RADIO TEST REPORT

Test Report No. : 12699044S-AM-R1

Applicant	:	**Canon Inc**
Type of Equipment	:	**Wireless module**
Model No.	:	**ES203**
FCC ID	:	**AZD240**
Test regulation	:	**FCC Part 15 Subpart E: 2019**
Test Result	:	**Complied (Refer to SECTION 3.2)**

1. This test report shall not be reproduced in full or partial, without the written approval of UL Japan, Inc.
2. The results in this report apply only to the sample tested.
3. This sample tested is in compliance with the limits of the above regulation.
4. The test results in this test report are traceable to the national or international standards.
5. This test report must not be used by the customer to claim product certification, approval, or endorsement by any agency of the Federal Government.
6. 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. The all test items in this test report are conducted by UL Japan, Inc. Shonan EMC Lab.
8. The opinions and the interpretations to the result of the description in this report are outside scopes where UL Japan has been accredited.
9. The information provided from the customer for this report is identified in SECTION 1.
10. This report is a revised version of 12699044S-AM. 12699044S-AM is replaced with this report.

Date of test: February 13 to June 12, 2019

Representative test engineer: T. Kawakami
Takahiro Kawakami
Engineer
Consumer Technology Division

Approved by: T. Imamura
Toyokazu Imamura
Leader
Consumer Technology Division

CERTIFICATE 1266.03

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

UL Japan, Inc.
Shonan EMC Lab.
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN
Telephone : +81 463 50 6400
Facsimile : +81 463 50 6401

REVISION HISTORY

Original Test Report No.: 12699044S-AM

Revision	Test report No.	Date	Page revised	Contents
- (Original)	12699044S-AM	September 6, 2019	-	-
1	12699044S-AM-R1	October 21, 2019	8	Correction of description: The EUT has a unique coupling/antenna connector (MS-180 and U.FL). Therefore the equipment complies with the requirement of 15.203. ↓ For antenna A: The antenna is not removable from the EUT. Therefore, the equipment complies with the antenna requirement of Section 15.203. For antenna B: The EUT has a unique coupling/antenna connector (U.FL). Therefore the equipment complies with the requirement of 15.203.
			17	Correction of test distance: 0.01 m → 3.99 m
			62 - 72, 101 - 111	Addition of remarks: *[U-NII-1 band for FCC] Although the EUT operates on Master mode, more stringent limit for Client device was applied. Also, the maximum e.i.r.p. Result is less than 125 mW (21 dBm).
			95 - 100	Divided into Average Output Power and Radiated Spurious Emission
			101 - 102, 104, 106, 108, 110	Modification of data and sample calculation of CDD, by considering Directional Gain
			152- 233	Adjustment of decimal places to limit of the RE data: two decimal places → one decimal places
			152 - 184, 187 - 213, 216 - 233	The -27 dBm limit was applied to the RE data: Above 1 GHz frequency outside the limit band

Reference: Abbreviations (Including words undescribed in this report)

A2LA	The American Association for Laboratory Accreditation
AC	Alternating Current
AFH	Adaptive Frequency Hopping
AM	Amplitude Modulation
Amp, AMP	Amplifier
ANSI	American National Standards Institute
Ant, ANT	Antenna
AP	Access Point
Atten., ATT	Attenuator
AV	Average
BPSK	Binary Phase-Shift Keying
BR	Bluetooth Basic Rate
BT	Bluetooth
BT LE	Bluetooth Low Energy
BW	BandWidth
Cal Int	Calibration Interval
CCK	Complementary Code Keying
Ch., CH	Channel
CISPR	Comite International Special des Perturbations Radioelectriques
CW	Continuous Wave
DBPSK	Differential BPSK
DC	Direct Current
DFS	Dynamic Frequency Selection
DQPSK	Differential QPSK
DSSS	Direct Sequence Spread Spectrum
EDR	Enhanced Data Rate
EIRP, e.i.r.p.	Equivalent Isotropically Radiated Power
EMC	ElectroMagnetic Compatibility
EMI	ElectroMagnetic Interference
EN	European Norm
ERP, e.r.p.	Effective Radiated Power
EU	European Union
EUT	Equipment Under Test
Fac.	Factor
FCC	Federal Communications Commission
FHSS	Frequency Hopping Spread Spectrum
FM	Frequency Modulation
Freq.	Frequency
GFSK	Gaussian Frequency-Shift Keying
GNSS	Global Navigation Satellite System
GPS	Global Positioning System
Hori.	Horizontal
ICES	Interference-Causing Equipment Standard
IEC	International Electrotechnical Commission
IEEE	Institute of Electrical and Electronics Engineers
IF	Intermediate Frequency
ILAC	International Laboratory Accreditation Conference
ISED	Innovation, Science and Economic Development Canada
ISO	International Organization for Standardization
JAB	Japan Accreditation Board
LAN	Local Area Network
LIMS	Laboratory Information Management System
MCS	Modulation and Coding Scheme
MRA	Mutual Recognition Arrangement
NIST	National Institute of Standards and Technology
NS	No signal detect.
NSA	Normalized Site Attenuation
NVLAP	National Voluntary Laboratory Accreditation Program
OBW	Occupied Band Width
OFDM	Orthogonal Frequency Division Multiplexing
P/M	Power meter
PCB	Printed Circuit Board
PER	Packet Error Rate
PHY	Physical Layer
PK	Peak
PN	Pseudo random Noise
PRBS	Pseudo-Random Bit Sequence
PSD	Power Spectral Density
QAM	Quadrature Amplitude Modulation
QP	Quasi-Peak
QPSK	Quadri-Phase Shift Keying
RBW	Resolution Band Width
RDS	Radio Data System
RE	Radio Equipment
RF	Radio Frequency
RMS	Root Mean Square
RSS	Radio Standards Specifications
Rx	Receiving
SA, S/A	Spectrum Analyzer
SG	Signal Generator
SVSWR	Site-Voltage Standing Wave Ratio
TR	Test Receiver
Tx	Transmitting
VBW	Video BandWidth
Vert.	Vertical
WLAN	Wireless LAN

CONTENTS **PAGE**

SECTION 1: Customer information

Company Name	:	Canon Inc
Address	:	30-2, Shimomaruko 3-chome, Ohta-ku, Tokyo 146-8501 Japan
Telephone Number	:	+81-3-3757-6798
Facsimile Number	:	+81-3-5482-4053
Contact Person	:	Tomohiro Suzuki

The information provided from the customer is as follows;
- Applicant, Type of Equipment, Model No., FCC ID on the cover and other relevant pages
- Operating/Test Mode(s) (Mode(s)) on all the relevant pages
- SECTION 1: Customer information
- SECTION 2: Equipment under test (E.U.T.)
- SECTION 4: Operation of E.U.T. during testing

* The laboratory is exempted from liability of any test results affected from the above information in SECTION 2 and 4.

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

2.1 Identification of E.U.T.

Type of Equipment	:	Wireless module
Model No.	:	ES203
Serial No.	:	Refer to SECTION 4, SECTION 4.2
Rating	:	DC 3.3 V
Receipt Date of Sample (Information from test lab.)	:	January 25, 2019
Country of Mass-production	:	China, Japan
Condition of EUT	:	Engineering prototype (Not for Sale: This sample is equivalent to mass-produced items.)
Modification of EUT	:	No Modification by the test lab

2.2 Product Description

Model: ES203 (referred to as the EUT in this report) is a Wireless module.

Radio Specification

WLAN module : ES203
Radio Type : Transceiver
Clock frequency (Maximum) : 40 MHz

WLAN

	IEEE802.11b	**IEEE802.11g**	**IEEE802.11n (20 MHz band)**	**IEEE802.11n (40 MHz band)**
Frequency of operation	2412 MHz - 2462 MHz	2412 MHz - 2462 MHz	2412 MHz - 2462 MHz 5180 MHz - 5240 MHz 5260 MHz - 5320 MHz 5500 MHz - 5700 MHz 5745 MHz - 5825 MHz	2422 MHz - 2452 MHz 5190 MHz - 5230 MHz 5270 MHz - 5310 MHz 5510 MHz - 5670 MHz 5755 MHz - 5795 MHz
Channel spacing	5 MHz		2.4 GHz band 5 MHz 5 GHz band 20 MHz	2.4 GHz band 5 MHz 5 GHz band 40 MHz
Modulation	DSSS: DBPSK, DQPSK, CCK	OFDM: BPSK, QPSK, 16QAM, 64QAM		
	IEEE802.11a	**IEEE802.11ac (20 MHz band)**	**IEEE802.11ac (40 MHz band)**	**IEEE802.11ac (80 MHz band)**
Frequency of operation	5180 MHz - 5240 MHz 5260 MHz - 5320 MHz 5500 MHz - 5700 MHz 5745 MHz - 5825 MHz	5180 MHz - 5240 MHz 5260 MHz - 5320 MHz 5500 MHz - 5700 MHz 5745 MHz - 5825 MHz	5190 MHz - 5230 MHz 5270 MHz - 5310 MHz 5510 MHz - 5670 MHz 5755 MHz - 5795 MHz	5210 MHz 5290 MHz 5530 MHz - 5610 MHz 5775 MHz
Channel spacing	20 MHz	20 MHz	40 MHz	80 MHz
Modulation	OFDM: BPSK, QPSK, 16QAM, 64QAM, 256QAM (*256QAM is only for IEEE802.11ac 80 MHz band)			

Antenna	**Antenna A**	**Antenna B**
Antenna quantity	2 pcs. (*. Separation distance between the antenna A and the antenna B: ≈5 mm) *. The single antenna transmitting mode could not be allowed.	
Antenna type / connector type	Invert-L Pattern antenna / Printed on the PCB.	Invert-L Flexible printed circuit (FPC) antenna / PCB side: U.FL, Antenna side: soldered
Antenna gain	-1.77 dBi (2.4GHz band), 1.52 dBi (U-NII-1 band), 1.78 dBi (U-NII-2A band), 2.04 dBi (U-NII-2C band), 2.26 dBi (U-NII-3 band), (*.including cable loss)	-3.92 dBi (2.4GHz band), 1.39 dBi (U-NII-1 band), 1.59 dBi (U-NII-2A band), 0.79 dBi (U-NII-2C band), 1.42 dBi (U-NII-3 band), (*.including cable loss)

SECTION 3: Test specification, procedures & results

3.1 Test Specification

Test Specification : FCC Part 15 Subpart E
FCC Part 15 final revised on July 19, 2019 and effective August 19, 2019 except 15.258

* The revisions made after testing date do 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

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	**AV** 16.2 dB, 4.939 46 MHz, N	Complied a)	-
	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	Complied b)	Conducted
	IC: -	**IC:** -			
Maximum Conducted Output Power	**FCC:** KDB Publication Number 789033	**FCC:** 15.407 (a) (1) (2) (3)		Complied c)	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 d)	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	2.3 dB 5350.000 MHz, AV, Hori. Tx 11ac-80 MIMO 5290 MHz	Complied# e) / f)	Conducted (< 30 MHz) / Radiated (> 30 MHz) *1)
	IC: -	**IC:** RSS-247 6.2.1.2 6.2.2.2 6.2.3.2 6.2.4.2			
6 dB Emission Bandwidth	**FCC:** ANSI C63.10-2013	**FCC:** 15.407 (e)	See data	Complied g)	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 12699044S-AN issued by UL Japan, Inc.
*1) Radiated test was selected over 30 MHz based on section FCC 15.407 (b) and KDB 789033 D02 G.3.b).

a) Refer to APPENDIX 1 (data of Conducted Emission)
b) Refer to APPENDIX 1 (data of 26 dB Emission Bandwidth and 99 % Occupied Bandwidth)
c) Refer to APPENDIX 1 (data of Maximum Conducted Output Power)
d) Refer to APPENDIX 1 (data of Maximum Power Spectral Density)
e) Refer to APPENDIX 1 (data of Radiated emission)
f) Refer to APPENDIX 1 (data of Conducted Spurious Emission)
g) Refer to APPENDIX 1 (data of 6 dB Bandwidth)

Symbols:

Complied	The data of this test item has enough margin, more than the measurement uncertainty.
Complied#	The data of this test item meets the limits unless the measurement uncertainty is taken into consideration.

* In case any questions arise about test procedure, ANSI C63.10: 2013 is also referred.

FCC Part 15.31 (e)
The RF Module has its own regulator. The RF Module is constantly provided voltage through the regulator regardless of input voltage. Therefore, this EUT complies with the requirement.

FCC Part 15.203/212 Antenna requirement
For antenna A: The antenna is not removable from the EUT. Therefore, the equipment complies with the antenna requirement of Section 15.203.
For antenna B: The EUT has a unique coupling/antenna connector (U.FL). Therefore the equipment complies with the requirement of 15.203.

3.3 Addition to standard

Item	Test Procedure	Specification	Worst margin	Results	Remarks
99 % Occupied Bandwidth	RSS-Gen 6.7	**IC:** -	N/A	-	Conducted

Symbols:	
Complied	The data of this test item has enough margin, more than the measurement uncertainty.
Complied#	The data of this test item meets the limits unless the measurement uncertainty is taken into consideration.

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

3.4 Uncertainty

EMI

There is no applicable rule of uncertainty in this applied standard. Therefore, the following results are derived depending on whether or not laboratory uncertainty is applied.

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

Shonan EMC Lab.

Item	Frequency range	Uncertainty (+/-)				
		No. 1 SAC / SR	No. 2 SAC / SR	No. 3 SAC / SR	No. 4 SAC / SR	No. 5,6,8 SR
Conducted emission (AC Mains) LISN	150 kHz-30 MHz	2.9 dB	2.8 dB	2.9 dB	2.9 dB	2.9 dB
Radiated emission (Measurement distance: 3 m)	9 kHz-30 MHz	3.0 dB	3.0 dB	3.1 dB	-	-
	30 MHz-200 MHz	4.6 dB	4.6 dB	4.7 dB	-	-
	200 MHz-1 GHz	6.0 dB	6.0 dB	6.1 dB	-	-
	1 GHz-6 GHz	4.8 dB	4.8 dB	4.8 dB	-	-
	6 GHz-18 GHz	5.4 dB	5.4 dB	5.4 dB	-	-
	18 GHz-40 GHz	5.6 dB	5.6 dB	5.6 dB	-	-
Radiated emission (Measurement distance: 1 m)	1 GHz-18 GHz	5.7 dB	5.7 dB	5.7 dB	-	-
	18 GHz-40 GHz	5.9 dB	5.9 dB	5.9 dB	-	-

SAC=Semi-Anechoic Chamber

SR= Shielded Room is applied besides radiated emission

Antenna terminal test	Uncertainty (+/-)
Power Measurement above 1 GHz (Average Detector)_SPM-06	0.81 dB
Power Measurement above 1 GHz (Peak Detector)_SPM-06	1.53 dB
Power Measurement above 1 GHz (Average Detector)_SPM-07	0.95 dB
Power Measurement above 1 GHz (Peak Detector)_SPM-07	1.21 dB
Power Measurement above 1 GHz (Average Detector)_SPM-13	0.90 dB
Power Measurement above 1 GHz (Peak Detector)_SPM-13	1.04 dB
Spurious emission (Conducted) below 1GHz	1.8 dB
Spurious emission (Conducted) 1 GHz-3 GHz	1.7 dB
Spurious emission (Conducted) 3 GHz-18 GHz	2.3 dB
Spurious emission (Conducted) 18 GHz-26.5 GHz	2.4 dB
Spurious emission (Conducted) 26.5 GHz-40 GHz	2.4 dB
Bandwidth Measurement	0.61 %
Duty cycle and Time Measurement	0.012 %

3.5 Test Location

UL Japan, Inc. Shonan EMC Lab.
1-22-3, Megumigaoka, Hiratsuka-shi, Kanagawa-ken 259-1220 JAPAN
Telephone: +81 463 50 6400, Facsimile: +81 463 50 6401
A2LA Certificate Number: 1266.03 (FCC Test Firm Registration Number: 626366, ISED Lab Company Number: 2973D)

Test site	Width x Depth x Height (m)	Size of reference ground plane (m) / horizontal conducting plane	Maximum measurement distance
No.1 Semi-anechoic chamber	20.6 x 11.3 x 7.65	20.6 x 11.3	10 m
No.2 Semi-anechoic chamber	20.6 x 11.3 x 7.65	20.6 x 11.3	10 m
No.3 Semi-anechoic chamber	12.7 x 7.7 x 5.35	12.7 x 7.7	5 m
No.4 Semi-anechoic chamber	8.1 x 5.1 x 3.55	8.1 x 5.1	-
No.1 Shielded room	6.8 x 4.1 x 2.7	6.8 x 4.1	-
No.2 Shielded room	6.8 x 4.1 x 2.7	6.8 x 4.1	-
No.3 Shielded room	6.3 x 4.7 x 2.7	6.3 x 4.7	-
No.4 Shielded room	4.4 x 4.7 x 2.7	4.4 x 4.7	-
No.5 Shielded room	7.8 x 6.4 x 2.7	7.8 x 6.4	-
No.6 Shielded room	7.8 x 6.4 x 2.7	7.8 x 6.4	-
No.8 shielded room	3.45 x 5.5 x 2.4	3.45 x 5.5	-
No.1 Measurement room	2.55 x 4.1 x 2.5	-	-

3.6 Test data, Test instruments, and Test set up

Refer to APPENDIX.

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

4.1 Operating Mode(s)

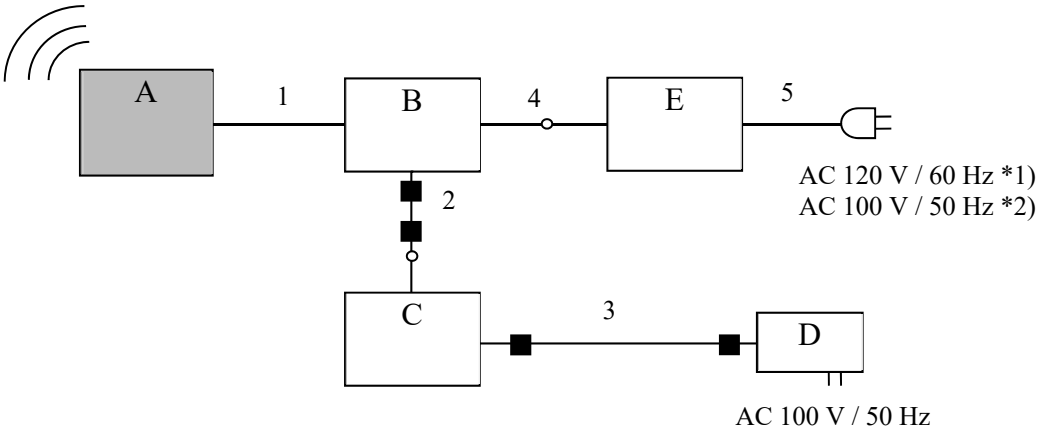
Test operating mode was determined as follows according to "Section 1 of 6 802.11 a/b/g/n testing - Managing Complex Regulatory Approvals -" of TCB Council Workshop October 2009 and also was judged the necessity of 802.11ac mode by the pre-test.

Mode	Remarks*
IEEE 802.11a (11a)	48 Mbps, PN9
IEEE 802.11n 20 MHz BW CDD (11n-20 CDD)	MCS 7, PN9
IEEE 802.11n 20 MHz BW MIMO (11n-20 MIMO)	MCS 14, PN9
IEEE 802.11n 40 MHz BW CDD (11n-40 CDD)	MCS 0, PN9
IEEE 802.11n 40 MHz BW MIMO (11n-40 MIMO)	MCS 8, PN9
IEEE 802.11ac 20 MHz BW CDD (11ac-20 CDD)	MCS 7, PN9
IEEE 802.11ac 20 MHz BW MIMO (11ac-20 MIMO)	MCS 7, PN9
IEEE 802.11ac 40 MHz BW CDD (11ac-40 CDD)	MCS 0, PN9
IEEE 802.11ac 40 MHz BW MIMO (11ac-40 MIMO)	MCS 0, PN9
IEEE 802.11ac 80 MHz BW CDD (11ac-80 CDD)	MCS 4, PN9
IEEE 802.11ac 80 MHz BW MIMO (11ac-80 MIMO)	MCS 8, 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/11n-20/11ac-20: 4 dBm (5180 MHz - 5320 MHz, 5745 MHz - 5825 MHz) 3 dBm (5500 MHz - 5700 MHz) 11n-40/11ac-40: 4 dBm (5190 MHz - 5310 MHz, 5755 MHz - 5795 MHz), 3 dBm (5500 MHz -5700 MHz) 11ac-80: 3 dBm (5210 MHz - 5775 MHz) Software: Tera Term, Version 4.87 *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 Antenna	Tested Frequency			
			Lower Band	Middle Band	Additional Band	Upper Band
Conducted emission	Tx 11n-20 MIMO	A + B	-	-	-	5745 MHz
26 dB Emission Bandwidth	Tx 11a Tx 11n-20 CDD Tx 11n-20 MIMO Tx 11ac-20 CDD Tx 11ac-20 MIMO	A	-	5260 MHz 5300 MHz 5320 MHz	5500 MHz 5580 MHz 5700 MHz	-
	Tx 11n-40 CDD Tx 11n-40 MIMO Tx 11ac-40 CDD Tx 11ac-40 MIMO	A	-	5270 MHz 5310 MHz	5510 MHz 5550 MHz 5670 MHz	-
	Tx 11ac-80 CDD Tx 11ac-80 MIMO	A	-	5290 MHz	5530 MHz 5610 MHz	-
99 % Occupied Bandwidth	Tx 11a Tx 11n-20 CDD Tx 11n-20 MIMO Tx 11ac-20 CDD Tx 11ac-20 MIMO	A	5180 MHz 5220 MHz 5240 MHz	5260 MHz 5300 MHz 5320 MHz	5500 MHz 5580 MHz 5700 MHz	5745 MHz 5785 MHz 5825 MHz
	Tx 11n-40 CDD Tx 11n-40 MIMO Tx 11ac-40 CDD Tx 11ac-40 MIMO	A	5190 MHz 5230 MHz	5270 MHz 5310 MHz	5510 MHz 5550 MHz 5670 MHz	5755 MHz 5795 MHz
	Tx 11ac-80 CDD Tx 11ac-80 MIMO	A	5210 MHz	5290 MHz	5530 MHz 5610 MHz	5775 MHz
Maximum Conducted Output Power, Maximum Power Spectral Density	Tx 11a Tx 11n-20 CDD Tx 11n-20 MIMO Tx 11ac-20 CDD Tx 11ac-20 MIMO	A + B	5180 MHz 5220 MHz 5240 MHz	5260 MHz 5300 MHz 5320 MHz	5500 MHz 5580 MHz 5700 MHz	5745 MHz 5785 MHz 5825 MHz
	Tx 11n-40 CDD Tx 11n-40 MIMO Tx 11ac-40 CDD Tx 11ac-40 MIMO	A + B	5190 MHz 5230 MHz	5270 MHz 5310 MHz	5510 MHz 5550 MHz 5670 MHz	5755 MHz 5795 MHz
	Tx 11ac-80 CDD Tx 11ac-80 MIMO	A + B	5210 MHz	5290 MHz	5530 MHz 5610 MHz	5775 MHz
6 dB Bandwidth	Tx 11a Tx 11n-20 CDD Tx 11n-20 MIMO Tx 11ac-20 CDD Tx 11ac-20 MIMO	A	-	-	-	5745 MHz 5785 MHz 5825 MHz
	Tx 11n-40 CDD Tx 11n-40 MIMO Tx 11ac-40 CDD Tx 11ac-40 MIMO	A	-	-	-	5755 MHz 5795 MHz
	Tx 11ac-80 CDD Tx 11ac-80 MIMO	A	-	-	-	5775 MHz
Radiated Spurious Emission (Below 1 GHz)	Tx 11n-20 MIMO	A + B	-	-	-	5745 MHz
Radiated Spurious Emission (Above 1 GHz)	Tx 11a Tx 11n-20 MIMO Tx 11ac-20 MIMO	A + B	5180 MHz 5240 MHz	5320 MHz	5500 MHz 5580 MHz 5700 MHz	5745 MHz 5785 MHz 5825 MHz
	Tx 11n-40 MIMO Tx 11ac-40 MIMO	A + B	5190 MHz 5230 MHz	5310 MHz	5510 MHz 5550 MHz 5670 MHz	5755 MHz 5795 MHz
	Tx 11ac-80 MIMO	A + B	5210 MHz	5290 MHz	5530 MHz 5610 MHz	5775 MHz
Conducted Spurious Emission	Tx 11n-20 MIMO	B	-	-	-	5745 MHz

4.2 Configuration and peripherals



■ : Standard Ferrite Core

*1) For Conducted emission test
*2) For Antenna Terminal conducted test and Radiated emission test
* 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	Remark
A	Wireless module	ES203	1 *3) 9 *4)	Canon	EUT
B	Jig Board	W-USB-JIG	-	-	-
C	Jig Board	-	-	-	-
D	AC Adaptor	AD-A60P228	-	XIAMEN UME ELECTRONIC Co.Ltd	-
E	DC Power Supply	PAN60-10A	002383	KIKUSUI	-

*3) Used for Radiated Emission tests and Conducted Emission Test
*4) Used for Antenna Terminal Conducted tests

List of cables used

No.	Name	Length (m)	Shield		Remark
			Cable	Connector	
1	Signal	0.1	Unshielded	Unshielded	-
2	USB	1.4 + 2.0	Shielded	Shielded	-
3	DC	1.4	Unshielded	Unshielded	-
4	DC	1.0 + 1.5	Unshielded	Unshielded	-
5	AC	3.0	Unshielded	Unshielded	-

SECTION 5: Conducted Emission

Test Procedure and conditions

EUT was placed on a urethane platform of nominal size, 1.0 m by 1.5 m, raised 0.8 m above the conducting ground plane.
The rear of tabletop was located 40 cm to the vertical conducting plane. The rear of EUT, including peripherals aligned and flushed with rear of tabletop. All other surfaces of tabletop were at least 80 cm from any other grounded conducting surface. EUT was located 80 cm from a Line Impedance Stabilization Network (LISN) / Artificial mains Network (AMN) and excess AC cable was bundled in center.

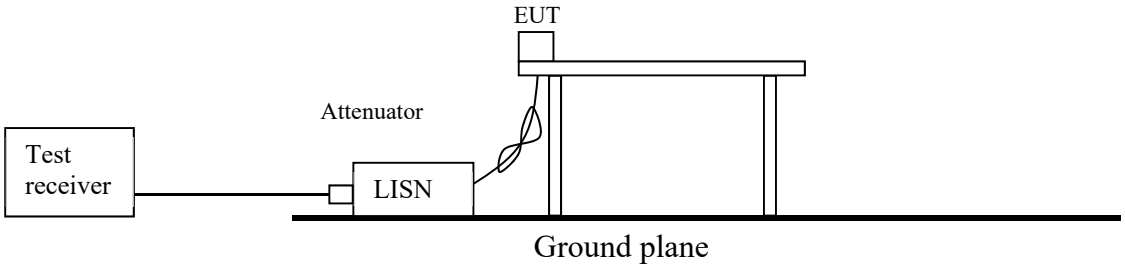
1) For the tests on EUT with other peripherals (as a whole system)
I/O cables that were connected to the peripherals were bundled in center. They were folded back and forth forming a bundle 30 cm to 40 cm long and were hanged at a 40 cm height to the ground plane. All unused 50 ohm connectors of the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

The AC Mains Terminal Continuous disturbance Voltage has been measured with the EUT in a Shielded Room.
The EUT was connected to a LISN (AMN).
An overview sweep with peak detection has been performed.

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

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

Figure 1: Test Setup



SECTION 6: Radiated Spurious Emission and Band Edge Compliance

Test Procedure

< Below 1 GHz >
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 1 GHz >
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 1 GHz >

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

< Above 1 GHz >

Inside of restricted bands (Section 15.205):

Apply to limit in the Section 15.209 (a).

Outside of the restricted bands:

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

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

Restricted band edge:

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

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

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

Test Antennas are used as below;

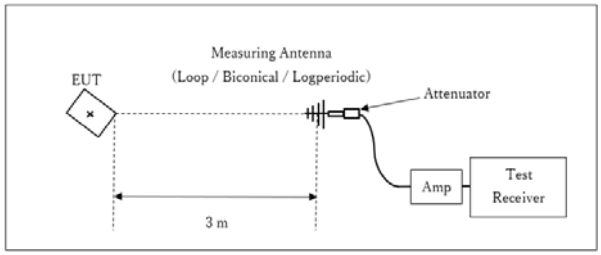
Frequency	30 MHz to 200 MHz	200 MHz to 1 GHz	Above 1 GHz
Antenna Type	Biconical	Logperiodic	Horn

Frequency	Below 1 GHz	Above 1 GHz	
Instrument used	Test Receiver	Spectrum Analyzer	
Detector	QP	Peak	Average
IF Bandwidth	BW: 120 kHz	RBW: 1 MHz VBW: 3 MHz	Method VB *1) RBW: 1 MHz VBW: 1/T (T: burst length, refer to Burst rate confirmation sheet) Detector: Peak Trace: ≥ 100 traces

*1) The test method was also referred to KDB 789033 D02 General UNII Test Procedures New Rules v02r01 "Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices Part 15, Subpart E".

Figure 2: Test Setup

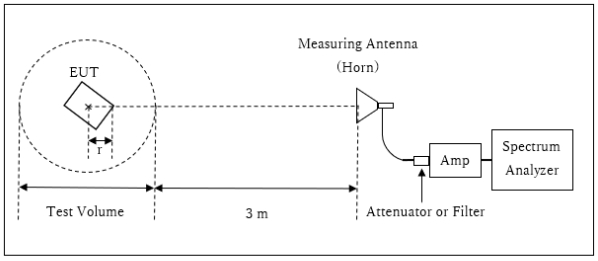
Below 1 GHz



× : Center of turn table

Test Distance: 3 m

1 GHz - 13 GHz

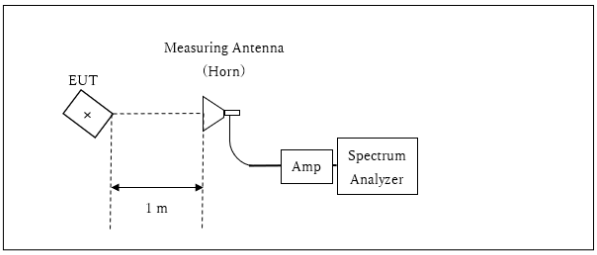


r : Radius of an outer periphery of EUT
× : Center of turn table

Distance Factor: 20 x log (3.99 m / 3.0 m) = 2.48 dB
* Test Distance: (3 + Test Volume /2) - r = 3.99 m

Test Volume : 2.0 m
(Test Volume has been calibrated based on CISPR 16-1-4.)
r = 0.01 m

13 GHz - 40 GHz



× : Center of turn table

Distance Factor: 20 x log (1.0 m / 3.0 m) = -9.54 dB
*Test Distance: 1 m

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

Antenna polarization	Carrier	Spurious (Below 1 GHz)	Spurious (1 GHz – 6.4 GHz)	Spurious (6.4 GHz – 18 GHz)	Spurious (13 GHz – 18 GHz)	Spurious (18 GHz – 26.5 GHz)	Spurious (26.5 GHz – 40 GHz)
Horizontal	Y	Z	Y	Y	Y	Y	X
Vertical	Z	Z	Z	Z	X	Y	X

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

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

SECTION 7: Antenna Terminal Conducted Tests

Test Procedure

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

Test	Span	RBW	VBW	Sweep time	Detector	Trace	Instrument used and Test method
26 dB Bandwidth	Enough to capture the emission	Close to 1 % of EBW	> RBW	Auto	Peak	Max Hold	Spectrum Analyzer
99 % Occupied Bandwidth *1)	Enough width to display emission skirts	1 % to 5 % of OBW	≥ 3 RBW	Auto	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: 160 MHz BW) (Method PM)
Maximum Power Spectral Density	Encompass the entire EBW	1 MHz or 100 kHz *2)	≥ 3 RBW	Auto	RMS Power Averaging (100 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	10 kHz	30 kHz				

* The test method was also referred to KDB 789033 D02 General UNII Test Procedures New Rules v02r01 "Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices Part 15, Subpart E".

*1) Peak hold was applied as Worst-case measurement.
*2) KDB 789033 D02 says that RBW is set to be 500 kHz for 5.725 GHz-5.850 GHz, but it is not possible with spectrum analyzer, so RBW Correction Factor (10 log(500 kHz / 100 kHz)) was added to the test result.
*3) In the frequency range below 30 MHz, RBW was narrowed to separate the noise contents.
Then, wide-band noise near the limit was checked separately, however the noise was not detected as shown in the chart. (9 kHz-150 kHz: RBW = 200 Hz, 150 kHz-30 MHz: RBW = 10 kHz)

The test results and limit are rounded off to two decimals place, so some differences might be observed.
The equipment and cables were not used for factor 0 dB of the data sheets.

Test data : APPENDIX
Test result : Pass

APPENDIX 1: Test data

Conducted Emission

DATA OF CONDUCTED EMISSION TEST

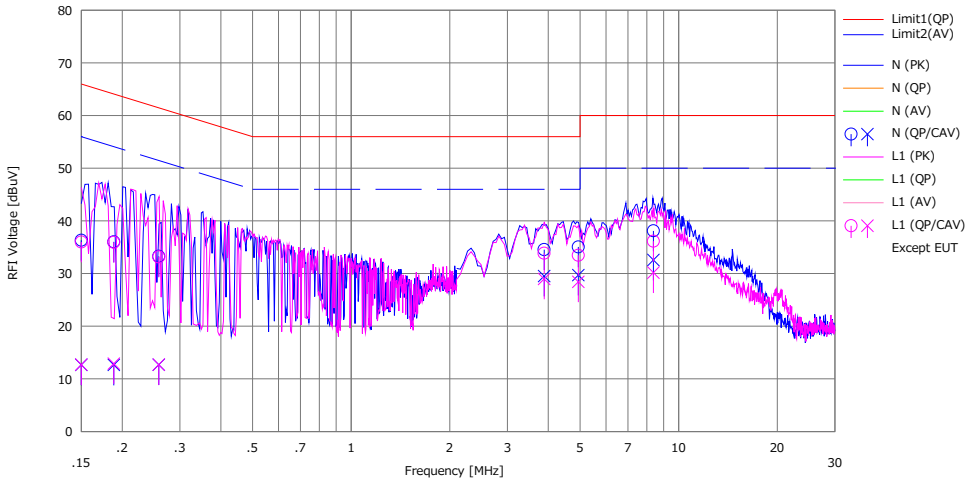
UL Japan,Inc. Shonan EMC Lab. No.2 Shielded Room
Date : 2019/03/14

Mode : Tx 11n-20, 5745 MHz, MIMO

Power : AC 120 V / 60 Hz
Temp./Humi. : 22 deg.C / 36 %RH

Limit : FCC_Part 15 Subpart C(15.207)

Engineer : Takahiro Suzuki



No.	Freq.	Reading		C.Fac	Results		Limit		Margin		Phase	Comment
		〈QP〉	〈CAV〉		〈QP〉	〈CAV〉	〈QP〉	〈AV〉	〈QP〉	〈AV〉		
	[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]		
1	0.15000	23.92	0.25	12.41	36.33	12.66	66.00	56.00	29.6	43.3	N	
2	0.18852	23.58	0.21	12.43	36.01	12.64	64.10	54.10	28.0	41.4	N	
3	0.25860	20.83	0.25	12.43	33.26	12.68	61.48	51.48	28.2	38.8	N	
4	3.88573	21.92	16.89	12.62	34.54	29.51	56.00	46.00	21.4	16.4	N	
5	4.93946	22.36	17.03	12.68	35.04	29.71	56.00	46.00	20.9	16.2	N	
6	8.37196	25.31	19.78	12.80	38.11	32.58	60.00	50.00	21.8	17.4	N	
7	0.15000	23.58	0.29	12.41	35.99	12.70	66.00	56.00	30.0	43.3	L1	
8	0.18852	23.50	0.47	12.43	35.93	12.90	64.10	54.10	28.1	41.2	L1	
9	0.25860	20.72	0.28	12.43	33.15	12.71	61.48	51.48	28.3	38.7	L1	
10	3.88573	21.22	16.35	12.62	33.84	28.97	56.00	46.00	22.1	17.0	L1	
11	4.93946	20.79	15.76	12.68	33.47	28.44	56.00	46.00	22.5	17.5	L1	
12	8.37196	23.34	17.37	12.80	36.14	30.17	60.00	50.00	23.8	19.8	L1	

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

26 dB Emission Bandwidth and 99 % Occupied Bandwidth

Report No.	12699044S-AM-R1	
Test place	Shonan EMC Lab. No.5 Shielded Room	
Date	June 4, 2019	June 6, 2019
Temperature / Humidity	25 deg. C / 47 % RH	25 deg. C / 51 % RH
Engineer	Takahiro Kawakami	Toshinori Yamada
Mode	Tx	

11a

Antenna	Tested Frequency [MHz]	26 dB Emission Bandwidth [MHz]	99 % Occupied Bandwidth [kHz]
A	5180		16786.8
	5220		16795.0
	5240		16799.3
	5260	19.751	16777.5
	5300	19.428	16802.8
	5320	19.228	16804.8
	5500	19.366	16790.0
	5580	19.292	16805.6
	5700	19.264	16808.1
	5745		16805.0
	5785		16778.9
	5825		16804.5

11n-20 CDD

Antenna	Tested Frequency [MHz]	26 dB Emission Bandwidth [MHz]	99 % Occupied Bandwidth [kHz]
A	5180		17813.8
	5220		17807.5
	5240		17800.6
	5260	19.940	17847.5
	5300	19.903	17818.5
	5320	20.002	17854.1
	5500	19.811	17839.3
	5580	20.111	17860.3
	5700	20.031	17840.3
	5745		17837.1
	5785		17840.7
	5825		17844.1

11n-20 MIMO

Antenna	Tested Frequency [MHz]	26 dB Emission Bandwidth [MHz]	99 % Occupied Bandwidth [kHz]
A	5180		17785.6
	5220		17796.3
	5240		17781.8
	5260	19.931	17797.3
	5300	20.118	17783.7
	5320	20.002	17782.7
	5500	19.871	17791.8
	5580	19.939	17787.0
	5700	20.146	17769.6
	5745		17790.1
	5785		17785.4
	5825		17801.3

26 dB Emission Bandwidth and 99 % Occupied Bandwidth

Report No.	12699044S-AM-R1	
Test place	Shonan EMC Lab. No.5 Shielded Room	
Date	June 10, 2019	June 11, 2019
Temperature / Humidity	24 deg. C / 54 % RH	25 deg. C / 47 % RH
Engineer	Takahiro Kawakami	Takahiro Kawakami
Mode	Tx	

11ac-20 CDD

Antenna	Tested Frequency [MHz]	26 dB Emission Bandwidth [MHz]	99 % Occupied Bandwidth [kHz]
A	5180		17843.2
	5220		17843.3
	5240		17784.3
	5260	19.953	17632.2
	5300	19.901	17632.0
	5320	20.124	17639.8
	5500	20.116	17834.7
	5580	20.067	17849.3
	5700	19.963	17789.0
	5745		17843.0
	5785		17847.7
	5825		17852.9

11ac-20 MIMO

Antenna	Tested Frequency [MHz]	26 dB Emission Bandwidth [MHz]	99 % Occupied Bandwidth [kHz]
A	5180		17862.6
	5220		17872.5
	5240		17865.4
	5260	20.349	17881.5
	5300	20.034	17886.3
	5320	20.399	17883.7
	5500	20.135	17893.7
	5580	20.081	17877.8
	5700	20.031	17871.6
	5745		17810.7
	5785		17878.7
	5825		17869.3

11n-40 CDD

Antenna	Tested Frequency [MHz]	26 dB Emission Bandwidth [MHz]	99 % Occupied Bandwidth [kHz]
A	5190		36346.0
	5230		36332.0
	5270	40.454	36331.9
	5310	40.638	36367.1
	5510	41.187	36366.4
	5550	41.584	36350.1
	5670	40.716	36334.4
	5755		36307.9
	5795		36332.4

26 dB Emission Bandwidth and 99 % Occupied Bandwidth

Report No.	12699044S-AM-R1	
Test place	Shonan EMC Lab. No.5 Shielded Room	
Date	June 11, 2019	June 12, 2019
Temperature / Humidity	25 deg. C / 47 % RH	26 deg. C / 45 % RH
Engineer	Takahiro Kawakami	Takahiro Kawakami
Mode	Tx	

11n-40 MIMO

Antenna	Tested Frequency [MHz]	26 dB Emission Bandwidth [MHz]	99 % Occupied Bandwidth [kHz]
A	5190		36429.6
	5230		36444.6
	5270	41.099	36437.7
	5310	40.969	36464.0
	5510	40.802	36368.1
	5550	41.096	36420.7
	5670	40.695	36431.3
	5755		36455.4
	5795		36442.1

11ac-40 CDD

Antenna	Tested Frequency [MHz]	26 dB Emission Bandwidth [MHz]	99 % Occupied Bandwidth [kHz]
A	5190		36389.9
	5230		36337.9
	5270	40.931	36428.6
	5310	40.882	36329.5
	5510	40.485	36364.1
	5550	41.773	36302.0
	5670	40.616	36361.4
	5755		36329.4
	5795		36328.2

11ac-40 MIMO

Antenna	Tested Frequency [MHz]	26 dB Emission Bandwidth [MHz]	99 % Occupied Bandwidth [kHz]
A	5190		36432.9
	5230		36417.7
	5270	41.662	36423.8
	5310	41.715	36422.7
	5510	41.011	36426.3
	5550	41.121	36433.5
	5670	41.973	36417.9
	5755		36414.1
	5795		36421.8

26 dB Emission Bandwidth and 99 % Occupied Bandwidth

Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	June 12, 2019
Temperature / Humidity	26 deg. C / 45 % RH
Engineer	Takahiro Kawakami
Mode	Tx

11ac-80 CDD

Antenna	Tested Frequency [MHz]	26 dB Emission Bandwidth [MHz]	99 % Occupied Bandwidth [kHz]
A	5210		76156.7
	5290	82.284	76233.7
	5530	82.340	76208.4
	5610	81.934	76251.0
	5775		76218.2

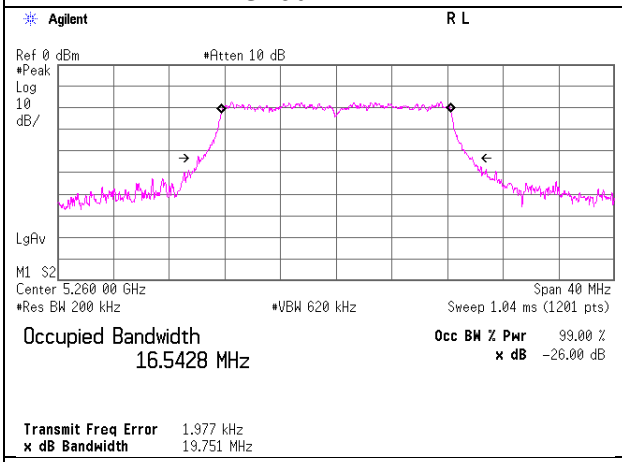
11ac-80 MIMO

Antenna	Tested Frequency [MHz]	26 dB Emission Bandwidth [MHz]	99 % Occupied Bandwidth [kHz]
A	5210		76229.6
	5290	81.600	76140.5
	5530	82.416	76257.5
	5610	81.693	76106.3
	5775		76229.2

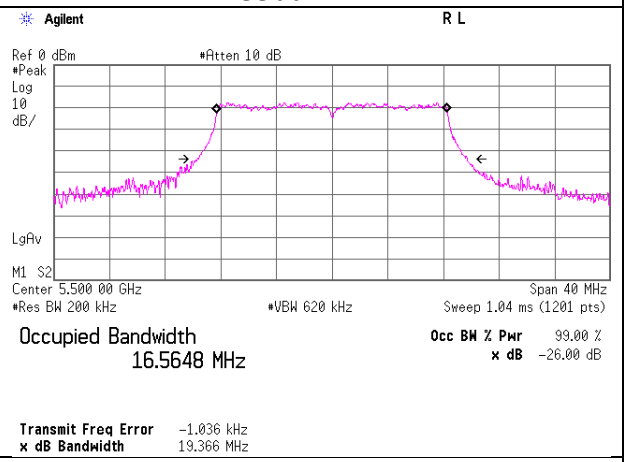
26 dB Emission Bandwidth

11a

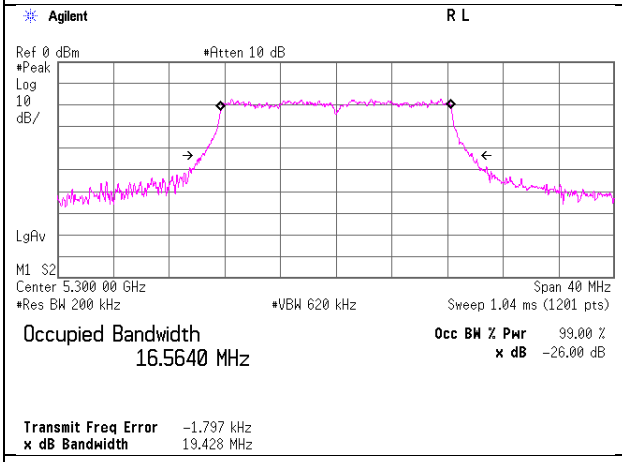
5260 MHz



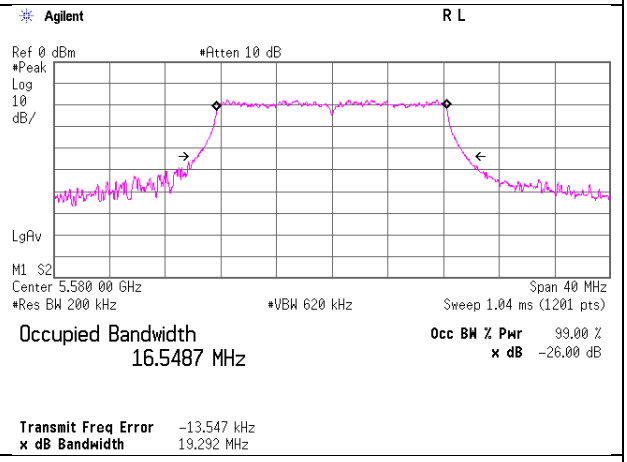
5500 MHz



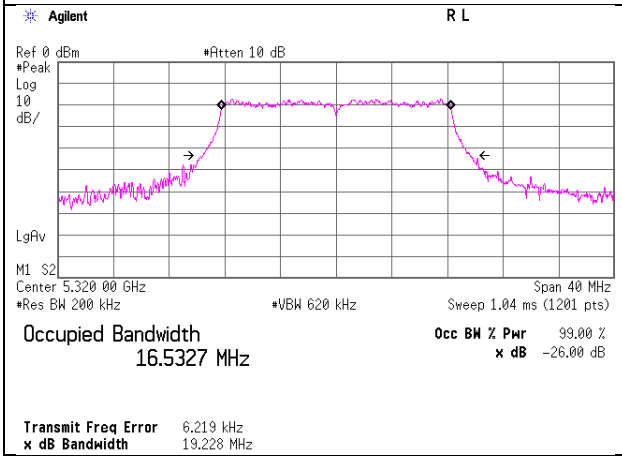
5300 MHz



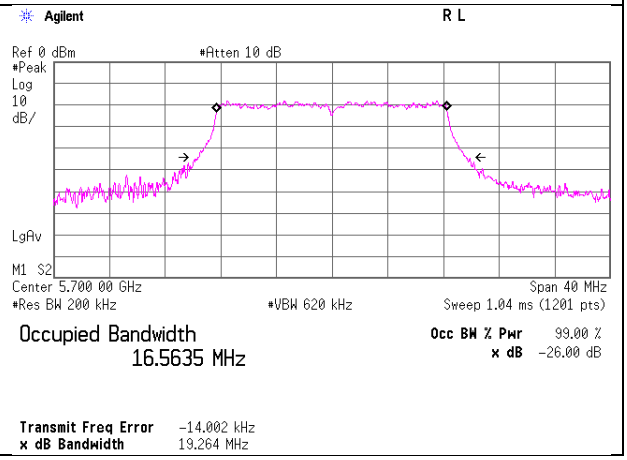
5580 MHz



5320 MHz



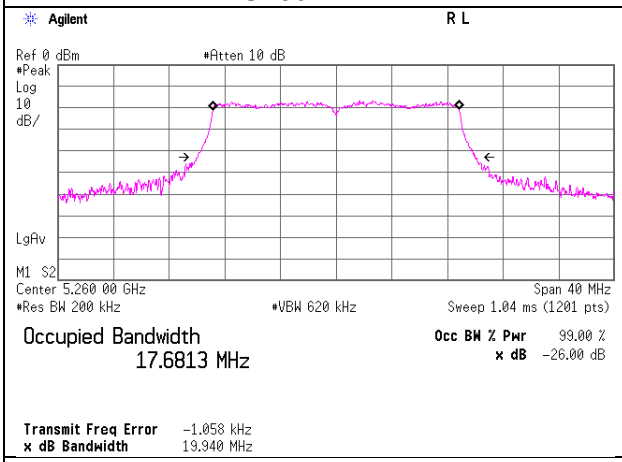
5700 MHz



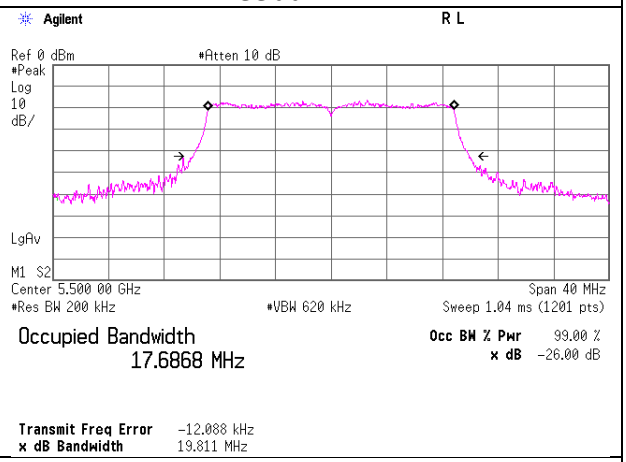
26 dB Emission Bandwidth

11n-20 CDD

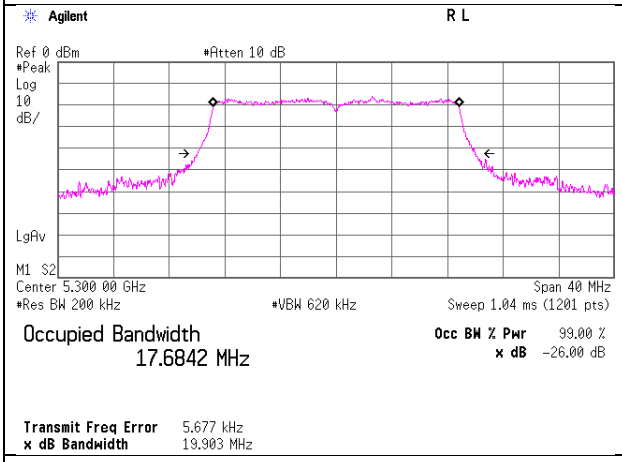
5260 MHz



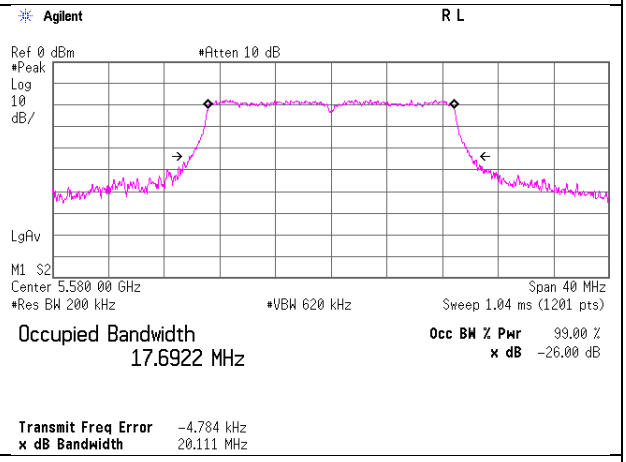
5500 MHz



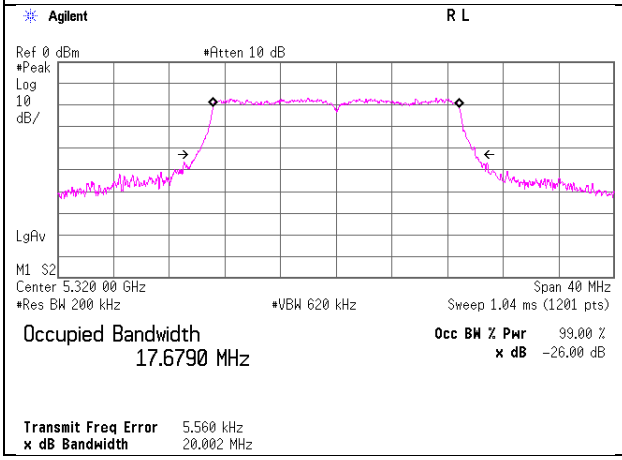
5300 MHz



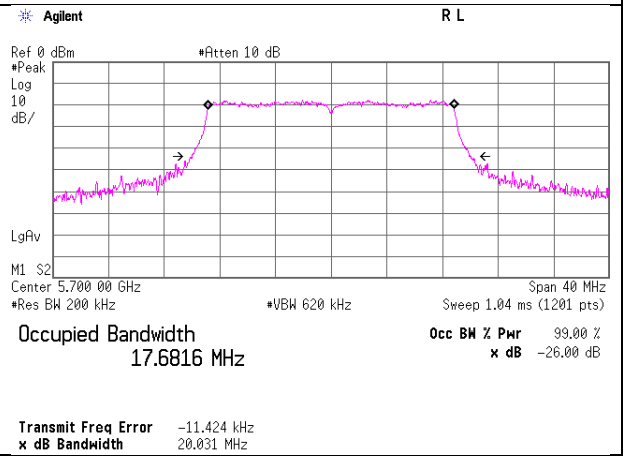
5580 MHz



5320 MHz



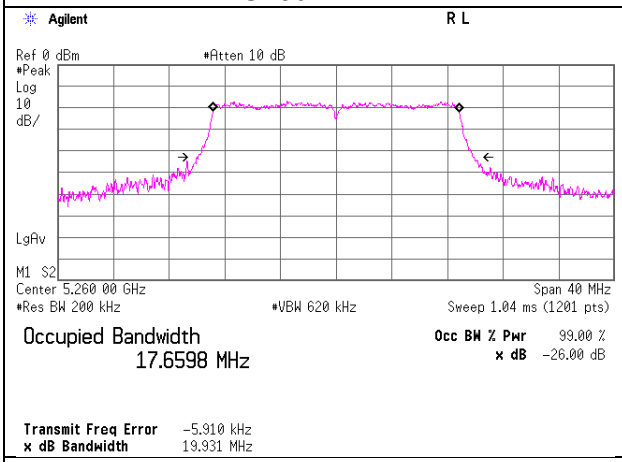
5700 MHz



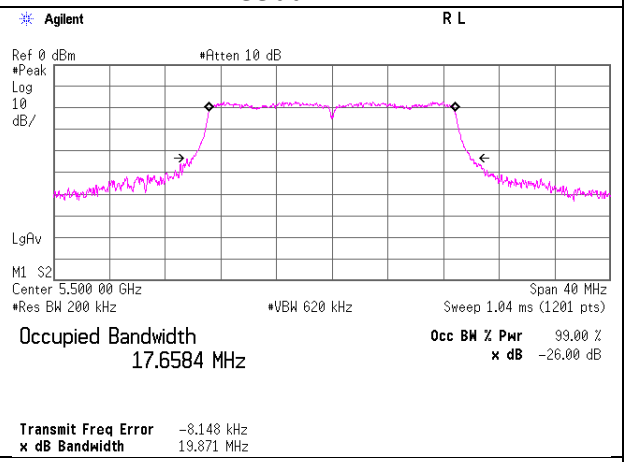
26 dB Emission Bandwidth

11n-20 MIMO

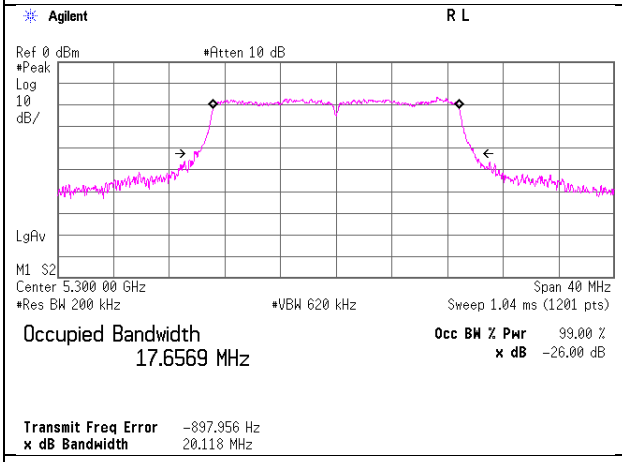
5260 MHz



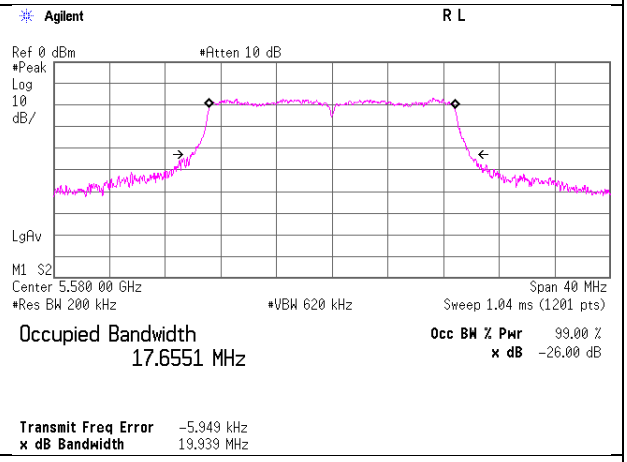
5500 MHz



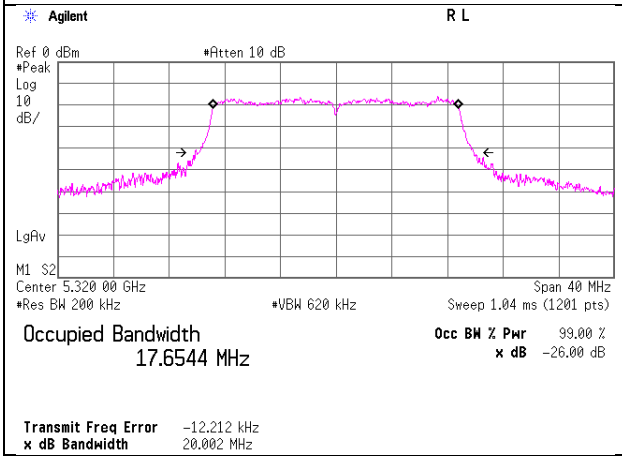
5300 MHz



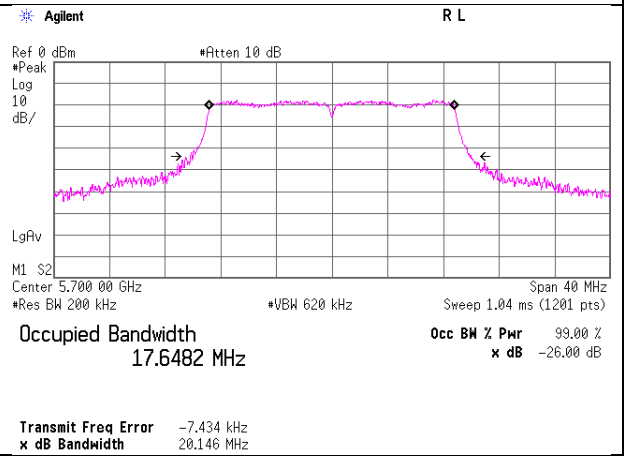
5580 MHz



5320 MHz



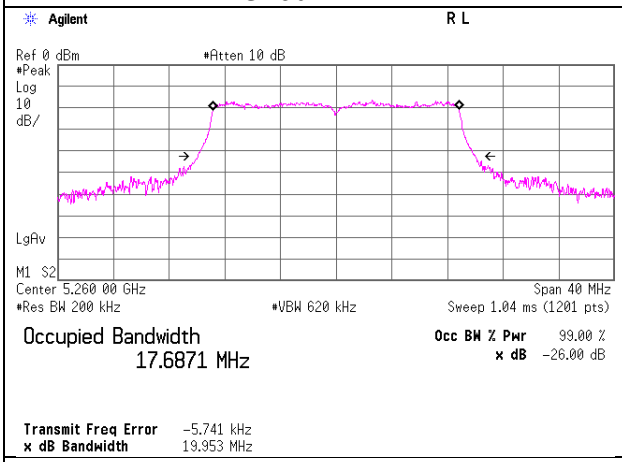
5700 MHz



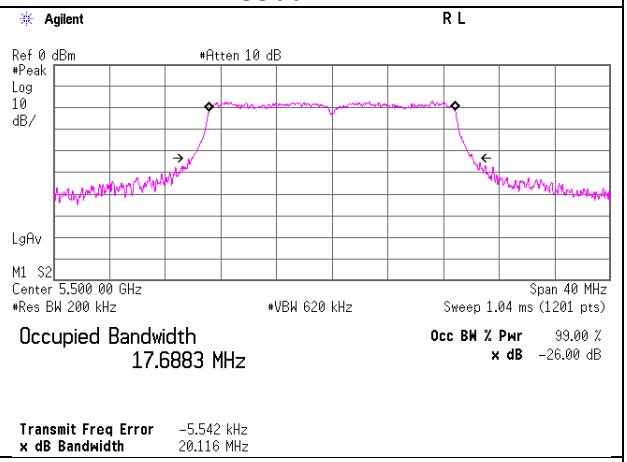
26 dB Emission Bandwidth

11ac-20 CDD

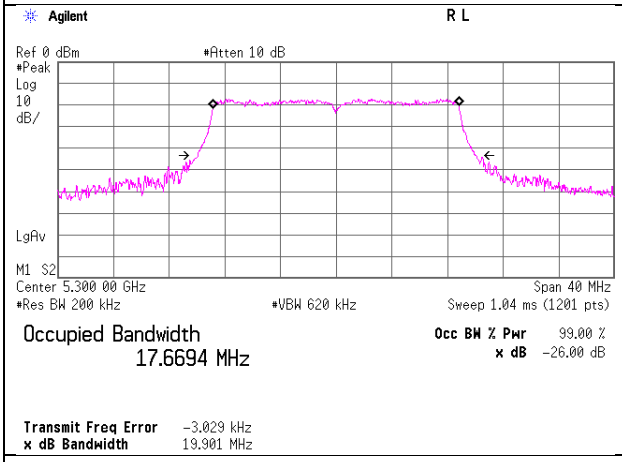
5260 MHz



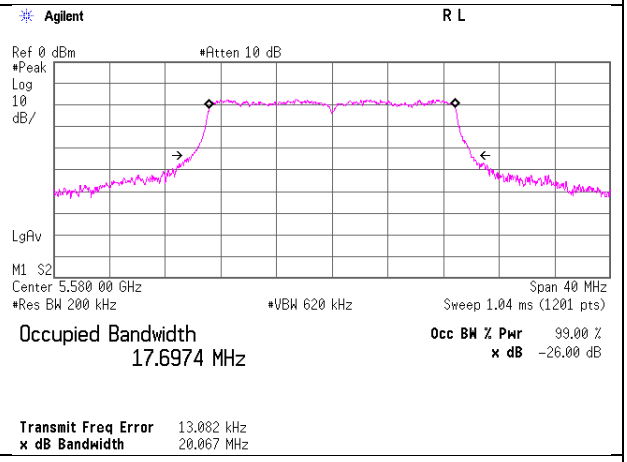
5500 MHz



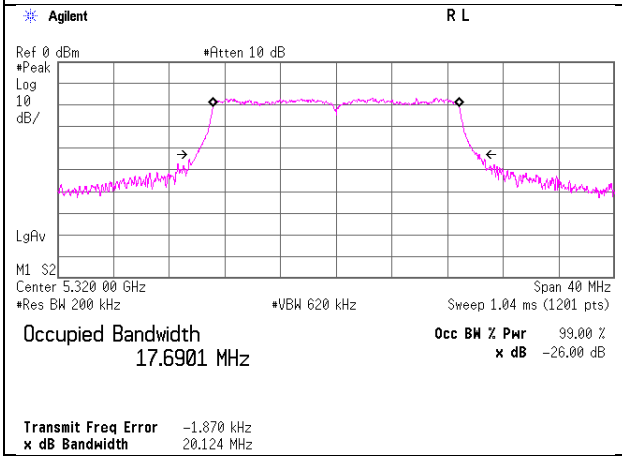
5300 MHz



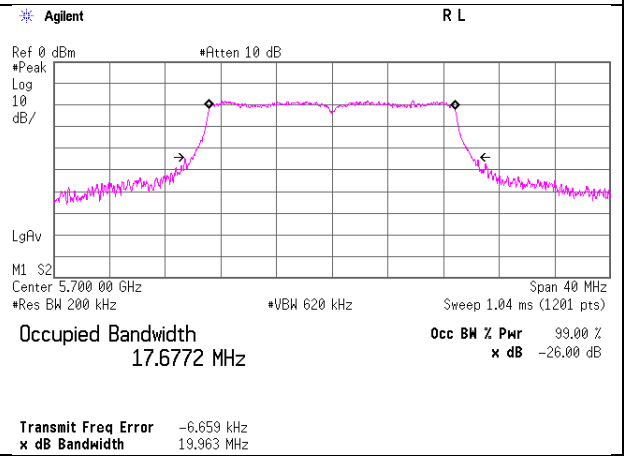
5580 MHz



5320 MHz



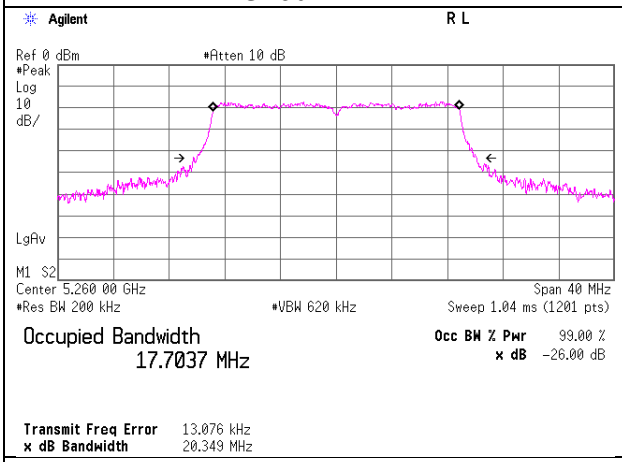
5700 MHz



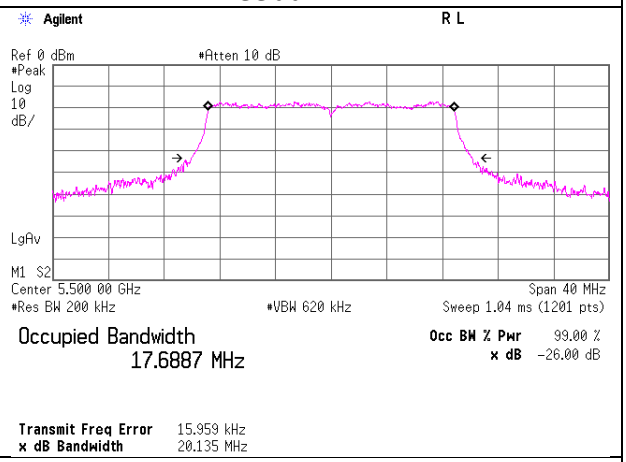
26 dB Emission Bandwidth

11ac-20 MIMO

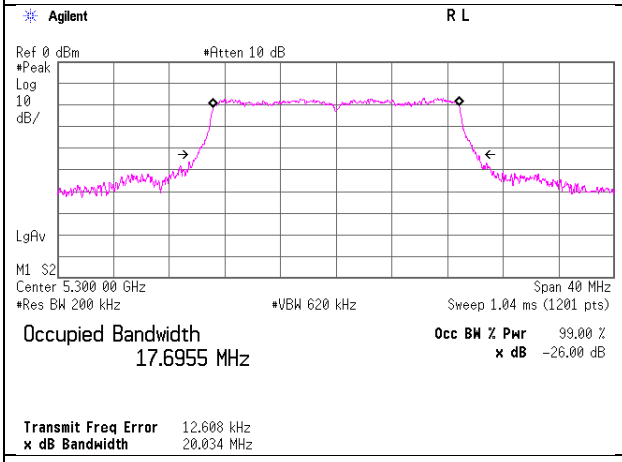
5260 MHz



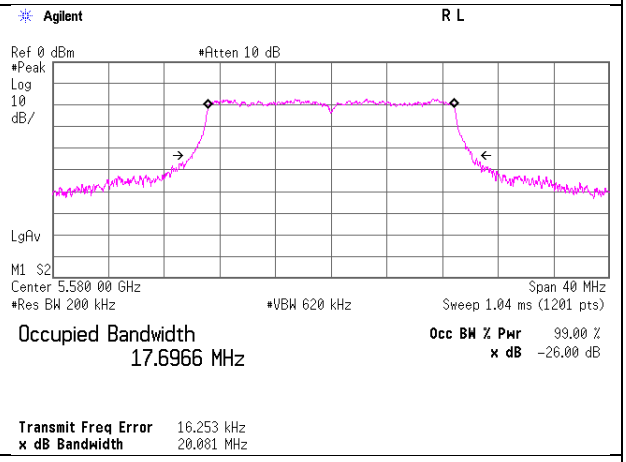
5500 MHz



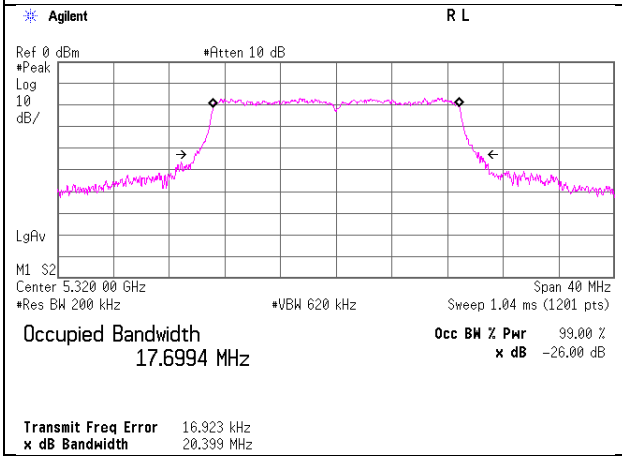
5300 MHz



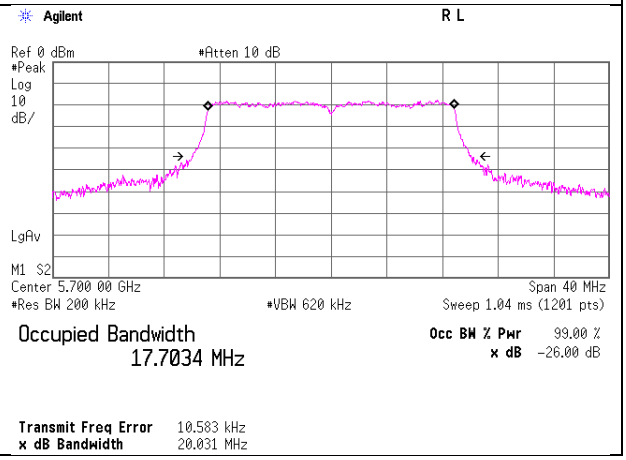
5580 MHz



5320 MHz



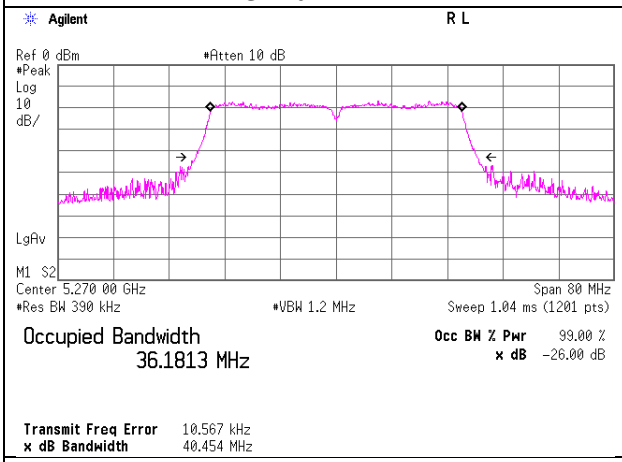
5700 MHz



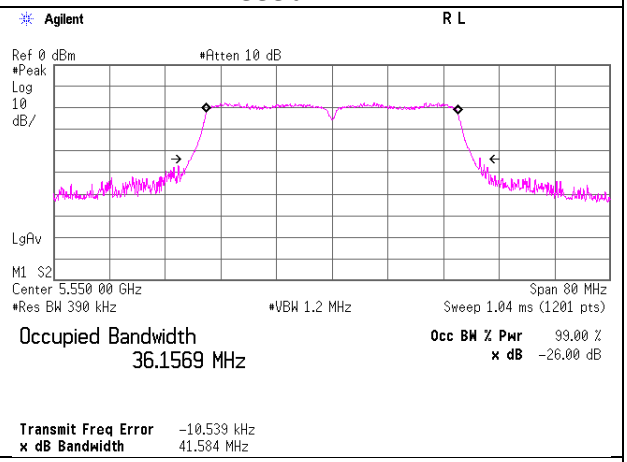
26 dB Emission Bandwidth

11n-40 CDD

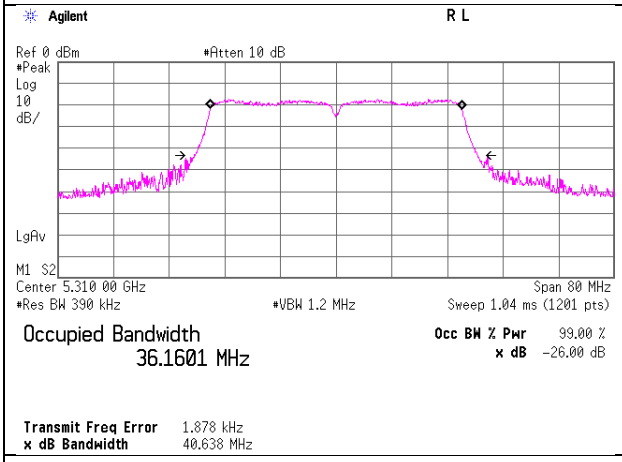
5270 MHz



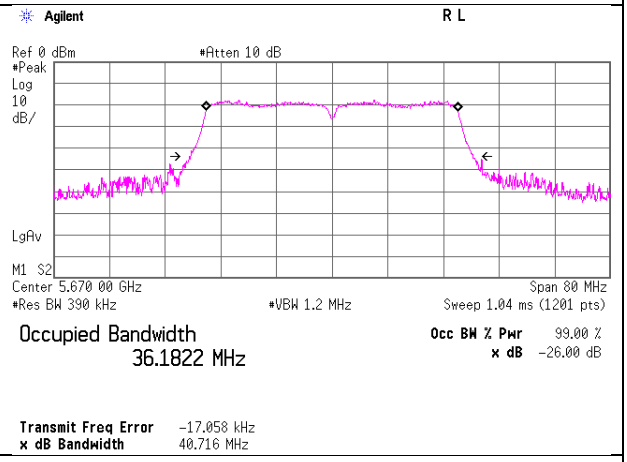
5550 MHz



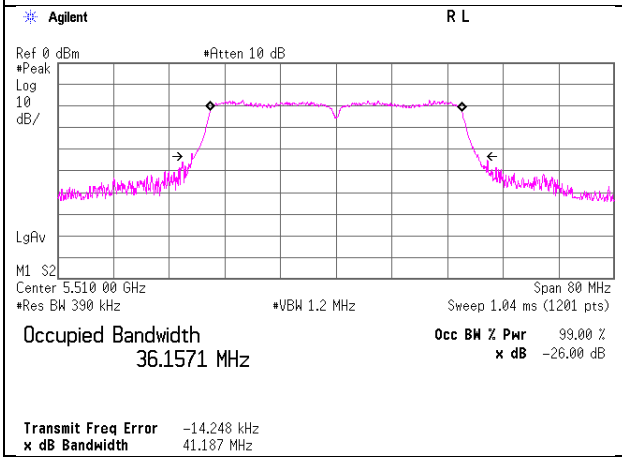
5310 MHz



5670 MHz



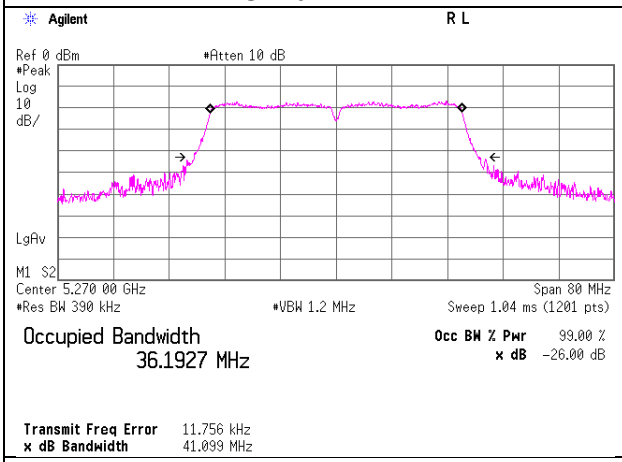
5510 MHz



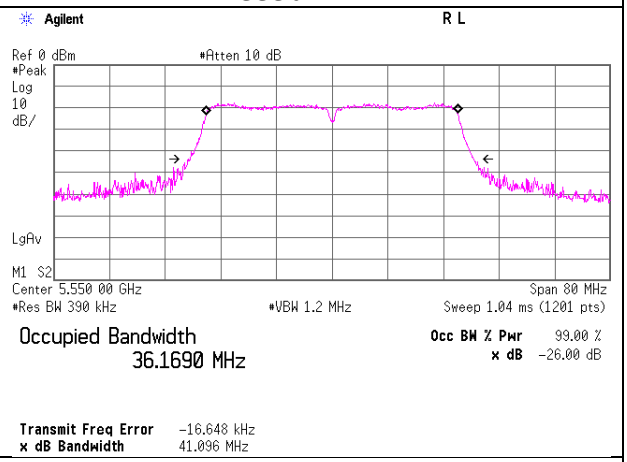
26 dB Emission Bandwidth

11n-40 MIMO

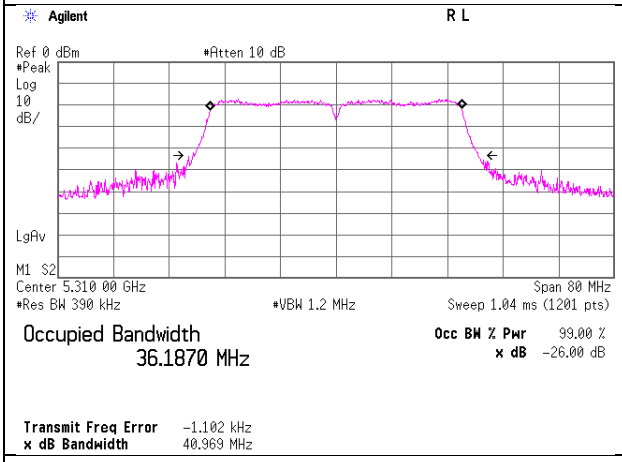
5270 MHz



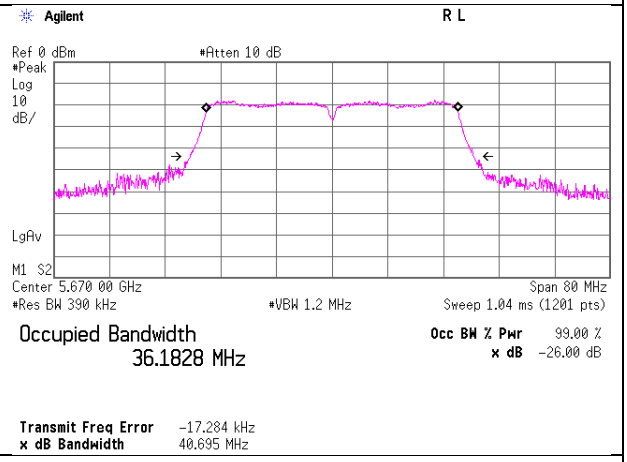
5550 MHz



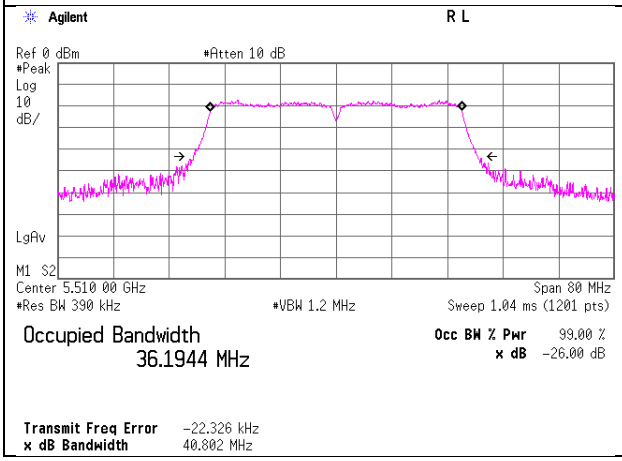
5310 MHz



5670 MHz



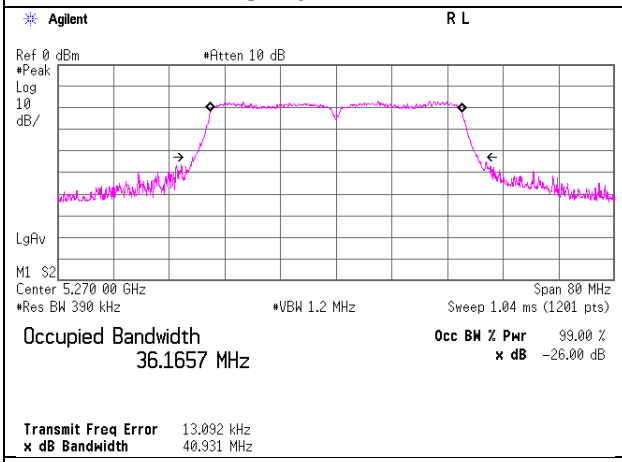
5510 MHz



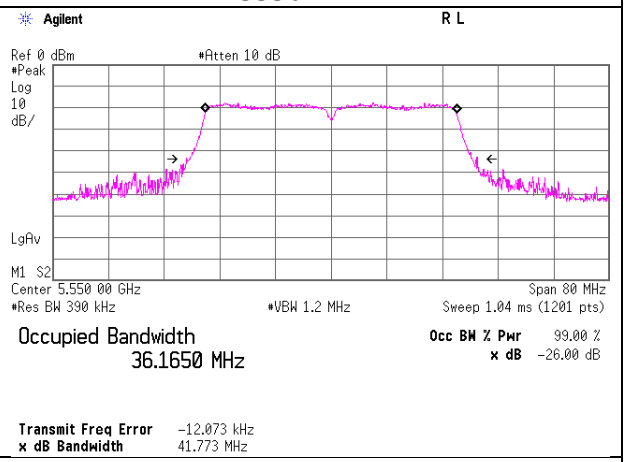
26 dB Emission Bandwidth

11ac-40 CDD

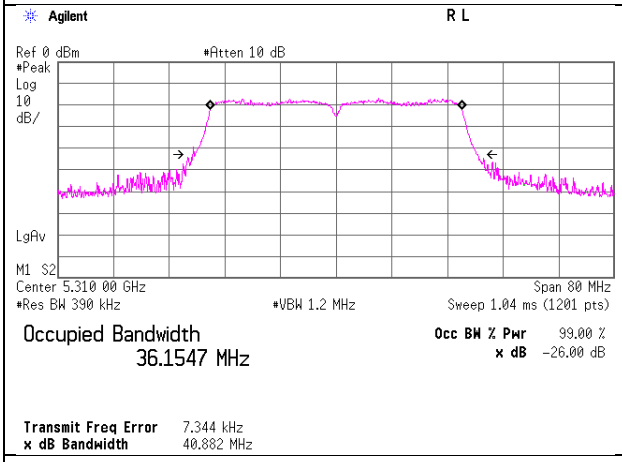
5270 MHz



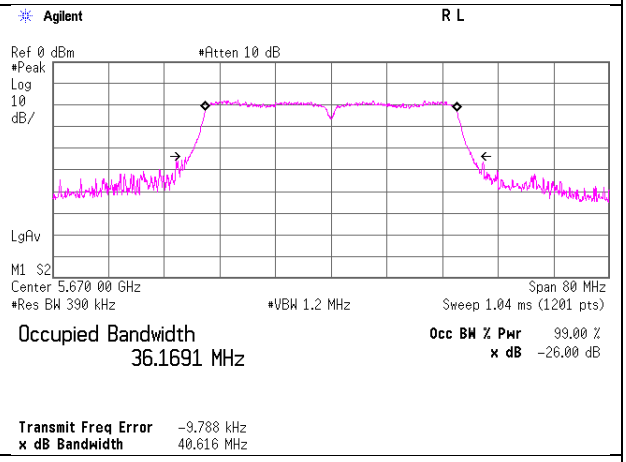
5550 MHz



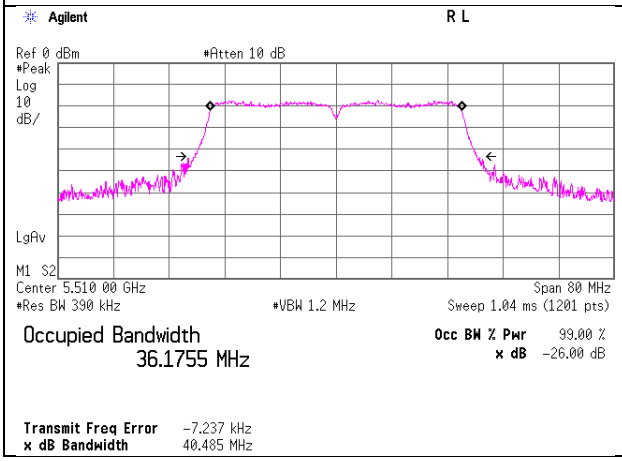
5310 MHz



5670 MHz



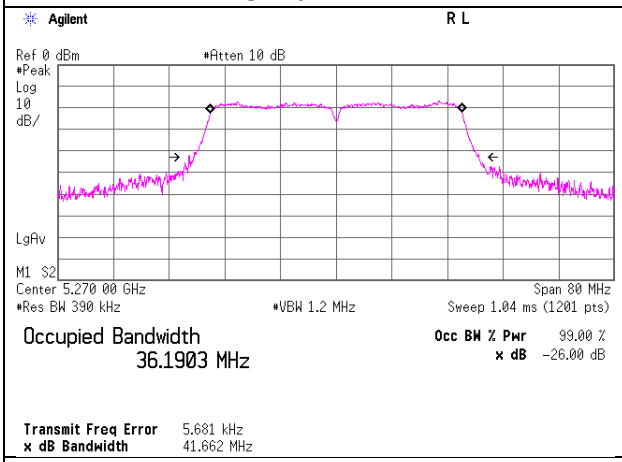
5510 MHz



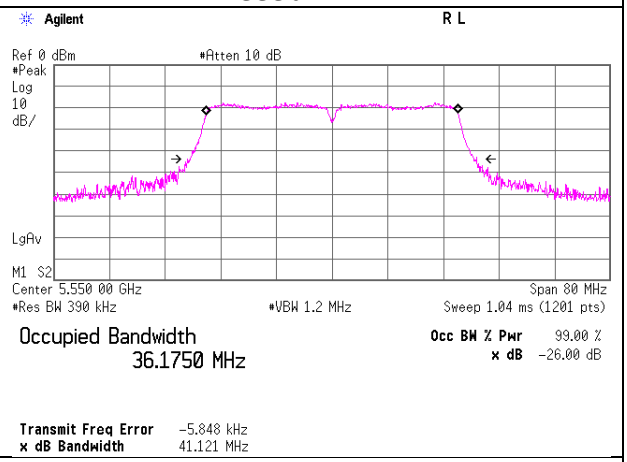
26 dB Emission Bandwidth

11ac-40 MIMO

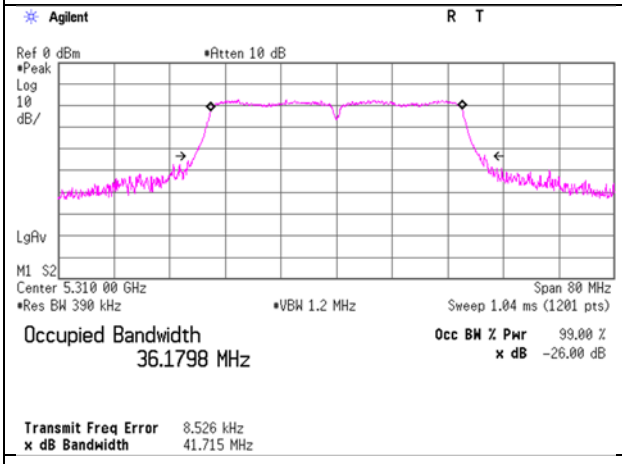
5270 MHz



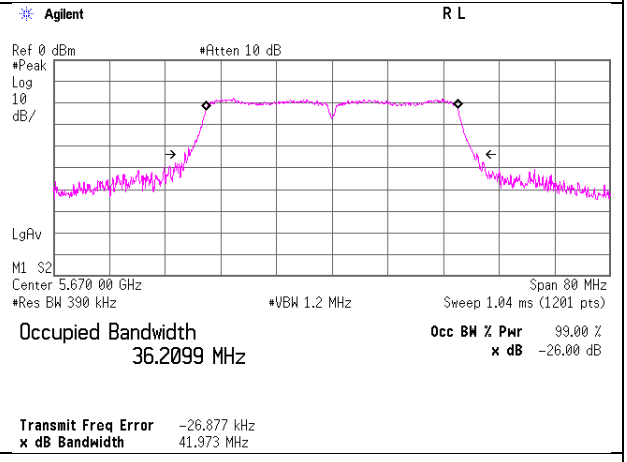
5550 MHz



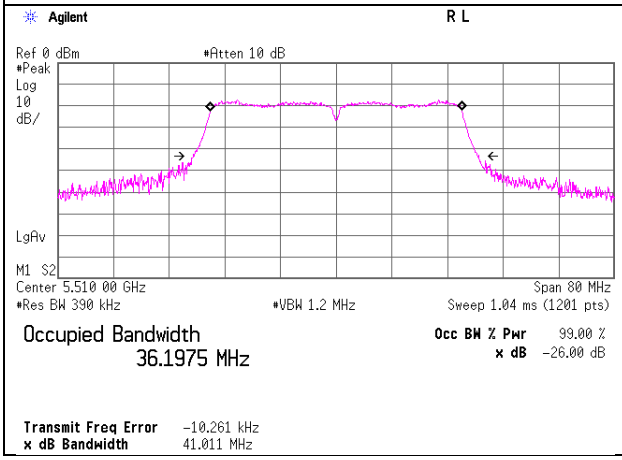
5310 MHz



5670 MHz



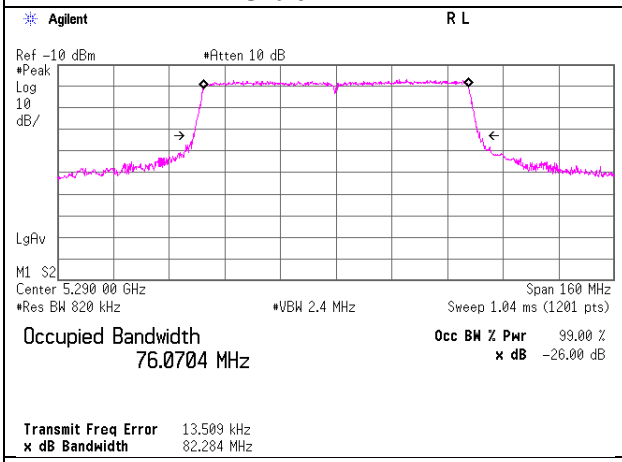
5510 MHz



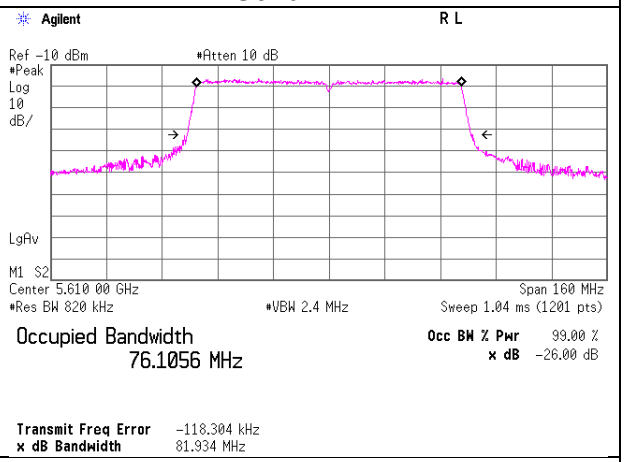
26 dB Emission Bandwidth

11ac-80 CDD

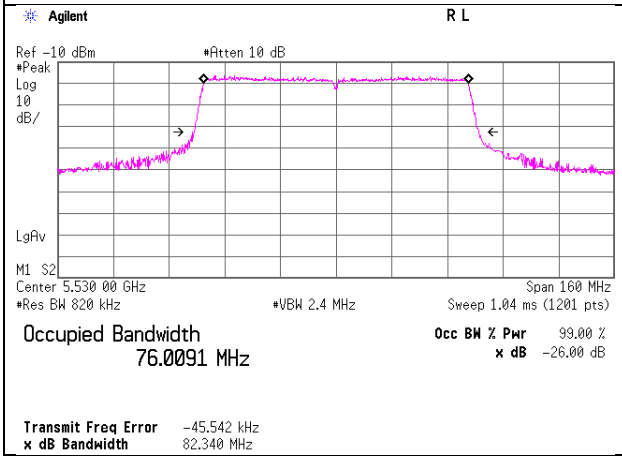
5290 MHz



5610 MHz



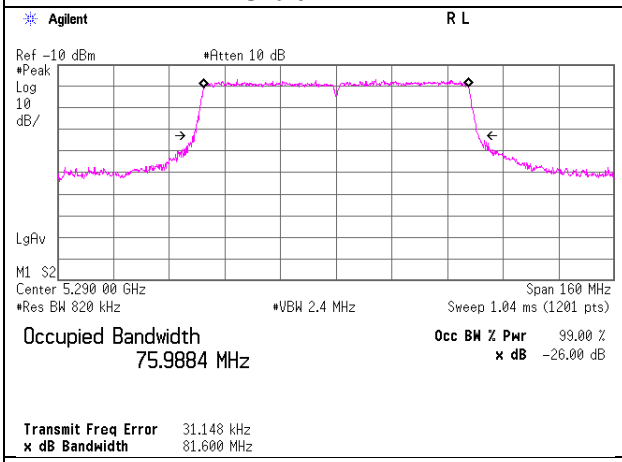
5530 MHz



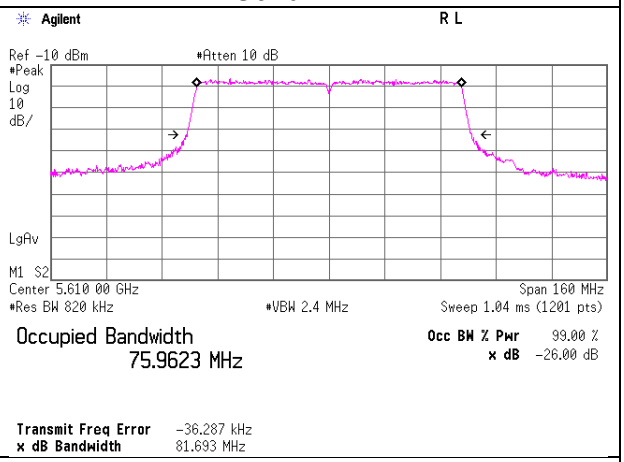
26 dB Emission Bandwidth

11ac-80 MIMO

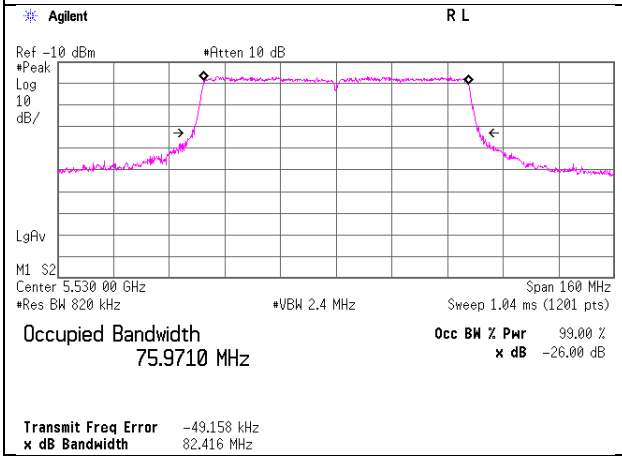
5290 MHz



5610 MHz



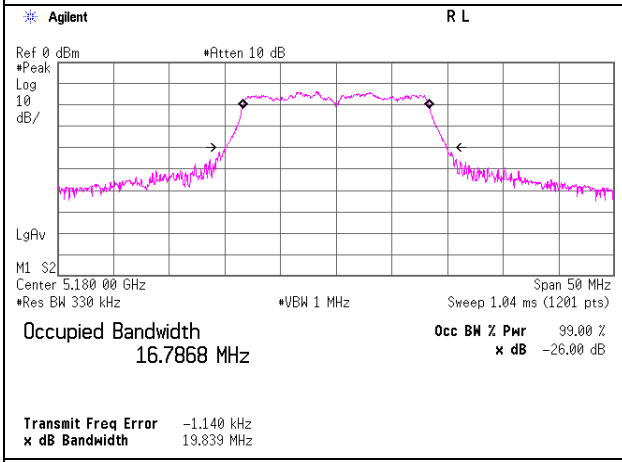
5530 MHz



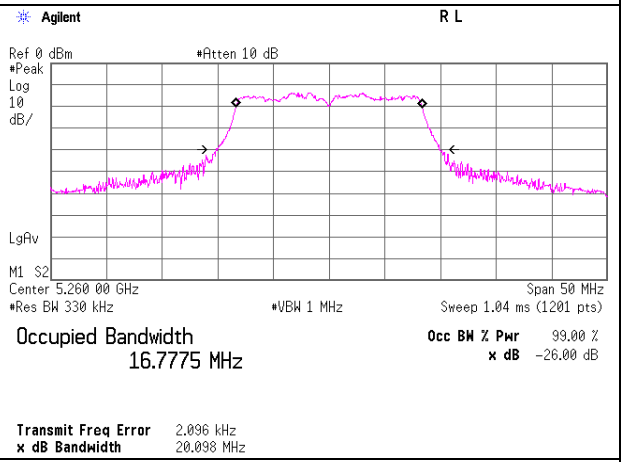
99 % Occupied Bandwidth

11a

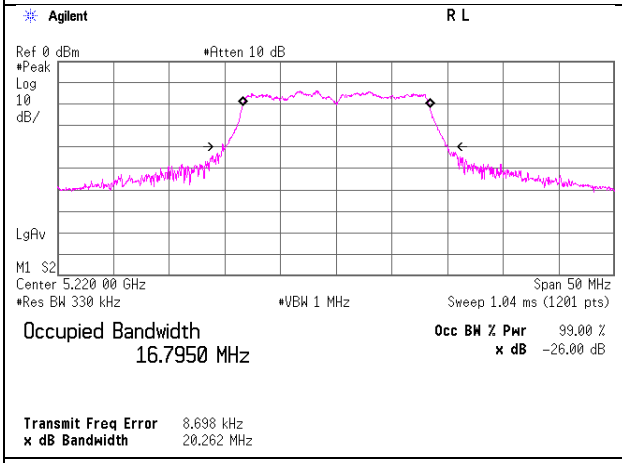
5180 MHz



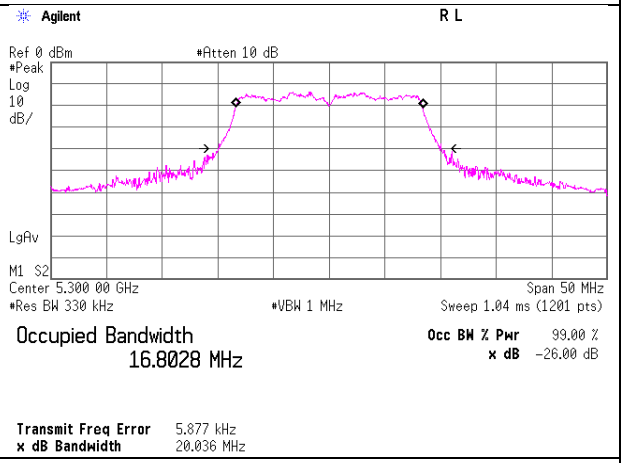
5260 MHz



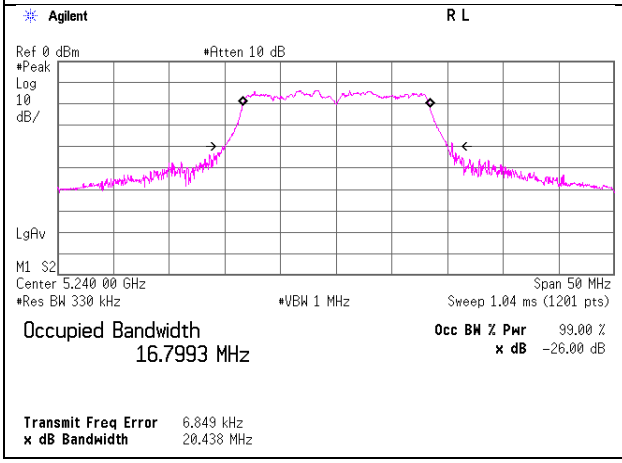
5220 MHz



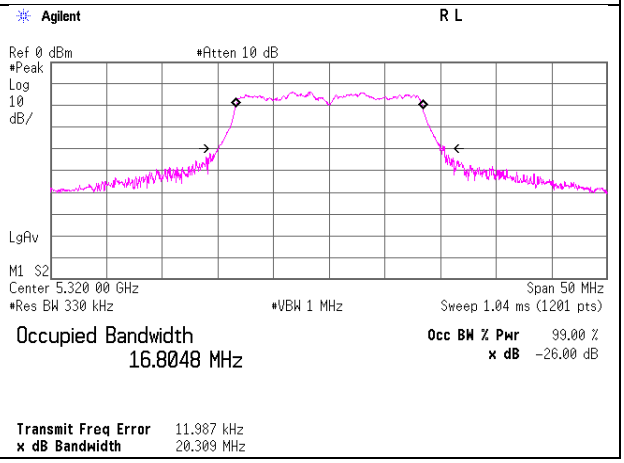
5300 MHz



5240 MHz



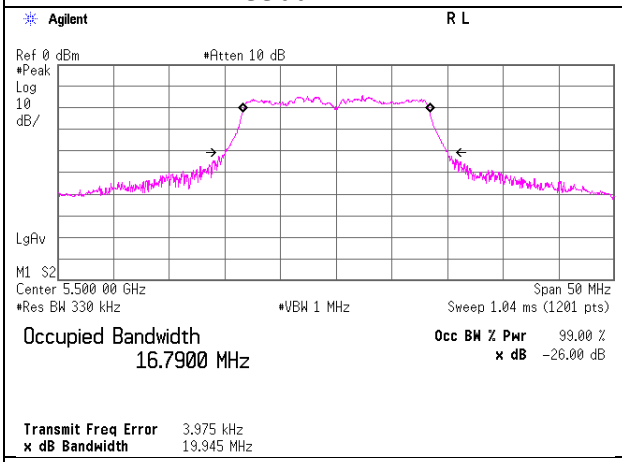
5320 MHz



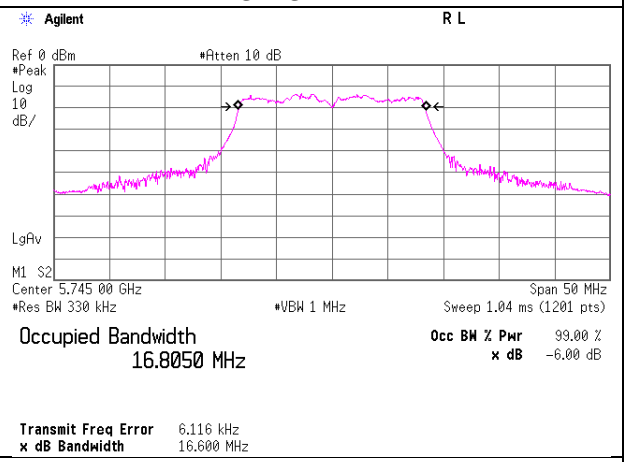
99 % Occupied Bandwidth

11a

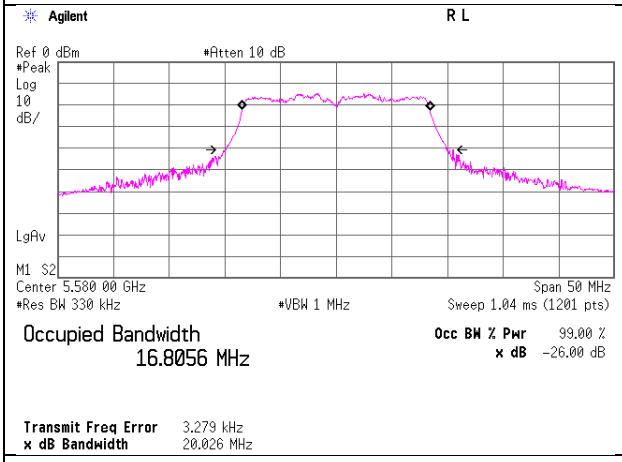
5500 MHz



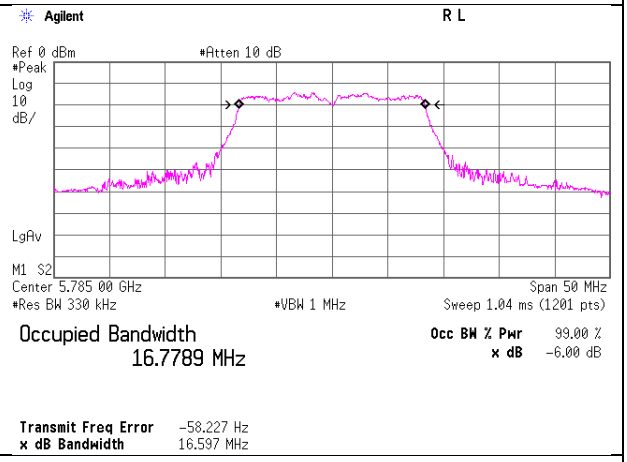
5745 MHz



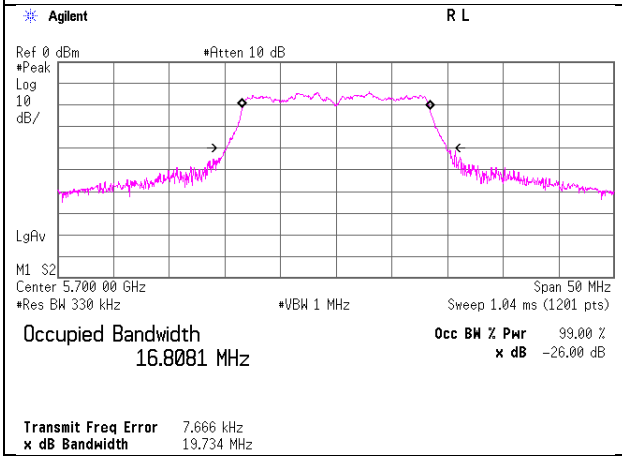
5580 MHz



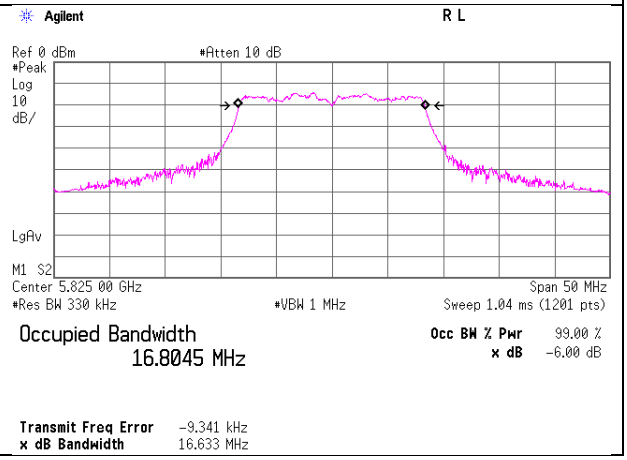
5785 MHz



5700 MHz



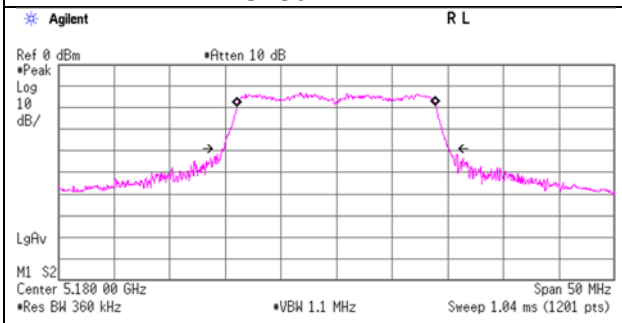
5825 MHz



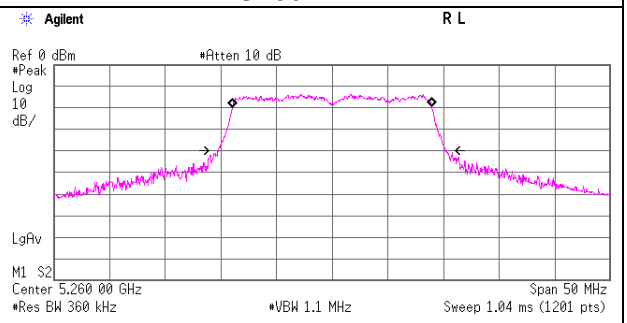
99 % Occupied Bandwidth

11n-20 CDD

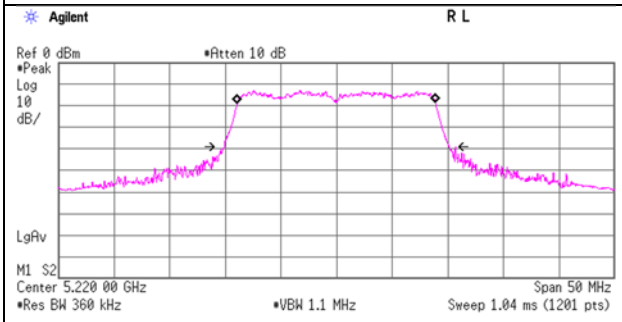
5180 MHz



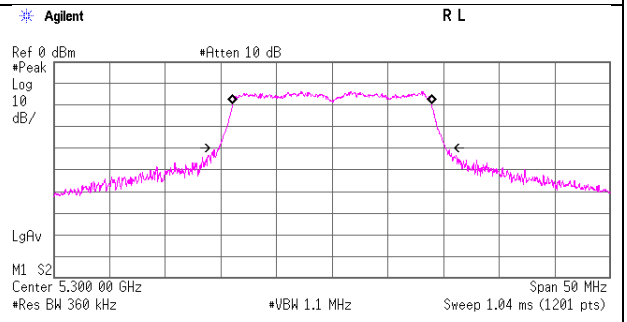
5260 MHz



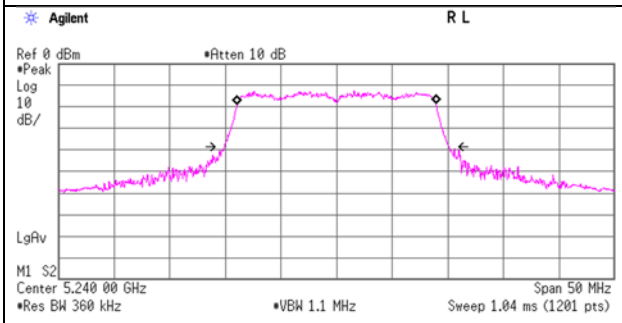
5220 MHz



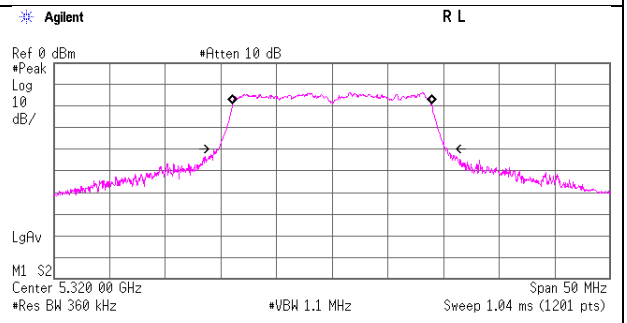
5300 MHz



5240 MHz



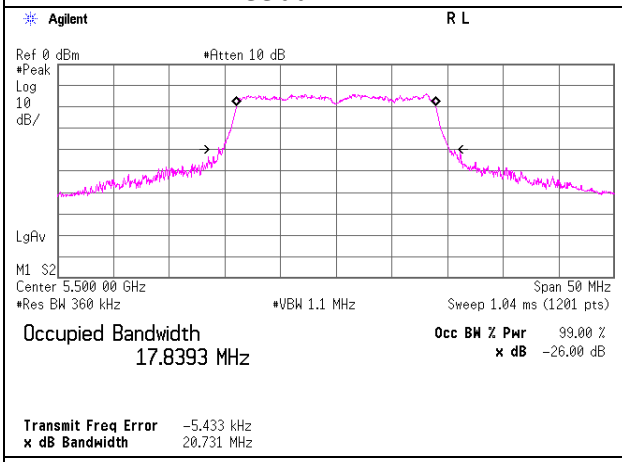
5320 MHz



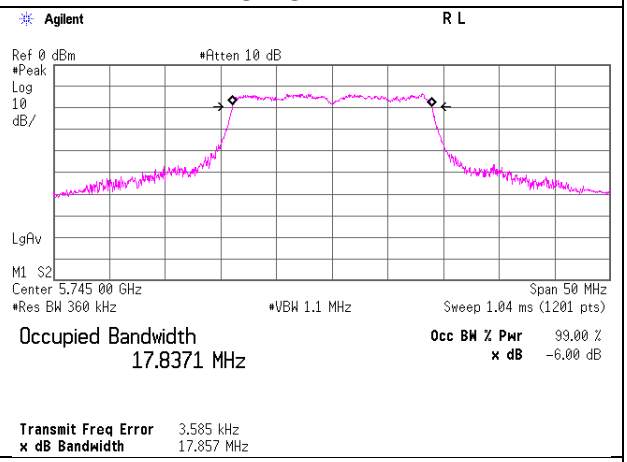
99 % Occupied Bandwidth

11n-20 CDD

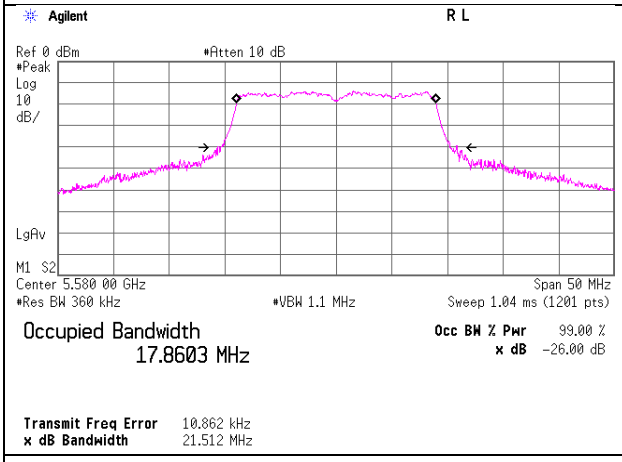
5500 MHz



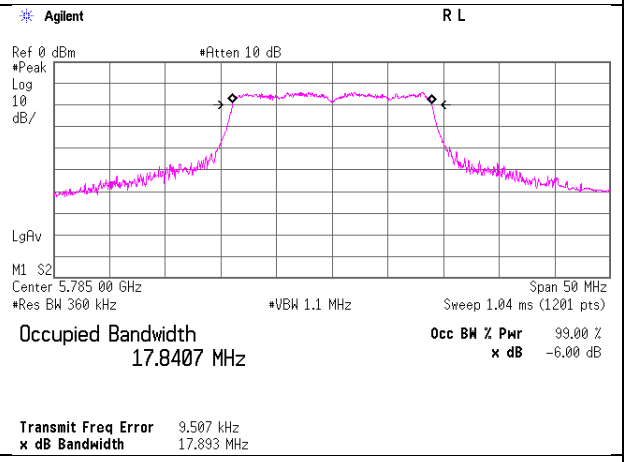
5745 MHz



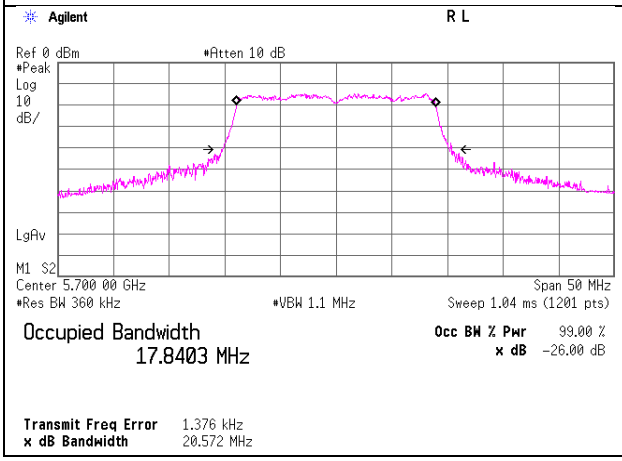
5580 MHz



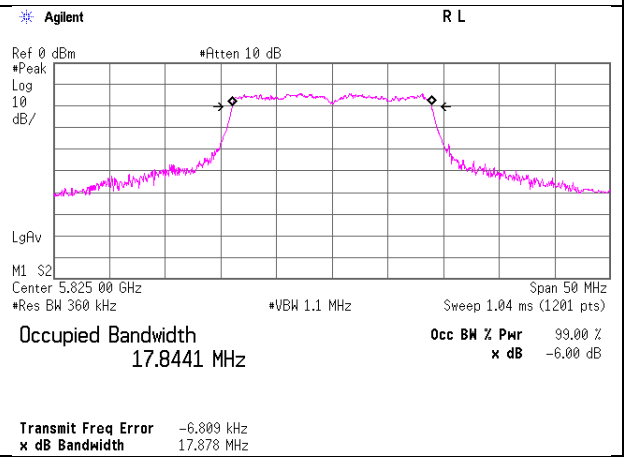
5785 MHz



5700 MHz



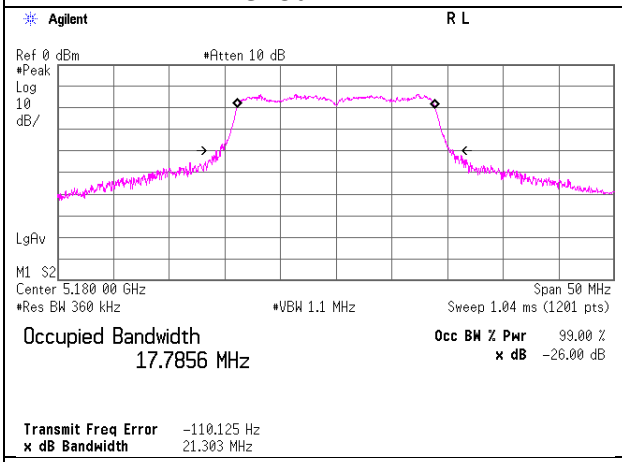
5825 MHz



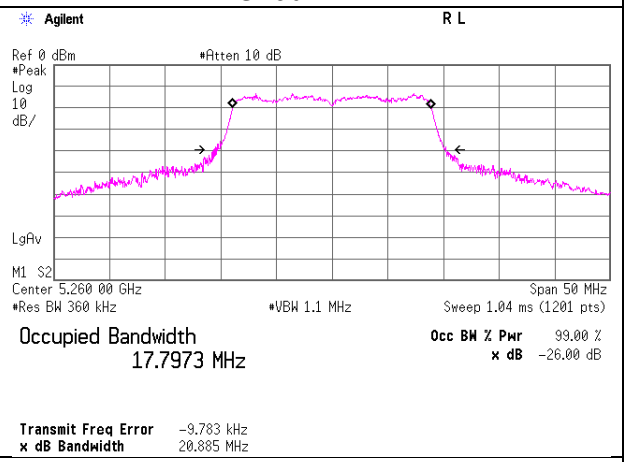
99 % Occupied Bandwidth

11n-20 MIMO

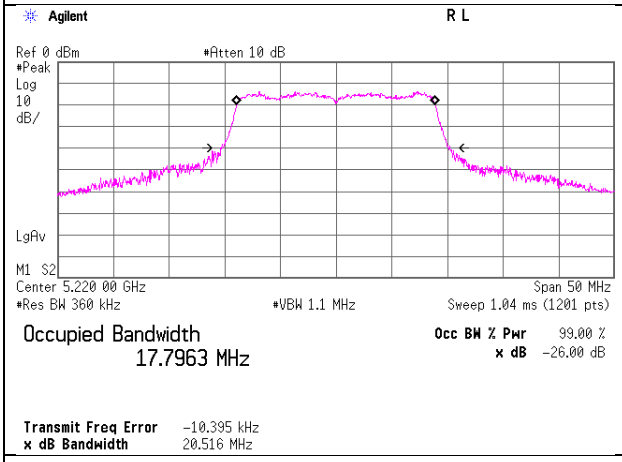
5180 MHz



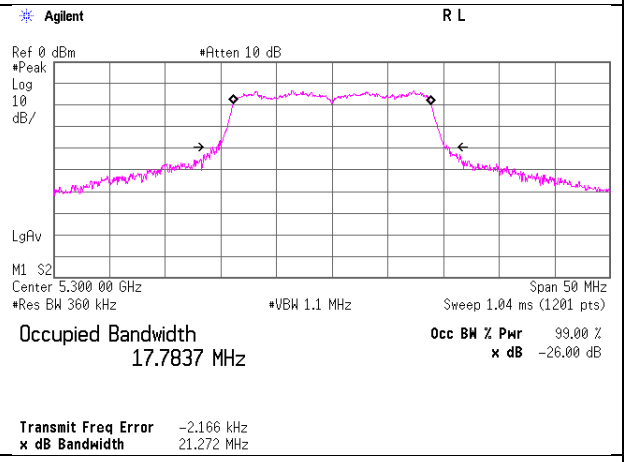
5260 MHz



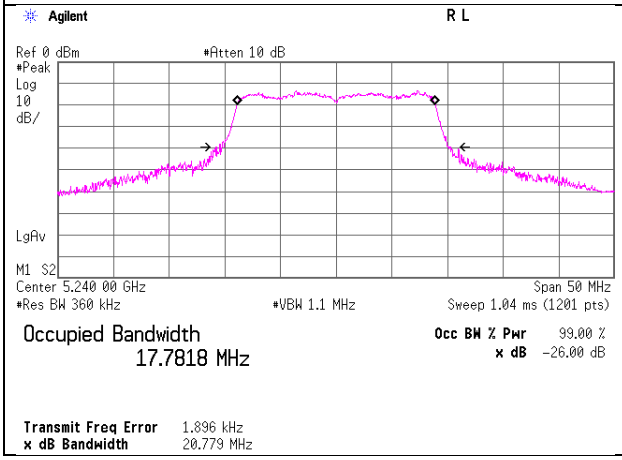
5220 MHz



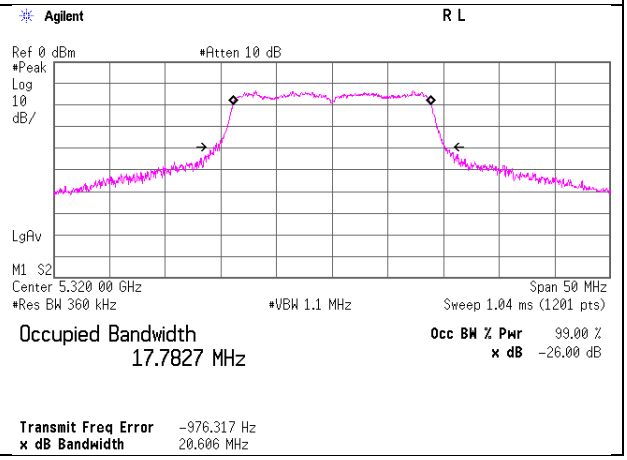
5300 MHz



5240 MHz



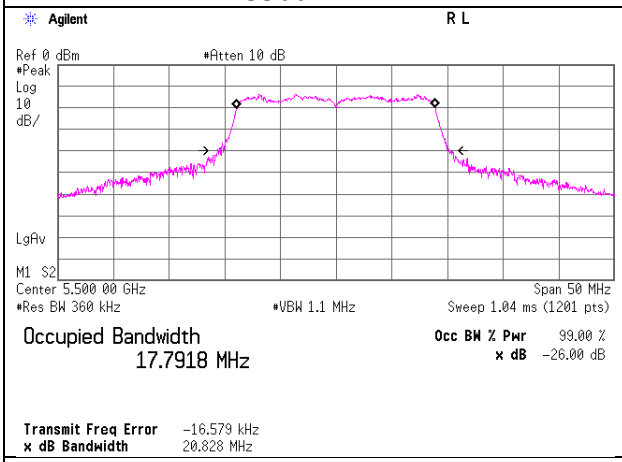
5320 MHz



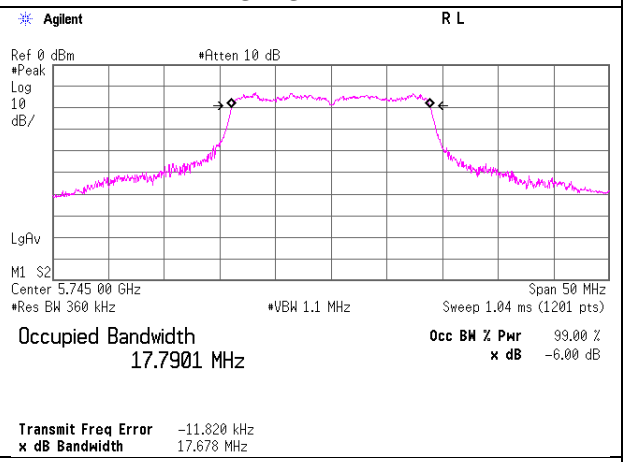
99 % Occupied Bandwidth

11n-20 MIMO

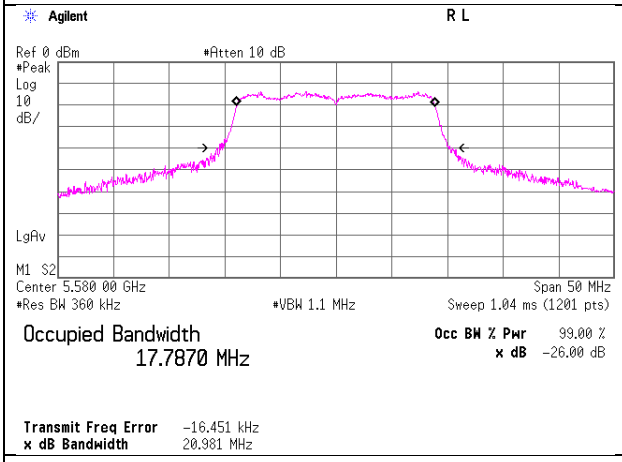
5500 MHz



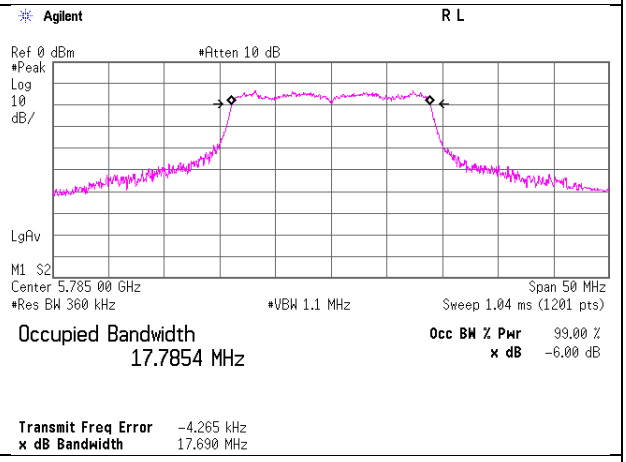
5745 MHz



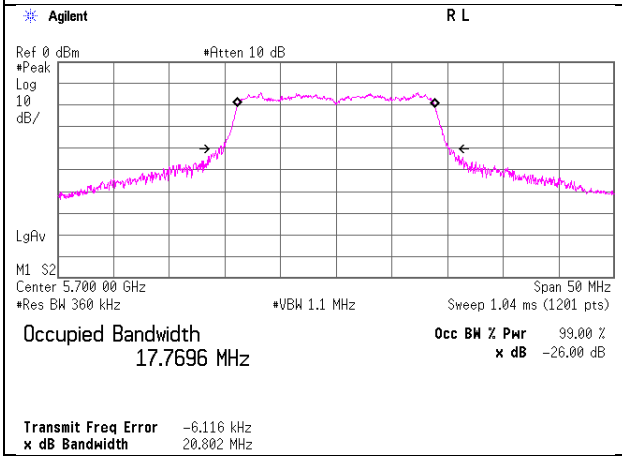
5580 MHz



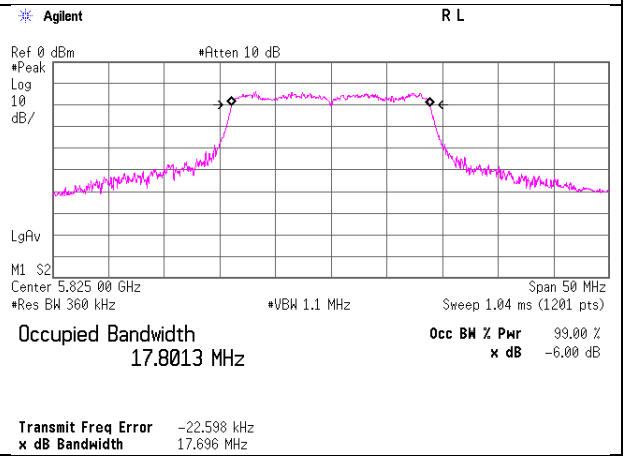
5785 MHz



5700 MHz



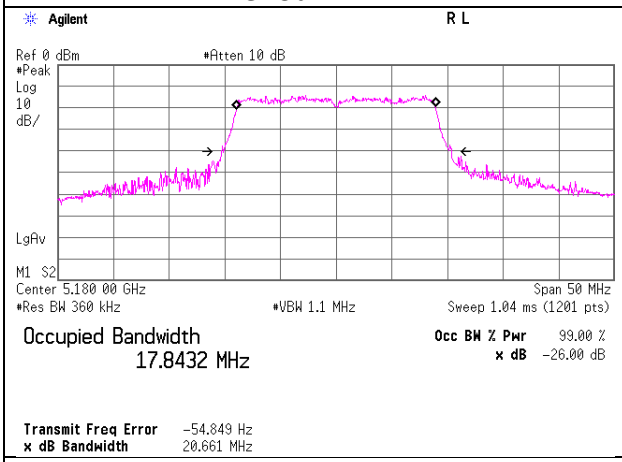
5825 MHz



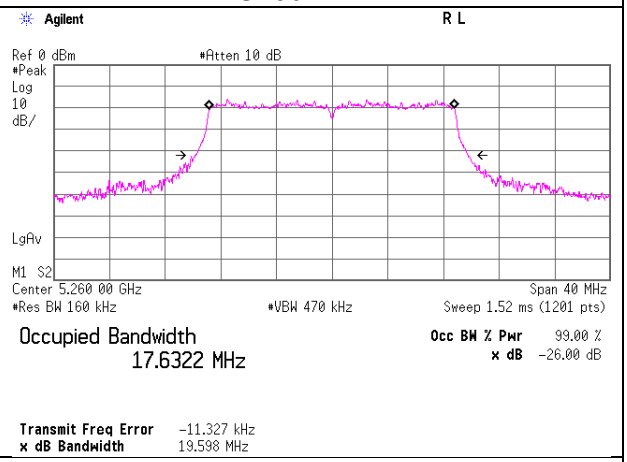
99 % Occupied Bandwidth

11ac-20 CDD

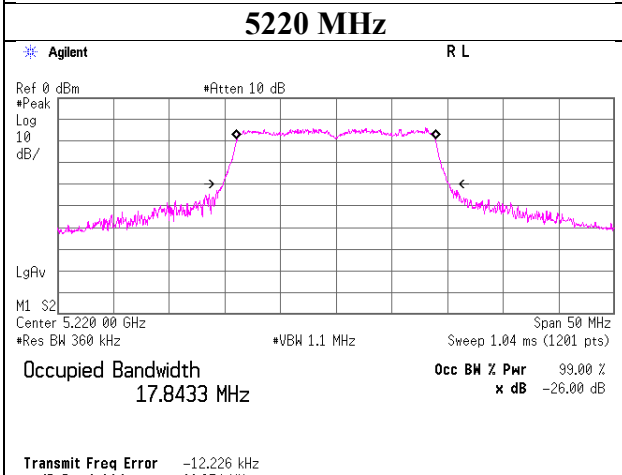
5180 MHz



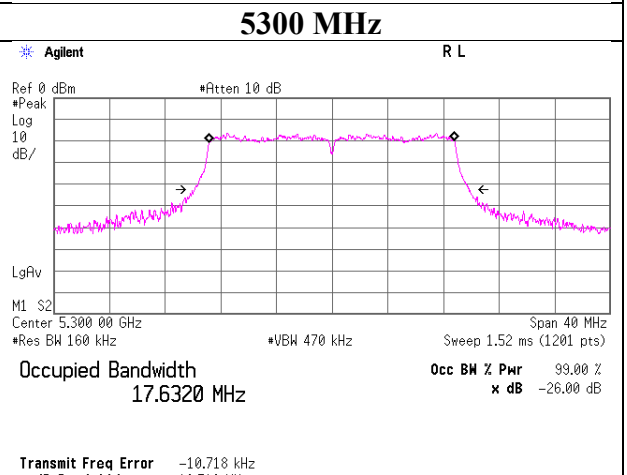
5260 MHz



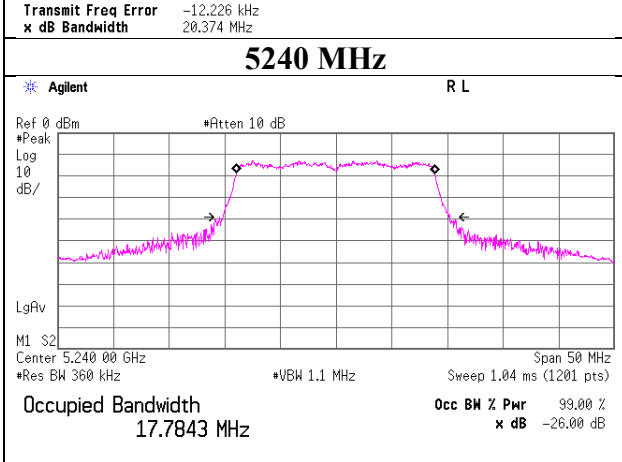
5220 MHz



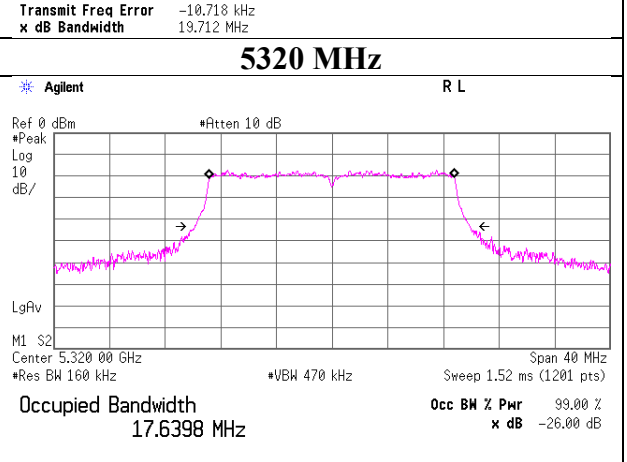
5300 MHz



5240 MHz



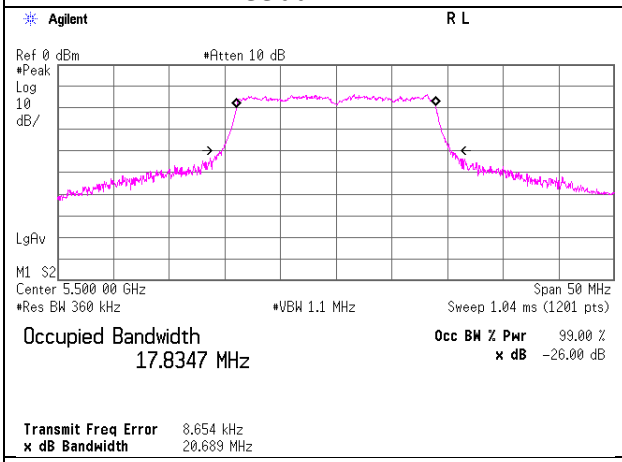
5320 MHz



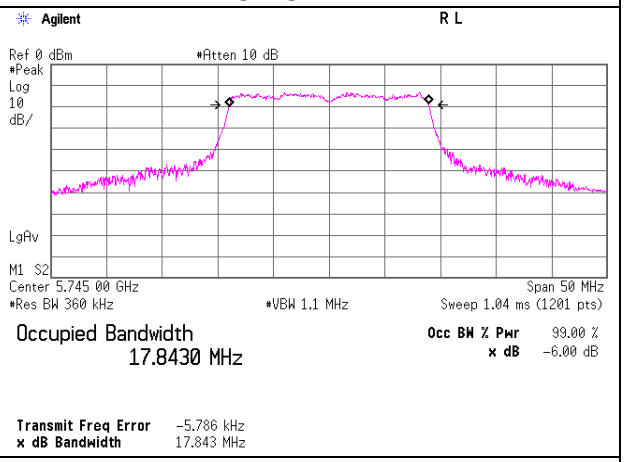
99 % Occupied Bandwidth

11ac-20 CDD

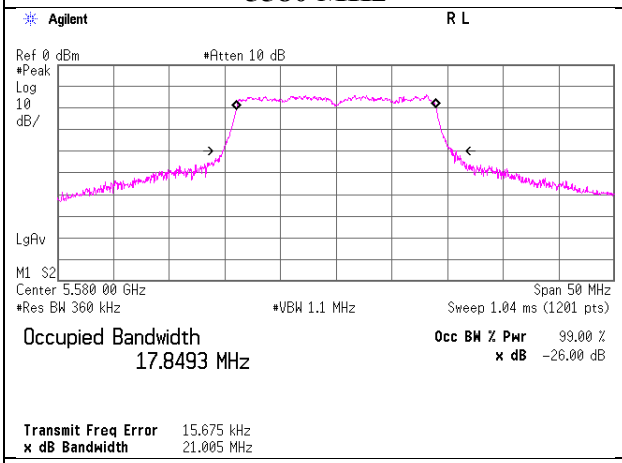
5500 MHz



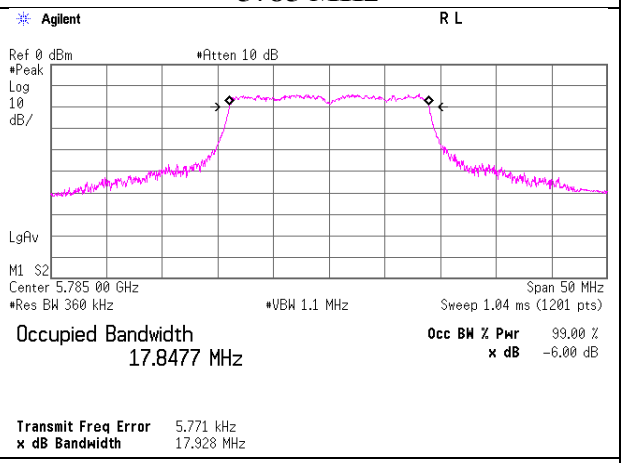
5745 MHz



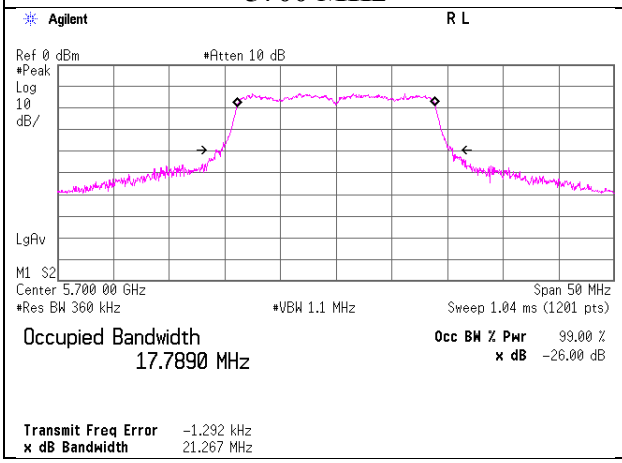
5580 MHz



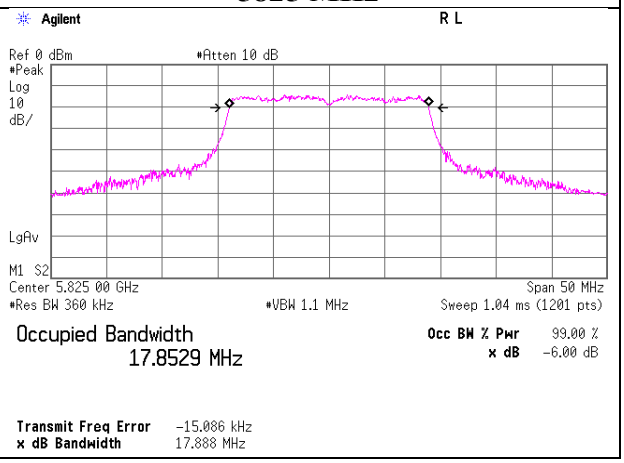
5785 MHz



5700 MHz



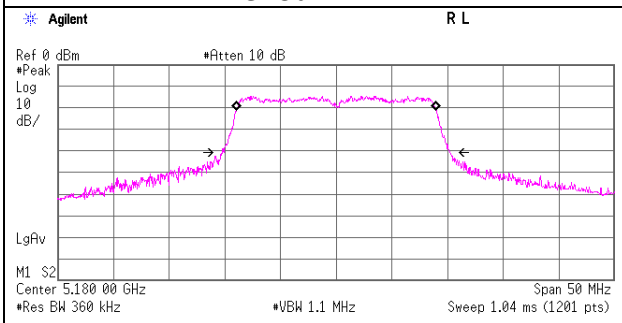
5825 MHz



99 % Occupied Bandwidth

11ac-20 MIMO

5180 MHz

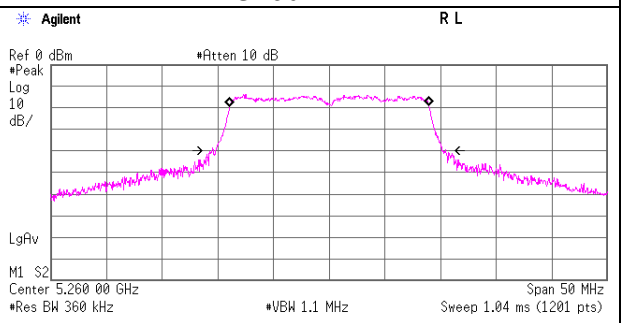


Occupied Bandwidth
17.8626 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 19.918 kHz
x dB Bandwidth 20.473 MHz

5260 MHz

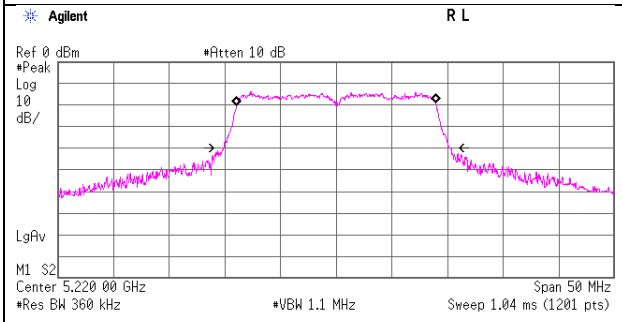


Occupied Bandwidth
17.8815 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 26.226 kHz
x dB Bandwidth 21.000 MHz

5220 MHz

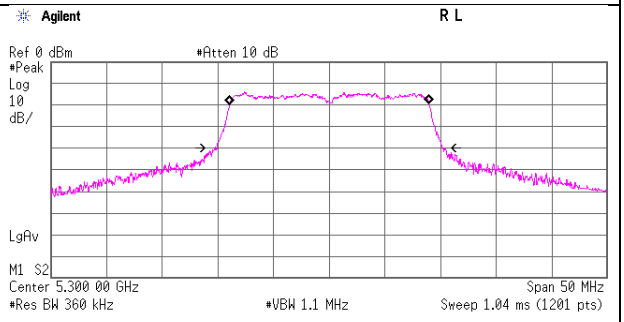


Occupied Bandwidth
17.8725 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 29.724 kHz
x dB Bandwidth 20.359 MHz

5300 MHz

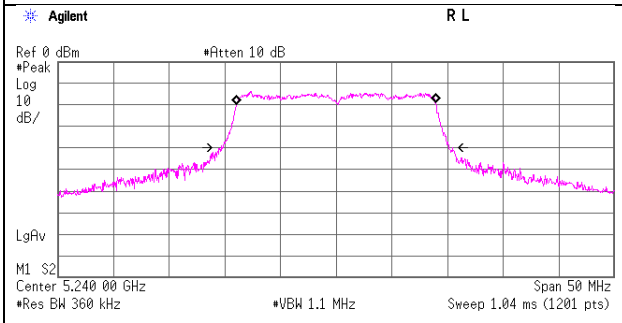


Occupied Bandwidth
17.8863 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 28.726 kHz
x dB Bandwidth 20.439 MHz

5240 MHz

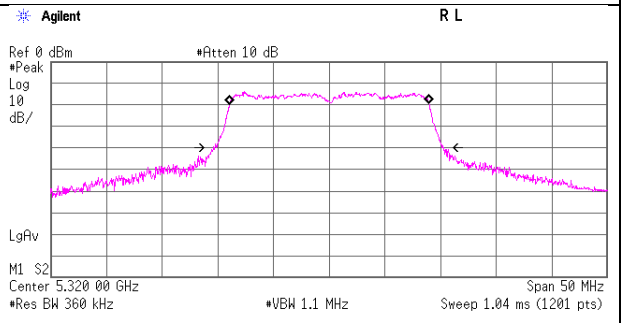


Occupied Bandwidth
17.8654 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 10.591 kHz
x dB Bandwidth 20.456 MHz

5320 MHz



Occupied Bandwidth
17.8837 MHz

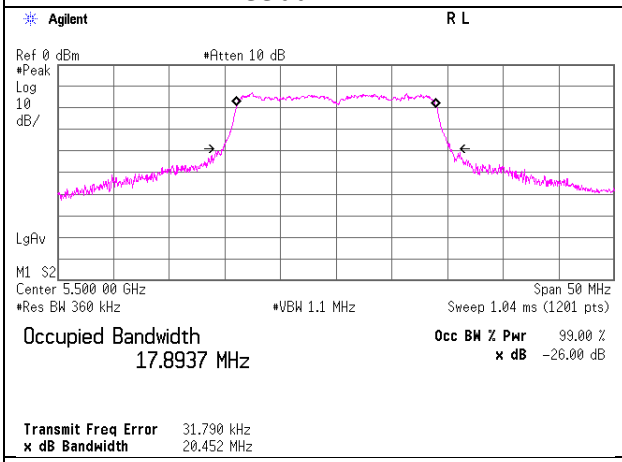
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 25.316 kHz
x dB Bandwidth 20.693 MHz

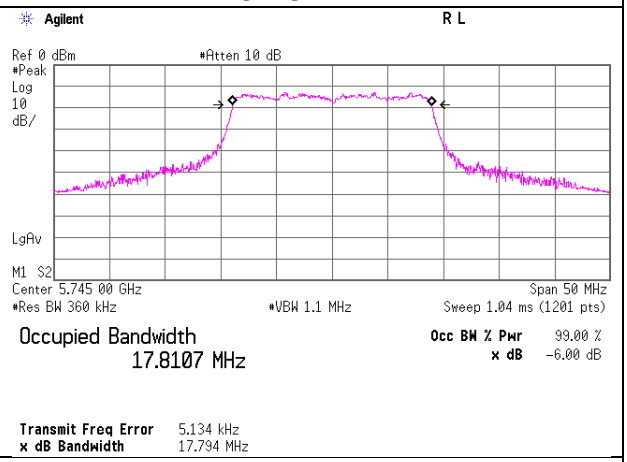
99 % Occupied Bandwidth

11ac-20 MIMO

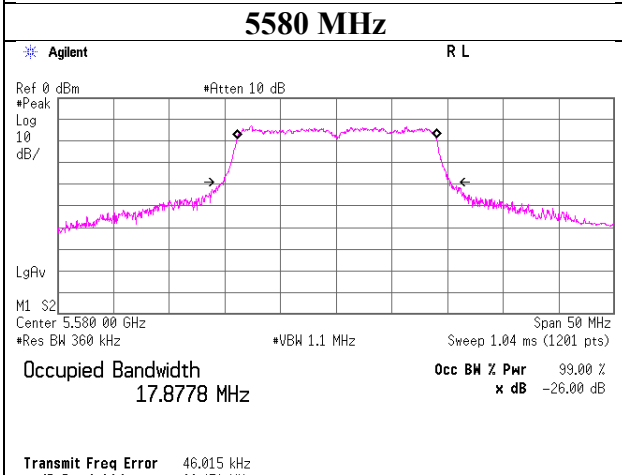
5500 MHz



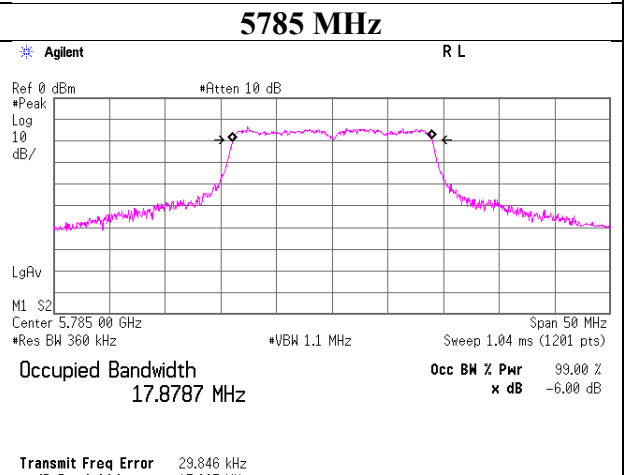
5745 MHz



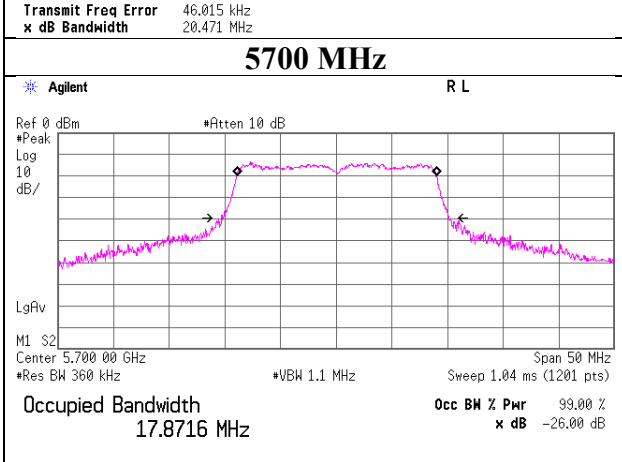
5580 MHz



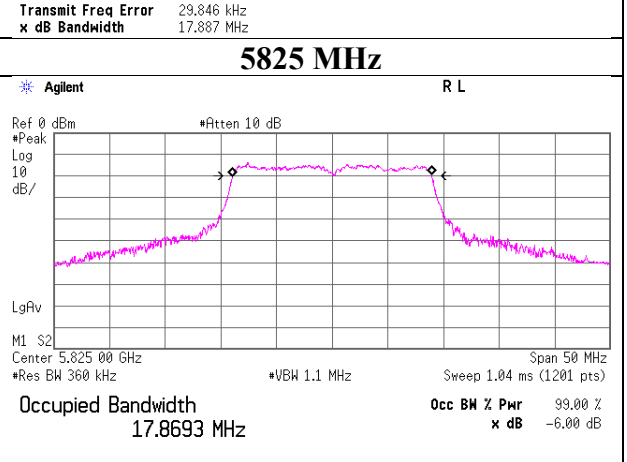
5785 MHz



5700 MHz



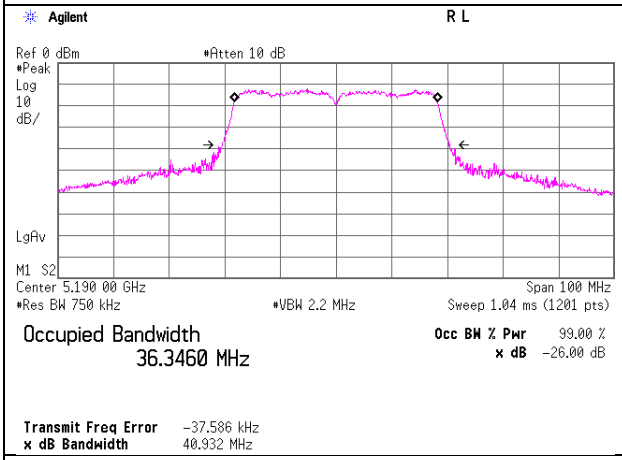
5825 MHz



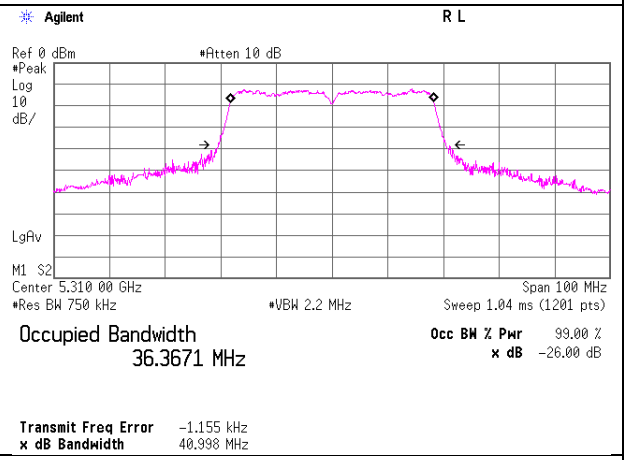
99 % Occupied Bandwidth

11n-40 CDD

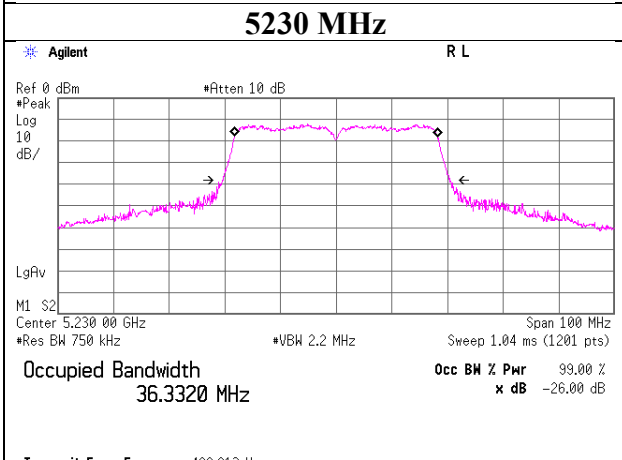
5190 MHz



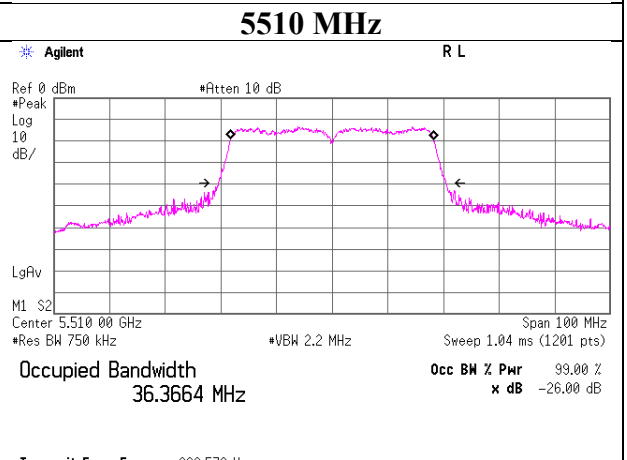
5310 MHz



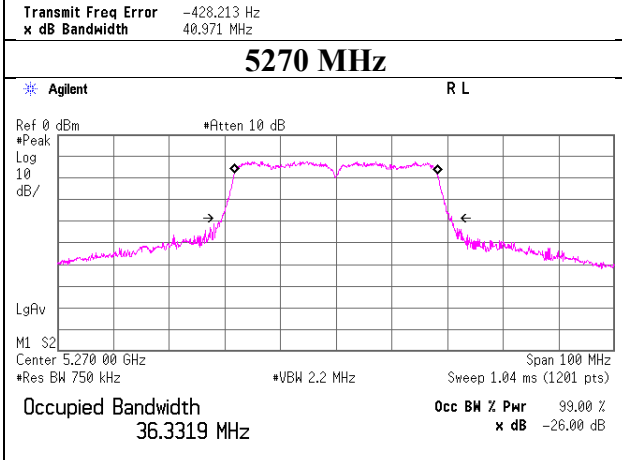
5230 MHz



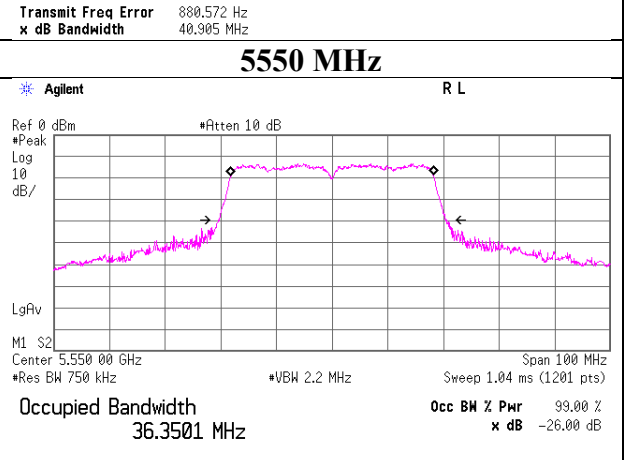
5510 MHz



5270 MHz



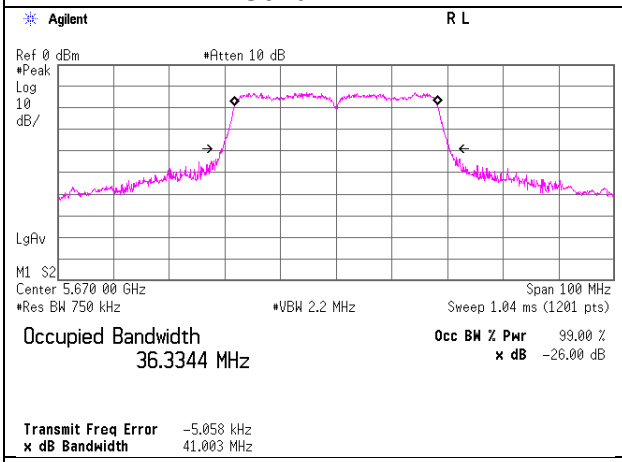
5550 MHz



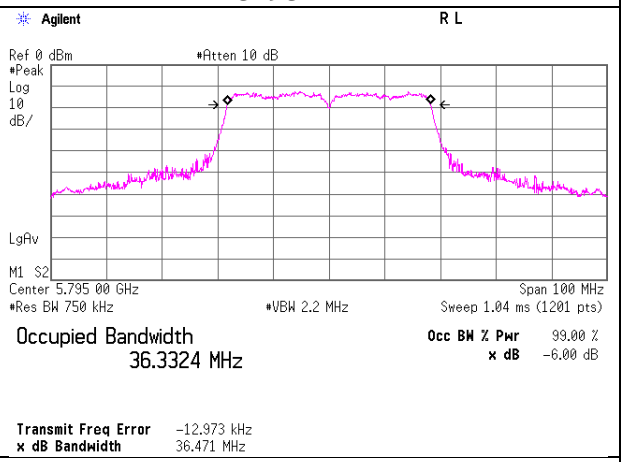
99 % Occupied Bandwidth

11n-40 CDD

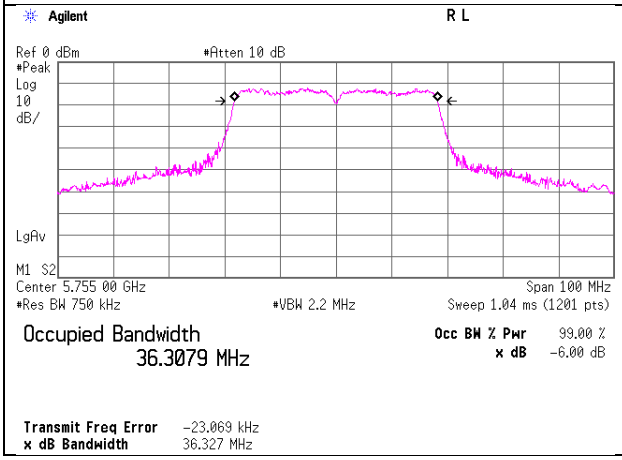
5670 MHz



5795 MHz



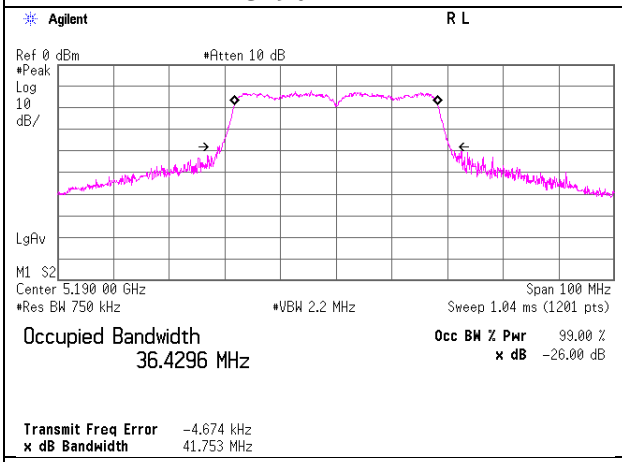
5755 MHz



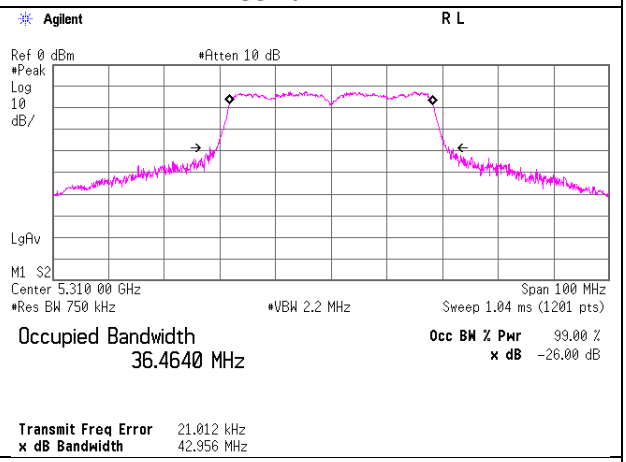
99 % Occupied Bandwidth

11n-40 MIMO

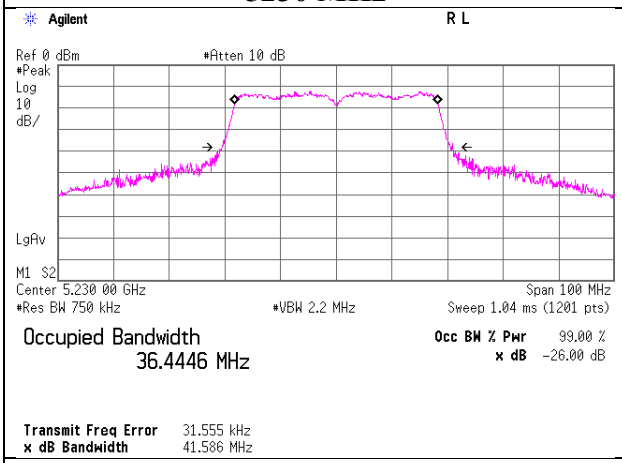
5190 MHz



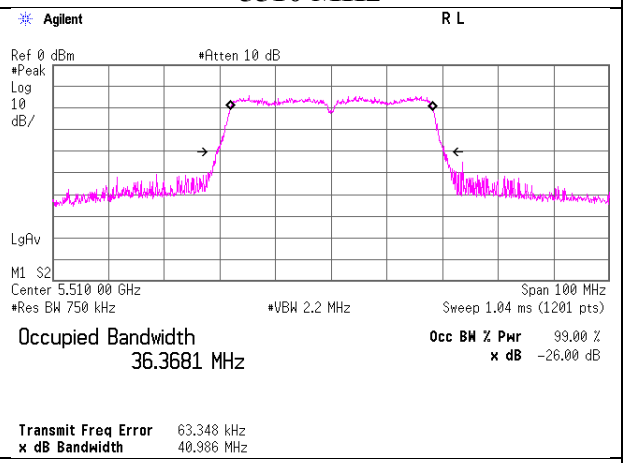
5310 MHz



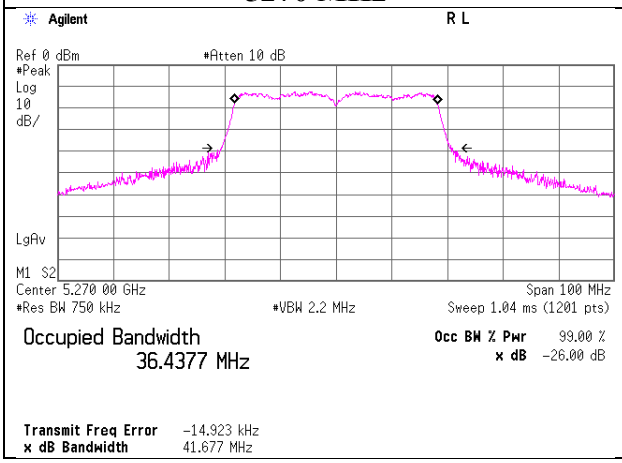
5230 MHz



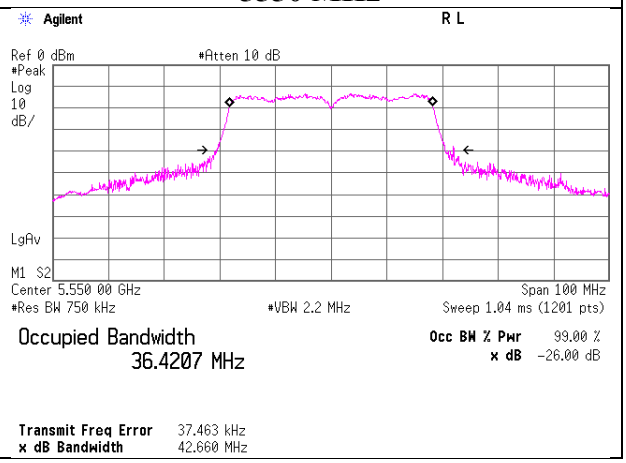
5510 MHz



5270 MHz



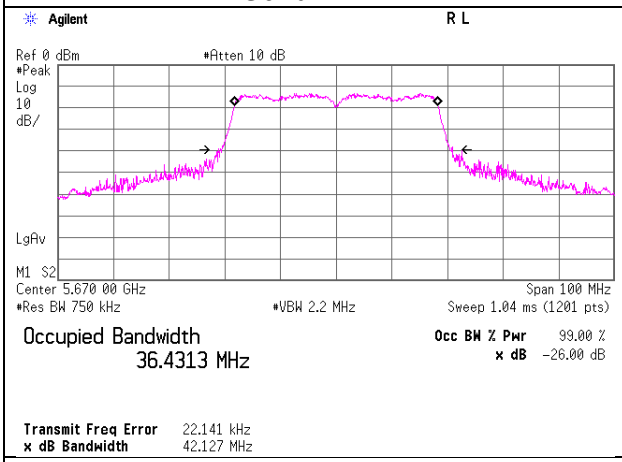
5550 MHz



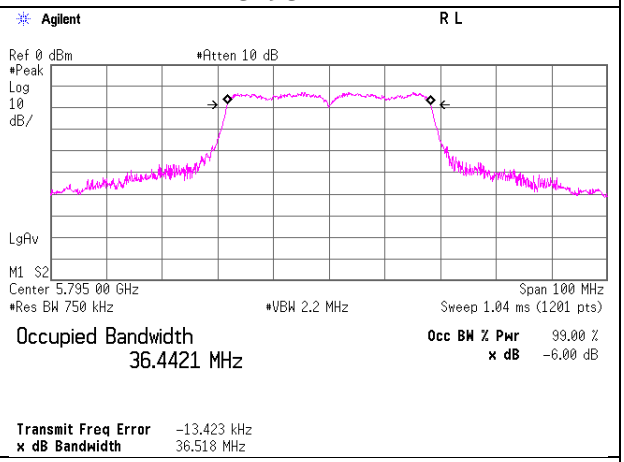
99 % Occupied Bandwidth

11n-40 MIMO

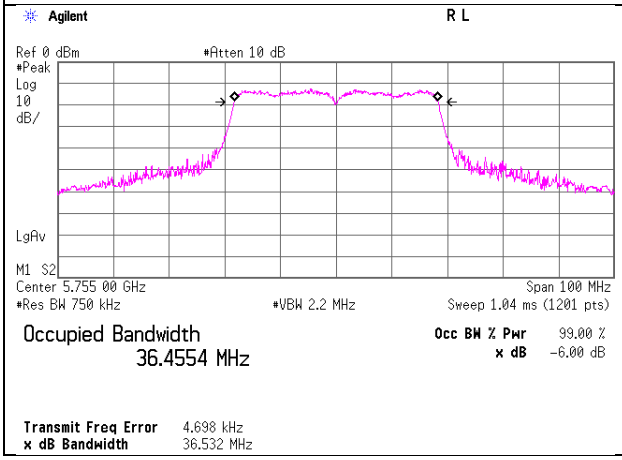
5670 MHz



5795 MHz



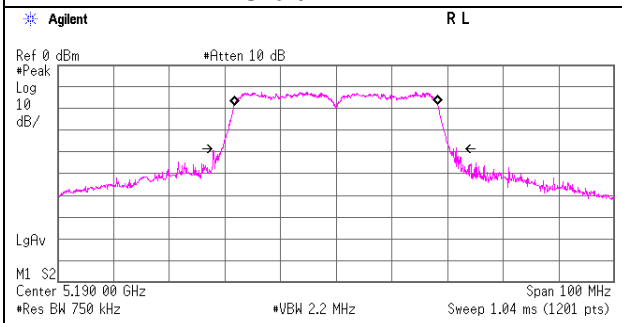
5755 MHz



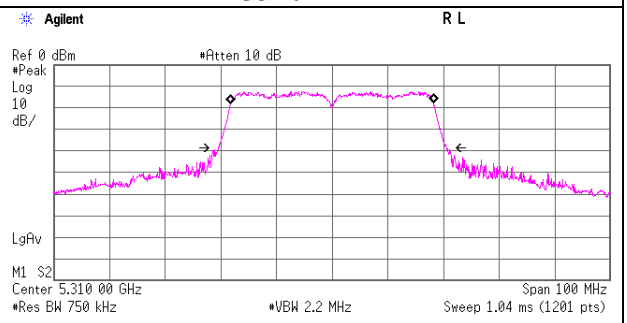
99 % Occupied Bandwidth

11ac-40 CDD

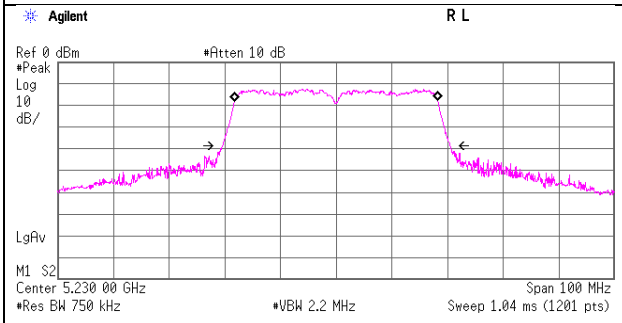
5190 MHz



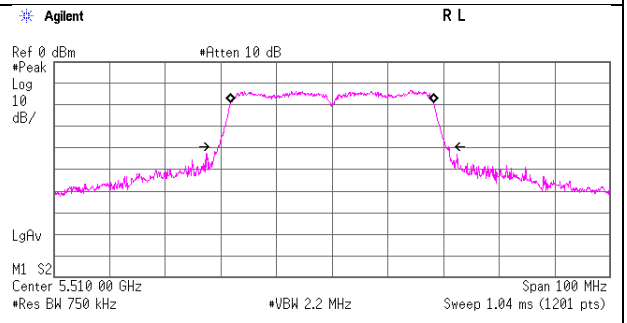
5310 MHz



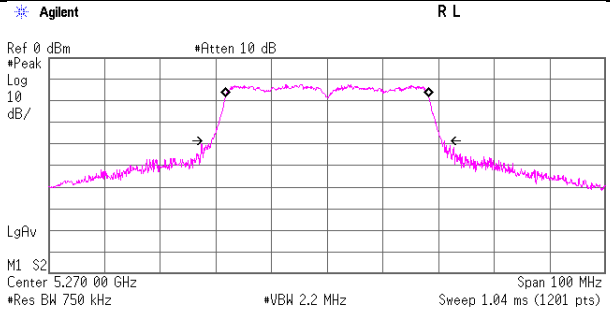
5230 MHz



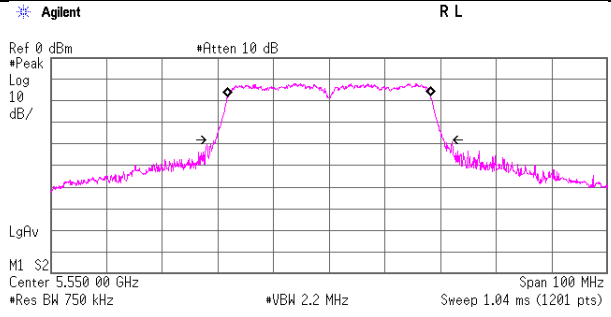
5510 MHz



5270 MHz



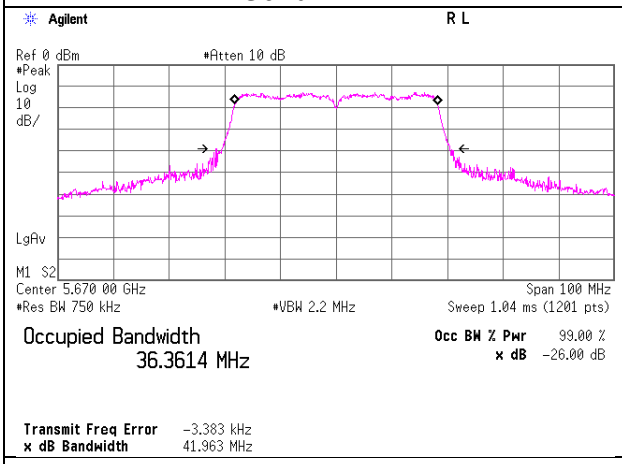
5550 MHz



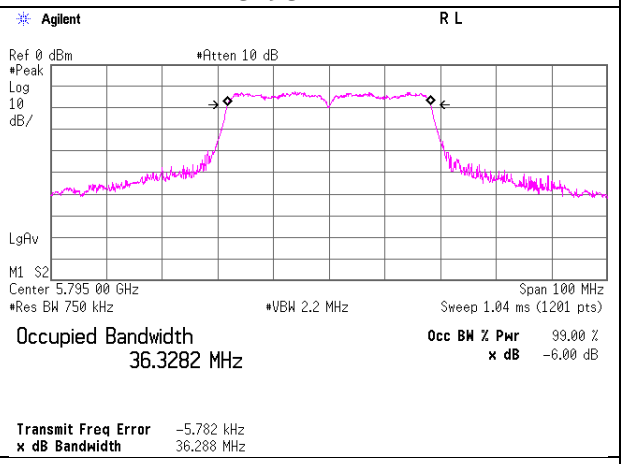
99 % Occupied Bandwidth

11ac-40 CDD

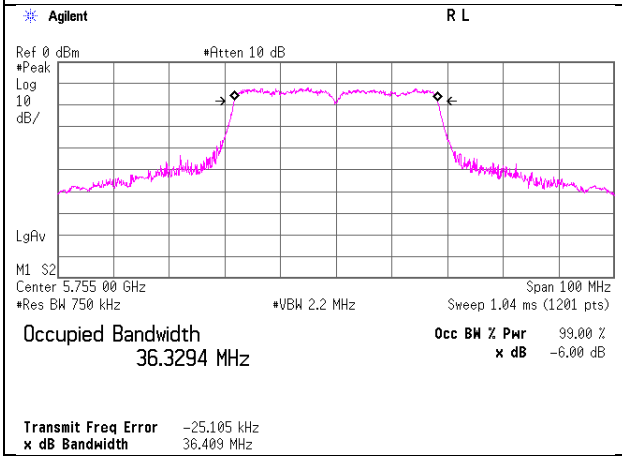
5670 MHz



5795 MHz



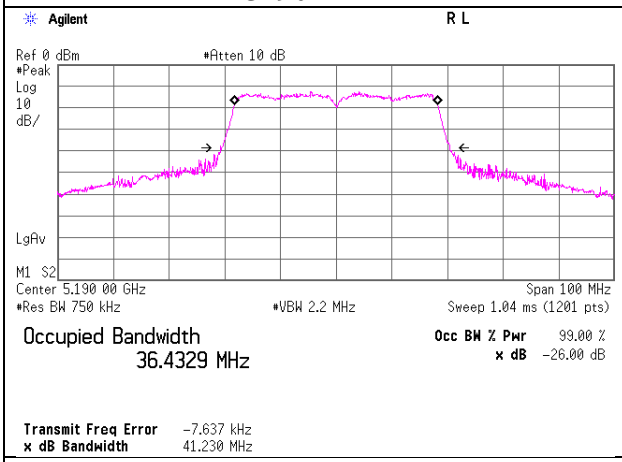
5755 MHz



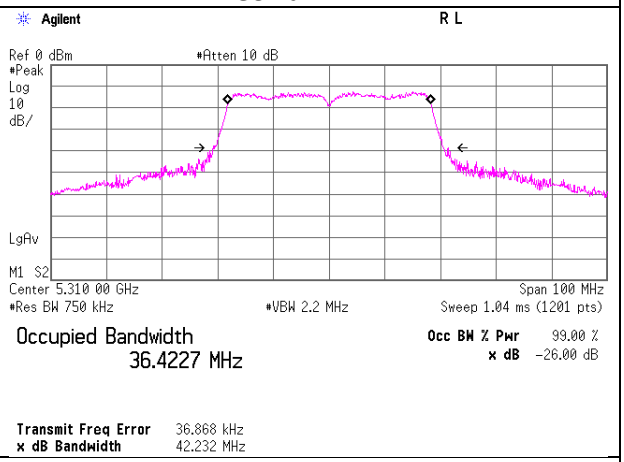
99 % Occupied Bandwidth

11ac-40 MIMO

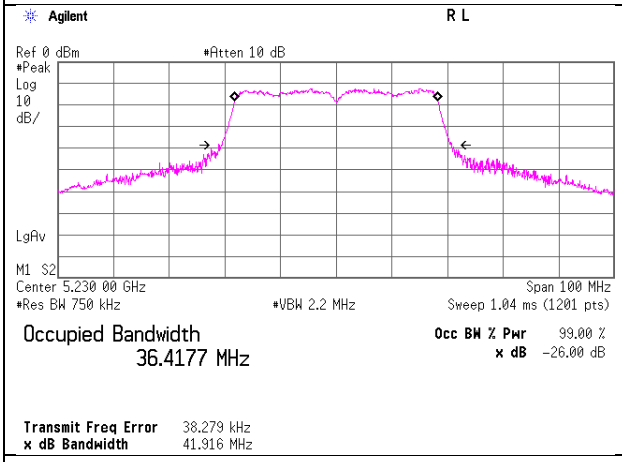
5190 MHz



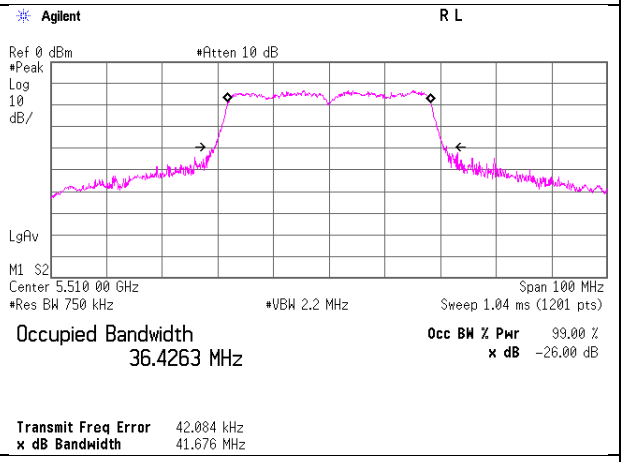
5310 MHz



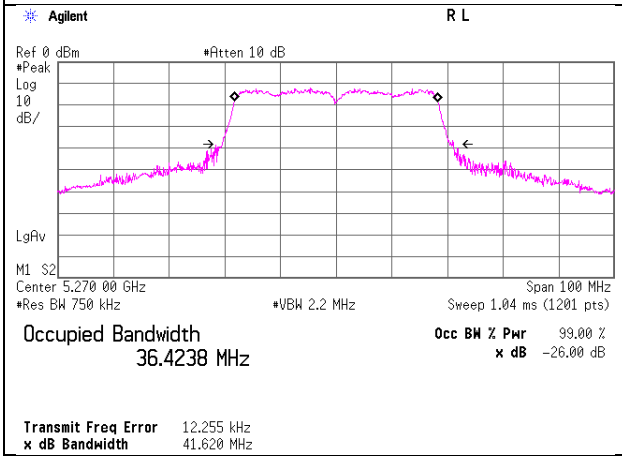
5230 MHz



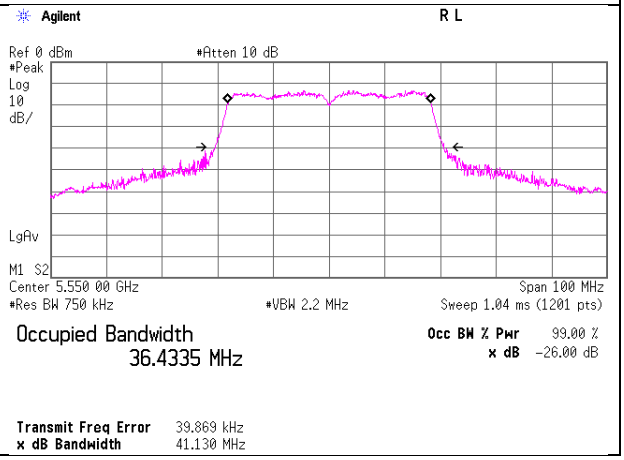
5510 MHz



5270 MHz



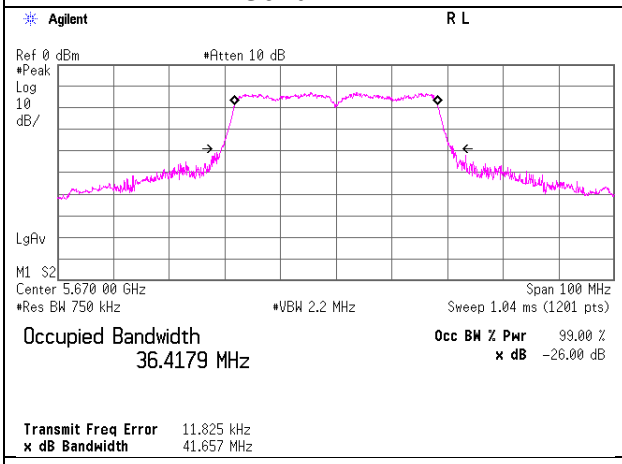
5550 MHz



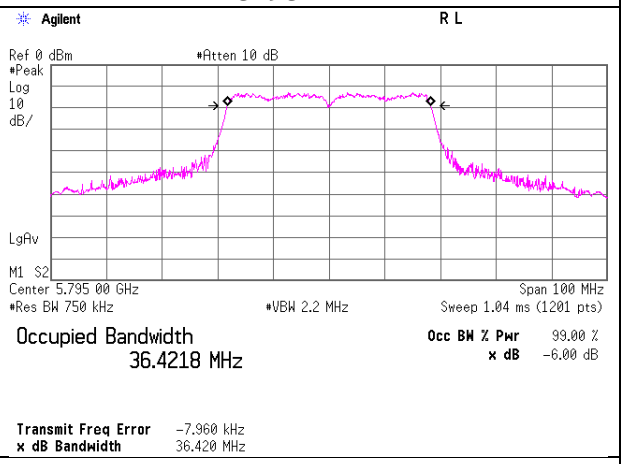
99 % Occupied Bandwidth

11ac-40 MIMO

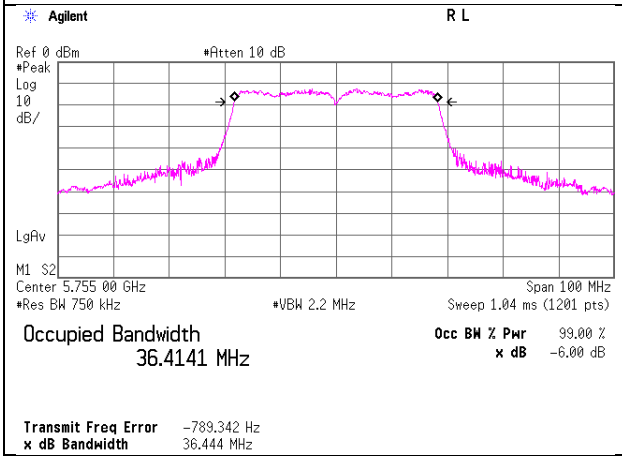
5670 MHz



5795 MHz



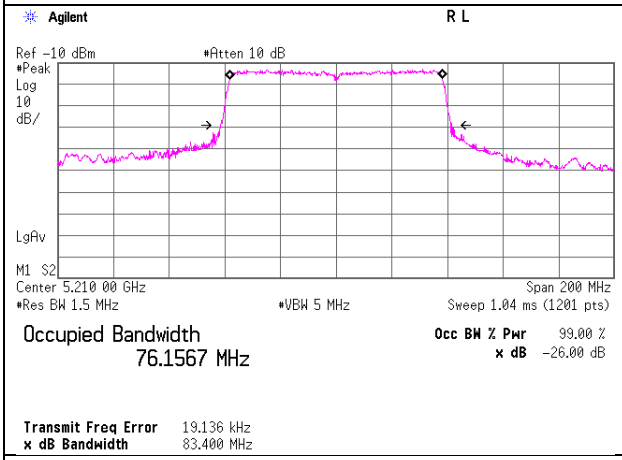
5755 MHz



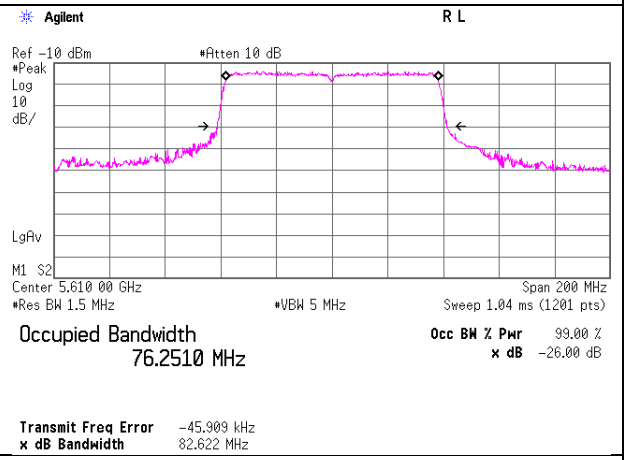
99 % Occupied Bandwidth

11ac-80 CDD

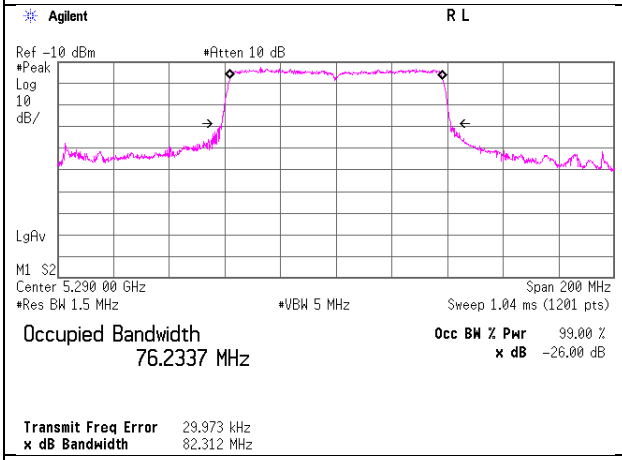
5210 MHz



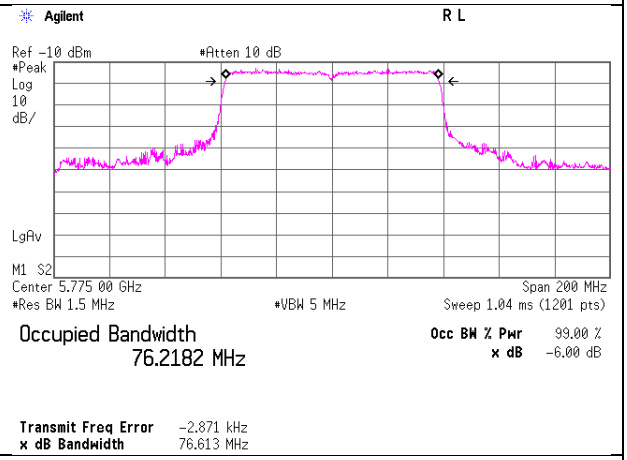
5610 MHz



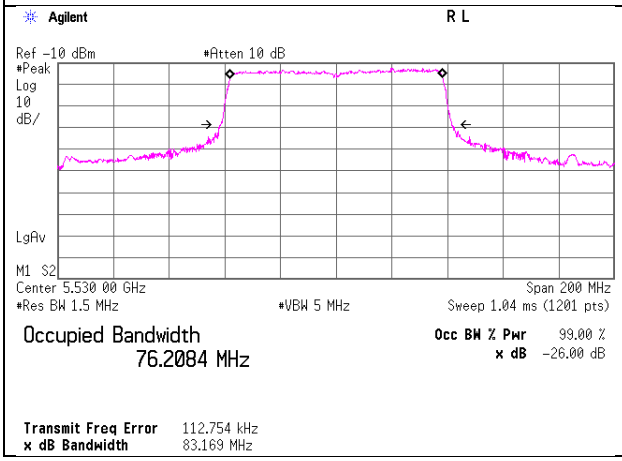
5290 MHz



5775 MHz



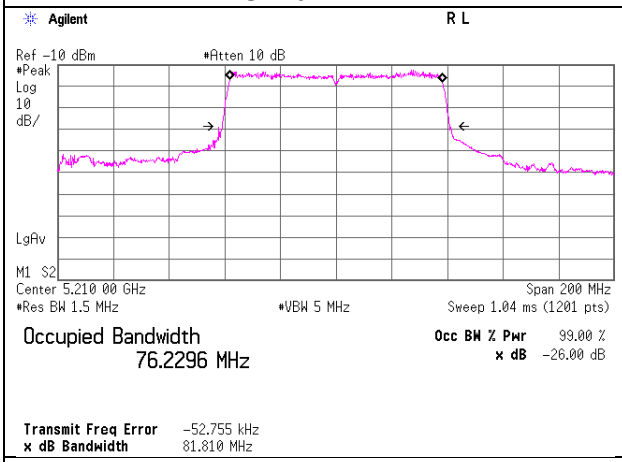
5530 MHz



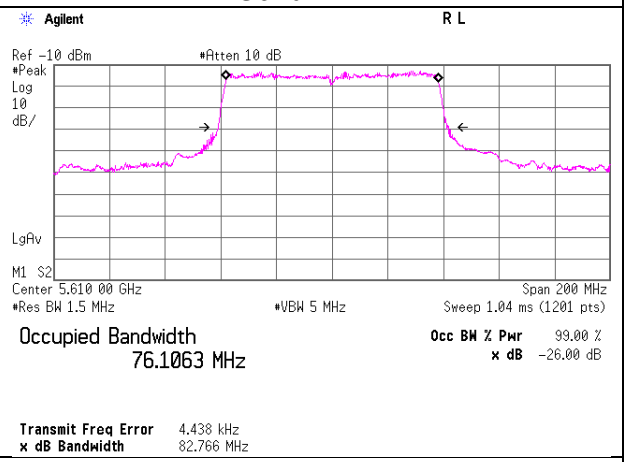
99 % Occupied Bandwidth

11ac-80 MIMO

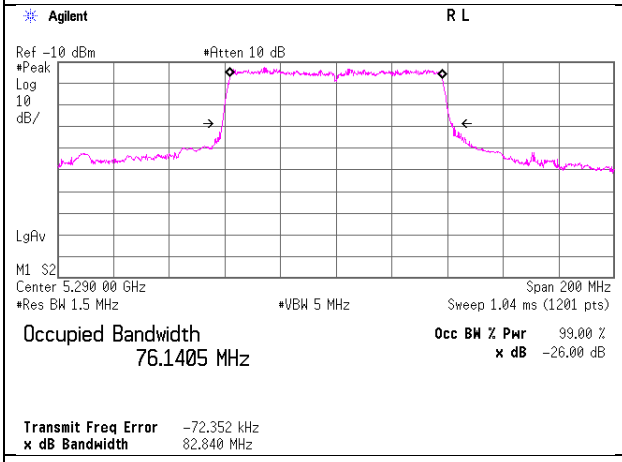
5210 MHz



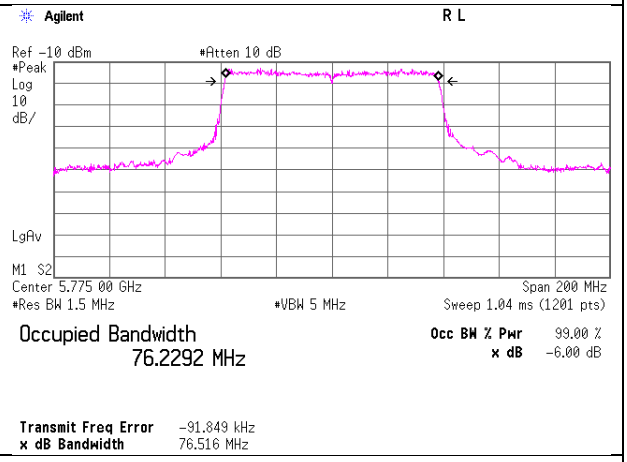
5610 MHz



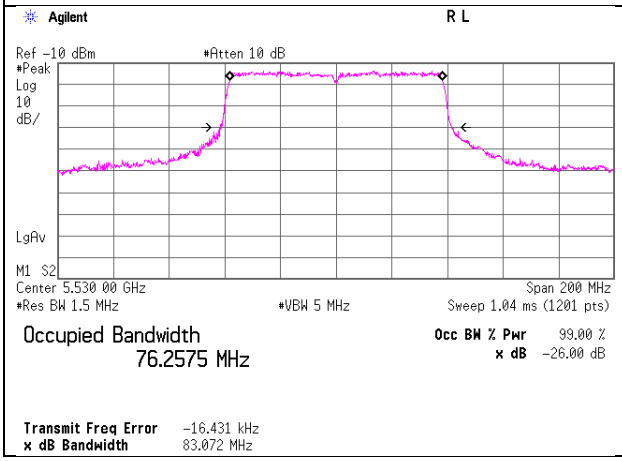
5290 MHz



5775 MHz



5530 MHz



6 dB Bandwidth

Report No.	12699044S-AM-R1		
Test place	Shonan EMC Lab. No.5 Shielded Room		
Date	June 4, 2019	June 6, 2019	June 10, 2019
Temperature / Humidity	25 deg. C / 47 % RH	25 deg. C / 51 % RH	24 deg. C / 54 % RH
Engineer	Takahiro Kawakami	Toshinori Yamada	Takahiro Kawakami
Mode	Tx		

11a

Antenna	Tested Frequency [MHz]	6 dB Bandwidth [MHz]	Limit [MHz]
A	5745	16.500	> 0.500
	5785	16.494	> 0.500
	5825	16.499	> 0.500

11n-20 CDD

Antenna	Tested Frequency [MHz]	6 dB Bandwidth [MHz]	Limit [MHz]
A	5745	17.732	> 0.500
	5785	17.724	> 0.500
	5825	17.736	> 0.500

11n-20 MIMO

Antenna	Tested Frequency [MHz]	6 dB Bandwidth [MHz]	Limit [MHz]
A	5745	17.725	> 0.500
	5785	17.690	> 0.500
	5825	17.739	> 0.500

11ac-20 CDD

Antenna	Tested Frequency [MHz]	6 dB Bandwidth [MHz]	Limit [MHz]
A	5745	17.735	> 0.500
	5785	17.727	> 0.500
	5825	17.734	> 0.500

11ac-20 MIMO

Antenna	Tested Frequency [MHz]	6 dB Bandwidth [MHz]	Limit [MHz]
A	5745	17.733	> 0.500
	5785	17.723	> 0.500
	5825	17.725	> 0.500

6 dB Bandwidth

Report No.	12699044S-AM-R1	
Test place	Shonan EMC Lab. No.5 Shielded Room	
Date	June 11, 2019	June 12, 2019
Temperature / Humidity	25 deg. C / 47 % RH	26 deg. C / 45 % RH
Engineer	Takahiro Kawakami	Takahiro Kawakami
Mode	Tx	

11n-40 CDD

Antenna	Tested Frequency [MHz]	6 dB Bandwidth [MHz]	Limit [MHz]
A	5755	35.704	> 0.500
	5795	36.010	> 0.500

11n-40 MIMO

Antenna	Tested Frequency [MHz]	6 dB Bandwidth [MHz]	Limit [MHz]
A	5755	35.735	> 0.500
	5795	35.827	> 0.500

11ac-40 CDD

Antenna	Tested Frequency [MHz]	6 dB Bandwidth [MHz]	Limit [MHz]
A	5755	35.829	> 0.500
	5795	36.160	> 0.500

11ac-40 MIMO

Antenna	Tested Frequency [MHz]	6 dB Bandwidth [MHz]	Limit [MHz]
A	5755	35.600	> 0.500
	5795	36.265	> 0.500

11ac-80 CDD

Antenna	Tested Frequency [MHz]	6 dB Bandwidth [MHz]	Limit [MHz]
A	5775	76.469	> 0.500

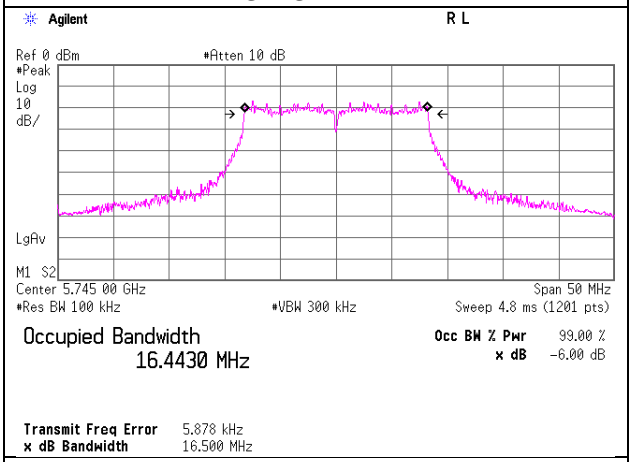
11ac-80 MIMO

Antenna	Tested Frequency [MHz]	6 dB Bandwidth [MHz]	Limit [MHz]
A	5775	76.513	> 0.500

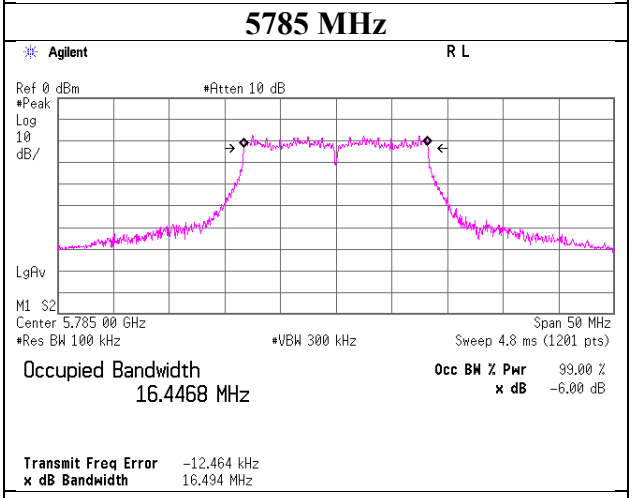
6 dB Bandwidth

11a

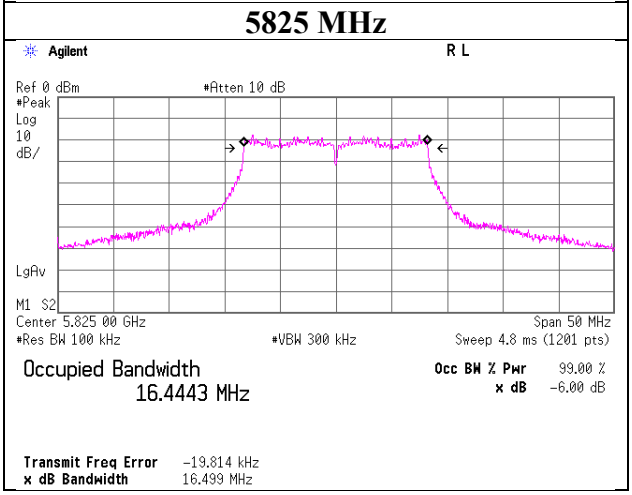
5745 MHz



5785 MHz



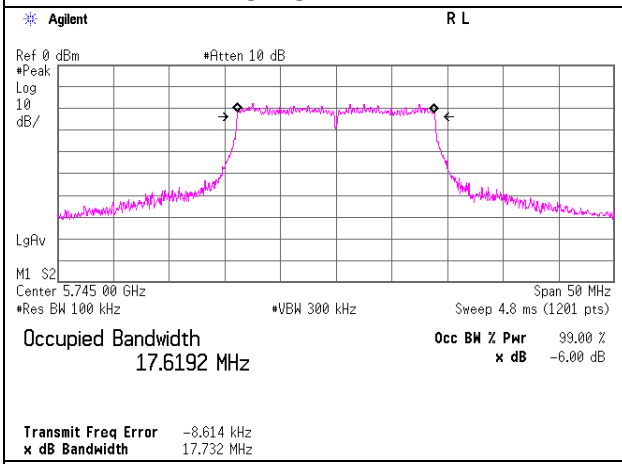
5825 MHz



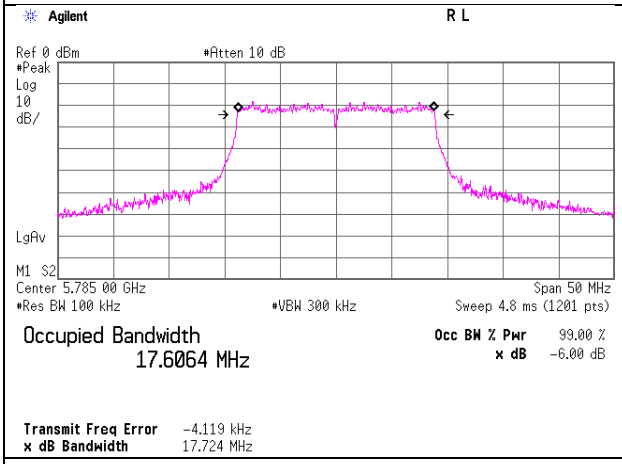
6 dB Bandwidth

11n-20 CDD

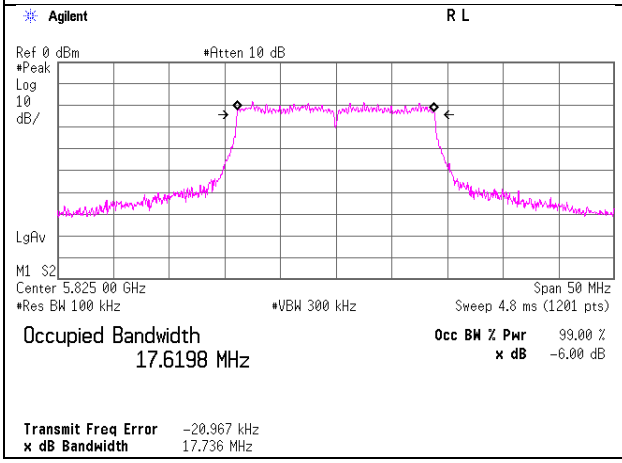
5745 MHz



5785 MHz

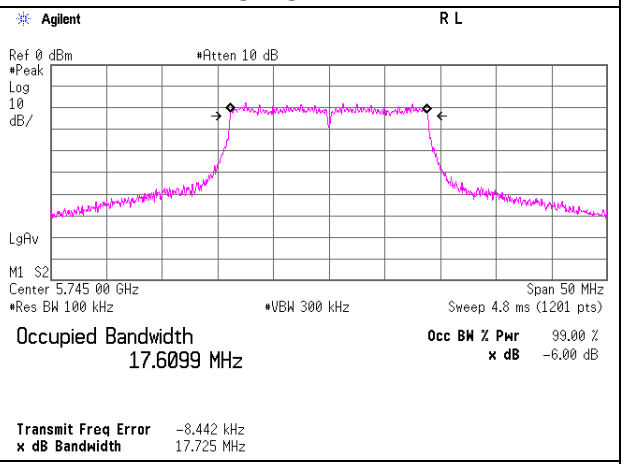


5825 MHz

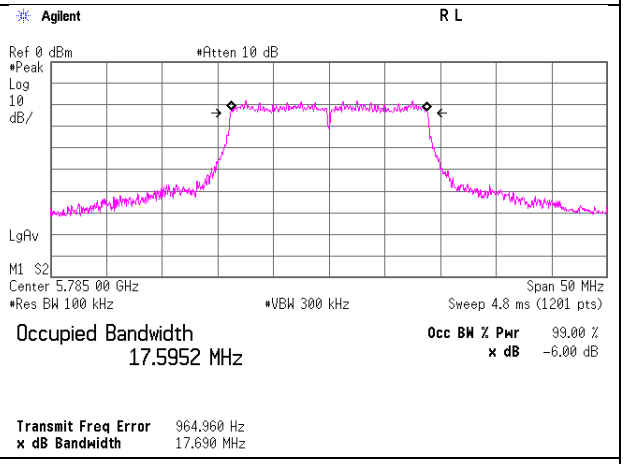


11n-20 MIMO

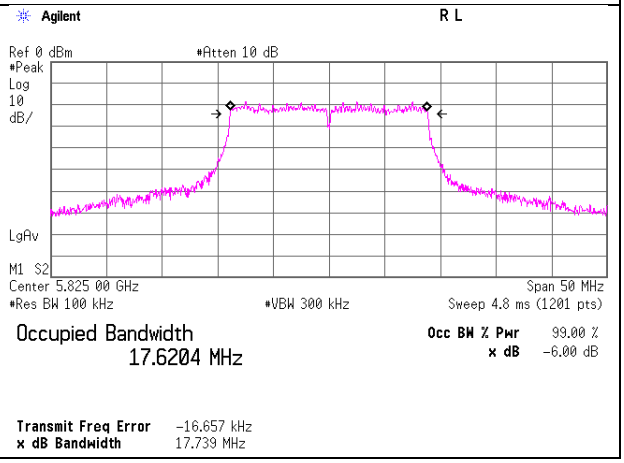
5745 MHz



5785 MHz



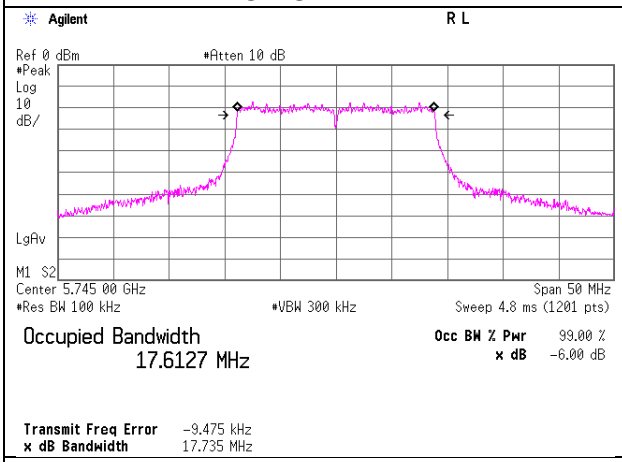
5825 MHz



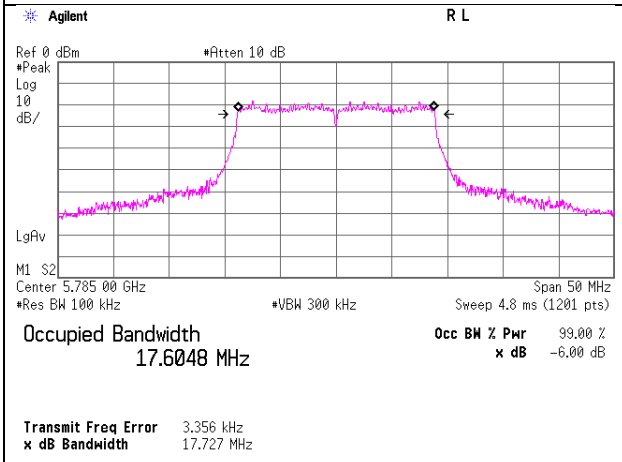
6 dB Bandwidth

11ac-20 CDD

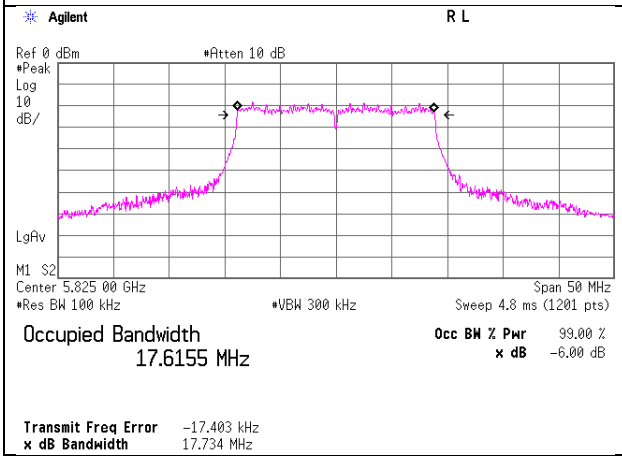
5745 MHz



5785 MHz

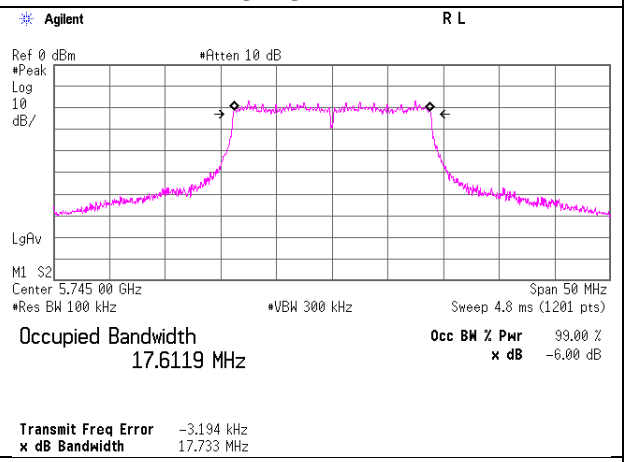


5825 MHz

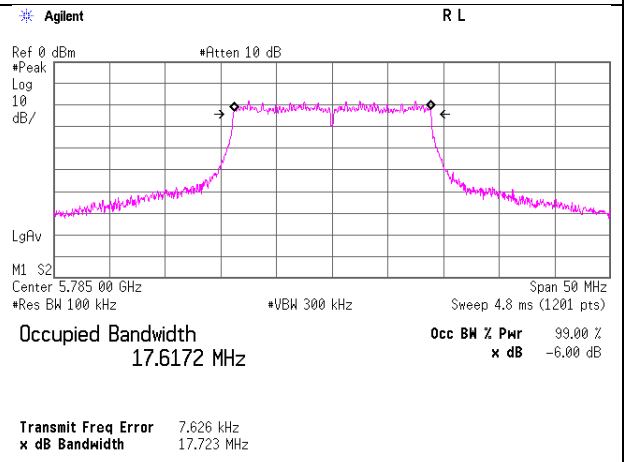


11ac-20 MIMO

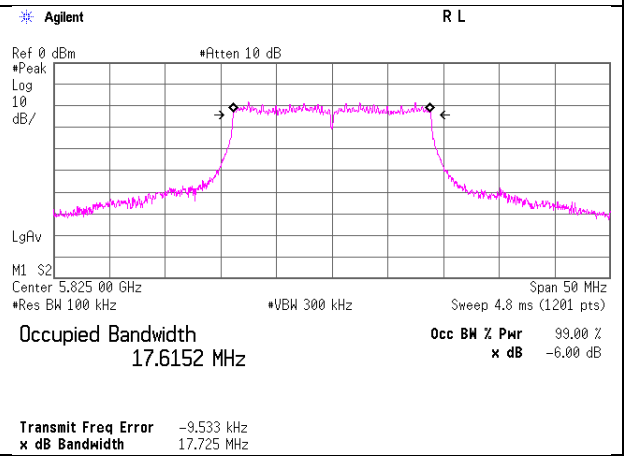
5745 MHz



5785 MHz



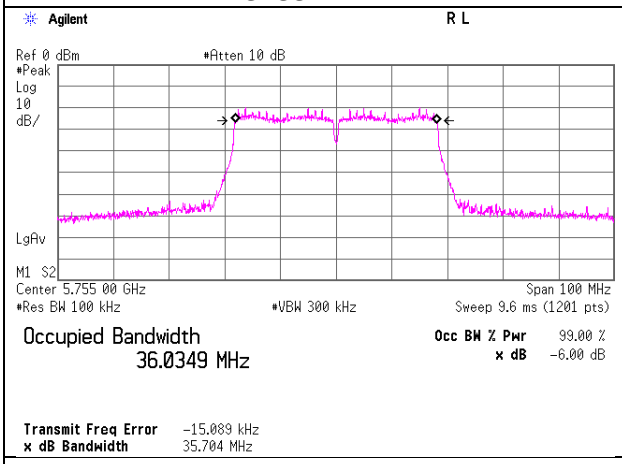
5825 MHz



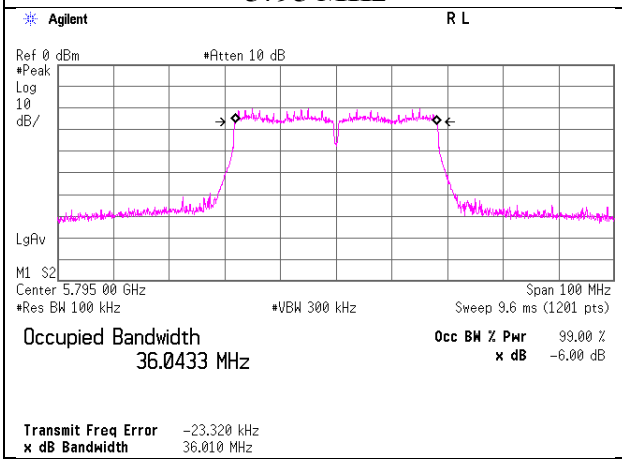
6 dB Bandwidth

11n-40 CDD

5755 MHz

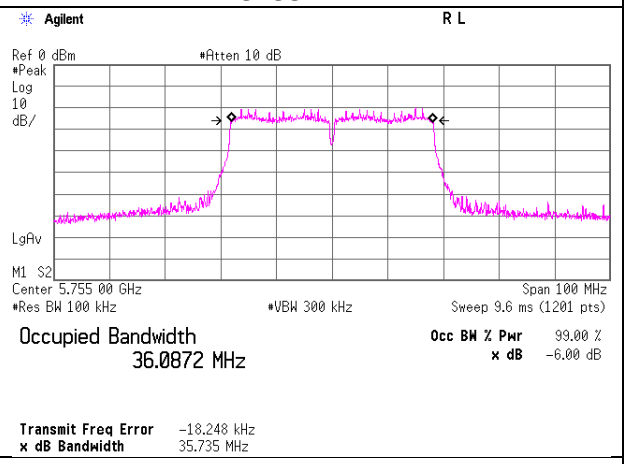


5795 MHz

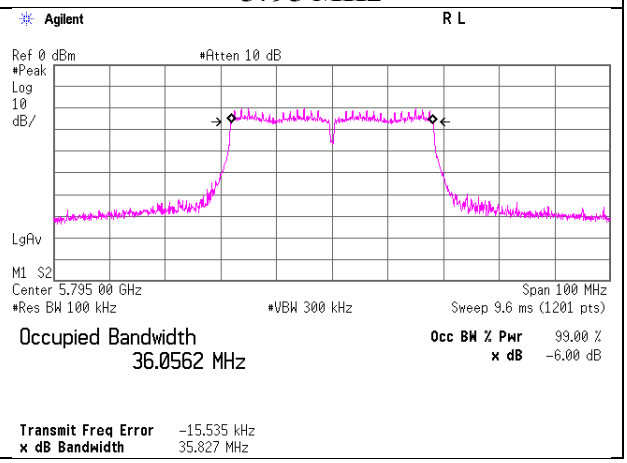


11n-40 MIMO

5755 MHz



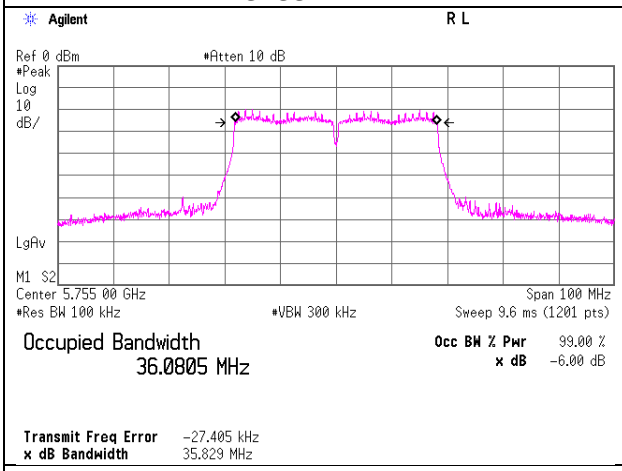
5795 MHz



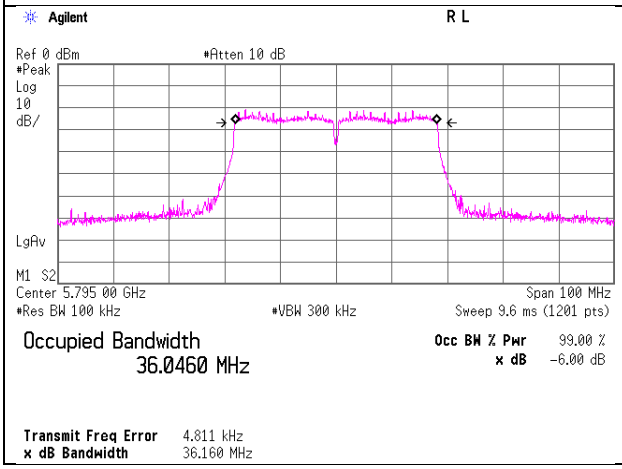
6 dB Bandwidth

11ac-40 CDD

5755 MHz

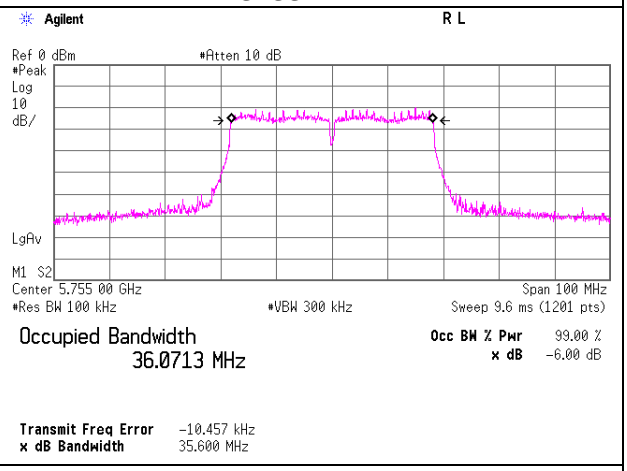


5795 MHz

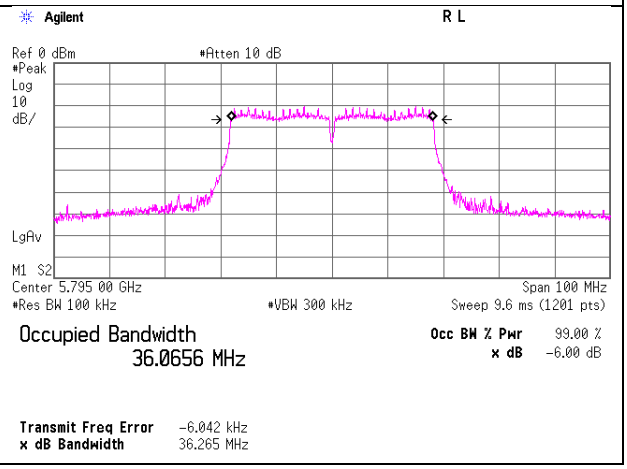


11ac-40 MIMO

5755 MHz

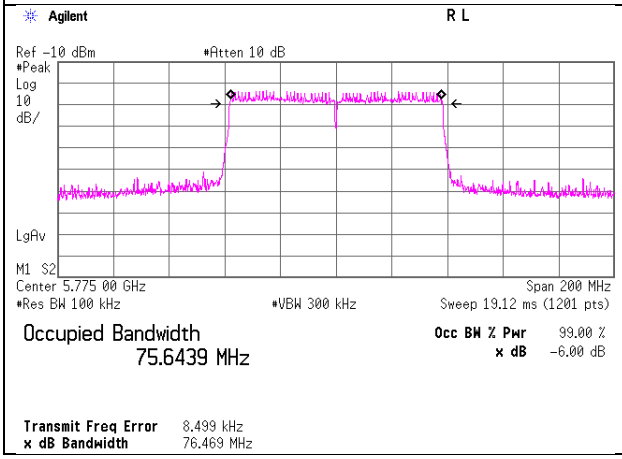


5795 MHz



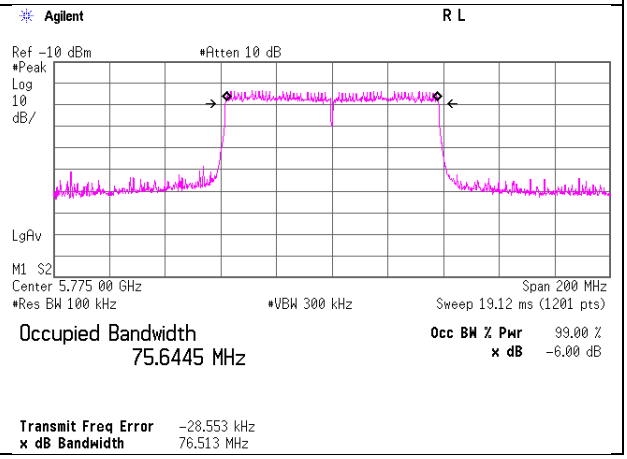
11ac-80 CDD

5775 MHz



11ac-80 MIMO

5775 MHz



Maximum Conducted Output Power

Report No. 12699044S-AM-R1
Test place Shonan EMC Lab. No.5 Shielded Room
Date May 21, 2019
Temperature / Humidity 25 deg. C / 55 % RH
Engineer Hiromasa Sato
Mode Tx 11a

Antenna A+B

Applied limit: 15.407, mobile and portable client device

Tested	26 dB	99%	Conducted power						e.i.r.p.					
Frequency	EBW	OBW	Antenna			Result	Limit	Margin	Antenna			Result	Limit	Margin
	(B for FCC)	(B for IC)	A	B	Sum				A	B	Sum			
[MHz]	[MHz]	[MHz]	[mW]	[mW]	[mW]	[dBm]	[dBm]	[dB]	[mW]	[mW]	[mW]	[dBm]	[dBm]	[dB]
5180	-	16.787	2.76	2.67	5.43	7.35	23.97	16.62	3.92	3.79	7.71	8.87	29.97	21.10
5220	-	16.795	2.72	2.70	5.42	7.34	23.97	16.63	3.85	3.84	7.69	8.86	29.97	21.11
5240	-	16.799	2.74	2.74	5.48	7.39	23.97	16.58	3.89	3.89	7.78	8.91	29.97	21.06
5260	19.751	16.778	2.77	2.69	5.46	7.37	23.95	16.58	4.17	4.06	8.22	9.15	29.97	20.82
5300	19.428	16.803	2.72	2.65	5.37	7.30	23.88	16.58	4.09	4.00	8.09	9.08	29.97	20.89
5320	19.228	16.805	2.72	2.74	5.46	7.38	23.83	16.45	4.10	4.13	8.23	9.16	29.97	20.81
5500	19.366	16.790	2.51	2.25	4.76	6.77	23.87	17.10	4.01	3.60	7.61	8.81	29.97	21.16
5580	19.292	16.806	2.48	2.27	4.75	6.76	23.85	17.09	3.96	3.63	7.59	8.80	29.97	21.17
5700	19.264	16.808	2.25	2.58	4.84	6.85	23.84	16.99	3.61	4.13	7.74	8.89	29.97	21.08
5745	-	16.805	3.19	2.81	6.00	7.78	30.00	22.22	5.37	4.72	10.09	10.04	36.00	25.96
5785	-	16.779	2.91	2.76	5.67	7.54	30.00	22.46	4.90	4.65	9.54	9.80	36.00	26.20
5825	-	16.805	2.69	2.56	5.24	7.20	30.00	22.80	4.52	4.31	8.82	9.46	36.00	26.54

Sample Calculation:

Conducted Power Result = Antenna A Cond. Power + Antenna B Cond. Power
Conducted Power Limit (5250 MHz-5350 MHz, 5470 MHz-5725 MHz) = 250 mW or (11 + 10logB) dBm, whichever is lower
Conducted Power Limit (5725 MHz-5850 MHz) = 1W
e.i.r.p. Result = Antenna A e.i.r.p. + Antenna B e.i.r.p.
*[U-NII-1 band for FCC]
Although the EUT operates on Master mode, more stringent limit for Client device was applied.
Also, the maximum e.i.r.p. Result is less than 125 mW (21 dBm).

		Antenna A						**Antenna B**					
Tested	Duty	Power	Cable	Atten.	Directiona	Result		Power	Cable	Atten.	Directiona	Result	
Frequency	Factor	Meter	Loss	Loss	Gain	Cond.	e.i.r.p.	Meter	Loss	Loss	Gain	Cond.	e.i.r.p.
		Reading				Power		Reading				Power	
[MHz]	[dB]	[dBm]	[dB]	[dB]	[dBi]	[dBm]	[dBm]	[dBm]	[dB]	[dB]	[dBi]	[dBm]	[dBm]
5180	0.11	-7.71	2.05	9.96	1.52	4.41	5.93	-7.21	1.52	9.85	1.52	4.27	5.79
5220	0.11	-7.78	2.05	9.96	1.52	4.34	5.86	-7.16	1.52	9.85	1.52	4.32	5.84
5240	0.11	-7.74	2.05	9.96	1.52	4.38	5.90	-7.10	1.52	9.85	1.52	4.38	5.90
5260	0.11	-7.71	2.06	9.96	1.78	4.42	6.20	-7.19	1.53	9.85	1.78	4.30	6.08
5300	0.11	-7.80	2.06	9.97	1.78	4.34	6.12	-7.25	1.53	9.85	1.78	4.24	6.02
5320	0.11	-7.79	2.06	9.97	1.78	4.35	6.13	-7.11	1.53	9.85	1.78	4.38	6.16
5500	0.11	-8.18	2.09	9.97	2.04	3.99	6.03	-7.99	1.55	9.85	2.04	3.52	5.56
5580	0.11	-8.23	2.09	9.97	2.04	3.94	5.98	-7.96	1.56	9.85	2.04	3.56	5.60
5700	0.11	-8.63	2.10	9.95	2.04	3.53	5.57	-7.42	1.57	9.86	2.04	4.12	6.16
5745	0.11	-7.12	2.10	9.95	2.26	5.04	7.30	-7.06	1.57	9.86	2.26	4.48	6.74
5785	0.11	-7.53	2.11	9.95	2.26	4.64	6.90	-7.14	1.58	9.86	2.26	4.41	6.67
5825	0.11	-7.87	2.11	9.94	2.26	4.29	6.55	-7.47	1.58	9.86	2.26	4.08	6.34

Sample Calculation:

Conducted Power Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Duty Factor
e.i.r.p. Result = Conducted Power Result + Directional Gain
G ANT = Set equal to the gain of the antenna having the highest gain
Array Gain = 0 dB(i.e.,no array gain) for N ANT $\leq$ 4
N ANT = number of transmit antennas = 2
Directional Gain = G ANT + Array Gain

Maximum Conducted Output Power

Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	May 22, 2019
Temperature / Humidity	24 deg. C / 62 % RH
Engineer	Takahiro Kawakami
Mode	Tx 11n-20 CDD

Antenna A+B Applied limit: 15.407, mobile and portable client device

Tested Frequency	26 dB EBW (B for FCC)	99% OBW (B for IC)	Conducted power Antenna A	Antenna B	Antenna Sum	Result	Limit	Margin	e.i.r.p. Antenna A	Antenna B	Antenna Sum	Result	Limit	Margin
[MHz]	[MHz]	[MHz]	[mW]	[mW]	[mW]	[dBm]	[dBm]	[dB]	[mW]	[mW]	[mW]	[dBm]	[dBm]	[dB]
5180	-	17.814	2.84	2.83	5.67	7.54	23.97	16.43	4.03	4.02	8.05	9.06	29.97	20.91
5220	-	17.808	2.72	2.86	5.57	7.46	23.97	16.51	3.85	4.06	7.91	8.98	29.97	20.99
5240	-	17.801	2.75	2.81	5.55	7.45	23.97	16.52	3.90	3.98	7.88	8.97	29.97	21.00
5260	19.940	17.848	2.85	2.76	5.61	7.49	23.97	16.48	4.30	4.16	8.45	9.27	29.97	20.70
5300	19.903	17.819	2.79	2.64	5.43	7.35	23.97	16.62	4.21	3.98	8.19	9.13	29.97	20.84
5320	20.002	17.854	2.80	2.70	5.50	7.40	23.97	16.57	4.22	4.06	8.28	9.18	29.97	20.79
5500	19.811	17.839	2.68	2.09	4.77	6.79	23.96	17.17	4.29	3.35	7.64	8.83	29.97	21.14
5580	20.111	17.860	2.66	2.09	4.75	6.77	23.97	17.20	4.26	3.35	7.61	8.81	29.97	21.16
5700	20.031	17.840	2.37	2.43	4.79	6.81	23.97	17.16	3.78	3.88	7.67	8.85	29.97	21.12
5745	-	17.837	3.18	2.79	5.97	7.76	30.00	22.24	5.36	4.69	10.05	10.02	36.00	25.98
5785	-	17.841	2.88	2.70	5.58	7.47	30.00	22.53	4.85	4.54	9.39	9.73	36.00	26.27
5825	-	17.844	2.59	2.45	5.04	7.03	30.00	22.97	4.36	4.13	8.49	9.29	36.00	26.71

Sample Calculation:

Conducted Power Result = Antenna A Cond. Power + Antenna B Cond. Power

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

Conducted Power Limit (5725 MHz-5850 MHz) = 1W

e.i.r.p. Result = Antenna A e.i.r.p. + Antenna B e.i.r.p.

*[U-NII-1 band for FCC]

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

Also, the maximum e.i.r.p. Result is less than 125 mW (21 dBm).

		Antenna A						**Antenna B**					
Tested Frequency	Duty Factor	Power Meter Reading	Cable Loss	Atten. Loss	Directional Gain	Result Cond. Power	Result e.i.r.p.	Power Meter Reading	Cable Loss	Atten. Loss	Directional Gain	Result Cond. Power	Result e.i.r.p.
[MHz]	[dB]	[dBm]	[dB]	[dB]	[dBi]	[dBm]	[dBm]	[dBm]	[dB]	[dB]	[dBi]	[dBm]	[dBm]
5180	0.09	-7.57	2.05	9.96	1.52	4.53	6.05	-6.94	1.52	9.85	1.52	4.52	6.04
5220	0.09	-7.76	2.05	9.96	1.52	4.34	5.86	-6.90	1.52	9.85	1.52	4.56	6.08
5240	0.09	-7.71	2.05	9.96	1.52	4.39	5.91	-6.98	1.52	9.85	1.52	4.48	6.00
5260	0.09	-7.56	2.06	9.96	1.78	4.55	6.33	-7.06	1.53	9.85	1.78	4.41	6.19
5300	0.09	-7.66	2.06	9.97	1.78	4.46	6.24	-7.25	1.53	9.85	1.78	4.22	6.00
5320	0.09	-7.65	2.06	9.97	1.78	4.47	6.25	-7.16	1.53	9.85	1.78	4.31	6.09
5500	0.09	-7.87	2.09	9.97	2.04	4.28	6.32	-8.28	1.55	9.85	2.04	3.21	5.25
5580	0.09	-7.90	2.09	9.97	2.04	4.25	6.29	-8.29	1.56	9.85	2.04	3.21	5.25
5700	0.09	-8.40	2.10	9.95	2.04	3.74	5.78	-7.67	1.57	9.86	2.04	3.85	5.89
5745	0.09	-7.11	2.10	9.95	2.26	5.03	7.29	-7.07	1.57	9.86	2.26	4.45	6.71
5785	0.09	-7.55	2.11	9.95	2.26	4.60	6.86	-7.22	1.58	9.86	2.26	4.31	6.57
5825	0.09	-8.01	2.11	9.94	2.26	4.13	6.39	-7.63	1.58	9.86	2.26	3.90	6.16

Sample Calculation:

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

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

G ANT = Set equal to the gain of the antenna having the highest gain

Array Gain = 0 dB(i.e.,no array gain) for N ANT < 4

N ANT = number of transmit antennas = 2

Directional Gain = G ANT + Array Gain

Maximum Conducted Output Power

Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	May 22, 2019
Temperature / Humidity	24 deg. C / 62 % RH
Engineer	Takahiro Kawakami
Mode	Tx 11n-20 MIMO

Antenna A+B Applied limit: 15.407, mobile and portable client device

Tested Frequency	26 dB EBW (B for FCC)	99% OBW (B for IC)	Conducted power Antenna A	Antenna B	Sum	Result	Limit	Margin	e.i.r.p. Antenna A	Antenna B	Sum	Result	Limit	Margin
[MHz]	[MHz]	[MHz]	[mW]	[mW]	[mW]	[dBm]	[dBm]	[dB]	[mW]	[mW]	[mW]	[dBm]	[dBm]	[dB]
5180	-	17.786	2.88	2.86	5.74	7.59	23.97	16.38	4.09	3.94	8.03	9.05	29.97	20.92
5220	-	17.796	2.77	2.88	5.65	7.52	23.97	16.45	3.94	3.96	7.90	8.98	29.97	20.99
5240	-	17.782	2.78	2.86	5.64	7.51	23.97	16.46	3.94	3.94	7.88	8.97	29.97	21.00
5260	19.931	17.797	2.85	2.72	5.57	7.46	23.97	16.51	4.30	3.92	8.21	9.14	29.97	20.83
5300	20.118	17.784	2.81	2.62	5.44	7.35	23.97	16.62	4.24	3.78	8.02	9.04	29.97	20.93
5320	20.002	17.783	2.81	2.70	5.51	7.41	23.97	16.56	4.24	3.89	8.13	9.10	29.97	20.87
5500	19.871	17.792	2.68	2.08	4.76	6.78	23.97	17.19	4.29	2.49	6.78	8.31	29.97	21.66
5580	19.939	17.787	2.66	2.08	4.75	6.76	23.97	17.21	4.26	2.50	6.76	8.30	29.97	21.67
5700	20.146	17.770	2.38	2.43	4.81	6.82	23.97	17.15	3.81	2.91	6.72	8.27	29.97	21.70
5745	-	17.790	3.21	2.79	5.99	7.78	30.00	22.22	5.40	3.86	9.26	9.67	36.00	26.33
5785	-	17.785	2.89	2.71	5.60	7.48	30.00	22.52	4.86	3.76	8.62	9.36	36.00	26.64
5825	-	17.801	2.61	2.47	5.08	7.06	30.00	22.94	4.39	3.43	7.81	8.93	36.00	27.07

Sample Calculation:

Conducted Power Result = Antenna A Cond. Power + Antenna B Cond. Power

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

Conducted Power Limit (5725 MHz-5850 MHz) = 1W

e.i.r.p. Result = Antenna A e.i.r.p. + Antenna B e.i.r.p.

*[U-NII-1 band for FCC]

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

Also, the maximum e.i.r.p. Result is less than 125 mW (21 dBm).

		Antenna A						Antenna B					
Tested Frequency	Duty Factor	Power Meter Reading	Cable Loss	Atten. Loss	Antenna Gain	Result Cond. Power	Result e.i.r.p.	Power Meter Reading	Cable Loss	Atten. Loss	Antenna Gain	Result Cond. Power	Result e.i.r.p.
[MHz]	[dB]	[dBm]	[dB]	[dB]	[dBi]	[dBm]	[dBm]	[dBm]	[dB]	[dB]	[dBi]	[dBm]	[dBm]
5180	0.15	-7.56	2.05	9.96	1.52	4.60	6.12	-6.96	1.52	9.85	1.39	4.56	5.95
5220	0.15	-7.73	2.05	9.96	1.52	4.43	5.95	-6.93	1.52	9.85	1.39	4.59	5.98
5240	0.15	-7.72	2.05	9.96	1.52	4.44	5.96	-6.96	1.52	9.85	1.39	4.56	5.95
5260	0.15	-7.62	2.06	9.96	1.78	4.55	6.33	-7.19	1.53	9.85	1.59	4.34	5.93
5300	0.15	-7.69	2.06	9.97	1.78	4.49	6.27	-7.34	1.53	9.85	1.59	4.19	5.78
5320	0.15	-7.69	2.06	9.97	1.78	4.49	6.27	-7.22	1.53	9.85	1.59	4.31	5.90
5500	0.15	-7.93	2.09	9.97	2.04	4.28	6.32	-8.37	1.55	9.85	0.79	3.18	3.97
5580	0.15	-7.96	2.09	9.97	2.04	4.25	6.29	-8.37	1.56	9.85	0.79	3.19	3.98
5700	0.15	-8.43	2.10	9.95	2.04	3.77	5.81	-7.73	1.57	9.86	0.79	3.85	4.64
5745	0.15	-7.14	2.10	9.95	2.26	5.06	7.32	-7.13	1.57	9.86	1.42	4.45	5.87
5785	0.15	-7.60	2.11	9.95	2.26	4.61	6.87	-7.26	1.58	9.86	1.42	4.33	5.75
5825	0.15	-8.04	2.11	9.94	2.26	4.16	6.42	-7.66	1.58	9.86	1.42	3.93	5.35

Sample Calculation:

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

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

Maximum Conducted Output Power

Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	May 22, 2019
Temperature / Humidity	24 deg. C / 62 % RH
Engineer	Takahiro Kawakami
Mode	Tx 11ac-20 CDD

Antenna A+B Applied limit: 15.407, mobile and portable client device

Tested	26 dB	99%	Conducted power						e.i.r.p.					
Frequency	EBW	OBW	Antenna			Result	Limit	Margin	Antenna			Result	Limit	Margin
	(B for FCC)	(B for IC)	A	B	Sum				A	B	Sum			
[MHz]	[MHz]	[MHz]	[mW]	[mW]	[mW]	[dBm]	[dBm]	[dB]	[mW]	[mW]	[mW]	[dBm]	[dBm]	[dB]
5180	-	17.843	2.90	2.83	5.73	7.58	23.97	16.39	4.11	4.02	8.13	9.10	29.97	20.87
5220	-	17.843	2.78	2.85	5.63	7.51	23.97	16.46	3.94	4.05	7.99	9.03	29.97	20.94
5240	-	17.784	2.82	2.81	5.62	7.50	23.97	16.47	4.00	3.98	7.98	9.02	29.97	20.95
5260	19.953	17.632	2.84	2.71	5.55	7.45	23.97	16.52	4.29	4.08	8.37	9.23	29.97	20.74
5300	19.901	17.632	2.77	2.60	5.37	7.30	23.97	16.67	4.18	3.92	8.10	9.08	29.97	20.89
5320	20.124	17.640	2.79	2.68	5.47	7.38	23.97	16.59	4.21	4.04	8.24	9.16	29.97	20.81
5500	20.116	17.835	2.65	2.07	4.72	6.74	23.97	17.23	4.25	3.30	7.55	8.78	29.97	21.19
5580	20.067	17.849	2.64	2.07	4.71	6.73	23.97	17.24	4.22	3.32	7.54	8.77	29.97	21.20
5700	19.963	17.789	2.36	2.42	4.77	6.79	23.97	17.18	3.77	3.86	7.63	8.83	29.97	21.14
5745	-	17.843	3.18	2.77	5.95	7.75	30.00	22.25	5.35	4.67	10.01	10.01	36.00	25.99
5785	-	17.848	2.88	2.69	5.57	7.46	30.00	22.54	4.84	4.53	9.37	9.72	36.00	26.28
5825	-	17.853	2.60	2.45	5.05	7.04	30.00	22.96	4.38	4.13	8.51	9.30	36.00	26.70

Sample Calculation:

Conducted Power Result = Antenna A Cond. Power + Antenna B Cond. Power

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

Conducted Power Limit (5725 MHz-5850 MHz) = 1W

e.i.r.p. Result = Antenna A e.i.r.p. + Antenna B e.i.r.p.

*[U-NII-1 band for FCC]

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

Also, the maximum e.i.r.p. Result is less than 125 mW (21 dBm).

		Antenna A						**Antenna B**					
Tested	Duty	Power	Cable	Atten.	Directional	Result		Power	Cable	Atten.	Directional	Result	
Frequency	Factor	Meter	Loss	Loss	Gain	Cond.	e.i.r.p.	Meter	Loss	Loss	Gain	Cond.	e.i.r.p.
		Reading				Power		Reading				Power	
[MHz]	[dB]	[dBm]	[dB]	[dB]	[dBi]	[dBm]	[dBm]	[dBm]	[dB]	[dB]	[dBi]	[dBm]	[dBm]
5180	0.09	-7.48	2.05	9.96	1.52	4.62	6.14	-6.94	1.52	9.85	1.52	4.52	6.04
5220	0.09	-7.66	2.05	9.96	1.52	4.44	5.96	-6.91	1.52	9.85	1.52	4.55	6.07
5240	0.09	-7.60	2.05	9.96	1.52	4.50	6.02	-6.98	1.52	9.85	1.52	4.48	6.00
5260	0.09	-7.57	2.06	9.96	1.78	4.54	6.32	-7.14	1.53	9.85	1.78	4.33	6.11
5300	0.09	-7.69	2.06	9.97	1.78	4.43	6.21	-7.32	1.53	9.85	1.78	4.15	5.93
5320	0.09	-7.66	2.06	9.97	1.78	4.46	6.24	-7.19	1.53	9.85	1.78	4.28	6.06
5500	0.09	-7.91	2.09	9.97	2.04	4.24	6.28	-8.34	1.55	9.85	2.04	3.15	5.19
5580	0.09	-7.94	2.09	9.97	2.04	4.21	6.25	-8.33	1.56	9.85	2.04	3.17	5.21
5700	0.09	-8.42	2.10	9.95	2.04	3.72	5.76	-7.69	1.57	9.86	2.04	3.83	5.87
5745	0.09	-7.12	2.10	9.95	2.26	5.02	7.28	-7.09	1.57	9.86	2.26	4.43	6.69
5785	0.09	-7.56	2.11	9.95	2.26	4.59	6.85	-7.23	1.58	9.86	2.26	4.30	6.56
5825	0.09	-7.99	2.11	9.94	2.26	4.15	6.41	-7.63	1.58	9.86	2.26	3.90	6.16

Sample Calculation:

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

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

G ANT = Set equal to the gain of the antenna having the highest gain

Array Gain = 0 dB(i.e.,no array gain) for N ANT < 4

N ANT = number of transmit antennas = 2

Directional Gain = G ANT + Array Gain

Maximum Conducted Output Power

Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	May 22, 2019
Temperature / Humidity	24 deg. C / 62 % RH
Engineer	Takahiro Kawakami
Mode	Tx 11ac-20 MIMO

Antenna A+B Applied limit: 15.407, mobile and portable client device

Tested Frequency	26 dB EBW (B for FCC)	99% OBW (B for IC)	Conducted power Antenna A	Antenna B	Antenna Sum	Result	Limit	Margin	e.i.r.p. Antenna A	Antenna B	Antenna Sum	Result	Limit	Margin
[MHz]	[MHz]	[MHz]	[mW]	[mW]	[mW]	[dBm]	[dBm]	[dB]	[mW]	[mW]	[mW]	[dBm]	[dBm]	[dB]
5180	-	17.863	2.84	2.84	5.68	7.55	23.97	16.42	4.03	3.92	7.94	9.00	29.97	20.97
5220	-	17.873	2.74	2.86	5.60	7.48	23.97	16.49	3.88	3.94	7.83	8.94	29.97	21.03
5240	-	17.865	2.75	2.82	5.58	7.47	23.97	16.50	3.91	3.89	7.80	8.92	29.97	21.05
5260	20.349	17.882	2.84	2.72	5.57	7.46	23.97	16.51	4.29	3.93	8.21	9.14	29.97	20.83
5300	20.034	17.886	2.79	2.63	5.42	7.34	23.97	16.63	4.21	3.79	8.00	9.03	29.97	20.94
5320	20.399	17.884	2.80	2.69	5.49	7.40	23.97	16.57	4.22	3.88	8.10	9.08	29.97	20.89
5500	20.135	17.894	2.69	2.08	4.77	6.79	23.97	17.18	4.30	2.50	6.80	8.32	29.97	21.65
5580	20.081	17.878	2.64	2.09	4.73	6.75	23.97	17.22	4.23	2.51	6.73	8.28	29.97	21.69
5700	20.031	17.872	2.34	2.40	4.74	6.76	23.97	17.21	3.74	2.88	6.63	8.21	29.97	21.76
5745	-	17.811	3.12	2.75	5.87	7.69	30.00	22.31	5.25	3.82	9.07	9.57	36.00	26.43
5785	-	17.879	2.82	2.66	5.48	7.39	30.00	22.61	4.74	3.69	8.43	9.26	36.00	26.74
5825	-	17.869	2.54	2.43	4.97	6.97	30.00	23.03	4.28	3.37	7.65	8.84	36.00	27.16

Sample Calculation:

Conducted Power Result = Antenna A Cond. Power + Antenna B Cond. Power

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

Conducted Power Limit (5725 MHz-5850 MHz) = 1W

e.i.r.p. Result = Antenna A e.i.r.p. + Antenna B e.i.r.p.

*[U-NII-1 band for FCC]

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

Also, the maximum e.i.r.p. Result is less than 125 mW (21 dBm).

		Antenna A						**Antenna B**					
Tested Frequency	Duty Factor	Power Meter Reading	Cable Loss	Atten. Loss	Antenna Gain	Result Cond. Power	Result e.i.r.p.	Power Meter Reading	Cable Loss	Atten. Loss	Antenna Gain	Result Cond. Power	Result e.i.r.p.
[MHz]	[dB]	[dBm]	[dB]	[dB]	[dBi]	[dBm]	[dBm]	[dBm]	[dB]	[dB]	[dBi]	[dBm]	[dBm]
5180	0.15	-7.63	2.05	9.96	1.52	4.53	6.05	-6.98	1.52	9.85	1.39	4.54	5.93
5220	0.15	-7.79	2.05	9.96	1.52	4.37	5.89	-6.95	1.52	9.85	1.39	4.57	5.96
5240	0.15	-7.76	2.05	9.96	1.52	4.40	5.92	-7.01	1.52	9.85	1.39	4.51	5.90
5260	0.15	-7.63	2.06	9.96	1.78	4.54	6.32	-7.18	1.53	9.85	1.59	4.35	5.94
5300	0.15	-7.72	2.06	9.97	1.78	4.46	6.24	-7.33	1.53	9.85	1.59	4.20	5.79
5320	0.15	-7.71	2.06	9.97	1.78	4.47	6.25	-7.23	1.53	9.85	1.59	4.30	5.89
5500	0.15	-7.92	2.09	9.97	2.04	4.29	6.33	-8.36	1.55	9.85	0.79	3.19	3.98
5580	0.15	-7.99	2.09	9.97	2.04	4.22	6.26	-8.36	1.56	9.85	0.79	3.20	3.99
5700	0.15	-8.51	2.10	9.95	2.04	3.69	5.73	-7.77	1.57	9.86	0.79	3.81	4.60
5745	0.15	-7.26	2.10	9.95	2.26	4.94	7.20	-7.18	1.57	9.86	1.42	4.40	5.82
5785	0.15	-7.71	2.11	9.95	2.26	4.50	6.76	-7.34	1.58	9.86	1.42	4.25	5.67
5825	0.15	-8.15	2.11	9.94	2.26	4.05	6.31	-7.73	1.58	9.86	1.42	3.86	5.28

Sample Calculation:

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

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

Maximum Conducted Output Power

Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	May 23, 2019
Temperature / Humidity	22 deg. C / 44 % RH
Engineer	Kazutaka Takeyama
Mode	Tx 11n-40 CDD

Antenna A+B Applied limit: 15.407, mobile and portable client device

Tested Frequency	26 dB EBW (B for FCC)	99% OBW (B for IC)	Conducted power Antenna A	Antenna B	Antenna Sum	Result	Limit	Margin	e.i.r.p. Antenna A	Antenna B	Antenna Sum	Result	Limit	Margin
[MHz]	[MHz]	[MHz]	[mW]	[mW]	[mW]	[dBm]	[dBm]	[dB]	[mW]	[mW]	[mW]	[dBm]	[dBm]	[dB]
5190	-	36.346	2.83	2.74	5.57	7.46	23.97	16.51	4.02	3.89	7.91	8.98	29.97	20.99
5230	-	36.332	2.71	2.85	5.56	7.45	23.97	16.52	3.85	4.05	7.89	8.97	29.97	21.00
5270	40.454	36.332	2.79	2.78	5.57	7.46	23.97	16.51	4.21	4.19	8.40	9.24	29.97	20.73
5310	40.638	36.367	2.71	2.79	5.50	7.41	23.97	16.56	4.08	4.21	8.29	9.19	29.97	20.78
5510	41.187	36.366	2.59	2.34	4.93	6.93	23.97	17.04	4.15	3.74	7.89	8.97	29.97	21.00
5550	41.584	36.350	2.47	2.47	4.93	6.93	23.97	17.04	3.94	3.94	7.89	8.97	29.97	21.00
5670	40.716	36.334	2.41	2.50	4.91	6.91	23.97	17.06	3.85	4.00	7.85	8.95	29.97	21.02
5755	-	36.308	2.94	2.79	5.73	7.58	30.00	22.42	4.95	4.69	9.64	9.84	36.00	26.16
5795	-	36.332	2.70	2.67	5.36	7.30	30.00	22.70	4.54	4.49	9.03	9.56	36.00	26.44

Sample Calculation:

Conducted Power Result = Antenna A Cond. Power + Antenna B Cond. Power

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

Conducted Power Limit (5725 MHz-5850 MHz) = 1W

e.i.r.p. Result = Antenna A e.i.r.p. + Antenna B e.i.r.p.

*[U-NII-1 band for FCC]

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

Also, the maximum e.i.r.p. Result is less than 125 mW (21 dBm).

		Antenna A						**Antenna B**					
Tested Frequency	Duty Factor	Power Meter Reading	Cable Loss	Atten. Loss	Directional Gain	Result Cond. Power	Result e.i.r.p.	Power Meter Reading	Cable Loss	Atten. Loss	Directional Gain	Result Cond. Power	Result e.i.r.p.
[MHz]	[dB]	[dBm]	[dB]	[dB]	[dBi]	[dBm]	[dBm]	[dBm]	[dB]	[dB]	[dBi]	[dBm]	[dBm]
5190	0.01	-7.50	2.05	9.96	1.52	4.52	6.04	-7.00	1.52	9.85	1.52	4.38	5.90
5230	0.01	-7.69	2.05	9.96	1.52	4.33	5.85	-6.83	1.52	9.85	1.52	4.55	6.07
5270	0.01	-7.57	2.06	9.96	1.78	4.46	6.24	-6.95	1.53	9.85	1.78	4.44	6.22
5310	0.01	-7.71	2.06	9.97	1.78	4.33	6.11	-6.93	1.53	9.85	1.78	4.46	6.24
5510	0.01	-7.93	2.09	9.97	2.04	4.14	6.18	-7.72	1.55	9.85	2.04	3.69	5.73
5550	0.01	-8.15	2.09	9.97	2.04	3.92	5.96	-7.49	1.55	9.85	2.04	3.92	5.96
5670	0.01	-8.25	2.10	9.96	2.04	3.82	5.86	-7.46	1.57	9.86	2.04	3.98	6.02
5755	0.01	-7.38	2.11	9.95	2.26	4.69	6.95	-7.00	1.58	9.86	2.26	4.45	6.71
5795	0.01	-7.76	2.11	9.95	2.26	4.31	6.57	-7.19	1.58	9.86	2.26	4.26	6.52

Sample Calculation:

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

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

G ANT = Set equal to the gain of the antenna having the highest gain

Array Gain = 0 dB(i.e.,no array gain) for N ANT < 4

N ANT = number of transmit antennas = 2

Directional Gain = G ANT + Array Gain

Maximum Conducted Output Power

Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	May 23, 2019
Temperature / Humidity	22 deg. C / 44 % RH
Engineer	Kazutaka Takeyama
Mode	Tx 11n-40 MIMO

Antenna A+B Applied limit: 15.407, mobile and portable client device

Tested Frequency	26 dB EBW (B for FCC)	99% OBW (B for IC)	Conducted power						e.i.r.p.					
			Antenna			Result	Limit	Margin	Antenna			Result	Limit	Margin
			A	B	Sum				A	B	Sum			
[MHz]	[MHz]	[MHz]	[mW]	[mW]	[mW]	[dBm]	[dBm]	[dB]	[mW]	[mW]	[mW]	[dBm]	[dBm]	[dB]
5190	-	36.430	2.82	2.75	5.57	7.46	23.97	16.51	4.00	3.79	7.79	8.92	29.97	21.05
5230	-	36.445	2.71	2.82	5.54	7.43	23.97	16.54	3.85	3.89	7.74	8.89	29.97	21.08
5270	41.099	36.438	2.80	2.79	5.59	7.47	23.97	16.50	4.22	4.02	8.23	9.16	29.97	20.81
5310	40.969	36.464	2.73	2.80	5.53	7.43	23.97	16.54	4.11	4.04	8.15	9.11	29.97	20.86
5510	40.802	36.368	2.58	2.36	4.94	6.94	23.97	17.03	4.13	2.83	6.96	8.43	29.97	21.54
5550	41.096	36.421	2.47	2.48	4.94	6.94	23.97	17.03	3.94	2.97	6.92	8.40	29.97	21.57
5670	40.695	36.431	2.39	2.48	4.88	6.88	23.97	17.09	3.83	2.98	6.81	8.33	29.97	21.64
5755	-	36.455	2.90	2.79	5.69	7.55	30.00	22.45	4.89	3.86	8.75	9.42	36.00	26.58
5795	-	36.442	2.66	2.65	5.32	7.26	30.00	22.74	4.48	3.68	8.16	9.12	36.00	26.88

Sample Calculation:
Conducted Power Result = Antenna A Cond. Power + Antenna B Cond. Power
Conducted Power Limit (5250 MHz-5350 MHz, 5470 MHz-5725 MHz) = 250 mW or (11 + 10logB) dBm, whichever is lower
Conducted Power Limit (5725 MHz-5850 MHz) = 1W
e.i.r.p. Result = Antenna A e.i.r.p. + Antenna B e.i.r.p.
*[U-NII-1 band for FCC]
Although the EUT operates on Master mode, more stringent limit for Client device was applied.
Also, the maximum e.i.r.p. Result is less than 125 mW (21 dBm).

		Antenna A						**Antenna B**					
Tested Frequency	Duty Factor	Power Meter Reading	Cable Loss	Atten. Loss	Antenna Gain	Result		Power Meter Reading	Cable Loss	Atten. Loss	Antenna Gain	Result	
						Cond. Power	e.i.r.p.					Cond. Power	e.i.r.p.
[MHz]	[dB]	[dBm]	[dB]	[dB]	[dBi]	[dBm]	[dBm]	[dBm]	[dB]	[dB]	[dBi]	[dBm]	[dBm]
5190	0.03	-7.54	2.05	9.96	1.52	4.50	6.02	-7.00	1.52	9.85	1.39	4.40	5.79
5230	0.03	-7.71	2.05	9.96	1.52	4.33	5.85	-6.89	1.52	9.85	1.39	4.51	5.90
5270	0.03	-7.58	2.06	9.96	1.78	4.47	6.25	-6.96	1.53	9.85	1.59	4.45	6.04
5310	0.03	-7.70	2.06	9.97	1.78	4.36	6.14	-6.94	1.53	9.85	1.59	4.47	6.06
5510	0.03	-7.97	2.09	9.97	2.04	4.12	6.16	-7.70	1.55	9.85	0.79	3.73	4.52
5550	0.03	-8.17	2.09	9.97	2.04	3.92	5.96	-7.49	1.55	9.85	0.79	3.94	4.73
5670	0.03	-8.30	2.10	9.96	2.04	3.79	5.83	-7.51	1.57	9.86	0.79	3.95	4.74
5755	0.03	-7.46	2.11	9.95	2.26	4.63	6.89	-7.02	1.58	9.86	1.42	4.45	5.87
5795	0.03	-7.84	2.11	9.95	2.26	4.25	6.51	-7.23	1.58	9.86	1.42	4.24	5.66

Sample Calculation:
Conducted Power Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Duty Factor
e.i.r.p. Result = Conducted Power Result + Antenna Gain

Maximum Conducted Output Power

Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	May 23, 2019
Temperature / Humidity	22 deg. C / 44 % RH
Engineer	Kazutaka Takeyama
Mode	Tx 11ac-40 CDD

Antenna A+B Applied limit: 15.407, mobile and portable client device

Tested Frequency	26 dB EBW (B for FCC)	99% OBW (B for IC)	Conducted power						e.i.r.p.					
			Antenna			Result	Limit	Margin	Antenna			Result	Limit	Margin
			A	B	Sum				A	B	Sum			
[MHz]	[MHz]	[MHz]	[mW]	[mW]	[mW]	[dBm]	[dBm]	[dB]	[mW]	[mW]	[mW]	[dBm]	[dBm]	[dB]
5190	-	36.390	2.83	2.79	5.62	7.50	23.97	16.47	4.02	3.96	7.98	9.02	29.97	20.95
5230	-	36.338	2.71	2.84	5.55	7.45	23.97	16.52	3.85	4.04	7.88	8.97	29.97	21.00
5270	40.931	36.429	2.79	2.74	5.53	7.43	23.97	16.54	4.21	4.13	8.34	9.21	29.97	20.76
5310	40.882	36.330	2.73	2.76	5.49	7.40	23.97	16.57	4.11	4.16	8.27	9.18	29.97	20.79
5510	40.485	36.118	2.57	2.36	4.93	6.92	23.97	17.05	4.11	3.77	7.88	8.96	29.97	21.01
5550	41.773	36.101	2.45	2.48	4.94	6.94	23.97	17.03	3.93	3.97	7.90	8.98	29.97	20.99
5670	40.616	36.080	2.44	2.51	4.95	6.95	23.97	17.02	3.91	4.01	7.92	8.99	29.97	20.98
5755	-	36.329	2.90	2.79	5.69	7.55	30.00	22.45	4.89	4.69	9.57	9.81	36.00	26.19
5795	-	36.328	2.66	2.65	5.32	7.26	30.00	22.74	4.48	4.47	8.94	9.52	36.00	26.48

Sample Calculation:

Conducted Power Result = Antenna A Cond. Power + Antenna B Cond. Power

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

Conducted Power Limit (5725 MHz-5850 MHz) = 1W

e.i.r.p. Result = Antenna A e.i.r.p. + Antenna B e.i.r.p.

*[U-NII-1 band for FCC]

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

Also, the maximum e.i.r.p. Result is less than 125 mW (21 dBm).

		Antenna A						**Antenna B**					
Tested Frequency	Duty Factor	Power Meter Reading	Cable Loss	Atten. Loss	Directional Gain	Result Cond. Power	Result e.i.r.p.	Power Meter Reading	Cable Loss	Atten. Loss	Directional Gain	Result Cond. Power	Result e.i.r.p.
[MHz]	[dB]	[dBm]	[dB]	[dB]	[dBi]	[dBm]	[dBm]	[dBm]	[dB]	[dB]	[dBi]	[dBm]	[dBm]
5190	0.02	-7.51	2.05	9.96	1.52	4.52	6.04	-6.93	1.52	9.85	1.52	4.46	5.98
5230	0.02	-7.70	2.05	9.96	1.52	4.33	5.85	-6.85	1.52	9.85	1.52	4.54	6.06
5270	0.02	-7.58	2.06	9.96	1.78	4.46	6.24	-7.02	1.53	9.85	1.78	4.38	6.16
5310	0.02	-7.69	2.06	9.97	1.78	4.36	6.14	-6.99	1.53	9.85	1.78	4.41	6.19
5510	0.02	-7.98	2.09	9.97	2.04	4.10	6.14	-7.70	1.55	9.85	2.04	3.72	5.76
5550	0.02	-8.18	2.09	9.97	2.04	3.90	5.94	-7.47	1.55	9.85	2.04	3.95	5.99
5670	0.02	-8.20	2.10	9.96	2.04	3.88	5.92	-7.46	1.57	9.86	2.04	3.99	6.03
5755	0.02	-7.45	2.11	9.95	2.26	4.63	6.89	-7.01	1.58	9.86	2.26	4.45	6.71
5795	0.02	-7.83	2.11	9.95	2.26	4.25	6.51	-7.22	1.58	9.86	2.26	4.24	6.50

Sample Calculation:

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

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

G ANT = Set equal to the gain of the antenna having the highest gain

Array Gain = 0 dB(i.e.,no array gain) for N ANT < 4

N ANT = number of transmit antennas = 2

Directional Gain = G ANT + Array Gain

Maximum Conducted Output Power

Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	May 23, 2019
Temperature / Humidity	22 deg. C / 44 % RH
Engineer	Kazutaka Takeyama
Mode	Tx 11ac-40 MIMO

Antenna A+B Applied limit: 15.407, mobile and portable client device

Tested Frequency	26 dB EBW (B for FCC)	99% OBW (B for IC)	Conducted power						e.i.r.p.					
			Antenna			Result	Limit	Margin	Antenna			Result	Limit	Margin
			A	B	Sum				A	B	Sum			
[MHz]	[MHz]	[MHz]	[mW]	[mW]	[mW]	[dBm]	[dBm]	[dB]	[mW]	[mW]	[mW]	[dBm]	[dBm]	[dB]
5190	-	36.433	2.82	2.77	5.60	7.48	23.97	16.49	4.01	3.82	7.83	8.94	29.97	21.03
5230	-	36.418	2.73	2.82	5.55	7.45	23.97	16.52	3.87	3.89	7.76	8.90	29.97	21.07
5270	41.662	36.424	2.74	2.83	5.57	7.46	23.97	16.51	4.12	4.08	8.20	9.14	29.97	20.83
5310	41.715	36.423	2.74	2.81	5.55	7.45	23.97	16.52	4.13	4.06	8.19	9.13	29.97	20.84
5510	41.011	36.426	2.62	2.35	4.97	6.96	23.97	17.01	4.19	2.82	7.01	8.45	29.97	21.52
5550	41.121	36.434	2.47	2.48	4.95	6.95	23.97	17.02	3.95	2.97	6.93	8.40	29.97	21.57
5670	41.974	36.418	2.43	2.53	4.96	6.96	23.97	17.01	3.89	3.03	6.92	8.40	29.97	21.57
5755	-	36.414	3.04	2.84	5.88	7.69	30.00	22.31	5.12	3.94	9.05	9.57	36.00	26.43
5795	-	36.422	2.80	2.74	5.53	7.43	30.00	22.57	4.71	3.79	8.50	9.30	36.00	26.70

Sample Calculation:

Conducted Power Result = Antenna A Cond. Power + Antenna B Cond. Power

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

Conducted Power Limit (5725 MHz-5850 MHz) = 1W

e.i.r.p. Result = Antenna A e.i.r.p. + Antenna B e.i.r.p.

*[U-NII-1 band for FCC]

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

Also, the maximum e.i.r.p. Result is less than 125 mW (21 dBm).

		Antenna A						**Antenna B**					
Tested Frequency	Duty Factor	Power Meter Reading	Cable Loss	Atten. Loss	Antenna Gain	Result		Power Meter Reading	Cable Loss	Atten. Loss	Antenna Gain	Result	
						Cond. Power	e.i.r.p.					Cond. Power	e.i.r.p.
[MHz]	[dB]	[dBm]	[dB]	[dB]	[dBi]	[dBm]	[dBm]	[dBm]	[dB]	[dB]	[dBi]	[dBm]	[dBm]
5190	0.03	-7.53	2.05	9.96	1.52	4.51	6.03	-6.97	1.52	9.85	1.39	4.43	5.82
5230	0.03	-7.68	2.05	9.96	1.52	4.36	5.88	-6.89	1.52	9.85	1.39	4.51	5.90
5270	0.03	-7.68	2.06	9.96	1.78	4.37	6.15	-6.89	1.53	9.85	1.59	4.52	6.11
5310	0.03	-7.68	2.06	9.97	1.78	4.38	6.16	-6.92	1.53	9.85	1.59	4.49	6.08
5510	0.03	-7.91	2.09	9.97	2.04	4.18	6.22	-7.72	1.55	9.85	0.79	3.71	4.50
5550	0.03	-8.16	2.09	9.97	2.04	3.93	5.97	-7.49	1.55	9.85	0.79	3.94	4.73
5670	0.03	-8.23	2.10	9.96	2.04	3.86	5.90	-7.43	1.57	9.86	0.79	4.03	4.82
5755	0.03	-7.26	2.11	9.95	2.26	4.83	7.09	-6.94	1.58	9.86	1.42	4.53	5.95
5795	0.03	-7.62	2.11	9.95	2.26	4.47	6.73	-7.10	1.58	9.86	1.42	4.37	5.79

Sample Calculation:

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

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

Maximum Conducted Output Power

Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	May 24, 2019
Temperature / Humidity	25 deg. C / 40 % RH
Engineer	Hiromasa Sato
Mode	Tx 11ac-80 CDD

Antenna A+B Applied limit: 15.407, mobile and portable client device

Tested Frequency	26 dB EBW (B for FCC)	99% OBW (B for IC)	Conducted power						e.i.r.p.					
			Antenna			Result	Limit	Margin	Antenna			Result	Limit	Margin
			A	B	Sum				A	B	Sum			
[MHz]	[MHz]	[MHz]	[mW]	[mW]	[mW]	[dBm]	[dBm]	[dB]	[mW]	[mW]	[mW]	[dBm]	[dBm]	[dB]
5210	-	76.157	2.58	2.61	5.19	7.15	23.97	16.82	3.66	3.70	7.36	8.67	29.97	21.30
5290	82.284	76.234	2.55	2.51	5.05	7.04	23.97	16.93	3.84	3.78	7.61	8.82	29.97	21.15
5530	82.340	76.208	2.88	2.76	5.64	7.51	23.97	16.46	4.60	4.42	9.02	9.55	29.97	20.42
5610	81.934	76.251	2.84	2.70	5.54	7.44	23.97	16.53	4.55	4.32	8.87	9.48	29.97	20.49
5775	-	76.218	2.77	2.51	5.28	7.23	30.00	22.77	4.67	4.22	8.88	9.49	36.00	26.51

Sample Calculation:

Conducted Power Result = Antenna A Cond. Power + Antenna B Cond. Power

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

Conducted Power Limit (5725 MHz-5850 MHz) = 1W

e.i.r.p. Result = Antenna A e.i.r.p. + Antenna B e.i.r.p.

*[U-NII-1 band for FCC]

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

Also, the maximum e.i.r.p. Result is less than 125 mW (21 dBm).

		Antenna A						**Antenna B**					
Tested Frequency	Duty Factor	Power Meter Reading	Cable Loss	Atten. Loss	Directional Gain	Result Cond. Power	Result e.i.r.p.	Power Meter Reading	Cable Loss	Atten. Loss	Directional Gain	Result Cond. Power	Result e.i.r.p.
[MHz]	[dB]	[dBm]	[dB]	[dB]	[dBi]	[dBm]	[dBm]	[dBm]	[dB]	[dB]	[dBi]	[dBm]	[dBm]
5210	0.21	-8.10	2.05	9.96	1.52	4.12	5.64	-7.42	1.52	9.85	1.52	4.16	5.68
5290	0.21	-8.18	2.06	9.97	1.78	4.06	5.84	-7.60	1.53	9.85	1.78	3.99	5.77
5530	0.21	-7.68	2.09	9.97	2.04	4.59	6.63	-7.20	1.55	9.85	2.04	4.41	6.45
5610	0.21	-7.73	2.10	9.96	2.04	4.54	6.58	-7.31	1.56	9.85	2.04	4.31	6.35
5775	0.21	-7.84	2.11	9.95	2.26	4.43	6.69	-7.66	1.58	9.86	2.26	3.99	6.25

Sample Calculation:

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

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

G ANT = Set equal to the gain of the antenna having the highest gain

Array Gain = 0 dB(i.e.,no array gain) for N ANT < 4

N ANT = number of transmit antennas = 2

Directional Gain = G ANT + Array Gain

Maximum Conducted Output Power

Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	May 24, 2019
Temperature / Humidity	25 deg. C / 40 % RH
Engineer	Hiromasa Sato
Mode	Tx 11ac-80 MIMO

Antenna A+B Applied limit: 15.407, mobile and portable client device

Tested Frequency	26 dB EBW (B for FCC)	99% OBW (B for IC)	Conducted power						e.i.r.p.					
			Antenna			Result	Limit	Margin	Antenna			Result	Limit	Margin
			A	B	Sum				A	B	Sum			
[MHz]	[MHz]	[MHz]	[mW]	[mW]	[mW]	[dBm]	[dBm]	[dB]	[mW]	[mW]	[mW]	[dBm]	[dBm]	[dB]
5210	-	76.230	2.64	2.59	5.24	7.19	23.97	16.78	3.75	3.57	7.32	8.65	29.97	21.32
5290	81.600	76.141	2.57	2.52	5.09	7.07	23.97	16.90	3.87	3.64	7.51	8.76	29.97	21.21
5530	82.416	76.258	2.90	2.77	5.67	7.54	23.97	16.43	4.65	3.32	7.96	9.01	29.97	20.96
5610	81.693	76.106	2.88	2.72	5.59	7.48	23.97	16.49	4.60	3.26	7.86	8.95	29.97	21.02
5775	-	76.229	2.80	2.52	5.32	7.26	30.00	22.74	4.71	3.49	8.20	9.14	36.00	26.86

Sample Calculation:
Conducted Power Result = Antenna A Cond. Power + Antenna B Cond. Power
Conducted Power Limit (5250 MHz-5350 MHz, 5470 MHz-5725 MHz) = 250 mW or (11 + 10logB) dBm, whichever is lower
Conducted Power Limit (5725 MHz-5850 MHz) = 1W
e.i.r.p. Result = Antenna A e.i.r.p. + Antenna B e.i.r.p.
*[U-NII-1 band for FCC]
Although the EUT operates on Master mode, more stringent limit for Client device was applied.
Also, the maximum e.i.r.p. Result is less than 125 mW (21 dBm).

		Antenna A						**Antenna B**					
Tested Frequency	Duty Factor	Power Meter Reading	Cable Loss	Atten. Loss	Antenna Gain	Result		Power Meter Reading	Cable Loss	Atten. Loss	Antenna Gain	Result	
						Cond. Power	e.i.r.p.					Cond. Power	e.i.r.p.
[MHz]	[dB]	[dBm]	[dB]	[dB]	[dBi]	[dBm]	[dBm]	[dBm]	[dB]	[dB]	[dBi]	[dBm]	[dBm]
5210	0.48	-8.27	2.05	9.96	1.52	4.22	5.74	-7.71	1.52	9.85	1.39	4.14	5.53
5290	0.48	-8.41	2.06	9.97	1.78	4.10	5.88	-7.84	1.53	9.85	1.59	4.02	5.61
5530	0.48	-7.91	2.09	9.97	2.04	4.63	6.67	-7.46	1.55	9.85	0.79	4.42	5.21
5610	0.48	-7.95	2.10	9.96	2.04	4.59	6.63	-7.55	1.56	9.85	0.79	4.34	5.13
5775	0.48	-8.07	2.11	9.95	2.26	4.47	6.73	-7.91	1.58	9.86	1.42	4.01	5.43

Sample Calculation:
Conducted Power Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Duty Factor
e.i.r.p. Result = Conducted Power Result + Antenna Gain

Maximum Conducted Output Power

Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	May 21, 2019
Temperature / Humidity	25 deg. C / 55 % RH
Engineer	Hiromasa Sato
Mode	Tx 11a

5180 MHz

Mode	MCS Number	Reading (timed average) Antenna						Duty factor	Burst power Antenna			Remarks
		A [dBm]	B [dBm]	A [mW]	B [mW]	A+B [mW]	A+B [dBm]	[dB]	A [dBm]	B [dBm]	A+B [dBm]	
11a	6	-7.76	-7.28	0.17	0.19	0.35	-4.50	0.01	-	-	-4.49	
	9	-7.81	-7.23	0.17	0.19	0.35	-4.50	0.02	-	-	-4.48	
	12	-8.01	-7.32	0.16	0.19	0.34	-4.64	0.03	-	-	-4.61	
	18	-7.94	-7.38	0.16	0.18	0.34	-4.64	0.04	-	-	-4.60	
	24	-7.68	-7.39	0.17	0.18	0.35	-4.52	0.06	-	-	-4.46	
	36	-8.09	-7.88	0.16	0.16	0.32	-4.97	0.09	-	-	-4.88	
	48	-7.71	-7.21	0.17	0.19	0.36	-4.44	0.11	-	-	-4.33	*
	54	-7.89	-7.45	0.16	0.18	0.34	-4.65	0.12	-	-	-4.53	

* Worst rate

Sample Calculation:

Burst power = Reading (timed average) + Duty factor

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

Maximum Conducted Output Power

Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	May 22, 2019
Temperature / Humidity	24 deg. C / 62 % RH
Engineer	Takahiro Kawakami
Mode	Tx 11n-20 CDD

5180 MHz

Mode	MCS Number	Reading (timed average) Antenna						Duty factor	Burst power Antenna			Remarks
		A [dBm]	B [dBm]	A [mW]	B [mW]	A+B [mW]	A+B [dBm]	[dB]	A [dBm]	B [dBm]	A+B [dBm]	
11n-20 CDD	0	-7.49	-6.90	0.18	0.20	0.38	-4.17	0.01	-	-	-4.16	
	1	-7.54	-6.89	0.18	0.20	0.38	-4.19	0.01	-	-	-4.18	
	2	-7.53	-6.92	0.18	0.20	0.38	-4.20	0.02	-	-	-4.18	
	3	-7.54	-6.90	0.18	0.20	0.38	-4.20	0.03	-	-	-4.17	
	4	-7.55	-6.93	0.18	0.20	0.38	-4.22	0.05	-	-	-4.17	
	5	-7.57	-6.96	0.17	0.20	0.38	-4.24	0.06	-	-	-4.18	
	6	-7.56	-6.94	0.18	0.20	0.38	-4.23	0.08	-	-	-4.15	
	7	-7.57	-6.94	0.17	0.20	0.38	-4.23	0.09	-	-	-4.14	*

* Worst rate

Sample Calculation:

Burst power = Reading (timed average) + Duty factor

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

Maximum Conducted Output Power

Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	May 22, 2019
Temperature / Humidity	24 deg. C / 62 % RH
Engineer	Takahiro Kawakami
Mode	Tx 11n-20 MIMO

5180 MHz

Mode	MCS Number	Reading (timed average) Antenna						Duty factor	Burst power Antenna			Remarks
		A [dBm]	B [dBm]	A [mW]	B [mW]	A+B [mW]	A+B [dBm]	[dB]	A [dBm]	B [dBm]	A+B [dBm]	
11n-20 MIMO	8	-7.42	-6.88	0.18	0.21	0.39	-4.13	0.02	-	-	-4.11	
	9	-7.45	-6.92	0.18	0.20	0.38	-4.17	0.04	-	-	-4.13	
	10	-7.46	-6.92	0.18	0.20	0.38	-4.17	0.04	-	-	-4.13	
	11	-7.46	-6.99	0.18	0.20	0.38	-4.21	0.06	-	-	-4.15	
	12	-7.49	-6.95	0.18	0.20	0.38	-4.20	0.09	-	-	-4.11	
	13	-7.56	-7.00	0.18	0.20	0.37	-4.26	0.13	-	-	-4.13	
	14	-7.56	-6.96	0.18	0.20	0.38	-4.24	0.15	-	-	-4.09	*
	15	-7.56	-6.99	0.18	0.20	0.38	-4.26	0.16	-	-	-4.10	

* Worst rate

Sample Calculation:

Burst power = Reading (timed average) + Duty factor

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

Maximum Conducted Output Power

Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	May 22, 2019
Temperature / Humidity	24 deg. C / 62 % RH
Engineer	Takahiro Kawakami
Mode	Tx 11ac-20 CDD

5180 MHz

Mode	MCS Number	Reading (timed average) Antenna						Duty factor	Burst power Antenna			Remarks
		A [dBm]	B [dBm]	A [mW]	B [mW]	A+B [mW]	A+B [dBm]	[dB]	A [dBm]	B [dBm]	A+B [dBm]	
11ac-20 CDD	0	-7.41	-6.86	0.18	0.21	0.39	-4.12	0.01	-	-	-4.11	
	1	-7.42	-6.88	0.18	0.21	0.39	-4.13	0.02	-	-	-4.11	
	2	-7.43	-6.86	0.18	0.21	0.39	-4.13	0.02	-	-	-4.11	
	3	-7.44	-6.91	0.18	0.20	0.38	-4.16	0.04	-	-	-4.12	
	4	-7.46	-6.89	0.18	0.20	0.38	-4.16	0.05	-	-	-4.11	
	5	-7.46	-6.92	0.18	0.20	0.38	-4.17	0.06	-	-	-4.11	
	6	-7.50	-6.92	0.18	0.20	0.38	-4.19	0.06	-	-	-4.13	
	7	-7.48	-6.94	0.18	0.20	0.38	-4.19	0.09	-	-	-4.10	*
	8	-7.55	-6.94	0.18	0.20	0.38	-4.22	0.09	-	-	-4.13	

* Worst rate

Sample Calculation:

Burst power = Reading (timed average) + Duty factor

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

Maximum Conducted Output Power

Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	May 22, 2019
Temperature / Humidity	24 deg. C / 62 % RH
Engineer	Takahiro Kawakami
Mode	Tx 11ac-20 MIMO

5180 MHz

Mode	MCS Number	Reading (timed average) Antenna						Duty factor	Burst power Antenna			Remarks
		A [dBm]	B [dBm]	A [mW]	B [mW]	A+B [mW]	A+B [dBm]	[dB]	A [dBm]	B [dBm]	A+B [dBm]	
11ac-20 MIMO	0	-7.50	-6.87	0.18	0.21	0.38	-4.16	0.02	-	-	-4.14	
	1	-7.51	-6.90	0.18	0.20	0.38	-4.18	0.03	-	-	-4.15	
	2	-7.54	-6.90	0.18	0.20	0.38	-4.20	0.05	-	-	-4.15	
	3	-7.54	-6.99	0.18	0.20	0.38	-4.25	0.07	-	-	-4.18	
	4	-7.58	-6.96	0.17	0.20	0.38	-4.25	0.10	-	-	-4.15	
	5	-7.63	-7.00	0.17	0.20	0.37	-4.29	0.12	-	-	-4.17	
	6	-7.65	-7.03	0.17	0.20	0.37	-4.32	0.12	-	-	-4.20	
	7	-7.63	-6.98	0.17	0.20	0.37	-4.28	0.15	-	-	-4.13	*
	8	-7.68	-7.03	0.17	0.20	0.37	-4.33	0.17	-	-	-4.16	

* Worst rate

Sample Calculation:

Burst power = Reading (timed average) + Duty factor

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

Maximum Conducted Output Power

Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	May 23, 2019
Temperature / Humidity	22 deg. C / 44 % RH
Engineer	Kazutaka Takeyama
Mode	Tx 11n-40 CDD

5190 MHz

Mode	MCS Number	Reading (timed average) Antenna						Duty factor	Burst power Antenna			Remarks
		A [dBm]	B [dBm]	A [mW]	B [mW]	A+B [mW]	A+B [dBm]	[dB]	A [dBm]	B [dBm]	A+B [dBm]	
11n-40 CDD	0	-7.50	-7.00	0.18	0.20	0.38	-4.23	0.01	-	-	-4.22	*
	1	-7.54	-7.04	0.18	0.20	0.37	-4.27	0.04	-	-	-4.23	
	2	-7.58	-7.05	0.17	0.20	0.37	-4.30	0.06	-	-	-4.24	
	3	-7.62	-7.06	0.17	0.20	0.37	-4.32	0.07	-	-	-4.25	
	4	-7.66	-7.08	0.17	0.20	0.37	-4.35	0.11	-	-	-4.24	
	5	-7.67	-7.14	0.17	0.19	0.36	-4.39	0.14	-	-	-4.25	
	6	-7.69	-7.11	0.17	0.19	0.36	-4.38	0.14	-	-	-4.24	
	7	-7.71	-7.15	0.17	0.19	0.36	-4.41	0.17	-	-	-4.24	

* Worst rate

Sample Calculation:

Burst power = Reading (timed average) + Duty factor

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

Maximum Conducted Output Power

Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	May 23, 2019
Temperature / Humidity	22 deg. C / 44 % RH
Engineer	Kazutaka Takeyama
Mode	Tx 11n-40 MIMO

5190 MHz

Mode	MCS Number	Reading (timed average) Antenna						Duty factor	Burst power Antenna			Remarks
		A [dBm]	B [dBm]	A [mW]	B [mW]	A+B [mW]	A+B [dBm]	[dB]	A [dBm]	B [dBm]	A+B [dBm]	
11n-40 MIMO	8	-7.53	-7.00	0.18	0.20	0.38	-4.25	0.03	-	-	-4.22	*
	9	-7.60	-7.06	0.17	0.20	0.37	-4.31	0.07	-	-	-4.24	
	10	-7.61	-7.10	0.17	0.19	0.37	-4.34	0.10	-	-	-4.24	
	11	-7.64	-7.12	0.17	0.19	0.37	-4.36	0.13	-	-	-4.23	
	12	-7.70	-7.20	0.17	0.19	0.36	-4.43	0.17	-	-	-4.26	
	13	-7.74	-7.24	0.17	0.19	0.36	-4.47	0.23	-	-	-4.24	
	14	-7.79	-7.28	0.17	0.19	0.35	-4.52	0.26	-	-	-4.26	
	15	-7.81	-7.27	0.17	0.19	0.35	-4.52	0.28	-	-	-4.24	

* Worst rate

Sample Calculation:

Burst power = Reading (timed average) + Duty factor

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

Maximum Conducted Output Power

Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	May 23, 2019
Temperature / Humidity	22 deg. C / 44 % RH
Engineer	Kazutaka Takeyama
Mode	Tx 11ac-40 CDD

5190 MHz

Mode	MCS Number	Reading (timed average) Antenna						Duty factor	Burst power Antenna			Remarks
		A [dBm]	B [dBm]	A [mW]	B [mW]	A+B [mW]	A+B [dBm]	[dB]	A [dBm]	B [dBm]	A+B [dBm]	
11ac-40 CDD	0	-7.51	-6.93	0.18	0.20	0.38	-4.20	0.02	-	-	-4.18	*
	1	-7.55	-6.95	0.18	0.20	0.38	-4.23	0.03	-	-	-4.20	
	2	-7.58	-6.96	0.17	0.20	0.38	-4.25	0.05	-	-	-4.20	
	3	-7.59	-7.02	0.17	0.20	0.37	-4.29	0.06	-	-	-4.23	
	4	-7.64	-7.06	0.17	0.20	0.37	-4.33	0.10	-	-	-4.23	
	5	-7.67	-7.09	0.17	0.20	0.37	-4.36	0.13	-	-	-4.23	
	6	-7.70	-7.12	0.17	0.19	0.36	-4.39	0.15	-	-	-4.24	
	7	-7.69	-7.14	0.17	0.19	0.36	-4.40	0.15	-	-	-4.25	
	8	-7.73	-7.16	0.17	0.19	0.36	-4.43	0.19	-	-	-4.24	
	9	-7.72	-7.12	0.17	0.19	0.36	-4.40	0.21	-	-	-4.19	

* Worst rate

Sample Calculation:

Burst power = Reading (timed average) + Duty factor

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

Maximum Conducted Output Power

Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	May 23, 2019
Temperature / Humidity	22 deg. C / 44 % RH
Engineer	Kazutaka Takeyama
Mode	Tx 11ac-40 MIMO

5190 MHz

Mode	MCS Number	Reading (timed average) Antenna						Duty factor	Burst power Antenna			Remarks
		A [dBm]	B [dBm]	A [mW]	B [mW]	A+B [mW]	A+B [dBm]	[dB]	A [dBm]	B [dBm]	A+B [dBm]	
11ac-40	0	-7.53	-6.97	0.18	0.20	0.38	-4.23	0.03	-	-	-4.20	*
MIMO	1	-7.59	-7.03	0.17	0.20	0.37	-4.29	0.07	-	-	-4.22	
	2	-7.61	-7.06	0.17	0.20	0.37	-4.32	0.10	-	-	-4.22	
	3	-7.66	-7.13	0.17	0.19	0.37	-4.38	0.13	-	-	-4.25	
	4	-7.69	-7.18	0.17	0.19	0.36	-4.42	0.19	-	-	-4.23	
	5	-7.76	-7.21	0.17	0.19	0.36	-4.47	0.21	-	-	-4.26	
	6	-7.82	-7.25	0.17	0.19	0.35	-4.52	0.26	-	-	-4.26	
	7	-7.83	-7.30	0.16	0.19	0.35	-4.55	0.28	-	-	-4.27	
	8	-7.85	-7.34	0.16	0.18	0.35	-4.58	0.31	-	-	-4.27	
	9	-7.92	-7.37	0.16	0.18	0.34	-4.63	0.32	-	-	-4.31	

* Worst rate

Sample Calculation:

Burst power = Reading (timed average) + Duty factor

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

Maximum Conducted Output Power

Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	May 24, 2019
Temperature / Humidity	25 deg. C / 40 % RH
Engineer	Hiromasa Sato
Mode	Tx 11ac-80 CDD

5210 MHz

Mode	MCS Number	Reading (timed average) Antenna						Duty factor	Burst power Antenna			Remarks
		A [dBm]	B [dBm]	A [mW]	B [mW]	A+B [mW]	A+B [dBm]	[dB]	A [dBm]	B [dBm]	A+B [dBm]	
11ac-80 CDD	0 (1 SS)	-7.91	-7.46	0.16	0.18	0.34	-4.67	0.04	-	-	-4.63	
	1 (1 SS)	-7.94	-7.49	0.16	0.18	0.34	-4.70	0.08	-	-	-4.62	
	2 (1 SS)	-7.95	-7.52	0.16	0.18	0.34	-4.72	0.11	-	-	-4.61	
	3 (1 SS)	-8.01	-7.56	0.16	0.18	0.33	-4.77	0.14	-	-	-4.63	
	4 (1 SS)	-8.10	-7.42	0.15	0.18	0.34	-4.74	0.21	-	-	-4.53	*
	5 (1 SS)	-8.14	-7.48	0.15	0.18	0.33	-4.79	0.25	-	-	-4.54	
	6 (1 SS)	-8.17	-7.53	0.15	0.18	0.33	-4.83	0.26	-	-	-4.57	
	7 (1 SS)	-8.20	-7.53	0.15	0.18	0.33	-4.84	0.28	-	-	-4.56	
	8 (1 SS)	-8.23	-7.59	0.15	0.17	0.32	-4.89	0.32	-	-	-4.57	
	9 (1 SS)	-8.27	-7.59	0.15	0.17	0.32	-4.91	0.37	-	-	-4.54	

* Worst rate

Sample Calculation:

Burst power = Reading (timed average) + Duty factor

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

Maximum Conducted Output Power

Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	May 24, 2019
Temperature / Humidity	25 deg. C / 40 % RH
Engineer	Hiromasa Sato
Mode	Tx 11ac-80 MIMO

5210 MHz

Mode	MCS Number	Reading (timed average) Antenna						Duty factor	Burst power Antenna			Remarks
		A [dBm]	B [dBm]	A [mW]	B [mW]	A+B [mW]	A+B [dBm]	[dB]	A [dBm]	B [dBm]	A+B [dBm]	
11ac-80 MIMO	0 (2 SS)	-7.91	-7.33	0.16	0.18	0.35	-4.60	0.08	-	-	-4.52	
	1 (2 SS)	-7.99	-7.41	0.16	0.18	0.34	-4.68	0.12	-	-	-4.56	
	2 (2 SS)	-8.02	-7.46	0.16	0.18	0.34	-4.72	0.19	-	-	-4.53	
	3 (2 SS)	-8.10	-7.51	0.15	0.18	0.33	-4.78	0.26	-	-	-4.52	
	4 (2 SS)	-8.21	-7.65	0.15	0.17	0.32	-4.91	0.33	-	-	-4.58	
	5 (2 SS)	-8.20	-7.65	0.15	0.17	0.32	-4.91	0.39	-	-	-4.52	
	6 (2 SS)	-8.25	-7.64	0.15	0.17	0.32	-4.92	0.40	-	-	-4.52	
	7 (2 SS)	-8.26	-7.68	0.15	0.17	0.32	-4.95	0.42	-	-	-4.53	
	8 (2 SS)	-8.27	-7.71	0.15	0.17	0.32	-4.97	0.48	-	-	-4.49	*
	9 (2 SS)	-8.38	-7.76	0.15	0.17	0.31	-5.05	0.50	-	-	-4.55	

* Worst rate

Sample Calculation:

Burst power = Reading (timed average) + Duty factor

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

Average Output Power
(Reference data for RF Exposure)

Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	May 21, 2019
Temperature / Humidity	25 deg. C / 55 % RH
Engineer	Hiromasa Sato
Mode	Tx 11a

	Antenna A				**Antenna B**				**Antenna A+B**						
Tested Frequency	Power Meter Reading	Cable Loss	Atten. Loss	Result (Timed average)	Power Meter Reading	Cable Loss	Atten. Loss	Result (Timed average)	Result (Timed average) Antenna 1	Antenna 2	Sum 1+2		Duty factor	Result (Burst power average)	
[MHz]	[dBm]	[dB]	[dB]	[dBm]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[mW]	[mW]	[dBm]	[dB]	[dBm]	[mW]
5180	-7.71	2.05	9.96	4.30	-7.21	1.52	9.85	4.16	2.69	2.61	5.30	7.24	0.11	7.35	5.43
5220	-7.78	2.05	9.96	4.23	-7.16	1.52	9.85	4.21	2.65	2.64	5.28	7.23	0.11	7.34	5.42
5240	-7.74	2.05	9.96	4.27	-7.10	1.52	9.85	4.27	2.67	2.67	5.35	7.28	0.11	7.39	5.48
5260	-7.71	2.06	9.96	4.31	-7.19	1.53	9.85	4.19	2.70	2.62	5.32	7.26	0.11	7.37	5.46
5300	-7.80	2.06	9.97	4.23	-7.25	1.53	9.85	4.13	2.65	2.59	5.24	7.19	0.11	7.30	5.37
5320	-7.79	2.06	9.97	4.24	-7.11	1.53	9.85	4.27	2.65	2.67	5.33	7.27	0.11	7.38	5.46
5500	-8.18	2.09	9.97	3.88	-7.99	1.55	9.85	3.41	2.44	2.19	4.64	6.66	0.11	6.77	4.76
5580	-8.23	2.09	9.97	3.83	-7.96	1.56	9.85	3.45	2.42	2.21	4.63	6.65	0.11	6.76	4.75
5700	-8.63	2.10	9.95	3.42	-7.42	1.57	9.86	4.01	2.20	2.52	4.72	6.74	0.11	6.85	4.84
5745	-7.12	2.10	9.95	4.93	-7.06	1.57	9.86	4.37	3.11	2.74	5.85	7.67	0.11	7.78	6.00
5785	-7.53	2.11	9.95	4.53	-7.14	1.58	9.86	4.30	2.84	2.69	5.53	7.43	0.11	7.54	5.67
5825	-7.87	2.11	9.94	4.18	-7.47	1.58	9.86	3.97	2.62	2.49	5.11	7.09	0.11	7.20	5.24

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

Average Output Power
(Reference data for RF Exposure)

Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	May 22, 2019
Temperature / Humidity	24 deg. C / 62 % RH
Engineer	Takahiro Kawakami
Mode	Tx 11n-20 CDD

	Antenna A				Antenna B				Antenna A+B						
Tested Frequency	Power Meter Reading	Cable Loss	Atten. Loss	Result (Timed average)	Power Meter Reading	Cable Loss	Atten. Loss	Result (Timed average)	Result (Timed average) Antenna 1	Antenna 2	Sum 1+2		Duty factor	Result (Burst power average)	
[MHz]	[dBm]	[dB]	[dB]	[dBm]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[mW]	[mW]	[dBm]	[dB]	[dBm]	[mW]
5180	-7.57	2.05	9.96	4.44	-6.94	1.52	9.85	4.43	2.78	2.77	5.55	7.45	0.09	7.54	5.67
5220	-7.76	2.05	9.96	4.25	-6.90	1.52	9.85	4.47	2.66	2.80	5.46	7.37	0.09	7.46	5.57
5240	-7.71	2.05	9.96	4.30	-6.98	1.52	9.85	4.39	2.69	2.75	5.44	7.36	0.09	7.45	5.55
5260	-7.56	2.06	9.96	4.46	-7.06	1.53	9.85	4.32	2.79	2.70	5.50	7.40	0.09	7.49	5.61
5300	-7.66	2.06	9.97	4.37	-7.25	1.53	9.85	4.13	2.74	2.59	5.32	7.26	0.09	7.35	5.43
5320	-7.65	2.06	9.97	4.38	-7.16	1.53	9.85	4.22	2.74	2.64	5.38	7.31	0.09	7.40	5.50
5500	-7.87	2.09	9.97	4.19	-8.28	1.55	9.85	3.12	2.62	2.05	4.68	6.70	0.09	6.79	4.77
5580	-7.90	2.09	9.97	4.16	-8.29	1.56	9.85	3.12	2.61	2.05	4.66	6.68	0.09	6.77	4.75
5700	-8.40	2.10	9.95	3.65	-7.67	1.57	9.86	3.76	2.32	2.38	4.69	6.72	0.09	6.81	4.79
5745	-7.11	2.10	9.95	4.94	-7.07	1.57	9.86	4.36	3.12	2.73	5.85	7.67	0.09	7.76	5.97
5785	-7.55	2.11	9.95	4.51	-7.22	1.58	9.86	4.22	2.82	2.64	5.47	7.38	0.09	7.47	5.58
5825	-8.01	2.11	9.94	4.04	-7.63	1.58	9.86	3.81	2.54	2.40	4.94	6.94	0.09	7.03	5.04

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

Average Output Power
(Reference data for RF Exposure)

Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	May 22, 2019
Temperature / Humidity	24 deg. C / 62 % RH
Engineer	Takahiro Kawakami
Mode	Tx 11n-20 MIMO

	Antenna A				**Antenna B**				**Antenna A+B**						
Tested	Power	Cable	Atten.	Result	Power	Cable	Atten.	Result	Result (Timed average)				Duty	Result	
Frequency	Meter	Loss	Loss	(Timed	Meter	Loss	Loss	(Timed	Antenna		Sum		factor	(Burst power average)	
	Reading			average)	Reading			average)	1	2	1+2				
[MHz]	[dBm]	[dB]	[dB]	[dBm]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[mW]	[mW]	[dBm]	[dB]	[dBm]	[mW]
5180	-7.56	2.05	9.96	4.45	-6.96	1.52	9.85	4.41	2.79	2.76	5.55	7.44	0.15	7.59	5.74
5220	-7.73	2.05	9.96	4.28	-6.93	1.52	9.85	4.44	2.68	2.78	5.46	7.37	0.15	7.52	5.65
5240	-7.72	2.05	9.96	4.29	-6.96	1.52	9.85	4.41	2.69	2.76	5.45	7.36	0.15	7.51	5.64
5260	-7.62	2.06	9.96	4.40	-7.19	1.53	9.85	4.19	2.75	2.62	5.38	7.31	0.15	7.46	5.57
5300	-7.69	2.06	9.97	4.34	-7.34	1.53	9.85	4.04	2.72	2.54	5.25	7.20	0.15	7.35	5.44
5320	-7.69	2.06	9.97	4.34	-7.22	1.53	9.85	4.16	2.72	2.61	5.32	7.26	0.15	7.41	5.51
5500	-7.93	2.09	9.97	4.13	-8.37	1.55	9.85	3.03	2.59	2.01	4.60	6.63	0.15	6.78	4.76
5580	-7.96	2.09	9.97	4.10	-8.37	1.56	9.85	3.04	2.57	2.01	4.58	6.61	0.15	6.76	4.75
5700	-8.43	2.10	9.95	3.62	-7.73	1.57	9.86	3.70	2.30	2.34	4.65	6.67	0.15	6.82	4.81
5745	-7.14	2.10	9.95	4.91	-7.13	1.57	9.86	4.30	3.10	2.69	5.79	7.63	0.15	7.78	5.99
5785	-7.60	2.11	9.95	4.46	-7.26	1.58	9.86	4.18	2.79	2.62	5.41	7.33	0.15	7.48	5.60
5825	-8.04	2.11	9.94	4.01	-7.66	1.58	9.86	3.78	2.52	2.39	4.91	6.91	0.15	7.06	5.08

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

Average Output Power
(Reference data for RF Exposure)

Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	May 22, 2019
Temperature / Humidity	24 deg. C / 62 % RH
Engineer	Takahiro Kawakami
Mode	Tx 11ac-20 CDD

	Antenna A				Antenna B				Antenna A+B						
Tested Frequency	Power Meter Reading	Cable Loss	Atten. Loss	Result (Timed average)	Power Meter Reading	Cable Loss	Atten. Loss	Result (Timed average)	Result (Timed average) Antenna 1	Antenna 2	Sum 1+2		Duty factor	Result (Burst power average)	
[MHz]	[dBm]	[dB]	[dB]	[dBm]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[mW]	[mW]	[dBm]	[dB]	[dBm]	[mW]
5180	-7.48	2.05	9.96	4.53	-6.94	1.52	9.85	4.43	2.84	2.77	5.61	7.49	0.09	7.58	5.73
5220	-7.66	2.05	9.96	4.35	-6.91	1.52	9.85	4.46	2.72	2.79	5.52	7.42	0.09	7.51	5.63
5240	-7.60	2.05	9.96	4.41	-6.98	1.52	9.85	4.39	2.76	2.75	5.51	7.41	0.09	7.50	5.62
5260	-7.57	2.06	9.96	4.45	-7.14	1.53	9.85	4.24	2.79	2.65	5.44	7.36	0.09	7.45	5.55
5300	-7.69	2.06	9.97	4.34	-7.32	1.53	9.85	4.06	2.72	2.55	5.26	7.21	0.09	7.30	5.37
5320	-7.66	2.06	9.97	4.37	-7.19	1.53	9.85	4.19	2.74	2.62	5.36	7.29	0.09	7.38	5.47
5500	-7.91	2.09	9.97	4.15	-8.34	1.55	9.85	3.06	2.60	2.02	4.62	6.65	0.09	6.74	4.72
5580	-7.94	2.09	9.97	4.12	-8.33	1.56	9.85	3.08	2.58	2.03	4.61	6.64	0.09	6.73	4.71
5700	-8.42	2.10	9.95	3.63	-7.69	1.57	9.86	3.74	2.31	2.37	4.67	6.70	0.09	6.79	4.77
5745	-7.12	2.10	9.95	4.93	-7.09	1.57	9.86	4.34	3.11	2.72	5.83	7.66	0.09	7.75	5.95
5785	-7.56	2.11	9.95	4.50	-7.23	1.58	9.86	4.21	2.82	2.64	5.45	7.37	0.09	7.46	5.57
5825	-7.99	2.11	9.94	4.06	-7.63	1.58	9.86	3.81	2.55	2.40	4.95	6.95	0.09	7.04	5.05

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

Average Output Power
(Reference data for RF Exposure)

Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	May 22, 2019
Temperature / Humidity	24 deg. C / 62 % RH
Engineer	Takahiro Kawakami
Mode	Tx 11ac-20 MIMO

	Antenna A				**Antenna B**				**Antenna A+B**						
Tested	Power	Cable	Atten.	Result	Power	Cable	Atten.	Result	Result (Timed average)				Duty	Result	
Frequency	Meter	Loss	Loss	(Timed	Meter	Loss	Loss	(Timed	Antenna		Sum		factor	(Burst power average)	
	Reading			average)	Reading			average)	1	2	1+2				
[MHz]	[dBm]	[dB]	[dB]	[dBm]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[mW]	[mW]	[dBm]	[dB]	[dBm]	[mW]
5180	-7.63	2.05	9.96	4.38	-6.98	1.52	9.85	4.39	2.74	2.75	5.49	7.40	0.15	7.55	5.68
5220	-7.79	2.05	9.96	4.22	-6.95	1.52	9.85	4.42	2.64	2.77	5.41	7.33	0.15	7.48	5.60
5240	-7.76	2.05	9.96	4.25	-7.01	1.52	9.85	4.36	2.66	2.73	5.39	7.32	0.15	7.47	5.58
5260	-7.63	2.06	9.96	4.39	-7.18	1.53	9.85	4.20	2.75	2.63	5.38	7.31	0.15	7.46	5.57
5300	-7.72	2.06	9.97	4.31	-7.33	1.53	9.85	4.05	2.70	2.54	5.24	7.19	0.15	7.34	5.42
5320	-7.71	2.06	9.97	4.32	-7.23	1.53	9.85	4.15	2.70	2.60	5.30	7.25	0.15	7.40	5.49
5500	-7.92	2.09	9.97	4.14	-8.36	1.55	9.85	3.04	2.59	2.01	4.61	6.64	0.15	6.79	4.77
5580	-7.99	2.09	9.97	4.07	-8.36	1.56	9.85	3.05	2.55	2.02	4.57	6.60	0.15	6.75	4.73
5700	-8.51	2.10	9.95	3.54	-7.77	1.57	9.86	3.66	2.26	2.32	4.58	6.61	0.15	6.76	4.74
5745	-7.26	2.10	9.95	4.79	-7.18	1.57	9.86	4.25	3.01	2.66	5.67	7.54	0.15	7.69	5.87
5785	-7.71	2.11	9.95	4.35	-7.34	1.58	9.86	4.10	2.72	2.57	5.29	7.24	0.15	7.39	5.48
5825	-8.15	2.11	9.94	3.90	-7.73	1.58	9.86	3.71	2.45	2.35	4.80	6.82	0.15	6.97	4.97

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

Average Output Power
(Reference data for RF Exposure)

Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	May 23, 2019
Temperature / Humidity	22 deg. C / 44 % RH
Engineer	Kazutaka Takeyama
Mode	Tx 11n-40 CDD

	Antenna A				Antenna B				Antenna A+B						
Tested Frequency	Power Meter Reading	Cable Loss	Atten. Loss	Result (Timed average)	Power Meter Reading	Cable Loss	Atten. Loss	Result (Timed average)	Result (Timed average) Antenna 1	Antenna 2	Sum 1+2		Duty factor	Result (Burst power average)	
[MHz]	[dBm]	[dB]	[dB]	[dBm]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[mW]	[mW]	[dBm]	[dB]	[dBm]	[mW]
5190	-7.50	2.05	9.96	4.51	-7.00	1.52	9.85	4.37	2.82	2.74	5.56	7.45	0.01	7.46	5.57
5230	-7.69	2.05	9.96	4.32	-6.83	1.52	9.85	4.54	2.70	2.84	5.55	7.44	0.01	7.45	5.56
5270	-7.57	2.06	9.96	4.45	-6.95	1.53	9.85	4.43	2.79	2.77	5.56	7.45	0.01	7.46	5.57
5310	-7.71	2.06	9.97	4.32	-6.93	1.53	9.85	4.45	2.70	2.79	5.49	7.40	0.01	7.41	5.50
5510	-7.93	2.09	9.97	4.13	-7.72	1.55	9.85	3.68	2.59	2.33	4.92	6.92	0.01	6.93	4.93
5550	-8.15	2.09	9.97	3.91	-7.49	1.55	9.85	3.91	2.46	2.46	4.92	6.92	0.01	6.93	4.93
5670	-8.25	2.10	9.96	3.81	-7.46	1.57	9.86	3.97	2.40	2.49	4.90	6.90	0.01	6.91	4.91
5755	-7.38	2.11	9.95	4.68	-7.00	1.58	9.86	4.44	2.94	2.78	5.72	7.57	0.01	7.58	5.73
5795	-7.76	2.11	9.95	4.30	-7.19	1.58	9.86	4.25	2.69	2.66	5.35	7.29	0.01	7.30	5.36

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

Average Output Power
(Reference data for RF Exposure)

Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	May 23, 2019
Temperature / Humidity	22 deg. C / 44 % RH
Engineer	Kazutaka Takeyama
Mode	Tx 11n-40 MIMO

	Antenna A				Antenna B				Antenna A+B						
Tested Frequency	Power Meter Reading	Cable Loss	Atten. Loss	Result (Timed average)	Power Meter Reading	Cable Loss	Atten. Loss	Result (Timed average)	Result (Timed average) Antenna 1	Antenna 2	Sum 1+2		Duty factor	Result (Burst power average)	
[MHz]	[dBm]	[dB]	[dB]	[dBm]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[mW]	[mW]	[dBm]	[dB]	[dBm]	[mW]
5190	-7.54	2.05	9.96	4.47	-7.00	1.52	9.85	4.37	2.80	2.74	5.53	7.43	0.03	7.46	5.57
5230	-7.71	2.05	9.96	4.30	-6.89	1.52	9.85	4.48	2.69	2.81	5.50	7.40	0.03	7.43	5.54
5270	-7.58	2.06	9.96	4.44	-6.96	1.53	9.85	4.42	2.78	2.77	5.55	7.44	0.03	7.47	5.59
5310	-7.70	2.06	9.97	4.33	-6.94	1.53	9.85	4.44	2.71	2.78	5.49	7.40	0.03	7.43	5.53
5510	-7.97	2.09	9.97	4.09	-7.70	1.55	9.85	3.70	2.56	2.34	4.91	6.91	0.03	6.94	4.94
5550	-8.17	2.09	9.97	3.89	-7.49	1.55	9.85	3.91	2.45	2.46	4.91	6.91	0.03	6.94	4.94
5670	-8.30	2.10	9.96	3.76	-7.51	1.57	9.86	3.92	2.38	2.47	4.84	6.85	0.03	6.88	4.88
5755	-7.46	2.11	9.95	4.60	-7.02	1.58	9.86	4.42	2.88	2.77	5.65	7.52	0.03	7.55	5.69
5795	-7.84	2.11	9.95	4.22	-7.23	1.58	9.86	4.21	2.64	2.64	5.28	7.23	0.03	7.26	5.32

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

Average Output Power
(Reference data for RF Exposure)

Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	May 23, 2019
Temperature / Humidity	22 deg. C / 44 % RH
Engineer	Kazutaka Takeyama
Mode	Tx 11ac-40 CDD

	Antenna A				Antenna B				Antenna A+B						
Tested Frequency	Power Meter Reading	Cable Loss	Atten. Loss	Result (Timed average)	Power Meter Reading	Cable Loss	Atten. Loss	Result (Timed average)	Result (Timed average) Antenna 1	Antenna 2	Sum 1+2		Duty factor	Result (Burst power average)	
[MHz]	[dBm]	[dB]	[dB]	[dBm]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[mW]	[mW]	[dBm]	[dB]	[dBm]	[mW]
5190	-7.51	2.05	9.96	4.50	-6.93	1.52	9.85	4.44	2.82	2.78	5.60	7.48	0.02	7.50	5.62
5230	-7.70	2.05	9.96	4.31	-6.85	1.52	9.85	4.52	2.70	2.83	5.53	7.43	0.02	7.45	5.55
5270	-7.58	2.06	9.96	4.44	-7.02	1.53	9.85	4.36	2.78	2.73	5.51	7.41	0.02	7.43	5.53
5310	-7.69	2.06	9.97	4.34	-6.99	1.53	9.85	4.39	2.72	2.75	5.46	7.38	0.02	7.40	5.49
5510	-7.98	2.09	9.97	4.08	-7.70	1.55	9.85	3.70	2.56	2.34	4.90	6.90	0.02	6.92	4.93
5550	-8.18	2.09	9.97	3.88	-7.47	1.55	9.85	3.93	2.44	2.47	4.92	6.92	0.02	6.94	4.94
5670	-8.20	2.10	9.96	3.86	-7.46	1.57	9.86	3.97	2.43	2.49	4.93	6.93	0.02	6.95	4.95
5755	-7.45	2.11	9.95	4.61	-7.01	1.58	9.86	4.43	2.89	2.77	5.66	7.53	0.02	7.55	5.69
5795	-7.83	2.11	9.95	4.23	-7.22	1.58	9.86	4.22	2.65	2.64	5.29	7.24	0.02	7.26	5.32

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

Average Output Power
(Reference data for RF Exposure)

Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	May 23, 2019
Temperature / Humidity	22 deg. C / 44 % RH
Engineer	Kazutaka Takeyama
Mode	Tx 11ac-40 MIMO

	Antenna A				**Antenna B**				**Antenna A+B**						
Tested	Power	Cable	Atten.	Result	Power	Cable	Atten.	Result	Result (Timed average)				Duty	Result	
Frequency	Meter	Loss	Loss	(Timed	Meter	Loss	Loss	(Timed	Antenna		Sum		factor	(Burst power average)	
	Reading			average)	Reading			average)	1	2	1+2				
[MHz]	[dBm]	[dB]	[dB]	[dBm]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[mW]	[mW]	[dBm]	[dB]	[dBm]	[mW]
5190	-7.53	2.05	9.96	4.48	-6.97	1.52	9.85	4.40	2.81	2.75	5.56	7.45	0.03	7.48	5.60
5230	-7.68	2.05	9.96	4.33	-6.89	1.52	9.85	4.48	2.71	2.81	5.52	7.42	0.03	7.45	5.55
5270	-7.68	2.06	9.96	4.34	-6.89	1.53	9.85	4.49	2.72	2.81	5.53	7.43	0.03	7.46	5.57
5310	-7.68	2.06	9.97	4.35	-6.92	1.53	9.85	4.46	2.72	2.79	5.52	7.42	0.03	7.45	5.55
5510	-7.91	2.09	9.97	4.15	-7.72	1.55	9.85	3.68	2.60	2.33	4.93	6.93	0.03	6.96	4.97
5550	-8.16	2.09	9.97	3.90	-7.49	1.55	9.85	3.91	2.45	2.46	4.92	6.92	0.03	6.95	4.95
5670	-8.23	2.10	9.96	3.83	-7.43	1.57	9.86	4.00	2.42	2.51	4.93	6.93	0.03	6.96	4.96
5755	-7.26	2.11	9.95	4.80	-6.94	1.58	9.86	4.50	3.02	2.82	5.84	7.66	0.03	7.69	5.88
5795	-7.62	2.11	9.95	4.44	-7.10	1.58	9.86	4.34	2.78	2.72	5.50	7.40	0.03	7.43	5.53

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

Average Output Power
(Reference data for RF Exposure)

Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	May 24, 2019
Temperature / Humidity	25 deg. C / 40 % RH
Engineer	Hiromasa Sato
Mode	Tx 11ac-80 CDD

	Antenna A				Antenna B				Antenna A+B						
Tested Frequency	Power Meter Reading	Cable Loss	Atten. Loss	Result (Timed average)	Power Meter Reading	Cable Loss	Atten. Loss	Result (Timed average)	Result (Timed average) Antenna 1	Antenna 2	Sum 1+2		Duty factor	Result (Burst power average)	
[MHz]	[dBm]	[dB]	[dB]	[dBm]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[mW]	[mW]	[dBm]	[dB]	[dBm]	[mW]
5210	-8.10	2.05	9.96	3.91	-7.42	1.52	9.85	3.95	2.46	2.48	4.94	6.94	0.21	7.15	5.19
5290	-8.18	2.06	9.97	3.85	-7.60	1.53	9.85	3.78	2.43	2.39	4.81	6.83	0.21	7.04	5.05
5530	-7.68	2.09	9.97	4.38	-7.20	1.55	9.85	4.20	2.74	2.63	5.37	7.30	0.21	7.51	5.64
5610	-7.73	2.10	9.96	4.33	-7.31	1.56	9.85	4.10	2.71	2.57	5.28	7.23	0.21	7.44	5.54
5775	-7.84	2.11	9.95	4.22	-7.66	1.58	9.86	3.78	2.64	2.39	5.03	7.02	0.21	7.23	5.28

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

Average Output Power
(Reference data for RF Exposure)

Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	May 24, 2019
Temperature / Humidity	25 deg. C / 40 % RH
Engineer	Hiromasa Sato
Mode	Tx 11ac-80 MIMO

	Antenna A				Antenna B				Antenna A+B						
Tested Frequency	Power Meter Reading	Cable Loss	Atten. Loss	Result (Timed average)	Power Meter Reading	Cable Loss	Atten. Loss	Result (Timed average)	Result (Timed average) Antenna 1	Antenna 2	Sum 1+2		Duty factor	Result (Burst power average)	
[MHz]	[dBm]	[dB]	[dB]	[dBm]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[mW]	[mW]	[dBm]	[dB]	[dBm]	[mW]
5210	-8.27	2.05	9.96	3.74	-7.71	1.52	9.85	3.66	2.37	2.32	4.69	6.71	0.48	7.19	5.24
5290	-8.41	2.06	9.97	3.62	-7.84	1.53	9.85	3.54	2.30	2.26	4.56	6.59	0.48	7.07	5.09
5530	-7.91	2.09	9.97	4.15	-7.46	1.55	9.85	3.94	2.60	2.48	5.08	7.06	0.48	7.54	5.67
5610	-7.95	2.10	9.96	4.11	-7.55	1.56	9.85	3.86	2.58	2.43	5.01	7.00	0.48	7.48	5.59
5775	-8.07	2.11	9.95	3.99	-7.91	1.58	9.86	3.53	2.51	2.25	4.76	6.78	0.48	7.26	5.32

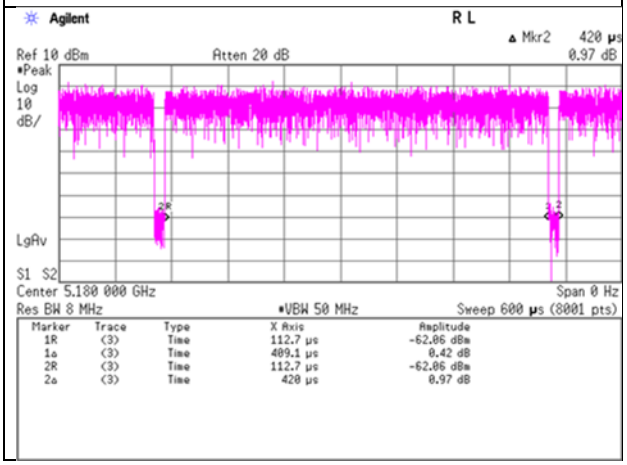
Sample Calculation:
Result (Timed average) = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss
Result (Burst power average) = Time average + Duty factor

Burst rate confirmation(for Average Output Power)

Report No.	12699044S-AM-R1	
Test place	Shonan EMC Lab. No.5 Shielded Room	
Date	May 21, 2019	May 22, 2019
Temperature / Humidity	25 deg. C / 55 % RH	24 deg. C / 62 % RH
Engineer	Hiromasa Sato	Takahiro Kawakami
Mode	Tx	

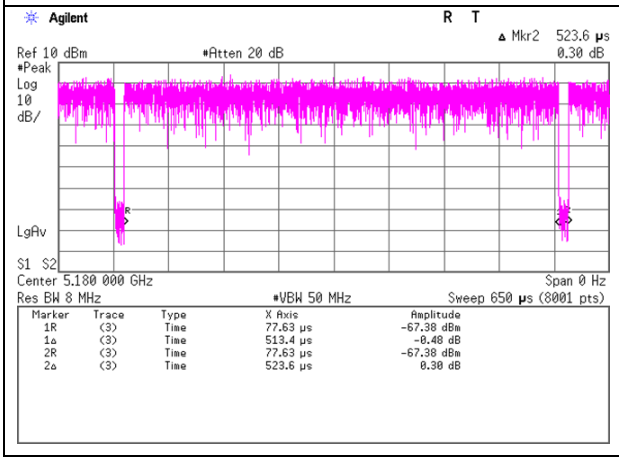
11a 48 Mbps

Tx on / (Tx on + Tx off) =	0.974
Tx on / (Tx on + Tx off) * 100 =	97.4 %
Duty factor = 10 * log (0.42 / 0.4091) =	0.11 dB



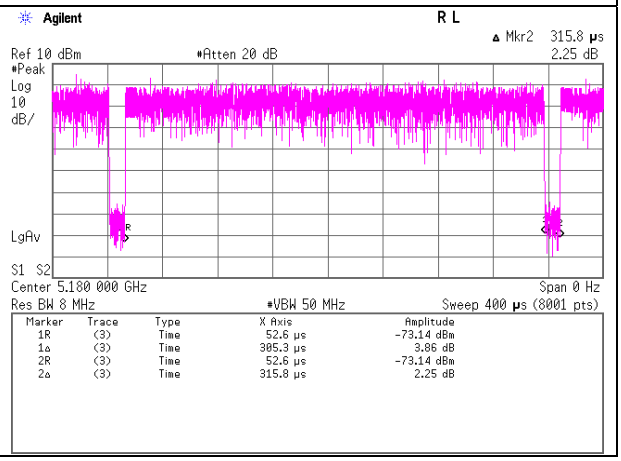
11n-20 CDD MCS 7

Tx on / (Tx on + Tx off) =	0.981
Tx on / (Tx on + Tx off) * 100 =	98.1 %
Duty factor = 10 * log (0.5236 / 0.5134) =	0.09 dB



11n-20 MIMO MCS 14

Tx on / (Tx on + Tx off) =	0.967
Tx on / (Tx on + Tx off) * 100 =	96.7 %
Duty factor = 10 * log (0.3158 / 0.3053) =	0.15 dB

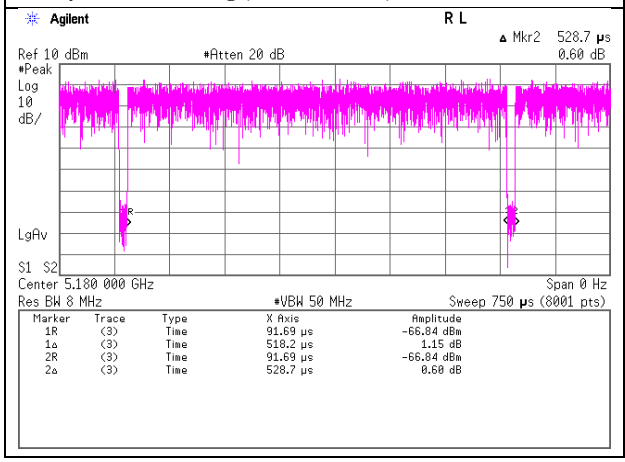


Burst rate confirmation(for Average Output Power)

Report No.	12699044S-AM-R1	
Test place	Shonan EMC Lab. No.5 Shielded Room	
Date	May 22, 2019	May 23, 2019
Temperature / Humidity	24 deg. C / 62 % RH	22 deg. C / 44 % RH
Engineer	Takahiro Kawakami	Kazutaka Takeyama
Mode	Tx	

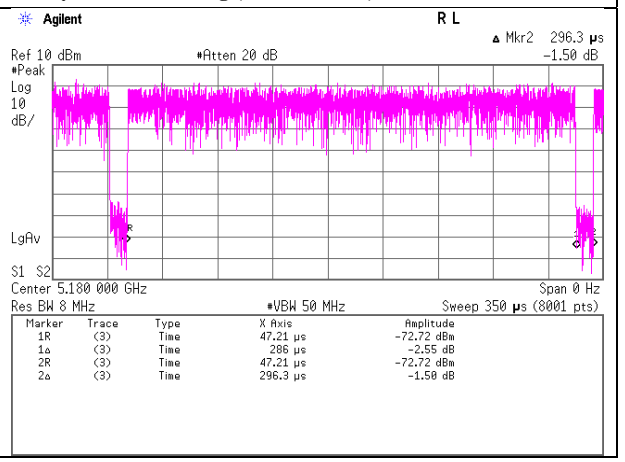
11ac-20 CDD MCS 7

Tx on / (Tx on + Tx off) = 0.980
Tx on / (Tx on + Tx off) * 100 = 98.0 %
Duty factor = 10 * log (0.5287 / 0.5182) = 0.09 dB



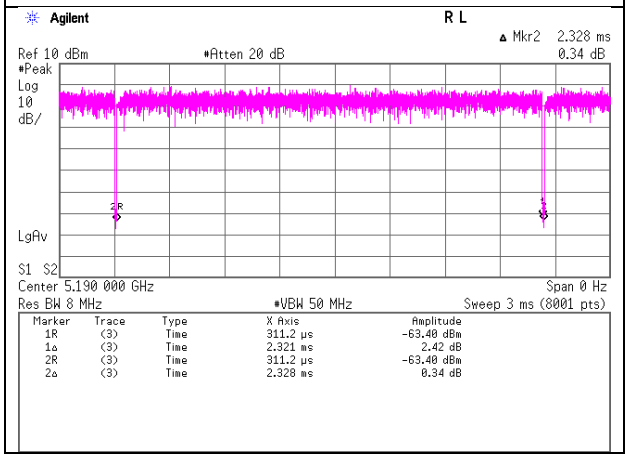
11ac-20 MIMO MCS 7

Tx on / (Tx on + Tx off) = 0.965
Tx on / (Tx on + Tx off) * 100 = 96.5 %
Duty factor = 10 * log (0.2963 / 0.286) = 0.15 dB



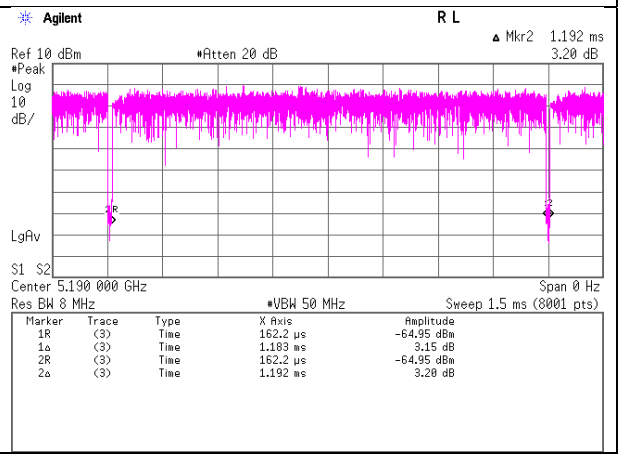
11n-40 CDD MCS 0

Tx on / (Tx on + Tx off) = 0.997
Tx on / (Tx on + Tx off) * 100 = 99.7 %
Duty factor = 10 * log (0.2328 / 0.2321) = 0.01 dB



11n-40 MIMO MCS 8

Tx on / (Tx on + Tx off) = 0.992
Tx on / (Tx on + Tx off) * 100 = 99.2 %
Duty factor = 10 * log (1.192 / 1.183) = 0.03 dB

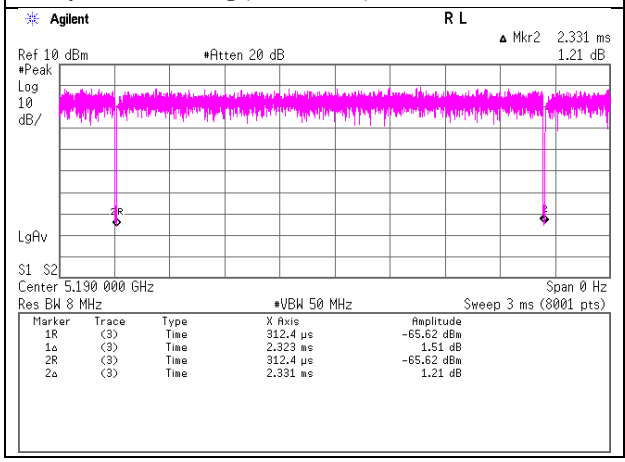


Burst rate confirmation(for Average Output Power)

Report No.	12699044S-AM-R1	
Test place	Shonan EMC Lab. No.5 Shielded Room	
Date	May 23, 2019	May 24, 2019
Temperature / Humidity	22 deg. C / 44 % RH	25 deg. C / 40 % RH
Engineer	Kazutaka Takeyama	Hiromasa Sato
Mode	Tx	

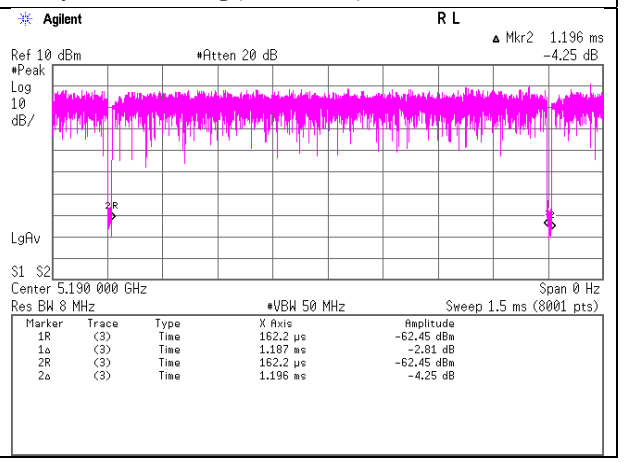
11ac-40 CDD MCS 0

Tx on / (Tx on + Tx off) = 0.997
Tx on / (Tx on + Tx off) * 100 = 99.7 %
Duty factor = 10 * log (2.331 / 2.323) = 0.02 dB



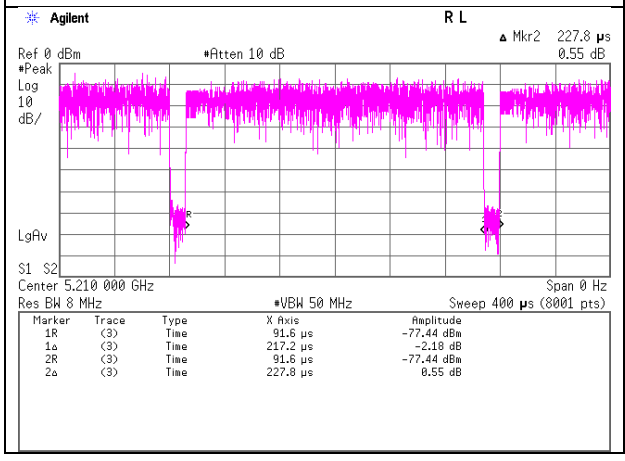
11ac-40 MIMO MCS 0

Tx on / (Tx on + Tx off) = 0.992
Tx on / (Tx on + Tx off) * 100 = 99.2 %
Duty factor = 10 * log (1.196 / 1.187) = 0.03 dB



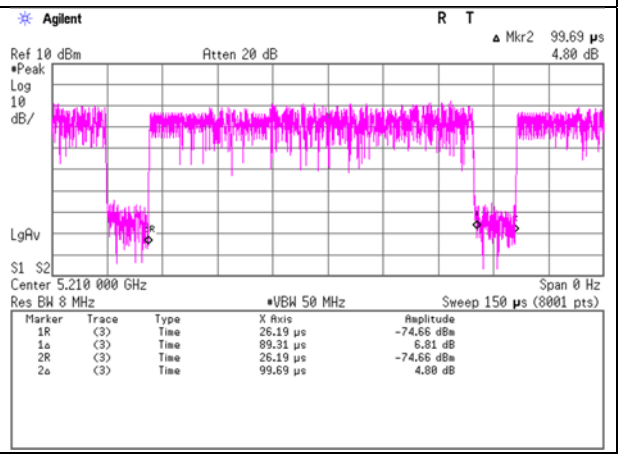
11ac-80 CDD MCS 4

Tx on / (Tx on + Tx off) = 0.953
Tx on / (Tx on + Tx off) * 100 = 95.3 %
Duty factor = 10 * log (0.2278 / 0.2172) = 0.21 dB



11ac-80 MIMO MCS 8

Tx on / (Tx on + Tx off) = 0.896
Tx on / (Tx on + Tx off) * 100 = 89.6 %
Duty factor = 10 * log (0.09969 / 0.08931) = 0.48 dB

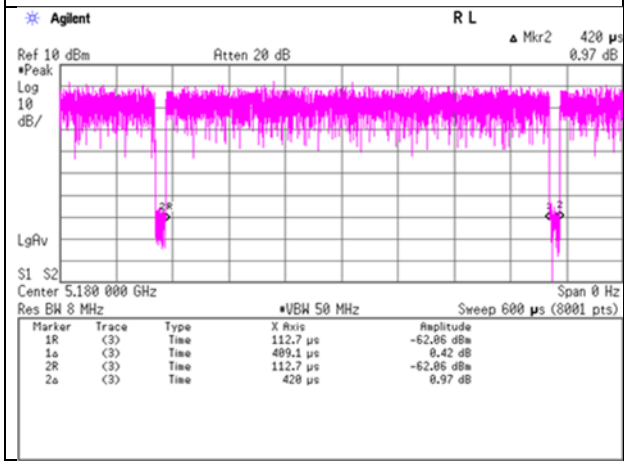


Burst rate confirmation(for Radiated Spurious Emission)

Report No.	12699044S-AM-R1	
Test place	Shonan EMC Lab. No.5 Shielded Room	
Date	May 21, 2019	May 22, 2019
Temperature / Humidity	25 deg. C / 55 % RH	24 deg. C / 62 % RH
Engineer	Hiromasa Sato	Takahiro Kawakami
Mode	Tx	

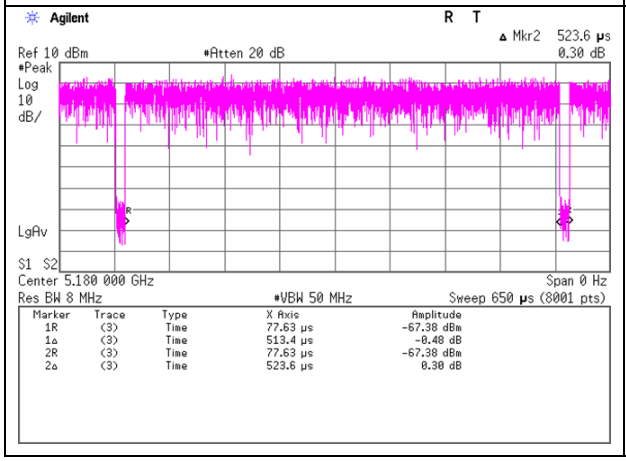
11a 48 Mbps

Tx on / (Tx on + Tx off) = 0.974
Tx on / (Tx on + Tx off) * 100 = 97.4 %
VBW: 1/On time = 2444 Hz<2700 Hz



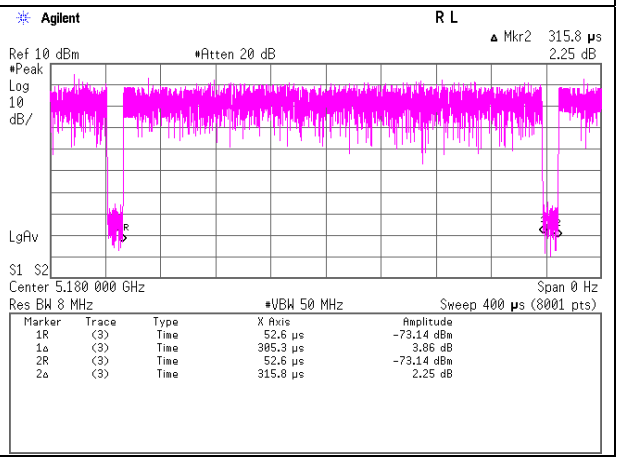
11n-20 CDD MCS 7

Tx on / (Tx on + Tx off) = 0.981
Tx on / (Tx on + Tx off) * 100 = 98.1 %
Duty > 98 %



11n-20 MIMO MCS 14

Tx on / (Tx on + Tx off) = 0.967
Tx on / (Tx on + Tx off) * 100 = 96.7 %
VBW: 1/On time = 3275 Hz<3300 Hz

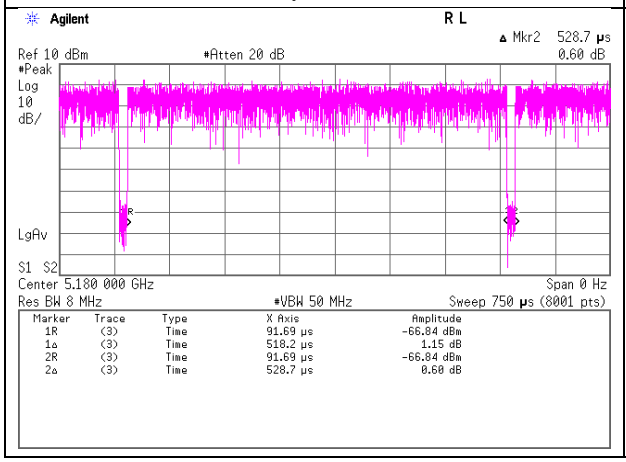


Burst rate confirmation(for Radiated Spurious Emission)

Report No.	12699044S-AM-R1	
Test place	Shonan EMC Lab. No.5 Shielded Room	
Date	May 22, 2019	May 23, 2019
Temperature / Humidity	24 deg. C / 62 % RH	22 deg. C / 44 % RH
Engineer	Takahiro Kawakami	Kazutaka Takeyama
Mode	Tx	

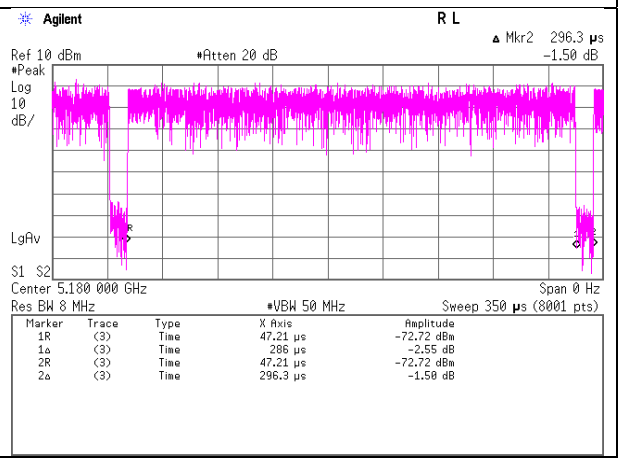
11ac-20 CDD MCS 7

Tx on / (Tx on + Tx off) = 0.980
Tx on / (Tx on + Tx off) * 100 = 98.0 %
Duty > 98 %



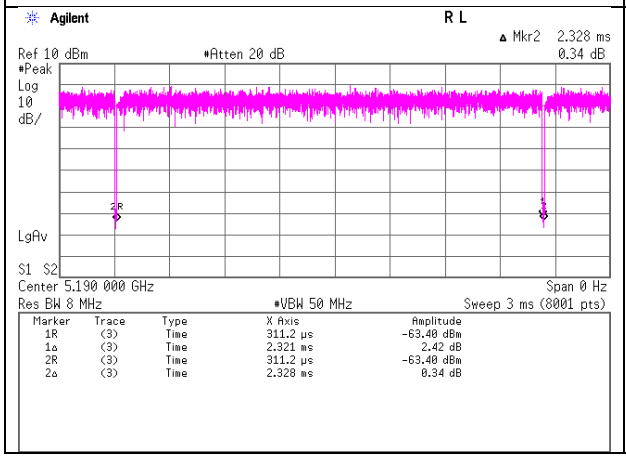
11ac-20 MIMO MCS 7

Tx on / (Tx on + Tx off) = 0.965
Tx on / (Tx on + Tx off) * 100 = 96.5 %
VBW: 1/On time = 3497 Hz < 3600 Hz



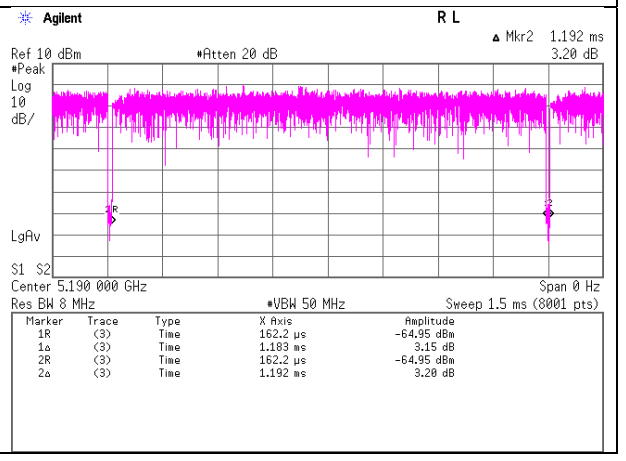
11n-40 CDD MCS 0

Tx on / (Tx on + Tx off) = 0.997
Tx on / (Tx on + Tx off) * 100 = 99.7 %
Duty > 98 %



11n-40 MIMO MCS 8

Tx on / (Tx on + Tx off) = 0.992
Tx on / (Tx on + Tx off) * 100 = 99.2 %
Duty > 98 %

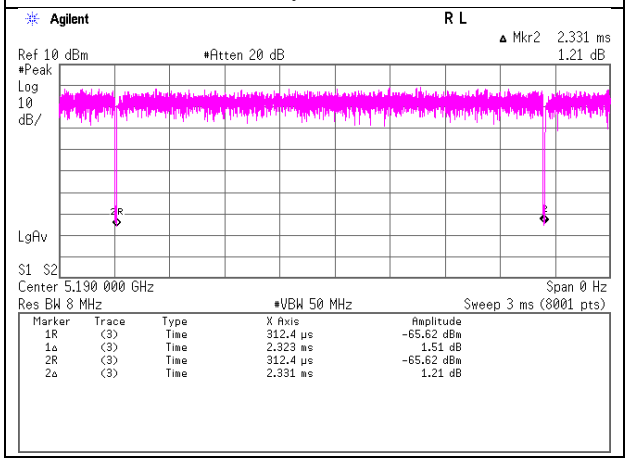


Burst rate confirmation(for Radiated Spurious Emission)

Report No.	12699044S-AM-R1	
Test place	Shonan EMC Lab. No.5 Shielded Room	
Date	May 23, 2019	May 24, 2019
Temperature / Humidity	22 deg. C / 44 % RH	25 deg. C / 40 % RH
Engineer	Kazutaka Takeyama	Hiromasa Sato
Mode	Tx	

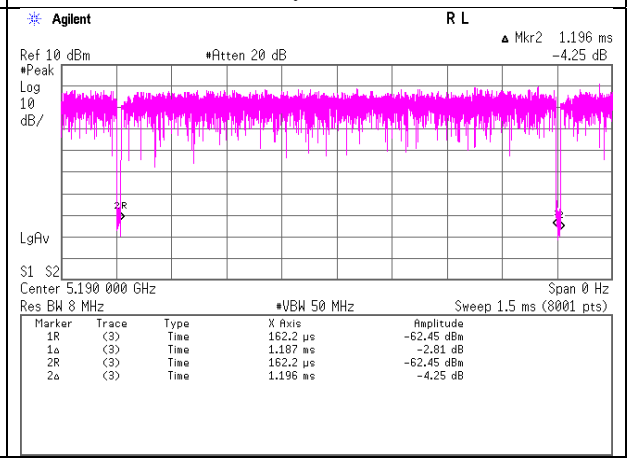
11ac-40 CDD MCS 0

Tx on / (Tx on + Tx off) = 0.997
Tx on / (Tx on + Tx off) * 100 = 99.7 %
Duty > 98 %



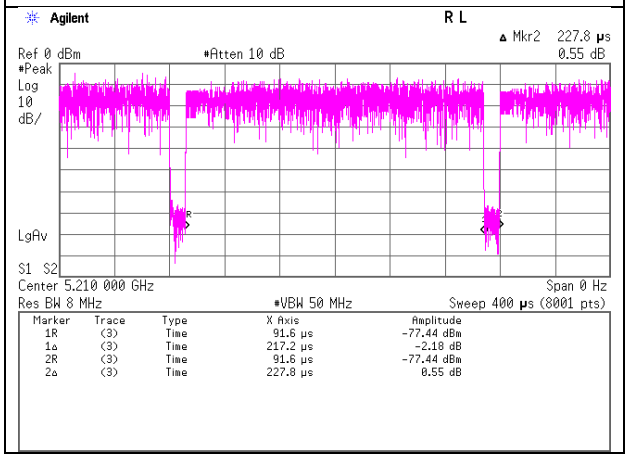
11ac-40 MIMO MCS 0

Tx on / (Tx on + Tx off) = 0.992
Tx on / (Tx on + Tx off) * 100 = 99.2 %
Duty > 98 %



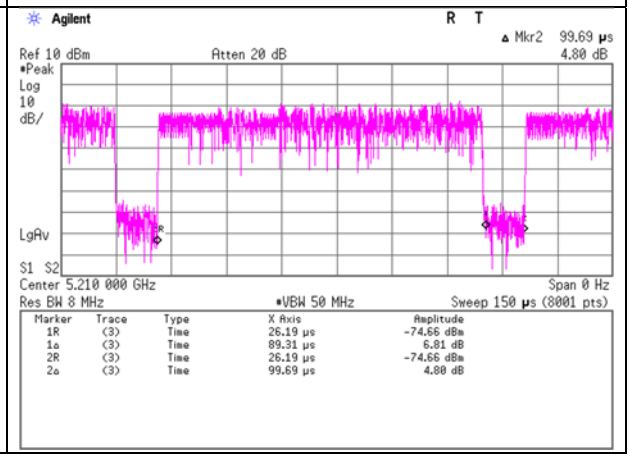
11ac-80 CDD MCS 4

Tx on / (Tx on + Tx off) = 0.953
Tx on / (Tx on + Tx off) * 100 = 95.3 %
VBW: 1/On time = 4604 Hz<4700 Hz



11ac-80 MIMO MCS 8

Tx on / (Tx on + Tx off) = 0.896
Tx on / (Tx on + Tx off) * 100 = 89.6 %
VBW: 1/On time = 11196 Hz<12000 Hz



Maximum Power Spectral Density

Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	June 4, 2019
Temperature / Humidity	25 deg. C / 47 % RH
Engineer	Takahiro Kawakami
Mode	Tx 11a

Antenna A+B Applied limit: 15.407, mobile and portable client device

Tested Frequency	PSD (Conducted)						PSD (e.i.r.p.)					
	Antenna			Result	Limit	Margin	Antenna			Result	Limit	Margin
	A	B	Sum				A	B	Sum			
[MHz]	[mW/MHz]	[mW/MHz]	[mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]	[mW/MHz]	[mW/MHz]	[mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]
5180	0.25	0.28	0.53	-2.74	11.00	13.74	0.71	0.80	1.51	1.80	17.00	15.20
5220	0.26	0.27	0.53	-2.78	11.00	13.78	0.74	0.75	1.50	1.75	17.00	15.25
5240	0.26	0.31	0.57	-2.47	11.00	13.47	0.73	0.88	1.61	2.06	17.00	14.94
5260	0.27	0.30	0.57	-2.46	11.00	13.46	0.81	0.90	1.71	2.33	17.00	14.67
5300	0.25	0.28	0.52	-2.83	11.00	13.83	0.74	0.83	1.57	1.96	17.00	15.04
5320	0.27	0.27	0.54	-2.69	11.00	13.69	0.81	0.81	1.62	2.10	17.00	14.90
5500	0.24	0.22	0.46	-3.34	11.00	14.34	0.78	0.71	1.48	1.71	17.00	15.29
5580	0.25	0.25	0.50	-3.01	11.00	14.01	0.81	0.79	1.60	2.04	17.00	14.96
5700	0.23	0.25	0.48	-3.15	11.00	14.15	0.74	0.81	1.55	1.90	17.00	15.10
5745	0.21	0.19	0.41	-3.90	30.00	33.90	0.72	0.65	1.37	1.37	36.00	34.63
5785	0.18	0.17	0.35	-4.57	30.00	34.57	0.59	0.59	1.18	0.70	36.00	35.30
5825	0.16	0.15	0.31	-5.04	30.00	35.04	0.54	0.52	1.05	0.23	36.00	35.77

			Antenna A						**Antenna B**					
Tested Frequency	Duty Factor	RBW Correction Factor	PSD Reading	Cable Loss	Atten. Loss	Directional Gain	PSD Result		PSD Reading	Cable Loss	Atten. Loss	Directional Gain	PSD Result	
							Cond.	e.i.r.p.					Cond.	e.i.r.p.
[MHz]	[dB]	[dB]	[dBm/MHz]	[dB]	[dB]	[dBi]	[dBm/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]	[dB]	[dBi]	[dBm/MHz]	[dBm/MHz]
5180	0.11	0.00	-18.15	2.05	9.96	4.53	-6.03	-1.50	-16.96	1.52	9.85	4.53	-5.48	-0.94
5220	0.11	0.00	-17.96	2.05	9.96	4.53	-5.84	-1.31	-17.23	1.52	9.85	4.53	-5.75	-1.22
5240	0.11	0.00	-18.03	2.05	9.96	4.53	-5.91	-1.38	-16.57	1.52	9.85	4.53	-5.09	-0.56
5260	0.11	0.00	-17.86	2.06	9.96	4.79	-5.73	-0.94	-16.72	1.53	9.85	4.79	-5.23	-0.43
5300	0.11	0.00	-18.23	2.06	9.97	4.79	-6.09	-1.30	-17.09	1.53	9.85	4.79	-5.60	-0.81
5320	0.11	0.00	-17.83	2.06	9.97	4.79	-5.69	-0.90	-17.20	1.53	9.85	4.79	-5.71	-0.92
5500	0.11	0.00	-18.32	2.09	9.97	5.05	-6.15	-1.10	-18.07	1.55	9.85	5.05	-6.56	-1.51
5580	0.11	0.00	-18.13	2.09	9.97	5.05	-5.96	-0.91	-17.60	1.56	9.85	5.05	-6.08	-1.03
5700	0.11	0.00	-18.51	2.10	9.95	5.05	-6.35	-1.30	-17.52	1.57	9.86	5.05	-5.98	-0.93
5745	0.11	6.99	-25.84	2.10	9.95	5.27	-6.69	-1.42	-25.66	1.57	9.86	5.27	-7.13	-1.86
5785	0.11	6.99	-26.72	2.11	9.95	5.27	-7.56	-2.29	-26.13	1.58	9.86	5.27	-7.59	-2.32
5825	0.11	6.99	-27.11	2.11	9.94	5.27	-7.96	-2.69	-26.68	1.58	9.86	5.27	-8.14	-2.87

*[U-NII-1 band for FCC]
Although the EUT operates on Master mode, more stringent limit for Client device was applied.

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 + Directional Gain
Directional Gain = G ANT + Array Gain
G ANT = Set equal to the gain of the antenna having the highest gain
Array Gain = 10 log(N ANT/N SS) dB.
N ANT = number of transmit antennas = 2
N SS = number of spatial streams = 1

Maximum Power Spectral Density

Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	June 6, 2019
Temperature / Humidity	25 deg. C / 51 % RH
Engineer	Toshinori Yamada
Mode	Tx 11n-20 CDD

Antenna A+B Applied limit: 15.407, mobile and portable client device

Tested Frequency	PSD (Conducted)						PSD (e.i.r.p.)					
	Antenna			Result	Limit	Margin	Antenna			Result	Limit	Margin
	A	B	Sum				A	B	Sum			
[MHz]	[mW/MHz]	[mW/MHz]	[mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]	[mW/MHz]	[mW/MHz]	[mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]
5180	0.24	0.26	0.50	-3.02	11.00	14.02	0.68	0.73	1.42	1.51	17.00	15.49
5220	0.24	0.26	0.50	-2.99	11.00	13.99	0.69	0.74	1.43	1.54	17.00	15.46
5240	0.28	0.30	0.57	-2.42	11.00	13.42	0.79	0.84	1.63	2.11	17.00	14.89
5260	0.27	0.27	0.54	-2.71	11.00	13.71	0.80	0.81	1.61	2.08	17.00	14.92
5300	0.27	0.26	0.53	-2.77	11.00	13.77	0.80	0.79	1.59	2.02	17.00	14.98
5320	0.27	0.29	0.56	-2.50	11.00	13.50	0.81	0.89	1.69	2.29	17.00	14.71
5500	0.25	0.22	0.47	-3.25	11.00	14.25	0.80	0.71	1.51	1.80	17.00	15.20
5580	0.23	0.21	0.44	-3.59	11.00	14.59	0.74	0.66	1.40	1.46	17.00	15.54
5700	0.21	0.24	0.45	-3.44	11.00	14.44	0.67	0.78	1.45	1.61	17.00	15.39
5745	0.20	0.17	0.38	-4.24	30.00	34.24	0.68	0.59	1.27	1.03	36.00	34.97
5785	0.20	0.18	0.38	-4.16	30.00	34.16	0.68	0.61	1.29	1.11	36.00	34.89
5825	0.15	0.18	0.33	-4.80	30.00	34.80	0.51	0.61	1.11	0.47	36.00	35.53

			Antenna A						**Antenna B**					
Tested Frequency	Duty Factor	RBW Correction Factor	PSD Reading	Cable Loss	Atten. Loss	Directional Gain	PSD Result		PSD Reading	Cable Loss	Atten. Loss	Directional Gain	PSD Result	
							Cond.	e.i.r.p.					Cond.	e.i.r.p.
[MHz]	[dB]	[dB]	[dBm/MHz]	[dB]	[dB]	[dBi]	[dBm/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]	[dB]	[dBi]	[dBm/MHz]	[dBm/MHz]
5180	0.09	0.00	-18.28	2.05	9.96	4.53	-6.18	-1.65	-17.34	1.52	9.85	4.53	-5.88	-1.35
5220	0.09	0.00	-18.25	2.05	9.96	4.53	-6.15	-1.62	-17.31	1.52	9.85	4.53	-5.85	-1.32
5240	0.09	0.00	-17.67	2.05	9.96	4.53	-5.57	-1.04	-16.76	1.52	9.85	4.53	-5.30	-0.77
5260	0.09	0.00	-17.85	2.06	9.96	4.79	-5.74	-0.95	-17.18	1.53	9.85	4.79	-5.71	-0.92
5300	0.09	0.00	-17.88	2.06	9.97	4.79	-5.76	-0.97	-17.27	1.53	9.85	4.79	-5.80	-1.01
5320	0.09	0.00	-17.84	2.06	9.97	4.79	-5.72	-0.93	-16.78	1.53	9.85	4.79	-5.31	-0.52
5500	0.09	0.00	-18.18	2.09	9.97	5.05	-6.03	-0.98	-18.00	1.55	9.85	5.05	-6.51	-1.46
5580	0.09	0.00	-18.53	2.09	9.97	5.05	-6.38	-1.33	-18.34	1.56	9.85	5.05	-6.84	-1.79
5700	0.09	0.00	-18.96	2.10	9.95	5.05	-6.82	-1.77	-17.63	1.57	9.86	5.05	-6.11	-1.06
5745	0.09	6.99	-26.07	2.10	9.95	5.27	-6.94	-1.67	-26.09	1.57	9.86	5.27	-7.58	-2.31
5785	0.09	6.99	-26.09	2.11	9.95	5.27	-6.95	-1.68	-25.93	1.58	9.86	5.27	-7.41	-2.14
5825	0.09	6.99	-27.34	2.11	9.94	5.27	-8.21	-2.94	-25.96	1.58	9.86	5.27	-7.44	-2.17

*[U-NII-1 band for FCC]
Although the EUT operates on Master mode, more stringent limit for Client device was applied.

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 + Directional Gain
Directional Gain = G ANT + Array Gain
G ANT = Set equal to the gain of the antenna having the highest gain
Array Gain = 10 log(N ANT/N SS) dB.
N ANT = number of transmit antennas = 2
N SS = number of spatial streams = 1

Maximum Power Spectral Density

Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	June 6, 2019
Temperature / Humidity	25 deg. C / 51 % RH
Engineer	Toshinori Yamada
Mode	Tx 11n-20 MIMO

Antenna A+B Applied limit: 15.407, mobile and portable client device

Tested Frequency	PSD (Conducted)						PSD (e.i.r.p.)					
	Antenna			Result	Limit	Margin	Antenna			Result	Limit	Margin
	A	B	Sum				A	B	Sum			
[MHz]	[mW/MHz]	[mW/MHz]	[mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]	[mW/MHz]	[mW/MHz]	[mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]
5180	0.24	0.26	0.51	-2.96	11.00	13.96	0.34	0.36	0.71	-1.51	17.00	18.51
5220	0.26	0.30	0.56	-2.50	11.00	13.50	0.37	0.42	0.79	-1.05	17.00	18.05
5240	0.25	0.29	0.53	-2.74	11.00	13.74	0.35	0.39	0.74	-1.29	17.00	18.29
5260	0.26	0.27	0.53	-2.74	11.00	13.74	0.40	0.39	0.78	-1.05	17.00	18.05
5300	0.26	0.28	0.55	-2.64	11.00	13.64	0.39	0.41	0.80	-0.95	17.00	17.95
5320	0.27	0.28	0.55	-2.58	11.00	13.58	0.41	0.40	0.81	-0.89	17.00	17.89
5500	0.23	0.21	0.44	-3.54	11.00	14.54	0.37	0.25	0.62	-2.05	17.00	19.05
5580	0.23	0.22	0.44	-3.52	11.00	14.52	0.37	0.26	0.63	-2.04	17.00	19.04
5700	0.22	0.23	0.45	-3.46	11.00	14.46	0.34	0.28	0.63	-2.03	17.00	19.03
5745	0.20	0.20	0.40	-4.00	30.00	34.00	0.34	0.27	0.61	-2.14	36.00	38.14
5785	0.19	0.19	0.38	-4.20	30.00	34.20	0.32	0.26	0.58	-2.34	36.00	38.34
5825	0.18	0.17	0.35	-4.53	30.00	34.53	0.30	0.24	0.54	-2.66	36.00	38.66

			Antenna A						**Antenna B**					
Tested Frequency	Duty Factor	RBW Correction Factor	PSD Reading	Cable Loss	Atten. Loss	Antenna Gain	PSD Result		PSD Reading	Cable Loss	Atten. Loss	Antenna Gain	PSD Result	
							Cond.	e.i.r.p.					Cond.	e.i.r.p.
[MHz]	[dB]	[dB]	[dBm/MHz]	[dB]	[dB]	[dBi]	[dBm/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]	[dB]	[dBi]	[dBm/MHz]	[dBm/MHz]
5180	0.15	0.00	-18.34	2.05	9.96	1.52	-6.18	-4.66	-17.30	1.52	9.85	1.39	-5.78	-4.39
5220	0.15	0.00	-18.01	2.05	9.96	1.52	-5.85	-4.33	-16.71	1.52	9.85	1.39	-5.19	-3.80
5240	0.15	0.00	-18.25	2.05	9.96	1.52	-6.09	-4.57	-16.96	1.52	9.85	1.39	-5.44	-4.05
5260	0.15	0.00	-17.94	2.06	9.96	1.78	-5.77	-3.99	-17.26	1.53	9.85	1.59	-5.73	-4.14
5300	0.15	0.00	-18.02	2.06	9.97	1.78	-5.84	-4.06	-16.99	1.53	9.85	1.59	-5.46	-3.87
5320	0.15	0.00	-17.82	2.06	9.97	1.78	-5.64	-3.86	-17.07	1.53	9.85	1.59	-5.54	-3.95
5500	0.15	0.00	-18.53	2.09	9.97	2.04	-6.32	-4.28	-18.35	1.55	9.85	0.79	-6.80	-6.01
5580	0.15	0.00	-18.61	2.09	9.97	2.04	-6.40	-4.36	-18.22	1.56	9.85	0.79	-6.66	-5.87
5700	0.15	0.00	-18.87	2.10	9.95	2.04	-6.67	-4.63	-17.87	1.57	9.86	0.79	-6.29	-5.50
5745	0.15	6.99	-26.13	2.10	9.95	2.26	-6.94	-4.68	-25.66	1.57	9.86	1.42	-7.09	-5.67
5785	0.15	6.99	-26.37	2.11	9.95	2.26	-7.17	-4.91	-25.84	1.58	9.86	1.42	-7.26	-5.84
5825	0.15	6.99	-26.64	2.11	9.94	2.26	-7.45	-5.19	-26.22	1.58	9.86	1.42	-7.64	-6.22

*[U-NII-1 band for FCC]
Although the EUT operates on Master mode, more stringent limit for Client device was applied.

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

Maximum Power Spectral Density

Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	June 10, 2019
Temperature / Humidity	24 deg. C / 54 % RH
Engineer	Takahiro Kawakami
Mode	Tx 11ac-20 CDD

Antenna A+B Applied limit: 15.407, mobile and portable client device

Tested	PSD (Conducted)						PSD (e.i.r.p.)					
Frequency	Antenna			Result	Limit	Margin	Antenna			Result	Limit	Margin
	A	B	Sum				A	B	Sum			
[MHz]	[mW/MHz]	[mW/MHz]	[mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]	[mW/MHz]	[mW/MHz]	[mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]
5180	0.23	0.27	0.50	-2.97	11.00	13.97	0.65	0.78	1.43	1.56	17.00	15.44
5220	0.25	0.27	0.51	-2.91	11.00	13.91	0.70	0.75	1.45	1.62	17.00	15.38
5240	0.25	0.27	0.52	-2.80	11.00	13.80	0.71	0.78	1.49	1.73	17.00	15.27
5260	0.25	0.30	0.55	-2.60	11.00	13.60	0.74	0.91	1.66	2.20	17.00	14.80
5300	0.24	0.28	0.52	-2.82	11.00	13.82	0.73	0.84	1.57	1.97	17.00	15.03
5320	0.24	0.27	0.51	-2.92	11.00	13.92	0.72	0.82	1.54	1.87	17.00	15.13
5500	0.24	0.23	0.47	-3.28	11.00	14.28	0.77	0.73	1.50	1.77	17.00	15.23
5580	0.25	0.22	0.47	-3.28	11.00	14.28	0.79	0.71	1.50	1.77	17.00	15.23
5700	0.20	0.25	0.45	-3.44	11.00	14.44	0.64	0.81	1.45	1.61	17.00	15.39
5745	0.18	0.20	0.38	-4.24	30.00	34.24	0.61	0.66	1.27	1.03	36.00	34.97
5785	0.18	0.17	0.36	-4.48	30.00	34.48	0.61	0.59	1.20	0.79	36.00	35.21
5825	0.17	0.19	0.36	-4.41	30.00	34.41	0.58	0.64	1.22	0.86	36.00	35.14

			Antenna A						**Antenna B**					
Tested	Duty	RBW	PSD	Cable	Atten.	Directional	PSD Result		PSD	Cable	Atten.	Directional	PSD Result	
Frequency	Factor	Correction Factor	Reading	Loss	Loss	Gain	Cond.	e.i.r.p.	Reading	Loss	Loss	Gain	Cond.	e.i.r.p.
[MHz]	[dB]	[dB]	[dBm/MHz]	[dB]	[dB]	[dBi]	[dBm/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]	[dB]	[dBi]	[dBm/MHz]	[dBm/MHz]
5180	0.09	0.00	-18.48	2.05	9.96	4.53	-6.38	-1.85	-17.07	1.52	9.85	4.53	-5.61	-1.08
5220	0.09	0.00	-18.19	2.05	9.96	4.53	-6.09	-1.56	-17.22	1.52	9.85	4.53	-5.76	-1.23
5240	0.09	0.00	-18.10	2.05	9.96	4.53	-6.00	-1.47	-17.09	1.52	9.85	4.53	-5.63	-1.10
5260	0.09	0.00	-18.19	2.06	9.96	4.79	-6.08	-1.29	-16.65	1.53	9.85	4.79	-5.18	-0.39
5300	0.09	0.00	-18.25	2.06	9.97	4.79	-6.13	-1.34	-17.03	1.53	9.85	4.79	-5.56	-0.77
5320	0.09	0.00	-18.34	2.06	9.97	4.79	-6.22	-1.43	-17.12	1.53	9.85	4.79	-5.65	-0.86
5500	0.09	0.00	-18.35	2.09	9.97	5.05	-6.20	-1.14	-17.88	1.55	9.85	5.05	-6.39	-1.34
5580	0.09	0.00	-18.20	2.09	9.97	5.05	-6.05	-1.00	-18.05	1.56	9.85	5.05	-6.55	-1.50
5700	0.09	0.00	-19.10	2.10	9.95	5.05	-6.96	-1.91	-17.51	1.57	9.86	5.05	-5.99	-0.94
5745	0.09	6.99	-26.54	2.10	9.95	5.27	-7.41	-2.14	-25.61	1.57	9.86	5.27	-7.10	-1.83
5785	0.09	6.99	-26.55	2.11	9.95	5.27	-7.41	-2.14	-26.10	1.58	9.86	5.27	-7.58	-2.31
5825	0.09	6.99	-26.75	2.11	9.94	5.27	-7.62	-2.35	-25.75	1.58	9.86	5.27	-7.23	-1.96

*[U-NII-1 band for FCC]
Although the EUT operates on Master mode, more stringent limit for Client device was applied.

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 + Directional Gain
Directional Gain = G ANT + Array Gain
G ANT = Set equal to the gain of the antenna having the highest gain
Array Gain = 10 log(N ANT/N SS) dB.
N ANT = number of transmit antennas = 2
N SS = number of spatial streams = 1

Maximum Power Spectral Density

Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	June 10, 2019
Temperature / Humidity	24 deg. C / 54 % RH
Engineer	Takahiro Kawakami
Mode	Tx 11ac-20 MIMO

Antenna A+B Applied limit: 15.407, mobile and portable client device

Tested Frequency	PSD (Conducted)						PSD (e.i.r.p.)					
	Antenna			Result	Limit	Margin	Antenna			Result	Limit	Margin
	A	B	Sum				A	B	Sum			
[MHz]	[mW/MHz]	[mW/MHz]	[mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]	[mW/MHz]	[mW/MHz]	[mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]
5180	0.23	0.25	0.48	-3.16	11.00	14.16	0.33	0.34	0.68	-1.70	17.00	18.70
5220	0.25	0.28	0.53	-2.77	11.00	13.77	0.36	0.38	0.74	-1.32	17.00	18.32
5240	0.25	0.30	0.54	-2.64	11.00	13.64	0.35	0.41	0.76	-1.19	17.00	18.19
5260	0.27	0.28	0.55	-2.60	11.00	13.60	0.40	0.41	0.81	-0.92	17.00	17.92
5300	0.26	0.27	0.53	-2.74	11.00	13.74	0.39	0.39	0.78	-1.06	17.00	18.06
5320	0.24	0.27	0.51	-2.89	11.00	13.89	0.36	0.39	0.76	-1.21	17.00	18.21
5500	0.29	0.29	0.58	-2.35	11.00	13.35	0.47	0.35	0.82	-0.88	17.00	17.88
5580	0.30	0.28	0.58	-2.34	11.00	13.34	0.48	0.34	0.82	-0.86	17.00	17.86
5700	0.26	0.32	0.58	-2.35	11.00	13.35	0.42	0.38	0.80	-0.95	17.00	17.95
5745	0.21	0.22	0.43	-3.68	30.00	33.68	0.36	0.30	0.66	-1.82	36.00	37.82
5785	0.17	0.19	0.36	-4.44	30.00	34.44	0.28	0.27	0.55	-2.61	36.00	38.61
5825	0.16	0.18	0.34	-4.72	30.00	34.72	0.27	0.25	0.51	-2.89	36.00	38.89

			Antenna A						**Antenna B**					
Tested Frequency	Duty Factor	RBW Correction Factor	PSD Reading	Cable Loss	Atten. Loss	Antenna Gain	PSD Result		PSD Reading	Cable Loss	Atten. Loss	Antenna Gain	PSD Result	
							Cond.	e.i.r.p.					Cond.	e.i.r.p.
[MHz]	[dB]	[dB]	[dBm/MHz]	[dB]	[dB]	[dBi]	[dBm/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]	[dB]	[dBi]	[dBm/MHz]	[dBm/MHz]
5180	0.15	0.00	-18.48	2.05	9.96	1.52	-6.32	-4.80	-17.54	1.52	9.85	1.39	-6.02	-4.63
5220	0.15	0.00	-18.12	2.05	9.96	1.52	-5.96	-4.44	-17.13	1.52	9.85	1.39	-5.61	-4.22
5240	0.15	0.00	-18.22	2.05	9.96	1.52	-6.06	-4.54	-16.79	1.52	9.85	1.39	-5.27	-3.88
5260	0.15	0.00	-17.93	2.06	9.96	1.78	-5.76	-3.98	-17.00	1.53	9.85	1.59	-5.47	-3.88
5300	0.15	0.00	-18.01	2.06	9.97	1.78	-5.83	-4.05	-17.20	1.53	9.85	1.59	-5.67	-4.08
5320	0.15	0.00	-18.35	2.06	9.97	1.78	-6.17	-4.39	-17.18	1.53	9.85	1.59	-5.65	-4.06
5500	0.15	0.00	-17.52	2.09	9.97	2.04	-5.31	-3.27	-16.95	1.55	9.85	0.79	-5.40	-4.61
5580	0.15	0.00	-17.41	2.09	9.97	2.04	-5.20	-3.16	-17.08	1.56	9.85	0.79	-5.52	-4.73
5700	0.15	0.00	-17.98	2.10	9.95	2.04	-5.78	-3.74	-16.56	1.57	9.86	0.79	-4.98	-4.19
5745	0.15	6.99	-25.93	2.10	9.95	2.26	-6.74	-4.48	-25.21	1.57	9.86	1.42	-6.64	-5.22
5785	0.15	6.99	-27.00	2.11	9.95	2.26	-7.80	-5.54	-25.71	1.58	9.86	1.42	-7.13	-5.71
5825	0.15	6.99	-27.21	2.11	9.94	2.26	-8.02	-5.76	-26.04	1.58	9.86	1.42	-7.46	-6.04

*[U-NII-1 band for FCC]
Although the EUT operates on Master mode, more stringent limit for Client device was applied.

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

Maximum Power Spectral Density

Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	June 11, 2019
Temperature / Humidity	25 deg. C / 47 % RH
Engineer	Takahiro Kawakami
Mode	Tx 11n-40 CDD

Antenna A+B Applied limit: 15.407, mobile and portable client device

Tested Frequency	PSD (Conducted)						PSD (e.i.r.p.)					
	Antenna			Result	Limit	Margin	Antenna			Result	Limit	Margin
	A	B	Sum				A	B	Sum			
[MHz]	[mW/MHz]	[mW/MHz]	[mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]	[mW/MHz]	[mW/MHz]	[mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]
5190	0.13	0.13	0.26	-5.93	11.00	16.93	0.36	0.37	0.72	-1.40	17.00	18.40
5230	0.11	0.13	0.24	-6.19	11.00	17.19	0.32	0.36	0.68	-1.66	17.00	18.66
5270	0.13	0.14	0.28	-5.60	11.00	16.60	0.39	0.44	0.83	-0.81	17.00	17.81
5310	0.12	0.13	0.25	-5.98	11.00	16.98	0.38	0.38	0.76	-1.19	17.00	18.19
5510	0.12	0.10	0.23	-6.45	11.00	17.45	0.39	0.33	0.72	-1.40	17.00	18.40
5550	0.12	0.11	0.23	-6.47	11.00	17.47	0.37	0.35	0.72	-1.42	17.00	18.42
5670	0.11	0.11	0.23	-6.45	11.00	17.45	0.36	0.36	0.72	-1.40	17.00	18.40
5755	0.09	0.08	0.17	-7.76	30.00	37.76	0.30	0.26	0.56	-2.49	36.00	38.49
5795	0.07	0.08	0.15	-8.10	30.00	38.10	0.25	0.27	0.52	-2.83	36.00	38.83

			Antenna A						**Antenna B**					
Tested Frequency	Duty Factor	RBW Correction Factor	PSD Reading	Cable Loss	Atten. Loss	Directional Gain	PSD Result		PSD Reading	Cable Loss	Atten. Loss	Directional Gain	PSD Result	
							Cond.	e.i.r.p.					Cond.	e.i.r.p.
[MHz]	[dB]	[dB]	[dBm/MHz]	[dB]	[dB]	[dBi]	[dBm/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]	[dB]	[dBi]	[dBm/MHz]	[dBm/MHz]
5190	0.01	0.00	-21.04	2.05	9.96	4.53	-9.02	-4.49	-20.25	1.52	9.85	4.53	-8.87	-4.34
5230	0.01	0.00	-21.50	2.05	9.96	4.53	-9.48	-4.95	-20.32	1.52	9.85	4.53	-8.94	-4.41
5270	0.01	0.00	-20.87	2.06	9.96	4.79	-8.84	-4.05	-19.78	1.53	9.85	4.79	-8.39	-3.60
5310	0.01	0.00	-21.08	2.06	9.97	4.79	-9.04	-4.25	-20.34	1.53	9.85	4.79	-8.95	-4.16
5510	0.01	0.00	-21.21	2.09	9.97	5.05	-9.14	-4.09	-21.21	1.55	9.85	5.05	-9.80	-4.75
5550	0.01	0.00	-21.41	2.09	9.97	5.05	-9.34	-4.29	-21.03	1.55	9.85	5.05	-9.62	-4.57
5670	0.01	0.00	-21.55	2.10	9.96	5.05	-9.48	-4.43	-20.89	1.57	9.86	5.05	-9.45	-4.40
5755	0.01	6.99	-29.58	2.11	9.95	5.27	-10.52	-5.25	-29.48	1.58	9.86	5.27	-11.04	-5.77
5795	0.01	6.99	-30.38	2.11	9.95	5.27	-11.32	-6.05	-29.35	1.58	9.86	5.27	-10.91	-5.64

*[U-NII-1 band for FCC]
Although the EUT operates on Master mode, more stringent limit for Client device was applied.

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 + Directional Gain
Directional Gain = G ANT + Array Gain
G ANT = Set equal to the gain of the antenna having the highest gain
Array Gain = 10 log(N ANT/N SS) dB.
N ANT = number of transmit antennas = 2
N SS = number of spatial streams = 1

Maximum Power Spectral Density

Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	June 11, 2019
Temperature / Humidity	25 deg. C / 47 % RH
Engineer	Takahiro Kawakami
Mode	Tx 11n-40 MIMO

Antenna A+B Applied limit: 15.407, mobile and portable client device

Tested Frequency	PSD (Conducted)						PSD (e.i.r.p.)					
	Antenna			Result	Limit	Margin	Antenna			Result	Limit	Margin
	A	B	Sum				A	B	Sum			
[MHz]	[mW/MHz]	[mW/MHz]	[mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]	[mW/MHz]	[mW/MHz]	[mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]
5190	0.12	0.13	0.26	-5.91	11.00	16.91	0.18	0.18	0.36	-4.46	17.00	21.46
5230	0.13	0.13	0.26	-5.93	11.00	16.93	0.18	0.18	0.36	-4.47	17.00	21.47
5270	0.13	0.13	0.27	-5.75	11.00	16.75	0.20	0.19	0.39	-4.06	17.00	21.06
5310	0.12	0.13	0.25	-6.05	11.00	17.05	0.18	0.18	0.37	-4.37	17.00	21.37
5510	0.11	0.10	0.21	-6.70	11.00	17.70	0.18	0.12	0.30	-5.20	17.00	22.20
5550	0.12	0.10	0.21	-6.71	11.00	17.71	0.19	0.12	0.30	-5.19	17.00	22.19
5670	0.11	0.12	0.23	-6.38	11.00	17.38	0.18	0.14	0.32	-4.94	17.00	21.94
5755	0.10	0.08	0.18	-7.45	30.00	37.45	0.16	0.12	0.28	-5.56	36.00	41.56
5795	0.08	0.07	0.15	-8.24	30.00	38.24	0.13	0.10	0.23	-6.37	36.00	42.37

			Antenna A						**Antenna B**					
Tested Frequency	Duty Factor	RBW Correction Factor	PSD Reading	Cable Loss	Atten. Loss	Antenna Gain	PSD Result		PSD Reading	Cable Loss	Atten. Loss	Antenna Gain	PSD Result	
							Cond.	e.i.r.p.					Cond.	e.i.r.p.
[MHz]	[dB]	[dB]	[dBm/MHz]	[dB]	[dB]	[dBi]	[dBm/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]	[dB]	[dBi]	[dBm/MHz]	[dBm/MHz]
5190	0.03	0.00	-21.09	2.05	9.96	1.52	-9.05	-7.53	-20.20	1.52	9.85	1.39	-8.80	-7.41
5230	0.03	0.00	-21.06	2.05	9.96	1.52	-9.02	-7.50	-20.25	1.52	9.85	1.39	-8.85	-7.46
5270	0.03	0.00	-20.78	2.06	9.96	1.78	-8.73	-6.95	-20.21	1.53	9.85	1.59	-8.80	-7.21
5310	0.03	0.00	-21.23	2.06	9.97	1.78	-9.17	-7.39	-20.37	1.53	9.85	1.59	-8.96	-7.37
5510	0.03	0.00	-21.55	2.09	9.97	2.04	-9.46	-7.42	-21.40	1.55	9.85	0.79	-9.97	-9.18
5550	0.03	0.00	-21.45	2.09	9.97	2.04	-9.36	-7.32	-21.53	1.55	9.85	0.79	-10.10	-9.31
5670	0.03	0.00	-21.64	2.10	9.96	2.04	-9.55	-7.51	-20.70	1.57	9.86	0.79	-9.24	-8.45
5755	0.03	6.99	-29.28	2.11	9.95	2.26	-10.20	-7.94	-29.20	1.58	9.86	1.42	-10.74	-9.32
5795	0.03	6.99	-30.22	2.11	9.95	2.26	-11.14	-8.88	-29.82	1.58	9.86	1.42	-11.36	-9.94

*[U-NII-1 band for FCC]
Although the EUT operates on Master mode, more stringent limit for Client device was applied.

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

Maximum Power Spectral Density

Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	June 12, 2019
Temperature / Humidity	26 deg. C / 45 % RH
Engineer	Takahiro Kawakami
Mode	Tx 11ac-40 CDD

Antenna A+B Applied limit: 15.407, mobile and portable client device

Tested Frequency	PSD (Conducted)						PSD (e.i.r.p.)					
	Antenna			Result	Limit	Margin	Antenna			Result	Limit	Margin
	A	B	Sum				A	B	Sum			
[MHz]	[mW/MHz]	[mW/MHz]	[mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]	[mW/MHz]	[mW/MHz]	[mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]
5190	0.13	0.13	0.26	-5.91	11.00	16.91	0.36	0.37	0.73	-1.38	17.00	18.38
5230	0.12	0.13	0.25	-5.94	11.00	16.94	0.35	0.38	0.72	-1.41	17.00	18.41
5270	0.12	0.14	0.26	-5.88	11.00	16.88	0.37	0.41	0.78	-1.09	17.00	18.09
5310	0.12	0.14	0.26	-5.90	11.00	16.90	0.36	0.41	0.77	-1.11	17.00	18.11
5510	0.13	0.11	0.24	-6.13	11.00	17.13	0.43	0.35	0.78	-1.08	17.00	18.08
5550	0.14	0.15	0.29	-5.38	11.00	16.38	0.45	0.48	0.93	-0.33	17.00	17.33
5670	0.11	0.11	0.23	-6.47	11.00	17.47	0.35	0.37	0.72	-1.42	17.00	18.42
5755	0.09	0.08	0.17	-7.63	30.00	37.63	0.30	0.28	0.58	-2.36	36.00	38.36
5795	0.08	0.07	0.15	-8.11	30.00	38.11	0.28	0.24	0.52	-2.84	36.00	38.84

			Antenna A						**Antenna B**					
Tested Frequency	Duty Factor	RBW Correction Factor	PSD Reading	Cable Loss	Atten. Loss	Directional Gain	PSD Result		PSD Reading	Cable Loss	Atten. Loss	Directional Gain	PSD Result	
							Cond.	e.i.r.p.					Cond.	e.i.r.p.
[MHz]	[dB]	[dB]	[dBm/MHz]	[dB]	[dB]	[dBi]	[dBm/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]	[dB]	[dBi]	[dBm/MHz]	[dBm/MHz]
5190	0.02	0.00	-21.00	2.05	9.96	4.53	-8.97	-4.44	-20.27	1.52	9.85	4.53	-8.88	-4.35
5230	0.02	0.00	-21.17	2.05	9.96	4.53	-9.14	-4.61	-20.16	1.52	9.85	4.53	-8.77	-4.24
5270	0.02	0.00	-21.15	2.06	9.96	4.79	-9.11	-4.32	-20.08	1.53	9.85	4.79	-8.68	-3.89
5310	0.02	0.00	-21.24	2.06	9.97	4.79	-9.19	-4.40	-20.05	1.53	9.85	4.79	-8.65	-3.86
5510	0.02	0.00	-20.82	2.09	9.97	5.05	-8.74	-3.69	-21.01	1.55	9.85	5.05	-9.59	-4.54
5550	0.02	0.00	-20.58	2.09	9.97	5.05	-8.50	-3.45	-19.70	1.55	9.85	5.05	-8.28	-3.23
5670	0.02	0.00	-21.65	2.10	9.96	5.05	-9.57	-4.52	-20.85	1.57	9.86	5.05	-9.40	-4.35
5755	0.02	6.99	-29.62	2.11	9.95	5.27	-10.55	-5.28	-29.19	1.58	9.86	5.27	-10.74	-5.47
5795	0.02	6.99	-29.89	2.11	9.95	5.27	-10.82	-5.55	-29.88	1.58	9.86	5.27	-11.43	-6.16

*[U-NII-1 band for FCC]
Although the EUT operates on Master mode, more stringent limit for Client device was applied.

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 + Directional Gain
Directional Gain = G ANT + Array Gain
G ANT = Set equal to the gain of the antenna having the highest gain
Array Gain = 10 log(N ANT/N SS) dB.
N ANT = number of transmit antennas = 2
N SS = number of spatial streams = 1

Maximum Power Spectral Density

Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	June 12, 2019
Temperature / Humidity	26 deg. C / 45 % RH
Engineer	Takahiro Kawakami
Mode	Tx 11ac-40 MIMO

Antenna A+B Applied limit: 15.407, mobile and portable client device

Tested Frequency	PSD (Conducted)						PSD (e.i.r.p.)					
	Antenna			Result	Limit	Margin	Antenna			Result	Limit	Margin
	A	B	Sum				A	B	Sum			
[MHz]	[mW/MHz]	[mW/MHz]	[mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]	[mW/MHz]	[mW/MHz]	[mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]
5190	0.12	0.14	0.26	-5.81	11.00	16.81	0.18	0.19	0.37	-4.36	17.00	21.36
5230	0.12	0.14	0.26	-5.89	11.00	16.89	0.17	0.19	0.36	-4.44	17.00	21.44
5270	0.12	0.15	0.27	-5.64	11.00	16.64	0.18	0.22	0.40	-3.97	17.00	20.97
5310	0.12	0.13	0.25	-6.00	11.00	17.00	0.18	0.19	0.37	-4.32	17.00	21.32
5510	0.12	0.12	0.23	-6.30	11.00	17.30	0.18	0.14	0.33	-4.85	17.00	21.85
5550	0.11	0.11	0.23	-6.47	11.00	17.47	0.18	0.13	0.32	-5.01	17.00	22.01
5670	0.12	0.12	0.24	-6.26	11.00	17.26	0.19	0.14	0.33	-4.80	17.00	21.80
5755	0.09	0.08	0.18	-7.51	30.00	37.51	0.16	0.11	0.27	-5.62	36.00	41.62
5795	0.08	0.08	0.16	-7.97	30.00	37.97	0.13	0.11	0.24	-6.12	36.00	42.12

			Antenna A						**Antenna B**					
Tested Frequency	Duty Factor	RBW Correction Factor	PSD Reading	Cable Loss	Atten. Loss	Antenna Gain	PSD Result		PSD Reading	Cable Loss	Atten. Loss	Antenna Gain	PSD Result	
							Cond.	e.i.r.p.					Cond.	e.i.r.p.
[MHz]	[dB]	[dB]	[dBm/MHz]	[dB]	[dB]	[dBi]	[dBm/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]	[dB]	[dBi]	[dBm/MHz]	[dBm/MHz]
5190	0.03	0.00	-21.08	2.05	9.96	1.52	-9.04	-7.52	-20.01	1.52	9.85	1.39	-8.61	-7.22
5230	0.03	0.00	-21.25	2.05	9.96	1.52	-9.21	-7.69	-20.02	1.52	9.85	1.39	-8.62	-7.23
5270	0.03	0.00	-21.23	2.06	9.96	1.78	-9.18	-7.40	-19.60	1.53	9.85	1.59	-8.19	-6.60
5310	0.03	0.00	-21.26	2.06	9.97	1.78	-9.20	-7.42	-20.24	1.53	9.85	1.59	-8.83	-7.24
5510	0.03	0.00	-21.47	2.09	9.97	2.04	-9.38	-7.34	-20.68	1.55	9.85	0.79	-9.25	-8.46
5550	0.03	0.00	-21.57	2.09	9.97	2.04	-9.48	-7.44	-20.92	1.55	9.85	0.79	-9.49	-8.70
5670	0.03	0.00	-21.36	2.10	9.96	2.04	-9.27	-7.23	-20.73	1.57	9.86	0.79	-9.27	-8.48
5755	0.03	6.99	-29.31	2.11	9.95	2.26	-10.23	-7.97	-29.31	1.58	9.86	1.42	-10.85	-9.43
5795	0.03	6.99	-30.13	2.11	9.95	2.26	-11.05	-8.79	-29.37	1.58	9.86	1.42	-10.91	-9.49

*[U-NII-1 band for FCC]
Although the EUT operates on Master mode, more stringent limit for Client device was applied.

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

Maximum Power Spectral Density

Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	June 12, 2019
Temperature / Humidity	26 deg. C / 45 % RH
Engineer	Takahiro Kawakami
Mode	Tx 11ac-80 CDD

Antenna A+B Applied limit: 15.407, mobile and portable client device

Tested Frequency	PSD (Conducted)						PSD (e.i.r.p.)					
	Antenna			Result	Limit	Margin	Antenna			Result	Limit	Margin
	A	B	Sum				A	B	Sum			
[MHz]	[mW/MHz]	[mW/MHz]	[mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]	[mW/MHz]	[mW/MHz]	[mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]
5210	0.05	0.06	0.11	-9.54	11.00	20.54	0.15	0.16	0.32	-5.01	17.00	22.01
5290	0.05	0.06	0.11	-9.58	11.00	20.58	0.16	0.17	0.33	-4.79	17.00	21.79
5530	0.06	0.06	0.12	-9.25	11.00	20.25	0.18	0.20	0.38	-4.20	17.00	21.20
5610	0.06	0.06	0.12	-9.36	11.00	20.36	0.19	0.18	0.37	-4.31	17.00	21.31
5775	0.04	0.05	0.09	-10.45	30.00	40.45	0.15	0.16	0.30	-5.18	36.00	41.18

			Antenna A						**Antenna B**					
Tested Frequency	Duty Factor	RBW Correction Factor	PSD Reading	Cable Loss	Atten. Loss	Directional Gain	PSD Result		PSD Reading	Cable Loss	Atten. Loss	Directional Gain	PSD Result	
							Cond.	e.i.r.p.					Cond.	e.i.r.p.
[MHz]	[dB]	[dB]	[dBm/MHz]	[dB]	[dB]	[dBi]	[dBm/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]	[dB]	[dBi]	[dBm/MHz]	[dBm/MHz]
5210	0.21	0.00	-24.90	2.05	9.96	4.53	-12.68	-8.15	-24.01	1.52	9.85	4.53	-12.43	-7.90
5290	0.21	0.00	-25.00	2.06	9.97	4.79	-12.76	-7.97	-24.02	1.53	9.85	4.79	-12.43	-7.64
5530	0.21	0.00	-24.68	2.09	9.97	5.05	-12.41	-7.36	-23.72	1.55	9.85	5.05	-12.11	-7.06
5610	0.21	0.00	-24.62	2.10	9.96	5.05	-12.35	-7.30	-24.02	1.56	9.85	5.05	-12.40	-7.35
5775	0.21	6.99	-32.84	2.11	9.95	5.27	-13.58	-8.31	-32.00	1.58	9.86	5.27	-13.36	-8.09

*[U-NII-1 band for FCC]
Although the EUT operates on Master mode, more stringent limit for Client device was applied.

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 + Directional Gain
Directional Gain = G ANT + Array Gain
G ANT = Set equal to the gain of the antenna having the highest gain
Array Gain = 10 log(N ANT/N SS) dB.
N ANT = number of transmit antennas = 2
N SS = number of spatial streams = 1

Maximum Power Spectral Density

Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	June 12, 2019
Temperature / Humidity	26 deg. C / 45 % RH
Engineer	Takahiro Kawakami
Mode	Tx 11ac-80 MIMO

Antenna A+B Applied limit: 15.407, mobile and portable client device

Tested Frequency	PSD (Conducted)						PSD (e.i.r.p.)					
	Antenna			Result	Limit	Margin	Antenna			Result	Limit	Margin
	A	B	Sum				A	B	Sum			
[MHz]	[mW/MHz]	[mW/MHz]	[mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]	[mW/MHz]	[mW/MHz]	[mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]
5210	0.05	0.06	0.11	-9.66	11.00	20.66	0.07	0.08	0.15	-8.21	17.00	25.21
5290	0.05	0.06	0.11	-9.42	11.00	20.42	0.08	0.09	0.17	-7.74	17.00	24.74
5530	0.06	0.07	0.13	-8.94	11.00	19.94	0.10	0.08	0.18	-7.50	17.00	24.50
5610	0.06	0.06	0.12	-9.19	11.00	20.19	0.09	0.07	0.17	-7.74	17.00	24.74
5775	0.07	0.07	0.14	-8.68	30.00	38.68	0.11	0.10	0.21	-6.83	36.00	42.83

			Antenna A						**Antenna B**					
Tested Frequency	Duty Factor	RBW Correction Factor	PSD Reading	Cable Loss	Atten. Loss	Antenna Gain	PSD Result		PSD Reading	Cable Loss	Atten. Loss	Antenna Gain	PSD Result	
							Cond.	e.i.r.p.					Cond.	e.i.r.p.
[MHz]	[dB]	[dB]	[dBm/MHz]	[dB]	[dB]	[dBi]	[dBm/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]	[dB]	[dBi]	[dBm/MHz]	[dBm/MHz]
5210	0.48	0.00	-25.31	2.05	9.96	1.52	-12.82	-11.30	-24.38	1.52	9.85	1.39	-12.53	-11.14
5290	0.48	0.00	-25.14	2.06	9.97	1.78	-12.63	-10.85	-24.10	1.53	9.85	1.59	-12.24	-10.65
5530	0.48	0.00	-24.61	2.09	9.97	2.04	-12.07	-10.03	-23.71	1.55	9.85	0.79	-11.83	-11.04
5610	0.48	0.00	-24.85	2.10	9.96	2.04	-12.31	-10.27	-23.98	1.56	9.85	0.79	-12.09	-11.30
5775	0.48	6.99	-31.28	2.11	9.95	2.26	-11.75	-9.49	-30.55	1.58	9.86	1.42	-11.64	-10.22

*[U-NII-1 band for FCC]
Although the EUT operates on Master mode, more stringent limit for Client device was applied.

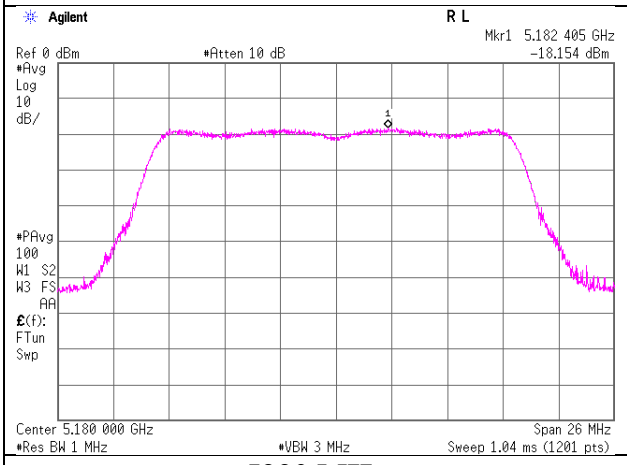
Sample Calculation:
PSD: Power Spectral Density
The PSD within 5725 MHz to 5825 MHz are based on any 500 kHz band.
RBW Correction Factor = 10 * log (Specified bandwidth / Measured bandwidth)
PSD Result (Conducted) = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Duty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

Maximum Power Spectral Density

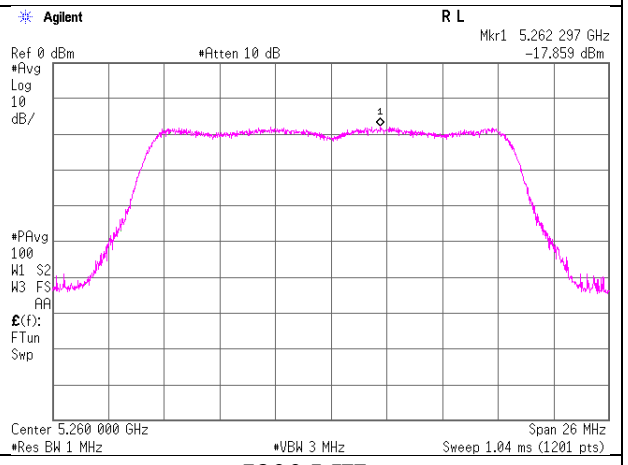
Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	June 4, 2019
Temperature / Humidity	25 deg. C / 47 % RH
Engineer	Takahiro Kawakami
Mode	Tx 11a

11a, Antenna A

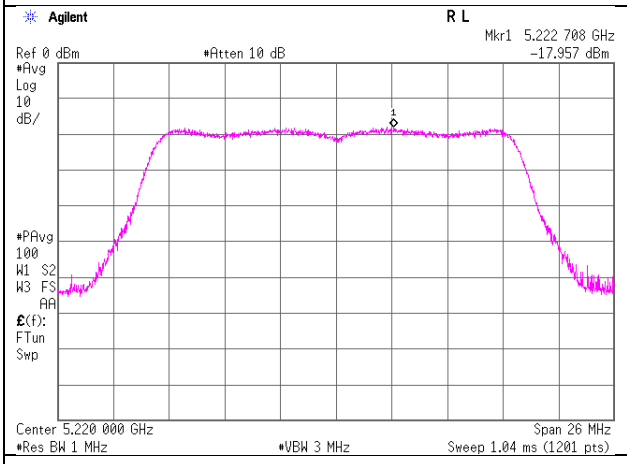
5180 MHz



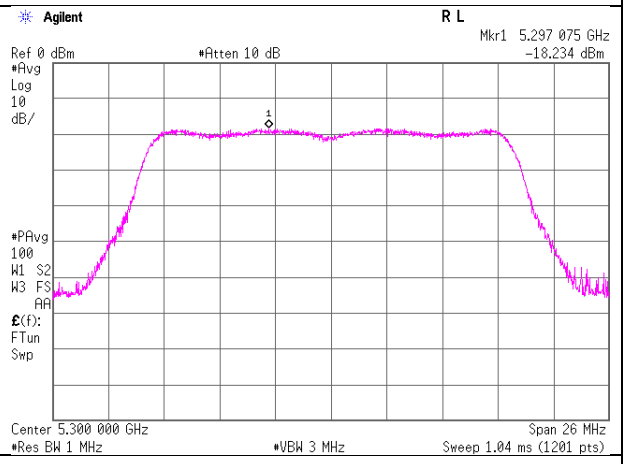
5260 MHz



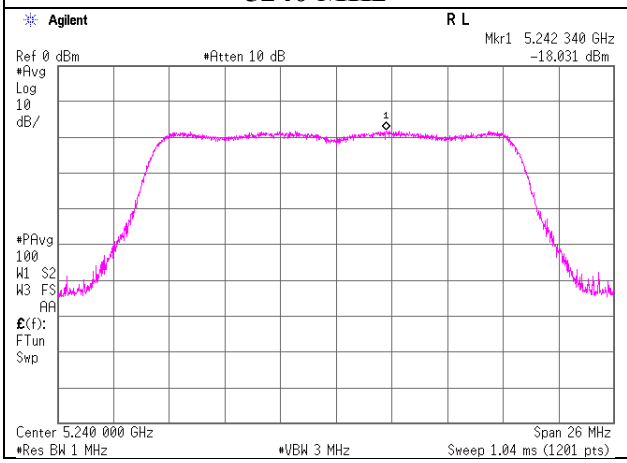
5220 MHz



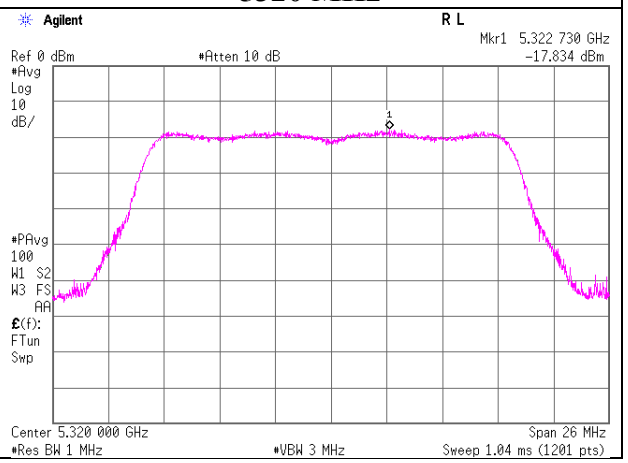
5300 MHz



5240 MHz



5320 MHz

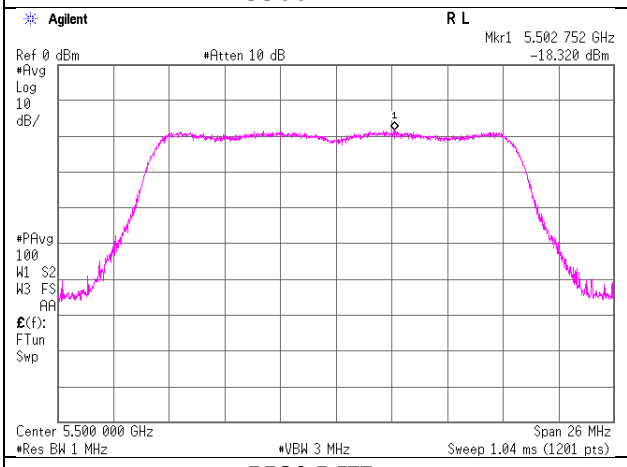


Maximum Power Spectral Density

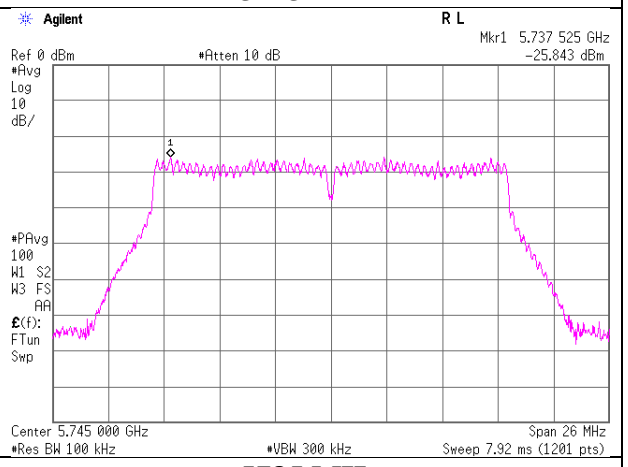
Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	June 4, 2019
Temperature / Humidity	25 deg. C / 47 % RH
Engineer	Takahiro Kawakami
Mode	Tx 11a

11a, Antenna A

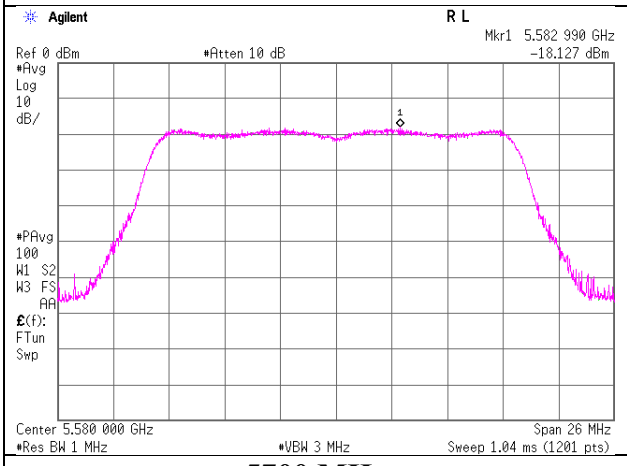
5500 MHz



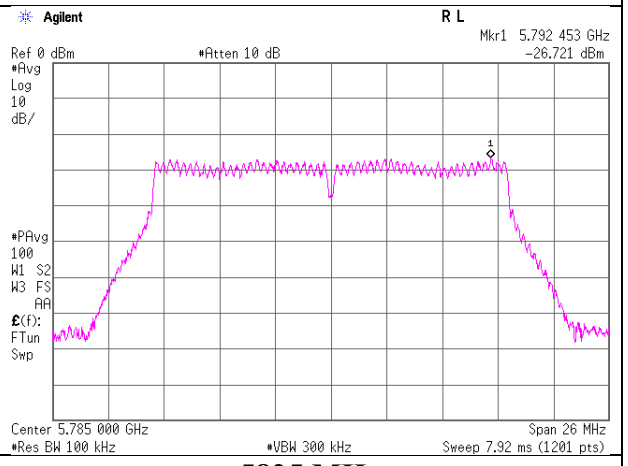
5745 MHz



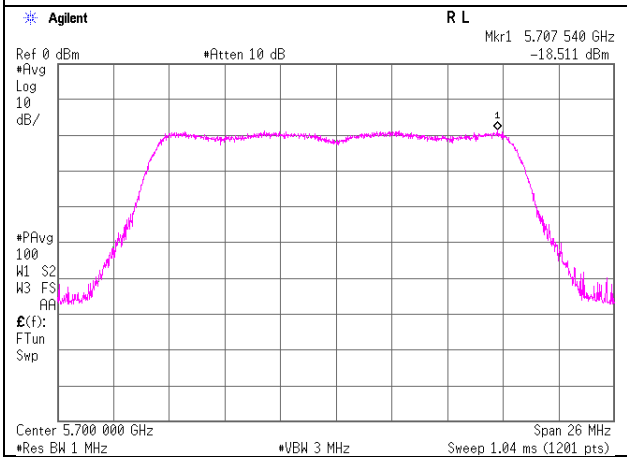
5580 MHz



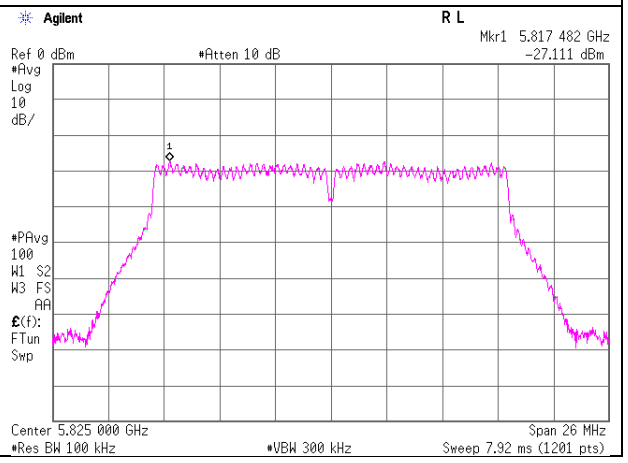
5785 MHz



5700 MHz



5825 MHz

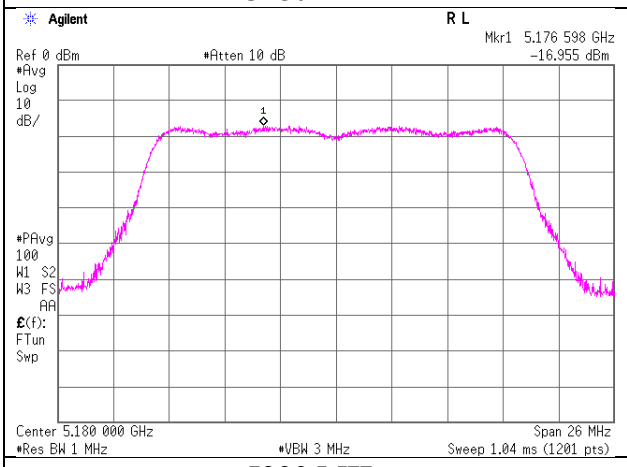


Maximum Power Spectral Density

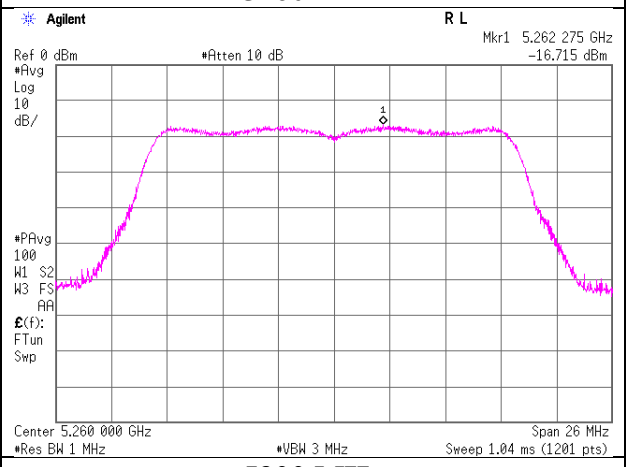
Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	June 4, 2019
Temperature / Humidity	25 deg. C / 47 % RH
Engineer	Takahiro Kawakami
Mode	Tx 11a

11a, Antenna B

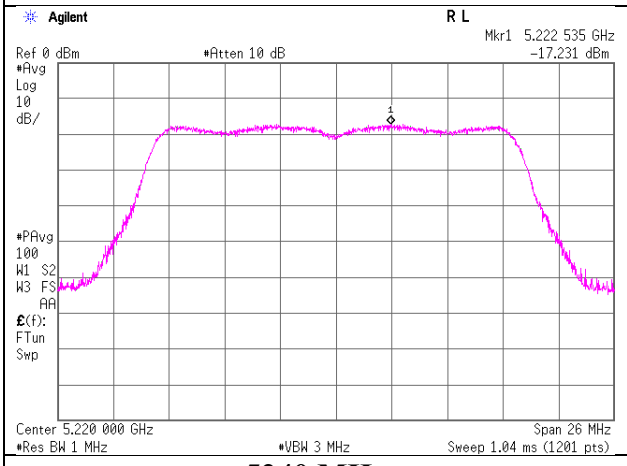
5180 MHz



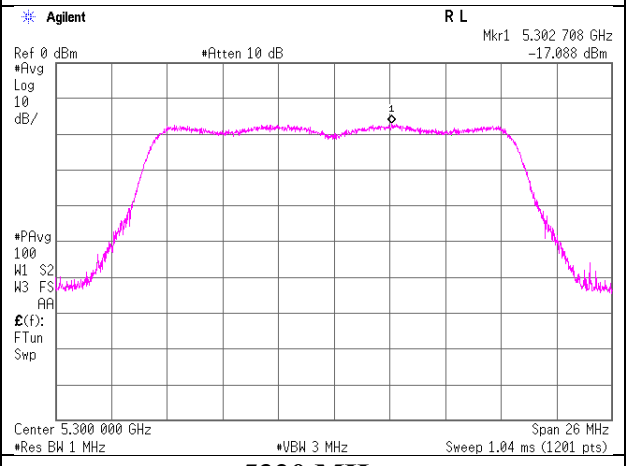
5260 MHz



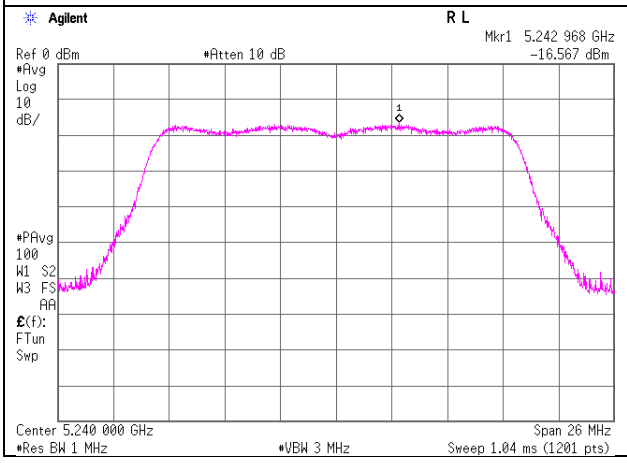
5220 MHz



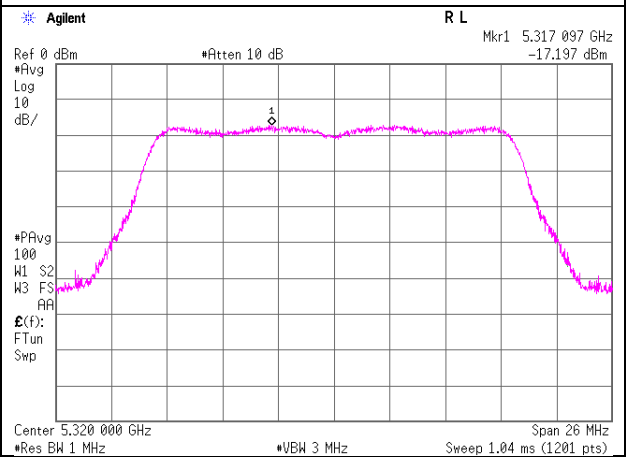
5300 MHz



5240 MHz



5320 MHz

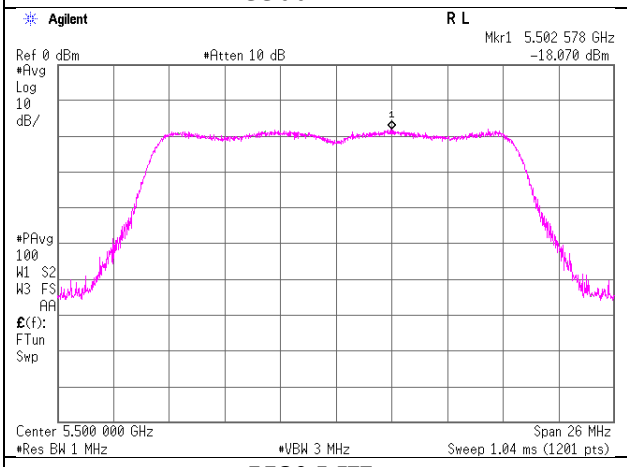


Maximum Power Spectral Density

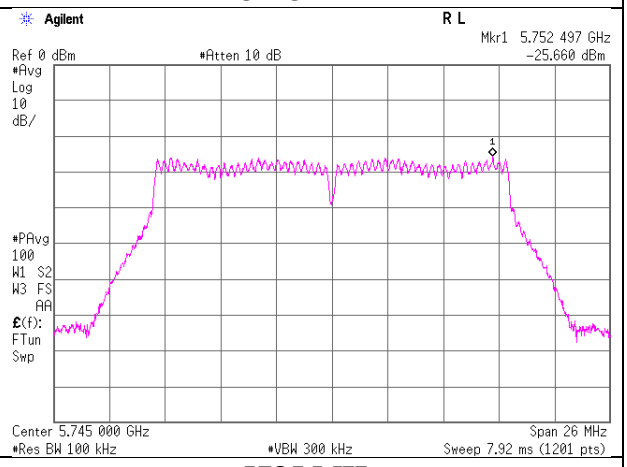
Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	June 4, 2019
Temperature / Humidity	25 deg. C / 47 % RH
Engineer	Takahiro Kawakami
Mode	Tx 11a

11a, Antenna B

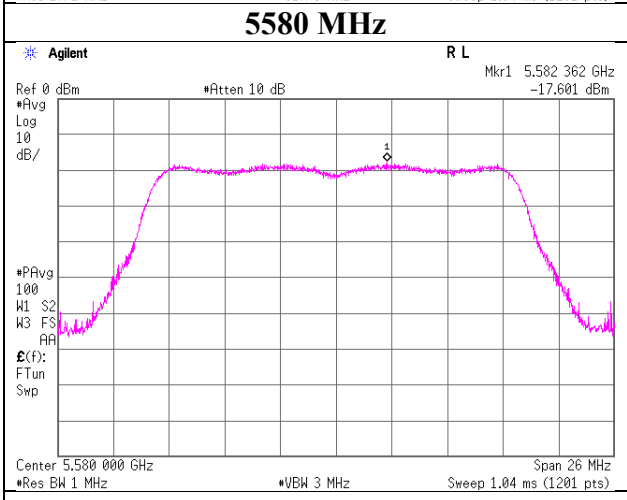
5500 MHz



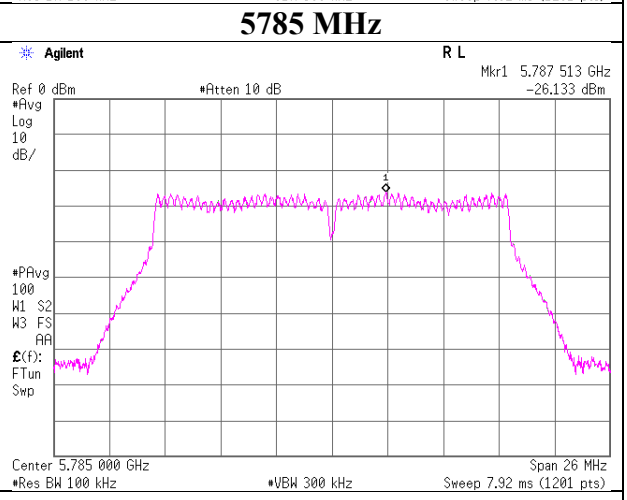
5745 MHz



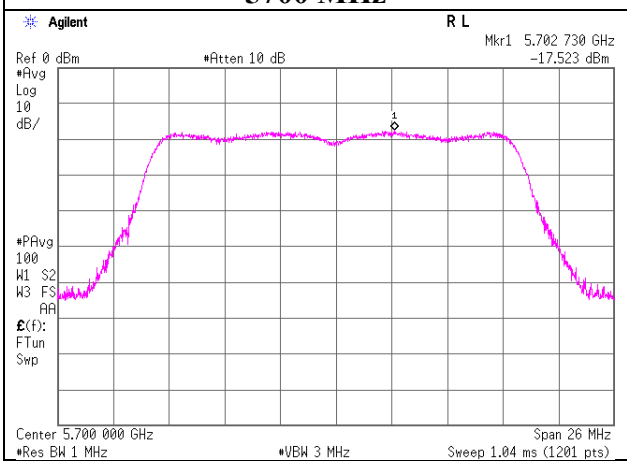
5580 MHz



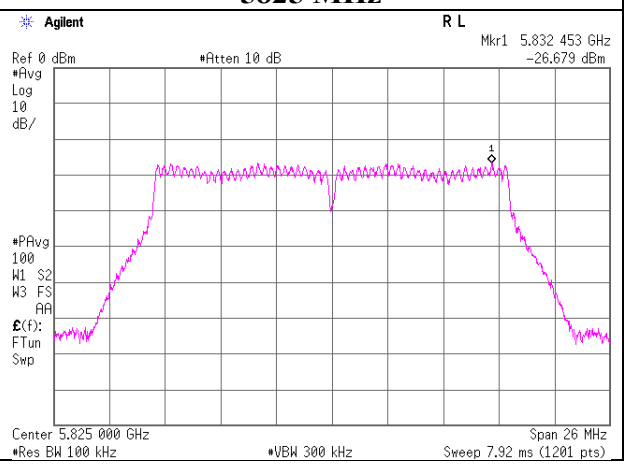
5785 MHz



5700 MHz



5825 MHz

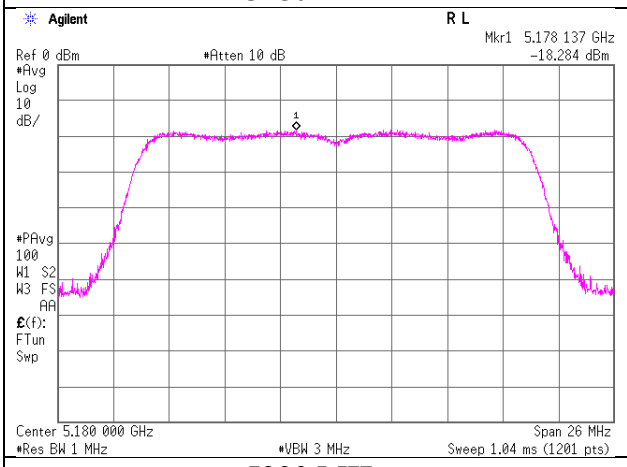


Maximum Power Spectral Density

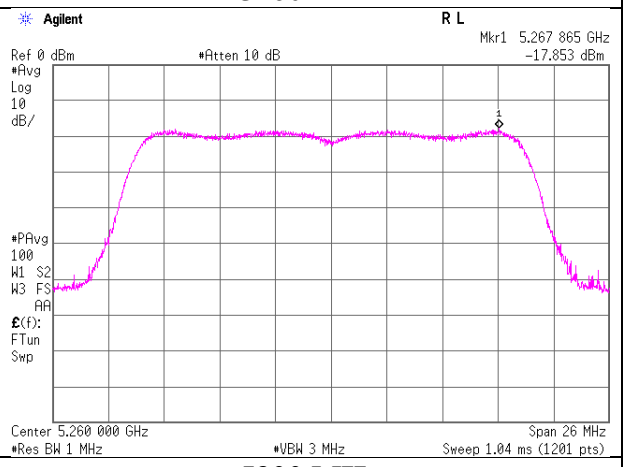
Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	June 6, 2019
Temperature / Humidity	25 deg. C / 51 % RH
Engineer	Toshinori Yamada
Mode	Tx 11n-20 CDD

11n-20 CDD, Antenna A

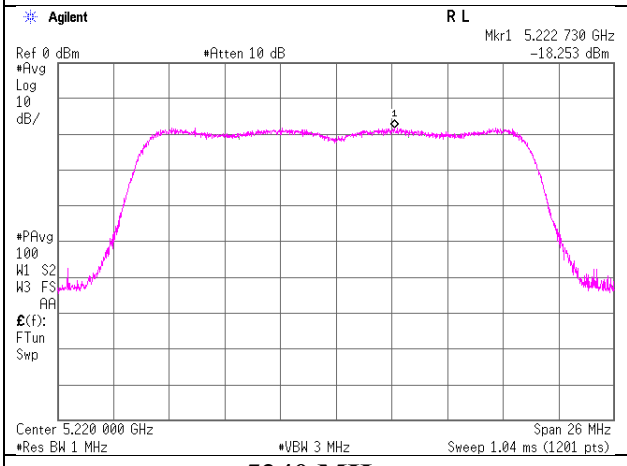
5180 MHz



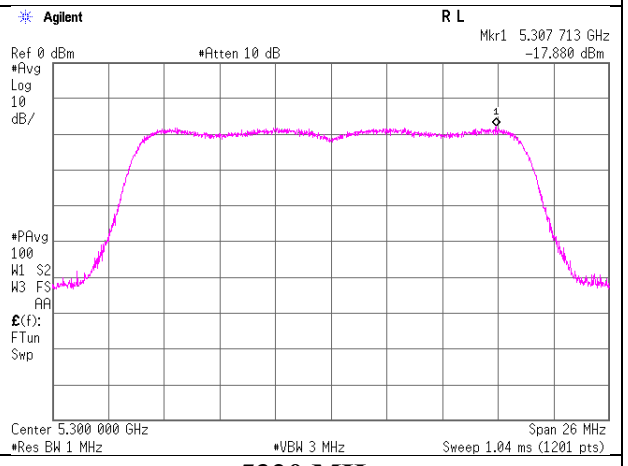
5260 MHz



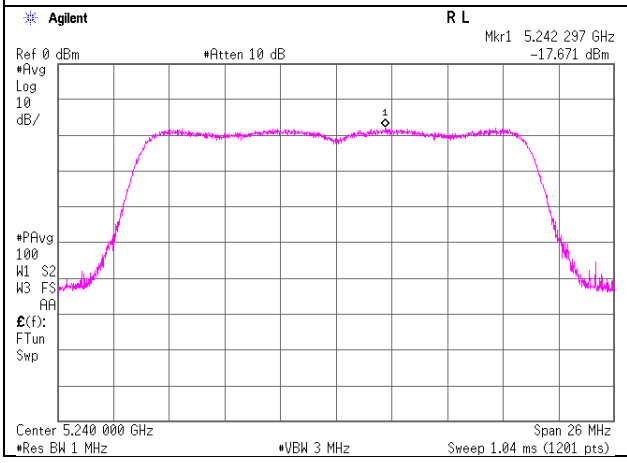
5220 MHz



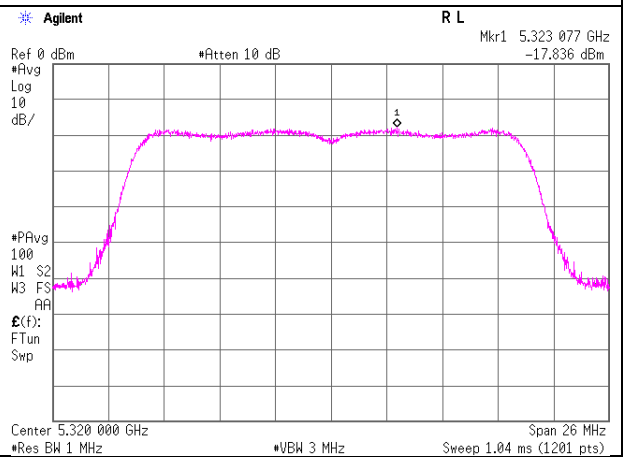
5300 MHz



5240 MHz



5320 MHz

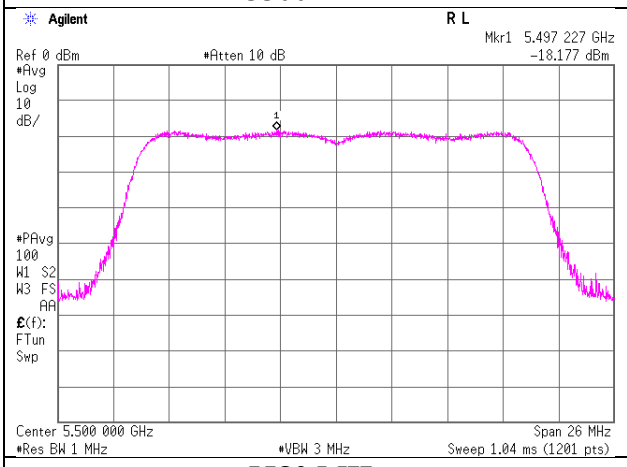


Maximum Power Spectral Density

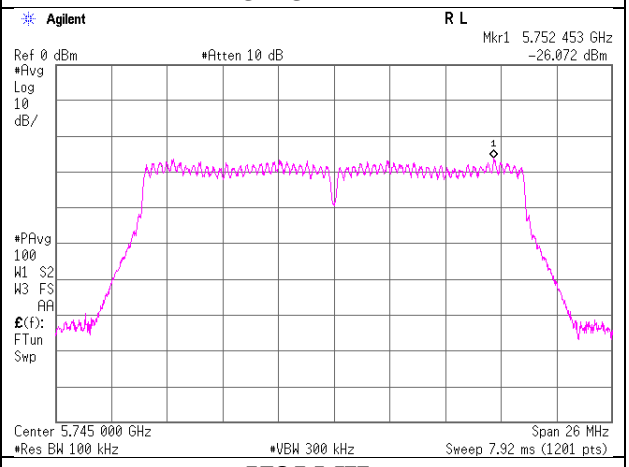
Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	June 6, 2019
Temperature / Humidity	25 deg. C / 51 % RH
Engineer	Toshinori Yamada
Mode	Tx 11n-20 CDD

11n-20 CDD, Antenna A

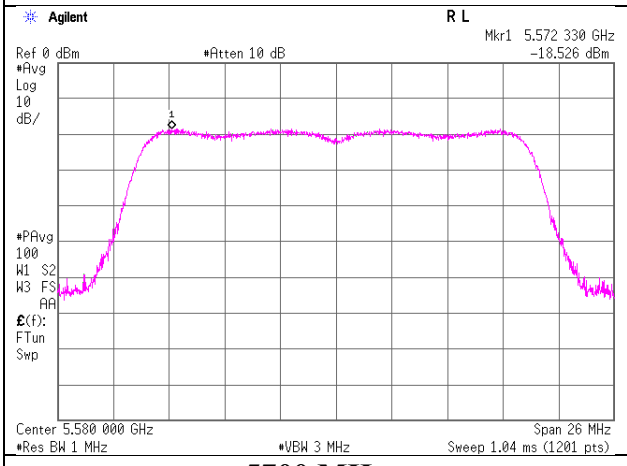
5500 MHz



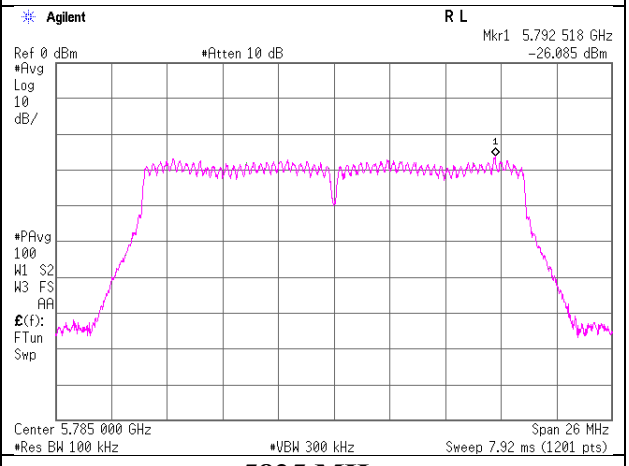
5745 MHz



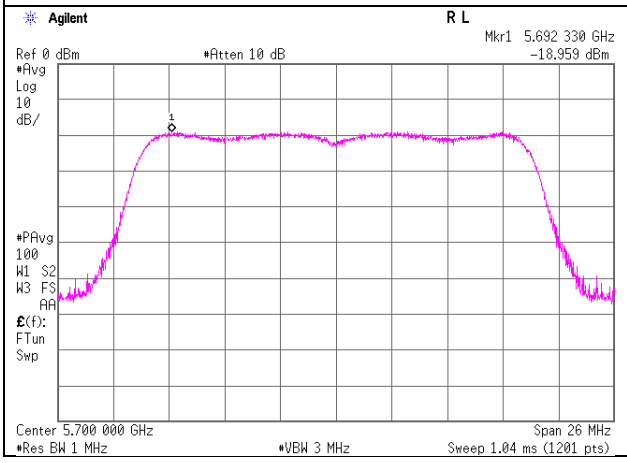
5580 MHz



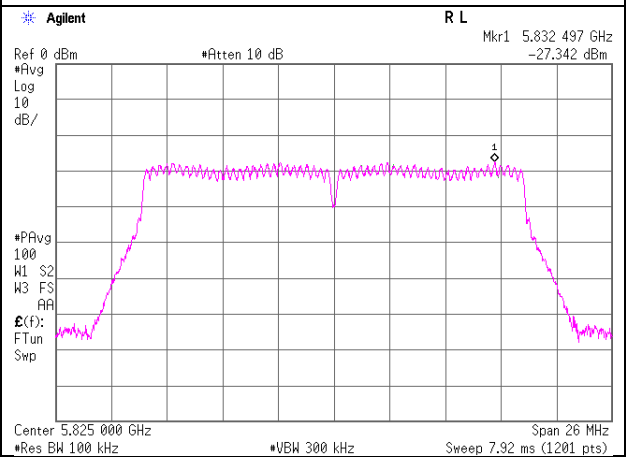
5785 MHz



5700 MHz



5825 MHz

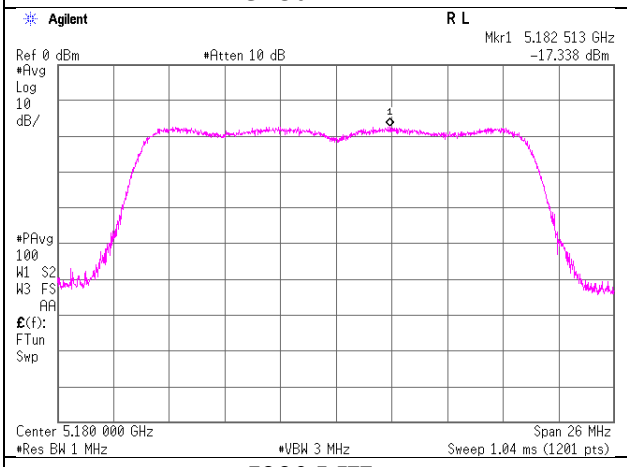


Maximum Power Spectral Density

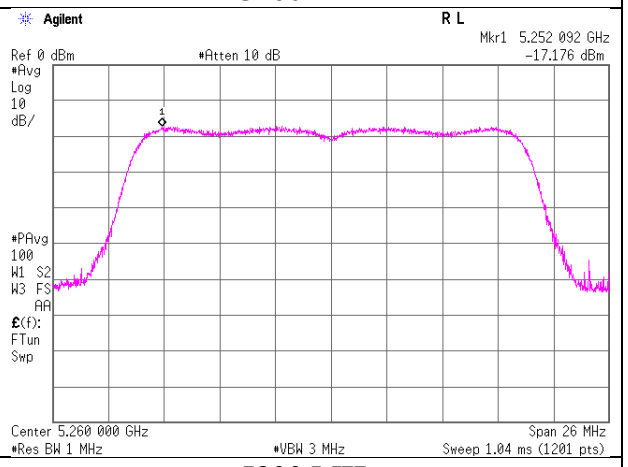
Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	June 6, 2019
Temperature / Humidity	25 deg. C / 51 % RH
Engineer	Toshinori Yamada
Mode	Tx 11n-20 CDD

11n-20 CDD, Antenna B

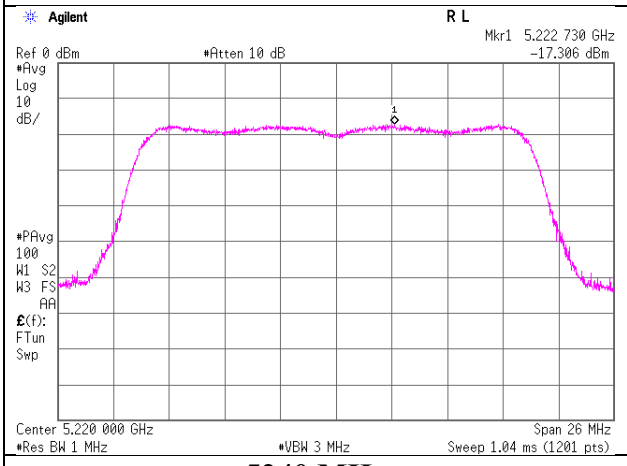
5180 MHz



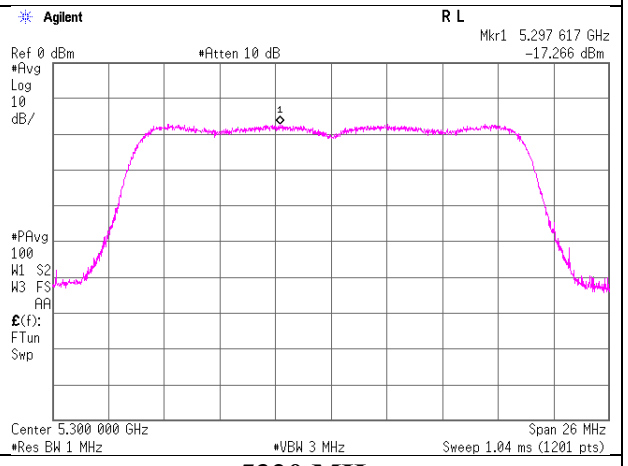
5260 MHz



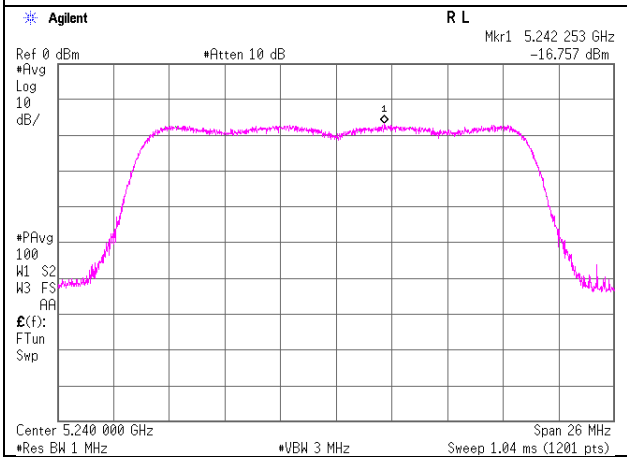
5220 MHz



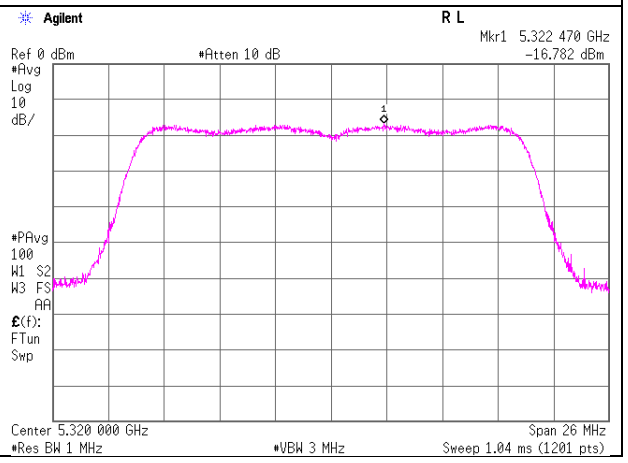
5300 MHz



5240 MHz



5320 MHz

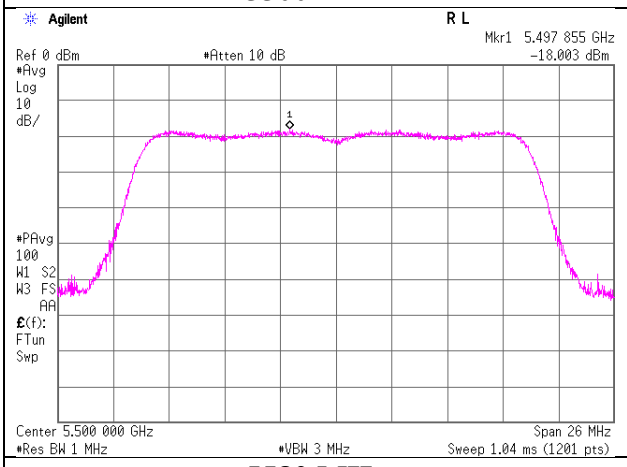


Maximum Power Spectral Density

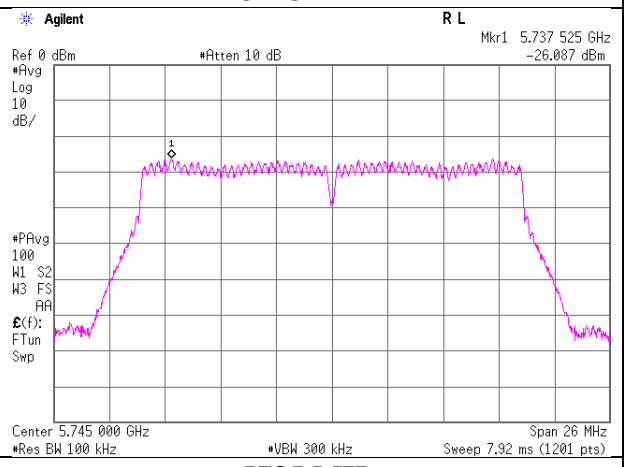
Report No.	12699044S-AM-R1	
Test place	Shonan EMC Lab. No.5 Shielded Room	
Date	June 6, 2019	June 6, 2019
Temperature / Humidity	25 deg. C / 51 % RH	25 deg. C / 51 % RH
Engineer	Toshinori Yamada	Toshinori Yamada
Mode	Tx 11n-20 CDD	

11n-20 CDD, Antenna B

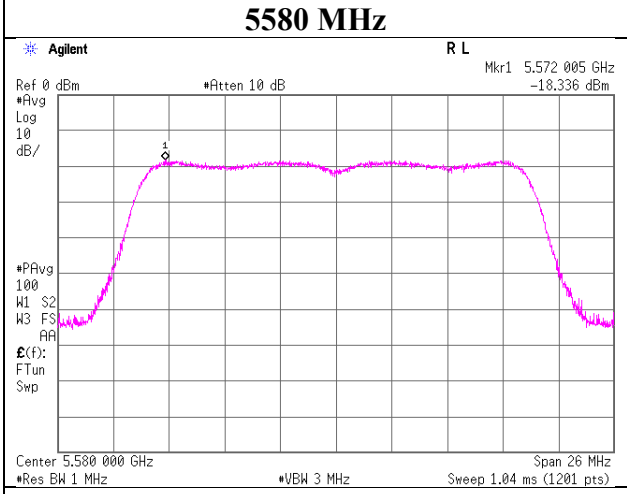
5500 MHz



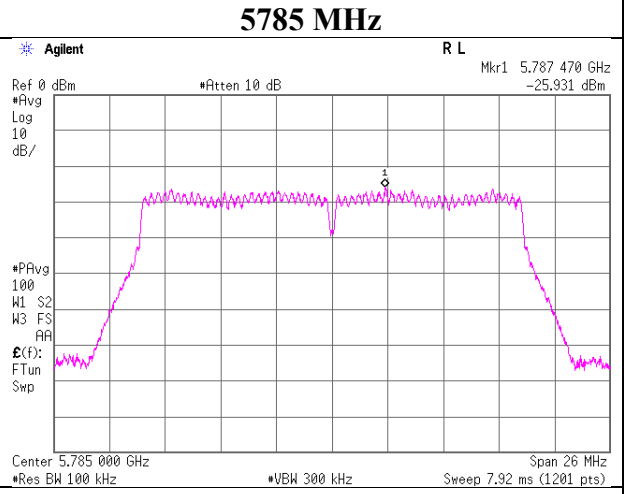
5745 MHz



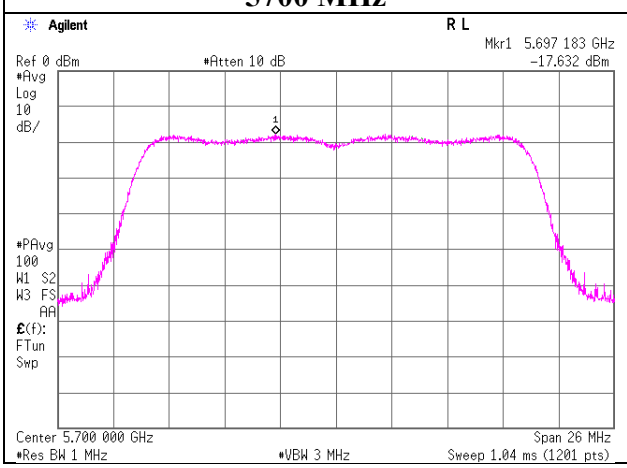
5580 MHz



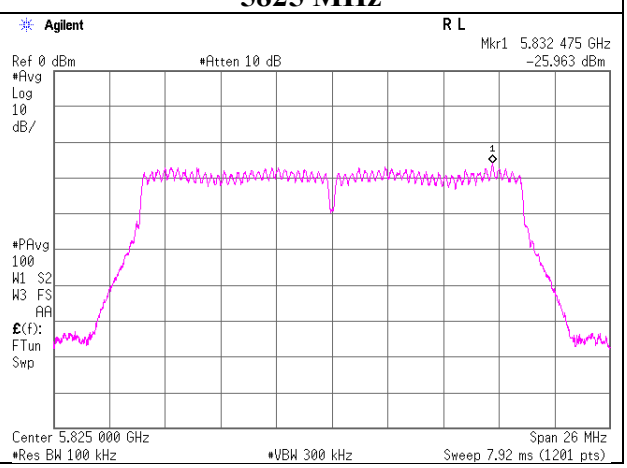
5785 MHz



5700 MHz



5825 MHz

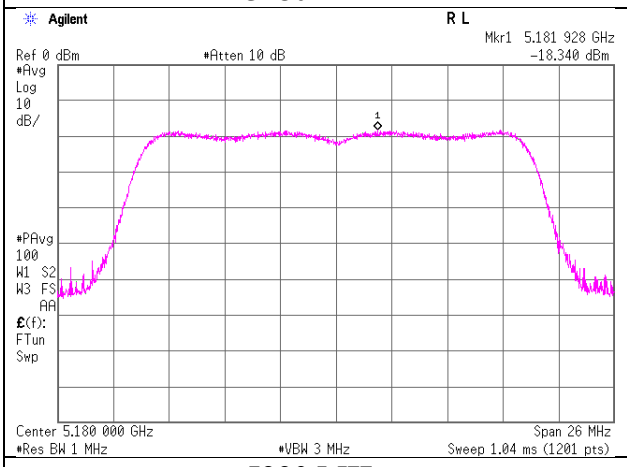


Maximum Power Spectral Density

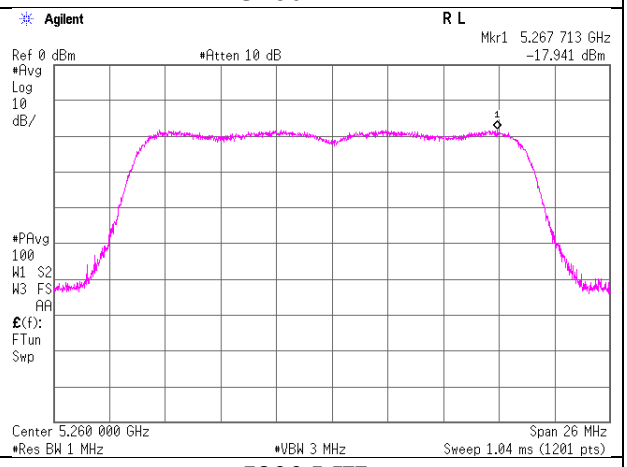
Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	June 6, 2019
Temperature / Humidity	25 deg. C / 51 % RH
Engineer	Toshinori Yamada
Mode	Tx 11n-20 MIMO

11n-20 MIMO, Antenna A

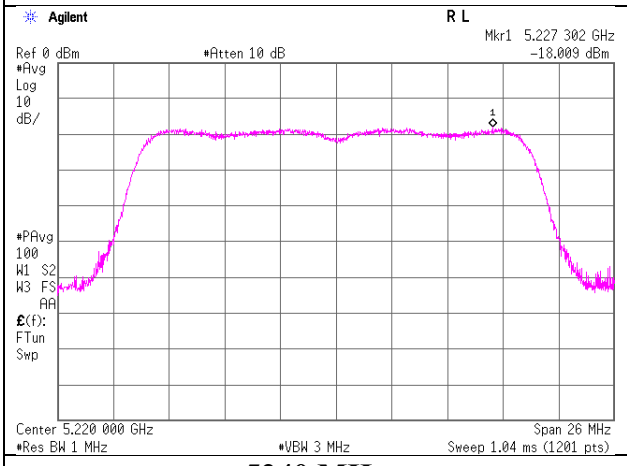
5180 MHz



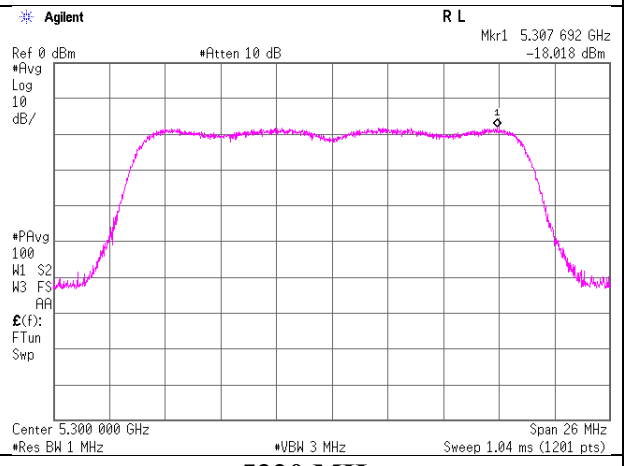
5260 MHz



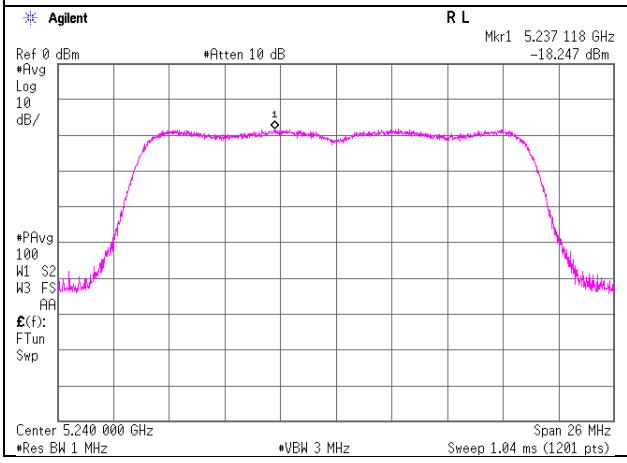
5220 MHz



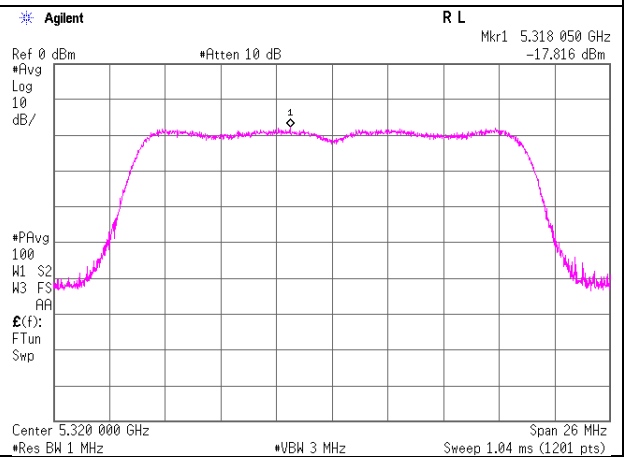
5300 MHz



5240 MHz



5320 MHz

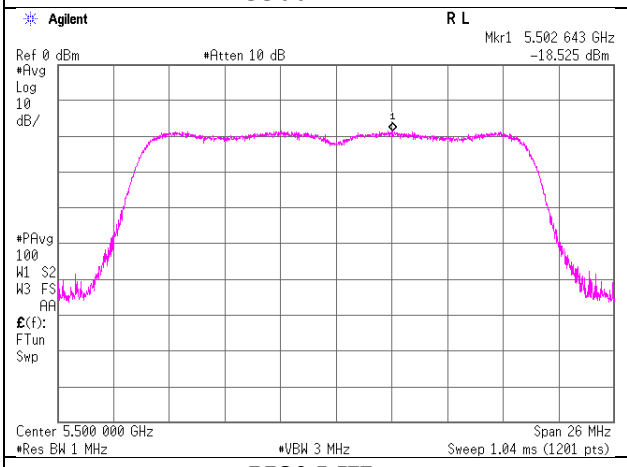


Maximum Power Spectral Density

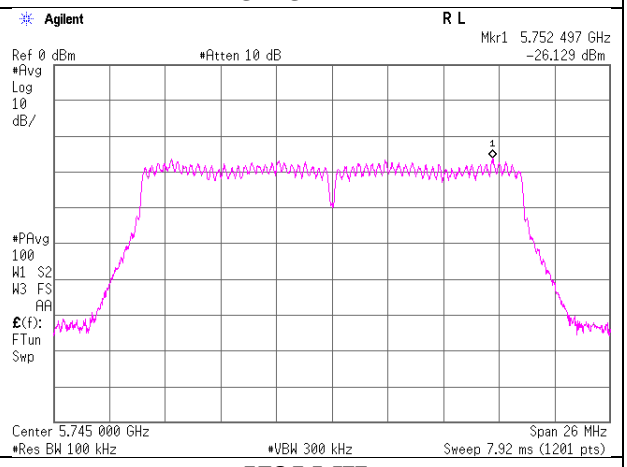
Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	June 6, 2019
Temperature / Humidity	25 deg. C / 51 % RH
Engineer	Toshinori Yamada
Mode	Tx 11n-20 MIMO

11n-20 MIMO, Antenna A

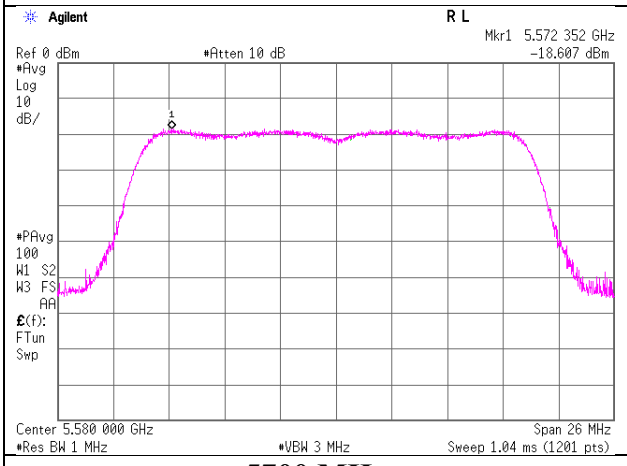
5500 MHz



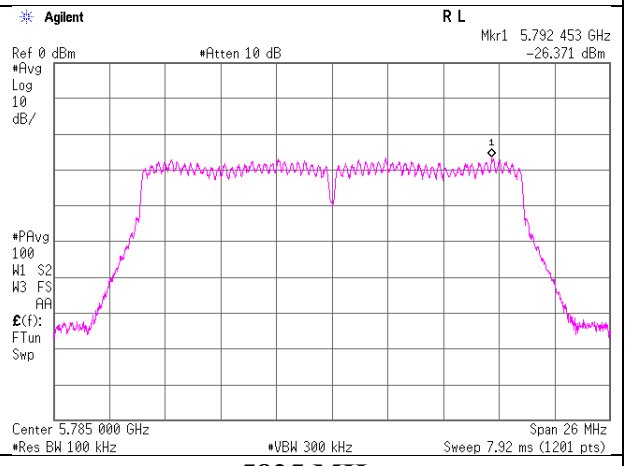
5745 MHz



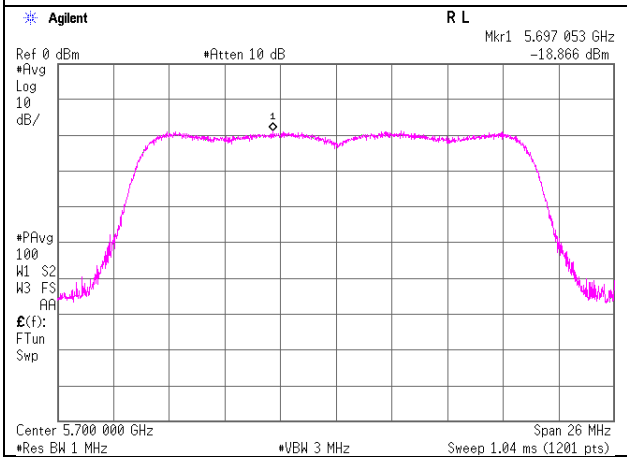
5580 MHz



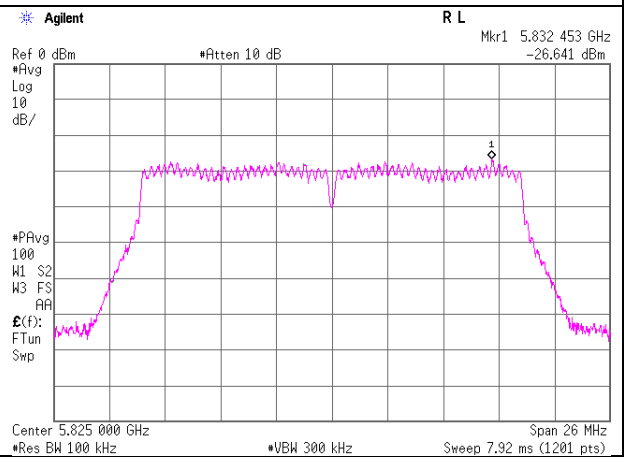
5785 MHz



5700 MHz



5825 MHz

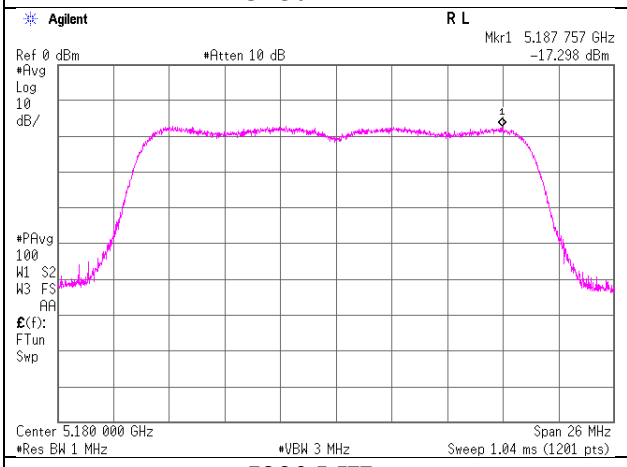


Maximum Power Spectral Density

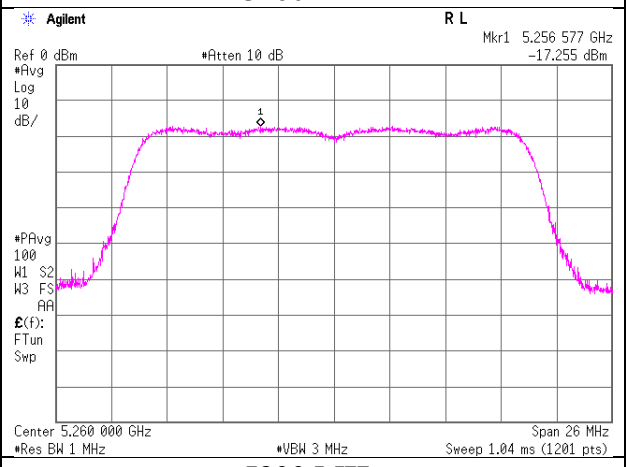
Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	June 6, 2019
Temperature / Humidity	25 deg. C / 51 % RH
Engineer	Toshinori Yamada
Mode	Tx 11n-20 MIMO

11n-20 MIMO, Antenna B

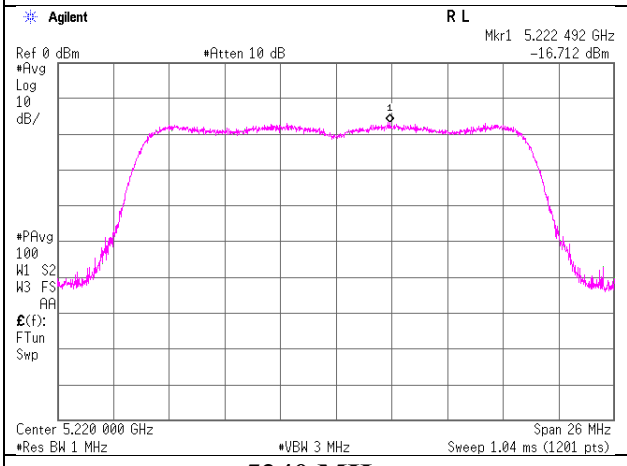
5180 MHz



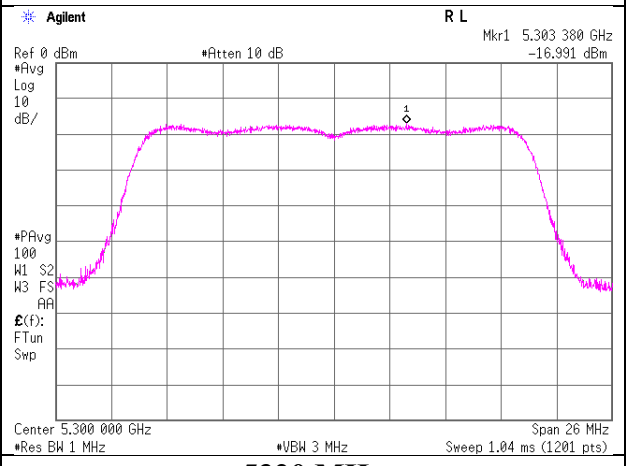
5260 MHz



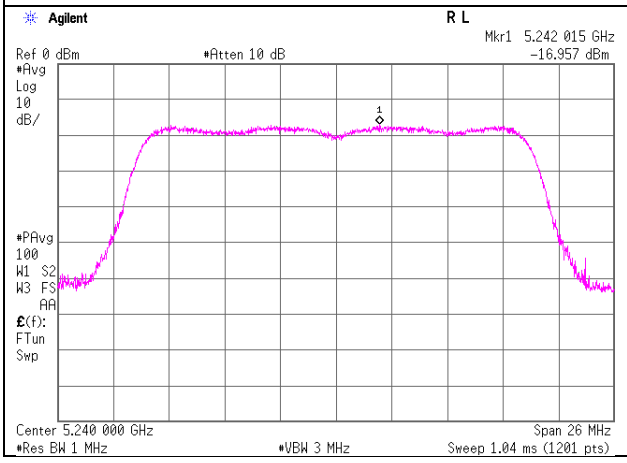
5220 MHz



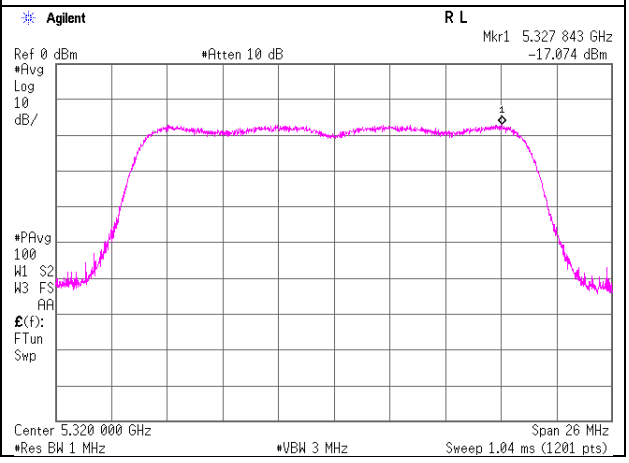
5300 MHz



5240 MHz



5320 MHz

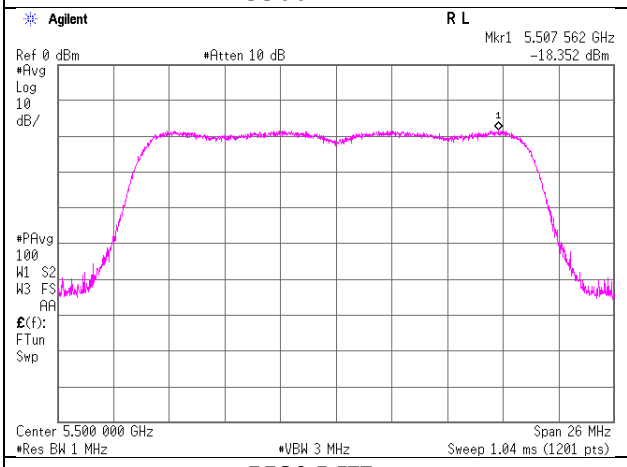


Maximum Power Spectral Density

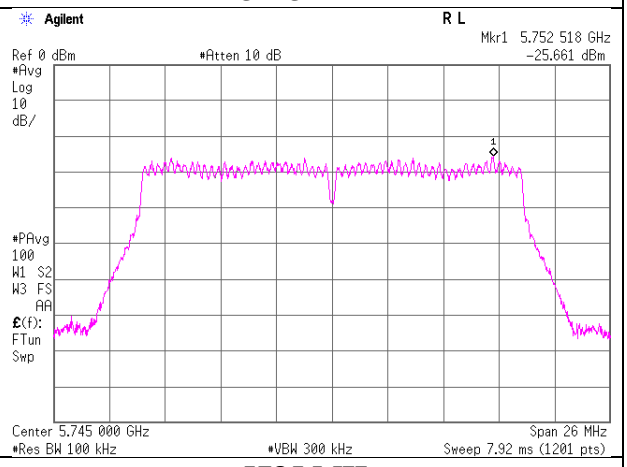
Report No.	12699044S-AM-R1	
Test place	Shonan EMC Lab. No.5 Shielded Room	
Date	June 6, 2019	June 6, 2019
Temperature / Humidity	25 deg. C / 51 % RH	25 deg. C / 51 % RH
Engineer	Toshinori Yamada	Toshinori Yamada
Mode	Tx 11n-20 MIMO	

11n-20 MIMO, Antenna B

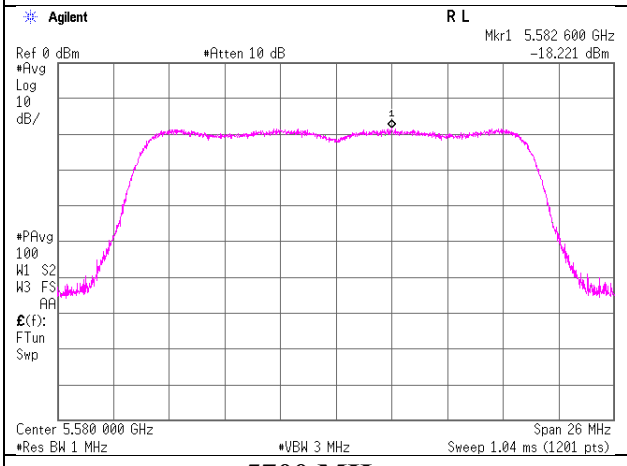
5500 MHz



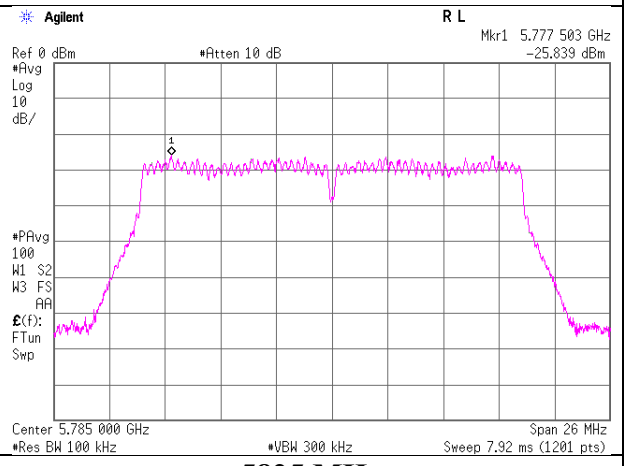
5745 MHz



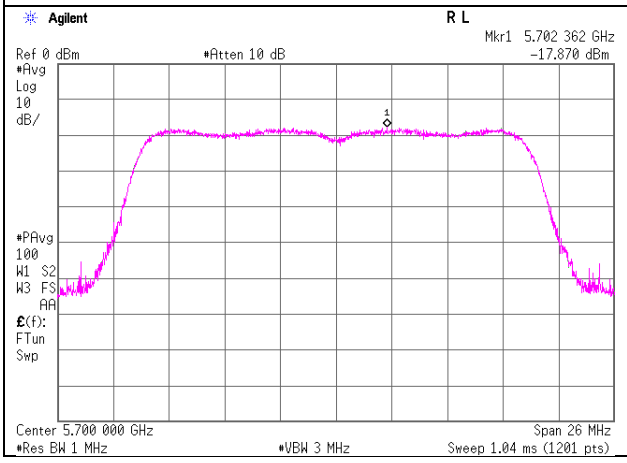
5580 MHz



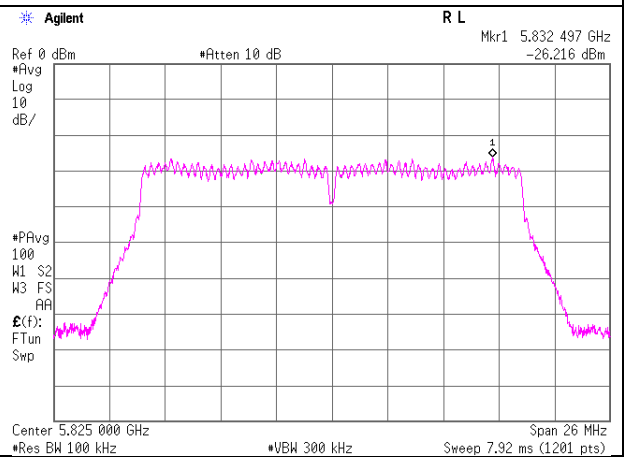
5785 MHz



5700 MHz



5825 MHz

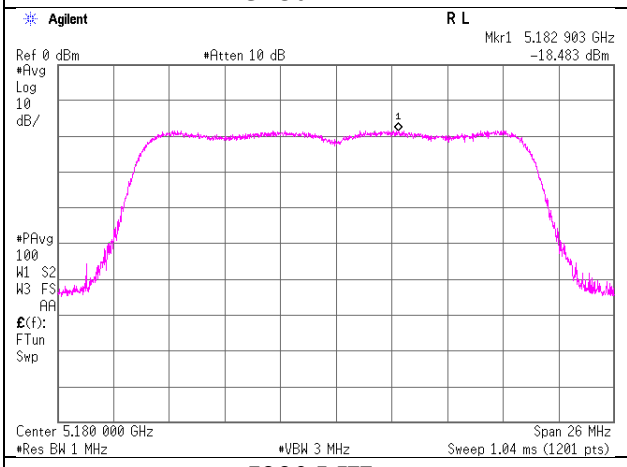


Maximum Power Spectral Density

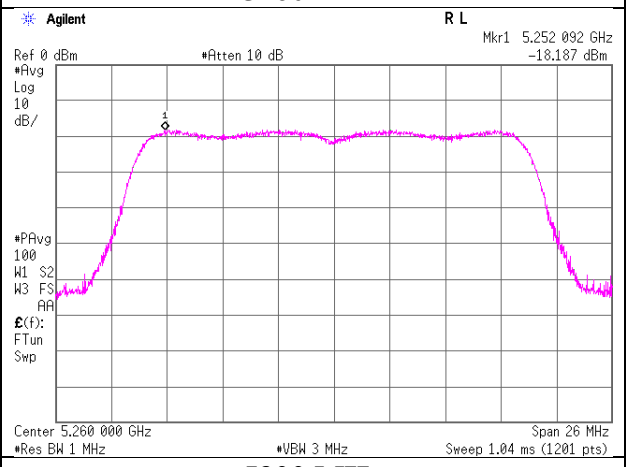
Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	June 10, 2019
Temperature / Humidity	24 deg. C / 54 % RH
Engineer	Takahiro Kawakami
Mode	Tx 11ac-20 CDD

11ac-20 CDD, Antenna A

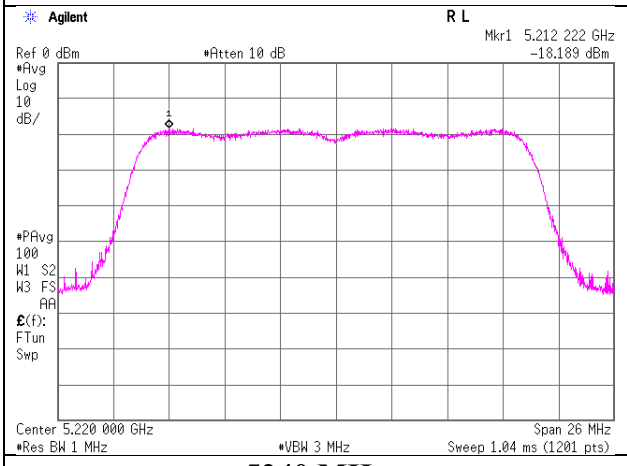
5180 MHz



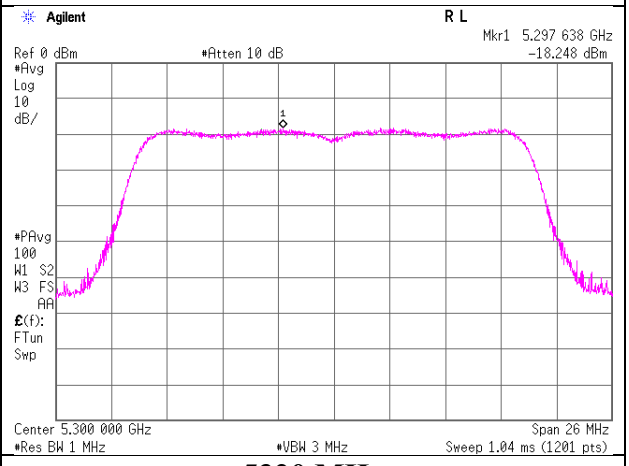
5260 MHz



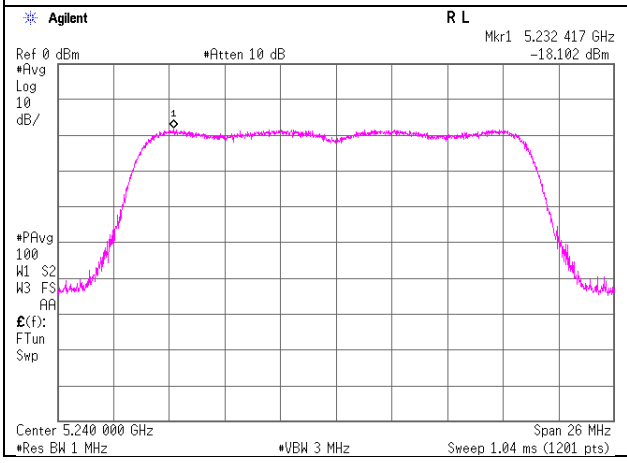
5220 MHz



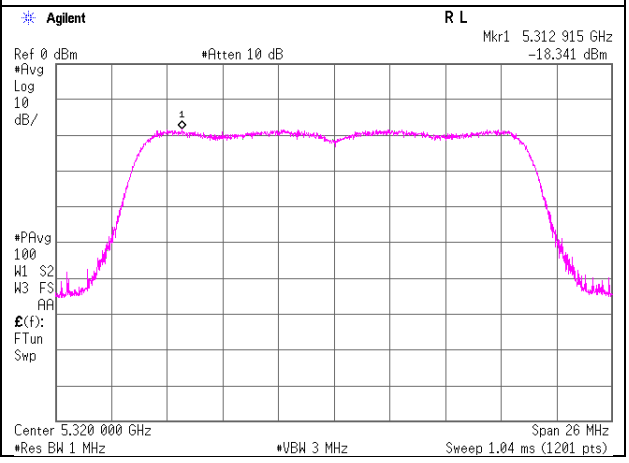
5300 MHz



5240 MHz



5320 MHz

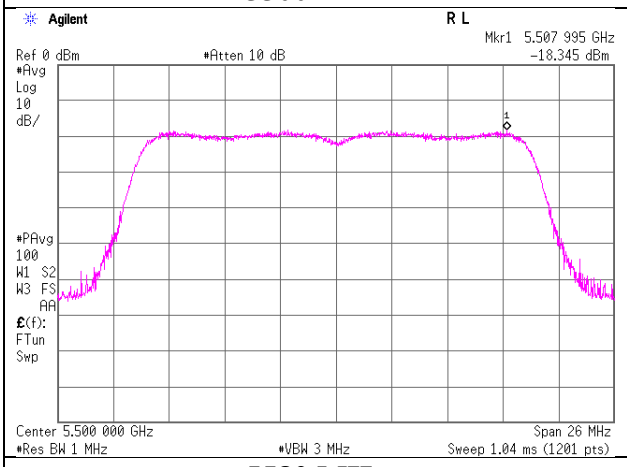


Maximum Power Spectral Density

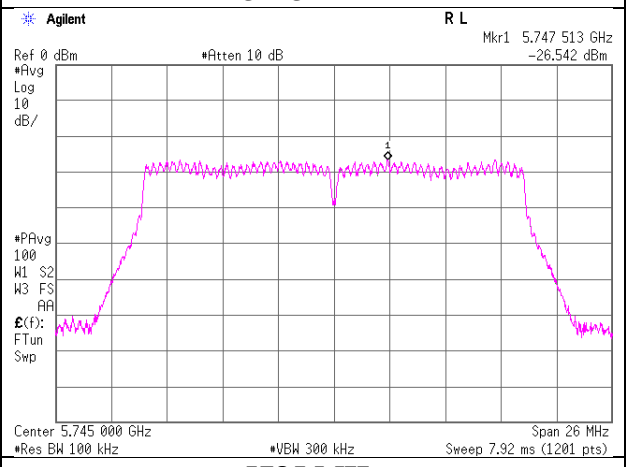
Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	June 10, 2019
Temperature / Humidity	24 deg. C / 54 % RH
Engineer	Takahiro Kawakami
Mode	Tx 11ac-20 CDD

11ac-20 CDD, Antenna A

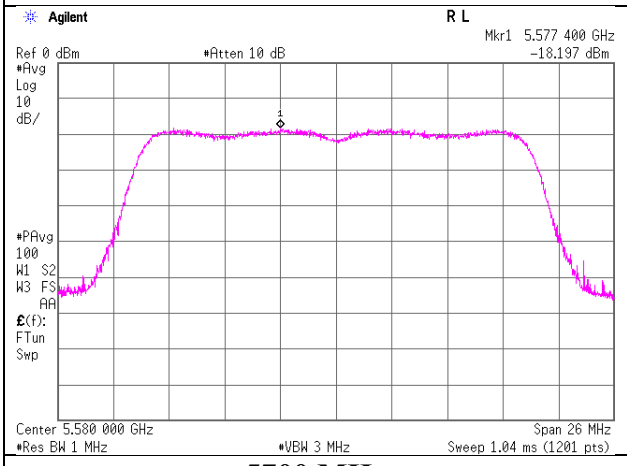
5500 MHz



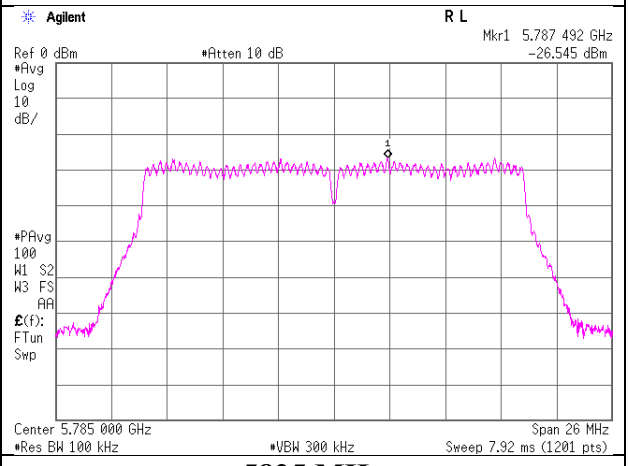
5745 MHz



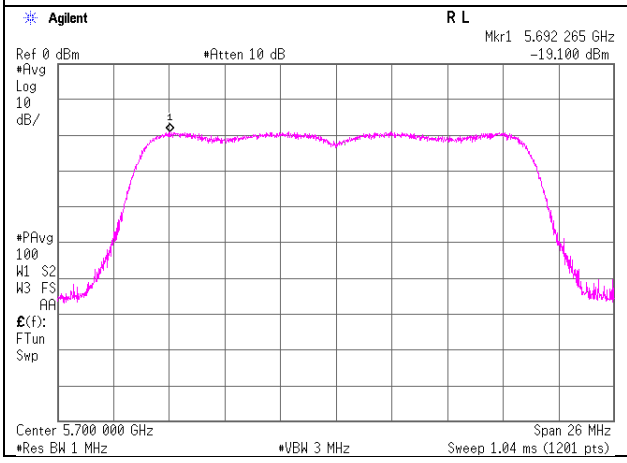
5580 MHz



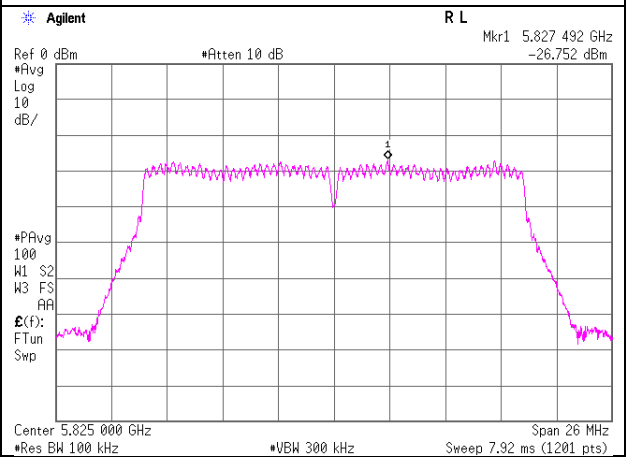
5785 MHz



5700 MHz



5825 MHz

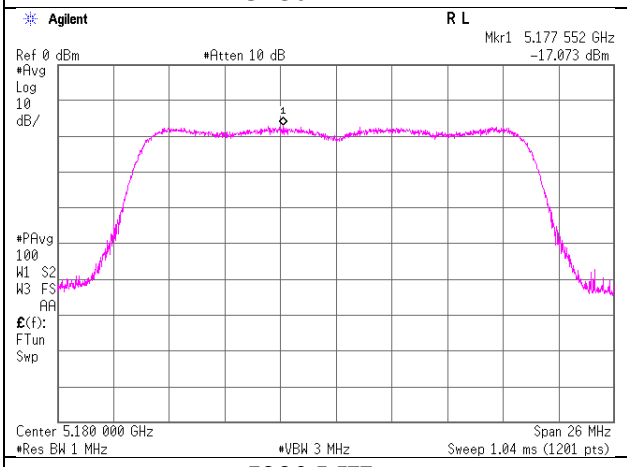


Maximum Power Spectral Density

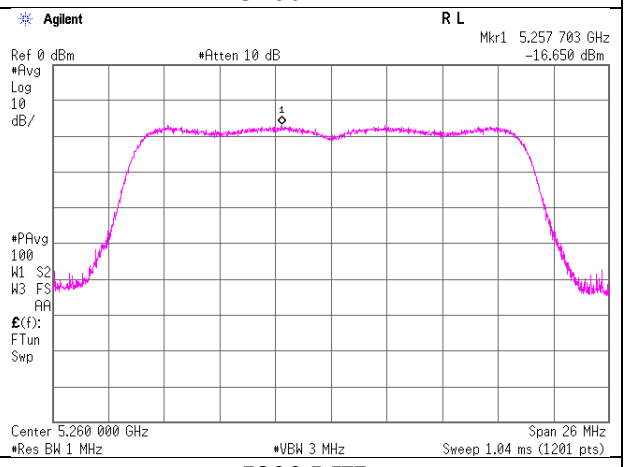
Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	June 10, 2019
Temperature / Humidity	24 deg. C / 54 % RH
Engineer	Takahiro Kawakami
Mode	Tx 11ac-20 CDD

11ac-20 CDD, Antenna B

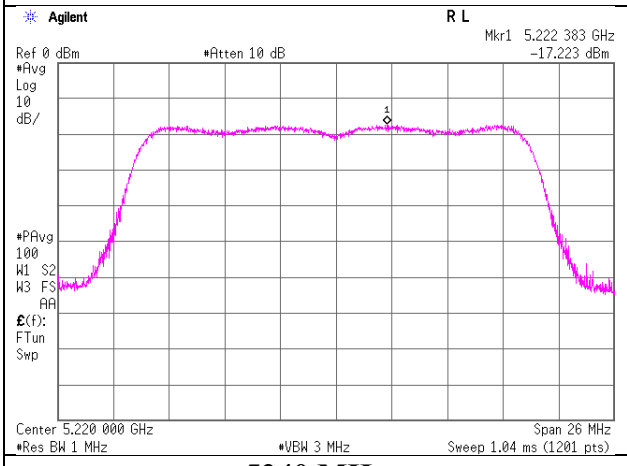
5180 MHz



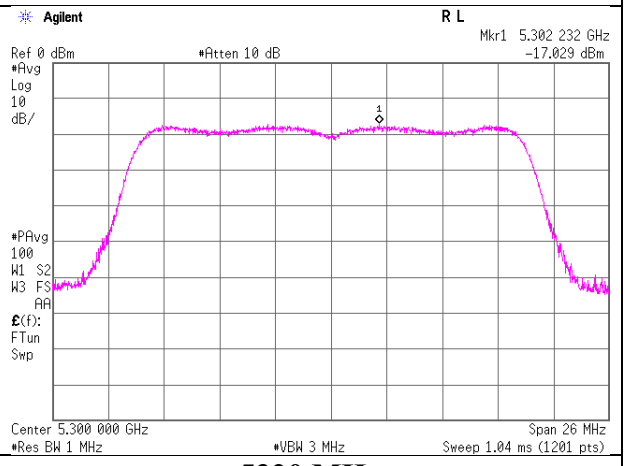
5260 MHz



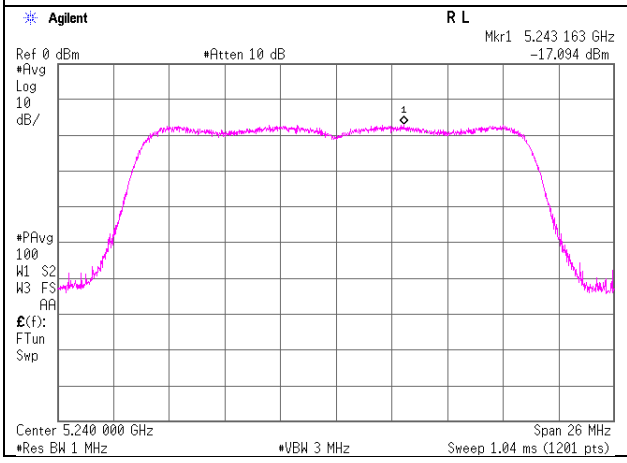
5220 MHz



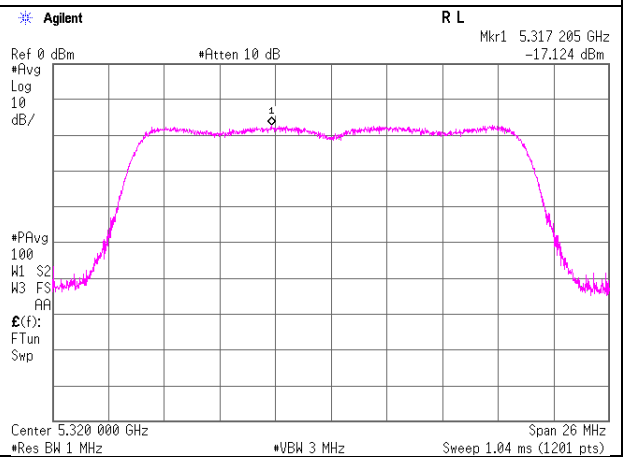
5300 MHz



5240 MHz



5320 MHz

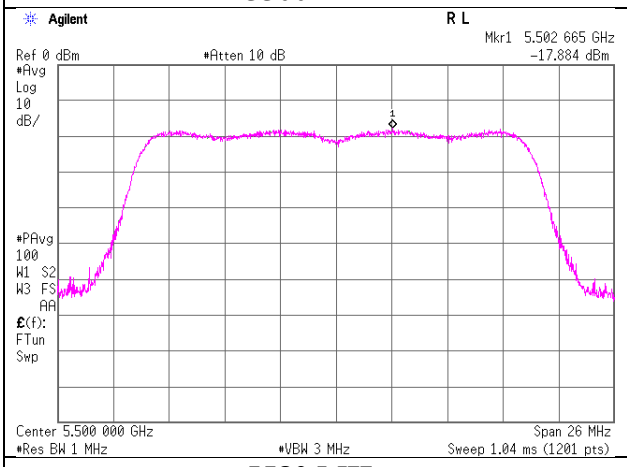


Maximum Power Spectral Density

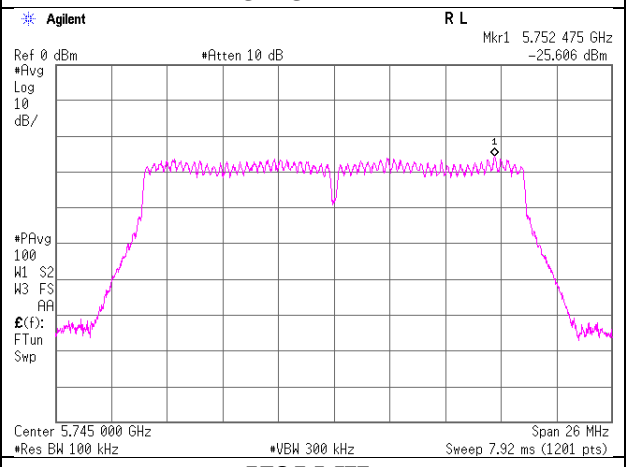
Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	June 10, 2019
Temperature / Humidity	24 deg. C / 54 % RH
Engineer	Takahiro Kawakami
Mode	Tx 11ac-20 CDD

11ac-20 CDD, Antenna B

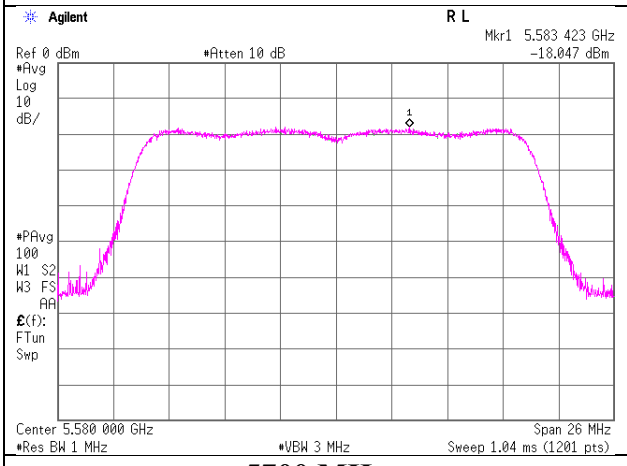
5500 MHz



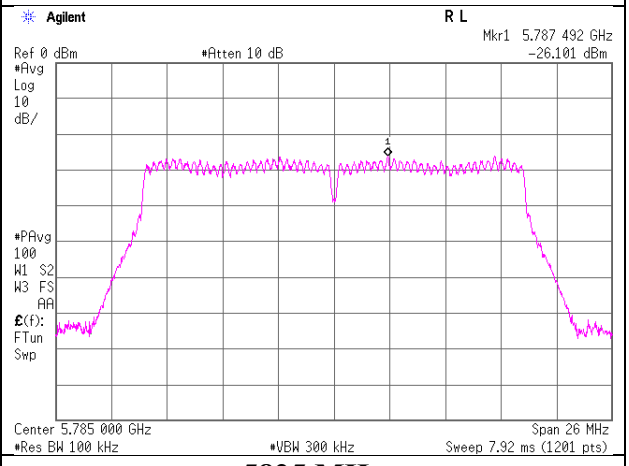
5745 MHz



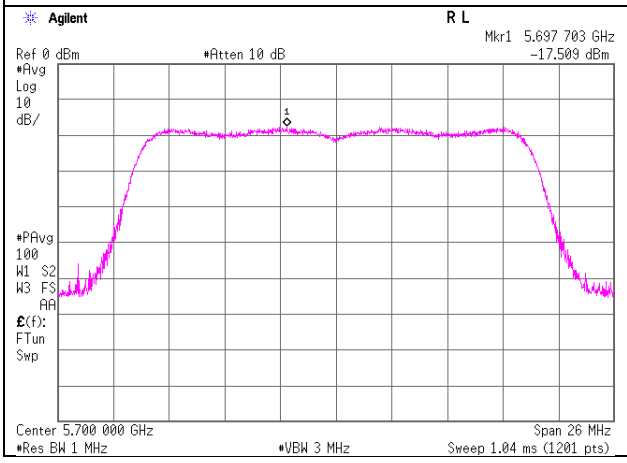
5580 MHz



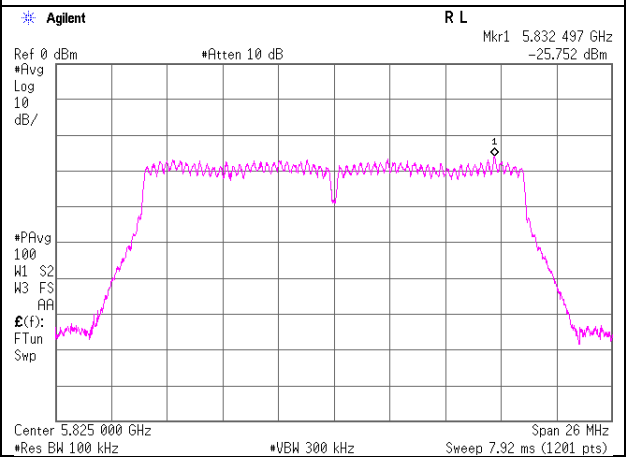
5785 MHz



5700 MHz



5825 MHz

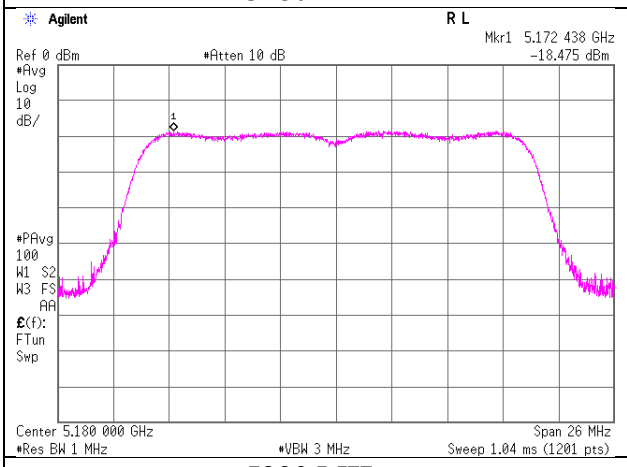


Maximum Power Spectral Density

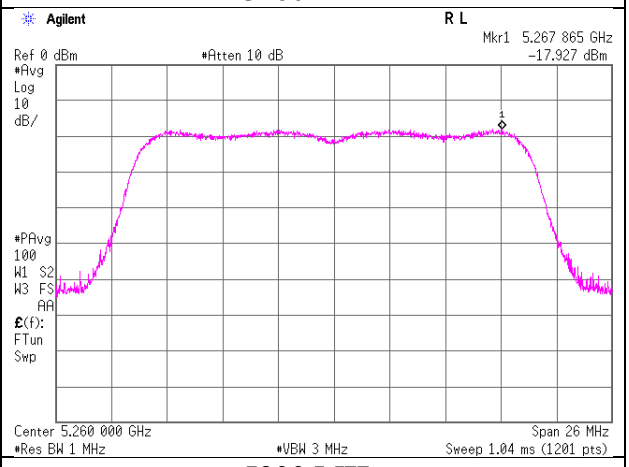
Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	June 10, 2019
Temperature / Humidity	24 deg. C / 54 % RH
Engineer	Takahiro Kawakami
Mode	Tx 11ac-20 MIMO

11ac-20 MIMO, Antenna A

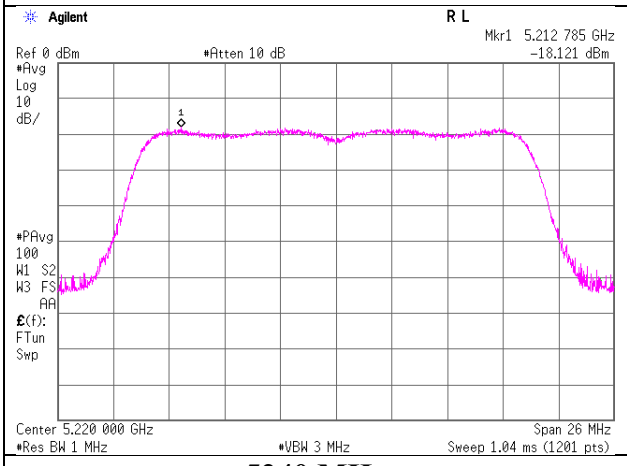
5180 MHz



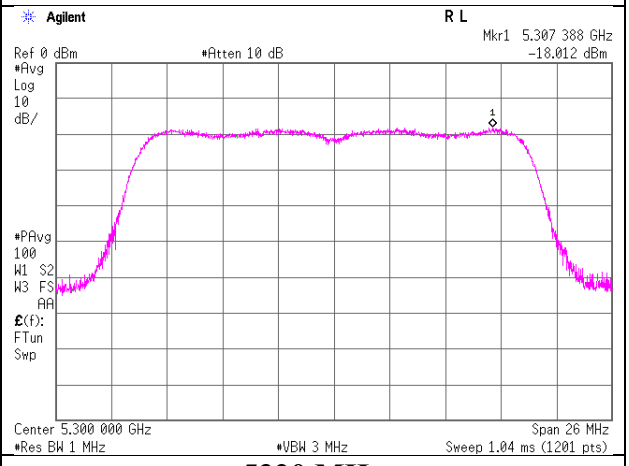
5260 MHz



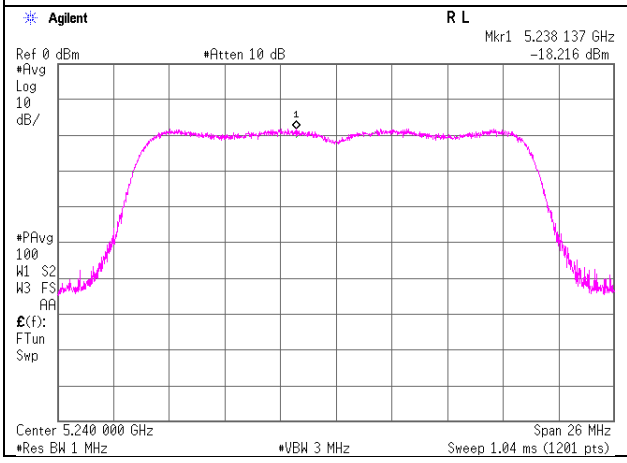
5220 MHz



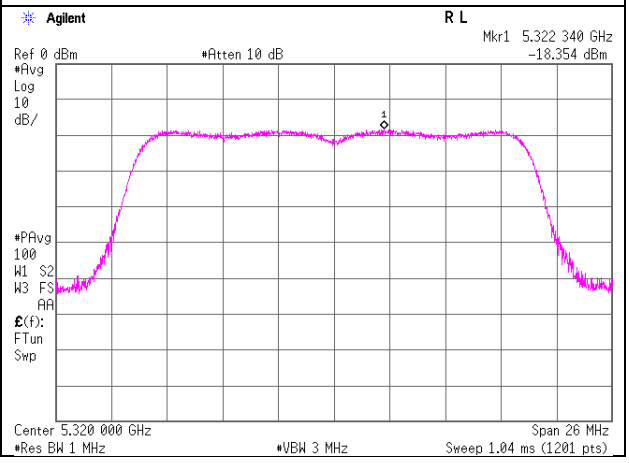
5300 MHz



5240 MHz



5320 MHz

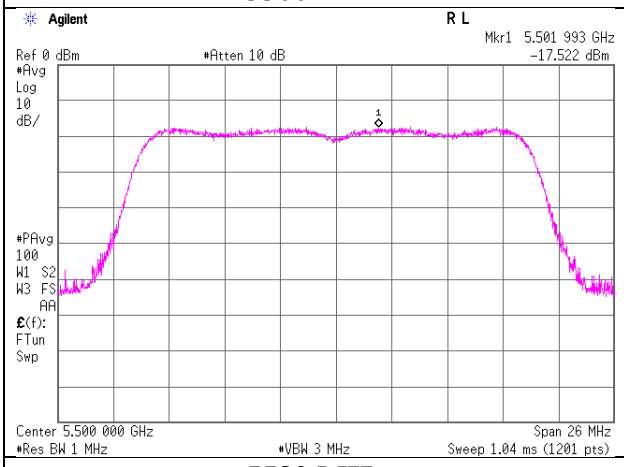


Maximum Power Spectral Density

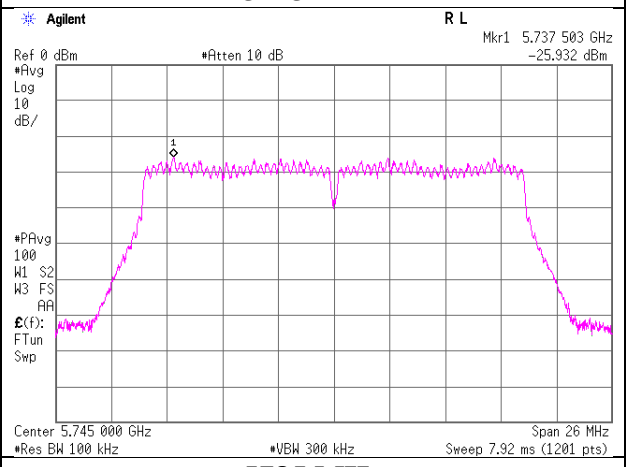
Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	June 10, 2019
Temperature / Humidity	24 deg. C / 54 % RH
Engineer	Takahiro Kawakami
Mode	Tx 11ac-20 MIMO

11ac-20 MIMO, Antenna A

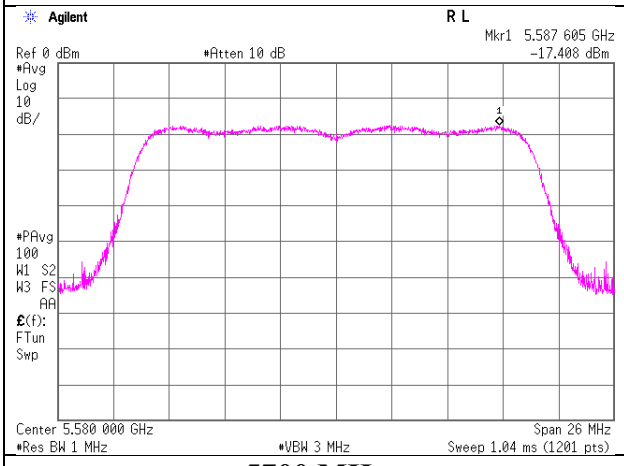
5500 MHz



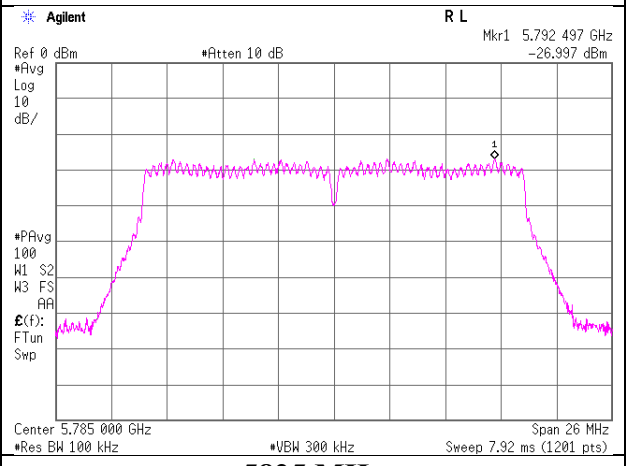
5745 MHz



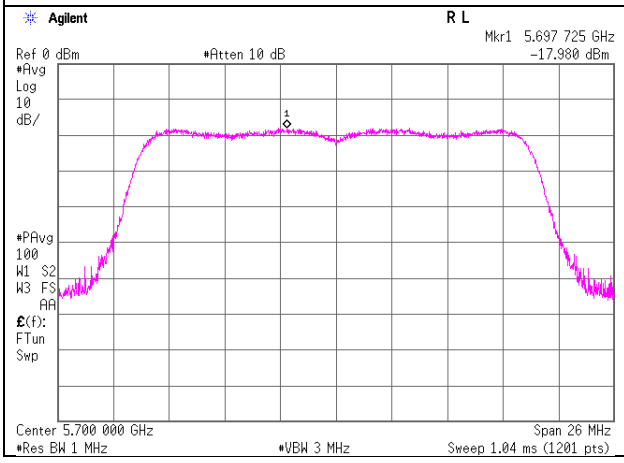
5580 MHz



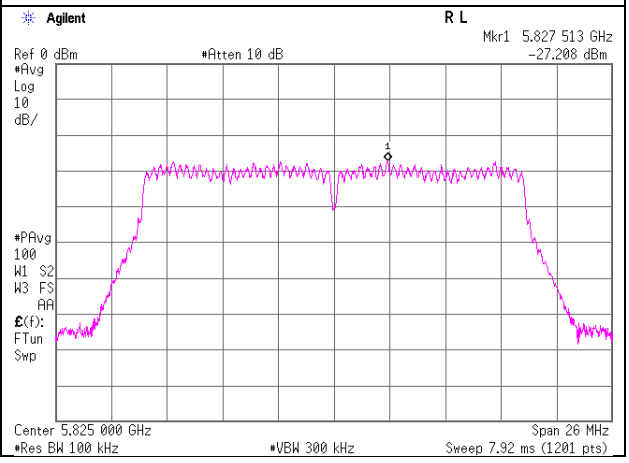
5785 MHz



5700 MHz



5825 MHz

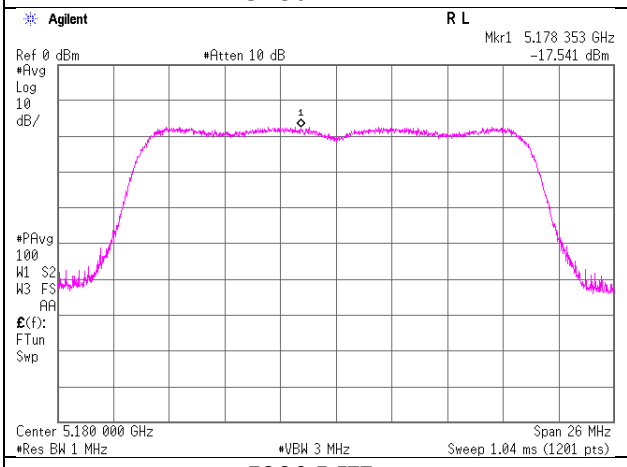


Maximum Power Spectral Density

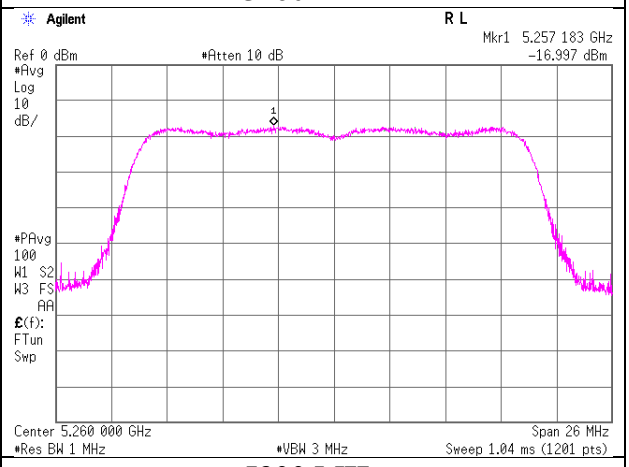
Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	June 10, 2019
Temperature / Humidity	24 deg. C / 54 % RH
Engineer	Takahiro Kawakami
Mode	Tx 11ac-20 MIMO

11ac-20 MIMO, Antenna B

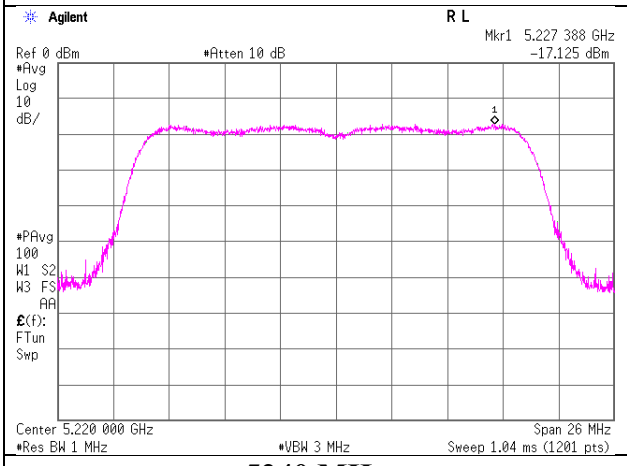
5180 MHz



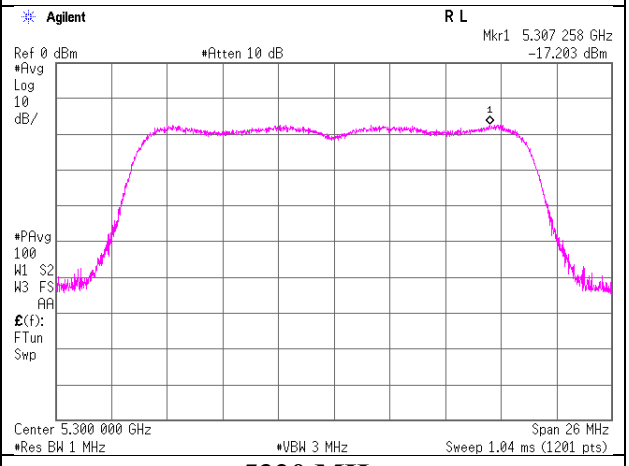
5260 MHz



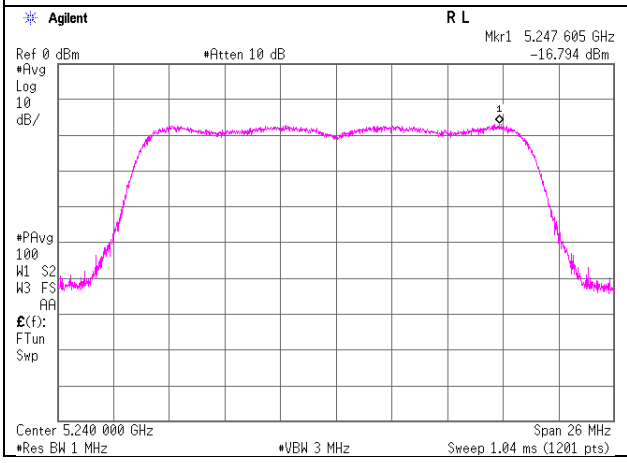
5220 MHz



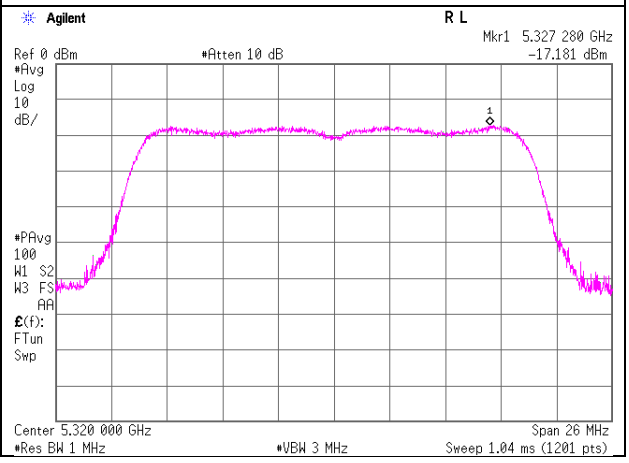
5300 MHz



5240 MHz



5320 MHz

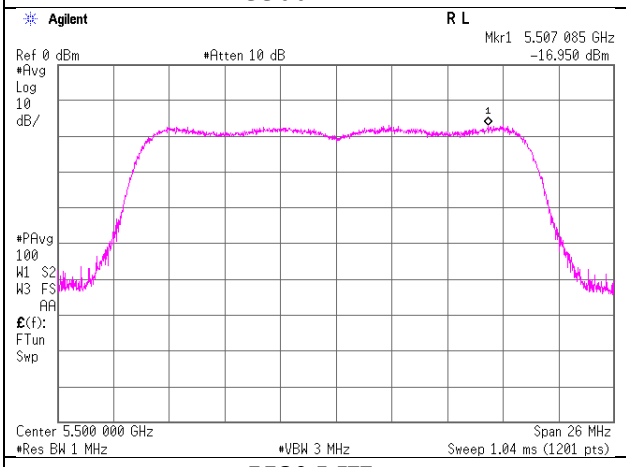


Maximum Power Spectral Density

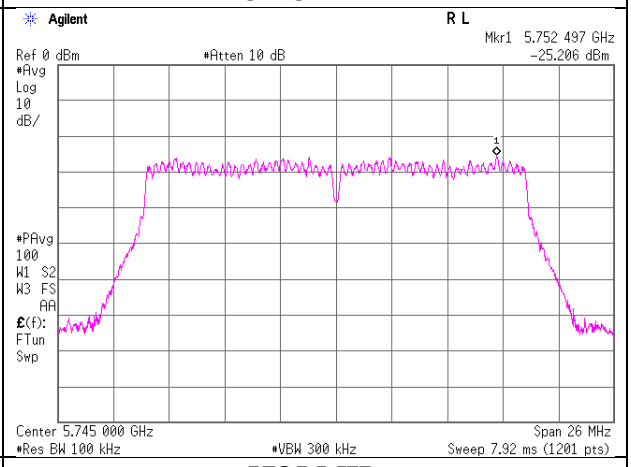
Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	June 10, 2019
Temperature / Humidity	24 deg. C / 54 % RH
Engineer	Takahiro Kawakami
Mode	Tx 11ac-20 MIMO

11ac-20 MIMO, Antenna B

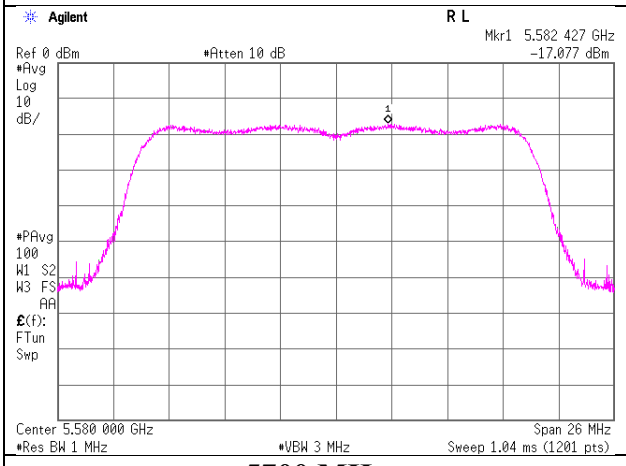
5500 MHz



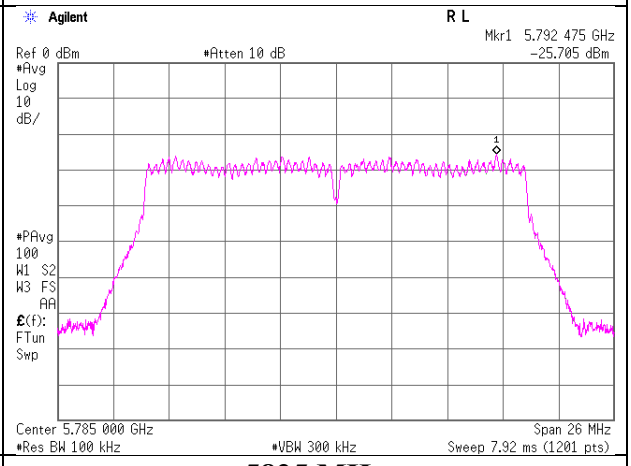
5745 MHz



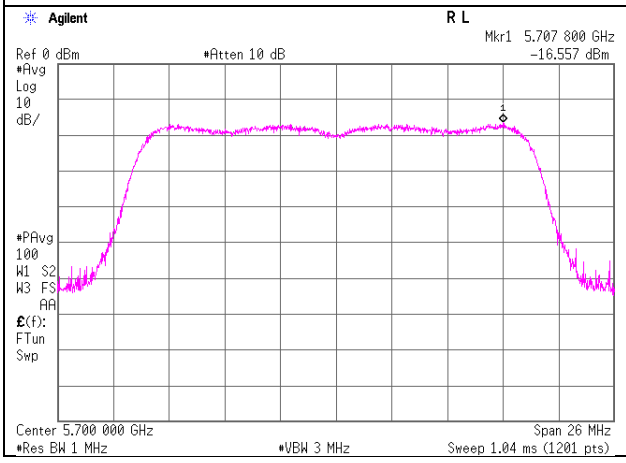
5580 MHz



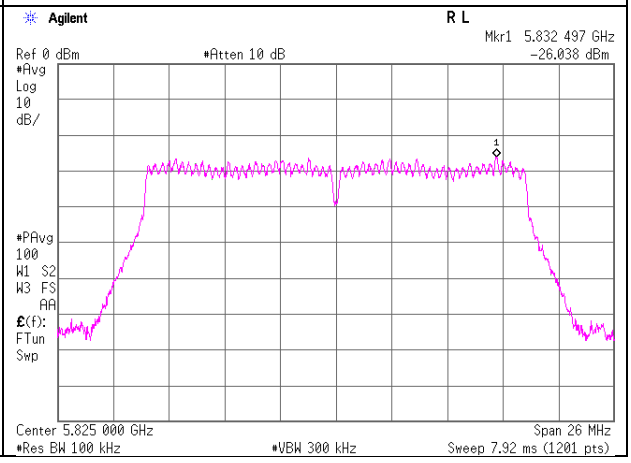
5785 MHz



5700 MHz



5825 MHz

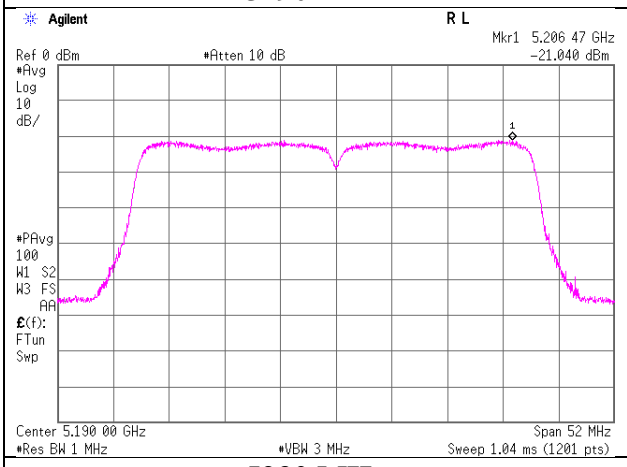


Maximum Power Spectral Density

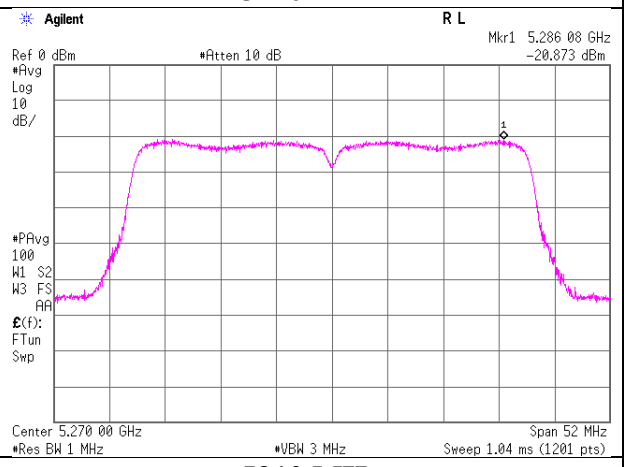
Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	June 11, 2019
Temperature / Humidity	25 deg. C / 47 % RH
Engineer	Takahiro Kawakami
Mode	Tx 11n-40 CDD

11n-40 CDD, Antenna A

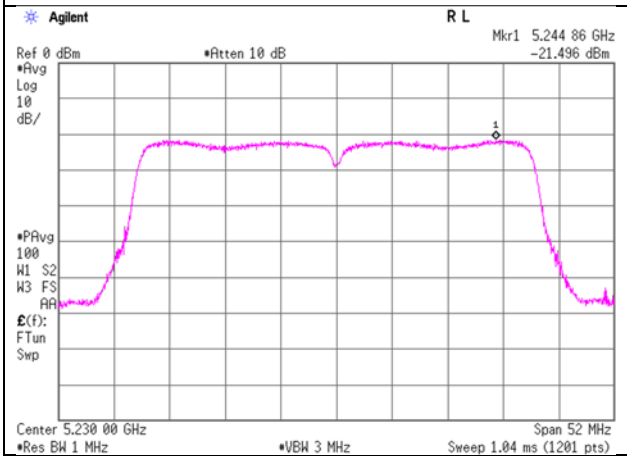
5190 MHz



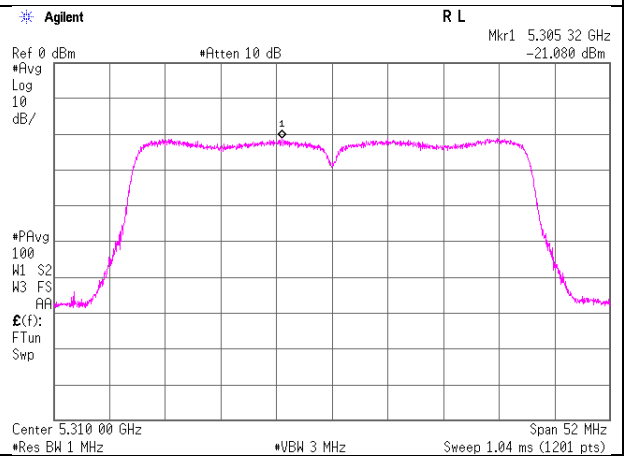
5270 MHz



5230 MHz



5310 MHz

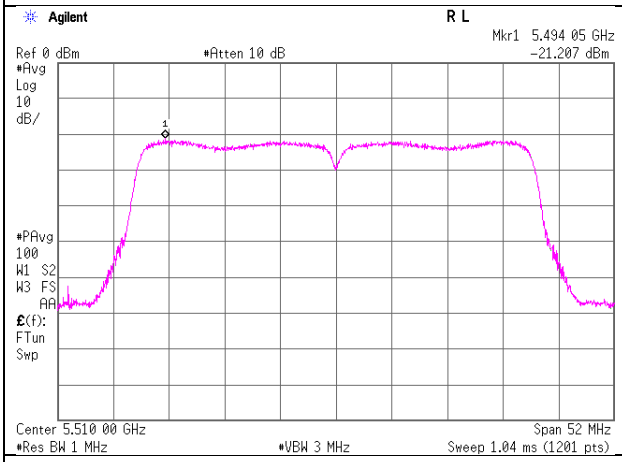


Maximum Power Spectral Density

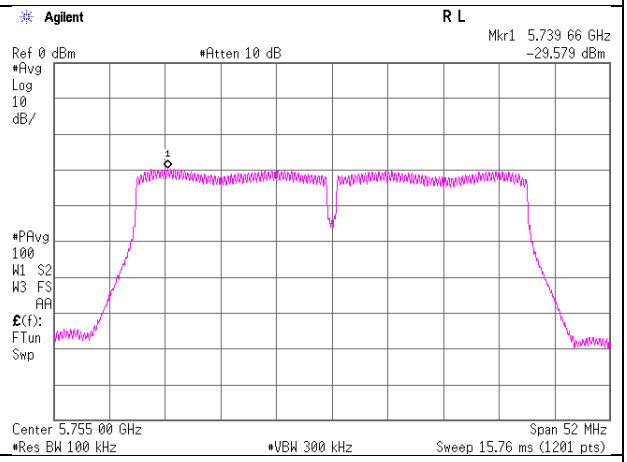
Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	June 11, 2019
Temperature / Humidity	25 deg. C / 47 % RH
Engineer	Takahiro Kawakami
Mode	Tx 11n-40 CDD

11n-40 CDD, Antenna A

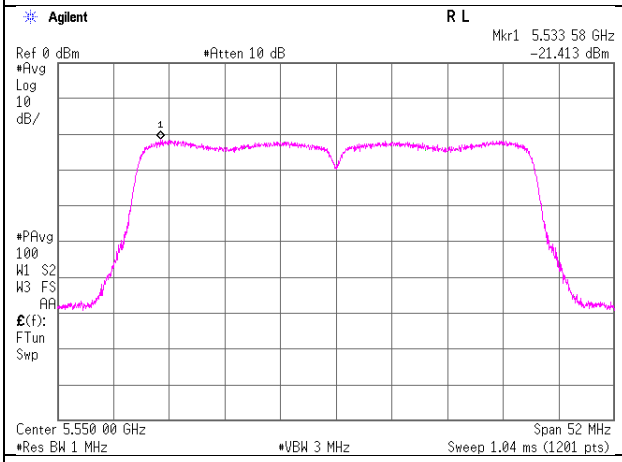
5510 MHz



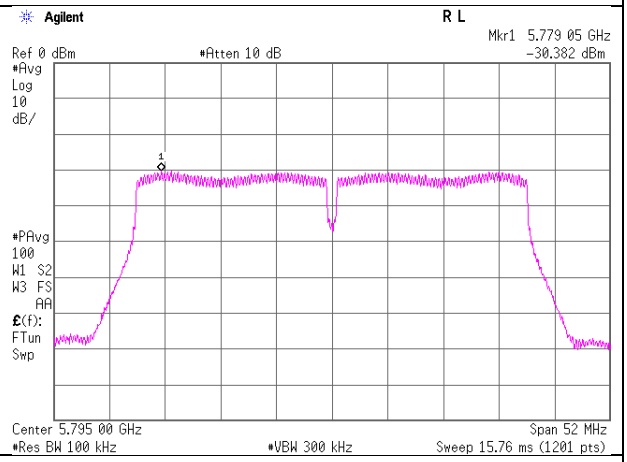
5755 MHz



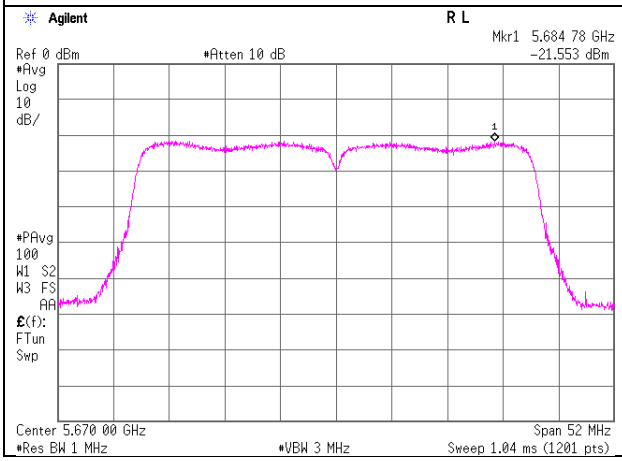
5550 MHz



5795 MHz



5670 MHz

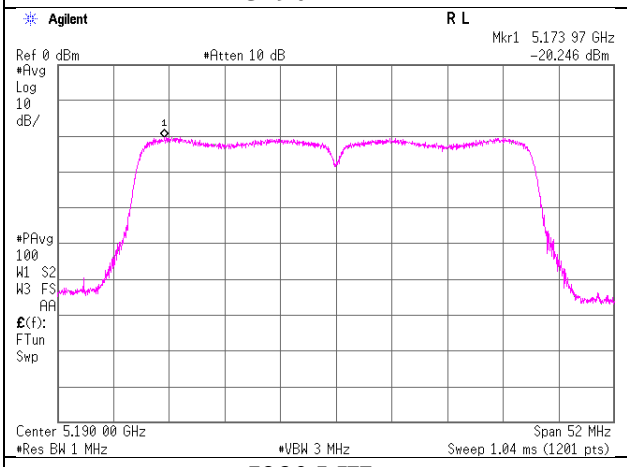


Maximum Power Spectral Density

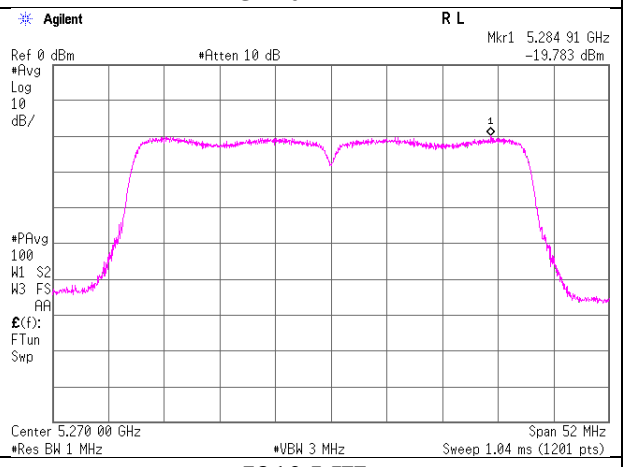
Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	June 11, 2019
Temperature / Humidity	25 deg. C / 47 % RH
Engineer	Takahiro Kawakami
Mode	Tx 11n-40 CDD

11n-40 CDD, Antenna B

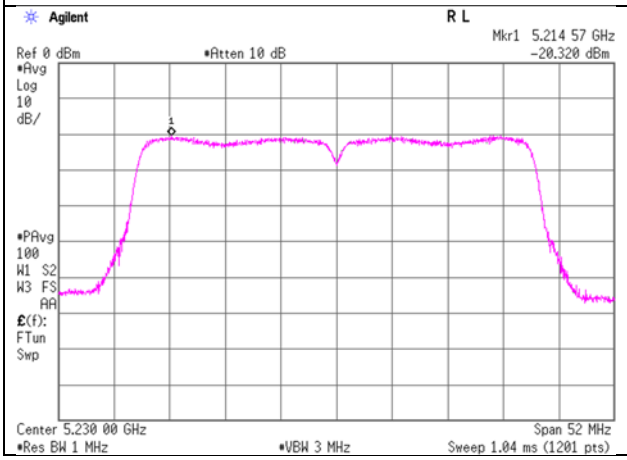
5190 MHz



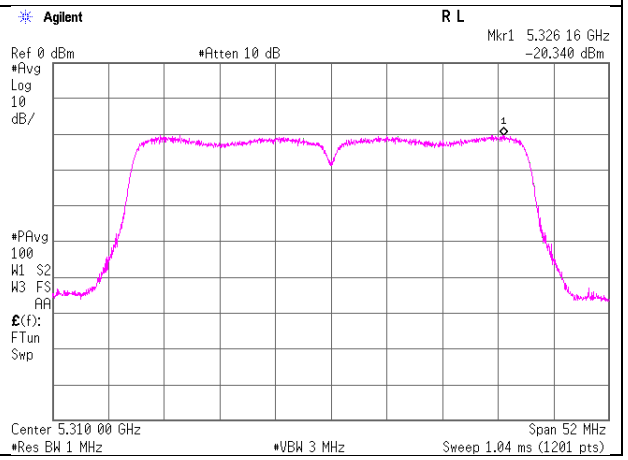
5270 MHz



5230 MHz



5310 MHz

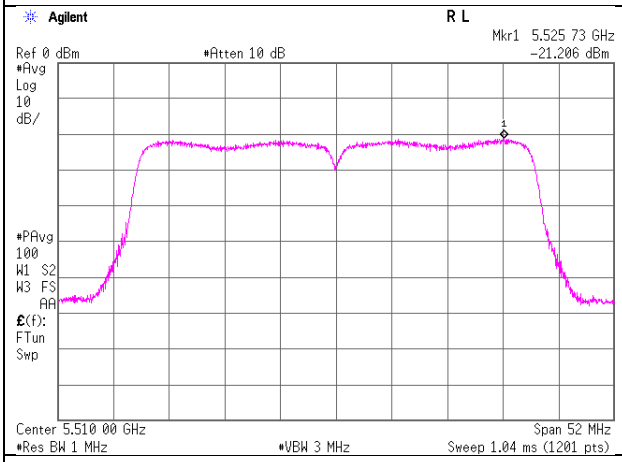


Maximum Power Spectral Density

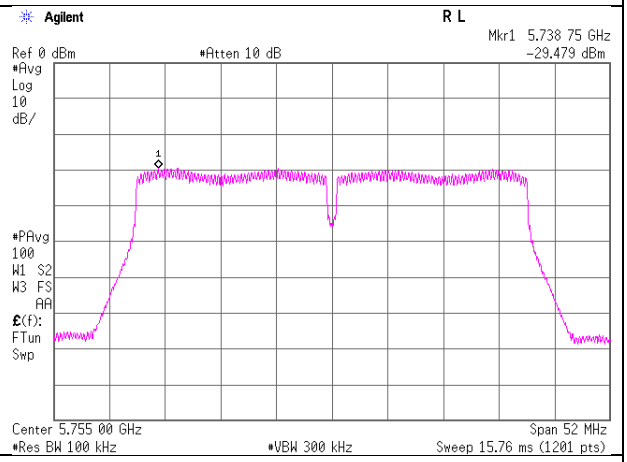
Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	June 11, 2019
Temperature / Humidity	25 deg. C / 47 % RH
Engineer	Takahiro Kawakami
Mode	Tx 11n-40 CDD

11n-40 CDD, Antenna B

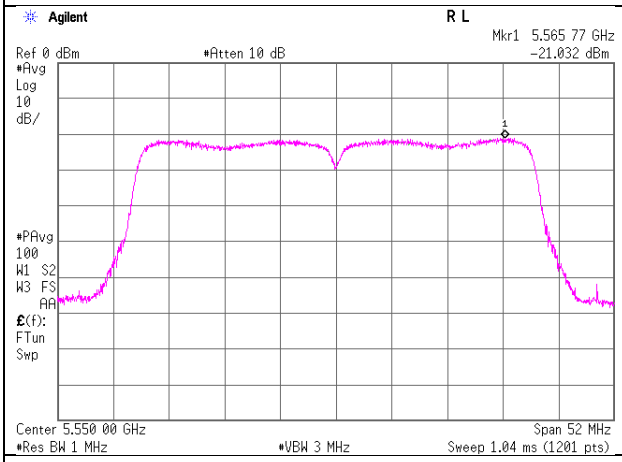
5510 MHz



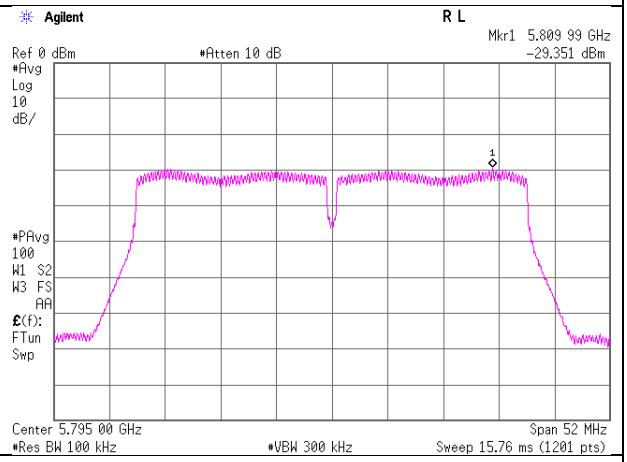
5755 MHz



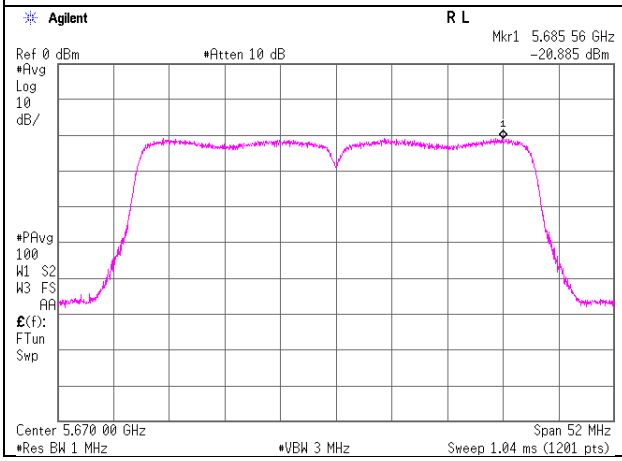
5550 MHz



5795 MHz



5670 MHz

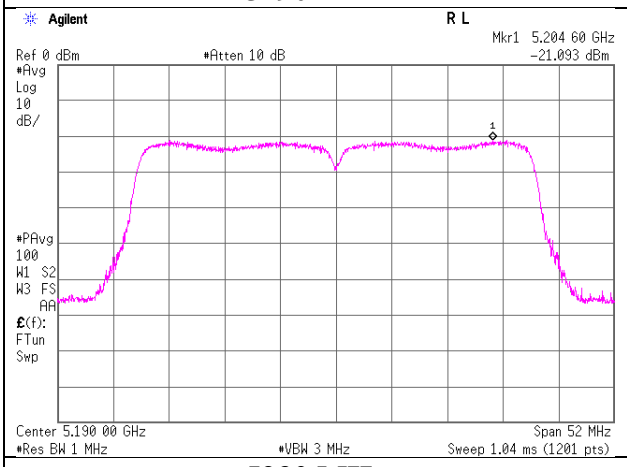


Maximum Power Spectral Density

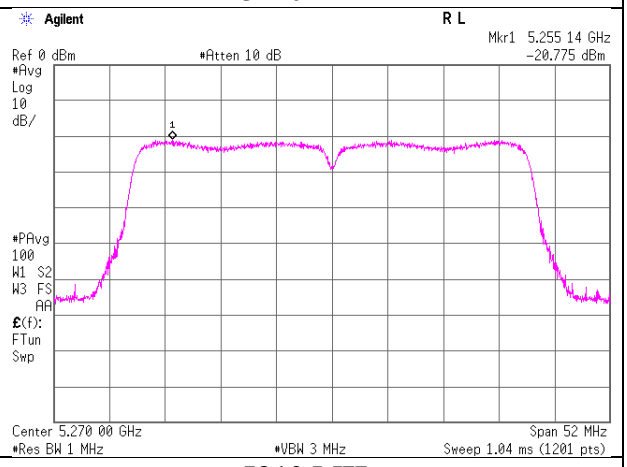
Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	June 11, 2019
Temperature / Humidity	25 deg. C / 47 % RH
Engineer	Takahiro Kawakami
Mode	Tx 11n-40 MIMO

11n-40 MIMO, Antenna A

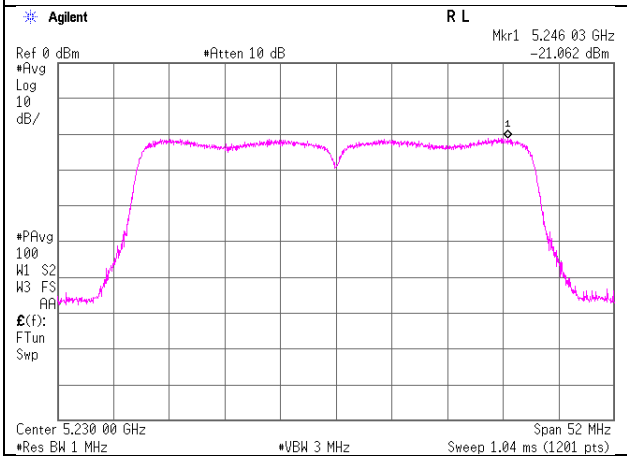
5190 MHz



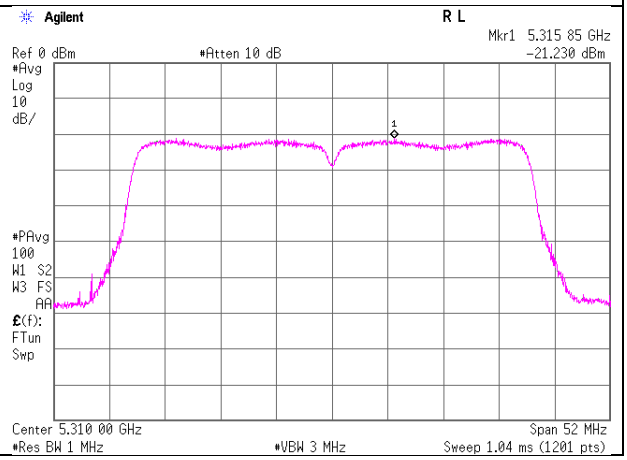
5270 MHz



5230 MHz



5310 MHz

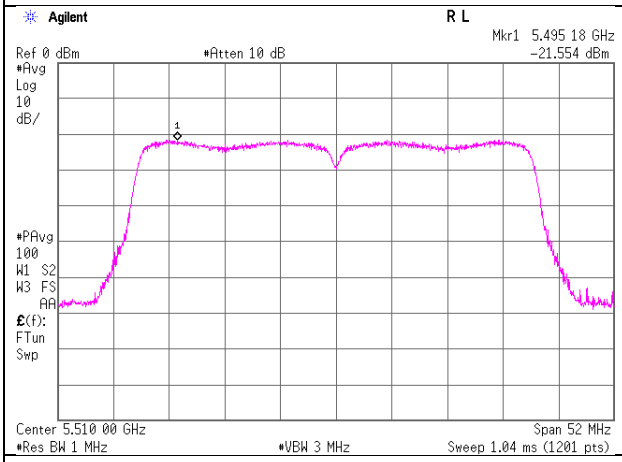


Maximum Power Spectral Density

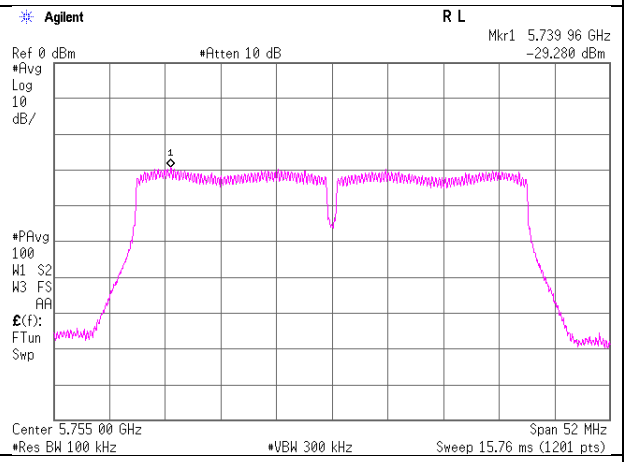
Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	June 11, 2019
Temperature / Humidity	25 deg. C / 47 % RH
Engineer	Takahiro Kawakami
Mode	Tx 11n-40 MIMO

11n-40 MIMO, Antenna A

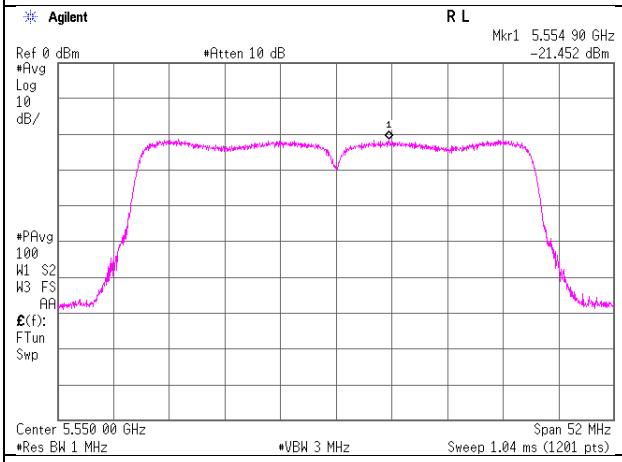
5510 MHz



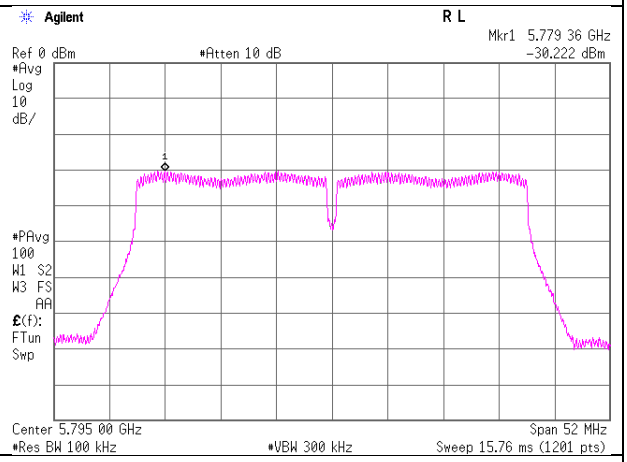
5755 MHz



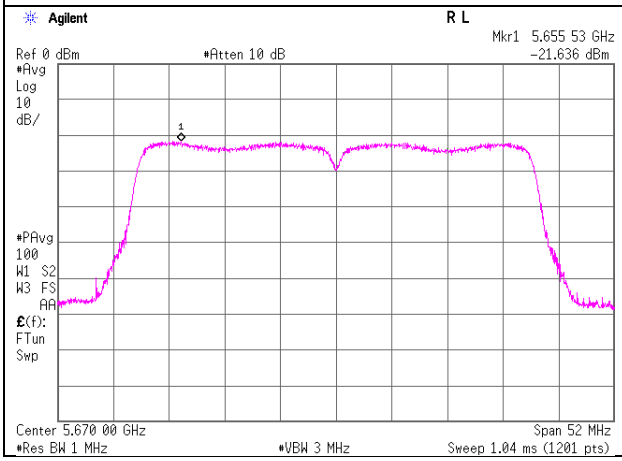
5550 MHz



5795 MHz



5670 MHz

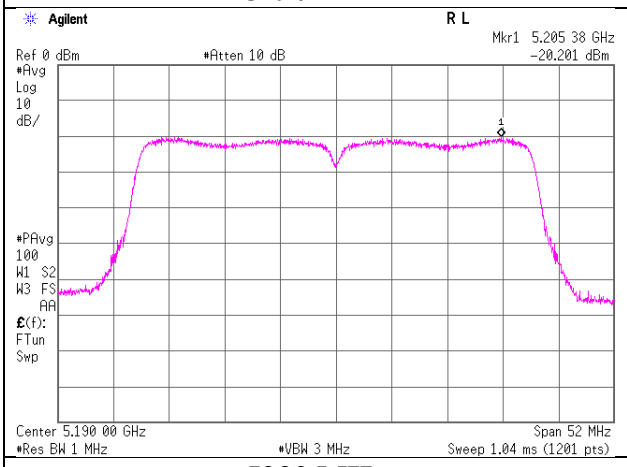


Maximum Power Spectral Density

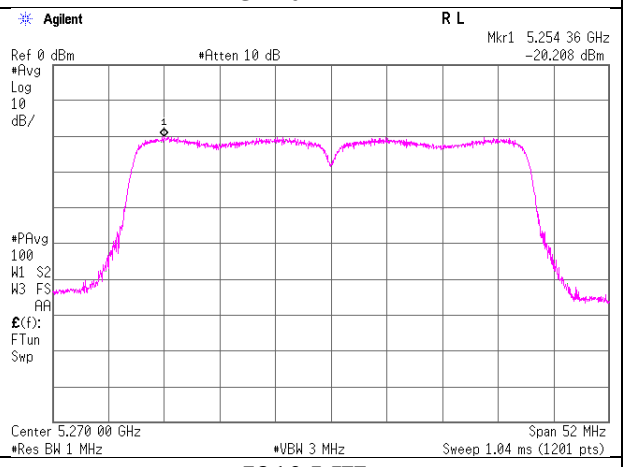
Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	June 11, 2019
Temperature / Humidity	25 deg. C / 47 % RH
Engineer	Takahiro Kawakami
Mode	Tx 11n-40 MIMO

11n-40 MIMO, Antenna B

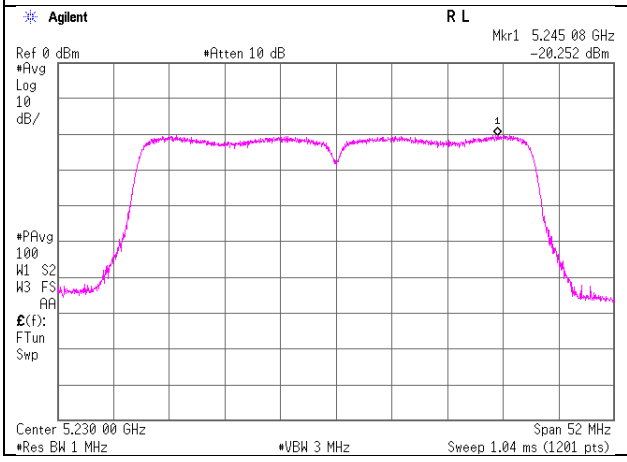
5190 MHz



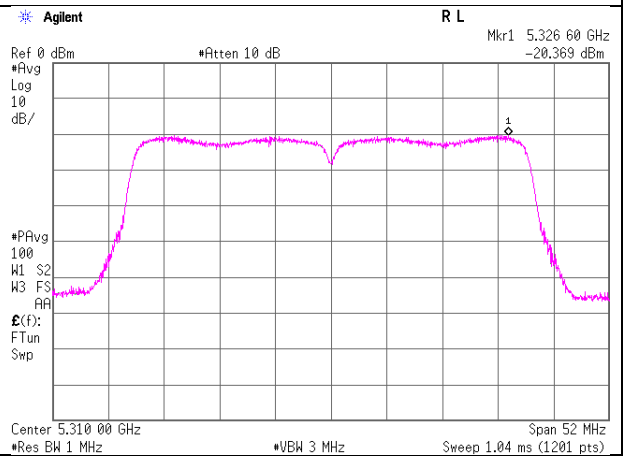
5270 MHz



5230 MHz



5310 MHz

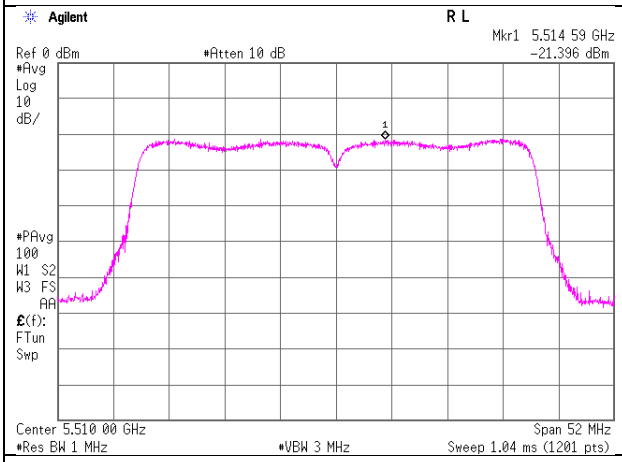


Maximum Power Spectral Density

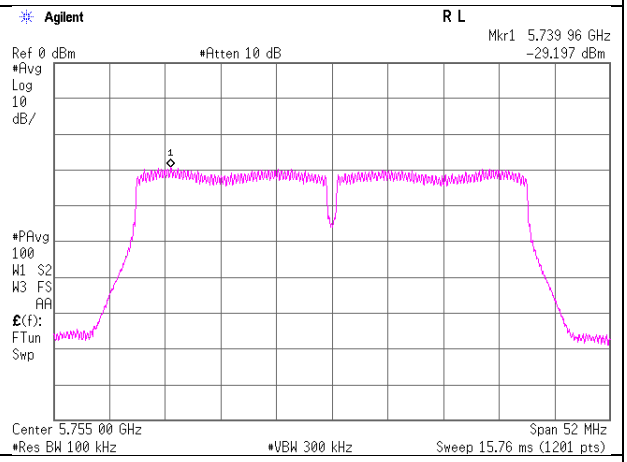
Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	June 11, 2019
Temperature / Humidity	25 deg. C / 47 % RH
Engineer	Takahiro Kawakami
Mode	Tx 11n-40 MIMO

11n-40 MIMO, Antenna B

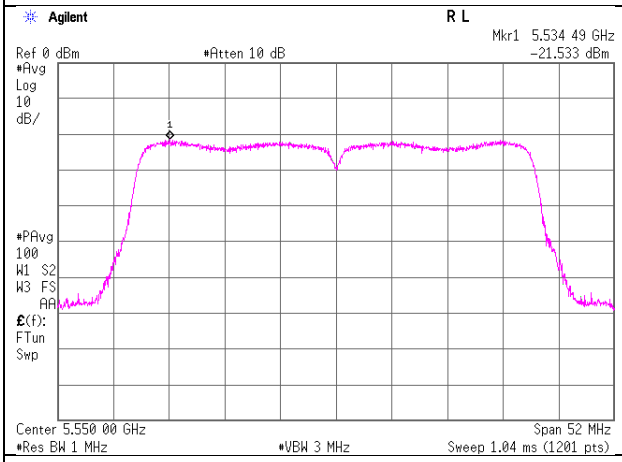
5510 MHz



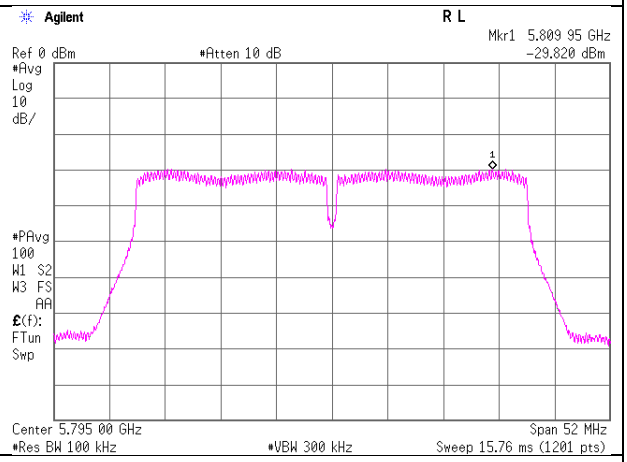
5755 MHz



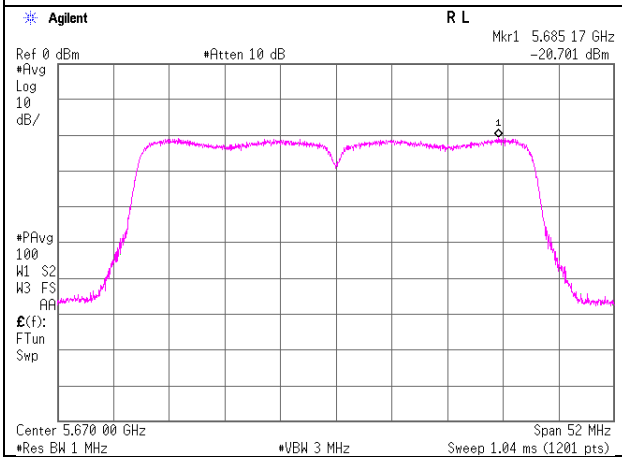
5550 MHz



5795 MHz



5670 MHz

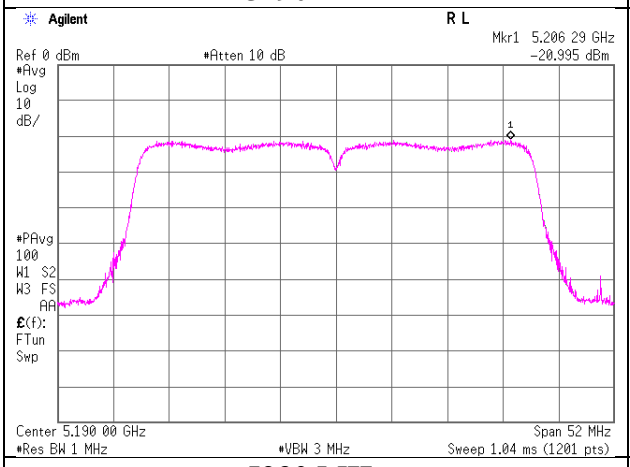


Maximum Power Spectral Density

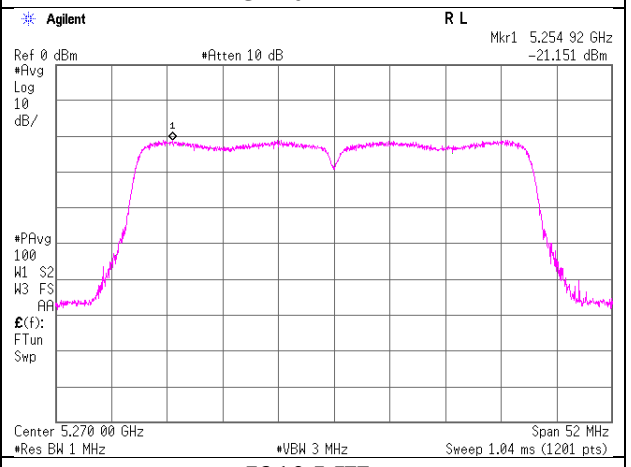
Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	June 11, 2019
Temperature / Humidity	25 deg. C / 47 % RH
Engineer	Takahiro Kawakami
Mode	Tx 11ac-40 CDD

11ac-40 CDD, Antenna A

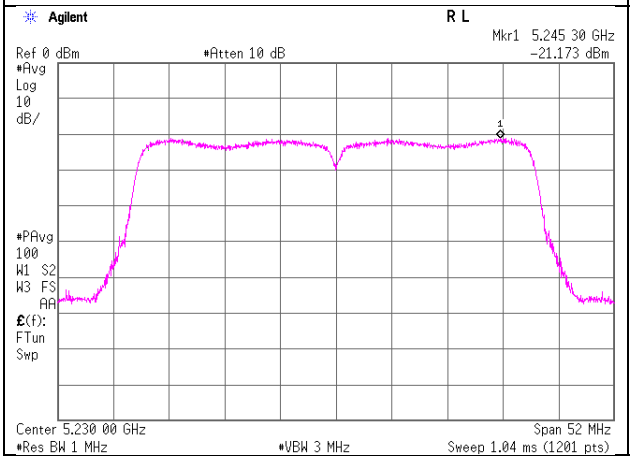
5190 MHz



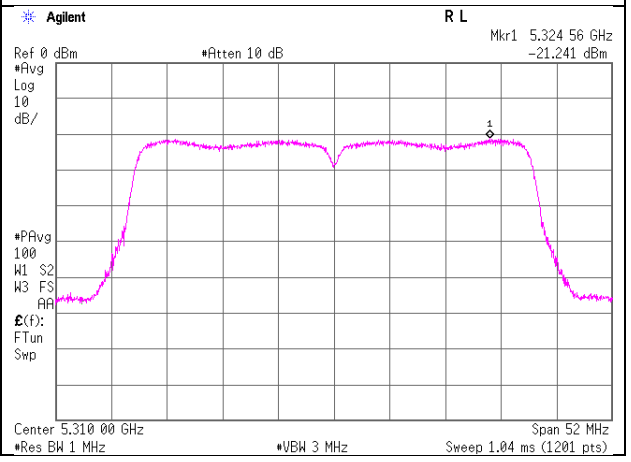
5270 MHz



5230 MHz



5310 MHz

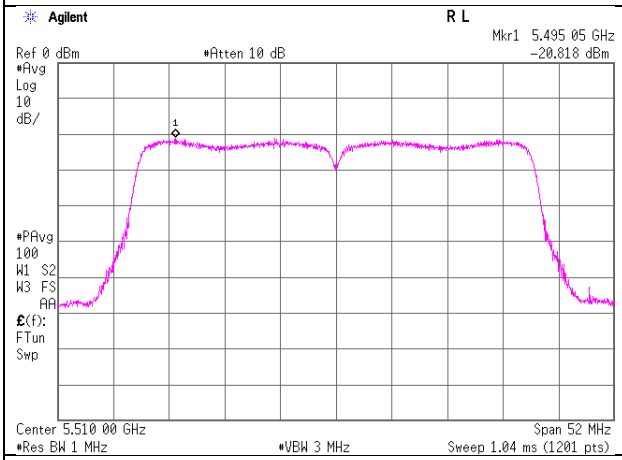


Maximum Power Spectral Density

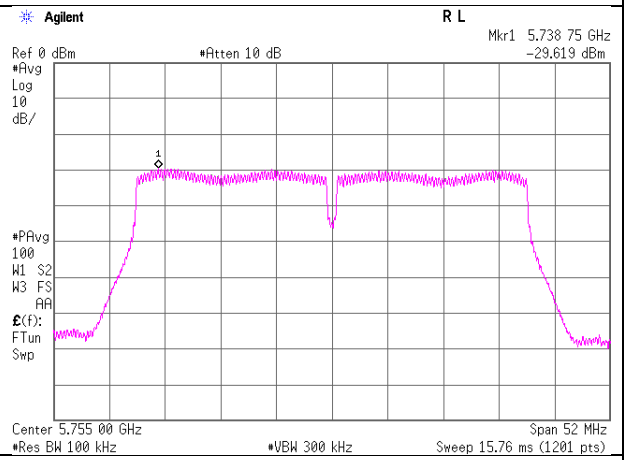
Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	June 11, 2019
Temperature / Humidity	25 deg. C / 47 % RH
Engineer	Takahiro Kawakami
Mode	Tx 11ac-40 CDD

11ac-40 CDD, Antenna A

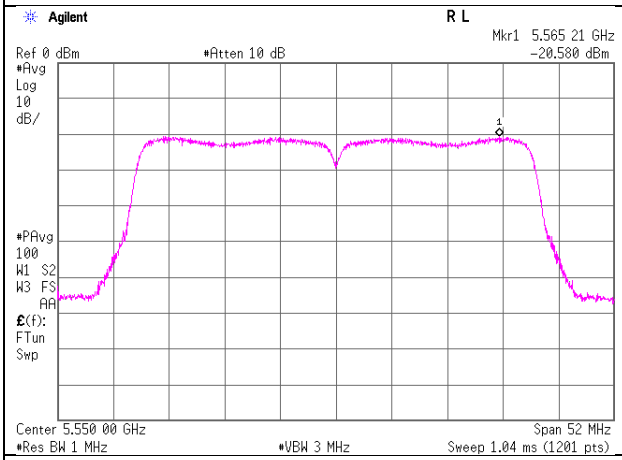
5510 MHz



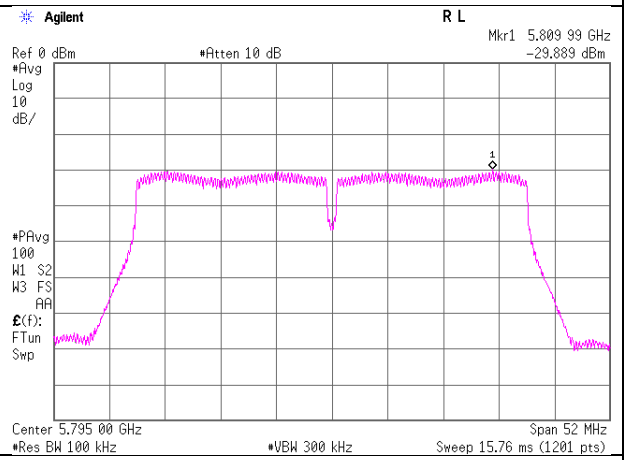
5755 MHz



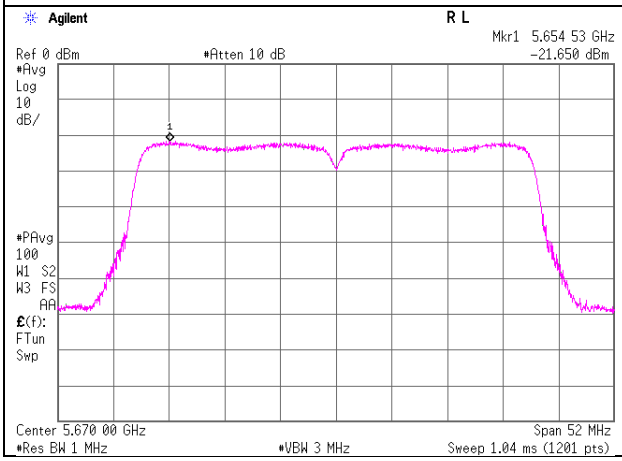
5550 MHz



5795 MHz



5670 MHz

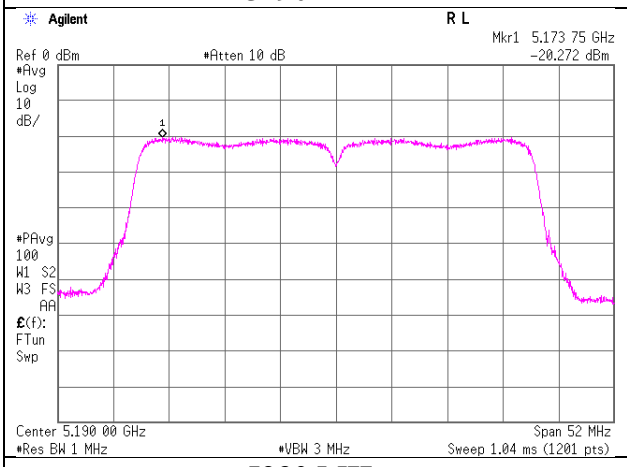


Maximum Power Spectral Density

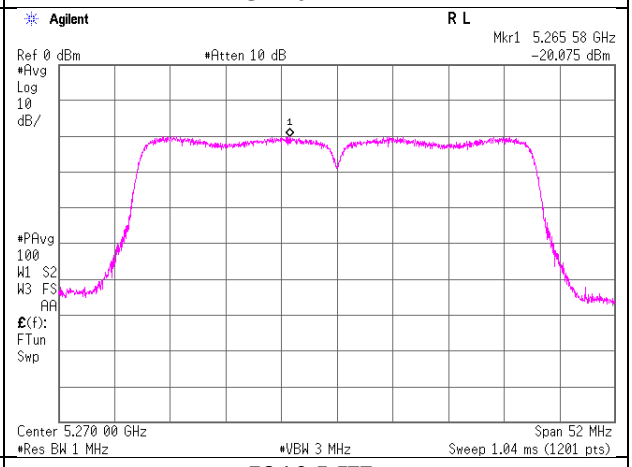
Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	June 11, 2019
Temperature / Humidity	25 deg. C / 47 % RH
Engineer	Takahiro Kawakami
Mode	Tx 11ac-40 CDD

11ac-40 CDD, Antenna B

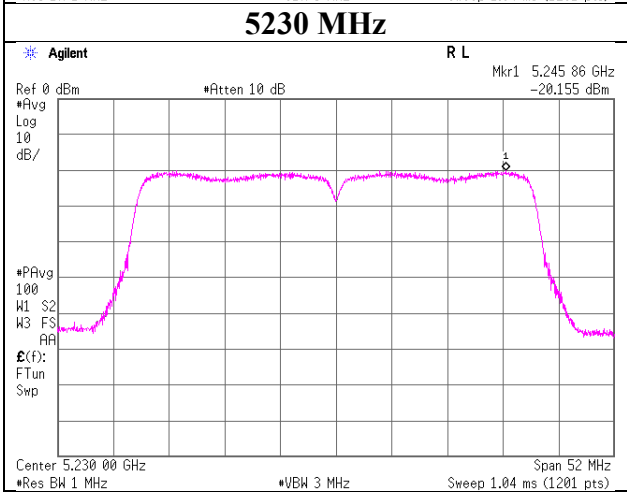
5190 MHz



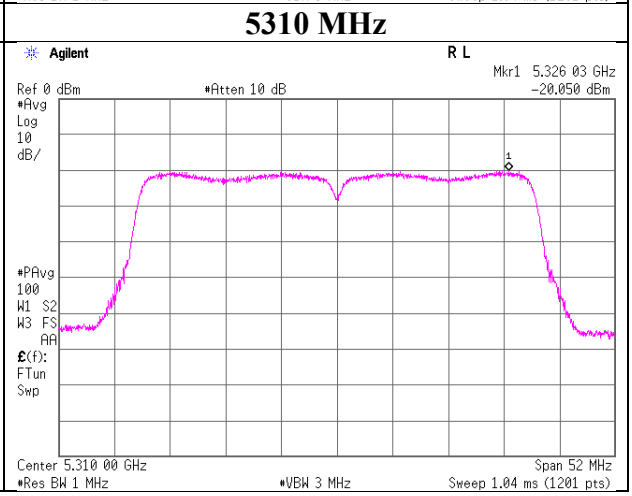
5270 MHz



5230 MHz



5310 MHz

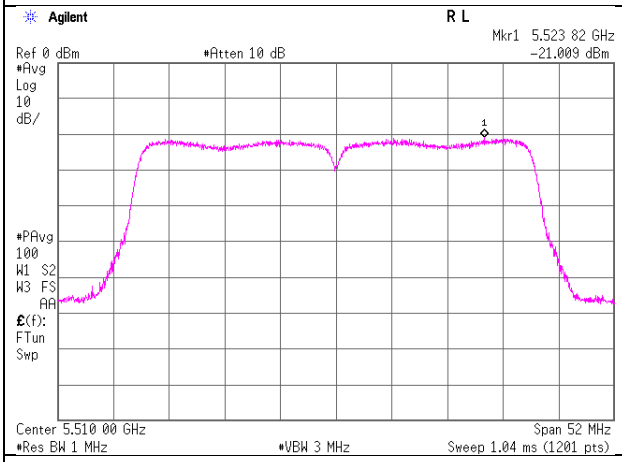


Maximum Power Spectral Density

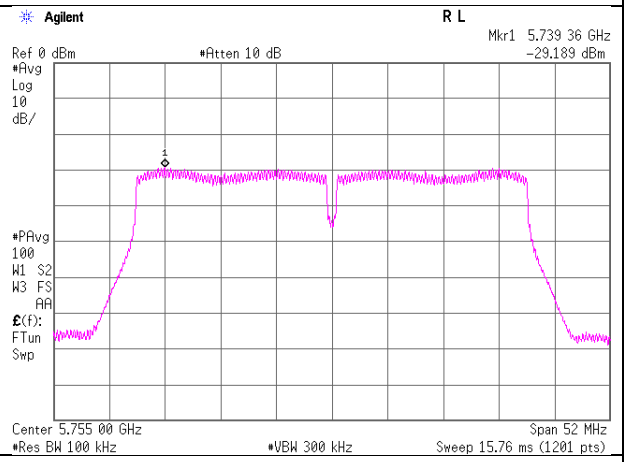
Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	June 11, 2019
Temperature / Humidity	25 deg. C / 47 % RH
Engineer	Takahiro Kawakami
Mode	Tx 11ac-40 CDD

11ac-40 CDD, Antenna B

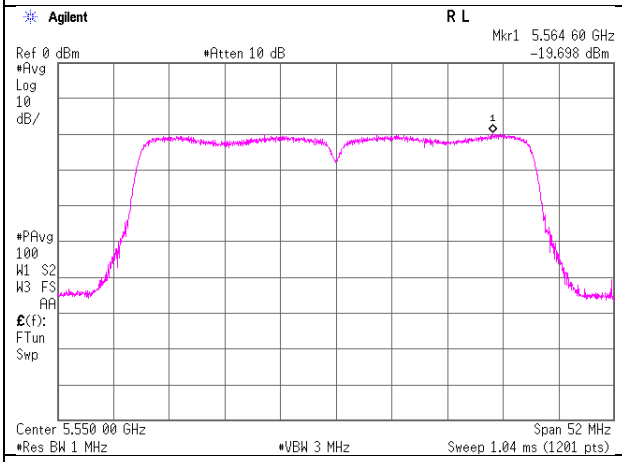
5510 MHz



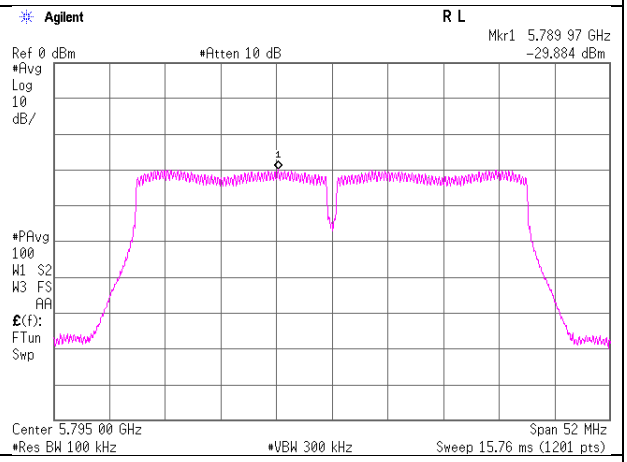
5755 MHz



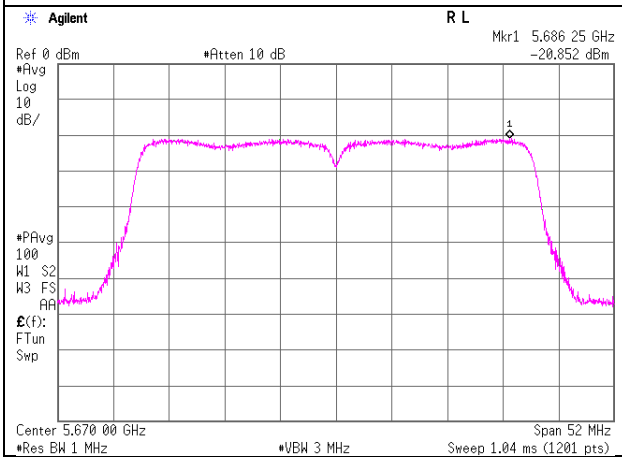
5550 MHz



5795 MHz



5670 MHz

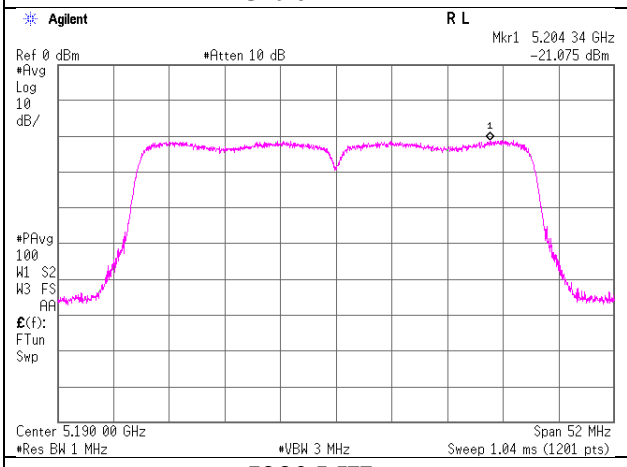


Maximum Power Spectral Density

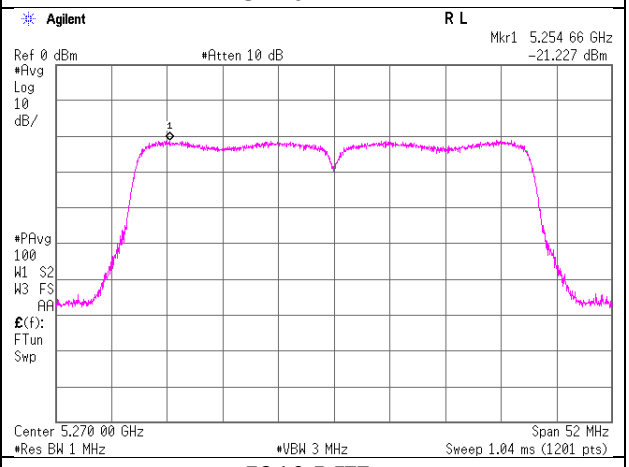
Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	June 11, 2019
Temperature / Humidity	25 deg. C / 47 % RH
Engineer	Takahiro Kawakami
Mode	Tx 11ac-40 MIMO

11ac-40 MIMO, Antenna A

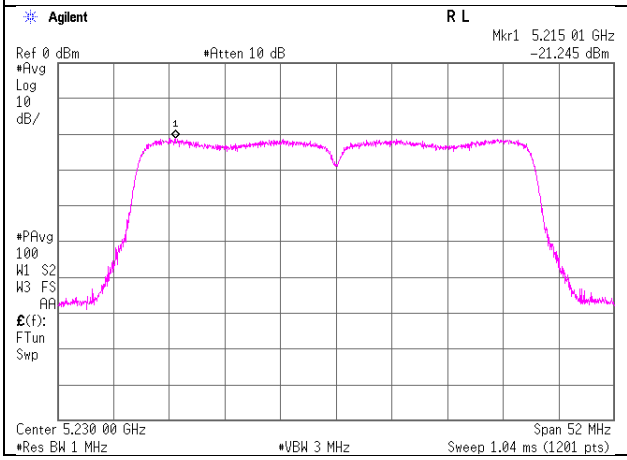
5190 MHz



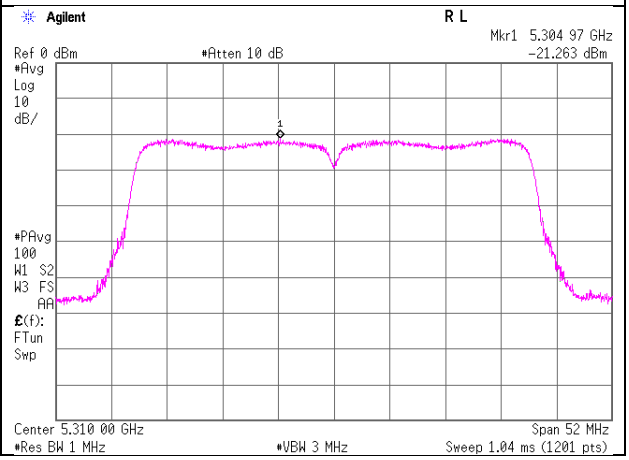
5270 MHz



5230 MHz



5310 MHz

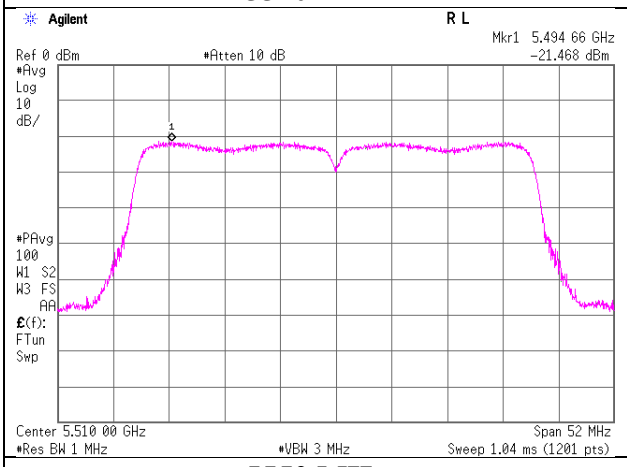


Maximum Power Spectral Density

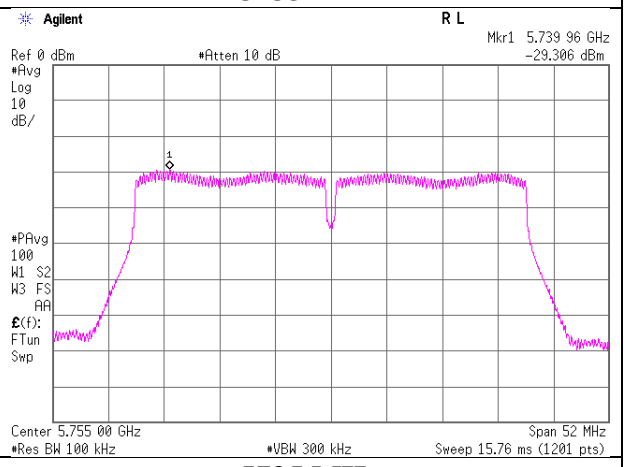
Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	June 11, 2019
Temperature / Humidity	25 deg. C / 47 % RH
Engineer	Takahiro Kawakami
Mode	Tx 11ac-40 MIMO

11ac-40 MIMO, Antenna A

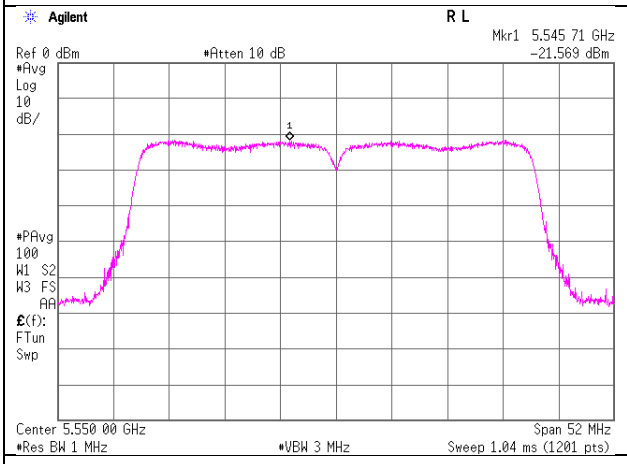
5510 MHz



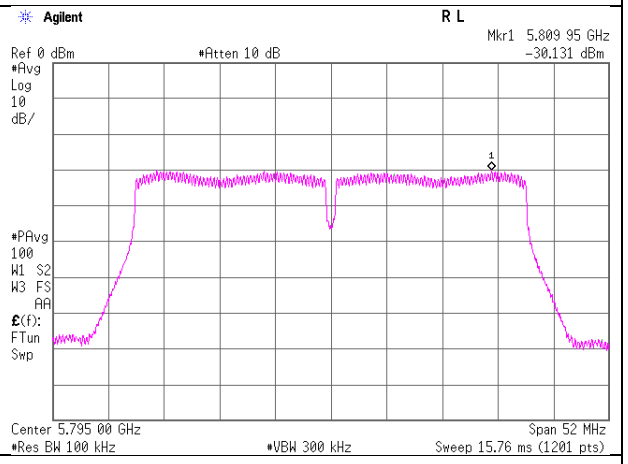
5755 MHz



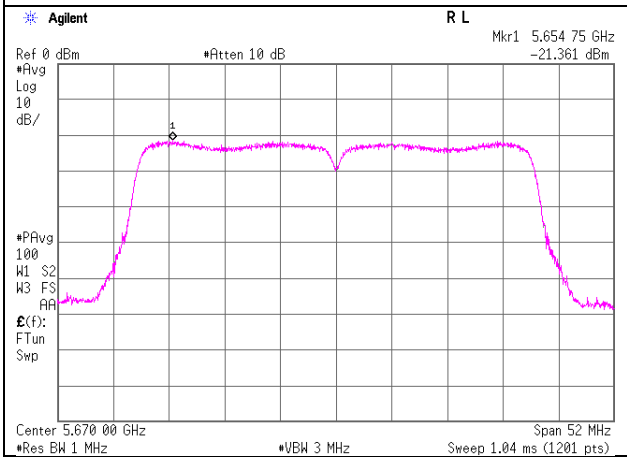
5550 MHz



5795 MHz



5670 MHz

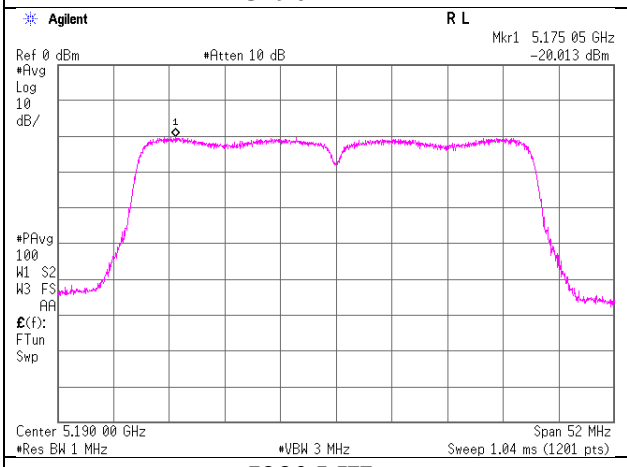


Maximum Power Spectral Density

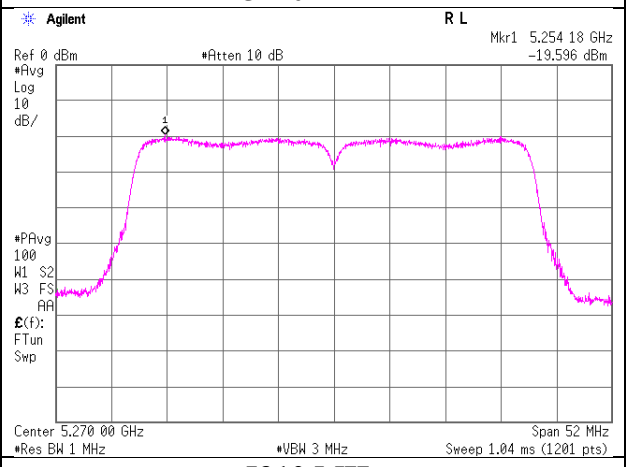
Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	June 11, 2019
Temperature / Humidity	25 deg. C / 47 % RH
Engineer	Takahiro Kawakami
Mode	Tx 11ac-40 MIMO

11ac-40 MIMO, Antenna B

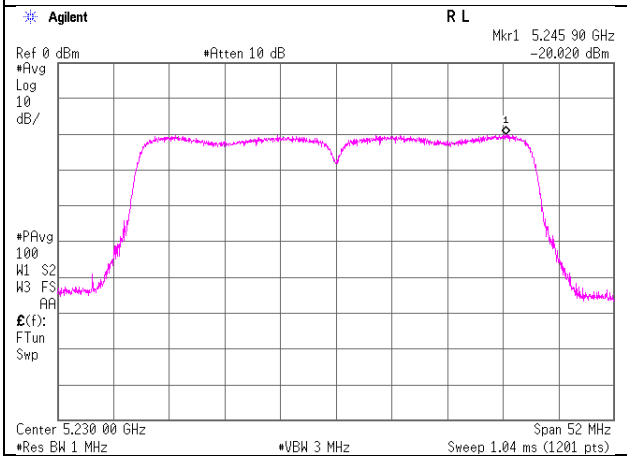
5190 MHz



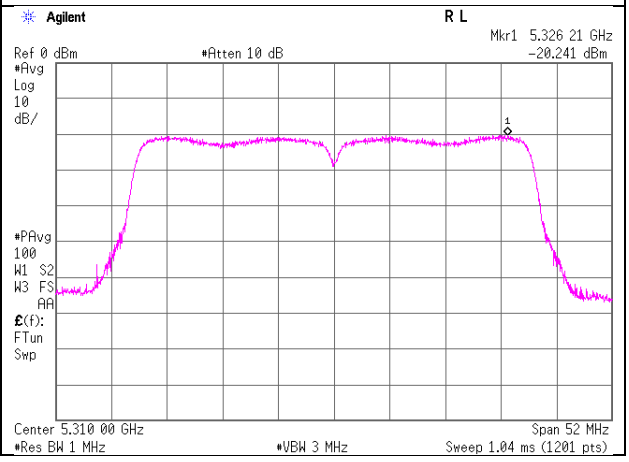
5270 MHz



5230 MHz



5310 MHz

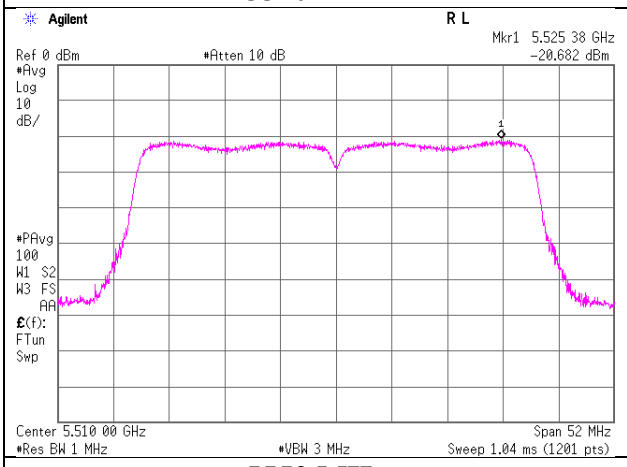


Maximum Power Spectral Density

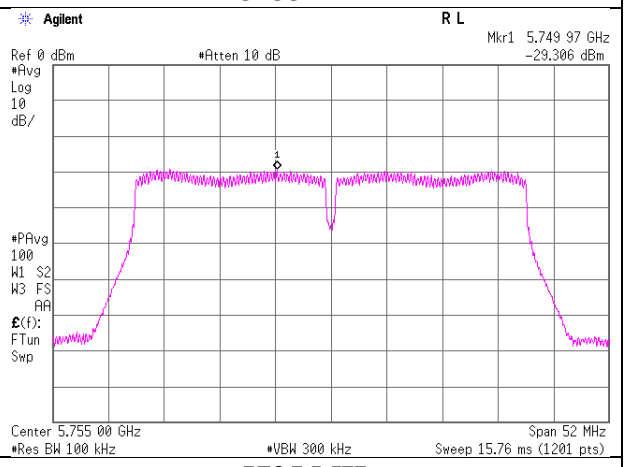
Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	June 11, 2019
Temperature / Humidity	25 deg. C / 47 % RH
Engineer	Takahiro Kawakami
Mode	Tx 11ac-40 MIMO

11ac-40 MIMO, Antenna B

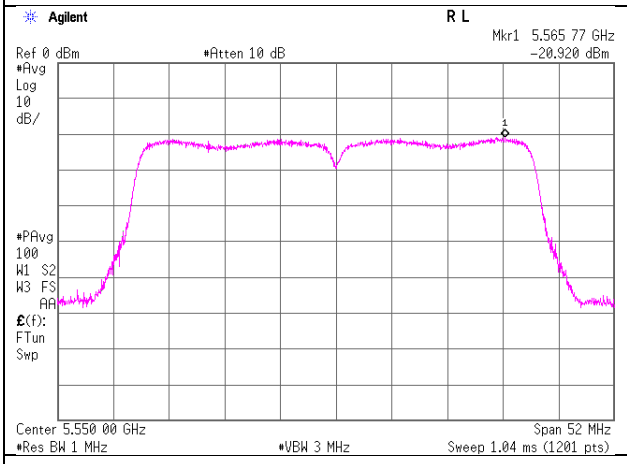
5510 MHz



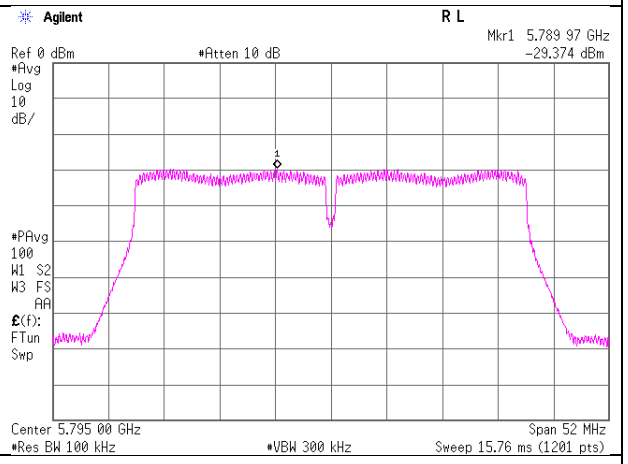
5755 MHz



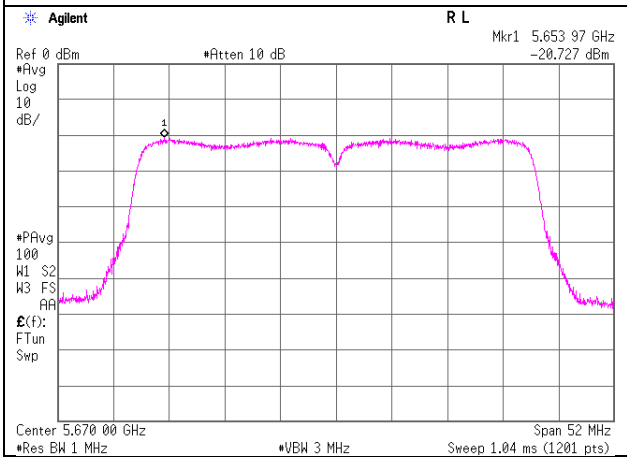
5550 MHz



5795 MHz



5670 MHz

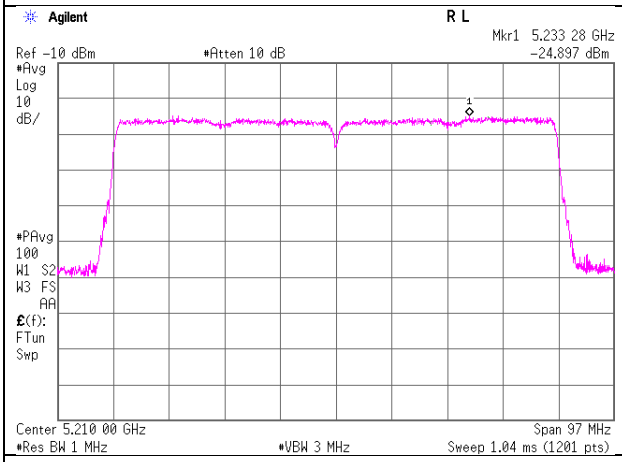


Maximum Power Spectral Density

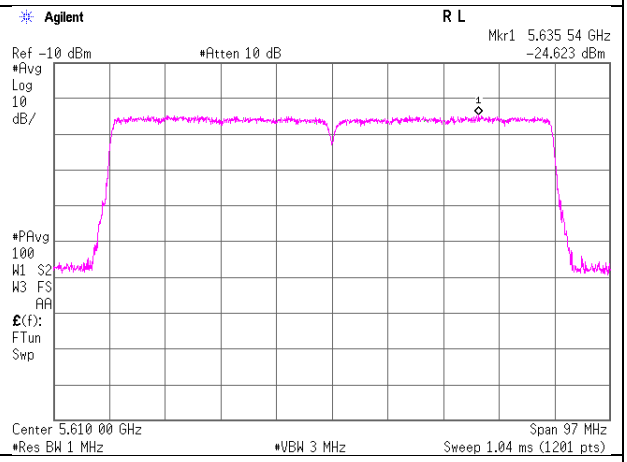
Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	June 12, 2019
Temperature / Humidity	26 deg. C / 45 % RH
Engineer	Takahiro Kawakami
Mode	Tx 11ac-80 CDD

11ac-80 CDD, Antenna A

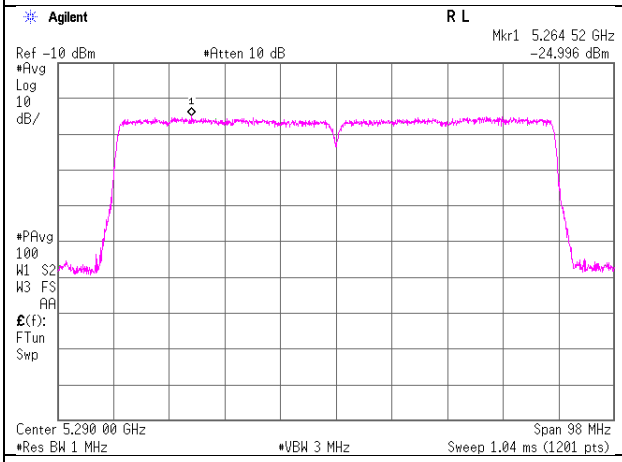
5210 MHz



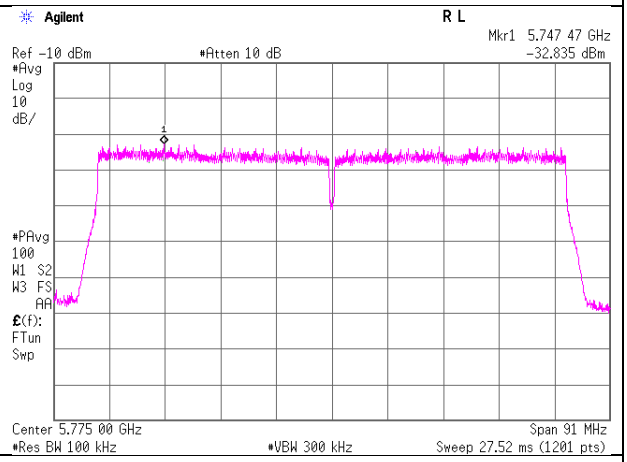
5610 MHz



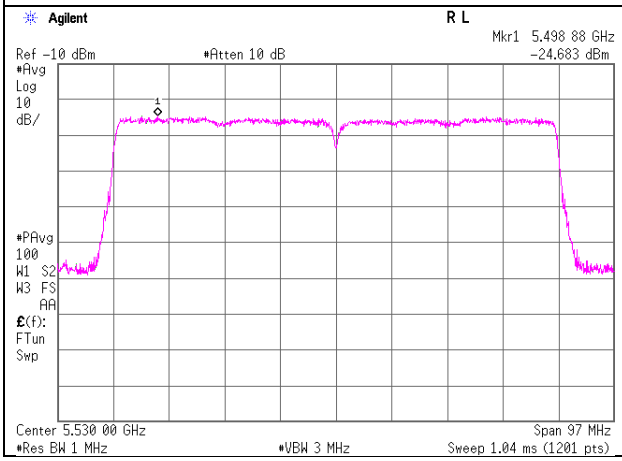
5290 MHz



5775 MHz



5530 MHz

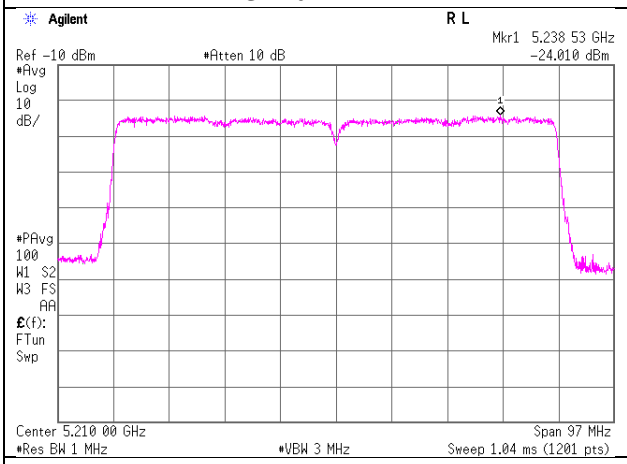


Maximum Power Spectral Density

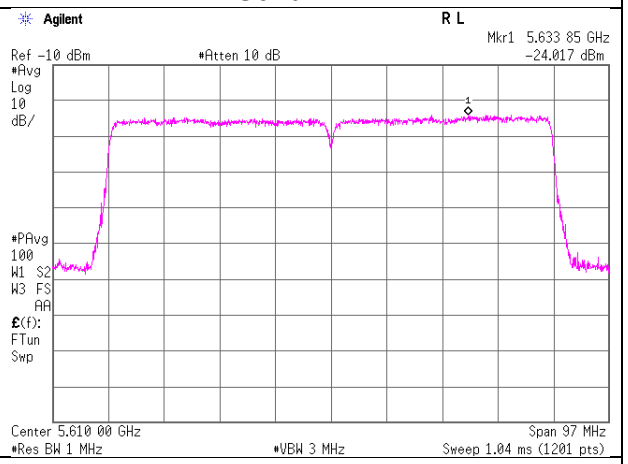
Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	June 12, 2019
Temperature / Humidity	26 deg. C / 45 % RH
Engineer	Takahiro Kawakami
Mode	Tx 11ac-80 CDD

11ac-80, Antenna B

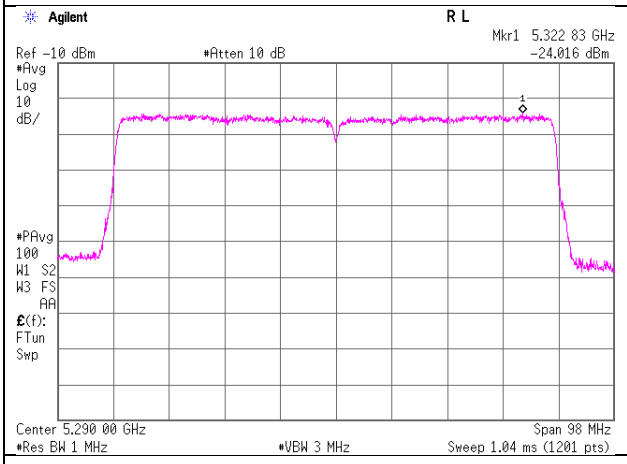
5210 MHz



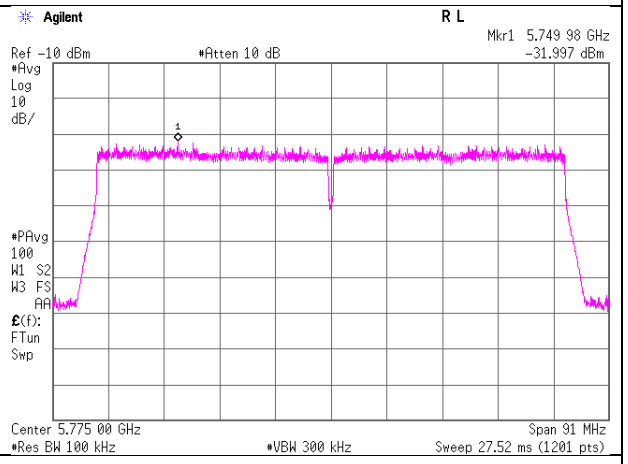
5610 MHz



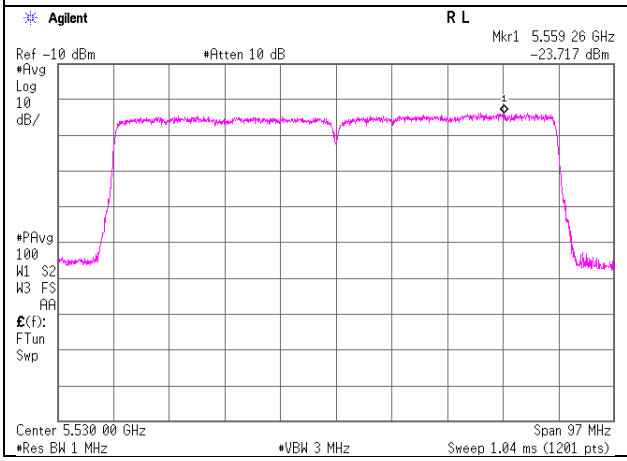
5290 MHz



5775 MHz



5530 MHz

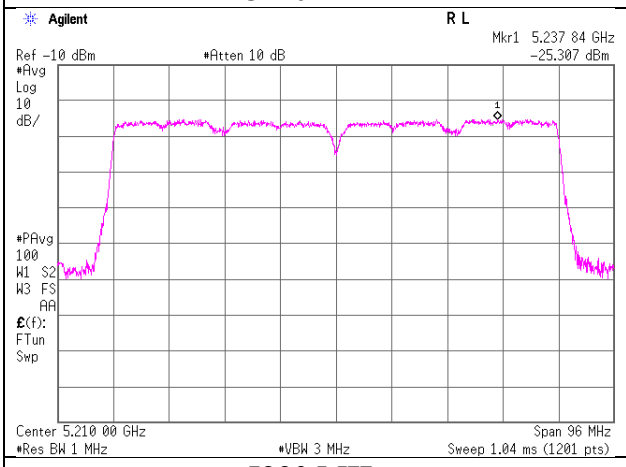


Maximum Power Spectral Density

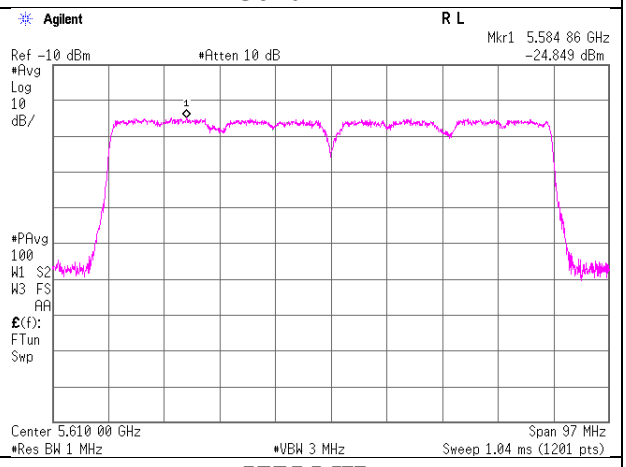
Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	June 12, 2019
Temperature / Humidity	26 deg. C / 45 % RH
Engineer	Takahiro Kawakami
Mode	Tx 11ac-80 MIMO

11ac-80 MIMO, Antenna A

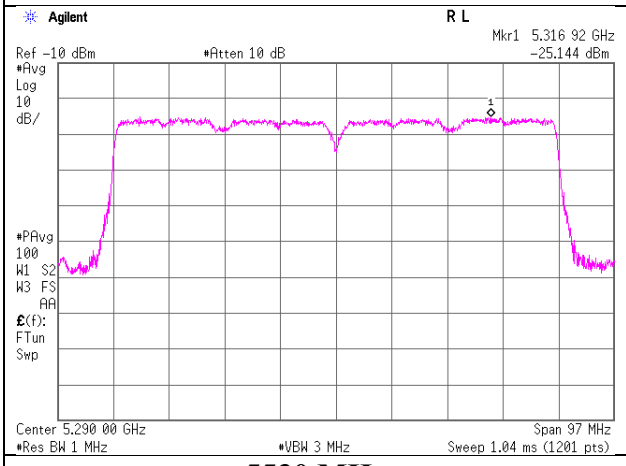
5210 MHz



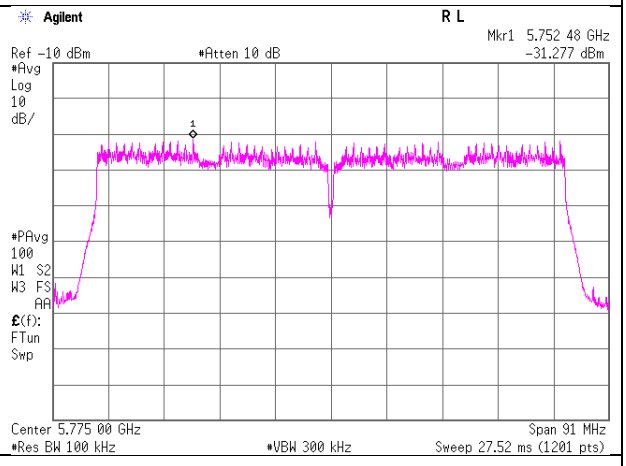
5610 MHz



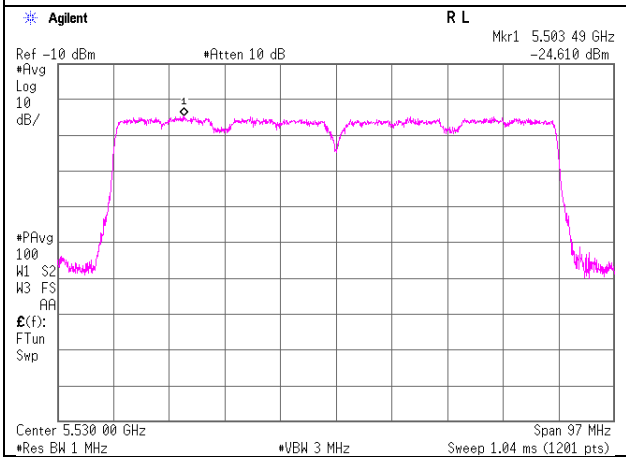
5290 MHz



5775 MHz



5530 MHz

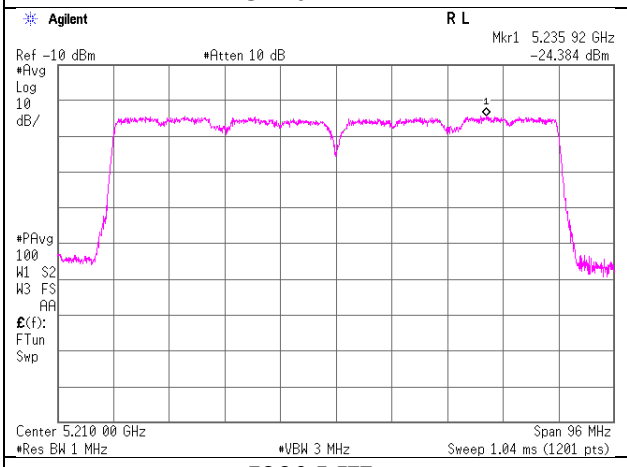


Maximum Power Spectral Density

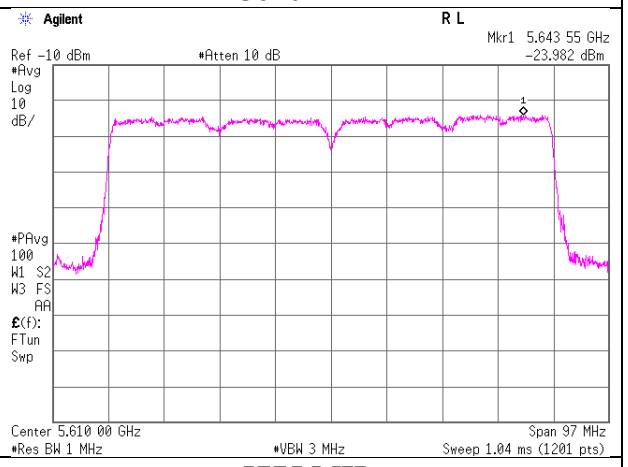
Report No.	12699044S-AM-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	June 12, 2019
Temperature / Humidity	26 deg. C / 45 % RH
Engineer	Takahiro Kawakami
Mode	Tx 11ac-80 MIMO

11ac-80 MIMO, Antenna B

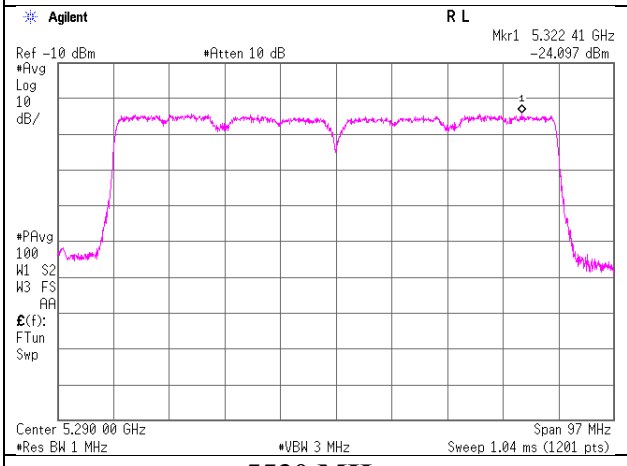
5210 MHz



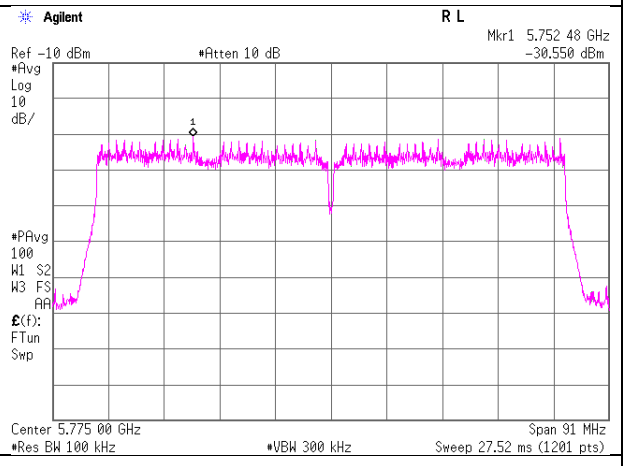
5610 MHz



5290 MHz



5775 MHz



5530 MHz