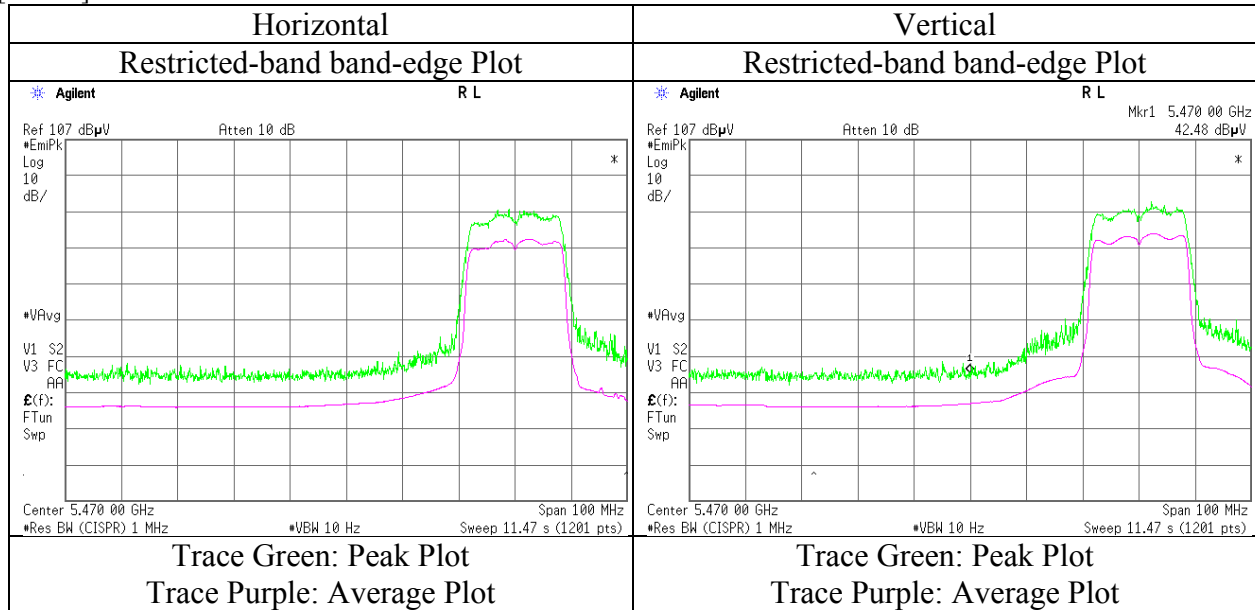
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

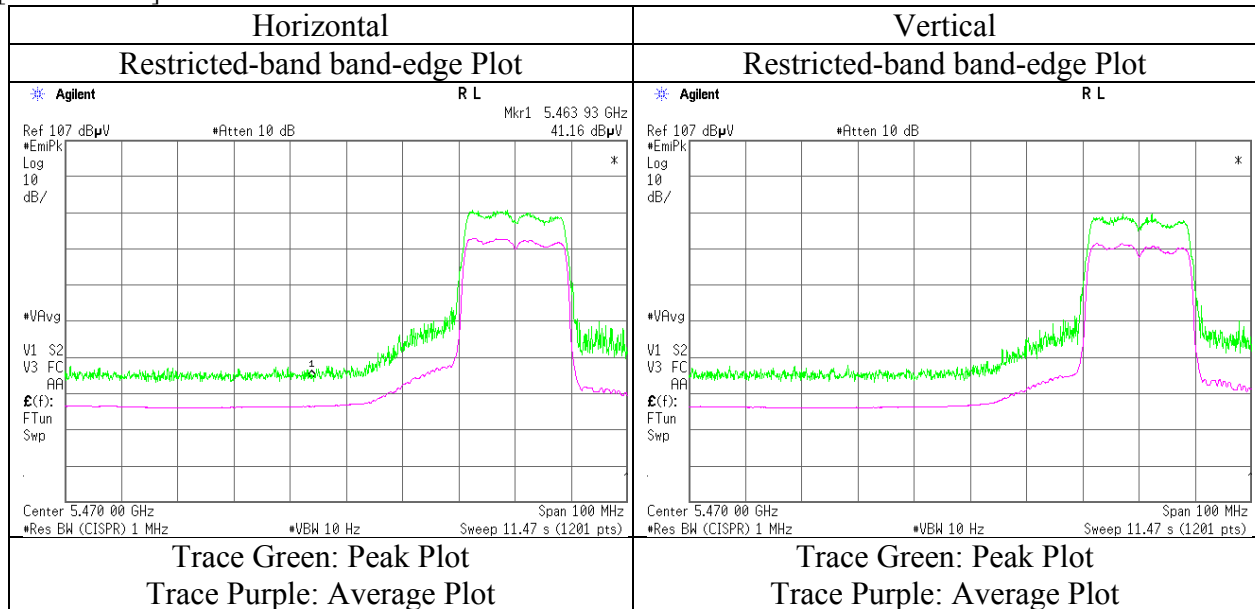
Radiated Spurious Emission

Test place	Shonan EMC Lab. No.2 Semi Anechoic Chamber	
Report No.	10882638S-N	
Date	August 15, 2015	August 24, 2015
Temperature / Humidity	25 deg. C / 59 % RH	26 deg. C / 57 % RH
Engineer	Shinichi Takano	Yosuke Ishikawa
	(No.2 SAC)	(No.2 SAC)
Mode	Tx, normal power mode, 5500 MHz, (20 MHz BW)	

[Tx 11a]

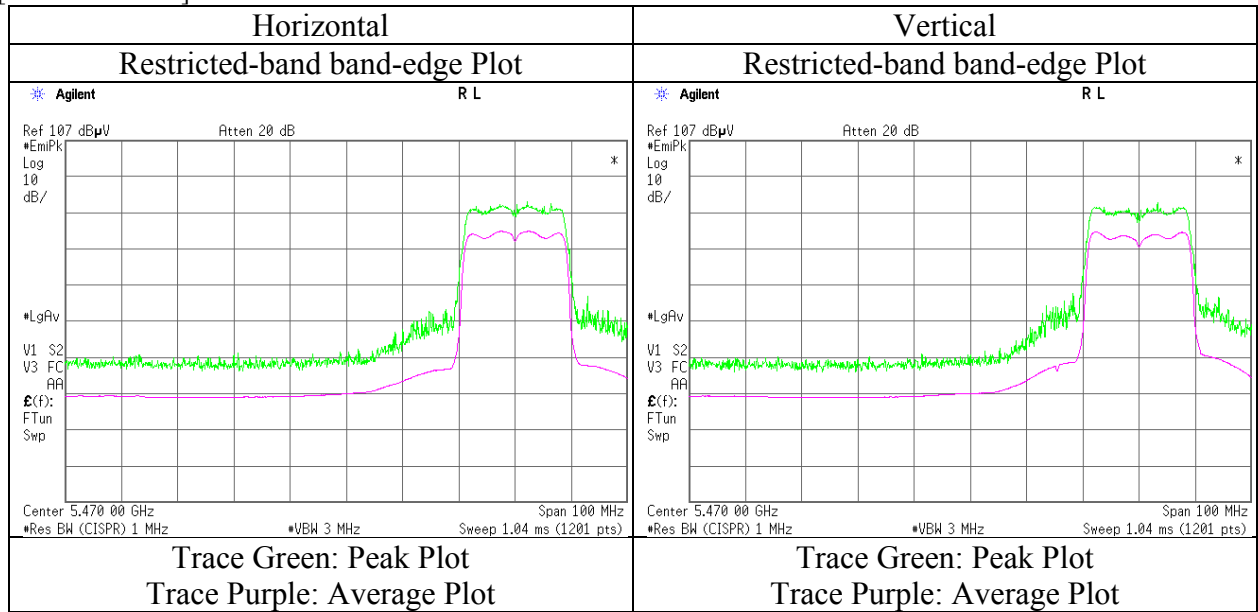


[Tx 11n HT20]



* Final result of restricted band edge was shown in tabular data.

[Tx 11ac VHT20]



* Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Test place	Shonan EMC Lab. No.2, 3 Semi Anechoic Chamber		
Report No.	10882638S-N		
Date	August 15, 2015	August 29, 2015	September 2, 2015
Temperature / Humidity	25 deg. C / 59 % RH	26 deg. C / 63 % RH	24 deg. C / 55 % RH
Engineer	Shinichi Takano	Tomohiro Hara	Shinichi Takano
	(No.2 SAC)	(No.3 SAC)	(No.3 SAC)
Mode	Tx, normal power mode, 5580 MHz, (20 MHz BW)		

[Tx 11ac VHT20]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11160.000	PK	47.2	40.2	8.9	40.0	2.4	58.7	73.9	15.2	116	228	*1)
Hori.	16740.000	PK	44.8	40.9	11.0	40.1	-9.5	47.1	73.9	26.8	100	0	
Hori.	22320.000	PK	48.2	40.8	12.5	47.6	-9.5	44.4	73.9	29.5	100	112	
Hori.	11160.000	AV	36.2	40.2	8.9	40.0	2.4	47.7	53.9	6.2	116	228	*1)
Hori.	16740.000	AV	35.0	40.9	11.0	40.1	-9.5	37.3	53.9	16.6	100	0	
Hori.	22320.000	AV	42.5	40.8	12.5	47.6	-9.5	38.7	53.9	15.2	100	112	
Vert.	11160.000	PK	47.5	40.2	8.9	40.0	2.4	59.0	73.9	14.9	100	182	*1)
Vert.	16740.000	PK	46.4	40.9	11.0	40.1	-9.5	48.7	73.9	25.2	100	0	
Vert.	22320.000	PK	50.5	40.8	12.5	47.6	-9.5	46.7	73.9	27.2	106	143	
Vert.	11160.000	AV	36.2	40.2	8.9	40.0	2.4	47.7	53.9	6.2	100	182	*1)
Vert.	16740.000	AV	36.1	40.9	11.0	40.1	-9.5	38.4	53.9	15.5	100	0	
Vert.	22320.000	AV	47.0	40.8	12.5	47.6	-9.5	43.2	53.9	10.7	106	143	

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 15 GHz : $20\log(3.95\text{ m} / 3.0\text{ m}) = 2.4\text{ dB}$

15 GHz - 40 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.5\text{ dB}$

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

UL Japan, Inc.

Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Radiated Spurious Emission

Test place Shonan EMC Lab. No.2, 3 Semi Anechoic Chamber
Report No. 10882638S-N
Date August 15, 2015 August 24, 2015 August 29, 2015 September 2, 2015
Temperature / Humidity 25 deg. C / 59 % RH 26 deg. C / 57 % RH 26 deg. C / 63 % RH 24 deg. C / 55 % RH
Engineer Shinichi Takano Yosuke Ishikawa Tomohiro Hara Shinichi Takano
(No.2 SAC) (No.2 SAC) (No.3 SAC) (No.3 SAC)
Mode Tx, normal power mode, 5700 MHz, (20 MHz BW)

[Tx 11a]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5725.000	PK	52.4	32.8	15.6	38.8	3.4	65.4	73.9	8.5	100	272	*1)
Hori.	5725.000	AV	35.4	32.8	15.6	38.8	3.4	48.4	53.9	5.5	100	272	*1)
Vert.	5725.000	PK	48.8	32.8	15.6	38.8	3.4	61.8	73.9	12.1	100	104	*1)
Vert.	5725.000	AV	34.1	32.8	15.6	38.8	3.4	47.1	53.9	6.8	100	104	*1)

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 15 GHz : $20\log(4.45\text{ m}/3.0\text{ m}) = 3.4\text{ dB}$

*This mode was performed only band edges measurement.

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

[Tx 11n HT20]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5725.000	PK	53.1	32.8	15.6	38.8	3.4	66.1	73.9	7.8	100	265	*1)
Hori.	5725.000	AV	35.6	32.8	15.6	38.8	3.4	48.6	53.9	5.3	100	265	*1)
Vert.	5725.000	PK	52.6	32.8	15.6	38.8	3.4	65.6	73.9	8.3	100	105	*1)
Vert.	5725.000	AV	35.8	32.8	15.6	38.8	3.4	48.8	53.9	5.1	100	105	*1)

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 15 GHz : $20\log(4.45\text{ m}/3.0\text{ m}) = 3.4\text{ dB}$

*This mode was performed only band edges measurement.

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

[Tx 11ac VHT20]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5725.000	PK	53.0	32.3	16.2	40.4	2.4	63.5	73.9	10.4	100	308	*1)
Hori.	11400.000	PK	47.0	40.0	8.9	39.9	2.4	58.4	73.9	15.5	159	188	
Hori.	17100.000	PK	45.5	41.7	11.2	39.5	-9.5	49.4	73.9	24.5	100	0	*1)
Hori.	22800.000	PK	46.3	40.8	12.6	47.2	-9.5	43.0	73.9	30.9	102	117	
Hori.	5725.000	AV	37.9	32.3	16.2	40.4	2.4	48.4	53.9	5.5	100	308	*1)
Hori.	11400.000	AV	36.9	40.0	8.9	39.9	2.4	48.3	53.9	5.6	159	188	
Hori.	17100.000	AV	36.0	41.7	11.2	39.5	-9.5	39.9	53.9	14.0	100	0	*1)
Hori.	22800.000	AV	38.9	40.8	12.6	47.2	-9.5	35.6	53.9	18.3	102	117	
Vert.	5725.000	PK	53.3	32.3	16.2	40.4	2.4	63.8	73.9	10.1	100	274	*1)
Vert.	11400.000	PK	45.9	40.0	8.9	39.9	2.4	57.3	73.9	16.6	100	183	
Vert.	17100.000	PK	45.4	41.7	11.2	39.5	-9.5	49.3	73.9	24.6	100	0	*1)
Vert.	22800.000	PK	48.1	40.8	12.6	47.2	-9.5	44.8	73.9	29.1	107	142	
Vert.	5725.000	AV	37.3	32.3	16.2	40.4	2.4	47.8	53.9	6.1	100	274	*1)
Vert.	11400.000	AV	35.2	40.0	8.9	39.9	2.4	46.6	53.9	7.3	100	183	
Vert.	17100.000	AV	35.9	41.7	11.2	39.5	-9.5	39.8	53.9	14.1	100	0	*1)
Vert.	22800.000	AV	42.1	40.8	12.6	47.2	-9.5	38.8	53.9	15.1	107	142	

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

*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 : 1 GHz - 15 GHz : $20\log(3.95\text{ m}/3.0\text{ m}) = 2.4\text{ dB}$

15 GHz - 40 GHz : $20\log(1.0\text{ m}/3.0\text{ m}) = -9.5\text{ dB}$

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

UL Japan, Inc.

Shonan EMC Lab.

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

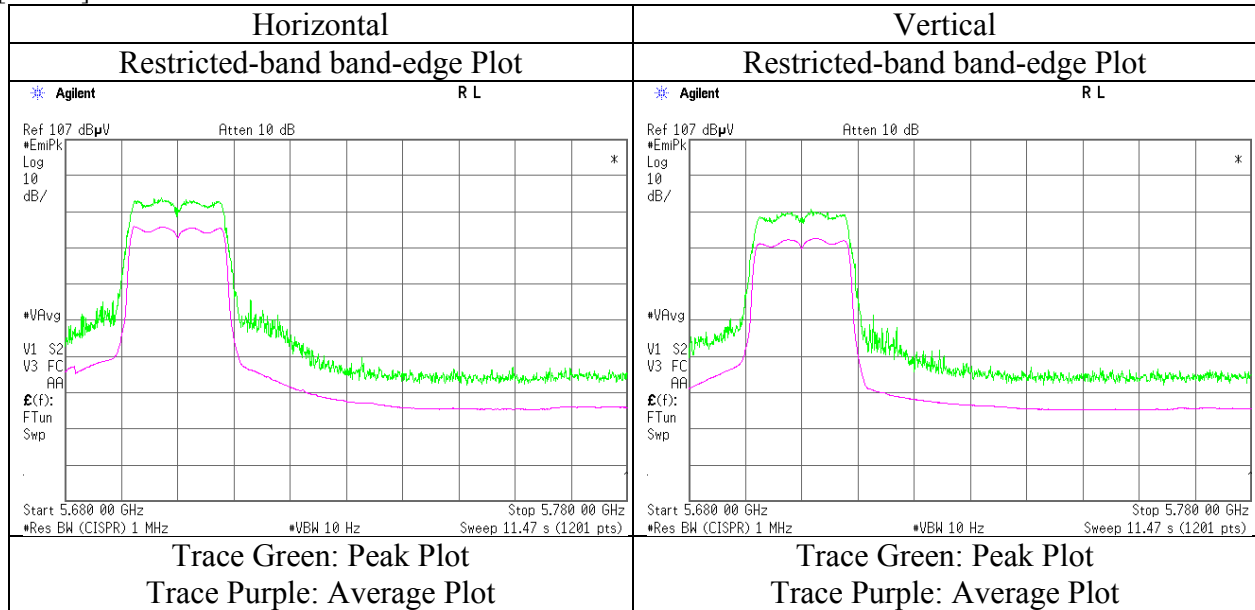
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

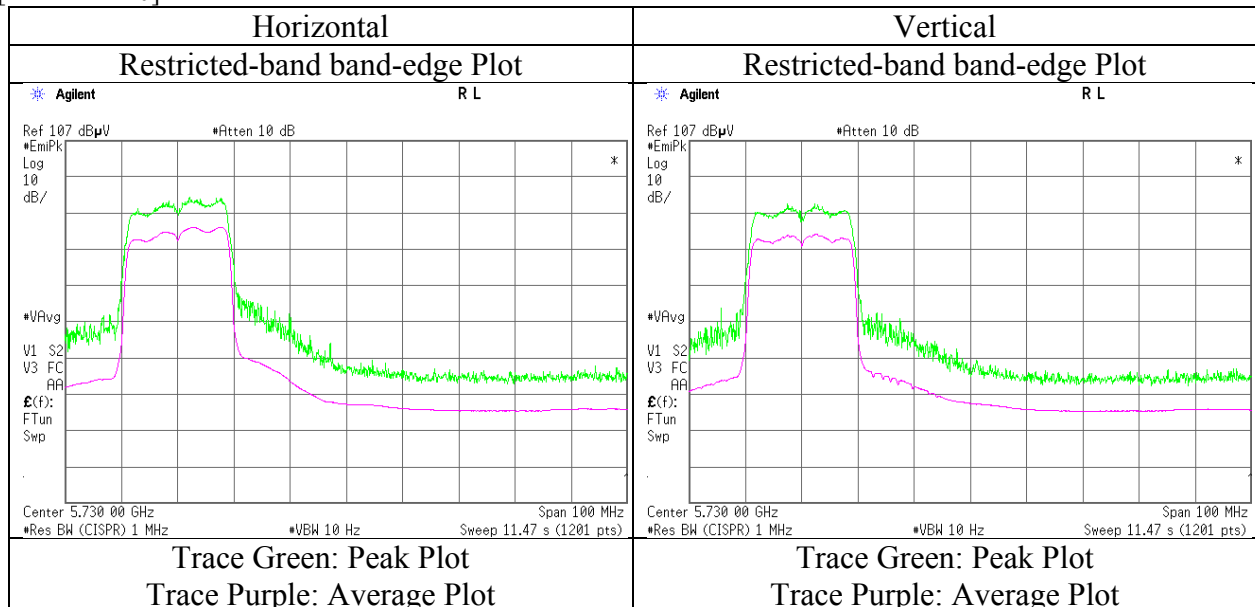
Radiated Spurious Emission

Test place	Shonan EMC Lab. No.2 Semi Anechoic Chamber	
Report No.	10882638S-N	
Date	August 15, 2015	August 24, 2015
Temperature / Humidity	25 deg. C / 59 % RH	26 deg. C / 57 % RH
Engineer	Shinichi Takano	Yosuke Ishikawa
	(No.2 SAC)	(No.2 SAC)
Mode	Tx, normal power mode, 5700 MHz, (20 MHz BW)	

[Tx 11a]

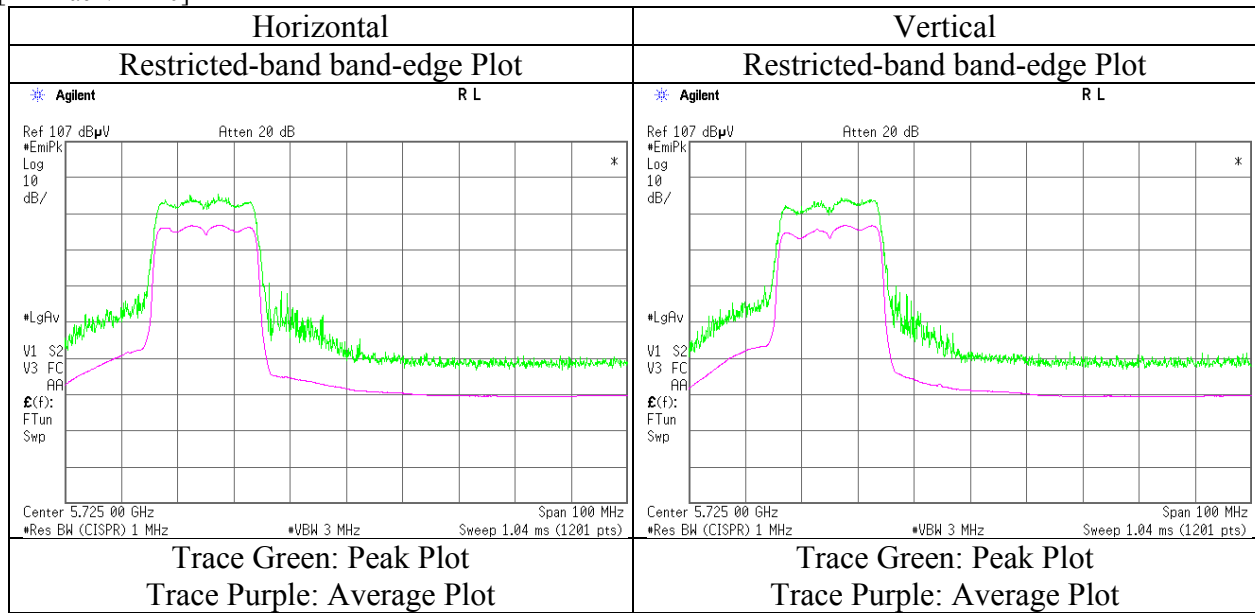


[Tx 11n HT20]



* Final result of restricted band edge was shown in tabular data.

[Tx 11ac VHT20]



* Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Test place Shonan EMC Lab. No.2, 3 Semi Anechoic Chamber
Report No. 10882638S-N
Date August 15, 2015 August 24, 2015 August 29, 2015 September 2, 2015
Temperature / Humidity 25 deg. C / 59 % RH 26 deg. C / 57 % RH 26 deg. C / 63 % RH 24 deg. C / 55 % RH
Engineer Shinichi Takano Yosuke Ishikawa Tomohiro Hara Shinichi Takano
(No.2 SAC) (No.2 SAC) (No.3 SAC) (No.3 SAC)
Mode Tx, normal power mode, 5745 MHz, (20 MHz BW)

[Tx 11a]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5715.000	PK	49.6	32.7	15.6	38.8	3.4	62.5	73.9	11.4	100	286	*1)
Hori.	5725.000	PK	58.3	32.8	15.6	38.8	3.4	71.3	73.9	2.6	100	286	*1)
Hori.	5715.000	AV	34.0	32.7	15.6	38.8	3.4	46.9	53.9	7.0	100	286	*1)
Hori.	5725.000	AV	39.7	32.8	15.6	38.8	3.4	52.7	53.9	1.2	100	286	*1)
Vert.	5715.000	PK	46.9	32.7	15.6	38.8	3.4	59.8	73.9	14.1	100	330	*1)
Vert.	5725.000	PK	55.9	32.8	15.6	38.8	3.4	68.9	73.9	5.0	100	330	*1)
Vert.	5715.000	AV	33.6	32.7	15.6	38.8	3.4	46.5	53.9	7.4	100	330	*1)
Vert.	5725.000	AV	38.2	32.8	15.6	38.8	3.4	51.2	53.9	2.7	100	330	*1)

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor
Distance factor : 1 GHz - 15 GHz : $20\log(4.45 \text{ m} / 3.0 \text{ m}) = 3.4 \text{ dB}$

*This mode was performed only band edges measurement.

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

[Tx 11n HT20]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5715.000	PK	47.8	32.7	15.6	38.8	3.4	60.7	73.9	13.2	100	265	*1)
Hori.	5725.000	PK	56.4	32.8	15.6	38.8	3.4	69.4	73.9	4.5	100	265	*1)
Hori.	5715.000	AV	34.1	32.7	15.6	38.8	3.4	47.0	53.9	6.9	100	265	*1)
Hori.	5725.000	AV	37.5	32.8	15.6	38.8	3.4	50.5	53.9	3.4	100	265	*1)
Vert.	5715.000	PK	47.5	32.7	15.6	38.8	3.4	60.4	73.9	13.5	100	265	*1)
Vert.	5725.000	PK	58.4	32.8	15.6	38.8	3.4	71.4	73.9	2.5	100	265	*1)
Vert.	5715.000	AV	34.4	32.7	15.6	38.8	3.4	47.3	53.9	6.6	100	265	*1)
Vert.	5725.000	AV	40.0	32.8	15.6	38.8	3.4	53.0	53.9	0.9	100	265	*1)

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor
Distance factor : 1 GHz - 15 GHz : $20\log(4.45 \text{ m} / 3.0 \text{ m}) = 3.4 \text{ dB}$

*This mode was performed only band edges measurement.

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

[Tx 11ac VHT20]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5715.000	PK	50.9	32.3	16.2	40.4	2.4	61.4	73.9	12.5	100	307	*1)
Hori.	11490.000	PK	47.0	39.9	8.9	39.9	2.4	58.3	73.9	15.6	165	188	
Hori.	17235.000	PK	44.6	42.3	11.3	39.3	-9.5	49.4	73.9	24.5	100	0	*1)
Hori.	22980.000	PK	48.4	40.9	12.6	46.9	-9.5	45.5	73.9	28.4	111	118	
Hori.	5715.000	AV	36.4	32.3	16.2	40.4	2.4	46.9	53.9	7.0	100	307	*1)
Hori.	11490.000	AV	36.8	39.9	8.9	39.9	2.4	48.1	53.9	5.8	165	188	
Hori.	17235.000	AV	35.7	42.3	11.3	39.3	-9.5	40.5	53.9	13.4	100	0	*1)
Hori.	22980.000	AV	43.0	40.9	12.6	46.9	-9.5	40.1	53.9	13.8	111	118	
Vert.	5715.000	PK	49.3	32.3	16.2	40.4	2.4	59.8	73.9	14.1	100	275	*1)
Vert.	11490.000	PK	46.0	39.9	8.9	39.9	2.4	57.3	73.9	16.6	100	184	
Vert.	17235.000	PK	44.5	42.3	11.3	39.3	-9.5	49.3	73.9	24.6	100	0	*1)
Vert.	22980.000	PK	50.1	40.9	12.6	46.9	-9.5	47.2	73.9	26.7	108	134	
Vert.	5715.000	AV	36.1	32.3	16.2	40.4	2.4	46.6	53.9	7.3	100	275	*1)
Vert.	11490.000	AV	34.8	39.9	8.9	39.9	2.4	46.1	53.9	7.8	100	184	
Vert.	17235.000	AV	35.5	42.3	11.3	39.3	-9.5	40.3	53.9	13.6	100	0	*1)
Vert.	22980.000	AV	45.4	40.9	12.6	46.9	-9.5	42.5	53.9	11.4	108	134	

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor
Distance factor : 1 GHz - 15 GHz : $20\log(3.95 \text{ m} / 3.0 \text{ m}) = 2.4 \text{ dB}$
15 GHz - 40 GHz : $20\log(1.0 \text{ m} / 3.0 \text{ m}) = -9.5 \text{ dB}$

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

UL Japan, Inc.

Shonan EMC Lab.

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

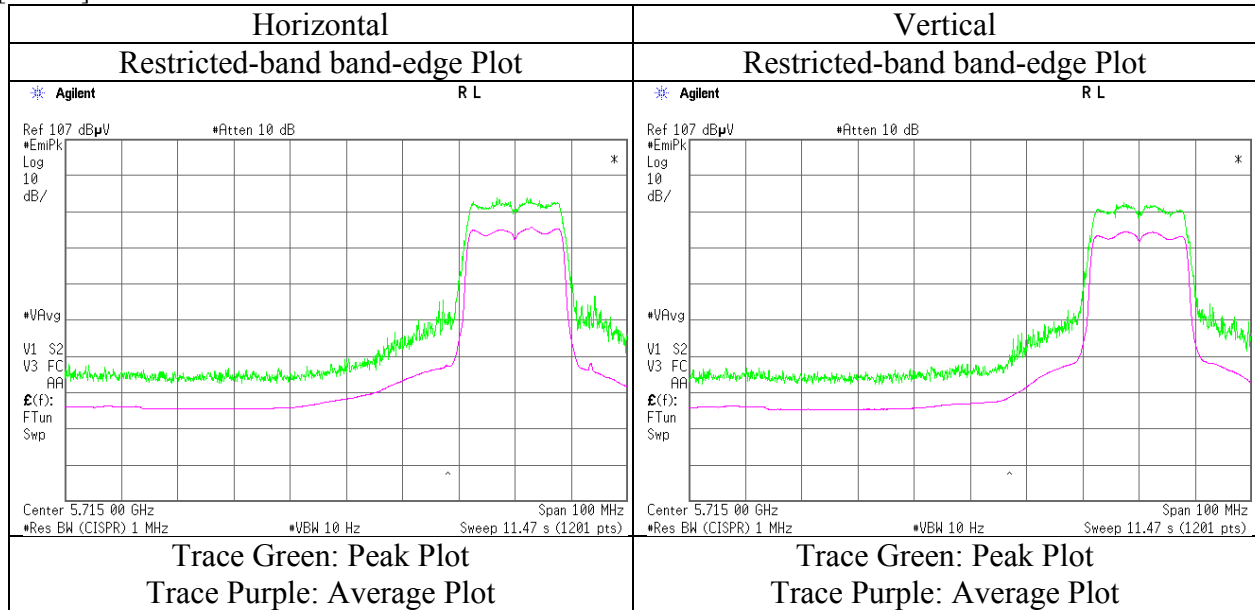
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

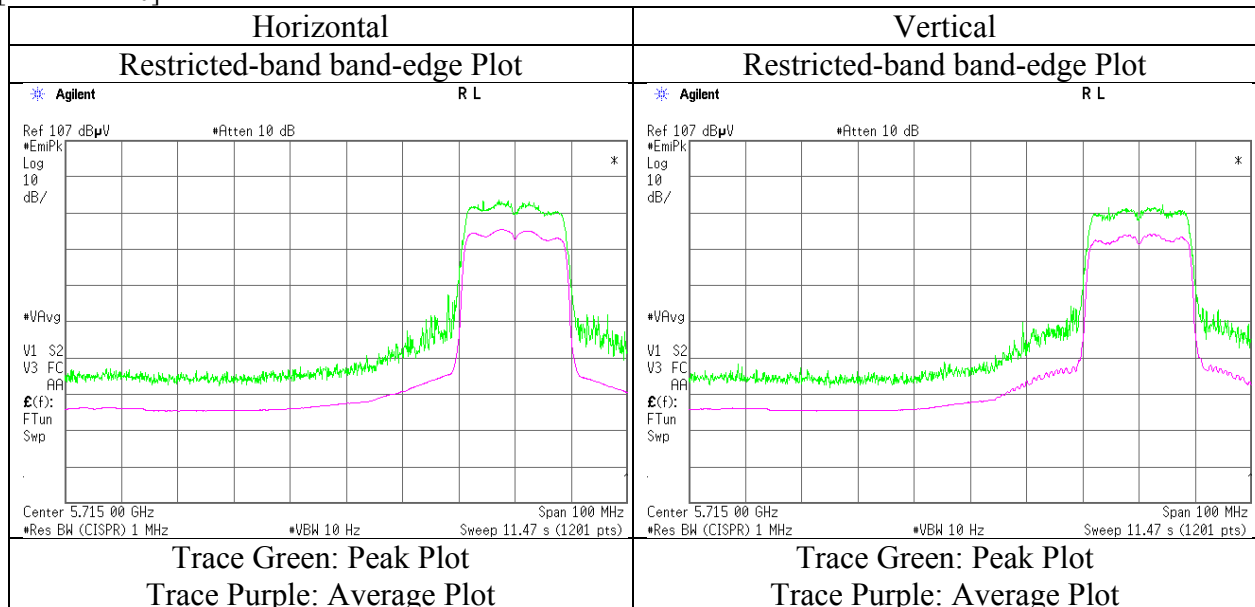
Radiated Spurious Emission

Test place	Shonan EMC Lab. No.2 Semi Anechoic Chamber	
Report No.	10882638S-N	
Date	August 15, 2015	August 24, 2015
Temperature / Humidity	25 deg. C / 59 % RH	26 deg. C / 57 % RH
Engineer	Shinichi Takano	Yosuke Ishikawa
	(No.2 SAC)	(No.2 SAC)
Mode	Tx, normal power mode, 5745 MHz, (20 MHz BW)	

[Tx 11a]

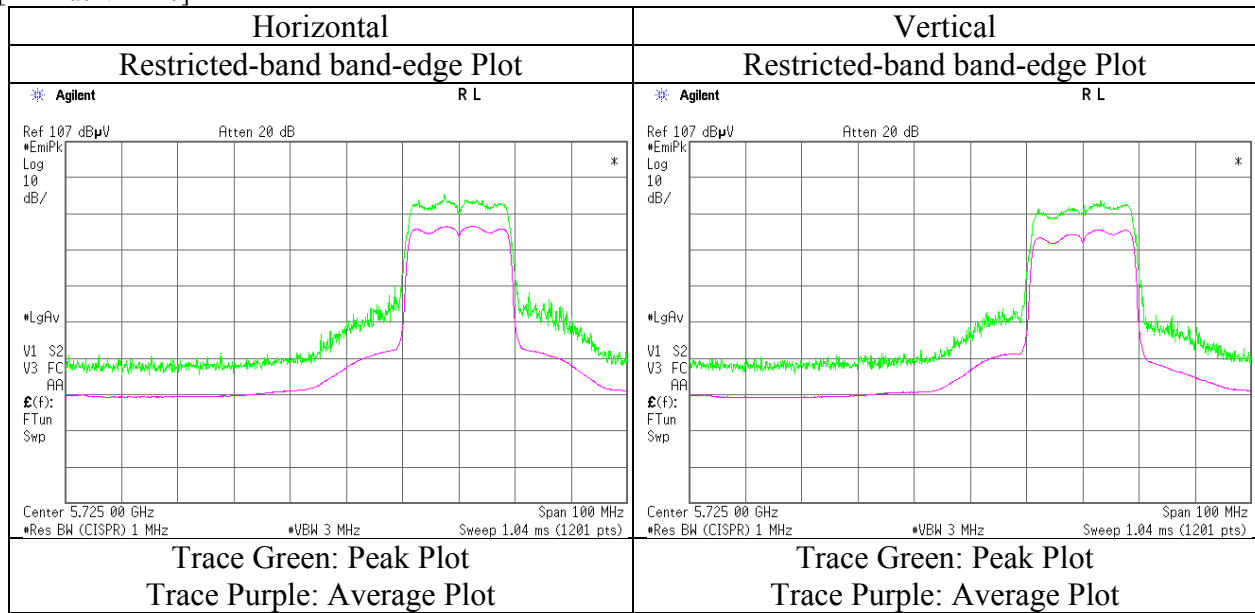


[Tx 11n HT20]



* Final result of restricted band edge was shown in tabular data.

[Tx 11ac VHT20]



* Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Test place	Shonan EMC Lab. No.2, 3 Semi Anechoic Chamber		
Report No.	10882638S-N		
Date	August 15, 2015	August 29, 2015	September 2, 2015
Temperature / Humidity	25 deg. C / 59 % RH	26 deg. C / 63 % RH	24 deg. C / 55 % RH
Engineer	Shinichi Takano	Tomohiro Hara	Shinichi Takano
	(No.2 SAC)	(No.3 SAC)	(No.3 SAC)
Mode	Tx, normal power mode, 5785 MHz, (20 MHz BW)		

[Tx 11ac VHT20]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11570.000	PK	46.5	39.9	9.0	39.8	2.4	58.0	73.9	15.9	165	187	
Hori.	15037.500	PK	46.2	40.3	10.6	40.7	-9.5	46.9	73.9	27.0	132	325	
Hori.	17355.000	PK	44.5	42.8	11.5	39.2	-9.5	50.1	73.9	23.8	100	0	*1)
Hori.	23140.000	PK	47.7	40.9	12.7	46.8	-9.5	45.0	73.9	28.9	111	122	
Hori.	11570.000	AV	36.9	39.9	9.0	39.8	2.4	48.4	53.9	5.5	165	187	
Hori.	15037.500	AV	38.4	40.3	10.6	40.7	-9.5	39.1	53.9	14.8	132	325	
Hori.	17355.000	AV	35.4	42.8	11.5	39.2	-9.5	41.0	53.9	12.9	100	0	*1)
Hori.	23140.000	AV	41.0	40.9	12.7	46.8	-9.5	38.3	53.9	15.6	111	122	
Vert.	11570.000	PK	46.1	39.9	9.0	39.8	2.4	57.6	73.9	16.3	100	185	
Vert.	15037.500	PK	51.1	40.3	10.6	40.7	-9.5	51.8	73.9	22.1	142	213	
Vert.	17355.000	PK	44.1	42.8	11.5	39.2	-9.5	49.7	73.9	24.2	100	0	*1)
Vert.	23140.000	PK	48.1	40.9	12.7	46.8	-9.5	45.4	73.9	28.5	107	134	
Vert.	11570.000	AV	35.0	39.9	9.0	39.8	2.4	46.5	53.9	7.4	100	185	
Vert.	15037.500	AV	46.1	40.3	10.6	40.7	-9.5	46.8	53.9	7.1	142	213	
Vert.	17355.000	AV	35.7	42.8	11.5	39.2	-9.5	41.3	53.9	12.6	100	0	*1)
Vert.	23140.000	AV	42.3	40.9	12.7	46.8	-9.5	39.6	53.9	14.3	107	134	

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 15 GHz : $20\log(3.95\text{ m} / 3.0\text{ m}) = 2.4\text{ dB}$

15 GHz - 40 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.5\text{ dB}$

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

UL Japan, Inc.

Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Radiated Spurious Emission

Test place Shonan EMC Lab. No.2, 3 Semi Anechoic Chamber
Report No. 10882638S-N
Date August 15, 2015 August 24, 2015 August 29, 2015 September 2, 2015
Temperature / Humidity 25 deg. C / 59 % RH 26 deg. C / 57 % RH 26 deg. C / 63 % RH 24 deg. C / 55 % RH
Engineer Shinichi Takano Yosuke Ishikawa Tomohiro Hara Shinichi Takano
(No.2 SAC) (No.2 SAC) (No.3 SAC) (No.3 SAC)
Mode Tx, normal power mode, 5825 MHz, (20 MHz BW)

[Tx 11a]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5850.000	PK	48.1	33.0	15.6	38.8	3.4	61.3	73.9	12.6	100	282	*1)
Hori.	5860.000	PK	46.4	33.0	15.6	38.8	3.4	59.6	73.9	14.3	100	282	*1)
Hori.	5850.000	AV	33.4	33.0	15.6	38.8	3.4	46.6	53.9	7.3	100	282	*1)
Hori.	5860.000	AV	33.1	33.0	15.6	38.8	3.4	46.3	53.9	7.6	100	282	*1)
Vert.	5850.000	PK	47.6	33.0	15.6	38.8	3.4	60.8	73.9	13.1	100	82	*1)
Vert.	5860.000	PK	46.3	33.0	15.6	38.8	3.4	59.5	73.9	14.4	100	82	*1)
Vert.	5850.000	AV	33.6	33.0	15.6	38.8	3.4	46.8	53.9	7.1	100	82	*1)
Vert.	5860.000	AV	33.1	33.0	15.6	38.8	3.4	46.3	53.9	7.6	100	82	*1)

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 15 GHz : $20\log(4.45\text{ m} / 3.0\text{ m}) = 3.4\text{ dB}$

*This mode was performed only band edges measurement.

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

[Tx 11n HT20]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5850.000	PK	54.0	33.0	15.6	38.8	3.4	67.2	73.9	6.7	100	280	*1)
Hori.	5860.000	PK	53.0	33.0	15.6	38.8	3.4	66.2	73.9	7.7	100	280	*1)
Hori.	5850.000	AV	37.1	33.0	15.6	38.8	3.4	50.3	53.9	3.6	100	280	*1)
Hori.	5860.000	AV	35.1	33.0	15.6	38.8	3.4	48.3	53.9	5.6	100	280	*1)
Vert.	5850.000	PK	53.7	33.0	15.6	38.8	3.4	66.9	73.9	7.0	100	281	*1)
Vert.	5860.000	PK	50.3	33.0	15.6	38.8	3.4	63.5	73.9	10.4	100	281	*1)
Vert.	5850.000	AV	36.6	33.0	15.6	38.8	3.4	49.8	53.9	4.1	100	281	*1)
Vert.	5860.000	AV	33.9	33.0	15.6	38.8	3.4	47.1	53.9	6.8	100	281	*1)

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 15 GHz : $20\log(4.45\text{ m} / 3.0\text{ m}) = 3.4\text{ dB}$

*This mode was performed only band edges measurement.

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

[Tx 11ac VHT20]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5850.000	PK	51.9	32.6	16.2	40.4	2.4	62.7	73.9	11.2	100	302	*1)
Hori.	5860.000	PK	48.3	32.6	16.2	40.4	2.4	59.1	73.9	14.8	100	302	*1)
Hori.	11650.000	PK	46.3	39.9	9.0	39.7	2.4	57.9	73.9	16.0	161	188	
Hori.	17475.000	PK	44.3	43.3	11.6	39.1	-9.5	50.6	73.9	23.3	100	0	*1)
Hori.	23300.000	PK	46.4	40.9	12.7	46.7	-9.5	43.8	73.9	30.1	100	108	
Hori.	5850.000	AV	37.2	32.6	16.2	40.4	2.4	48.0	53.9	5.9	100	302	*1)
Hori.	5860.000	AV	35.5	32.6	16.2	40.4	2.4	46.3	53.9	7.6	100	302	*1)
Hori.	11650.000	AV	36.9	39.9	9.0	39.7	2.4	48.5	53.9	5.4	161	188	
Hori.	17475.000	AV	35.2	43.3	11.6	39.1	-9.5	41.5	53.9	12.4	100	0	*1)
Hori.	23300.000	AV	39.0	40.9	12.7	46.7	-9.5	36.4	53.9	17.5	100	108	
Vert.	5850.000	PK	52.0	32.6	16.2	40.4	2.4	62.8	73.9	11.1	142	271	*1)
Vert.	5860.000	PK	47.7	32.6	16.2	40.4	2.4	58.5	73.9	15.4	142	271	*1)
Vert.	11650.000	PK	46.8	39.9	9.0	39.7	2.4	58.4	73.9	15.5	100	186	
Vert.	17475.000	PK	44.1	43.3	11.6	39.1	-9.5	50.4	73.9	23.5	100	0	*1)
Vert.	23300.000	PK	46.6	40.9	12.7	46.7	-9.5	44.0	73.9	29.9	106	135	
Vert.	5850.000	AV	36.4	32.6	16.2	40.4	2.4	47.2	53.9	6.7	142	271	*1)
Vert.	5860.000	AV	35.1	32.6	16.2	40.4	2.4	45.9	53.9	8.0	142	271	*1)
Vert.	11650.000	AV	35.1	39.9	9.0	39.7	2.4	46.7	53.9	7.2	100	186	
Vert.	17475.000	AV	35.2	43.3	11.6	39.1	-9.5	41.5	53.9	12.4	100	0	*1)
Vert.	23300.000	AV	38.4	40.9	12.7	46.7	-9.5	35.8	53.9	18.1	106	135	

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 15 GHz : $20\log(3.95\text{ m} / 3.0\text{ m}) = 2.4\text{ dB}$

15 GHz - 40 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.5\text{ dB}$

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

UL Japan, Inc.

Shonan EMC Lab.

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

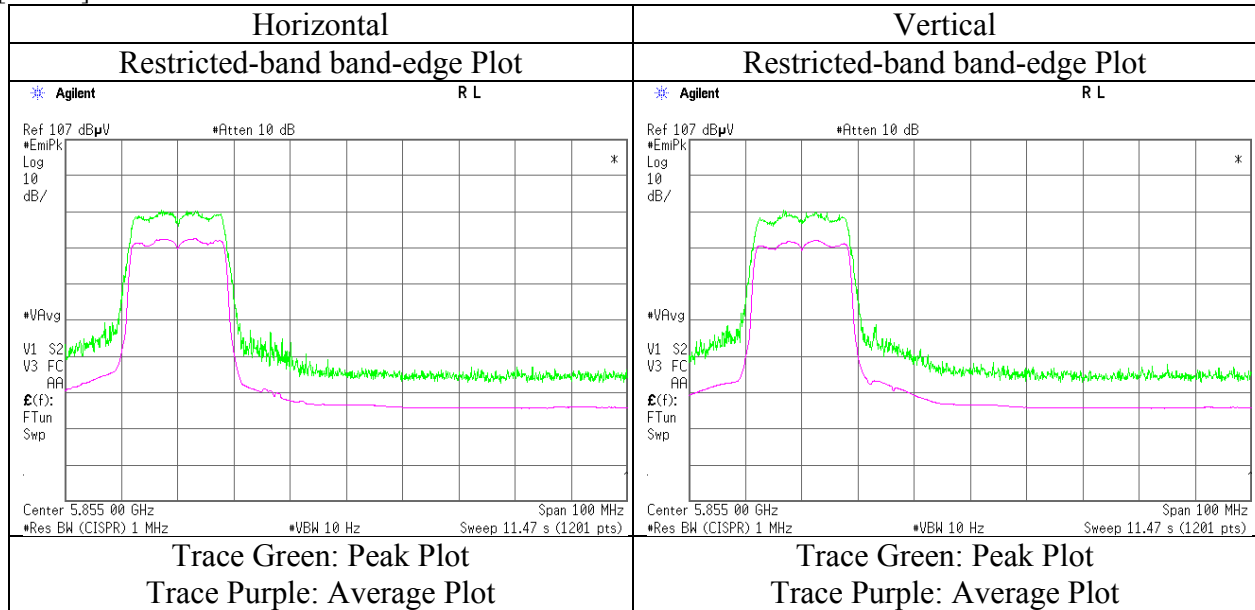
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

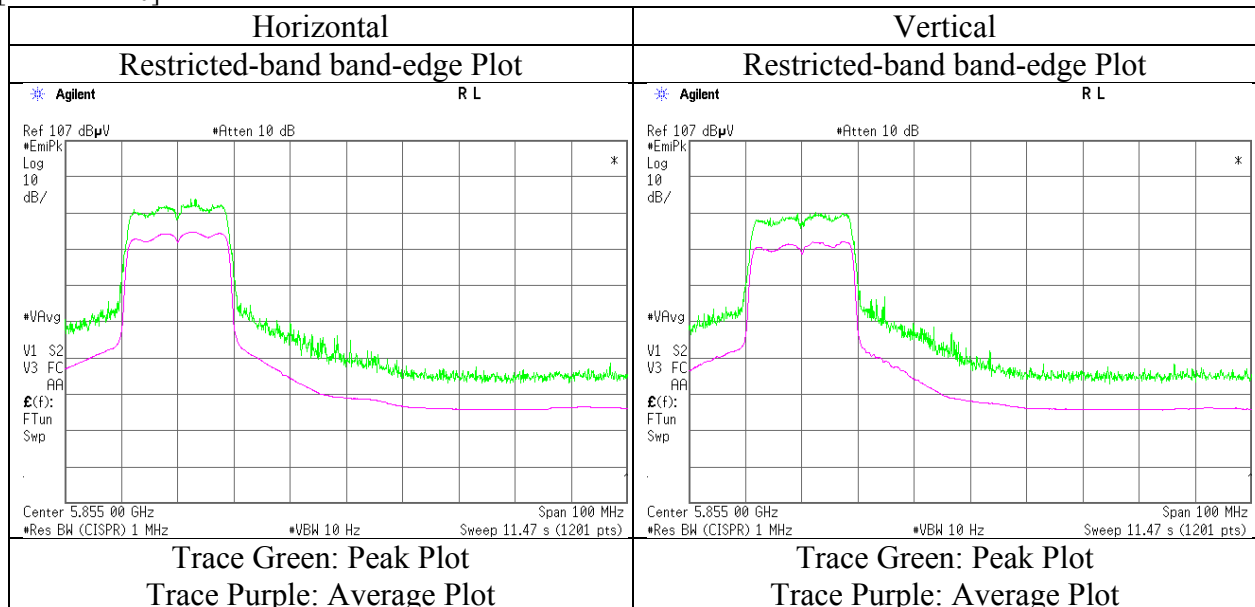
Radiated Spurious Emission

Test place	Shonan EMC Lab. No.2 Semi Anechoic Chamber	
Report No.	10882638S-N	
Date	August 15, 2015	August 24, 2015
Temperature / Humidity	25 deg. C / 59 % RH	26 deg. C / 57 % RH
Engineer	Shinichi Takano	Yosuke Ishikawa
	(No.2 SAC)	(No.2 SAC)
Mode	Tx, normal power mode, 5825 MHz, (20 MHz BW)	

[Tx 11a]

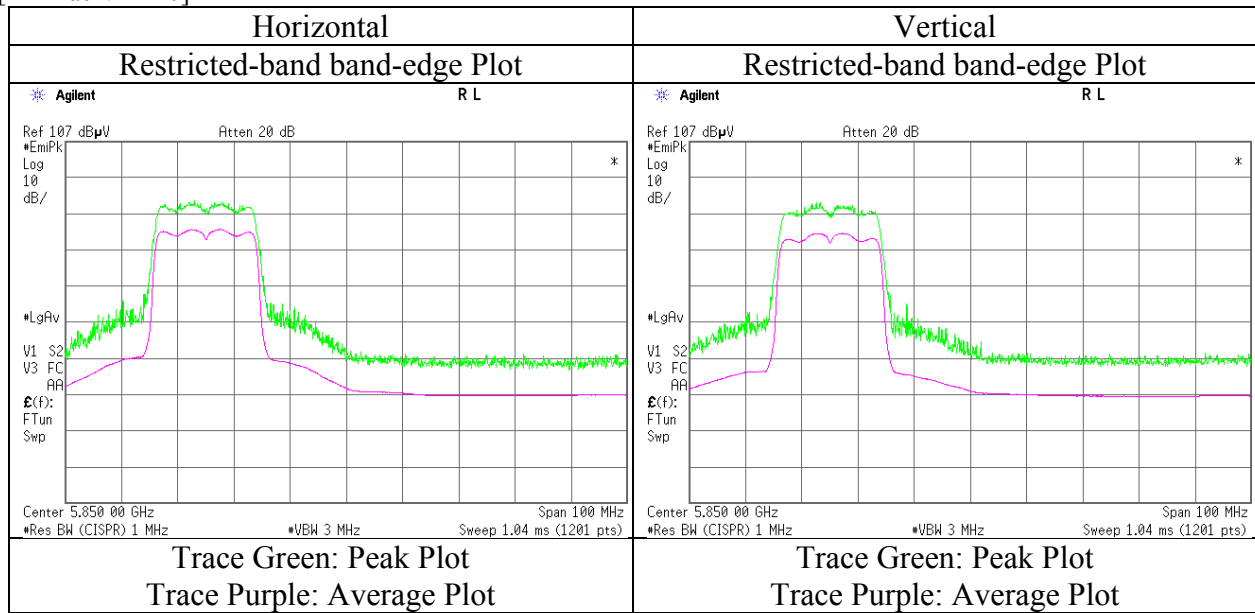


[Tx 11n HT20]



* Final result of restricted band edge was shown in tabular data.

[Tx 11ac VHT20]



* Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Test place : Shonan EMC Lab. No.2, 3 Semi Anechoic Chamber
Report No. : 10882638S-N
Date : August 16, 2015 August 31, 2015
Temperature / Humidity : 26 deg. C / 58 % RH 25 deg. C / 62 % RH
Engineer : Shinichi Takano Shinichi Takano
(No.2 SAC) (No.3 SAC)
Mode : Tx, low power mode, 5180 MHz, (20 MHz BW)

[Tx 11a]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5150.000	PK	47.0	32.0	16.0	41.2	2.4	56.2	73.9	17.7	100	332	
Hori.	5150.000	AV	36.1	32.0	16.0	41.2	2.4	45.3	53.9	8.6	100	332	
Vert.	5150.000	PK	46.9	32.0	16.0	41.2	2.4	56.1	73.9	17.8	100	272	
Vert.	5150.000	AV	35.5	32.0	16.0	41.2	2.4	44.7	53.9	9.2	100	272	

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 15 GHz : $20\log(3.95\text{ m} / 3.0\text{ m}) = 2.4\text{ dB}$

*This mode was performed only band edges measurement.

[Tx 11n HT20]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5150.000	PK	45.5	32.5	15.4	39.2	3.4	57.6	73.9	16.3	159	317	
Hori.	5150.000	AV	34.1	32.5	15.4	39.2	3.4	46.2	53.9	7.7	159	317	
Vert.	5150.000	PK	45.9	32.5	15.4	39.2	3.4	58.0	73.9	15.9	100	277	
Vert.	5150.000	AV	33.9	32.5	15.4	39.2	3.4	46.0	53.9	7.9	100	277	

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 15 GHz : $20\log(3.95\text{ m} / 3.0\text{ m}) = 2.4\text{ dB}$

*This mode was performed only band edges measurement.

[Tx 11ac VHT20]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5150.000	PK	47.6	32.0	16.0	41.2	2.4	56.8	73.9	17.1	100	331	
Hori.	5150.000	AV	36.0	32.0	16.0	41.2	2.4	45.2	53.9	8.7	100	331	
Vert.	5150.000	PK	47.1	32.0	16.0	41.2	2.4	56.3	73.9	17.6	100	270	
Vert.	5150.000	AV	35.7	32.0	16.0	41.2	2.4	44.9	53.9	9.0	100	270	

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 15 GHz : $20\log(3.95\text{ m} / 3.0\text{ m}) = 2.4\text{ dB}$

*This mode was performed only band edges measurement.

UL Japan, Inc.

Shonan EMC Lab.

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

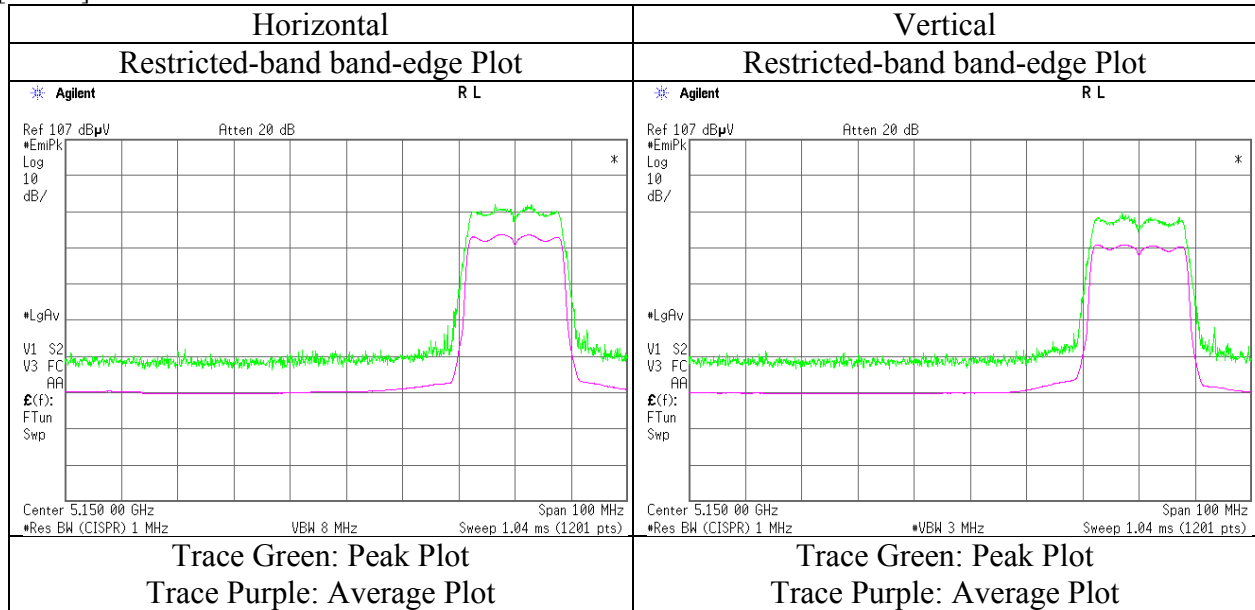
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

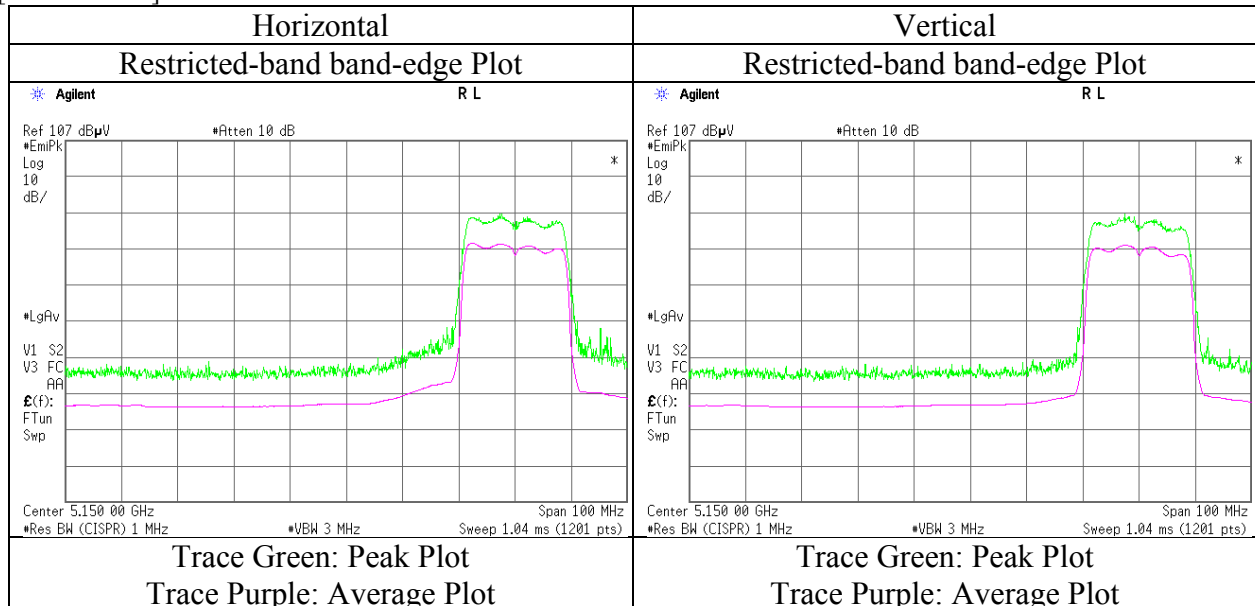
Radiated Spurious Emission

Test place	Shonan EMC Lab. No.2, 3 Semi Anechoic Chamber	
Report No.	10882638S-N	
Date	August 16, 2015	August 31, 2015
Temperature / Humidity	26 deg. C / 58 % RH	25 deg. C / 62 % RH
Engineer	Shinichi Takano	Shinichi Takano
	(No.2 SAC)	(No.3 SAC)
Mode	Tx, low power mode, 5180 MHz, (20 MHz BW)	

[Tx 11a]

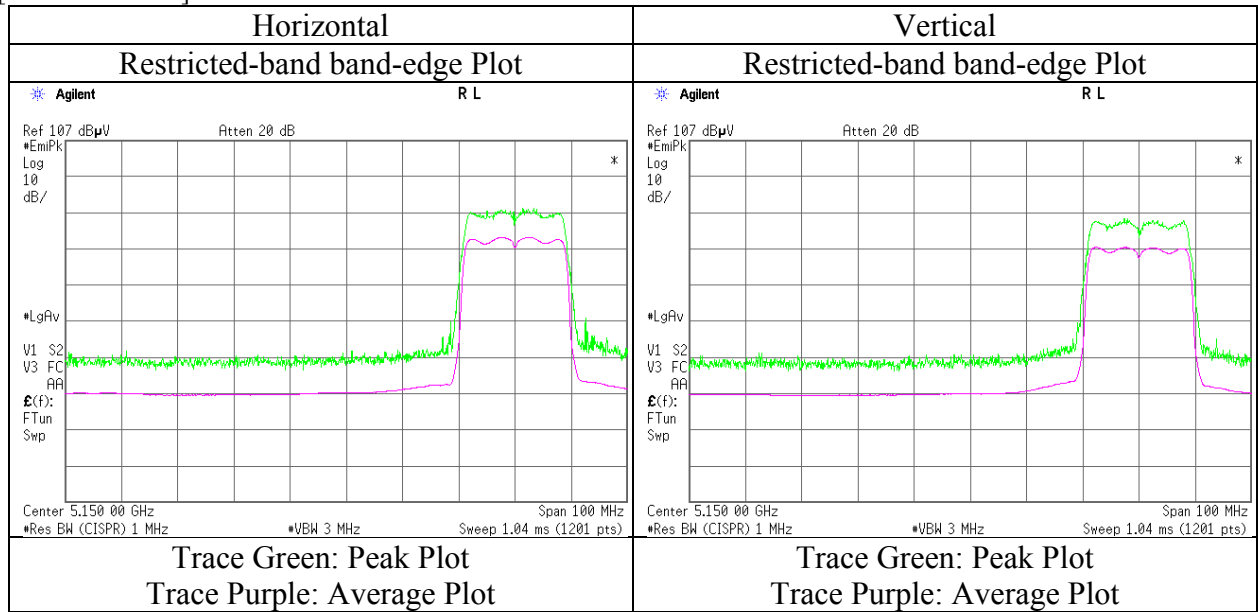


[Tx 11n HT20]



* Final result of restricted band edge was shown in tabular data.

[Tx 11ac VHT20]



* Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Test place : Shonan EMC Lab. No.2, 3 Semi Anechoic Chamber
Report No. : 10882638S-N
Date : August 16, 2015 August 31, 2015
Temperature / Humidity : 26 deg. C / 58 % RH 25 deg. C / 62 % RH
Engineer : Shinichi Takano Shinichi Takano
(No.2 SAC) (No.3 SAC)
Mode : Tx, low power mode, 5320 MHz, (20 MHz BW)

[Tx 11a]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5350.000	PK	47.6	31.8	16.0	40.7	2.4	57.1	73.9	16.8	100	315	
Hori.	5350.000	AV	35.4	31.8	16.0	40.7	2.4	44.9	53.9	9.0	100	315	
Vert.	5350.000	PK	46.0	31.8	16.0	40.7	2.4	55.5	73.9	18.4	100	277	
Vert.	5350.000	AV	35.3	31.8	16.0	40.7	2.4	44.8	53.9	9.1	100	277	

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor
Distance factor : 1 GHz - 15 GHz : $20\log(3.95\text{ m} / 3.0\text{ m}) = 2.4\text{ dB}$

*This mode was performed only band edges measurement.

[Tx 11n HT20]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5350.000	PK	46.5	32.4	15.5	38.9	3.4	58.9	73.9	15.0	100	298	
Hori.	5350.000	AV	33.8	32.4	15.5	38.9	3.4	46.2	53.9	7.7	100	298	
Vert.	5350.000	PK	44.8	32.4	15.5	38.9	3.4	57.2	73.9	16.7	134	272	
Vert.	5350.000	AV	33.7	32.4	15.5	38.9	3.4	46.1	53.9	7.8	134	272	

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor
Distance factor : 1 GHz - 15 GHz : $20\log(3.95\text{ m} / 3.0\text{ m}) = 2.4\text{ dB}$

*This mode was performed only band edges measurement.

[Tx 11ac VHT20]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5350.000	PK	47.4	31.8	16.0	40.7	2.4	56.9	73.9	17.0	111	312	
Hori.	5350.000	AV	35.6	31.8	16.0	40.7	2.4	45.1	53.9	8.8	111	312	
Vert.	5350.000	PK	47.0	31.8	16.0	40.7	2.4	56.5	73.9	17.4	100	256	
Vert.	5350.000	AV	35.5	31.8	16.0	40.7	2.4	45.0	53.9	8.9	100	256	

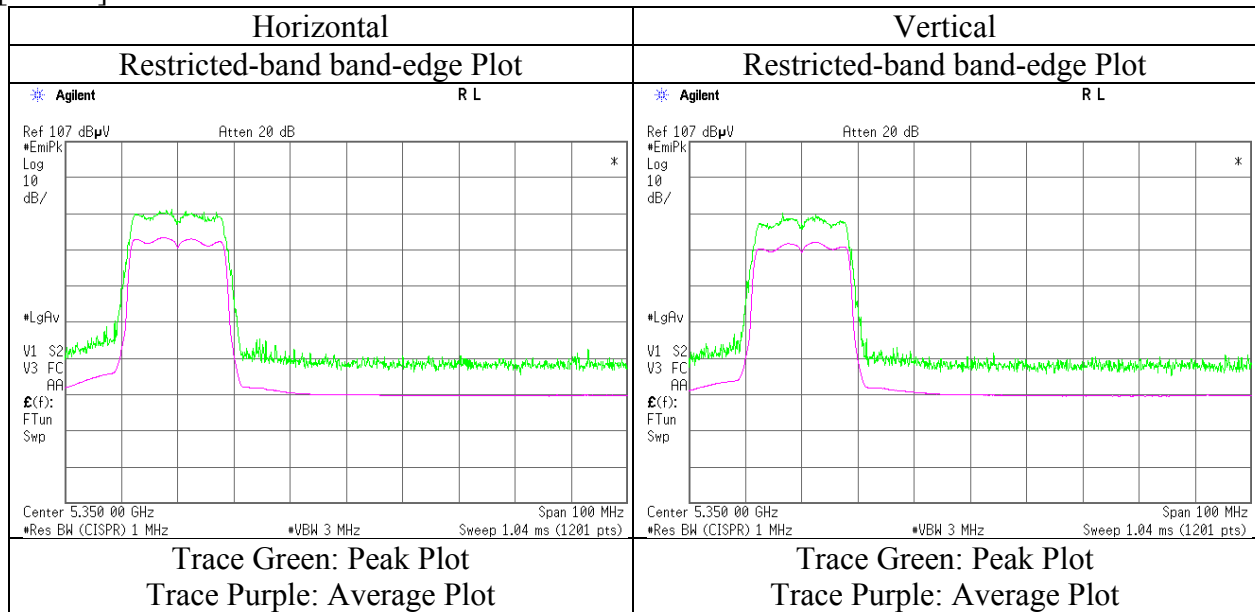
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor
Distance factor : 1 GHz - 15 GHz : $20\log(3.95\text{ m} / 3.0\text{ m}) = 2.4\text{ dB}$

*This mode was performed only band edges measurement.

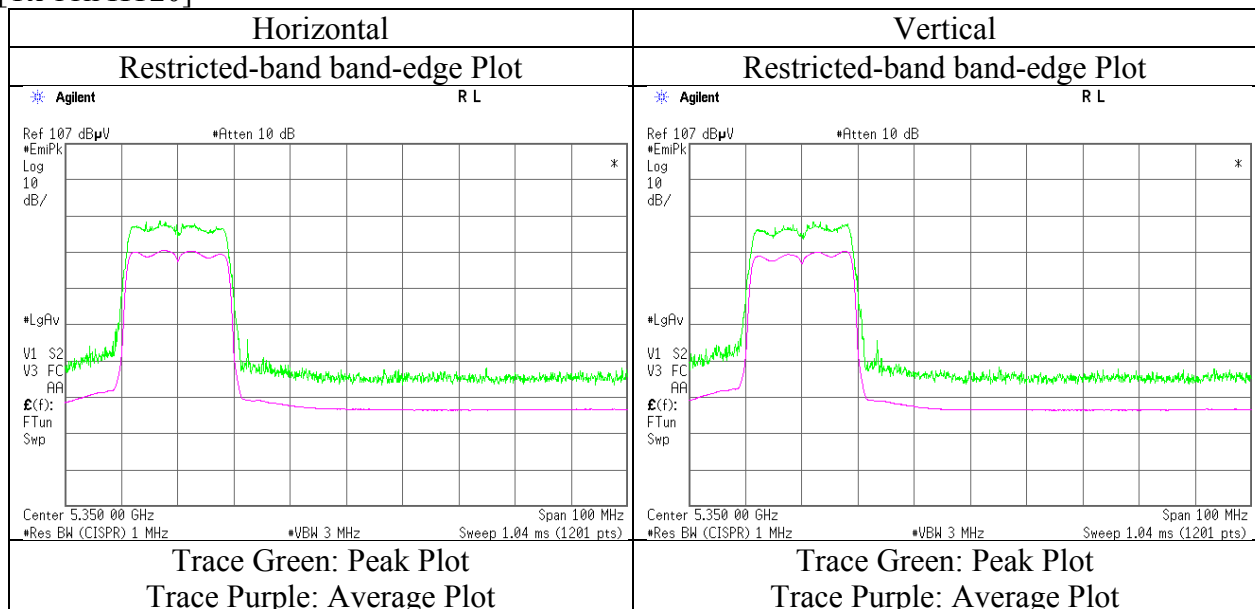
Radiated Spurious Emission

Test place	Shonan EMC Lab. No.2, 3 Semi Anechoic Chamber	
Report No.	10882638S-N	
Date	August 16, 2015	August 31, 2015
Temperature / Humidity	26 deg. C / 58 % RH	25 deg. C / 62 % RH
Engineer	Shinichi Takano	Shinichi Takano
	(No.2 SAC)	(No.3 SAC)
Mode	Tx, low power mode, 5320 MHz, (20 MHz BW)	

[Tx 11a]

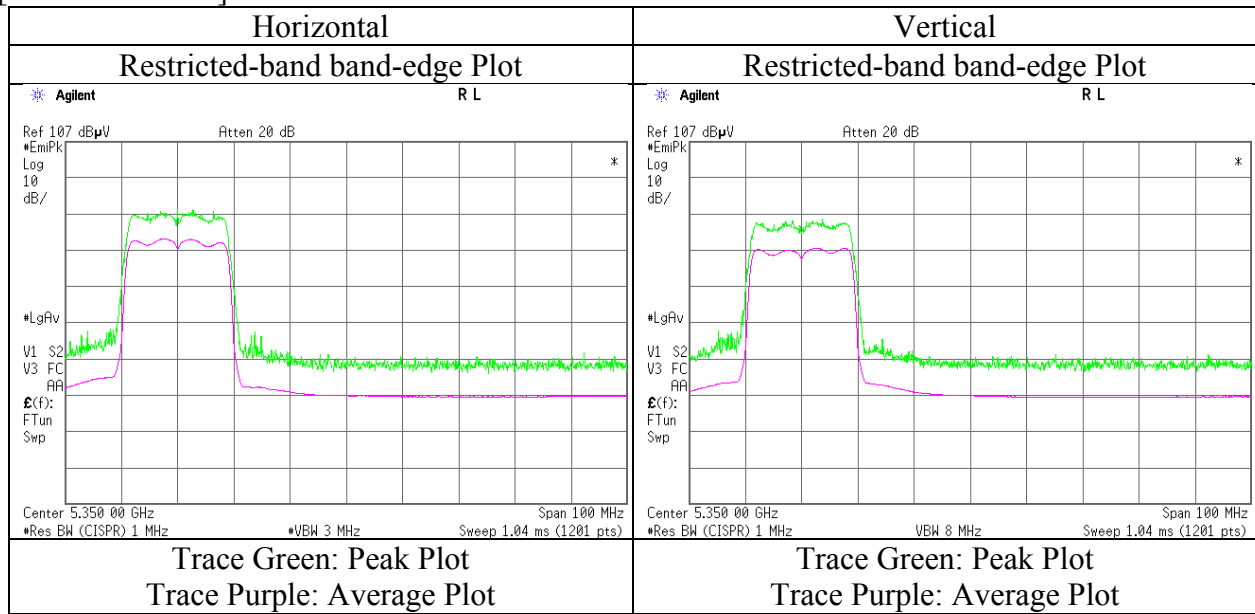


[Tx 11n HT20]



* Final result of restricted band edge was shown in tabular data.

[Tx 11ac VHT20]



* Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Test place : Shonan EMC Lab. No.2, 3 Semi Anechoic Chamber
Report No. : 10882638S-N
Date : August 16, 2015 August 24, 2015 August 31, 2015
Temperature / Humidity : 26 deg. C / 58 % RH 26 deg. C / 57 % RH 25 deg. C / 62 % RH
Engineer : Shinichi Takano Yosuke Ishikawa Shinichi Takano
 (No.2 SAC) (No.2 SAC) (No.3 SAC)
Mode : Tx, low power mode, 5500 MHz, (20 MHz BW)

[Tx 11a]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5460.000	PK	45.8	32.3	15.5	38.8	3.4	58.2	73.9	15.7	100	288	
Hori.	5470.000	PK	46.9	32.3	15.5	38.8	3.4	59.3	73.9	14.6	100	288	*1)
Hori.	5460.000	AV	32.8	32.3	15.5	38.8	3.4	45.2	53.9	8.7	100	288	
Hori.	5470.000	AV	32.8	32.3	15.5	38.8	3.4	45.2	53.9	8.7	100	288	*1)
Vert.	5460.000	PK	45.6	32.3	15.5	38.8	3.4	58.0	73.9	15.9	100	270	
Vert.	5470.000	PK	45.8	32.3	15.5	38.8	3.4	58.2	73.9	15.7	100	270	*1)
Vert.	5460.000	AV	32.7	32.3	15.5	38.8	3.4	45.1	53.9	8.8	100	270	
Vert.	5470.000	AV	32.9	32.3	15.5	38.8	3.4	45.3	53.9	8.6	100	270	*1)

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 15 GHz : $20\log(3.95\text{ m} / 3.0\text{ m}) = 2.4\text{ dB}$

*This mode was performed only band edges measurement.

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

[Tx 11n HT20]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5460.000	PK	44.8	32.3	15.5	38.8	3.4	57.2	73.9	16.7	100	298	
Hori.	5470.000	PK	45.4	32.3	15.5	38.8	3.4	57.8	73.9	16.1	100	298	*1)
Hori.	5460.000	AV	33.6	32.3	15.5	38.8	3.4	46.0	53.9	7.9	100	298	
Hori.	5470.000	AV	33.7	32.3	15.5	38.8	3.4	46.1	53.9	7.8	100	298	*1)
Vert.	5460.000	PK	45.1	32.3	15.5	38.8	3.4	57.5	73.9	16.4	100	95	
Vert.	5470.000	PK	45.3	32.3	15.5	38.8	3.4	57.7	73.9	16.2	100	95	*1)
Vert.	5460.000	AV	33.5	32.3	15.5	38.8	3.4	45.9	53.9	8.0	100	95	
Vert.	5470.000	AV	33.7	32.3	15.5	38.8	3.4	46.1	53.9	7.8	100	95	*1)

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 15 GHz : $20\log(3.95\text{ m} / 3.0\text{ m}) = 2.4\text{ dB}$

*This mode was performed only band edges measurement.

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

[Tx 11ac VHT20]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5460.000	PK	46.3	31.8	16.0	40.5	2.4	56.0	73.9	17.9	104	311	
Hori.	5470.000	PK	46.5	31.7	16.0	40.5	2.4	56.1	73.9	17.8	104	311	*1)
Hori.	5460.000	AV	34.7	31.8	16.0	40.5	2.4	44.4	53.9	9.5	104	311	
Hori.	5470.000	AV	35.1	31.7	16.0	40.5	2.4	44.7	53.9	9.2	104	311	*1)
Vert.	5460.000	PK	46.4	31.8	16.0	40.5	2.4	56.1	73.9	17.8	100	257	
Vert.	5470.000	PK	46.9	31.7	16.0	40.5	2.4	56.5	73.9	17.4	100	257	*1)
Vert.	5460.000	AV	34.7	31.8	16.0	40.5	2.4	44.4	53.9	9.5	100	257	
Vert.	5470.000	AV	35.0	31.7	16.0	40.5	2.4	44.6	53.9	9.3	100	257	*1)

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 15 GHz : $20\log(3.95\text{ m} / 3.0\text{ m}) = 2.4\text{ dB}$

*This mode was performed only band edges measurement.

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

UL Japan, Inc.

Shonan EMC Lab.

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

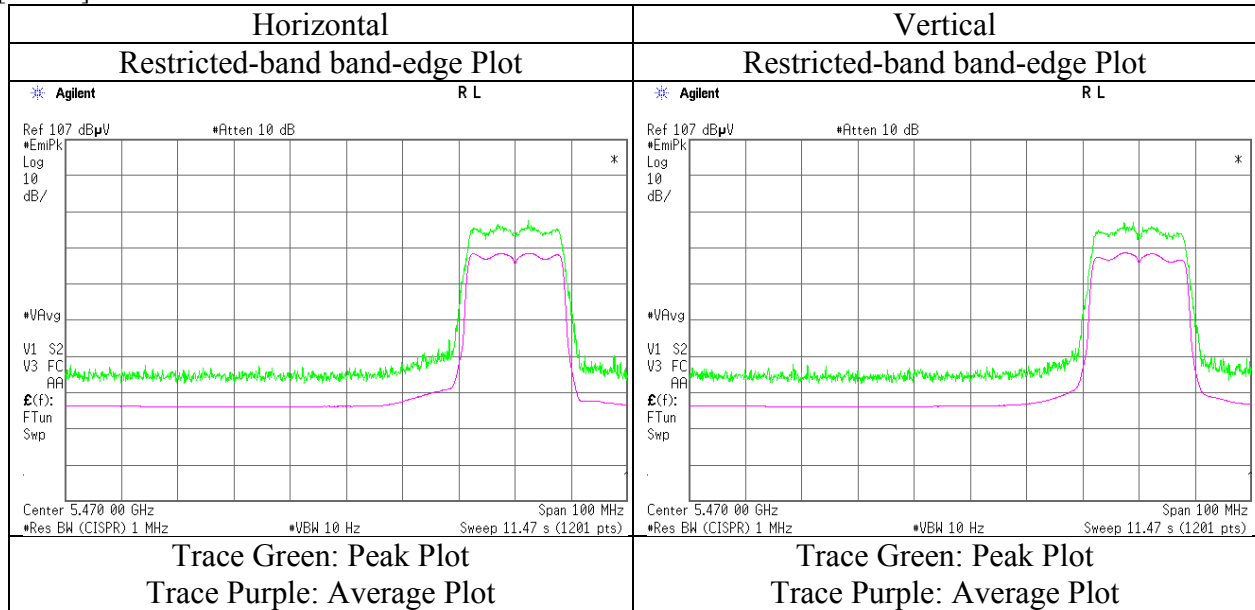
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

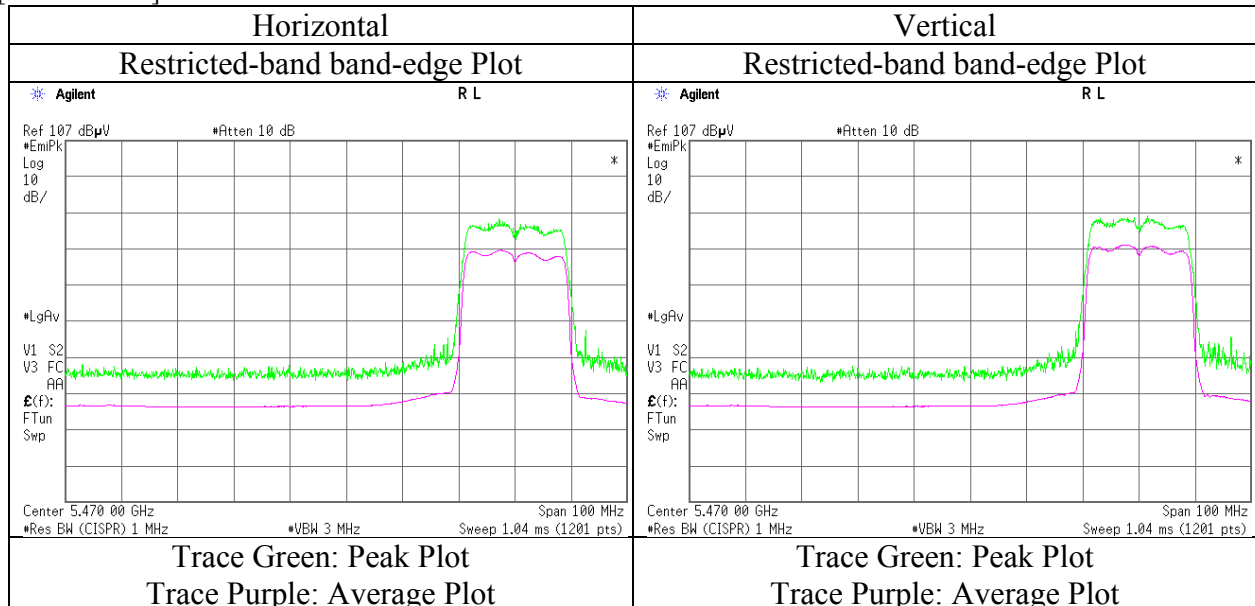
Radiated Spurious Emission

Test place	Shonan EMC Lab. No.2, 3 Semi Anechoic Chamber		
Report No.	10882638S-N		
Date	August 16, 2015	August 24, 2015	August 31, 2015
Temperature / Humidity	26 deg. C / 58 % RH	26 deg. C / 57 % RH	25 deg. C / 62 % RH
Engineer	Shinichi Takano (No.2 SAC)	Yosuke Ishikawa (No.2 SAC)	Shinichi Takano (No.3 SAC)
Mode	Tx, low power mode, 5500 MHz, (20 MHz BW)		

[Tx 11a]

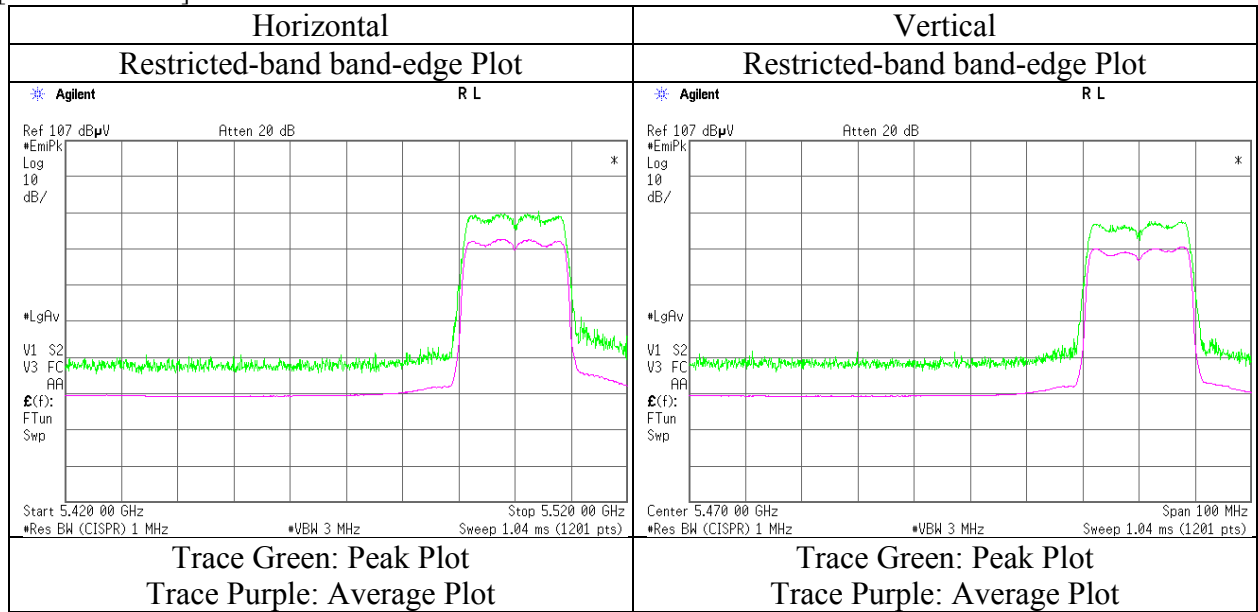


[Tx 11n HT20]



* Final result of restricted band edge was shown in tabular data.

[Tx 11ac VHT20]



* Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Test place	Shonan EMC Lab. No.2, 3 Semi Anechoic Chamber		
Report No.	10882638S-N		
Date	August 16, 2015	August 24, 2015	August 31, 2015
Temperature / Humidity	26 deg. C / 58 % RH	26 deg. C / 57 % RH	25 deg. C / 62 % RH
Engineer	Shinichi Takano	Yosuke Ishikawa	Shinichi Takano
	(No.2 SAC)	(No.2 SAC)	(No.3 SAC)
Mode	Tx, low power mode, 5700 MHz, (20 MHz BW)		

[Tx 11a]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5725.000	PK	47.1	32.8	15.6	38.8	3.4	60.1	73.9	13.8	100	288	*1)
Hori.	5725.000	AV	32.7	32.8	15.6	38.8	3.4	45.7	53.9	8.2	100	288	*1)
Vert.	5725.000	PK	46.3	32.8	15.6	38.8	3.4	59.3	73.9	14.6	100	91	*1)
Vert.	5725.000	AV	32.5	32.8	15.6	38.8	3.4	45.5	53.9	8.4	100	91	*1)

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 15 GHz : $20\log(3.95\text{ m} / 3.0\text{ m}) = 2.4\text{ dB}$

*This mode was performed only band edges measurement.

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

[Tx 11n HT20]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5725.000	PK	45.7	32.8	15.6	38.8	3.4	58.7	73.9	15.2	115	294	*1)
Hori.	5725.000	AV	33.7	32.8	15.6	38.8	3.4	46.7	53.9	7.2	115	294	*1)
Vert.	5725.000	PK	44.6	32.8	15.6	38.8	3.4	57.6	73.9	16.3	100	275	*1)
Vert.	5725.000	AV	33.2	32.8	15.6	38.8	3.4	46.2	53.9	7.7	100	275	*1)

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 15 GHz : $20\log(3.95\text{ m} / 3.0\text{ m}) = 2.4\text{ dB}$

*This mode was performed only band edges measurement.

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

[Tx 11ac VHT20]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5725.000	PK	47.7	32.3	16.2	40.4	2.4	58.2	73.9	15.7	100	307	*1)
Hori.	5725.000	AV	35.7	32.3	16.2	40.4	2.4	46.2	53.9	7.7	100	307	*1)
Vert.	5725.000	PK	47.6	32.3	16.2	40.4	2.4	58.1	73.9	15.8	100	273	*1)
Vert.	5725.000	AV	35.6	32.3	16.2	40.4	2.4	46.1	53.9	7.8	100	273	*1)

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 15 GHz : $20\log(3.95\text{ m} / 3.0\text{ m}) = 2.4\text{ dB}$

*This mode was performed only band edges measurement.

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

UL Japan, Inc.

Shonan EMC Lab.

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

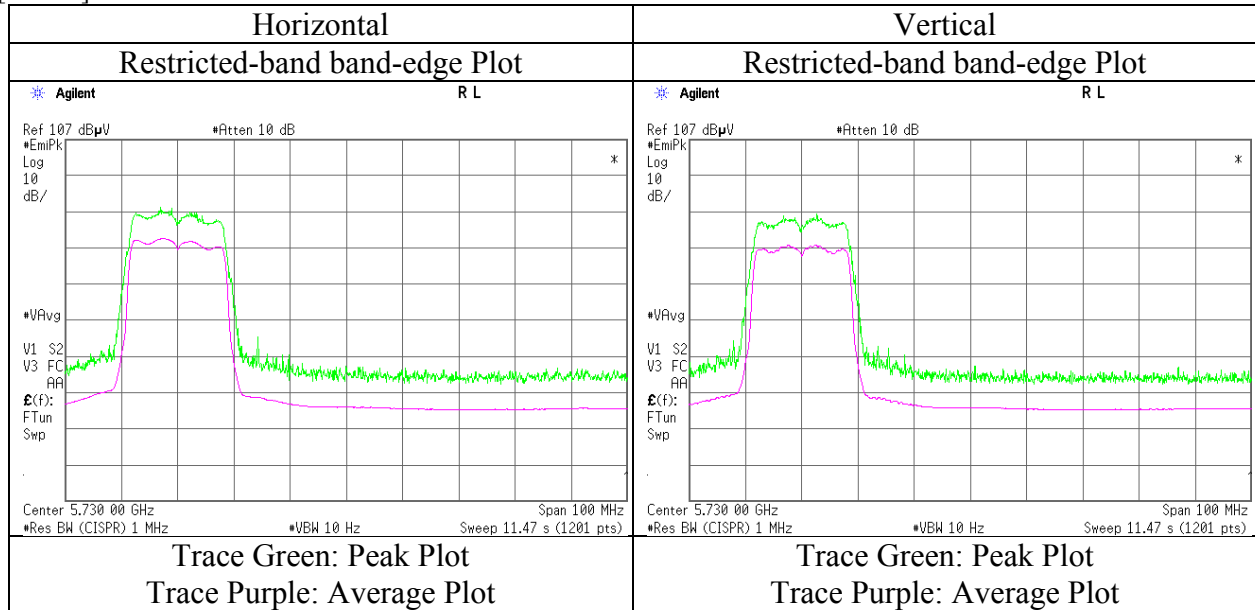
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

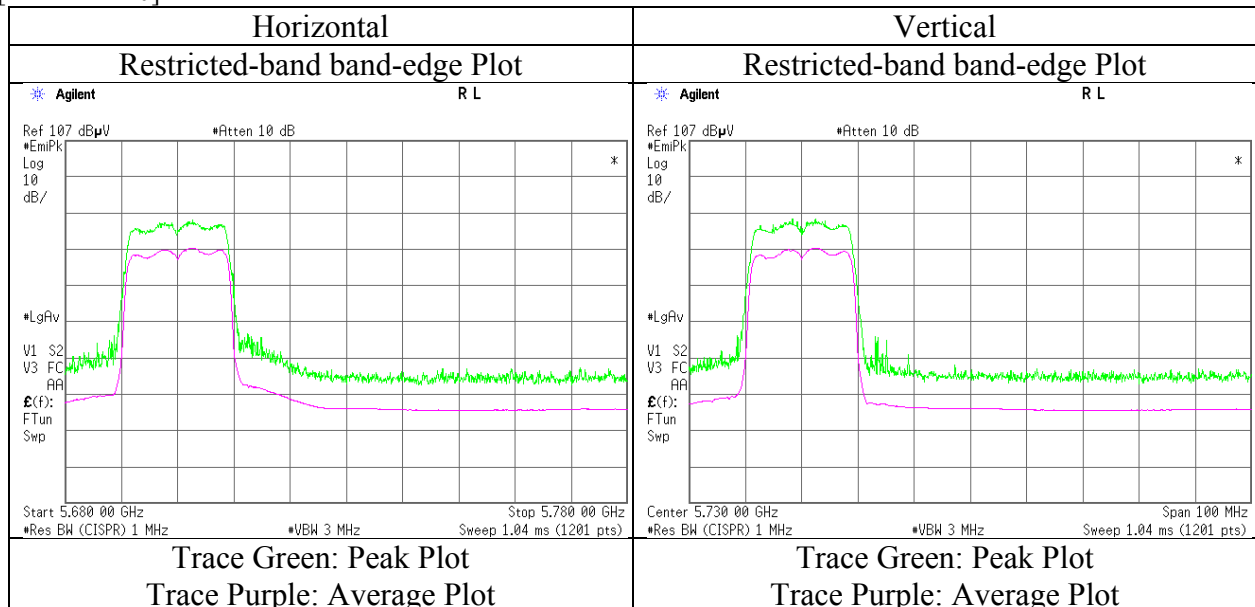
Radiated Spurious Emission

Test place	Shonan EMC Lab. No.2, 3 Semi Anechoic Chamber		
Report No.	10882638S-N		
Date	August 16, 2015	August 24, 2015	August 31, 2015
Temperature / Humidity	26 deg. C / 58 % RH	26 deg. C / 57 % RH	25 deg. C / 62 % RH
Engineer	Shinichi Takano (No.2 SAC)	Yosuke Ishikawa (No.2 SAC)	Shinichi Takano (No.3 SAC)
Mode	Tx, low power mode, 5700 MHz, (20 MHz BW)		

[Tx 11a]

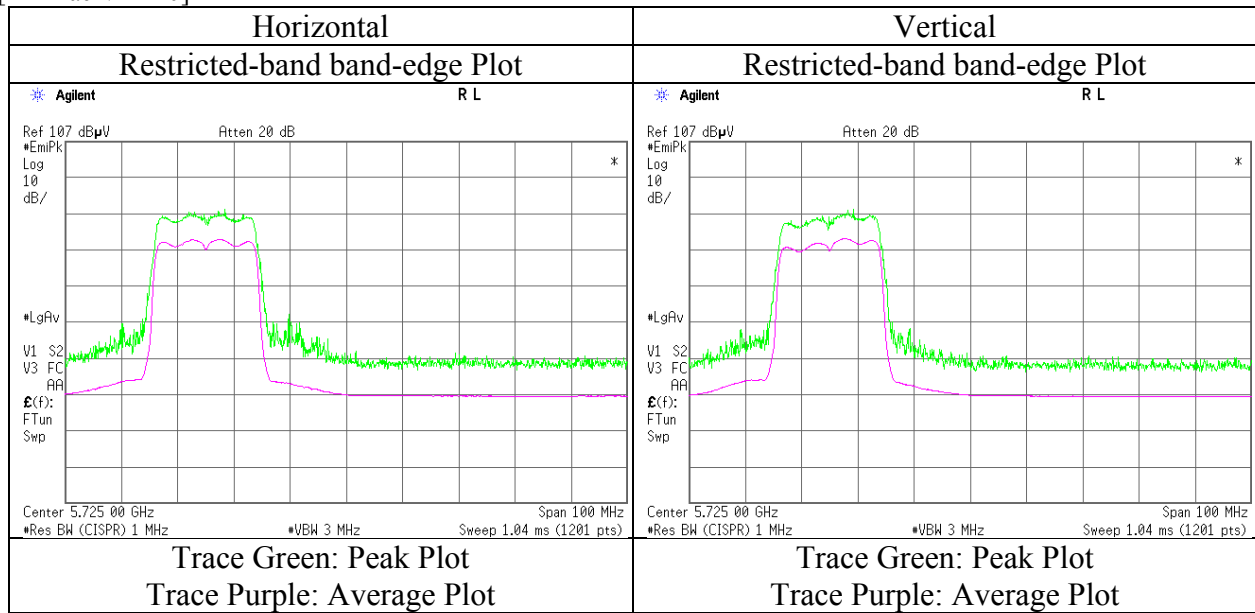


[Tx 11n HT20]



* Final result of restricted band edge was shown in tabular data.

[Tx 11ac VHT20]



* Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Test place	Shonan EMC Lab. No.2, 3 Semi Anechoic Chamber		
Report No.	10882638S-N		
Date	August 16, 2015	August 24, 2015	August 31, 2015
Temperature / Humidity	26 deg. C / 58 % RH	26 deg. C / 57 % RH	25 deg. C / 62 % RH
Engineer	Shinichi Takano	Yosuke Ishikawa	Shinichi Takano
	(No.2 SAC)	(No.2 SAC)	(No.3 SAC)
Mode	Tx, low power mode, 5745 MHz, (20 MHz BW)		

[Tx 11a]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5715.000	PK	46.5	32.7	15.6	38.8	3.4	59.4	73.9	14.5	100	283	*1)
Hori.	5725.000	PK	47.5	32.8	15.6	38.8	3.4	60.5	73.9	13.4	100	283	*1)
Hori.	5715.000	AV	32.7	32.7	15.6	38.8	3.4	45.6	53.9	8.3	100	283	*1)
Hori.	5725.000	AV	34.0	32.8	15.6	38.8	3.4	47.0	53.9	6.9	100	283	*1)
Vert.	5715.000	PK	45.4	32.7	15.6	38.8	3.4	58.3	73.9	15.6	100	258	*1)
Vert.	5725.000	PK	46.2	32.8	15.6	38.8	3.4	59.2	73.9	14.7	100	258	*1)
Vert.	5715.000	AV	32.4	32.7	15.6	38.8	3.4	45.3	53.9	8.6	100	258	*1)
Vert.	5725.000	AV	33.2	32.8	15.6	38.8	3.4	46.2	53.9	7.7	100	258	*1)

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor
Distance factor : 1 GHz - 15 GHz : $20\log(3.95\text{ m} / 3.0\text{ m}) = 2.4\text{ dB}$

*This mode was performed only band edges measurement.

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

[Tx 11n HT20]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5715.000	PK	44.6	32.7	15.6	38.8	3.4	57.5	73.9	16.4	128	286	*1)
Hori.	5725.000	PK	46.6	32.8	15.6	38.8	3.4	59.6	73.9	14.3	128	286	*1)
Hori.	5715.000	AV	33.1	32.7	15.6	38.8	3.4	46.0	53.9	7.9	128	286	*1)
Hori.	5725.000	AV	34.2	32.8	15.6	38.8	3.4	47.2	53.9	6.7	128	286	*1)
Vert.	5715.000	PK	44.6	32.7	15.6	38.8	3.4	57.5	73.9	16.4	100	261	*1)
Vert.	5725.000	PK	46.2	32.8	15.6	38.8	3.4	59.2	73.9	14.7	100	261	*1)
Vert.	5715.000	AV	33.1	32.7	15.6	38.8	3.4	46.0	53.9	7.9	100	261	*1)
Vert.	5725.000	AV	33.9	32.8	15.6	38.8	3.4	46.9	53.9	7.0	100	261	*1)

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor
Distance factor : 1 GHz - 15 GHz : $20\log(3.95\text{ m} / 3.0\text{ m}) = 2.4\text{ dB}$

*This mode was performed only band edges measurement.

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

[Tx 11ac VHT20]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5715.000	PK	47.9	32.3	16.2	40.4	2.4	58.4	73.9	15.5	100	294	*1)
Hori.	5725.000	PK	53.8	32.3	16.2	40.4	2.4	64.3	73.9	9.6	100	294	*1)
Hori.	5715.000	AV	34.8	32.3	16.2	40.4	2.4	45.3	53.9	8.6	100	294	*1)
Hori.	5725.000	AV	37.6	32.3	16.2	40.4	2.4	48.1	53.9	5.8	100	294	*1)
Vert.	5715.000	PK	47.4	32.3	16.2	40.4	2.4	57.9	73.9	16.0	100	274	*1)
Vert.	5725.000	PK	53.3	32.3	16.2	40.4	2.4	63.8	73.9	10.1	100	274	*1)
Vert.	5715.000	AV	34.8	32.3	16.2	40.4	2.4	45.3	53.9	8.6	100	274	*1)
Vert.	5725.000	AV	37.5	32.3	16.2	40.4	2.4	48.0	53.9	5.9	100	274	*1)

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor
Distance factor : 1 GHz - 15 GHz : $20\log(3.95\text{ m} / 3.0\text{ m}) = 2.4\text{ dB}$

*This mode was performed only band edges measurement.

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

UL Japan, Inc.

Shonan EMC Lab.

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

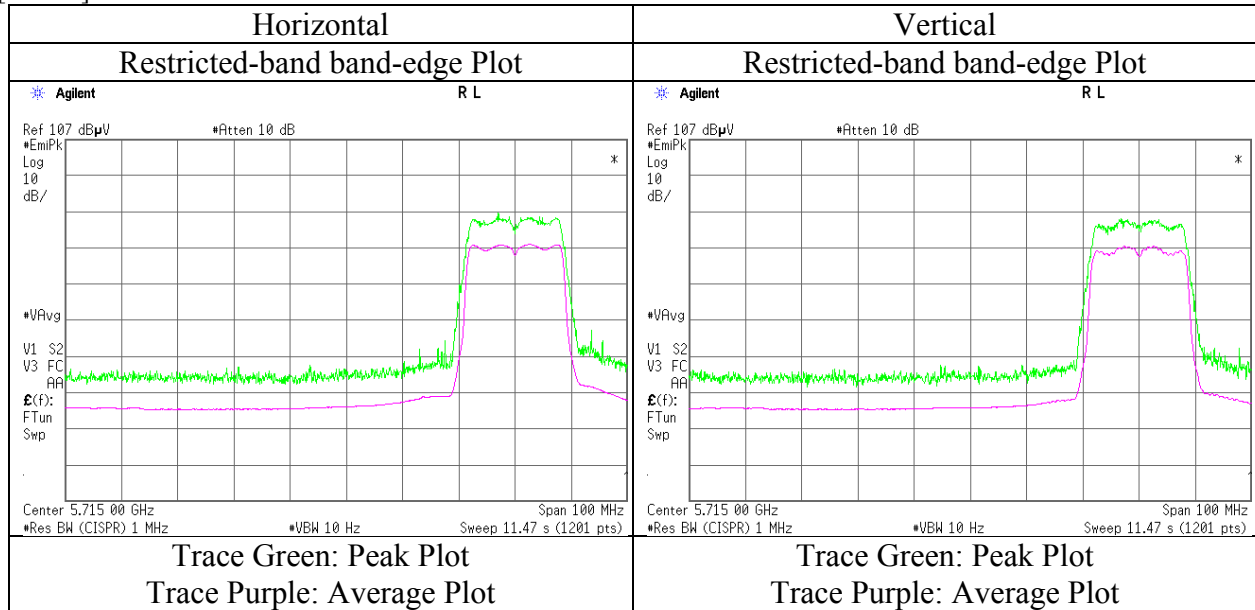
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

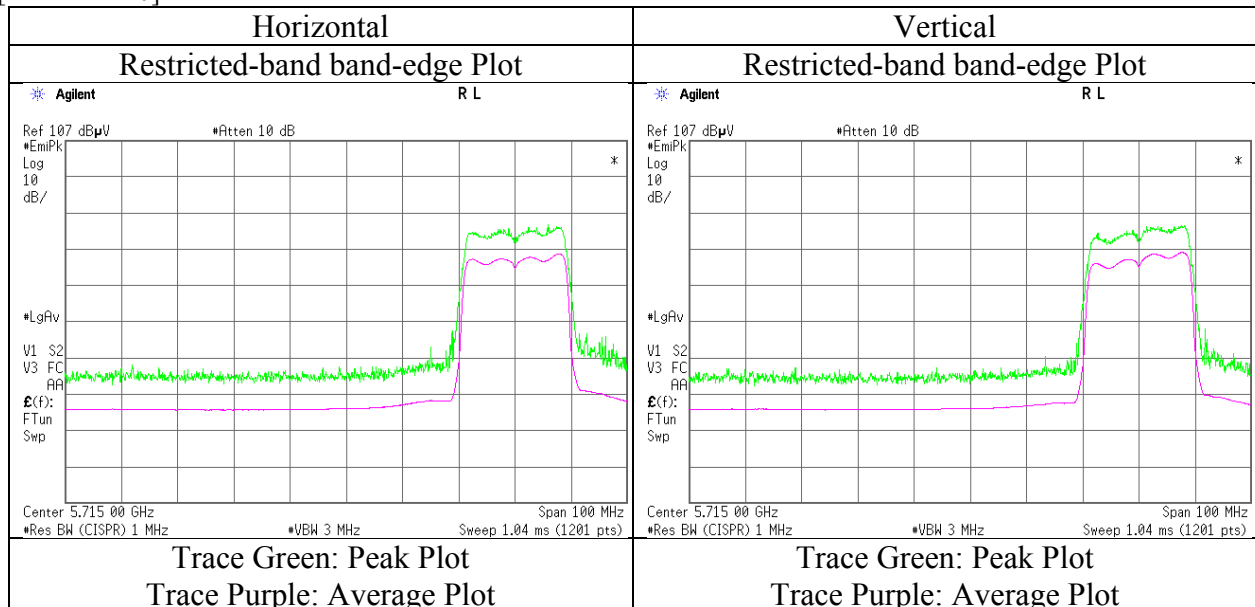
Radiated Spurious Emission

Test place	Shonan EMC Lab. No.2, 3 Semi Anechoic Chamber		
Report No.	10882638S-N		
Date	August 16, 2015	August 24, 2015	August 31, 2015
Temperature / Humidity	26 deg. C / 58 % RH	26 deg. C / 57 % RH	25 deg. C / 62 % RH
Engineer	Shinichi Takano (No.2 SAC)	Yosuke Ishikawa (No.2 SAC)	Shinichi Takano (No.3 SAC)
Mode	Tx, low power mode, 5745 MHz, (20 MHz BW)		

[Tx 11a]

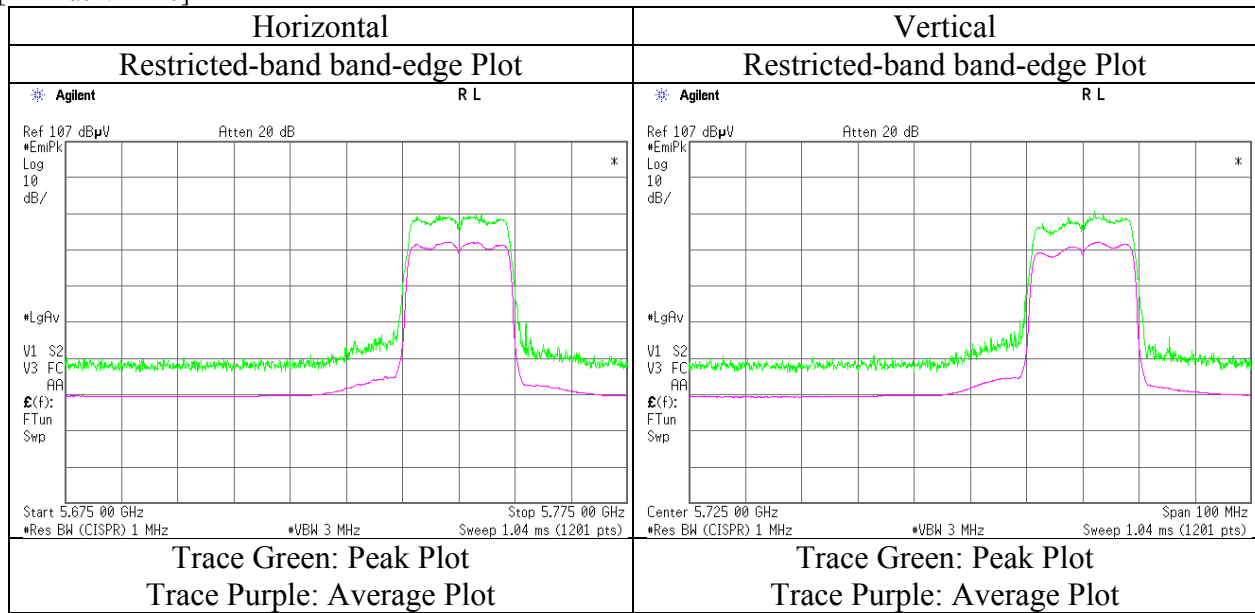


[Tx 11n HT20]



* Final result of restricted band edge was shown in tabular data.

[Tx 11ac VHT20]



* Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Test place	Shonan EMC Lab. No.2, 3 Semi Anechoic Chamber		
Report No.	10882638S-N		
Date	August 16, 2015	August 24, 2015	August 31, 2015
Temperature / Humidity	26 deg. C / 58 % RH	26 deg. C / 57 % RH	25 deg. C / 62 % RH
Engineer	Shinichi Takano	Yosuke Ishikawa	Shinichi Takano
	(No.2 SAC)	(No.2 SAC)	(No.3 SAC)
Mode	Tx, low power mode, 5825 MHz, (20 MHz BW)		

[Tx 11a]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5850.000	PK	46.3	33.0	15.6	38.8	3.4	59.5	73.9	14.4	100	283	*1)
Hori.	5860.000	PK	45.6	33.0	15.6	38.8	3.4	58.8	73.9	15.1	100	283	*1)
Hori.	5850.000	AV	32.6	33.0	15.6	38.8	3.4	45.8	53.9	8.1	100	283	*1)
Hori.	5860.000	AV	32.5	33.0	15.6	38.8	3.4	45.7	53.9	8.2	100	283	*1)
Vert.	5850.000	PK	45.8	33.0	15.6	38.8	3.4	59.0	73.9	14.9	100	280	*1)
Vert.	5860.000	PK	46.3	33.0	15.6	38.8	3.4	59.5	73.9	14.4	100	280	*1)
Vert.	5850.000	AV	32.5	33.0	15.6	38.8	3.4	45.7	53.9	8.2	100	280	*1)
Vert.	5860.000	AV	32.5	33.0	15.6	38.8	3.4	45.7	53.9	8.2	100	280	*1)

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 15 GHz : 20log (3.95 m / 3.0 m) = 2.4 dB

*This mode was performed only band edges measurement.

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

[Tx 11n HT20]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5850.000	PK	44.8	33.0	15.6	38.8	3.4	58.0	73.9	15.9	100	290	*1)
Hori.	5860.000	PK	44.8	33.0	15.6	38.8	3.4	58.0	73.9	15.9	100	290	*1)
Hori.	5850.000	AV	33.4	33.0	15.6	38.8	3.4	46.6	53.9	7.3	100	290	*1)
Hori.	5860.000	AV	33.2	33.0	15.6	38.8	3.4	46.4	53.9	7.5	100	290	*1)
Vert.	5850.000	PK	45.1	33.0	15.6	38.8	3.4	58.3	73.9	15.6	100	273	*1)
Vert.	5860.000	PK	44.3	33.0	15.6	38.8	3.4	57.5	73.9	16.4	100	273	*1)
Vert.	5850.000	AV	33.3	33.0	15.6	38.8	3.4	46.5	53.9	7.4	100	273	*1)
Vert.	5860.000	AV	33.1	33.0	15.6	38.8	3.4	46.3	53.9	7.6	100	273	*1)

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 15 GHz : 20log (3.95 m / 3.0 m) = 2.4 dB

*This mode was performed only band edges measurement.

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

[Tx 11ac VHT20]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5850.000	PK	48.1	32.6	16.2	40.4	2.4	58.9	73.9	15.0	100	302	*1)
Hori.	5860.000	PK	47.3	32.6	16.2	40.4	2.4	58.1	73.9	15.8	100	302	*1)
Hori.	5850.000	AV	35.6	32.6	16.2	40.4	2.4	46.4	53.9	7.5	100	302	*1)
Hori.	5860.000	AV	35.2	32.6	16.2	40.4	2.4	46.0	53.9	7.9	100	302	*1)
Vert.	5850.000	PK	46.9	32.6	16.2	40.4	2.4	57.7	73.9	16.2	100	258	*1)
Vert.	5860.000	PK	46.2	32.6	16.2	40.4	2.4	57.0	73.9	16.9	100	258	*1)
Vert.	5850.000	AV	35.6	32.6	16.2	40.4	2.4	46.4	53.9	7.5	100	258	*1)
Vert.	5860.000	AV	35.2	32.6	16.2	40.4	2.4	46.0	53.9	7.9	100	258	*1)

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 15 GHz : 20log (3.95 m / 3.0 m) = 2.4 dB

*This mode was performed only band edges measurement.

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

UL Japan, Inc.

Shonan EMC Lab.

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

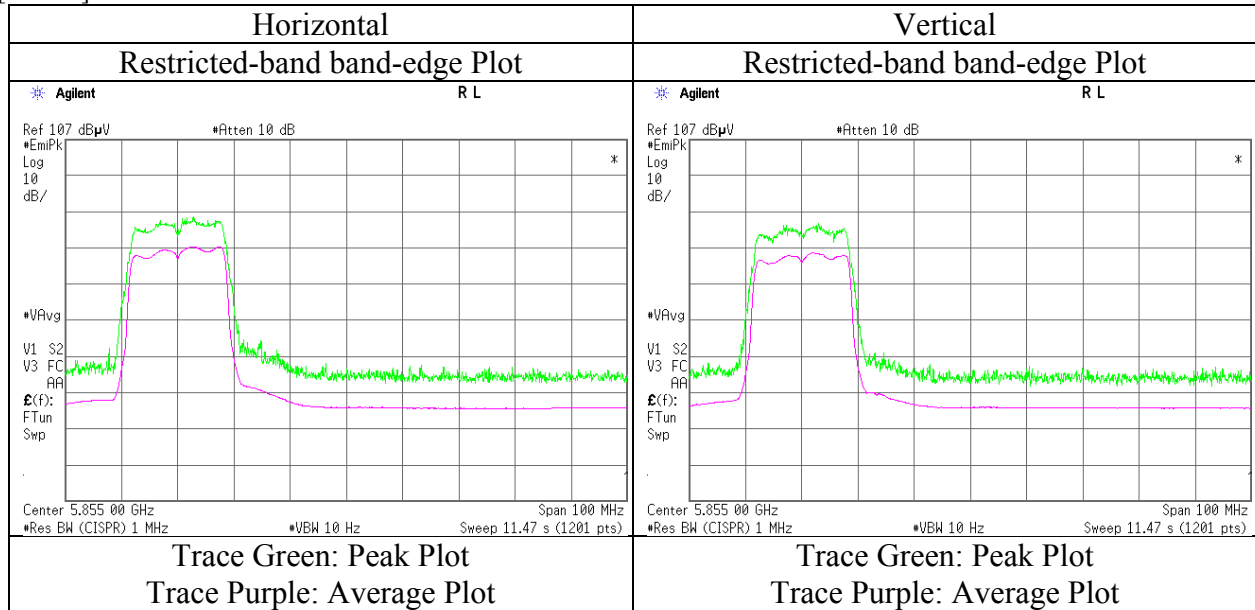
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

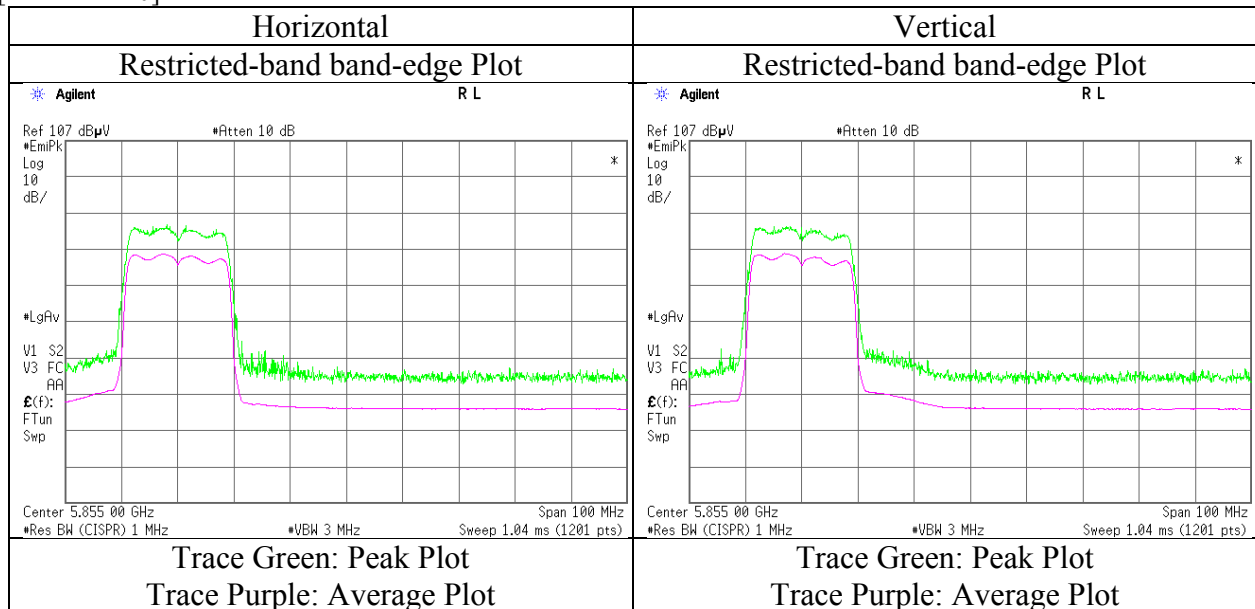
Radiated Spurious Emission

Test place	Shonan EMC Lab. No.2, 3 Semi Anechoic Chamber		
Report No.	10882638S-N		
Date	August 16, 2015	August 24, 2015	August 31, 2015
Temperature / Humidity	26 deg. C / 58 % RH	26 deg. C / 57 % RH	25 deg. C / 62 % RH
Engineer	Shinichi Takano (No.2 SAC)	Yosuke Ishikawa (No.2 SAC)	Shinichi Takano (No.3 SAC)
Mode	Tx, low power mode, 5825 MHz, (20 MHz BW)		

[Tx 11a]

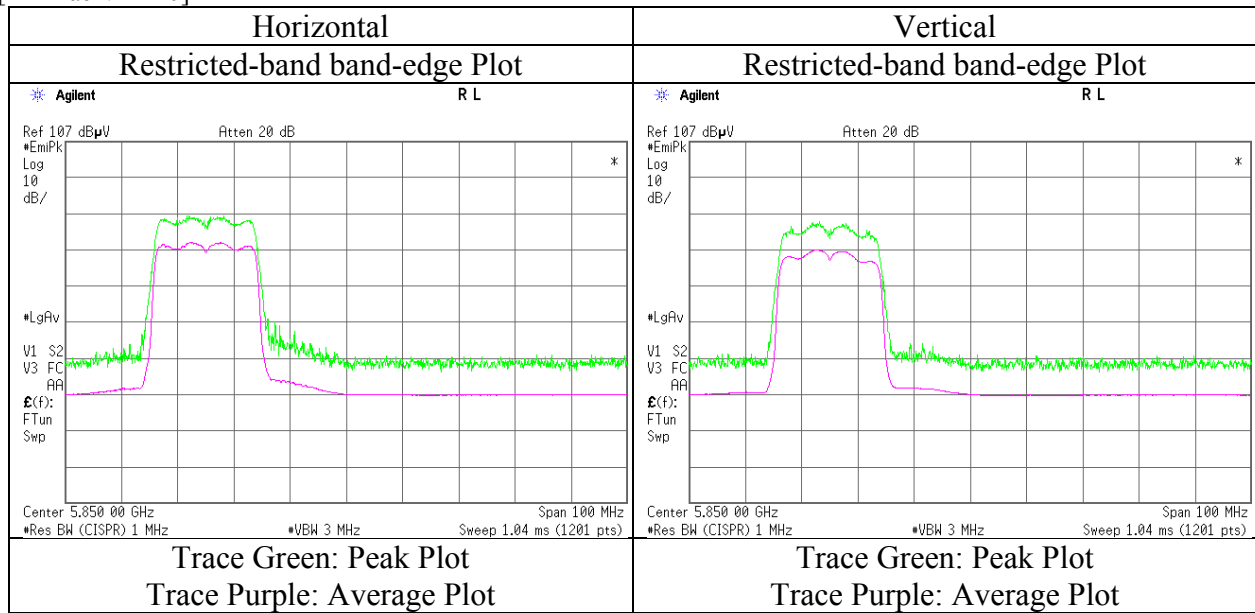


[Tx 11n HT20]



* Final result of restricted band edge was shown in tabular data.

[Tx 11ac VHT20]



* Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Test place : Shonan EMC Lab. No.3 Semi Anechoic Chamber
Report No. : 10882638S-N
Date : August 31, 2015 September 1, 2015 September 2, 2015 September 3, 2015
Temperature / Humidity : 25 deg. C / 62 % RH 24 deg. C / 60 % RH 24 deg. C / 55 % RH 25 deg. C / 63 % RH
Engineer : Shinichi Takano Shinichi Takano Shinichi Takano Shinichi Takano
Mode : Tx, normal power mode, 5190 MHz, (40 MHz BW)

[Tx 11n HT40]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5150.000	PK	52.4	32.5	15.4	39.2	3.4	64.5	73.9	9.4	108	318	
Hori.	5150.000	AV	37.1	32.5	15.4	39.2	3.4	49.2	53.9	4.7	108	318	
Hori.	5150.000	PK	53.4	32.5	15.4	39.2	3.4	65.5	73.9	8.4	148	271	
Vert.	5150.000	AV	37.1	32.5	15.4	39.2	3.4	49.2	53.9	4.7	148	271	

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 15 GHz : $20\log(4.45\text{ m} / 3.0\text{ m}) = 3.4\text{ dB}$

*This mode was performed only band edges measurement.

[Tx 11ac VHT40]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5150.000	PK	51.4	32.5	15.4	39.2	3.4	63.5	73.9	10.4	108	317	
Hori.	10380.000	PK	46.7	38.9	8.0	39.1	3.4	57.9	73.9	16.0	100	0	*1)
Hori.	15570.000	PK	46.6	40.0	9.8	40.9	-9.5	46.0	73.9	27.9	100	0	
Hori.	20760.000	PK	52.2	40.3	11.9	47.0	-9.5	47.9	73.9	26.0	100	110	
Hori.	5150.000	AV	35.9	32.5	15.4	39.2	3.4	48.0	53.9	5.9	108	317	
Hori.	10380.000	AV	34.4	38.9	8.0	39.1	3.4	45.6	53.9	8.3	100	0	*1)
Hori.	15570.000	AV	34.2	40.0	9.8	40.9	-9.5	33.6	53.9	20.3	100	0	
Hori.	20760.000	AV	48.9	40.3	11.9	47.0	-9.5	44.6	53.9	9.3	100	110	
Vert.	5150.000	PK	53.1	32.5	15.4	39.2	3.4	65.2	73.9	8.7	104	277	
Vert.	10380.000	PK	45.6	38.9	8.0	39.1	3.4	56.8	73.9	17.1	100	0	*1)
Vert.	15570.000	PK	46.5	40.0	9.8	40.9	-9.5	45.9	73.9	28.0	100	0	
Vert.	20760.000	PK	53.2	40.3	11.9	47.0	-9.5	48.9	73.9	25.0	106	144	
Vert.	5150.000	AV	36.5	32.5	15.4	39.2	3.4	48.6	53.9	5.3	104	277	
Vert.	10380.000	AV	34.4	38.9	8.0	39.1	3.4	45.6	53.9	8.3	100	0	*1)
Vert.	15570.000	AV	34.1	40.0	9.8	40.9	-9.5	33.5	53.9	20.4	100	0	
Vert.	20760.000	AV	50.5	40.3	11.9	47.0	-9.5	46.2	53.9	7.7	106	144	

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 15 GHz : $20\log(4.45\text{ m} / 3.0\text{ m}) = 3.4\text{ dB}$

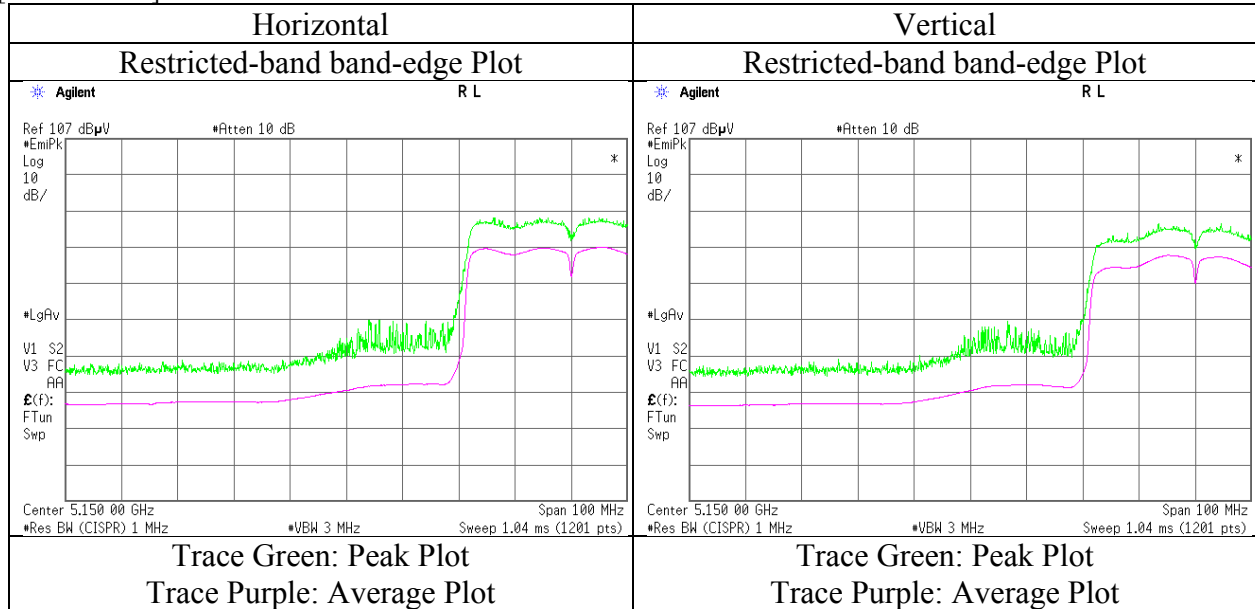
15 GHz - 40 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.5\text{ dB}$

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

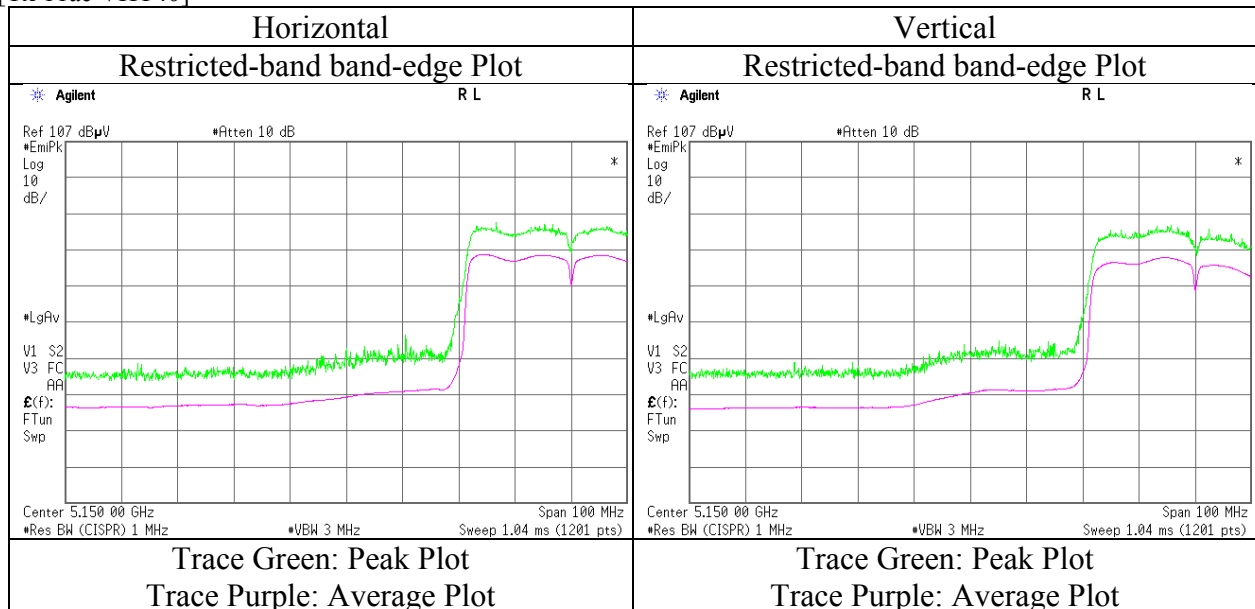
Radiated Spurious Emission

Test place	Shonan EMC Lab. No.3 Semi Anechoic Chamber	
Report No.	10882638S-N	
Date	August 31, 2015	September 1, 2015
Temperature / Humidity	25 deg. C / 62 % RH	24 deg. C / 60 % RH
Engineer	Shinichi Takano	Shinichi Takano
Mode	Tx, normal power mode, 5190 MHz, (40 MHz BW)	

[Tx 11n HT40]



[Tx 11ac VHT40]



* Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Test place : Shonan EMC Lab. No.3 Semi Anechoic Chamber
Report No. : 10882638S-N
Date : August 31, 2015 September 1, 2015 September 2, 2015 September 3, 2015
Temperature / Humidity : 25 deg. C / 62 % RH 24 deg. C / 60 % RH 24 deg. C / 55 % RH 25 deg. C / 63 % RH
Engineer : Shinichi Takano Shinichi Takano Shinichi Takano Shinichi Takano
Mode : Tx, normal power mode, 5230 MHz, (40 MHz BW)

[Tx 11ac VHT40]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	10460.000	PK	46.1	39.0	8.0	39.1	3.4	57.4	73.9	16.5	100	0	*1)
Hori.	15690.000	PK	46.0	39.9	10.0	40.8	-9.5	45.6	73.9	28.3	100	0	
Hori.	20920.000	PK	51.3	40.3	12.0	47.0	-9.5	47.1	73.9	26.8	100	109	
Hori.	10460.000	AV	34.8	39.0	8.0	39.1	3.4	46.1	53.9	7.8	100	0	*1)
Hori.	15690.000	AV	33.7	39.9	10.0	40.8	-9.5	33.3	53.9	20.6	100	0	
Hori.	20920.000	AV	48.0	40.3	12.0	47.0	-9.5	43.8	53.9	10.1	100	109	
Vert.	10460.000	PK	46.3	39.0	8.0	39.1	3.4	57.6	73.9	16.3	100	0	*1)
Vert.	15690.000	PK	44.9	39.9	10.0	40.8	-9.5	44.5	73.9	29.4	100	0	
Vert.	20920.000	PK	52.4	40.3	12.0	47.0	-9.5	48.2	73.9	25.7	106	144	
Vert.	10460.000	AV	34.7	39.0	8.0	39.1	3.4	46.0	53.9	7.9	100	0	*1)
Vert.	15690.000	AV	33.7	39.9	10.0	40.8	-9.5	33.3	53.9	20.6	100	0	
Vert.	20920.000	AV	49.0	40.3	12.0	47.0	-9.5	44.8	53.9	9.1	106	144	

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 15 GHz : $20\log(4.45\text{ m} / 3.0\text{ m}) = 3.4\text{ dB}$

15 GHz - 40 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.5\text{ dB}$

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

UL Japan, Inc.

Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Radiated Spurious Emission

Test place : Shonan EMC Lab. No.3 Semi Anechoic Chamber
Report No. : 10882638S-N
Date : August 31, 2015 September 1, 2015 September 2, 2015 September 3, 2015
Temperature / Humidity : 25 deg. C / 62 % RH 24 deg. C / 60 % RH 24 deg. C / 55 % RH 25 deg. C / 63 % RH
Engineer : Shinichi Takano Shinichi Takano Shinichi Takano Shinichi Takano
Mode : Tx, normal power mode, 5310 MHz, (40 MHz BW)

[Tx 11n HT40]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5350.000	PK	52.1	32.4	15.5	38.9	3.4	64.5	73.9	9.4	100	301	
Hori.	5350.000	AV	35.5	32.4	15.5	38.9	3.4	47.9	53.9	6.0	100	301	
Vert.	5350.000	PK	53.1	32.4	15.5	38.9	3.4	65.5	73.9	8.4	100	275	
Vert.	5350.000	AV	35.9	32.4	15.5	38.9	3.4	48.3	53.9	5.6	100	275	

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 15 GHz : $20\log(4.45\text{ m} / 3.0\text{ m}) = 3.4\text{ dB}$

*This mode was performed only band edges measurement.

[Tx 11ac VHT40]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5350.000	PK	50.8	32.4	15.5	38.9	3.4	63.2	73.9	10.7	100	313	
Hori.	10620.000	PK	45.7	39.2	8.1	39.1	3.4	57.3	73.9	16.6	100	0	
Hori.	15930.000	PK	45.5	39.8	10.4	40.7	-9.5	45.5	73.9	28.4	100	0	
Hori.	21240.000	PK	52.7	40.4	12.1	47.1	-9.5	48.6	73.9	25.3	100	114	
Hori.	5350.000	AV	35.7	32.4	15.5	38.9	3.4	48.1	53.9	5.8	100	313	
Hori.	10620.000	AV	33.7	39.2	8.1	39.1	3.4	45.3	53.9	8.6	100	0	
Hori.	15930.000	AV	34.0	39.8	10.4	40.7	-9.5	34.0	53.9	19.9	100	0	
Hori.	21240.000	AV	50.1	40.4	12.1	47.1	-9.5	46.0	53.9	7.9	100	114	
Vert.	5350.000	PK	51.5	32.4	15.5	38.9	3.4	63.9	73.9	10.0	102	278	
Vert.	10620.000	PK	45.2	39.2	8.1	39.1	3.4	56.8	73.9	17.1	100	0	
Vert.	15930.000	PK	45.8	39.8	10.4	40.7	-9.5	45.8	73.9	28.1	100	0	
Vert.	21240.000	PK	52.2	40.4	12.1	47.1	-9.5	48.1	73.9	25.8	103	145	
Vert.	5350.000	AV	36.5	32.4	15.5	38.9	3.4	48.9	53.9	5.0	102	278	
Vert.	10620.000	AV	33.5	39.2	8.1	39.1	3.4	45.1	53.9	8.8	100	0	
Vert.	15930.000	AV	34.0	39.8	10.4	40.7	-9.5	34.0	53.9	19.9	100	0	
Vert.	21240.000	AV	49.5	40.4	12.1	47.1	-9.5	45.4	53.9	8.5	103	145	

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 15 GHz : $20\log(4.45\text{ m} / 3.0\text{ m}) = 3.4\text{ dB}$

15 GHz - 40 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.5\text{ dB}$

UL Japan, Inc.

Shonan EMC Lab.

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

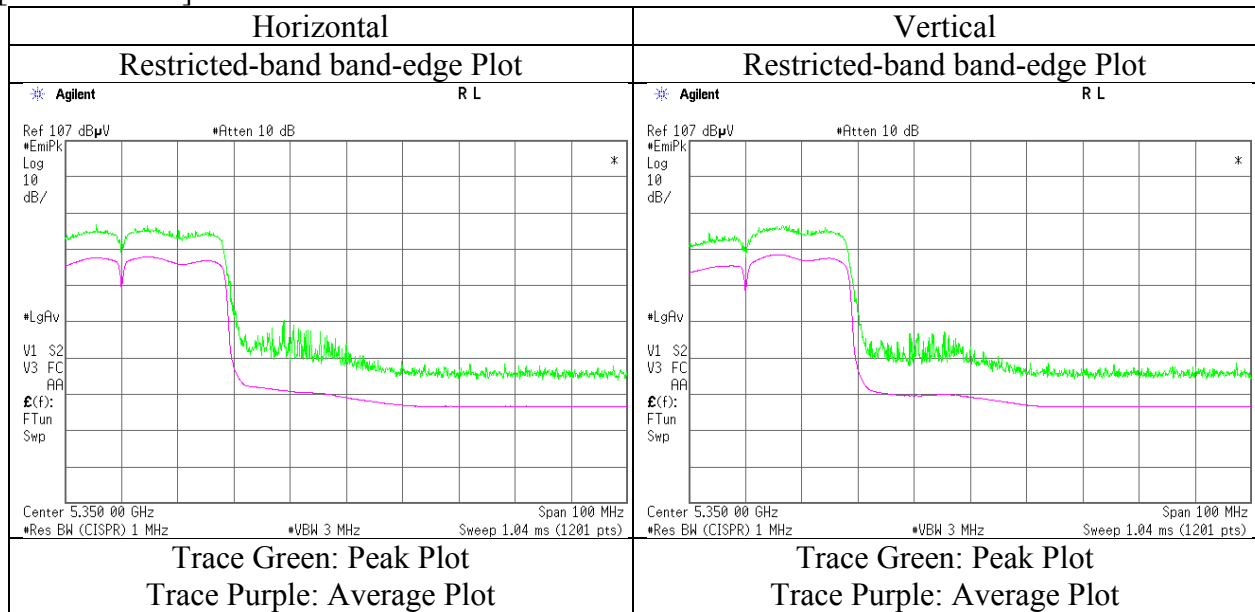
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

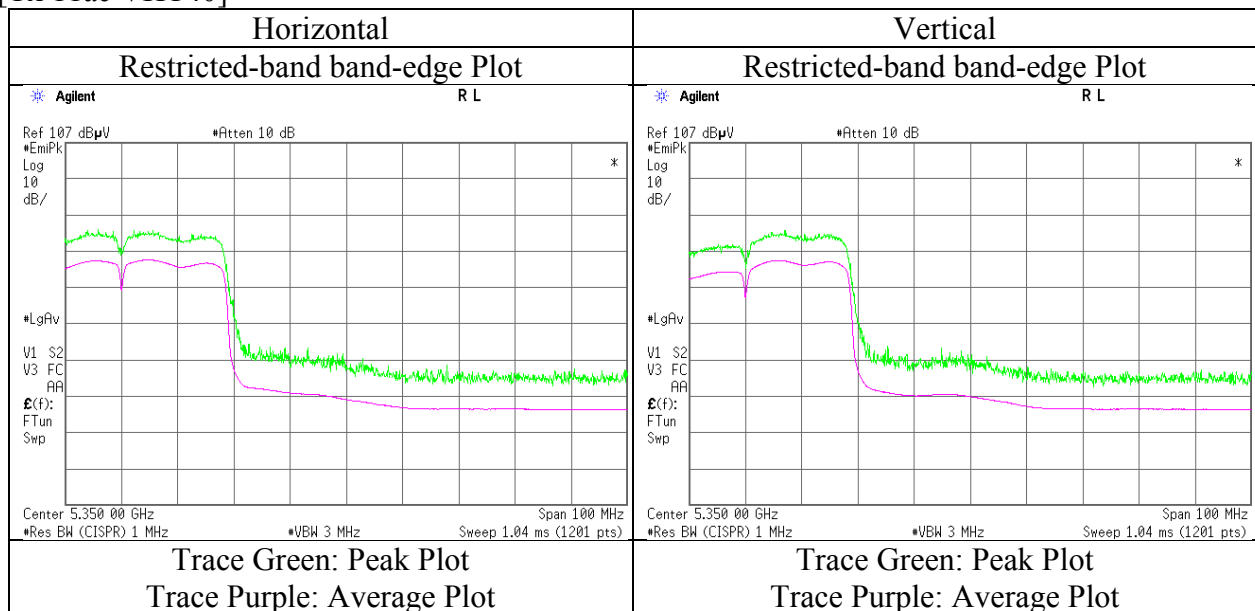
Radiated Spurious Emission

Test place	Shonan EMC Lab. No.3 Semi Anechoic Chamber	
Report No.	10882638S-N	
Date	August 31, 2015	September 1, 2015
Temperature / Humidity	25 deg. C / 62 % RH	24 deg. C / 60 % RH
Engineer	Shinichi Takano	Shinichi Takano
Mode	Tx, normal power mode, 5310 MHz, (40 MHz BW)	

[Tx 11n HT40]



[Tx 11ac VHT40]



* Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Test place : Shonan EMC Lab. No.3 Semi Anechoic Chamber
Report No. : 10882638S-N
Date : August 31, 2015 September 1, 2015 September 2, 2015 September 3, 2015
Temperature / Humidity : 25 deg. C / 62 % RH 24 deg. C / 60 % RH 24 deg. C / 55 % RH 25 deg. C / 63 % RH
Engineer : Shinichi Takano Shinichi Takano Shinichi Takano Shinichi Takano
Mode : Tx, normal power mode, 5510 MHz, (40 MHz BW)

[Tx 11n HT40]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5460.000	PK	46.2	32.3	15.5	38.8	3.4	58.6	73.9	15.3	100	293	
Hori.	5470.000	PK	50.8	32.3	15.5	38.8	3.4	63.2	73.9	10.7	100	293	*1)
Hori.	5460.000	AV	33.5	32.3	15.5	38.8	3.4	45.9	53.9	8.0	100	293	
Hori.	5470.000	AV	34.7	32.3	15.5	38.8	3.4	47.1	53.9	6.8	100	293	*1)
Vert.	5460.000	PK	46.9	32.3	15.5	38.8	3.4	59.3	73.9	14.6	100	266	
Vert.	5470.000	PK	54.3	32.3	15.5	38.8	3.4	66.7	73.9	7.2	100	266	*1)
Vert.	5460.000	AV	33.9	32.3	15.5	38.8	3.4	46.3	53.9	7.6	100	266	
Vert.	5470.000	AV	35.6	32.3	15.5	38.8	3.4	48.0	53.9	5.9	100	266	*1)

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 15 GHz : $20\log(4.45\text{ m} / 3.0\text{ m}) = 3.4\text{ dB}$

*This mode was performed only band edges measurement.

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

[Tx 11ac VHT40]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5460.000	PK	45.8	32.3	15.5	38.8	3.4	58.2	73.9	15.7	122	292	
Hori.	5470.000	PK	49.1	32.3	15.5	38.8	3.4	61.5	73.9	12.4	122	292	*1)
Hori.	11020.000	PK	46.7	39.8	8.3	39.1	3.4	59.1	73.9	14.8	214	213	
Hori.	16530.000	PK	44.3	40.6	10.5	40.4	-9.5	45.5	73.9	28.4	100	0	*1)
Hori.	22040.000	PK	51.0	40.7	12.4	47.5	-9.5	47.1	73.9	26.8	100	115	
Hori.	5460.000	AV	33.4	32.3	15.5	38.8	3.4	45.8	53.9	8.1	122	292	
Hori.	5470.000	AV	34.9	32.3	15.5	38.8	3.4	47.3	53.9	6.6	122	292	*1)
Hori.	11020.000	AV	35.8	39.8	8.3	39.1	3.4	48.2	53.9	5.7	214	213	
Hori.	16530.000	AV	32.8	40.6	10.5	40.4	-9.5	34.0	53.9	19.9	100	0	*1)
Hori.	22040.000	AV	47.7	40.7	12.4	47.5	-9.5	43.8	53.9	10.1	100	115	
Vert.	5460.000	PK	46.5	32.3	15.5	38.8	3.4	58.9	73.9	15.0	135	267	
Vert.	5470.000	PK	48.6	32.3	15.5	38.8	3.4	61.0	73.9	12.9	135	267	*1)
Vert.	11020.000	PK	45.2	39.8	8.3	39.1	3.4	57.6	73.9	16.3	100	0	
Vert.	16530.000	PK	43.8	40.6	10.5	40.4	-9.5	45.0	73.9	28.9	100	0	*1)
Vert.	22040.000	PK	52.8	40.7	12.4	47.5	-9.5	48.9	73.9	25.0	109	134	
Vert.	5460.000	AV	33.3	32.3	15.5	38.8	3.4	45.7	53.9	8.2	135	267	
Vert.	5470.000	AV	34.8	32.3	15.5	38.8	3.4	47.2	53.9	6.7	135	267	*1)
Vert.	11020.000	AV	34.0	39.8	8.3	39.1	3.4	46.4	53.9	7.5	100	0	
Vert.	16530.000	AV	32.9	40.6	10.5	40.4	-9.5	34.1	53.9	19.8	100	0	*1)
Vert.	22040.000	AV	50.2	40.7	12.4	47.5	-9.5	46.3	53.9	7.6	109	134	

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 15 GHz : $20\log(4.45\text{ m} / 3.0\text{ m}) = 3.4\text{ dB}$

15 GHz - 40 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.5\text{ dB}$

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

UL Japan, Inc.

Shonan EMC Lab.

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

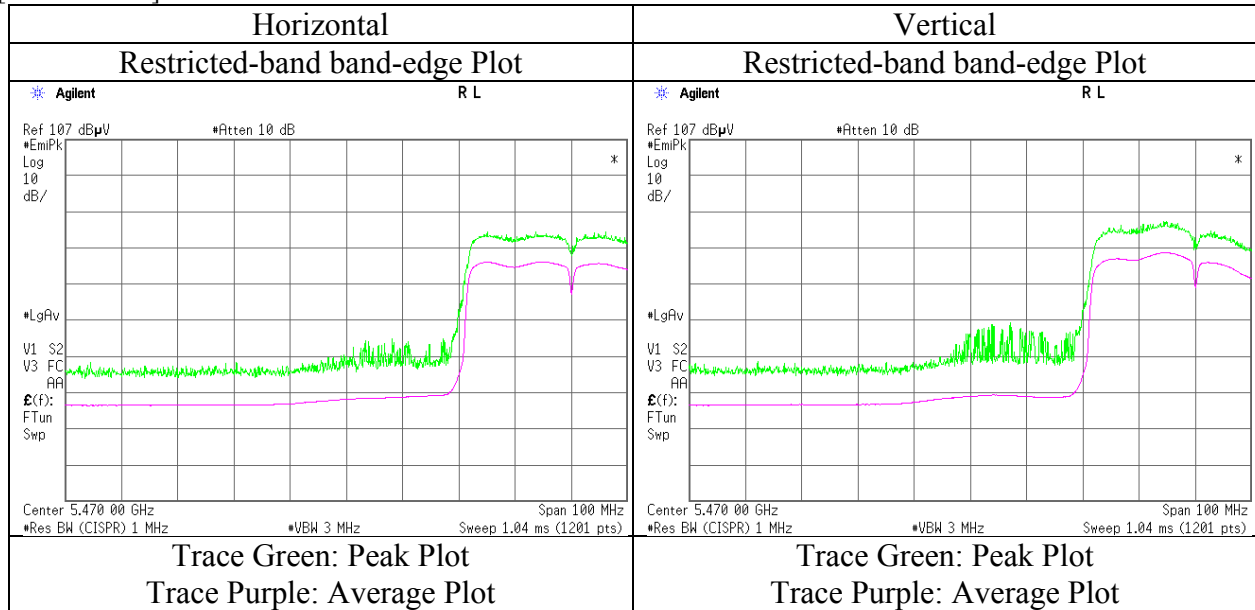
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

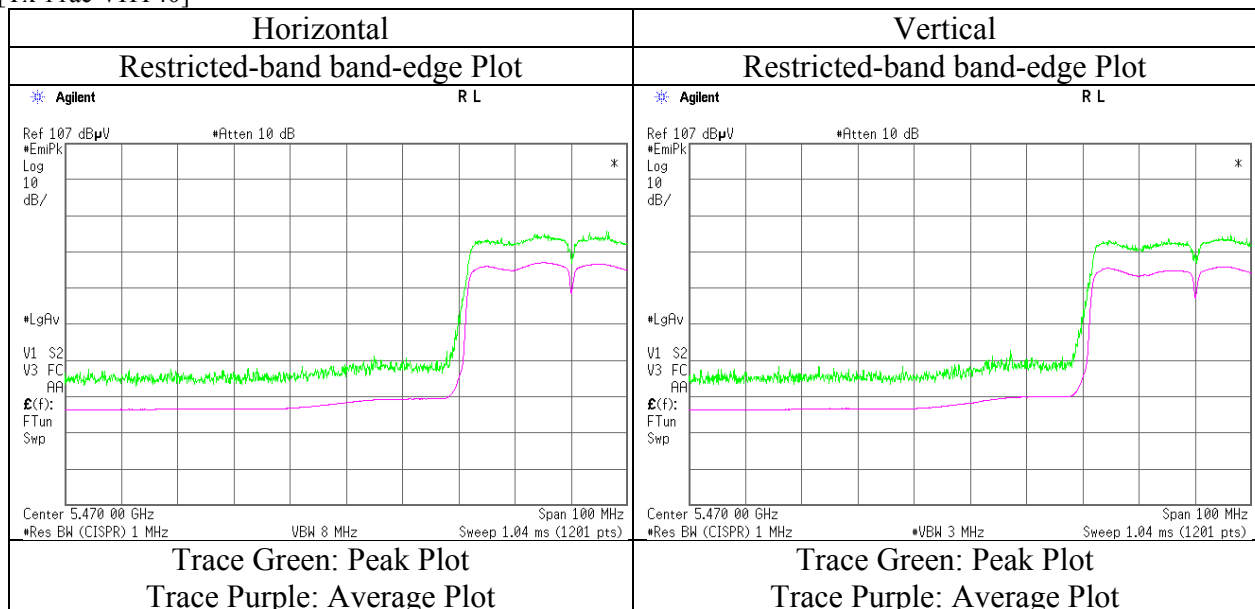
Radiated Spurious Emission

Test place	Shonan EMC Lab. No.3 Semi Anechoic Chamber	
Report No.	10882638S-N	
Date	August 31, 2015	September 1, 2015
Temperature / Humidity	25 deg. C / 62 % RH	24 deg. C / 60 % RH
Engineer	Shinichi Takano	Shinichi Takano
	(No.2 SAC)	(No.2 SAC)
Mode	Tx, normal power mode, 5510 MHz, (40 MHz BW)	

[Tx 11n HT40]



[Tx 11ac VHT40]



* Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Test place : Shonan EMC Lab. No.3 Semi Anechoic Chamber
Report No. : 10882638S-N
Date : August 31, 2015 September 1, 2015 September 2, 2015 September 3, 2015
Temperature / Humidity : 25 deg. C / 62 % RH 24 deg. C / 60 % RH 24 deg. C / 55 % RH 25 deg. C / 63 % RH
Engineer : Shinichi Takano Shinichi Takano Shinichi Takano Shinichi Takano
Mode : Tx, normal power mode, 5550 MHz, (40 MHz BW)

[Tx 11ac VHT40]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11100.000	PK	46.1	40.0	8.3	39.0	3.4	58.8	73.9	15.1	120	224	*1)
Hori.	16650.000	PK	45.1	40.7	10.5	40.2	-9.5	46.6	73.9	27.3	100	0	
Hori.	22200.000	PK	50.8	40.7	12.5	47.6	-9.5	46.9	73.9	27.0	110	129	*1)
Hori.	11100.000	AV	35.6	40.0	8.3	39.0	3.4	48.3	53.9	5.6	120	224	
Hori.	16650.000	AV	33.2	40.7	10.5	40.2	-9.5	34.7	53.9	19.2	100	0	*1)
Hori.	22200.000	AV	46.7	40.7	12.5	47.6	-9.5	42.8	53.9	11.1	110	129	
Vert.	11100.000	PK	46.3	40.0	8.3	39.0	3.4	59.0	73.9	14.9	100	0	*1)
Vert.	16650.000	PK	44.7	40.7	10.5	40.2	-9.5	46.2	73.9	27.7	100	0	
Vert.	22200.000	PK	52.1	40.7	12.5	47.6	-9.5	48.2	73.9	25.7	108	133	*1)
Vert.	11100.000	AV	34.2	40.0	8.3	39.0	3.4	46.9	53.9	7.0	100	0	
Vert.	16650.000	AV	33.2	40.7	10.5	40.2	-9.5	34.7	53.9	19.2	100	0	*1)
Vert.	22200.000	AV	49.0	40.7	12.5	47.6	-9.5	45.1	53.9	8.8	108	133	

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 15 GHz : $20\log(4.45 \text{ m} / 3.0 \text{ m}) = 3.4 \text{ dB}$

15 GHz - 40 GHz : $20\log(1.0 \text{ m} / 3.0 \text{ m}) = -9.5 \text{ dB}$

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

Radiated Spurious Emission

Test place : Shonan EMC Lab. No.3 Semi Anechoic Chamber
Report No. : 10882638S-N
Date : August 31, 2015 September 1, 2015 September 2, 2015 September 3, 2015
Temperature / Humidity : 25 deg. C / 62 % RH 24 deg. C / 60 % RH 24 deg. C / 55 % RH 25 deg. C / 63 % RH
Engineer : Shinichi Takano Shinichi Takano Shinichi Takano Shinichi Takano
Mode : Tx, normal power mode, 5670 MHz, (40 MHz BW)

[Tx 11n HT40]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5725.000	PK	45.3	32.8	15.6	38.8	3.4	58.3	73.9	15.6	100	295	*1)
Hori.	5725.000	AV	32.9	32.8	15.6	38.8	3.4	45.9	53.9	8.0	100	295	*1)
Vert.	5725.000	PK	45.2	32.8	15.6	38.8	3.4	58.2	73.9	15.7	167	259	*1)
Vert.	5725.000	AV	33.1	32.8	15.6	38.8	3.4	46.1	53.9	7.8	167	259	*1)

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 15 GHz : $20\log(4.45 \text{ m} / 3.0 \text{ m}) = 3.4 \text{ dB}$

*This mode was performed only band edges measurement.

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

[Tx 11ac VHT40]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5725.000	PK	44.9	32.8	15.6	38.8	3.4	57.9	73.9	16.0	117	290	*1)
Hori.	11340.000	PK	44.8	40.5	8.3	38.9	3.4	58.1	73.9	15.8	138	226	
Hori.	17010.000	PK	45.1	41.3	10.5	39.6	-9.5	47.8	73.9	26.1	100	0	*1)
Hori.	5725.000	AV	33.3	32.8	15.6	38.8	3.4	46.3	53.9	7.6	117	290	*1)
Hori.	11340.000	AV	33.8	40.5	8.3	38.9	3.4	47.1	53.9	6.8	138	226	
Hori.	17010.000	AV	33.3	41.3	10.5	39.6	-9.5	36.0	53.9	17.9	100	0	*1)
Vert.	5725.000	PK	46.1	32.8	15.6	38.8	3.4	59.1	73.9	14.8	100	262	*1)
Vert.	11340.000	PK	44.7	40.5	8.3	38.9	3.4	58.0	73.9	15.9	100	0	
Vert.	17010.000	PK	44.5	41.3	10.5	39.6	-9.5	47.2	73.9	26.7	100	0	*1)
Vert.	22680.000	PK	49.0	40.8	12.6	47.4	-9.5	45.5	73.9	28.4	108	133	
Vert.	5725.000	AV	33.3	32.8	15.6	38.8	3.4	46.3	53.9	7.6	100	262	*1)
Vert.	11340.000	AV	33.0	40.5	8.3	38.9	3.4	46.3	53.9	7.6	100	0	
Vert.	17010.000	AV	33.3	41.3	10.5	39.6	-9.5	36.0	53.9	17.9	100	0	*1)
Vert.	22680.000	AV	43.9	40.8	12.6	47.4	-9.5	40.4	53.9	13.5	108	133	

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 15 GHz : $20\log(4.45 \text{ m} / 3.0 \text{ m}) = 3.4 \text{ dB}$

15 GHz - 40 GHz : $20\log(1.0 \text{ m} / 3.0 \text{ m}) = -9.5 \text{ dB}$

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

UL Japan, Inc.

Shonan EMC Lab.

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

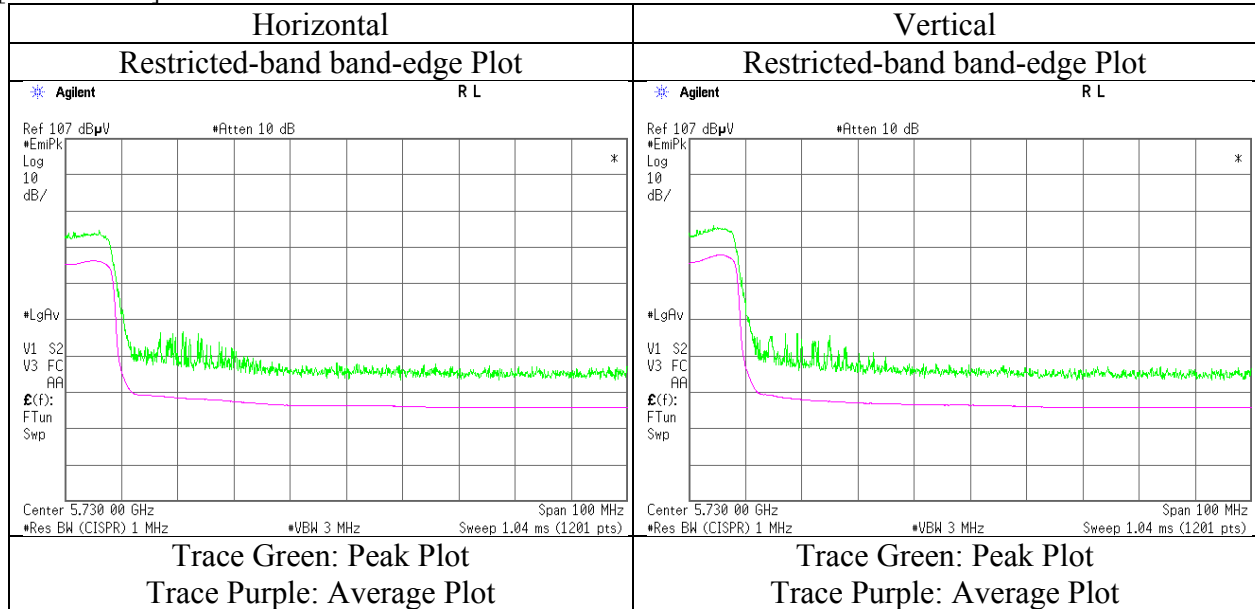
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

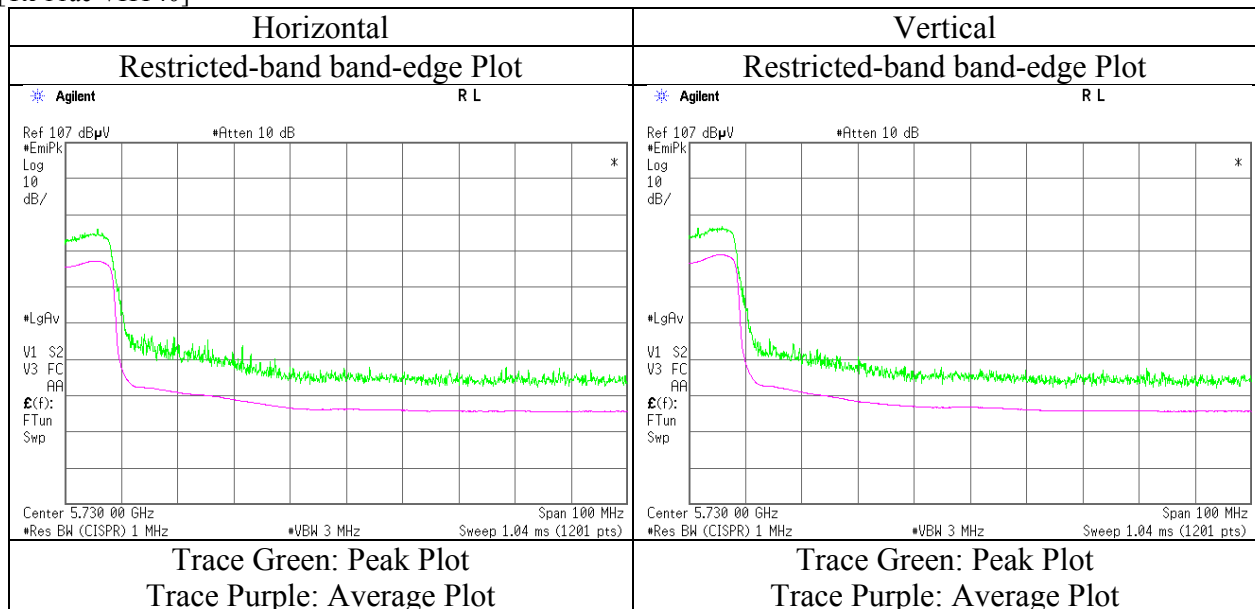
Radiated Spurious Emission

Test place	Shonan EMC Lab. No.3 Semi Anechoic Chamber	
Report No.	10882638S-N	
Date	August 31, 2015	September 1, 2015
Temperature / Humidity	25 deg. C / 62 % RH	24 deg. C / 60 % RH
Engineer	Shinichi Takano	Shinichi Takano
Mode	Tx, normal power mode, 5670 MHz, (40 MHz BW)	

[Tx 11n HT40]



[Tx 11ac VHT40]



* Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Test place : Shonan EMC Lab. No.3 Semi Anechoic Chamber
Report No. : 10882638S-N
Date : August 31, 2015 September 1, 2015 September 2, 2015 September 3, 2015
Temperature / Humidity : 25 deg. C / 62 % RH 24 deg. C / 60 % RH 24 deg. C / 55 % RH 25 deg. C / 63 % RH
Engineer : Shinichi Takano Shinichi Takano Shinichi Takano Shinichi Takano
Mode : Tx, normal power mode, 5755 MHz, (40 MHz BW)

[Tx 11n HT40]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5715.000	PK	51.0	32.7	15.6	38.8	3.4	63.9	73.9	10.0	100	289	*1)
Hori.	5725.000	PK	54.3	32.8	15.6	38.8	3.4	67.3	73.9	6.6	100	289	*1)
Hori.	5715.000	AV	34.7	32.7	15.6	38.8	3.4	47.6	53.9	6.3	100	289	*1)
Hori.	5725.000	AV	36.8	32.8	15.6	38.8	3.4	49.8	53.9	4.1	100	289	*1)
Vert.	5715.000	PK	52.6	32.7	15.6	38.8	3.4	65.5	73.9	8.4	114	261	*1)
Vert.	5725.000	PK	53.9	32.8	15.6	38.8	3.4	66.9	73.9	7.0	114	261	*1)
Vert.	5715.000	AV	35.2	32.7	15.6	38.8	3.4	48.1	53.9	5.8	114	261	*1)
Vert.	5725.000	AV	36.4	32.8	15.6	38.8	3.4	49.4	53.9	4.5	114	261	*1)

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor
Distance factor : 1 GHz - 15 GHz : $20\log(4.45\text{ m} / 3.0\text{ m}) = 3.4\text{ dB}$

*This mode was performed only band edges measurement.

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

[Tx 11ac VHT40]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5715.000	PK	48.6	32.7	15.6	38.8	3.4	61.5	73.9	12.4	163	240	*1)
Hori.	5725.000	PK	52.9	32.8	15.6	38.8	3.4	65.9	73.9	8.0	163	240	*1)
Hori.	11510.000	PK	44.1	40.8	8.3	38.8	3.4	57.8	73.9	16.1	215	225	
Hori.	17265.000	PK	44.0	42.4	10.7	39.3	-9.5	48.3	73.9	25.6	100	0	*1)
Hori.	23020.000	PK	49.9	40.9	12.6	46.8	-9.5	47.1	73.9	26.8	115	131	
Hori.	5715.000	AV	34.5	32.7	15.6	38.8	3.4	47.4	53.9	6.5	163	240	*1)
Hori.	5725.000	AV	36.5	32.8	15.6	38.8	3.4	49.5	53.9	4.4	163	240	*1)
Hori.	11510.000	AV	33.0	40.8	8.3	38.8	3.4	46.7	53.9	7.2	215	225	
Hori.	17265.000	AV	31.9	42.4	10.7	39.3	-9.5	36.2	53.9	17.7	100	0	*1)
Hori.	23020.000	AV	45.9	40.9	12.6	46.8	-9.5	43.1	53.9	10.8	115	131	
Vert.	5715.000	PK	50.2	32.7	15.6	38.8	3.4	63.1	73.9	10.8	100	261	*1)
Vert.	5725.000	PK	54.1	32.8	15.6	38.8	3.4	67.1	73.9	6.8	100	261	*1)
Vert.	11510.000	PK	44.1	40.8	8.3	38.8	3.4	57.8	73.9	16.1	100	0	
Vert.	17265.000	PK	43.3	42.4	10.7	39.3	-9.5	47.6	73.9	26.3	100	0	*1)
Vert.	23020.000	PK	49.3	40.9	12.6	46.8	-9.5	46.5	73.9	27.4	107	133	
Vert.	5715.000	AV	35.3	32.7	15.6	38.8	3.4	48.2	53.9	5.7	100	261	*1)
Vert.	5725.000	AV	37.6	32.8	15.6	38.8	3.4	50.6	53.9	3.3	100	261	*1)
Vert.	11510.000	AV	32.1	40.8	8.3	38.8	3.4	45.8	53.9	8.1	100	0	
Vert.	17265.000	AV	31.9	42.4	10.7	39.3	-9.5	36.2	53.9	17.7	100	0	*1)
Vert.	23020.000	AV	44.6	40.9	12.6	46.8	-9.5	41.8	53.9	12.1	107	133	

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor
Distance factor : 1 GHz - 15 GHz : $20\log(4.45\text{ m} / 3.0\text{ m}) = 3.4\text{ dB}$
15 GHz - 40 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.5\text{ dB}$

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

UL Japan, Inc.

Shonan EMC Lab.

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

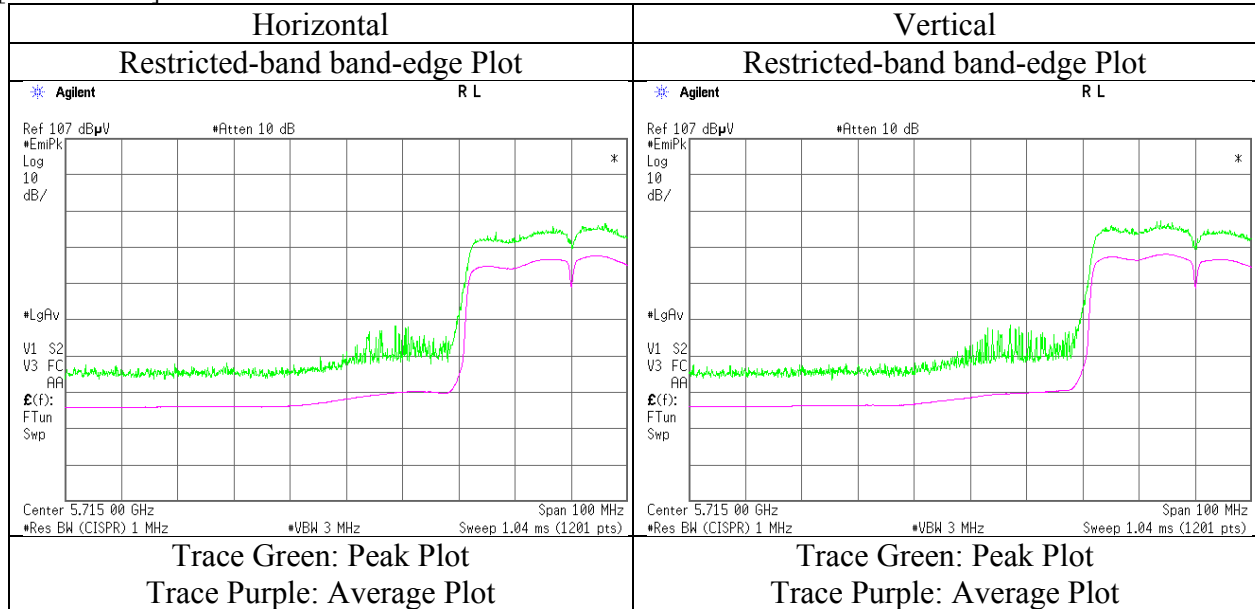
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

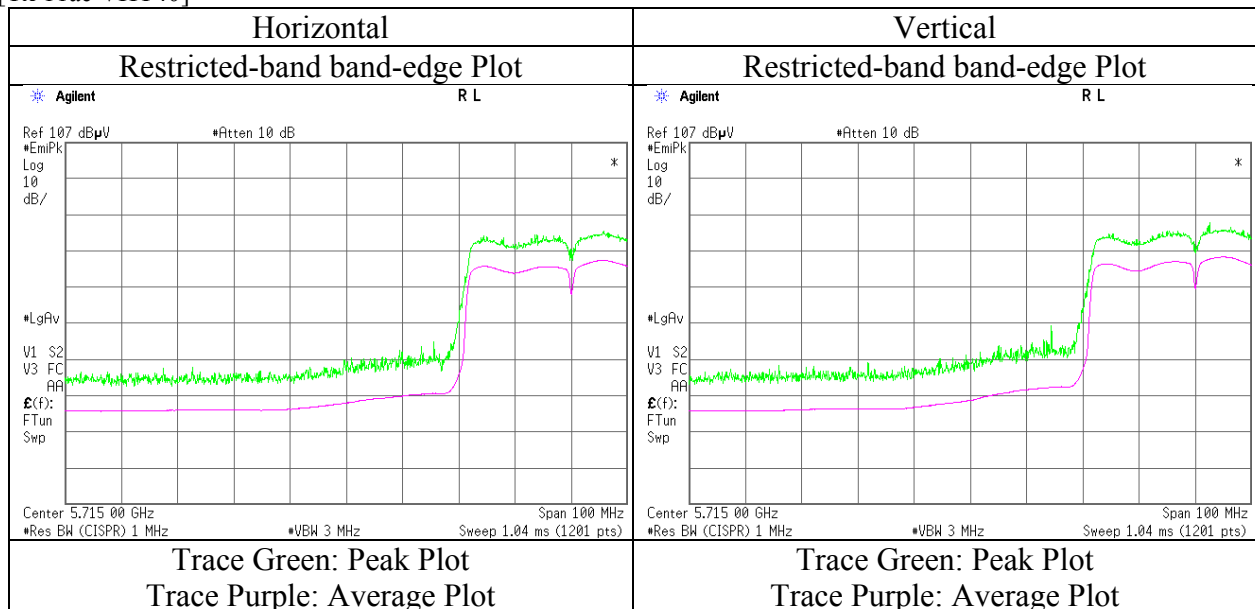
Radiated Spurious Emission

Test place	Shonan EMC Lab. No.3 Semi Anechoic Chamber	
Report No.	10882638S-N	
Date	August 31, 2015	September 1, 2015
Temperature / Humidity	25 deg. C / 62 % RH	24 deg. C / 60 % RH
Engineer	Shinichi Takano	Shinichi Takano
Mode	Tx, normal power mode, 5755 MHz, (40 MHz BW)	

[Tx 11n HT40]



[Tx 11ac VHT40]



* Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Test place : Shonan EMC Lab. No.3 Semi Anechoic Chamber
Report No. : 10882638S-N
Date : August 31, 2015 September 1, 2015 September 2, 2015 September 3, 2015
Temperature / Humidity : 25 deg. C / 62 % RH 24 deg. C / 60 % RH 24 deg. C / 55 % RH 25 deg. C / 63 % RH
Engineer : Shinichi Takano Shinichi Takano Shinichi Takano Shinichi Takano
Mode : Tx, normal power mode, 5795 MHz, (40 MHz BW)

[Tx 11n HT40]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5850.000	PK	44.9	33.0	15.6	38.8	3.4	58.1	73.9	15.8	100	294	*1)
Hori.	5860.000	PK	44.8	33.0	15.6	38.8	3.4	58.0	73.9	15.9	100	294	*1)
Hori.	5850.000	AV	33.2	33.0	15.6	38.8	3.4	46.4	53.9	7.5	100	294	*1)
Hori.	5860.000	AV	33.1	33.0	15.6	38.8	3.4	46.3	53.9	7.6	100	294	*1)
Vert.	5850.000	PK	44.5	33.0	15.6	38.8	3.4	57.7	73.9	16.2	104	271	*1)
Vert.	5860.000	PK	44.3	33.0	15.6	38.8	3.4	57.5	73.9	16.4	104	271	*1)
Vert.	5850.000	AV	33.1	33.0	15.6	38.8	3.4	46.3	53.9	7.6	104	271	*1)
Vert.	5860.000	AV	33.1	33.0	15.6	38.8	3.4	46.3	53.9	7.6	104	271	*1)

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 15 GHz : $20\log(4.45\text{ m} / 3.0\text{ m}) = 3.4\text{ dB}$

*This mode was performed only band edges measurement.

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

[Tx 11ac VHT40]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5850.000	PK	44.8	33.0	15.6	38.8	3.4	58.0	73.9	15.9	108	277	*1)
Hori.	5860.000	PK	44.8	33.0	15.6	38.8	3.4	58.0	73.9	15.9	108	277	*1)
Hori.	11590.000	PK	45.0	40.8	8.4	38.9	3.4	58.7	73.9	15.2	177	250	
Hori.	17385.000	PK	44.1	42.9	10.8	39.2	-9.5	49.1	73.9	24.8	100	0	*1)
Hori.	23180.000	PK	49.0	40.9	12.7	46.7	-9.5	46.4	73.9	27.5	114	132	
Hori.	5850.000	AV	33.1	33.0	15.6	38.8	3.4	46.3	53.9	7.6	108	277	*1)
Hori.	5860.000	AV	33.1	33.0	15.6	38.8	3.4	46.3	53.9	7.6	108	277	*1)
Hori.	11590.000	AV	33.5	40.8	8.4	38.9	3.4	47.2	53.9	6.7	177	250	
Hori.	17385.000	AV	32.3	42.9	10.8	39.2	-9.5	37.3	53.9	16.6	100	0	*1)
Hori.	23180.000	AV	43.1	40.9	12.7	46.7	-9.5	40.5	53.9	13.4	114	132	
Vert.	5850.000	PK	45.3	33.0	15.6	38.8	3.4	58.5	73.9	15.4	100	255	*1)
Vert.	5860.000	PK	44.7	33.0	15.6	38.8	3.4	57.9	73.9	16.0	100	255	*1)
Vert.	11590.000	PK	43.2	40.8	8.4	38.9	3.4	56.9	73.9	17.0	100	0	
Vert.	17385.000	PK	44.0	42.9	10.8	39.2	-9.5	49.0	73.9	24.9	100	0	*1)
Vert.	23180.000	PK	48.9	40.9	12.7	46.7	-9.5	46.3	73.9	27.6	108	134	
Vert.	5850.000	AV	33.1	33.0	15.6	38.8	3.4	46.3	53.9	7.6	100	255	*1)
Vert.	5860.000	AV	33.1	33.0	15.6	38.8	3.4	46.3	53.9	7.6	100	255	*1)
Vert.	11590.000	AV	31.9	40.8	8.4	38.9	3.4	45.6	53.9	8.3	100	0	
Vert.	17385.000	AV	32.3	42.9	10.8	39.2	-9.5	37.3	53.9	16.6	100	0	*1)
Vert.	23180.000	AV	42.4	40.9	12.7	46.7	-9.5	39.8	53.9	14.1	108	134	

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 15 GHz : $20\log(4.45\text{ m} / 3.0\text{ m}) = 3.4\text{ dB}$

15 GHz - 40 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.5\text{ dB}$

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

UL Japan, Inc.

Shonan EMC Lab.

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

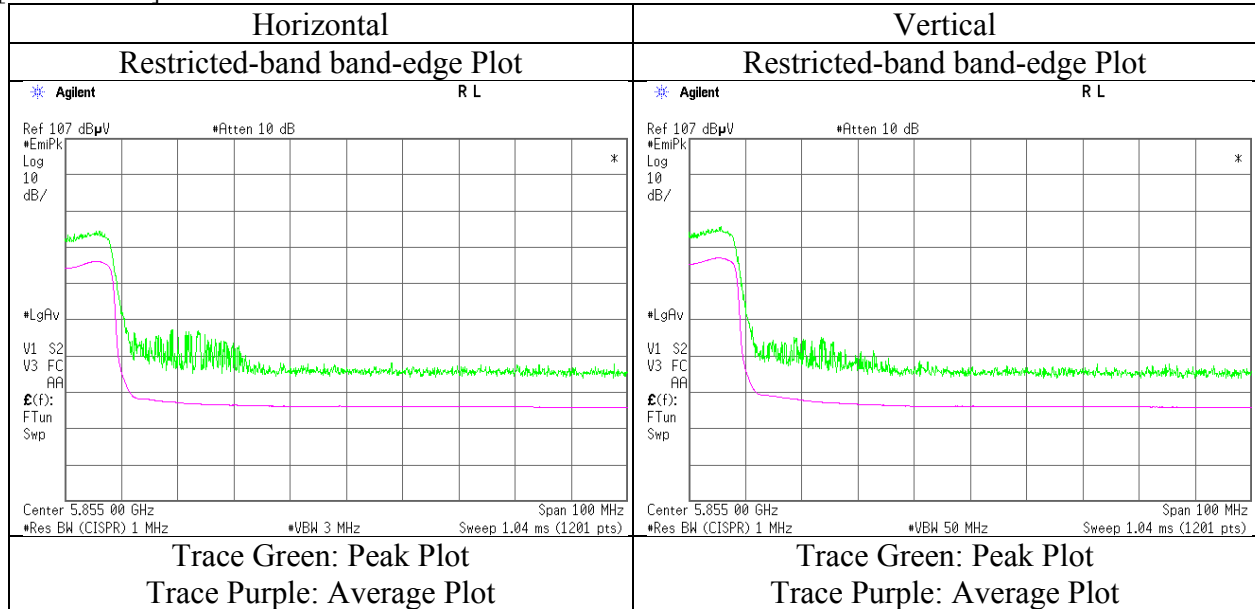
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

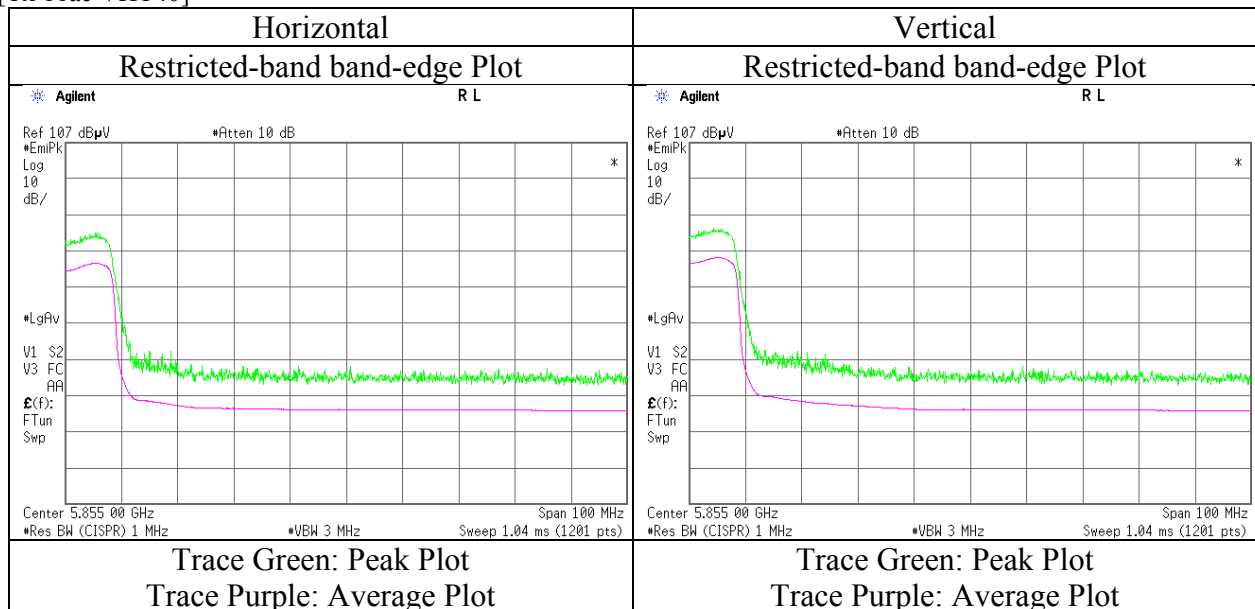
Radiated Spurious Emission

Test place	Shonan EMC Lab. No.3 Semi Anechoic Chamber	
Report No.	10882638S-N	
Date	August 31, 2015	September 1, 2015
Temperature / Humidity	25 deg. C / 62 % RH	24 deg. C / 60 % RH
Engineer	Shinichi Takano	Shinichi Takano
Mode	Tx, normal power mode, 5795 MHz, (40 MHz BW)	

[Tx 11n HT40]



[Tx 11ac VHT40]



* Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Test place	Shonan EMC Lab. No.3 Semi Anechoic Chamber	
Report No.	10882638S-N	
Date	August 31, 2015	September 1, 2015
Temperature / Humidity	25 deg. C / 62 % RH	24 deg. C / 60 % RH
Engineer	Shinichi Takano	Shinichi Takano
Mode	Tx, low power mode, 5190 MHz, (40 MHz BW)	

[Tx 11n HT40]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5150.000	PK	51.5	32.5	15.4	39.2	3.4	63.6	73.9	10.3	108	318	
Hori.	5150.000	AV	35.4	32.5	15.4	39.2	3.4	47.5	53.9	6.4	108	318	
Vert.	5150.000	PK	51.3	32.5	15.4	39.2	3.4	63.4	73.9	10.5	100	274	
Vert.	5150.000	AV	35.0	32.5	15.4	39.2	3.4	47.1	53.9	6.8	100	274	

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 15 GHz : $20\log(4.45\text{ m} / 3.0\text{ m}) = 3.4\text{ dB}$

*This mode was performed only band edges measurement.

[Tx 11ac VHT40]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5150.000	PK	49.1	32.5	15.4	39.2	3.4	61.2	73.9	12.7	106	317	
Hori.	5150.000	AV	35.2	32.5	15.4	39.2	3.4	47.3	53.9	6.6	106	317	
Vert.	5150.000	PK	47.8	32.5	15.4	39.2	3.4	59.9	73.9	14.0	100	274	
Vert.	5150.000	AV	34.4	32.5	15.4	39.2	3.4	46.5	53.9	7.4	100	274	

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 15 GHz : $20\log(4.45\text{ m} / 3.0\text{ m}) = 3.4\text{ dB}$

*This mode was performed only band edges measurement.

UL Japan, Inc.

Shonan EMC Lab.

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

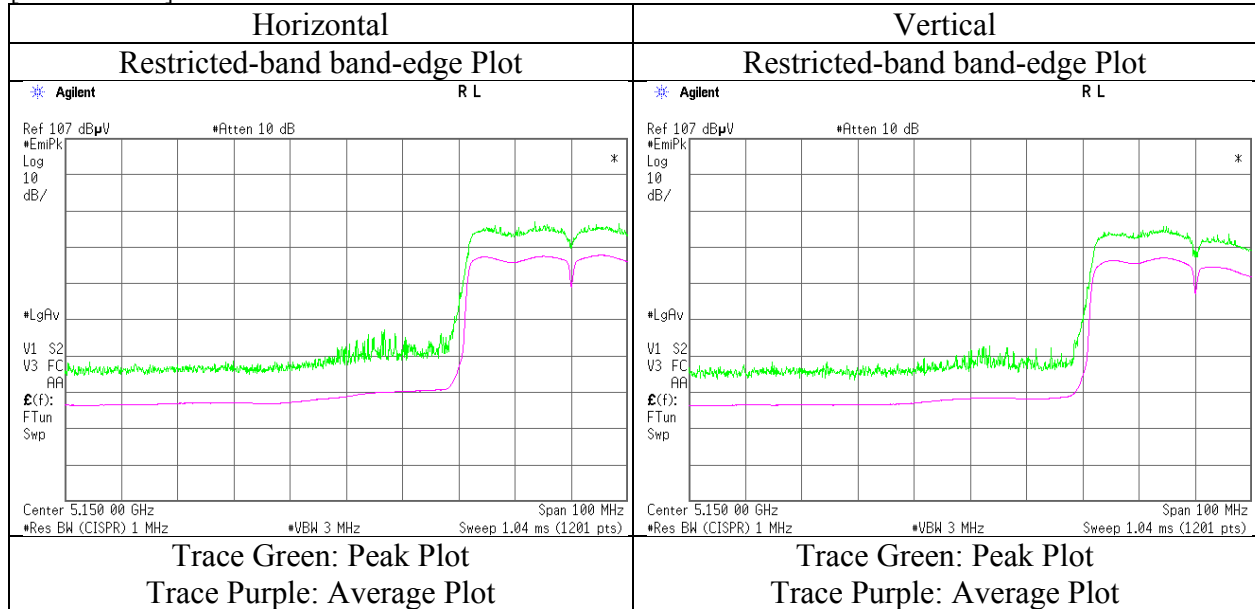
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

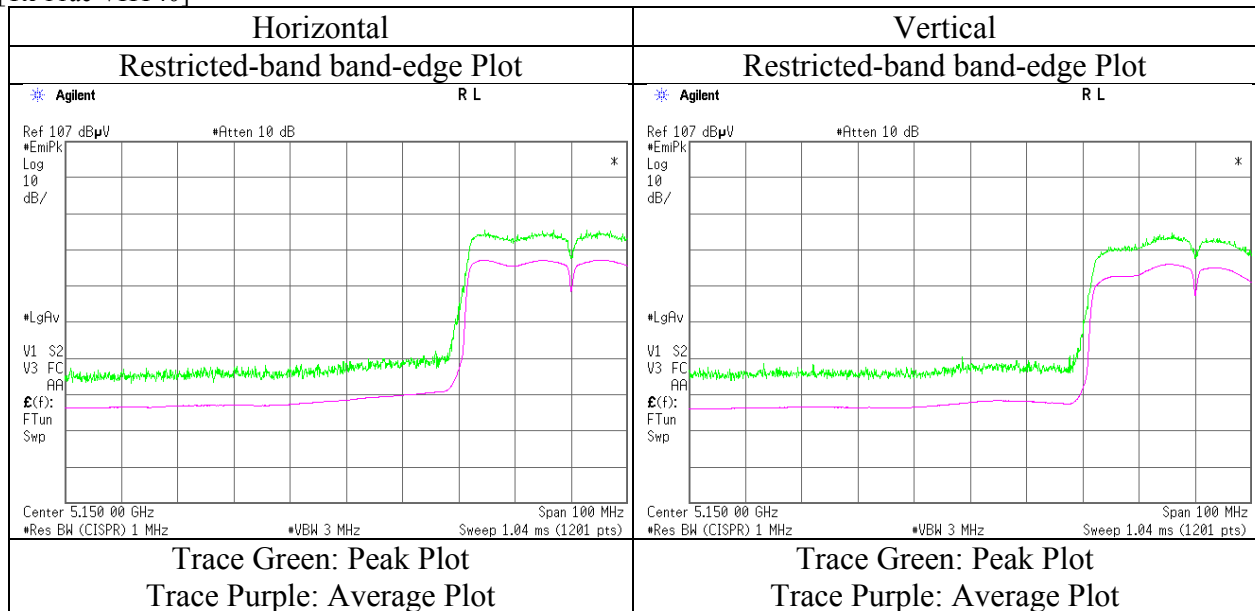
Radiated Spurious Emission

Test place	Shonan EMC Lab. No.3 Semi Anechoic Chamber	
Report No.	10882638S-N	
Date	August 31, 2015	September 1, 2015
Temperature / Humidity	25 deg. C / 62 % RH	24 deg. C / 60 % RH
Engineer	Shinichi Takano	Shinichi Takano
Mode	Tx, low power mode, 5190 MHz, (40 MHz BW)	

[Tx 11n HT40]



[Tx 11ac VHT40]



* Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Test place	Shonan EMC Lab. No.3 Semi Anechoic Chamber	
Report No.	10882638S-N	
Date	August 31, 2015	September 1, 2015
Temperature / Humidity	25 deg. C / 62 % RH	24 deg. C / 60 % RH
Engineer	Shinichi Takano	Shinichi Takano
Mode	Tx, low power mode, 5310 MHz, (40 MHz BW)	

[Tx 11n HT40]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5350.000	PK	47.9	32.4	15.5	38.9	3.4	60.3	73.9	13.6	100	299	
Hori.	5350.000	AV	33.8	32.4	15.5	38.9	3.4	46.2	53.9	7.7	100	299	
Vert.	5350.000	PK	51.3	32.4	15.5	38.9	3.4	63.7	73.9	10.2	100	275	
Vert.	5350.000	AV	34.7	32.4	15.5	38.9	3.4	47.1	53.9	6.8	100	275	

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 15 GHz : $20\log(4.45\text{ m} / 3.0\text{ m}) = 3.4\text{ dB}$

*This mode was performed only band edges measurement.

[Tx 11ac VHT40]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5350.000	PK	48.1	32.4	15.5	38.9	3.4	60.5	73.9	13.4	100	314	
Hori.	5350.000	AV	34.2	32.4	15.5	38.9	3.4	46.6	53.9	7.3	100	314	
Vert.	5350.000	PK	50.2	32.4	15.5	38.9	3.4	62.6	73.9	11.3	124	265	
Vert.	5350.000	AV	34.7	32.4	15.5	38.9	3.4	47.1	53.9	6.8	124	265	

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 15 GHz : $20\log(4.45\text{ m} / 3.0\text{ m}) = 3.4\text{ dB}$

*This mode was performed only band edges measurement.

UL Japan, Inc.

Shonan EMC Lab.

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

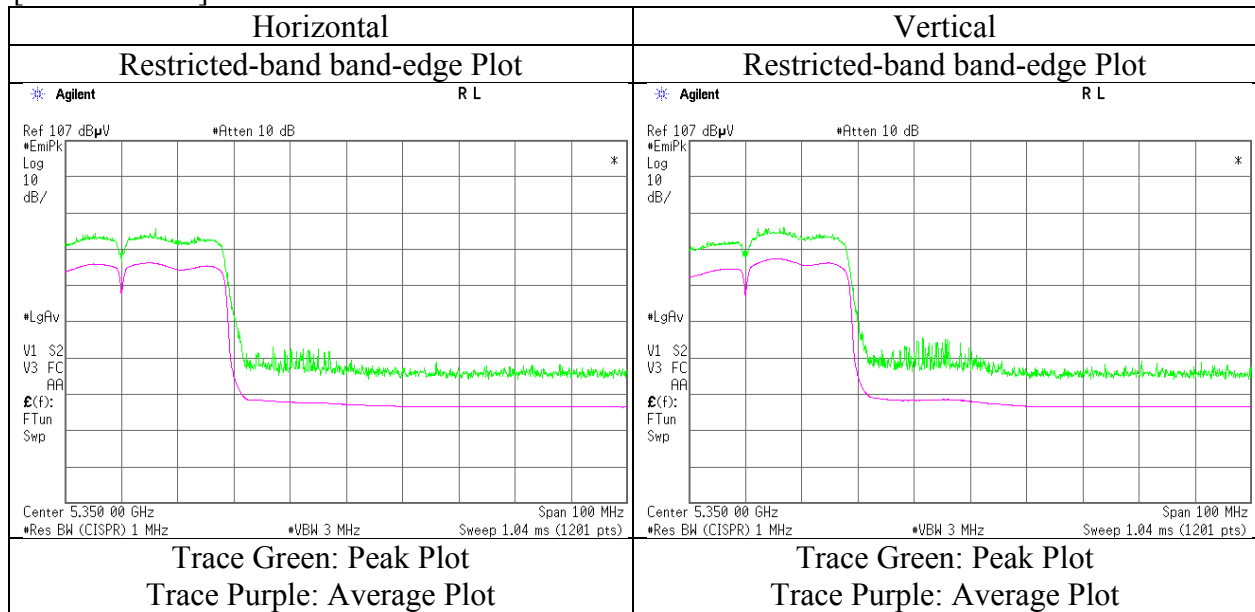
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

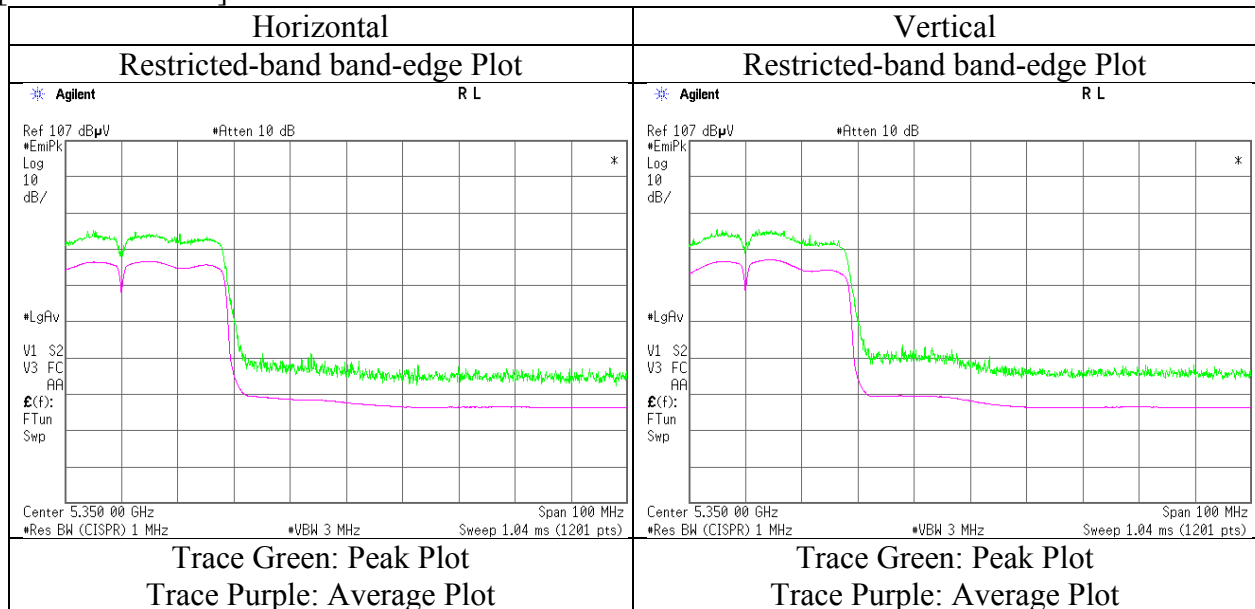
Radiated Spurious Emission

Test place	Shonan EMC Lab. No.3 Semi Anechoic Chamber	
Report No.	10882638S-N	
Date	August 31, 2015	September 1, 2015
Temperature / Humidity	25 deg. C / 62 % RH	24 deg. C / 60 % RH
Engineer	Shinichi Takano	Shinichi Takano
Mode	Tx, low power mode, 5310 MHz, (40 MHz BW)	

[Tx 11n HT40]



[Tx 11ac VHT40]



* Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Test place : Shonan EMC Lab. No.3 Semi Anechoic Chamber
Report No. : 10882638S-N
Date : August 31, 2015 September 1, 2015
Temperature / Humidity : 25 deg. C / 62 % RH 24 deg. C / 60 % RH
Engineer : Shinichi Takano Shinichi Takano
Mode : Tx, low power mode, 5510 MHz, (40 MHz BW)

[Tx 11n HT40]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5460.000	PK	46.8	32.3	15.5	38.8	3.4	59.2	73.9	14.7	100	294	
Hori.	5470.000	PK	52.6	32.3	15.5	38.8	3.4	65.0	73.9	8.9	100	294	*1)
Hori.	5460.000	AV	33.3	32.3	15.5	38.8	3.4	45.7	53.9	8.2	100	294	
Hori.	5470.000	AV	34.6	32.3	15.5	38.8	3.4	47.0	53.9	6.9	100	294	*1)
Vert.	5460.000	PK	47.0	32.3	15.5	38.8	3.4	59.4	73.9	14.5	100	269	
Vert.	5470.000	PK	53.1	32.3	15.5	38.8	3.4	65.5	73.9	8.4	100	269	*1)
Vert.	5460.000	AV	33.6	32.3	15.5	38.8	3.4	46.0	53.9	7.9	100	269	
Vert.	5470.000	AV	34.7	32.3	15.5	38.8	3.4	47.1	53.9	6.8	100	269	*1)

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 15 GHz : $20\log(4.45\text{ m} / 3.0\text{ m}) = 3.4\text{ dB}$

*This mode was performed only band edges measurement.

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

[Tx 11ac VHT40]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5460.000	PK	46.3	32.3	15.5	38.8	3.4	58.7	73.9	15.2	100	240	
Hori.	5470.000	PK	49.1	32.3	15.5	38.8	3.4	61.5	73.9	12.4	100	240	*1)
Hori.	5460.000	AV	33.0	32.3	15.5	38.8	3.4	45.4	53.9	8.5	100	240	
Hori.	5470.000	AV	33.9	32.3	15.5	38.8	3.4	46.3	53.9	7.6	100	240	*1)
Vert.	5460.000	PK	45.6	32.3	15.5	38.8	3.4	58.0	73.9	15.9	100	273	
Vert.	5470.000	PK	48.2	32.3	15.5	38.8	3.4	60.6	73.9	13.3	100	273	*1)
Vert.	5460.000	AV	32.9	32.3	15.5	38.8	3.4	45.3	53.9	8.6	100	273	
Vert.	5470.000	AV	34.0	32.3	15.5	38.8	3.4	46.4	53.9	7.5	100	273	*1)

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

*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 : 1 GHz - 15 GHz : $20\log(4.45\text{ m} / 3.0\text{ m}) = 3.4\text{ dB}$

*This mode was performed only band edges measurement.

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

UL Japan, Inc.

Shonan EMC Lab.

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

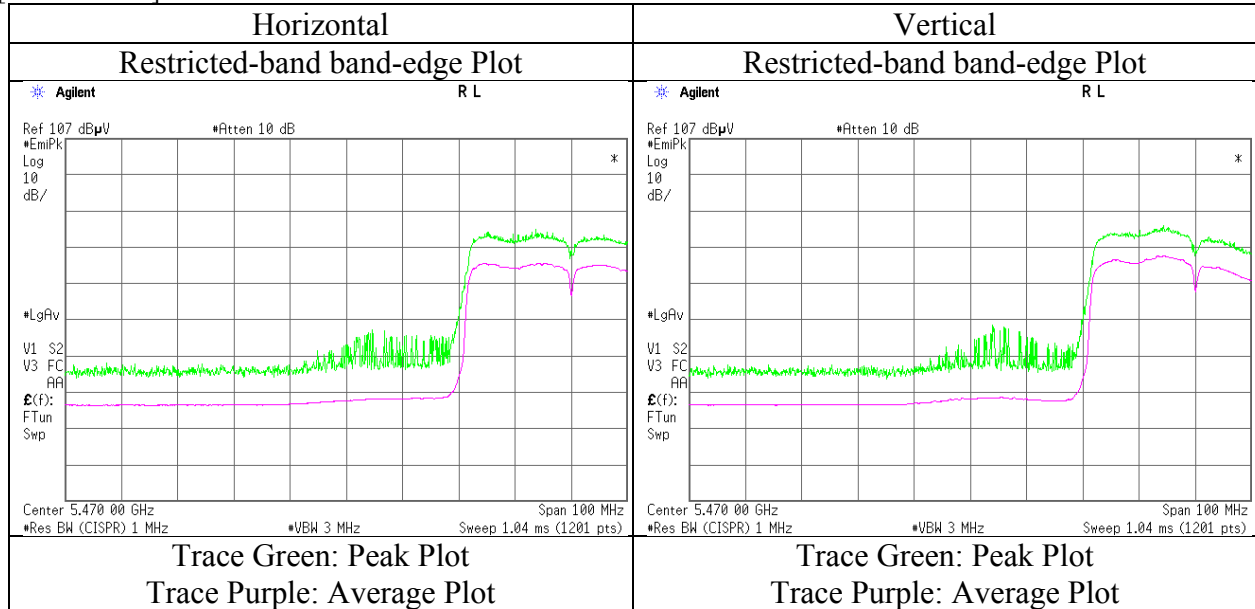
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

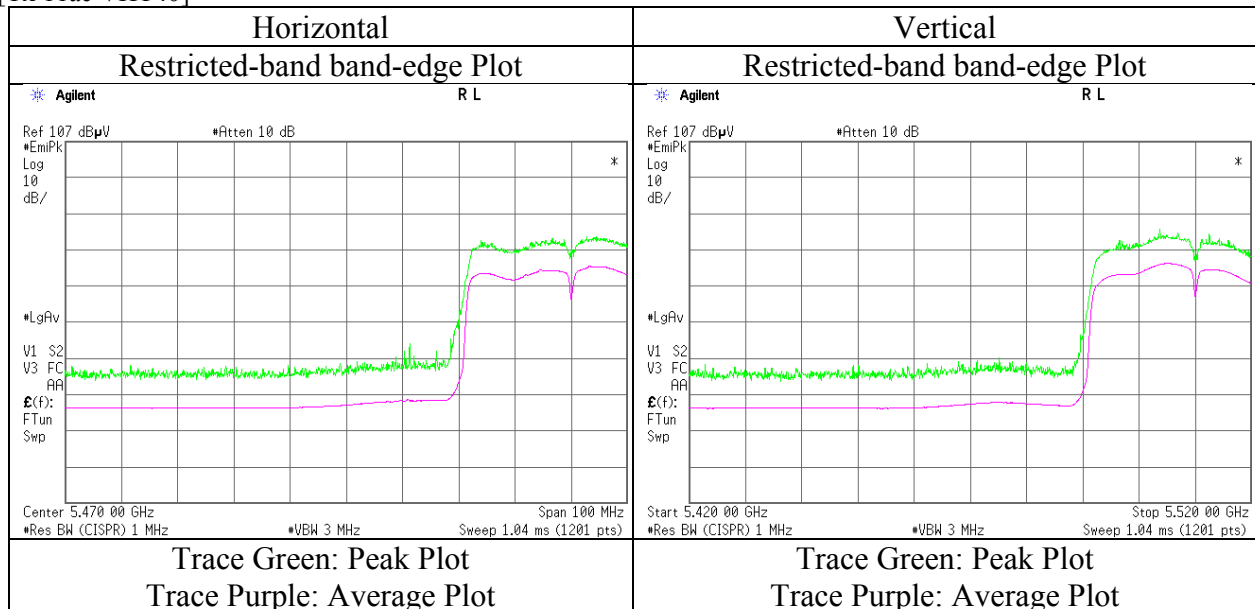
Radiated Spurious Emission

Test place	Shonan EMC Lab. No.3 Semi Anechoic Chamber	
Report No.	10882638S-N	
Date	August 31, 2015	September 1, 2015
Temperature / Humidity	25 deg. C / 62 % RH	24 deg. C / 60 % RH
Engineer	Shinichi Takano	Shinichi Takano
Mode	Tx, low power mode, 5510 MHz, (40 MHz BW)	

[Tx 11n HT40]



[Tx 11ac VHT40]



* Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Test place : Shonan EMC Lab. No.3 Semi Anechoic Chamber
Report No. : 10882638S-N
Date : August 31, 2015 September 1, 2015
Temperature / Humidity : 25 deg. C / 62 % RH 24 deg. C / 60 % RH
Engineer : Shinichi Takano Shinichi Takano
Mode : Tx, low power mode, 5670 MHz, (40 MHz BW)

[Tx 11n HT40]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5725.000	PK	47.6	32.8	15.6	38.8	3.4	60.6	73.9	13.3	131	288	*1)
Hori.	5725.000	AV	32.7	32.8	15.6	38.8	3.4	45.7	53.9	8.2	131	288	*1)
Vert.	5725.000	PK	46.7	32.8	15.6	38.8	3.4	59.7	73.9	14.2	170	259	*1)
Vert.	5725.000	AV	32.7	32.8	15.6	38.8	3.4	45.7	53.9	8.2	170	259	*1)

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor
Distance factor : 1 GHz - 15 GHz : $20\log(4.45 \text{ m} / 3.0 \text{ m}) = 3.4 \text{ dB}$

*This mode was performed only band edges measurement.

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

[Tx 11ac VHT40]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5725.000	PK	45.7	32.8	15.6	38.8	3.4	58.7	73.9	15.2	119	288	*1)
Hori.	5725.000	AV	32.3	32.8	15.6	38.8	3.4	45.3	53.9	8.6	119	288	*1)
Vert.	5725.000	PK	45.9	32.8	15.6	38.8	3.4	58.9	73.9	15.0	100	261	*1)
Vert.	5725.000	AV	33.0	32.8	15.6	38.8	3.4	46.0	53.9	7.9	100	261	*1)

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor
Distance factor : 1 GHz - 15 GHz : $20\log(4.45 \text{ m} / 3.0 \text{ m}) = 3.4 \text{ dB}$

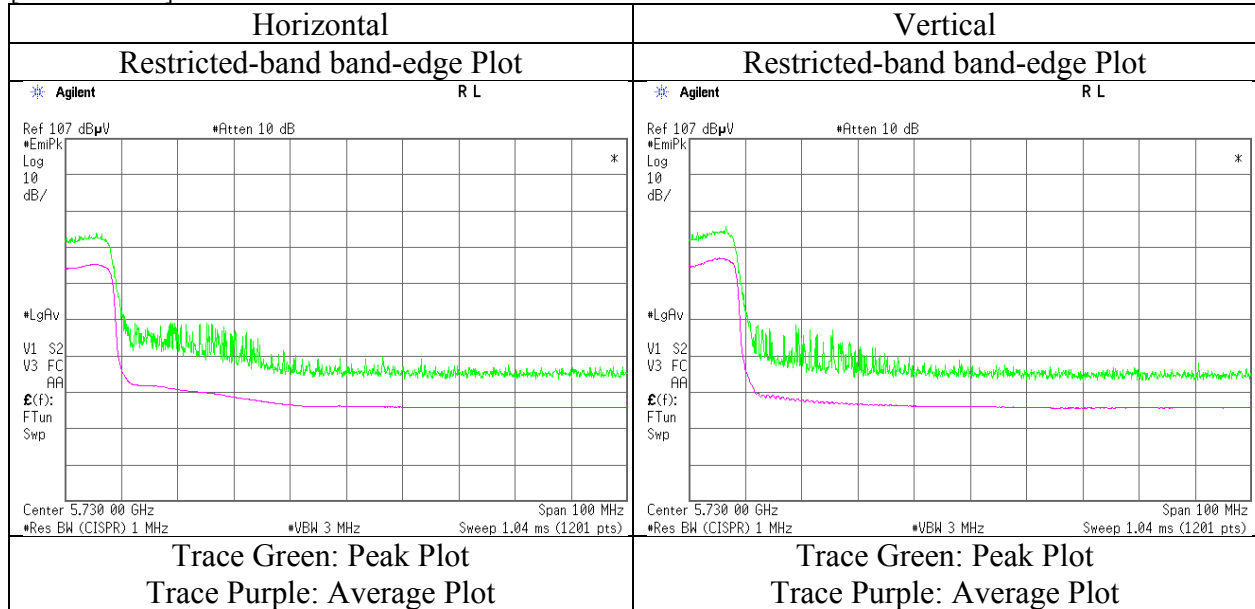
*This mode was performed only band edges measurement.

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

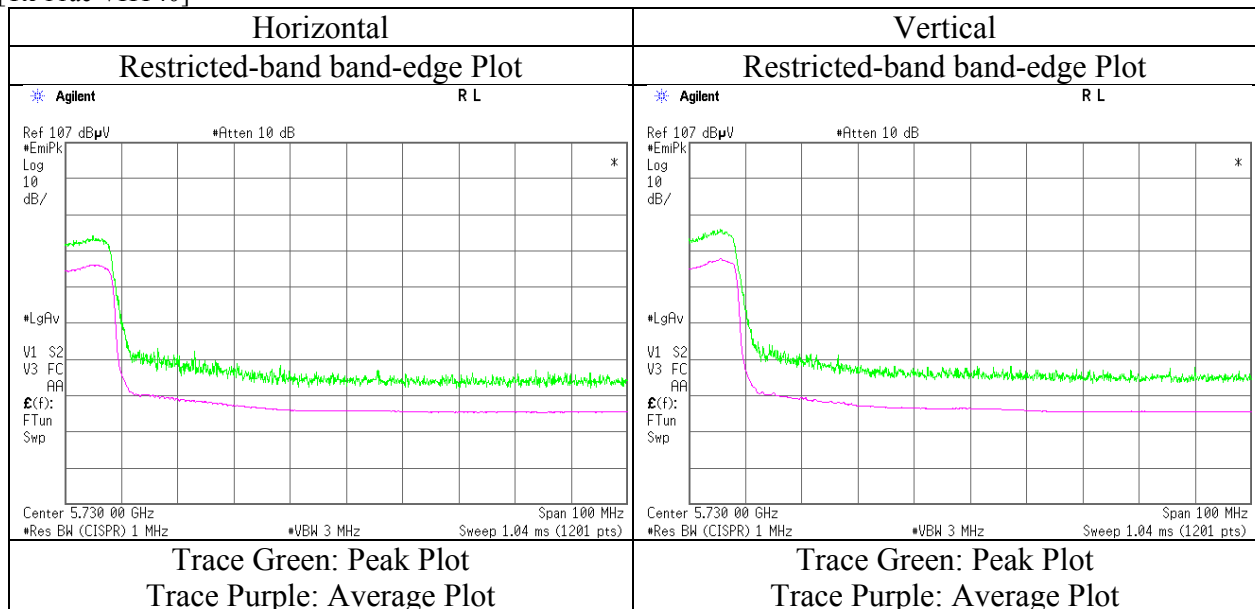
Radiated Spurious Emission

Test place	Shonan EMC Lab. No.3 Semi Anechoic Chamber	
Report No.	10882638S-N	
Date	August 31, 2015	September 1, 2015
Temperature / Humidity	25 deg. C / 62 % RH	24 deg. C / 60 % RH
Engineer	Shinichi Takano	Shinichi Takano
Mode	Tx, low power mode, 5670 MHz, (40 MHz BW)	

[Tx 11n HT40]



[Tx 11ac VHT40]



* Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Test place : Shonan EMC Lab. No.3 Semi Anechoic Chamber
Report No. : 10882638S-N
Date : August 31, 2015 September 1, 2015
Temperature / Humidity : 25 deg. C / 62 % RH 24 deg. C / 60 % RH
Engineer : Shinichi Takano Shinichi Takano
Mode : Tx, low power mode, 5755 MHz, (40 MHz BW)

[Tx 11n HT40]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5715.000	PK	49.2	32.7	15.6	38.8	3.4	62.1	73.9	11.8	125	286	*1)
Hori.	5725.000	PK	52.1	32.8	15.6	38.8	3.4	65.1	73.9	8.8	125	286	*1)
Hori.	5715.000	AV	34.2	32.7	15.6	38.8	3.4	47.1	53.9	6.8	125	286	*1)
Hori.	5725.000	AV	35.8	32.8	15.6	38.8	3.4	48.8	53.9	5.1	125	286	*1)
Vert.	5715.000	PK	48.9	32.7	15.6	38.8	3.4	61.8	73.9	12.1	151	263	*1)
Vert.	5725.000	PK	51.9	32.8	15.6	38.8	3.4	64.9	73.9	9.0	151	263	*1)
Vert.	5715.000	AV	34.1	32.7	15.6	38.8	3.4	47.0	53.9	6.9	151	263	*1)
Vert.	5725.000	AV	35.6	32.8	15.6	38.8	3.4	48.6	53.9	5.3	151	263	*1)

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor
Distance factor : 1 GHz - 15 GHz : $20\log(4.45\text{ m} / 3.0\text{ m}) = 3.4\text{ dB}$

*This mode was performed only band edges measurement.

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

[Tx 11ac VHT40]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5715.000	PK	47.9	32.7	15.6	38.8	3.4	60.8	73.9	13.1	100	240	*1)
Hori.	5725.000	PK	51.6	32.8	15.6	38.8	3.4	64.6	73.9	9.3	100	240	*1)
Hori.	5715.000	AV	33.9	32.7	15.6	38.8	3.4	46.8	53.9	7.1	100	240	*1)
Hori.	5725.000	AV	35.6	32.8	15.6	38.8	3.4	48.6	53.9	5.3	100	240	*1)
Vert.	5715.000	PK	47.5	32.7	15.6	38.8	3.4	60.4	73.9	13.5	100	261	*1)
Vert.	5725.000	PK	51.7	32.8	15.6	38.8	3.4	64.7	73.9	9.2	100	261	*1)
Vert.	5715.000	AV	33.6	32.7	15.6	38.8	3.4	46.5	53.9	7.4	100	261	*1)
Vert.	5725.000	AV	35.3	32.8	15.6	38.8	3.4	48.3	53.9	5.6	100	261	*1)

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor
Distance factor : 1 GHz - 15 GHz : $20\log(4.45\text{ m} / 3.0\text{ m}) = 3.4\text{ dB}$

*This mode was performed only band edges measurement.

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

UL Japan, Inc.

Shonan EMC Lab.

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

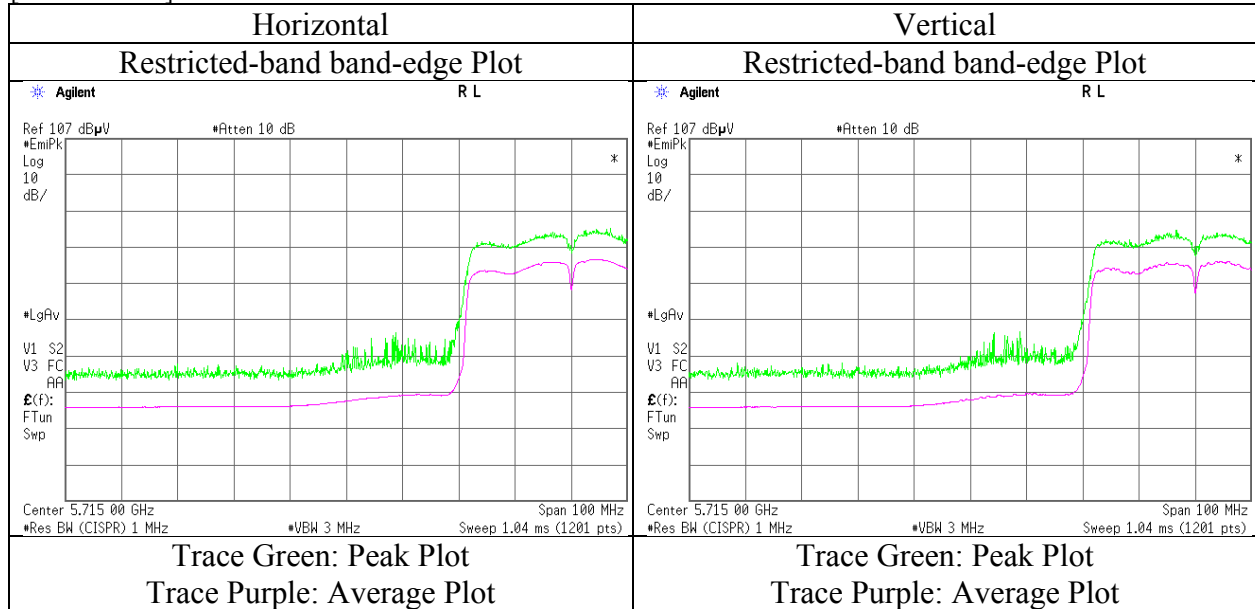
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

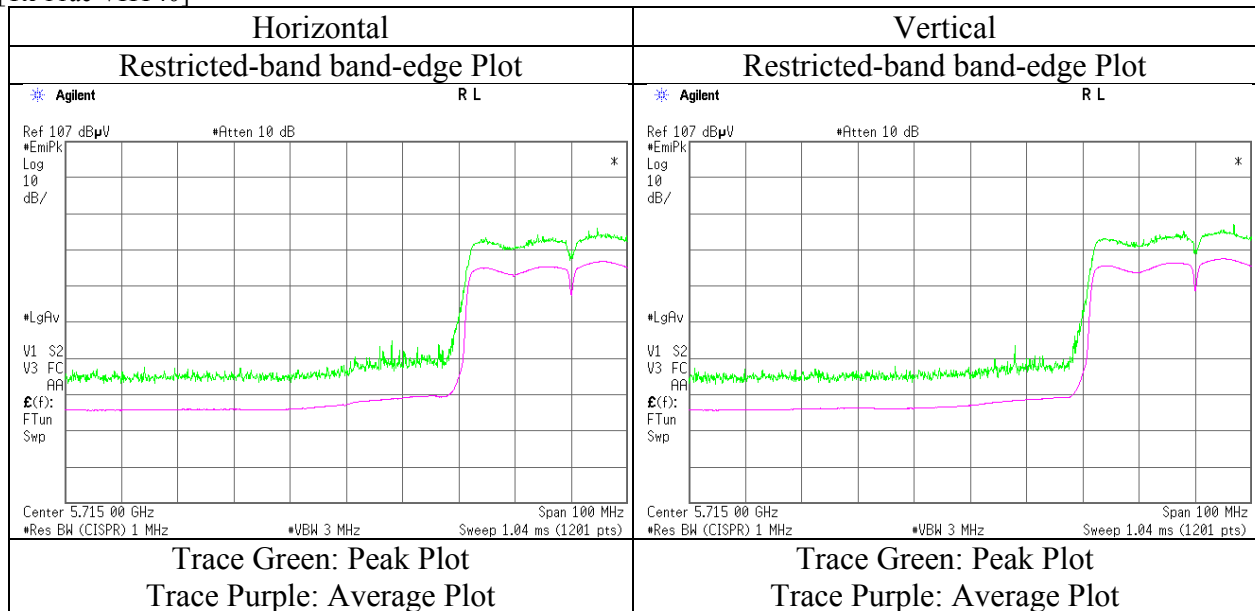
Radiated Spurious Emission

Test place	Shonan EMC Lab. No.3 Semi Anechoic Chamber	
Report No.	10882638S-N	
Date	August 31, 2015	September 1, 2015
Temperature / Humidity	25 deg. C / 62 % RH	24 deg. C / 60 % RH
Engineer	Shinichi Takano	Shinichi Takano
Mode	Tx, low power mode, 5755 MHz, (40 MHz BW)	

[Tx 11n HT40]



[Tx 11ac VHT40]



* Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Test place : Shonan EMC Lab. No.3 Semi Anechoic Chamber
Report No. : 10882638S-N
Date : August 31, 2015 September 1, 2015
Temperature / Humidity : 25 deg. C / 62 % RH 24 deg. C / 60 % RH
Engineer : Shinichi Takano Shinichi Takano
Mode : Tx, low power mode, 5795 MHz, (40 MHz BW)

[Tx 11n HT40]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5850.000	PK	44.5	33.0	15.6	38.8	3.4	57.7	73.9	16.2	103	296	*1)
Hori.	5860.000	PK	44.7	33.0	15.6	38.8	3.4	57.9	73.9	16.0	103	296	*1)
Hori.	5850.000	AV	32.9	33.0	15.6	38.8	3.4	46.1	53.9	7.8	103	296	*1)
Hori.	5860.000	AV	33.0	33.0	15.6	38.8	3.4	46.2	53.9	7.7	103	296	*1)
Vert.	5850.000	PK	44.6	33.0	15.6	38.8	3.4	57.8	73.9	16.1	102	272	*1)
Vert.	5860.000	PK	45.1	33.0	15.6	38.8	3.4	58.3	73.9	15.6	102	272	*1)
Vert.	5850.000	AV	33.0	33.0	15.6	38.8	3.4	46.2	53.9	7.7	102	272	*1)
Vert.	5860.000	AV	33.0	33.0	15.6	38.8	3.4	46.2	53.9	7.7	102	272	*1)

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 15 GHz : 20log(4.45 m / 3.0 m) = 3.4 dB

*This mode was performed only band edges measurement.

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

[Tx 11ac VHT40]

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5850.000	PK	44.4	33.0	15.6	38.8	3.4	57.6	73.9	16.3	100	275	*1)
Hori.	5860.000	PK	44.1	33.0	15.6	38.8	3.4	57.3	73.9	16.6	100	275	*1)
Hori.	5850.000	AV	33.0	33.0	15.6	38.8	3.4	46.2	53.9	7.7	100	275	*1)
Hori.	5860.000	AV	33.0	33.0	15.6	38.8	3.4	46.2	53.9	7.7	100	275	*1)
Vert.	5850.000	PK	44.5	33.0	15.6	38.8	3.4	57.7	73.9	16.2	100	253	*1)
Vert.	5860.000	PK	44.5	33.0	15.6	38.8	3.4	57.7	73.9	16.2	100	253	*1)
Vert.	5850.000	AV	33.0	33.0	15.6	38.8	3.4	46.2	53.9	7.7	100	253	*1)
Vert.	5860.000	AV	33.0	33.0	15.6	38.8	3.4	46.2	53.9	7.7	100	253	*1)

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 15 GHz : 20log(4.45 m / 3.0 m) = 3.4 dB

*This mode was performed only band edges measurement.

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

UL Japan, Inc.

Shonan EMC Lab.

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

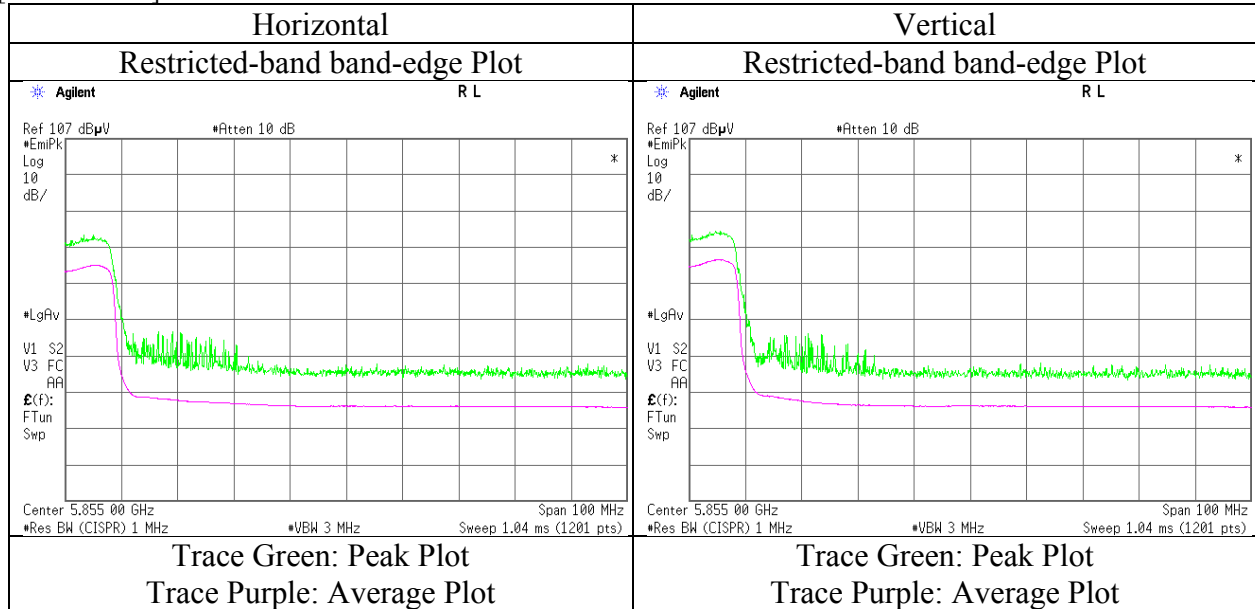
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

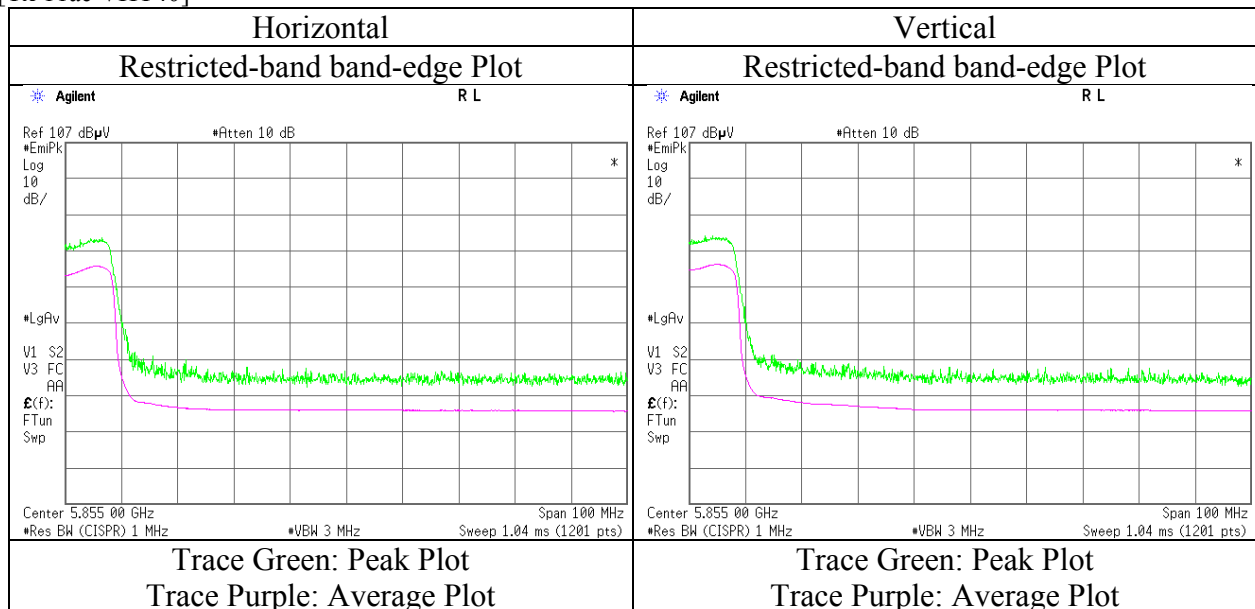
Radiated Spurious Emission

Test place	Shonan EMC Lab. No.3 Semi Anechoic Chamber	
Report No.	10882638S-N	
Date	August 31, 2015	September 1, 2015
Temperature / Humidity	25 deg. C / 62 % RH	24 deg. C / 60 % RH
Engineer	Shinichi Takano	Shinichi Takano
Mode	Tx, low power mode, 5795 MHz, (40 MHz BW)	

[Tx 11n HT40]



[Tx 11ac VHT40]



* Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Test place	Shonan EMC Lab. No.3 Semi Anechoic Chamber		
Report No.	10882638S-N		
Date	September 1, 2015	September 2, 2015	September 3, 2015
Temperature / Humidity	24 deg. C / 60 % RH	24 deg. C / 55 % RH	25 deg. C / 63 % RH
Engineer	Shinichi Takano	Shinichi Takano	Shinichi Takano
Mode	Tx 11ac VHT80, 5210 MHz		

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5139.583	PK	55.0	32.5	15.4	39.2	3.4	67.1	73.9	6.8	106	317	
Hori.	5150.000	PK	54.1	32.5	15.4	39.2	3.4	66.2	73.9	7.7	106	317	
Hori.	10420.000	PK	46.3	38.9	8.0	39.1	3.4	57.5	73.9	16.4	100	0	*1)
Hori.	15630.000	PK	45.0	40.0	9.9	40.8	-9.5	44.6	73.9	29.3	100	0	
Hori.	20840.000	PK	52.1	40.3	12.0	47.0	-9.5	47.9	73.9	26.0	100	113	
Hori.	5139.583	AV	41.4	32.5	15.4	39.2	3.4	53.5	53.9	0.4	106	317	
Hori.	5150.000	AV	40.7	32.5	15.4	39.2	3.4	52.8	53.9	1.1	106	317	
Hori.	10420.000	AV	35.5	38.9	8.0	39.1	3.4	46.7	53.9	7.2	100	0	*1)
Hori.	15630.000	AV	34.2	40.0	9.9	40.8	-9.5	33.8	53.9	20.1	100	0	
Hori.	20840.000	AV	48.2	40.3	12.0	47.0	-9.5	44.0	53.9	9.9	100	113	
Vert.	5146.317	PK	53.0	32.5	15.4	39.2	3.4	65.1	73.9	8.8	100	273	
Vert.	5150.000	PK	52.1	32.5	15.4	39.2	3.4	64.2	73.9	9.7	100	273	
Vert.	10420.000	PK	46.4	38.9	8.0	39.1	3.4	57.6	73.9	16.3	100	0	*1)
Vert.	15630.000	PK	45.5	40.0	9.9	40.8	-9.5	45.1	73.9	28.8	100	0	
Vert.	20840.000	PK	52.1	40.3	12.0	47.0	-9.5	47.9	73.9	26.0	107	145	
Vert.	5146.317	AV	39.2	32.5	15.4	39.2	3.4	51.3	53.9	2.6	100	273	
Vert.	5150.000	AV	38.5	32.5	15.4	39.2	3.4	50.6	53.9	3.3	100	273	
Vert.	10420.000	AV	35.4	38.9	8.0	39.1	3.4	46.6	53.9	7.3	100	0	*1)
Vert.	15630.000	AV	34.5	40.0	9.9	40.8	-9.5	34.1	53.9	19.8	100	0	
Vert.	20840.000	AV	48.9	40.3	12.0	47.0	-9.5	44.7	53.9	9.2	107	145	

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 15 GHz : $20\log(4.45\text{ m} / 3.0\text{ m}) = 3.4\text{ dB}$

15 GHz - 40 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.5\text{ dB}$

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

UL Japan, Inc.

Shonan EMC Lab.

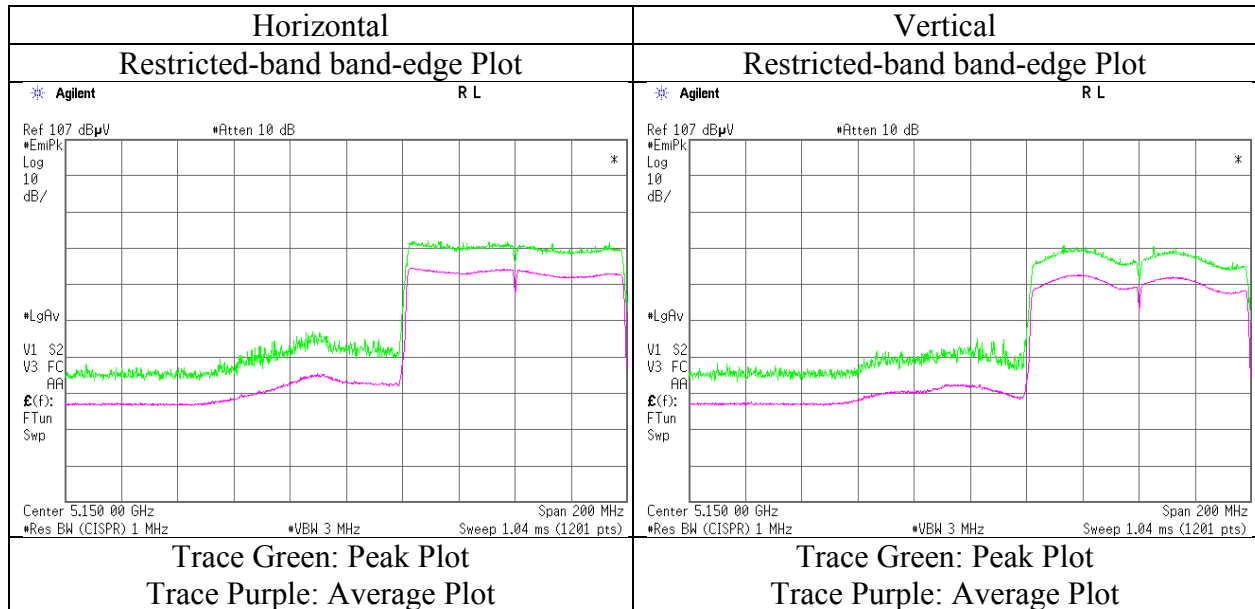
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Radiated Spurious Emission

Test place	Shonan EMC Lab. No.3 Semi Anechoic Chamber
Report No.	10882638S-N
Date	September 1, 2015
Temperature / Humidity	24 deg. C / 60 % RH
Engineer	Shinichi Takano
Mode	Tx 11ac VHT80, 5210 MHz



* Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Test place	Shonan EMC Lab. No.3 Semi Anechoic Chamber		
Report No.	10882638S-N		
Date	September 1, 2015	September 2, 2015	September 3, 2015
Temperature / Humidity	24 deg. C / 60 % RH	24 deg. C / 55 % RH	25 deg. C / 63 % RH
Engineer	Shinichi Takano	Shinichi Takano	Shinichi Takano
Mode	Tx 11ac VHT80, 5290 MHz		

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5350.000	PK	51.2	32.4	15.5	38.9	3.4	63.6	73.9	10.3	100	314	
Hori.	5359.332	PK	52.7	32.4	15.5	38.9	3.4	65.1	73.9	8.8	100	314	
Hori.	10580.000	PK	45.7	39.2	8.0	39.0	3.4	57.3	73.9	16.6	100	0	* 1)
Hori.	15870.000	PK	45.9	39.8	10.3	40.7	-9.5	45.8	73.9	28.1	100	0	
Hori.	21160.000	PK	50.3	40.3	12.1	47.0	-9.5	46.2	73.9	27.7	100	114	
Hori.	5350.000	AV	37.5	32.4	15.5	38.9	3.4	49.9	53.9	4.0	100	314	
Hori.	5359.332	AV	39.0	32.4	15.5	38.9	3.4	51.4	53.9	2.5	100	314	
Hori.	10580.000	AV	34.0	39.2	8.0	39.0	3.4	45.6	53.9	8.3	100	0	* 1)
Hori.	15870.000	AV	34.9	39.8	10.3	40.7	-9.5	34.8	53.9	19.1	100	0	
Hori.	21160.000	AV	46.0	40.3	12.1	47.0	-9.5	41.9	53.9	12.0	100	114	
Vert.	5350.000	PK	51.0	32.4	15.5	38.9	3.4	63.4	73.9	10.5	145	258	
Vert.	5359.504	PK	51.6	32.4	15.5	38.9	3.4	64.0	73.9	9.9	145	258	
Vert.	10580.000	PK	45.4	39.2	8.0	39.0	3.4	57.0	73.9	16.9	100	0	* 1)
Vert.	15870.000	PK	45.2	39.8	10.3	40.7	-9.5	45.1	73.9	28.8	100	0	
Vert.	21160.000	PK	50.9	40.3	12.1	47.0	-9.5	46.8	73.9	27.1	109	133	
Vert.	5350.000	AV	37.5	32.4	15.5	38.9	3.4	49.9	53.9	4.0	145	258	
Vert.	5359.504	AV	38.6	32.4	15.5	38.9	3.4	51.0	53.9	2.9	145	258	
Vert.	10580.000	AV	33.9	39.2	8.0	39.0	3.4	45.5	53.9	8.4	100	0	* 1)
Vert.	15870.000	AV	34.7	39.8	10.3	40.7	-9.5	34.6	53.9	19.3	100	0	
Vert.	21160.000	AV	47.6	40.3	12.1	47.0	-9.5	43.5	53.9	10.4	109	133	

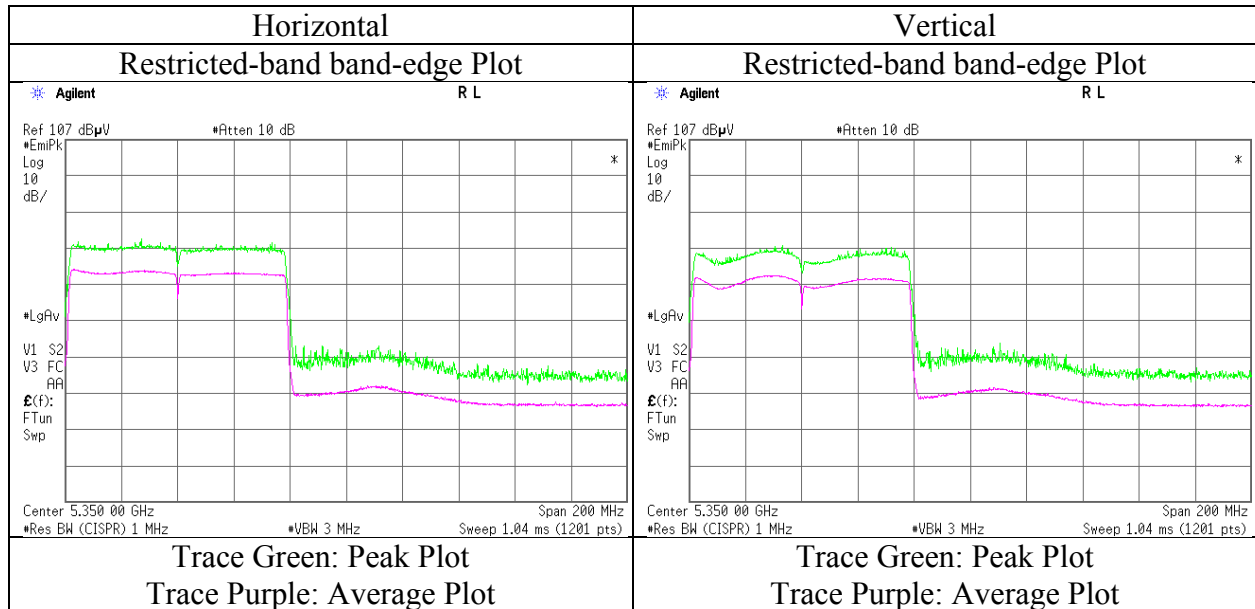
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 15 GHz : $20\log(4.45\text{ m} / 3.0\text{ m}) = 3.4\text{ dB}$

15 GHz - 40 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.5\text{ dB}$

Radiated Spurious Emission

Test place	Shonan EMC Lab. No.3 Semi Anechoic Chamber
Report No.	10882638S-N
Date	September 1, 2015
Temperature / Humidity	24 deg. C / 60 % RH
Engineer	Shinichi Takano
Mode	Tx 11ac VHT80, 5290 MHz



* Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Test place : Shonan EMC Lab. No.3 Semi Anechoic Chamber
Report No. : 10882638S-N
Date : September 1, 2015 September 2, 2015 September 3, 2015
Temperature / Humidity : 24 deg. C / 60 % RH 24 deg. C / 55 % RH 25 deg. C / 63 % RH
Engineer : Shinichi Takano Shinichi Takano Shinichi Takano
Mode : Tx 11ac VHT80, 5530 MHz

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5460.000	PK	52.1	32.3	15.5	38.8	3.4	64.5	73.9	9.4	100	241	
Hori.	5462.280	PK	52.7	32.3	15.5	38.8	3.4	65.1	73.9	8.8	100	241	*1)
Hori.	5470.000	PK	50.6	32.3	15.5	38.8	3.4	63.0	73.9	10.9	100	241	*1)
Hori.	11060.000	PK	47.0	39.9	8.3	39.1	3.4	59.5	73.9	14.4	119	223	
Hori.	16590.000	PK	46.2	40.7	10.5	40.3	-9.5	47.6	73.9	26.3	100	0	*1)
Hori.	22120.000	PK	50.0	40.7	12.4	47.5	-9.5	46.1	73.9	27.8	114	129	
Hori.	5460.000	AV	39.0	32.3	15.5	38.8	3.4	51.4	53.9	2.5	100	241	
Hori.	5462.280	AV	39.3	32.3	15.5	38.8	3.4	51.7	53.9	2.2	100	241	*1)
Hori.	5470.000	AV	38.6	32.3	15.5	38.8	3.4	51.0	53.9	2.9	100	241	*1)
Hori.	11060.000	AV	35.7	39.9	8.3	39.1	3.4	48.2	53.9	5.7	119	223	
Hori.	16590.000	AV	34.1	40.7	10.5	40.3	-9.5	35.5	53.9	18.4	100	0	*1)
Hori.	22120.000	AV	46.2	40.7	12.4	47.5	-9.5	42.3	53.9	11.6	114	129	
Vert.	5460.000	PK	51.6	32.3	15.5	38.8	3.4	64.0	73.9	9.9	102	89	
Vert.	5462.350	PK	52.8	32.3	15.5	38.8	3.4	65.2	73.9	8.7	102	89	*1)
Vert.	5470.000	PK	52.2	32.3	15.5	38.8	3.4	64.6	73.9	9.3	102	89	*1)
Vert.	11060.000	PK	45.6	39.9	8.3	39.1	3.4	58.1	73.9	15.8	100	0	
Vert.	16590.000	PK	44.4	40.7	10.5	40.3	-9.5	45.8	73.9	28.1	100	0	*1)
Vert.	22120.000	PK	51.4	40.7	12.4	47.5	-9.5	47.5	73.9	26.4	109	134	
Vert.	5460.000	AV	38.8	32.3	15.5	38.8	3.4	51.2	53.9	2.7	102	89	
Vert.	5462.350	AV	39.4	32.3	15.5	38.8	3.4	51.8	53.9	2.1	102	89	*1)
Vert.	5470.000	AV	38.9	32.3	15.5	38.8	3.4	51.3	53.9	2.6	102	89	*1)
Vert.	11060.000	AV	34.2	39.9	8.3	39.1	3.4	46.7	53.9	7.2	100	0	
Vert.	16590.000	AV	34.0	40.7	10.5	40.3	-9.5	35.4	53.9	18.5	100	0	*1)
Vert.	22120.000	AV	48.7	40.7	12.4	47.5	-9.5	44.8	53.9	9.1	109	134	

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

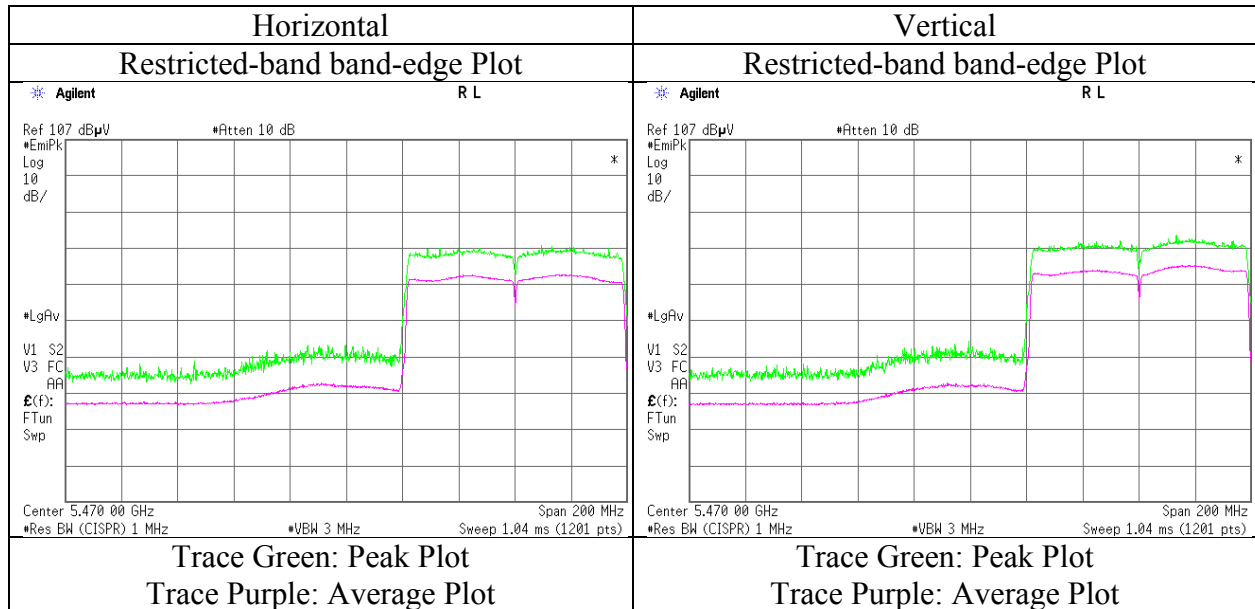
Distance factor : 1 GHz - 15 GHz : $20\log(4.45\text{ m} / 3.0\text{ m}) = 3.4\text{ dB}$

15 GHz - 40 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.5\text{ dB}$

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

Radiated Spurious Emission

Test place	Shonan EMC Lab. No.3 Semi Anechoic Chamber
Report No.	10882638S-N
Date	September 1, 2015
Temperature / Humidity	24 deg. C / 60 % RH
Engineer	Shinichi Takano
Mode	Tx 11ac VHT80, 5530 MHz



* Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Test place	Shonan EMC Lab. No.3 Semi Anechoic Chamber		
Report No.	10882638S-N		
Date	September 1, 2015	September 2, 2015	September 3, 2015
Temperature / Humidity	24 deg. C / 60 % RH	24 deg. C / 55 % RH	25 deg. C / 63 % RH
Engineer	Shinichi Takano	Shinichi Takano	Shinichi Takano
Mode	Tx 11ac VHT80, 5610 MHz		

(above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5725.000	PK	44.2	32.8	15.6	38.8	3.4	57.2	73.9	16.7	100	290	*1)
Hori.	11220.000	PK	47.2	40.2	8.3	39.0	3.4	60.1	73.9	13.8	130	224	
Hori.	16830.000	PK	44.7	41.0	10.5	39.9	-9.5	46.8	73.9	27.1	100	0	
Hori.	22440.000	PK	48.8	40.8	12.5	47.7	-9.5	44.9	73.9	29.0	115	130	
Hori.	5725.000	AV	33.5	32.8	15.6	38.8	3.4	46.5	53.9	7.4	100	290	*1)
Hori.	11220.000	AV	36.0	40.2	8.3	39.0	3.4	48.9	53.9	5.0	130	224	
Hori.	16830.000	AV	34.5	41.0	10.5	39.9	-9.5	36.6	53.9	17.3	100	0	
Hori.	22440.000	AV	43.9	40.8	12.5	47.7	-9.5	40.0	53.9	13.9	115	130	
Vert.	5725.000	PK	44.4	32.8	15.6	38.8	3.4	57.4	73.9	16.5	100	273	*1)
Vert.	11220.000	PK	46.1	40.2	8.3	39.0	3.4	59.0	73.9	14.9	100	0	
Vert.	16830.000	PK	45.2	41.0	10.5	39.9	-9.5	47.3	73.9	26.6	100	0	
Vert.	22440.000	PK	49.5	40.8	12.5	47.7	-9.5	45.6	73.9	28.3	109	132	
Vert.	5725.000	AV	33.5	32.8	15.6	38.8	3.4	46.5	53.9	7.4	100	273	*1)
Vert.	11220.000	AV	34.9	40.2	8.3	39.0	3.4	47.8	53.9	6.1	100	0	
Vert.	16830.000	AV	34.6	41.0	10.5	39.9	-9.5	36.7	53.9	17.2	100	0	
Vert.	22440.000	AV	45.5	40.8	12.5	47.7	-9.5	41.6	53.9	12.3	109	132	

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

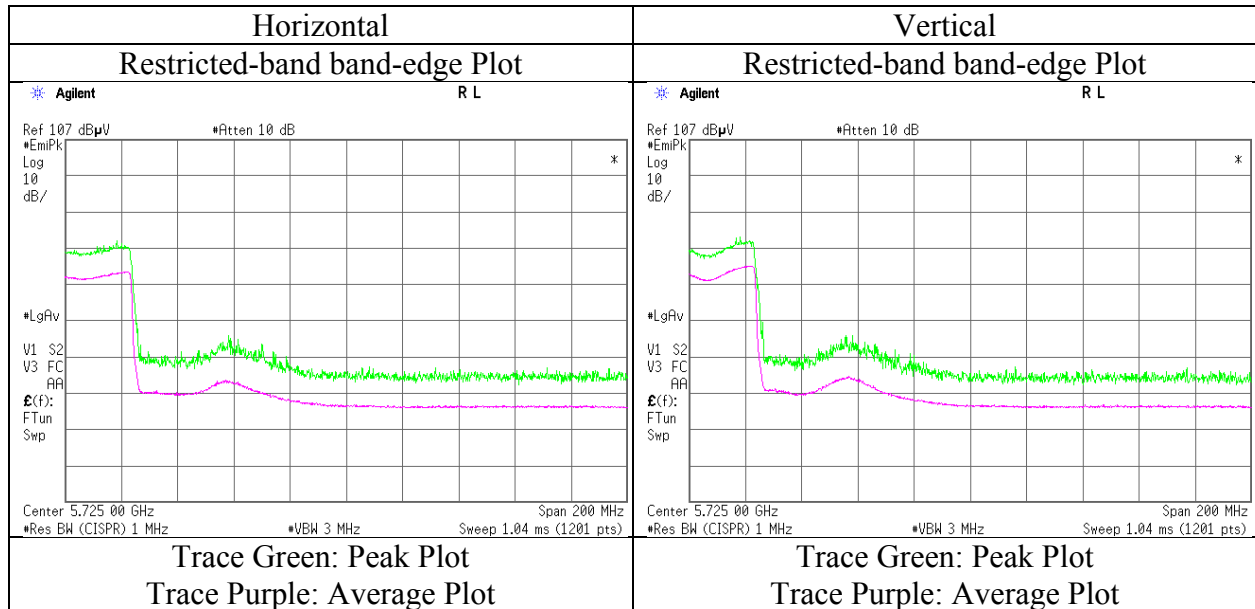
Distance factor : 1 GHz - 15 GHz : $20\log(4.45\text{ m} / 3.0\text{ m}) = 3.4\text{ dB}$

15 GHz - 40 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.5\text{ dB}$

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

Radiated Spurious Emission

Test place	Shonan EMC Lab. No.3 Semi Anechoic Chamber
Report No.	10882638S-N
Date	September 1, 2015
Temperature / Humidity	24 deg. C / 60 % RH
Engineer	Shinichi Takano
Mode	Tx 11ac VHT80, 5610 MHz



* Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Test place	Shonan EMC Lab. No.3 Semi Anechoic Chamber			
Report No.	10882638S-N			
Date	August 28, 2015	September 1, 2015	September 2, 2015	September 3, 2015
Temperature / Humidity	22 deg. C / 59 % RH	24 deg. C / 60 % RH	24 deg. C / 55 % RH	25 deg. C / 63 % RH
Engineer	Yosuke Ishikawa	Shinichi Takano	Shinichi Takano	Shinichi Takano
Mode	Tx 11ac VHT80, 5775 MHz			

(below 1GHz and above 1GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	186.341	QP	22.9	16.1	8.8	31.8	0.0	16.0	43.5	27.5	100	53	
Hori.	346.426	QP	29.7	15.0	6.9	31.6	0.0	20.0	46.0	26.0	100	118	
Hori.	592.572	QP	21.8	18.9	8.3	31.6	0.0	17.4	46.0	28.6	100	54	
Hori.	946.254	QP	21.0	22.6	9.9	30.5	0.0	23.0	46.0	23.0	100	33	
Hori.	5701.860	PK	51.6	32.7	15.6	38.8	3.4	64.5	73.9	9.4	162	241	*1)
Hori.	5715.000	PK	49.0	32.7	15.6	38.8	3.4	61.9	73.9	12.0	162	241	*1)
Hori.	5725.000	PK	49.2	32.8	15.6	38.8	3.4	62.2	73.9	11.7	162	241	*1)
Hori.	5850.000	PK	51.8	33.0	15.6	38.8	3.4	65.0	73.9	8.9	100	274	*1)
Hori.	5860.000	PK	49.2	33.0	15.6	38.8	3.4	62.4	73.9	11.5	100	274	*1)
Hori.	11550.000	PK	45.0	40.8	8.3	38.9	3.4	58.6	73.9	15.3	207	273	
Hori.	17325.000	PK	44.2	42.6	10.7	39.2	-9.5	48.8	73.9	25.1	100	0	*1)
Hori.	23100.000	PK	50.0	40.9	12.7	46.8	-9.5	47.3	73.9	26.6	115	132	
Hori.	5701.860	AV	38.8	32.7	15.6	38.8	3.4	51.7	53.9	2.2	162	241	*1)
Hori.	5715.000	AV	36.9	32.7	15.6	38.8	3.4	49.8	53.9	4.1	162	241	*1)
Hori.	5725.000	AV	37.0	32.8	15.6	38.8	3.4	50.0	53.9	3.9	162	241	*1)
Hori.	5850.000	AV	38.6	33.0	15.6	38.8	3.4	51.8	53.9	2.1	100	274	*1)
Hori.	5860.000	AV	36.1	33.0	15.6	38.8	3.4	49.3	53.9	4.6	100	274	*1)
Hori.	11550.000	AV	33.9	40.8	8.3	38.9	3.4	47.5	53.9	6.4	207	273	
Hori.	17325.000	AV	33.1	42.6	10.7	39.2	-9.5	37.7	53.9	16.2	100	0	*1)
Hori.	23100.000	AV	43.4	40.9	12.7	46.8	-9.5	40.7	53.9	13.2	115	132	
Vert.	180.257	QP	23.0	16.0	8.7	31.8	0.0	15.9	43.5	27.6	100	15	
Vert.	350.595	QP	26.1	15.1	6.9	31.6	0.0	16.5	46.0	29.5	100	4	
Vert.	922.347	QP	21.0	22.5	9.8	30.6	0.0	22.7	46.0	23.3	100	350	
Vert.	5701.889	PK	54.9	32.7	15.6	38.8	3.4	67.8	73.9	6.1	100	260	*1)
Vert.	5715.000	PK	51.0	32.7	15.6	38.8	3.4	63.9	73.9	10.0	100	260	*1)
Vert.	5725.000	PK	54.5	32.8	15.6	38.8	3.4	67.5	73.9	6.4	100	260	*1)
Vert.	5850.000	PK	53.1	33.0	15.6	38.8	3.4	66.3	73.9	7.6	181	258	*1)
Vert.	5860.000	PK	50.1	33.0	15.6	38.8	3.4	63.3	73.9	10.6	181	258	*1)
Vert.	11550.000	PK	43.3	40.8	8.3	38.9	3.4	56.9	73.9	17.0	100	0	
Vert.	17325.000	PK	43.4	42.6	10.7	39.2	-9.5	48.0	73.9	25.9	100	0	*1)
Vert.	23100.000	PK	49.1	40.9	12.7	46.8	-9.5	46.4	73.9	27.5	109	133	
Vert.	5701.889	AV	40.4	32.7	15.6	38.8	3.4	53.3	53.9	0.6	100	260	*1)
Vert.	5715.000	AV	36.1	32.7	15.6	38.8	3.4	49.0	53.9	4.9	100	260	*1)
Vert.	5725.000	AV	36.4	32.8	15.6	38.8	3.4	49.4	53.9	4.5	100	260	*1)
Vert.	5850.000	AV	38.5	33.0	15.6	38.8	3.4	51.7	53.9	2.2	181	258	*1)
Vert.	5860.000	AV	35.9	33.0	15.6	38.8	3.4	49.1	53.9	4.8	181	258	*1)
Vert.	11550.000	AV	32.6	40.8	8.3	38.9	3.4	46.2	53.9	7.7	100	0	
Vert.	17325.000	AV	33.4	42.6	10.7	39.2	-9.5	38.0	53.9	15.9	100	0	*1)
Vert.	23100.000	AV	42.4	40.9	12.7	46.8	-9.5	39.7	53.9	14.2	109	133	

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

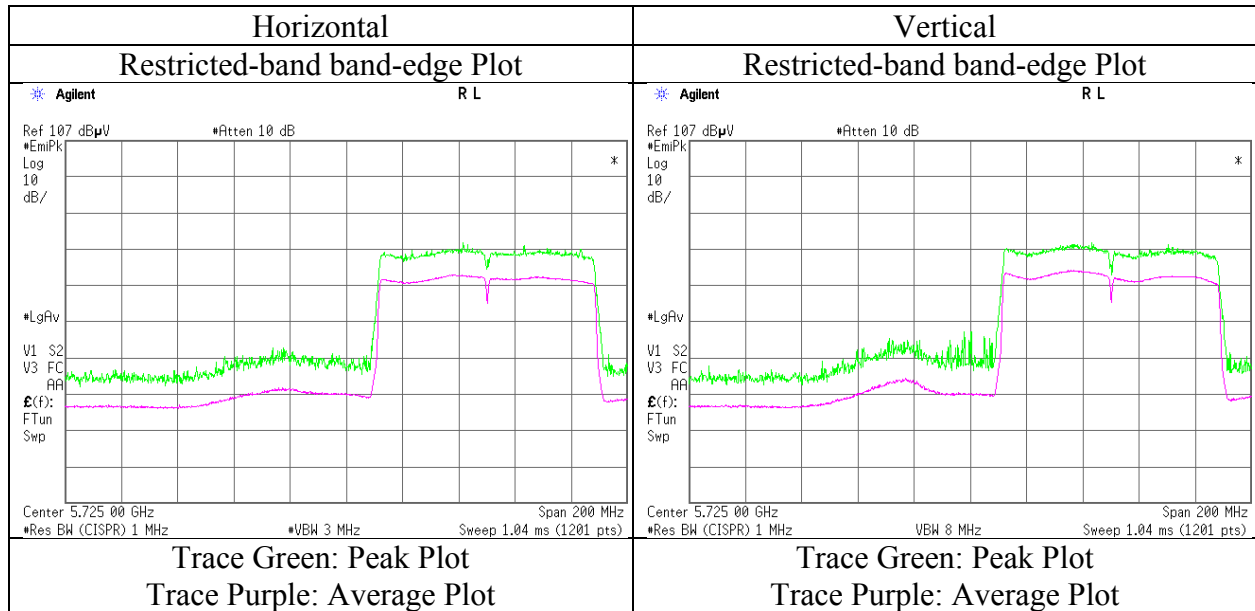
Distance factor : 1 GHz - 15 GHz : $20\log(4.45\text{ m}/3.0\text{ m}) = 3.4\text{ dB}$

15 GHz - 40 GHz : $20\log(1.0\text{ m}/3.0\text{ m}) = -9.5\text{ dB}$

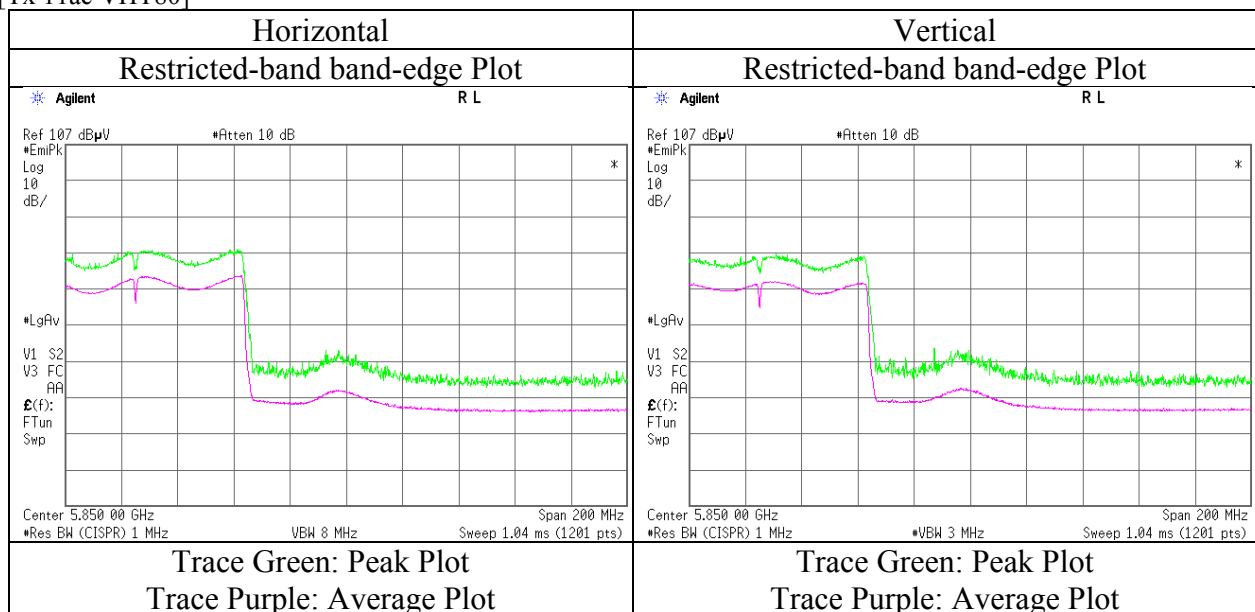
*1) This frequency was an outside of the restricted band, but that was applied the limit of 15.209.

Radiated Spurious Emission

Test place	Shonan EMC Lab. No.3 Semi Anechoic Chamber
Report No.	10882638S-N
Date	September 1, 2015
Temperature / Humidity	24 deg. C / 60 % RH
Engineer	Shinichi Takano
Mode	Tx 11ac VHT80, 5775 MHz



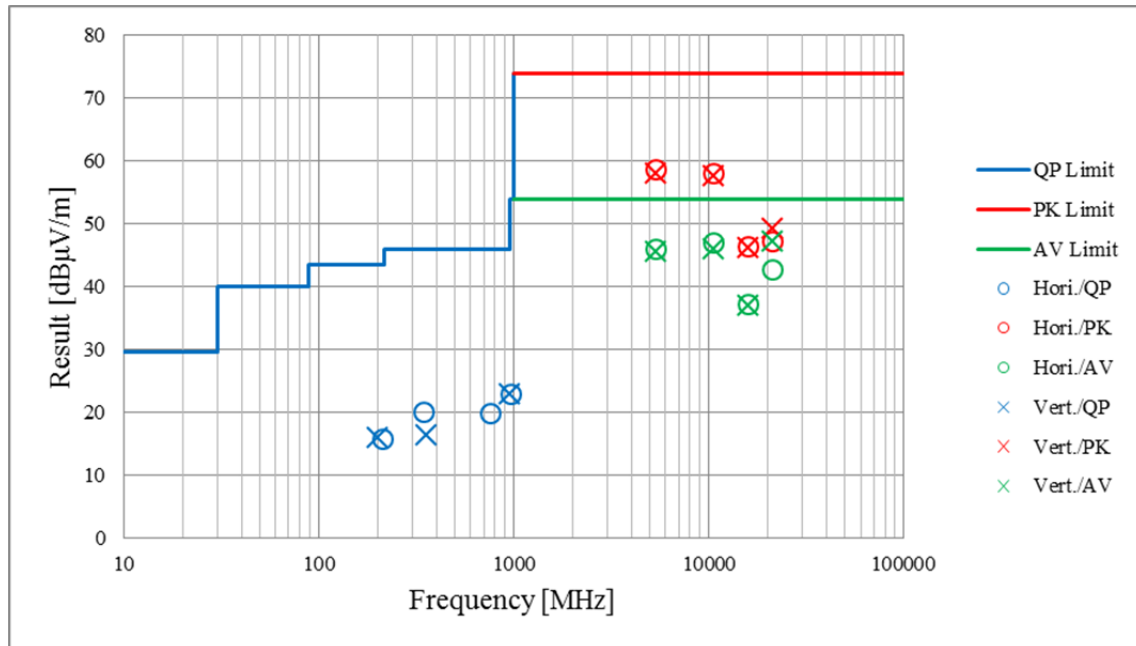
[Tx 11ac VHT80]



* Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission **(Plot data, Worst case)**

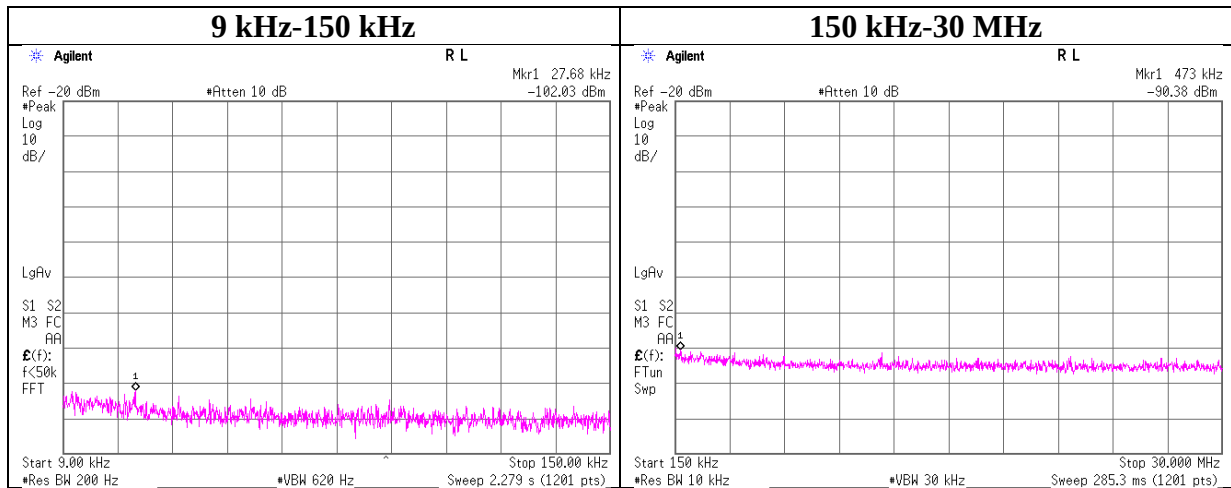
Test place	Shonan EMC Lab. No.2, 3 Semi Anechoic Chamber			
Report No.	10882638S-N			
Date	August 15, 2015	August 28, 2015	August 29, 2015	September 2, 2015
Temperature / Humidity	25 deg. C / 59 % RH	22 deg. C / 59 % RH	26 deg. C / 63 % RH	24 deg. C / 55 % RH
Engineer	Shinichi Takano (No.2 SAC)	Yosuke Ishikawa (No.2 SAC)	Tomohiro Hara (No.3 SAC)	Shinichi Takano (No.3 SAC)
Mode	Tx 11ac VHT20, MCS0, 5320 MHz, normal power mode			



*These plots data contains sufficient number to show the trend of characteristic features for EUT.

Conducted Spurious Emission

Test place : Shonan EMC Lab. No.5 Shielded Room
Report No. : 10882638S-N
Date : August 26, 2015
Temperature / Humidity : 26 deg. C / 54 % RH
Engineer : Kenichi Adachi
Mode : Tx 11ac VHT20, MCS0, 5320 MHz, normal power mode



Frequency [kHz]	Reading [dBm]	Cable Loss [dB]	Attenuator [dB]	Antenna Gain [dBi]	N (Number of Output)	EIRP [dBm]	Distance [m]	Ground bounce [dB]	E (field strength) [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
27.68	-102.0	1.32	9.9	-1.3	1	-92.1	300	6.0	-30.9	38.7	69.6	
473.00	-90.4	1.38	9.9	-1.3	1	-80.4	300	6.0	-19.2	14.1	33.3	

$$E = \text{EIRP} - 20 \cdot \log(D) + \text{Ground bounce} + 104.8 \text{ [dBuV/m]}$$

$$\text{EIRP} = \text{Reading} + \text{Cable Loss} + \text{Attenuator} + \text{Antenna Gain} + 10 \cdot \log(N)$$

UL Japan, Inc.

Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

APPENDIX 2: Test instruments

Test equipment (1/2)

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
SSA-02	Spectrum Analyzer	Agilent	E4448A	MY48250106	AT, RE	2015/03/26 * 12
SAT10-11	Attenuator	Weinschel Corp.	54A-10	37588	AT	2015/04/09 * 12
SCC-G12	Coaxial Cable	Suhner	SUCOFLEX 102	30790/2	AT	2015/03/11 * 12
SPM-07	Power Meter	Agilent	8990B	MY5100272	AT	2015/04/02 * 12
SPSS-04	Power sensor	Agilent	N1923A	MY5326009	AT	2015/04/02 * 12
SOS-13	Humidity Indicator	Custom	CTH-202	Q.C.17	AT	2015/04/28 * 12
STS-05	Digital Hitester	Hioki	3805-50	080997828	AT	2014/11/11 * 12
SOS-09	Humidity Indicator	A&D	AD-5681	4061484	AT	2014/12/24 * 12
SAEC-02(NSA)	Semi-Anechoic Chamber	TDK	SAEC-02(NSA)	2	RE	2015/07/15 * 12
SAF-04	Pre Amplifier	TOYO Corporation	TPA0118-36	1440489	RE	2015/03/23 * 12
SCC-G05	Coaxial Cable	Junkosha	J12J102207-00	APR-30-15-037	RE	2015/05/11 * 12
SCC-G22	Coaxial Cable	Suhner	SUCOFLEX 104	296199/4	RE	2015/05/19 * 12
HA-06	Broad-Band Horn Antenna	Schwarzbeck	BBHA 9120 D	9120D-683	RE	2015/06/17 * 12
SOS-03	Humidity Indicator	A&D	AD-5681	4063325	RE	2014/10/30 * 12
KSA-08	Spectrum Analyzer	Agilent	E4446A	MY46180525	RE, AT	2015/03/23 * 12
SJM-14	Measure	ASKUL	-	-	RE	-
COTS-SEMI-1	EMI Software	TSJ	TEPTO-DV(RE,C E,RFI,MF)	-	RE,CE	-
SAT10-05	Attenuator(above1GHz)	Agilent	8493C-010	74864	RE	2014/11/21 * 12
SFL-03	Highpass Filter	MICRO-TRONICS	HPM50112	028	RE	2014/11/21 * 12
KFL-15	Highpass Filter	MICRO-TRONICS	HPM50112	007	RE	2014/11/21 * 12
STS-02	Digital Hitester	Hioki	3805-50	080997819	RE	2015/03/10 * 12
SAF-06	Pre Amplifier	TOYO Corporation	TPA0118-36	1440491	RE	2015/05/27 * 12
SCC-G04	Coaxial Cable	Junkosha	J12J102207-00	JUN-12-14-018	RE	2015/06/08 * 12
SCC-G23	Coaxial Cable	Suhner	SUCOFLEX 104	297342/4	RE	2015/05/19 * 12
KHA-02	Horn Antenna	Schwarzbeck	BBHA9120D	230	RE	2015/05/18 * 12
SOS-05	Humidity Indicator	A&D	AD-5681	4062518	RE	2014/10/30 * 12
SJM-15	Measure	ASKUL	-	-	RE	-
SAEC-03(SVSWR)	Semi-Anechoic Chamber	TDK	SAEC-03(SVSWR)	3	RE	2015/08/28 * 12
STS-03	Digital Hitester	Hioki	3805-50	080997823	RE	2014/11/11 * 12
SHA-04	Horn Antenna	ETS LINDGREN	3160-09	LM3640	RE	2015/03/17 * 12
SAF-08	Pre Amplifier	TOYO Corporation	HAP18-26W	00000019	RE	2015/03/23 * 12
SCC-G15	Coaxial Cable	Suhner	SUCOFLEX 102	32703/2	RE	2015/03/11 * 12
SHA-06	Horn Antenna	ETS LINDGREN	3160-10	LM3459	RE	2015/03/17 * 12
SAF-10	Pre Amplifier	TOYO Corporation	HAP26-40W	00000010	RE	2015/03/23 * 12
SCC-G19	Coaxial Cable	Suhner	SUCOFLEX 102A	1188/2A	RE	2015/03/11 * 12

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

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

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

Test Item: CE: Conducted Emission
RE: Radiated Emission
AT: Antenna Terminal Conducted test

UL Japan, Inc.

Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Test equipment (2/2)

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
SAF-02	Pre Amplifier	SONOMA	310N	290212	RE	2015/02/18 * 12
SAT6-02	Attenuator	JFW	50HF-006N	-	RE	2015/02/18 * 12
KAT3-11	Attenuator	JFW IND. INC.	50HF-003N	-	RE	2014/08/27 * 12
SBA-02	Biconical Antenna	Schwarzbeck	BBA9106	91032665	RE	2014/11/22 * 12
SCC-B1/B3/B5/B7/B8/B13/SRSE-02	Coaxial Cable&RF Selector	Fujikura/Fujikura/Suhner/Suhner/Suhner/TOYO	8D2W/12DSFA/141PE/141PE/141PE/141PE/NS4906	-/0901-270(RF Selector)	RE	2015/04/17 * 12
SCC-B2/B4/B6/B7/B8/B13/SRSE-02	Coaxial Cable&RF Selector	Fujikura/Fujikura/Suhner/Suhner/Suhner/TOYO	8D2W/12DSFA/141PE/141PE/141PE/141PE/NS4906	-/0901-270(RF Selector)	RE	2015/04/17 * 12
SLA-02	Logperiodic Antenna	Schwarzbeck	UHALP9108A	UHALP 9108-A 0893	RE	2014/11/22 * 12
STR-07	Test Receiver	Rohde & Schwarz	ESU26	100484	RE	2014/09/03 * 12
SCC-A12/A13/SRSE-01	Coaxial Cable&RF Selector	Suhner/Suhner/TOYO	RG223U/141PE/NS4906	-/0901-269(RF Selector)	CE	2015/04/17 * 12
SLS-01	LISN	Rohde & Schwarz	ENV216	100511	CE	2015/02/24 * 12
SLS-02	LISN	Rohde & Schwarz	ENV216	100512	CE	2015/02/24 * 12
SAT3-10	Attenuator	JFW	50HF-003N	-	CE	2014/09/02 * 12
SOS-02	Humidity Indicator	A&D	AD-5681	4063343	CE	2014/12/24 * 12
STM-01	Terminator	TME	CT-01 BP	-	CE	2014/12/19 * 12
STR-01	Test Receiver	Rohde & Schwarz	ESU40	100093	CE	2014/11/11 * 12
SJM-02	Measure	KOMELON	KMC-36	-	CE	-
STS-01	Digital Hitester	Hioki	3805-50	080997812	CE	2014/11/11 * 12

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

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

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

Test Item: CE: Conducted Emission
RE: Radiated Emission

UL Japan, Inc.

Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401