RADIO TEST REPORT

Test Report No. : 11081928H-C-R2

Applicant	:	**DENSO CORPORATION**
Type of Equipment	:	**Control Box**
Model No.	:	**DNNS087**
FCC ID	:	**HYQDNNS087**
Test regulation	:	**FCC Part 15 Subpart E: 2015 (Except for DFS test)**
Test Result	:	**Complied**

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2. The results in this report apply only to the sample tested.
3. This sample tested is in compliance with the 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)
7. This report is a revised version of 11081928H-C-R1. 11081928H-C-R1 is replaced with this report.

Date of test: February 15 to 19, 2016

Representative test engineer:
Ken Fujita
Engineer
Consumer Technology Division

Approved by:
Takayuki Shimada
Engineer
Consumer Technology Division

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/

REVISION HISTORY

Original Test Report No.: 11081928H-C

Revision	Test report No.	Date	Page revised	Contents
- (Original)	11081928H-C	March 22, 2016	-	-
1	11081928H-C-R1	April 14, 2016	P.14	Addition of test method for average output power
2	11081928H-C-R2	April 26, 2016	P.13, 14	Update of KDB version

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SECTION 1: Customer information

Company Name	:	DENSO CORPORATION
Address	:	1-1 Showa-cho, Kariya-shi, Aichi-ken, 448-8661 Japan
Telephone Number	:	+81-566-26-5919
Facsimile Number	:	+81-566-25-4920
Contact Person	:	Isamu Suzuki

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

2.1 Identification of E.U.T.

Type of Equipment	:	Control Box
Model No.	:	DNNS087
Serial No.	:	Refer to Section 4, Clause 4.2
Rating	:	DC 12 V
Receipt Date of Sample	:	February 11, 2016
Country of Mass-production	:	United States of America
Condition of EUT	:	Production 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: DNNS087 (referred to as the EUT in this report) is a Control Box.

General Specification

Clock frequency(ies) in the system	:	533 MHz 32.768 kHz, 37.4 MHz (Crystal)
Operating Temperature	:	-30 deg. C - +70 deg. C

Radio Specification

Radio Type	:	Transceiver
Power Supply (inner)	:	DC 3.3 V (VDD) DC 1.8 V (VIO)

	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	5MHz		20MHz	40MHz	80MHz
Antenna type	ASSEMBLY WiFi Antenna				
Antenna Connector type	MHF PLUG				
Antenna Gain	-3.2 dBi				

	GPS	Bluetooth Ver.4.1 with EDR function
Frequency of operation	1575.42 MHz	2402 MHz - 2480 MHz
Type of modulation	BPSK	BT: FHSS (GFSK, π/4-DQPSK, 8-DPSK) LE: GFSK
Channel spacing	-	BT: 1 MHz LE: 2 MHz
Antenna type	ANTENNA ASSY, GPS	ASSEMBLY WiFi Antenna
Antenna Connector type	FAKRA	MHF PLUG
Antenna Gain	26.5 dBi	-3.2 dBi

*1) This test report applies to WLAN (5GHz band).
*Wireless LAN and Bluetooth do not transmit simultaneously.

SECTION 3: Test specification, procedures & results

3.1 Test Specification

Test Specification	:	FCC Part 15 Subpart E: 2015, final revised on November 23, 2015 *Some parts are effective on and after December 17, 2015 or December 23, 2015. The revision does not affect the test specification applied to the EUT.
Title	:	FCC 47CFR Part15 Radio Frequency Device Subpart E Unlicensed National Information Infrastructure Devices Section 15.407 General technical requirements

* The EUT complies with FCC Part 15 Subpart B: 2015, final revised on November 23, 2015.

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	N/A	N/A *1)	-
	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	0.1 dB 5460.000 MHz, AV, Vert.	Complied	Conducted (< 30 MHz) / Radiated (> 30 MHz) *2)
	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 11081928H-F-R1 issued by UL Japan, Inc.
*1) The test is not applicable since the EUT is not the device that is designed to be connected to the public utility (AC) power line.
*2) 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 15.31 (e)

The EUT provides stable voltage (DC 1.8 V / DC 3.3.V) constantly to the wireless transmitter regardless of input voltage.
Instead of a new battery, DC power supply was used for the test.
That does not affect the test result, therefore the EUT complies with the requirement.

FCC Part 15.203 Antenna requirement

It is impossible for end users to replace the antenna, because the antenna is mounted inside of the vehicle. 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

Polarity	Radiated emission (Below 1GHz)			
	(3 m*)(±dB)		(10 m*)(±dB)	
	30 – 300 MHz	300 – 1000MHz	30 – 300 MHz	300 – 1000MHz
Horizontal	4.8 dB	5.2 dB	4.8 dB	5.0 dB
Vertical	4.5 dB	5.9 dB	4.8 dB	5.1 dB

Radiated emission				
(3 m*)(±dB)		(1 m*)(±dB)	(0.5 m*)(±dB)	(10 m*)(±dB)
1 – 6GHz	6 – 18GHz	10 – 26.5 GHz	26.5 – 40GHz	1 -18 GHz
5.1 dB	5.3 dB	5.1 dB	5.1 dB	5.3 dB

*Measurement distance

Radiated emission test

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

3.5 Test Location

UL Japan, Inc. Ise EMC Lab. *NVLAP Lab. code: 200572-0
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN
Telephone: +81 596 24 8999, Facsimile: +81 596 24 8124

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)	24 Mbps, PN9
IEEE 802.11n SISO 20 MHz BW (11n-20)	MCS 5, PN9
IEEE 802.11n SISO 40 MHz BW (11n-40)	MCS 3, PN9
IEEE 802.11ac SISO 20 MHz BW (11ac-20)	MCS 3, PN9
IEEE 802.11ac SISO 40 MHz BW (11ac-40)	MCS 4, PN9
IEEE 802.11ac SISO 80 MHz BW (11ac-80)	MCS 3, PN9
*The worst condition was determined based on the test result of Maximum Conducted Output Power.	

*Power of the EUT was set by the software as follows;

Power settings: 11a 11dBm
11n-20 MCS0-6 11dBm MCS7 10dBm
11n-40 MCS0-6 11dBm MCS7 10dBm
11ac-20 MCS0-6 11dBm MCS7-8 10dBm
11ac-40 MCS0-6 11dBm MCS7 10dBm MCS8-9 9dBm
11ac-80 MCS0-6 11dBm MCS7 10dBm MCS8-9 9dBm

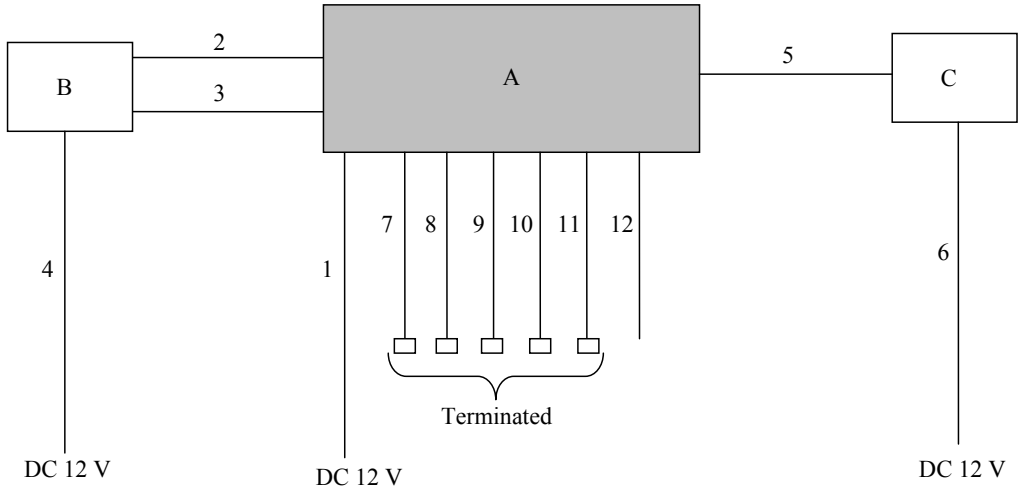
Software: bcmcX Ver1.0.4.3

*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			
		Lower Band	Middle Band	Additional Band	Upper Band
26 dB 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, Maximum Conducted Output Power, Maximum Power Spectral Density	11a Tx 11n-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
6 dB 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
Radiated Spurious Emission (Below 1 GHz) Conducted Spurious Emission	11ac-20 Tx *1)	5180 MHz	-	-	-
Radiated Spurious Emission (Above 1 GHz)	11ac-20 Tx	5180 MHz	5260 MHz 5320 MHz	5500 MHz 5580 MHz 5700 MHz	5745 MHz 5785 MHz 5825 MHz
	11ac-40 Tx	5190 MHz	5270 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
*1) The mode was tested as a representative, because it had the highest power at antenna terminal test.					

4.2 Configuration and peripherals



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

Description of EUT and Support equipment

No.	Item	Model number	Serial number	Manufacturer	Remarks
A	Control Box	DNNS087	002 *1) 001 *2)	DENSO CORPORATION	EUT
B	Jig	-	-	-	-
C	Display	703748	AUO-1507019	SPECTRUM DIGITAL INCORPORATED	-

*1) Used for Antenna Terminal conducted test
*2) Used for Radiated Spurious Emission test

List of cables used

No.	Name	Length (m)	Shield		Remarks
			Cable	Connector	
1	DC Cable	2.0	Unshielded	Unshielded	-
2	MOST Cable (Red)	2.0	Shielded	Shielded	-
3	MOST Cable (Green)	2.0	Shielded	Shielded	-
4	DC Cable	2.0	Unshielded	Unshielded	-
5	LVDS Cable	2.0	Shielded	Shielded	-
6	DC Cable	2.0	Unshielded	Unshielded	-
7	GPS Cable	2.0	Shielded	Shielded	-
8	Camera Cable	2.0	Unshielded	Unshielded	-
9	USB Cable	2.0	Shielded	Shielded	-
10	USB Cable	2.0	Shielded	Shielded	-
11	USB Cable	2.0	Shielded	Shielded	-
12	HDMI Cable	2.0	Shielded	Shielded	-

SECTION 5: Radiated Spurious Emission and Band Edge Compliance

Test Procedure

< Below 1GHz >
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 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).
Apply to limit 68.2 dBuV/m, 3 m (-27 dBm e.i.r.p.*) or
78.2 dBuV/m, 3 m (-17 dBm e.i.r.p.*) in the Section 15.407 (b).

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

*Electric field strength to e.i.r.p. conversion:

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

Test Antennas are used as below;

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

Frequency	Below 1 GHz	Above 1 GHz	
Instrument used	Test Receiver	Spectrum Analyzer	
Detector	QP	Peak	Average
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 Duty factor was added to the results. Integration Method *1) RBW: 100kHz VBW: 300kHz Span: 2MHz Band Power: 1MHz Detector: Power Averaging (RMS) Trace: 100 traces Duty factor was added to the results.
Test Distance	3 m	4.4 m*2) (1 GHz – 10GHz), 1 m*3) (10 GHz – 26.5 GHz), 0.5 m*4) (26.5 GHz – 40 GHz)	

*1) The test method was also referred to KDB 789033 D02 General UNII Test Procedures New Rules v01r02 "Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices Part 15, Subpart E (Issued on April 8, 2016)".
*2) Distance Factor: 20 x log (4.4 m/3.0 m) = 3.3 dB
*3) Distance Factor: 20 x log (1.0 m/3.0 m) = -9.5 dB
*4) Distance Factor: 20 x log (0.5 m/3.0 m) = -15.6 dB

The test was made on EUT at the normal use position.

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 6: 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)
Average Output Power	-	-	-	Auto	Average	-	Power Meter (Sensor: 80 MHz BW) (Timed average)
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 v01r02 "Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices Part 15, Subpart E (Issued on April 8, 2016)".

*1) Peak hold was applied as Worst-case measurement.
*2) FCC standard says that RBW is set to be 500 kHz for 5.725 GHz-5.850 GHz, but it is not possible with spectrum analyzer, so 10log(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 not detected 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

26 dB Emission Bandwidth and 99 % Occupied Bandwidth

Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 18, 2016
Temperature / Humidity	21deg. C / 47 % RH
Engineer	Ken Fujita
Mode	Tx 11a

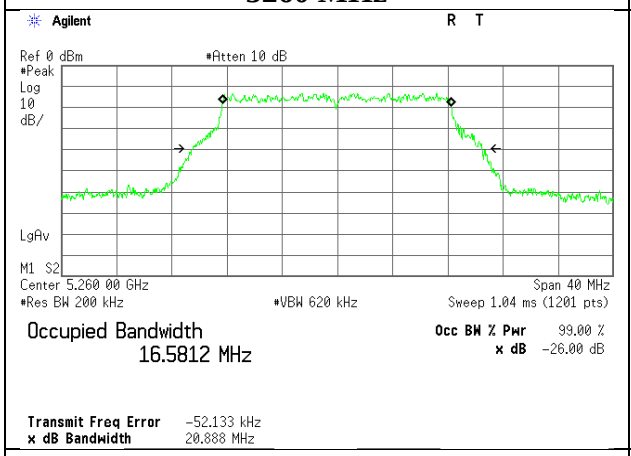
Tested Frequency [MHz]	26 dB Emission Bandwidth [MHz]	99 % Occupied Bandwidth [MHz]	Limit [MHz]
5180	-	17.107	-
5220	-	17.090	-
5240	-	17.101	-
5260	20.888	17.096	-
5300	20.832	17.055	-
5320	21.004	17.110	-
5500	20.954	17.077	-
5580	20.905	17.096	-
5700	20.935	17.110	-
5720	20.988	17.119	-
5745	-	17.067	-
5785	-	17.110	-
5825	-	17.161	-

26 dB Emission Bandwidth

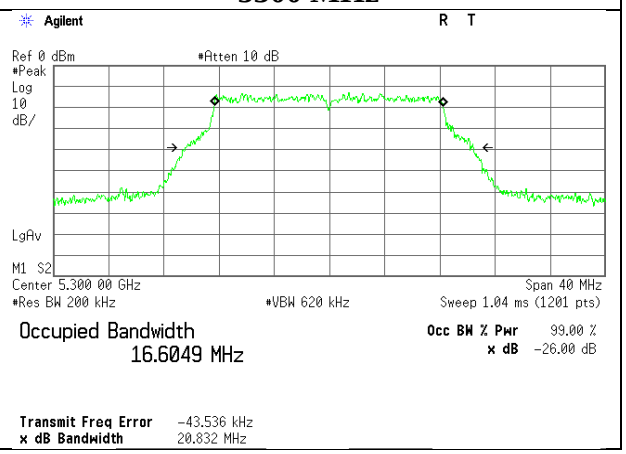
Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 18, 2016
Temperature / Humidity	21deg. C / 47 % RH
Engineer	Ken Fujita
Mode	Tx 11a

11a

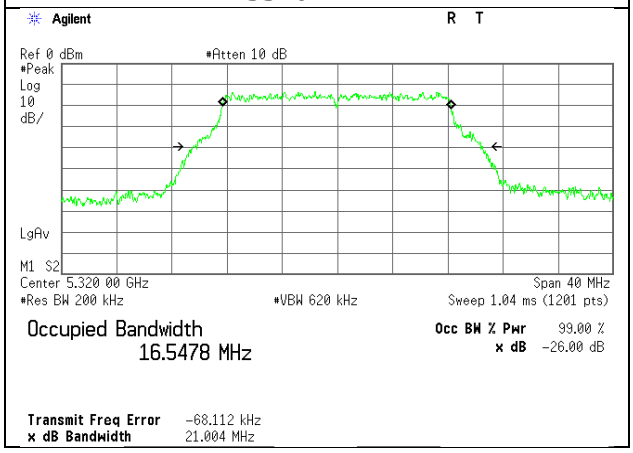
5260 MHz



5300 MHz



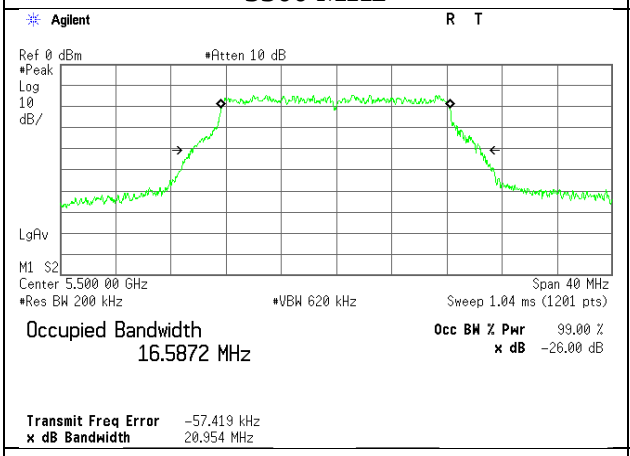
5320 MHz



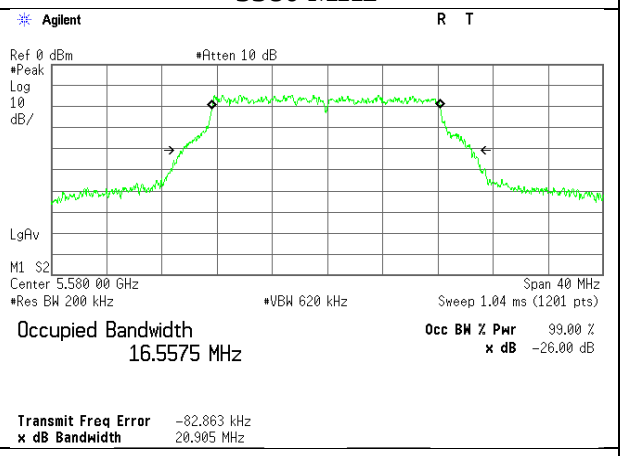
26 dB Emission Bandwidth

Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 18, 2016
Temperature / Humidity	21deg. C / 47 % RH
Engineer	Ken Fujita
Mode	Tx 11a

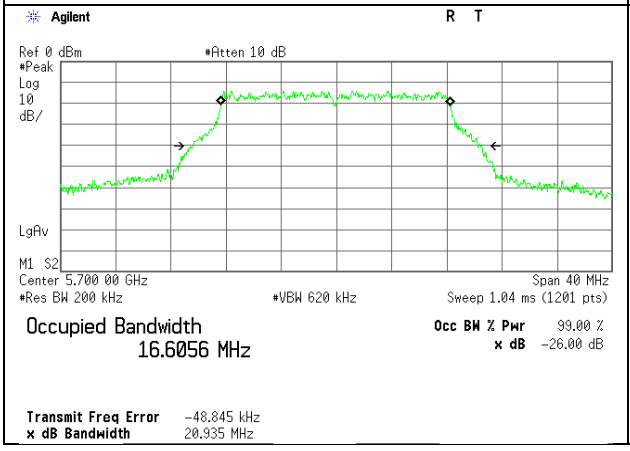
5500 MHz



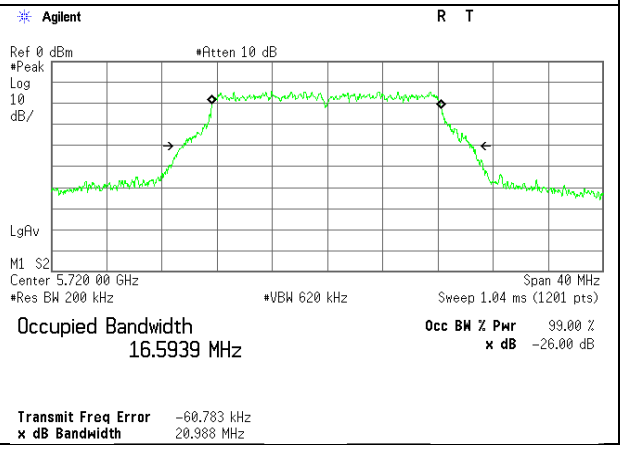
5580 MHz



5700 MHz



5720 MHz

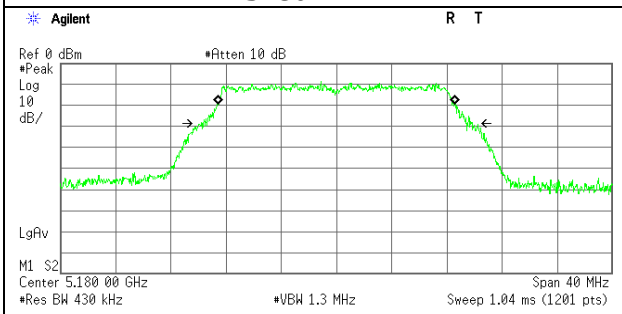


99 % Occupied Bandwidth

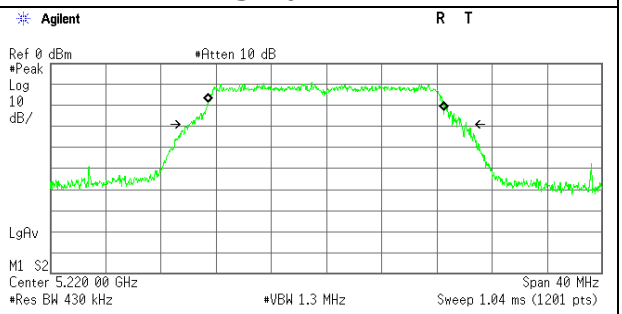
Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 18, 2016
Temperature / Humidity	21deg. C / 47 % RH
Engineer	Ken Fujita
Mode	Tx 11a

11a

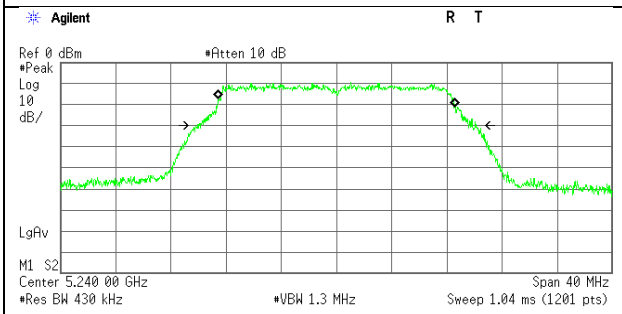
5180 MHz



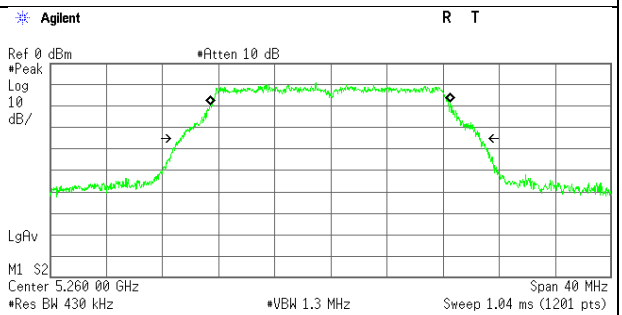
5220 MHz



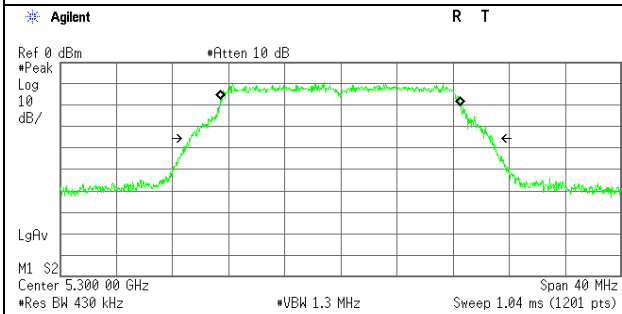
5240 MHz



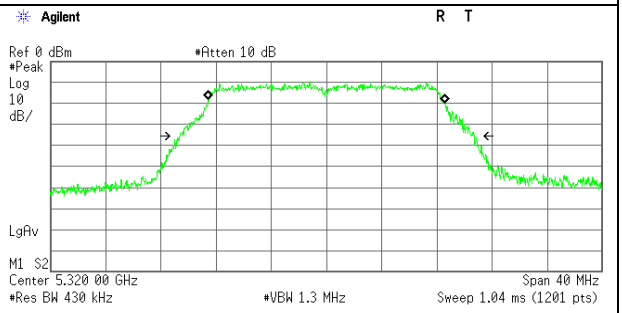
5260 MHz



5300 MHz



5320 MHz

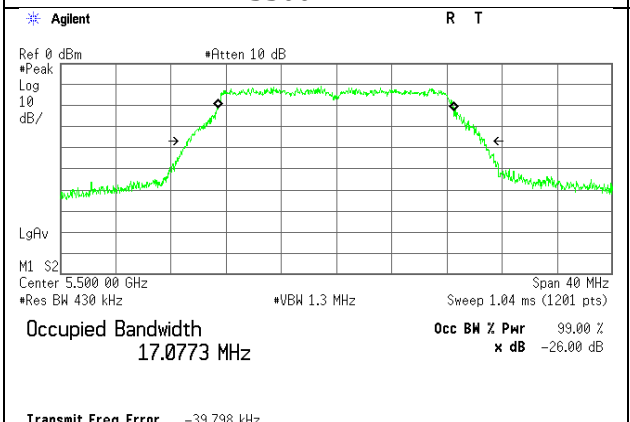


99 % Occupied Bandwidth

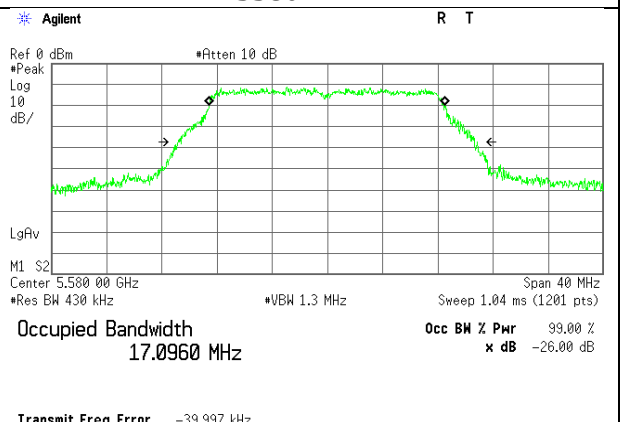
Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 18, 2016
Temperature / Humidity	21deg. C / 47 % RH
Engineer	Ken Fujita
Mode	Tx 11a

11a

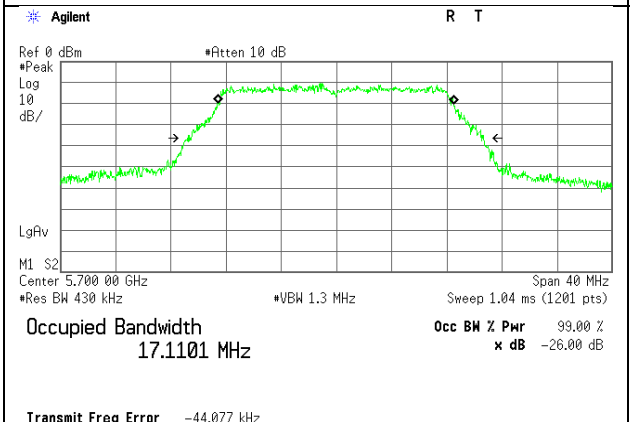
5500MHz



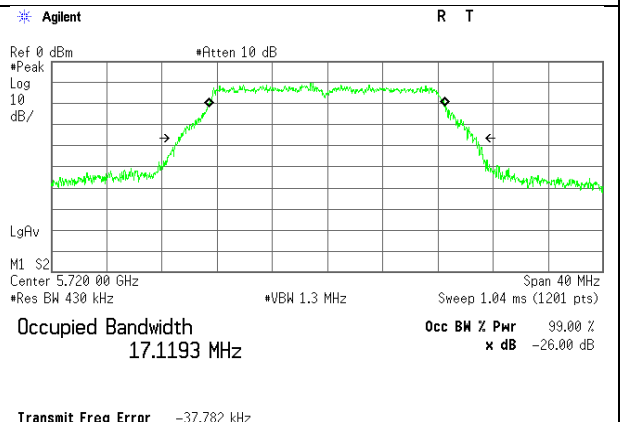
5580 MHz



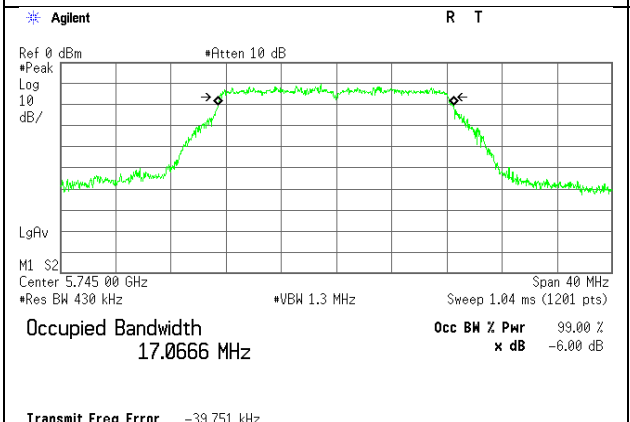
5700 MHz



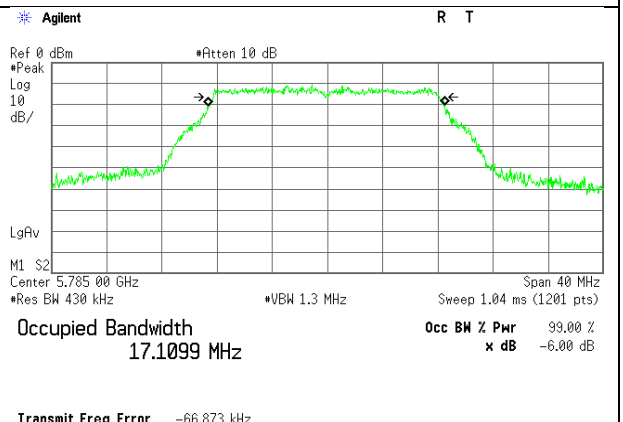
5720 MHz



5745 MHz



5785 MHz

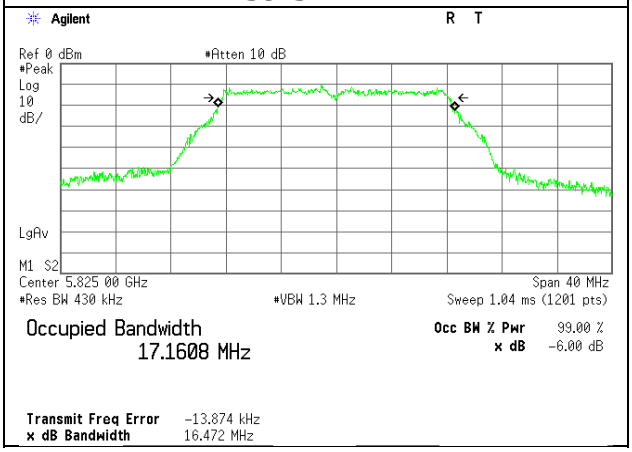


99 % Occupied Bandwidth

Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 18, 2016
Temperature / Humidity	21deg. C / 47 % RH
Engineer	Ken Fujita
Mode	Tx 11a

11a

5825 MHz



26 dB Emission Bandwidth and 99 % Occupied Bandwidth

Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 18, 2016
Temperature / Humidity	21deg. C / 47 % RH
Engineer	Ken Fujita
Mode	Tx 11n-20

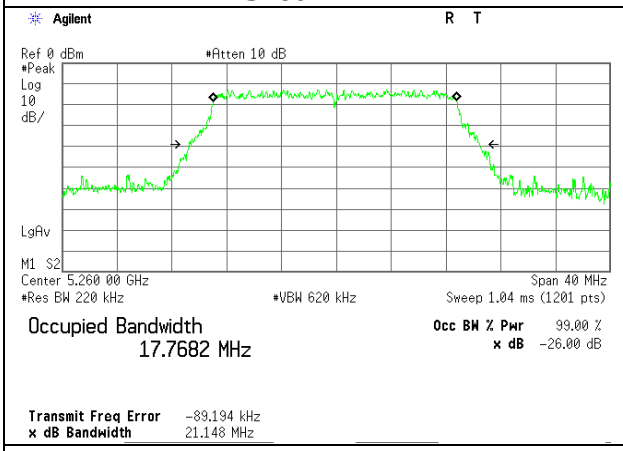
Tested Frequency [MHz]	26 dB Emission Bandwidth [MHz]	99 % Occupied Bandwidth [MHz]	Limit [MHz]
5180	-	18.071	-
5220	-	18.038	-
5240	-	18.046	-
5260	21.148	18.062	-
5300	20.821	18.081	-
5320	21.287	18.079	-
5500	21.209	18.103	-
5580	21.103	18.135	-
5700	21.094	18.139	-
5720	21.032	18.030	-
5745	-	18.075	-
5785	-	18.036	-
5825	-	18.067	-

26 dB Emission Bandwidth

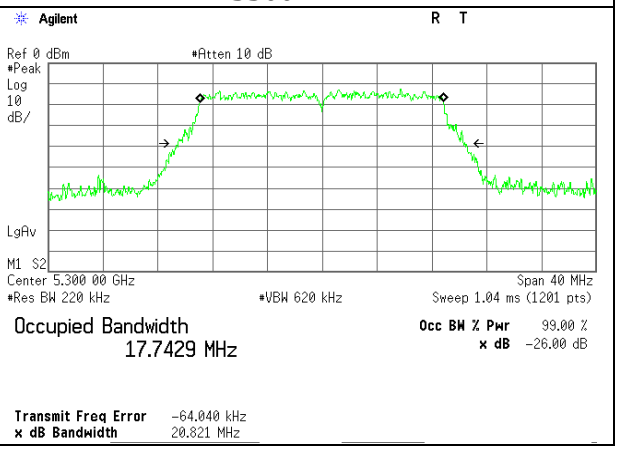
Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 18, 2016
Temperature / Humidity	21deg. C / 47 % RH
Engineer	Ken Fujita
Mode	Tx 11n-20

11n-20

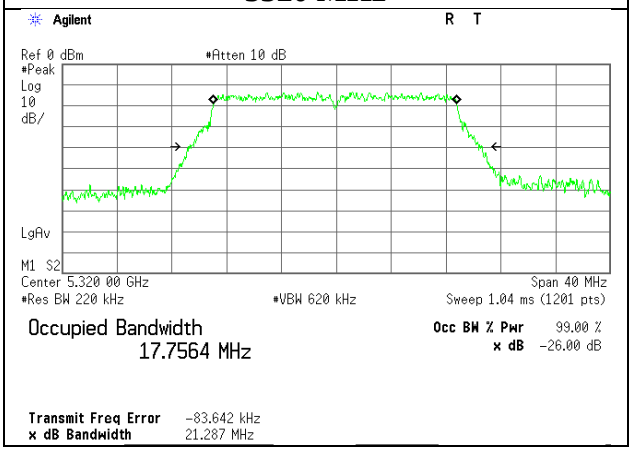
5260 MHz



5300 MHz



5320 MHz

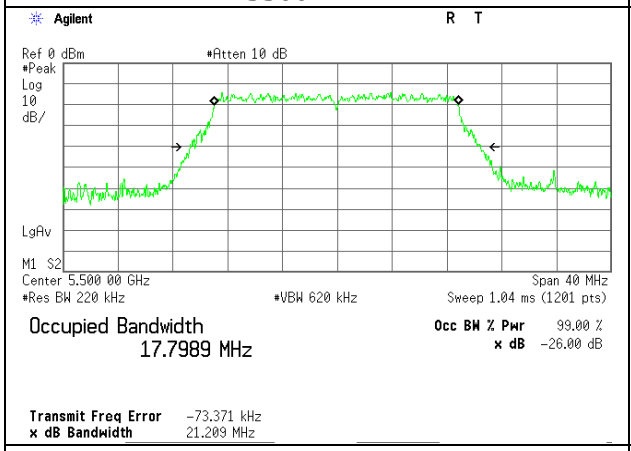


26 dB Emission Bandwidth

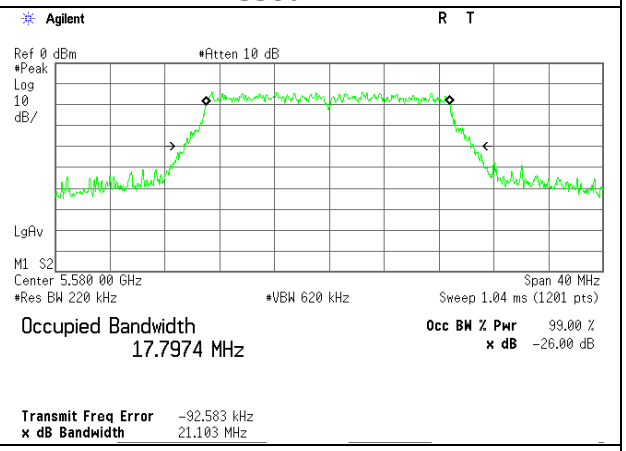
Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 18, 2016
Temperature / Humidity	21deg. C / 47 % RH
Engineer	Ken Fujita
Mode	Tx 11n-20

11n-20

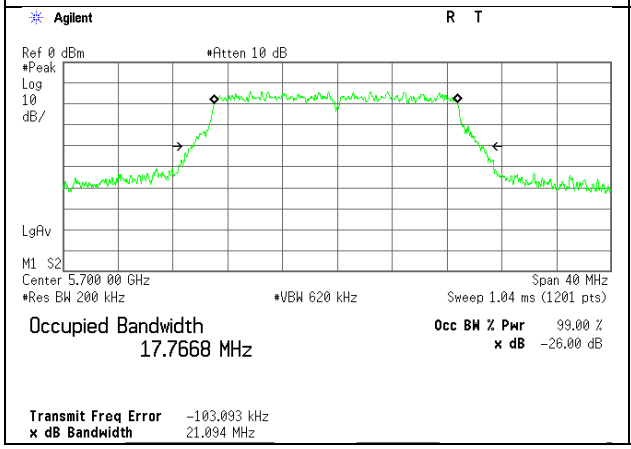
5500 MHz



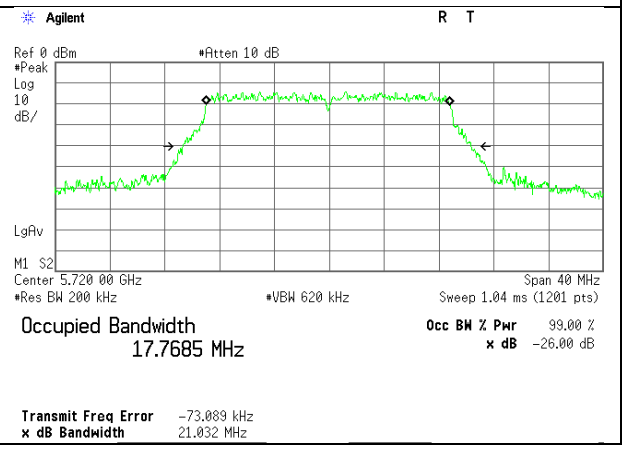
5580 MHz



5700 MHz



5720 MHz

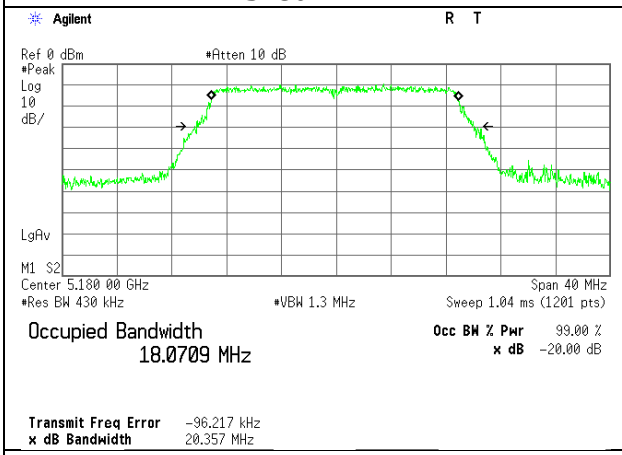


99 % Occupied Bandwidth

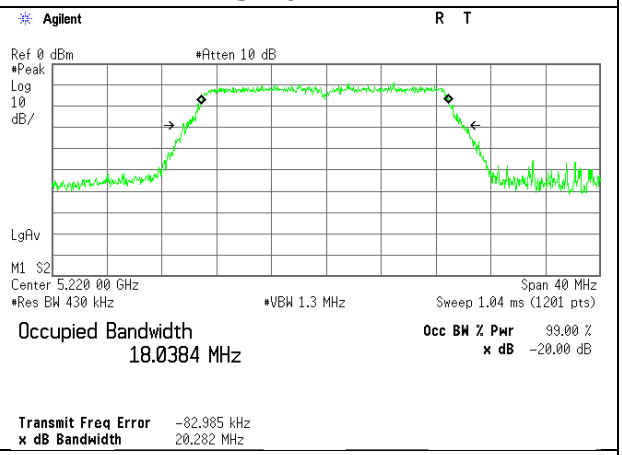
Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 18, 2016
Temperature / Humidity	21deg. C / 47 % RH
Engineer	Ken Fujita
Mode	Tx 11n-20

11n-20

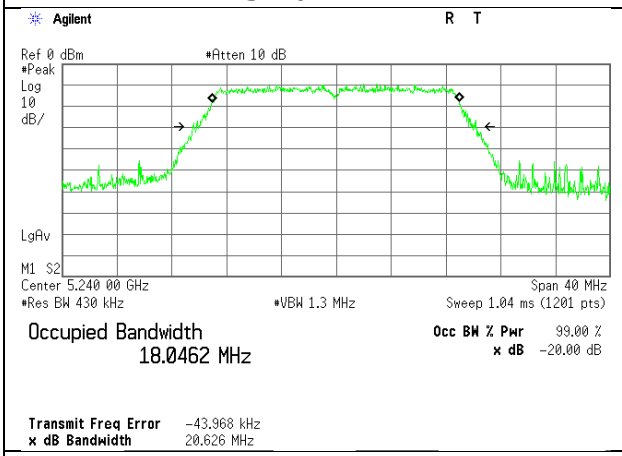
5180 MHz



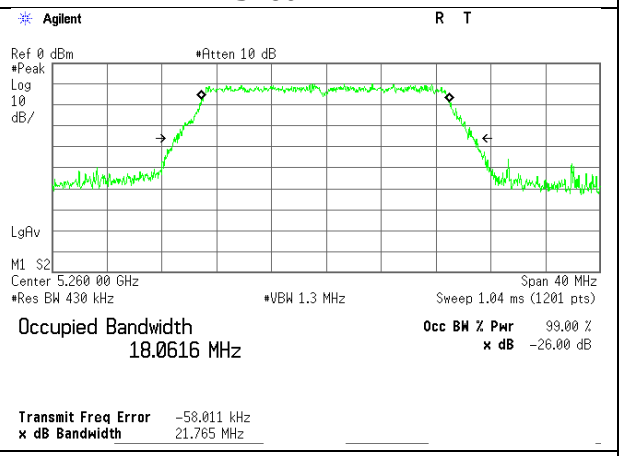
5220 MHz



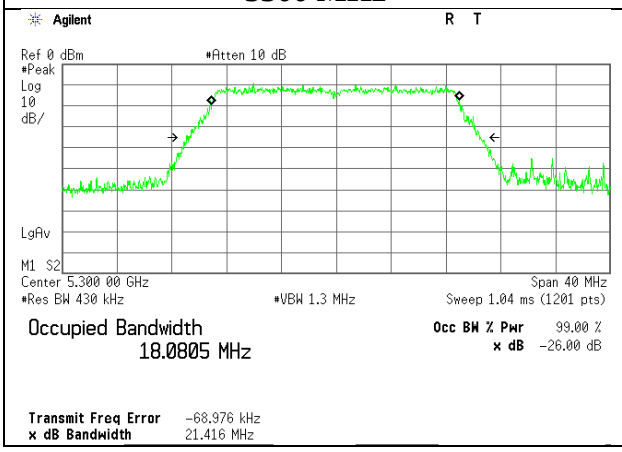
5240 MHz



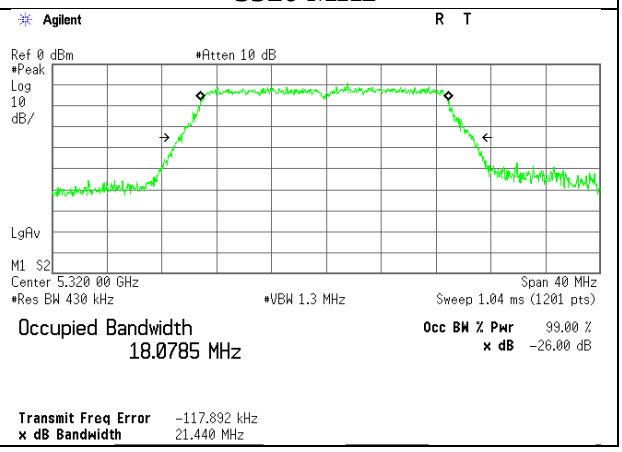
5260 MHz



5300 MHz



5320 MHz

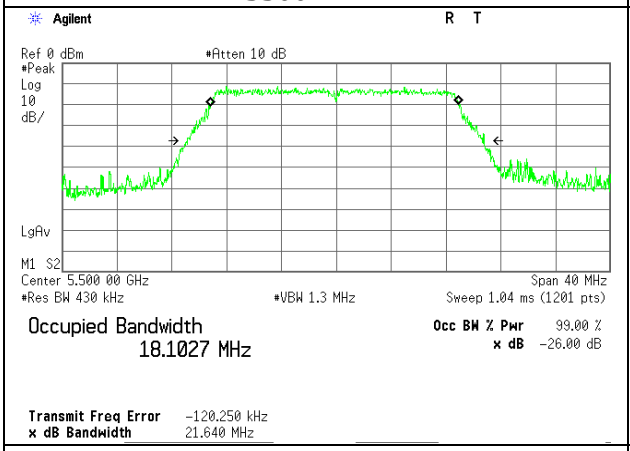


99 % Occupied Bandwidth

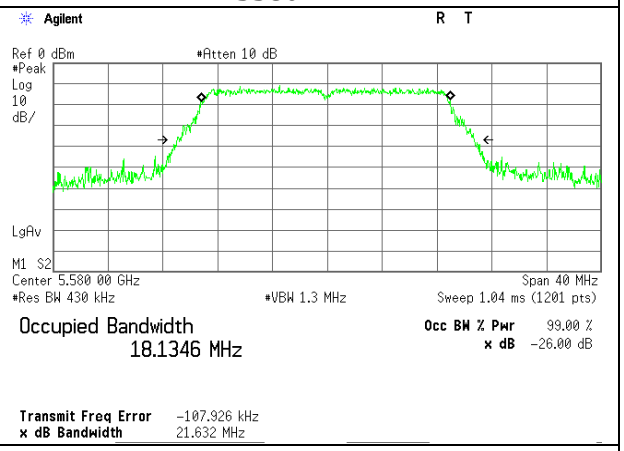
Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 18, 2016
Temperature / Humidity	21deg. C / 47 % RH
Engineer	Ken Fujita
Mode	Tx 11n-20

11n-20

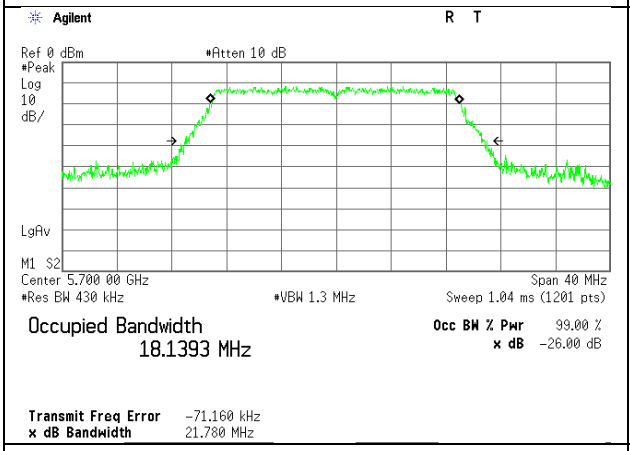
5500 MHz



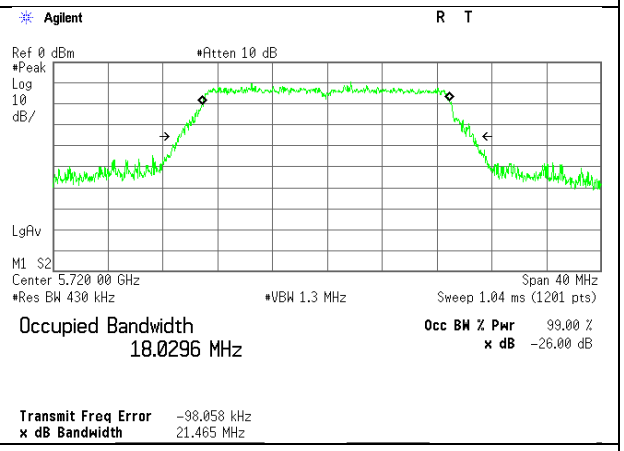
5580 MHz



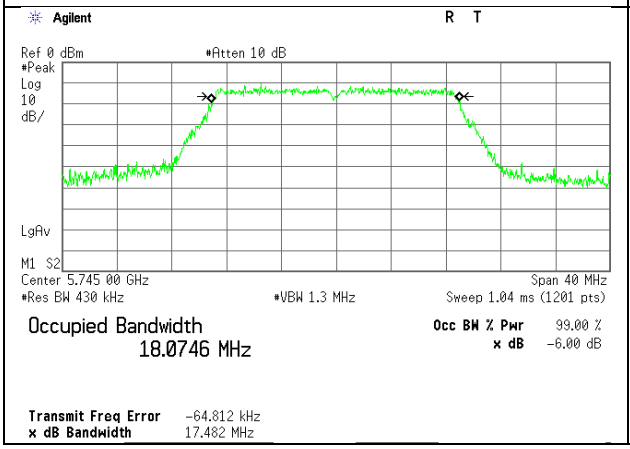
5700 MHz



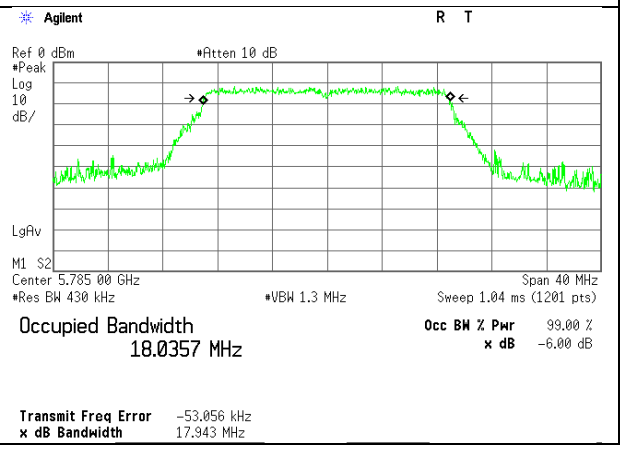
5720 MHz



5745 MHz



5785 MHz

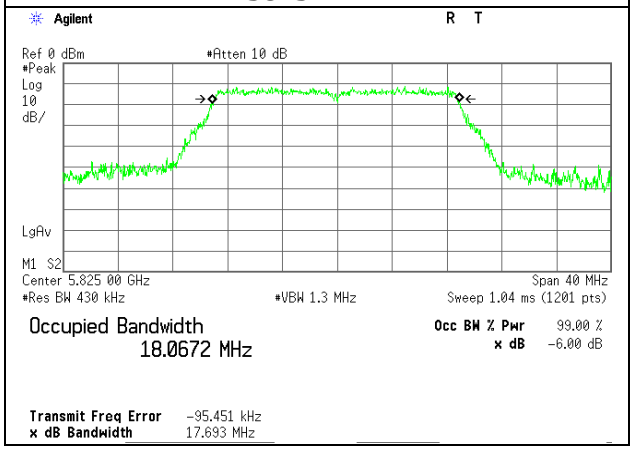


99 % Occupied Bandwidth

Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 18, 2016
Temperature / Humidity	21deg. C / 47 % RH
Engineer	Ken Fujita
Mode	Tx 11n-20

11n-20

5825 MHz



26 dB Emission Bandwidth and 99 % Occupied Bandwidth

Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 18, 2016
Temperature / Humidity	21deg. C / 47 % RH
Engineer	Ken Fujita
Mode	Tx 11ac-20

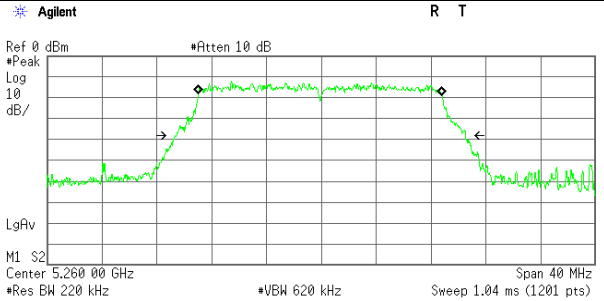
Tested Frequency [MHz]	26 dB Emission Bandwidth [MHz]	99 % Occupied Bandwidth [MHz]	Limit [MHz]
5180	-	18.113	-
5220	-	18.136	-
5240	-	18.101	-
5260	21.206	18.074	-
5300	21.046	18.113	-
5320	21.119	18.033	
5500	21.253	18.122	-
5580	21.162	18.132	-
5700	21.100	18.212	-
5720	21.140	18.098	
5745	-	18.104	-
5785	-	18.049	-
5825	-	18.125	-

26 dB Emission Bandwidth

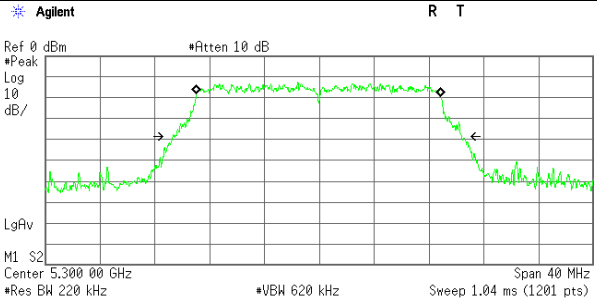
Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 18, 2016
Temperature / Humidity	21deg. C / 47 % RH
Engineer	Ken Fujita
Mode	Tx 11ac-20

11ac-20

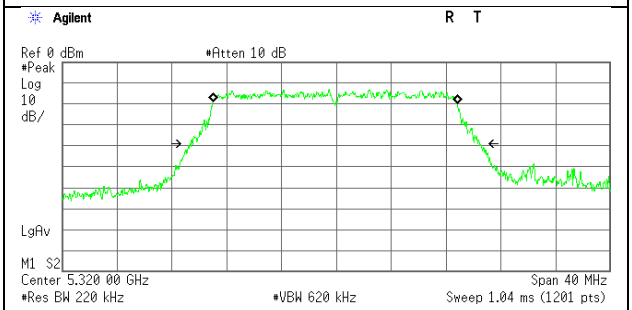
5260 MHz



5300 MHz



5320 MHz

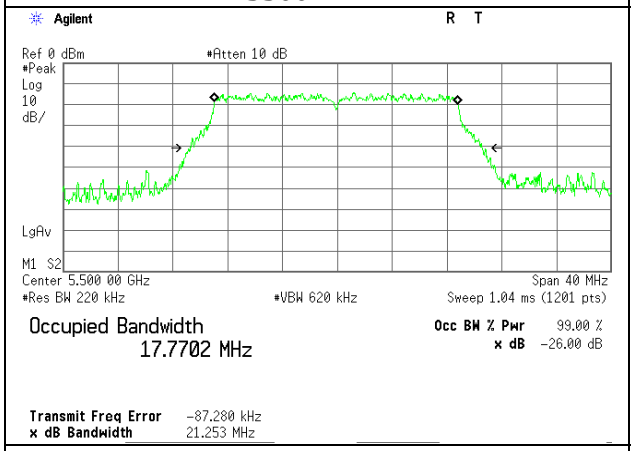


26 dB Emission Bandwidth

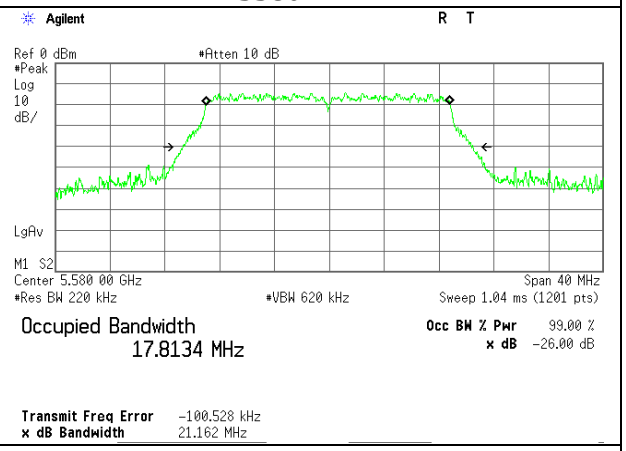
Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 18, 2016
Temperature / Humidity	21deg. C / 47 % RH
Engineer	Ken Fujita
Mode	Tx 11ac-20

11ac-20

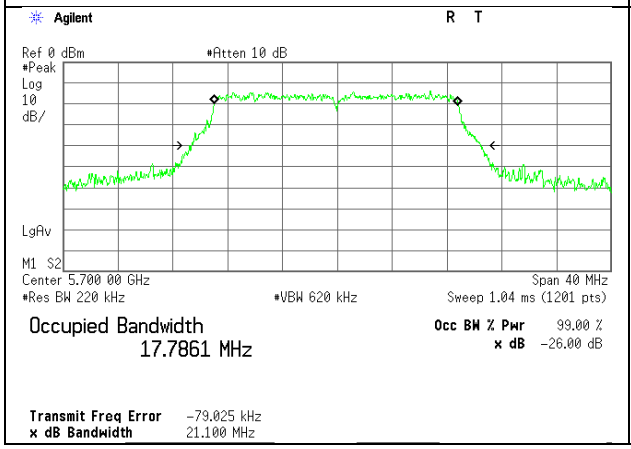
5500 MHz



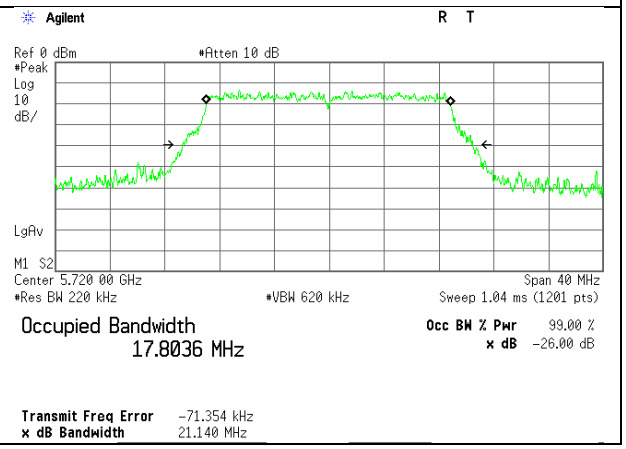
5580 MHz



5700 MHz



5720 MHz

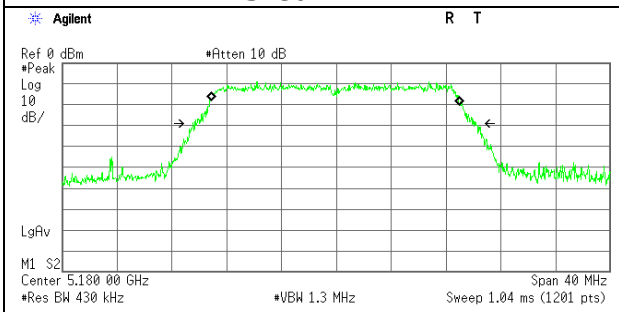


99 % Occupied Bandwidth

Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 18, 2016
Temperature / Humidity	21deg. C / 47 % RH
Engineer	Ken Fujita
Mode	Tx 11ac-20

11ac-20

5180 MHz

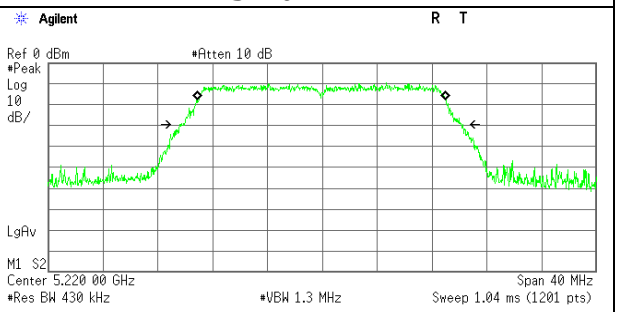


Occupied Bandwidth
18.1129 MHz

Occ BW % Pwr 99.00 %
x dB -20.00 dB

Transmit Freq Error -79.718 kHz
x dB Bandwidth 20.591 MHz

5220 MHz

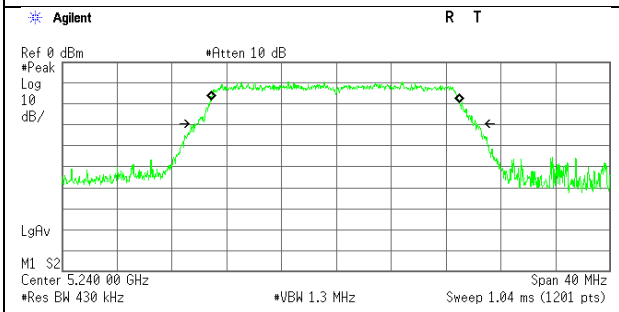


Occupied Bandwidth
18.1360 MHz

Occ BW % Pwr 99.00 %
x dB -20.00 dB

Transmit Freq Error -83.859 kHz
x dB Bandwidth 20.534 MHz

5240 MHz

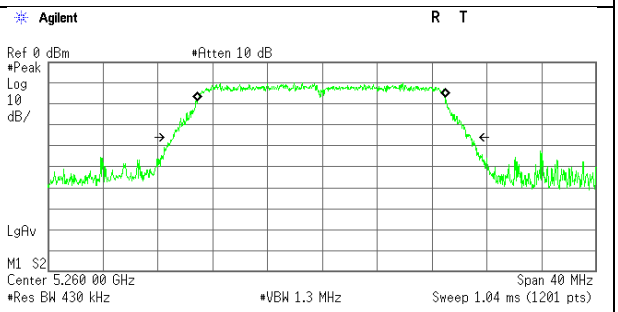


Occupied Bandwidth
18.1005 MHz

Occ BW % Pwr 99.00 %
x dB -20.00 dB

Transmit Freq Error -84.182 kHz
x dB Bandwidth 20.221 MHz

5260 MHz

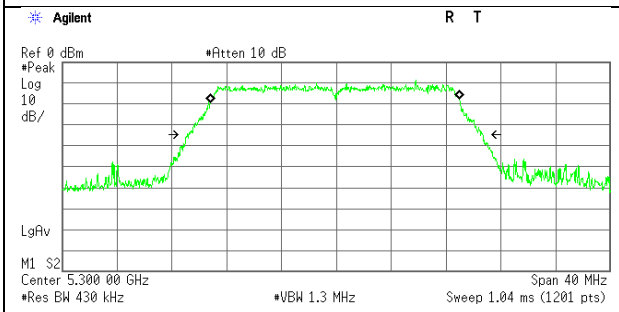


Occupied Bandwidth
18.0741 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -68.094 kHz
x dB Bandwidth 21.669 MHz

5300 MHz

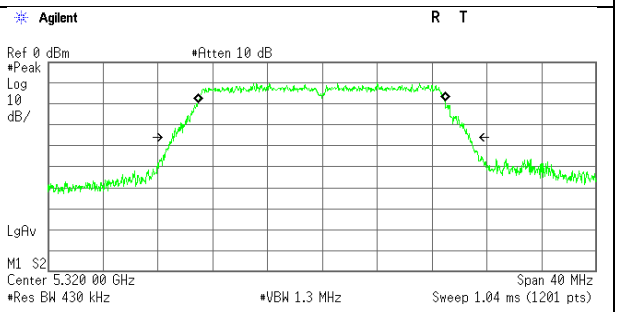


Occupied Bandwidth
18.1125 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -100.716 kHz
x dB Bandwidth 21.470 MHz

5320 MHz



Occupied Bandwidth
18.0334 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

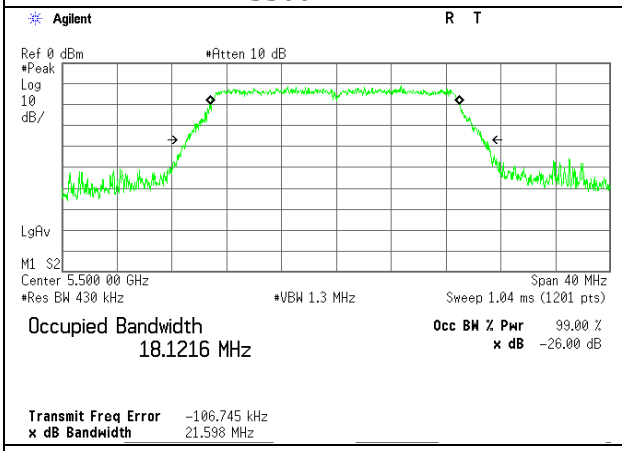
Transmit Freq Error -64.785 kHz
x dB Bandwidth 21.682 MHz

99 % Occupied Bandwidth

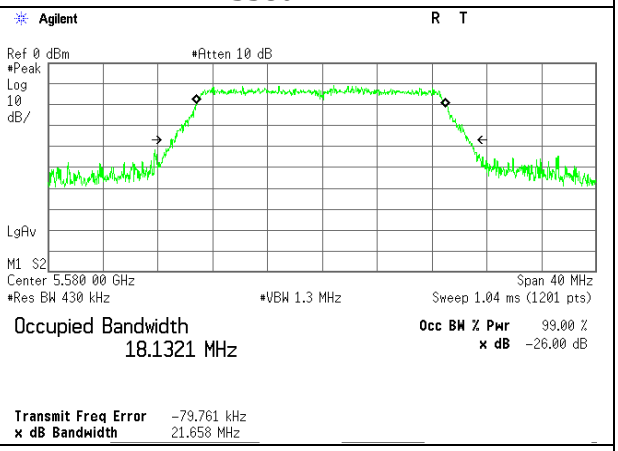
Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 18, 2016
Temperature / Humidity	21deg. C / 47 % RH
Engineer	Ken Fujita
Mode	Tx 11ac-20

11ac-20

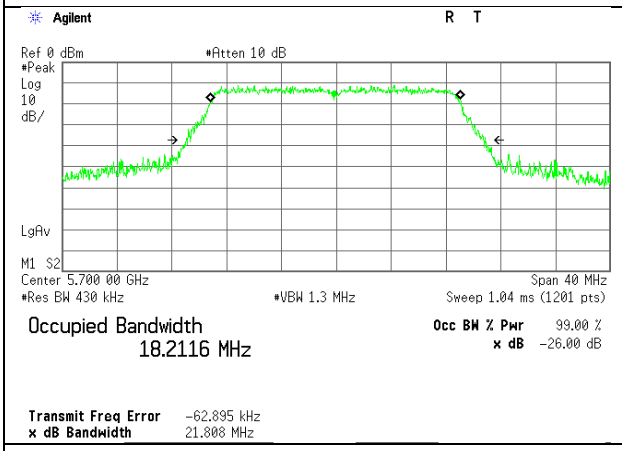
5500MHz



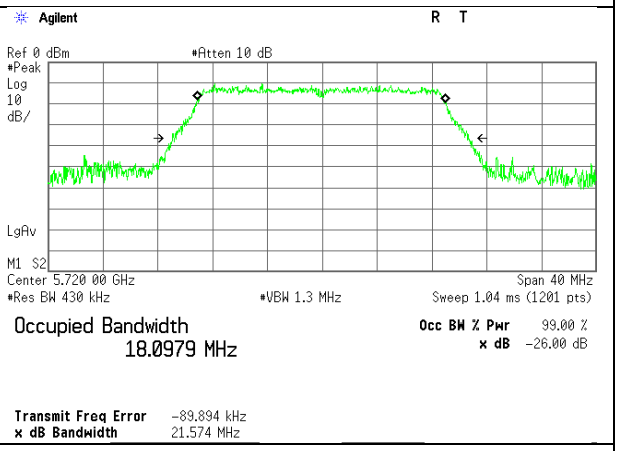
5580 MHz



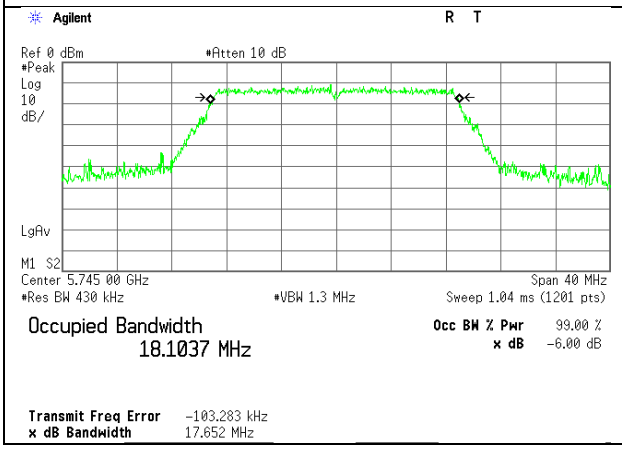
5700 MHz



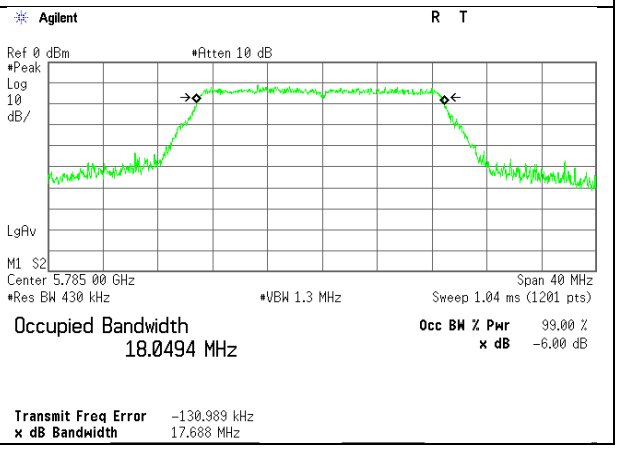
5720 MHz



5745 MHz



5785 MHz

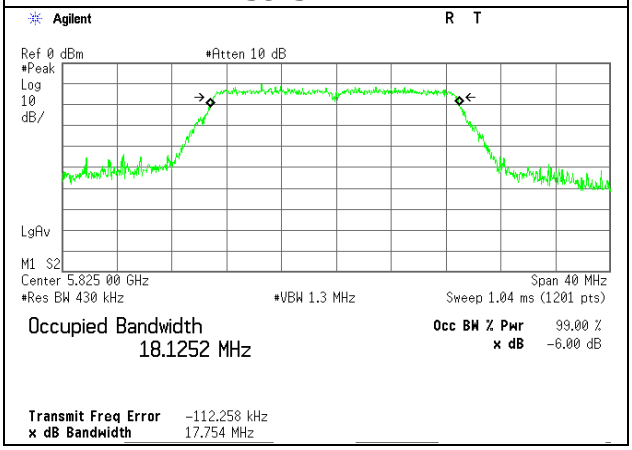


99 % Occupied Bandwidth

Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 18, 2016
Temperature / Humidity	21deg. C / 47 % RH
Engineer	Ken Fujita
Mode	Tx 11ac-20

11ac-20

5825 MHz



26 dB Emission Bandwidth and 99 % Occupied Bandwidth

Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 18, 2016
Temperature / Humidity	21deg. C / 47 % RH
Engineer	Ken Fujita
Mode	Tx 11n-40

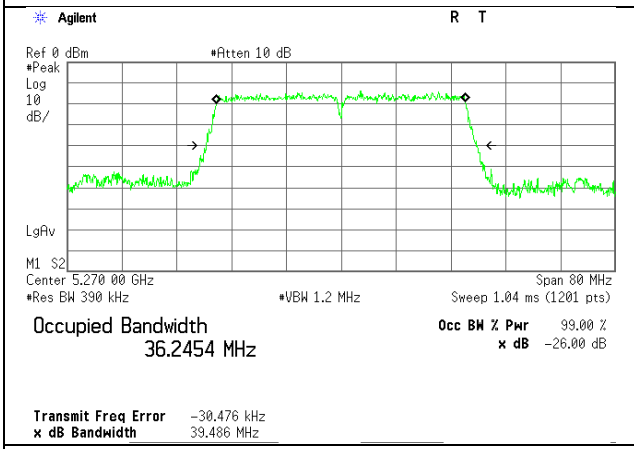
Tested Frequency [MHz]	26 dB Emission Bandwidth [MHz]	99 % Occupied Bandwidth [MHz]	Limit [MHz]
5190	-	36.422	-
5230	-	36.469	-
5270	39.486	36.406	-
5310	39.425	36.475	-
5510	39.258	36.413	-
5550	39.785	36.600	-
5670	39.541	36.633	-
5710	39.669	36.459	-
5755	-	36.409	-
5795	-	36.526	-

26 dB Emission Bandwidth

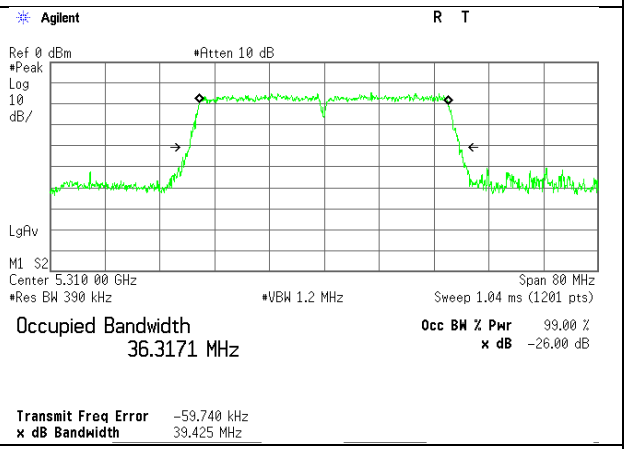
Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 18, 2016
Temperature / Humidity	21deg. C / 47 % RH
Engineer	Ken Fujita
Mode	Tx 11n-40

11n-40

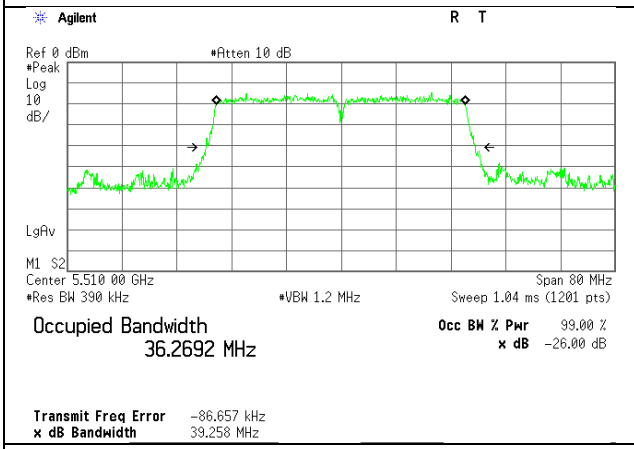
5270 MHz



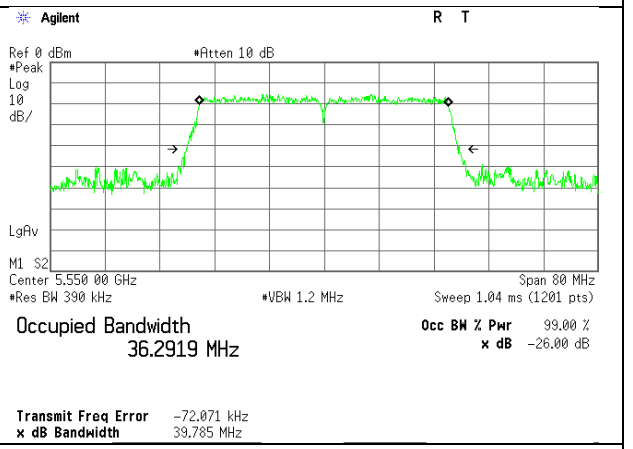
5310 MHz



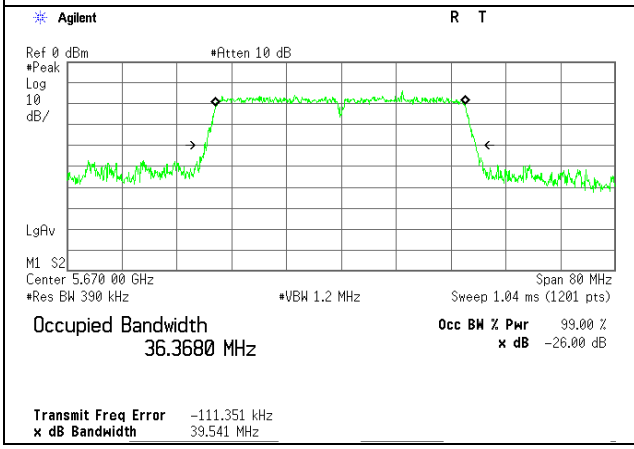
5510 MHz



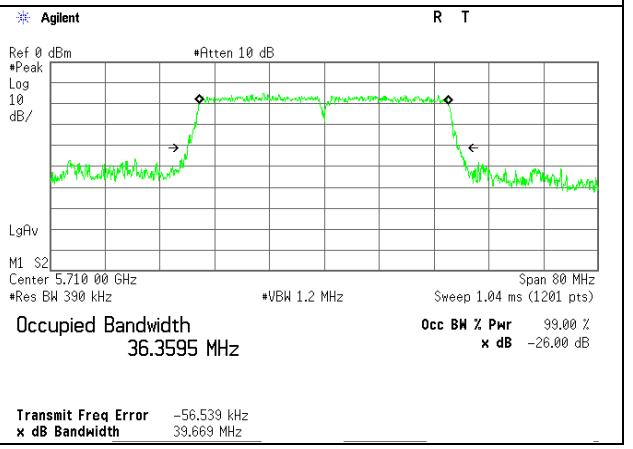
5550 MHz



5670 MHz



5710 MHz

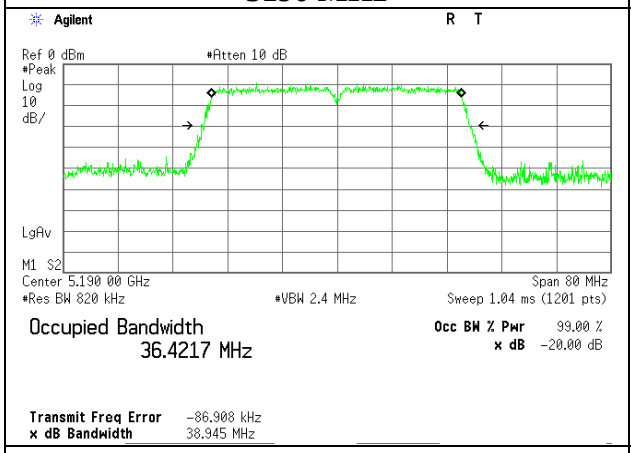


99 % Occupied Bandwidth

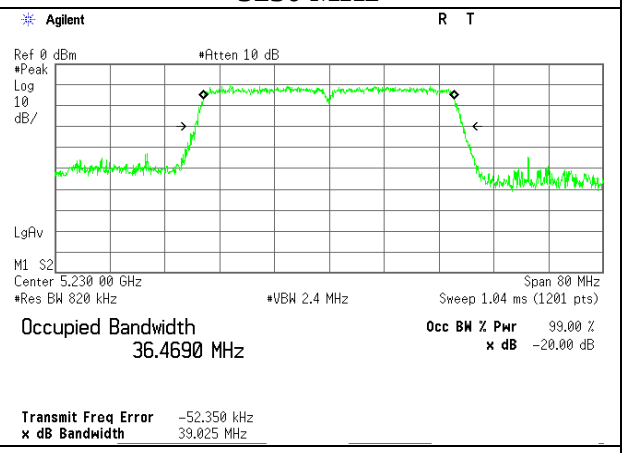
Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 18, 2016
Temperature / Humidity	21deg. C / 47 % RH
Engineer	Ken Fujita
Mode	Tx 11n-40

11n-40

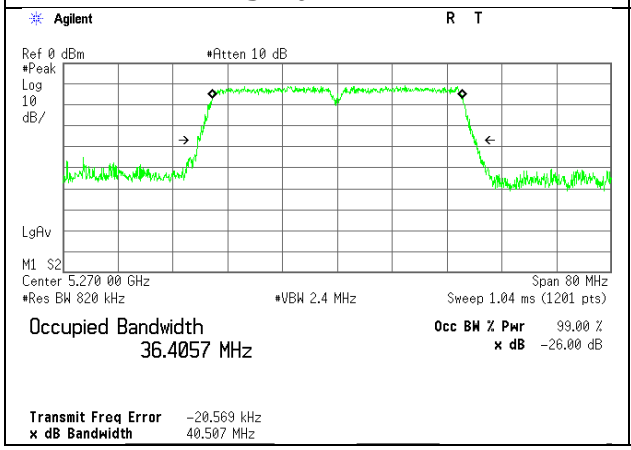
5190 MHz



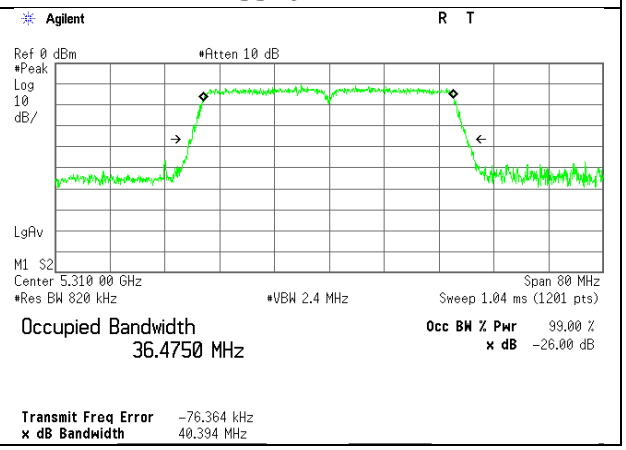
5230 MHz



5270 MHz



5310 MHz

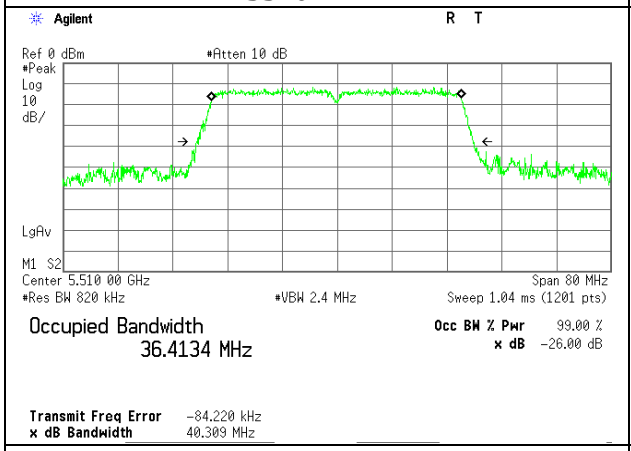


99 % Occupied Bandwidth

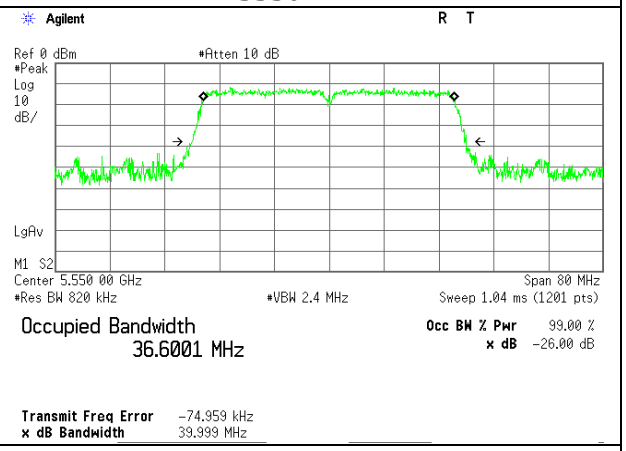
Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 18, 2016
Temperature / Humidity	21deg. C / 47 % RH
Engineer	Ken Fujita
Mode	Tx 11n-40

11n-40

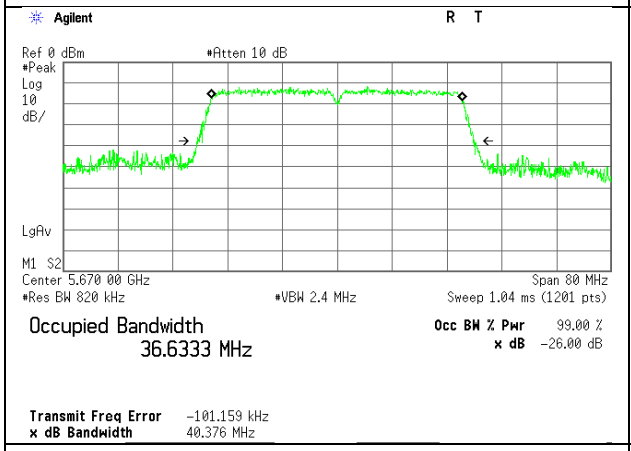
5510 MHz



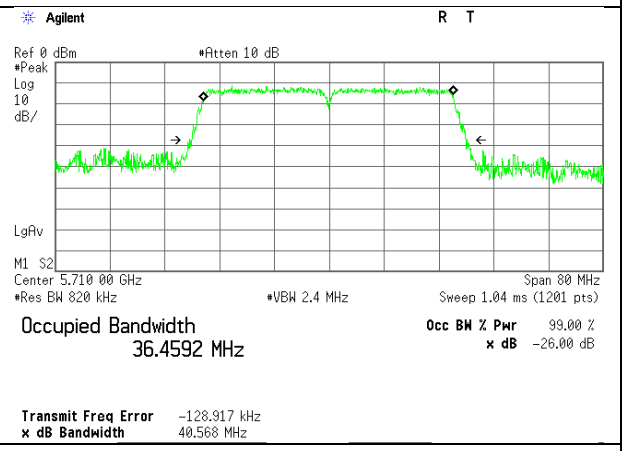
5550 MHz



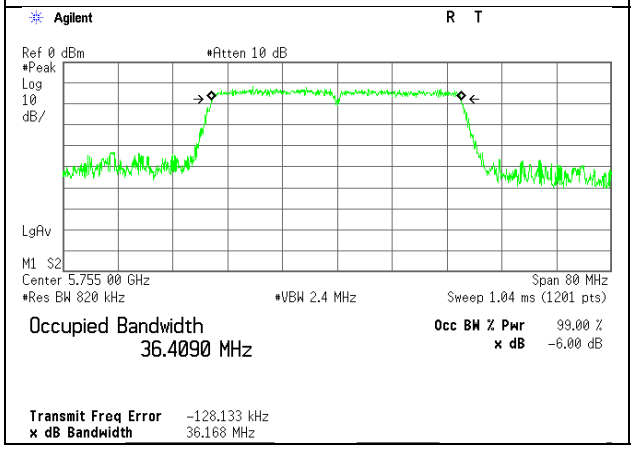
5670 MHz



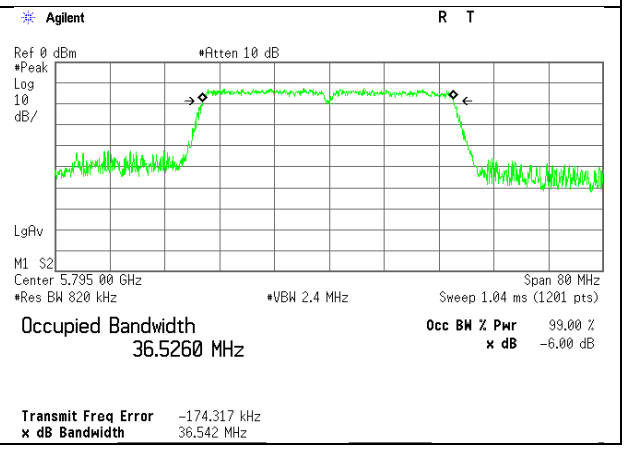
5710 MHz



5755 MHz



5795 MHz



26 dB Emission Bandwidth and 99 % Occupied Bandwidth

Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 18, 2016
Temperature / Humidity	21deg. C / 47 % RH
Engineer	Ken Fujita
Mode	Tx 11ac-40

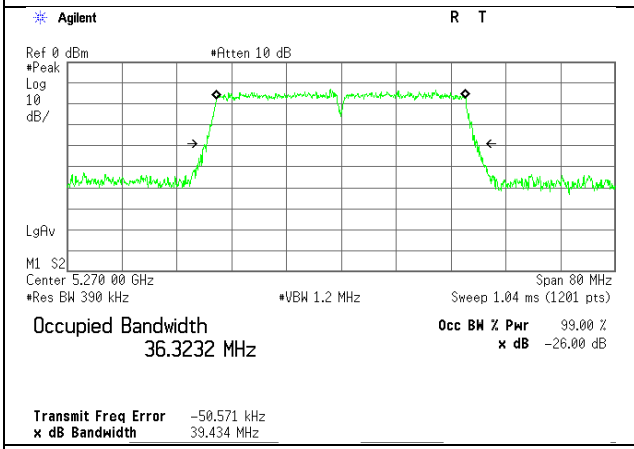
Tested Frequency [MHz]	26 dB Emission Bandwidth [MHz]	99 % Occupied Bandwidth [MHz]	Limit [MHz]
5190	-	36.451	-
5230	-	36.523	-
5270	39.434	36.542	-
5310	39.566	36.493	-
5510	39.417	36.390	-
5550	39.330	36.498	-
5670	39.376	36.462	-
5710	39.596	36.460	-
5755	-	36.446	-
5795	-	36.455	-

26 dB Emission Bandwidth

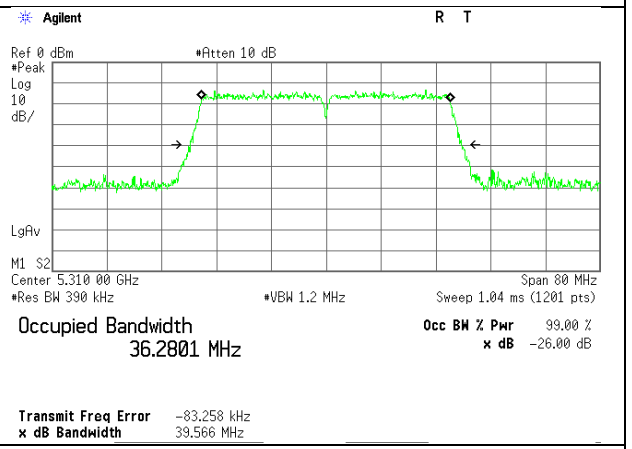
Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 18, 2016
Temperature / Humidity	21deg. C / 47 % RH
Engineer	Ken Fujita
Mode	Tx 11ac-40

11ac-40

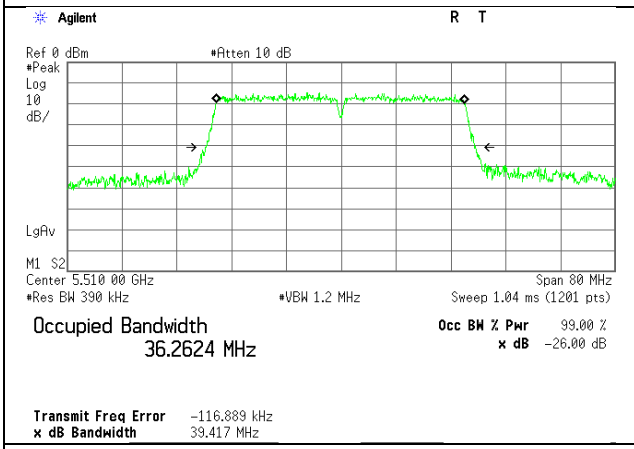
5270 MHz



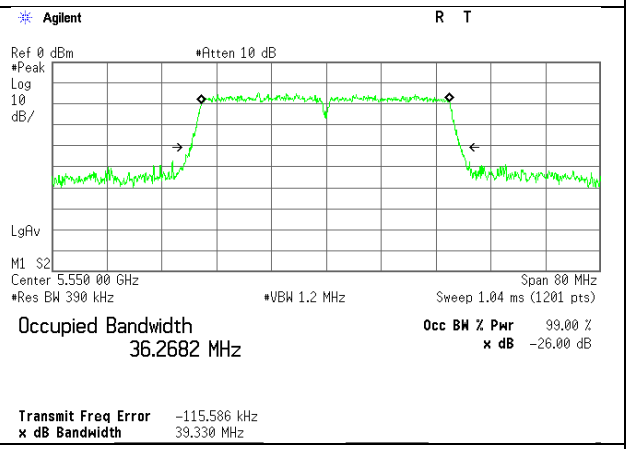
5310 MHz



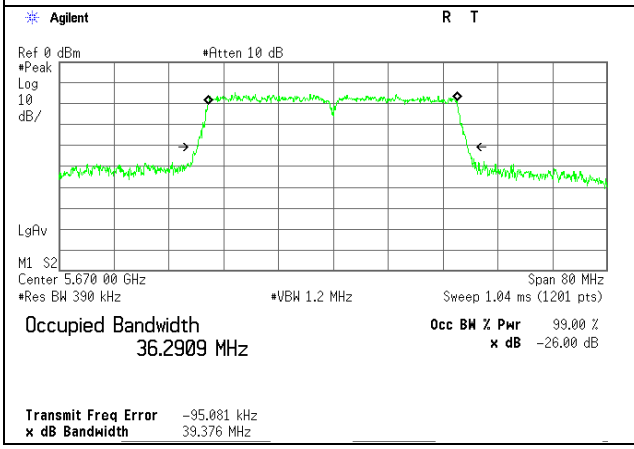
5510 MHz



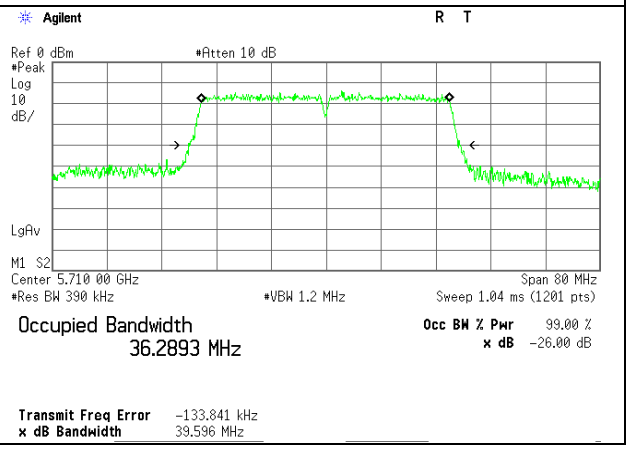
5550 MHz



5670 MHz



5710 MHz

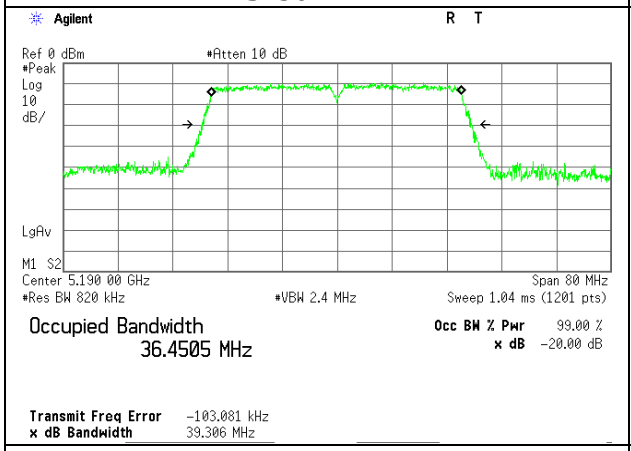


99 % Occupied Bandwidth

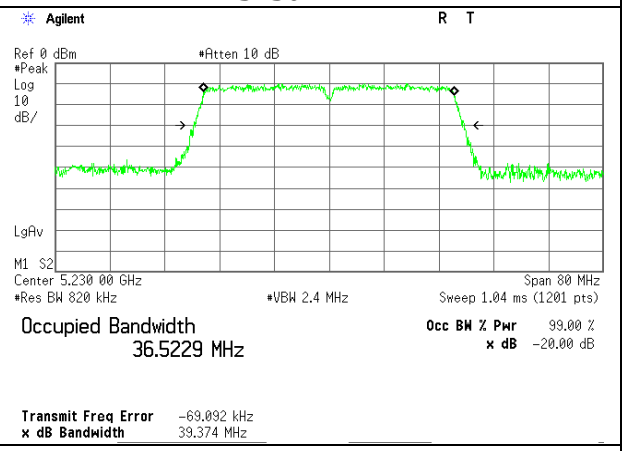
Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 18, 2016
Temperature / Humidity	21deg. C / 47 % RH
Engineer	Ken Fujita
Mode	Tx 11ac-40

11ac-40

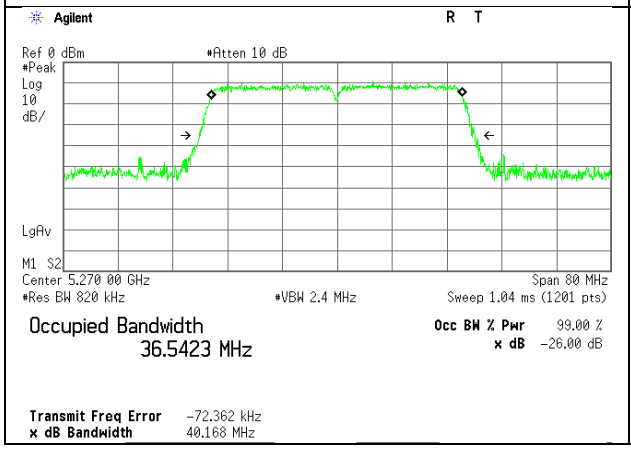
5190 MHz



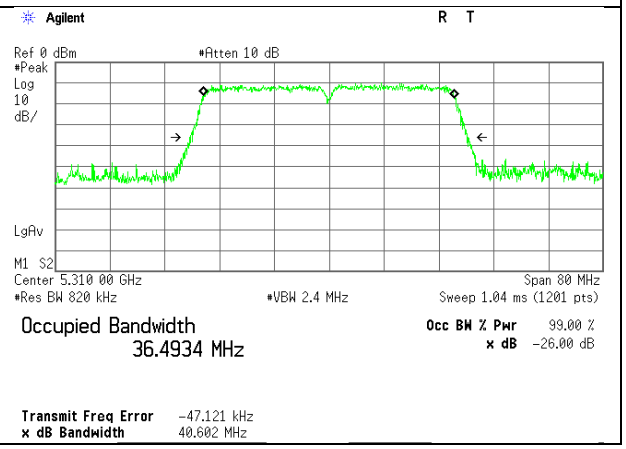
5230 MHz



5270 MHz



5310 MHz

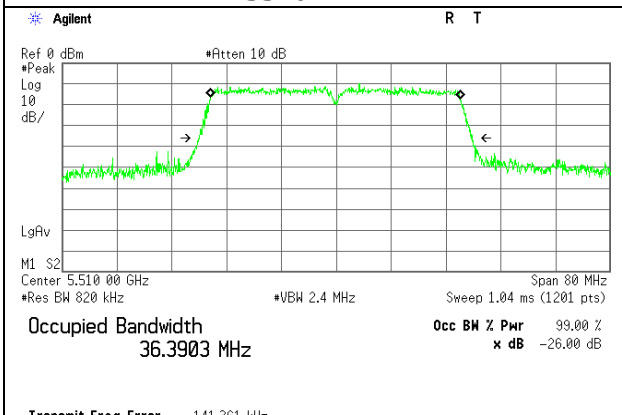


99 % Occupied Bandwidth

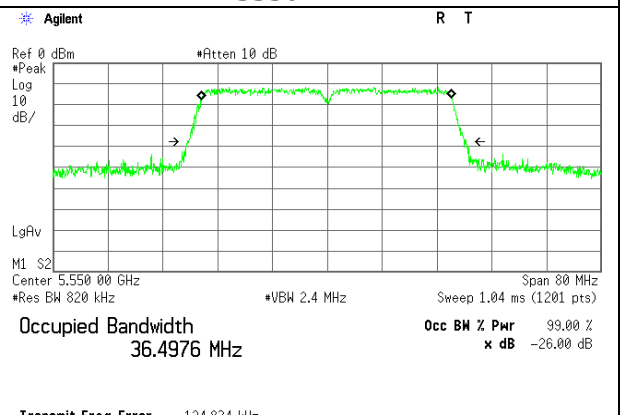
Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 18, 2016
Temperature / Humidity	21deg. C / 47 % RH
Engineer	Ken Fujita
Mode	Tx 11ac-40

11ac-40

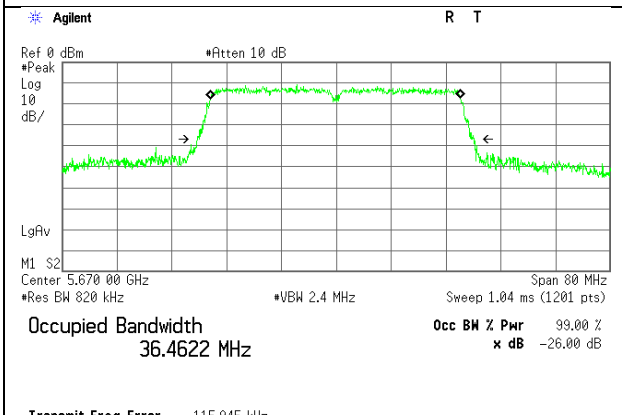
5510 MHz



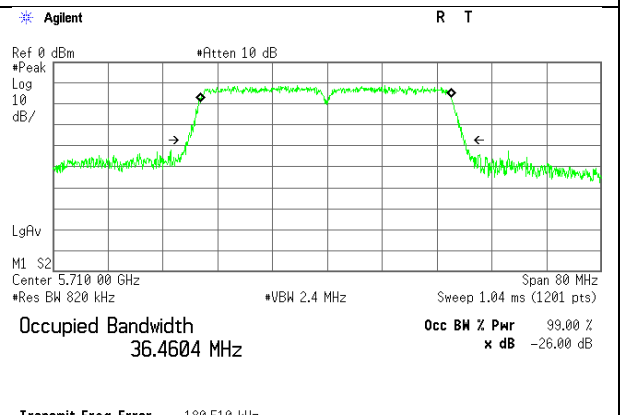
5550 MHz



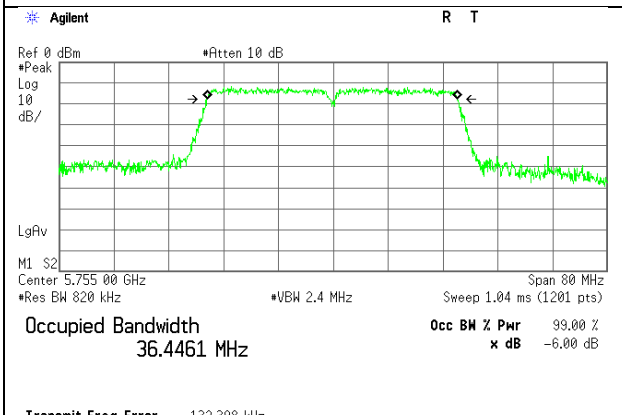
5670 MHz



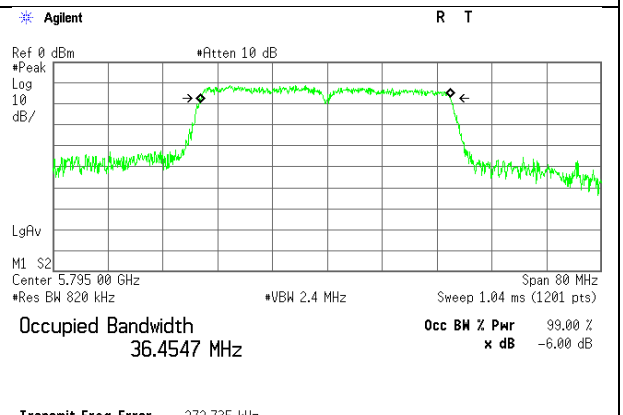
5710 MHz



5755 MHz



5795 MHz



26 dB Emission Bandwidth and 99 % Occupied Bandwidth

Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 18, 2016
Temperature / Humidity	21deg. C / 47 % RH
Engineer	Ken Fujita
Mode	Tx 11ac-80

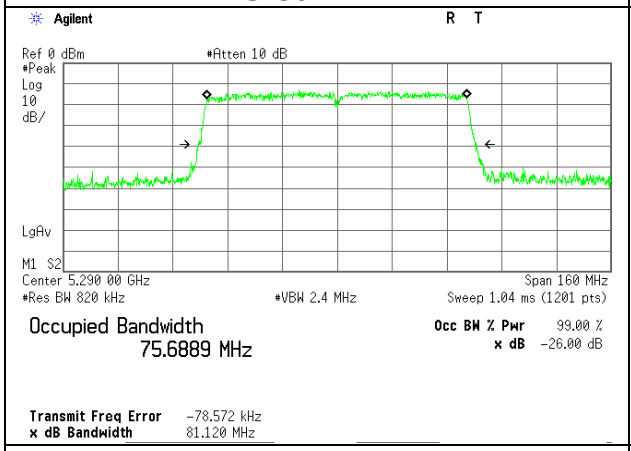
Tested Frequency [MHz]	26 dB Emission Bandwidth [MHz]	99 % Occupied Bandwidth [MHz]	Limit [MHz]
5210	-	75.812	-
5290	81.120	75.856	-
5530	80.832	75.828	-
5610	80.924	75.727	-
5690	81.017	75.882	-
5775	-	75.791	-

26 dB Emission Bandwidth

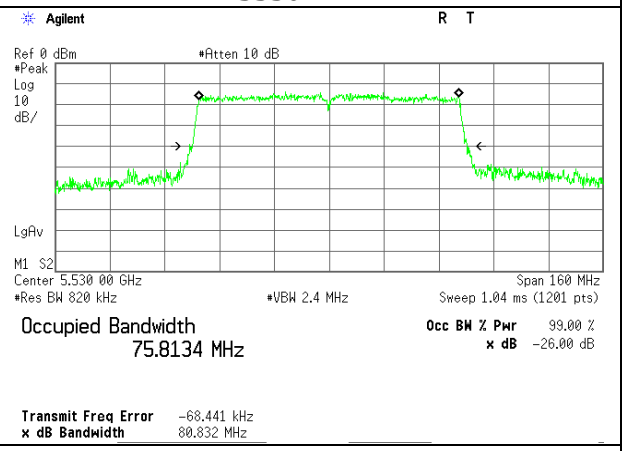
Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 18, 2016
Temperature / Humidity	21deg. C / 47 % RH
Engineer	Ken Fujita
Mode	Tx 11ac-80

11ac-80

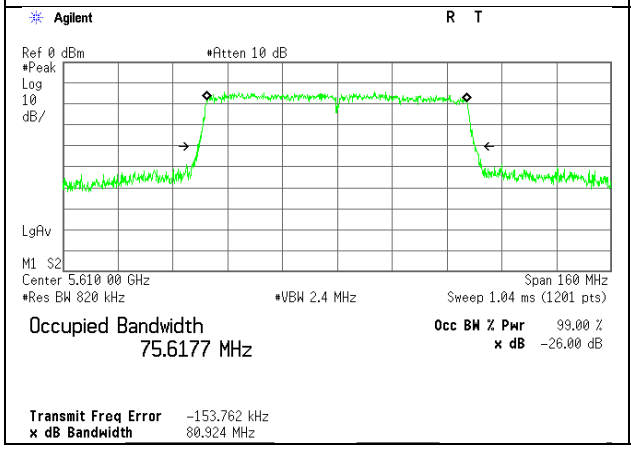
5290 MHz



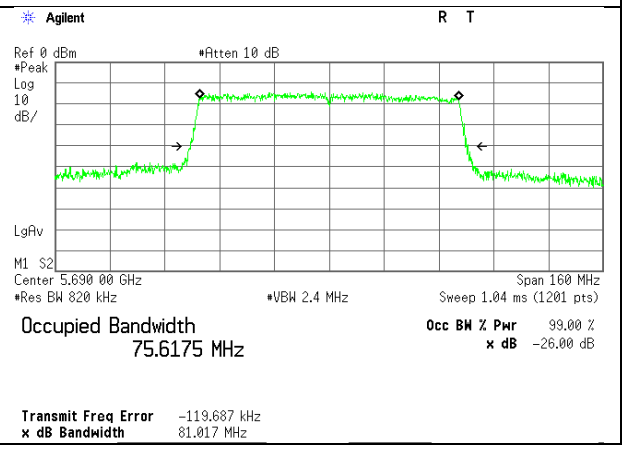
5530 MHz



5610 MHz



5690 MHz

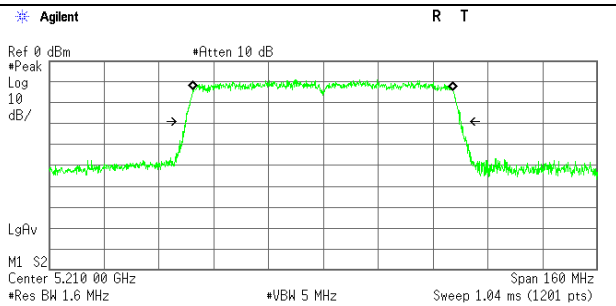


99 % Occupied Bandwidth

Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 18, 2016
Temperature / Humidity	21deg. C / 47 % RH
Engineer	Ken Fujita
Mode	Tx 11ac-80

11ac-80

5210 MHz

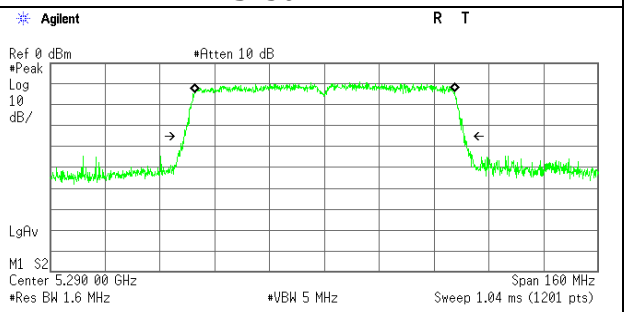


Occupied Bandwidth
75.8122 MHz

Occ BW % Pwr 99.00 %
x dB -20.00 dB

Transmit Freq Error -47.991 kHz
x dB Bandwidth 80.231 MHz

5290 MHz

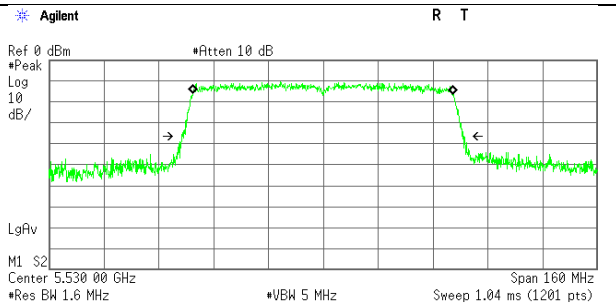


Occupied Bandwidth
75.8564 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 17.231 kHz
x dB Bandwidth 81.513 MHz

5530 MHz

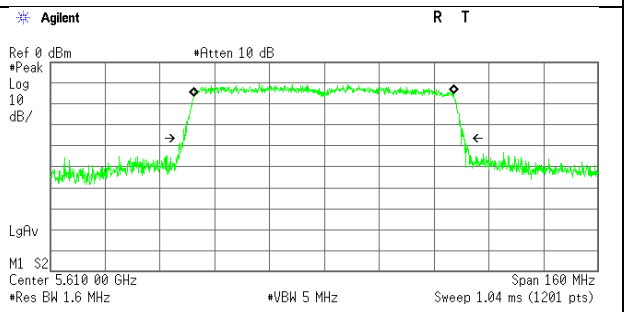


Occupied Bandwidth
75.8280 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -123.863 kHz
x dB Bandwidth 82.202 MHz

5610 MHz

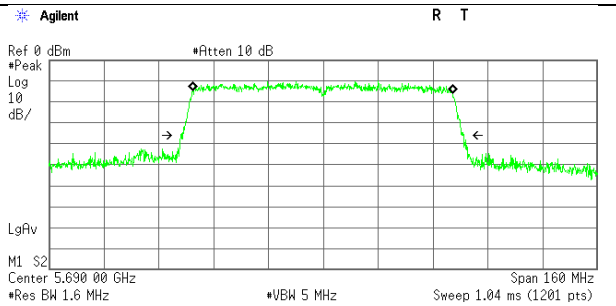


Occupied Bandwidth
75.7272 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -111.326 kHz
x dB Bandwidth 81.904 MHz

5690 MHz

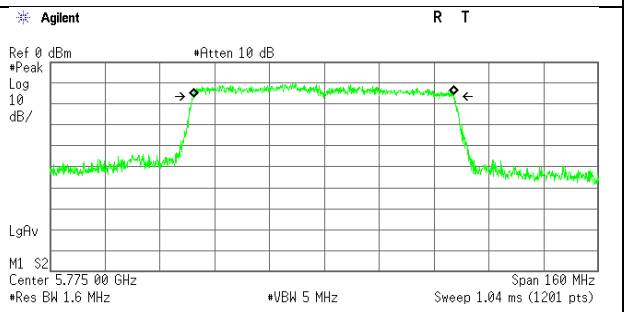


Occupied Bandwidth
75.8820 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -264.546 kHz
x dB Bandwidth 82.563 MHz

5775 MHz



Occupied Bandwidth
75.7911 MHz

Occ BW % Pwr 99.00 %
x dB -6.00 dB

Transmit Freq Error -215.924 kHz
x dB Bandwidth 75.887 MHz

6 dB Bandwidth

Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 18, 2016
Temperature / Humidity	21deg. C / 47 % RH
Engineer	Ken Fujita
Mode	Tx

11a

Frequency [MHz]	6dB Bandwidth [MHz]	Limit [kHz]
5745	16.423	> 500
5785	16.441	> 500
5825	16.420	> 500

11n-20

Frequency [MHz]	6dB Bandwidth [MHz]	Limit [kHz]
5745	17.656	> 500
5785	17.666	> 500
5825	17.711	> 500

11ac-20

Frequency [MHz]	6dB Bandwidth [MHz]	Limit [kHz]
5745	17.676	> 500
5785	17.696	> 500
5825	17.681	> 500

11n-40

Frequency [MHz]	6dB Bandwidth [MHz]	Limit [kHz]
5755	36.489	> 500
5795	36.479	> 500

11ac-40

Frequency [MHz]	6dB Bandwidth [MHz]	Limit [kHz]
5755	36.371	> 500
5795	36.084	> 500

11ac-80

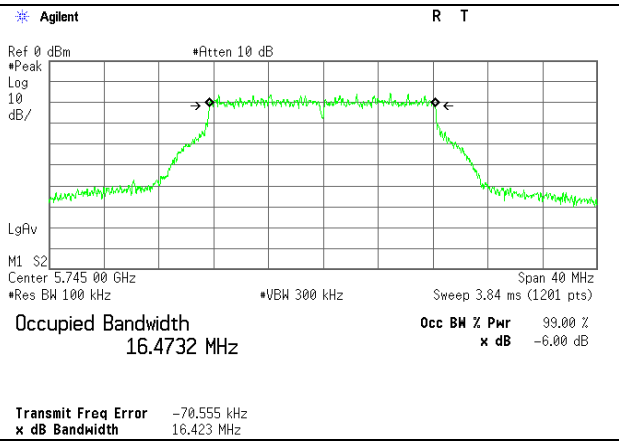
Frequency [MHz]	6dB Bandwidth [MHz]	Limit [kHz]
5775	75.633	> 500

6dB Bandwidth

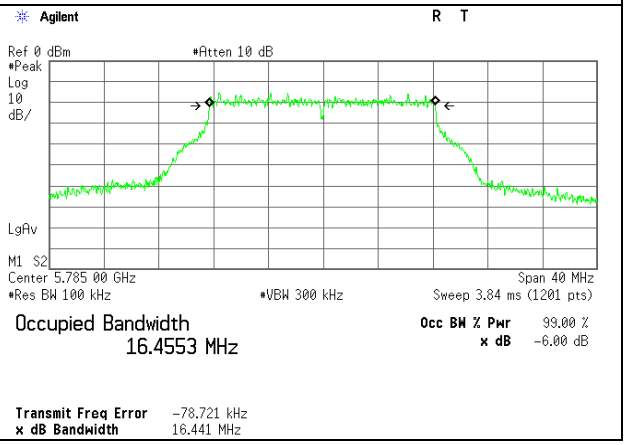
Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 18, 2016
Temperature / Humidity	21deg. C / 47 % RH
Engineer	Ken Fujita
Mode	Tx 11a

11a

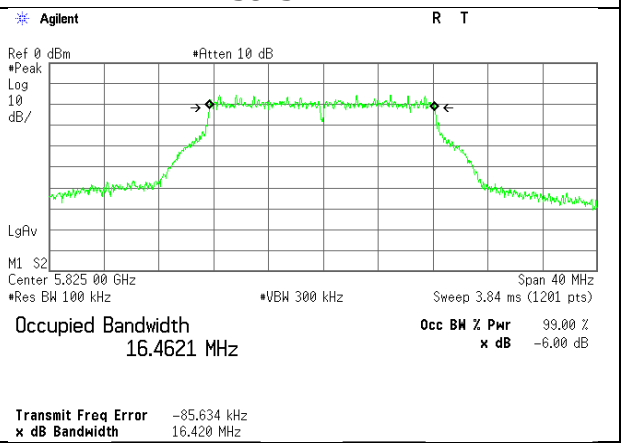
5745 MHz



5785 MHz



5825 MHz

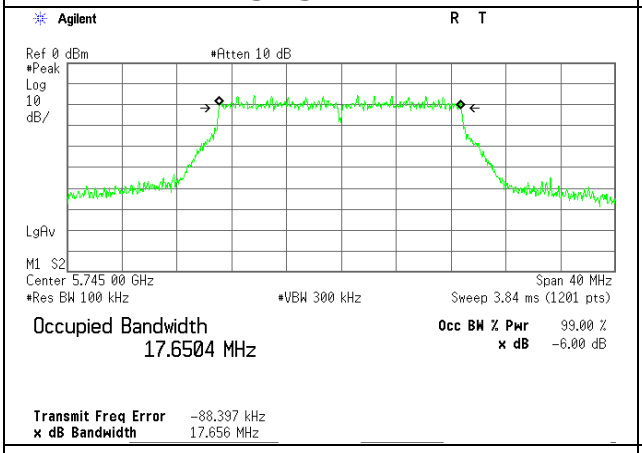


6dB Bandwidth

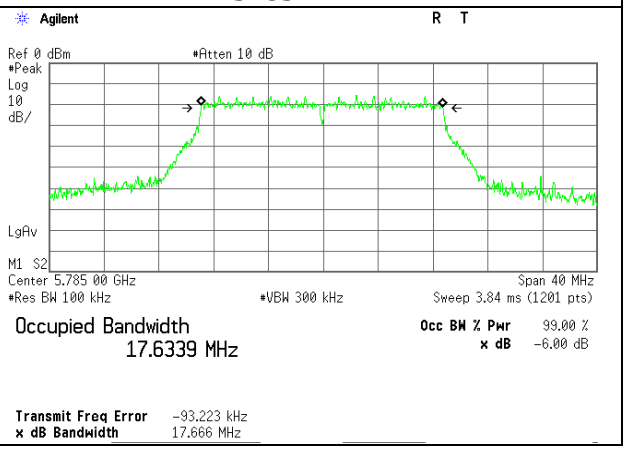
Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 18, 2016
Temperature / Humidity	21deg. C / 47 % RH
Engineer	Ken Fujita
Mode	Tx 11n-20

11n-20

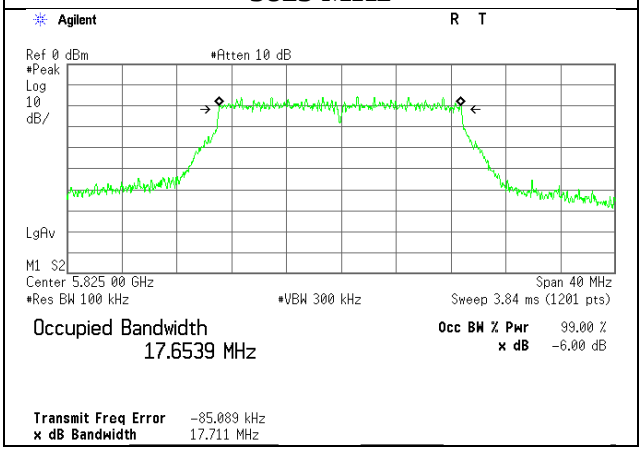
5745 MHz



5785 MHz



5825 MHz

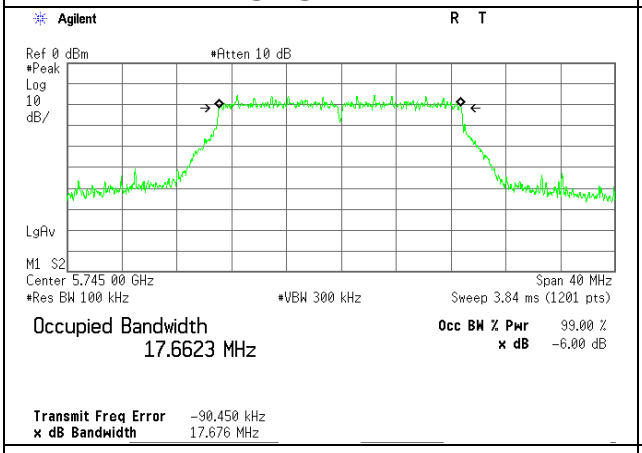


6dB Bandwidth

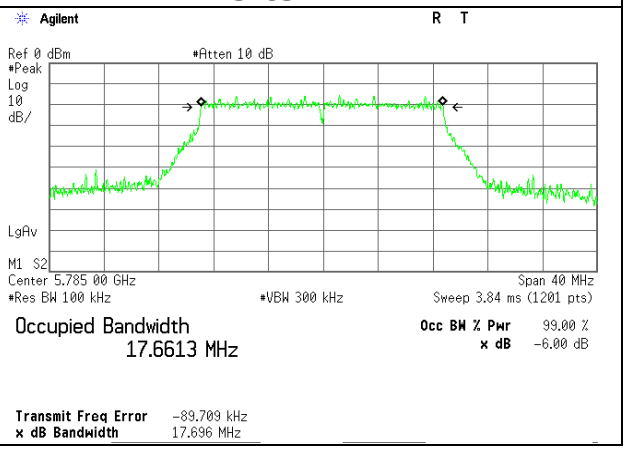
Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 18, 2016
Temperature / Humidity	21deg. C / 47 % RH
Engineer	Ken Fujita
Mode	Tx 11ac-20

11ac-20

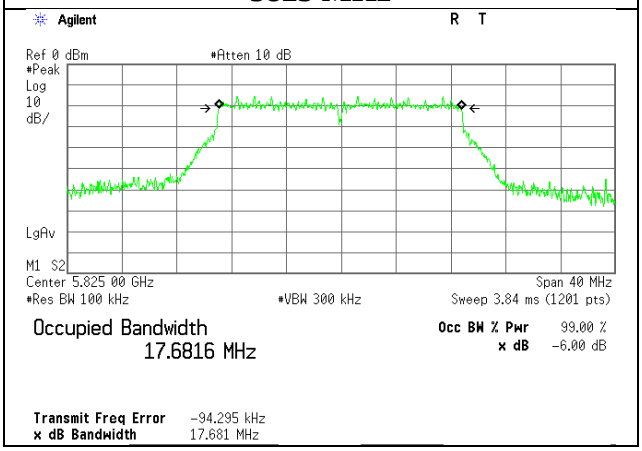
5745 MHz



5785 MHz



5825 MHz

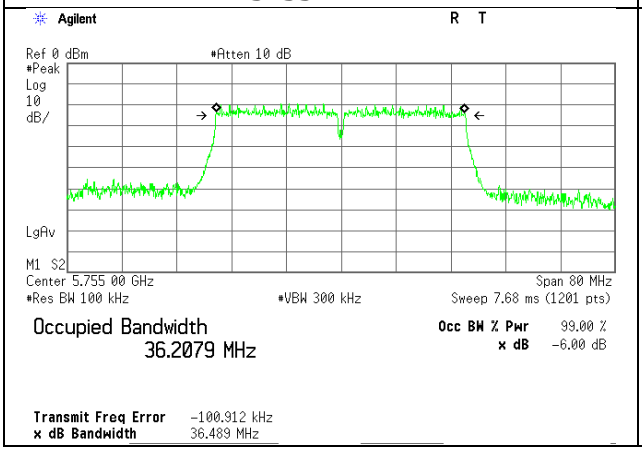


6dB Bandwidth

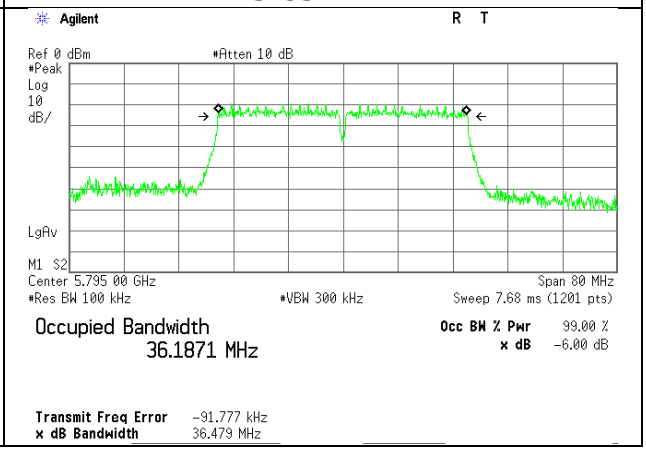
Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 18, 2016
Temperature / Humidity	21deg. C / 47 % RH
Engineer	Ken Fujita
Mode	Tx 11n-40

11n-40

5755 MHz



5795 MHz

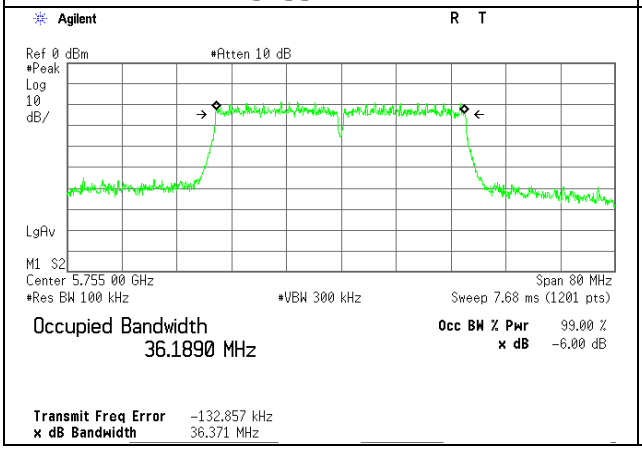


6dB Bandwidth

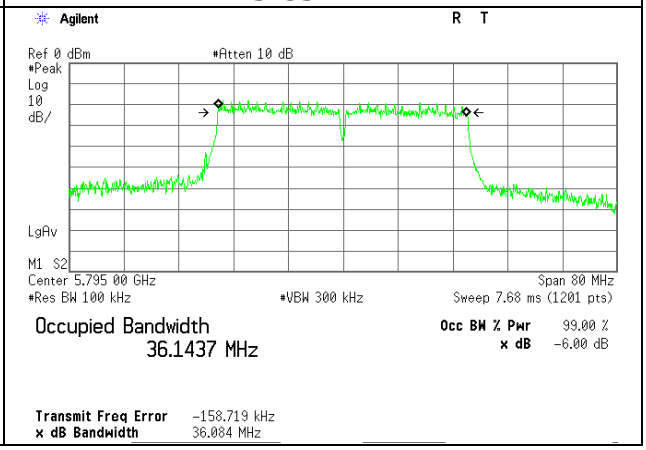
Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 18, 2016
Temperature / Humidity	21deg. C / 47 % RH
Engineer	Ken Fujita
Mode	Tx 11ac-40

11ac-40

5755 MHz



5795 MHz

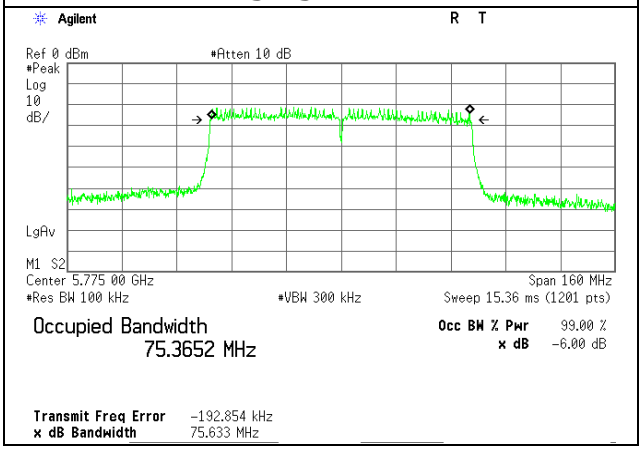


6dB Bandwidth

Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 18, 2016
Temperature / Humidity	21deg. C / 47 % RH
Engineer	Ken Fujita
Mode	Tx 11ac-80

11ac-80

5775 MHz



Maximum Conducted Output Power

Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 16, 2016
Temperature / Humidity	23deg. C / 41 % RH
Engineer	Ken Fujita
Mode	Tx 11a

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	Power Meter Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Antenna Gain [dBi]	26 dB EBW (B for FCC) [MHz]	99% OBW (B for IC) [MHz]	Conducted Power Result [dBm]	Conducted Power Result [mW]	Conducted Power Limit [dBm]	Conducted Power Margin [dB]	e.i.r.p. Result [dBm]	e.i.r.p. Result [mW]	e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
5180	-2.04	4.85	9.68	-3.2	-	17.107	12.49	17.74	23.97	11.48	9.29	8.49	29.97	20.68
5220	-2.28	4.93	9.68	-3.2	-	17.090	12.33	17.08	23.97	11.65	9.13	8.18	29.97	20.85
5240	-2.51	4.97	9.68	-3.2	-	17.101	12.14	16.36	23.97	11.83	8.94	7.83	29.97	21.03
5260	-2.71	5.00	9.68	-3.2	20.888	17.096	11.97	15.74	23.97	12.00	8.77	7.53	29.97	21.20
5300	-3.19	5.09	9.68	-3.2	20.832	17.055	11.58	14.37	23.97	12.40	8.38	6.88	29.97	21.60
5320	-3.30	5.12	9.68	-3.2	21.004	17.110	11.50	14.12	23.97	12.47	8.30	6.76	29.97	21.67
5500	-4.29	5.30	9.68	-3.2	20.954	17.077	10.69	11.72	23.97	13.28	7.49	5.61	29.97	22.48
5580	-4.36	5.38	9.69	-3.2	20.905	17.096	10.71	11.78	23.97	13.26	7.51	5.64	29.97	22.46
5700	-4.13	5.41	9.70	-3.2	20.935	17.110	10.98	12.53	23.97	12.99	7.78	6.00	29.97	22.19
5720	-3.90	5.43	9.70	-3.2	20.988	17.119	11.23	13.27	23.97	12.74	8.03	6.35	29.97	21.94
5745	-4.52	5.40	9.70	-3.2	-	-	10.58	11.43	30.00	19.42	7.38	5.47	36.00	28.62
5785	-4.60	5.40	9.70	-3.2	-	-	10.50	11.22	30.00	19.50	7.30	5.37	36.00	28.70
5825	-4.55	5.41	9.70	-3.2	-	-	10.56	11.38	30.00	19.44	7.36	5.45	36.00	28.64

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

Although the EUT operates on Master mode, more stringent limit for Client device was applied. (W52 for FCC)

Maximum Conducted Output Power

Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 16, 2016
Temperature / Humidity	23deg. C / 41 % RH
Engineer	Ken Fujita
Mode	Tx 11n-20

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		Conducted Power Limit	Conducted Power Margin	e.i.r.p. Result		e.i.r.p. Limit	e.i.r.p. Margin
[MHz]	[dBm]	[dB]	[dB]	[dBi]	[MHz]	[MHz]	[dBm]	[mW]	[dBm]	[dB]	[dBm]	[mW]	[dBm]	[dB]
5180	-2.13	4.85	9.68	-3.2	-	18.071	12.40	17.38	23.97	11.57	9.20	8.32	29.97	20.77
5220	-2.23	4.93	9.68	-3.2	-	18.038	12.38	17.28	23.97	11.60	9.18	8.27	29.97	20.80
5240	-2.45	4.97	9.68	-3.2	-	18.046	12.20	16.59	23.97	11.77	9.00	7.94	29.97	20.97
5260	-2.70	5.00	9.68	-3.2	21.148	18.062	11.98	15.78	23.97	11.99	8.78	7.55	29.97	21.19
5300	-2.94	5.09	9.68	-3.2	20.821	18.081	11.83	15.22	23.97	12.15	8.63	7.29	29.97	21.35
5320	-3.37	5.12	9.68	-3.2	21.287	18.079	11.43	13.89	23.97	12.54	8.23	6.65	29.97	21.74
5500	-4.16	5.30	9.68	-3.2	21.209	18.103	10.82	12.08	23.97	13.15	7.62	5.78	29.97	22.35
5580	-4.35	5.38	9.69	-3.2	21.103	18.135	10.72	11.81	23.97	13.25	7.52	5.65	29.97	22.45
5700	-4.21	5.41	9.70	-3.2	21.094	18.139	10.90	12.30	23.97	13.07	7.70	5.89	29.97	22.27
5720	-3.57	5.43	9.70	-3.2	21.032	18.030	11.56	14.32	23.97	12.41	8.36	6.85	29.97	21.61
5745	-4.51	5.40	9.70	-3.2	-	-	10.59	11.46	30.00	19.41	7.39	5.48	36.00	28.61
5785	-4.64	5.40	9.70	-3.2	-	-	10.46	11.12	30.00	19.54	7.26	5.32	36.00	28.74
5825	-4.48	5.41	9.70	-3.2	-	-	10.63	11.56	30.00	19.37	7.43	5.53	36.00	28.57

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

Although the EUT operates on Master mode, more stringent limit for Client device was applied. (W52 for FCC)

Maximum Conducted Output Power

Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 16, 2016
Temperature / Humidity	23deg. C / 41 % RH
Engineer	Ken Fujita
Mode	Tx 11ac-20

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		Conducted Power Limit	Conducted Power Margin	e.i.r.p. Result		e.i.r.p. Limit	e.i.r.p. Margin
[MHz]	[dBm]	[dB]	[dB]	[dBi]	[MHz]	[MHz]	[dBm]	[mW]	[dBm]	[dB]	[dBm]	[mW]	[dBm]	[dB]
5180	-2.02	4.85	9.68	-3.2	-	18.113	12.51	17.82	23.97	11.46	9.31	8.53	29.97	20.66
5220	-1.88	4.93	9.68	-3.2	-	18.136	12.73	18.73	23.97	11.25	9.53	8.96	29.97	20.45
5240	-2.42	4.97	9.68	-3.2	-	18.101	12.23	16.70	23.97	11.74	9.03	7.99	29.97	20.94
5260	-2.55	5.00	9.68	-3.2	21.206	18.074	12.13	16.33	23.97	11.84	8.93	7.82	29.97	21.04
5300	-3.23	5.09	9.68	-3.2	21.046	18.113	11.54	14.24	23.97	12.44	8.34	6.82	29.97	21.64
5320	-3.16	5.12	9.68	-3.2	21.119	18.033	11.64	14.58	23.97	12.33	8.44	6.98	29.97	21.53
5500	-4.02	5.30	9.68	-3.2	21.253	18.122	10.96	12.47	23.97	13.01	7.76	5.97	29.97	22.21
5580	-3.89	5.38	9.69	-3.2	21.162	18.132	11.18	13.13	23.97	12.79	7.98	6.28	29.97	21.99
5700	-3.92	5.41	9.70	-3.2	21.100	18.212	11.19	13.15	23.97	12.78	7.99	6.30	29.97	21.98
5720	-3.81	5.43	9.70	-3.2	21.140	18.098	11.32	13.55	23.97	12.65	8.12	6.48	29.97	21.85
5745	-4.25	5.40	9.70	-3.2	-	-	10.85	12.16	30.00	19.15	7.65	5.82	36.00	28.35
5785	-4.54	5.40	9.70	-3.2	-	-	10.56	11.38	30.00	19.44	7.36	5.45	36.00	28.64
5825	-4.15	5.41	9.70	-3.2	-	-	10.96	12.47	30.00	19.04	7.76	5.97	36.00	28.24

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

Although the EUT operates on Master mode, more stringent limit for Client device was applied. (W52 for FCC)

Maximum Conducted Output Power

Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 16, 2016
Temperature / Humidity	23deg. C / 41 % RH
Engineer	Ken Fujita
Mode	Tx 11n-40

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		Conducted Power Limit	Conducted Power Margin	e.i.r.p. Result		e.i.r.p. Limit	e.i.r.p. Margin
[MHz]	[dBm]	[dB]	[dB]	[dBi]	[MHz]	[MHz]	[dBm]	[mW]	[dBm]	[dB]	[dBm]	[mW]	[dBm]	[dB]
5190	-2.35	4.87	9.68	-3.2	-	36.422	12.20	16.58	23.97	11.77	9.00	7.94	29.97	20.97
5230	-2.52	4.94	9.68	-3.2	-	36.469	12.10	16.22	23.97	11.87	8.90	7.76	29.97	21.07
5270	-3.02	5.03	9.68	-3.2	39.486	36.406	11.69	14.74	23.97	12.28	8.49	7.06	29.97	21.48
5310	-3.33	5.10	9.68	-3.2	39.425	36.475	11.45	13.97	23.97	12.52	8.25	6.69	29.97	21.72
5510	-3.99	5.48	9.68	-3.2	39.258	36.413	11.17	13.08	23.97	12.80	7.97	6.26	29.97	22.00
5550	-4.04	5.55	9.69	-3.2	39.785	36.600	11.20	13.19	23.97	12.77	8.00	6.31	29.97	21.97
5670	-4.10	5.40	9.70	-3.2	39.541	36.633	11.00	12.58	23.97	12.97	7.80	6.02	29.97	22.17
5710	-3.97	5.83	9.70	-3.2	39.669	36.459	11.56	14.33	23.97	12.41	8.36	6.86	29.97	21.61
5755	-4.63	5.90	9.70	-3.2	-	-	10.97	12.52	30.00	19.03	7.77	5.99	36.00	28.23
5795	-4.85	5.98	9.70	-3.2	-	-	10.83	12.10	30.00	19.17	7.63	5.79	36.00	28.37

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

Although the EUT operates on Master mode, more stringent limit for Client device was applied. (W52 for FCC)

Maximum Conducted Output Power

Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 16, 2016
Temperature / Humidity	23deg. C / 41 % RH
Engineer	Ken Fujita
Mode	Tx 11ac-40

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		Conducted Power Limit	Conducted Power Margin	e.i.r.p. Result		e.i.r.p. Limit	e.i.r.p. Margin
[MHz]	[dBm]	[dB]	[dB]	[dBi]	[MHz]	[MHz]	[dBm]	[mW]	[dBm]	[dB]	[dBm]	[mW]	[dBm]	[dB]
5190	-2.19	4.87	9.68	-3.2	-	36.451	12.36	17.20	23.97	11.61	9.16	8.23	29.97	20.81
5230	-2.16	4.94	9.68	-3.2	-	36.523	12.46	17.62	23.97	11.51	9.26	8.44	29.97	20.71
5270	-2.91	5.03	9.68	-3.2	39.434	36.542	11.80	15.12	23.97	12.17	8.60	7.24	29.97	21.37
5310	-3.09	5.10	9.68	-3.2	39.566	36.493	11.69	14.76	23.97	12.28	8.49	7.07	29.97	21.48
5510	-3.95	5.48	9.68	-3.2	39.417	36.390	11.21	13.20	23.97	12.76	8.01	6.32	29.97	21.96
5550	-3.70	5.55	9.69	-3.2	39.330	36.498	11.54	14.26	23.97	12.43	8.34	6.83	29.97	21.63
5670	-3.74	5.40	9.70	-3.2	39.376	36.462	11.36	13.67	23.97	12.61	8.16	6.54	29.97	21.81
5710	-3.70	5.83	9.70	-3.2	39.596	36.460	11.83	15.24	23.97	12.14	8.63	7.30	29.97	21.34
5755	-4.47	5.90	9.70	-3.2	-	-	11.13	12.98	30.00	18.87	7.93	6.21	36.00	28.07
5795	-4.45	5.98	9.70	-3.2	-	-	11.23	13.27	30.00	18.77	8.03	6.35	36.00	27.97

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

Although the EUT operates on Master mode, more stringent limit for Client device was applied. (W52 for FCC)

Maximum Conducted Output Power

Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 16, 2016
Temperature / Humidity	23deg. C / 41 % RH
Engineer	Ken Fujita
Mode	Tx 11ac-80

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		Conducted Power Limit	Conducted Power Margin	e.i.r.p. Result		e.i.r.p. Limit	e.i.r.p. Margin
[MHz]	[dBm]	[dB]	[dB]	[dBi]	[MHz]	[MHz]	[dBm]	[mW]	[dBm]	[dB]	[dBm]	[mW]	[dBm]	[dB]
5210	-2.59	4.91	9.68	-3.2	-	75.812	12.00	15.84	23.97	11.97	8.80	7.58	29.97	21.17
5290	-3.09	5.06	9.68	-3.2	81.120	75.856	11.65	14.62	23.97	12.32	8.45	7.00	29.97	21.52
5530	-3.92	5.31	9.69	-3.2	80.832	75.828	11.08	12.83	23.97	12.89	7.88	6.14	29.97	22.09
5610	-4.26	5.36	9.69	-3.2	80.924	75.727	10.79	11.99	23.97	13.18	7.59	5.74	29.97	22.38
5690	-3.96	5.41	9.70	-3.2	81.017	75.882	11.15	13.02	23.97	12.82	7.95	6.23	29.97	22.02
5775	-4.46	5.94	9.70	-3.2	-	-	11.18	13.11	30.00	18.82	7.98	6.28	36.00	28.02

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

Although the EUT operates on Master mode, more stringent limit for Client device was applied. (W52 for FCC)

Maximum Conducted Output Power

Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 15, 2016
Temperature / Humidity	23deg. C / 39 % RH
Engineer	Kazuya Yoshioka
Mode	Tx

5500 MHz

Mode	Rate Mbps	Reading Average [dBm]	Remarks
11a	6	10.2	
	9	10.1	
	12	10.1	
	18	10.3	
	24	10.6	*
	36	10.5	
	48	10.5	
	54	10.4	

* Worst rate
*1)The test was conducted by the use of Gate function.
All comparison were carried out on same frequency and measurement factors.

Maximum Conducted Output Power

Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 15, 2016
Temperature / Humidity	23deg. C / 39 % RH
Engineer	Kazuya Yoshioka
Mode	Tx

5500 MHz

Mode	MCS Number	Reading Average [dBm]	Remarks
11n-20	0	10.2	
	1	10.0	
	2	10.2	
	3	10.5	
	4	10.5	
	5	10.6	*
	6	10.5	
	7	9.7	

* Worst rate
*1)The test was conducted by the use of Gate function.
All comparison were carried out on same frequency and measurement factors.

5500 MHz

Mode	MCS Number	Reading Average [dBm]	Remarks
11ac-20	0	10.3	
	1	10.2	
	2	10.0	
	3	10.7	*
	4	10.5	
	5	10.5	
	6	10.6	
	7	9.6	
	8	9.7	

* Worst rate
*1)The test was conducted by the use of Gate function.
All comparison were carried out on same frequency and measurement factors.

Maximum Conducted Output Power

Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 15, 2016
Temperature / Humidity	23deg. C / 39 % RH
Engineer	Kazuya Yoshioka
Mode	Tx

5510 MHz

Mode	MCS Number	Reading Average [dBm]	Remarks
11n-40	0	10.2	
	1	10.3	
	2	10.3	
	3	10.7	*
	4	10.6	
	5	10.5	
	6	10.5	
	7	9.8	

* Worst rate
*1)The test was conducted by the use of Gate function.
All comparison were carried out on same frequency and measurement factors.

5510 MHz

Mode	MCS Number	Reading Average [dBm]	Remarks
11ac-40	0	10.6	
	1	10.5	
	2	10.5	
	3	10.8	
	4	11.0	*
	5	10.8	
	6	10.9	
	7	9.9	
	8	8.7	
	9	8.7	

* Worst rate
*1)The test was conducted by the use of Gate function.
All comparison were carried out on same frequency and measurement factors.

Maximum Conducted Output Power

Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 15, 2016
Temperature / Humidity	23deg. C / 39 % RH
Engineer	Kazuya Yoshioka
Mode	Tx

5530 MHz

Mode	MCS Number	Reading Average [dBm]	Remarks
11ac-80	0	10.6	
	1	10.6	
	2	10.4	
	3	10.9	*
	4	10.8	
	5	10.8	
	6	10.8	
	7	9.7	
	8	9.0	
	9	9.0	

* Worst rate
*1)The test was conducted by the use of Gate function.
All comparison were carried out on same frequency and measurement factors.

Average Output Power
(Reference data for RF Exposure)

Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 16, 2016
Temperature / Humidity	23deg. C / 41 % RH
Engineer	Ken Fujita
Mode	Tx 11a

6Mbps

Tested Frequency [MHz]	Power Meter Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result (Timed average) [dBm]	[mW]
5180	-2.66	4.85	9.68	11.87	15.38
5220	-2.79	4.93	9.68	11.82	15.19
5240	-3.01	4.97	9.68	11.64	14.58
5260	-3.32	5.00	9.68	11.36	13.68
5300	-3.69	5.09	9.68	11.08	12.81
5320	-3.76	5.12	9.68	11.04	12.70
5500	-4.69	5.30	9.68	10.29	10.69
5580	-4.75	5.38	9.69	10.32	10.77
5700	-4.51	5.41	9.70	10.60	11.48
5720	-4.55	5.43	9.70	10.58	11.43
5745	-4.95	5.40	9.70	10.15	10.35
5785	-5.13	5.40	9.70	9.97	9.93
5825	-5.03	5.41	9.70	10.08	10.19

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

The test was performed with condition that obtained the maximum frame power in pre-check.

Average Output Power
(Reference data for RF Exposure)

Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 16, 2016
Temperature / Humidity	23deg. C / 41 % RH
Engineer	Ken Fujita
Mode	Tx 11n-20

MCS 0

Tested Frequency [MHz]	Power Meter Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result (Timed average) [dBm]	[mW]
5180	-2.74	4.85	9.68	11.79	15.10
5220	-2.89	4.93	9.68	11.72	14.84
5240	-3.09	4.97	9.68	11.56	14.31
5260	-3.47	5.00	9.68	11.21	13.21
5300	-3.71	5.09	9.68	11.06	12.75
5320	-3.99	5.12	9.68	10.81	12.04
5500	-4.54	5.30	9.68	10.44	11.07
5580	-4.80	5.38	9.69	10.27	10.65
5700	-4.68	5.41	9.70	10.43	11.04
5720	-4.78	5.43	9.70	10.35	10.84
5745	-4.99	5.40	9.70	10.11	10.26
5785	-5.15	5.40	9.70	9.95	9.89
5825	-5.01	5.41	9.70	10.10	10.23

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

The test was performed with condition that obtained the maximum frame power in pre-check.

Average Output Power
(Reference data for RF Exposure)

Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 16, 2016
Temperature / Humidity	23deg. C / 41 % RH
Engineer	Ken Fujita
Mode	Tx 11ac-20

MCS 0

Tested Frequency [MHz]	Power Meter Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result (Timed average) [dBm]	[mW]
5180	-2.83	4.85	9.68	11.70	14.79
5220	-3.01	4.93	9.68	11.60	14.44
5240	-3.11	4.97	9.68	11.54	14.25
5260	-3.46	5.00	9.68	11.22	13.24
5300	-3.73	5.09	9.68	11.04	12.69
5320	-3.91	5.12	9.68	10.89	12.27
5500	-4.79	5.30	9.68	10.19	10.45
5580	-4.79	5.38	9.69	10.28	10.67
5700	-4.62	5.41	9.70	10.49	11.19
5720	-4.56	5.43	9.70	10.57	11.40
5745	-5.04	5.40	9.70	10.06	10.14
5785	-5.21	5.40	9.70	9.89	9.75
5825	-5.03	5.41	9.70	10.08	10.19

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

The test was performed with condition that obtained the maximum frame power in pre-check.

Average Output Power
(Reference data for RF Exposure)

Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 16, 2016
Temperature / Humidity	23deg. C / 41 % RH
Engineer	Ken Fujita
Mode	Tx 11n-40

MCS 0

Tested Frequency [MHz]	Power Meter Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result (Timed average) [dBm]	[mW]
5190	-2.85	4.87	9.68	11.70	14.78
5230	-3.10	4.94	9.68	11.52	14.19
5270	-3.63	5.03	9.68	11.08	12.81
5310	-3.85	5.10	9.68	10.93	12.39
5510	-4.61	5.48	9.68	10.55	11.34
5550	-4.55	5.55	9.69	10.69	11.73
5670	-4.89	5.40	9.70	10.21	10.49
5710	-4.48	5.83	9.70	11.05	12.74
5755	-5.28	5.90	9.70	10.32	10.78
5795	-5.40	5.98	9.70	10.28	10.66

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

The test was performed with condition that obtained the maximum frame power in pre-check.

Average Output Power
(Reference data for RF Exposure)

Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 16, 2016
Temperature / Humidity	23deg. C / 41 % RH
Engineer	Ken Fujita
Mode	Tx 11ac-40

MCS 0

Tested Frequency [MHz]	Power Meter Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result (Timed average) [dBm]	[mW]
5190	-3.03	4.87	9.68	11.52	14.18
5230	-3.34	4.94	9.68	11.28	13.43
5270	-3.71	5.03	9.68	11.00	12.58
5310	-4.03	5.10	9.68	10.75	11.89
5510	-4.88	5.48	9.68	10.28	10.66
5550	-4.76	5.55	9.69	10.48	11.17
5670	-4.99	5.40	9.70	10.11	10.25
5710	-4.72	5.83	9.70	10.81	12.05
5755	-5.49	5.90	9.70	10.11	10.27
5795	-5.66	5.98	9.70	10.02	10.04

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

The test was performed with condition that obtained the maximum frame power in pre-check.

Average Output Power
(Reference data for RF Exposure)

Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 16, 2016
Temperature / Humidity	23deg. C / 41 % RH
Engineer	Ken Fujita
Mode	Tx 11ac-80

MCS 0

Tested Frequency [MHz]	Power Meter Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result (Timed average) [dBm]	[mW]
5210	-3.99	4.91	9.68	10.60	11.48
5290	-4.55	5.06	9.68	10.19	10.44
5530	-5.45	5.31	9.69	9.55	9.02
5610	-5.68	5.36	9.69	9.37	8.65
5690	-5.52	5.41	9.70	9.59	9.09
5775	-6.18	5.94	9.70	9.46	8.82

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

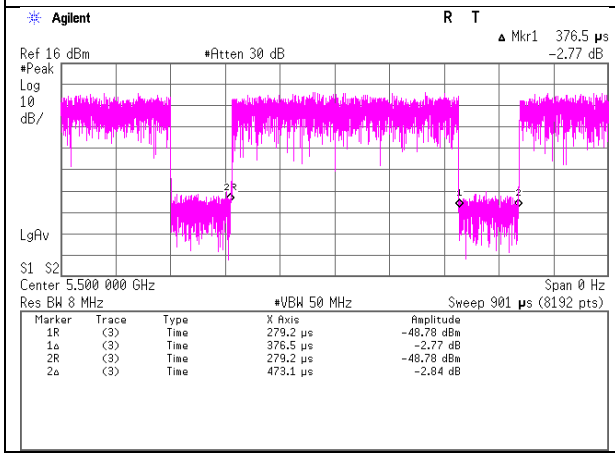
The test was performed with condition that obtained the maximum frame power in pre-check.

Burst rate confirmation

Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 18, 2016
Temperature / Humidity	21deg. C / 41 % RH
Engineer	Ken Fujita
Mode	Tx

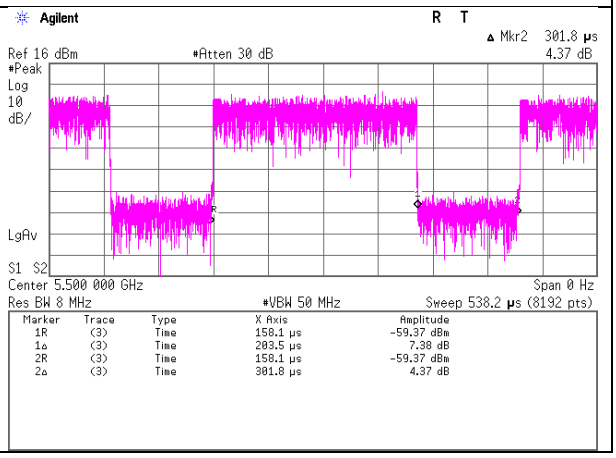
11a 24Mbps

Tx on / (Tx on + Tx off) =	**0.796**
Tx on / (Tx on + Tx off) * 100 =	**79.6 %**
Duty factor = 10 * log (0.4731 / 0.3765) =	**0.99 dB**



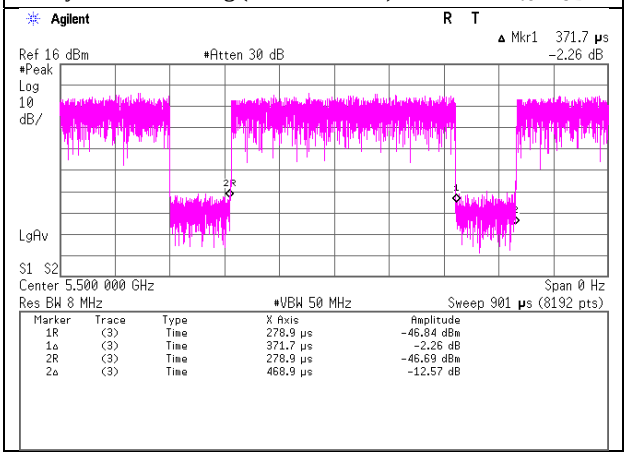
11n-20 MCS5

Tx on / (Tx on + Tx off) =	**0.674**
Tx on / (Tx on + Tx off) * 100 =	**67.4 %**
Duty factor = 10 * log (0.3018 / 0.2035) =	**1.71 dB**



11ac-20 MCS3

Tx on / (Tx on + Tx off) =	**0.793**
Tx on / (Tx on + Tx off) * 100 =	**79.3 %**
Duty factor = 10 * log (0.4689 / 0.3717) =	**1.01 dB**

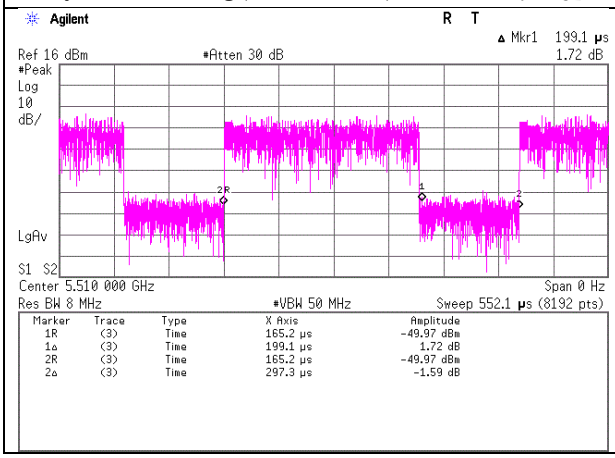


Burst rate confirmation

Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 18, 2016
Temperature / Humidity	21deg. C / 41 % RH
Engineer	Ken Fujita
Mode	Tx

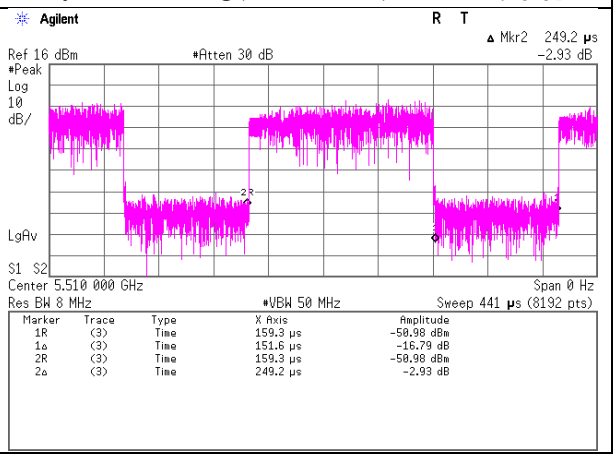
11n-40 MCS3

Tx on / (Tx on + Tx off) =	**0.670**
Tx on / (Tx on + Tx off) * 100 =	**67.0 %**
Duty factor = 10 * log (0.2973 / 0.1991) =	**1.74 dB**



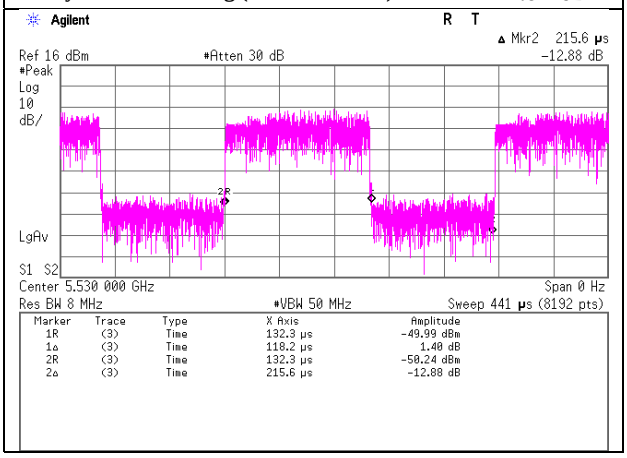
11ac-40 MCS4

Tx on / (Tx on + Tx off) =	**0.608**
Tx on / (Tx on + Tx off) * 100 =	**60.8 %**
Duty factor = 10 * log (0.2492 / 0.1516) =	**2.16 dB**



11ac-80 MCS3

Tx on / (Tx on + Tx off) =	**0.548**
Tx on / (Tx on + Tx off) * 100 =	**54.8 %**
Duty factor = 10 * log (0.2156 / 0.1182) =	**2.61 dB**



Maximum Power Spectral Density

Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 18, 2016
Temperature / Humidity	21deg. C / 42 % RH
Engineer	Ken Fujita
Mode	Tx 11a

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	PSD Reading [dBm /MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty Factor [dB]	Antenna Gain [dBi]	RBW Correction Factor [dB]	PSD (Conducted) Result [dBm /MHz]	PSD (Conducted) Limit [dBm /MHz]	PSD (Conducted) Margin [dB]	PSD (e.i.r.p.) Result [dBm /MHz]	PSD (e.i.r.p.) Limit [dBm /MHz]	PSD (e.i.r.p.) Margin [dB]
5180	-14.37	4.85	9.68	0.99	-3.2	0.00	1.15	11.00	9.85	-2.05	17.00	19.05
5220	-14.31	4.93	9.68	0.99	-3.2	0.00	1.28	11.00	9.72	-1.92	17.00	18.92
5240	-14.69	4.97	9.68	0.99	-3.2	0.00	0.95	11.00	10.05	-2.25	17.00	19.25
5260	-14.67	5.00	9.68	0.99	-3.2	0.00	1.00	11.00	10.00	-2.20	17.00	19.20
5300	-14.95	5.09	9.68	0.99	-3.2	0.00	0.80	11.00	10.20	-2.40	17.00	19.40
5320	-15.15	5.12	9.68	0.99	-3.2	0.00	0.64	11.00	10.36	-2.56	17.00	19.56
5500	-16.32	5.30	9.68	0.99	-3.2	0.00	-0.35	11.00	11.35	-3.55	17.00	20.55
5580	-16.07	5.38	9.69	0.99	-3.2	0.00	-0.01	11.00	11.01	-3.21	17.00	20.21
5700	-15.93	5.41	9.70	0.99	-3.2	0.00	0.17	11.00	10.83	-3.03	17.00	20.03
5720	-15.92	5.43	9.70	0.99	-3.2	0.00	0.20	11.00	10.80	-3.00	17.00	20.00
5745	-19.23	5.40	9.70	0.99	-3.2	0.27	-2.88	30.00	32.88	-6.08	36.00	42.08
5785	-19.29	5.40	9.70	0.99	-3.2	0.27	-2.93	30.00	32.93	-6.13	36.00	42.13
5825	-19.18	5.41	9.70	0.99	-3.2	0.27	-2.81	30.00	32.81	-6.01	36.00	42.01

Sample Calculation:
PSD: Power Spectral Density
The PSD within 5725 MHz to 5825 MHz are based on any 500 kHz band.
RBW Correction Factor = 10 * log (Specified bandwidth / Measured bandwidth)
PSD Result (Conducted) = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Duty Factor + RBW Correction Factor
PSD Result (e.i.r.p.) = Conducted PSD Result + Antenna Gain

Although the EUT operates on Master mode, more stringent limit for Client device was applied. (W52 for FCC)

Maximum Power Spectral Density

Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 18, 2016
Temperature / Humidity	21deg. C / 42 % RH
Engineer	Ken Fujita
Mode	Tx 11n-20

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	PSD Reading [dBm /MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty Factor [dB]	Antenna Gain [dBi]	RBW Correction Factor [dB]	PSD (Conducted) Result [dBm /MHz]	PSD (Conducted) Limit [dBm /MHz]	PSD (Conducted) Margin [dB]	PSD (e.i.r.p.) Result [dBm /MHz]	PSD (e.i.r.p.) Limit [dBm /MHz]	PSD (e.i.r.p.) Margin [dB]
5180	-15.23	4.85	9.68	1.71	-3.2	0.00	1.01	11.00	9.99	-2.19	17.00	19.19
5220	-15.34	4.93	9.68	1.71	-3.2	0.00	0.98	11.00	10.02	-2.22	17.00	19.22
5240	-15.25	4.97	9.68	1.71	-3.2	0.00	1.10	11.00	9.90	-2.10	17.00	19.10
5260	-15.56	5.00	9.68	1.71	-3.2	0.00	0.83	11.00	10.17	-2.37	17.00	19.37
5300	-15.93	5.09	9.68	1.71	-3.2	0.00	0.54	11.00	10.46	-2.66	17.00	19.66
5320	-15.84	5.12	9.68	1.71	-3.2	0.00	0.67	11.00	10.33	-2.53	17.00	19.53
5500	-16.85	5.30	9.68	1.71	-3.2	0.00	-0.16	11.00	11.16	-3.36	17.00	20.36
5580	-16.66	5.38	9.69	1.71	-3.2	0.00	0.12	11.00	10.88	-3.08	17.00	20.08
5700	-16.75	5.41	9.70	1.71	-3.2	0.00	0.07	11.00	10.93	-3.13	17.00	20.13
5720	-16.66	5.43	9.70	1.71	-3.2	0.00	0.18	11.00	10.82	-3.02	17.00	20.02
5745	-19.77	5.40	9.70	1.71	-3.2	0.27	-2.69	30.00	32.69	-5.89	36.00	41.89
5785	-20.07	5.40	9.70	1.71	-3.2	0.27	-2.99	30.00	32.99	-6.19	36.00	42.19
5825	-19.90	5.41	9.70	1.71	-3.2	0.27	-2.81	30.00	32.81	-6.01	36.00	42.01

Sample Calculation:
PSD: Power Spectral Density
The PSD within 5725 MHz to 5825 MHz are based on any 500 kHz band.
RBW Correction Factor = 10 * log (Specified bandwidth / Measured bandwidth)
PSD Result (Conducted) = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Duty Factor + RBW Correction Factor
PSD Result (e.i.r.p.) = Conducted PSD Result + Antenna Gain

Although the EUT operates on Master mode, more stringent limit for Client device was applied. (W52 for FCC)

Maximum Power Spectral Density

Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 18, 2016
Temperature / Humidity	21deg. C / 42 % RH
Engineer	Ken Fujita
Mode	Tx 11ac-20

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	PSD Reading [dBm /MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty Factor [dB]	Antenna Gain [dBi]	RBW Correction Factor [dB]	PSD (Conducted) Result [dBm /MHz]	PSD (Conducted) Limit [dBm /MHz]	PSD (Conducted) Margin [dB]	PSD (e.i.r.p.) Result [dBm /MHz]	PSD (e.i.r.p.) Limit [dBm /MHz]	PSD (e.i.r.p.) Margin [dB]
5180	-14.70	4.85	9.68	1.01	-3.2	0.00	0.84	11.00	10.16	-2.36	17.00	19.36
5220	-14.84	4.93	9.68	1.01	-3.2	0.00	0.77	11.00	10.23	-2.43	17.00	19.43
5240	-14.68	4.97	9.68	1.01	-3.2	0.00	0.98	11.00	10.02	-2.22	17.00	19.22
5260	-14.72	5.00	9.68	1.01	-3.2	0.00	0.97	11.00	10.03	-2.23	17.00	19.23
5300	-15.30	5.09	9.68	1.01	-3.2	0.00	0.48	11.00	10.52	-2.72	17.00	19.72
5320	-15.18	5.12	9.68	1.01	-3.2	0.00	0.63	11.00	10.37	-2.57	17.00	19.57
5500	-16.37	5.30	9.68	1.01	-3.2	0.00	-0.38	11.00	11.38	-3.58	17.00	20.58
5580	-16.24	5.38	9.69	1.01	-3.2	0.00	-0.16	11.00	11.16	-3.36	17.00	20.36
5700	-16.14	5.41	9.70	1.01	-3.2	0.00	-0.02	11.00	11.02	-3.22	17.00	20.22
5720	-16.01	5.43	9.70	1.01	-3.2	0.00	0.13	11.00	10.87	-3.07	17.00	20.07
5745	-19.40	5.40	9.70	1.01	-3.2	0.27	-3.02	30.00	33.02	-6.22	36.00	42.22
5785	-19.63	5.40	9.70	1.01	-3.2	0.27	-3.25	30.00	33.25	-6.45	36.00	42.45
5825	-19.43	5.41	9.70	1.01	-3.2	0.27	-3.04	30.00	33.04	-6.24	36.00	42.24

Sample Calculation:
PSD: Power Spectral Density
The PSD within 5725 MHz to 5825 MHz are based on any 500 kHz band.
RBW Correction Factor = 10 * log (Specified bandwidth / Measured bandwidth)
PSD Result (Conducted) = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Duty Factor + RBW Correction Factor
PSD Result (e.i.r.p.) = Conducted PSD Result + Antenna Gain

Although the EUT operates on Master mode, more stringent limit for Client device was applied. (W52 for FCC)

Maximum Power Spectral Density

Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 18, 2016
Temperature / Humidity	21deg. C / 42 % RH
Engineer	Ken Fujita
Mode	Tx 11n-40

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	PSD Reading [dBm /MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty Factor [dB]	Antenna Gain [dBi]	RBW Correction Factor [dB]	PSD (Conducted) Result [dBm /MHz]	PSD (Conducted) Limit [dBm /MHz]	PSD (Conducted) Margin [dB]	PSD (e.i.r.p.) Result [dBm /MHz]	PSD (e.i.r.p.) Limit [dBm /MHz]	PSD (e.i.r.p.) Margin [dB]
5190	-18.78	4.87	9.68	1.74	-3.2	0.00	-2.50	11.00	13.50	-5.70	17.00	22.70
5230	-18.88	4.94	9.68	1.74	-3.2	0.00	-2.52	11.00	13.52	-5.72	17.00	22.72
5270	-19.39	5.03	9.68	1.74	-3.2	0.00	-2.94	11.00	13.94	-6.14	17.00	23.14
5310	-19.72	5.10	9.68	1.74	-3.2	0.00	-3.19	11.00	14.19	-6.39	17.00	23.39
5510	-20.71	5.48	9.68	1.74	-3.2	0.00	-3.81	11.00	14.81	-7.01	17.00	24.01
5550	-20.38	5.55	9.69	1.74	-3.2	0.00	-3.40	11.00	14.40	-6.60	17.00	23.60
5670	-20.68	5.40	9.70	1.74	-3.2	0.00	-3.84	11.00	14.84	-7.04	17.00	24.04
5710	-20.39	5.83	9.70	1.74	-3.2	0.00	-3.12	11.00	14.12	-6.32	17.00	23.32
5755	-24.07	5.90	9.70	1.74	-3.2	0.27	-6.46	30.00	36.46	-9.66	36.00	45.66
5795	-23.94	5.98	9.70	1.74	-3.2	0.27	-6.25	30.00	36.25	-9.45	36.00	45.45

Sample Calculation:
PSD: Power Spectral Density
The PSD within 5725 MHz to 5825 MHz are based on any 500 kHz band.
RBW Correction Factor = 10 * log (Specified bandwidth / Measured bandwidth)
PSD Result (Conducted) = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Duty Factor + RBW Correction Factor
PSD Result (e.i.r.p.) = Conducted PSD Result + Antenna Gain

Although the EUT operates on Master mode, more stringent limit for Client device was applied. (W52 for FCC)

Maximum Power Spectral Density

Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 18, 2016
Temperature / Humidity	21deg. C / 42 % RH
Engineer	Ken Fujita
Mode	Tx 11ac-40

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	PSD Reading [dBm /MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty Factor [dB]	Antenna Gain [dBi]	RBW Correction Factor [dB]	PSD (Conducted) Result [dBm /MHz]	PSD (Conducted) Limit [dBm /MHz]	PSD (Conducted) Margin [dB]	PSD (e.i.r.p.) Result [dBm /MHz]	PSD (e.i.r.p.) Limit [dBm /MHz]	PSD (e.i.r.p.) Margin [dB]
5190	-18.30	4.87	9.68	2.16	-3.2	0.00	-1.59	11.00	12.59	-4.79	17.00	21.79
5230	-18.19	4.94	9.68	2.16	-3.2	0.00	-1.40	11.00	12.40	-4.60	17.00	21.60
5270	-18.72	5.03	9.68	2.16	-3.2	0.00	-1.85	11.00	12.85	-5.05	17.00	22.05
5310	-18.79	5.10	9.68	2.16	-3.2	0.00	-1.85	11.00	12.85	-5.05	17.00	22.05
5510	-20.53	5.48	9.68	2.16	-3.2	0.00	-3.22	11.00	14.22	-6.42	17.00	23.42
5550	-20.47	5.55	9.69	2.16	-3.2	0.00	-3.06	11.00	14.06	-6.26	17.00	23.26
5670	-20.42	5.40	9.70	2.16	-3.2	0.00	-3.16	11.00	14.16	-6.36	17.00	23.36
5710	-19.71	5.83	9.70	2.16	-3.2	0.00	-2.02	11.00	13.02	-5.22	17.00	22.22
5755	-23.35	5.90	9.70	2.16	-3.2	0.27	-5.31	30.00	35.31	-8.51	36.00	44.51
5795	-22.83	5.98	9.70	2.16	-3.2	0.27	-4.72	30.00	34.72	-7.92	36.00	43.92

Sample Calculation:
PSD: Power Spectral Density
The PSD within 5725 MHz to 5825 MHz are based on any 500 kHz band.
RBW Correction Factor = 10 * log (Specified bandwidth / Measured bandwidth)
PSD Result (Conducted) = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Duty Factor + RBW Correction Factor
PSD Result (e.i.r.p.) = Conducted PSD Result + Antenna Gain

Although the EUT operates on Master mode, more stringent limit for Client device was applied. (W52 for FCC)

Maximum Power Spectral Density

Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 18, 2016
Temperature / Humidity	21deg. C / 42 % RH
Engineer	Ken Fujita
Mode	Tx 11ac-80

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	PSD Reading [dBm /MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty Factor [dB]	Antenna Gain [dBi]	RBW Correction Factor [dB]	PSD (Conducted) Result [dBm /MHz]	PSD (Conducted) Limit [dBm /MHz]	PSD (Conducted) Margin [dB]	PSD (e.i.r.p.) Result [dBm /MHz]	PSD (e.i.r.p.) Limit [dBm /MHz]	PSD (e.i.r.p.) Margin [dB]
5210	-22.30	4.91	9.68	2.61	-3.2	0.00	-5.10	11.00	16.10	-8.30	17.00	25.30
5290	-22.43	5.06	9.68	2.61	-3.2	0.00	-5.08	11.00	16.08	-8.28	17.00	25.28
5530	-23.11	5.31	9.69	2.61	-3.2	0.00	-5.50	11.00	16.50	-8.70	17.00	25.70
5610	-23.72	5.36	9.69	2.61	-3.2	0.00	-6.06	11.00	17.06	-9.26	17.00	26.26
5690	-23.31	5.41	9.70	2.61	-3.2	0.00	-5.60	11.00	16.60	-8.80	17.00	25.80
5775	-26.45	5.94	9.70	2.61	-3.2	0.27	-7.93	30.00	37.93	-11.13	36.00	47.13

Sample Calculation:
PSD: Power Spectral Density
The PSD within 5725 MHz to 5825 MHz are based on any 500 kHz band.
RBW Correction Factor = 10 * log (Specified bandwidth / Measured bandwidth)
PSD Result (Conducted) = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Duty Factor + RBW Correction Factor
PSD Result (e.i.r.p.) = Conducted PSD Result + Antenna Gain

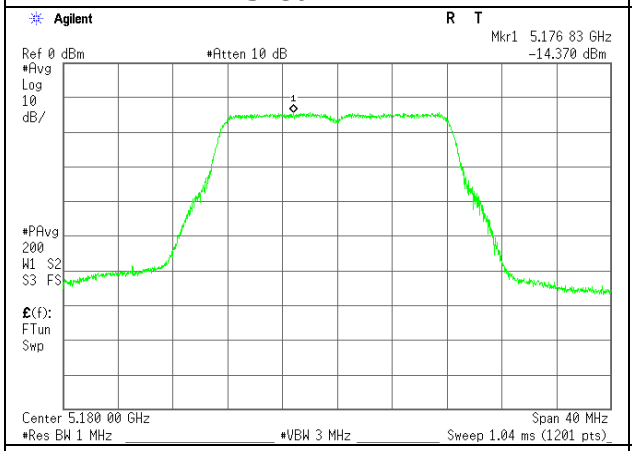
Although the EUT operates on Master mode, more stringent limit for Client device was applied. (W52 for FCC)

Maximum Power Spectral Density

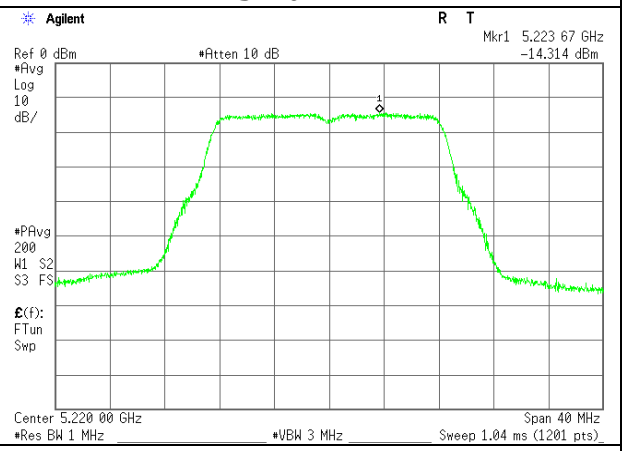
Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 18, 2016
Temperature / Humidity	21deg. C / 42 % RH
Engineer	Ken Fujita
Mode	Tx 11a

11a

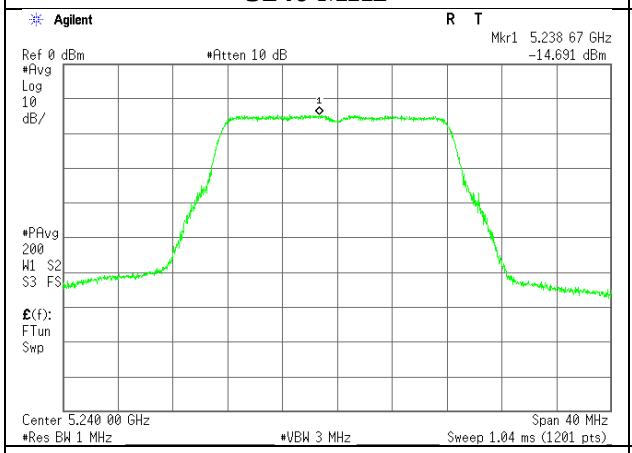
5180 MHz



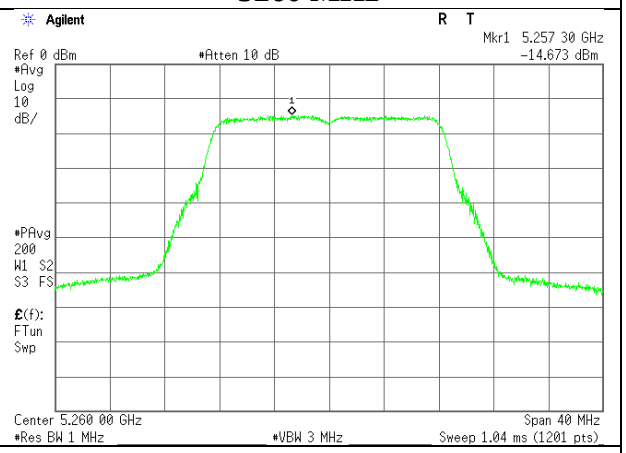
5220 MHz



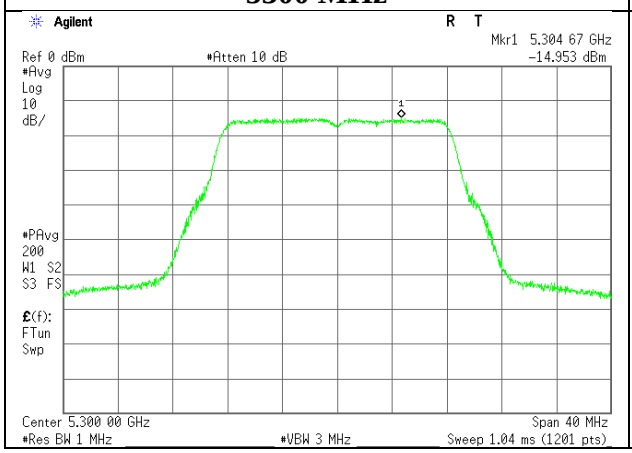
5240 MHz



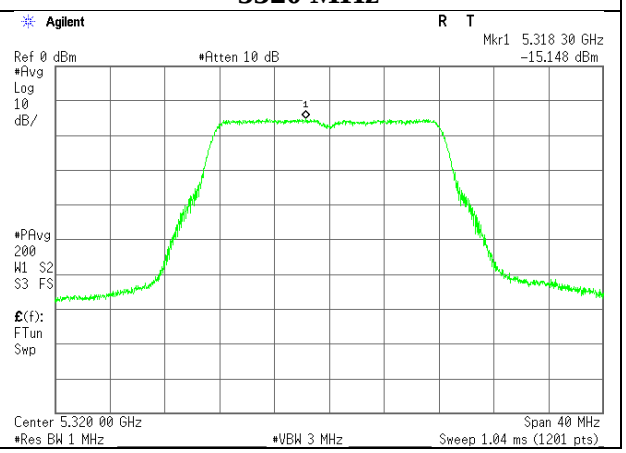
5260 MHz



5300 MHz



5320 MHz

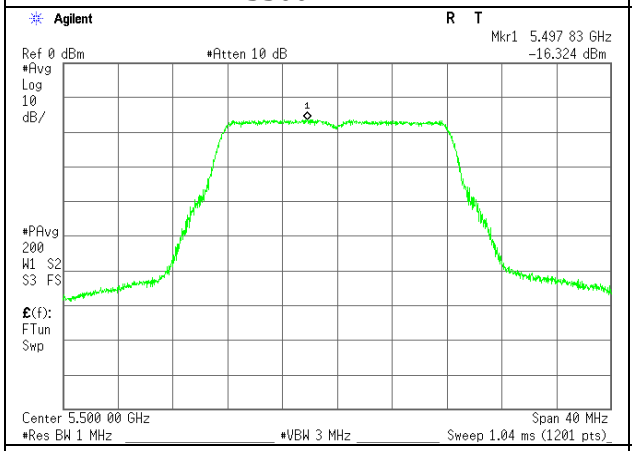


Maximum Power Spectral Density

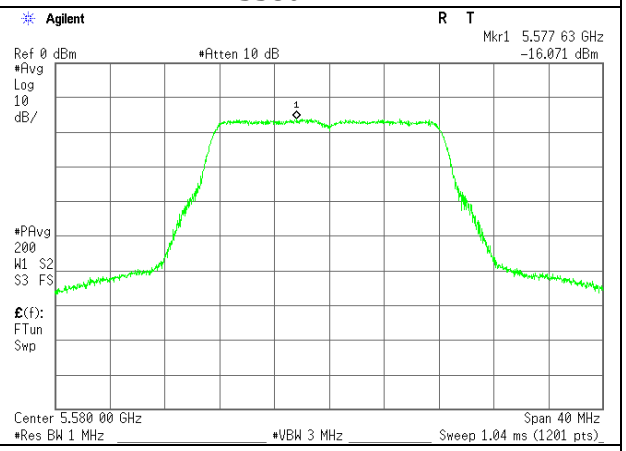
Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 18, 2016
Temperature / Humidity	21deg. C / 42 % RH
Engineer	Ken Fujita
Mode	Tx 11a

11a

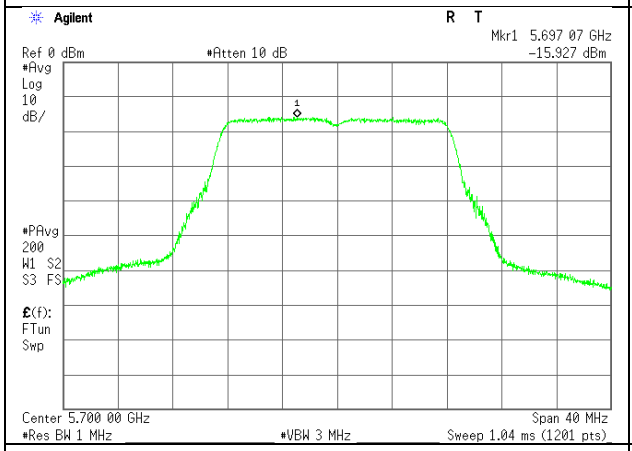
5500 MHz



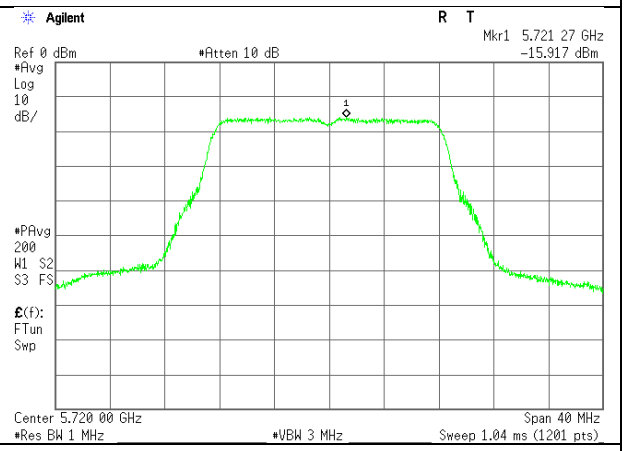
5580 MHz



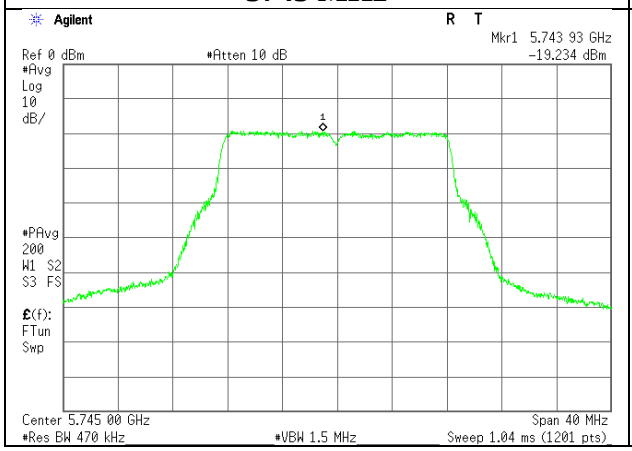
5700 MHz



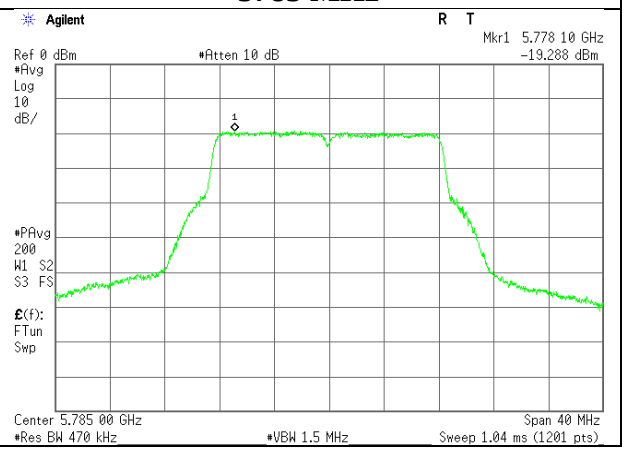
5720 MHz



5745 MHz



5785 MHz

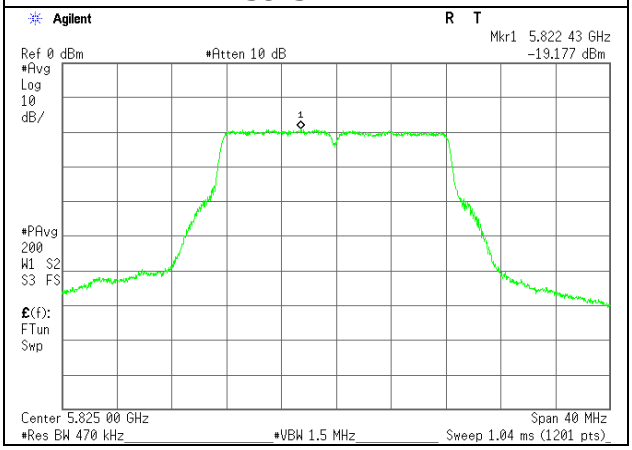


Maximum Power Spectral Density

Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 18, 2016
Temperature / Humidity	21deg. C / 42 % RH
Engineer	Ken Fujita
Mode	Tx 11a

11a

5825 MHz

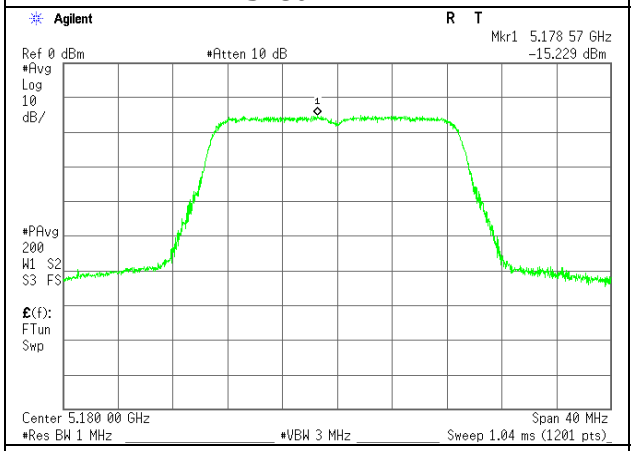


Maximum Power Spectral Density

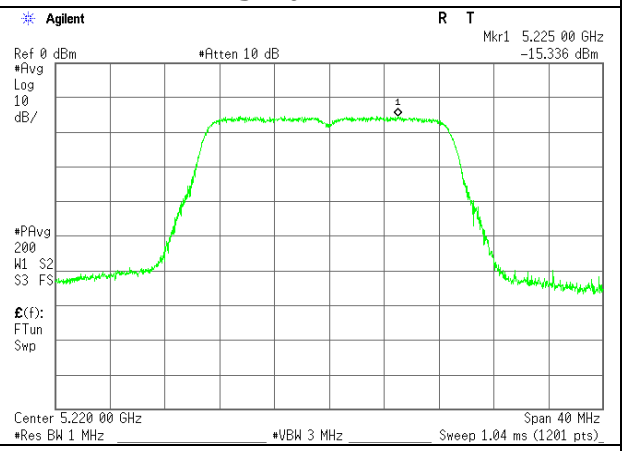
Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 18, 2016
Temperature / Humidity	21deg. C / 42 % RH
Engineer	Ken Fujita
Mode	Tx 11n-20

11n-20

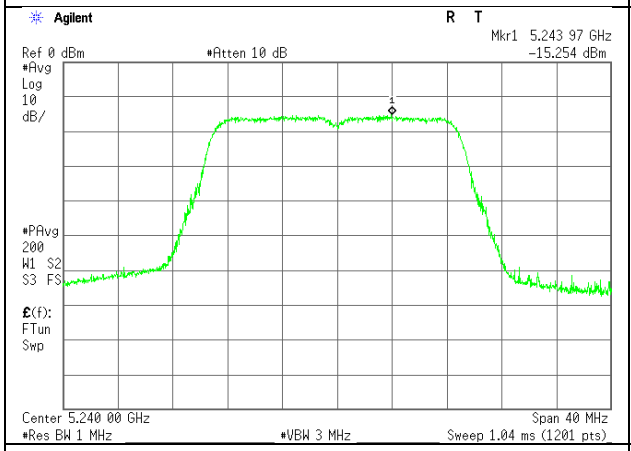
5180 MHz



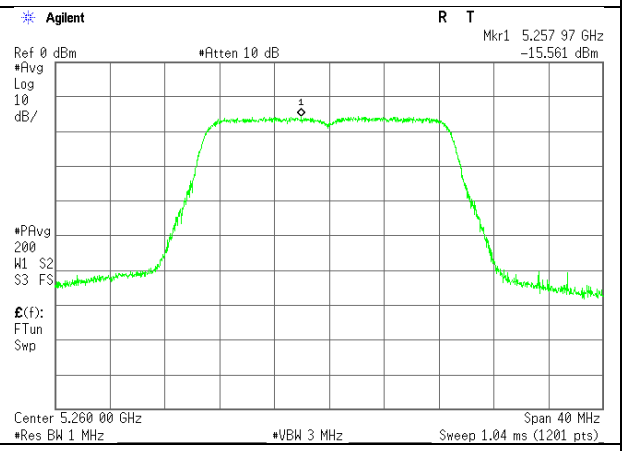
5220 MHz



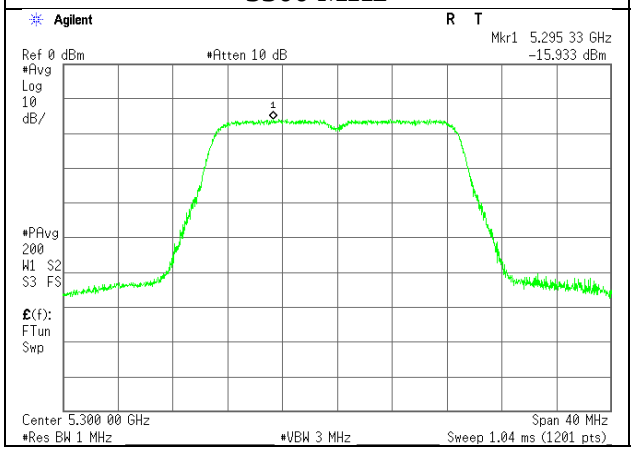
5240 MHz



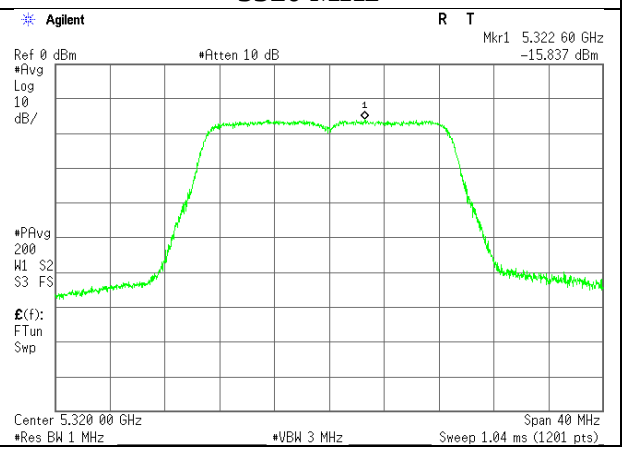
5260 MHz



5300 MHz



5320 MHz

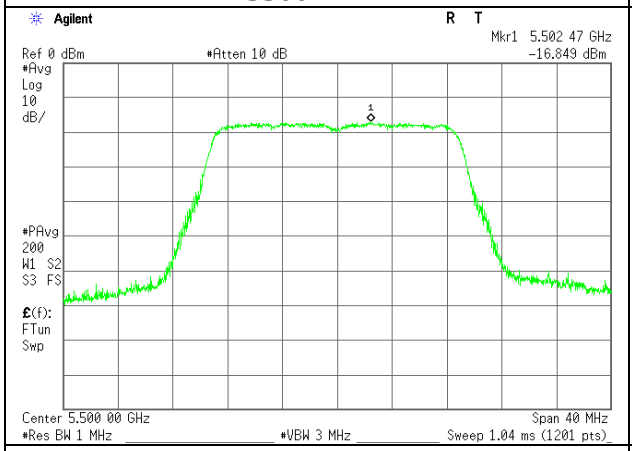


Maximum Power Spectral Density

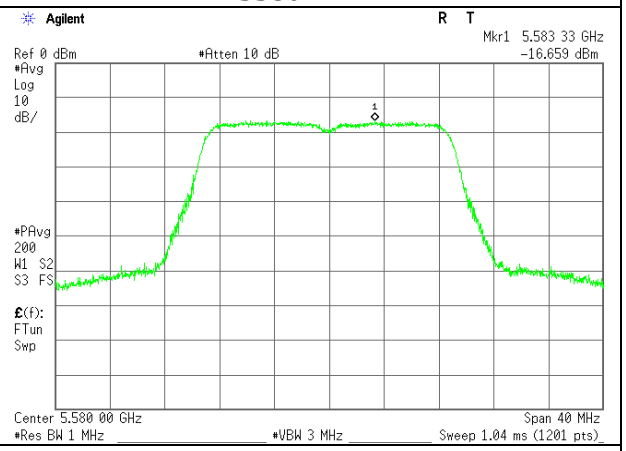
Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 18, 2016
Temperature / Humidity	21deg. C / 42 % RH
Engineer	Ken Fujita
Mode	Tx 11n-20

11n-20

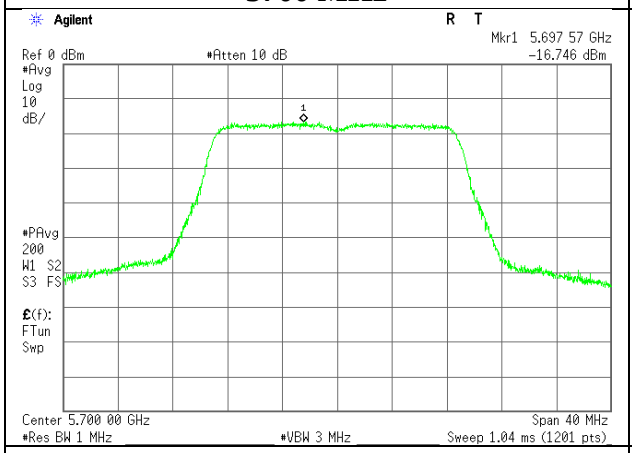
5500 MHz



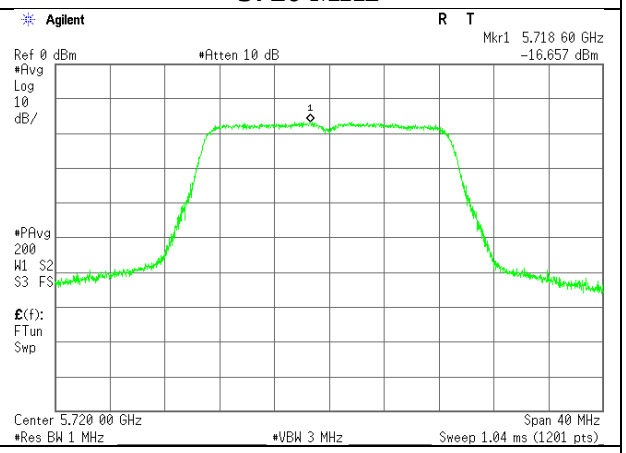
5580 MHz



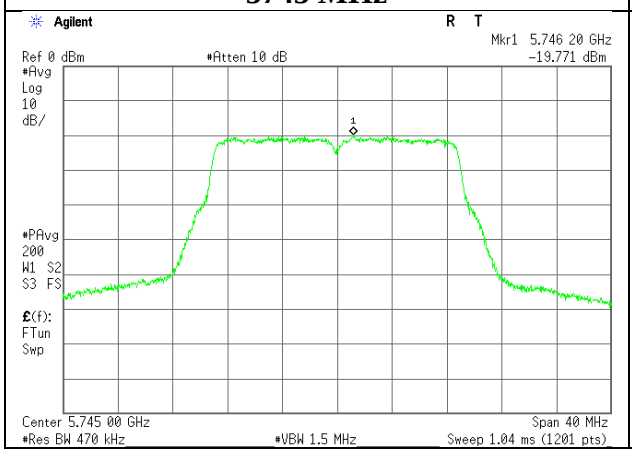
5700 MHz



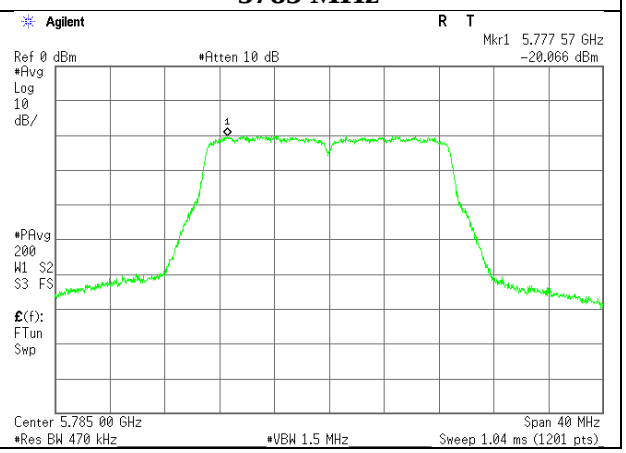
5720 MHz



5745 MHz



5785 MHz

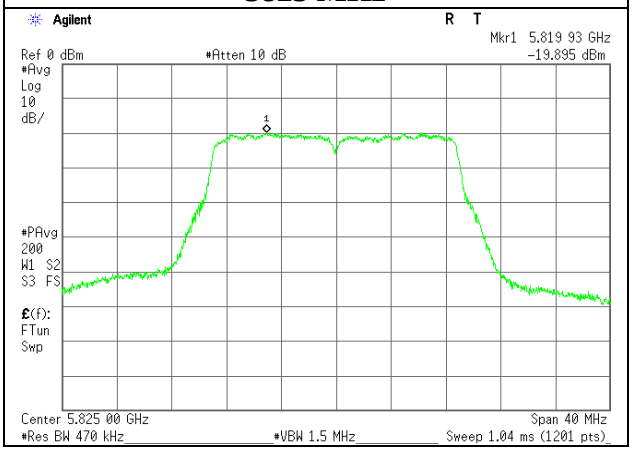


Maximum Power Spectral Density

Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 18, 2016
Temperature / Humidity	21deg. C / 42 % RH
Engineer	Ken Fujita
Mode	Tx 11n-20

11n-20

5825 MHz

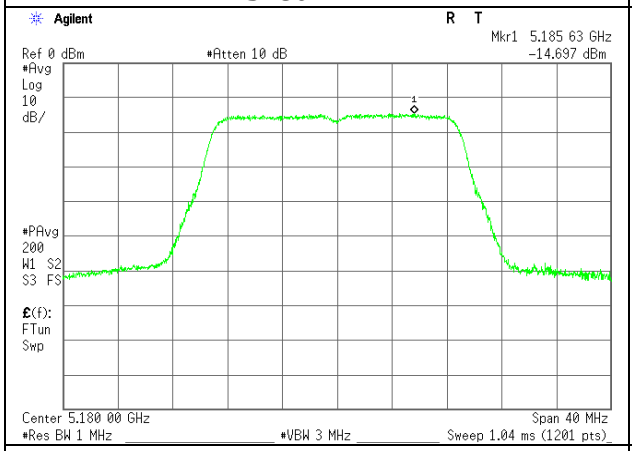


Maximum Power Spectral Density

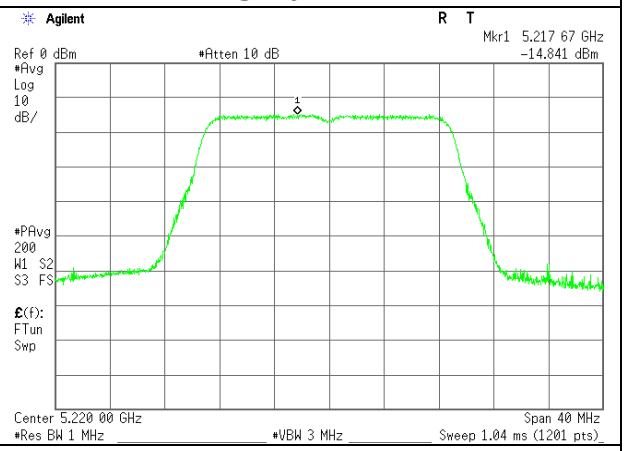
Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 18, 2016
Temperature / Humidity	21deg. C / 42 % RH
Engineer	Ken Fujita
Mode	Tx 11ac-20

11ac-20

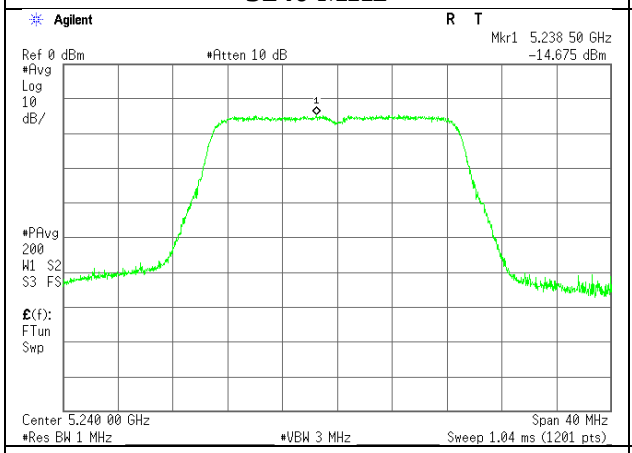
5180 MHz



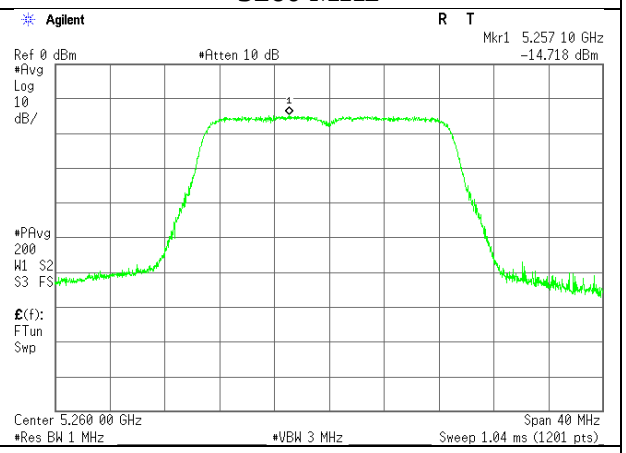
5220 MHz



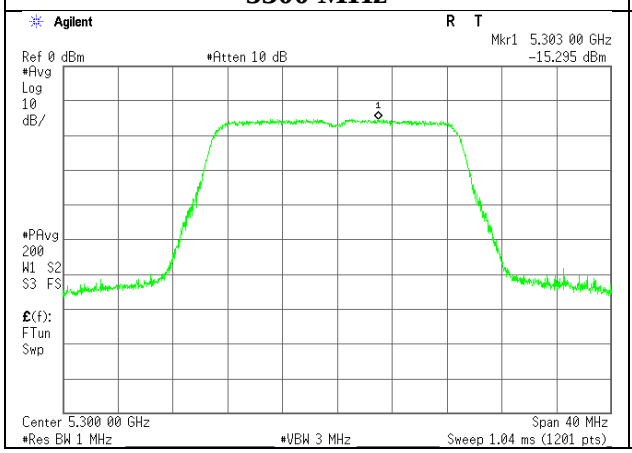
5240 MHz



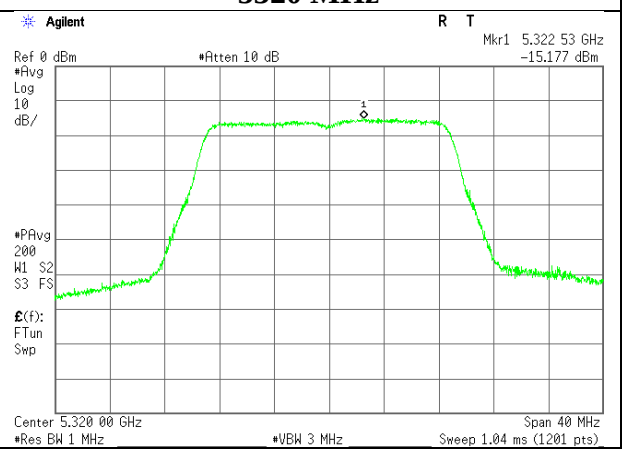
5260 MHz



5300 MHz



5320 MHz

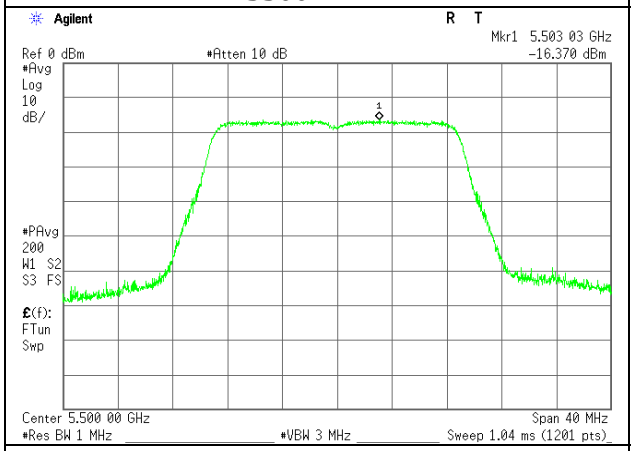


Maximum Power Spectral Density

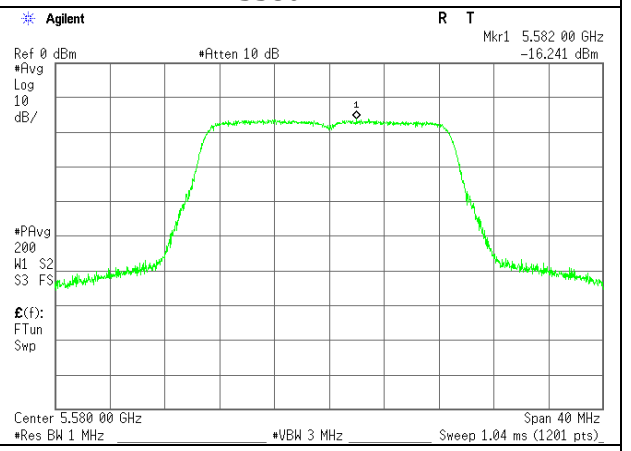
Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 18, 2016
Temperature / Humidity	21deg. C / 42 % RH
Engineer	Ken Fujita
Mode	Tx 11ac-20

11ac-20

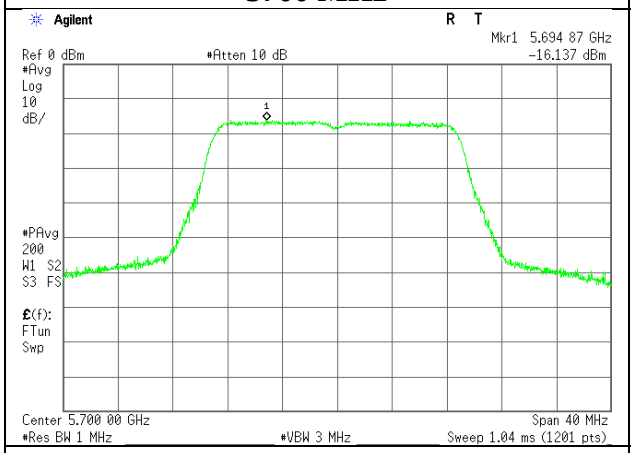
5500 MHz



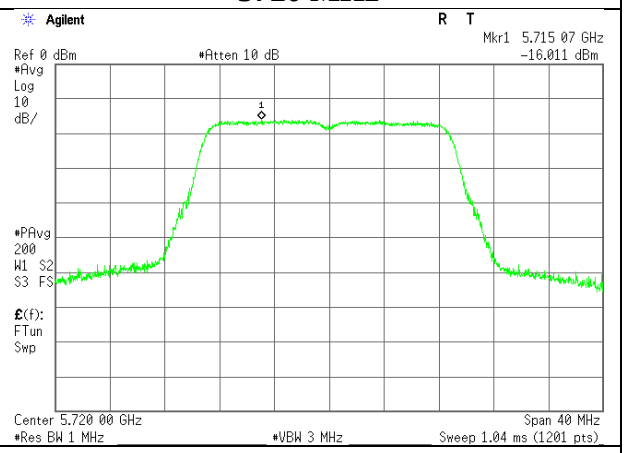
5580 MHz



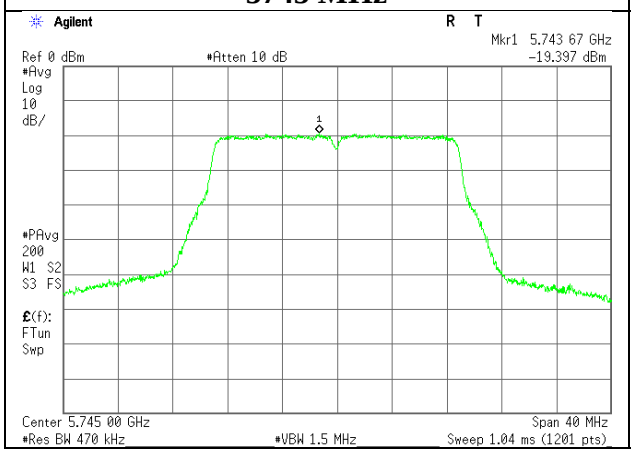
5700 MHz



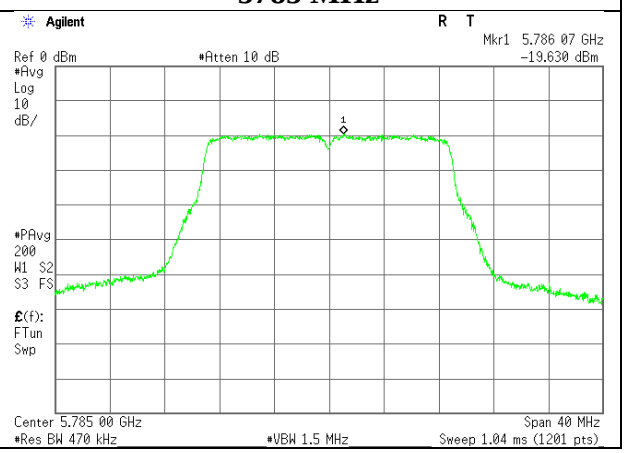
5720 MHz



5745 MHz



5785 MHz

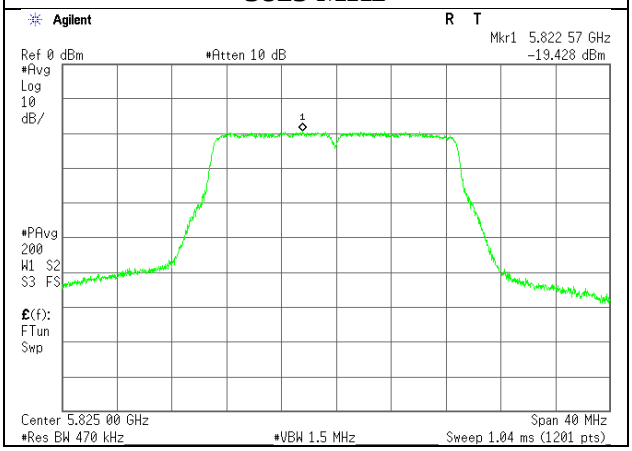


Maximum Power Spectral Density

Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 18, 2016
Temperature / Humidity	21deg. C / 42 % RH
Engineer	Ken Fujita
Mode	Tx 11ac-20

11ac-20

5825 MHz

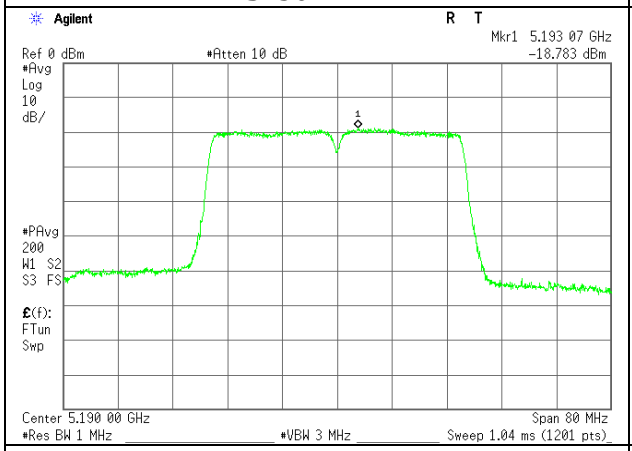


Maximum Power Spectral Density

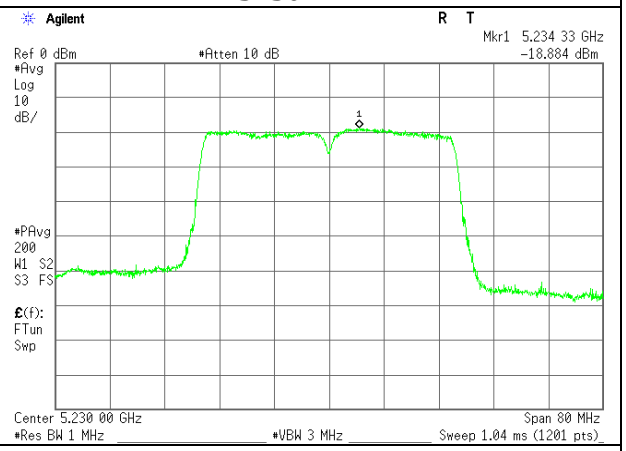
Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 18, 2016
Temperature / Humidity	21deg. C / 42 % RH
Engineer	Ken Fujita
Mode	Tx 11n-40

11n-40

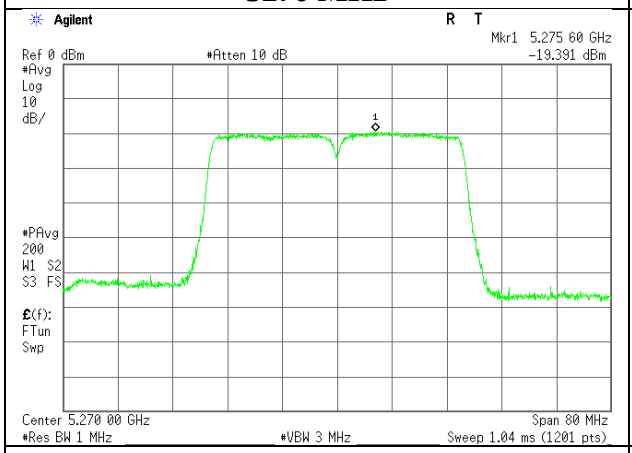
5190 MHz



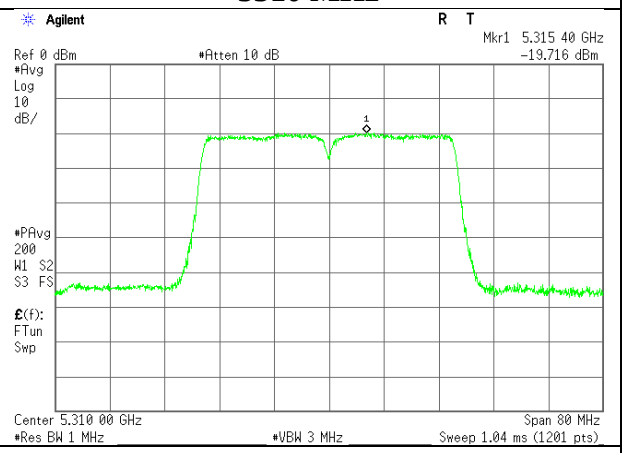
5230 MHz



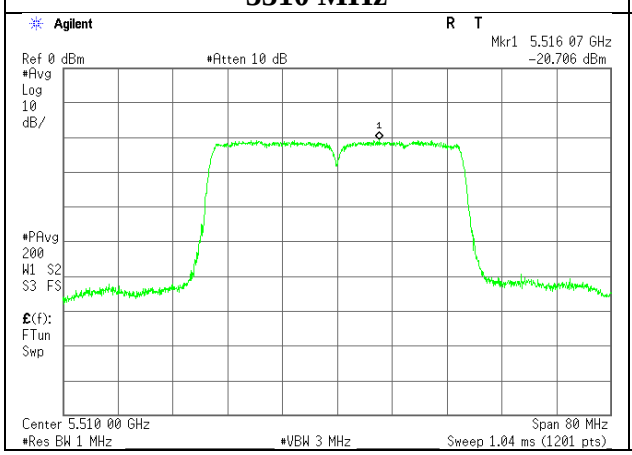
5270 MHz



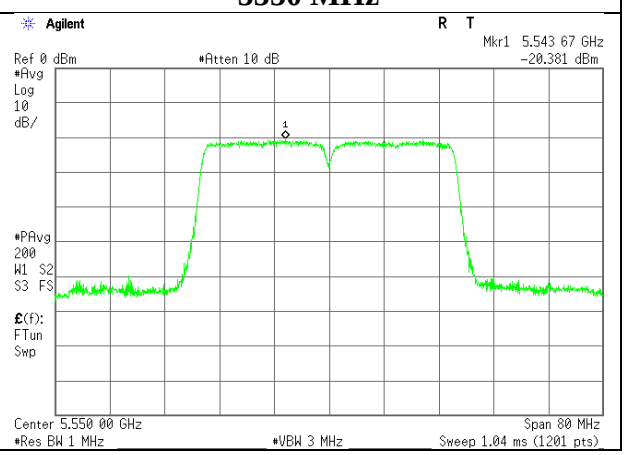
5310 MHz



5510 MHz



5550 MHz

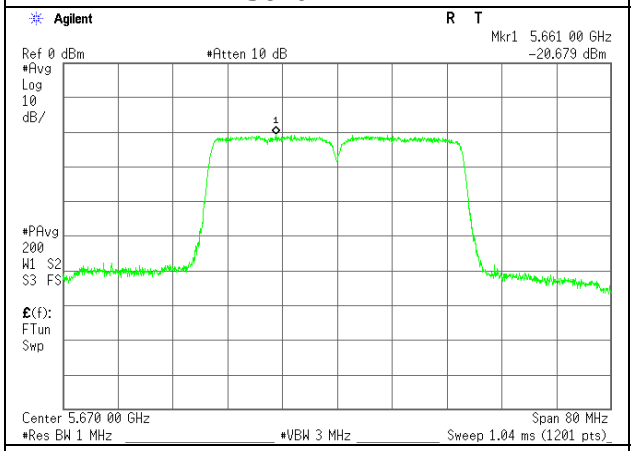


Maximum Power Spectral Density

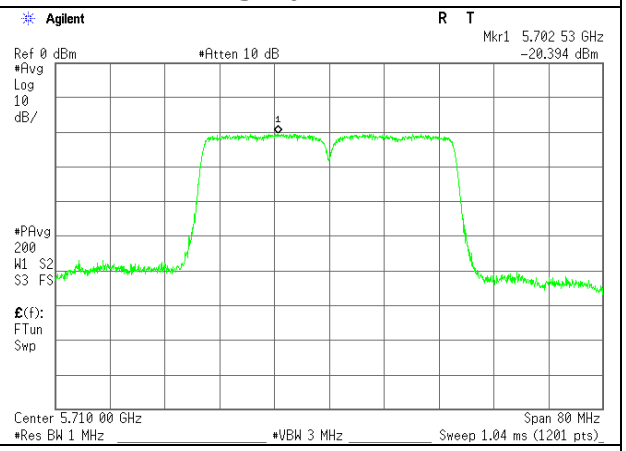
Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 18, 2016
Temperature / Humidity	21deg. C / 42 % RH
Engineer	Ken Fujita
Mode	Tx 11n-40

11n-40

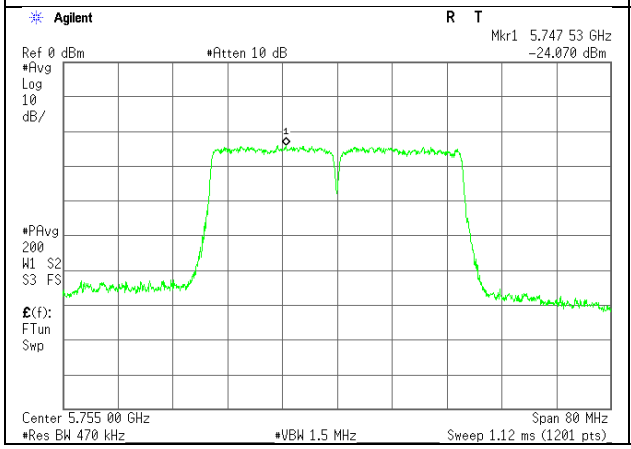
5670 MHz



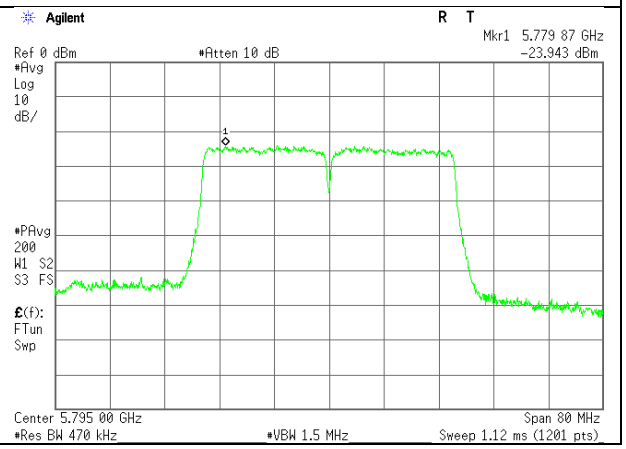
5710 MHz



5755 MHz



5795 MHz

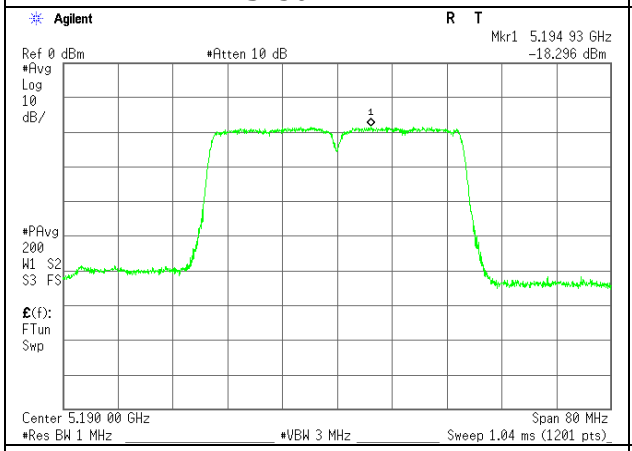


Maximum Power Spectral Density

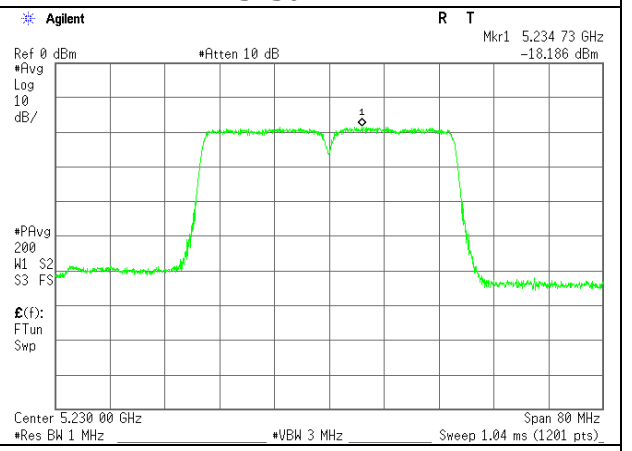
Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 18, 2016
Temperature / Humidity	21deg. C / 42 % RH
Engineer	Ken Fujita
Mode	Tx 11ac-40

11ac-40

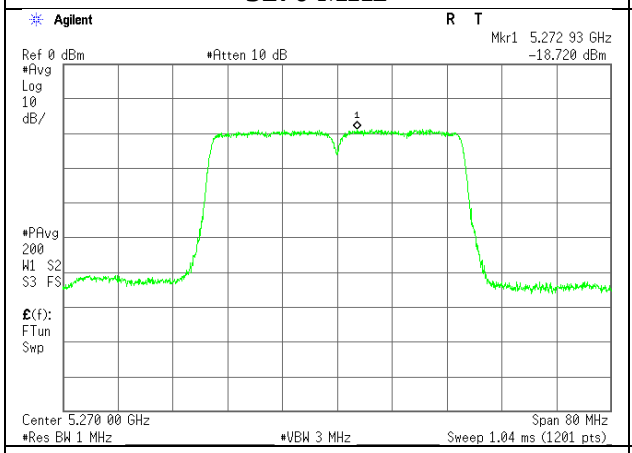
5190 MHz



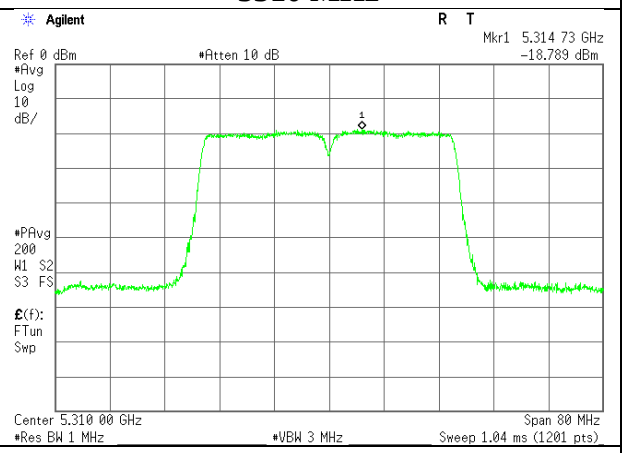
5230 MHz



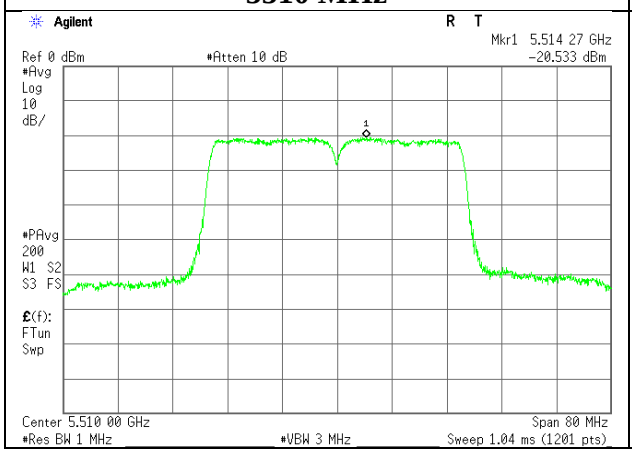
5270 MHz



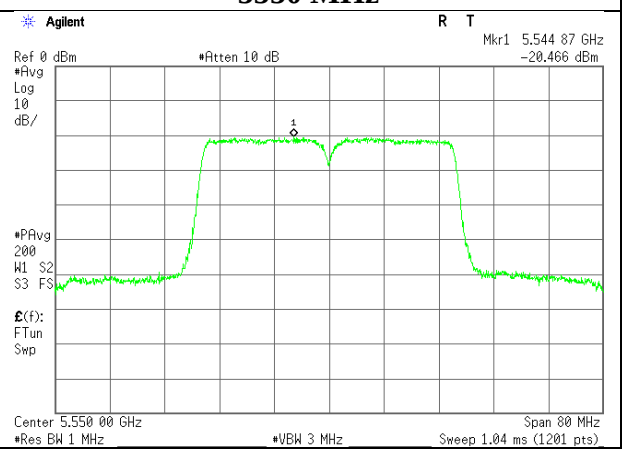
5310 MHz



5510 MHz



5550 MHz

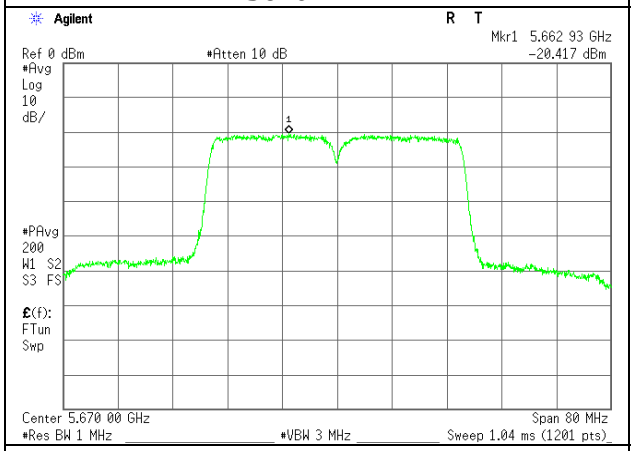


Maximum Power Spectral Density

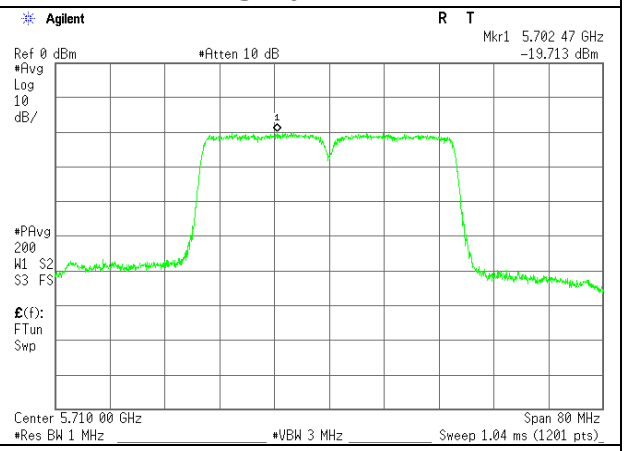
Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 18, 2016
Temperature / Humidity	21deg. C / 42 % RH
Engineer	Ken Fujita
Mode	Tx 11ac-40

11ac-40

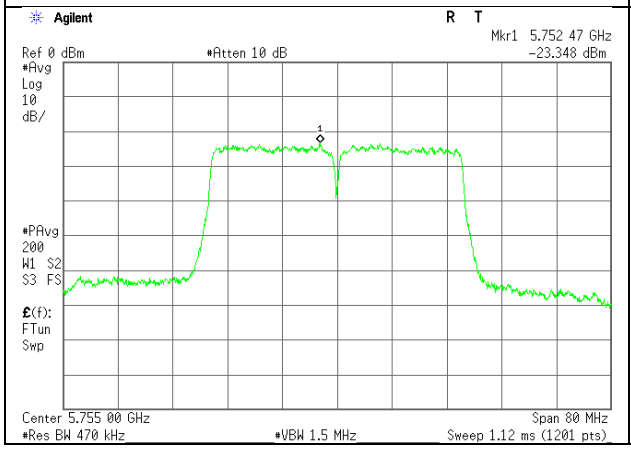
5670 MHz



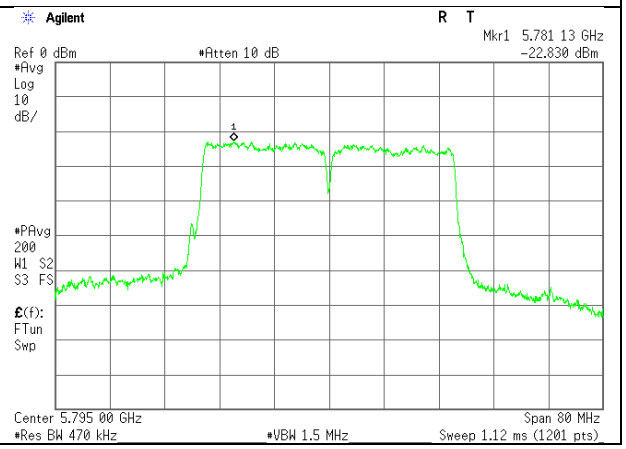
5710 MHz



5755 MHz



5795 MHz

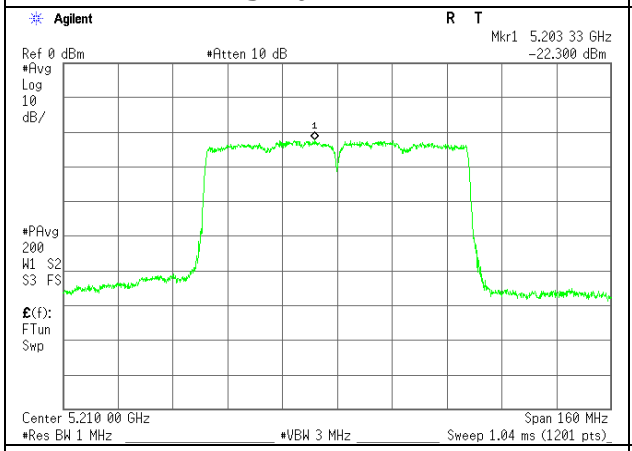


Maximum Power Spectral Density

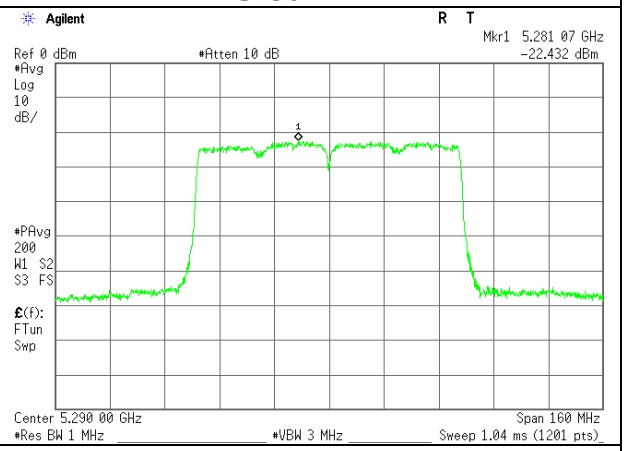
Test place	Ise EMC Lab. No.6 Measurement Room
Report No.	11081928H
Date	February 18, 2016
Temperature / Humidity	21deg. C / 42 % RH
Engineer	Ken Fujita
Mode	Tx 11ac-80

11ac-80

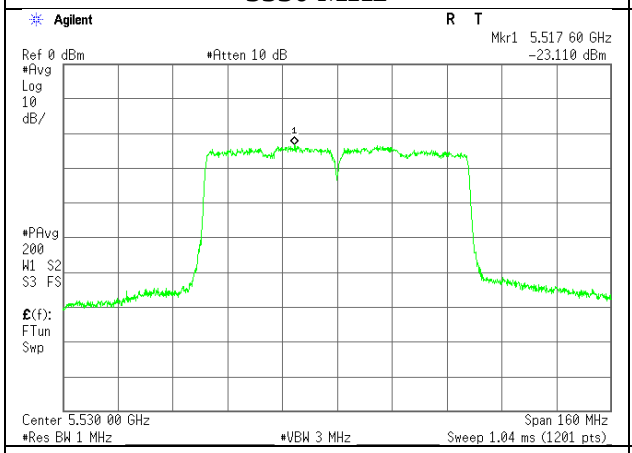
5210 MHz



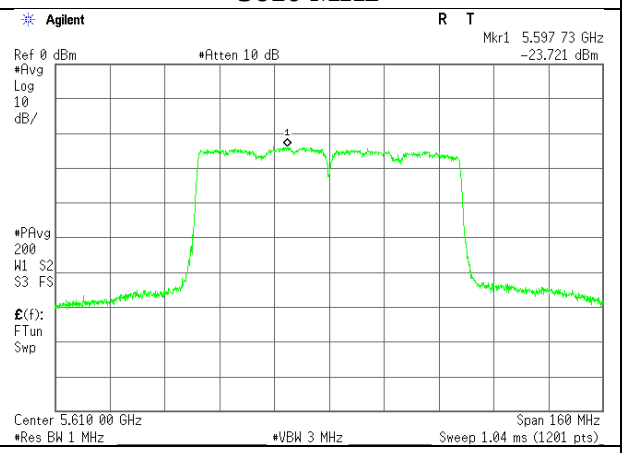
5290 MHz



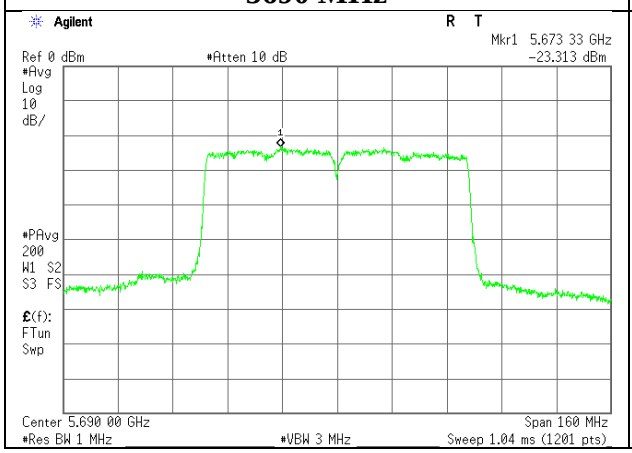
5530 MHz



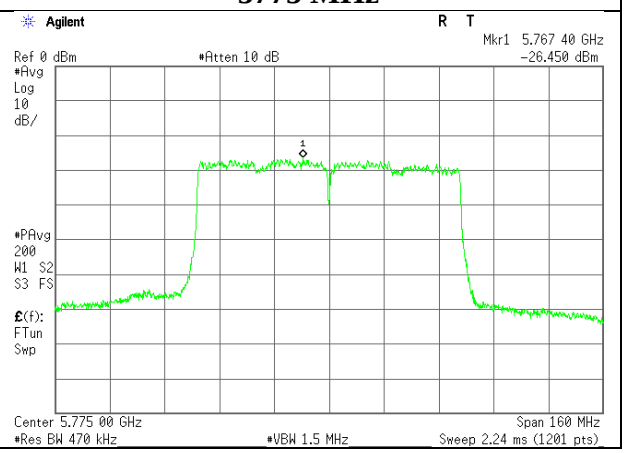
5610 MHz



5690 MHz



5775 MHz



Radiated Spurious Emission

Test place	Ise EMC Lab. No.4 Semi Anechoic Chamber			
Report No.	11081928H			
Date	February 16, 2016	February 18, 2016	February 18, 2016	February 19, 2016
Temperature / Humidity	24deg. C / 34 % RH	22deg. C / 37 % RH	24deg. C / 32 % RH	23deg. C / 35 % RH
Engineer	Hiroyuki Furutaka (1 GHz-10 GHz)	Kazuya Yoshioka (10 GHz-18 GHz)	Hiroyuki Furutaka (18 GHz-40 GHz)	Hiroyuki Furutaka (30 MHz-1 GHz)
Mode	Tx 11ac-20 5180 MHz			

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	138.603	QP	33.7	14.4	8.5	28.0	-	28.6	43.5	14.9	
Hori	589.836	QP	34.0	20.4	11.7	28.5	-	37.6	46.0	8.4	
Hori	709.100	QP	34.9	22.5	12.3	28.0	-	41.7	46.0	4.3	
Hori	731.200	QP	32.7	22.6	12.5	28.0	-	39.8	46.0	6.2	
Hori	750.052	QP	27.4	22.8	12.6	28.0	-	34.8	46.0	11.2	
Hori	798.000	QP	35.4	23.0	12.8	27.9	-	43.3	46.0	2.7	
Hori	2127.879	PK	50.0	27.6	5.9	32.2	-	51.3	73.9	22.6	
Hori	3453.188	PK	47.0	28.7	6.6	31.7	-	50.6	73.9	23.3	
Hori	5150.000	PK	46.9	33.3	7.4	31.3	-	56.3	73.9	17.6	
Hori	10360.000	PK	42.2	39.2	-1.8	32.9	-	46.7	73.9	27.2	Floor noise
Hori	15540.000	PK	43.9	40.0	0.0	32.7	-	51.2	73.9	22.7	Floor noise
Hori	2127.879	AV	37.9	27.6	5.9	32.2	-	39.2	53.9	14.7	
Hori	3453.188	AV	41.0	28.7	6.6	31.7	-	44.6	53.9	9.3	
Hori	5150.000	AV	34.0	33.3	7.4	31.3	1.0	44.4	53.9	9.5	*1)
Hori	10360.000	AV	35.5	39.2	-1.8	32.9	-	40.0	53.9	13.9	Floor noise
Hori	15540.000	AV	36.3	40.0	0.0	32.7	-	43.6	53.9	10.3	Floor noise
Vert	48.228	QP	36.6	11.2	7.4	28.5	-	26.7	40.0	13.3	
Vert	56.600	QP	37.3	8.5	7.5	28.5	-	24.8	40.0	15.2	
Vert	277.188	QP	29.0	19.0	9.7	27.4	-	30.3	46.0	15.7	
Vert	589.832	QP	33.4	20.4	11.7	28.5	-	37.0	46.0	9.0	
Vert	704.400	QP	36.0	22.5	12.3	28.0	-	42.8	46.0	3.2	
Vert	798.108	QP	34.7	23.0	12.8	27.9	-	42.6	46.0	3.4	
Vert	2126.684	PK	48.2	27.6	5.9	32.2	-	49.5	73.9	24.4	
Vert	3453.473	PK	46.2	28.7	6.6	31.7	-	49.8	73.9	24.1	
Vert	5150.000	PK	53.4	33.3	7.4	31.3	-	62.8	73.9	11.1	
Vert	10360.000	PK	42.4	39.2	-1.8	32.9	-	46.9	73.9	27.0	Floor noise
Vert	15540.000	PK	43.5	40.0	0.0	32.7	-	50.8	73.9	23.1	Floor noise
Vert	2126.684	AV	38.1	27.6	5.9	32.2	-	39.4	53.9	14.5	
Vert	3453.473	AV	41.5	28.7	6.6	31.7	-	45.1	53.9	8.8	
Vert	5150.000	AV	38.3	33.3	7.4	31.3	1.0	48.7	53.9	5.2	*1)
Vert	10360.000	AV	35.5	39.2	-1.8	32.9	-	40.0	53.9	13.9	Floor noise
Vert	15540.000	AV	36.3	40.0	0.0	32.7	-	43.6	53.9	10.3	Floor noise

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier) + Duty factor
*Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).
*The 10th harmonic was not seen so the result was its base noise level.
*1) Not Out of Band emission(Leakage Power)

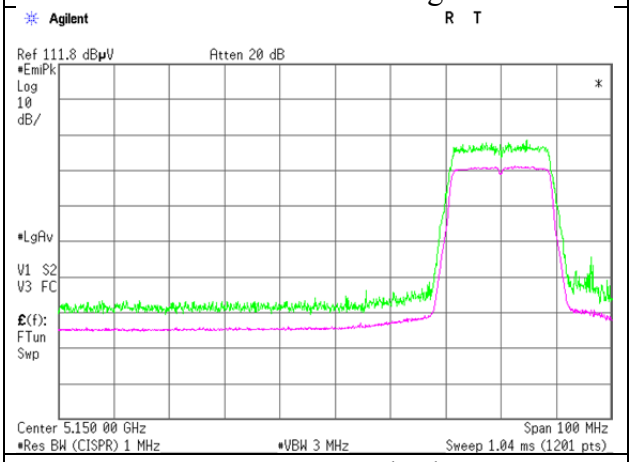
Distance factor:		
	1GHz-10GHz	20log(4.4m/1.0m)= 3.3dB
	10GHz-26.5GHz	20log(1.0m/3.0m)= -9.5dB
	26.5GHz-40GHz	20log(0.5m/3.0m)= -15.6dB

Radiated Spurious Emission

Test place	Ise EMC Lab. No.4 Semi Anechoic Chamber
Report No.	11081928H
Date	February 16, 2016
Temperature / Humidity	24deg. C / 34 % RH
Engineer	Hiroyuki Furutaka
Mode	Tx 11ac-20 5180 MHz

Horizontal

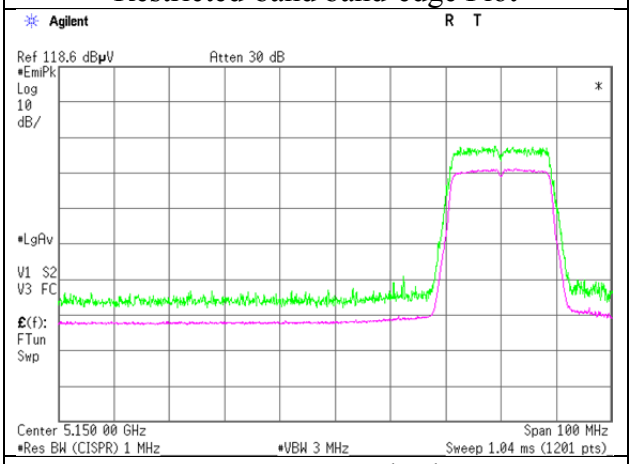
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

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

Radiated Spurious Emission

Test place	Ise EMC Lab. No.4 Semi Anechoic Chamber		
Report No.	11081928H		
Date	February 16, 2016	February 18, 2016	February 18, 2016
Temperature / Humidity	24deg. C / 34 % RH	22deg. C / 37 % RH	24deg. C / 32 % RH
Engineer	Hiroyuki Furutaka (1 GHz-10 GHz)	Kazuya Yoshioka (10 GHz-18 GHz)	Hiroyuki Furutaka (18 GHz-40 GHz)
Mode	Tx 11ac-20 5260 MHz		

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	3506.421	PK	43.6	28.7	6.6	31.7	-	47.2	73.9	26.7	
Hori	10520.000	PK	41.4	39.6	-1.8	32.9	-	46.3	73.9	27.6	Floor noise
Hori	15780.000	PK	42.6	39.3	-0.1	32.7	-	49.1	73.9	24.8	Floor noise
Hori	3506.421	AV	36.7	28.7	6.6	31.7	-	40.3	53.9	13.6	
Hori	10520.000	AV	34.5	39.6	-1.8	32.9	-	39.4	53.9	14.5	Floor noise
Hori	15780.000	AV	35.9	39.3	-0.1	32.7	-	42.4	53.9	11.5	Floor noise
Vert	3506.764	PK	42.8	28.7	6.6	31.7	-	46.4	73.9	27.5	
Vert	10520.000	PK	41.6	39.6	-1.8	32.9	-	46.5	73.9	27.4	Floor noise
Vert	15780.000	PK	42.8	39.3	-0.1	32.7	-	49.3	73.9	24.6	Floor noise
Vert	3506.764	AV	35.4	28.7	6.6	31.7	-	39.0	53.9	14.9	
Vert	10520.000	AV	34.5	39.6	-1.8	32.9	-	39.4	53.9	14.5	Floor noise
Vert	15780.000	AV	35.9	39.3	-0.1	32.7	-	42.4	53.9	11.5	Floor noise

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier)
*Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).
*The 10th harmonic was not seen so the result was its base noise level.

Distance factor:		
	1GHz-10GHz	20log(4.4m/1.0m)= 3.3dB
	10GHz-26.5GHz	20log(1.0m/3.0m)= -9.5dB
	26.5GHz-40GHz	20log(0.5m/3.0m)= -15.6dB

Radiated Spurious Emission

Test place	Ise EMC Lab. No.4 Semi Anechoic Chamber		
Report No.	11081928H		
Date	February 16, 2016	February 18, 2016	February 18, 2016
Temperature / Humidity	24deg. C / 34 % RH	22deg. C / 37 % RH	24deg. C / 32 % RH
Engineer	Hiroyuki Furutaka (1 GHz-10 GHz)	Kazuya Yoshioka (10 GHz-18 GHz)	Hiroyuki Furutaka (18 GHz-40 GHz)
Mode	Tx 11ac-20 5320 MHz		

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	3546.551	PK	44.5	28.9	6.6	31.7	-	48.3	73.9	25.6	
Hori	5350.000	PK	50.4	33.1	7.5	31.3	-	59.7	73.9	14.2	
Hori	10640.000	PK	40.6	39.7	-1.7	33.0	-	45.6	73.9	28.3	Floor noise
Hori	15960.000	PK	42.4	38.9	-0.1	32.7	-	48.5	73.9	25.4	Floor noise
Hori	3546.551	AV	38.8	28.9	6.6	31.7	-	42.6	53.9	11.3	
Hori	5350.000	AV	34.9	33.1	7.5	31.3	1.0	45.2	53.9	8.7	*1)
Hori	10640.000	AV	33.9	39.7	-1.7	33.0	-	38.9	53.9	15.0	Floor noise
Hori	15960.000	AV	35.8	38.9	-0.1	32.7	-	41.9	53.9	12.0	Floor noise
Vert	3546.632	PK	45.3	28.9	6.6	31.7	-	49.1	73.9	24.8	
Vert	5350.000	PK	56.6	33.1	7.5	31.3	-	65.9	73.9	8.0	
Vert	10640.000	PK	40.8	39.7	-1.7	33.0	-	45.8	73.9	28.1	Floor noise
Vert	15960.000	PK	42.5	38.9	-0.1	32.7	-	48.6	73.9	25.3	Floor noise
Vert	3546.632	AV	39.5	28.9	6.6	31.7	-	43.3	53.9	10.6	
Vert	5350.000	AV	40.3	33.1	7.5	31.3	1.0	50.6	53.9	3.3	*1)
Vert	10640.000	AV	33.9	39.7	-1.7	33.0	-	38.9	53.9	15.0	Floor noise
Vert	15960.000	AV	35.8	38.9	-0.1	32.7	-	41.9	53.9	12.0	Floor noise

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier) + Duty factor
*Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).
*The 10th harmonic was not seen so the result was its base noise level.
*1) Not Out of Band emission(Leakage Power)

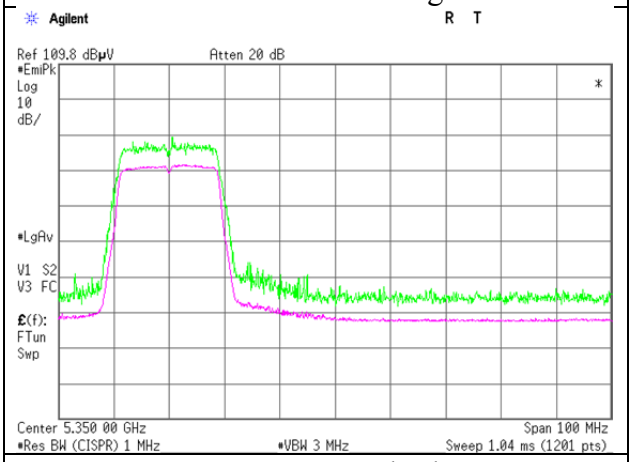
Distance factor:		
	1GHz-10GHz	20log(4.4m/1.0m)= 3.3dB
	10GHz-26.5GHz	20log(1.0m/3.0m)= -9.5dB
	26.5GHz-40GHz	20log(0.5m/3.0m)= -15.6dB

Radiated Spurious Emission

Test place	Ise EMC Lab. No.4 Semi Anechoic Chamber
Report No.	11081928H
Date	February 16, 2016
Temperature / Humidity	24deg. C / 34 % RH
Engineer	Hiroyuki Furutaka
Mode	Tx 11ac-20 5320 MHz

Horizontal

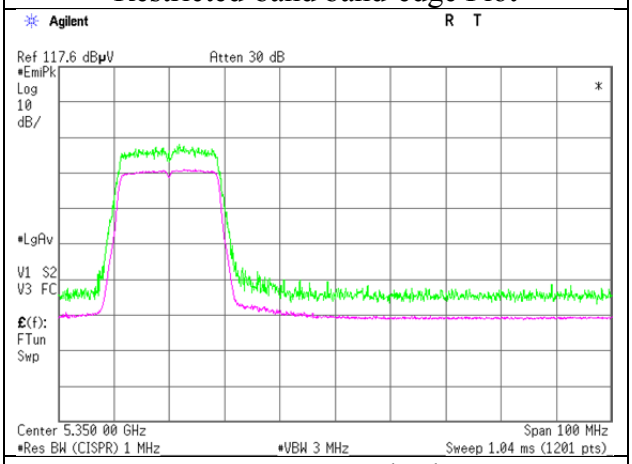
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

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

Radiated Spurious Emission

Test place	Ise EMC Lab. No.4 Semi Anechoic Chamber		
Report No.	11081928H		
Date	February 16, 2016	February 18, 2016	February 18, 2016
Temperature / Humidity	24deg. C / 34 % RH	22deg. C / 37 % RH	24deg. C / 32 % RH
Engineer	Hiroyuki Furutaka (1 GHz-10 GHz)	Kazuya Yoshioka (10 GHz-18 GHz)	Hiroyuki Furutaka (18 GHz-40 GHz)
Mode	Tx 11ac-20 5500 MHz		

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	3666.700	PK	46.5	29.2	6.7	31.6	-	50.8	73.9	23.1	
Hori	5460.000	PK	42.8	33.0	7.5	31.4	-	51.9	73.9	22.0	
Hori	5470.000	PK	44.2	33.0	7.5	31.4	-	53.3	73.9	20.6	
Hori	11000.000	PK	42.0	40.1	-1.6	33.0	-	47.5	73.9	26.4	Floor noise
Hori	16500.000	PK	43.4	40.3	0.0	32.6	-	51.1	73.9	22.8	Floor noise
Hori	3666.700	AV	42.2	29.2	6.7	31.6	-	46.5	53.9	7.4	
Hori	5460.000	AV	33.0	33.0	7.5	31.4	1.0	43.1	53.9	10.8	*1)
Hori	5470.000	AV	33.7	33.0	7.5	31.4	1.0	43.8	53.9	10.1	*1)
Hori	11000.000	AV	34.9	40.1	-1.6	33.0	-	40.4	53.9	13.5	Floor noise
Hori	16500.000	AV	35.8	40.3	0.0	32.6	-	43.5	53.9	10.4	Floor noise
Vert	3666.700	PK	45.4	29.2	6.7	31.6	-	49.7	73.9	24.2	
Vert	5460.000	PK	43.0	33.0	7.5	31.4	-	52.1	73.9	21.8	
Vert	5470.000	PK	48.7	33.0	7.5	31.4	-	57.8	73.9	16.1	
Vert	11000.000	PK	41.6	40.1	-1.6	33.0	-	47.1	73.9	26.8	Floor noise
Vert	16500.000	PK	43.6	40.3	0.0	32.6	-	51.3	73.9	22.6	Floor noise
Vert	3666.700	AV	39.5	29.2	6.7	31.6	-	43.8	53.9	10.1	
Vert	5460.000	AV	34.5	33.0	7.5	31.4	1.0	44.6	53.9	9.3	*1)
Vert	5470.000	AV	35.5	33.0	7.5	31.4	1.0	45.6	53.9	8.3	*1)
Vert	11000.000	AV	34.9	40.1	-1.6	33.0	-	40.4	53.9	13.5	Floor noise
Vert	16500.000	AV	35.8	40.3	0.0	32.6	-	43.5	53.9	10.4	Floor noise

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier) + Duty factor

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

*The 10th harmonic was not seen so the result was its base noise level.

*1) Not Out of Band emission(Leakage Power)

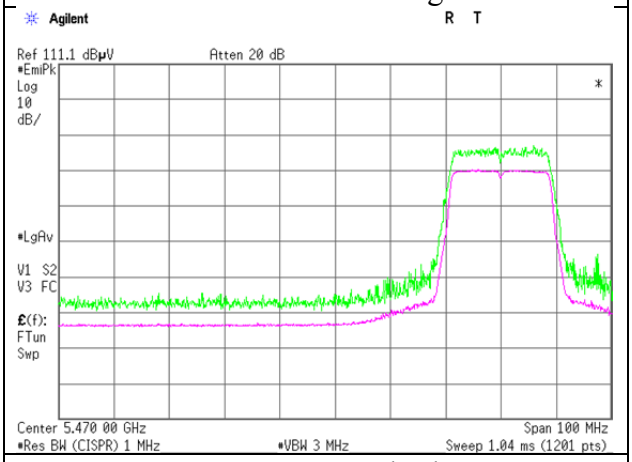
Distance factor:		
	1GHz-10GHz	20log(4.4m/1.0m)= 3.3dB
	10GHz-26.5GHz	20log(1.0m/3.0m)= -9.5dB
	26.5GHz-40GHz	20log(0.5m/3.0m)= -15.6dB

Radiated Spurious Emission

Test place	Ise EMC Lab. No.4 Semi Anechoic Chamber
Report No.	11081928H
Date	February 16, 2016
Temperature / Humidity	24deg. C / 34 % RH
Engineer	Hiroyuki Furutaka
Mode	Tx 11ac-20 5500 MHz

Horizontal

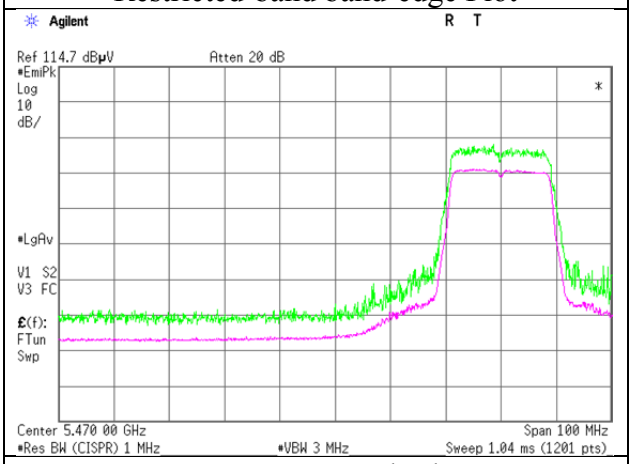
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

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

Radiated Spurious Emission

Test place	Ise EMC Lab. No.4 Semi Anechoic Chamber		
Report No.	11081928H		
Date	February 16, 2016	February 18, 2016	February 18, 2016
Temperature / Humidity	24deg. C / 34 % RH	22deg. C / 37 % RH	24deg. C / 32 % RH
Engineer	Hiroyuki Furutaka (1 GHz-10 GHz)	Kazuya Yoshioka (10 GHz-18 GHz)	Hiroyuki Furutaka (18 GHz-40 GHz)
Mode	Tx 11ac-20 5580 MHz		

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	3720.000	PK	45.2	29.4	6.7	31.6	-	49.7	73.9	24.2	
Hori	11160.000	PK	41.0	40.1	-1.6	33.1	-	46.4	73.9	27.5	Floor noise
Hori	16740.000	PK	42.9	41.0	0.0	32.6	-	51.3	73.9	22.6	Floor noise
Hori	3720.000	AV	39.3	29.4	6.7	31.6	-	43.8	53.9	10.1	
Hori	11160.000	AV	34.1	40.1	-1.6	33.1	-	39.5	53.9	14.4	Floor noise
Hori	16740.000	AV	35.7	41.0	0.0	32.6	-	44.1	53.9	9.8	Floor noise
Vert	3720.000	PK	47.5	29.4	6.7	31.6	-	52.0	73.9	21.9	
Vert	11160.000	PK	41.2	40.1	-1.6	33.1	-	46.6	73.9	27.3	Floor noise
Vert	16740.000	PK	43.1	41.0	0.0	32.6	-	51.5	73.9	22.4	Floor noise
Vert	3720.000	AV	42.9	29.4	6.7	31.6	-	47.4	53.9	6.5	
Vert	11160.000	AV	34.1	40.1	-1.6	33.1	-	39.5	53.9	14.4	Floor noise
Vert	16740.000	AV	35.7	41.0	0.0	32.6	-	44.1	53.9	9.8	Floor noise

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier)

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

*The 10th harmonic was not seen so the result was its base noise level.

Distance factor:	1GHz-10GHz	20log(4.4m/1.0m)= 3.3dB
	10GHz-26.5GHz	20log(1.0m/3.0m)= -9.5dB
	26.5GHz-40GHz	20log(0.5m/3.0m)= -15.6dB

Radiated Spurious Emission

Test place	Ise EMC Lab. No.4 Semi Anechoic Chamber		
Report No.	11081928H		
Date	February 17, 2016	February 18, 2016	February 18, 2016
Temperature / Humidity	23deg. C / 35 % RH	22deg. C / 37 % RH	24deg. C / 32 % RH
Engineer	Hiroyuki Furutaka (1 GHz-10 GHz)	Kazuya Yoshioka (10 GHz-18 GHz)	Hiroyuki Furutaka (18 GHz-40 GHz)
Mode	Tx 11ac-20 5700 MHz		

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	3800.000	PK	45.0	29.6	6.8	31.6	-	49.8	73.9	24.1	
Hori	5725.000	PK	49.2	33.1	7.6	31.4	-	58.5	73.9	15.4	
Hori	11400.000	PK	41.2	40.2	-1.6	33.1	-	46.7	73.9	27.2	Floor noise
Hori	17100.000	PK	42.7	42.0	0.0	32.6	-	52.1	73.9	21.8	Floor noise
Hori	3800.000	AV	38.9	29.6	6.8	31.6	-	43.7	53.9	10.2	
Hori	5725.000	AV	35.7	33.1	7.6	31.4	1.0	46.0	53.9	7.9	*1)
Hori	11400.000	AV	33.8	40.2	-1.6	33.1	-	39.3	53.9	14.6	Floor noise
Hori	17100.000	AV	35.0	42.0	0.0	32.6	-	44.4	53.9	9.5	Floor noise
Vert	3800.000	PK	45.4	29.6	6.8	31.6	-	50.2	73.9	23.7	
Vert	5725.000	PK	50.4	33.1	7.6	31.4	-	59.7	73.9	14.2	
Vert	11400.000	PK	41.4	40.2	-1.6	33.1	-	46.9	73.9	27.0	Floor noise
Vert	17100.000	PK	42.9	42.0	0.0	32.6	-	52.3	73.9	21.6	Floor noise
Vert	3800.000	AV	40.8	29.6	6.8	31.6	-	45.6	53.9	8.3	
Vert	5725.000	AV	36.6	33.1	7.6	31.4	1.0	46.9	53.9	7.0	*1)
Vert	11400.000	AV	33.8	40.2	-1.6	33.1	-	39.3	53.9	14.6	Floor noise
Vert	17100.000	AV	35.0	42.0	0.0	32.6	-	44.4	53.9	9.5	Floor noise

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier) + Duty factor

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

*The 10th harmonic was not seen so the result was its base noise level.

*1) Not Out of Band emission(Leakage Power)

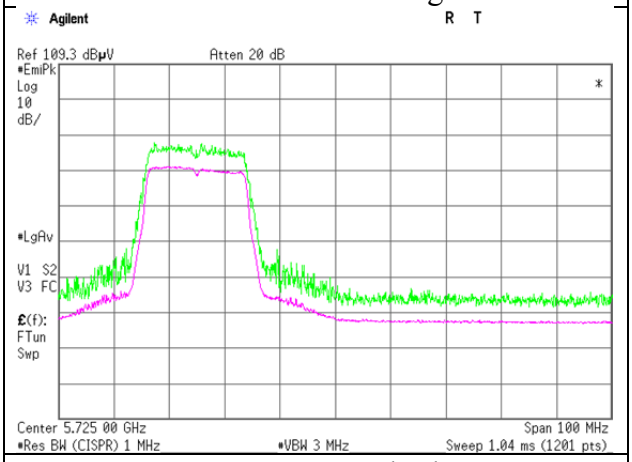
Distance factor:		
	1GHz-10GHz	20log(4.4m/1.0m)= 3.3dB
	10GHz-26.5GHz	20log(1.0m/3.0m)= -9.5dB
	26.5GHz-40GHz	20log(0.5m/3.0m)= -15.6dB

Radiated Spurious Emission

Test place	Ise EMC Lab. No.4 Semi Anechoic Chamber
Report No.	11081928H
Date	February 17, 2016
Temperature / Humidity	23deg. C / 35 % RH
Engineer	Hiroyuki Furutaka
Mode	Tx 11ac-20 5700 MHz

Horizontal

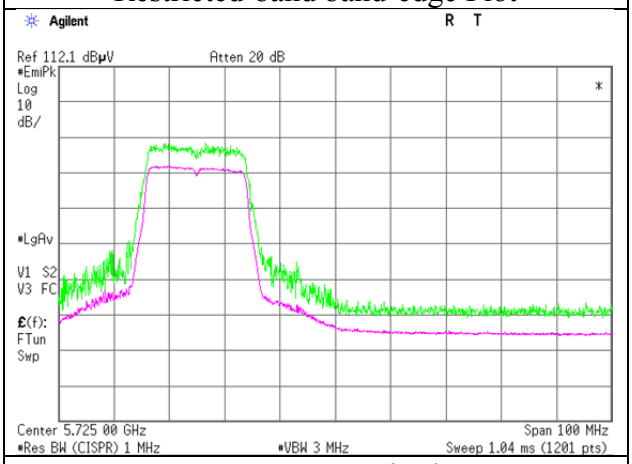
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

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

Radiated Spurious Emission

Test place	Ise EMC Lab. No.4 Semi Anechoic Chamber		
Report No.	11081928H		
Date	February 17, 2016	February 18, 2016	February 18, 2016
Temperature / Humidity	24deg. C / 35 % RH	22deg. C / 37 % RH	24deg. C / 32 % RH
Engineer	Hiroyuki Furutaka (1 GHz-10 GHz)	Kazuya Yoshioka (10 GHz-18 GHz)	Hiroyuki Furutaka (18 GHz-40 GHz)
Mode	Tx 11ac-20 5745 MHz		

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	3830.000	PK	45.7	29.7	6.8	31.6	-	50.6	73.9	23.3	
Hori	5715.000	PK	43.5	33.1	7.6	31.4	-	52.8	73.9	21.1	
Hori	5725.000	PK	53.6	33.1	7.6	31.4	-	62.9	73.9	11.0	
Hori	11490.000	PK	41.7	40.2	-1.6	33.1	-	47.2	73.9	26.7	Floor noise
Hori	17235.000	PK	43.4	42.2	0.1	32.6	-	53.1	73.9	20.8	Floor noise
Hori	3830.000	AV	39.5	29.7	6.8	31.6	-	44.4	53.9	9.5	
Hori	5715.000	AV	33.0	33.1	7.6	31.4	1.0	43.3	53.9	10.6	*1)
Hori	5725.000	AV	37.0	33.1	7.6	31.4	1.0	47.3	53.9	6.6	*1)
Hori	11490.000	AV	33.4	40.2	-1.6	33.1	-	38.9	53.9	15.0	Floor noise
Hori	17235.000	AV	36.1	42.2	0.1	32.6	-	45.8	53.9	8.1	Floor noise
Vert	3830.000	PK	45.2	29.7	6.8	31.6	-	50.1	73.9	23.8	
Vert	5715.000	PK	45.5	33.1	7.6	31.4	-	54.8	73.9	19.1	
Vert	5725.000	PK	56.7	33.1	7.6	31.4	-	66.0	73.9	7.9	
Vert	11490.000	PK	41.4	40.2	-1.6	33.1	-	46.9	73.9	27.0	Floor noise
Vert	17235.000	PK	43.2	42.2	0.1	32.6	-	52.9	73.9	21.0	Floor noise
Vert	3830.000	AV	39.7	29.7	6.8	31.6	-	44.6	53.9	9.3	
Vert	5715.000	AV	33.9	33.1	7.6	31.4	1.0	44.2	53.9	9.7	*1)
Vert	5725.000	AV	40.3	33.1	7.6	31.4	1.0	50.6	53.9	3.3	*1)
Vert	11490.000	AV	33.4	40.2	-1.6	33.1	-	38.9	53.9	15.0	Floor noise
Vert	17235.000	AV	36.1	42.2	0.1	32.6	-	45.8	53.9	8.1	Floor noise

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier) + Duty factor
*Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).
*The 10th harmonic was not seen so the result was its base noise level.
*1) Not Out of Band emission(Leakage Power)

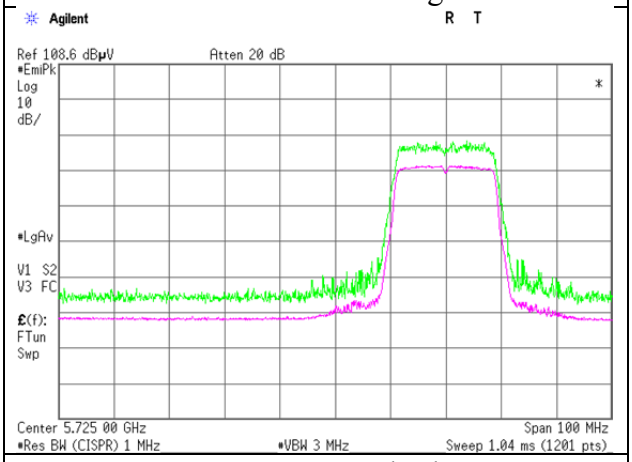
Distance factor:		
	1GHz-10GHz	20log(4.4m/1.0m)= 3.3dB
	10GHz-26.5GHz	20log(1.0m/3.0m)= -9.5dB
	26.5GHz-40GHz	20log(0.5m/3.0m)= -15.6dB

Radiated Spurious Emission

Test place	Ise EMC Lab. No.4 Semi Anechoic Chamber
Report No.	11081928H
Date	February 17, 2016
Temperature / Humidity	24deg. C / 35 % RH
Engineer	Hiroyuki Furutaka
Mode	Tx 11ac-20 5745 MHz

Horizontal

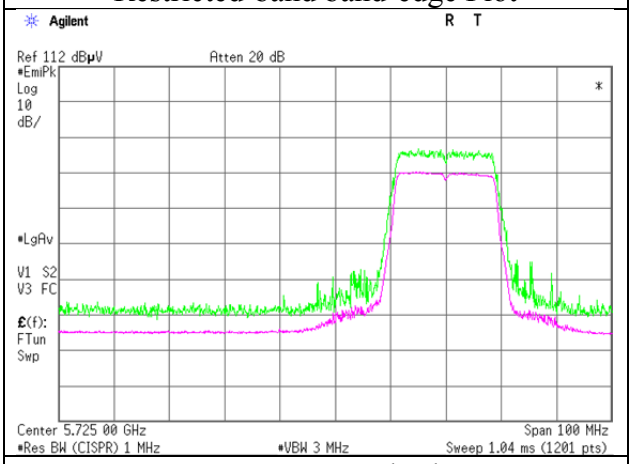
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

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

Radiated Spurious Emission

Test place	Ise EMC Lab. No.4 Semi Anechoic Chamber		
Report No.	11081928H		
Date	February 17, 2016	February 18, 2016	February 18, 2016
Temperature / Humidity	24deg. C / 35 % RH	22deg. C / 37 % RH	24deg. C / 32 % RH
Engineer	Hiroyuki Furutaka (1GHz-10GHz)	Kazuya Yoshioka (10GHz-18GHz)	Hiroyuki Furutaka (18 GHz-40 GHz)
Mode	Tx 11ac-20 5785 MHz		

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	3856.656	PK	44.8	29.7	6.8	31.6	-	49.7	73.9	24.2	
Hori	11570.000	PK	41.7	40.1	-1.6	33.1	-	47.1	73.9	26.8	Floor noise
Hori	17355.000	PK	43.0	42.4	0.0	32.6	-	52.8	73.9	21.1	Floor noise
Hori	3856.656	AV	39.3	29.7	6.8	31.6	-	44.2	53.9	9.7	
Hori	11570.000	AV	33.5	40.1	-1.6	33.1	-	38.9	53.9	15.0	Floor noise
Hori	17355.000	AV	35.5	42.4	0.0	32.6	-	45.3	53.9	8.6	Floor noise
Vert	3856.636	PK	44.4	29.7	6.8	31.6	-	49.3	73.9	24.6	
Vert	11570.000	PK	41.4	40.1	-1.6	33.1	-	46.8	73.9	27.1	Floor noise
Vert	17355.000	PK	43.3	42.4	0.0	32.6	-	53.1	73.9	20.8	Floor noise
Vert	3856.636	AV	38.9	29.7	6.8	31.6	-	43.8	53.9	10.1	
Vert	11570.000	AV	33.5	40.1	-1.6	33.1	-	38.9	53.9	15.0	Floor noise
Vert	17355.000	AV	35.5	42.4	0.0	32.6	-	45.3	53.9	8.6	Floor noise

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier)

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

*The 10th harmonic was not seen so the result was its base noise level.

Distance factor:	1GHz-10GHz	20log(4.4m/1.0m)= 3.3dB
	10GHz-26.5GHz	20log(1.0m/3.0m)= -9.5dB
	26.5GHz-40GHz	20log(0.5m/3.0m)= -15.6dB

Radiated Spurious Emission

Test place	Ise EMC Lab. No.4 Semi Anechoic Chamber		
Report No.	11081928H		
Date	February 16, 2016	February 18, 2016	February 18, 2016
Temperature / Humidity	24deg. C / 34 % RH	22deg. C / 37 % RH	24deg. C / 32 % RH
Engineer	Hiroyuki Furutaka (1 GHz-10 GHz)	Kazuya Yoshioka (10 GHz-18 GHz)	Hiroyuki Furutaka (18 GHz-40 GHz)
Mode	Tx 11ac-20 5825 MHz		

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	3883.333	PK	45.7	29.8	6.8	31.6	-	50.7	73.9	23.2	
Hori	5850.000	PK	47.8	33.2	7.7	31.5	-	57.2	73.9	16.7	
Hori	5860.000	PK	41.9	33.2	7.7	31.5	-	51.3	73.9	22.6	
Hori	11650.000	PK	41.6	40.1	-1.5	33.1	-	47.1	73.9	26.8	Floor noise
Hori	17475.000	PK	42.5	42.6	0.1	32.6	-	52.6	73.9	21.3	Floor noise
Hori	3883.333	AV	39.5	29.8	6.8	31.6	-	44.5	53.9	9.4	
Hori	5850.000	AV	33.6	33.2	7.7	31.5	1.0	44.0	53.9	9.9	*1)
Hori	5860.000	AV	33.1	33.2	7.7	31.5	1.0	43.5	53.9	10.4	*1)
Hori	11650.000	AV	34.8	40.1	-1.5	33.1	-	40.3	53.9	13.6	Floor noise
Hori	17475.000	AV	35.6	42.6	0.1	32.6	-	45.7	53.9	8.2	Floor noise
Vert	3883.333	PK	45.5	29.8	6.8	31.6	-	50.5	73.9	23.4	
Vert	5850.000	PK	51.2	33.2	7.7	31.5	-	60.6	73.9	13.3	
Vert	5860.000	PK	45.6	33.2	7.7	31.5	-	55.0	73.9	18.9	
Vert	11650.000	PK	41.9	40.1	-1.5	33.1	-	47.4	73.9	26.5	Floor noise
Vert	17475.000	PK	42.8	42.6	0.1	32.6	-	52.9	73.9	21.0	Floor noise
Vert	3883.333	AV	39.8	29.8	6.8	31.6	-	44.8	53.9	9.1	
Vert	5850.000	AV	36.0	33.2	7.7	31.5	1.0	46.4	53.9	7.5	*1)
Vert	5860.000	AV	34.1	33.2	7.7	31.5	1.0	44.5	53.9	9.4	*1)
Vert	11650.000	AV	34.8	40.1	-1.5	33.1	-	40.3	53.9	13.6	Floor noise
Vert	17475.000	AV	35.6	42.6	0.1	32.6	-	45.7	53.9	8.2	Floor noise

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier) + Duty factor

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

*The 10th harmonic was not seen so the result was its base noise level.

*1) Not Out of Band emission(Leakage Power)

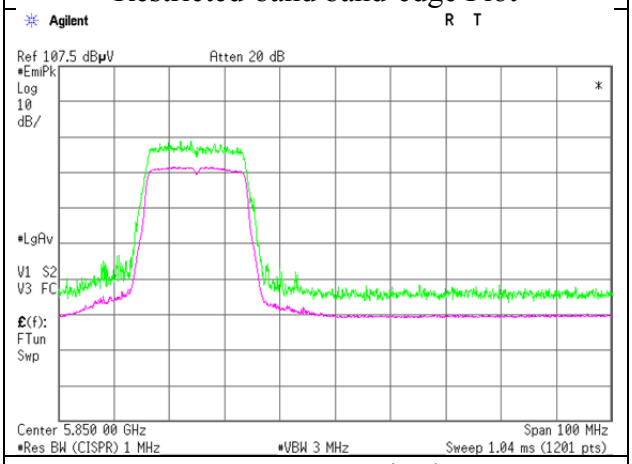
Distance factor:	1GHz-10GHz	20log(4.4m/1.0m)= 3.3dB
	10GHz-26.5GHz	20log(1.0m/3.0m)= -9.5dB
	26.5GHz-40GHz	20log(0.5m/3.0m)= -15.6dB

Radiated Spurious Emission

Test place	Ise EMC Lab. No.4 Semi Anechoic Chamber
Report No.	11081928H
Date	February 16, 2016
Temperature / Humidity	24deg. C / 34 % RH
Engineer	Hiroyuki Furutaka
Mode	Tx 11ac-20 5825 MHz

Horizontal

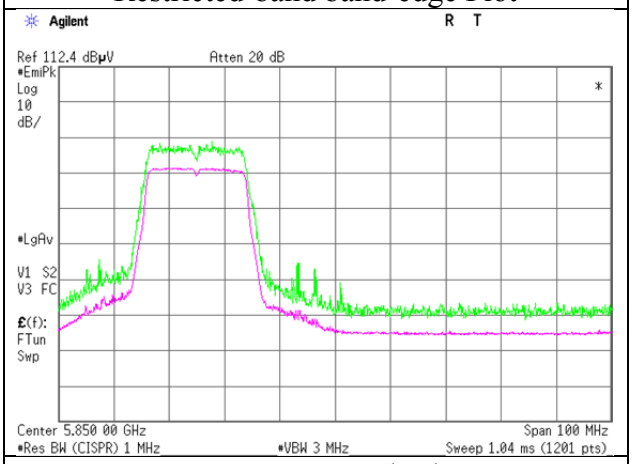
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

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

Radiated Spurious Emission

Test place	Ise EMC Lab. No.4 Semi Anechoic Chamber		
Report No.	11081928H		
Date	February 17, 2016	February 18, 2016	February 18, 2016
Temperature / Humidity	22deg. C / 35 % RH	22deg. C / 37 % RH	24deg. C / 32 % RH
Engineer	Kazuya Yoshioka (1 GHz-10 GHz)	Kazuya Yoshioka (10 GHz-18 GHz)	Hiroyuki Furutaka (18 GHz-40 GHz)
Mode	Tx 11ac-40 5190 MHz		

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	3460.030	PK	43.7	28.7	6.6	31.7	-	47.3	73.9	26.6	
Hori	5150.000	PK	48.5	33.3	7.4	31.3	-	57.9	73.9	16.0	
Hori	10380.000	PK	41.4	39.3	-1.8	32.9	-	46.0	73.9	27.9	Floor noise
Hori	15570.000	PK	43.4	39.9	-0.1	32.7	-	50.5	73.9	23.4	Floor noise
Hori	3460.030	AV	39.0	28.7	6.6	31.7	-	42.6	53.9	11.3	
Hori	5150.000	AV	37.0	33.3	7.4	31.3	2.2	48.6	53.9	5.3	*1)
Hori	10380.000	AV	34.5	39.3	-1.8	32.9	-	39.1	53.9	14.8	Floor noise
Hori	15570.000	AV	35.3	39.9	-0.1	32.7	-	42.4	53.9	11.5	Floor noise
Vert	3459.810	PK	44.0	28.7	6.6	31.7	-	47.6	73.9	26.3	
Vert	5150.000	PK	55.6	33.3	7.4	31.3	-	65.0	73.9	8.9	
Vert	10380.000	PK	41.7	39.3	-1.8	32.9	-	46.3	73.9	27.6	Floor noise
Vert	15570.000	PK	43.1	39.9	-0.1	32.7	-	50.2	73.9	23.7	Floor noise
Vert	3459.810	AV	38.8	28.7	6.6	31.7	-	42.4	53.9	11.5	
Vert	5150.000	AV	41.3	33.3	7.4	31.3	2.2	52.9	53.9	1.0	*1),Integration Method
Vert	10380.000	AV	34.5	39.3	-1.8	32.9	-	39.1	53.9	14.8	Floor noise
Vert	15570.000	AV	35.3	39.9	-0.1	32.7	-	42.4	53.9	11.5	Floor noise

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier) + Duty factor
*Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).
*The 10th harmonic was not seen so the result was its base noise level.
*1) Not Out of Band emission(Leakage Power)

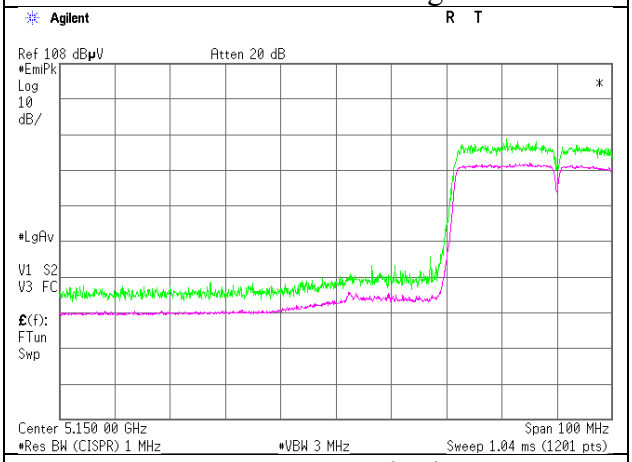
Distance factor:		
	1GHz-10GHz	20log(4.4m/1.0m)= 3.3dB
	10GHz-26.5GHz	20log(1.0m/3.0m)= -9.5dB
	26.5GHz-40GHz	20log(0.5m/3.0m)= -15.6dB

Radiated Spurious Emission

Test place	Ise EMC Lab. No.4 Semi Anechoic Chamber
Report No.	11081928H
Date	February 17, 2016
Temperature / Humidity	22deg. C / 35 % RH
Engineer	Kazuya Yoshioka
Mode	Tx 11ac-40 5190 MHz

Horizontal

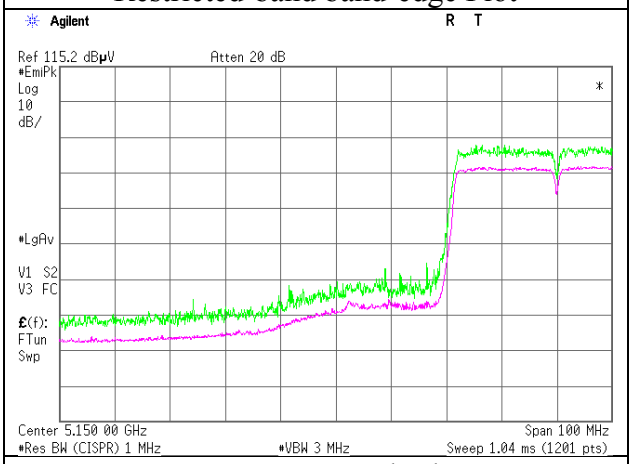
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

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

Radiated Spurious Emission

Test place	Ise EMC Lab. No.4 Semi Anechoic Chamber		
Report No.	11081928H		
Date	February 17, 2016	February 18, 2016	February 18, 2016
Temperature / Humidity	22deg. C / 35 % RH	22deg. C / 37 % RH	24deg. C / 32 % RH
Engineer	Kazuya Yoshioka (1 GHz-10 GHz)	Kazuya Yoshioka (10 GHz-18 GHz)	Hiroyuki Furutaka (18 GHz-40 GHz)
Mode	Tx 11ac-40 5270 MHz		

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	3513.211	PK	41.7	28.8	6.6	31.7	-	45.4	73.9	28.5	
Hori	10540.000	PK	41.6	39.6	-1.8	32.9	-	46.5	73.9	27.4	Floor noise
Hori	15810.000	PK	43.4	39.3	-0.1	32.7	-	49.9	73.9	24.0	Floor noise
Hori	3513.211	AV	36.1	28.8	6.6	31.7	-	39.8	53.9	14.1	
Hori	10540.000	AV	33.8	39.6	-1.8	32.9	-	38.7	53.9	15.2	Floor noise
Hori	15810.000	AV	35.4	39.3	-0.1	32.7	-	41.9	53.9	12.0	Floor noise
Vert	3513.144	PK	42.5	28.8	6.6	31.7	-	46.2	73.9	27.7	
Vert	10540.000	PK	41.5	39.6	-1.8	32.9	-	46.4	73.9	27.5	Floor noise
Vert	15810.000	PK	43.1	39.3	-0.1	32.7	-	49.6	73.9	24.3	Floor noise
Vert	3513.144	AV	37.3	28.8	6.6	31.7	-	41.0	53.9	12.9	
Vert	10540.000	AV	33.8	39.6	-1.8	32.9	-	38.7	53.9	15.2	Floor noise
Vert	15810.000	AV	35.4	39.3	-0.1	32.7	-	41.9	53.9	12.0	Floor noise

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier)
*Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).
*The 10th harmonic was not seen so the result was its base noise level.

Distance factor:	1GHz-10GHz	20log(4.4m/1.0m)= 3.3dB
	10GHz-26.5GHz	20log(1.0m/3.0m)= -9.5dB
	26.5GHz-40GHz	20log(0.5m/3.0m)= -15.6dB

Radiated Spurious Emission

Test place	Ise EMC Lab. No.4 Semi Anechoic Chamber		
Report No.	11081928H		
Date	February 17, 2016	February 18, 2016	February 18, 2016
Temperature / Humidity	22deg. C / 35 % RH	22deg. C / 37 % RH	24deg. C / 32 % RH
Engineer	Kazuya Yoshioka (1 GHz-10 GHz)	Kazuya Yoshioka (10 GHz-18 GHz)	Hiroyuki Furutaka (18 GHz-40 GHz)
Mode	Tx 11ac-40 5310 MHz		

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	3540.142	PK	42.8	28.8	6.6	31.7	-	46.5	73.9	27.4	
Hori	5350.000	PK	49.9	33.1	7.5	31.3	-	59.2	73.9	14.7	
Hori	10620.000	PK	40.6	39.7	-1.7	33.0	-	45.6	73.9	28.3	Floor noise
Hori	15930.000	PK	42.8	39.0	-0.1	32.7	-	49.0	73.9	24.9	Floor noise
Hori	3540.142	AV	34.8	28.8	6.6	31.7	-	38.5	53.9	15.4	
Hori	5350.000	AV	33.2	33.1	7.5	31.3	2.2	44.7	53.9	9.2	*1)
Hori	10620.000	AV	33.7	39.7	-1.7	33.0	-	38.7	53.9	15.2	Floor noise
Hori	15930.000	AV	35.7	39.0	-0.1	32.7	-	41.9	53.9	12.0	Floor noise
Vert	3539.919	PK	42.0	28.8	6.6	31.7	-	45.7	73.9	28.2	
Vert	5350.000	PK	57.3	33.1	7.5	31.3	-	66.6	73.9	7.3	
Vert	10620.000	PK	40.9	39.7	-1.7	33.0	-	45.9	73.9	28.0	Floor noise
Vert	15930.000	PK	43.0	39.0	-0.1	32.7	-	49.2	73.9	24.7	Floor noise
Vert	3539.919	AV	36.9	28.8	6.6	31.7	-	40.6	53.9	13.3	
Vert	5350.000	AV	39.8	33.1	7.5	31.3	2.2	51.3	53.9	2.6	*1),Integration Method
Vert	10620.000	AV	33.7	39.7	-1.7	33.0	-	38.7	53.9	15.2	Floor noise
Vert	15930.000	AV	35.7	39.0	-0.1	32.7	-	41.9	53.9	12.0	Floor noise

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier) + Duty factor

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

*The 10th harmonic was not seen so the result was its base noise level.

*1) Not Out of Band emission(Leakage Power)

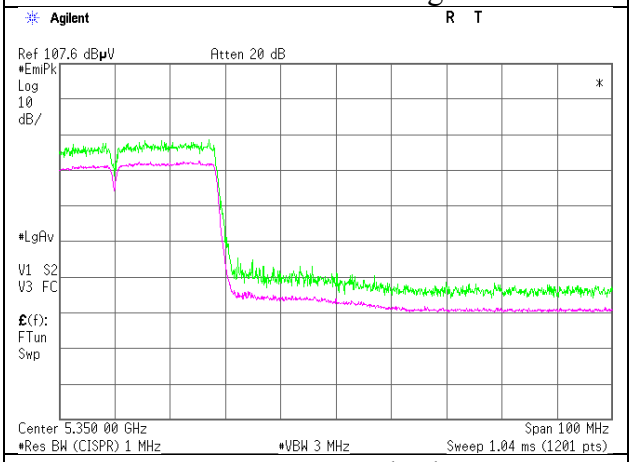
Distance factor:		
	1GHz-10GHz	20log(4.4m/1.0m)= 3.3dB
	10GHz-26.5GHz	20log(1.0m/3.0m)= -9.5dB
	26.5GHz-40GHz	20log(0.5m/3.0m)= -15.6dB

Radiated Spurious Emission

Test place	Ise EMC Lab. No.4 Semi Anechoic Chamber
Report No.	11081928H
Date	February 17, 2016
Temperature / Humidity	22deg. C / 35 % RH
Engineer	Kazuya Yoshioka
Mode	Tx 11ac-40 5310 MHz

Horizontal

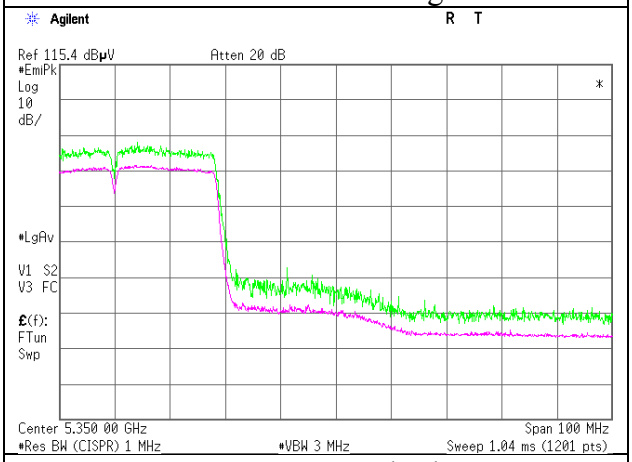
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

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

Radiated Spurious Emission

Test place	Ise EMC Lab. No.4 Semi Anechoic Chamber		
Report No.	11081928H		
Date	February 17, 2016	February 18, 2016	February 18, 2016
Temperature / Humidity	22deg. C / 35 % RH	22deg. C / 37 % RH	24deg. C / 32 % RH
Engineer	Kazuya Yoshioka (1 GHz-10 GHz)	Kazuya Yoshioka (10 GHz-18 GHz)	Hiroyuki Furutaka (18 GHz-40 GHz)
Mode	Tx 11ac-40 5510 MHz		

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	3673.362	PK	44.6	29.2	6.7	31.6	-	48.9	73.9	25.0	
Hori	5460.000	PK	48.1	33.0	7.5	31.4	-	57.2	73.9	16.7	
Hori	5470.000	PK	52.3	33.0	7.5	31.4	-	61.4	68.2	6.8	
Hori	11020.000	PK	41.9	40.1	-1.7	33.0	-	47.3	73.9	26.6	Floor noise
Hori	16530.000	PK	43.3	40.4	0.0	32.6	-	51.1	73.9	22.8	Floor noise
Hori	3673.362	AV	39.0	29.2	6.7	31.6	-	43.3	53.9	10.6	
Hori	5460.000	AV	32.7	33.0	7.5	31.4	2.2	44.0	53.9	9.9	*1)
Hori	11020.000	AV	35.0	40.1	-1.7	33.0	-	40.4	53.9	13.5	Floor noise
Hori	16530.000	AV	35.7	40.4	0.0	32.6	-	43.5	53.9	10.4	Floor noise
Vert	3673.480	PK	44.6	29.2	6.7	31.6	-	48.9	73.9	25.0	
Vert	5460.000	PK	51.2	33.0	7.5	31.4	-	60.3	73.9	13.6	
Vert	5470.000	PK	57.0	33.0	7.5	31.4	-	66.1	68.2	2.1	
Vert	11020.000	PK	42.0	40.1	-1.7	33.0	-	47.4	73.9	26.5	Floor noise
Vert	16530.000	PK	43.1	40.4	0.0	32.6	-	50.9	73.9	23.0	Floor noise
Vert	3673.480	AV	43.0	29.2	6.7	31.6	-	47.3	53.9	6.6	
Vert	5460.000	AV	39.2	33.0	7.5	31.4	2.2	50.5	53.9	3.4	*1)
Vert	11020.000	AV	35.0	40.1	-1.7	33.0	-	40.4	53.9	13.5	Floor noise
Vert	16530.000	AV	35.7	40.4	0.0	32.6	-	43.5	53.9	10.4	Floor noise

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier) + Duty factor
*Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).
*The 10th harmonic was not seen so the result was its base noise level.
*1) Not Out of Band emission(Leakage Power)

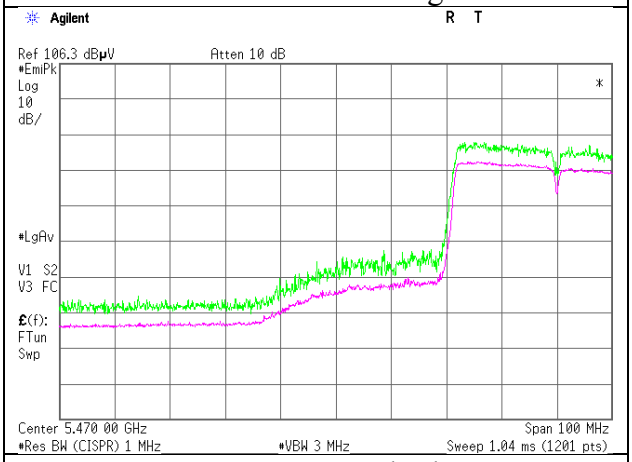
Distance factor:		
	1GHz-10GHz	20log(4.4m/1.0m)= 3.3dB
	10GHz-26.5GHz	20log(1.0m/3.0m)= -9.5dB
	26.5GHz-40GHz	20log(0.5m/3.0m)= -15.6dB

Radiated Spurious Emission

Test place	Ise EMC Lab. No.4 Semi Anechoic Chamber
Report No.	11081928H
Date	February 17, 2016
Temperature / Humidity	22deg. C / 35 % RH
Engineer	Kazuya Yoshioka
Mode	Tx 11ac-40 5510 MHz

Horizontal

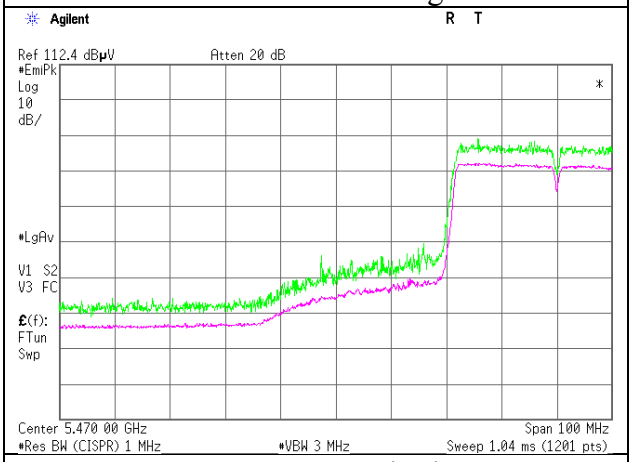
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

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

Radiated Spurious Emission

Test place	Ise EMC Lab. No.4 Semi Anechoic Chamber		
Report No.	11081928H		
Date	February 17, 2016	February 18, 2016	February 18, 2016
Temperature / Humidity	22deg. C / 35 % RH	22deg. C / 37 % RH	24deg. C / 32 % RH
Engineer	Kazuya Yoshioka (1 GHz-10 GHz)	Kazuya Yoshioka (10 GHz-18 GHz)	Hiroyuki Furutaka (18 GHz-40 GHz)
Mode	Tx 11ac-40 5550 MHz		

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	3699.861	PK	46.3	29.3	6.7	31.6	-	50.7	73.9	23.2	
Hori	11100.000	PK	42.2	40.1	-1.7	33.1	-	47.5	73.9	26.4	Floor noise
Hori	16650.000	PK	43.0	40.8	0.0	32.6	-	51.2	73.9	22.7	Floor noise
Hori	3699.861	AV	42.9	29.3	6.7	31.6	-	47.3	53.9	6.6	
Hori	11100.000	AV	35.0	40.1	-1.7	33.1	-	40.3	53.9	13.6	Floor noise
Hori	16650.000	AV	35.3	40.8	0.0	32.6	-	43.5	53.9	10.4	Floor noise
Vert	3700.103	PK	45.8	29.3	6.7	31.6	-	50.2	73.9	23.7	
Vert	11100.000	PK	42.0	40.1	-1.7	33.1	-	47.3	73.9	26.6	Floor noise
Vert	16650.000	PK	43.3	40.8	0.0	32.6	-	51.5	73.9	22.4	Floor noise
Vert	3700.103	AV	41.9	29.3	6.7	31.6	-	46.3	53.9	7.6	
Vert	11100.000	AV	35.0	40.1	-1.7	33.1	-	40.3	53.9	13.6	Floor noise
Vert	16650.000	AV	35.3	40.8	0.0	32.6	-	43.5	53.9	10.4	Floor noise

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier)
*Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).
*The 10th harmonic was not seen so the result was its base noise level.

Distance factor:	1GHz-10GHz	20log(4.4m/1.0m)= 3.3dB
	10GHz-26.5GHz	20log(1.0m/3.0m)= -9.5dB
	26.5GHz-40GHz	20log(0.5m/3.0m)= -15.6dB

Radiated Spurious Emission

Test place	Ise EMC Lab. No.4 Semi Anechoic Chamber		
Report No.	11081928H		
Date	February 17, 2016	February 18, 2016	February 18, 2016
Temperature / Humidity	22deg. C / 35 % RH	22deg. C / 37 % RH	24deg. C / 32 % RH
Engineer	Kazuya Yoshioka (1 GHz-10 GHz)	Kazuya Yoshioka (10 GHz-18 GHz)	Hiroyuki Furutaka (18 GHz-40 GHz)
Mode	Tx 11ac-40 5670 MHz		

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	3779.988	PK	44.5	29.5	6.7	31.6	-	49.1	73.9	24.8	
Hori	5725.000	PK	40.4	33.1	7.6	31.4	-	49.7	73.9	24.2	
Hori	11340.000	PK	41.2	40.1	-1.6	33.1	-	46.6	73.9	27.3	Floor noise
Hori	17010.000	PK	42.2	41.8	0.0	32.6	-	51.4	73.9	22.5	Floor noise
Hori	3779.988	AV	38.6	29.5	6.7	31.6	-	43.2	53.9	10.7	
Hori	5725.000	AV	31.2	33.1	7.6	31.4	2.2	42.7	53.9	11.2	*1)
Hori	11340.000	AV	33.8	40.1	-1.6	33.1	-	39.2	53.9	14.7	Floor noise
Hori	17010.000	AV	35.0	41.8	0.0	32.6	-	44.2	53.9	9.7	Floor noise
Vert	3779.975	PK	46.0	29.5	6.7	31.6	-	50.6	73.9	23.3	
Vert	5725.000	PK	42.0	33.1	7.6	31.4	-	51.3	73.9	22.6	
Vert	11340.000	PK	41.0	40.1	-1.6	33.1	-	46.4	73.9	27.5	Floor noise
Vert	17010.000	PK	42.4	41.8	0.0	32.6	-	51.6	73.9	22.3	Floor noise
Vert	3779.975	AV	42.5	29.5	6.7	31.6	-	47.1	53.9	6.8	
Vert	5725.000	AV	32.7	33.1	7.6	31.4	2.2	44.2	53.9	9.7	*1)
Vert	11340.000	AV	33.8	40.1	-1.6	33.1	-	39.2	53.9	14.7	Floor noise
Vert	17010.000	AV	35.0	41.8	0.0	32.6	-	44.2	53.9	9.7	Floor noise

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier) + Duty factor
*Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).
*The 10th harmonic was not seen so the result was its base noise level.
*1) Not Out of Band emission(Leakage Power)

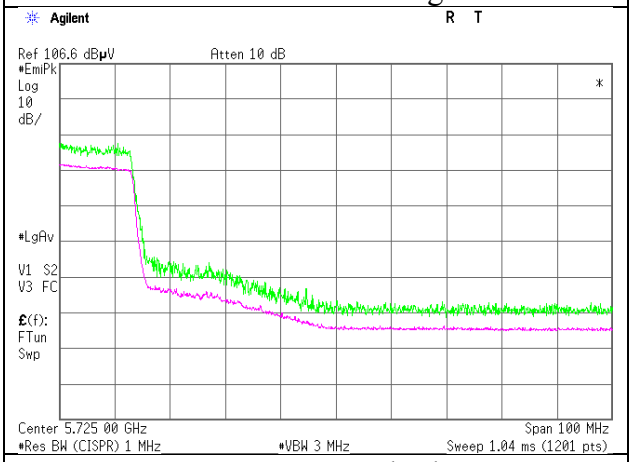
Distance factor:		
	1GHz-10GHz	20log(4.4m/1.0m)= 3.3dB
	10GHz-26.5GHz	20log(1.0m/3.0m)= -9.5dB
	26.5GHz-40GHz	20log(0.5m/3.0m)= -15.6dB

Radiated Spurious Emission

Test place	Ise EMC Lab. No.4 Semi Anechoic Chamber
Report No.	11081928H
Date	February 17, 2016
Temperature / Humidity	22deg. C / 35 % RH
Engineer	Kazuya Yoshioka
Mode	Tx 11ac-40 5670 MHz

Horizontal

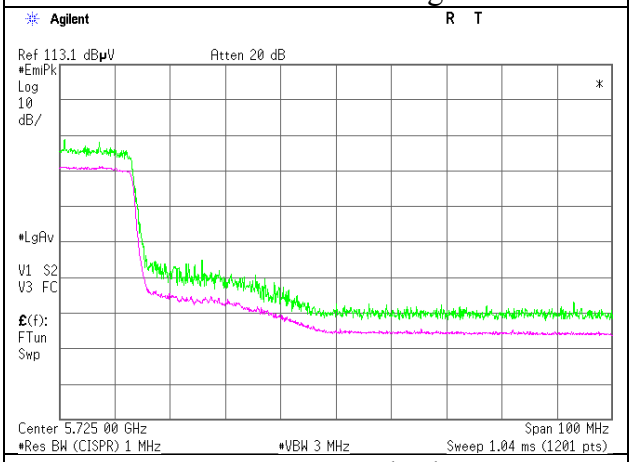
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

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

Radiated Spurious Emission

Test place	Ise EMC Lab. No.4 Semi Anechoic Chamber		
Report No.	11081928H		
Date	February 17, 2016	February 18, 2016	February 18, 2016
Temperature / Humidity	22deg. C / 35 % RH	22deg. C / 37 % RH	24deg. C / 32 % RH
Engineer	Kazuya Yoshioka (1 GHz-10 GHz)	Kazuya Yoshioka (10 GHz-18 GHz)	Hiroyuki Furutaka (18 GHz-40 GHz)
Mode	Tx 11ac-40 5755 MHz		

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	3836.632	PK	44.6	29.7	6.8	31.6	-	49.5	73.9	24.4	
Hori	5715.000	PK	47.7	33.1	7.6	31.4	-	57.0	73.9	16.9	
Hori	5725.000	PK	50.4	33.1	7.6	31.4	-	59.7	73.9	14.2	
Hori	11510.000	PK	41.7	40.2	-1.6	33.1	-	47.2	73.9	26.7	Floor noise
Hori	17265.000	PK	43.0	42.3	0.0	32.6	-	52.7	73.9	21.2	Floor noise
Hori	3836.632	AV	39.3	29.7	6.8	31.6	-	44.2	53.9	9.7	
Hori	5715.000	AV	32.7	33.1	7.6	31.4	2.2	44.2	53.9	9.7	*1)
Hori	5725.000	AV	33.7	33.1	7.6	31.4	2.2	45.2	53.9	8.7	*1)
Hori	11510.000	AV	33.5	40.2	-1.6	33.1	-	39.0	53.9	14.9	Floor noise
Hori	17265.000	AV	36.3	42.3	0.0	32.6	-	46.0	53.9	7.9	Floor noise
Vert	3836.681	PK	42.7	29.7	6.8	31.6	-	47.6	73.9	26.3	
Vert	5715.000	PK	48.4	33.1	7.6	31.4	-	57.7	73.9	16.2	
Vert	5725.000	PK	50.9	33.1	7.6	31.4	-	60.2	73.9	13.7	
Vert	11510.000	PK	41.4	40.2	-1.6	33.1	-	46.9	73.9	27.0	Floor noise
Vert	17265.000	PK	43.3	42.3	0.0	32.6	-	53.0	73.9	20.9	Floor noise
Vert	3836.681	AV	38.1	29.7	6.8	31.6	-	43.0	53.9	10.9	
Vert	5715.000	AV	37.3	33.1	7.6	31.4	2.2	48.8	53.9	5.1	*1)
Vert	5725.000	AV	38.6	33.1	7.6	31.4	2.2	50.1	53.9	3.8	*1)
Vert	11510.000	AV	33.5	40.2	-1.6	33.1	-	39.0	53.9	14.9	Floor noise
Vert	17265.000	AV	36.3	42.3	0.0	32.6	-	46.0	53.9	7.9	Floor noise

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier) + Duty factor

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

*The 10th harmonic was not seen so the result was its base noise level.

*1) Not Out of Band emission(Leakage Power)

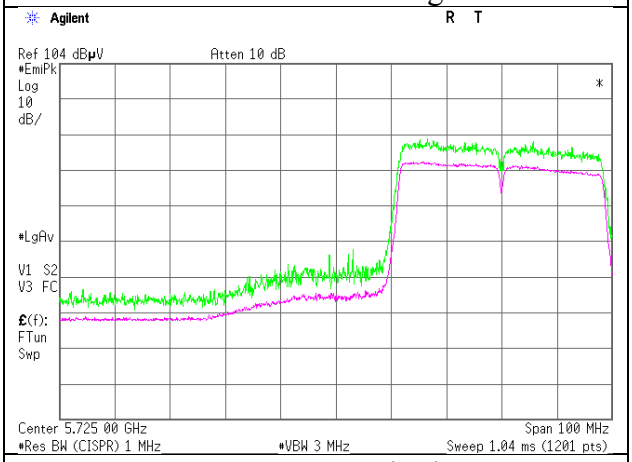
Distance factor:	1GHz-10GHz	20log(4.4m/1.0m)= 3.3dB
	10GHz-26.5GHz	20log(1.0m/3.0m)= -9.5dB
	26.5GHz-40GHz	20log(0.5m/3.0m)= -15.6dB

Radiated Spurious Emission

Test place	Ise EMC Lab. No.4 Semi Anechoic Chamber
Report No.	11081928H
Date	February 17, 2016
Temperature / Humidity	22deg. C / 35 % RH
Engineer	Kazuya Yoshioka
Mode	Tx 11ac-40 5755 MHz

Horizontal

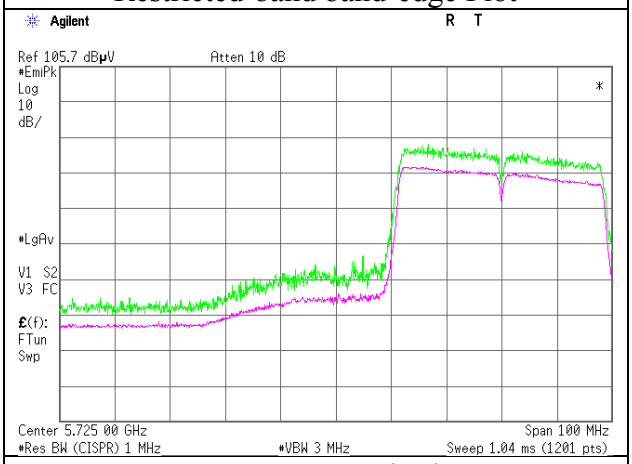
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

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

Radiated Spurious Emission

Test place	Ise EMC Lab. No.4 Semi Anechoic Chamber		
Report No.	11081928H		
Date	February 17, 2016	February 18, 2016	February 18, 2016
Temperature / Humidity	22deg. C / 35 % RH	22deg. C / 37 % RH	24deg. C / 32 % RH
Engineer	Kazuya Yoshioka (1 GHz-10 GHz)	Kazuya Yoshioka (10 GHz-18 GHz)	Hiroyuki Furutaka (18 GHz-40 GHz)
Mode	Tx 11ac-40 5795 MHz		

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	3863.390	PK	44.7	29.8	6.8	31.6	-	49.7	73.9	24.2	
Hori	5850.000	PK	39.8	33.2	7.7	31.5	-	49.2	73.9	24.7	
Hori	5860.000	PK	40.1	33.2	7.7	31.5	-	49.5	73.9	24.4	
Hori	11590.000	PK	40.8	40.1	-1.5	33.1	-	46.3	73.9	27.6	Floor noise
Hori	17385.000	PK	43.1	42.5	0.1	32.6	-	53.1	73.9	20.8	Floor noise
Hori	3863.390	AV	39.3	29.8	6.8	31.6	-	44.3	53.9	9.6	
Hori	5850.000	AV	30.5	33.2	7.7	31.5	2.2	42.1	53.9	11.8	*1)
Hori	5860.000	AV	30.4	33.2	7.7	31.5	2.2	42.0	53.9	11.9	*1)
Hori	11590.000	AV	33.8	40.1	-1.5	33.1	-	39.3	53.9	14.6	Floor noise
Hori	17385.000	AV	35.2	42.5	0.1	32.6	-	45.2	53.9	8.7	Floor noise
Vert	3863.418	PK	44.2	29.8	6.8	31.6	-	49.2	73.9	24.7	
Vert	5850.000	PK	40.5	33.2	7.7	31.5	-	49.9	73.9	24.0	
Vert	5860.000	PK	39.5	33.2	7.7	31.5	-	48.9	73.9	25.0	
Vert	11590.000	PK	41.0	40.1	-1.5	33.1	-	46.5	73.9	27.4	Floor noise
Vert	17385.000	PK	43.2	42.5	0.1	32.6	-	53.2	73.9	20.7	Floor noise
Vert	5850.000	AV	32.5	33.2	7.7	31.5	2.2	44.1	53.9	9.8	*1)
Vert	5860.000	AV	33.0	33.2	7.7	31.5	2.2	44.6	53.9	9.3	*1)
Vert	11590.000	AV	33.8	40.1	-1.5	33.1	-	39.3	53.9	14.6	Floor noise
Vert	17385.000	AV	35.2	42.5	0.1	32.6	-	45.2	53.9	8.7	Floor noise

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier) + Duty factor

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

*The 10th harmonic was not seen so the result was its base noise level.

*1) Not Out of Band emission(Leakage Power)

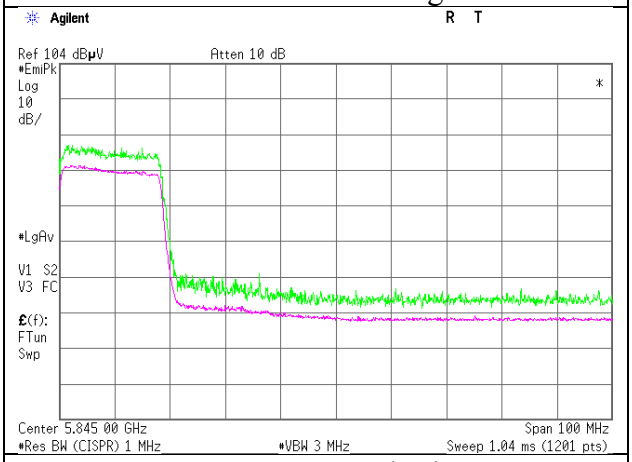
Distance factor:	1GHz-10GHz	20log(4.4m/1.0m)= 3.3dB
	10GHz-26.5GHz	20log(1.0m/3.0m)= -9.5dB
	26.5GHz-40GHz	20log(0.5m/3.0m)= -15.6dB

Radiated Spurious Emission

Test place	Ise EMC Lab. No.4 Semi Anechoic Chamber
Report No.	11081928H
Date	February 17, 2016
Temperature / Humidity	22deg. C / 35 % RH
Engineer	Kazuya Yoshioka
Mode	Tx 11ac-40 5795 MHz

Horizontal

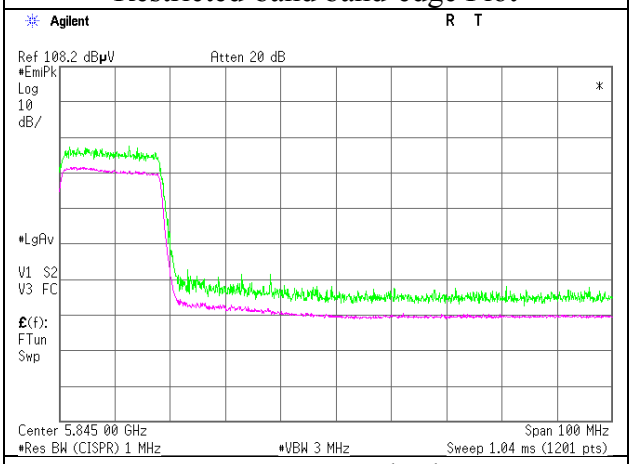
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

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

Radiated Spurious Emission

Test place	Ise EMC Lab. No.4 Semi Anechoic Chamber		
Report No.	11081928H		
Date	February 17, 2016	February 18, 2016	February 18, 2016
Temperature / Humidity	23deg. C / 35 % RH	22deg. C / 37 % RH	24deg. C / 32 % RH
Engineer	Hiroyuki Furutaka (1 GHz-10 GHz)	Kazuya Yoshioka (10 GHz-18 GHz)	Hiroyuki Furutaka (18 GHz-40 GHz)
Mode	Tx 11ac-80 5210 MHz		

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	3473.333	PK	43.2	28.7	6.6	31.7	-	46.8	73.9	27.1	
Hori	5150.000	PK	47.1	33.3	7.4	31.3	-	56.5	73.9	17.4	
Hori	10420.000	PK	41.8	39.4	-1.8	32.9	-	46.5	73.9	27.4	Floor Noise
Hori	15630.000	PK	43.0	39.7	-0.1	32.7	-	49.9	73.9	24.0	Floor Noise
Hori	3473.333	AV	36.0	28.7	6.6	31.7	-	39.6	53.9	14.3	
Hori	5150.000	AV	36.4	33.3	7.4	31.3	2.6	48.4	53.9	5.5	*1)
Hori	10420.000	AV	34.4	39.4	-1.8	32.9	-	39.1	53.9	14.8	Floor Noise
Hori	15630.000	AV	36.0	39.7	-0.1	32.7	-	42.9	53.9	11.0	Floor Noise
Vert	3473.333	PK	45.4	28.7	6.6	31.7	-	49.0	73.9	24.9	
Vert	5150.000	PK	53.1	33.3	7.4	31.3	-	62.5	73.9	11.4	
Vert	10420.000	PK	41.6	39.4	-1.8	32.9	-	46.3	73.9	27.6	Floor Noise
Vert	15630.000	PK	43.2	39.7	-0.1	32.7	-	50.1	73.9	23.8	Floor Noise
Vert	3473.333	AV	39.3	28.7	6.6	31.7		42.9	53.9	11.0	
Vert	5150.000	AV	39.5	33.3	7.4	31.3	2.6	51.5	53.9	2.4	*1),Integration Method
Vert	10420.000	AV	34.4	39.4	-1.8	32.9	-	39.1	53.9	14.8	Floor Noise
Vert	15630.000	AV	36.0	39.7	-0.1	32.7	-	42.9	53.9	11.0	Floor Noise

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier) + Duty factor
*Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).
*The 10th harmonic was not seen so the result was its base noise level.
*1) Not Out of Band emission(Leakage Power)

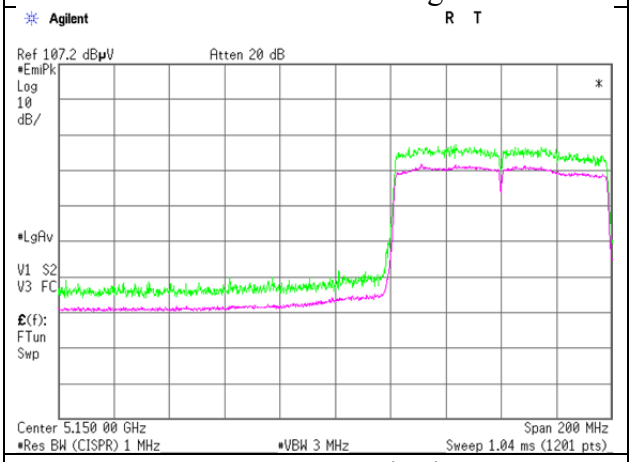
Distance factor:		
	1GHz-10GHz	20log(4.4m/1.0m)= 3.3dB
	10GHz-26.5GHz	20log(1.0m/3.0m)= -9.5dB
	26.5GHz-40GHz	20log(0.5m/3.0m)= -15.6dB

Radiated Spurious Emission

Test place	Ise EMC Lab. No.4 Semi Anechoic Chamber
Report No.	11081928H
Date	February 17, 2016
Temperature / Humidity	23deg. C / 35 % RH
Engineer	Hiroyuki Furutaka
Mode	Tx 11ac-80 5210 MHz

Horizontal

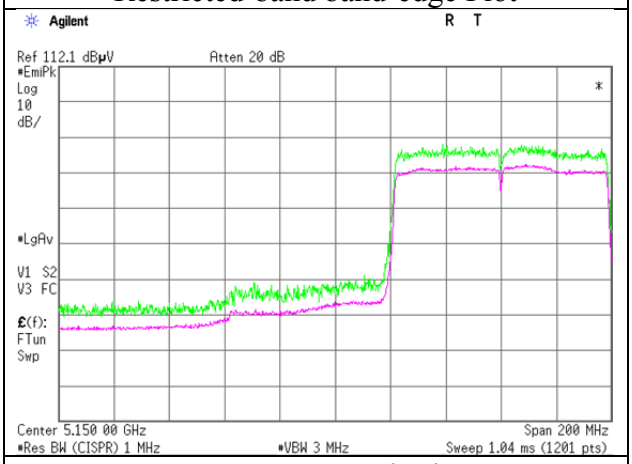
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

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

Radiated Spurious Emission

Test place	Ise EMC Lab. No.4 Semi Anechoic Chamber		
Report No.	11081928H		
Date	February 17, 2016	February 18, 2016	February 18, 2016
Temperature / Humidity	23deg. C / 35 % RH	22deg. C / 37 % RH	24deg. C / 32 % RH
Engineer	Hiroyuki Furutaka (1 GHz-10 GHz)	Kazuya Yoshioka (10 GHz-18 GHz)	Hiroyuki Furutaka (18 GHz-40 GHz)
Mode	Tx 11ac-80 5290 MHz		

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	3526.658	PK	43.1	28.8	6.6	31.7	-	46.8	73.9	27.1	
Hori	5350.000	PK	48.5	33.1	7.5	31.3	-	57.8	73.9	16.1	
Hori	10580.000	PK	41.6	39.7	-1.7	33.0	-	46.6	73.9	27.3	Floor noise
Hori	15870.000	PK	43.0	39.1	-0.1	32.7	-	49.3	73.9	24.6	Floor noise
Hori	3526.658	AV	36.1	28.8	6.6	31.7	-	39.8	53.9	14.1	
Hori	5350.000	AV	36.8	33.1	7.5	31.3	2.6	48.7	53.9	5.2	*1)
Hori	10580.000	AV	33.8	39.7	-1.7	33.0	-	38.8	53.9	15.1	Floor noise
Hori	15870.000	AV	35.5	39.1	-0.1	32.7	-	41.8	53.9	12.1	Floor noise
Vert	3526.658	PK	43.2	28.8	6.6	31.7	-	46.9	73.9	27.0	
Vert	5350.000	PK	53.7	33.1	7.5	31.3	-	63.0	73.9	10.9	
Vert	10580.000	PK	41.4	39.7	-1.7	33.0	-	46.4	73.9	27.5	Floor noise
Vert	15870.000	PK	43.2	39.1	-0.1	32.7	-	49.5	73.9	24.4	Floor noise
Vert	3526.658	AV	36.7	28.8	6.6	31.7	-	40.4	53.9	13.5	
Vert	5350.000	AV	38.9	33.1	7.5	31.3	2.6	50.8	53.9	3.1	*1),Integration Method
Vert	10580.000	AV	33.8	39.7	-1.7	33.0	-	38.8	53.9	15.1	Floor noise
Vert	15870.000	AV	35.5	39.1	-0.1	32.7	-	41.8	53.9	12.1	Floor noise

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier) + Duty factor
*Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).
*The 10th harmonic was not seen so the result was its base noise level.
*1) Not Out of Band emission(Leakage Power)

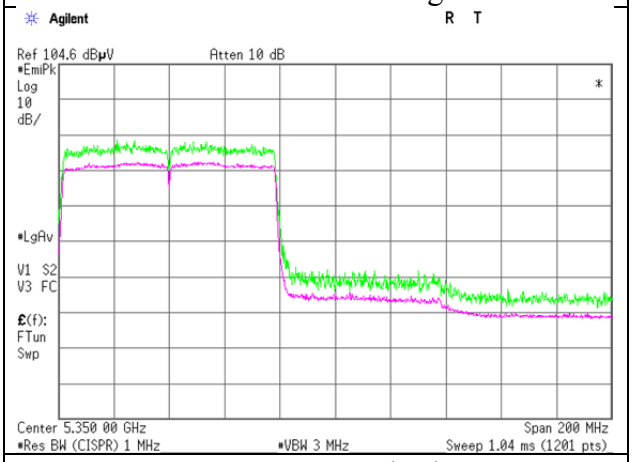
Distance factor:	1GHz-10GHz	20log(4.4m/1.0m)= 3.3dB
	10GHz-26.5GHz	20log(1.0m/3.0m)= -9.5dB
	26.5GHz-40GHz	20log(0.5m/3.0m)= -15.6dB

Radiated Spurious Emission

Test place	Ise EMC Lab. No.4 Semi Anechoic Chamber
Report No.	11081928H
Date	February 17, 2016
Temperature / Humidity	23deg. C / 35 % RH
Engineer	Hiroyuki Furutaka
Mode	Tx 11ac-80 5290 MHz

Horizontal

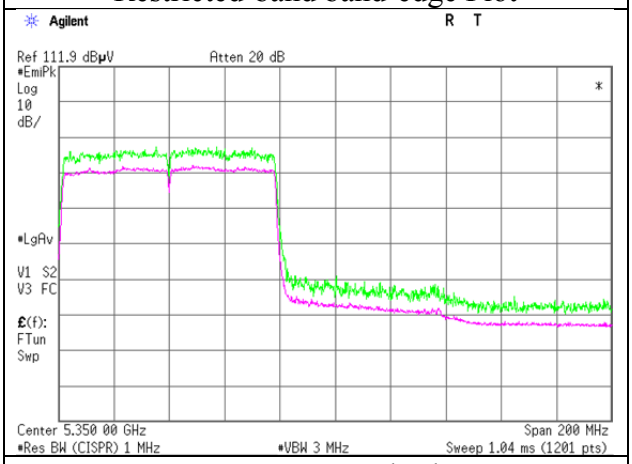
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

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

Radiated Spurious Emission

Test place	Ise EMC Lab. No.4 Semi Anechoic Chamber		
Report No.	11081928H		
Date	February 17, 2016	February 18, 2016	February 18, 2016
Temperature / Humidity	23deg. C / 35 % RH	22deg. C / 37 % RH	24deg. C / 32 % RH
Engineer	Hiroyuki Furutaka (1 GHz-10 GHz)	Kazuya Yoshioka (10 GHz-18 GHz)	Hiroyuki Furutaka (18 GHz-40 GHz)
Mode	Tx 11ac-80 5530 MHz		

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	3686.641	PK	46.0	29.3	6.7	31.6	-	50.4	73.9	23.5	
Hori	5460.000	PK	50.8	33.0	7.5	31.4	-	59.9	73.9	14.0	
Hori	5470.000	PK	51.5	33.0	7.5	31.4	-	60.6	68.2	7.6	
Hori	11060.000	PK	42.2	40.1	-1.7	33.0	-	47.6	73.9	26.3	Floor noise
Hori	16590.000	PK	43.9	40.6	0.0	32.6	-	51.9	73.9	22.0	Floor noise
Hori	3686.641	AV	41.3	29.3	6.7	31.6	-	45.7	53.9	8.2	
Hori	5460.000	AV	37.7	33.0	7.5	31.4	2.6	49.4	53.9	4.5	*1)
Hori	11060.000	AV	35.1	40.1	-1.7	33.0	-	40.5	53.9	13.4	Floor noise
Hori	16590.000	AV	35.9	40.6	0.0	32.6	-	43.9	53.9	10.0	Floor noise
Vert	3686.641	PK	45.7	29.3	6.7	31.6	-	50.1	73.9	23.8	
Vert	5460.000	PK	56.3	33.0	7.5	31.4	-	65.4	73.9	8.5	
Vert	5470.000	PK	57.8	33.0	7.5	31.4	-	66.9	68.2	1.3	
Vert	11060.000	PK	42.0	40.1	-1.7	33.0	-	47.4	73.9	26.5	Floor noise
Vert	16590.000	PK	43.8	40.6	0.0	32.6	-	51.8	73.9	22.1	Floor noise
Vert	3686.641	AV	41.8	29.3	6.7	31.6	-	46.2	53.9	7.7	
Vert	5460.000	AV	42.1	33.0	7.5	31.4	2.6	53.8	53.9	0.1	*1)
Vert	11060.000	AV	35.1	40.1	-1.7	33.0	-	40.5	53.9	13.4	Floor noise
Vert	16590.000	AV	35.9	40.6	0.0	32.6	-	43.9	53.9	10.0	Floor noise

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier) + Duty factor

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

*The 10th harmonic was not seen so the result was its base noise level.

*1) Not Out of Band emission(Leakage Power)

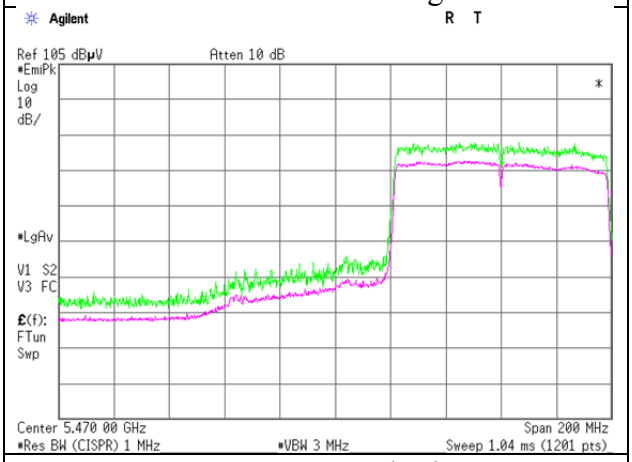
Distance factor:		
	1GHz-10GHz	20log(4.4m/1.0m)= 3.3dB
	10GHz-26.5GHz	20log(1.0m/3.0m)= -9.5dB
	26.5GHz-40GHz	20log(0.5m/3.0m)= -15.6dB

Radiated Spurious Emission

Test place	Ise EMC Lab. No.4 Semi Anechoic Chamber
Report No.	11081928H
Date	February 17, 2016
Temperature / Humidity	23deg. C / 35 % RH
Engineer	Hiroyuki Furutaka
Mode	Tx 11ac-80 5530 MHz

Horizontal

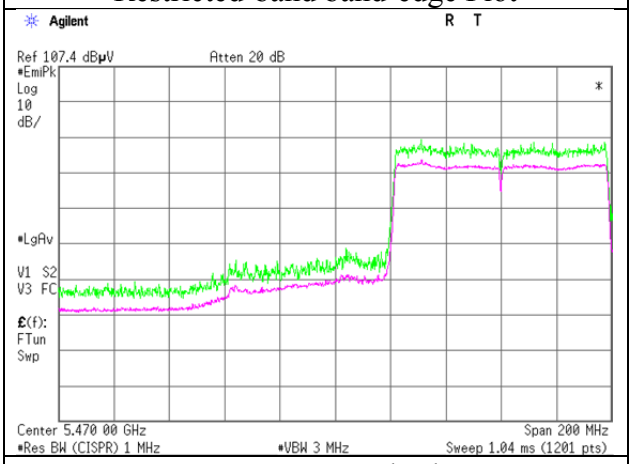
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

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

Radiated Spurious Emission

Test place	Ise EMC Lab. No.4 Semi Anechoic Chamber		
Report No.	11081928H		
Date	February 17, 2016	February 18, 2016	February 18, 2016
Temperature / Humidity	23deg. C / 35 % RH	22deg. C / 37 % RH	24deg. C / 32 % RH
Engineer	Hiroyuki Furutaka (1 GHz-10 GHz)	Kazuya Yoshioka (10 GHz-18 GHz)	Hiroyuki Furutaka (18 GHz-40 GHz)
Mode	Tx 11ac-80 5610 MHz		

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	3740.000	PK	45.1	29.4	6.7	31.6	-	49.6	73.9	24.3	
Hori	5725.000	PK	41.7	33.1	7.6	31.4	-	51.0	73.9	22.9	
Hori	11220.000	PK	41.2	40.1	-1.6	33.1	-	46.6	73.9	27.3	Floor noise
Hori	16830.000	PK	42.6	41.3	0.0	32.6	-	51.3	73.9	22.6	Floor noise
Hori	3740.000	AV	37.5	29.4	6.7	31.6	-	42.0	53.9	11.9	
Hori	5725.000	AV	32.4	33.1	7.6	31.4	2.6	44.3	53.9	9.6	*1)
Hori	11220.000	AV	34.1	40.1	-1.6	33.1	-	39.5	53.9	14.4	Floor noise
Hori	16830.000	AV	35.6	41.3	0.0	32.6	-	44.3	53.9	9.6	Floor noise
Vert	3740.000	PK	47.3	29.4	6.7	31.6	-	51.8	73.9	22.1	
Vert	5725.000	PK	41.6	33.1	7.6	31.4	-	50.9	73.9	23.0	
Vert	11220.000	PK	41.1	40.1	-1.6	33.1	-	46.5	73.9	27.4	Floor noise
Vert	16830.000	PK	42.8	41.3	0.0	32.6	-	51.5	73.9	22.4	Floor noise
Vert	3740.000	AV	43.5	29.4	6.7	31.6	-	48.0	53.9	5.9	
Vert	5725.000	AV	33.1	33.1	7.6	31.4	2.6	45.0	53.9	8.9	*1)
Vert	11220.000	AV	34.1	40.1	-1.6	33.1	-	39.5	53.9	14.4	Floor noise
Vert	16830.000	AV	35.6	41.3	0.0	32.6	-	44.3	53.9	9.6	Floor noise

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier) + Duty factor
*Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).
*The 10th harmonic was not seen so the result was its base noise level.
*1) Not Out of Band emission(Leakage Power)

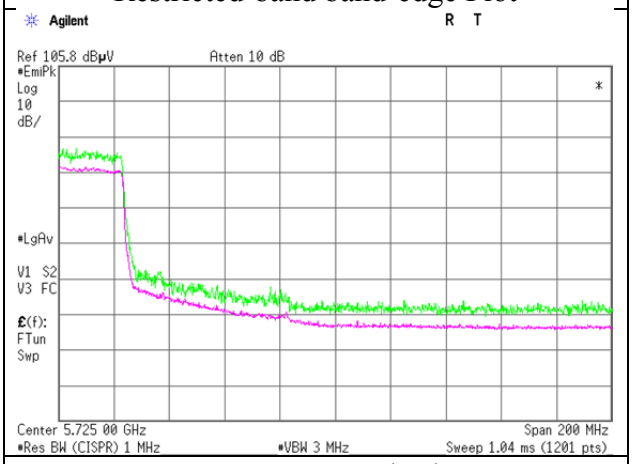
Distance factor:		
	1GHz-10GHz	20log(4.4m/1.0m)= 3.3dB
	10GHz-26.5GHz	20log(1.0m/3.0m)= -9.5dB
	26.5GHz-40GHz	20log(0.5m/3.0m)= -15.6dB

Radiated Spurious Emission

Test place	Ise EMC Lab. No.4 Semi Anechoic Chamber
Report No.	11081928H
Date	February 17, 2016
Temperature / Humidity	23deg. C / 35 % RH
Engineer	Hiroyuki Furutaka
Mode	Tx 11ac-80 5610 MHz

Horizontal

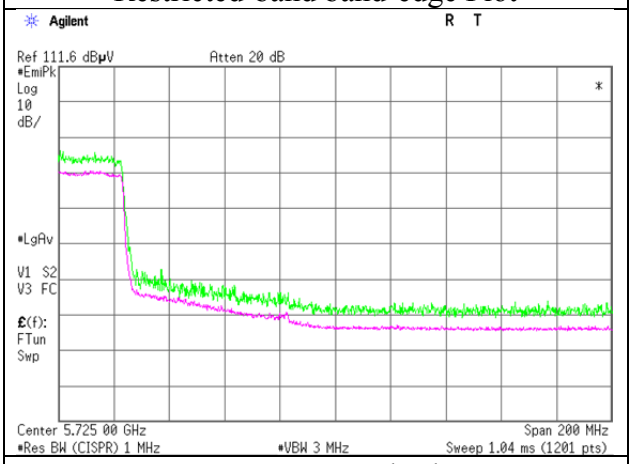
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

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

Radiated Spurious Emission

Test place	Ise EMC Lab. No.4 Semi Anechoic Chamber		
Report No.	11081928H		
Date	February 17, 2016	February 18, 2016	February 18, 2016
Temperature / Humidity	23deg. C / 35 % RH	22deg. C / 37 % RH	24deg. C / 32 % RH
Engineer	Hiroyuki Furutaka (1 GHz-10 GHz)	Kazuya Yoshioka (10 GHz-18 GHz)	Hiroyuki Furutaka (18 GHz-40 GHz)
Mode	Tx 11ac-80 5775 MHz		

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	3850.000	PK	45.1	29.7	6.8	31.6	-	50.0	73.9	23.9	
Hori	5725.000	PK	45.8	33.1	7.6	31.4	-	55.1	73.9	18.8	
Hori	5850.000	PK	39.6	33.2	7.7	31.5	-	49.0	73.9	24.9	
Hori	11550.000	PK	41.1	40.1	-1.6	33.1	-	46.5	73.9	27.4	Floor noise
Hori	17325.000	PK	43.6	42.4	0.0	32.6	-	53.4	73.9	20.5	Floor noise
Hori	3850.000	AV	39.9	29.7	6.8	31.6	-	44.8	53.9	9.1	
Hori	5725.000	AV	35.0	33.1	7.6	31.4	2.6	46.9	53.9	7.0	*1)
Hori	5850.000	AV	31.4	33.2	7.7	31.5	2.6	43.4	53.9	10.5	*1)
Hori	11550.000	AV	33.8	40.1	-1.6	33.1	-	39.2	53.9	14.7	Floor noise
Hori	17325.000	AV	36.4	42.4	0.0	32.6	-	46.2	53.9	7.7	Floor noise
Vert	3850.000	PK	45.4	29.7	6.8	31.6	-	50.3	73.9	23.6	
Vert	5725.000	PK	49.4	33.1	7.6	31.4	-	58.7	73.9	15.2	
Vert	5850.000	PK	44.9	33.2	7.7	31.5	-	54.3	73.9	19.6	
Vert	11550.000	PK	41.3	40.1	-1.6	33.1	-	46.7	73.9	27.2	Floor noise
Vert	17325.000	PK	43.3	42.4	0.0	32.6	-	53.1	73.9	20.8	Floor noise
Vert	3850.000	AV	39.6	29.7	6.8	31.6	-	44.5	53.9	9.4	
Vert	5725.000	AV	38.0	33.1	7.6	31.4	2.6	49.9	53.9	4.0	*1)
Vert	5850.000	AV	34.1	33.2	7.7	31.5	2.6	46.1	53.9	7.8	*1)
Vert	11550.000	AV	33.8	40.1	-1.6	33.1	-	39.2	53.9	14.7	Floor noise
Vert	17325.000	AV	36.4	42.4	0.0	32.6	-	46.2	53.9	7.7	Floor noise

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier) + Duty factor

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

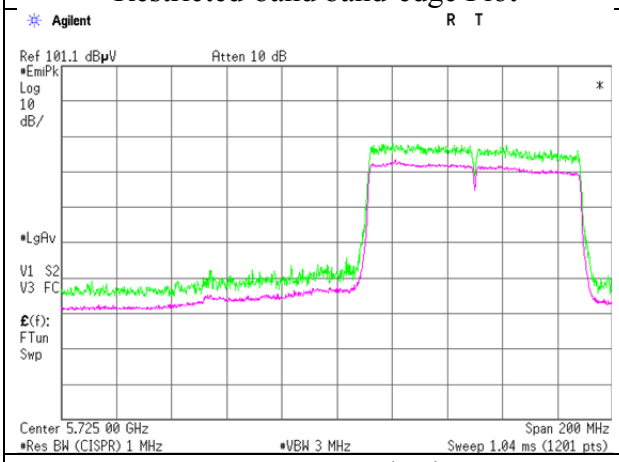
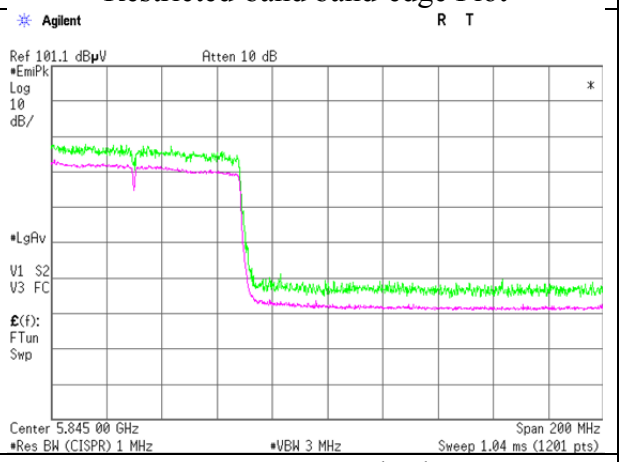
*The 10th harmonic was not seen so the result was its base noise level.

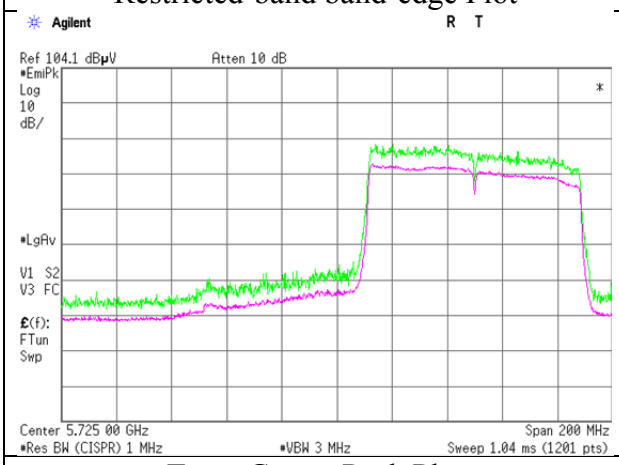
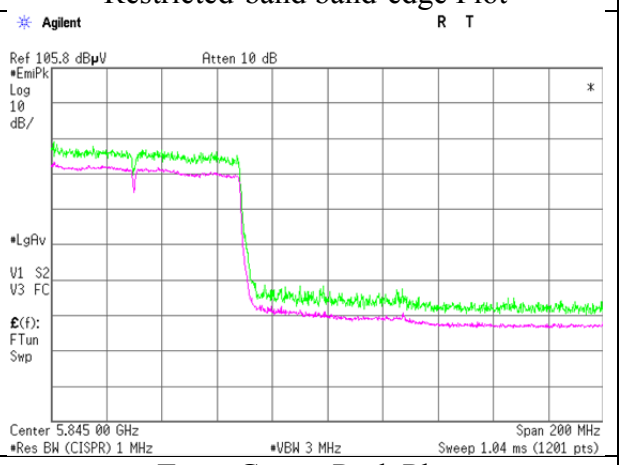
*1) Not Out of Band emission(Leakage Power)

Distance factor:	1GHz-10GHz	20log(4.4m/1.0m)= 3.3dB
	10GHz-26.5GHz	20log(1.0m/3.0m)= -9.5dB
	26.5GHz-40GHz	20log(0.5m/3.0m)= -15.6dB

Radiated Spurious Emission

Test place	Ise EMC Lab. No.4 Semi Anechoic Chamber
Report No.	11081928H
Date	February 17, 2016
Temperature / Humidity	23deg. C / 35 % RH
Engineer	Hiroyuki Furutaka
Mode	Tx 11ac-80 5775 MHz

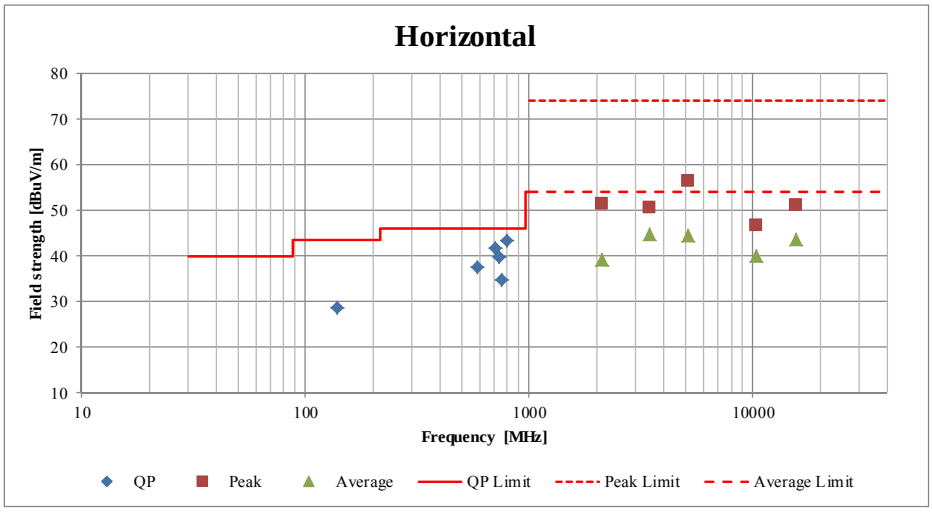
Horizontal	Horizontal
Restricted-band band-edge Plot	Restricted-band band-edge Plot
	
Trace Green: Peak Plot Trace Purple: Average Plot	Trace Green: Peak Plot Trace Purple: Average Plot

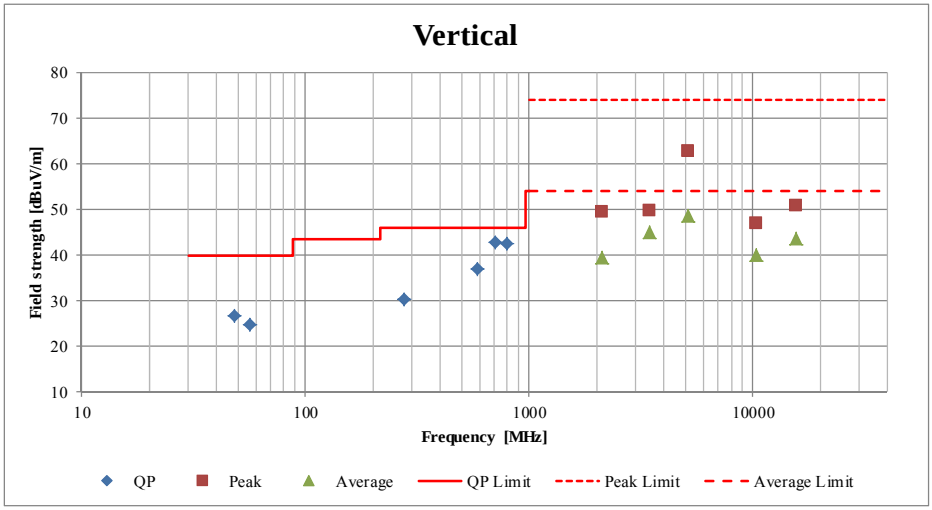
Vertical	Vertical
Restricted-band band-edge Plot	Restricted-band band-edge Plot
	
Trace Green: Peak Plot Trace Purple: Average Plot	Trace Green: Peak Plot Trace Purple: Average Plot

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

Radiated Spurious Emission
(Plot data, Worst case)

Test place	Ise EMC Lab. No.4 Semi Anechoic Chamber			
Report No.	11081928H			
Date	February 16, 2016	February 18, 2016	February 18, 2016	February 19, 2016
Temperature / Humidity	24deg. C / 34 % RH	22deg. C / 37 % RH	24deg. C / 32 % RH	23deg. C / 35 % RH
Engineer	Hiroyuki Furutaka (1 GHz-10 GHz)	Kazuya Yoshioka (10 GHz-18 GHz)	Hiroyuki Furutaka (18 GHz-40 GHz)	Hiroyuki Furutaka (30 MHz-1 GHz)
Mode	Tx 11ac-20 5180 MHz			



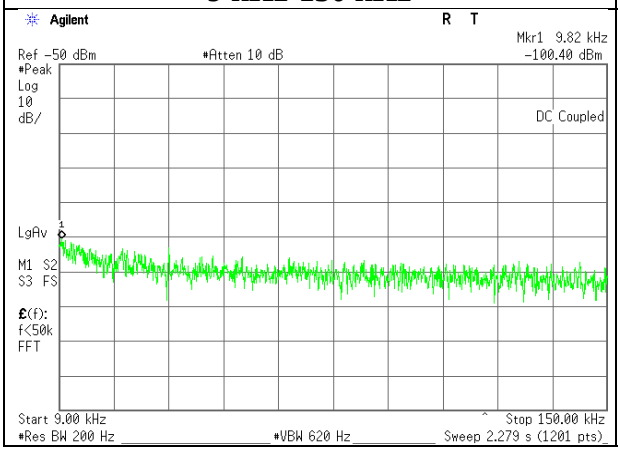


*These plots data contains sufficient number to show the trend of characteristic features for EUT.

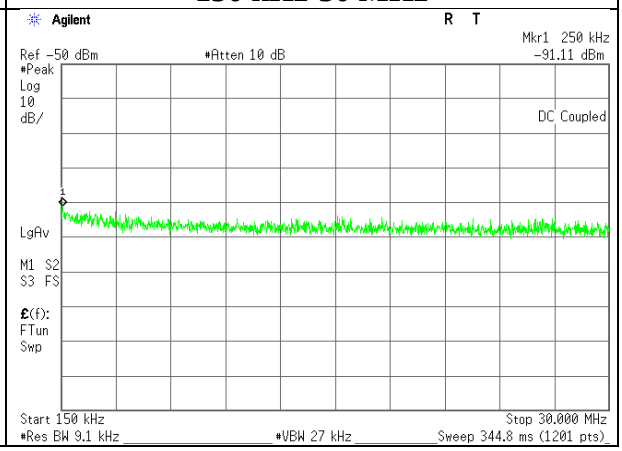
Conducted Spurious Emission

Test place	Ise EMC Lab. No6 Measurement Room
Report No.	11081928H
Date	February 16, 2016
Temperature / Humidity	23deg. C / 41 % RH
Engineer	Ken Fujita
Mode	Tx 11ac-20 5180 MHz

9 kHz-150 kHz



150 kHz-30 MHz



Frequency [kHz]	Reading [dBm]	Cable Loss [dB]	Attenator [dB]	Antenna Gain [dBi]	N (Number of Output)	EIRP [dBm]	Distance [m]	Ground bounce [dB]	E (field strength) [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
9.82	-100.4	0.01	9.93	2.0	1	-88.5	300	6.0	-27.2	47.7	74.9	
250.00	-91.1	0.03	9.95	2.0	1	-79.1	300	6.0	-17.9	19.6	37.5	

E = EIRP - 20*log(D) + Ground bounce + 104.8 [dBuV/m]

EIRP = Reading + Cable Loss + Attenator + Antenna Gain + 10*log(N)

APPENDIX 2: Test instruments

Test equipment

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
MPM-17	Power Meter	DARE!! Instruments	RPR3006W	14I00048SNO081	AT	2015/11/09 * 12
MAT-80	Attenuator	Weinschel Associates	WA1-20-33	100130	AT	2015/05/04 * 12
MOS-14	Thermo-Hygrometer	Custom	CTH-201	1401	AT	2016/01/21 * 12
MMM-12	DIGITAL HiTESTER	Hioki	3805	060500120	AT	2016/02/23 * 12
MSA-14	Spectrum Analyzer	Agilent	E4440A	MY48250080	AT	2015/10/07 * 12
MPM-16	Power Meter	Agilent	8990B	MY51000271	AT	2015/04/01 * 12
MPSE-22	Power sensor	Agilent	N1923A	MY54070003	AT	2015/04/01 * 12
MAEC-04	Semi Anechoic Chamber(NSA)	TDK	Semi Anechoic Chamber 3m	DA-10005	RE	2015/10/02 * 12
MOS-15	Thermo-Hygrometer	Custom	CTH-180	1501	RE	2016/01/21 * 12
MJM-26	Measure	KOMELON	KMC-36	-	RE	-
COTS-MEMI	EMI measurement program	TSJ	TEPTO-DV	-	RE	-
MSA-04	Spectrum Analyzer	Agilent	E4448A	US44300523	RE	2015/11/06 * 12
MHA-21	Horn Antenna 1-18GHz	Schwarzbeck	BBHA9120D	9120D-557	RE	2015/08/10 * 12
MCC-141	Microwave Cable	Junkosha	MWX221	1305S002R(1m) / 1405S146(5m)	RE	2015/06/22 * 12
MPA-12	MicroWave System Amplifier	Agilent	83017A	00650	RE	2015/10/01 * 12
MMM-10	DIGITAL HiTESTER	Hioki	3805	051201148	RE	2016/01/18 * 12
MCC-178	Microwave Cable	Junkosha	MMX221-00500D MSDMS	1502S305	RE	2015/03/27 * 12
MHF-23	High Pass Filter 7-20GHz	TOKIMEC	TF37NCCC	603	RE	2016/01/19 * 12
MHA-17	Horn Antenna 15-40GHz	Schwarzbeck	BBHA9170	BBHA9170307	RE	2015/06/06 * 12
MCC-54	Microwave Cable	Suhner	SUCOFLEX101	2873(1m) / 2876(5m)	RE	2015/03/09 * 12
MPA-03	Microwave System Power Amplifier	Agilent	83050A	3950M00205	RE	2015/06/02 * 12
MHA-29	Horn Antenna 26.5-40GHz	ETS LINDGREN	3160-10	00152399	RE	2015/09/04 * 12
MPA-22	Pre Amplifier	MITEQ, Inc	AMF-6F-2600400-33-8P / AMF-4F-2600400-33-8P	1871355 /1871328	RE	2015/09/03 * 12
MTR-01	Test Receiver	Rohde & Schwarz	ESI40	100084	RE	2015/11/28 * 12
MBA-05	Biconical Antenna	Schwarzbeck	BBA9106	1302	RE	2015/11/02 * 12
MLA-08	Logperiodic Antenna	Schwarzbeck	UKLP9140-A	N/A	RE	2015/11/03 * 12
MCC-50	Coaxial Cable	UL Japan	-	-	RE	2015/06/19 * 12
MAT-68	Attenuator	Anritsu	MP721B	6200961025	RE	2015/11/12 * 12
MPA-09	Pre Amplifier	Agilent	8447D	2944A10845	RE	2015/09/04 * 12

The expiration date of the calibration is the end of the expired month.
All equipment is calibrated with valid calibrations. Each measurement data is traceable to the national or international standards.

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

Test Item: **RE: Radiated Emission**
AT: Antenna Terminal Conducted test