RADIO TEST REPORT

Test Report No. : 11469126H-B

Applicant	:	**Murata Manufacturing Co., Ltd.**
Type of Equipment	:	**Communication Module**
Model No.	:	**Type1JS**
FCC ID	:	**VPYLB1JS955**
Test regulation	:	**FCC Part 15 Subpart E: 2016 (Except for DFS test)**
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. This test report must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.
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: September 28 to October 24, 2016

Representative test engineer:

Hiroyuki Furutaka
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Consumer Technology Division

Approved by:

Takayuki Shimada
Engineer
Consumer Technology Division

NVLAP TESTING
NVLAP LAB CODE: 200572-0

This laboratory is accredited by the NVLAP LAB CODE 200572-0, U.S.A. The tests reported herein have been performed in accordance with its terms of accreditation.
*As for the range of Accreditation in NVLAP, you may refer to the WEB address,
http://japan.ul.com/resources/emc_accredited/

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REVISION HISTORY

Original Test Report No.: 11469126H-B

Revision	Test report No.	Date	Page revised	Contents
- (Original)	11469126H-B	December 5, 2016	-	-

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SECTION 1: Customer information

Company Name	:	Murata Manufacturing Co., Ltd.
Address	:	1-10-1 Higashikotari, Nagaokakyo-shi, Kyoto 617-8555 Japan
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Contact Person	:	Motoo Hayashi

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

2.1 Identification of E.U.T.

Type of Equipment	:	Communication Module
Model No.	:	Type1JS
Serial No.	:	Refer to Section 4, Clause 4.2
Rating	:	VBAT : Typ. 3.4 V, Min. 3.0 V, Max. 3.93 V *VDDIO : Typ. 1.8 V, Min. 1.62 V, Max. 1.98 V or Typ. 2.8 V, Min. 2.0 V, Max. 3.3 V *VRTC : Typ. 1.8 V, Min. 1.62 V, Max. 1.98 V or Typ. 2.8 V, Min. 2.52 V, Max. 3.08 V *VDDIO and VRTC don't influence the RF characteristic.
Receipt Date of Sample	:	September 28, 2016
Country of Mass-production	:	China & Japan
Condition of EUT	:	Engineering prototype (Not for Sale: This sample is equivalent to mass-produced items.)
Modification of EUT	:	No Modification by the test lab

2.2 Product Description

Model: Type1JS (referred to as the EUT in this report) is a Communication Module.

General Specification

Clock frequency(ies) in the system	:	26.0 MHz, 32.768 KHz (X'tal)

Radio Specification

Radio Type : Transceiver
Power Supply (inner) : DC 3.0 V - 3.5 V

Specification of Wireless LAN (IEEE802.11b/g/a/n-20/n-40/11ac-20/11ac-40/11ac-80)

Type of radio	IEEE802.11b	IEEE802.11g/n (20 M band)	IEEE802.11a/n/ac (20 M band) *1)	IEEE802.11n/ac (40 M band) *1)	IEEE802.11ac (80 M band) *1)
Frequency of operation	2412 MHz - 2462 MHz	2412 MHz - 2462 MHz	5180 MHz - 5240 MHz 5260 MHz - 5320 MHz 5500 MHz - 5720 MHz 5745 MHz - 5825 MHz	5190 MHz - 5230 MHz 5270 MHz - 5310 MHz 5510 MHz - 5710 MHz 5755 MHz - 5795 MHz	5210 MHz 5290 MHz 5530 MHz - 5690 MHz 5775 MHz
Type of modulation	DSSS (CCK, DQPSK, DBPSK)	OFDM-CCK (64QAM, 16QAM, QPSK, BPSK)	OFDM (64QAM, 16QAM, QPSK, BPSK, 256QAM(IEEE802.11ac only))		
Channel spacing	5 MHz		20 MHz	40 MHz	80 MHz
Antenna type	Pattern Antenna				
Antenna Gain	2.4 GHz: 2.1 dBi 5 GHz: 2.0 dBi				

Specification of Bluetooth (Low Energy: LE)

	Bluetooth Ver.4.1 with EDR function
Frequency of operation	2402 MHz - 2480 MHz
Type of modulation	GFSK
Channel spacing	2 MHz
Antenna type	Pattern Antenna
Antenna Gain	2.1 dBi

*1) This test report applies to Wireless LAN (5GHz Band).

SECTION 3: Test specification, procedures & results

3.1 Test Specification

Test Specification	:	CC Part 15 Subpart E FCC Part 15 final revised on November 14, 2016 and effective December 14, 2016
Title	:	FCC 47CFR Part15 Radio Frequency Device Subpart E Unlicensed National Information Infrastructure Devices Section 15.407 General technical requirements

* The revision on November 14, 2016, 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 C63.10-2013	**FCC:** 15.407 (b) (6) / 15.207	**QP** 28.2 dB, 0.15000 MHz, N **AV** 24.7 dB, 24.87960 MHz, N	Complied	-
	IC: RSS-Gen 8.8	**IC:** RSS-Gen 8.8			
26 dB Emission Bandwidth	**FCC:** KDB Publication Number 789033	**FCC:** 15.407 (a) (1) (2) (3)	See data	N/A	Conducted
	IC: -	**IC:** -			
Maximum Conducted Output Power	**FCC:** KDB Publication Number 789033	**FCC:** 15.407 (a) (1) (2) (3)		Complied	Conducted
	IC: -	**IC:** RSS-247 6.2.1 (1) 6.2.2 (1) 6.2.3 (1) 6.2.4 (1)			
Maximum Power Spectral Density	**FCC:** KDB Publication Number 789033	**FCC :** 15.407 (a) (1) (2) (3)		Complied	Conducted
	IC: -	**IC:** RSS-247 6.2.1 (1) 6.2.2 (1) 6.2.3 (1) 6.2.4 (1)			
Spurious Emission Restricted Band Edge	**FCC:** ANSI C63.10-2013 KDB Publication Number 789033	**FCC:** 15.407 (b), 15.205 and 15.209	3.9 dB 5350.000 MHz, AV, Vertical	Complied	Conducted (< 30 MHz) / Radiated (> 30 MHz) *1)
	IC: -	**IC:** RSS-247 6.2.1 (2) 6.2.2 (2) 6.2.3 (2) 6.2.4 (2)			
6 dB Emission Bandwidth	**FCC:** ANSI C63.10-2013	**FCC:** 15.407 (e)	See data	Complied	Conducted
	IC: -	**IC:** RSS-247 6.2.4 (1)			

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 11469126H-C 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 C63.10: 2013 is also referred.

FCC Part 15.31 (e)
The worst case stable voltage was provided to the EUT during the all tests.
And maximum and minimum voltage were provided to the EUT during the output power measurement test.
Therefore, the EUT complies with the requirement.

FCC Part 15.203/212 Antenna requirement
The antenna is not removable from the EUT.
Therefore, the equipment complies with the antenna requirement of Section 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.

3.4 Uncertainty

EMI

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

Ise EMC Lab.

Antenna terminal test Uncertainty (+/-)							
Power meter		Conducted emission and Power density			Conducted emission		Channel power
Below 1 GHz	Above 1 GHz	Below 1 GHz	1 GHz -3 GHz	3 GHz -18 GHz	18 GHz -26.5 GHz	26.5 GHz -40 GHz	
0.9 dB	1.0 dB	1.4 dB	1.7 dB	2.8 dB	2.8 dB	2.9 dB	2.6 dB

Frequency range	Conducted emission using AMN(LISN) (+/-)
0.009 – 0.15MHz	3.5 dB
0.15 – 30MHz	3.0 dB

Polarity	Radiated emission (Below 1GHz)			
	(3 m*) (+/-)		(10 m*) (+/-)	
	30 – 200 MHz	200 – 1000MHz	30 – 200 MHz	200 – 1000MHz
Horizontal	5.0 dB	5.3 dB	5.0 dB	5.0 dB
Vertical	4.7 dB	5.9 dB	5.0 dB	5.1 dB

Radiated emission (Above 1GHz)				
(3 m*) (+/-)		(1 m*) (+/-)		(10 m*) (+/-)
1 – 6GHz	6 – 18GHz	10 – 26.5 GHz	26.5 – 40GHz	1 -18 GHz
5.2 dB	5.4 dB	5.5 dB	5.5 dB	5.4 dB

*Measurement distance

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

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Test site	IC Registration Number	Width x Depth x Height (m)	Size of reference ground plane (m) / horizontal conducting plane	Other rooms	Maximum measurement distance
No.1 semi-anechoic chamber	2973C-1	19.2 x 11.2 x 7.7	7.0 x 6.0	No.1 Power source room	10 m
No.2 semi-anechoic chamber	2973C-2	7.5 x 5.8 x 5.2	4.0 x 4.0	-	3 m
No.3 semi-anechoic chamber	2973C-3	12.0 x 8.5 x 5.9	6.8 x 5.75	No.3 Preparation room	3 m
No.3 shielded room	-	4.0 x 6.0 x 2.7	N/A	-	-
No.4 semi-anechoic chamber	2973C-4	12.0 x 8.5 x 5.9	6.8 x 5.75	No.4 Preparation room	3 m
No.4 shielded room	-	4.0 x 6.0 x 2.7	N/A	-	-
No.5 semi-anechoic chamber	-	6.0 x 6.0 x 3.9	6.0 x 6.0	-	-
No.6 shielded room	-	4.0 x 4.5 x 2.7	4.0 x 4.5	-	-
No.6 measurement room	-	4.75 x 5.4 x 3.0	4.75 x 4.15	-	-
No.7 shielded room	-	4.7 x 7.5 x 2.7	4.7 x 7.5	-	-
No.8 measurement room	-	3.1 x 5.0 x 2.7	N/A	-	-
No.9 measurement room	-	8.8 x 4.6 x 2.8	2.4 x 2.4	-	-
No.11 measurement room	-	6.2 x 4.7 x 3.0	4.8 x 4.6	-	-

* Size of vertical conducting plane (for Conducted Emission test) : 2.0 x 2.0 m for No.1, No.2, No.3, and No.4 semi-anechoic chambers and No.3 and No.4 shielded rooms.

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 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 and also was judged the necessity of 802.11ac mode by the pre-test.

Mode	Remarks*
IEEE 802.11a (11a)	54 Mbps, PN9
IEEE 802.11n 20MHz BW (11n-20)	MCS 7, PN9
IEEE 802.11ac 20MHz BW (11ac-20)	MCS 7, PN9
IEEE 802.11n 40MHz BW (11n-40)	MCS 7, PN9
IEEE 802.11ac 40MHz BW (11ac-40)	MCS 7, PN9
IEEE 802.11ac 80MHz BW (11ac-80)	MCS 7, PN9
*The worst condition was determined based on the test result of Maximum Conducted Output Power.	
*EUT has the power settings by the software as follows (power setting value might be different from product specification value); Power settings: 11a: Setting Parameter value 5, 11n: Setting Parameter value 5, 11ac: Setting Parameter value 5 Software: CPM_P162170_F159430 *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.	

*The details of Operation mode(s)

Test Item	Operating Mode	Tested Frequency			
		Low Band	Middle Band	Additional Band	Upper Band
Conducted emission, Conducted Spurious Emission, Radiated Spurious Emission (Below 1GHz)	11a Tx *1)	-	-	-	5825 MHz *1)
26dB Emission Bandwidth	11a Tx, 11n-20 Tx, 11ac-20 Tx	-	5260 MHz 5300 MHz 5320 MHz	5500 MHz 5580 MHz 5700 MHz 5720 MHz	-
	11n-40 Tx, 11ac-40 Tx	-	5270 MHz 5310 MHz	5510 MHz 5550 MHz 5670 MHz 5710 MHz	-
	11ac-80 Tx	-	5290 MHz	5530 MHz 5610 MHz 5690 MHz	-
99% Occupied Bandwidth	11a Tx, 11n-20 Tx, 11ac-20 Tx	5180 MHz 5220 MHz 5240 MHz	5260 MHz 5300 MHz 5320 MHz	5500 MHz 5580 MHz 5700 MHz 5720 MHz	5745 MHz 5785 MHz 5825 MHz
	11n-40 Tx, 11ac-40 Tx	5190 MHz 5230 MHz	5270 MHz 5310 MHz	5510 MHz 5550 MHz 5670 MHz 5710 MHz	5755 MHz 5795 MHz
	11ac-80 Tx	5210 MHz	5290 MHz	5530 MHz 5610 MHz	5775 MHz
Maximum Conducted Output Power, Maximum Power Spectral Density	11a Tx, 11n-20 Tx, 11ac-20 Tx	5180 MHz 5220 MHz 5240 MHz	5260 MHz 5300 MHz 5320 MHz	5500 MHz 5580 MHz 5700 MHz 5720 MHz	5745 MHz 5785 MHz 5825 MHz
	11n-40 Tx, 11ac-40 Tx	5190 MHz 5230 MHz	5270 MHz 5310 MHz	5510 MHz 5550 MHz 5670 MHz 5710 MHz	5755 MHz 5795 MHz
	11ac-80 Tx	5210 MHz	5290 MHz	5530 MHz 5610 MHz 5690 MHz	5775 MHz
Radiated Spurious Emission (Above 1GHz)	11a Tx	5180 MHz 5240 MHz	5320 MHz	5500 MHz 5580 MHz 5700 MHz	5745 MHz 5785 MHz 5825 MHz
	11ac-20 Tx *2)	5180 MHz	5320 MHz	5500 MHz 5700 MHz	5745 MHz 5825 MHz
	11ac-40 Tx *2)	5190 MHz	5230 MHz 5310 MHz	5510 MHz 5550 MHz 5670 MHz	5755 MHz 5795 MHz
	11ac-80 Tx	5210 MHz	5290 MHz	5530 MHz 5610 MHz	5775 MHz
6dB Bandwidth	11a Tx, 11n-20 Tx, 11ac-20 Tx	-	-	-	5745 MHz 5785 MHz 5825 MHz
	11n-40 Tx, 11ac-40 Tx	-	-	-	5755 MHz 5795 MHz
	11ac-80 Tx	-	-	-	5775 MHz

*1) The mode was tested as a representative, because it had the highest power at antenna terminal test.
*2) Since 11a,11n-20 and 11ac-20, 11n-40 and 11ac-40, have the same modulation method and no differences in transmitting specification, test was performed on the representative mode that had the highest output power.

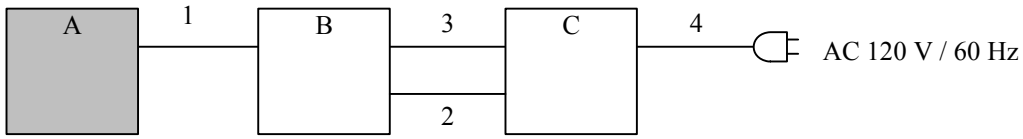
*Simultaneously transmission

Test Item	Operating Mode*1)
Radiated Spurious Emission	Tx 11ac-80 5290 MHz + Tx BT LE 2402 MHz

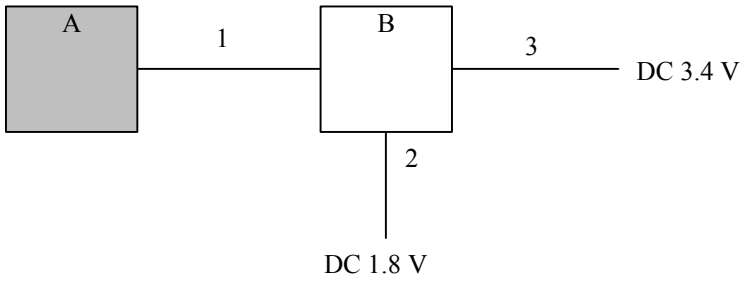
*1) The test was performed on the mode as a representative, because it had the worst margin of 5GHz band at radiated emission test.

4.2 Configuration and peripherals

For Conducted Emission test



For all tests other than Conducted Emission test



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

Description of EUT

No.	Item	Model number	Serial number	Manufacturer	Remarks
A	Communication Module	Type1JS	RE: 7 AT: 14	Murata Manufacturing Co., Ltd.	EUT
B	Jig	-	-	Murata Manufacturing Co., Ltd.	-
C	DC Power supply	RW16-5ADP	171116437	TEXIO	-

RE : Radiated Emission.
AT : Antenna Terminal Conducted.

List of cables used

No.	Name	Length (m)	Shield		Remarks
			Cable	Connector	
1	Signal Cable	0.05	Unshielded	Unshielded	-
2	DC Cable	0.40 *1) 2.00 *2)	Unshielded	Unshielded	-
3	DC Cable	0.40 *1) 2.00 *2)	Unshielded	Unshielded	-
4	AC Cable	2.00	Unshielded	Unshielded	-

*1) Used for Conducted Emission test
*2) Used for Radiated Emission test

SECTION 5: Conducted Emission

Test Procedure and conditions

EUT was placed on a urethane 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.

1) For the tests on EUT with other peripherals (as a whole system)
I/O cables that were connected to the peripherals were bundled in center. They were folded back and forth forming a bundle 30 cm to 40 cm long and were hanged at a 40 cm height to the ground plane. All unused 50 ohm connectors of the LISN (AMN) were resistivity terminated in 50 ohm when not connected to the measuring equipment.

The AC Mains Terminal Continuous disturbance Voltage has been measured with the EUT in a Semi Anechoic Chamber.
The EUT 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

< Below 1GHz >
EUT was placed on a urethane platform of nominal size, 0.5 m by 1.0 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.

< Above 1GHz >
EUT was placed on a urethane platform of nominal size, 0.5 m by 0.5 m, raised 1.5 m above the conducting ground plane.
The Radiated Electric Field Strength has been measured in a Semi Anechoic Chamber with absorbent materials lined on a ground plane.

The height of the measuring antenna varied between 1 and 4 m and EUT was rotated a full revolution in order to obtain the maximum value of the electric field strength.
The measurements were performed for both vertical and horizontal antenna polarization with the Test Receiver, or the Spectrum Analyzer.
The measurements were made with the following detector function of the test receiver and the Spectrum analyzer (in linear mode).
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).

For W58 Bandedge
-27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge in the section 15.407(b)(4)(i).

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:

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

Test Antennas are used as below;

Frequency	30 MHz to 200 MHz	200 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
IF Bandwidth	BW: 120 kHz	RBW: 1 MHz VBW: 3 MHz	Method AD *1) RBW: 1 MHz VBW: 3 MHz Detector: Power Averaging (RMS) Trace: ≥ 100 traces If duty cycle was less than 98%, a duty factor was added to the results.
Test Distance	3 m	3 m (below 1 GHz), 3 m*2) (1 GHz – 10 GHz), 1 m*3) (10 GHz – 40 GHz)	

*1) The test method was also referred to KDB 789033 D02 General UNII Test Procedures New Rules v01r03 "Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices Part 15, Subpart E".
*2) Distance Factor: 20 x log (4.5 m/3.0 m) = 3.53 dB
*3) Distance Factor: 20 x log (1.0 m/3.0 m) = -9.5 dB

- 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.

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	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-G)
Maximum Power Spectral Density	Encompass the entire EBW	1 MHz or 470 kHz *2)	≥ 3 RBW	Auto	RMS Power Averaging (200 times)	Clear Write	Spectrum Analyzer
Conducted Spurious Emission*3)	9 kHz – 150 kHz	200 Hz	620 Hz	Auto	Peak	Max Hold	Spectrum Analyzer
	150 kHz – 30 MHz	9.1 kHz	27 kHz				

* The test method was also referred to KDB 789033 D02 General UNII Test Procedures New Rules v01r03 "Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices Part 15, Subpart E".

*1) Peak hold was applied as Worst-case measurement.
*2) KDB 789033 D02 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 RBW Correction Factor (10 log(500 kHz / 470 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 low enough as shown in the chart. (9 kHz-150 kHz: RBW = 200 Hz, 150 kHz-30 MHz: RBW = 9.1 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

APPENDIX 1: Test data

Conducted Emission

DATA OF CONDUCTED EMISSION TEST

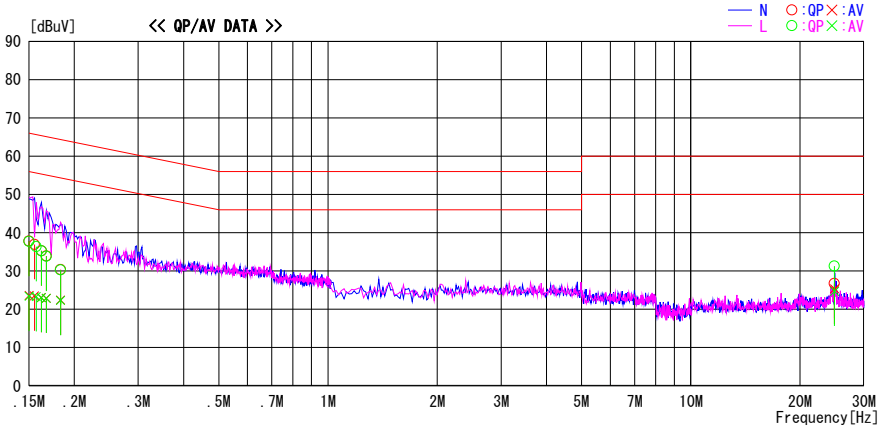
UL Japan, Inc. Ise EMC Lab. No.4 Semi Anechoic Chamber
Date : 2016/10/11

Report No. : 11469126H

Temp./Humi. : 23deg. C / 58% RH
Engineer : Takafumi Noguchi

Mode / Remarks : Tx 11a 5825MHz

LIMIT : FCC15.207 QP
FCC15.207 AV



Frequency	Reading Level		Corr.	Results		Limit		Margin		Phase	Comment
	QP	AV	Factor	QP	AV	QP	AV	QP	AV		
[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]		
0.15000	24.4	10.2	13.4	37.8	23.6	66.0	56.0	28.2	32.4	N	
0.15523	23.5	10.1	13.4	36.9	23.5	65.7	55.7	28.8	32.2	N	
0.16220	21.9	9.7	13.4	35.3	23.1	65.4	55.4	30.1	32.3	N	
0.16744	20.5	9.5	13.4	33.9	22.9	65.1	55.1	31.2	32.2	N	
0.18313	17.0	9.0	13.4	30.4	22.4	64.3	54.3	33.9	31.9	N	
24.87960	12.5	11.1	14.2	26.7	25.3	60.0	50.0	33.3	24.7	N	
0.15000	24.3	10.0	13.4	37.7	23.4	66.0	56.0	28.3	32.6	L	
0.15697	23.0	9.9	13.4	36.4	23.3	65.6	55.6	29.2	32.3	L	
0.16220	21.9	9.7	13.4	35.3	23.1	65.4	55.4	30.1	32.3	L	
0.16744	20.4	9.5	13.4	33.8	22.9	65.1	55.1	31.3	32.2	L	
0.18313	16.9	8.9	13.4	30.3	22.3	64.3	54.3	34.0	32.0	L	
24.87960	17.1	10.5	14.2	31.3	24.7	60.0	50.0	28.7	25.3	L	

CHART : WITH FACTOR, Peak hold data. CALCULATION : RESULT = READING + C.F (LISN + ATTEN + CABLE)
Except for the above table : adequate margin data below the limits.

26 dB Emission Bandwidth and 99 % Occupied Bandwidth

Test place Ise EMC Lab. No.11 Measurement Room
Report No. 11469126H
Date October 6, 2016
Temperature / Humidity 23deg. C / 53 RH
Engineer Hiroyuki Furutaka
Mode Tx

11a

Tested Frequency [MHz]	26 dB Emission Bandwidth [MHz]	99 % Occupied Bandwidth [MHz]	Limit [MHz]
5180	-	16.554	-
5220	-	16.568	-
5240	-	16.593	-
5260	19.158	16.552	-
5300	19.356	16.547	-
5320	19.285	16.573	-
5500	19.039	16.578	-
5580	19.199	16.612	-
5700	19.455	16.615	-
5720	19.319	16.573	-
5745	-	16.557	-
5785	-	16.607	-
5825	-	16.585	-

11n-20

Tested Frequency [MHz]	26 dB Emission Bandwidth [MHz]	99 % Occupied Bandwidth [MHz]	Limit [MHz]
5180	-	17.707	-
5220	-	17.650	-
5240	-	17.668	-
5260	19.725	17.666	-
5300	19.676	17.689	-
5320	19.809	17.691	-
5500	19.711	17.700	-
5580	19.794	17.655	-
5700	19.699	17.614	-
5720	19.663	17.735	-
5745	-	17.703	-
5785	-	17.669	-
5825	-	17.671	-

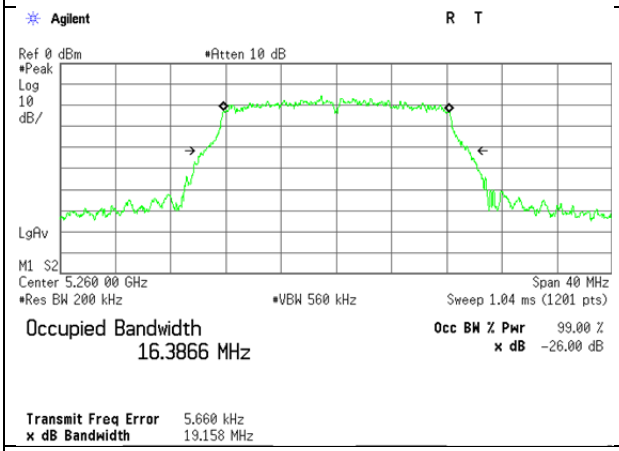
11n-40

Tested Frequency [MHz]	26 dB Emission Bandwidth [MHz]	99 % Occupied Bandwidth [MHz]	Limit [MHz]
5190	-	35.921	-
5230	-	35.985	-
5270	39.470	35.959	-
5310	39.391	35.936	-
5510	39.278	35.971	-
5550	39.518	35.964	-
5670	39.575	36.082	-
5710	39.455	36.017	-
5755	-	35.995	-
5795	-	35.984	-

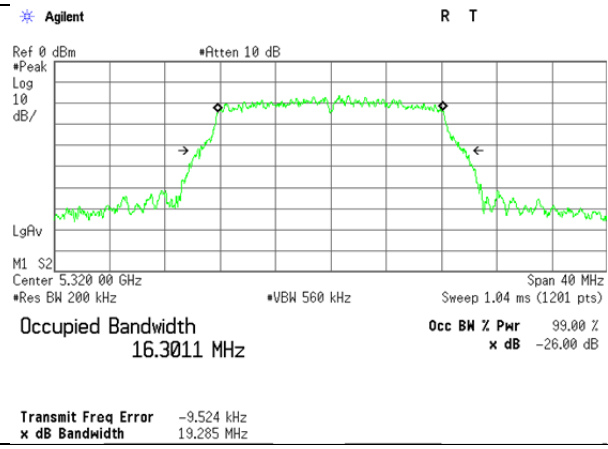
26 dB Emission Bandwidth

Test place	Ise EMC Lab. No.11 Measurement Room
Report No.	11469126H
Date	October 6, 2016
Temperature / Humidity	23deg. C / 53 RH
Engineer	Hiroyuki Furutaka
Mode	Tx 11a

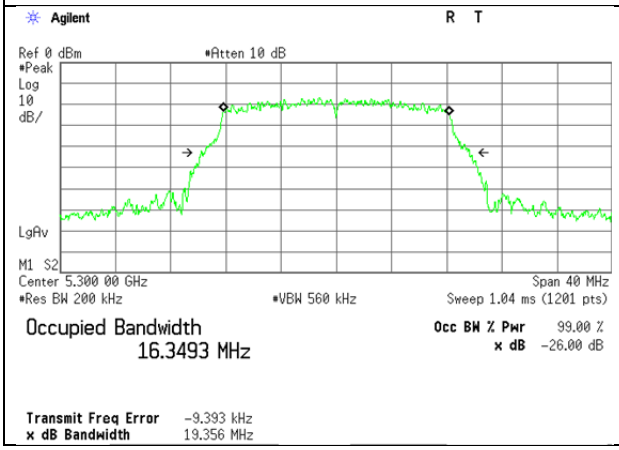
5260 MHz



5320 MHz



5300 MHz



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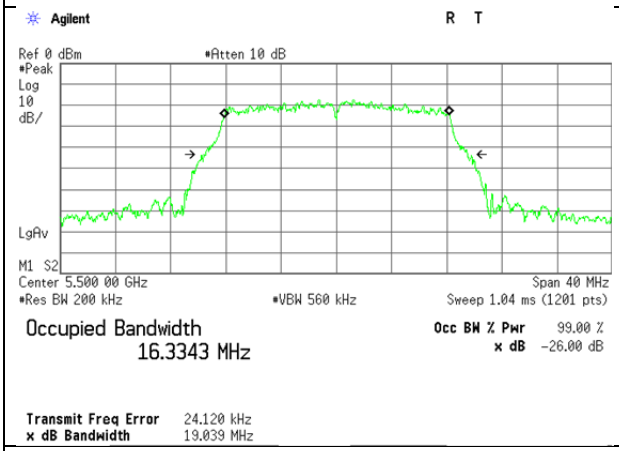
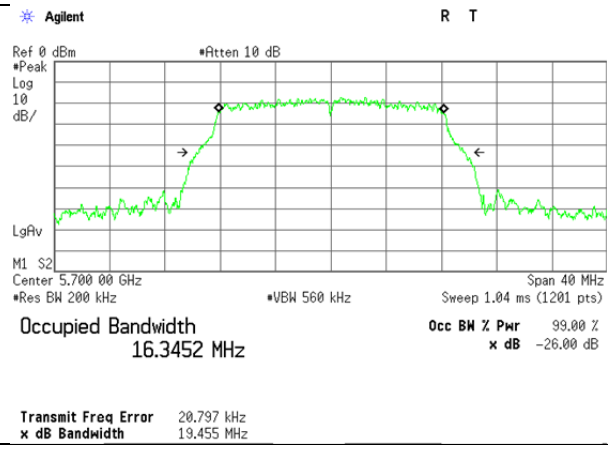
26 dB Emission Bandwidth

Test place	Ise EMC Lab. No.11 Measurement Room
Report No.	11469126H
Date	October 6, 2016
Temperature / Humidity	23deg. C / 53 RH
Engineer	Hiroyuki Furutaka
Mode	Tx 11a

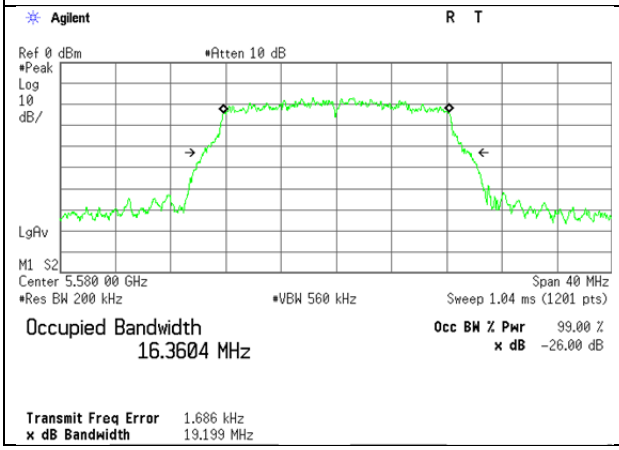
5500 MHz



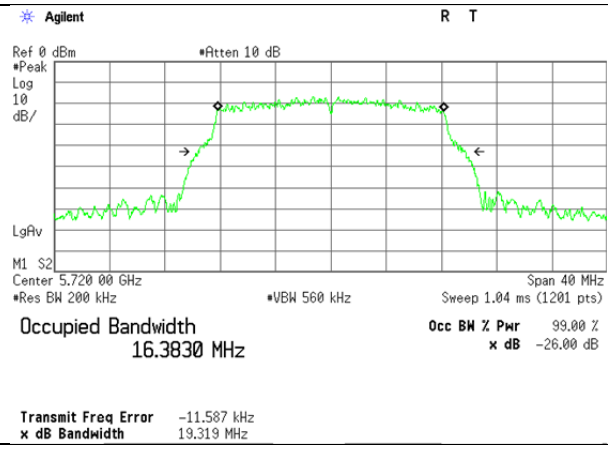
5700 MHz



5580 MHz



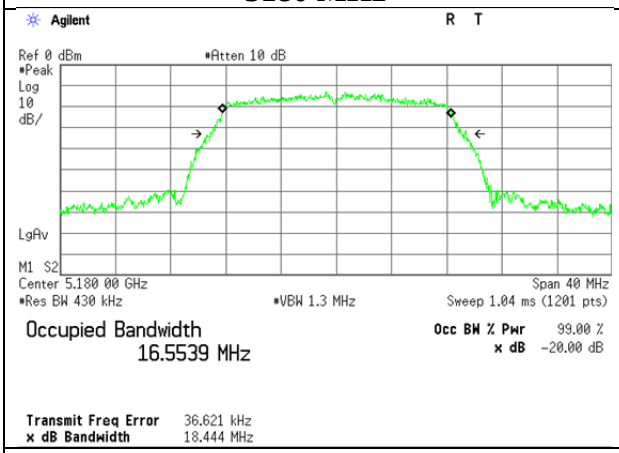
5720 MHz



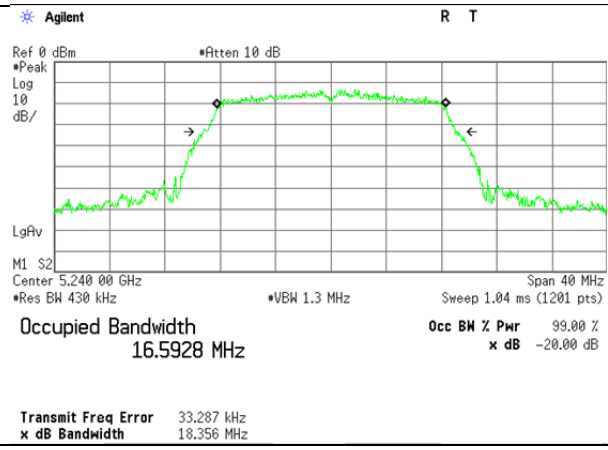
99 % Occupied Bandwidth

Test place	Ise EMC Lab. No.11 Measurement Room
Report No.	11469126H
Date	October 6, 2016
Temperature / Humidity	23deg. C / 53 RH
Engineer	Hiroyuki Furutaka
Mode	Tx 11a

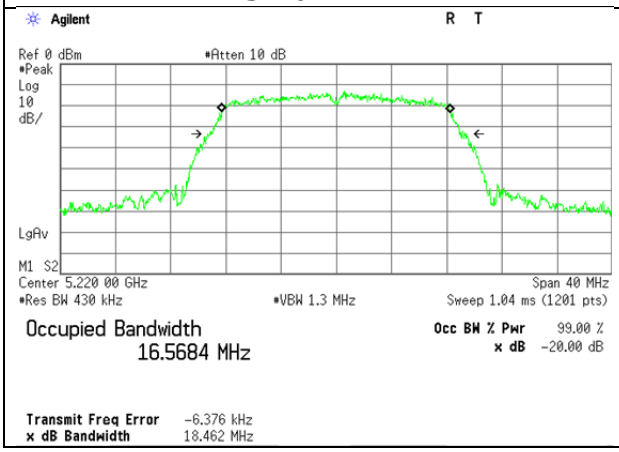
5180 MHz



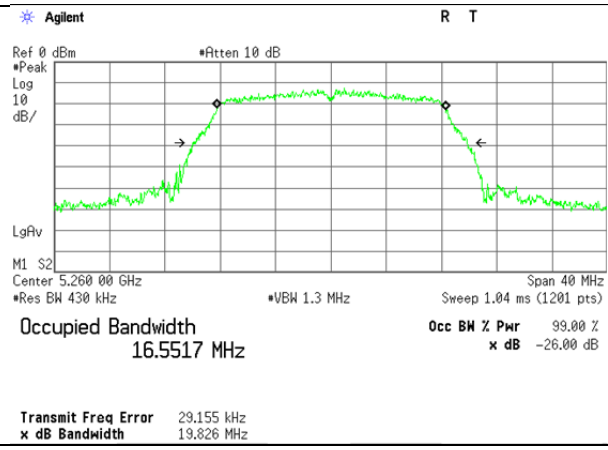
5240 MHz



5220 MHz



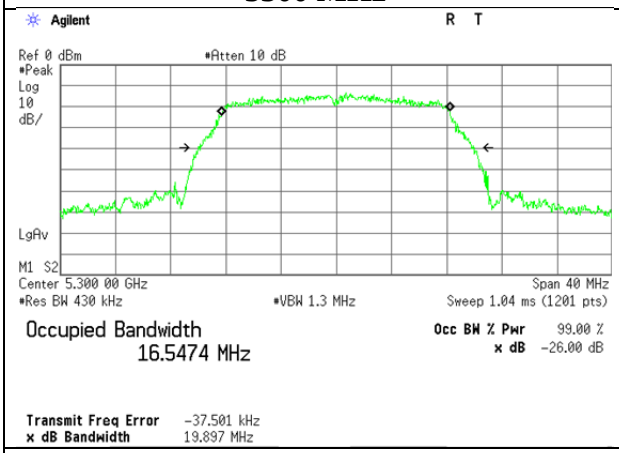
5260 MHz



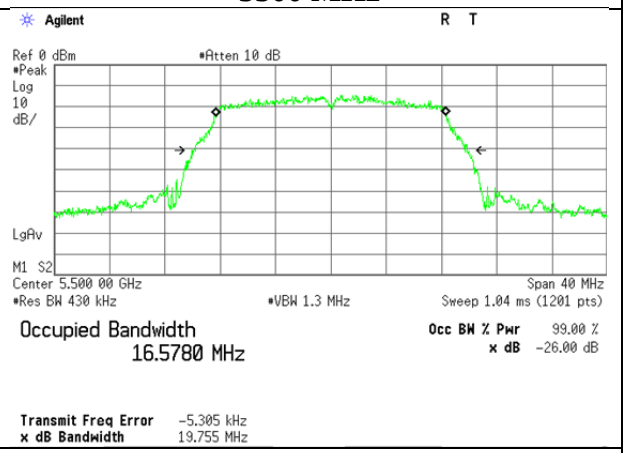
99 % Occupied Bandwidth

Test place	Ise EMC Lab. No.11 Measurement Room
Report No.	11469126H
Date	October 6, 2016
Temperature / Humidity	23deg. C / 53 RH
Engineer	Hiroyuki Furutaka
Mode	Tx 11a

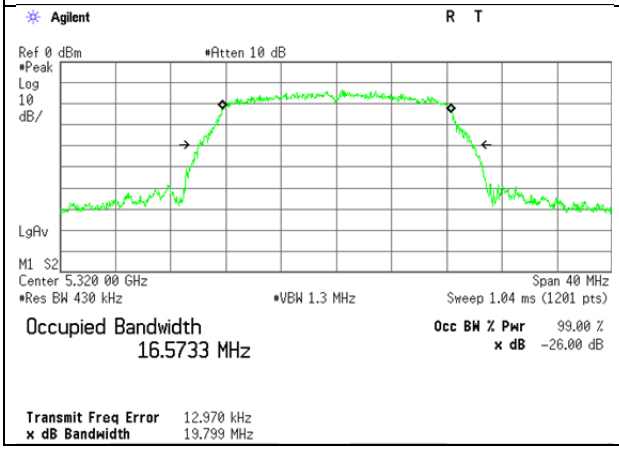
5300 MHz



5500 MHz



5320 MHz



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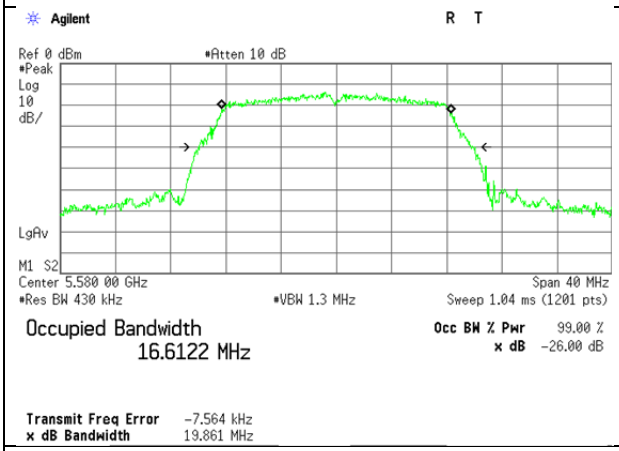
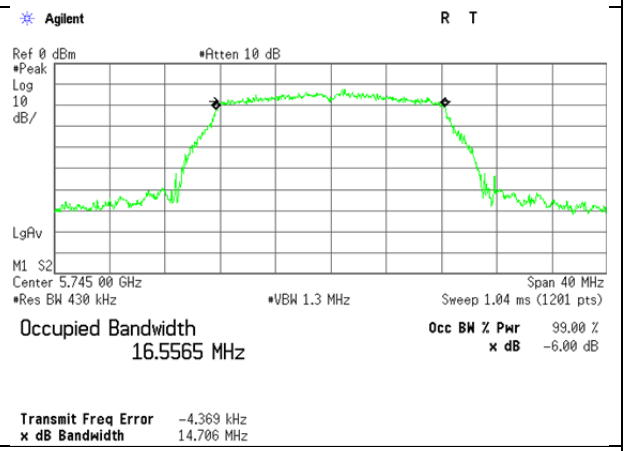
99 % Occupied Bandwidth

Test place	Ise EMC Lab. No.11 Measurement Room
Report No.	11469126H
Date	October 6, 2016
Temperature / Humidity	23deg. C / 53 RH
Engineer	Hiroyuki Furutaka
Mode	Tx 11a

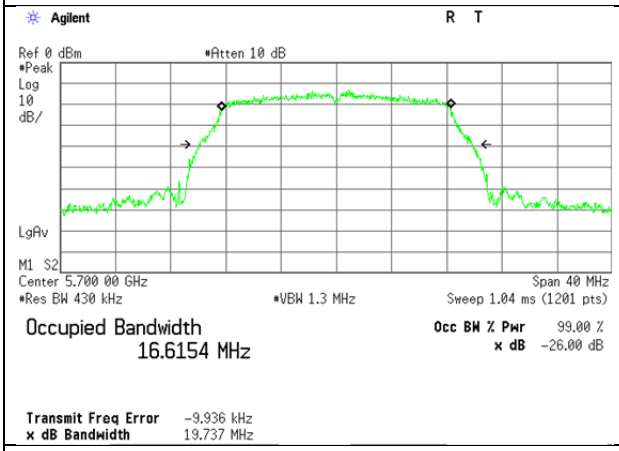
5580 MHz



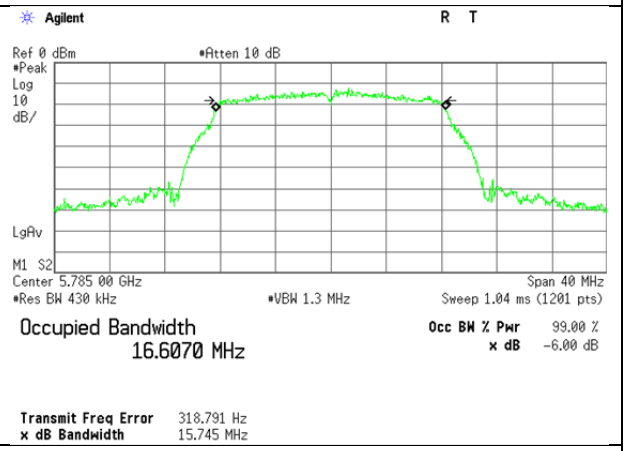
5745 MHz



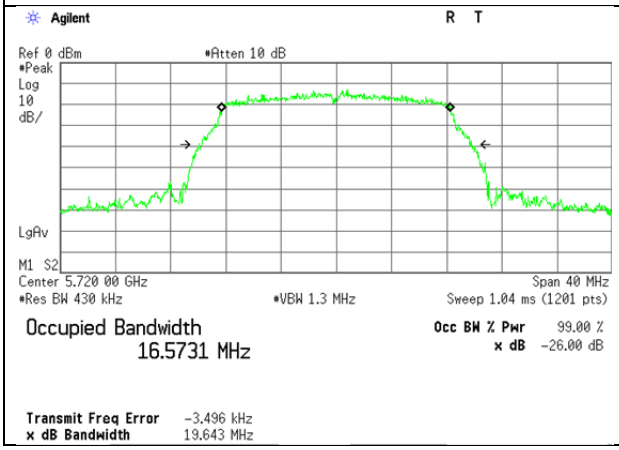
5700 MHz



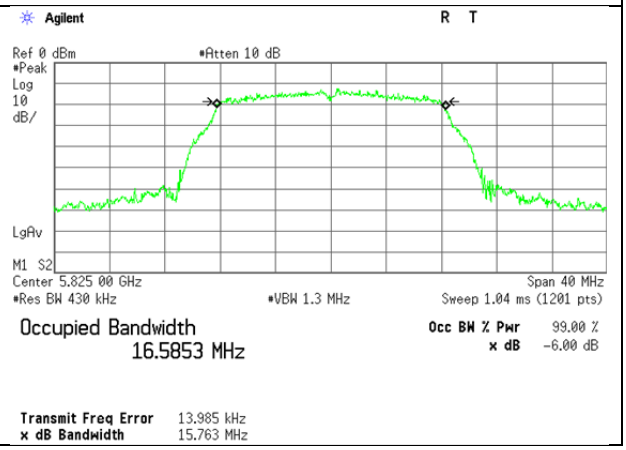
5785 MHz



5720 MHz



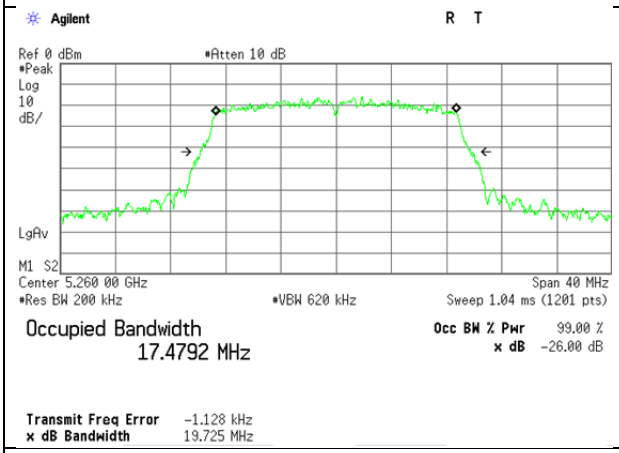
5825 MHz



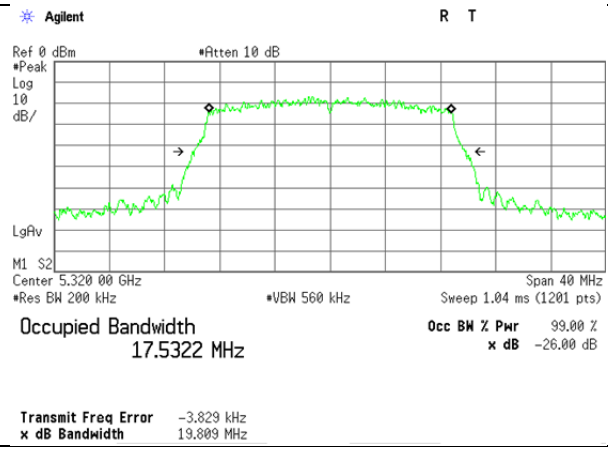
26 dB Emission Bandwidth

Test place	Ise EMC Lab. No.11 Measurement Room
Report No.	11469126H
Date	October 6, 2016
Temperature / Humidity	23deg. C / 53 RH
Engineer	Hiroyuki Furutaka
Mode	Tx 11n-20

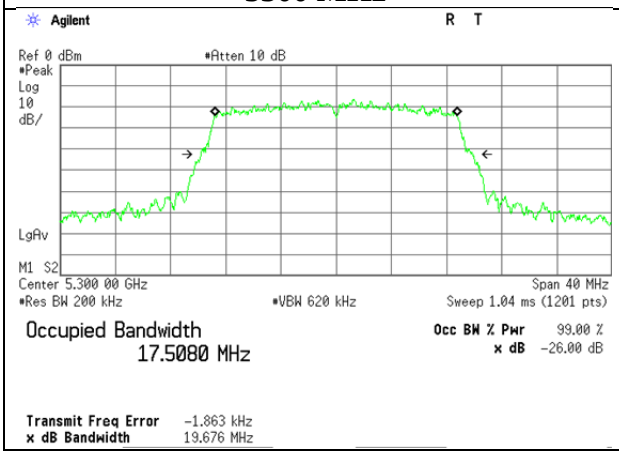
5260 MHz



5320 MHz



5300 MHz



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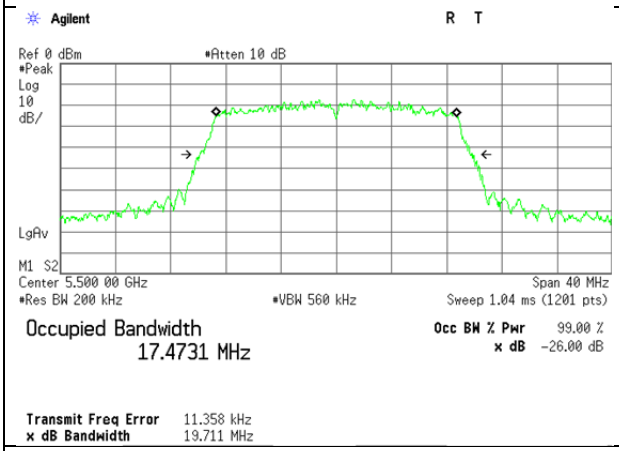
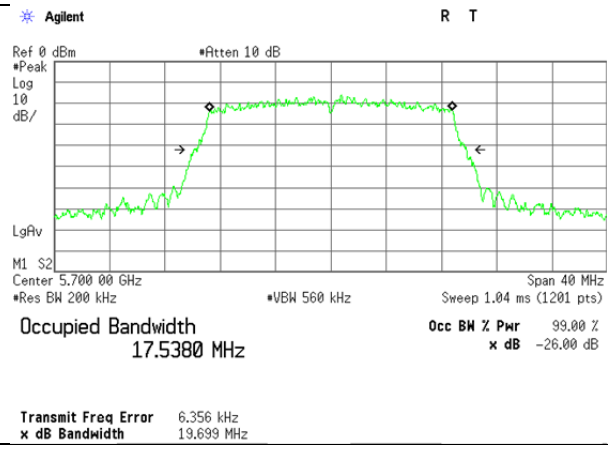
26 dB Emission Bandwidth

Test place	Ise EMC Lab. No.11 Measurement Room
Report No.	11469126H
Date	October 6, 2016
Temperature / Humidity	23deg. C / 53 RH
Engineer	Hiroyuki Furutaka
Mode	Tx 11n-20

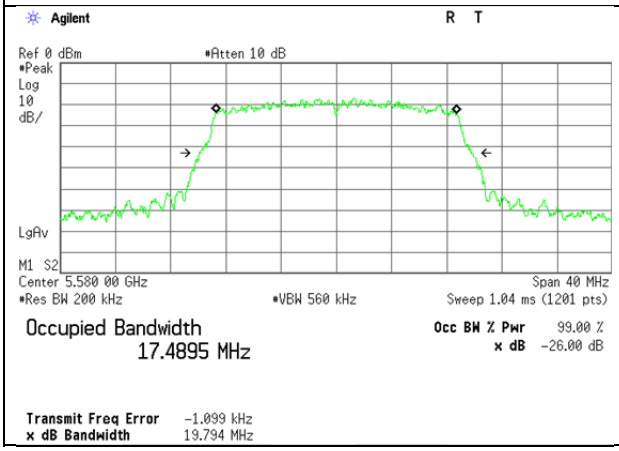
5500 MHz



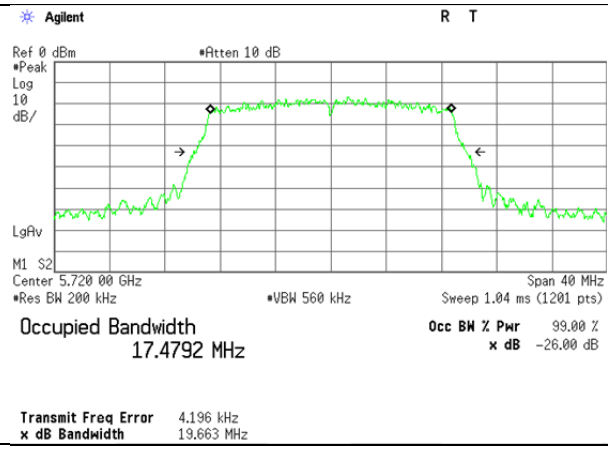
5700 MHz



5580 MHz



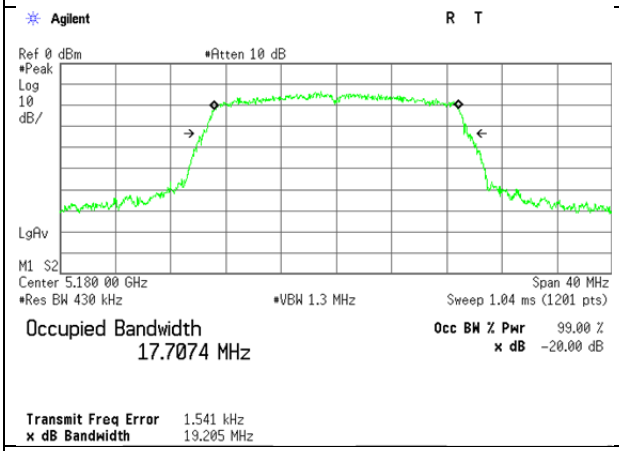
5720 MHz



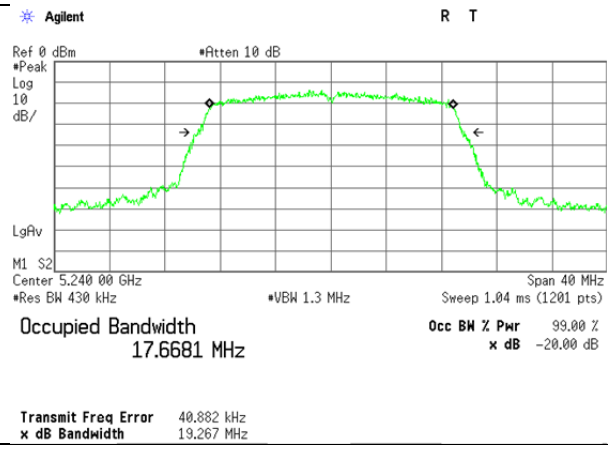
99 % Occupied Bandwidth

Test place	Ise EMC Lab. No.11 Measurement Room
Report No.	11469126H
Date	October 6, 2016
Temperature / Humidity	23deg. C / 53 RH
Engineer	Hiroyuki Furutaka
Mode	Tx 11n-20

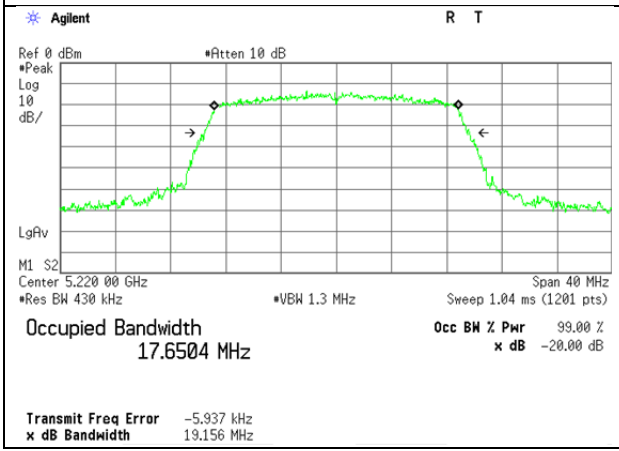
5180 MHz



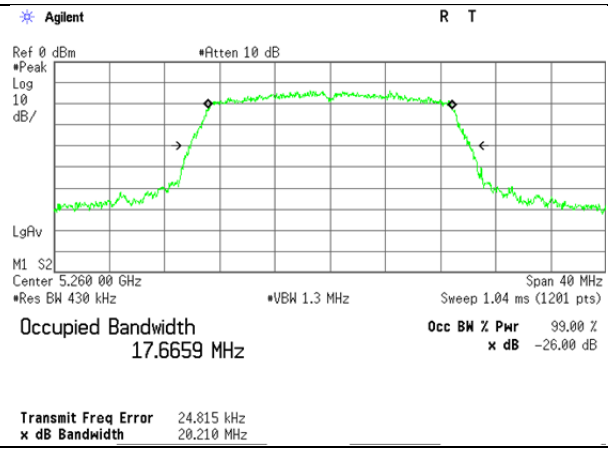
5240 MHz



5220 MHz



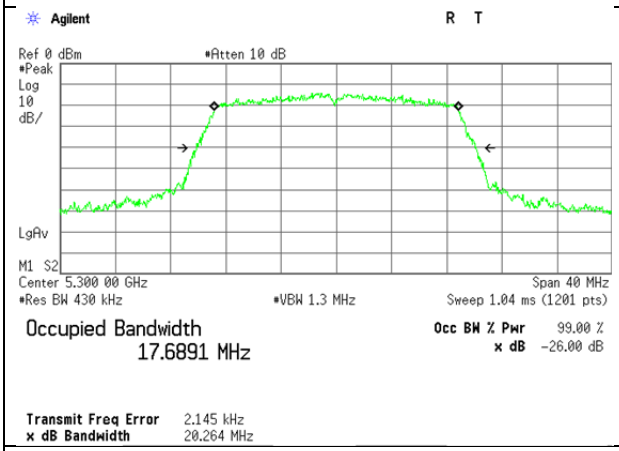
5260 MHz



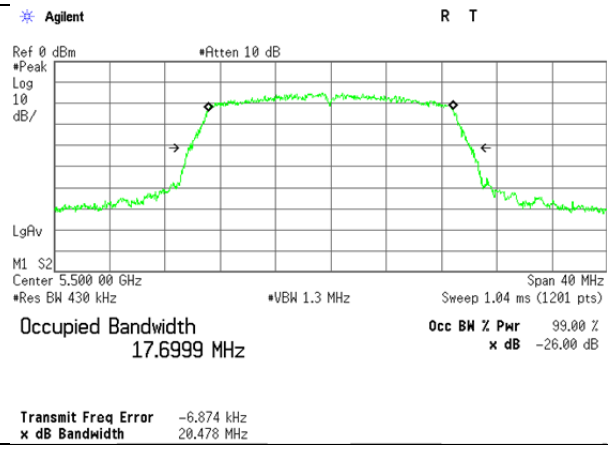
99 % Occupied Bandwidth

Test place	Ise EMC Lab. No.11 Measurement Room
Report No.	11469126H
Date	October 6, 2016
Temperature / Humidity	23deg. C / 53 RH
Engineer	Hiroyuki Furutaka
Mode	Tx 11n-20

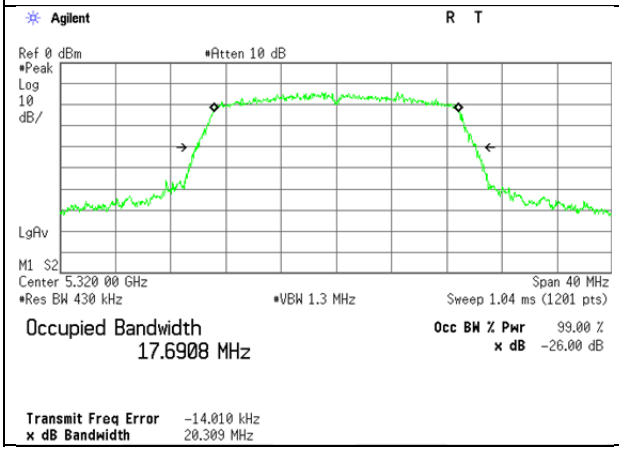
5300 MHz



5500 MHz



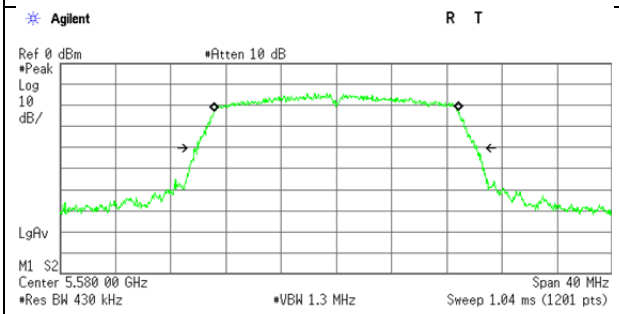
5320 MHz



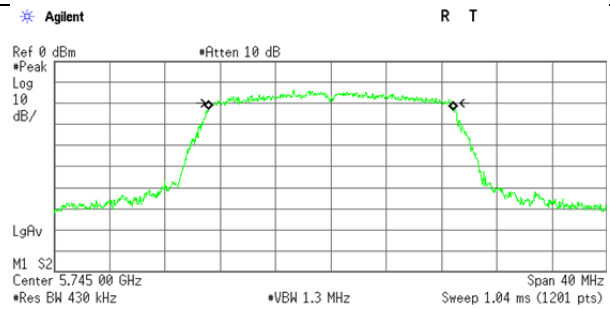
99 % Occupied Bandwidth

Test place	Ise EMC Lab. No.11 Measurement Room
Report No.	11469126H
Date	October 6, 2016
Temperature / Humidity	23deg. C / 53 RH
Engineer	Hiroyuki Furutaka
Mode	Tx 11n-20

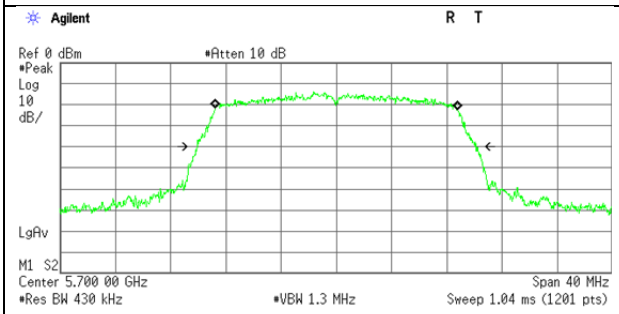
5580 MHz



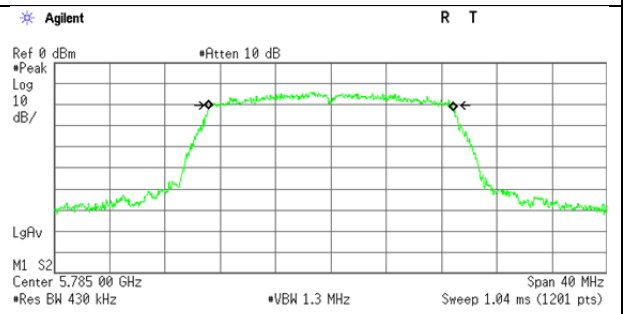
5745 MHz



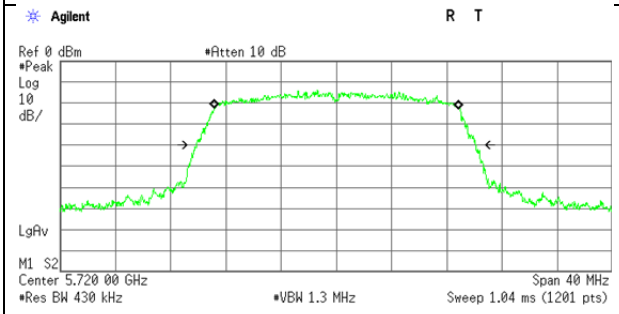
5700 MHz



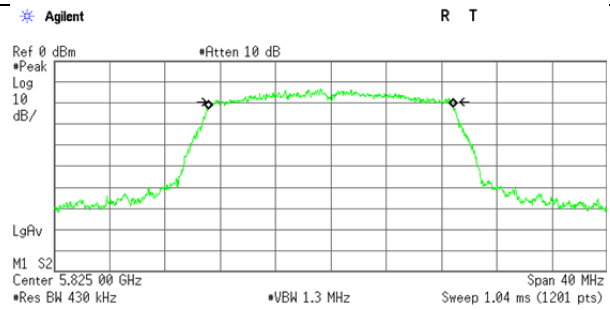
5785 MHz



5720 MHz



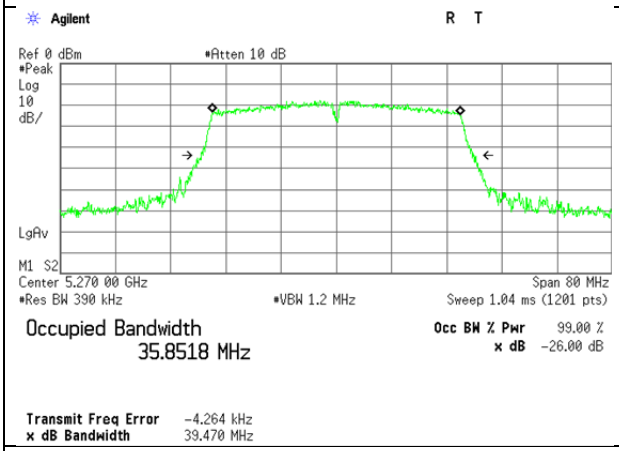
5825 MHz



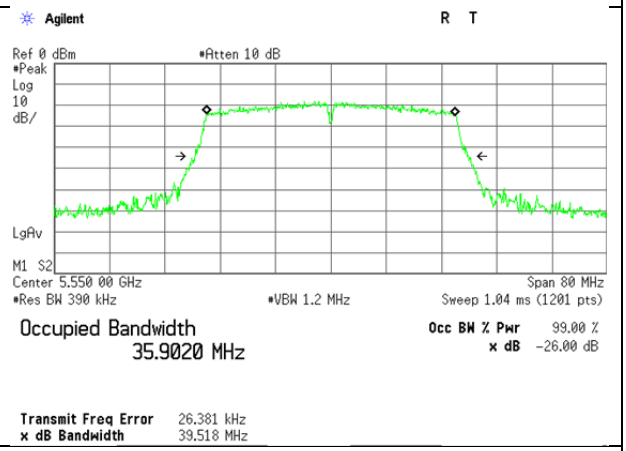
26 dB Emission Bandwidth

Test place	Ise EMC Lab. No.11 Measurement Room
Report No.	11469126H
Date	October 6, 2016
Temperature / Humidity	23deg. C / 53 RH
Engineer	Hiroyuki Furutaka
Mode	Tx 11n-40

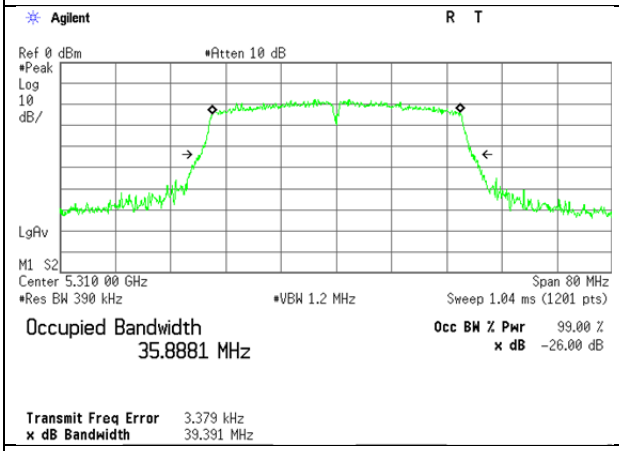
5270MHz



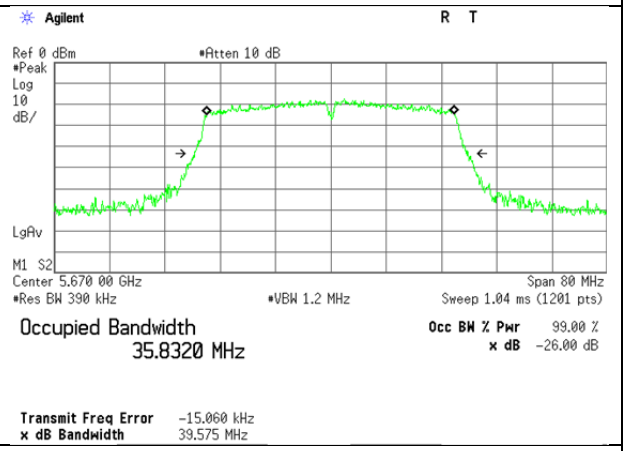
5550 MHz



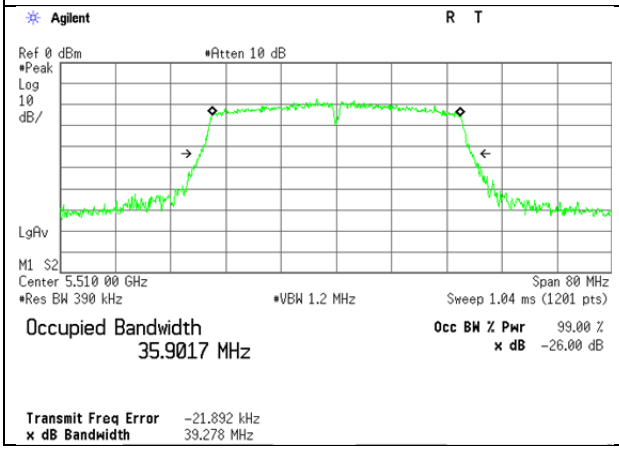
5310MHz



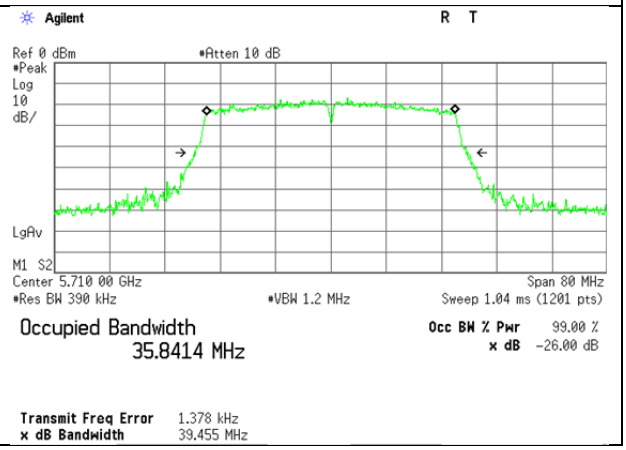
5670 MHz



5510MHz



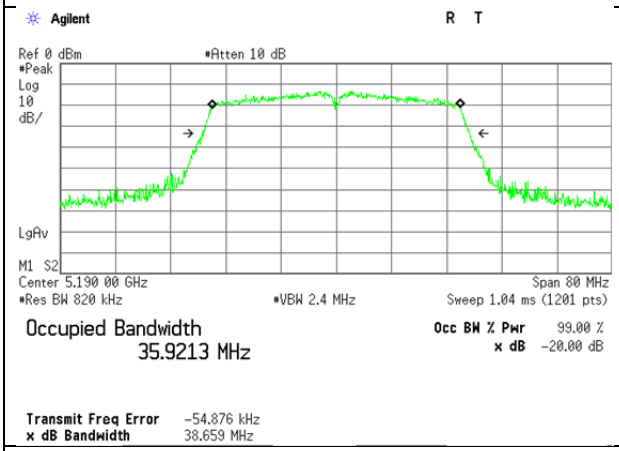
5710 MHz



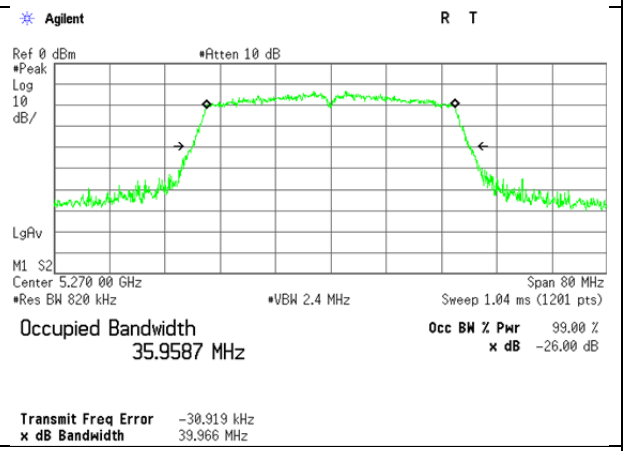
99 % Occupied Bandwidth

Test place	Ise EMC Lab. No.11 Measurement Room
Report No.	11469126H
Date	October 6, 2016
Temperature / Humidity	23deg. C / 53 RH
Engineer	Hiroyuki Furutaka
Mode	Tx 11n-40

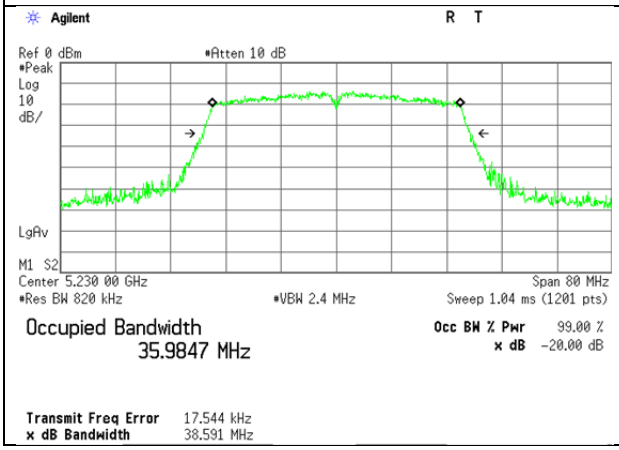
5190 MHz



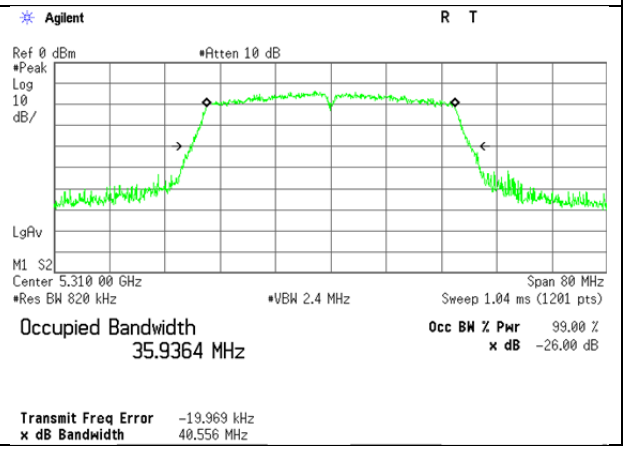
5270 MHz



5230 MHz



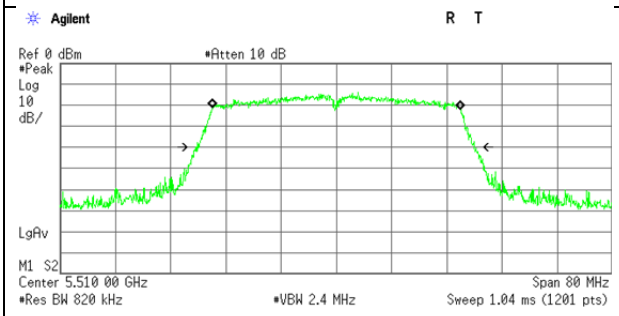
5310 MHz



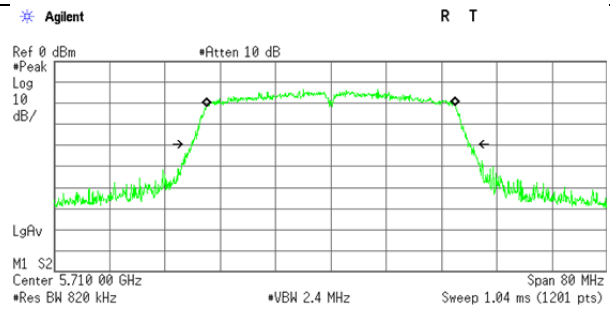
99 % Occupied Bandwidth

Test place	Ise EMC Lab. No.11 Measurement Room
Report No.	11469126H
Date	October 6, 2016
Temperature / Humidity	23deg. C / 53 RH
Engineer	Hiroyuki Furutaka
Mode	Tx 11n-40

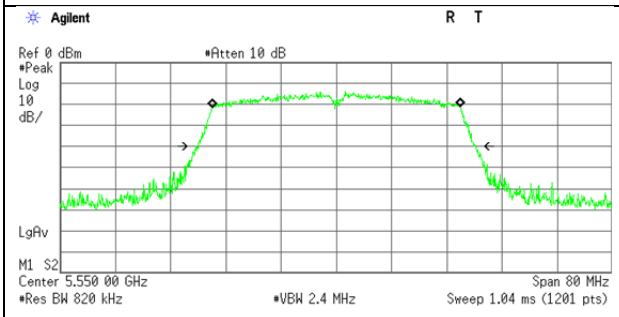
5510 MHz



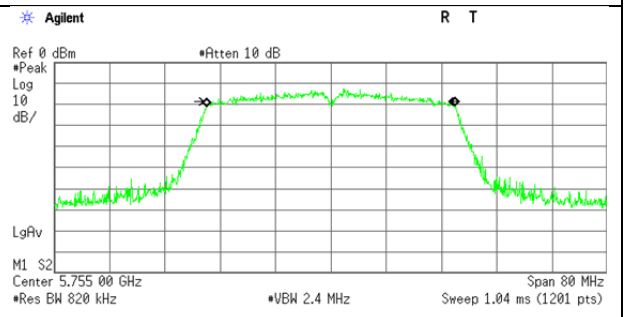
5710 MHz



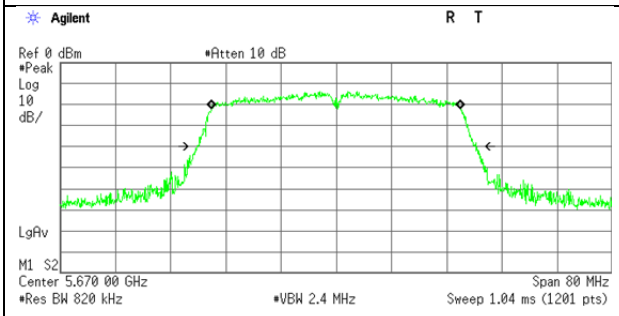
5550 MHz



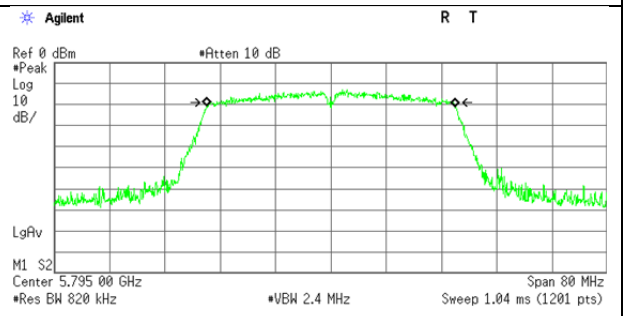
5755 MHz



5670 MHz



5795 MHz



26 dB Emission Bandwidth and 99 % Occupied Bandwidth

Test place	Ise EMC Lab. No.11 Measurement Room
Report No.	11469126H
Date	October 6, 2016
Temperature / Humidity	23deg. C / 53 RH
Engineer	Hiroyuki Furutaka
Mode	Tx

11ac-20

Tested Frequency [MHz]	26 dB Emission Bandwidth [MHz]	99 % Occupied Bandwidth [MHz]	Limit [MHz]
5180	-	17.660	-
5220	-	17.626	-
5240	-	17.634	-
5260	19.694	17.663	-
5300	19.600	17.663	-
5320	19.671	17.703	-
5500	19.597	17.678	-
5580	19.722	17.698	-
5700	19.681	17.669	-
5720	19.788	17.700	-
5745	-	17.631	-
5785	-	17.718	-
5825	-	17.672	-

11ac-40

Tested Frequency [MHz]	26 dB Emission Bandwidth [MHz]	99 % Occupied Bandwidth [MHz]	Limit [MHz]
5190	-	35.930	-
5230	-	35.936	-
5270	39.415	35.914	-
5310	39.192	35.978	-
5510	39.870	35.955	-
5550	39.708	35.916	-
5670	39.669	36.005	-
5710	39.672	35.947	-
5755	-	35.935	-
5795	-	35.937	-

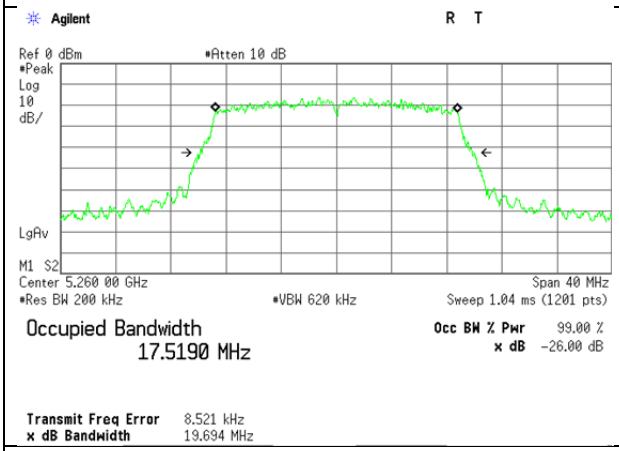
11ac-80

Tested Frequency [MHz]	26 dB Emission Bandwidth [MHz]	99 % Occupied Bandwidth [MHz]	Limit [MHz]
5210	-	75.344	-
5290	80.755	75.491	-
5530	80.495	75.478	-
5610	80.945	75.490	-
5690	80.906	75.461	-
5775	-	75.480	-

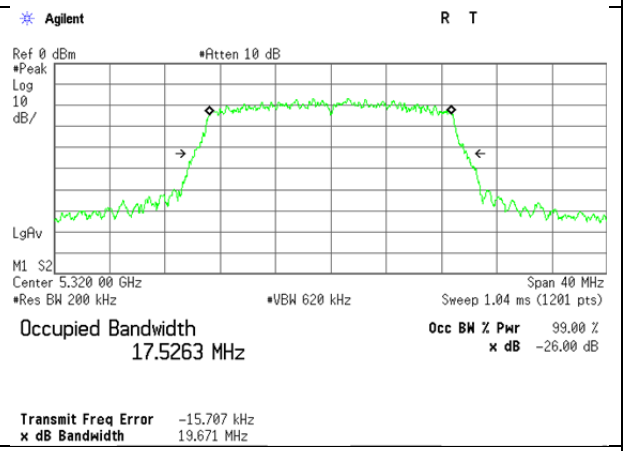
26 dB Emission Bandwidth

Test place	Ise EMC Lab. No.11 Measurement Room
Report No.	11469126H
Date	October 6, 2016
Temperature / Humidity	23deg. C / 53 RH
Engineer	Hiroyuki Furutaka
Mode	Tx 11ac-20

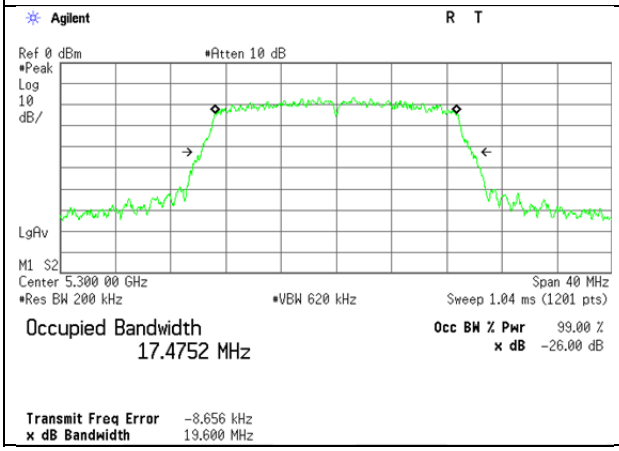
5260 MHz



5320 MHz



5300 MHz



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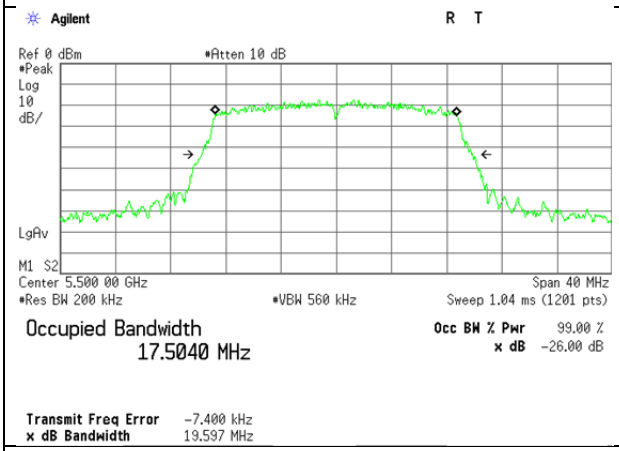
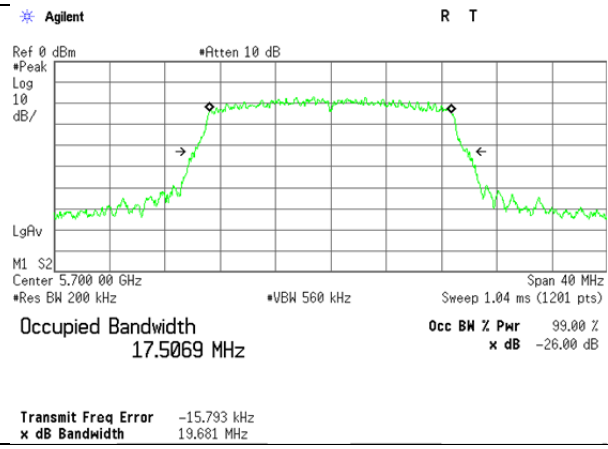
26 dB Emission Bandwidth

Test place	Ise EMC Lab. No.11 Measurement Room
Report No.	11469126H
Date	October 6, 2016
Temperature / Humidity	23deg. C / 53 RH
Engineer	Hiroyuki Furutaka
Mode	Tx 11ac-20

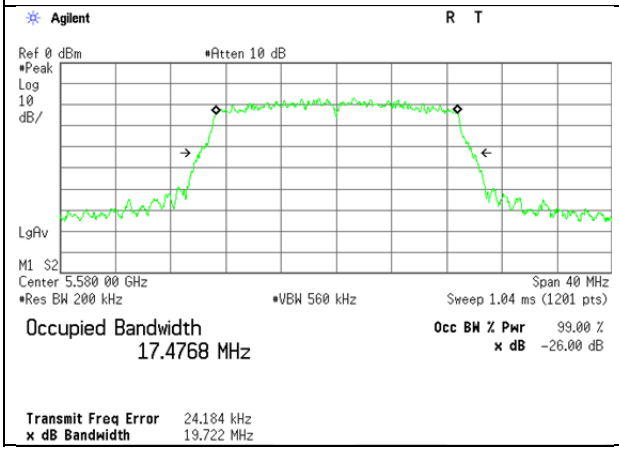
5500 MHz



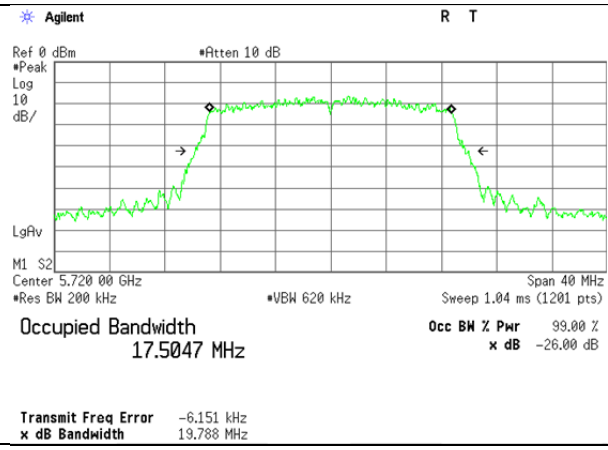
5700 MHz



5580 MHz



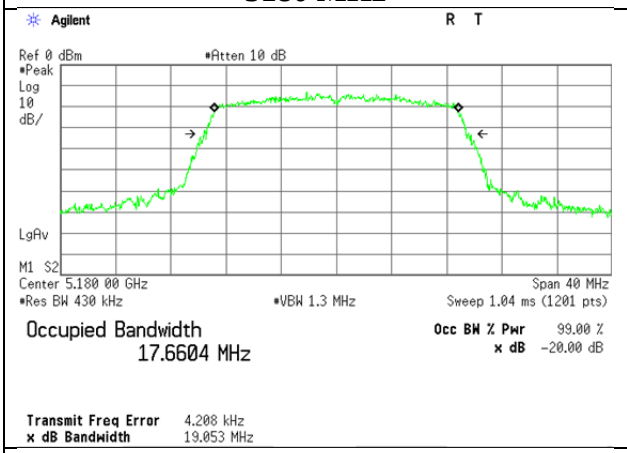
5720 MHz



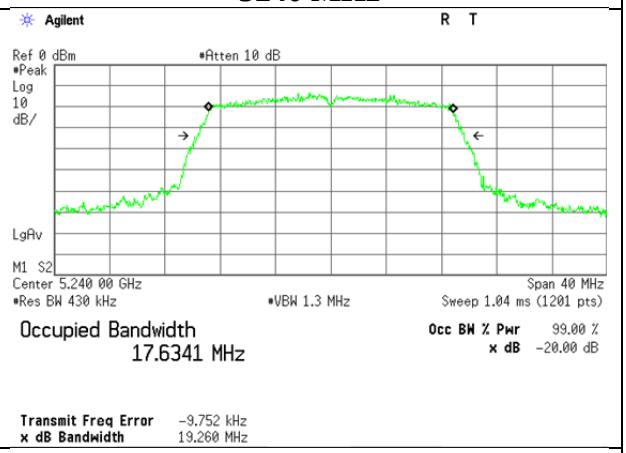
99 % Occupied Bandwidth

Test place	Ise EMC Lab. No.11 Measurement Room
Report No.	11469126H
Date	October 6, 2016
Temperature / Humidity	23deg. C / 53 RH
Engineer	Hiroyuki Furutaka
Mode	Tx 11ac-20

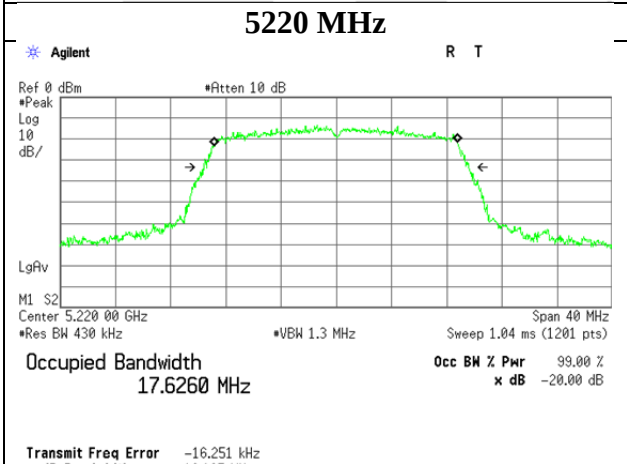
5180 MHz



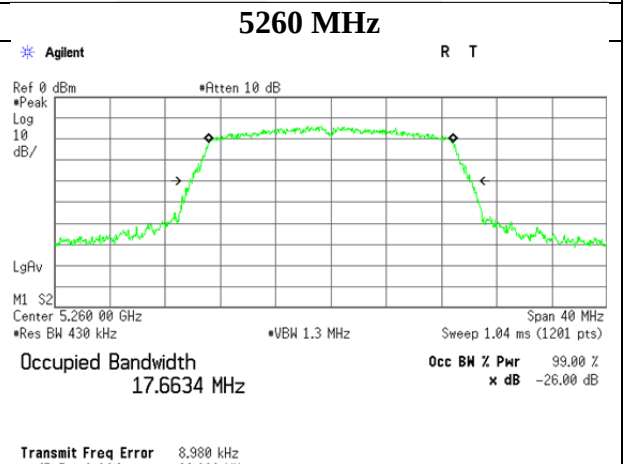
5240 MHz



5220 MHz



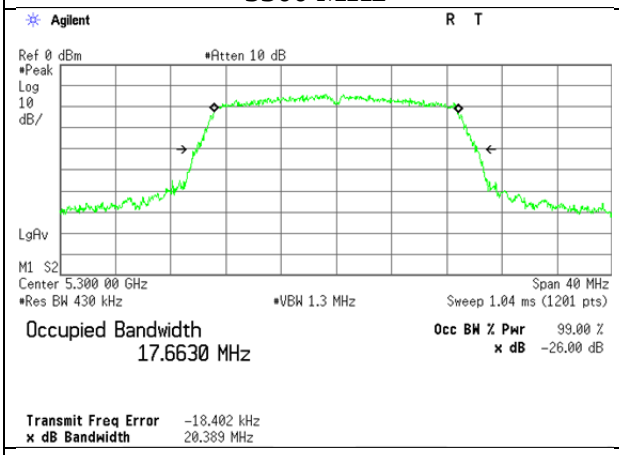
5260 MHz



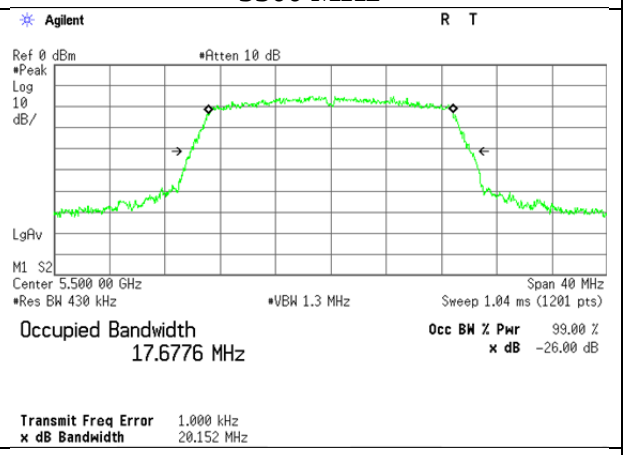
99 % Occupied Bandwidth

Test place	Ise EMC Lab. No.11 Measurement Room
Report No.	11469126H
Date	October 6, 2016
Temperature / Humidity	23deg. C / 53 RH
Engineer	Hiroyuki Furutaka
Mode	Tx 11ac-20

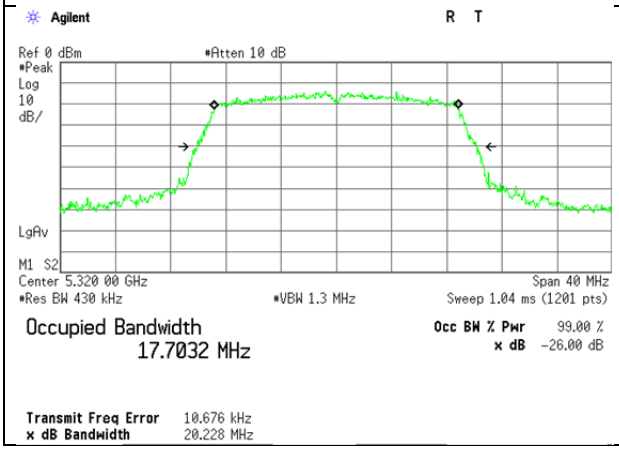
5300 MHz



5500 MHz



5320 MHz



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Telephone : +81 596 24 8999
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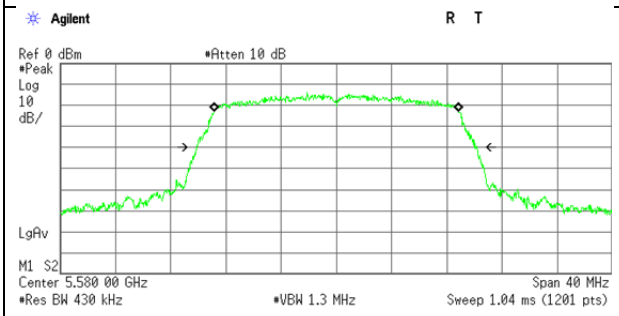
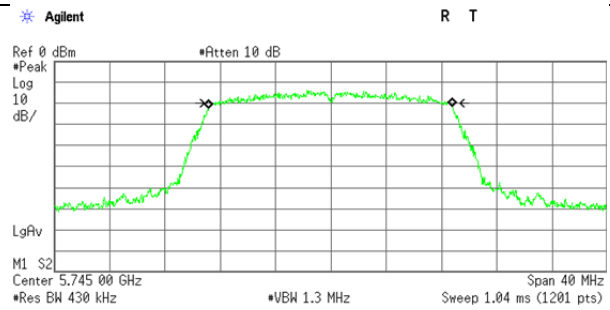
99 % Occupied Bandwidth

Test place	Ise EMC Lab. No.11 Measurement Room
Report No.	11469126H
Date	October 6, 2016
Temperature / Humidity	23deg. C / 53 RH
Engineer	Hiroyuki Furutaka
Mode	Tx 11ac-20

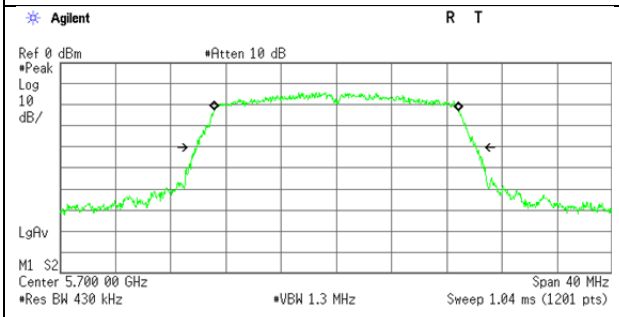
5580 MHz



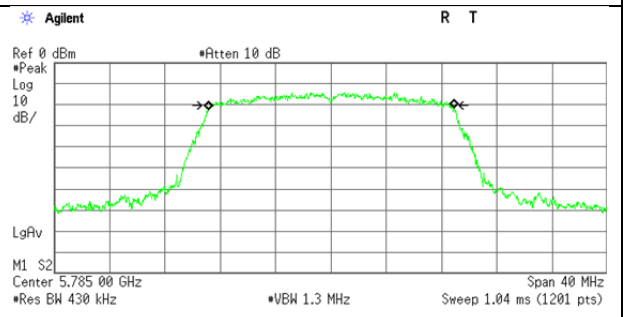
5745 MHz



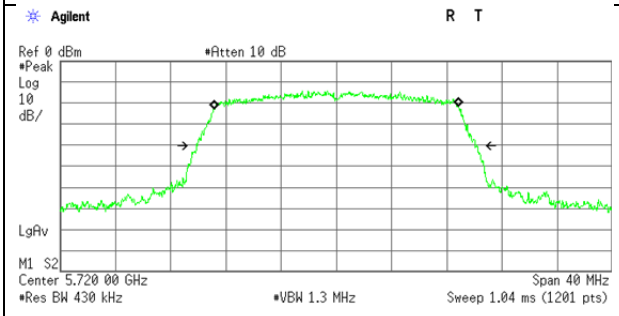
5700 MHz



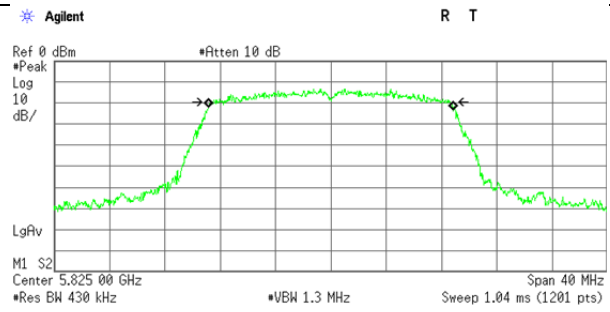
5785 MHz



5720 MHz



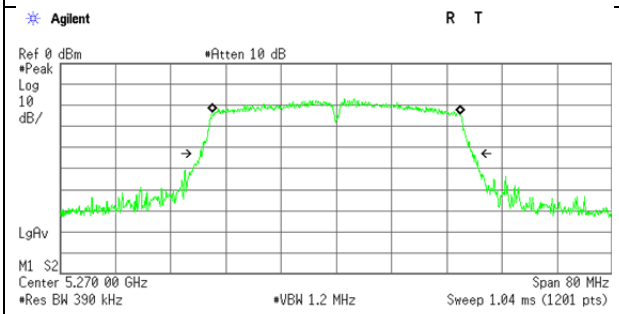
5825 MHz



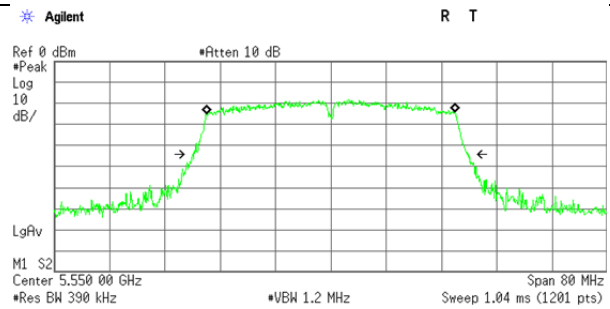
26 dB Emission Bandwidth

Test place	Ise EMC Lab. No.11 Measurement Room
Report No.	11469126H
Date	October 6, 2016
Temperature / Humidity	23deg. C / 53 RH
Engineer	Hiroyuki Furutaka
Mode	Tx 11ac-40

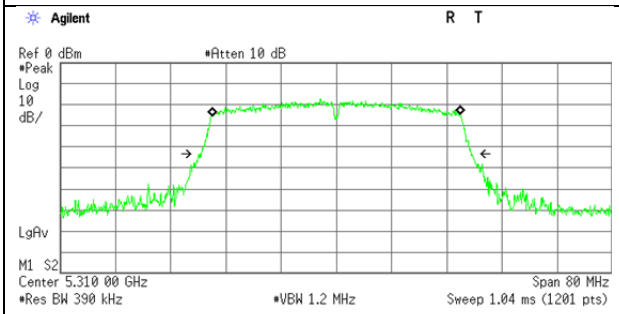
5270MHz



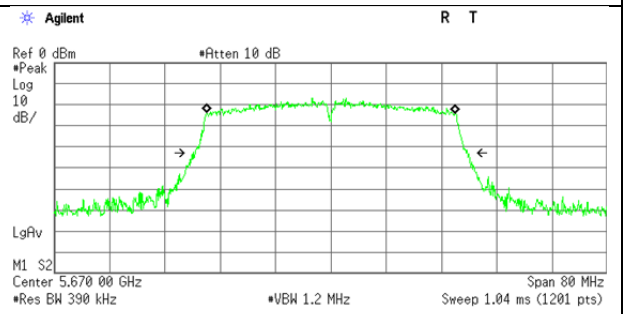
5550 MHz



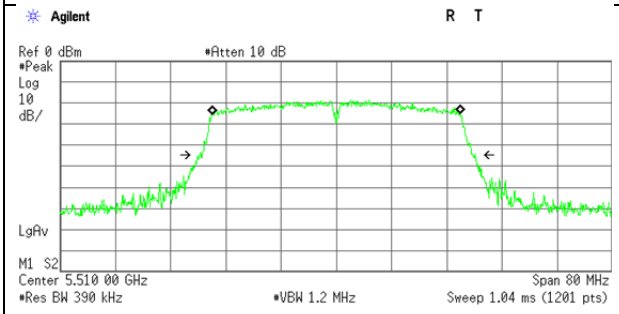
5310MHz



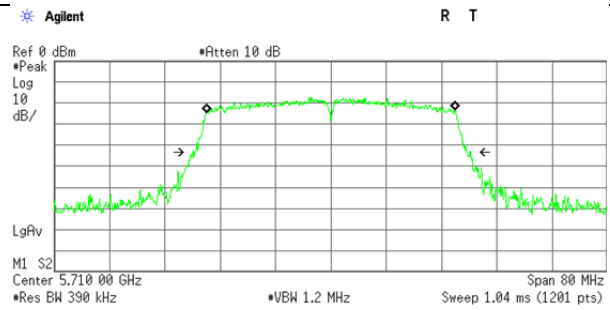
5670 MHz



5510MHz



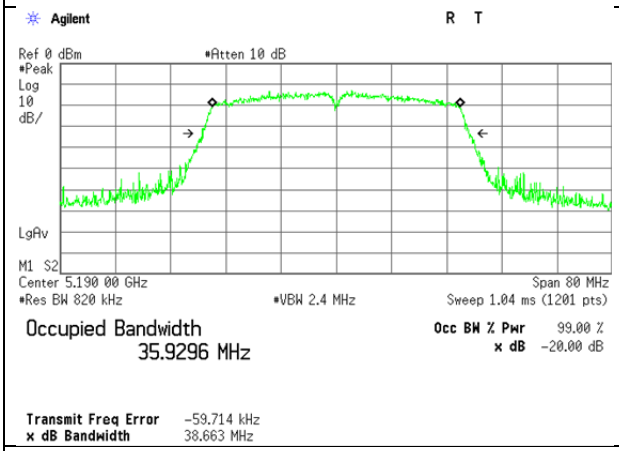
5710 MHz



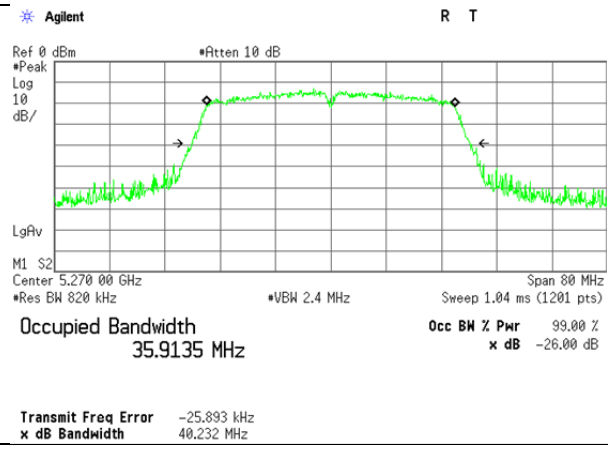
99 % Occupied Bandwidth

Test place	Ise EMC Lab. No.11 Measurement Room
Report No.	11469126H
Date	October 6, 2016
Temperature / Humidity	23deg. C / 53 RH
Engineer	Hiroyuki Furutaka
Mode	Tx 11ac-40

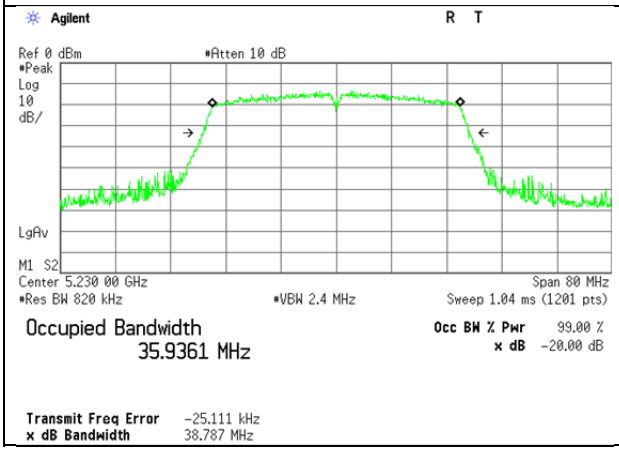
5190 MHz



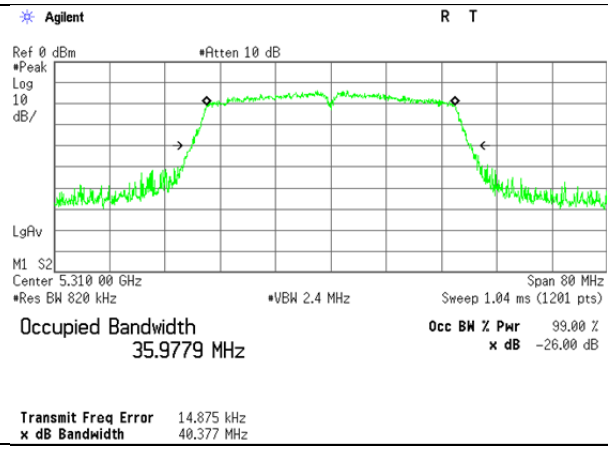
5270 MHz



5230 MHz



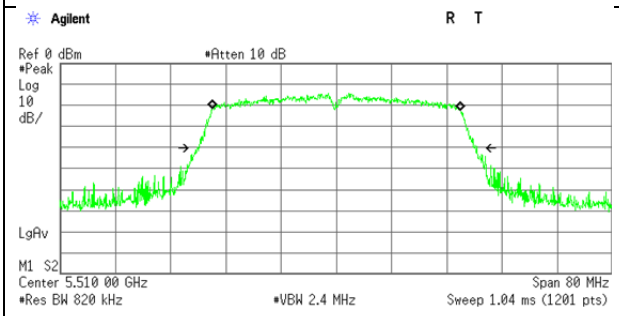
5310 MHz



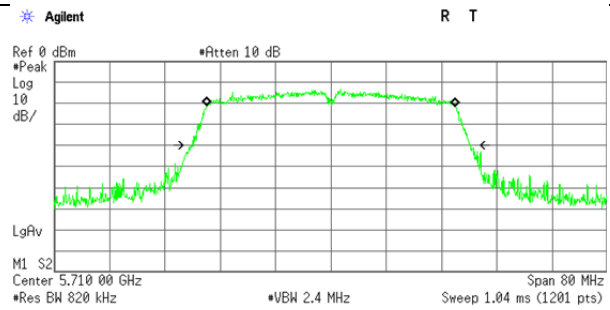
99 % Occupied Bandwidth

Test place	Ise EMC Lab. No.11 Measurement Room
Report No.	11469126H
Date	October 6, 2016
Temperature / Humidity	23deg. C / 53 RH
Engineer	Hiroyuki Furutaka
Mode	Tx 11ac-40

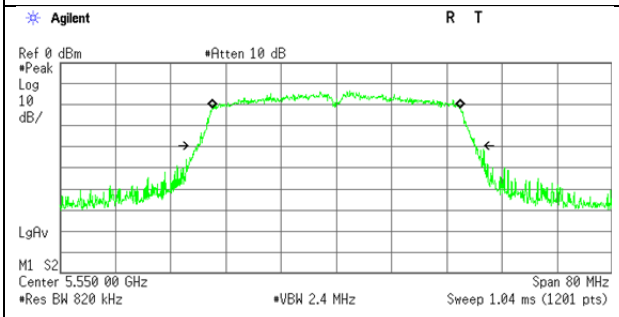
5510 MHz



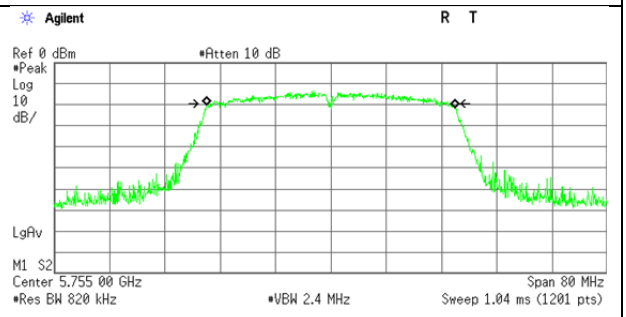
5710 MHz



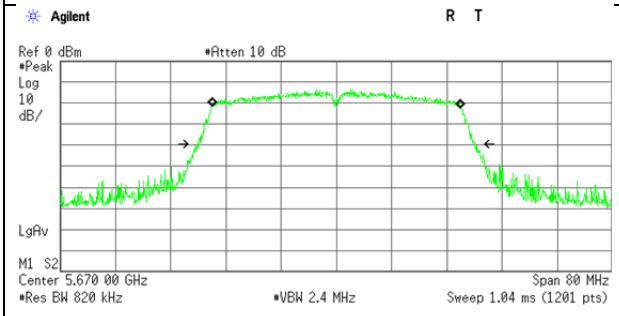
5550 MHz



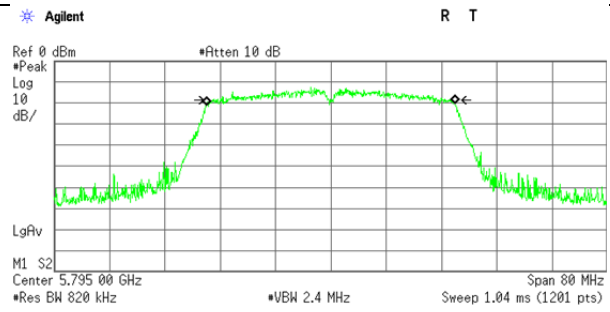
5755 MHz



5670 MHz



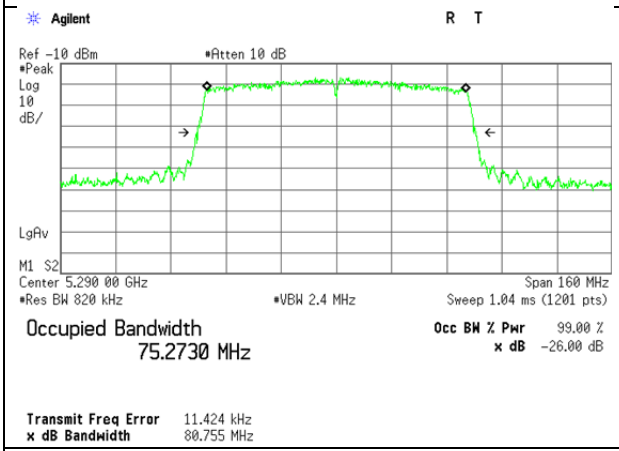
5795 MHz



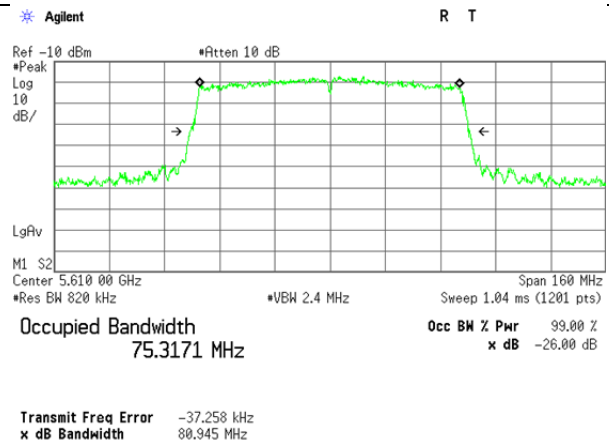
26 dB Emission Bandwidth

Test place	Ise EMC Lab. No.11 Measurement Room
Report No.	11469126H
Date	October 6, 2016
Temperature / Humidity	23deg. C / 53 RH
Engineer	Hiroyuki Furutaka
Mode	Tx 11ac-80

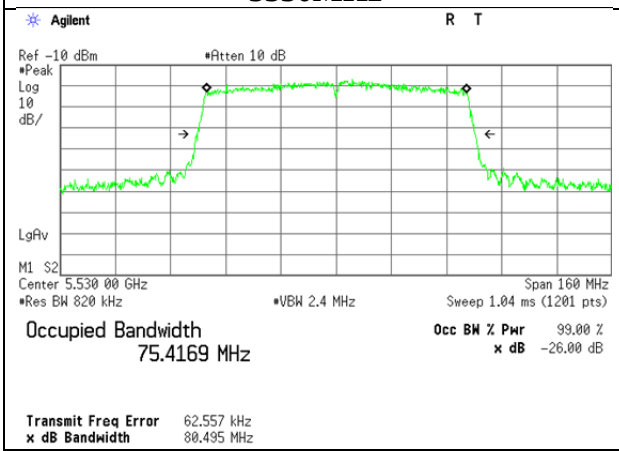
5290MHz



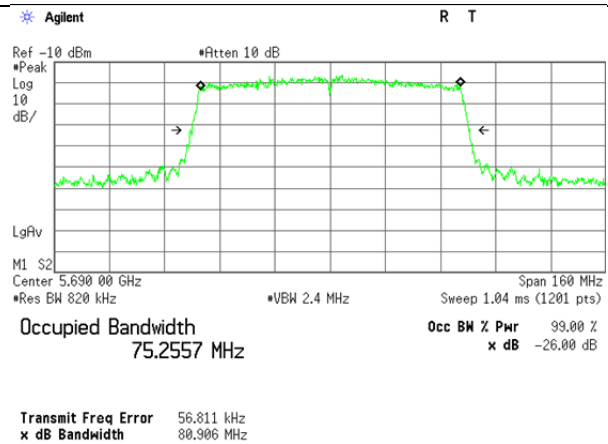
5610 MHz



5530MHz



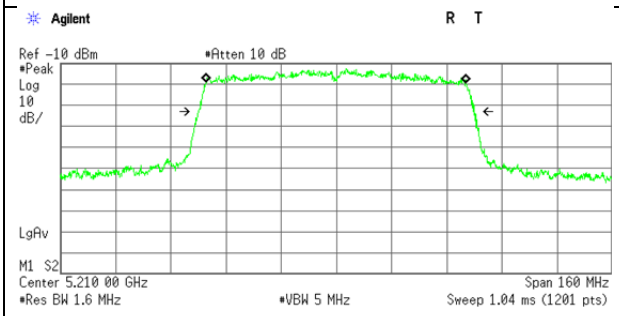
5690 MHz



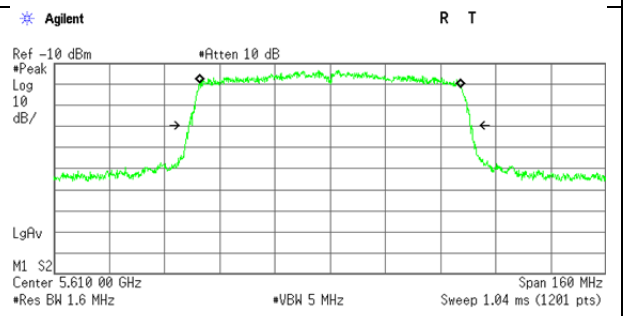
99 % Occupied Bandwidth

Test place	Ise EMC Lab. No.11 Measurement Room
Report No.	11469126H
Date	October 6, 2016
Temperature / Humidity	23deg. C / 53 RH
Engineer	Hiroyuki Furutaka
Mode	Tx 11ac-80

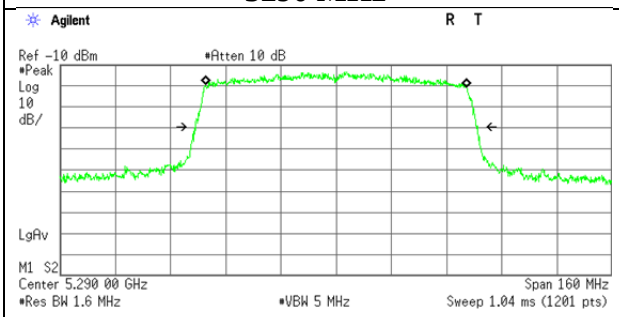
5210 MHz



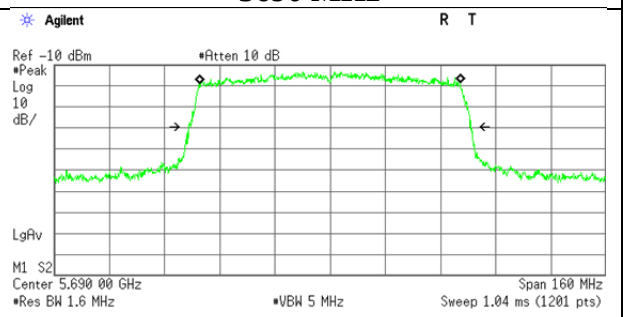
5610 MHz



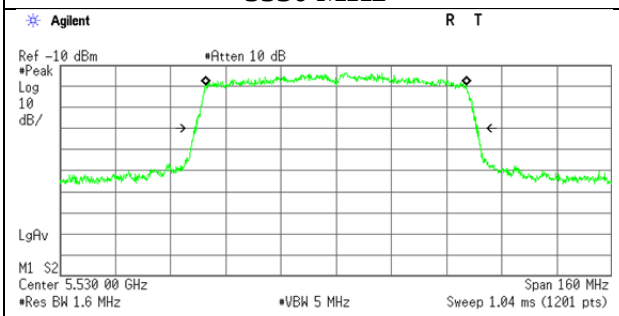
5290 MHz



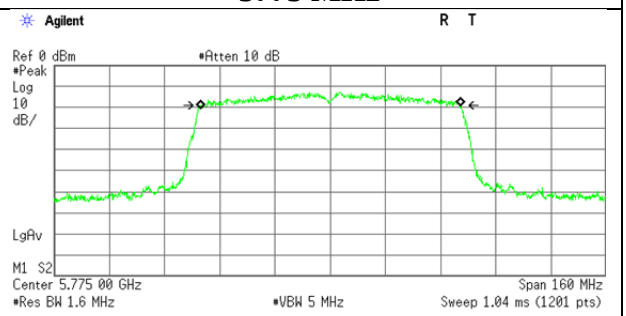
5690 MHz



5530 MHz



5775 MHz



6 dB Bandwidth

Test place	Ise EMC Lab. No.11 Measurement Room	
Report No.	11469126H	
Date	October 6, 2016	October 7, 2016
Temperature / Humidity	23deg. C / 53 RH	24deg. C / 51 RH
Engineer	Hiroyuki Furutaka	Hiroyuki Furutaka
Mode	Tx	

11a

Tested Frequency [MHz]	6 dB Bandwidth [MHz]	Limit [kHz]
5745	15.131	> 500
5785	15.123	> 500
5825	15.436	> 500

11n-20

Tested Frequency [MHz]	6 dB Bandwidth [MHz]	Limit [kHz]
5745	15.129	> 500
5785	15.161	> 500
5825	15.021	> 500

11n-40

Tested Frequency [MHz]	6 dB Bandwidth [MHz]	Limit [kHz]
5755	35.131	> 500
5795	35.143	> 500

11ac-20

Tested Frequency [MHz]	6 dB Bandwidth [MHz]	Limit [kHz]
5745	15.141	> 500
5785	15.129	> 500
5825	15.156	> 500

11ac-40

Tested Frequency [MHz]	6 dB Bandwidth [MHz]	Limit [kHz]
5755	35.134	> 500
5795	35.122	> 500

11ac-80

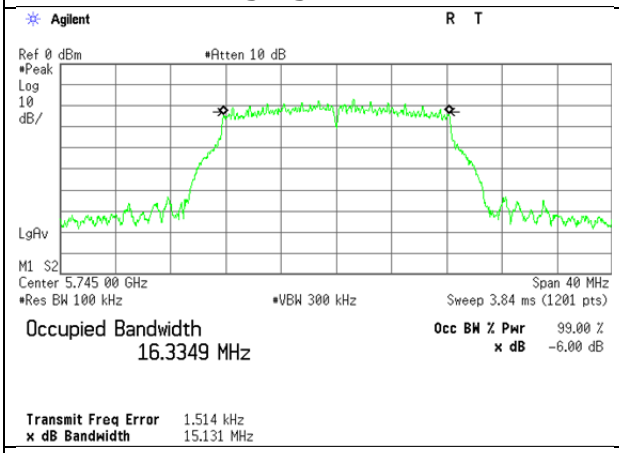
Tested Frequency [MHz]	6 dB Bandwidth [MHz]	Limit [kHz]
5775	75.210	> 500

6 dB Bandwidth

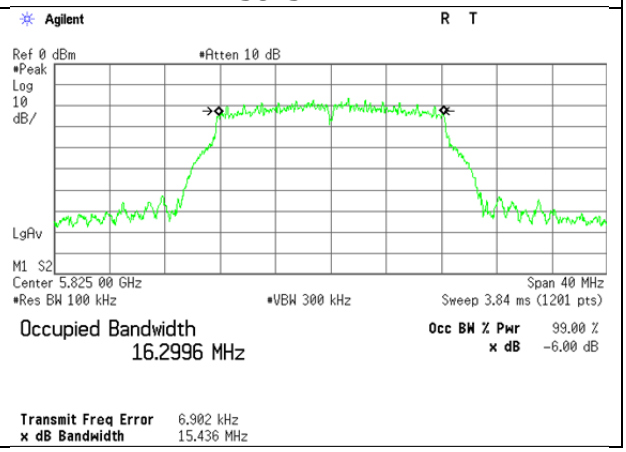
Test place	Ise EMC Lab. No.11 Measurement Room
Report No.	11469126H
Date	October 6, 2016
Temperature / Humidity	23deg. C / 53 RH
Engineer	Hiroyuki Furutaka
Mode	Tx

11a

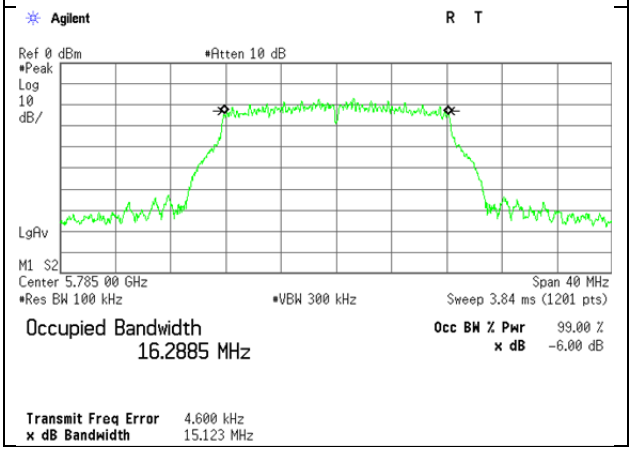
5745 MHz



5825 MHz



5785 MHz

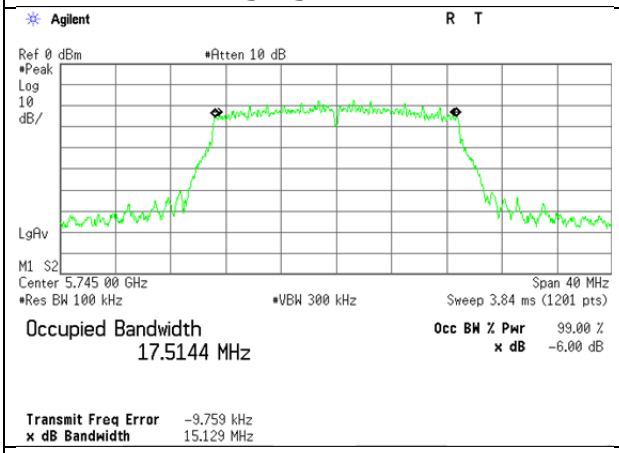


6 dB Bandwidth

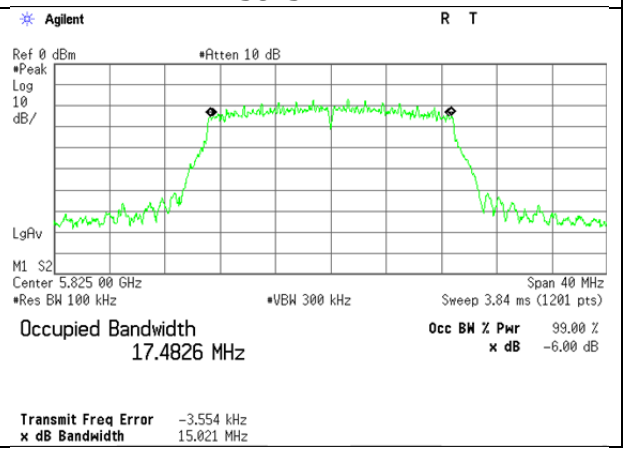
Test place	Ise EMC Lab. No.11 Measurement Room
Report No.	11469126H
Date	October 6, 2016
Temperature / Humidity	23deg. C / 53 RH
Engineer	Hiroyuki Furutaka
Mode	Tx

11n-20

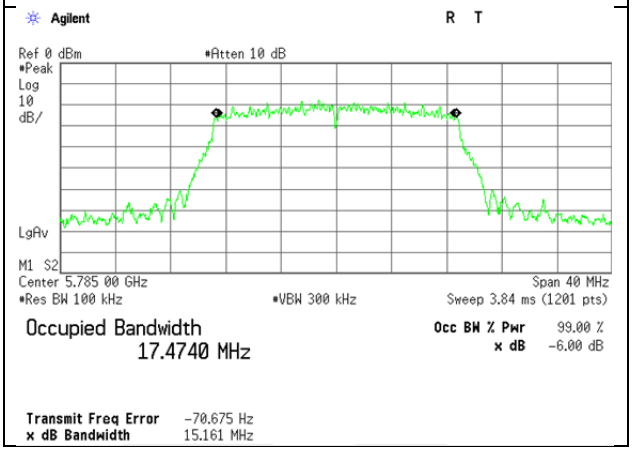
5745 MHz



5825 MHz



5785 MHz

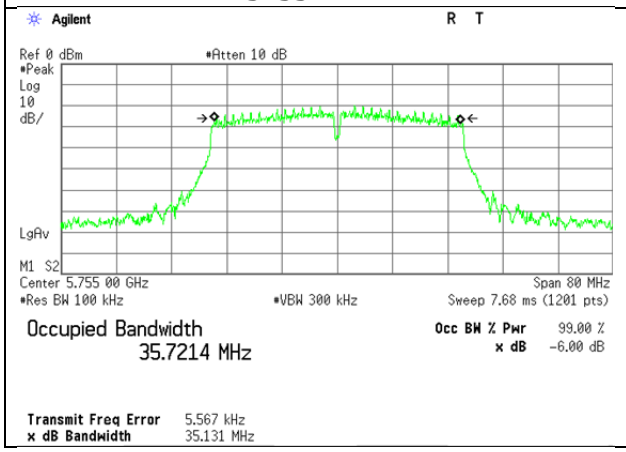


6 dB Bandwidth

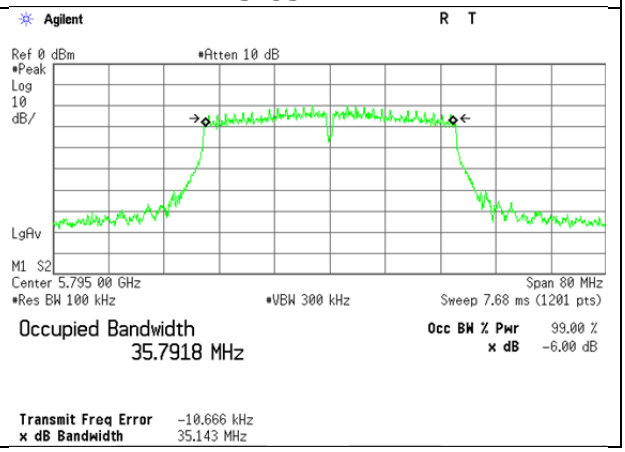
Test place	Ise EMC Lab. No.11 Measurement Room
Report No.	11469126H
Date	October 6, 2016
Temperature / Humidity	23deg. C / 53 RH
Engineer	Hiroyuki Furutaka
Mode	Tx

11n-40

5755 MHz



5795 MHz

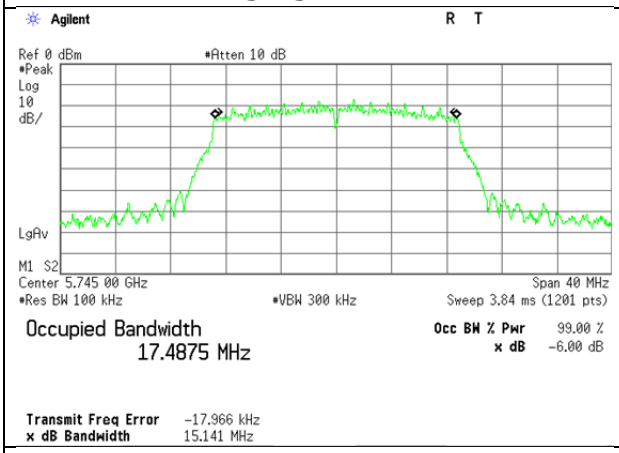


6 dB Bandwidth

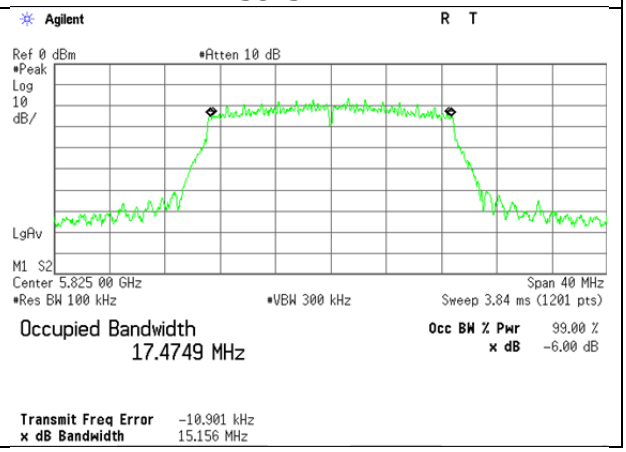
Test place	Ise EMC Lab. No.11 Measurement Room
Report No.	11469126H
Date	October 6, 2016
Temperature / Humidity	23deg. C / 53 RH
Engineer	Hiroyuki Furutaka
Mode	Tx

11ac-20

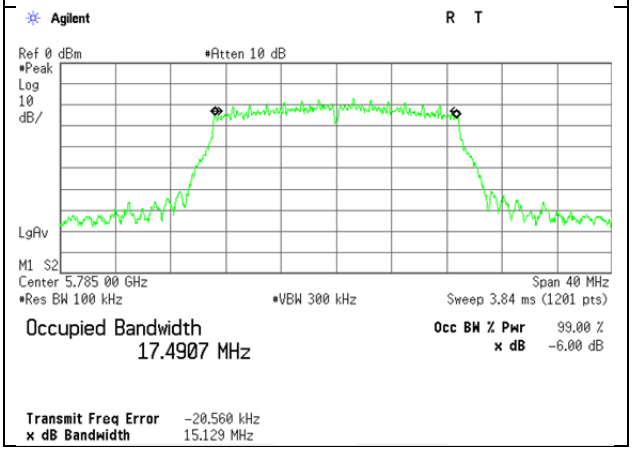
5745 MHz



5825 MHz



5785 MHz

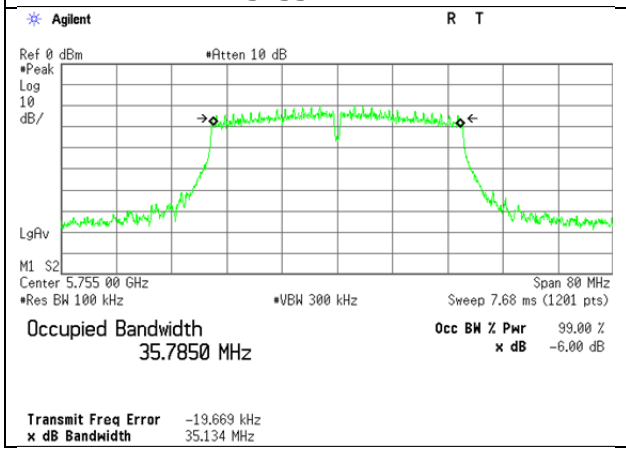


6 dB Bandwidth

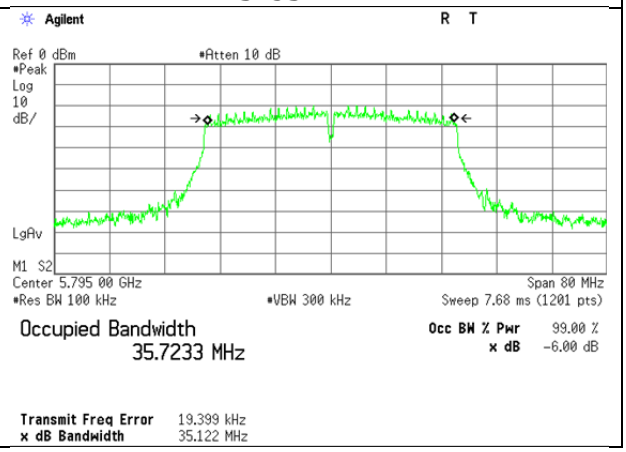
Test place	Ise EMC Lab. No.11 Measurement Room
Report No.	11469126H
Date	October 7, 2016
Temperature / Humidity	24deg. C / 51 RH
Engineer	Hiroyuki Furutaka
Mode	Tx

11ac-40

5755 MHz



5795 MHz

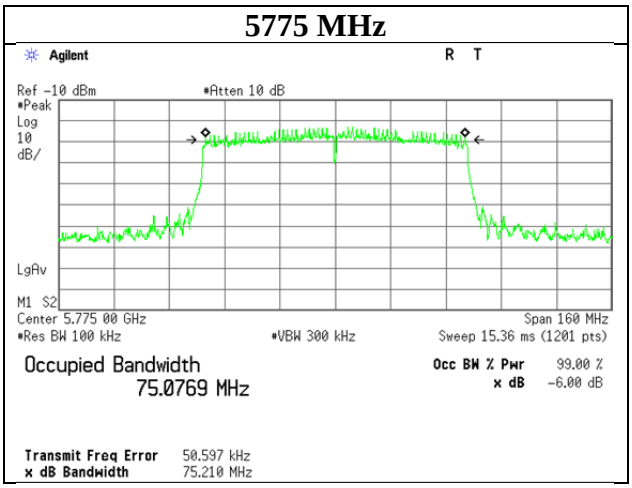


6 dB Bandwidth

Test place	Ise EMC Lab. No.11 Measurement Room
Report No.	11469126H
Date	October 7, 2016
Temperature / Humidity	24deg. C / 51 RH
Engineer	Hiroyuki Furutaka
Mode	Tx

11ac-80

5775 MHz



Maximum Conducted Output Power

Test place	Ise EMC Lab. No.11 Measurement Room
Report No.	11469126H
Date	October 5, 2016
Temperature / Humidity	24deg. C / 58 % RH
Engineer	Tomoki Matsui
Mode	Tx 11a

3.4V Applied limit: 15.407, mobile and portable client device

Tested Frequency	Power Meter Reading	Cable Loss	Atten. Loss	Antenna Gain	26 dB EBW (B for FCC)	99% OBW (B for IC)	Conducted Power Result		Limit	Margin	e.i.r.p. Result		Limit	Margin
[MHz]	[dBm]	[dB]	[dB]	[dBi]	[MHz]	[MHz]	[dBm]	[mW]	[dBm]	[dB]	[dBm]	[mW]	[dBm]	[dB]
5180	-5.32	0.08	10.13	2.0	-	16.554	4.89	3.08	23.97	19.08	6.89	4.89	29.97	23.08
5220	-5.68	0.08	10.13	2.0	-	16.568	4.53	2.84	23.97	19.44	6.53	4.50	29.97	23.44
5240	-5.61	0.08	10.13	2.0	-	16.593	4.60	2.88	23.97	19.37	6.60	4.57	29.97	23.37
5260	-5.87	0.08	10.13	2.0	19.158	16.552	4.34	2.72	23.82	19.48	6.34	4.31	29.97	23.63
5300	-6.12	0.08	10.13	2.0	19.356	16.547	4.09	2.56	23.86	19.77	6.09	4.06	29.97	23.88
5320	-6.12	0.08	10.13	2.0	19.285	16.573	4.09	2.57	23.85	19.76	6.09	4.07	29.97	23.88
5500	-6.23	0.08	10.14	2.0	19.039	16.578	3.99	2.51	23.79	19.80	5.99	3.97	29.97	23.98
5580	-5.84	0.08	10.13	2.0	19.199	16.612	4.37	2.74	23.83	19.46	6.37	4.34	29.97	23.60
5700	-5.53	0.08	10.12	2.0	19.455	16.615	4.67	2.93	23.89	19.22	6.67	4.65	29.97	23.30
5720	-5.65	0.08	10.12	2.0	19.319	16.573	4.55	2.85	23.85	19.30	6.55	4.52	29.97	23.42
5745	-5.71	0.08	10.12	2.0	-	-	4.49	2.81	30.00	25.51	6.49	4.46	36.00	29.51
5785	-5.55	0.08	10.12	2.0	-	-	4.65	2.92	30.00	25.35	6.65	4.62	36.00	29.35
5825	-5.20	0.08	10.11	2.0	-	-	4.99	3.16	30.00	25.01	6.99	5.00	36.00	29.01

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

Maximum Conducted Output Power

Test place	Ise EMC Lab. No.11 Measurement Room
Report No.	11469126H
Date	October 24, 2016
Temperature / Humidity	23 deg. C / 41 % RH
Engineer	Takafumi Noguchi
Mode	Tx 11a

3.0V Applied limit: 15.407, mobile and portable client device

Tested Frequency	Power Meter Reading	Cable Loss	Atten. Loss	Antenna Gain	26 dB EBW (B for FCC)	99% OBW (B for IC)	Conducted Power Result		Limit	Margin	e.i.r.p. Result		Limit	Margin
[MHz]	[dBm]	[dB]	[dB]	[dBi]	[MHz]	[MHz]	[dBm]	[mW]	[dBm]	[dB]	[dBm]	[mW]	[dBm]	[dB]
5180	-7.32	0.08	10.13	2.0	-	16.554	2.89	1.95	23.97	21.08	4.89	3.08	29.97	25.08
5220	-7.70	0.08	10.13	2.0	-	16.568	2.51	1.78	23.97	21.46	4.51	2.82	29.97	25.46
5240	-7.75	0.08	10.13	2.0	-	16.593	2.46	1.76	23.97	21.51	4.46	2.79	29.97	25.51
5260	-7.51	0.08	10.13	2.0	19.158	16.552	2.70	1.86	23.82	21.12	4.70	2.95	29.97	25.27
5300	-7.80	0.08	10.13	2.0	19.356	16.547	2.41	1.74	23.86	21.45	4.41	2.76	29.97	25.56
5320	-7.77	0.08	10.13	2.0	19.285	16.573	2.44	1.76	23.85	21.41	4.44	2.78	29.97	25.53
5500	-7.93	0.08	10.14	2.0	19.039	16.578	2.29	1.69	23.79	21.50	4.29	2.69	29.97	25.68
5580	-7.58	0.08	10.13	2.0	19.199	16.612	2.63	1.83	23.83	21.20	4.63	2.90	29.97	25.34
5700	-7.33	0.08	10.12	2.0	19.455	16.615	2.87	1.94	23.89	21.02	4.87	3.07	29.97	25.10
5720	-7.20	0.08	10.12	2.0	19.319	16.573	3.00	2.00	23.85	20.85	5.00	3.16	29.97	24.97
5745	-7.03	0.08	10.12	2.0	-	-	3.17	2.07	30.00	26.83	5.17	3.29	36.00	30.83
5785	-6.90	0.08	10.12	2.0	-	-	3.30	2.14	30.00	26.70	5.30	3.39	36.00	30.70
5825	-6.71	0.08	10.11	2.0	-	-	3.48	2.23	30.00	26.52	5.48	3.53	36.00	30.52

3.93V Applied limit: 15.407, mobile and portable client device

Tested Frequency	Power Meter Reading	Cable Loss	Atten. Loss	Antenna Gain	26 dB EBW (B for FCC)	99% OBW (B for IC)	Conducted Power Result		Limit	Margin	e.i.r.p. Result		Limit	Margin
[MHz]	[dBm]	[dB]	[dB]	[dBi]	[MHz]	[MHz]	[dBm]	[mW]	[dBm]	[dB]	[dBm]	[mW]	[dBm]	[dB]
5180	-5.02	0.08	10.13	2.0	-	16.554	5.19	3.30	23.97	18.78	7.19	5.24	29.97	22.78
5220	-5.38	0.08	10.13	2.0	-	16.568	4.83	3.04	23.97	19.14	6.83	4.82	29.97	23.14
5240	-5.31	0.08	10.13	2.0	-	16.593	4.90	3.09	23.97	19.07	6.90	4.90	29.97	23.07
5260	-5.47	0.08	10.13	2.0	19.158	16.552	4.74	2.98	23.82	19.08	6.74	4.72	29.97	23.23
5300	-5.74	0.08	10.13	2.0	19.356	16.547	4.47	2.80	23.86	19.39	6.47	4.44	29.97	23.50
5320	-5.71	0.08	10.13	2.0	19.285	16.573	4.50	2.82	23.85	19.35	6.50	4.47	29.97	23.47
5500	-6.03	0.08	10.14	2.0	19.039	16.578	4.19	2.62	23.79	19.60	6.19	4.16	29.97	23.78
5580	-5.64	0.08	10.13	2.0	19.199	16.612	4.57	2.86	23.83	19.26	6.57	4.54	29.97	23.40
5700	-5.41	0.08	10.12	2.0	19.455	16.615	4.79	3.01	23.89	19.10	6.79	4.78	29.97	23.18
5720	-5.39	0.08	10.12	2.0	19.319	16.573	4.81	3.03	23.85	19.04	6.81	4.80	29.97	23.16
5745	-5.30	0.08	10.12	2.0	-	-	4.90	3.09	30.00	25.10	6.90	4.90	36.00	29.10
5785	-5.21	0.08	10.12	2.0	-	-	4.99	3.16	30.00	25.01	6.99	5.00	36.00	29.01
5825	-4.77	0.08	10.11	2.0	-	-	5.42	3.48	30.00	24.58	7.42	5.52	36.00	28.58

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

Maximum Conducted Output Power

Test place	Ise EMC Lab. No.11 Measurement Room
Report No.	11469126H
Date	October 5, 2016
Temperature / Humidity	24deg. C / 58 % RH
Engineer	Tomoki Matsui
Mode	Tx 11n-20

3.4V Applied limit: 15.407, mobile and portable client device

Tested Frequency	Power Meter Reading	Cable Loss	Atten. Loss	Antenna Gain	26 dB EBW (B for FCC)	99% OBW (B for IC)	Conducted Power Result		Limit	Margin	e.i.r.p. Result		Limit	Margin
[MHz]	[dBm]	[dB]	[dB]	[dBi]	[MHz]	[MHz]	[dBm]	[mW]	[dBm]	[dB]	[dBm]	[mW]	[dBm]	[dB]
5180	-5.52	0.08	10.13	2.0	-	17.707	4.69	2.94	23.97	19.28	6.69	4.67	29.97	23.28
5220	-5.74	0.08	10.13	2.0	-	17.650	4.47	2.80	23.97	19.50	6.47	4.44	29.97	23.50
5240	-5.92	0.08	10.13	2.0	-	17.668	4.29	2.69	23.97	19.68	6.29	4.26	29.97	23.68
5260	-5.95	0.08	10.13	2.0	19.725	17.666	4.26	2.67	23.95	19.69	6.26	4.23	29.97	23.71
5300	-6.38	0.08	10.13	2.0	19.676	17.689	3.83	2.42	23.93	20.10	5.83	3.83	29.97	24.14
5320	-6.47	0.08	10.13	2.0	19.809	17.691	3.74	2.37	23.96	20.22	5.74	3.75	29.97	24.23
5500	-6.50	0.08	10.14	2.0	19.711	17.700	3.72	2.36	23.94	20.22	5.72	3.73	29.97	24.25
5580	-6.25	0.08	10.13	2.0	19.794	17.655	3.96	2.49	23.96	20.00	5.96	3.94	29.97	24.01
5700	-5.80	0.08	10.12	2.0	19.699	17.614	4.40	2.75	23.94	19.54	6.40	4.37	29.97	23.57
5720	-5.70	0.08	10.12	2.0	19.663	17.735	4.50	2.82	23.93	19.43	6.50	4.47	29.97	23.47
5745	-5.77	0.08	10.12	2.0	-	-	4.43	2.77	30.00	25.57	6.43	4.40	36.00	29.57
5785	-5.78	0.08	10.12	2.0	-	-	4.42	2.77	30.00	25.58	6.42	4.39	36.00	29.58
5825	-5.43	0.08	10.11	2.0	-	-	4.76	2.99	30.00	25.24	6.76	4.74	36.00	29.24

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

Maximum Conducted Output Power

Test place	Ise EMC Lab. No.11 Measurement Room
Report No.	11469126H
Date	October 24, 2016
Temperature / Humidity	23 deg. C / 41 % RH
Engineer	Takafumi Noguchi
Mode	Tx 11n-20

3.0V Applied limit: 15.407, mobile and portable client device

Tested Frequency	Power Meter Reading	Cable Loss	Atten. Loss	Antenna Gain	26 dB EBW (B for FCC)	99% OBW (B for IC)	Conducted Power Result		Limit	Margin	e.i.r.p. Result		Limit	Margin
[MHz]	[dBm]	[dB]	[dB]	[dBi]	[MHz]	[MHz]	[dBm]	[mW]	[dBm]	[dB]	[dBm]	[mW]	[dBm]	[dB]
5180	-7.45	0.08	10.13	2.0	-	17.707	2.76	1.89	23.97	21.21	4.76	2.99	29.97	25.21
5220	-7.69	0.08	10.13	2.0	-	17.650	2.52	1.79	23.97	21.45	4.52	2.83	29.97	25.45
5240	-7.89	0.08	10.13	2.0	-	17.668	2.32	1.71	23.97	21.65	4.32	2.70	29.97	25.65
5260	-7.48	0.08	10.13	2.0	19.725	17.666	2.73	1.87	23.95	21.22	4.73	2.97	29.97	25.24
5300	-7.82	0.08	10.13	2.0	19.676	17.689	2.39	1.73	23.93	21.54	4.39	2.75	29.97	25.58
5320	-7.88	0.08	10.13	2.0	19.809	17.691	2.33	1.71	23.96	21.63	4.33	2.71	29.97	25.64
5500	-8.09	0.08	10.14	2.0	19.711	17.700	2.13	1.63	23.94	21.81	4.13	2.59	29.97	25.84
5580	-7.70	0.08	10.13	2.0	19.794	17.655	2.51	1.78	23.96	21.45	4.51	2.82	29.97	25.46
5700	-7.43	0.08	10.12	2.0	19.699	17.614	2.77	1.89	23.94	21.17	4.77	3.00	29.97	25.20
5720	-7.35	0.08	10.12	2.0	19.663	17.735	2.85	1.93	23.93	21.08	4.85	3.05	29.97	25.12
5745	-7.18	0.08	10.12	2.0	-	-	3.02	2.00	30.00	26.98	5.02	3.18	36.00	30.98
5785	-7.03	0.08	10.12	2.0	-	-	3.17	2.07	30.00	26.83	5.17	3.29	36.00	30.83
5825	-6.80	0.08	10.11	2.0	-	-	3.39	2.18	30.00	26.61	5.39	3.46	36.00	30.61

3.93V Applied limit: 15.407, mobile and portable client device

Tested Frequency	Power Meter Reading	Cable Loss	Atten. Loss	Antenna Gain	26 dB EBW (B for FCC)	99% OBW (B for IC)	Conducted Power Result		Limit	Margin	e.i.r.p. Result		Limit	Margin
[MHz]	[dBm]	[dB]	[dB]	[dBi]	[MHz]	[MHz]	[dBm]	[mW]	[dBm]	[dB]	[dBm]	[mW]	[dBm]	[dB]
5180	-5.32	0.08	10.13	2.0	-	17.707	4.89	3.08	23.97	19.08	6.89	4.89	29.97	23.08
5220	-5.44	0.08	10.13	2.0	-	17.650	4.77	3.00	23.97	19.20	6.77	4.75	29.97	23.20
5240	-5.72	0.08	10.13	2.0	-	17.668	4.49	2.81	23.97	19.48	6.49	4.46	29.97	23.48
5260	-5.71	0.08	10.13	2.0	19.725	17.666	4.50	2.82	23.95	19.45	6.50	4.47	29.97	23.47
5300	-5.99	0.08	10.13	2.0	19.676	17.689	4.22	2.64	23.93	19.71	6.22	4.19	29.97	23.75
5320	-6.02	0.08	10.13	2.0	19.809	17.691	4.19	2.63	23.96	19.77	6.19	4.16	29.97	23.78
5500	-6.20	0.08	10.14	2.0	19.711	17.700	4.02	2.52	23.94	19.92	6.02	4.00	29.97	23.95
5580	-6.00	0.08	10.13	2.0	19.794	17.655	4.21	2.64	23.96	19.75	6.21	4.18	29.97	23.76
5700	-5.50	0.08	10.12	2.0	19.699	17.614	4.70	2.95	23.94	19.24	6.70	4.68	29.97	23.27
5720	-5.49	0.08	10.12	2.0	19.663	17.735	4.71	2.96	23.93	19.22	6.71	4.69	29.97	23.26
5745	-5.47	0.08	10.12	2.0	-	-	4.73	2.97	30.00	25.27	6.73	4.71	36.00	29.27
5785	-5.48	0.08	10.12	2.0	-	-	4.72	2.96	30.00	25.28	6.72	4.70	36.00	29.28
5825	-5.23	0.08	10.11	2.0	-	-	4.96	3.13	30.00	25.04	6.96	4.97	36.00	29.04

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

Maximum Conducted Output Power

Test place	Ise EMC Lab. No.11 Measurement Room
Report No.	11469126H
Date	October 5, 2016
Temperature / Humidity	24deg. C / 58 % RH
Engineer	Tomoki Matsui
Mode	Tx 11n-40

3.4V Applied limit: 15.407, mobile and portable client device

Tested Frequency	Power Meter Reading	Cable Loss	Atten. Loss	Antenna Gain	26 dB EBW (B for FCC)	99% OBW (B for IC)	Conducted Power Result		Limit	Margin	e.i.r.p. Result		Limit	Margin
[MHz]	[dBm]	[dB]	[dB]	[dBi]	[MHz]	[MHz]	[dBm]	[mW]	[dBm]	[dB]	[dBm]	[mW]	[dBm]	[dB]
5190	-5.72	0.08	10.13	2.0	-	35.921	4.49	2.81	23.97	19.48	6.49	4.45	29.97	23.48
5230	-5.85	0.08	10.13	2.0	-	35.985	4.36	2.73	23.97	19.61	6.36	4.33	29.97	23.61
5270	-6.05	0.08	10.13	2.0	39.470	35.959	4.16	2.61	23.97	19.81	6.16	4.13	29.97	23.81
5310	-6.38	0.08	10.13	2.0	39.391	35.936	3.83	2.42	23.97	20.14	5.83	3.83	29.97	24.14
5510	-6.45	0.08	10.14	2.0	39.278	35.971	3.77	2.38	23.97	20.20	5.77	3.77	29.97	24.20
5550	-6.41	0.08	10.14	2.0	39.518	35.964	3.81	2.40	23.97	20.16	5.81	3.81	29.97	24.16
5670	-5.87	0.08	10.13	2.0	39.575	40.373	4.34	2.72	23.97	19.63	6.34	4.31	29.97	23.63
5710	-5.73	0.08	10.12	2.0	39.455	36.017	4.47	2.80	23.97	19.50	6.47	4.44	29.97	23.50
5755	-5.78	0.08	10.12	2.0	-	-	4.42	2.77	30.00	25.58	6.42	4.38	36.00	29.58
5795	-5.58	0.08	10.12	2.0	-	-	4.62	2.90	30.00	25.38	6.62	4.59	36.00	29.38

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

Maximum Conducted Output Power

Test place	Ise EMC Lab. No.11 Measurement Room
Report No.	11469126H
Date	October 24, 2016
Temperature / Humidity	23 deg. C / 41 % RH
Engineer	Takafumi Noguchi
Mode	Tx 11n-40

3.0V Applied limit: 15.407, mobile and portable client device

Tested Frequency	Power Meter Reading	Cable Loss	Atten. Loss	Antenna Gain	26 dB EBW (B for FCC)	99% OBW (B for IC)	Conducted Power Result		Limit	Margin	e.i.r.p. Result		Limit	Margin
[MHz]	[dBm]	[dB]	[dB]	[dBi]	[MHz]	[MHz]	[dBm]	[mW]	[dBm]	[dB]	[dBm]	[mW]	[dBm]	[dB]
5190	-7.56	0.08	10.13	2.0	-	35.921	2.65	1.84	23.97	21.32	4.65	2.92	29.97	25.32
5230	-7.81	0.08	10.13	2.0	-	35.985	2.40	1.74	23.97	21.57	4.40	2.75	29.97	25.57
5270	-7.67	0.08	10.13	2.0	39.470	35.959	2.54	1.80	23.97	21.43	4.54	2.85	29.97	25.43
5310	-7.84	0.08	10.13	2.0	39.391	35.936	2.37	1.73	23.97	21.60	4.37	2.74	29.97	25.60
5510	-8.02	0.08	10.14	2.0	39.278	35.971	2.20	1.66	23.97	21.77	4.20	2.63	29.97	25.77
5550	-7.92	0.08	10.14	2.0	39.518	35.964	2.30	1.70	23.97	21.67	4.30	2.69	29.97	25.67
5670	-7.55	0.08	10.13	2.0	39.575	40.373	2.66	1.85	23.97	21.31	4.66	2.92	29.97	25.31
5710	-7.28	0.08	10.12	2.0	39.455	36.017	2.92	1.96	23.97	21.05	4.92	3.10	29.97	25.05
5755	-6.99	0.08	10.12	2.0	-	-	3.21	2.09	30.00	26.79	5.21	3.32	36.00	30.79
5795	-6.85	0.08	10.12	2.0	-	-	3.35	2.16	30.00	26.65	5.35	3.43	36.00	30.65

3.93V Applied limit: 15.407, mobile and portable client device

Tested Frequency	Power Meter Reading	Cable Loss	Atten. Loss	Antenna Gain	26 dB EBW (B for FCC)	99% OBW (B for IC)	Conducted Power Result		Limit	Margin	e.i.r.p. Result		Limit	Margin
[MHz]	[dBm]	[dB]	[dB]	[dBi]	[MHz]	[MHz]	[dBm]	[mW]	[dBm]	[dB]	[dBm]	[mW]	[dBm]	[dB]
5190	-5.51	0.08	10.13	2.0	-	35.921	4.70	2.95	23.97	19.27	6.70	4.68	29.97	23.27
5230	-5.56	0.08	10.13	2.0	-	35.985	4.65	2.92	23.97	19.32	6.65	4.62	29.97	23.32
5270	-5.72	0.08	10.13	2.0	39.470	35.959	4.49	2.81	23.97	19.48	6.49	4.46	29.97	23.48
5310	-6.08	0.08	10.13	2.0	39.391	35.936	4.13	2.59	23.97	19.84	6.13	4.10	29.97	23.84
5510	-6.16	0.08	10.14	2.0	39.278	35.971	4.06	2.55	23.97	19.91	6.06	4.04	29.97	23.91
5550	-6.17	0.08	10.14	2.0	39.518	35.964	4.05	2.54	23.97	19.92	6.05	4.03	29.97	23.92
5670	-5.70	0.08	10.13	2.0	39.575	40.373	4.51	2.82	23.97	19.46	6.51	4.48	29.97	23.46
5710	-5.53	0.08	10.12	2.0	39.455	36.017	4.67	2.93	23.97	19.30	6.67	4.65	29.97	23.30
5755	-5.60	0.08	10.12	2.0	-	-	4.60	2.88	30.00	25.40	6.60	4.57	36.00	29.40
5795	-5.28	0.08	10.12	2.0	-	-	4.92	3.10	30.00	25.08	6.92	4.92	36.00	29.08

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

Maximum Conducted Output Power

Test place	Ise EMC Lab. No.11 Measurement Room
Report No.	11469126H
Date	October 5, 2016
Temperature / Humidity	24deg. C / 58 % RH
Engineer	Tomoki Matsui
Mode	Tx 11ac-20

3.4V Applied limit: 15.407, mobile and portable client device

Tested Frequency	Power Meter Reading	Cable Loss	Atten. Loss	Antenna Gain	26 dB EBW (B for FCC)	99% OBW (B for IC)	Conducted Power Result		Limit	Margin	e.i.r.p. Result		Limit	Margin
[MHz]	[dBm]	[dB]	[dB]	[dBi]	[MHz]	[MHz]	[dBm]	[mW]	[dBm]	[dB]	[dBm]	[mW]	[dBm]	[dB]
5180	-5.50	0.08	10.13	2.0	-	17.660	4.71	2.96	23.97	19.26	6.71	4.69	29.97	23.26
5220	-5.71	0.08	10.13	2.0	-	17.626	4.50	2.82	23.97	19.47	6.50	4.47	29.97	23.47
5240	-5.90	0.08	10.13	2.0	-	17.634	4.31	2.70	23.97	19.66	6.31	4.28	29.97	23.66
5260	-5.92	0.08	10.13	2.0	19.694	17.663	4.29	2.69	23.94	19.65	6.29	4.26	29.97	23.68
5300	-6.28	0.08	10.13	2.0	19.600	17.663	3.93	2.47	23.92	19.99	5.93	3.92	29.97	24.04
5320	-6.14	0.08	10.13	2.0	19.671	17.703	4.07	2.55	23.93	19.86	6.07	4.05	29.97	23.90
5500	-6.30	0.08	10.14	2.0	19.597	17.678	3.92	2.47	23.92	20.00	5.92	3.91	29.97	24.05
5580	-6.15	0.08	10.13	2.0	19.722	17.698	4.06	2.55	23.94	19.88	6.06	4.04	29.97	23.91
5700	-5.77	0.08	10.12	2.0	19.681	17.669	4.43	2.77	23.94	19.51	6.43	4.40	29.97	23.54
5720	-5.67	0.08	10.12	2.0	19.788	17.700	4.53	2.84	23.96	19.43	6.53	4.50	29.97	23.44
5745	-5.74	0.08	10.12	2.0	-	-	4.46	2.79	30.00	25.54	6.46	4.43	36.00	29.54
5785	-5.60	0.08	10.12	2.0	-	-	4.60	2.88	30.00	25.40	6.60	4.57	36.00	29.40
5825	-5.37	0.08	10.11	2.0	-	-	4.82	3.03	30.00	25.18	6.82	4.81	36.00	29.18

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

Maximum Conducted Output Power

Test place	Ise EMC Lab. No.11 Measurement Room
Report No.	11469126H
Date	October 24, 2016
Temperature / Humidity	23 deg. C / 41 % RH
Engineer	Takafumi Noguchi
Mode	Tx 11ac-20

3.0V Applied limit: 15.407, mobile and portable client device

Tested Frequency	Power Meter Reading	Cable Loss	Atten. Loss	Antenna Gain	26 dB EBW (B for FCC)	99% OBW (B for IC)	Conducted Power Result		Limit	Margin	e.i.r.p. Result		Limit	Margin
[MHz]	[dBm]	[dB]	[dB]	[dBi]	[MHz]	[MHz]	[dBm]	[mW]	[dBm]	[dB]	[dBm]	[mW]	[dBm]	[dB]
5180	-7.34	0.08	10.13	2.0	-	17.660	2.87	1.94	23.97	21.10	4.87	3.07	29.97	25.10
5220	-7.60	0.08	10.13	2.0	-	17.626	2.61	1.82	23.97	21.36	4.61	2.89	29.97	25.36
5240	-7.73	0.08	10.13	2.0	-	17.634	2.48	1.77	23.97	21.49	4.48	2.81	29.97	25.49
5260	-7.39	0.08	10.13	2.0	19.694	17.663	2.82	1.91	23.94	21.12	4.82	3.03	29.97	25.15
5300	-7.68	0.08	10.13	2.0	19.600	17.663	2.53	1.79	23.92	21.39	4.53	2.84	29.97	25.44
5320	-7.78	0.08	10.13	2.0	19.671	17.703	2.43	1.75	23.93	21.50	4.43	2.78	29.97	25.54
5500	-7.93	0.08	10.14	2.0	19.597	17.678	2.29	1.69	23.92	21.63	4.29	2.69	29.97	25.68
5580	-7.55	0.08	10.13	2.0	19.722	17.698	2.66	1.85	23.94	21.28	4.66	2.92	29.97	25.31
5700	-7.31	0.08	10.12	2.0	19.681	17.669	2.89	1.95	23.94	21.05	4.89	3.08	29.97	25.08
5720	-7.23	0.08	10.12	2.0	19.788	17.700	2.97	1.98	23.96	20.99	4.97	3.14	29.97	25.00
5745	-7.00	0.08	10.12	2.0	-	-	3.20	2.09	30.00	26.80	5.20	3.31	36.00	30.80
5785	-6.83	0.08	10.12	2.0	-	-	3.37	2.17	30.00	26.63	5.37	3.44	36.00	30.63
5825	-6.55	0.08	10.11	2.0	-	-	3.64	2.31	30.00	26.36	5.64	3.66	36.00	30.36

3.93V Applied limit: 15.407, mobile and portable client device

Tested Frequency	Power Meter Reading	Cable Loss	Atten. Loss	Antenna Gain	26 dB EBW (B for FCC)	99% OBW (B for IC)	Conducted Power Result		Limit	Margin	e.i.r.p. Result		Limit	Margin
[MHz]	[dBm]	[dB]	[dB]	[dBi]	[MHz]	[MHz]	[dBm]	[mW]	[dBm]	[dB]	[dBm]	[mW]	[dBm]	[dB]
5180	-5.30	0.08	10.13	2.0	-	17.660	4.91	3.10	23.97	19.06	6.91	4.91	29.97	23.06
5220	-5.41	0.08	10.13	2.0	-	17.626	4.80	3.02	23.97	19.17	6.80	4.79	29.97	23.17
5240	-5.63	0.08	10.13	2.0	-	17.634	4.58	2.87	23.97	19.39	6.58	4.55	29.97	23.39
5260	-5.69	0.08	10.13	2.0	19.694	17.663	4.52	2.83	23.94	19.42	6.52	4.49	29.97	23.45
5300	-5.98	0.08	10.13	2.0	19.600	17.663	4.23	2.65	23.92	19.69	6.23	4.20	29.97	23.74
5320	-5.90	0.08	10.13	2.0	19.671	17.703	4.31	2.70	23.93	19.62	6.31	4.28	29.97	23.66
5500	-6.10	0.08	10.14	2.0	19.597	17.678	4.12	2.58	23.92	19.80	6.12	4.09	29.97	23.85
5580	-5.99	0.08	10.13	2.0	19.722	17.698	4.22	2.64	23.94	19.72	6.22	4.19	29.97	23.75
5700	-5.49	0.08	10.12	2.0	19.681	17.669	4.71	2.96	23.94	19.23	6.71	4.69	29.97	23.26
5720	-5.40	0.08	10.12	2.0	19.788	17.700	4.80	3.02	23.96	19.16	6.80	4.79	29.97	23.17
5745	-5.46	0.08	10.12	2.0	-	-	4.74	2.98	30.00	25.26	6.74	4.72	36.00	29.26
5785	-5.40	0.08	10.12	2.0	-	-	4.80	3.02	30.00	25.20	6.80	4.79	36.00	29.20
5825	-5.20	0.08	10.11	2.0	-	-	4.99	3.16	30.00	25.01	6.99	5.00	36.00	29.01

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

Maximum Conducted Output Power

Test place	Ise EMC Lab. No.11 Measurement Room
Report No.	11469126H
Date	October 5, 2016
Temperature / Humidity	24deg. C / 58 % RH
Engineer	Tomoki Matsui
Mode	Tx 11ac-40

3.4V

Applied limit: 15.407, mobile and portable client device

Tested Frequency	Power Meter Reading	Cable Loss	Atten. Loss	Antenna Gain	26 dB EBW (B for FCC)	99% OBW (B for IC)	Conducted Power Result		Limit	Margin	e.i.r.p. Result		Limit	Margin
[MHz]	[dBm]	[dB]	[dB]	[dBi]	[MHz]	[MHz]	[dBm]	[mW]	[dBm]	[dB]	[dBm]	[mW]	[dBm]	[dB]
5190	-5.55	0.08	10.13	2.0	-	35.930	4.66	2.92	23.97	19.31	6.66	4.63	29.97	23.31
5230	-5.77	0.08	10.13	2.0	-	35.936	4.44	2.78	23.97	19.53	6.44	4.41	29.97	23.53
5270	-6.02	0.08	10.13	2.0	39.415	35.914	4.19	2.63	23.97	19.78	6.19	4.16	29.97	23.78
5310	-6.24	0.08	10.13	2.0	39.192	35.978	3.97	2.50	23.97	20.00	5.97	3.96	29.97	24.00
5510	-6.31	0.08	10.14	2.0	39.870	35.955	3.91	2.46	23.97	20.06	5.91	3.90	29.97	24.06
5550	-6.31	0.08	10.14	2.0	39.708	35.916	3.91	2.46	23.97	20.06	5.91	3.90	29.97	24.06
5670	-5.84	0.08	10.13	2.0	39.669	36.005	4.37	2.74	23.97	19.60	6.37	4.34	29.97	23.60
5710	-5.70	0.08	10.12	2.0	39.672	35.947	4.50	2.82	23.97	19.47	6.50	4.47	29.97	23.47
5755	-5.75	0.08	10.12	2.0	-	-	4.45	2.79	30.00	25.55	6.45	4.41	36.00	29.55
5795	-5.42	0.08	10.12	2.0	-	-	4.78	3.01	30.00	25.22	6.78	4.76	36.00	29.22

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

Maximum Conducted Output Power

Test place	Ise EMC Lab. No.11 Measurement Room
Report No.	11469126H
Date	October 24, 2016
Temperature / Humidity	23 deg. C / 41 % RH
Engineer	Takafumi Noguchi
Mode	Tx 11ac-40

3.0V Applied limit: 15.407, mobile and portable client device

Tested Frequency	Power Meter Reading	Cable Loss	Atten. Loss	Antenna Gain	26 dB EBW (B for FCC)	99% OBW (B for IC)	Conducted Power Result		Limit	Margin	e.i.r.p. Result		Limit	Margin
[MHz]	[dBm]	[dB]	[dB]	[dBi]	[MHz]	[MHz]	[dBm]	[mW]	[dBm]	[dB]	[dBm]	[mW]	[dBm]	[dB]
5190	-7.44	0.08	10.13	2.0	-	35.930	2.77	1.89	23.97	21.20	4.77	3.00	29.97	25.20
5230	-7.64	0.08	10.13	2.0	-	35.936	2.57	1.81	23.97	21.40	4.57	2.86	29.97	25.40
5270	-7.47	0.08	10.13	2.0	39.415	35.914	2.74	1.88	23.97	21.23	4.74	2.98	29.97	25.23
5310	-7.74	0.08	10.13	2.0	39.192	35.978	2.47	1.77	23.97	21.50	4.47	2.80	29.97	25.50
5510	-7.92	0.08	10.14	2.0	39.870	35.955	2.30	1.70	23.97	21.67	4.30	2.69	29.97	25.67
5550	-7.94	0.08	10.14	2.0	39.708	35.916	2.28	1.69	23.97	21.69	4.28	2.68	29.97	25.69
5670	-7.56	0.08	10.13	2.0	39.669	36.005	2.65	1.84	23.97	21.32	4.65	2.92	29.97	25.32
5710	-7.36	0.08	10.12	2.0	39.672	35.947	2.84	1.92	23.97	21.13	4.84	3.05	29.97	25.13
5755	-7.10	0.08	10.12	2.0	-	-	3.10	2.04	30.00	26.90	5.10	3.24	36.00	30.90
5795	-6.96	0.08	10.12	2.0	-	-	3.24	2.11	30.00	26.76	5.24	3.34	36.00	30.76

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

3.93V Applied limit: 15.407, mobile and portable client device

Tested Frequency	Power Meter Reading	Cable Loss	Atten. Loss	Antenna Gain	26 dB EBW (B for FCC)	99% OBW (B for IC)	Conducted Power Result		Limit	Margin	e.i.r.p. Result		Limit	Margin
[MHz]	[dBm]	[dB]	[dB]	[dBi]	[MHz]	[MHz]	[dBm]	[mW]	[dBm]	[dB]	[dBm]	[mW]	[dBm]	[dB]
5190	-5.36	0.08	10.13	2.0	-	35.930	4.85	3.05	23.97	19.12	6.85	4.84	29.97	23.12
5230	-5.52	0.08	10.13	2.0	-	35.936	4.69	2.94	23.97	19.28	6.69	4.67	29.97	23.28
5270	-5.70	0.08	10.13	2.0	39.415	35.914	4.51	2.83	23.97	19.46	6.51	4.48	29.97	23.46
5310	-5.91	0.08	10.13	2.0	39.192	35.978	4.30	2.69	23.97	19.67	6.30	4.27	29.97	23.67
5510	-6.10	0.08	10.14	2.0	39.870	35.955	4.12	2.58	23.97	19.85	6.12	4.09	29.97	23.85
5550	-6.10	0.08	10.14	2.0	39.708	35.916	4.12	2.58	23.97	19.85	6.12	4.09	29.97	23.85
5670	-5.65	0.08	10.13	2.0	39.669	36.005	4.56	2.86	23.97	19.41	6.56	4.53	29.97	23.41
5710	-5.44	0.08	10.12	2.0	39.672	35.947	4.76	2.99	23.97	19.21	6.76	4.74	29.97	23.21
5755	-5.51	0.08	10.12	2.0	-	-	4.69	2.94	30.00	25.31	6.69	4.67	36.00	29.31
5795	-5.24	0.08	10.12	2.0	-	-	4.96	3.13	30.00	25.04	6.96	4.97	36.00	29.04

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

Maximum Conducted Output Power

Test place	Ise EMC Lab. No.11 Measurement Room	
Report No.	11469126H	
Date	October 5, 2016	October 24, 2016
Temperature / Humidity	24deg. C / 58 % RH	23 deg. C / 41 % RH
Engineer	Tomoki Matsui	Takafumi Noguchi
Mode	Tx 11ac-80	

3.4V Applied limit: 15.407, mobile and portable client device

Tested Frequency	Power Meter Reading	Cable Loss	Atten. Loss	Antenna Gain	26 dB EBW (B for FCC)	99% OBW (B for IC)	Conducted Power Result		Limit	Margin	e.i.r.p. Result		Limit	Margin
[MHz]	[dBm]	[dB]	[dB]	[dBi]	[MHz]	[MHz]	[dBm]	[mW]	[dBm]	[dB]	[dBm]	[mW]	[dBm]	[dB]
5210	-5.48	0.08	10.13	2.0	-	75.344	4.73	2.97	23.97	19.24	6.73	4.71	29.97	23.24
5290	-5.90	0.08	10.13	2.0	80.755	75.491	4.31	2.70	23.97	19.66	6.31	4.28	29.97	23.66
5530	-6.05	0.08	10.14	2.0	80.495	75.478	4.17	2.61	23.97	19.80	6.17	4.14	29.97	23.80
5610	-5.97	0.08	10.13	2.0	80.945	75.490	4.24	2.65	23.97	19.73	6.24	4.21	29.97	23.73
5690	-5.60	0.08	10.12	2.0	80.906	75.461	4.60	2.88	23.97	19.37	6.60	4.57	29.97	23.37
5775	-5.37	0.08	10.12	2.0	-	-	4.83	3.04	30.00	25.17	6.83	4.82	36.00	29.17

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

3.0V Applied limit: 15.407, mobile and portable client device

Tested Frequency	Power Meter Reading	Cable Loss	Atten. Loss	Antenna Gain	26 dB EBW (B for FCC)	99% OBW (B for IC)	Conducted Power Result		Limit	Margin	e.i.r.p. Result		Limit	Margin
[MHz]	[dBm]	[dB]	[dB]	[dBi]	[MHz]	[MHz]	[dBm]	[mW]	[dBm]	[dB]	[dBm]	[mW]	[dBm]	[dB]
5210	-7.41	0.08	10.13	2.0	-	75.344	2.80	1.90	23.97	21.17	4.80	3.02	29.97	25.17
5290	-7.48	0.08	10.13	2.0	80.755	75.491	2.73	1.88	23.97	21.24	4.73	2.97	29.97	25.24
5530	-7.72	0.08	10.14	2.0	80.495	75.478	2.50	1.78	23.97	21.47	4.50	2.82	29.97	25.47
5610	-7.37	0.08	10.13	2.0	80.945	75.490	2.84	1.92	23.97	21.13	4.84	3.05	29.97	25.13
5690	-7.21	0.08	10.12	2.0	80.906	75.461	2.99	1.99	23.97	20.98	4.99	3.16	29.97	24.98
5775	-6.90	0.08	10.12	2.0	-	-	3.30	2.14	30.00	26.70	5.30	3.39	36.00	30.70

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

3.93V Applied limit: 15.407, mobile and portable client device

Tested Frequency	Power Meter Reading	Cable Loss	Atten. Loss	Antenna Gain	26 dB EBW (B for FCC)	99% OBW (B for IC)	Conducted Power Result		Limit	Margin	e.i.r.p. Result		Limit	Margin
[MHz]	[dBm]	[dB]	[dB]	[dBi]	[MHz]	[MHz]	[dBm]	[mW]	[dBm]	[dB]	[dBm]	[mW]	[dBm]	[dB]
5210	-5.18	0.08	10.13	2.0	-	75.344	5.03	3.18	23.97	18.94	7.03	5.05	29.97	22.94
5290	-5.66	0.08	10.13	2.0	80.755	75.491	4.55	2.85	23.97	19.42	6.55	4.52	29.97	23.42
5530	-5.86	0.08	10.14	2.0	80.495	75.478	4.36	2.73	23.97	19.61	6.36	4.32	29.97	23.61
5610	-5.70	0.08	10.13	2.0	80.945	75.490	4.51	2.82	23.97	19.46	6.51	4.48	29.97	23.46
5690	-5.44	0.08	10.12	2.0	80.906	75.461	4.76	2.99	23.97	19.21	6.76	4.74	29.97	23.21
5775	-5.17	0.08	10.12	2.0	-	-	5.03	3.18	30.00	24.97	7.03	5.04	36.00	28.97

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

Maximum Conducted Output Power

Test place	Ise EMC Lab. No.4 Measurement Room
Report No.	11469126H
Date	September 28, 2016
Temperature / Humidity	23 deg. C / 54 % RH
Engineer	Tomoki Matsui
Mode	Tx

5180 MHz

Mode	Rate Mbps	Reading (timed average) [dBm]	Reading (Burst Power) [dBm]	Remarks
11a	6	-6.60	-6.30	*Timed average Worst
	9	-6.76	-6.34	
	12	-6.77	-6.35	
	18	-6.88	-6.21	
	24	-7.11	-6.18	
	36	-6.80	-5.60	
	48	-7.07	-5.44	
	54	-7.10	-5.32	*Burst power Worst

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

5180 MHz

Mode	MCS Number	Reading (timed average) [dBm]	Reading (Burst Power) [dBm]	Remarks
11n-20	0	-6.90	-6.51	*Timed average Worst
	1	-6.97	-6.54	
	2	-7.22	-6.40	
	3	-7.25	-6.37	
	4	-7.67	-6.28	
	5	-7.20	-5.60	
	6	-7.40	-5.57	
	7	-7.30	-5.55	*Burst power Worst

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

5180 MHz

Mode	MCS Number	Reading (timed average) [dBm]	Reading (Burst Power) [dBm]	Remarks
11ac-20	0	-6.88	-6.58	*Timed average Worst
	1	-6.91	-6.53	
	2	-7.05	-6.37	
	3	-7.24	-6.31	
	4	-7.33	-6.29	
	5	-7.17	-5.60	
	6	-7.26	-5.68	
	7	-7.35	-5.42	*Burst power Worst
	8	-8.00	-5.91	

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

Maximum Conducted Output Power

Test place	Ise EMC Lab. No.4 Measurement Room
Report No.	11469126H
Date	September 28, 2016
Temperature / Humidity	23 deg. C / 54 % RH
Engineer	Tomoki Matsui
Mode	Tx

5190 MHz

Mode	MCS Number	Reading (timed average) [dBm]	Reading (Burst Power) [dBm]	Remarks
11n-40	0	-7.25	-6.63	*Timed average Worst
	1	-7.43	-6.60	
	2	-7.91	-6.50	
	3	-8.04	-6.48	
	4	-8.61	-6.42	
	5	-8.19	-5.68	
	6	-8.38	-5.68	
	7	-8.40	-5.66	*Burst power Worst

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

5190 MHz

Mode	MCS Number	Reading (timed average) [dBm]	Reading (Burst Power) [dBm]	Remarks
11ac-40	0	-7.23	-6.62	*Timed average Worst
	1	-7.47	-6.61	
	2	-7.80	-6.56	
	3	-8.05	-6.40	
	4	-8.40	-6.40	
	5	-8.06	-5.67	
	6	-8.22	-5.66	
	7	-8.30	-5.60	*Burst power Worst
	8	-8.91	-5.97	
	9	-8.96	-5.93	

* Worst rate

5210 MHz

Mode	MCS Number	Reading (timed average) [dBm]	Reading (Burst Power) [dBm]	Remarks
11ac-80	0	-7.68	-6.68	*Timed average Worst
	1	-7.87	-6.52	
	2	-8.58	-6.36	
	3	-8.85	-6.30	
	4	-9.10	-6.33	
	5	-9.01	-5.64	
	6	-9.06	-5.65	
	7	-9.15	-5.55	*Burst power Worst
	8	-9.54	-5.80	
	9	-9.61	-5.72	

* Worst rate

Average Output Power
(Reference data for RF Exposure)

Test place	Ise EMC Lab. No.11 Measurement Room
Report No.	11469126H
Date	October 5, 2016
Temperature / Humidity	24deg. C / 58 % RH
Engineer	Tomoki Matsui
Mode	Tx 11a

3.4V 11a 6Mbps

Tested Frequency	Power Meter Reading	Cable Loss	Atten. Loss	Result (Timed average)		Duty factor	Result (Burst power average)	
[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[dB]	[dBm]	[mW]
5180	-6.73	0.08	10.13	3.48	2.23	0.27	3.75	2.37
5220	-6.87	0.08	10.13	3.34	2.16	0.27	3.61	2.30
5240	-7.04	0.08	10.13	3.17	2.07	0.27	3.44	2.21
5260	-7.06	0.08	10.13	3.15	2.07	0.27	3.42	2.20
5300	-7.36	0.08	10.13	2.85	1.93	0.27	3.12	2.05
5320	-7.50	0.08	10.13	2.71	1.87	0.27	2.98	1.99
5500	-7.80	0.08	10.14	2.42	1.75	0.27	2.69	1.86
5580	-7.68	0.08	10.13	2.53	1.79	0.27	2.80	1.91
5700	-7.26	0.08	10.12	2.94	1.97	0.27	3.21	2.09
5720	-7.24	0.08	10.12	2.96	1.98	0.27	3.23	2.10
5745	-6.70	0.08	10.12	3.50	2.24	0.27	3.77	2.38
5785	-6.62	0.08	10.12	3.58	2.28	0.27	3.85	2.43
5825	-6.37	0.08	10.11	3.82	2.41	0.27	4.09	2.56

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

Average Output Power
(Reference data for RF Exposure)

Test place	Ise EMC Lab. No.11 Measurement Room
Report No.	11469126H
Date	October 24, 2016
Temperature / Humidity	23 deg. C / 41 % RH
Engineer	Takafumi Noguchi
Mode	Tx 11a

3.0V 11a 6Mbps

Tested Frequency	Power Meter Reading	Cable Loss	Atten. Loss	Result (Timed average)		Duty factor	Result (Burst power average)	
[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[dB]	[dBm]	[mW]
5180	-8.38	0.08	10.13	1.83	1.52	0.27	2.10	1.62
5220	-8.59	0.08	10.13	1.62	1.45	0.27	1.89	1.55
5240	-8.63	0.08	10.13	1.58	1.44	0.27	1.85	1.53
5260	-8.31	0.08	10.13	1.90	1.55	0.27	2.17	1.65
5300	-8.61	0.08	10.13	1.60	1.45	0.27	1.87	1.54
5320	-8.67	0.08	10.13	1.54	1.43	0.27	1.81	1.52
5500	-9.07	0.08	10.14	1.15	1.30	0.27	1.42	1.39
5580	-8.87	0.08	10.13	1.34	1.36	0.27	1.61	1.45
5700	-8.64	0.08	10.12	1.56	1.43	0.27	1.83	1.52
5720	-8.51	0.08	10.12	1.69	1.48	0.27	1.96	1.57
5745	-7.55	0.08	10.12	2.65	1.84	0.27	2.92	1.96
5785	-7.43	0.08	10.12	2.77	1.89	0.27	3.04	2.01
5825	-7.20	0.08	10.11	2.99	1.99	0.27	3.26	2.12

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

3.93V 11a 6Mbps

Tested Frequency	Power Meter Reading	Cable Loss	Atten. Loss	Result (Timed average)		Duty factor	Result (Burst power average)	
[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[dB]	[dBm]	[mW]
5180	-6.63	0.08	10.13	3.58	2.28	0.27	3.85	2.43
5220	-6.64	0.08	10.13	3.57	2.28	0.27	3.84	2.42
5240	-6.83	0.08	10.13	3.38	2.18	0.27	3.65	2.32
5260	-6.80	0.08	10.13	3.41	2.19	0.27	3.68	2.33
5300	-7.11	0.08	10.13	3.10	2.04	0.27	3.37	2.17
5320	-7.20	0.08	10.13	3.01	2.00	0.27	3.28	2.13
5500	-7.53	0.08	10.14	2.69	1.86	0.27	2.96	1.98
5580	-7.38	0.08	10.13	2.83	1.92	0.27	3.10	2.04
5700	-7.13	0.08	10.12	3.07	2.03	0.27	3.34	2.16
5720	-7.04	0.08	10.12	3.16	2.07	0.27	3.43	2.20
5745	-6.47	0.08	10.12	3.73	2.36	0.27	4.00	2.51
5785	-6.39	0.08	10.12	3.81	2.40	0.27	4.08	2.56
5825	-6.07	0.08	10.11	4.12	2.58	0.27	4.39	2.75

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

Average Output Power
(Reference data for RF Exposure)

Test place	Ise EMC Lab. No.11 Measurement Room
Report No.	11469126H
Date	October 5, 2016
Temperature / Humidity	24deg. C / 58 % RH
Engineer	Tomoki Matsui
Mode	Tx 11n-20

3.4V 11n-20 MCS0

Tested Frequency	Power Meter Reading	Cable Loss	Atten. Loss	Result (Timed average)		Duty factor	Result (Burst power average)	
[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[dB]	[dBm]	[mW]
5180	-6.70	0.08	10.13	3.51	2.24	0.29	3.80	2.40
5220	-6.93	0.08	10.13	3.28	2.13	0.29	3.57	2.28
5240	-7.06	0.08	10.13	3.15	2.07	0.29	3.44	2.21
5260	-7.02	0.08	10.13	3.19	2.08	0.29	3.48	2.23
5300	-7.68	0.08	10.13	2.53	1.79	0.29	2.82	1.91
5320	-7.65	0.08	10.13	2.56	1.80	0.29	2.85	1.93
5500	-8.13	0.08	10.14	2.09	1.62	0.29	2.38	1.73
5580	-7.75	0.08	10.13	2.46	1.76	0.29	2.75	1.88
5700	-7.53	0.08	10.12	2.67	1.85	0.29	2.96	1.98
5720	-7.42	0.08	10.12	2.78	1.90	0.29	3.07	2.03
5745	-6.84	0.08	10.12	3.36	2.17	0.29	3.65	2.32
5785	-6.90	0.08	10.12	3.30	2.14	0.29	3.59	2.29
5825	-6.50	0.08	10.11	3.69	2.34	0.29	3.98	2.50

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

Average Output Power
(Reference data for RF Exposure)

Test place	Ise EMC Lab. No.11 Measurement Room
Report No.	11469126H
Date	October 24, 2016
Temperature / Humidity	23 deg. C / 41 % RH
Engineer	Takafumi Noguchi
Mode	Tx 11n-20

3.0V 11n-20 MCS0

Tested Frequency	Power Meter Reading	Cable Loss	Atten. Loss	Result (Timed average)		Duty factor	Result (Burst power average)	
[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[dB]	[dBm]	[mW]
5180	-8.34	0.08	10.13	1.87	1.54	0.29	2.16	1.64
5220	-8.64	0.08	10.13	1.57	1.44	0.29	1.86	1.53
5240	-8.83	0.08	10.13	1.38	1.37	0.29	1.67	1.47
5260	-8.40	0.08	10.13	1.81	1.52	0.29	2.10	1.62
5300	-8.67	0.08	10.13	1.54	1.43	0.29	1.83	1.52
5320	-8.81	0.08	10.13	1.40	1.38	0.29	1.69	1.48
5500	-9.23	0.08	10.14	0.99	1.26	0.29	1.28	1.34
5580	-8.89	0.08	10.13	1.32	1.36	0.29	1.61	1.45
5700	-8.81	0.08	10.12	1.39	1.38	0.29	1.68	1.47
5720	-8.74	0.08	10.12	1.46	1.40	0.29	1.75	1.50
5745	-7.82	0.08	10.12	2.38	1.73	0.29	2.67	1.85
5785	-7.66	0.08	10.12	2.54	1.79	0.29	2.83	1.92
5825	-7.58	0.08	10.11	2.61	1.82	0.29	2.90	1.95

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

3.93V 11n-20 MCS0

Tested Frequency	Power Meter Reading	Cable Loss	Atten. Loss	Result (Timed average)		Duty factor	Result (Burst power average)	
[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[dB]	[dBm]	[mW]
5180	-6.40	0.08	10.13	3.81	2.40	0.29	4.10	2.57
5220	-6.58	0.08	10.13	3.63	2.31	0.29	3.92	2.47
5240	-6.75	0.08	10.13	3.46	2.22	0.29	3.75	2.37
5260	-6.77	0.08	10.13	3.44	2.21	0.29	3.73	2.36
5300	-7.28	0.08	10.13	2.93	1.96	0.29	3.22	2.10
5320	-7.40	0.08	10.13	2.81	1.91	0.29	3.10	2.04
5500	-8.03	0.08	10.14	2.19	1.66	0.29	2.48	1.77
5580	-7.55	0.08	10.13	2.66	1.85	0.29	2.95	1.97
5700	-7.28	0.08	10.12	2.92	1.96	0.29	3.21	2.09
5720	-7.18	0.08	10.12	3.02	2.00	0.29	3.31	2.14
5745	-6.64	0.08	10.12	3.56	2.27	0.29	3.85	2.43
5785	-6.69	0.08	10.12	3.51	2.24	0.29	3.80	2.40
5825	-6.40	0.08	10.11	3.79	2.39	0.29	4.08	2.56

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

Average Output Power
(Reference data for RF Exposure)

Test place	Ise EMC Lab. No.11 Measurement Room
Report No.	11469126H
Date	October 5, 2016
Temperature / Humidity	24deg. C / 58 % RH
Engineer	Tomoki Matsui
Mode	Tx 11n-40

3.4V 11n-40 MCS0

Tested Frequency	Power Meter Reading	Cable Loss	Atten. Loss	Result (Timed average)		Duty factor	Result (Burst power average)	
[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[dB]	[dBm]	[mW]
5190	-7.10	0.08	10.13	3.11	2.05	0.55	3.66	2.32
5230	-7.53	0.08	10.13	2.68	1.85	0.55	3.23	2.10
5270	-7.74	0.08	10.13	2.47	1.77	0.55	3.02	2.01
5310	-7.88	0.08	10.13	2.33	1.71	0.55	2.88	1.94
5510	-8.41	0.08	10.14	1.81	1.52	0.55	2.36	1.72
5550	-8.26	0.08	10.14	1.96	1.57	0.55	2.51	1.78
5670	-7.90	0.08	10.13	2.31	1.70	0.55	2.86	1.93
5710	-7.74	0.08	10.12	2.46	1.76	0.55	3.01	2.00
5755	-7.20	0.08	10.12	3.00	1.99	0.55	3.55	2.26
5795	-6.98	0.08	10.12	3.22	2.10	0.55	3.77	2.38

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

Average Output Power
(Reference data for RF Exposure)

Test place	Ise EMC Lab. No.11 Measurement Room
Report No.	11469126H
Date	October 24, 2016
Temperature / Humidity	23 deg. C / 41 % RH
Engineer	Takafumi Noguchi
Mode	Tx 11n-40

3.0V 11n-40 MCS0

Tested Frequency	Power Meter Reading	Cable Loss	Atten. Loss	Result (Timed average)		Duty factor	Result (Burst power average)	
[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[dB]	[dBm]	[mW]
5190	-8.79	0.08	10.13	1.42	1.39	0.55	1.97	1.57
5230	-9.09	0.08	10.13	1.12	1.29	0.55	1.67	1.47
5270	-8.84	0.08	10.13	1.37	1.37	0.55	1.92	1.56
5310	-9.10	0.08	10.13	1.11	1.29	0.55	1.66	1.47
5510	-9.66	0.08	10.14	0.56	1.14	0.55	1.11	1.29
5550	-9.62	0.08	10.14	0.60	1.15	0.55	1.15	1.30
5670	-9.30	0.08	10.13	0.91	1.23	0.55	1.46	1.40
5710	-9.13	0.08	10.12	1.07	1.28	0.55	1.62	1.45
5755	-8.15	0.08	10.12	2.05	1.60	0.55	2.60	1.82
5795	-6.54	0.08	10.12	3.66	2.32	0.55	4.21	2.64

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

3.93V 11n-40 MCS0

Tested Frequency	Power Meter Reading	Cable Loss	Atten. Loss	Result (Timed average)		Duty factor	Result (Burst power average)	
[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[dB]	[dBm]	[mW]
5190	-6.90	0.08	10.13	3.31	2.14	0.55	3.86	2.43
5230	-7.39	0.08	10.13	2.82	1.91	0.55	3.37	2.17
5270	-7.44	0.08	10.13	2.77	1.89	0.55	3.32	2.15
5310	-7.59	0.08	10.13	2.62	1.83	0.55	3.17	2.08
5510	-8.16	0.08	10.14	2.06	1.61	0.55	2.61	1.82
5550	-8.02	0.08	10.14	2.20	1.66	0.55	2.75	1.88
5670	-7.74	0.08	10.13	2.47	1.77	0.55	3.02	2.00
5710	-7.51	0.08	10.12	2.69	1.86	0.55	3.24	2.11
5755	-6.90	0.08	10.12	3.30	2.14	0.55	3.85	2.43
5795	-6.78	0.08	10.12	3.42	2.20	0.55	3.97	2.49

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

Average Output Power
(Reference data for RF Exposure)

Test place	Ise EMC Lab. No.11 Measurement Room
Report No.	11469126H
Date	October 5, 2016
Temperature / Humidity	24deg. C / 58 % RH
Engineer	Tomoki Matsui
Mode	Tx 11ac-20

3.4V 11ac-20 MCS0

Tested Frequency	Power Meter Reading	Cable Loss	Atten. Loss	Result (Timed average)		Duty factor	Result (Burst power average)	
[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[dB]	[dBm]	[mW]
5180	-6.70	0.08	10.13	3.51	2.24	0.28	3.79	2.39
5220	-7.06	0.08	10.13	3.15	2.07	0.28	3.43	2.20
5240	-7.19	0.08	10.13	3.02	2.00	0.28	3.30	2.14
5260	-7.20	0.08	10.13	3.01	2.00	0.28	3.29	2.13
5300	-7.50	0.08	10.13	2.71	1.87	0.28	2.99	1.99
5320	-7.62	0.08	10.13	2.59	1.82	0.28	2.87	1.94
5500	-8.10	0.08	10.14	2.12	1.63	0.28	2.40	1.74
5580	-7.68	0.08	10.13	2.53	1.79	0.28	2.81	1.91
5700	-7.40	0.08	10.12	2.80	1.91	0.28	3.08	2.03
5720	-7.34	0.08	10.12	2.86	1.93	0.28	3.14	2.06
5745	-6.80	0.08	10.12	3.40	2.19	0.28	3.68	2.33
5785	-6.65	0.08	10.12	3.55	2.26	0.28	3.83	2.42
5825	-6.55	0.08	10.11	3.64	2.31	0.28	3.92	2.47

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

Average Output Power
(Reference data for RF Exposure)

Test place	Ise EMC Lab. No.11 Measurement Room
Report No.	11469126H
Date	October 24, 2016
Temperature / Humidity	23 deg. C / 41 % RH
Engineer	Takafumi Noguchi
Mode	Tx 11ac-20

3.0V 11ac-20 MCS0

Tested Frequency	Power Meter Reading	Cable Loss	Atten. Loss	Result (Timed average)		Duty factor	Result (Burst power average)	
[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[dB]	[dBm]	[mW]
5180	-8.39	0.08	10.13	1.82	1.52	0.28	2.10	1.62
5220	-8.68	0.08	10.13	1.53	1.42	0.28	1.81	1.52
5240	-8.83	0.08	10.13	1.38	1.37	0.28	1.66	1.47
5260	-8.45	0.08	10.13	1.76	1.50	0.28	2.04	1.60
5300	-8.77	0.08	10.13	1.44	1.39	0.28	1.72	1.49
5320	-8.73	0.08	10.13	1.48	1.41	0.28	1.76	1.50
5500	-9.17	0.08	10.14	1.05	1.27	0.28	1.33	1.36
5580	-8.83	0.08	10.13	1.38	1.37	0.28	1.66	1.47
5700	-8.69	0.08	10.12	1.51	1.42	0.28	1.79	1.51
5720	-8.57	0.08	10.12	1.63	1.46	0.28	1.91	1.55
5745	-7.68	0.08	10.12	2.52	1.79	0.28	2.80	1.91
5785	-7.58	0.08	10.12	2.62	1.83	0.28	2.90	1.95
5825	-7.35	0.08	10.11	2.84	1.92	0.28	3.12	2.05

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

3.93V 11ac-20 MCS0

Tested Frequency	Power Meter Reading	Cable Loss	Atten. Loss	Result (Timed average)		Duty factor	Result (Burst power average)	
[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[dB]	[dBm]	[mW]
5180	-6.40	0.08	10.13	3.81	2.40	0.28	4.09	2.56
5220	-6.77	0.08	10.13	3.44	2.21	0.28	3.72	2.36
5240	-6.85	0.08	10.13	3.36	2.17	0.28	3.64	2.31
5260	-6.86	0.08	10.13	3.35	2.16	0.28	3.63	2.31
5300	-7.20	0.08	10.13	3.01	2.00	0.28	3.29	2.13
5320	-7.31	0.08	10.13	2.90	1.95	0.28	3.18	2.08
5500	-7.82	0.08	10.14	2.40	1.74	0.28	2.68	1.85
5580	-7.38	0.08	10.13	2.83	1.92	0.28	3.11	2.05
5700	-7.29	0.08	10.12	2.91	1.95	0.28	3.19	2.08
5720	-7.13	0.08	10.12	3.07	2.03	0.28	3.35	2.16
5745	-6.60	0.08	10.12	3.60	2.29	0.28	3.88	2.44
5785	-6.45	0.08	10.12	3.75	2.37	0.28	4.03	2.53
5825	-6.36	0.08	10.11	3.83	2.42	0.28	4.11	2.58

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

Average Output Power
(Reference data for RF Exposure)

Test place	Ise EMC Lab. No.11 Measurement Room
Report No.	11469126H
Date	October 5, 2016
Temperature / Humidity	24deg. C / 58 % RH
Engineer	Tomoki Matsui
Mode	Tx 11ac-40

3.4V 11ac-40 MCS0

Tested Frequency	Power Meter Reading	Cable Loss	Atten. Loss	Result (Timed average)		Duty factor	Result (Burst power average)	
[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[dB]	[dBm]	[mW]
5190	-7.20	0.08	10.13	3.01	2.00	0.55	3.56	2.27
5230	-7.43	0.08	10.13	2.78	1.90	0.55	3.33	2.15
5270	-7.74	0.08	10.13	2.47	1.77	0.55	3.02	2.01
5310	-7.90	0.08	10.13	2.31	1.70	0.55	2.86	1.93
5510	-8.32	0.08	10.14	1.90	1.55	0.55	2.45	1.76
5550	-8.35	0.08	10.14	1.87	1.54	0.55	2.42	1.75
5670	-7.84	0.08	10.13	2.37	1.73	0.55	2.92	1.96
5710	-7.70	0.08	10.12	2.50	1.78	0.55	3.05	2.02
5755	-7.00	0.08	10.12	3.20	2.09	0.55	3.75	2.37
5795	-6.77	0.08	10.12	3.43	2.20	0.55	3.98	2.50

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

Average Output Power
(Reference data for RF Exposure)

Test place	Ise EMC Lab. No.11 Measurement Room
Report No.	11469126H
Date	October 24, 2016
Temperature / Humidity	23 deg. C / 41 % RH
Engineer	Takafumi Noguchi
Mode	Tx 11ac-40

3.0V 11ac-40 MCS0

Tested Frequency	Power Meter Reading	Cable Loss	Atten. Loss	Result (Timed average)		Duty factor	Result (Burst power average)	
[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[dB]	[dBm]	[mW]
5190	-8.96	0.08	10.13	1.25	1.33	0.55	1.80	1.51
5230	-9.18	0.08	10.13	1.03	1.27	0.55	1.58	1.44
5270	-8.92	0.08	10.13	1.29	1.35	0.55	1.84	1.53
5310	-9.17	0.08	10.13	1.04	1.27	0.55	1.59	1.44
5510	-9.65	0.08	10.14	0.57	1.14	0.55	1.12	1.29
5550	-9.67	0.08	10.14	0.55	1.14	0.55	1.10	1.29
5670	-9.38	0.08	10.13	0.83	1.21	0.55	1.38	1.37
5710	-9.26	0.08	10.12	0.94	1.24	0.55	1.49	1.41
5755	-8.15	0.08	10.12	2.05	1.60	0.55	2.60	1.82
5795	-8.07	0.08	10.12	2.13	1.63	0.55	2.68	1.85

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

3.93V 11ac-40 MCS0

Tested Frequency	Power Meter Reading	Cable Loss	Atten. Loss	Result (Timed average)		Duty factor	Result (Burst power average)	
[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[dB]	[dBm]	[mW]
5190	-6.96	0.08	10.13	3.25	2.11	0.55	3.80	2.40
5230	-7.12	0.08	10.13	3.09	2.04	0.55	3.64	2.31
5270	-7.41	0.08	10.13	2.80	1.91	0.55	3.35	2.16
5310	-7.61	0.08	10.13	2.60	1.82	0.55	3.15	2.07
5510	-8.09	0.08	10.14	2.13	1.63	0.55	2.68	1.85
5550	-8.08	0.08	10.14	2.14	1.64	0.55	2.69	1.86
5670	-7.59	0.08	10.13	2.62	1.83	0.55	3.17	2.07
5710	-7.50	0.08	10.12	2.70	1.86	0.55	3.25	2.11
5755	-6.94	0.08	10.12	3.26	2.12	0.55	3.81	2.40
5795	-6.54	0.08	10.12	3.66	2.32	0.55	4.21	2.64

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

Average Output Power
(Reference data for RF Exposure)

Test place	Ise EMC Lab. No.11 Measurement Room	
Report No.	11469126H	
Date	October 5, 2016	October 24, 2016
Temperature / Humidity	24deg. C / 58 % RH	23 deg. C / 41 % RH
Engineer	Tomoki Matsui	Takafumi Noguchi
Mode	Tx 11ac-80	

3.4V 11ac-80 MCS0

Tested Frequency	Power Meter Reading	Cable Loss	Atten. Loss	Result (Timed average)		Duty factor	Result (Burst power average)	
[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[dB]	[dBm]	[mW]
5210	-7.58	0.08	10.13	2.63	1.83	1.05	3.68	2.33
5290	-8.10	0.08	10.13	2.11	1.63	1.05	3.16	2.07
5530	-8.50	0.08	10.14	1.72	1.49	1.05	2.77	1.89
5610	-8.16	0.08	10.13	2.05	1.60	1.05	3.10	2.04
5690	-7.94	0.08	10.12	2.26	1.68	1.05	3.31	2.14
5775	-7.24	0.08	10.12	2.96	1.98	1.05	4.01	2.52

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

3.0V 11ac-80 MCS0

Tested Frequency	Power Meter Reading	Cable Loss	Atten. Loss	Result (Timed average)		Duty factor	Result (Burst power average)	
[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[dB]	[dBm]	[mW]
5210	-9.34	0.08	10.13	0.87	1.22	1.05	1.92	1.56
5290	-9.42	0.08	10.13	0.79	1.20	1.05	1.84	1.53
5530	-9.96	0.08	10.14	0.26	1.06	1.05	1.31	1.35
5610	-9.62	0.08	10.13	0.59	1.15	1.05	1.64	1.46
5690	-9.62	0.08	10.12	0.58	1.14	1.05	1.63	1.46
5775	-8.45	0.08	10.12	1.75	1.50	1.05	2.80	1.90

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

3.93V 11ac-80 MCS0

Tested Frequency	Power Meter Reading	Cable Loss	Atten. Loss	Result (Timed average)		Duty factor	Result (Burst power average)	
[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[dB]	[dBm]	[mW]
5210	-7.35	0.08	10.13	2.86	1.93	1.05	3.91	2.46
5290	-7.74	0.08	10.13	2.47	1.77	1.05	3.52	2.25
5530	-8.20	0.08	10.14	2.02	1.59	1.05	3.07	2.03
5610	-7.92	0.08	10.13	2.29	1.69	1.05	3.34	2.16
5690	-7.81	0.08	10.12	2.39	1.73	1.05	3.44	2.21
5775	-6.95	0.08	10.12	3.25	2.11	1.05	4.30	2.69

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