RADIO TEST REPORT

Test Report No. : 13294722S-C-R3

Applicant	:	**JVC KENWOOD Corporation**
Type of EUT	:	**GPS NAVIGATION SYSTEM**
Model Number of EUT	:	**DNR1007XR**
FCC ID	:	**IOMJ5240**
Test regulation	:	**FCC Part 15 Subpart E: 2020**
Test result	:	**Complied (Refer to SECTION 3.2)**

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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 13294722S-C-R2. 13294722S-C-R2 is replaced with this report.

Date of test: April 1 to 15, 2020

Representative test engineer: T. Kawakami
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Engineer
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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".

REVISION HISTORY

Original Test Report No.: 13294722S-C

Revision	Test report No.	Date	Page revised	Contents
- (Original)	13294722S-C	May 25, 2020	-	-
1	13294722S-C-R1	June 1, 2020	P.6	Correction of "Clock frequency in the system (Maximum)" from: 6.2208 GHz to: 5.0 GHz
2	13294722S-C-R2	June 3, 2020	P.11	Correction of Tested Antenna of Conducted Spurious Emission from: ANT-1 to: ANT-0+ ANT-1
3	13294722S-C-R3	June 8, 2020	P.35	Correction of data from: e.i.r.p. Antenna 0 [mW] / 1 [mW] / Sum [mW] / Result [dBm] / Limit [dBm] / Margin [dB] 2.01 / 2.58 / 4.59 / 6.62 / 36.00 / 29.38 2.13 / 1.98 / 4.11 / 6.14 / 36.00 / 29.86 2.18 / 1.92 / 4.11 / 6.13 / 36.00 / 29.87 1.71 / 1.72 / 3.43 / 5.36 / 36.00 / 30.64 1.73 / 1.64 / 3.36 / 5.27 / 36.00 / 30.73 1.68 / 1.63 / 3.32 / 5.21 / 36.00 / 30.79 1.71 / 1.72 / 3.43 / 5.36 / 36.00 / 30.64 1.73 / 1.64 / 3.36 / 5.27 / 36.00 / 30.73 1.68 / 1.63 / 3.32 / 5.21 / 36.00 / 30.79 1.00 / 1.00 / 2.00 / 3.01 / 36.00 / 32.99 1.68 / 1.63 / 3.32 / 5.21 / 36.00 / 30.79 to: e.i.r.p. Antenna 0 [mW] / 1 [mW] / Sum [mW] / Result [dBm] / Limit [dBm] / Margin [dB] 2.01 / 2.58 / 4.59 / 6.62 / 36.00 / 29.38 2.13 / 1.98 / 4.11 / 6.14 / 36.00 / 29.86 2.18 / 1.92 / 4.11 / 6.13 / 36.00 / 29.87 2.12 / 2.57 / 4.69 / 6.71 / 36.00 / 29.29 2.23 / 2.05 / 4.28 / 6.32 / 36.00 / 29.68 2.25 / 1.99 / 4.24 / 6.27 / 36.00 / 29.73 1.71 / 1.72 / 3.43 / 5.36 / 36.00 / 30.64 1.73 / 1.64 / 3.36 / 5.27 / 36.00 / 30.73 1.54 / 1.72 / 3.26 / 5.13 / 36.00 / 30.87 1.79 / 1.45 / 3.24 / 5.11 / 36.00 / 30.89 1.68 / 1.63 / 3.32 / 5.21 / 36.00 / 30.79

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
ASK	Amplitude Shift Keying
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
D-factor	Distance factor
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
FSK	Frequency Shift Keying
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
N/A	Not Applicable
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

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SECTION 1: Customer information

Company Name	:	JVC KENWOOD Corporation
Address	:	2967-3, Ishikawa-machi, Hachioji, Tokyo 192-8525 Japan
Telephone Number	:	+81-42-646-5525
Facsimile Number	:	+81-42-646-1440
Contact Person	:	Seigo Tsutsumi

The information provided from the customer is as follows;
- Applicant, Type of EUT, Model Number of EUT, FCC IDon 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 (EUT) other than the Receipt Date
- SECTION 4: Operation of EUT 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 (EUT)

2.1 Identification of EUT

Type	:	GPS NAVIGATION SYSTEM
Model Number	:	DNR1007XR
Serial Number	:	Refer to SECTION 4.2
Rating	:	DC 12 V
Receipt Date (Information from test lab.)	:	April 01, 2020
Country of Mass-production	:	Indonesia
Condition	:	Production prototype (Not for Sale: This sample is equivalent to mass-produced items.)
Modification	:	No Modification by the test lab.

2.2 Product Description

Model: DNR1007XR (referred to as the EUT in this report) is a GPS NAVIGATION SYSTEM.

There are three variant models DMX1057XR, DMX1037S, KW-Z1000W.
These models are identical except for the presence of Volume type, Navigation function, SD card, Preout level, and these differences do not affect the radio.

Radio Specification

Type of radio	Bluetooth (BR/EDR)	IEEE802.11b	IEEE802.11g	IEEE802.11a	IEEE802.11n (20 MHz BW)	IEEE802.11n (40 MHz BW)	IEEE802.11ac
Frequency of operation	2402 MHz - 2480 MHz	2412 MHz - 2462 MHz	2412 MHz - 2462 MHz	5745 MHz - 5805 MHz	2412 MHz - 2462 MHz 5745 MHz - 5805 MHz	5755 MHz - 5795 MHz	5745 MHz-5805 MHz (20 MHz BW) 5755 MHz-5795 MHz (40 MHz BW) 5775 MHz (80 MHz BW)
Type of modulation	FHSS	DSSS (CCK, DQPSK, DBPSK)	OFDM-CCK (64QAM, 16QAM, QPSK, BPSK)	OFDM (64QAM, 16QAM, QPSK, BPSK)			OFDM (256QAM, 16QAM, QPSK, BPSK)
Channel spacing	1 MHz	5 MHz		20 MHz	2.4 GHz band 5 MHz 5 GHz band 20 MHz	40 MHz	20 MHz (20 MHz BW) 40 MHz (40 MHz BW) 80 MHz (80 MHz BW)

Antenna type	Internal Antenna (Chip Antenna)
Antenna Gain	Antenna 0 (ANT-0) : -1.6 dBi (2.4 GHz Wireless LAN only), -3.5 dBi (5 GHz) Antenna 1 (ANT-1) : -5.7 dBi (2.4 GHz Bluetooth only), -3.6 dBi (5 GHz),
Power Supply (radio art input)	DC 3.6 V/ 3.3 V/1.8 V
Clock frequency (Maximum)	37.4 MHz
Clock frequency in the system (Maximum)	5.0 GHz

SECTION 3: Test specification, procedures & results

3.1 Test Specification

Test Specification : FCC Part 15 Subpart E
FCC Part 15 final revised on April 1, 2020 and effective June 1, 2020 except 15.258
* The revision does not affect the test result conducted before its effective date.

Title : FCC 47 CFR Part 15 Radio Frequency Device Subpart E
Unlicensed National Information Infrastructure Devices
Section 15.407 General technical requirements

* Also the EUT complies with FCC Part 15 Subpart B.

3.2 Procedures and results

Item	Test Procedure	Specification	Worst margin	Results	Remarks
Conducted Emission	**FCC:** ANSI C63.10-2013	FCC: 15.407 (b) (6) / 15.207	N/A	N/A *1)	-
	ISED: RSS-Gen 8.8	**ISED:** RSS-Gen 8.8			
26 dB Emission Bandwidth	**FCC:** KDB Publication Number 789033	**FCC:** 15.407 (a) (1) (2) (3)	See data	N/A	Conducted
	ISED: -	**ISED:** -			
Maximum Conducted Output Power	**FCC:** KDB Publication Number 789033	**FCC:** 15.407 (a) (1) (2) (3)		Complied a)	Conducted
	ISED: -	**ISED:** 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)		N/A b)	Conducted
	ISED: -	**ISED:** RSS-247 6.2.1.1 6.2.2.1 6.2.3.1 6.2.4.1			
Spurious Emission Restricted Band Edge	**FCC:** ANSI C63.10-2013 KDB Publication Number 789033	**FCC:** 15.407 (b), 15.205 and 15.209	3.7 dB 11590.000 MHz, AV, Hori. Mode: Tx 11n-40 (SISO) 5795 MHz	Complied# c) / d)	Conducted (< 30 MHz) / Radiated (> 30 MHz) *2)
	ISED: -	**ISED:** 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 e)	Conducted
	ISED: -	**ISED:** RSS-247 6.2.4.1			

Note: UL Japan, Inc.'s EMI Work Procedures No. 13-EM-W0420 and 13-EM-W0422.
*1) The test is not applicable since the EUT does not have AC Mains.
*2) Radiated test was selected over 30 MHz based on FCC 15.407 (b) and KDB 789033 D02 G.3.b).

a) Refer to APPENDIX 1 (data of Maximum Conducted Output Power)
b) Refer to APPENDIX 1 (data of Maximum Power Spectral Density)
c) Refer to APPENDIX 1 (data of Radiated Spurious Emission)
d) Refer to APPENDIX 1 (data of Conducted Spurious Emission)
e) 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 EUT provides stable voltage constantly to the wireless transmitter regardless of input voltage.
Instead of a new battery, DC power supply was used for the test. That does not affect the test result, therefore the EUT complies with the requirement.

FCC Part 15.203 Antenna requirement

It is impossible for end users to replace the antenna, because the antenna is mounted inside of the EUT. Therefore, the equipment complies with the antenna requirement of Section 15.203.

3.3 Addition to standard

Item	Test Procedure	Specification	Worst margin	Results	Remarks
99 % Occupied Band Width	**ISED:** RSS-Gen 6.7	**ISED:** -	N/A	- f)	Conducted
f) Refer to APPENDIX 1 (data of 99 % Occupied Bandwidth)					

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

3.4 Uncertainty

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. 4,5,6,8 SR
Conducted emission (AC Mains) LISN	150 kHz-30 MHz	2.6 dB	2.6 dB	2.5 dB	2.6 dB
Radiated emission (Measurement distance: 3 m)	9 kHz-30 MHz	3.0 dB	3.0 dB	3.0 dB	-
	30 MHz-200 MHz	4.6 dB	4.6 dB	4.6 dB	-
	200 MHz-1 GHz	6.0 dB	6.0 dB	6.0 dB	-
	1 GHz-6 GHz	4.9 dB	4.9 dB	4.9 dB	-
	6 GHz-18 GHz	5.5 dB	5.5 dB	5.5 dB	-
	18 GHz-40 GHz	5.4 dB	5.4 dB	5.4 dB	-
Radiated emission (Measurement distance: 1 m)	1 GHz-18 GHz	5.8 dB	5.8 dB	5.8 dB	-
	18 GHz-40 GHz	5.7 dB	5.7 dB	5.7 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	0.98 dB
Power Measurement above 1 GHz (Peak Detector)_SPM-06	1.75 dB
Power Measurement above 1 GHz (Average Detector)_SPM-07	0.89 dB
Power Measurement above 1 GHz (Peak Detector)_SPM-07	1.12 dB
Power Measurement above 1 GHz (Average Detector)_SPM-13	1.06 dB
Power Measurement above 1 GHz (Peak Detector)_SPM-13	1.24 dB
Spurious emission (Conducted) below 1GHz	0.9 dB
Spurious emission (Conducted) 1 GHz-3 GHz	0.9 dB
Spurious emission (Conducted) 3 GHz-18 GHz	2.9 dB
Spurious emission (Conducted) 18 GHz-26.5 GHz	2.6 dB
Spurious emission (Conducted) 26.5 GHz-40 GHz	2.0 dB
Bandwidth Measurement	0.07 %
Duty cycle and Time Measurement	0.262 %

3.5 Test Location

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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 EUT 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.

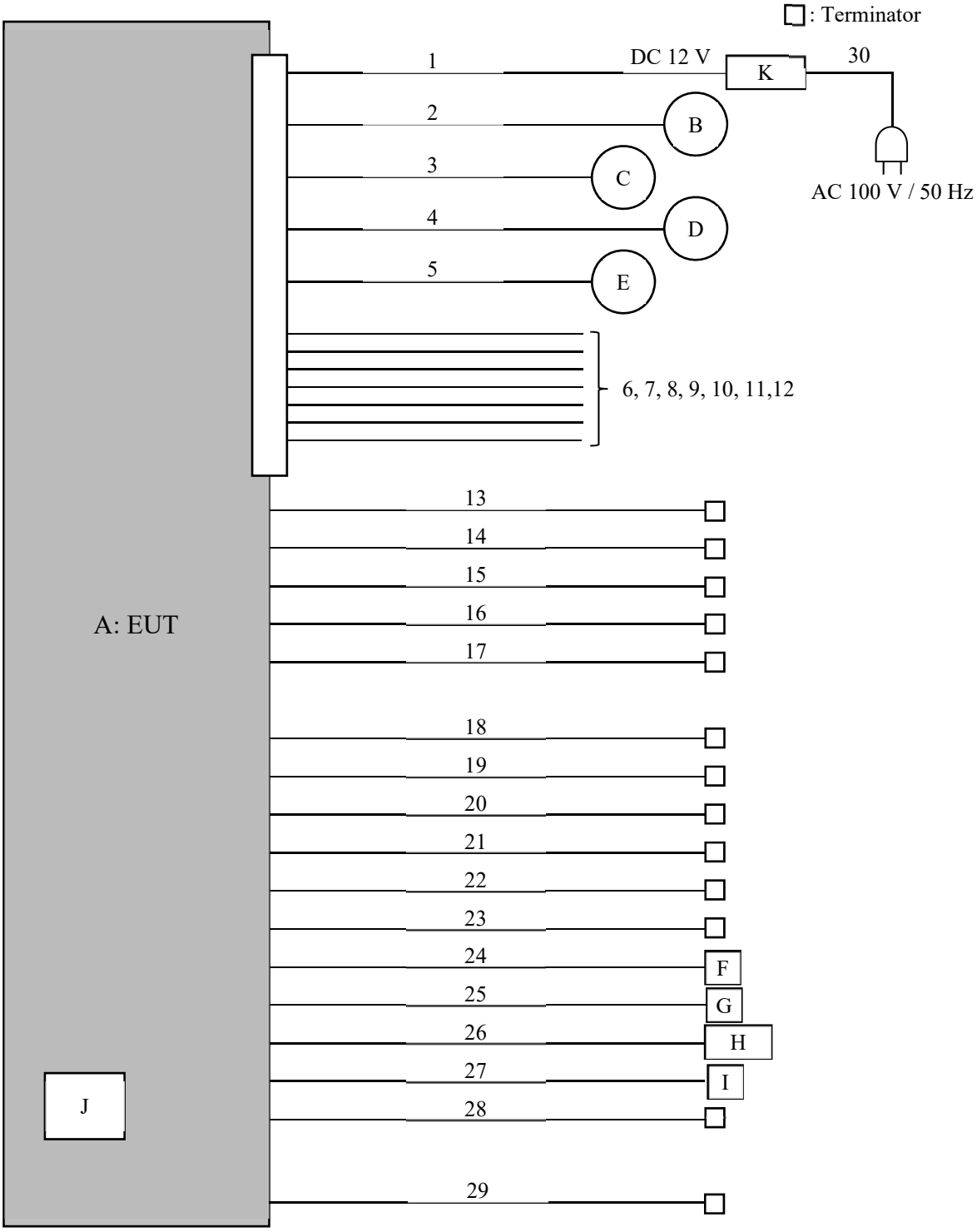
Mode	Worst Data mode*
Transmitting (Tx), IEEE 802.11a (11a)	48 Mbps (ANT-0), PN9
Transmitting (Tx), IEEE 802.11n SISO 20 MHz BW (11n-20)	MCS 5 (ANT-0), PN9
Transmitting (Tx), IEEE 802.11ac SISO 20 MHz BW (11ac-20)	MCS 5 (ANT-0), PN9
Transmitting (Tx), IEEE 802.11n MIMO 20 MHz BW (11n-20)	MCS 0 (2 Streams), PN9
Transmitting (Tx), IEEE 802.11ac MIMO 20 MHz BW (11ac-20)	MCS 6 (2 Streams), PN9
Transmitting (Tx), IEEE 802.11n SISO 40 MHz BW (11n-40)	MCS 6 (ANT-1), PN9
Transmitting (Tx), IEEE 802.11ac SISO 40 MHz BW (11ac-40)	MCS 5 (ANT-1), PN9
Transmitting (Tx), IEEE 802.11n MIMO 40 MHz BW (11n-40)	MCS 4 (2 Streams), PN9
Transmitting (Tx), IEEE 802.11ac MIMO 40 MHz BW (11ac-40)	MCS 0 (2 Streams), PN9
Transmitting (Tx), IEEE 802.11ac SISO 80 MHz BW (11ac-80)	MCS 1 (ANT-1), PN9
Transmitting (Tx), IEEE 802.11ac MIMO 80 MHz BW (11ac-80)	MCS 1 (2 Streams), PN9
*The worst antenna (ANT-1) and 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: Fixed Software: Syscom : 0.1.0403.1000 Panel CPU : 1.0.0209.3100 SoC : 0.0.2303.1000 (Date: 2020.4.1, Storage location: EUT memory) *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 *2)	Tested Frequency
99 % Occupied Bandwidth, Maximum Conducted Output Power 6 dB Bandwidth, Maximum Power Spectral Density Radiated Spurious Emission (Above 1 GHz)	Tx 11a Tx 11n-20 (SISO) Tx 11ac-20 (SISO)	ANT-0	5745 MHz 5785 MHz 5805 MHz
	Tx 11n-20 (MIMO) Tx 11ac-20 (MIMO)	ANT-0+ ANT-1	
	Tx 11n-40 (SISO) Tx 11ac-40 (SISO)	ANT-1	5755 MHz 5795 MHz
	Tx 11n-40 (MIMO) Tx 11ac-40 (MIMO)	ANT-0+ ANT-1	
	Tx 11ac-80 (SISO)	ANT-1	5775 MHz
	Tx 11ac-80 (MIMO)	ANT-0+ ANT-1	
Radiated Spurious Emission (Above 1 GHz)	Tx 11a with 3DH5 Hopping Tx 11n-20 (SISO) with 3DH5 Hopping Tx 11ac-20 (SISO) with 3DH5 Hopping	ANT-1	5745 MHz 5805 MHz
	Tx 11n-20 (MIMO) with 3DH5 Hopping Tx 11ac-20 (MIMO) with 3DH5 Hopping	ANT-0+ ANT-1	
	Tx 11n-40 (SISO) with 3DH5 Hopping Tx 11ac-40 (SISO) with 3DH5 Hopping	ANT-1	5755 MHz 5795 MHz
	Tx 11n-40 (MIMO) with 3DH5 Hopping Tx 11ac-40 (MIMO) with 3DH5 Hopping	ANT-0+ ANT-1	
	Tx 11ac-80 (SISO) with 3DH5 Hopping	ANT-1	5775 MHz
	Tx 11ac-80 (MIMO) with 3DH5 Hopping	ANT-0+ ANT-1	
Radiated Spurious Emission (Below 1 GHz) *1)	Tx 11ac-20 (MIMO) Tx 11ac-20 (MIMO) with 3DH5 Hopping	ANT-0+ ANT-1	5745 MHz
Conducted Spurious Emission *1)	Tx 11ac-20 (MIMO)	ANT-0+ ANT-1	5745 MHz

*1) The mode was tested as a representative, because it had the highest power at antenna terminal test.
*2) The test was performed with the antenna that had higher power as a representative.

4.2 Configuration and peripherals



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

Description of EUT and Support equipment

No.	Item	Model number	Serial number	Manufacturer	Remarks
A	GPS NAVIGATION SYSTEM	DNR1007XR	PK-X0035 *1) PK-X0020 *2)	JVCKENWOOD	EUT
B	Speaker Dummy	-	-	-	-
C	Speaker Dummy	-	-	-	-
D	Speaker Dummy	-	-	-	-
E	Speaker Dummy	-	-	-	-
F	GPS ANTENNA	T9A-0070-00	-	JVCKENWOOD	-
G	USB Memory	JetFlash 128MB	-	Transcend	-
H	Microphone	T9B-0066-00	-	JVCKENWOOD	-
I	iPhone 7	A1779	F71WF850HG81	Apple Inc.	-
J	MicroSDHC Card	4GB	-	TDK	-
K	DC Power Supply	PAN35-10A	DE001677	KIKUSUI	-

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

List of cables used

No.	Name	Length (m)	Shield		Remarks
			Cable	Connector	
1	DC (ACC, B+, GND)	1.5 + 1.5	Unshielded	Unshielded	-
2	Speaker (Front-L) +/-	1.5	Unshielded	Unshielded	-
3	Speaker (Front-R) +/-	1.5	Unshielded	Unshielded	-
4	Speaker (Rear-L) +/-	1.5	Unshielded	Unshielded	-
5	Speaker (Rear-R) +/-	1.5	Unshielded	Unshielded	-
6	ANT. CONT	0.1 + 1.0	Unshielded	Unshielded	-
7	ILLUMI	0.1 + 1.0	Unshielded	Unshielded	-
8	P-CONT	0.1 + 1.0	Unshielded	Unshielded	-
9	REMOTE CONT	0.1 + 1.0	Unshielded	Unshielded	-
10	MUTE	0.1 + 1.0	Unshielded	Unshielded	-
11	REVERSE	5.5	Unshielded	Unshielded	-
12	PRK SW	2.0	Unshielded	Unshielded	-
13	VIDEO IN	0.2 + 1.5	Shielded	Shielded	-
14	VIDEO OUT	0.2 + 1.8	Shielded	Shielded	-
15	FRONT View CAM/DASH CAM	0.1 + 1.0	Shielded	Shielded	-
16	REAR VIEW CAMERA	0.1 + 1.0	Shielded	Shielded	-
17	3rd VIEW CAMERA	0.1 + 1.0	Shielded	Shielded	-
18	Front Preout	1.0	Shielded	Shielded	-
19	Rear Preout	1.0	Shielded	Shielded	-
20	Subwoofer Preout	1.2	Shielded	Shielded	-
21	AV OUT(Audio)	1.5	Shielded	Shielded	-
22	AV IN(Audio)	1.5	Shielded	Shielded	-
23	FM/AM ANT	0.1 + 2.0	Shielded	Shielded	-
24	GPS	3.5	Shielded	Shielded	-
25	USB	0.2 + 1.0	Shielded	Shielded	-
26	MIC	3.0	Shielded	Shielded	-
27	HDMI / Lightning	1.0 + 0.1	Shielded	Shielded	-
28	EXT I/F	1.0	Shielded	Shielded	-
29	iDATA I/F	1.0	Shielded	Shielded	-
30	AC	2.0	Unshielded	Unshielded	-

SECTION 5: Radiated Spurious Emission and Band Edge Compliance

Test Procedure

< Below 1GHz >
EUT was placed on a urethane platform of nominal size, 1.0 m by 2.0 m, raised 0.8 m above the conducting ground plane.
The Radiated Electric Field Strength has been measured in a Semi Anechoic Chamber with a ground plane.

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

The height of the measuring antenna varied between 1 m and 4 m and EUT was rotated a full revolution in order to obtain the maximum value of the electric field strength.
Test antenna was aimed at the EUT for receiving the maximum signal and always kept within the illumination area of the 3 dB beamwidth of the antenna.
The measurements were performed for both vertical and horizontal antenna polarization with the Test Receiver, or the Spectrum Analyzer.
The measurements were made with the following detector function of the test receiver and the Spectrum analyzer (in linear mode).
The test was made with the detector (RBW/VBW) in the following table.
When using Spectrum analyzer, the test was made with adjusting span to zero by using peak hold.

< Below 1GHz >

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

< Above 1GHz >

Inside of restricted bands (Section 15.205):

Apply to limit in the Section 15.209 (a).

Outside of the restricted bands:

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

For U-NII-3 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:

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

Test Antennas are used as below;

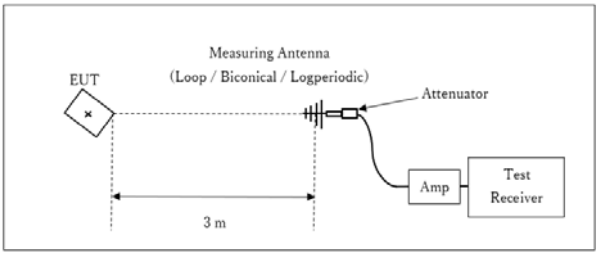
Frequency	30 MHz to 200 MHz	200 MHz to 1 GHz	Above 1 GHz
Antenna Type	Biconical	Logperiodic	Horn

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: Max Hold

*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

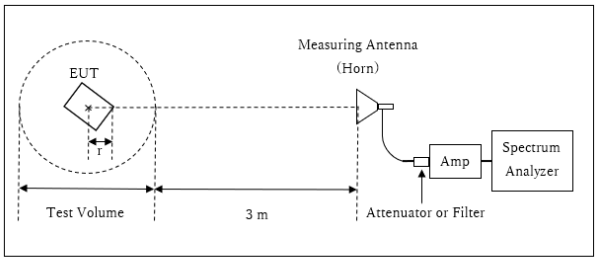
Below 1 GHz



× : Center of turn table

Test Distance: 3 m

1 GHz - 13 GHz

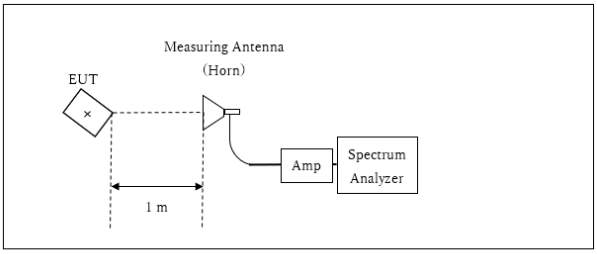


r : Radius of an outer periphery of EUT
× : Center of turn table

Distance Factor: 20 x log (3.85 m / 3.0 m) = 2.17 dB
* Test Distance: (3 + Test Volume /2) - r = 3.85 m

Test Volume : 2.0 m
(Test Volume has been calibrated based on CISPR 16-1-4.)
r = 0.15 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 0 deg. and 30 deg. 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 (30 MHz - 1 GHz)	Spurious (1 GHz – 2.8 GHz)	Spurious (2.8 GHz – 13 GHz)	Spurious (13 GHz – 18 GHz)	Spurious (18 GHz – 26.5 GHz)	Spurious (26.5 GHz – 40 GHz)
Horizontal	0 deg.	SISO 30 deg. MIMO 0deg.	0 deg.	30 deg.	0 deg.	0 deg.	0 deg.
Vertical	0 deg.	SISO 30 deg. MIMO 0deg.	0 deg.	30 deg.	0 deg.	0 deg.	0 deg.

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

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

SECTION 6: Antenna Terminal Conducted Tests

Test Procedure

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

Test	Span	RBW	VBW	Sweep time	Detector	Trace	Instrument used and Test method
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	100 kHz *2)	≥ 3 RBW	Auto	RMS Power Averaging (100 times)	Clear Write	Spectrum Analyzer
Conducted Spurious Emission*3) *4)	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)
*4) The limits in CFR 47, Part 15, Subpart C, paragraph 15.209(a), are identical to those in RSS-Gen section 8.9, Table 6, since the measurements are performed in terms of magnetic field strength and converted to electric field strength levels (as reported in the table) using the free space impedance of 377 Ohmes. For example, the measurement at frequency 9 kHz resulted in a level of 45.5 dBuV/m, which is equivalent to 45.5 – 51.5 = -6.0 dBuA/m, which has the same margin, 3 dB, to the corresponding RSS-Gen Table 6 limit as it has to 15.209(a) limit.

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

99 % Occupied Bandwidth

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	April 9, 2020
Temperature / Humidity	22 deg. C / 41 % RH
Engineer	Takahiro Kawakami
Mode	Tx

11a

Antenna	Tested Frequency [MHz]	99 % Occupied Bandwidth [kHz]	Limit [MHz]
Ant 0	5745	17384.0	-
	5785	17372.3	-
	5805	17202.8	-

11n-20 (SISO)

Antenna	Tested Frequency [MHz]	99 % Occupied Bandwidth [kHz]	Limit [MHz]
Ant 0	5745	18337.2	-
	5785	18371.1	-
	5805	18346.2	-

11ac-20 (SISO)

Antenna	Tested Frequency [MHz]	99 % Occupied Bandwidth [kHz]	Limit [MHz]
Ant 0	5745	18251.0	-
	5785	18241.6	-
	5805	18324.9	-

11n-40 (SISO)

Antenna	Tested Frequency [MHz]	99 % Occupied Bandwidth [kHz]	Limit [MHz]
Ant 1	5755	36601.0	-
	5795	36625.9	-

11ac-40 (SISO)

Antenna	Tested Frequency [MHz]	99 % Occupied Bandwidth [kHz]	Limit [MHz]
Ant 1	5755	36564.5	-
	5795	36611.9	-

11ac-80 (SISO)

Antenna	Tested Frequency [MHz]	99 % Occupied Bandwidth [kHz]	Limit [MHz]
Ant 1	5775	76288.1	-

99 % Occupied Bandwidth

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	April 10, 2020
Temperature / Humidity	23 deg. C / 40 % RH
Engineer	Shiro Kobayashi
Mode	Tx

11n-20 (MIMO)

Antenna	Tested Frequency [MHz]	99 % Occupied Bandwidth [kHz]	Limit [MHz]
Ant 1	5745	18248.5	-
	5785	18376.6	-
	5805	18267.4	-

11ac-20 (MIMO)

Antenna	Tested Frequency [MHz]	99 % Occupied Bandwidth [kHz]	Limit [MHz]
Ant 1	5745	18392.7	-
	5785	18292.4	-
	5805	18276.2	-

11n-40 (MIMO)

Antenna	Tested Frequency [MHz]	99 % Occupied Bandwidth [kHz]	Limit [MHz]
Ant 1	5755	36530.9	-
	5795	36565.8	-

11ac-40 (MIMO)

Antenna	Tested Frequency [MHz]	99 % Occupied Bandwidth [kHz]	Limit [MHz]
Ant 0	5755	36704.3	-
	5795	36644.0	-

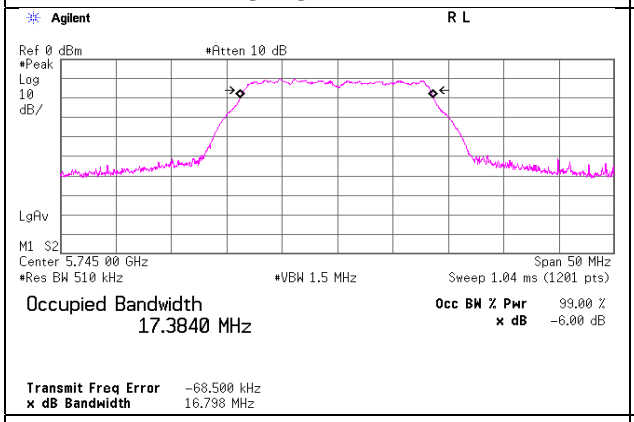
11ac-80 (MIMO)

Antenna	Tested Frequency [MHz]	99 % Occupied Bandwidth [kHz]	Limit [MHz]
Ant 0	5775	76261.9	-

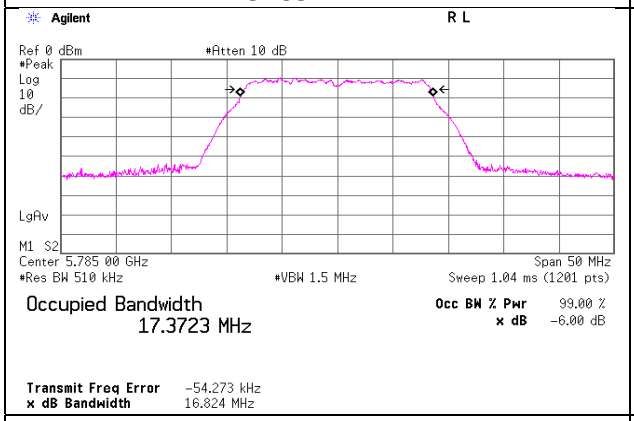
99 % Occupied Bandwidth

11a, Ant 0

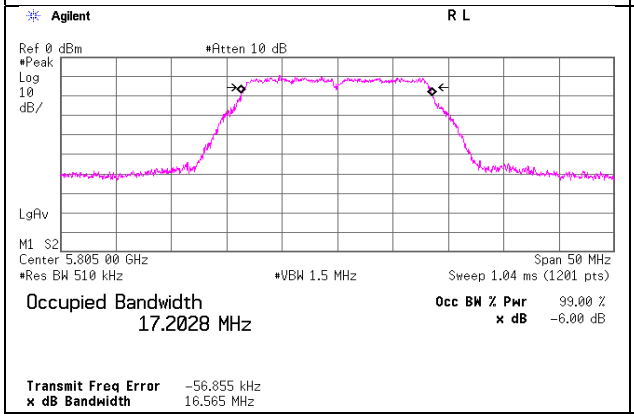
5745 MHz



5785 MHz

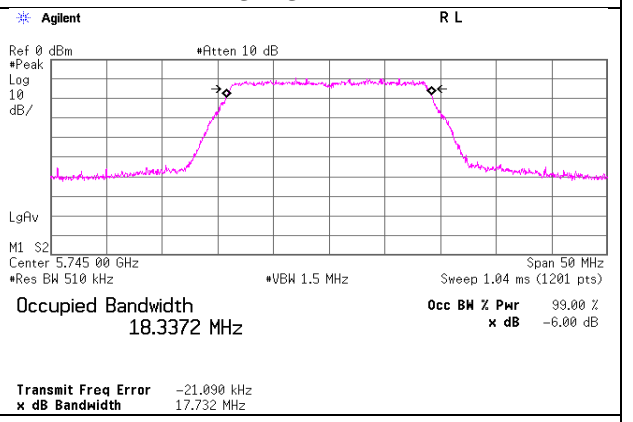


5805 MHz

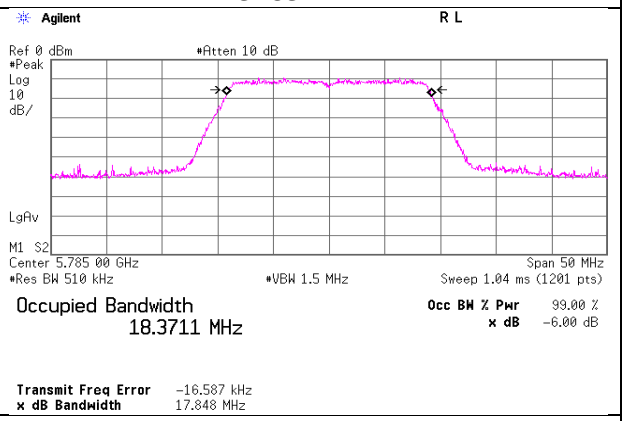


11n-20 (SISO), Ant 0

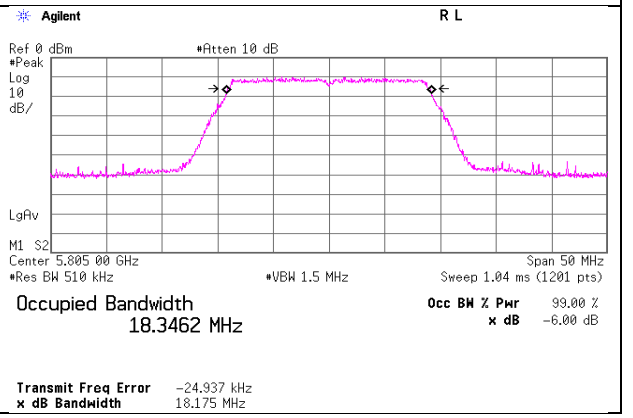
5745 MHz



5785 MHz



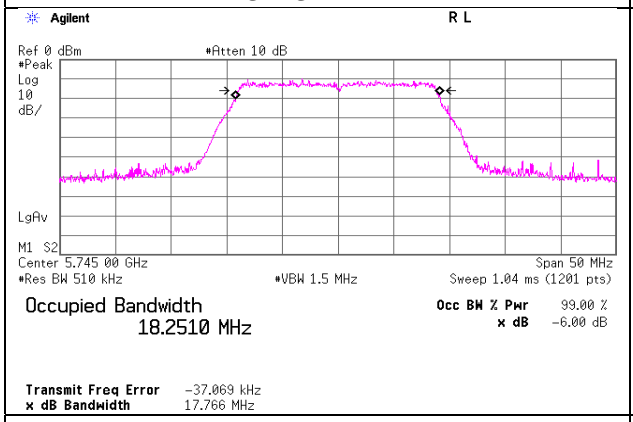
5805 MHz



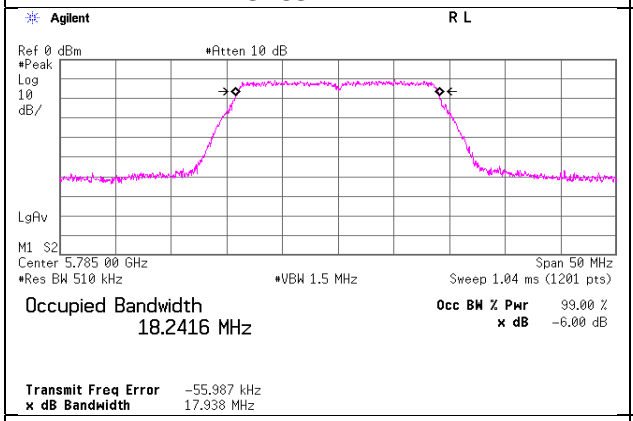
99 % Occupied Bandwidth

11ac-20 (SISO), Ant 0

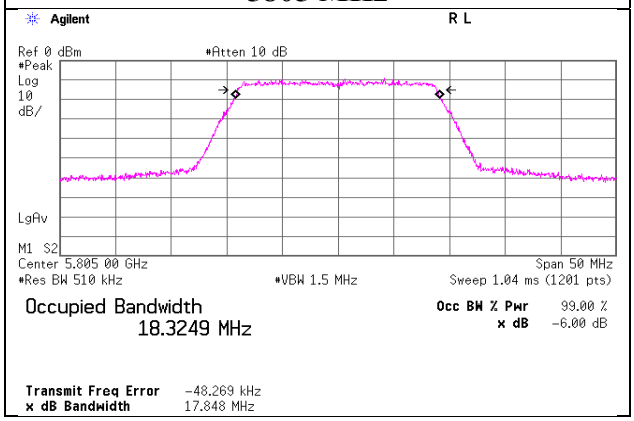
5745 MHz



5785 MHz

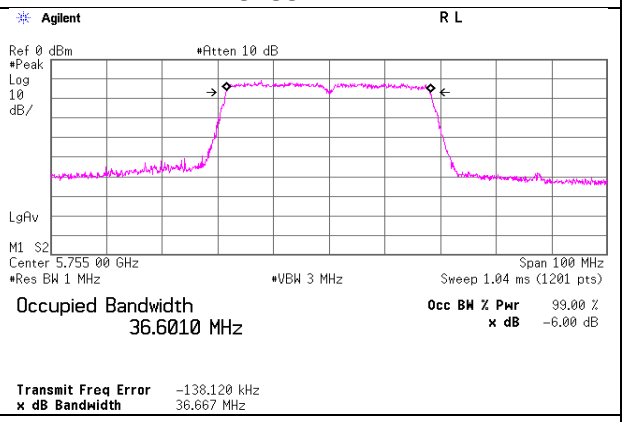


5805 MHz

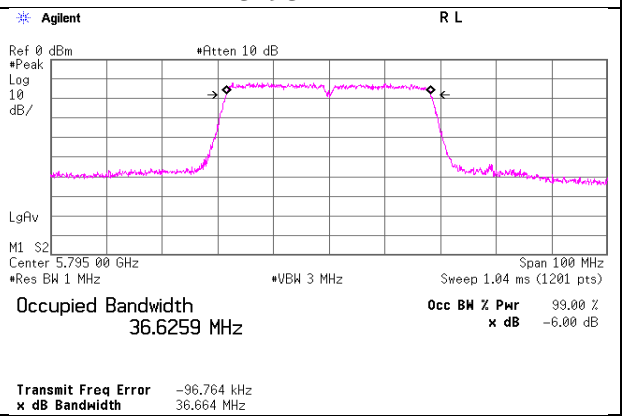


11n-40 (SISO), Ant 1

5755 MHz



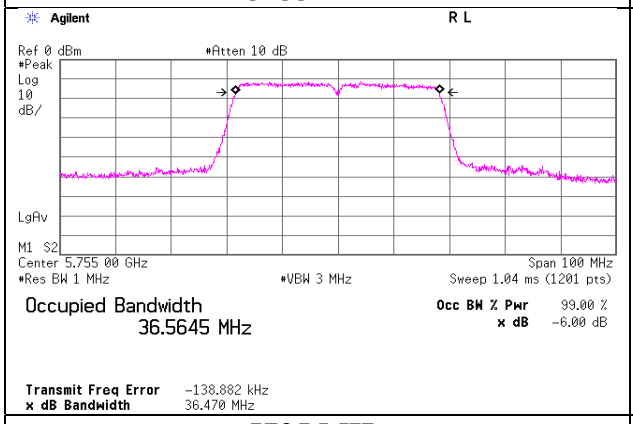
5795 MHz



99 % Occupied Bandwidth

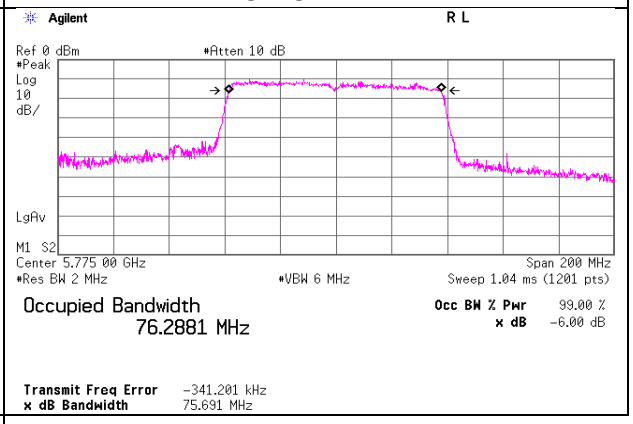
11ac-40 (SISO), Ant 1

5755 MHz

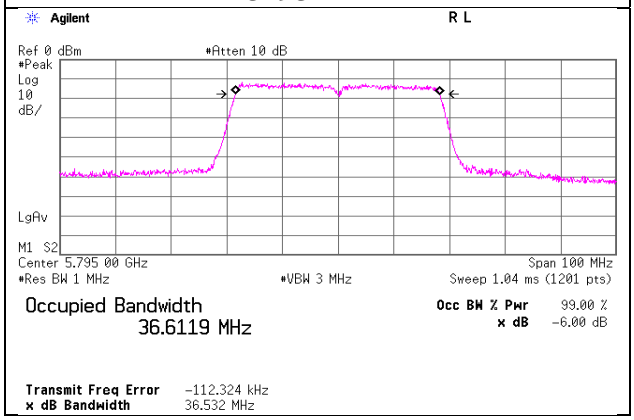


11ac-80 (SISO), Ant 1

5775 MHz



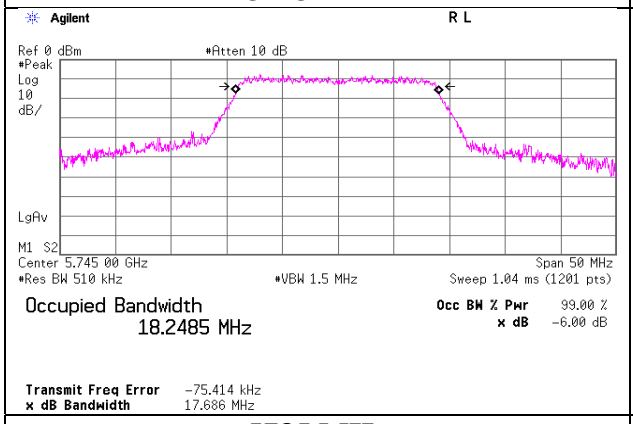
5795 MHz



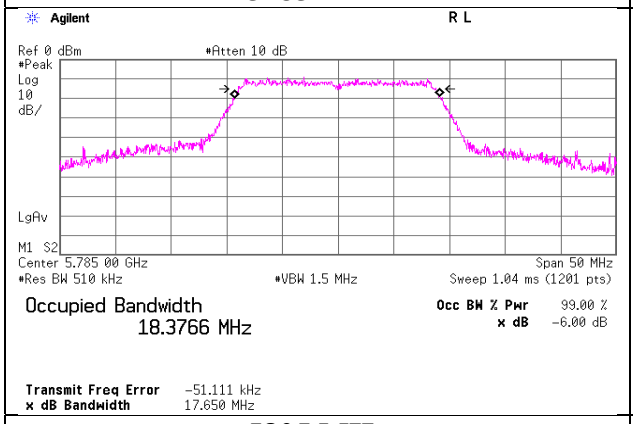
99 % Occupied Bandwidth

11n-20 (MIMO), Ant 1

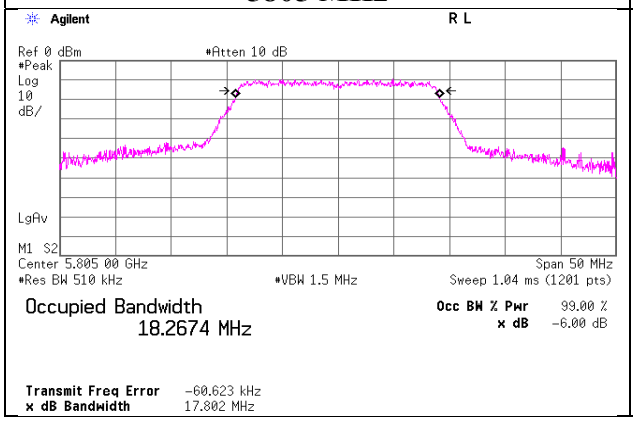
5745 MHz



5785 MHz

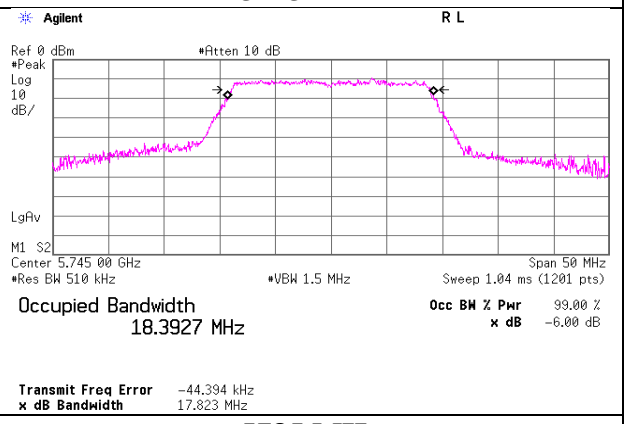


5805 MHz

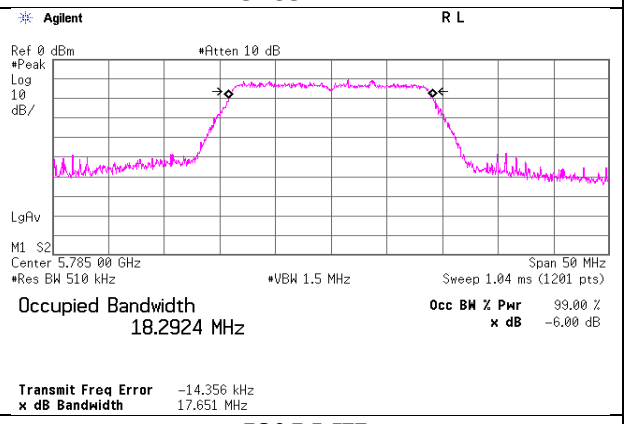


11ac-20 (MIMO), Ant 1

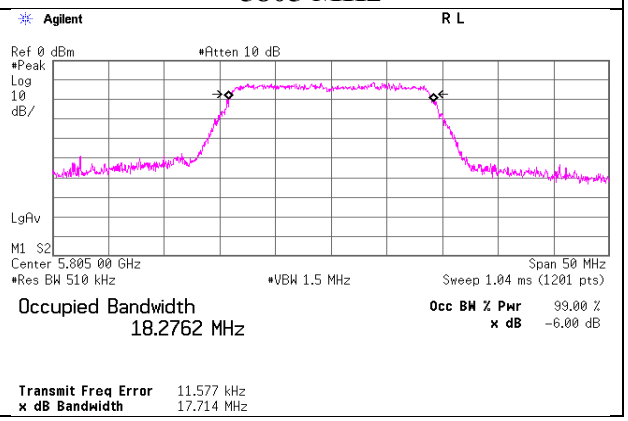
5745 MHz



5785 MHz



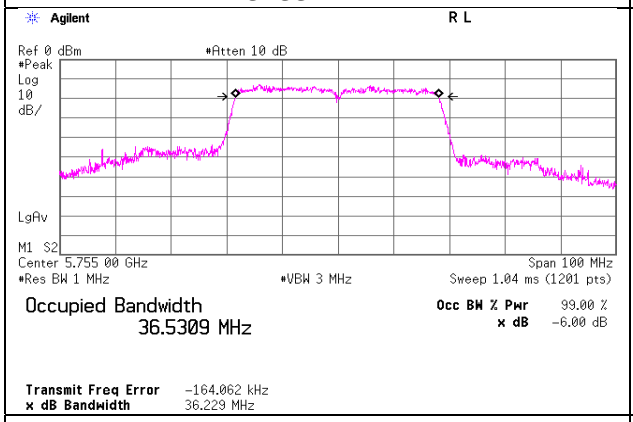
5805 MHz



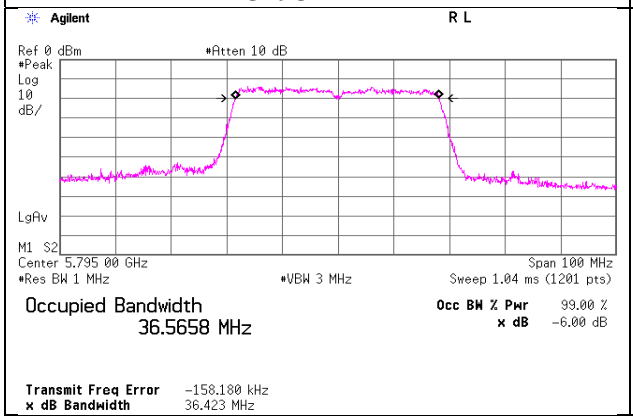
99 % Occupied Bandwidth

11n-40 (MIMO), Ant 1

5755 MHz

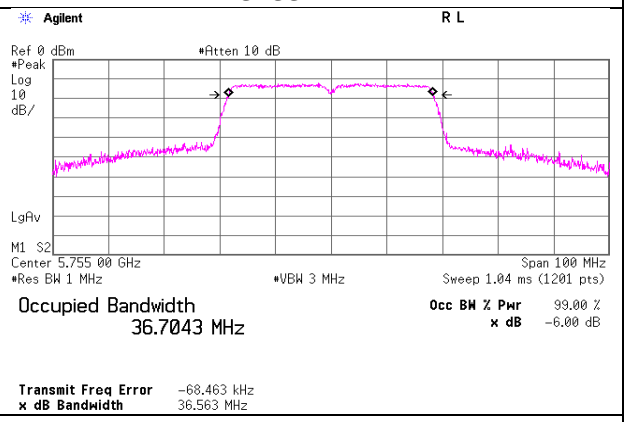


5795 MHz

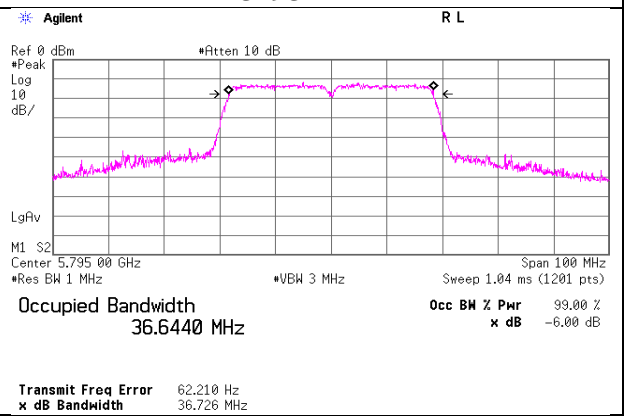


11ac-40 (MIMO), Ant 0

5755 MHz



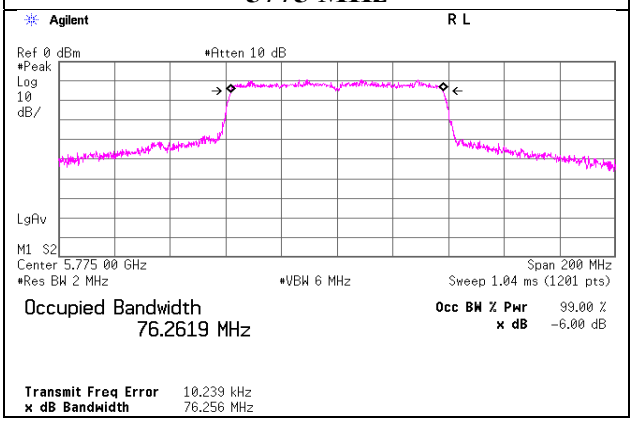
5795 MHz



99 % Occupied Bandwidth

11ac-80 (MIMO), Ant 0

5775 MHz



6 dB Bandwidth

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	April 9, 2020
Temperature / Humidity	22 deg. C / 41 % RH
Engineer	Takahiro Kawakami
Mode	Tx

11a

Antenna	Tested Frequency [MHz]	6 dB Bandwidth [MHz]	Limit [MHz]
Ant 0	5745	16.485	> 0.500
	5785	16.493	> 0.500
	5805	16.465	> 0.500

11n-20 (SISO)

Antenna	Tested Frequency [MHz]	6 dB Bandwidth [MHz]	Limit [MHz]
Ant 0	5745	17.726	> 0.500
	5785	17.754	> 0.500
	5805	17.752	> 0.500

11ac-20 (SISO)

Antenna	Tested Frequency [MHz]	6 dB Bandwidth [MHz]	Limit [MHz]
Ant 0	5745	17.763	> 0.500
	5785	17.735	> 0.500
	5805	17.725	> 0.500

11n-40 (SISO)

Antenna	Tested Frequency [MHz]	6 dB Bandwidth [MHz]	Limit [MHz]
Ant 1	5755	36.515	> 0.500
	5795	36.536	> 0.500

11ac-40 (SISO)

Antenna	Tested Frequency [MHz]	6 dB Bandwidth [MHz]	Limit [MHz]
Ant 1	5755	36.459	> 0.500
	5795	36.528	> 0.500

11ac-80 (SISO)

Antenna	Tested Frequency [MHz]	6 dB Bandwidth [MHz]	Limit [MHz]
Ant 1	5775	75.934	> 0.500

6 dB Bandwidth

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	April 10, 2020
Temperature / Humidity	23 deg. C / 40 % RH
Engineer	Shiro Kobayashi
Mode	Tx

11n-20 (MIMO)

Antenna	Tested Frequency [MHz]	6 dB Bandwidth [MHz]	Limit [MHz]
Ant 1	5745	17.638	> 0.500
	5785	17.654	> 0.500
	5805	17.657	> 0.500

11ac-20 (MIMO)

Antenna	Tested Frequency [MHz]	6 dB Bandwidth [MHz]	Limit [MHz]
Ant 1	5745	17.758	> 0.500
	5785	17.724	> 0.500
	5805	17.707	> 0.500

11n-40 (MIMO)

Antenna	Tested Frequency [MHz]	6 dB Bandwidth [MHz]	Limit [MHz]
Ant 1	5755	36.437	> 0.500
	5795	36.092	> 0.500

11ac-40 (MIMO)

Antenna	Tested Frequency [MHz]	6 dB Bandwidth [MHz]	Limit [MHz]
Ant 0	5755	36.424	> 0.500
	5795	36.369	> 0.500

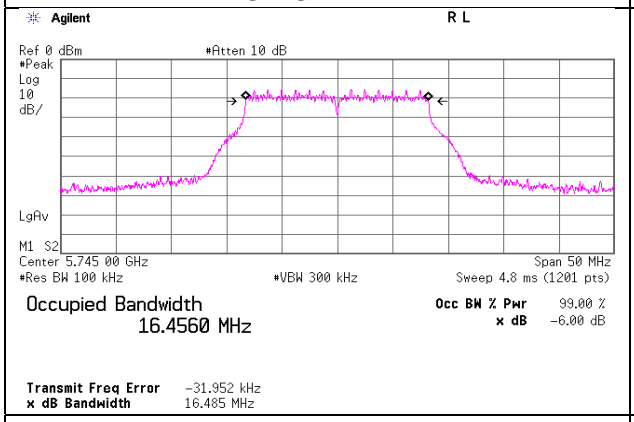
11ac-80 (MIMO)

Antenna	Tested Frequency [MHz]	6 dB Bandwidth [MHz]	Limit [MHz]
Ant 0	5775	76.116	> 0.500

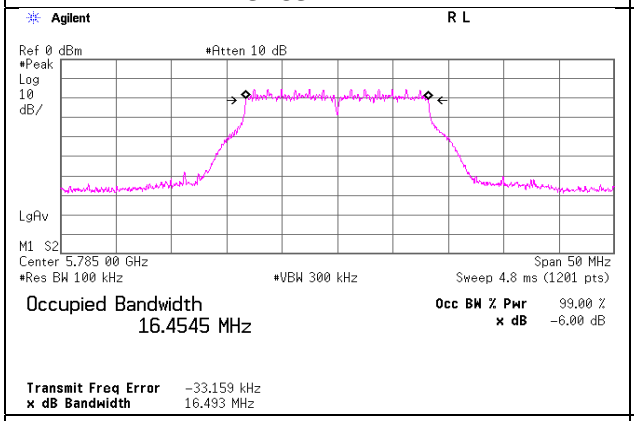
6 dB Bandwidth

11a, Ant 0

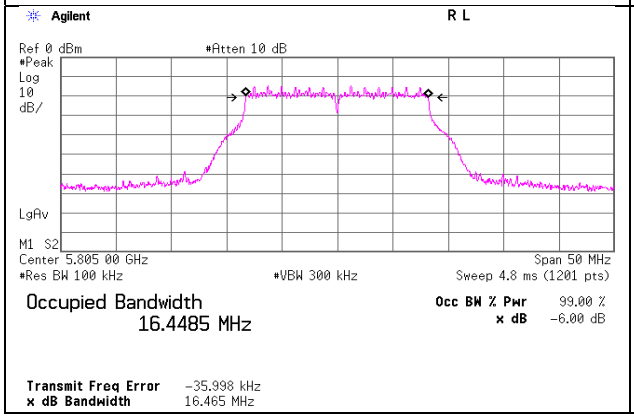
5745 MHz



5785 MHz

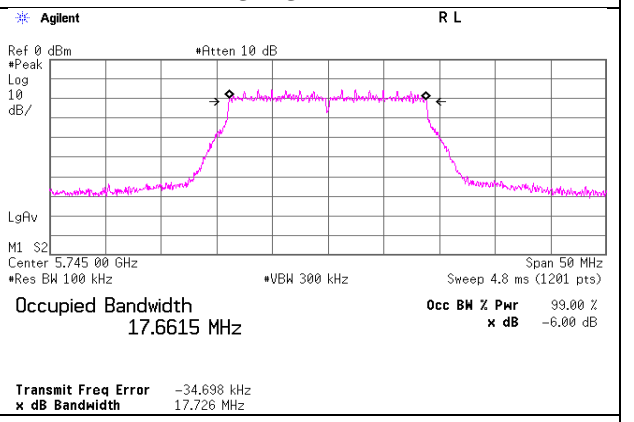


5805 MHz

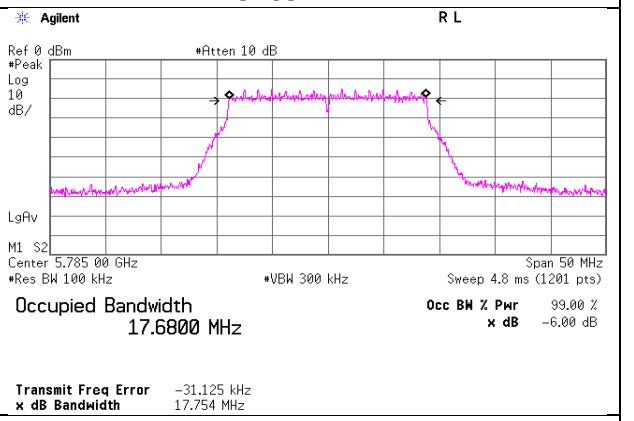


11n-20 (SISO), Ant 0

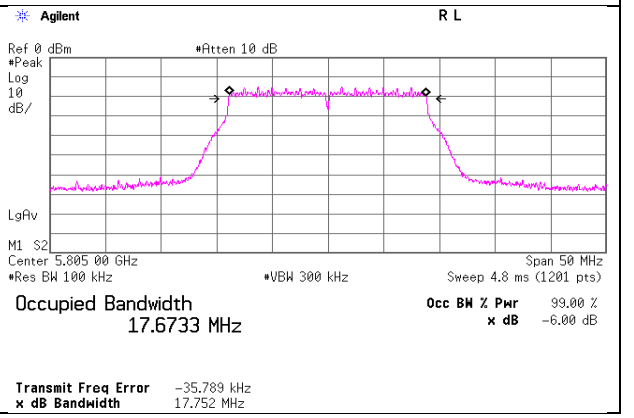
5745 MHz



5785 MHz



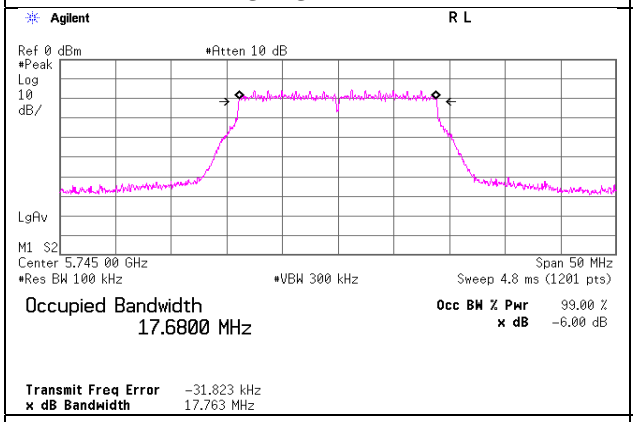
5805 MHz



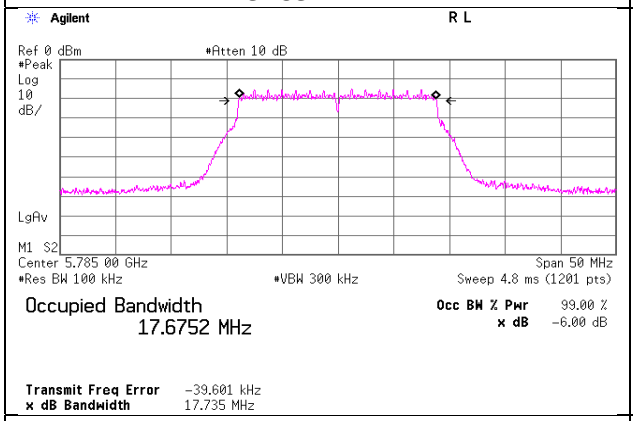
6 dB Bandwidth

11ac-20 (SISO), Ant 0

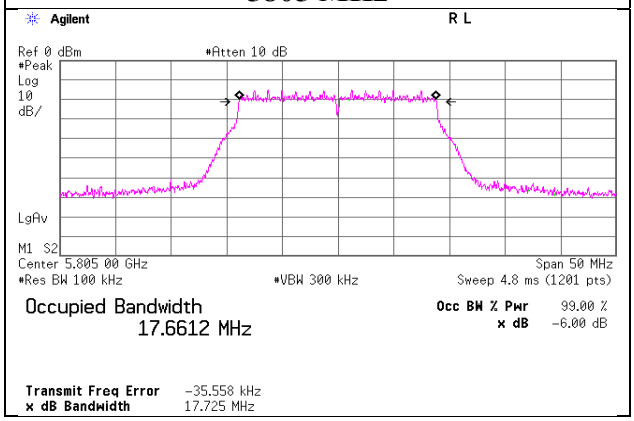
5745 MHz



5785 MHz

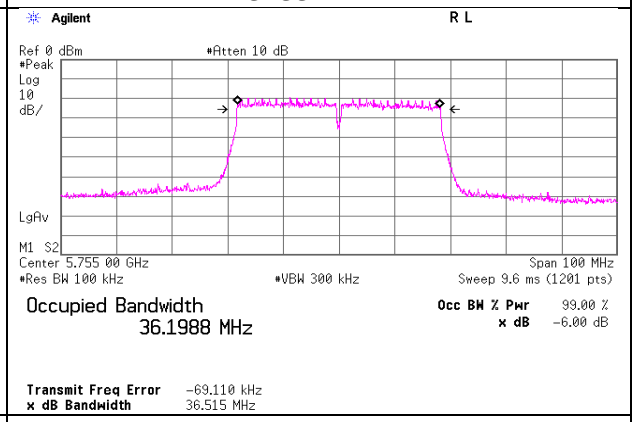


5805 MHz

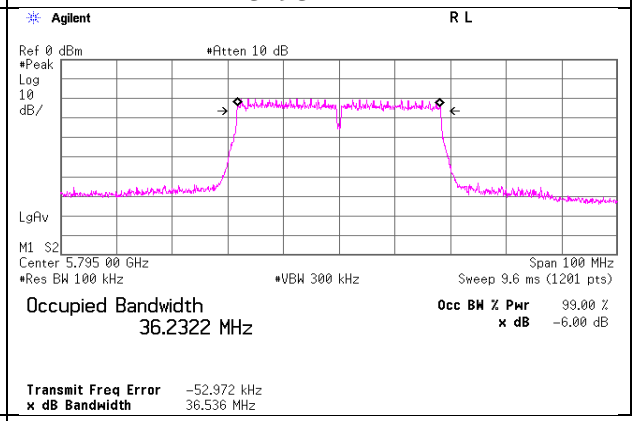


11n-40 (SISO), Ant 1

5755 MHz



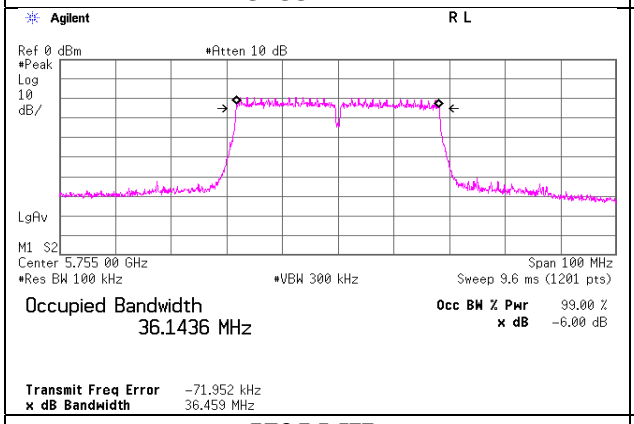
5795 MHz



6 dB Bandwidth

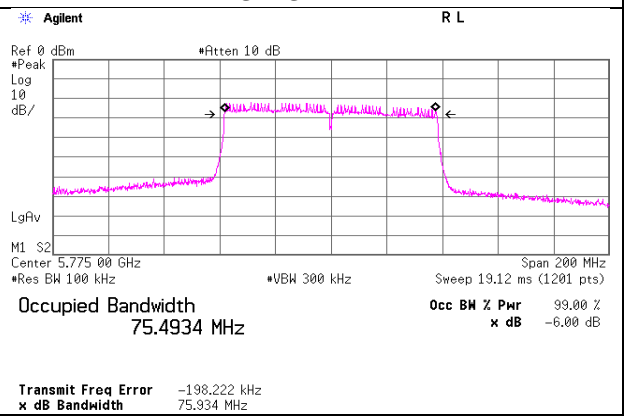
11ac-40 (SISO), Ant 1

5755 MHz

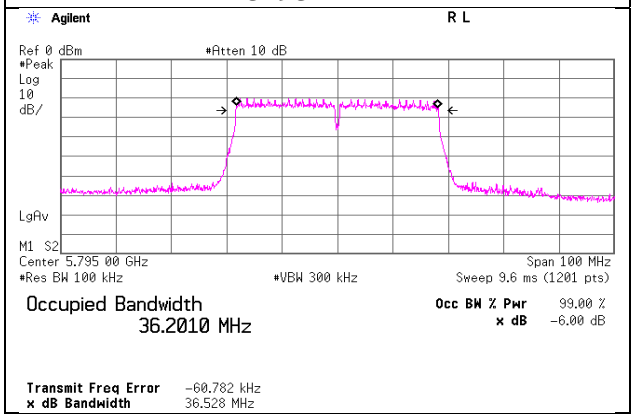


11ac-80 (SISO), Ant 1

5775 MHz



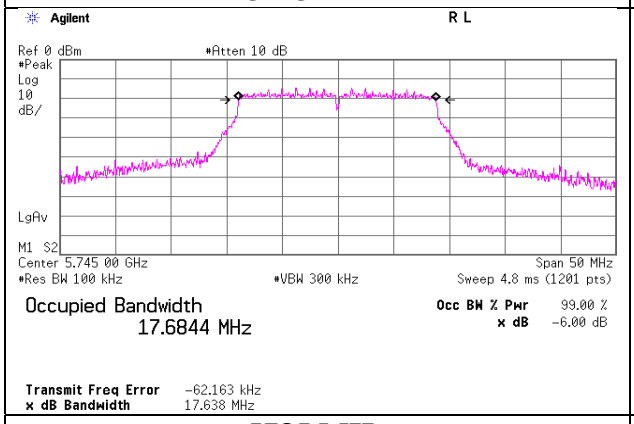
5795 MHz



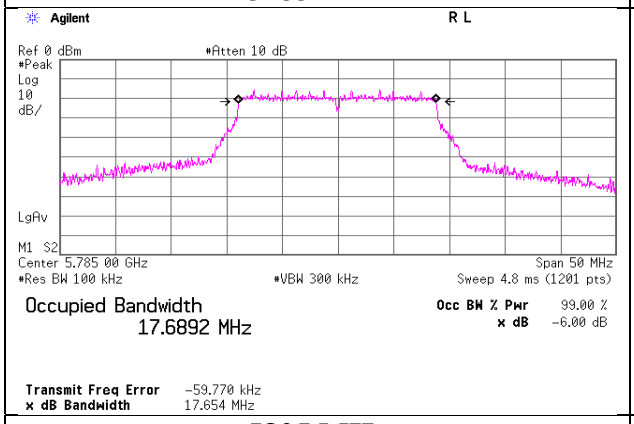
6 dB Bandwidth

11n-20 (MIMO), Ant 1

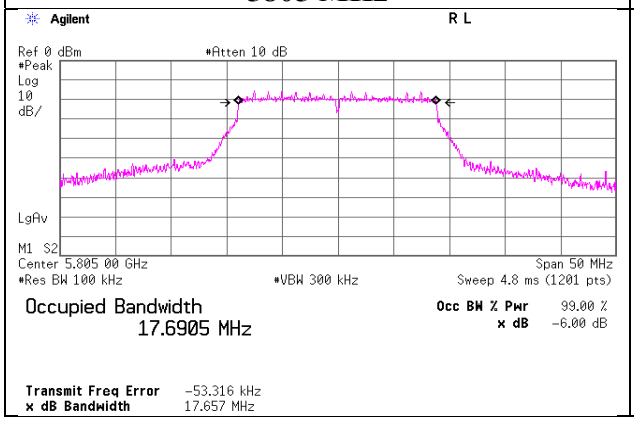
5745 MHz



5785 MHz

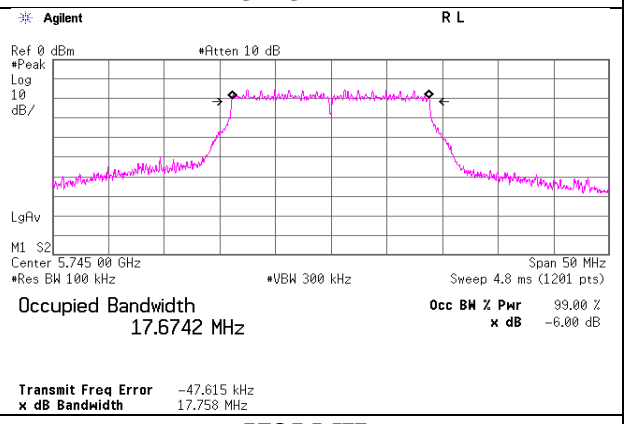


5805 MHz

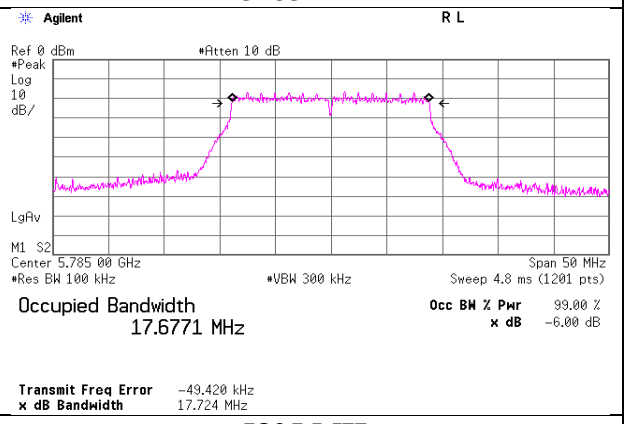


11ac-20 (MIMO), Ant 1

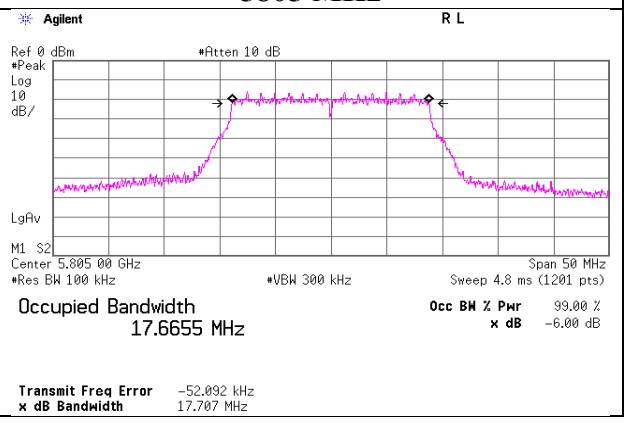
5745 MHz



5785 MHz



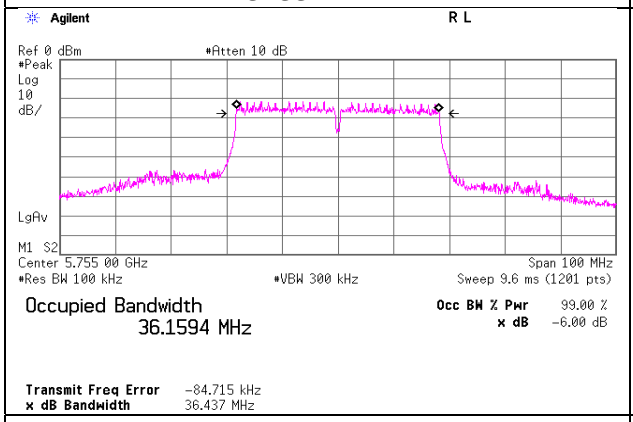
5805 MHz



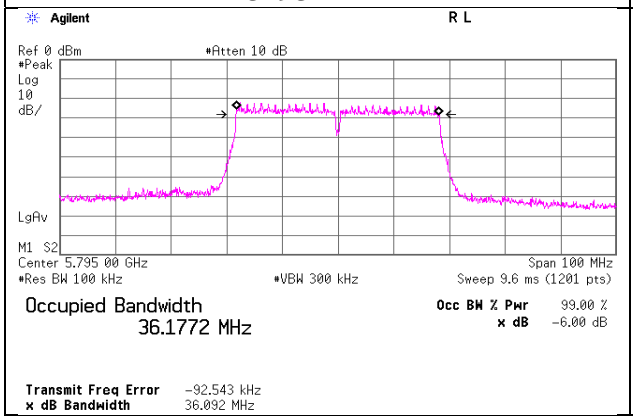
6 dB Bandwidth

11n-40 (MIMO), Ant 1

5755 MHz

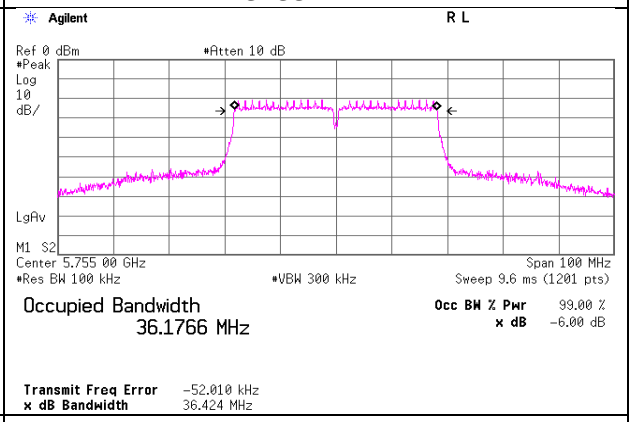


5795 MHz

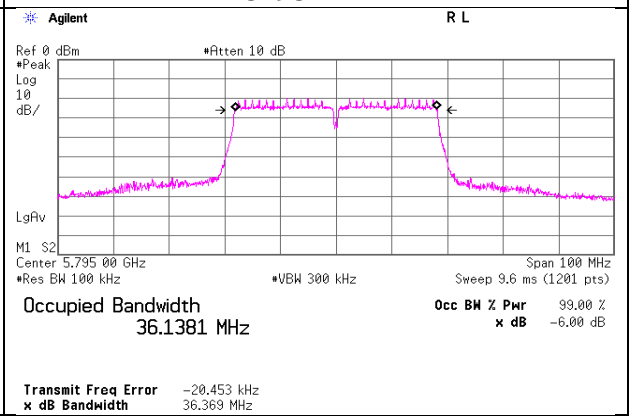


11ac-40 (MIMO), Ant 0

5755 MHz



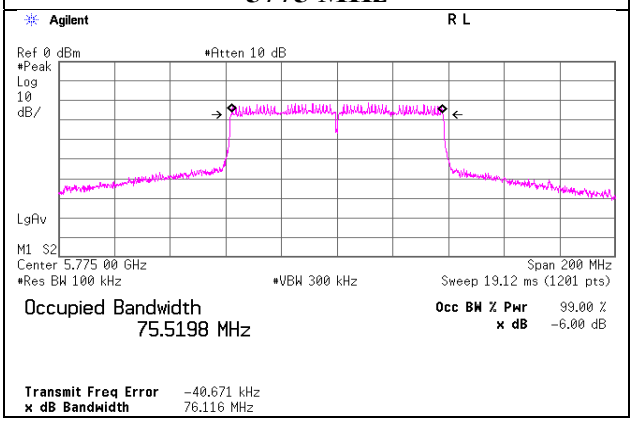
5795 MHz



6 dB Bandwidth

11ac-80 (MIMO), Ant 0

5775 MHz



Maximum Conducted Output Power

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	April 3, 2020
Temperature / Humidity	23 deg. C / 26 % RH
Engineer	Kenichi Adachi
Mode	Tx

Applied limit: 15.407, mobile and portable client device

Mode	Tested Frequency	Power Meter Reading	Cable Loss	Atten. Loss	Duty Factor	Antenna Gain	26 dB EBW (B for FCC)	99% OBW (B for IC)	Conducted Power Result		Conducted Power Limit	Conducted Power Margin	e.i.r.p. Result		e.i.r.p. Limit	e.i.r.p. Margin
	[MHz]	[dBm]	[dB]	[dB]	[dB]	[dBi]	[MHz]	[MHz]	[dBm]	[mW]	[dBm]	[dB]	[dBm]	[mW]	[dBm]	[dB]
11a	5745	-7.50	2.02	9.73	1.75	-3.5	-	17.384	6.00	3.98	30.00	24.00	2.50	1.78	36.00	33.50
	5785	-6.43	2.02	9.73	1.75	-3.5	-	17.372	7.07	5.09	30.00	22.93	3.57	2.28	36.00	32.43
	5805	-7.20	2.02	9.73	1.75	-3.5	-	17.203	6.30	4.27	30.00	23.70	2.80	1.91	36.00	33.20
11n-20 (SISO)	5745	-7.65	2.02	9.73	1.73	-3.5	-	18.337	5.83	3.83	30.00	24.17	2.33	1.71	36.00	33.67
	5785	-6.50	2.02	9.73	1.73	-3.5	-	18.371	6.98	4.99	30.00	23.02	3.48	2.23	36.00	32.52
	5805	-7.12	2.02	9.73	1.73	-3.5	-	18.346	6.36	4.33	30.00	23.64	2.86	1.93	36.00	33.14
11ac-20 (SISO)	5745	-7.64	2.02	9.73	1.68	-3.5	-	18.251	5.79	3.79	30.00	24.21	2.29	1.69	36.00	33.71
	5785	-6.47	2.02	9.73	1.68	-3.5	-	18.242	6.96	4.97	30.00	23.04	3.46	2.22	36.00	32.54
	5805	-7.09	2.02	9.73	1.68	-3.5	-	18.325	6.34	4.31	30.00	23.66	2.84	1.92	36.00	33.16
11n-40 (SISO)	5755	-8.87	2.02	9.73	2.77	-3.6	-	36.601	5.66	3.68	30.00	24.35	2.06	1.61	36.00	33.95
	5795	-9.65	2.02	9.73	2.77	-3.6	-	36.626	4.87	3.07	30.00	25.13	1.27	1.34	36.00	34.73
11ac-40 (SISO)	5755	-8.55	2.02	9.73	2.56	-3.6	-	36.565	5.76	3.77	30.00	24.24	2.16	1.64	36.00	33.84
	5795	-9.31	2.02	9.73	2.56	-3.6	-	36.612	5.00	3.16	30.00	25.00	1.40	1.38	36.00	34.60
11ac-80 (SISO)	5775	-7.91	2.02	9.73	1.81	-3.6	-	76.288	5.66	3.68	30.00	24.35	2.06	1.61	36.00	33.95

Sample Calculation:
Conducted Power Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Duty Factor
e.i.r.p. Result = Conducted Power Result + Antenna Gain
Conducted Power Limit (5725 MHz-5850 MHz) = 1 W

Maximum Conducted Output Power

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	April 6, 2020
Temperature / Humidity	22 deg. C / 23 % RH
Engineer	Shiro Kobayashi
Mode	Tx

Ant 0+1

Applied limit: 15.407, mobile and portable client device

Mode	Tested Frequency [MHz]	26 dB EBW (B for FCC) [MHz]	99% OBW (B for IC) [MHz]	Conducted power Antenna 0 [mW]	Antenna 1 [mW]	Antenna Sum [mW]	Result [dBm]	Limit [dBm]	Margin [dB]	e.i.r.p. Antenna 0 [mW]	Antenna 1 [mW]	Antenna Sum [mW]	Result [dBm]	Limit [dBm]	Margin [dB]
11n-20 (MIMO)	5745	-	18.249	4.51	5.90	10.41	10.17	30.00	19.83	2.01	2.58	4.59	6.62	36.00	29.38
	5785	-	18.377	4.76	4.54	9.30	9.69	30.00	20.31	2.13	1.98	4.11	6.14	36.00	29.86
	5805	-	18.267	4.89	4.41	9.29	9.68	30.00	20.32	2.18	1.92	4.11	6.13	36.00	29.87
11ac-20 (MIMO)	5745	-	18.393	4.74	5.89	10.63	10.27	30.00	19.73	2.12	2.57	4.69	6.71	36.00	29.29
	5785	-	18.292	5.00	4.70	9.70	9.87	30.00	20.13	2.23	2.05	4.28	6.32	36.00	29.68
	5805	-	18.276	5.04	4.56	9.60	9.82	30.00	20.18	2.25	1.99	4.24	6.27	36.00	29.73
11n-40 (MIMO)	5755	-	36.531	3.84	3.94	7.77	8.91	30.00	21.09	1.71	1.72	3.43	5.36	36.00	30.64
	5795	-	36.566	3.86	3.75	7.61	8.82	30.00	21.18	1.73	1.64	3.36	5.27	36.00	30.73
11ac-40 (MIMO)	5755	-	36.704	3.45	3.94	7.39	8.68	30.00	21.32	1.54	1.72	3.26	5.13	36.00	30.87
	5795	-	36.644	4.02	3.32	7.34	8.66	30.00	21.34	1.79	1.45	3.24	5.11	36.00	30.89
11ac-80 (MIMO)	5775	-	76.262	3.77	3.74	7.51	8.76	30.00	21.24	1.68	1.63	3.32	5.21	36.00	30.79

Mode	Tested Frequency [MHz]	Duty Factor [dB]	Ant 0 Power Meter Reading [dBm]	Ant 0 Cable Loss [dB]	Ant 0 Atten. Loss [dB]	Ant 0 Antenna Gain [dBi]	Ant 0 Result Cond. Power [dBm]	Ant 0 Result e.i.r.p. [dBm]	Ant 1 Power Meter Reading [dBm]	Ant 1 Cable Loss [dB]	Ant 1 Atten. Loss [dB]	Ant 1 Antenna Gain [dBi]	Ant 1 Result Cond. Power [dBm]	Ant 1 Result e.i.r.p. [dBm]
11n-20 (MIMO)	5745	0.31	-5.52	2.02	9.73	-3.50	6.54	3.04	-4.35	2.02	9.73	-3.60	7.71	4.11
	5785	0.31	-5.28	2.02	9.73	-3.50	6.78	3.28	-5.49	2.02	9.73	-3.60	6.57	2.97
	5805	0.31	-5.17	2.02	9.73	-3.50	6.89	3.39	-5.62	2.02	9.73	-3.60	6.44	2.84
11ac-20 (MIMO)	5745	1.81	-6.80	2.02	9.73	-3.50	6.76	3.26	-5.86	2.02	9.73	-3.60	7.70	4.10
	5785	1.81	-6.57	2.02	9.73	-3.50	6.99	3.49	-6.84	2.02	9.73	-3.60	6.72	3.12
	5805	1.81	-6.54	2.02	9.73	-3.50	7.02	3.52	-6.97	2.02	9.73	-3.60	6.59	2.99
11n-40 (MIMO)	5755	2.23	-8.14	2.02	9.73	-3.50	5.84	2.34	-8.03	2.02	9.73	-3.60	5.95	2.35
	5795	2.23	-8.11	2.02	9.73	-3.50	5.87	2.37	-8.24	2.02	9.73	-3.60	5.74	2.14
11ac-40 (MIMO)	5755	0.60	-6.97	2.02	9.73	-3.50	5.38	1.88	-6.40	2.02	9.73	-3.60	5.95	2.35
	5795	0.60	-6.31	2.02	9.73	-3.50	6.04	2.54	-7.14	2.02	9.73	-3.60	5.21	1.61
11ac-80 (MIMO)	5775	1.81	-7.80	2.02	9.73	-3.50	5.76	2.26	-7.83	2.02	9.73	-3.60	5.73	2.13

Sample Calculation:
Conducted Power Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Duty Factor
e.i.r.p. Result = Conducted Power Result + Antenna Gain
Conducted Power Limit (5725 MHz-5850 MHz) = 1 W

Maximum Conducted Output Power

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	April 3, 2020
Temperature / Humidity	23 deg. C / 26 % RH
Engineer	Kenichi Adachi
Mode	Tx 11a

5785 MHz

Mode	Rate Mbps	Reading (timed average) [dBm]	Duty factor [dB]	Burst power [dBm]	Remarks
Ant 0	6	-5.16	0.29	-4.87	-
	9	-5.38	0.42	-4.96	-
	12	-5.33	0.56	-4.77	-
	18	-5.62	0.79	-4.83	-
	24	-5.83	1.01	-4.82	-
	36	-6.32	1.40	-4.92	-
	48	-6.43	1.75	-4.68	*
	54	-6.64	1.85	-4.79	-
Ant 1	6	-5.46	0.29	-5.17	-
	9	-5.76	0.43	-5.33	-
	12	-5.83	0.56	-5.28	-
	18	-6.04	0.72	-5.32	-
	24	-6.25	0.92	-5.33	-
	36	-6.82	1.41	-5.41	-
	48	-7.00	1.74	-5.26	-
	54	-7.17	1.84	-5.33	-

* 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.	13294722S-C-R3
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	April 3, 2020
Temperature / Humidity	23 deg. C / 26 % RH
Engineer	Kenichi Adachi
Mode	Tx 11n-20 (SISO)

5785 MHz

Mode	MCS Number	Reading (timed average) [dBm]	Duty factor [dB]	Burst power [dBm]	Remarks
Ant 0	0	-5.27	0.31	-4.96	-
	1	-5.46	0.58	-4.88	-
	2	-5.60	0.82	-4.78	-
	3	-5.97	1.03	-4.94	-
	4	-6.27	1.40	-4.87	-
	5	-6.50	1.73	-4.77	*
	6	-6.69	1.83	-4.86	-
	7	-6.81	1.98	-4.83	-
Ant 1	0	-5.57	0.31	-5.26	-
	1	-5.84	0.58	-5.26	-
	2	-6.09	0.82	-5.27	-
	3	-6.31	1.03	-5.28	-
	4	-6.71	1.40	-5.31	-
	5	-6.97	1.73	-5.24	-
	6	-7.18	1.83	-5.35	-
	7	-7.30	1.98	-5.32	-

* 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.	13294722S-C-R3
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	April 3, 2020
Temperature / Humidity	23 deg. C / 26 % RH
Engineer	Kenichi Adachi
Mode	Tx 11ac-20 (SISO)

5785 MHz

Mode	MCS Number	Reading (timed average) [dBm]	Duty factor [dB]	Burst power [dBm]	Remarks
Ant 0	0	-5.27	0.31	-4.96	-
	1	-5.39	0.58	-4.81	-
	2	-5.63	0.81	-4.82	-
	3	-5.88	1.01	-4.87	-
	4	-6.21	1.37	-4.84	-
	5	-6.47	1.68	-4.79	*
	6	-6.63	1.78	-4.85	
	7	-6.76	1.94	-4.82	-
	8	-7.91	2.10	-5.81	-
Ant 1	0	-5.46	0.31	-5.15	-
	1	-5.84	0.58	-5.26	-
	2	-6.11	0.81	-5.30	-
	3	-6.23	1.01	-5.22	-
	4	-6.61	1.37	-5.24	-
	5	-6.91	1.68	-5.23	-
	6	-7.02	1.78	-5.24	
	7	-7.22	1.94	-5.28	-
	8	-8.59	2.10	-6.49	-

* 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.	13294722S-C-R3
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	April 3, 2020
Temperature / Humidity	23 deg. C / 26 % RH
Engineer	Kenichi Adachi
Mode	Tx 11n-40 (SISO)

5755 MHz

Mode	MCS Number	Reading (timed average) [dBm]	Duty factor [dB]	Burst power [dBm]	Remarks
Ant 0	0	-7.70	0.60	-7.10	-
	1	-8.17	1.06	-7.11	-
	2	-8.56	1.44	-7.12	-
	3	-9.02	1.74	-7.28	-
	4	-9.54	2.23	-7.31	-
	5	-9.82	2.63	-7.19	-
	6	-10.14	2.77	-7.37	-
	7	-10.24	2.92	-7.32	-
Ant 1	0	-6.83	0.60	-6.23	-
	1	-7.34	1.06	-6.28	-
	2	-7.72	1.44	-6.28	-
	3	-7.93	1.74	-6.19	-
	4	-8.47	2.23	-6.24	-
	5	-8.92	2.63	-6.29	-
	6	-8.87	2.77	-6.10	*
	7	-9.13	2.92	-6.21	-

* 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.	13294722S-C-R3
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	April 3, 2020
Temperature / Humidity	23 deg. C / 26 % RH
Engineer	Kenichi Adachi
Mode	Tx 11ac-40 (SISO)

5755 MHz

Mode	MCS Number	Reading (timed average) [dBm]	Duty factor [dB]	Burst power [dBm]	Remarks
Ant 0	0	-6.69	0.59	-6.10	-
	1	-7.15	1.06	-6.09	-
	2	-7.49	1.42	-6.07	-
	3	-7.80	1.71	-6.09	-
	4	-8.50	2.18	-6.32	-
	5	-8.78	2.56	-6.22	-
	6	-9.00	2.69	-6.31	-
	7	-9.01	2.84	-6.17	-
	8	-9.29	3.00	-6.29	-
	9	-10.45	3.18	-7.27	-
Ant 1	0	-6.68	0.59	-6.09	-
	1	-7.12	1.06	-6.06	-
	2	-7.57	1.42	-6.15	-
	3	-7.79	1.71	-6.08	-
	4	-8.31	2.18	-6.13	-
	5	-8.55	2.56	-5.99	*
	6	-8.72	2.69	-6.03	-
	7	-8.86	2.84	-6.02	-
	8	-9.05	3.00	-6.05	-
	9	-10.35	3.18	-7.17	-

* 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.	13294722S-C-R3
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	April 3, 2020
Temperature / Humidity	23 deg. C / 26 % RH
Engineer	Kenichi Adachi
Mode	Tx 11ac-80 (SISO)

5775 MHz

Mode	MCS Number	Reading (timed average) [dBm]	Duty factor [dB]	Burst power [dBm]	Remarks
Ant 0	0	-7.42	1.12	-6.30	-
	1	-8.18	1.81	-6.37	-
	2	-8.61	2.28	-6.33	-
	3	-9.01	2.63	-6.38	-
	4	-9.58	3.10	-6.48	-
	5	-9.99	3.40	-6.59	-
	6	-10.03	3.52	-6.51	-
	7	-10.10	3.64	-6.46	-
	8	-11.23	3.78	-7.45	-
	9	-12.44	3.93	-8.51	-
Ant 1	0	-7.36	1.12	-6.24	-
	1	-7.91	1.81	-6.10	*
	2	-8.55	2.28	-6.27	-
	3	-8.89	2.63	-6.26	-
	4	-9.37	3.10	-6.27	-
	5	-9.66	3.40	-6.26	-
	6	-9.77	3.52	-6.25	-
	7	-9.88	3.64	-6.24	-
	8	-11.10	3.78	-7.32	-
	9	-12.27	3.93	-8.34	-

* 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.	13294722S-C-R3
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	April 3, 2020
Temperature / Humidity	23 deg. C / 26 % RH
Engineer	Kenichi Adachi
Mode	Tx 11n-20 (MIMO)

5785 MHz

MCS Number	Reading (timed average) Antenna						Duty factor	Burst power Antenna			Remarks
	0 [dBm]	1 [dBm]	0 [mW]	1 [mW]	0+1 [mW]	0+1 [dBm]	[dB]	0 [dBm]	1 [dBm]	0+1 [dBm]	
8	-5.28	-5.49	0.30	0.28	0.58	-2.37	0.31	-	-	-2.06	*
9	-5.78	-5.85	0.26	0.26	0.52	-2.80	0.58	-	-	-2.22	-
10	-5.97	-6.00	0.25	0.25	0.50	-2.97	0.82	-	-	-2.15	-
11	-6.31	-6.30	0.23	0.23	0.47	-3.29	1.04	-	-	-2.25	-
12	-6.75	-6.70	0.21	0.21	0.43	-3.71	1.40	-	-	-2.31	-
13	-7.03	-7.02	0.20	0.20	0.40	-4.01	1.72	-	-	-2.29	-
14	-7.21	-7.04	0.19	0.20	0.39	-4.11	1.84	-	-	-2.27	-
15	-7.36	-7.28	0.18	0.19	0.37	-4.31	1.97	-	-	-2.34	-

* 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.	13294722S-C-R3
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	April 6, 2020
Temperature / Humidity	22 deg. C / 23 % RH
Engineer	Shiro Kobayashi
Mode	Tx 11ac-20 (MIMO)

5785 MHz

MCS Number	Reading (timed average) Antenna						Duty factor	Burst power Antenna			Remarks
	0 [dBm]	1 [dBm]	0 [mW]	1 [mW]	0+1 [mW]	0+1 [dBm]	[dB]	0 [dBm]	1 [dBm]	0+1 [dBm]	
0	-5.14	-5.52	0.31	0.28	0.59	-2.32	0.31	-	-	-2.01	-
1	-5.25	-5.83	0.30	0.26	0.56	-2.52	0.57	-	-	-1.95	-
2	-5.60	-6.19	0.28	0.24	0.52	-2.87	0.82	-	-	-2.05	-
3	-5.74	-6.36	0.27	0.23	0.50	-3.03	1.02	-	-	-2.01	-
4	-6.10	-6.59	0.25	0.22	0.46	-3.33	1.38	-	-	-1.95	-
5	-6.55	-6.77	0.22	0.21	0.43	-3.65	1.69	-	-	-1.96	-
6	-6.57	-6.84	0.22	0.21	0.43	-3.69	1.81	-	-	-1.88	*
7	-6.66	-7.12	0.22	0.19	0.41	-3.87	1.94	-	-	-1.93	-
8	-7.68	-8.37	0.17	0.15	0.32	-5.00	2.14	-	-	-2.86	-

* 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.	13294722S-C-R3
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	April 6, 2020
Temperature / Humidity	22 deg. C / 23 % RH
Engineer	Shiro Kobayashi
Mode	Tx 11n-40 (MIMO)

5755 MHz

MCS Number	Reading (timed average) Antenna						Duty factor	Burst power Antenna			Remarks
	0 [dBm]	1 [dBm]	0 [mW]	1 [mW]	0+1 [mW]	0+1 [dBm]	[dB]	0 [dBm]	1 [dBm]	0+1 [dBm]	
8	-6.53	-6.51	0.22	0.22	0.45	-3.51	0.60	-	-	-2.91	-
9	-7.18	-7.11	0.19	0.19	0.39	-4.13	1.06	-	-	-3.07	-
10	-7.57	-7.52	0.17	0.18	0.35	-4.53	1.44	-	-	-3.09	-
11	-7.91	-7.87	0.16	0.16	0.33	-4.88	1.75	-	-	-3.13	-
12	-8.14	-8.03	0.15	0.16	0.31	-5.07	2.23	-	-	-2.84	*
13	-8.59	-8.57	0.14	0.14	0.28	-5.57	2.62	-	-	-2.95	-
14	-8.80	-8.61	0.13	0.14	0.27	-5.69	2.76	-	-	-2.93	-
15	-9.00	-8.91	0.13	0.13	0.25	-5.94	2.92	-	-	-3.02	-

* 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.	13294722S-C-R3
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	April 6, 2020
Temperature / Humidity	22 deg. C / 23 % RH
Engineer	Shiro Kobayashi
Mode	Tx 11ac-40 (MIMO)

5755 MHz

MCS Number	Reading (timed average) Antenna						Duty factor	Burst power Antenna			Remarks
	0 [dBm]	1 [dBm]	0 [mW]	1 [mW]	0+1 [mW]	0+1 [dBm]	[dB]	0 [dBm]	1 [dBm]	0+1 [dBm]	
0	-6.97	-6.40	0.20	0.23	0.43	-3.67	0.60	-	-	-3.07	*
1	-7.44	-7.05	0.18	0.20	0.38	-4.23	1.06	-	-	-3.17	-
2	-7.82	-7.56	0.17	0.18	0.34	-4.68	1.42	-	-	-3.26	-
3	-7.93	-7.85	0.16	0.16	0.33	-4.88	1.72	-	-	-3.16	-
4	-8.49	-8.34	0.14	0.15	0.29	-5.40	2.19	-	-	-3.21	-
5	-8.83	-9.59	0.13	0.11	0.24	-6.18	2.56	-	-	-3.62	-
6	-9.14	-9.50	0.12	0.11	0.23	-6.31	2.68	-	-	-3.63	-
7	-9.28	-9.65	0.12	0.11	0.23	-6.45	2.84	-	-	-3.61	-
8	-9.34	-9.79	0.12	0.10	0.22	-6.55	2.98	-	-	-3.57	-
9	-10.66	-10.90	0.09	0.08	0.17	-7.77	3.19	-	-	-4.58	-

* 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.	13294722S-C-R3
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	April 6, 2020
Temperature / Humidity	22 deg. C / 23 % RH
Engineer	Shiro Kobayashi
Mode	Tx 11ac-80 (MIMO)

5775 MHz

MCS Number	Reading (timed average) Antenna						Duty factor	Burst power Antenna			Remarks
	0 [dBm]	1 [dBm]	0 [mW]	1 [mW]	0+1 [mW]	0+1 [dBm]	[dB]	0 [dBm]	1 [dBm]	0+1 [dBm]	
0	-7.13	-7.21	0.19	0.19	0.38	-4.16	1.12	-	-	-3.04	-
1	-7.80	-7.83	0.17	0.16	0.33	-4.80	1.81	-	-	-2.99	*
2	-8.40	-8.41	0.14	0.14	0.29	-5.39	2.28	-	-	-3.11	-
3	-8.85	-8.79	0.13	0.13	0.26	-5.81	2.63	-	-	-3.18	-
4	-9.30	-9.23	0.12	0.12	0.24	-6.25	3.09	-	-	-3.16	-
5	-9.56	-9.48	0.11	0.11	0.22	-6.51	3.40	-	-	-3.11	-
6	-9.67	-9.79	0.11	0.10	0.21	-6.72	3.50	-	-	-3.22	-
7	-9.93	-9.88	0.10	0.10	0.20	-6.89	3.64	-	-	-3.25	-
8	-10.89	-11.07	0.08	0.08	0.16	-7.97	3.78	-	-	-4.19	-
9	-12.30	-12.17	0.06	0.06	0.12	-9.22	3.94	-	-	-5.28	-

* 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.	13294722S-C-R3	
Test place	Shonan EMC Lab. No.5 Shielded Room	
Date	April 3, 2020	April 6, 2020
Temperature / Humidity	23 deg. C / 26 % RH	22 deg. C / 23 % RH
Engineer	Kenichi Adachi	Shiro Kobayashi
Mode	Tx	

Mode	Tested Frequency [MHz]	Power Meter Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result (Timed average) [dBm]	Result (Timed average) [mW]	Duty factor [dB]	Result (Burst power average) [dBm]	Result (Burst power average) [mW]
11a	5745	-7.50	2.02	9.73	4.25	2.66	1.75	6.00	3.98
	5785	-6.43	2.02	9.73	5.32	3.40	1.75	7.07	5.09
	5805	-7.20	2.02	9.73	4.55	2.85	1.75	6.30	4.27
11n-20 (SISO)	5745	-7.65	2.02	9.73	4.10	2.57	1.73	5.83	3.83
	5785	-6.50	2.02	9.73	5.25	3.35	1.73	6.98	4.99
	5805	-7.12	2.02	9.73	4.63	2.90	1.73	6.36	4.33
11ac-20 (SISO)	5745	-7.64	2.02	9.73	4.11	2.58	1.68	5.79	3.79
	5785	-6.47	2.02	9.73	5.28	3.37	1.68	6.96	4.97
	5805	-7.09	2.02	9.73	4.66	2.92	1.68	6.34	4.31
11n-40 (SISO)	5755	-8.87	2.02	9.73	2.89	1.94	2.77	5.66	3.68
	5795	-9.65	2.02	9.73	2.10	1.62	2.77	4.87	3.07
11ac-40 (SISO)	5755	-8.62	2.02	9.73	3.13	2.06	2.56	5.69	3.71
	5795	-9.31	2.02	9.73	2.44	1.75	2.56	5.00	3.16
11ac-80 (SISO)	5775	-7.91	2.02	9.73	3.85	2.42	1.81	5.66	3.68

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

		Ant 0				Ant 1				Ant 0+1						
Mode	Tested Frequency [MHz]	Power Meter Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result (Timed average) [dBm]	Power Meter Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result (Timed average) [dBm]	Result (Timed average) Antenna 0 [mW]	Antenna 1 [mW]	Sum 0+1 [mW]	Sum 0+1 [dBm]	Duty factor [dB]	Result(Burst power average) Sum 0+1 [mW]	Sum 0+1 [dBm]
11n-20 (MIMO)	5745	-5.52	2.02	9.73	6.23	-4.35	2.02	9.73	7.40	4.20	5.50	9.69	9.86	0.31	10.41	10.17
	5785	-5.28	2.02	9.73	6.47	-5.49	2.02	9.73	6.26	4.44	4.23	8.66	9.38	0.31	9.30	9.69
	5805	-5.17	2.02	9.73	6.58	-5.62	2.02	9.73	6.13	4.55	4.10	8.65	9.37	0.31	9.29	9.68
11ac-20 (MIMO)	5745	-6.80	2.02	9.73	4.95	-5.86	2.02	9.73	5.89	3.13	3.88	7.01	8.46	1.81	10.63	10.27
	5785	-6.57	2.02	9.73	5.18	-6.84	2.02	9.73	4.91	3.30	3.10	6.39	8.06	1.81	9.70	9.87
	5805	-6.54	2.02	9.73	5.21	-6.97	2.02	9.73	4.78	3.32	3.01	6.33	8.01	1.81	9.60	9.82
11n-40 (MIMO)	5755	-8.14	2.02	9.73	3.61	-8.03	2.02	9.73	3.72	2.30	2.36	4.65	6.68	2.23	7.77	8.91
	5795	-8.11	2.02	9.73	3.64	-8.24	2.02	9.73	3.51	2.31	2.24	4.56	6.59	2.23	7.61	8.82
11ac-40 (MIMO)	5755	-6.97	2.02	9.73	4.78	-6.40	2.02	9.73	5.35	3.01	3.43	6.43	8.08	0.60	7.39	8.68
	5795	-6.31	2.02	9.73	5.44	-7.14	2.02	9.73	4.61	3.50	2.89	6.39	8.06	0.60	7.34	8.66
11ac-80 (MIMO)	5775	-7.80	2.02	9.73	3.95	-7.83	2.02	9.73	3.92	2.48	2.47	4.95	6.95	1.81	7.51	8.76

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

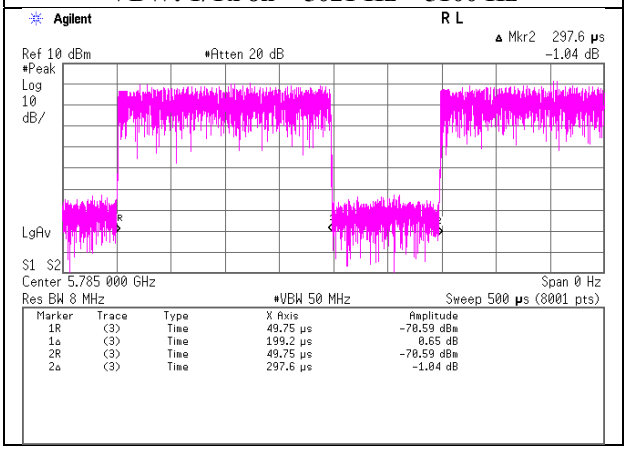
Burst rate confirmation

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	April 1, 2020
Temperature / Humidity	21 deg. C / 40 % RH
Engineer	Yusuke Tanikawara
Mode	Tx

11a 48 Mbps

Tx on / (Tx on + Tx off) =	0.669
Tx on / (Tx on + Tx off) * 100 =	66.9 %
Duty factor = 10 * log (0.2976 / 0.1992) =	1.75 dB

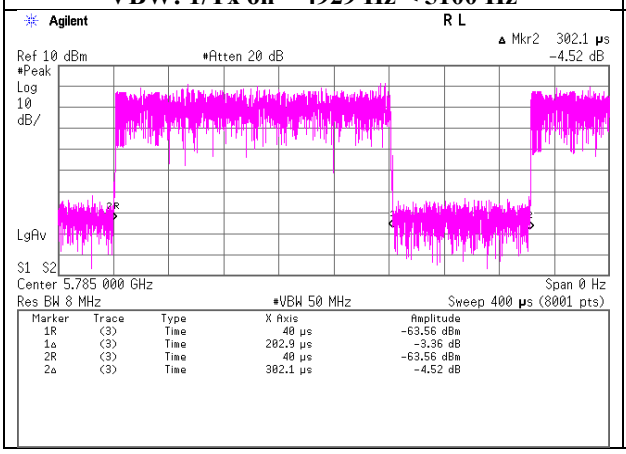
VBW: 1/Tx on = 5021 Hz < 5100 Hz



11n-20 (SISO) MCS 5

Tx on / (Tx on + Tx off) =	0.672
Tx on / (Tx on + Tx off) * 100 =	67.2 %
Duty factor = 10 * log (0.3021 / 0.2029) =	1.73 dB

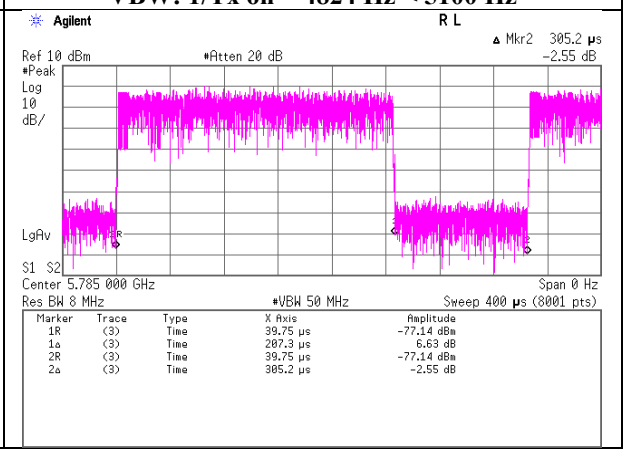
VBW: 1/Tx on = 4929 Hz < 5100 Hz



11ac-20 (SISO) MCS 5

Tx on / (Tx on + Tx off) =	0.679
Tx on / (Tx on + Tx off) * 100 =	67.9 %
Duty factor = 10 * log (0.3052 / 0.2073) =	1.68 dB

VBW: 1/Tx on = 4824 Hz < 5100 Hz



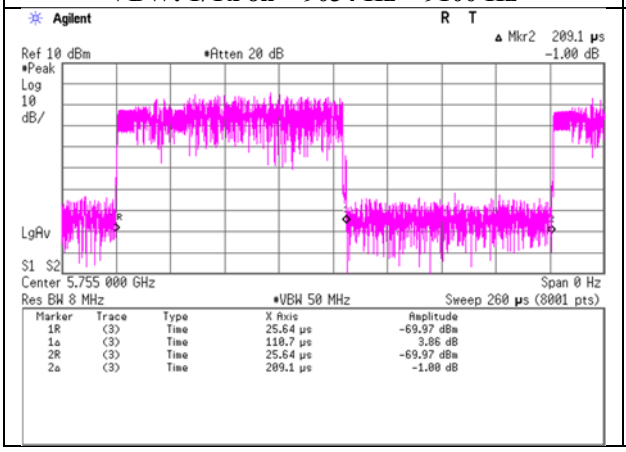
Burst rate confirmation

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	April 1, 2020
Temperature / Humidity	21 deg. C / 40 % RH
Engineer	Yusuke Tanikawara
Mode	Tx

11n-40 (SISO) MCS 6

Tx on / (Tx on + Tx off) =	0.529
Tx on / (Tx on + Tx off) * 100 =	52.9 %
Duty factor = 10 * log (0.2091 / 0.1107) =	2.77 dB

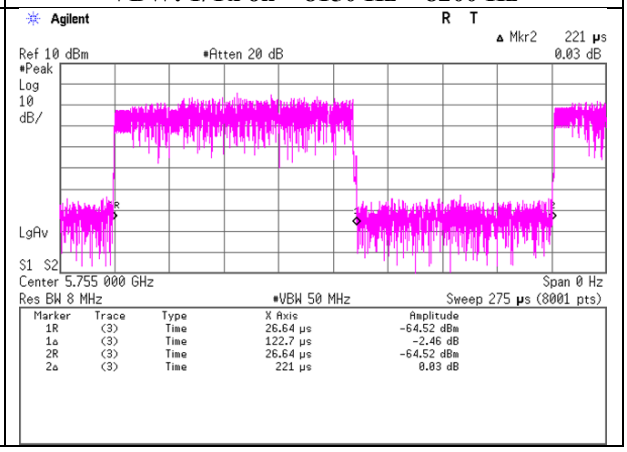
VBW: 1/Tx on = 9034 Hz < 9100 Hz



11ac-40 (SISO) MCS 5

Tx on / (Tx on + Tx off) =	0.555
Tx on / (Tx on + Tx off) * 100 =	55.5 %
Duty factor = 10 * log (0.221 / 0.1227) =	2.56 dB

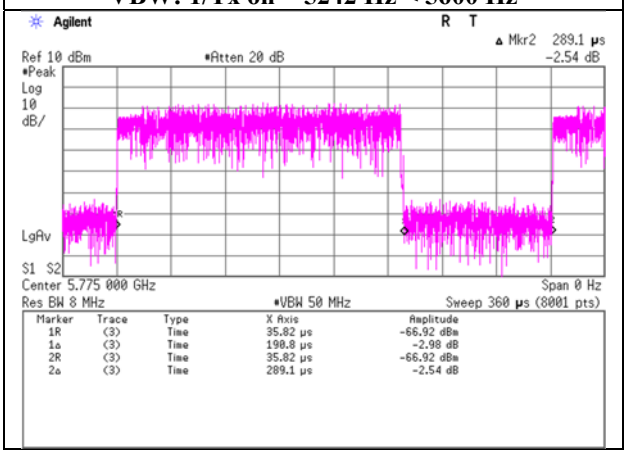
VBW: 1/Tx on = 8150 Hz < 8200 Hz



11ac-80 (SISO) MCS 1

Tx on / (Tx on + Tx off) =	0.660
Tx on / (Tx on + Tx off) * 100 =	66.0 %
Duty factor = 10 * log (0.2891 / 0.1908) =	1.81 dB

VBW: 1/Tx on = 5242 Hz < 5600 Hz



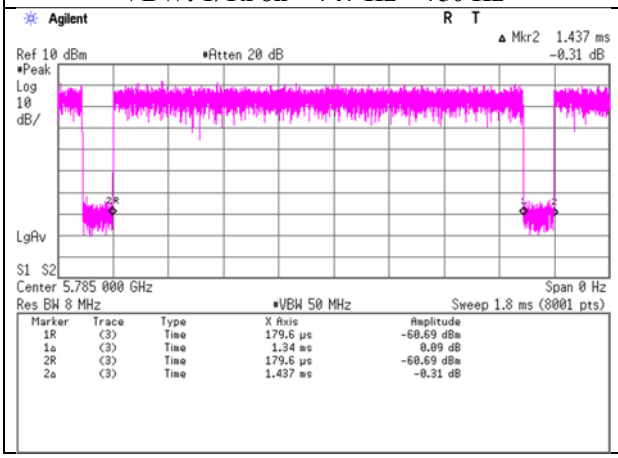
Burst rate confirmation

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	April 1, 2020
Temperature / Humidity	21 deg. C / 40 % RH
Engineer	Yusuke Tanikawara
Mode	Tx

11n-20 (MIMO) MCS 8

Tx on / (Tx on + Tx off) = 0.932
Tx on / (Tx on + Tx off) * 100 = 93.2 %
Duty factor = 10 * log (1.437 / 1.34) = 0.31 dB

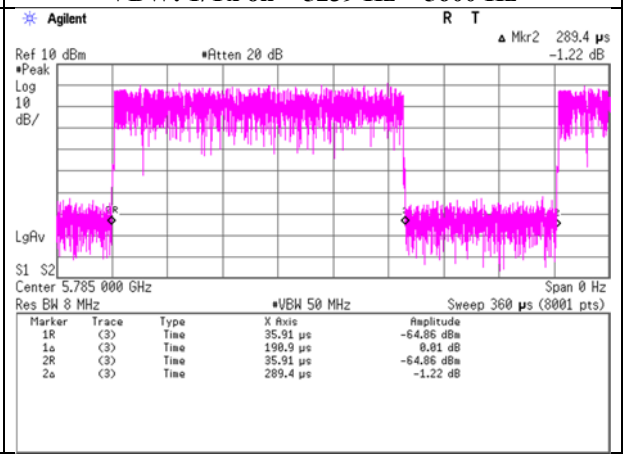
VBW: 1/Tx on = 747 Hz < 750 Hz



11ac-20 (MIMO) MCS 6

Tx on / (Tx on + Tx off) = 0.660
Tx on / (Tx on + Tx off) * 100 = 66.0 %
Duty factor = 10 * log (0.2894 / 0.1909) = 1.81 dB

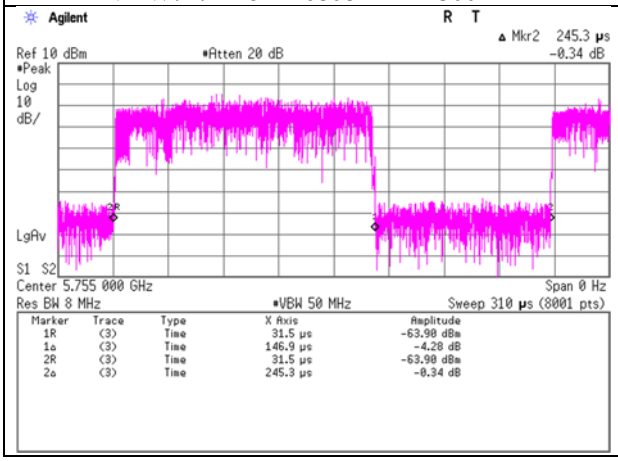
VBW: 1/Tx on = 5239 Hz < 5600 Hz



11n-40 (MIMO) MCS 12

Tx on / (Tx on + Tx off) = 0.599
Tx on / (Tx on + Tx off) * 100 = 59.9 %
Duty factor = 10 * log (0.2453 / 0.1469) = 2.23 dB

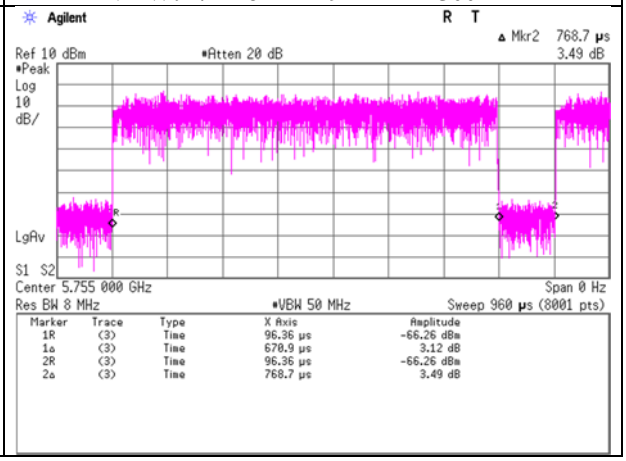
VBW: 1/Tx on = 6808 Hz < 7500 Hz



11ac-40 (MIMO) MCS 0

Tx on / (Tx on + Tx off) = 0.873
Tx on / (Tx on + Tx off) * 100 = 87.3 %
Duty factor = 10 * log (0.7687 / 0.6709) = 0.60 dB

VBW: 1/Tx on = 1491 Hz < 1500 Hz



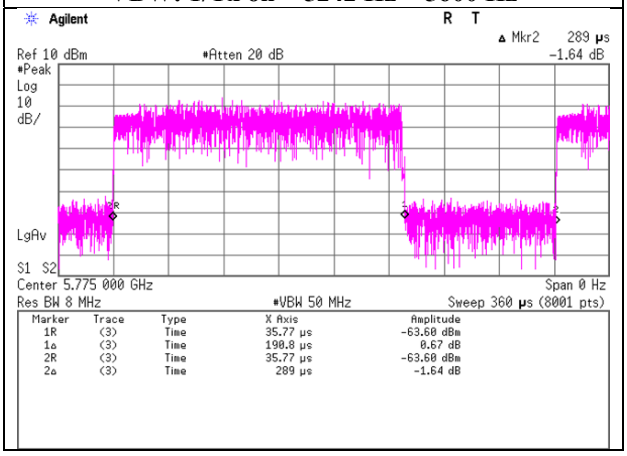
Burst rate confirmation

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	April 1, 2020
Temperature / Humidity	21 deg. C / 40 % RH
Engineer	Yusuke Tanikawara
Mode	Tx

11ac-80 (MIMO) MCS 1

Tx on / (Tx on + Tx off) =	**0.660**
Tx on / (Tx on + Tx off) * 100 =	**66.0 %**
Duty factor = 10 * log (0.289 / 0.1908) =	**1.81 dB**

VBW: 1/Tx on = 5242 Hz < 5600 Hz



Maximum Power Spectral Density

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	April 9, 2020
Temperature / Humidity	22 deg. C / 41 % RH
Engineer	Takahiro Kawakami
Mode	Tx 11a

Ant 0

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	PSD Reading [dBm /MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty Factor [dB]	Antenna Gain [dBi]	RBW Correction Factor [dB]	PSD (Conducted) Result [dBm /MHz]	PSD (Conducted) Limit [dBm /MHz]	PSD (Conducted) Margin [dB]	PSD (e.i.r.p.) Result [dBm /MHz]	PSD (e.i.r.p.) Limit [dBm /MHz]	PSD (e.i.r.p.) Margin [dB]
5745	-24.50	2.02	9.73	1.75	-3.5	6.99	-4.01	30.00	34.01	-7.51	36.00	43.51
5785	-24.44	2.02	9.73	1.75	-3.5	6.99	-3.95	30.00	33.95	-7.45	36.00	43.45
5805	-24.64	2.02	9.73	1.75	-3.5	6.99	-4.15	30.00	34.15	-7.65	36.00	43.65

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.	13294722S-C-R3
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	April 9, 2020
Temperature / Humidity	22 deg. C / 41 % RH
Engineer	Takahiro Kawakami
Mode	Tx 11n-20 (SISO)

Ant 0

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	PSD Reading [dBm /MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty Factor [dB]	Antenna Gain [dBi]	RBW Correction Factor [dB]	PSD (Conducted) Result [dBm /MHz]	PSD (Conducted) Limit [dBm /MHz]	PSD (Conducted) Margin [dB]	PSD (e.i.r.p.) Result [dBm /MHz]	PSD (e.i.r.p.) Limit [dBm /MHz]	PSD (e.i.r.p.) Margin [dB]
5745	-24.82	2.02	9.73	1.73	-3.5	6.99	-4.35	30.00	34.35	-7.85	36.00	43.85
5785	-24.50	2.02	9.73	1.73	-3.5	6.99	-4.03	30.00	34.03	-7.53	36.00	43.53
5805	-24.62	2.02	9.73	1.73	-3.5	6.99	-4.15	30.00	34.15	-7.65	36.00	43.65

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.	13294722S-C-R3
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	April 9, 2020
Temperature / Humidity	22 deg. C / 41 % RH
Engineer	Takahiro Kawakami
Mode	Tx 11ac-20 (SISO)

Ant 0 Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	PSD Reading [dBm /MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty Factor [dB]	Antenna Gain [dBi]	RBW Correction Factor [dB]	PSD (Conducted) Result [dBm /MHz]	PSD (Conducted) Limit [dBm /MHz]	PSD (Conducted) Margin [dB]	PSD (e.i.r.p.) Result [dBm /MHz]	PSD (e.i.r.p.) Limit [dBm /MHz]	PSD (e.i.r.p.) Margin [dB]
5745	-24.93	2.02	9.73	1.68	-3.5	6.99	-4.51	30.00	34.51	-8.01	36.00	44.01
5785	-24.01	2.02	9.73	1.68	-3.5	6.99	-3.59	30.00	33.59	-7.09	36.00	43.09
5805	-24.57	2.02	9.73	1.68	-3.5	6.99	-4.15	30.00	34.15	-7.65	36.00	43.65

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.	13294722S-C-R3
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	April 9, 2020
Temperature / Humidity	22 deg. C / 41 % RH
Engineer	Takahiro Kawakami
Mode	Tx 11n-40 (SISO)

Ant 1 Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	PSD Reading [dBm /MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty Factor [dB]	Antenna Gain [dBi]	RBW Correction Factor [dB]	PSD (Conducted) Result [dBm /MHz]	PSD (Conducted) Limit [dBm /MHz]	PSD (Conducted) Margin [dB]	PSD (e.i.r.p.) Result [dBm /MHz]	PSD (e.i.r.p.) Limit [dBm /MHz]	PSD (e.i.r.p.) Margin [dB]
5755	-29.25	2.02	9.73	2.77	-3.6	6.99	-7.74	30.00	37.74	-11.34	36.00	47.34
5795	-30.07	2.02	9.73	2.77	-3.6	6.99	-8.56	30.00	38.56	-12.16	36.00	48.16

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.	13294722S-C-R3
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	April 9, 2020
Temperature / Humidity	22 deg. C / 41 % RH
Engineer	Takahiro Kawakami
Mode	Tx 11ac-40 (SISO)

Ant 1 Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	PSD Reading [dBm /MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty Factor [dB]	Antenna Gain [dBi]	RBW Correction Factor [dB]	PSD (Conducted) Result [dBm /MHz]	PSD (Conducted) Limit [dBm /MHz]	PSD (Conducted) Margin [dB]	PSD (e.i.r.p.) Result [dBm /MHz]	PSD (e.i.r.p.) Limit [dBm /MHz]	PSD (e.i.r.p.) Margin [dB]
5755	-29.50	2.02	9.73	2.56	-3.6	6.99	-8.20	30.00	38.20	-11.80	36.00	47.80
5795	-30.38	2.02	9.73	2.56	-3.6	6.99	-9.08	30.00	39.08	-12.68	36.00	48.68

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.	13294722S-C-R3
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	April 9, 2020
Temperature / Humidity	22 deg. C / 41 % RH
Engineer	Takahiro Kawakami
Mode	Tx 11ac-80 (SISO)

Ant 1 Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	PSD Reading [dBm /MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty Factor [dB]	Antenna Gain [dBi]	RBW Correction Factor [dB]	PSD (Conducted) Result [dBm /MHz]	PSD (Conducted) Limit [dBm /MHz]	PSD (Conducted) Margin [dB]	PSD (e.i.r.p.) Result [dBm /MHz]	PSD (e.i.r.p.) Limit [dBm /MHz]	PSD (e.i.r.p.) Margin [dB]
5775	-32.15	2.02	9.73	1.81	-3.6	6.99	-11.60	30.00	41.60	-15.20	36.00	51.20

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.	13294722S-C-R3
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	April 10, 2020
Temperature / Humidity	22 deg. C / 40 % RH
Engineer	Shiro Kobayashi
Mode	Tx 11n-20 (MIMO)

Ant 0+1 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
	0	1	Sum				0	1	Sum			
[MHz]	[mW/MHz]	[mW/MHz]	[mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]	[mW/MHz]	[mW/MHz]	[mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]
5745	0.23	0.27	0.50	-3.04	30.00	33.04	0.10	0.12	0.22	-6.60	36.00	42.60
5785	0.28	0.22	0.50	-3.01	30.00	33.01	0.13	0.09	0.22	-6.55	36.00	42.55
5825	0.27	0.21	0.48	-3.21	30.00	33.21	0.12	0.09	0.21	-6.75	36.00	42.75

			Ant 0						Ant 1					
Tested Frequency	Duty Factor	RBW Correction Factor	PSD Reading	Cable Loss	Atten. Loss	Antenna Gain	PSD Result Cond.	PSD Result e.i.r.p.	PSD Reading	Cable Loss	Atten. Loss	Antenna Gain	PSD Result Cond.	PSD Result 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]
5745	0.31	6.99	-25.52	2.02	9.73	-3.50	-6.47	-9.97	-24.72	2.02	9.73	-3.60	-5.67	-9.27
5785	0.31	6.99	-24.51	2.02	9.73	-3.50	-5.46	-8.96	-25.71	2.02	9.73	-3.60	-6.66	-10.26
5825	0.31	6.99	-24.75	2.02	9.73	-3.50	-5.70	-9.20	-25.86	2.02	9.73	-3.60	-6.81	-10.41

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
The conducted PSD limit was reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. (All frequencies for FCC, 5725 MHz-5850 MHz for IC)

Maximum Power Spectral Density

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	April 10, 2020
Temperature / Humidity	22 deg. C / 40 % RH
Engineer	Shiro Kobayashi
Mode	Tx 11ac-20 (MIMO)

Ant 0+1 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
	0	1	Sum				0	1	Sum			
[MHz]	[mW/MHz]	[mW/MHz]	[mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]	[mW/MHz]	[mW/MHz]	[mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]
5745	0.31	0.39	0.70	-1.52	30.00	31.52	0.14	0.17	0.31	-5.08	36.00	41.08
5785	0.32	0.34	0.66	-1.82	30.00	31.82	0.14	0.15	0.29	-5.37	36.00	41.37
5825	0.33	0.32	0.65	-1.88	30.00	31.88	0.15	0.14	0.29	-5.43	36.00	41.43

			Ant 0						**Ant 1**					
Tested Frequency	Duty Factor	RBW Correction Factor	PSD Reading	Cable Loss	Atten. Loss	Antenna Gain	PSD Result Cond.	PSD Result e.i.r.p.	PSD Reading	Cable Loss	Atten. Loss	Antenna Gain	PSD Result Cond.	PSD Result 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]
5745	1.81	6.99	-25.62	2.02	9.73	-3.50	-5.07	-8.57	-24.60	2.02	9.73	-3.60	-4.05	-7.65
5785	1.81	6.99	-25.52	2.02	9.73	-3.50	-4.97	-8.47	-25.25	2.02	9.73	-3.60	-4.70	-8.30
5825	1.81	6.99	-25.40	2.02	9.73	-3.50	-4.85	-8.35	-25.49	2.02	9.73	-3.60	-4.94	-8.54

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
The conducted PSD limit was reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. (All frequencies for FCC, 5725 MHz-5850 MHz for IC)

Maximum Power Spectral Density

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	April 10, 2020
Temperature / Humidity	22 deg. C / 40 % RH
Engineer	Shiro Kobayashi
Mode	Tx 11n-40 (MIMO)

Ant 0+1 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
	0	1	Sum				0	1	Sum			
[MHz]	[mW/MHz]	[mW/MHz]	[mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]	[mW/MHz]	[mW/MHz]	[mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]
5755	0.15	0.14	0.29	-5.36	30.00	35.36	0.07	0.06	0.13	-8.91	36.00	44.91
5795	0.15	0.14	0.29	-5.41	30.00	35.41	0.07	0.06	0.13	-8.96	36.00	44.96

			Ant 0						Ant 1					
Tested Frequency	Duty Factor	RBW Correction Factor	PSD Reading	Cable Loss	Atten. Loss	Antenna Gain	PSD Result Cond.	PSD Result e.i.r.p.	PSD Reading	Cable Loss	Atten. Loss	Antenna Gain	PSD Result Cond.	PSD Result 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]
5755	2.23	6.99	-29.27	2.02	9.73	-3.50	-8.30	-11.80	-29.41	2.02	9.73	-3.60	-8.44	-12.04
5795	2.23	6.99	-29.32	2.02	9.73	-3.50	-8.35	-11.85	-29.46	2.02	9.73	-3.60	-8.49	-12.09

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
The conducted PSD limit was reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. (All frequencies for FCC, 5725 MHz-5850 MHz for IC)

Maximum Power Spectral Density

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	April 10, 2020
Temperature / Humidity	22 deg. C / 40 % RH
Engineer	Shiro Kobayashi
Mode	Tx 11ac-40 (MIMO)

Ant 0+1 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
	0	1	Sum				0	1	Sum			
[MHz]	[mW/MHz]	[mW/MHz]	[mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]	[mW/MHz]	[mW/MHz]	[mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]
5755	0.09	0.10	0.19	-7.13	30.00	37.13	0.04	0.04	0.09	-10.68	36.00	46.68
5795	0.09	0.08	0.17	-7.66	30.00	37.66	0.04	0.04	0.08	-11.20	36.00	47.20

			Ant 0						Ant 1					
Tested Frequency	Duty Factor	RBW Correction Factor	PSD Reading	Cable Loss	Atten. Loss	Antenna Gain	PSD Result Cond.	PSD Result e.i.r.p.	PSD Reading	Cable Loss	Atten. Loss	Antenna Gain	PSD Result Cond.	PSD Result 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]
5755	0.60	6.99	-29.66	2.02	9.73	-3.50	-10.32	-13.82	-29.31	2.02	9.73	-3.60	-9.97	-13.57
5795	0.60	6.99	-29.83	2.02	9.73	-3.50	-10.49	-13.99	-30.19	2.02	9.73	-3.60	-10.85	-14.45

Sample Calculation:
PSD: Power Spectral Density
The PSD within 5725 MHz to 5825 MHz are based on any 500 kHz band.
RBW Correction Factor = 10 * log (Specified bandwidth / Measured bandwidth)
PSD Result (Conducted) = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Duty Factor + RBW Correction Factor
PSD Result (e.i.r.p.) = Conducted PSD Result + Antenna Gain
The conducted PSD limit was reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. (All frequencies for FCC, 5725 MHz-5850 MHz for IC)

Maximum Power Spectral Density

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	April 10, 2020
Temperature / Humidity	22 deg. C / 40 % RH
Engineer	Shiro Kobayashi
Mode	Tx 11ac-80 (MIMO)

Ant 0+1 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
	0	1	Sum				0	1	Sum			
[MHz]	[mW/MHz]	[mW/MHz]	[mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]	[mW/MHz]	[mW/MHz]	[mW/MHz]	[dBm/MHz]	[dBm/MHz]	[dB]
5775	0.07	0.07	0.14	-8.67	30.00	38.67	0.03	0.03	0.06	-12.22	36.00	48.22

			Ant 0						Ant 1					
Tested Frequency	Duty Factor	RBW Correction Factor	PSD Reading	Cable Loss	Atten. Loss	Antenna Gain	PSD Result Cond.	PSD Result e.i.r.p.	PSD Reading	Cable Loss	Atten. Loss	Antenna Gain	PSD Result Cond.	PSD Result 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]
5775	1.81	6.99	-32.17	2.02	9.73	-3.50	-11.62	-15.12	-32.30	2.02	9.73	-3.60	-11.75	-15.35

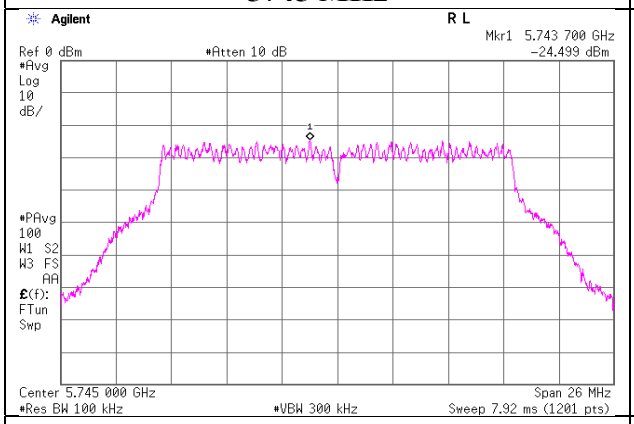
Sample Calculation:
PSD: Power Spectral Density
The PSD within 5725 MHz to 5825 MHz are based on any 500 kHz band.
RBW Correction Factor = 10 * log (Specified bandwidth / Measured bandwidth)
PSD Result (Conducted) = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Duty Factor + RBW Correction Factor
PSD Result (e.i.r.p.) = Conducted PSD Result + Antenna Gain
The conducted PSD limit was reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. (All frequencies for FCC, 5725 MHz-5850 MHz for IC)

Maximum Power Spectral Density

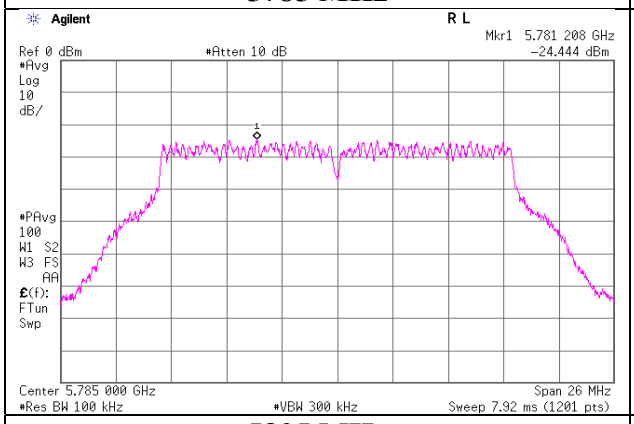
Report No.	13294722S-C-R3
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	April 9, 2020
Temperature / Humidity	22 deg. C / 41 % RH
Engineer	Takahiro Kawakami
Mode	Tx

11a, Ant 0

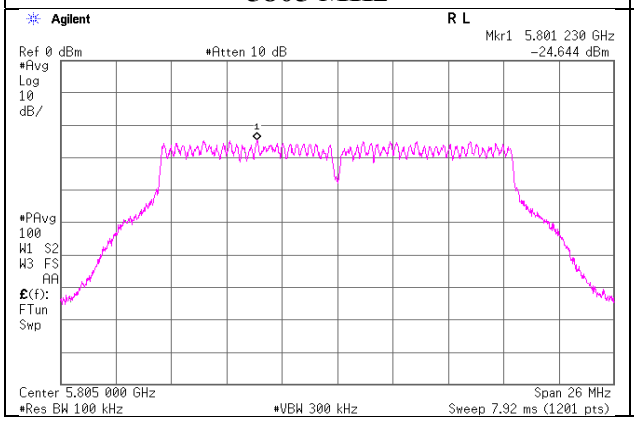
5745 MHz



5785 MHz

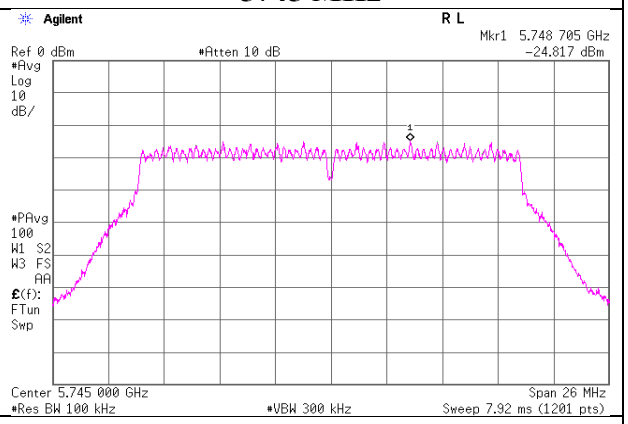


5805 MHz

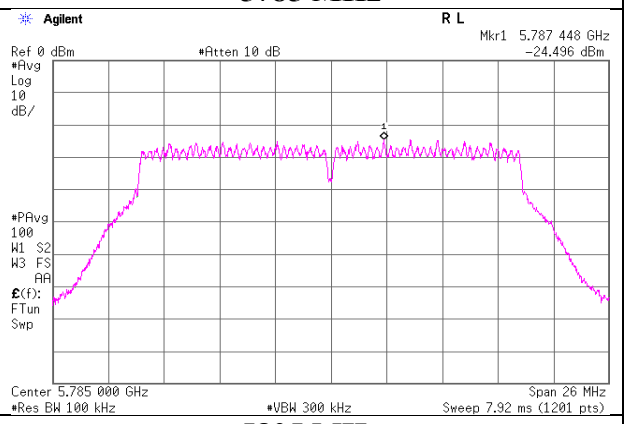


11n-20 (SISO), Ant 0

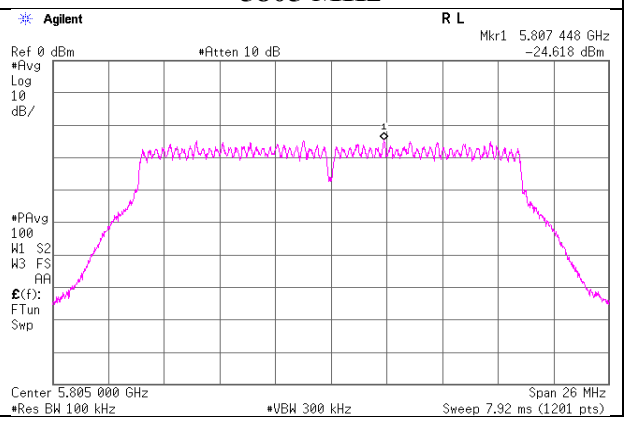
5745 MHz



5785 MHz



5805 MHz

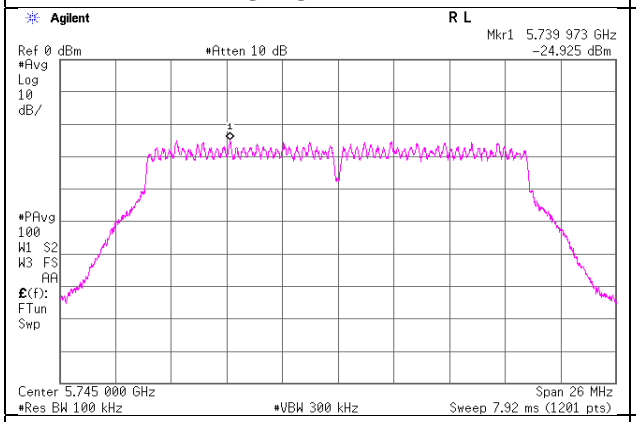


Maximum Power Spectral Density

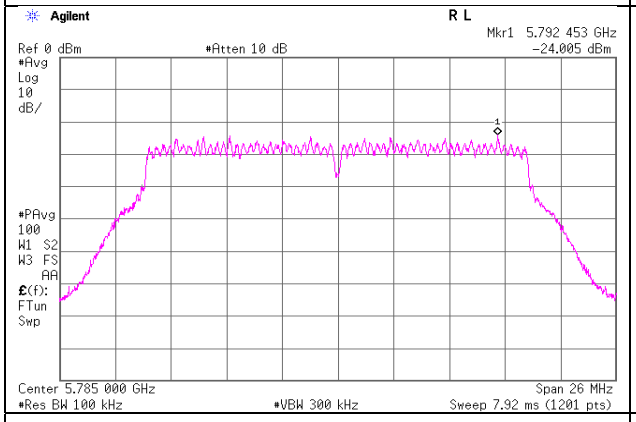
Report No.	13294722S-C-R3
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	April 9, 2020
Temperature / Humidity	22 deg. C / 41 % RH
Engineer	Takahiro Kawakami
Mode	Tx

11ac-20 (SISO), Antenna 0

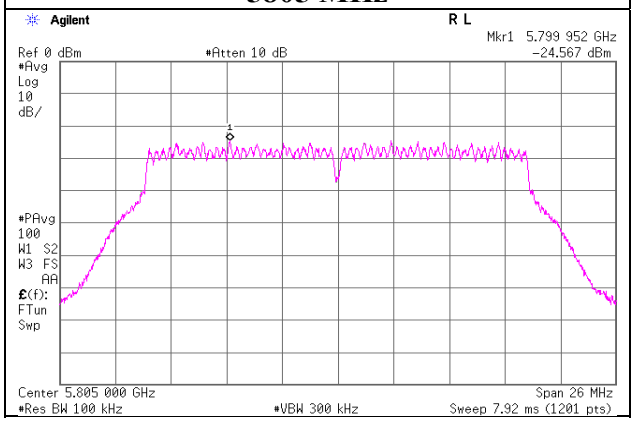
5745 MHz



5785 MHz

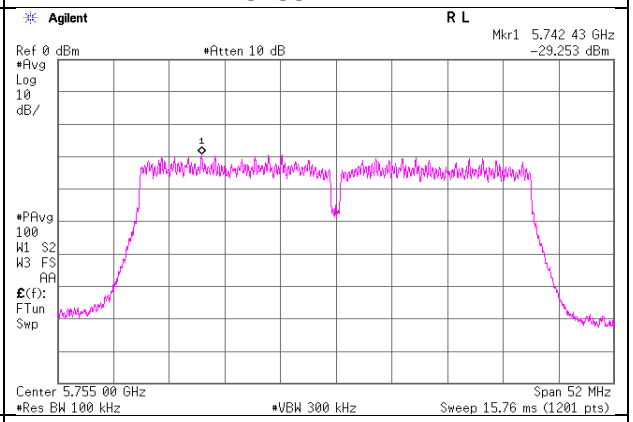


5805 MHz

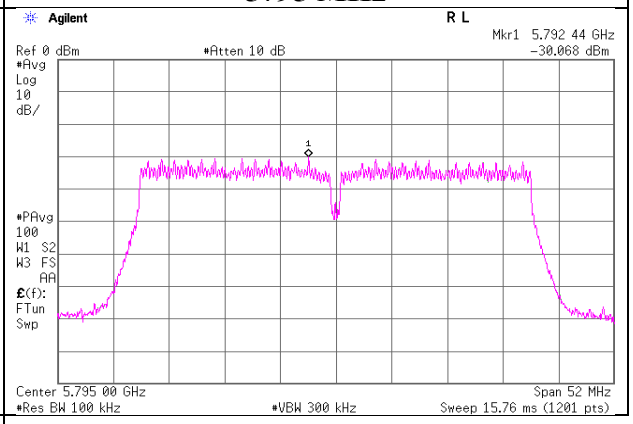


11n-40 (SISO), Antenna 1

5755 MHz



5795 MHz

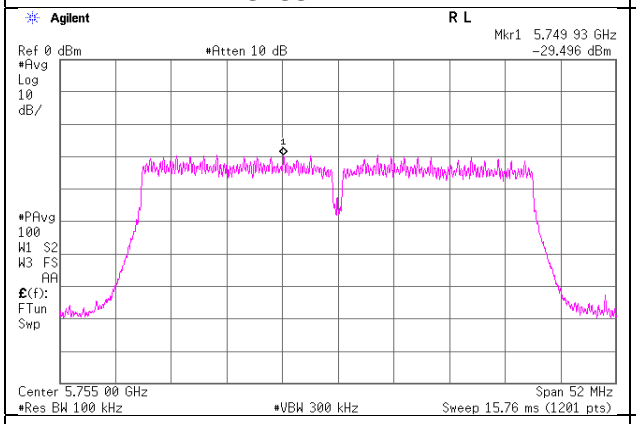


Maximum Power Spectral Density

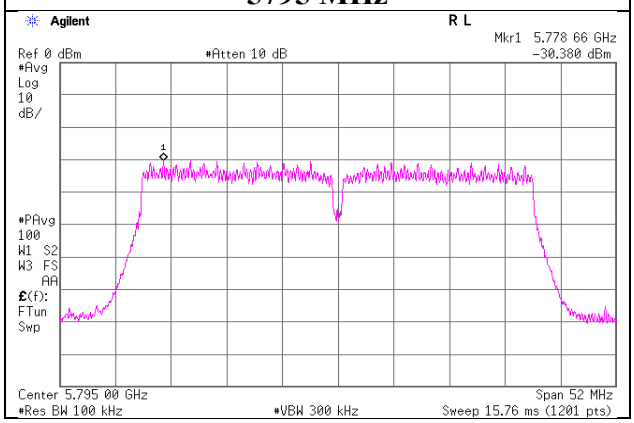
Report No.	13294722S-C-R3
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	April 9, 2020
Temperature / Humidity	22 deg. C / 41 % RH
Engineer	Takahiro Kawakami
Mode	Tx

11ac-40 (SISO), Antenna 1

5755 MHz

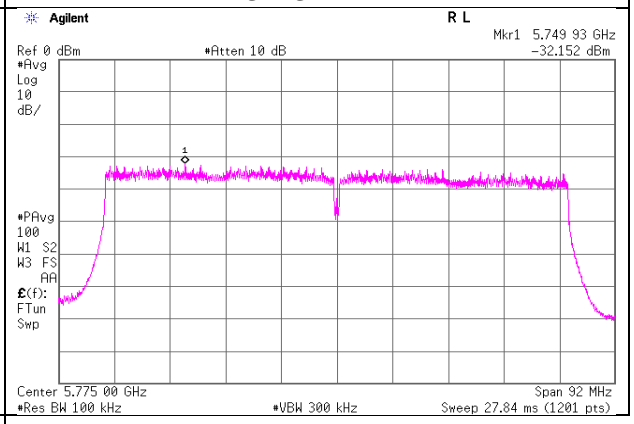


5795 MHz



11ac-80 (SISO), Antenna 1

5775 MHz

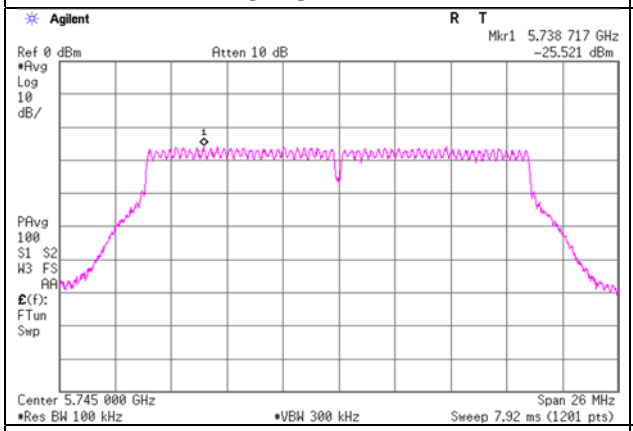


Maximum Power Spectral Density

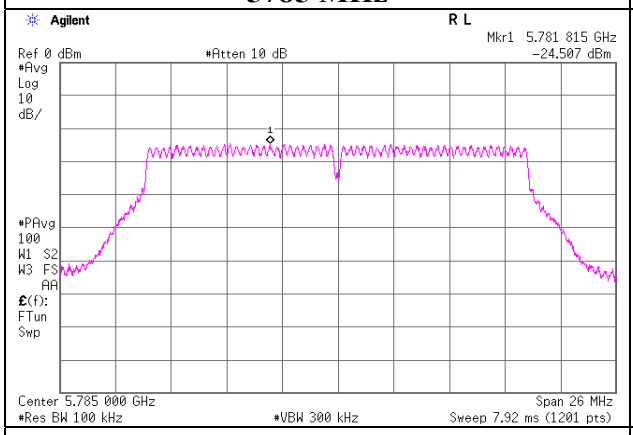
Report No.	13294722S-C-R3
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	April 10, 2020
Temperature / Humidity	22 deg. C / 40 % RH
Engineer	Shiro Kobayashi
Mode	Tx 11n-20 (MIMO)

11n-20 (MIMO), Ant 0

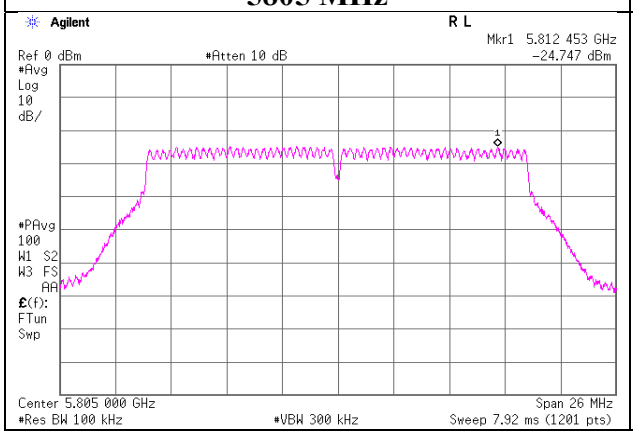
5745 MHz



5785 MHz

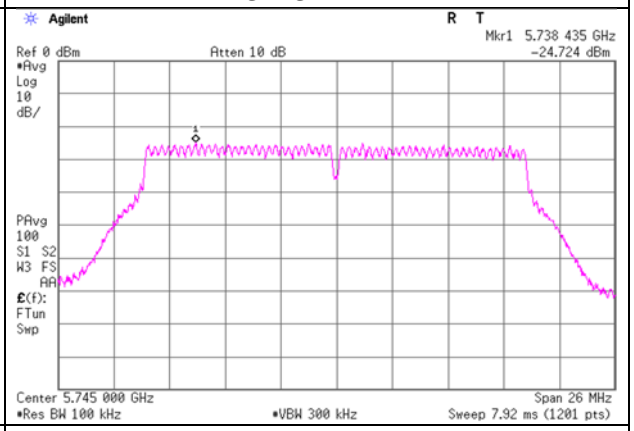


5805 MHz

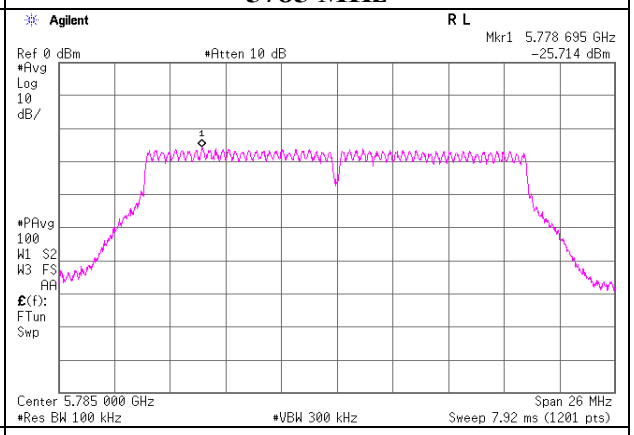


11n-20 (MIMO), Ant 1

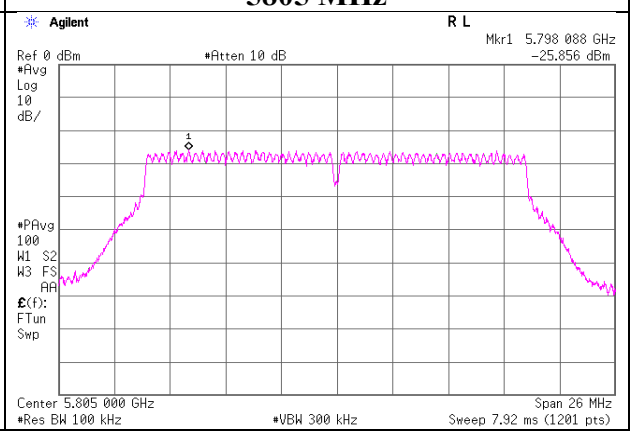
5745 MHz



5785 MHz



5805 MHz

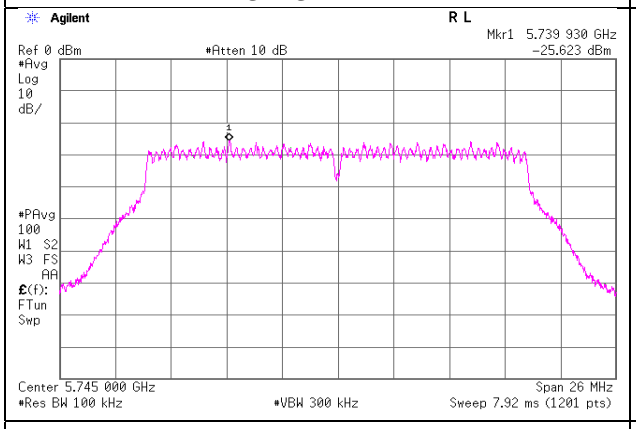


Maximum Power Spectral Density

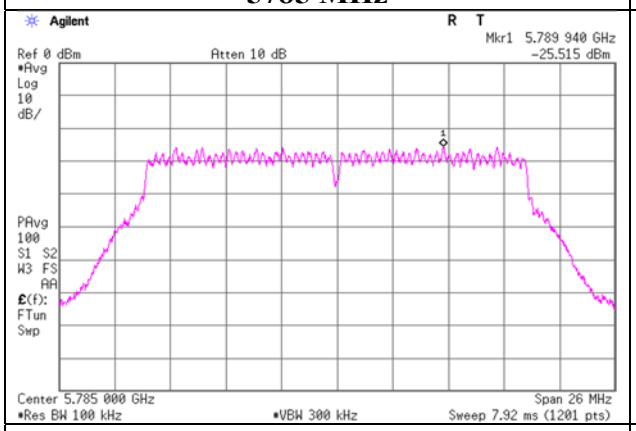
Report No.	13294722S-C-R3
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	April 10, 2020
Temperature / Humidity	22 deg. C / 40 % RH
Engineer	Shiro Kobayashi
Mode	Tx 11ac-20 (MIMO)

11ac-20 (MIMO), Ant 0

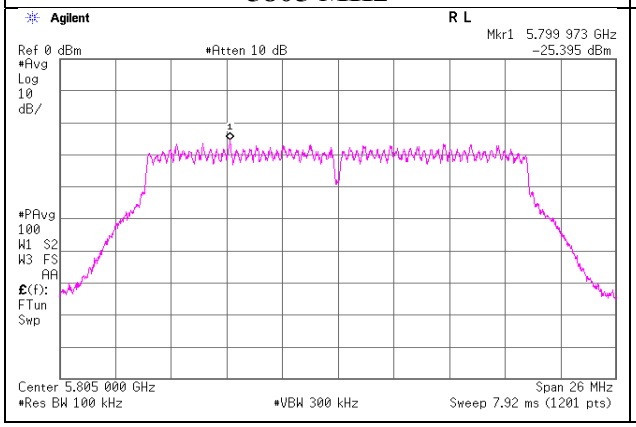
5745 MHz



5785 MHz

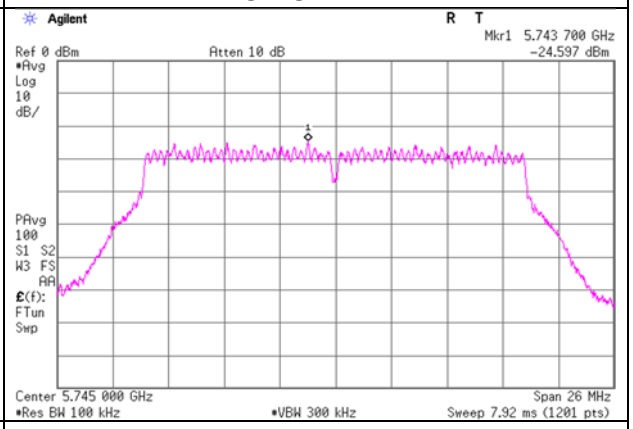


5805 MHz

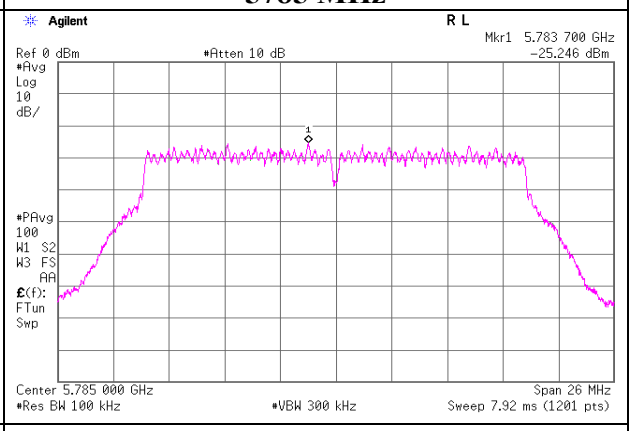


11ac-20 (MIMO), Ant 1

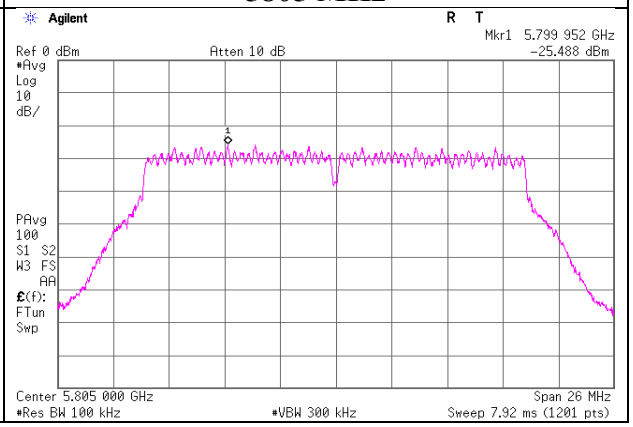
5745 MHz



5785 MHz



5805 MHz

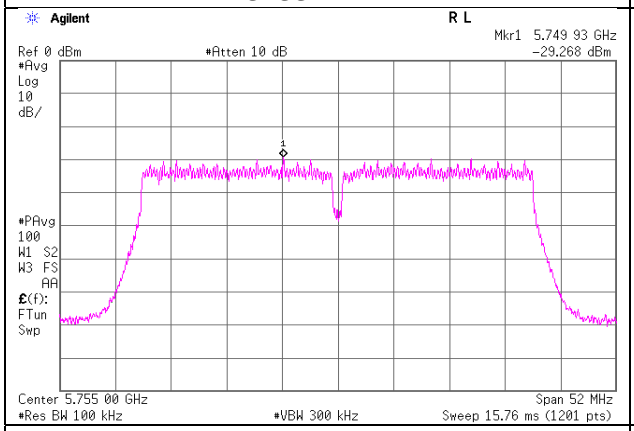


Maximum Power Spectral Density

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	April 10, 2020
Temperature / Humidity	22 deg. C / 40 % RH
Engineer	Shiro Kobayashi
Mode	Tx 11n-40 (MIMO)

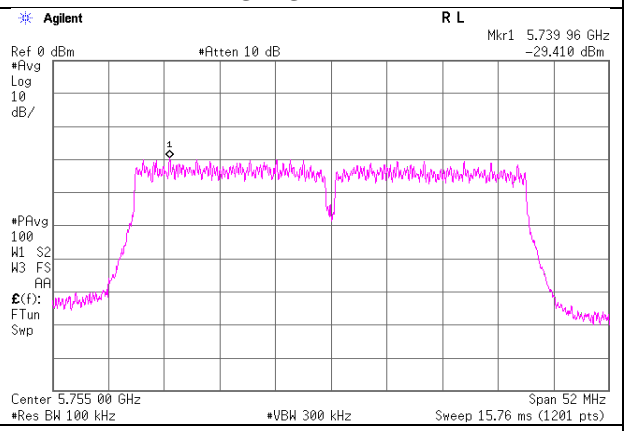
11n-40 (MIMO), Ant 0

5755 MHz

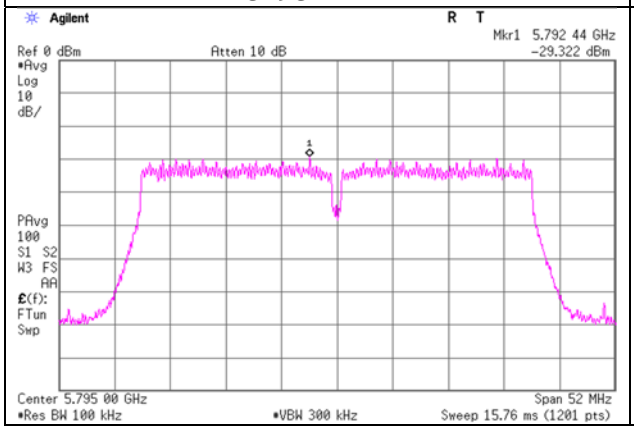


11n-40 (MIMO), Ant 1

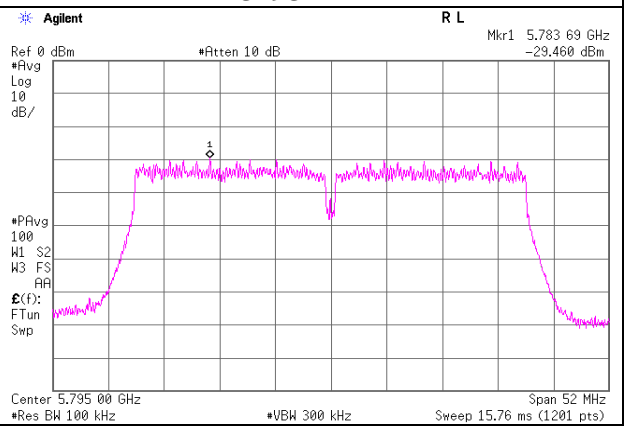
5745 MHz



5795 MHz



5795 MHz

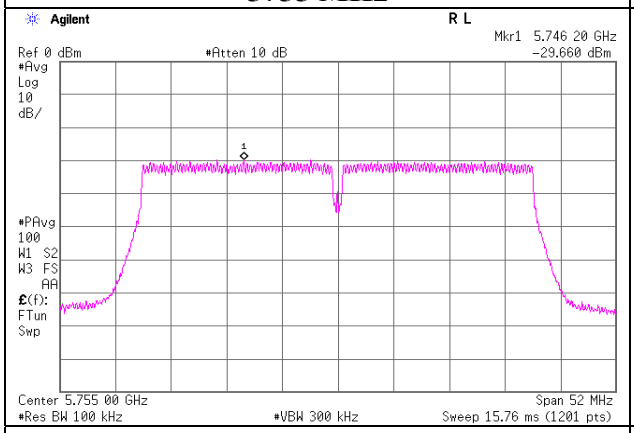


Maximum Power Spectral Density

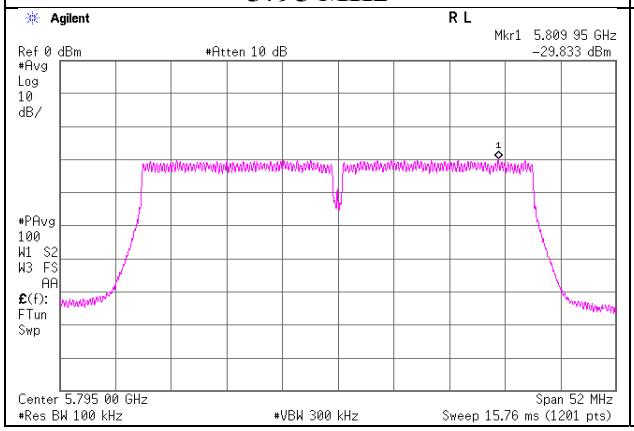
Report No.	13294722S-C-R3
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	April 10, 2020
Temperature / Humidity	22 deg. C / 40 % RH
Engineer	Shiro Kobayashi
Mode	Tx 11ac-40 (MIMO)

11ac-40 (MIMO), Ant 0

5755 MHz

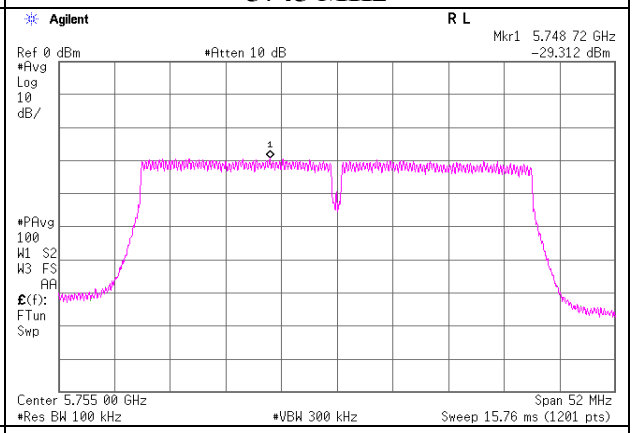


5795 MHz

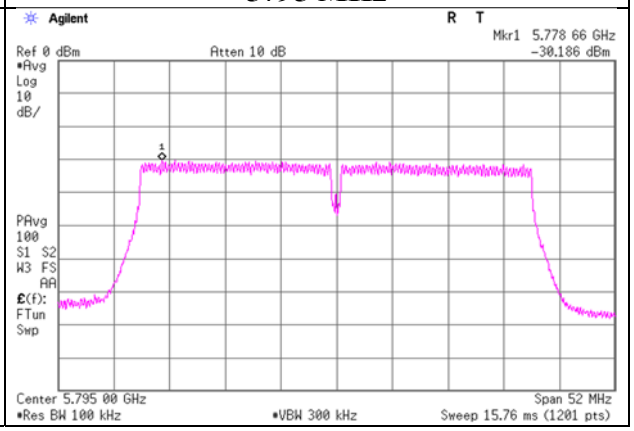


11ac-40 (MIMO), Ant 1

5745 MHz



5795 MHz

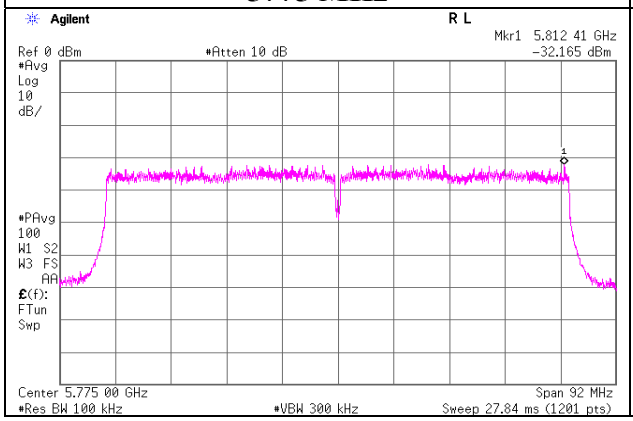


Maximum Power Spectral Density

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	April 10, 2020
Temperature / Humidity	22 deg. C / 40 % RH
Engineer	Shiro Kobayashi
Mode	Tx 11ac-80 (MIMO)

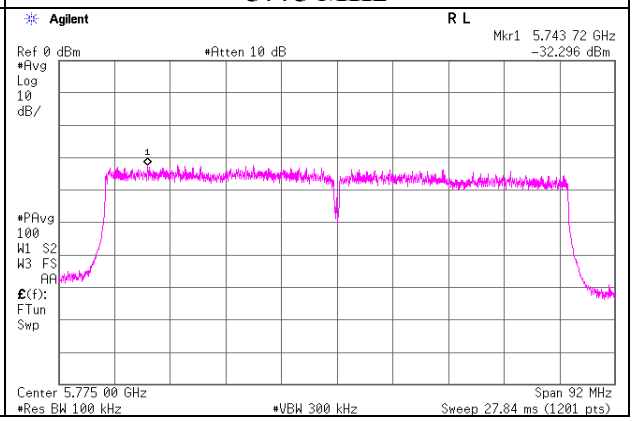
11ac-80 (MIMO), Ant 0

5775 MHz



11ac-80 (MIMO), Ant 1

5775 MHz



Radiated Spurious Emission

Report No.	13294722S-C-R3			
Test place	Shonan EMC Lab.			
Semi Anechoic Chamber	No.1	No.1	No.1	No.1
Date	April 5, 2020	April 6, 2020	April 6, 2020	April 4, 2020
Temperature / Humidity	22 deg. C / 35 % RH	22 deg. C / 42 % RH	20 deg. C / 39 % RH	21 deg. C / 41 % RH
Engineer	Kazuya Noda	Toshinori Yamada	Kazuya Noda	Toshinori Yamada
	(1 GHz - 6.4 GHz)	(6.4 GHz - 13 GHz)	(13 GHz - 18 GHz)	(18 GHz - 40 GHz)
Mode	Tx 11a 5745 MHz			

(above 1 GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11490.000	PK	45.26	40.15	10.65	39.44	2.17	58.79	73.9	15.1	201	202	
Hori.	11490.000	AV	35.60	40.15	10.65	39.44	2.17	49.13	53.9	**4.7**	201	202	VBW : 5.1 kHz
Vert.	11490.000	PK	45.18	40.15	10.65	39.44	2.17	58.71	73.9	15.1	234	281	
Vert.	11490.000	AV	35.53	40.15	10.65	39.44	2.17	49.06	53.9	4.8	234	281	VBW : 5.1 kHz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

(Calculation) (above 1 GHz Outside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5650.000	PK	45.53	32.43	16.94	39.90	2.17	57.17	-38.06	-27.0	11.1	111	148	
Hori.	5700.000	PK	47.41	32.57	16.97	39.94	2.17	59.18	-36.05	10.0	46.0	111	148	
Hori.	5720.000	PK	48.38	32.63	16.98	39.95	2.17	60.21	-35.02	15.6	50.6	111	148	
Hori.	5725.000	PK	49.33	32.65	16.99	39.96	2.17	61.18	-34.05	27.0	61.0	111	148	
Hori.	17235.000	PK	45.41	41.83	13.44	38.97	-9.54	52.17	-43.06	-27.0	16.1	100	0	
Vert.	5650.000	PK	45.28	32.43	16.94	39.90	2.17	56.92	-38.31	-27.0	11.3	178	220	
Vert.	5700.000	PK	46.62	32.57	16.97	39.94	2.17	58.39	-36.84	10.0	46.8	178	220	
Vert.	5720.000	PK	49.31	32.63	16.98	39.95	2.17	61.14	-34.09	15.6	49.7	178	220	
Vert.	5725.000	PK	49.88	32.65	16.99	39.96	2.17	61.73	-33.50	27.0	60.5	178	220	
Vert.	17235.000	PK	45.38	41.83	13.44	38.97	-9.54	52.14	-43.09	-27.0	16.1	100	0	

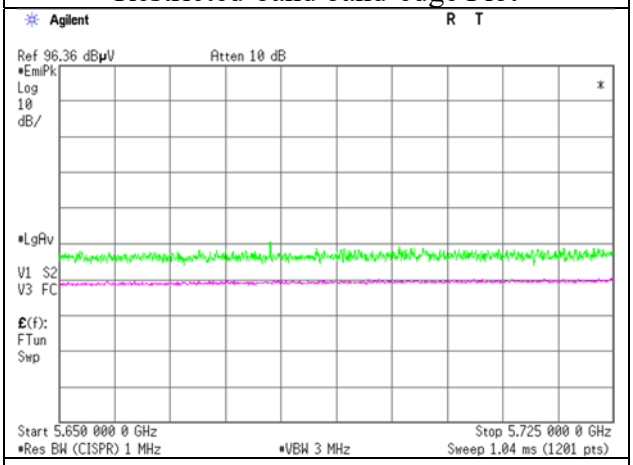
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Resrult(EIRP[dBm])=10*LOG(({ 10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) *10^3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Radiated Spurious Emission

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	No.1
Date	April 5, 2020
Temperature / Humidity	22 deg. C / 35 % RH
Engineer	Kazuya Noda (1 GHz - 6.4 GHz)
Mode	Tx 11a 5745 MHz

Horizontal

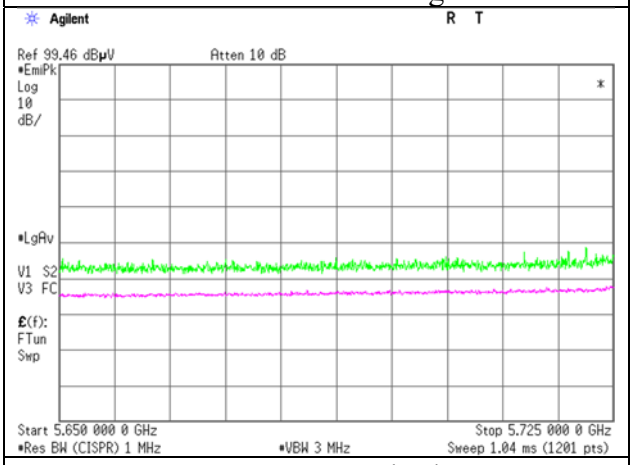
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.
Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Report No.	13294722S-C-R3				
Test place	Shonan EMC Lab.				
Semi Anechoic Chamber	No.2	No.1	No.1	No.1	No.1
Date	April 15, 2020	April 5, 2020	April 6, 2020	April 6, 2020	April 4, 2020
Temperature / Humidity	22 deg. C / 39 % RH	22 deg. C / 35 % RH	22 deg. C / 42 % RH	20 deg. C / 39 % RH	21 deg. C / 41 % RH
Engineer	Takahiro Kawakami (30 MHz - 1 GHz)	Kazuya Noda (1 GHz - 6.4 GHz)	Toshinori Yamada (6.4 GHz - 13 GHz)	Kazuya Noda (13 GHz - 18 GHz)	Toshinori Yamada (18 GHz - 40 GHz)
Mode	Tx 11a 5785 MHz				

(above 1 GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11570.000	PK	45.47	40.07	10.71	39.38	2.17	59.04	73.9	14.8	156	191	
Hori.	11570.000	AV	35.66	40.07	10.71	39.38	2.17	49.23	53.9	4.6	156	191	VBW : 5.1 kHz
Vert.	11570.000	PK	45.73	40.07	10.71	39.38	2.17	59.30	73.9	14.6	153	221	
Vert.	11570.000	AV	35.74	40.07	10.71	39.38	2.17	49.31	53.9	**4.5**	153	221	VBW : 5.1 kHz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

(Calculation) (above 1 GHz Outside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	17355.000	PK	45.33	42.90	13.51	38.60	-9.54	53.60	-41.63	-27.0	14.6	100	0	
Vert.	17355.000	PK	45.11	42.90	13.51	38.60	-9.54	53.38	-41.85	-27.0	14.8	100	0	

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Resrult(EIRP[dBm])=10*LOG （({ 10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) *10^3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Radiated Spurious Emission

Report No.	13294722S-C-R3			
Test place	Shonan EMC Lab.			
Semi Anechoic Chamber	No.1	No.1	No.1	No.1
Date	April 5, 2020	April 6, 2020	April 6, 2020	April 4, 2020
Temperature / Humidity	22 deg. C / 35 % RH	22 deg. C / 42 % RH	20 deg. C / 39 % RH	21 deg. C / 41 % RH
Engineer	Kazuya Noda	Toshinori Yamada	Kazuya Noda	Toshinori Yamada
	(1 GHz - 6.4 GHz)	(6.4 GHz - 13 GHz)	(13 GHz - 18 GHz)	(18 GHz - 40 GHz)
Mode	Tx 11a 5805 MHz			

(above 1 GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11610.000	PK	45.38	39.97	10.75	39.36	2.17	58.91	73.9	15.0	158	161	
Hori.	11610.000	AV	35.32	39.97	10.75	39.36	2.17	48.85	53.9	5.1	158	161	VBW : 5.1 kHz
Vert.	11610.000	PK	44.75	39.97	10.75	39.36	2.17	58.28	73.9	15.6	156	213	
Vert.	11610.000	AV	35.35	39.97	10.75	39.36	2.17	48.88	53.9	**5.0**	156	213	VBW : 5.1 kHz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

(Calculation) (above 1 GHz Outside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5850.000	PK	45.86	33.01	17.07	40.05	2.17	58.06	-37.17	27.0	64.2	122	274	
Hori.	5855.000	PK	46.08	33.02	17.07	40.06	2.17	58.28	-36.95	15.6	52.5	122	274	
Hori.	5875.000	PK	45.97	33.06	17.09	40.07	2.17	58.22	-37.01	10.0	47.0	122	274	
Hori.	5925.000	PK	45.95	33.16	17.12	40.11	2.17	58.29	-36.94	-27.0	9.9	122	274	
Hori.	17415.000	PK	44.87	43.36	13.54	38.42	-9.54	53.81	-41.42	-27.0	14.4	100	0	
Vert.	5850.000	PK	45.86	33.01	17.07	40.05	2.17	58.06	-37.17	27.0	64.2	173	218	
Vert.	5855.000	PK	46.28	33.02	17.07	40.06	2.17	58.48	-36.75	15.6	52.3	173	218	
Vert.	5875.000	PK	45.95	33.06	17.09	40.07	2.17	58.20	-37.03	10.0	47.0	173	218	
Vert.	5925.000	PK	46.07	33.16	17.12	40.11	2.17	58.41	-36.82	-27.0	9.8	173	218	
Vert.	17415.000	PK	45.01	43.36	13.54	38.42	-9.54	53.95	-41.28	-27.0	14.3	100	0	

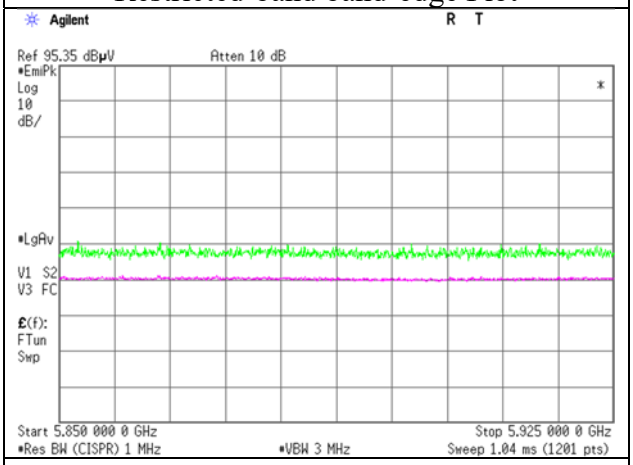
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Resrult(EIRP[dBm])=10*LOG （({ 10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) *10^3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Radiated Spurious Emission

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	No.1
Date	April 5, 2020
Temperature / Humidity	22 deg. C / 35 % RH
Engineer	Kazuya Noda (1 GHz - 6.4 GHz)
Mode	Tx 11a 5805 MHz

Horizontal

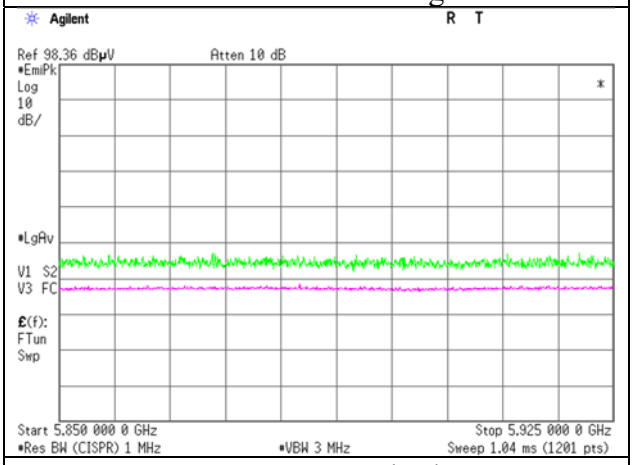
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.
Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	No.3
Date	April 10, 2020
Temperature / Humidity	23 deg. C / 33 % RH
Engineer	Makoto Hosaka (1 GHz - 6.4 GHz)
Mode	Tx 11a 5745 MHz with 3DH5 Hopping

(Calculation) (above 1 GHz Outside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5650.000	PK	49.65	32.46	16.45	43.46	2.17	57.27	-37.96	-27.0	**11.0**	156	245	
Hori.	5700.000	PK	49.97	32.61	16.49	43.45	2.17	57.79	-37.44	10.0	47.4	156	245	
Hori.	5720.000	PK	50.11	32.66	16.50	43.44	2.17	58.00	-37.23	15.6	52.8	156	245	
Hori.	5725.000	PK	50.39	32.68	16.50	43.44	2.17	58.30	-36.93	27.0	63.9	156	245	
Vert.	5650.000	PK	49.10	32.46	16.45	43.46	2.17	56.72	-38.51	-27.0	11.5	119	174	
Vert.	5700.000	PK	49.41	32.61	16.49	43.45	2.17	57.23	-38.00	10.0	48.0	119	174	
Vert.	5720.000	PK	49.64	32.66	16.50	43.44	2.17	57.53	-37.70	15.6	53.3	119	174	
Vert.	5725.000	PK	50.19	32.68	16.50	43.44	2.17	58.10	-37.13	27.0	64.1	119	174	

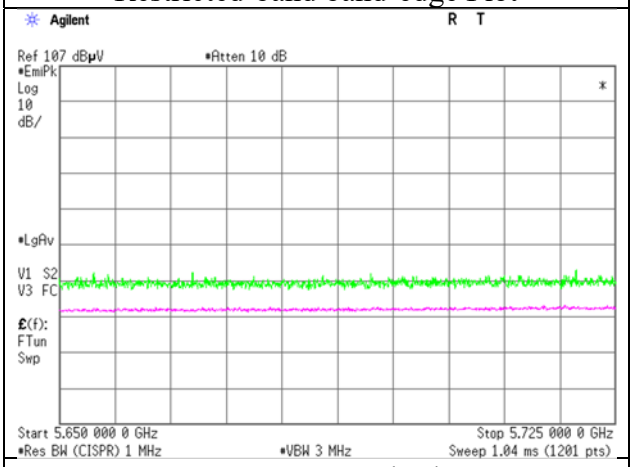
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Resrult(EIRP[dBm])=10*LOG （({ 10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) *10^3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Radiated Spurious Emission

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	No.3
Date	April 10, 2020
Temperature / Humidity	23 deg. C / 33 % RH
Engineer	Makoto Hosaka (1 GHz - 6.4 GHz)
Mode	Tx 11a 5745 MHz with 3DH5 Hopping

Horizontal

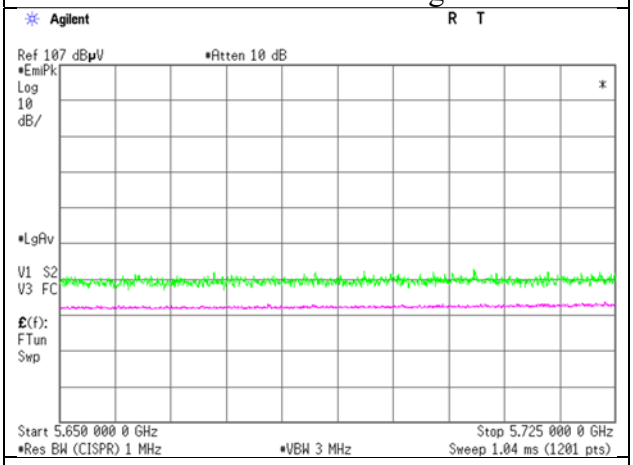
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.
Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	No.3
Date	April 10, 2020
Temperature / Humidity	23 deg. C / 33 % RH
Engineer	Makoto Hosaka (1 GHz - 6.4 GHz)
Mode	Tx 11a 5805 MHz with 3DH5 Hopping

(Calculation) (above 1 GHz Outside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5850.000	PK	50.29	33.02	16.60	43.41	2.17	58.67	-36.56	27.0	63.6	188	142	
Hori.	5855.000	PK	49.80	33.03	16.60	43.41	2.17	58.19	-37.04	15.6	52.6	188	142	
Hori.	5875.000	PK	49.72	33.08	16.61	43.41	2.17	58.17	-37.06	10.0	47.1	188	142	
Hori.	5925.000	PK	49.50	33.18	16.64	43.40	2.17	58.09	-37.14	-27.0	10.1	188	142	
Vert.	5850.000	PK	50.85	33.02	16.60	43.41	2.17	59.23	-36.00	27.0	63.0	113	173	
Vert.	5855.000	PK	49.37	33.03	16.60	43.41	2.17	57.76	-37.47	15.6	53.1	113	173	
Vert.	5875.000	PK	49.16	33.08	16.61	43.41	2.17	57.61	-37.62	10.0	47.6	113	173	
Vert.	5925.000	PK	49.73	33.18	16.64	43.40	2.17	58.32	-36.91	-27.0	**9.9**	113	173	

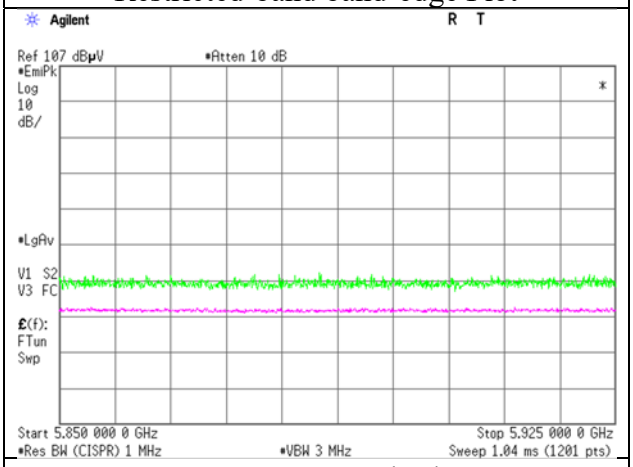
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Resrult(EIRP[dBm])=10*LOG （({ 10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) *10^3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Radiated Spurious Emission

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	No.3
Date	April 10, 2020
Temperature / Humidity	23 deg. C / 33 % RH
Engineer	Makoto Hosaka (1 GHz - 6.4 GHz)
Mode	Tx 11a 5805 MHz with 3DH5 Hopping

Horizontal

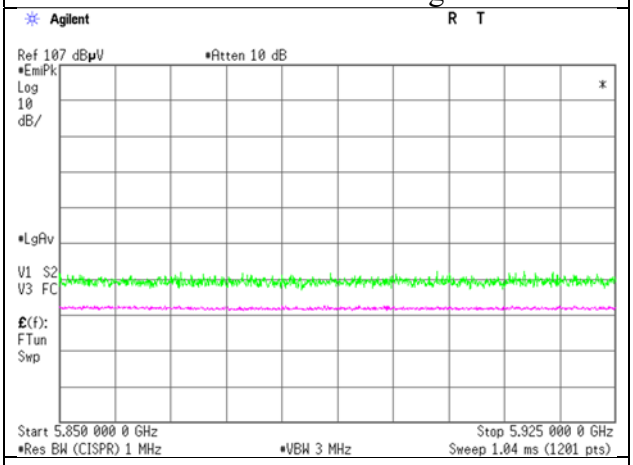
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.
Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Report No.	13294722S-C-R3			
Test place	Shonan EMC Lab.			
Semi Anechoic Chamber	No.1	No.1	No.1	No.1
Date	April 5, 2020	April 6, 2020	April 6, 2020	April 4, 2020
Temperature / Humidity	22 deg. C / 35 % RH	22 deg. C / 42 % RH	20 deg. C / 39 % RH	21 deg. C / 41 % RH
Engineer	Kazuya Noda	Toshinori Yamada	Kazuya Noda	Toshinori Yamada
	(1 GHz - 6.4 GHz)	(6.4 GHz - 13 GHz)	(13 GHz - 18 GHz)	(18 GHz - 40 GHz)
Mode	Tx 11n-20 (SISO) 5745 MHz			

(above 1 GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11490.000	PK	45.34	40.15	10.65	39.44	2.17	58.87	73.9	15.0	188	201	
Hori.	11490.000	AV	35.50	40.15	10.65	39.44	2.17	49.03	53.9	**4.9**	188	201	VBW : 5.1 kHz
Vert.	11490.000	PK	45.68	40.15	10.65	39.44	2.17	59.21	73.9	14.7	173	211	
Vert.	11490.000	AV	35.39	40.15	10.65	39.44	2.17	48.92	53.9	5.0	173	211	VBW : 5.1 kHz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

(Calculation) (above 1 GHz Outside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5650.000	PK	45.71	32.43	16.94	39.90	2.17	57.35	-37.88	-27.0	10.9	111	147	
Hori.	5700.000	PK	45.85	32.57	16.97	39.94	2.17	57.62	-37.61	10.0	47.6	111	147	
Hori.	5720.000	PK	46.28	32.63	16.98	39.95	2.17	58.11	-37.12	15.6	52.7	111	147	
Hori.	5725.000	PK	46.21	32.65	16.99	39.96	2.17	58.06	-37.17	27.0	64.2	111	147	
Hori.	17235.000	PK	45.02	41.83	13.44	38.97	-9.54	51.78	-43.45	-27.0	16.4	100	0	
Vert.	5650.000	PK	45.76	32.43	16.94	39.90	2.17	57.40	-37.83	-27.0	10.8	175	219	
Vert.	5700.000	PK	46.03	32.57	16.97	39.94	2.17	57.80	-37.43	10.0	47.4	175	219	
Vert.	5720.000	PK	46.63	32.63	16.98	39.95	2.17	58.46	-36.77	15.6	52.4	175	219	
Vert.	5725.000	PK	46.58	32.65	16.99	39.96	2.17	58.43	-36.80	27.0	63.8	175	219	
Vert.	17235.000	PK	45.16	41.83	13.44	38.97	-9.54	51.92	-43.31	-27.0	16.3	100	0	

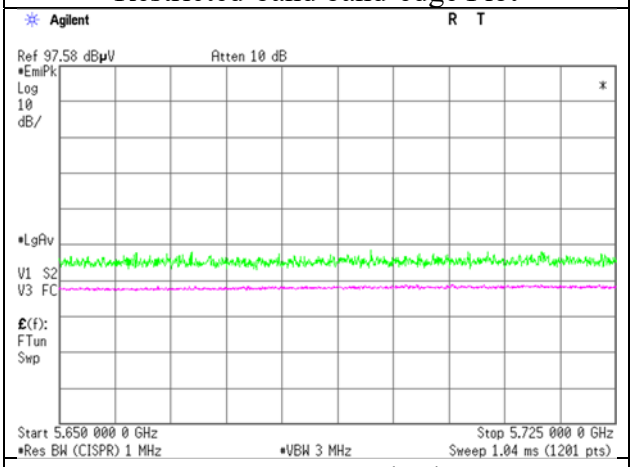
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Resrult(EIRP[dBm])=10*LOG （({ 10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) *10^3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Radiated Spurious Emission

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	No.1
Date	April 5, 2020
Temperature / Humidity	22 deg. C / 35 % RH
Engineer	Kazuya Noda (1 GHz - 6.4 GHz)
Mode	Tx 11n-20 (SISO) 5745 MHz

Horizontal

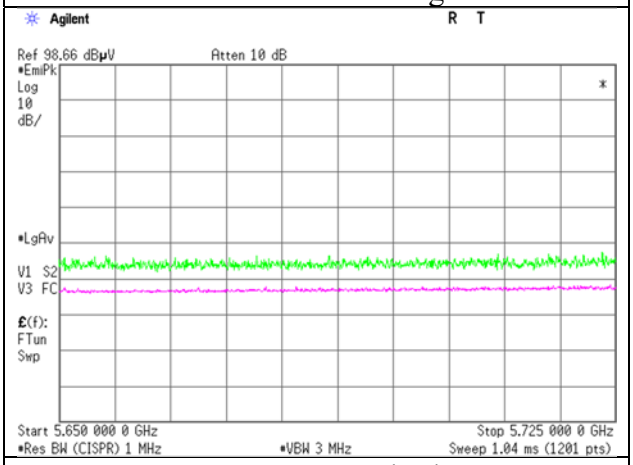
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.
Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Report No.	13294722S-C-R3			
Test place	Shonan EMC Lab.			
Semi Anechoic Chamber	No.1	No.1	No.1	No.1
Date	April 5, 2020	April 6, 2020	April 6, 2020	April 4, 2020
Temperature / Humidity	22 deg. C / 35 % RH	22 deg. C / 42 % RH	20 deg. C / 39 % RH	21 deg. C / 41 % RH
Engineer	Kazuya Noda	Toshinori Yamada	Kazuya Noda	Toshinori Yamada
	(1 GHz - 6.4 GHz)	(6.4 GHz - 13 GHz)	(13 GHz - 18 GHz)	(18 GHz - 40 GHz)
Mode	Tx 11n-20 (SISO) 5785 MHz			

(above 1 GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11570.000	PK	45.64	40.07	10.71	39.38	2.17	59.21	73.9	14.7	164	191	
Hori.	11570.000	AV	35.68	40.07	10.71	39.38	2.17	49.25	53.9	4.6	164	191	VBW : 5.1 kHz
Vert.	11570.000	PK	45.78	40.07	10.71	39.38	2.17	59.35	73.9	14.6	175	219	
Vert.	11570.000	AV	35.81	40.07	10.71	39.38	2.17	49.38	53.9	**4.5**	175	219	VBW : 5.1 kHz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

(Calculation) (above 1 GHz Outside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	17355.000	PK	45.21	42.90	13.51	38.60	-9.54	53.48	-41.75	-27.0	14.7	100	0	
Vert.	17355.000	PK	45.07	42.90	13.51	38.60	-9.54	53.34	-41.89	-27.0	14.9	100	0	

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Resrult(EIRP[dBm])=10*LOG （({ 10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) *10^3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Radiated Spurious Emission

Report No.	13294722S-C-R3			
Test place	Shonan EMC Lab.			
Semi Anechoic Chamber	No.1	No.1	No.1	No.1
Date	April 5, 2020	April 6, 2020	April 6, 2020	April 4, 2020
Temperature / Humidity	22 deg. C / 35 % RH	22 deg. C / 42 % RH	20 deg. C / 39 % RH	21 deg. C / 41 % RH
Engineer	Kazuya Noda	Toshinori Yamada	Kazuya Noda	Toshinori Yamada
	(1 GHz - 6.4 GHz)	(6.4 GHz - 13 GHz)	(13 GHz - 18 GHz)	(18 GHz - 40 GHz)
Mode	Tx 11n-20 (SISO) 5805 MHz			

(above 1 GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11610.000	PK	45.11	39.97	10.75	39.36	2.17	58.64	73.9	15.3	163	194	
Hori.	11610.000	AV	35.14	39.97	10.75	39.36	2.17	48.67	53.9	5.2	163	194	VBW : 5.1 kHz
Vert.	11610.000	PK	45.43	39.97	10.75	39.36	2.17	58.96	73.9	14.9	152	212	
Vert.	11610.000	AV	35.19	39.97	10.75	39.36	2.17	48.72	53.9	**5.2**	152	212	VBW : 5.1 kHz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

(Calculation) (above 1 GHz Outside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5850.000	PK	46.11	33.01	17.07	40.05	2.17	58.31	-36.92	27.0	63.9	125	272	
Hori.	5855.000	PK	45.71	33.02	17.07	40.06	2.17	57.91	-37.32	15.6	52.9	125	272	
Hori.	5875.000	PK	46.39	33.06	17.09	40.07	2.17	58.64	-36.59	10.0	46.6	125	272	
Hori.	5925.000	PK	45.72	33.16	17.12	40.11	2.17	58.06	-37.17	-27.0	10.2	125	272	
Hori.	17415.000	PK	44.56	43.36	13.54	38.42	-9.54	53.50	-41.73	-27.0	14.7	100	0	
Vert.	5850.000	PK	46.44	33.01	17.07	40.05	2.17	58.64	-36.59	27.0	63.6	124	206	
Vert.	5855.000	PK	46.21	33.02	17.07	40.06	2.17	58.41	-36.82	15.6	52.4	124	206	
Vert.	5875.000	PK	46.34	33.06	17.09	40.07	2.17	58.59	-36.64	10.0	46.6	124	206	
Vert.	5925.000	PK	46.02	33.16	17.12	40.11	2.17	58.36	-36.87	-27.0	9.9	124	206	
Vert.	17415.000	PK	44.53	43.36	13.54	38.42	-9.54	53.47	-41.76	-27.0	14.8	100	0	

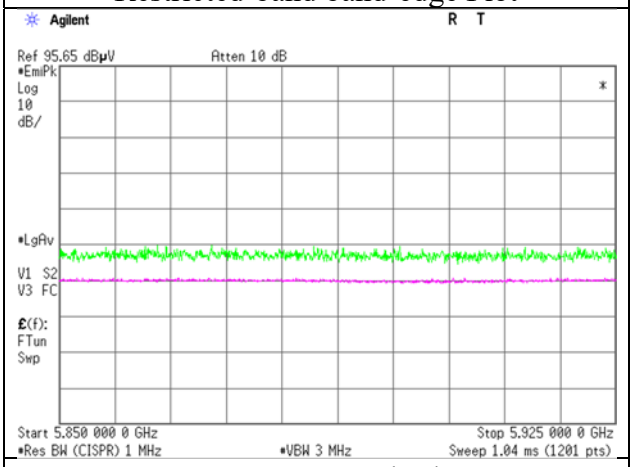
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Resrult(EIRP[dBm])=10*LOG （({ 10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) *10^3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Radiated Spurious Emission

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	No.1
Date	April 5, 2020
Temperature / Humidity	22 deg. C / 35 % RH
Engineer	Kazuya Noda (1 GHz - 6.4 GHz)
Mode	Tx 11n-20 (SISO) 5805 MHz

Horizontal

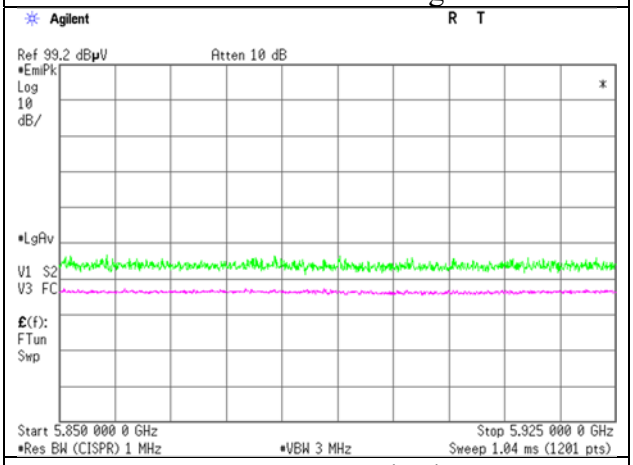
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.
Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	No.3
Date	April 10, 2020
Temperature / Humidity	23 deg. C / 33 % RH
Engineer	Makoto Hosaka (1 GHz - 6.4 GHz)
Mode	Tx 11n-20 (SISO) 5745 MHz with 3DH5 Hopping

(Calculation) (above 1 GHz Outside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5650.000	PK	50.33	32.46	16.45	43.46	2.17	57.95	-37.28	-27.0	**10.3**	156	245	
Hori.	5700.000	PK	50.21	32.61	16.49	43.45	2.17	58.03	-37.20	10.0	47.2	156	245	
Hori.	5720.000	PK	50.30	32.66	16.50	43.44	2.17	58.19	-37.04	15.6	52.6	156	245	
Hori.	5725.000	PK	50.77	32.68	16.50	43.44	2.17	58.68	-36.55	27.0	63.5	156	245	
Vert.	5650.000	PK	50.10	32.46	16.45	43.46	2.17	57.72	-37.51	-27.0	10.5	122	174	
Vert.	5700.000	PK	49.62	32.61	16.49	43.45	2.17	57.44	-37.79	10.0	47.8	122	174	
Vert.	5720.000	PK	50.32	32.66	16.50	43.44	2.17	58.21	-37.02	15.6	52.6	122	174	
Vert.	5725.000	PK	53.63	32.68	16.50	43.44	2.17	61.54	-33.69	27.0	60.7	122	174	

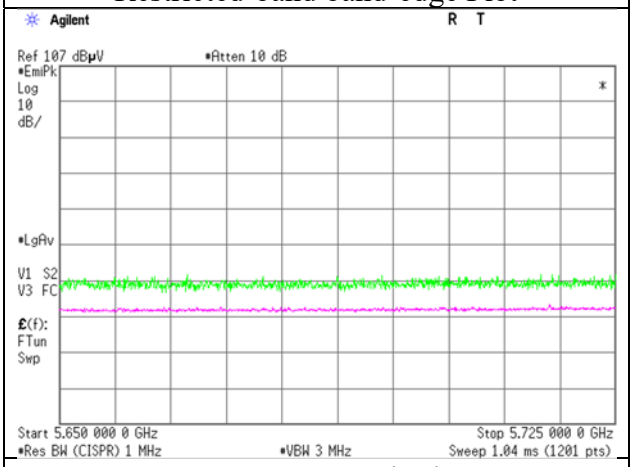
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Resrult(EIRP[dBm])=10*LOG （({ 10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) *10^3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Radiated Spurious Emission

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	No.3
Date	April 10, 2020
Temperature / Humidity	23 deg. C / 33 % RH
Engineer	Makoto Hosaka (1 GHz - 6.4 GHz)
Mode	Tx 11n-20 (SISO) 5745 MHz with 3DH5 Hopping

Horizontal

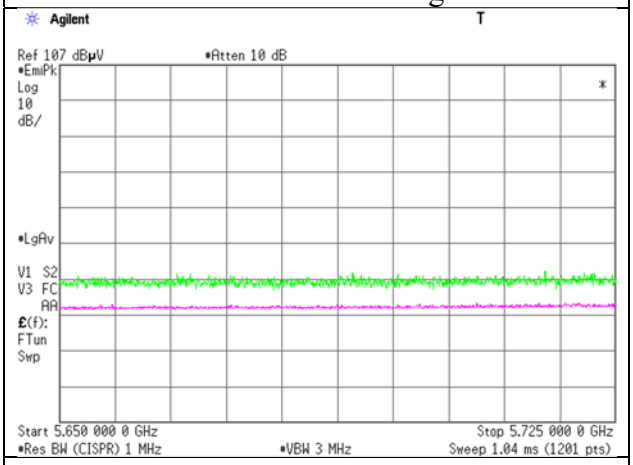
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.
Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	No.3
Date	April 10, 2020
Temperature / Humidity	23 deg. C / 33 % RH
Engineer	Makoto Hosaka (1 GHz - 6.4 GHz)
Mode	Tx 11n-20 (SISO) 5805 MHz with 3DH5 Hopping

(Calculation) (above 1 GHz Outside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5850.000	PK	50.15	33.02	16.60	43.41	2.17	58.53	-36.70	27.0	63.7	190	142	
Hori.	5855.000	PK	50.17	33.03	16.60	43.41	2.17	58.56	-36.67	15.6	52.3	190	142	
Hori.	5875.000	PK	50.32	33.08	16.61	43.41	2.17	58.77	-36.46	10.0	46.5	190	142	
Hori.	5925.000	PK	50.09	33.18	16.64	43.40	2.17	58.68	-36.55	-27.0	**9.5**	190	142	
Vert.	5850.000	PK	50.26	33.02	16.60	43.41	2.17	58.64	-36.59	27.0	63.6	113	173	
Vert.	5855.000	PK	49.52	33.03	16.60	43.41	2.17	57.91	-37.32	15.6	52.9	113	173	
Vert.	5875.000	PK	49.50	33.08	16.61	43.41	2.17	57.95	-37.28	10.0	47.3	113	173	
Vert.	5925.000	PK	49.85	33.18	16.64	43.40	2.17	58.44	-36.79	-27.0	9.8	113	173	

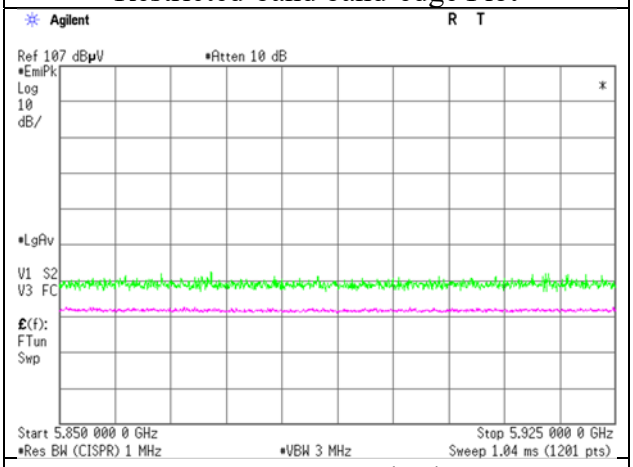
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Resrult(EIRP[dBm])=10*LOG （({ 10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) *10^3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Radiated Spurious Emission

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	No.3
Date	April 10, 2020
Temperature / Humidity	23 deg. C / 33 % RH
Engineer	Makoto Hosaka (1 GHz - 6.4 GHz)
Mode	Tx 11n-20 (SISO) 5805 MHz with 3DH5 Hopping

Horizontal

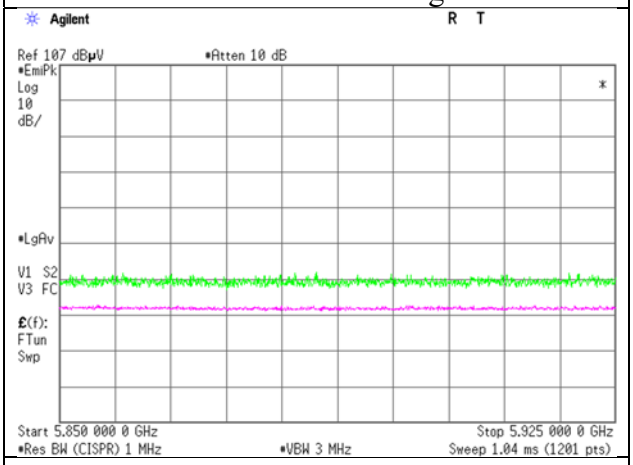
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.
Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Report No.	13294722S-C-R3			
Test place	Shonan EMC Lab.			
Semi Anechoic Chamber	No.1	No.1	No.1	No.1
Date	April 5, 2020	April 6, 2020	April 6, 2020	April 4, 2020
Temperature / Humidity	22 deg. C / 35 % RH	22 deg. C / 42 % RH	20 deg. C / 39 % RH	21 deg. C / 41 % RH
Engineer	Kazuya Noda	Toshinori Yamada	Kazuya Noda	Toshinori Yamada
	(1 GHz - 6.4 GHz)	(6.4 GHz - 13 GHz)	(13 GHz - 18 GHz)	(18 GHz - 40 GHz)
Mode	Tx 11ac-20 (SISO) 5745 MHz			

(above 1 GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11490.000	PK	45.07	40.15	10.65	39.44	2.17	58.60	73.9	15.3	169	188	
Hori.	11490.000	AV	35.31	40.15	10.65	39.44	2.17	48.84	53.9	5.1	169	188	VBW : 5.1 kHz
Vert.	11490.000	PK	45.15	40.15	10.65	39.44	2.17	58.68	73.9	15.2	153	213	
Vert.	11490.000	AV	35.33	40.15	10.65	39.44	2.17	48.86	53.9	**5.0**	153	213	VBW : 5.1 kHz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

(Calculation) (above 1 GHz Outside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5650.000	PK	45.52	32.43	16.94	39.90	2.17	57.16	-38.07	-27.0	11.1	115	149	
Hori.	5700.000	PK	46.05	32.57	16.97	39.94	2.17	57.82	-37.41	10.0	47.4	115	149	
Hori.	5720.000	PK	46.12	32.63	16.98	39.95	2.17	57.95	-37.28	15.6	52.9	115	149	
Hori.	5725.000	PK	46.56	32.65	16.99	39.96	2.17	58.41	-36.82	27.0	63.8	115	149	
Hori.	17235.000	PK	44.82	41.83	13.44	38.97	-9.54	51.58	-43.65	-27.0	16.6	100	0	
Vert.	5650.000	PK	45.51	32.43	16.94	39.90	2.17	57.15	-38.08	-27.0	11.1	182	220	
Vert.	5700.000	PK	46.18	32.57	16.97	39.94	2.17	57.95	-37.28	10.0	47.3	182	220	
Vert.	5720.000	PK	46.25	32.63	16.98	39.95	2.17	58.08	-37.15	15.6	52.7	182	220	
Vert.	5725.000	PK	47.13	32.65	16.99	39.96	2.17	58.98	-36.25	27.0	63.2	182	220	
Vert.	17235.000	PK	45.09	41.83	13.44	38.97	-9.54	51.85	-43.38	-27.0	16.4	100	0	

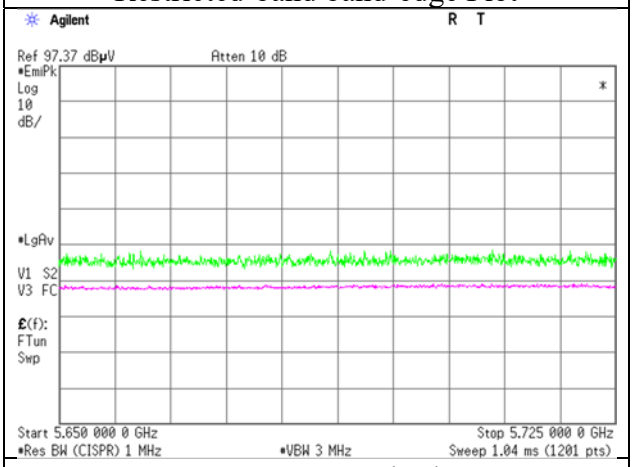
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Resrult(EIRP[dBm])=10*LOG （({ 10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) *10^3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Radiated Spurious Emission

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	No.1
Date	April 5, 2020
Temperature / Humidity	22 deg. C / 35 % RH
Engineer	Kazuya Noda (1 GHz - 6.4 GHz)
Mode	Tx 11ac-20 (SISO) 5745 MHz

Horizontal

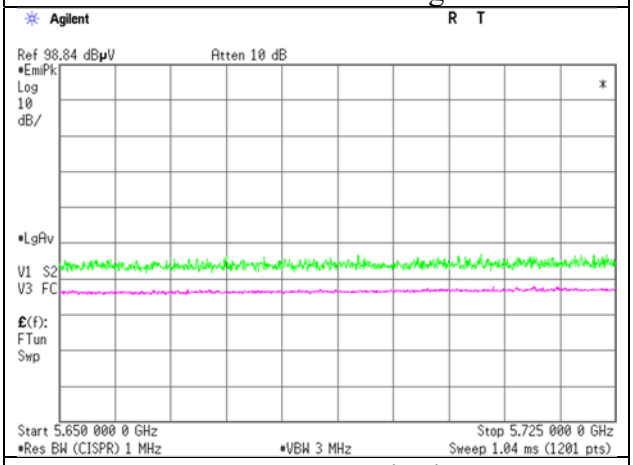
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.
Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Report No.	13294722S-C-R3			
Test place	Shonan EMC Lab.			
Semi Anechoic Chamber	No.1	No.1	No.1	No.1
Date	April 5, 2020	April 6, 2020	April 6, 2020	April 4, 2020
Temperature / Humidity	22 deg. C / 35 % RH	22 deg. C / 42 % RH	20 deg. C / 39 % RH	21 deg. C / 41 % RH
Engineer	Kazuya Noda	Toshinori Yamada	Kazuya Noda	Toshinori Yamada
	(1 GHz - 6.4 GHz)	(6.4 GHz - 13 GHz)	(13 GHz - 18 GHz)	(18 GHz - 40 GHz)
Mode	Tx 11ac-20 (SISO) 5785 MHz			

(above 1 GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11570.000	PK	45.84	40.07	10.71	39.38	2.17	59.41	73.9	14.5	152	193	
Hori.	11570.000	AV	35.69	40.07	10.71	39.38	2.17	49.26	53.9	**4.6**	152	193	VBW : 5.1 kHz
Vert.	11570.000	PK	45.23	40.07	10.71	39.38	2.17	58.80	73.9	15.1	167	220	
Vert.	11570.000	AV	35.61	40.07	10.71	39.38	2.17	49.18	53.9	4.7	167	220	VBW : 5.1 kHz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

(Calculation) (above 1 GHz Outside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	17355.000	PK	45.12	42.90	13.51	38.60	-9.54	53.39	-41.84	-27.0	14.8	100	0	
Vert.	17355.000	PK	44.93	42.90	13.51	38.60	-9.54	53.20	-42.03	-27.0	15.0	100	0	

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Resrult(EIRP[dBm])=10*LOG （({ 10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) * 10^3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Radiated Spurious Emission

Report No.	13294722S-C-R3			
Test place	Shonan EMC Lab.			
Semi Anechoic Chamber	No.1	No.1	No.1	No.1
Date	April 5, 2020	April 6, 2020	April 6, 2020	April 4, 2020
Temperature / Humidity	22 deg. C / 35 % RH	22 deg. C / 42 % RH	20 deg. C / 39 % RH	21 deg. C / 41 % RH
Engineer	Kazuya Noda	Toshinori Yamada	Kazuya Noda	Toshinori Yamada
	(1 GHz - 6.4 GHz)	(6.4 GHz - 13 GHz)	(13 GHz - 18 GHz)	(18 GHz - 40 GHz)
Mode	Tx 11ac-20 (SISO) 5805 MHz			

(above 1 GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11610.000	PK	44.98	39.97	10.75	39.36	2.17	58.51	73.9	15.4	160	194	
Hori.	11610.000	AV	35.24	39.97	10.75	39.36	2.17	48.77	53.9	5.1	160	194	VBW : 5.1 kHz
Vert.	11610.000	PK	44.73	39.97	10.75	39.36	2.17	58.26	73.9	15.6	165	210	
Vert.	11610.000	AV	35.36	39.97	10.75	39.36	2.17	48.89	53.9	**5.0**	165	210	VBW : 5.1 kHz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

(Calculation) (above 1 GHz Outside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5850.000	PK	46.21	33.01	17.07	40.05	2.17	58.41	-36.82	27.0	63.8	123	273	
Hori.	5855.000	PK	46.18	33.02	17.07	40.06	2.17	58.38	-36.85	15.6	52.4	123	273	
Hori.	5875.000	PK	46.11	33.06	17.09	40.07	2.17	58.36	-36.87	10.0	46.9	123	273	
Hori.	5925.000	PK	46.06	33.16	17.12	40.11	2.17	58.40	-36.83	-27.0	9.8	123	273	
Hori.	17415.000	PK	45.37	43.36	13.54	38.42	-9.54	54.31	-40.92	-27.0	13.9	100	0	
Vert.	5850.000	PK	46.42	33.01	17.07	40.05	2.17	58.62	-36.61	27.0	63.6	127	205	
Vert.	5855.000	PK	46.19	33.02	17.07	40.06	2.17	58.39	-36.84	15.6	52.4	127	205	
Vert.	5875.000	PK	46.11	33.06	17.09	40.07	2.17	58.36	-36.87	10.0	46.9	127	205	
Vert.	5925.000	PK	45.82	33.16	17.12	40.11	2.17	58.16	-37.07	-27.0	10.1	127	205	
Vert.	17415.000	PK	45.58	43.36	13.54	38.42	-9.54	54.52	-40.71	-27.0	13.7	100	0	

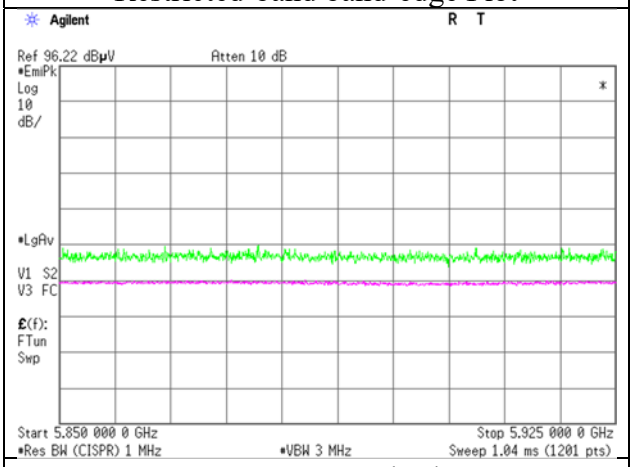
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Resrult(EIRP[dBm])=10*LOG （({ 10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) *10^3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Radiated Spurious Emission

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	No.1
Date	April 5, 2020
Temperature / Humidity	22 deg. C / 35 % RH
Engineer	Kazuya Noda (1 GHz - 6.4 GHz)
Mode	Tx 11ac-20 (SISO) 5805 MHz

Horizontal

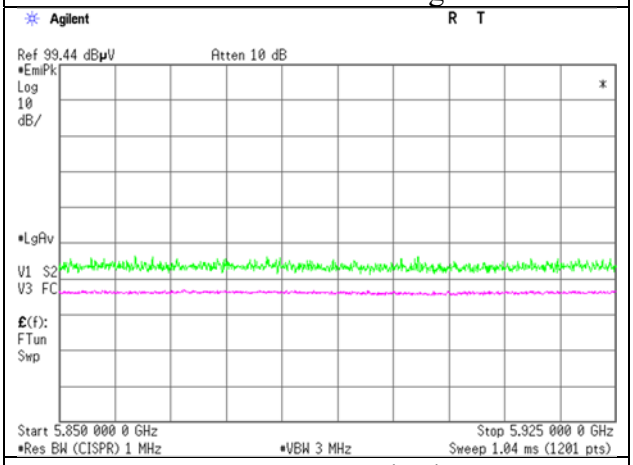
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.
Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	No.3
Date	April 10, 2020
Temperature / Humidity	23 deg. C / 33 % RH
Engineer	Makoto Hosaka (1 GHz - 6.4 GHz)
Mode	Tx 11ac-20 (SISO) 5745 MHz with 3DH5 Hopping

(Calculation) (above 1 GHz Outside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5650.000	PK	49.93	32.46	16.45	43.46	2.17	57.55	-37.68	-27.0	**10.7**	152	245	
Hori.	5700.000	PK	49.70	32.61	16.49	43.45	2.17	57.52	-37.71	10.0	47.7	152	245	
Hori.	5720.000	PK	49.89	32.66	16.50	43.44	2.17	57.78	-37.45	15.6	53.0	152	245	
Hori.	5725.000	PK	49.85	32.68	16.50	43.44	2.17	57.76	-37.47	27.0	64.5	152	245	
Vert.	5650.000	PK	49.01	32.46	16.45	43.46	2.17	56.63	-38.60	-27.0	11.6	122	175	
Vert.	5700.000	PK	49.46	32.61	16.49	43.45	2.17	57.28	-37.95	10.0	47.9	122	175	
Vert.	5720.000	PK	49.80	32.66	16.50	43.44	2.17	57.69	-37.54	15.6	53.1	122	175	
Vert.	5725.000	PK	50.82	32.68	16.50	43.44	2.17	58.73	-36.50	27.0	63.5	122	175	

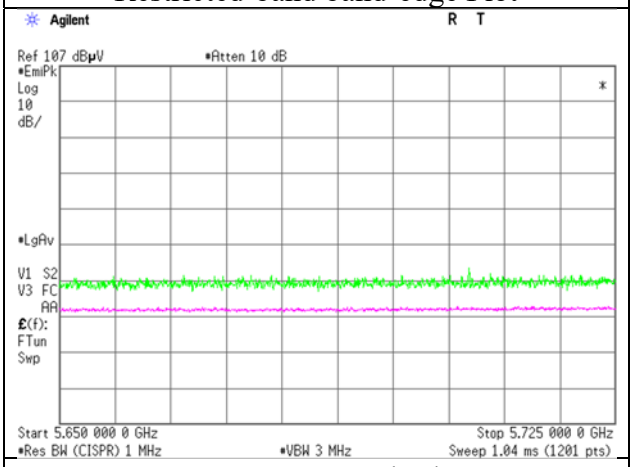
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Resrult(EIRP[dBm])=10*LOG （({ 10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) *10^3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Radiated Spurious Emission

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	No.3
Date	April 10, 2020
Temperature / Humidity	23 deg. C / 33 % RH
Engineer	Makoto Hosaka (1 GHz - 6.4 GHz)
Mode	Tx 11ac-20 (SISO) 5745 MHz with 3DH5 Hopping

Horizontal

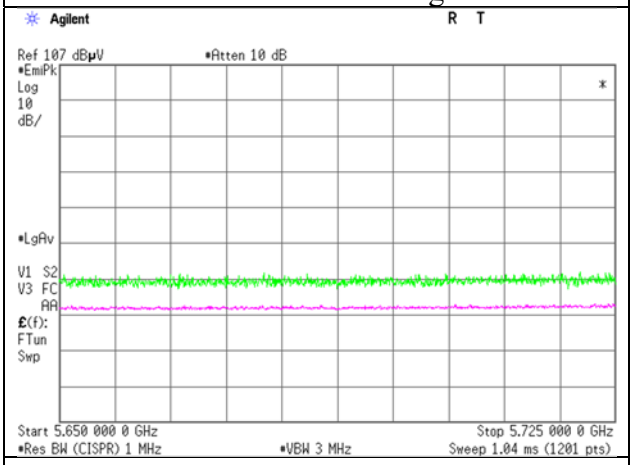
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.
Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	No.3
Date	April 10, 2020
Temperature / Humidity	23 deg. C / 33 % RH
Engineer	Makoto Hosaka (1 GHz - 6.4 GHz)
Mode	Tx 11ac-20 (SISO) 5805 MHz with 3DH5 Hopping

(Calculation) (above 1 GHz Outside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5850.000	PK	49.85	33.02	16.60	43.41	2.17	58.23	-37.00	27.0	64.0	187	142	
Hori.	5855.000	PK	50.05	33.03	16.60	43.41	2.17	58.44	-36.79	15.6	52.4	187	142	
Hori.	5875.000	PK	49.90	33.08	16.61	43.41	2.17	58.35	-36.88	10.0	46.9	187	142	
Hori.	5925.000	PK	49.92	33.18	16.64	43.40	2.17	58.51	-36.72	-27.0	**9.7**	187	142	
Vert.	5850.000	PK	50.03	33.02	16.60	43.41	2.17	58.41	-36.82	27.0	63.8	115	173	
Vert.	5855.000	PK	49.64	33.03	16.60	43.41	2.17	58.03	-37.20	15.6	52.8	115	173	
Vert.	5875.000	PK	49.56	33.08	16.61	43.41	2.17	58.01	-37.22	10.0	47.2	115	173	
Vert.	5925.000	PK	49.26	33.18	16.64	43.40	2.17	57.85	-37.38	-27.0	10.4	115	173	

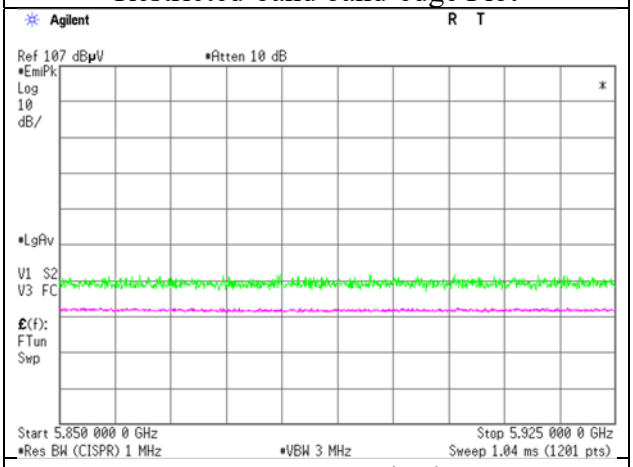
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Resrult(EIRP[dBm])=10*LOG （({ 10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) *10^3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Radiated Spurious Emission

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	No.3
Date	April 10, 2020
Temperature / Humidity	23 deg. C / 33 % RH
Engineer	Makoto Hosaka (1 GHz - 6.4 GHz)
Mode	Tx 11ac-20 (SISO) 5805 MHz with 3DH5 Hopping

Horizontal

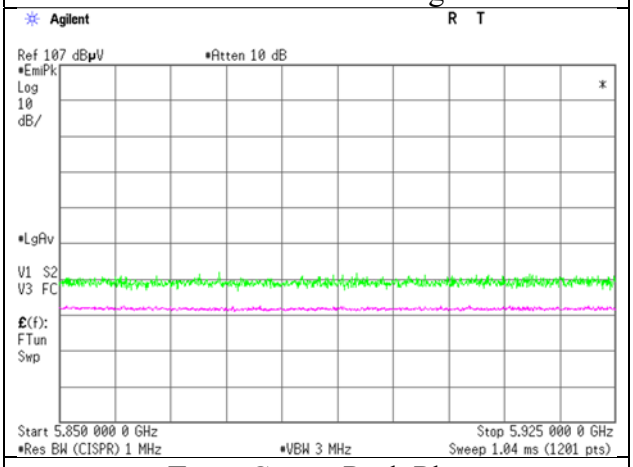
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.
Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Report No.	13294722S-C-R3			
Test place	Shonan EMC Lab.			
Semi Anechoic Chamber	No.1	No.1	No.1	No.1
Date	April 5, 2020	April 6, 2020	April 7, 2020	April 4, 2020
Temperature / Humidity	22 deg. C / 35 % RH	22 deg. C / 42 % RH	18 deg. C / 41 % RH	21 deg. C / 41 % RH
Engineer	Kazuya Noda	Toshinori Yamada	Makoto Hosaka	Toshinori Yamada
	(1 GHz - 6.4 GHz)	(6.4 GHz - 13 GHz)	(13 GHz - 18 GHz)	(18 GHz - 40 GHz)
Mode	Tx 11n-40 (SISO) 5755 MHz			

(above 1 GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11510.000	PK	45.33	40.16	10.65	39.42	2.17	58.89	73.9	15.0	151	193	
Hori.	11510.000	AV	36.57	40.16	10.65	39.42	2.17	50.13	53.9	**3.8**	151	193	VBW : 9.1 kHz
Vert.	11510.000	PK	45.62	40.16	10.65	39.42	2.17	59.18	73.9	14.7	217	288	
Vert.	11510.000	AV	36.51	40.16	10.65	39.42	2.17	50.07	53.9	3.8	217	288	VBW : 9.1 kHz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

(Calculation) (above 1 GHz Outside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5650.000	PK	45.46	32.43	16.94	39.90	2.17	57.10	-38.13	-27.0	11.1	153	243	
Hori.	5700.000	PK	45.67	32.57	16.97	39.94	2.17	57.44	-37.79	10.0	47.8	153	243	
Hori.	5720.000	PK	46.02	32.63	16.98	39.95	2.17	57.85	-37.38	15.6	53.0	153	243	
Hori.	5725.000	PK	45.98	32.65	16.99	39.96	2.17	57.83	-37.40	27.0	64.4	153	243	
Hori.	17265.000	PK	46.29	42.12	13.45	38.88	-9.54	53.44	-41.79	-27.0	14.8	100	0	
Vert.	5650.000	PK	45.56	32.43	16.94	39.90	2.17	57.20	-38.03	-27.0	11.0	100	172	
Vert.	5700.000	PK	45.61	32.57	16.97	39.94	2.17	57.38	-37.85	10.0	47.8	100	172	
Vert.	5720.000	PK	45.68	32.63	16.98	39.95	2.17	57.51	-37.72	15.6	53.3	100	172	
Vert.	5725.000	PK	46.44	32.65	16.99	39.96	2.17	58.29	-36.94	27.0	63.9	100	172	
Vert.	17265.000	PK	45.79	42.12	13.45	38.88	-9.54	52.94	-42.29	-27.0	15.3	100	0	

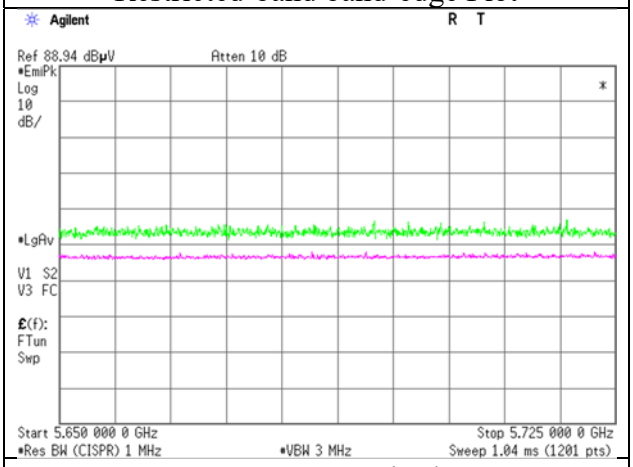
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Resrult(EIRP[dBm])=10*LOG （({ 10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) *10^3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Radiated Spurious Emission

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	No.1
Date	April 5, 2020
Temperature / Humidity	22 deg. C / 35 % RH
Engineer	Kazuya Noda (1 GHz - 6.4 GHz)
Mode	Tx 11n-40 (SISO) 5755 MHz

Horizontal

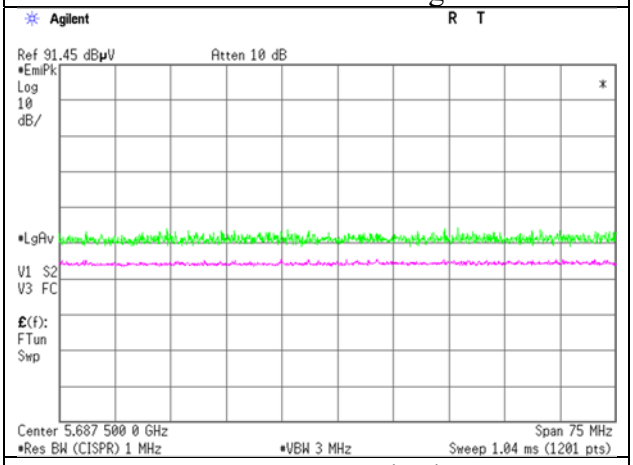
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.
Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Report No.	13294722S-C-R3			
Test place	Shonan EMC Lab.			
Semi Anechoic Chamber	No.1	No.1	No.1	No.1
Date	April 5, 2020	April 6, 2020	April 7, 2020	April 4, 2020
Temperature / Humidity	22 deg. C / 35 % RH	22 deg. C / 42 % RH	18 deg. C / 41 % RH	21 deg. C / 41 % RH
Engineer	Kazuya Noda	Toshinori Yamada	Makoto Hosaka	Toshinori Yamada
	(1 GHz - 6.4 GHz)	(6.4 GHz - 13 GHz)	(13 GHz - 18 GHz)	(18 GHz - 40 GHz)
Mode	Tx 11n-40 (SISO) 5795 MHz			

(above 1 GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11590.000	PK	45.43	40.03	10.74	39.37	2.17	59.00	73.90	14.9	159	192	
Hori.	11590.000	AV	36.63	40.03	10.74	39.37	2.17	50.20	53.90	**3.7**	159	192	VBW : 9.1 kHz
Vert.	11590.000	PK	45.50	40.03	10.74	39.37	2.17	59.07	73.90	14.8	155	219	
Vert.	11590.000	AV	36.55	40.03	10.74	39.37	2.17	50.12	53.90	3.8	155	219	VBW : 9.1 kHz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

(Calculation) (above 1 GHz Outside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5850.000	PK	46.42	33.01	17.07	40.05	2.17	58.62	-36.61	27.0	63.6	174	145	
Hori.	5855.000	PK	45.84	33.02	17.07	40.06	2.17	58.04	-37.19	15.6	52.8	174	145	
Hori.	5875.000	PK	45.92	33.06	17.09	40.07	2.17	58.17	-37.06	10.0	47.1	174	145	
Hori.	5925.000	PK	45.69	33.16	17.12	40.11	2.17	58.03	-37.20	-27.0	10.2	174	145	
Hori.	17385.000	PK	45.97	43.16	13.52	38.51	-9.54	54.60	-40.63	-27.0	13.6	100	0	
Vert.	5850.000	PK	46.32	33.01	17.07	40.05	2.17	58.52	-36.71	27.0	63.7	100	171	
Vert.	5855.000	PK	45.86	33.02	17.07	40.06	2.17	58.06	-37.17	15.6	52.8	100	171	
Vert.	5875.000	PK	45.74	33.06	17.09	40.07	2.17	57.99	-37.24	10.0	47.2	100	171	
Vert.	5925.000	PK	45.29	33.16	17.12	40.11	2.17	57.63	-37.60	-27.0	10.6	100	171	
Vert.	17385.000	PK	46.15	43.16	13.52	38.51	-9.54	54.78	-40.45	-27.0	13.4	100	0	

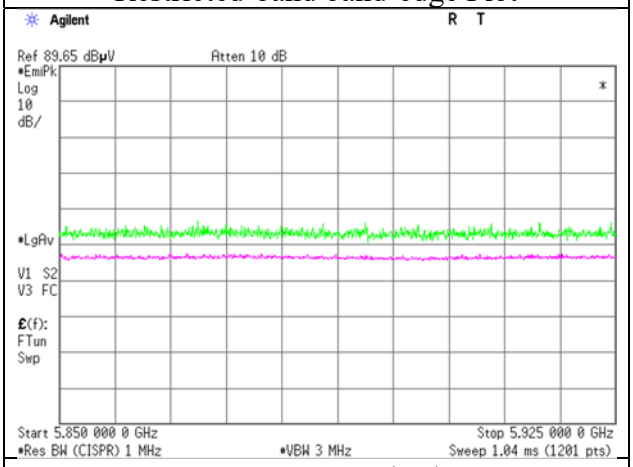
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Resrult(EIRP[dBm])=10*LOG （({ 10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) *10^3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Radiated Spurious Emission

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	No.1
Date	April 5, 2020
Temperature / Humidity	22 deg. C / 35 % RH
Engineer	Kazuya Noda (1 GHz - 6.4 GHz)
Mode	Tx 11n-40 (SISO) 5795 MHz

Horizontal

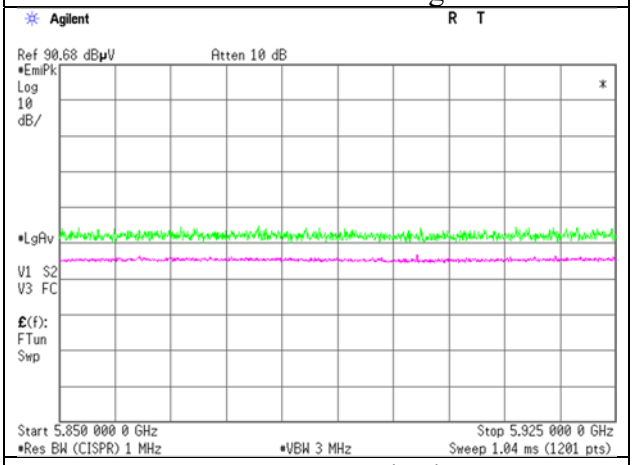
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.
Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	No.3
Date	April 10, 2020
Temperature / Humidity	24 deg. C / 31 % RH
Engineer	Kazuya Noda (1 GHz - 6.4 GHz)
Mode	Tx 11n-40 (SISO) 5755 MHz with 3DH5 Hopping

(Calculation) (above 1 GHz Outside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5650.000	PK	49.51	32.46	16.45	43.46	2.17	57.13	-38.10	-27.0	11.1	155	244	
Hori.	5700.000	PK	49.48	32.61	16.49	43.45	2.17	57.30	-37.93	10.0	47.9	155	244	
Hori.	5720.000	PK	49.61	32.66	16.50	43.44	2.17	57.50	-37.73	15.6	53.3	155	244	
Hori.	5725.000	PK	49.79	32.68	16.50	43.44	2.17	57.70	-37.53	27.0	64.5	155	244	
Vert.	5650.000	PK	49.62	32.46	16.45	43.46	2.17	57.24	-37.99	-27.0	**11.0**	124	173	
Vert.	5700.000	PK	49.55	32.61	16.49	43.45	2.17	57.37	-37.86	10.0	47.9	124	173	
Vert.	5720.000	PK	49.60	32.66	16.50	43.44	2.17	57.49	-37.74	15.6	53.3	124	173	
Vert.	5725.000	PK	49.98	32.68	16.50	43.44	2.17	57.89	-37.34	27.0	64.3	124	173	

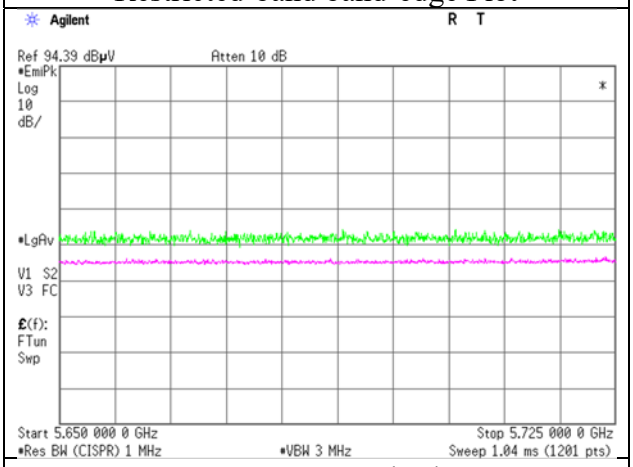
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Resrult(EIRP[dBm])=10*LOG （({ 10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) *10^3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Radiated Spurious Emission

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	No.3
Date	April 10, 2020
Temperature / Humidity	24 deg. C / 31 % RH
Engineer	Kazuya Noda (1 GHz - 6.4 GHz)
Mode	Tx 11n-40 (SISO) 5755 MHz with 3DH5 Hopping

Horizontal

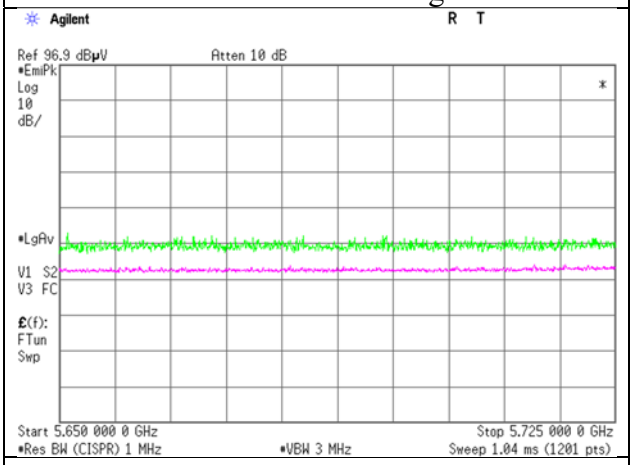
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.
Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	No.3
Date	April 10, 2020
Temperature / Humidity	24 deg. C / 31 % RH
Engineer	Kazuya Noda (1 GHz - 6.4 GHz)
Mode	Tx 11n-40 (SISO) 5795 MHz with 3DH5 Hopping

(Calculation) (above 1 GHz Outside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5850.000	PK	49.83	33.02	16.60	43.41	2.17	58.21	-37.02	27.0	64.0	188	142	
Hori.	5855.000	PK	49.81	33.03	16.60	43.41	2.17	58.20	-37.03	15.6	52.6	188	142	
Hori.	5875.000	PK	49.36	33.08	16.61	43.41	2.17	57.81	-37.42	10.0	47.4	188	142	
Hori.	5925.000	PK	49.19	33.18	16.64	43.40	2.17	57.78	-37.45	-27.0	**10.4**	188	142	
Vert.	5850.000	PK	49.87	33.02	16.60	43.41	2.17	58.25	-36.98	27.0	64.0	118	172	
Vert.	5855.000	PK	49.64	33.03	16.60	43.41	2.17	58.03	-37.20	15.6	52.8	118	172	
Vert.	5875.000	PK	49.19	33.08	16.61	43.41	2.17	57.64	-37.59	10.0	47.6	118	172	
Vert.	5925.000	PK	49.12	33.18	16.64	43.40	2.17	57.71	-37.52	-27.0	10.5	118	172	

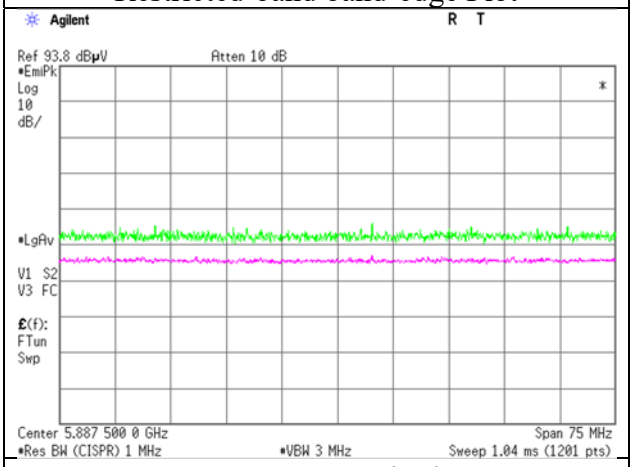
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Resrult(EIRP[dBm])=10*LOG （({ 10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) *10^3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Radiated Spurious Emission

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	No.3
Date	April 10, 2020
Temperature / Humidity	24 deg. C / 31 % RH
Engineer	Kazuya Noda (1 GHz - 6.4 GHz)
Mode	Tx 11n-40 (SISO) 5795 MHz with 3DH5 Hopping

Horizontal

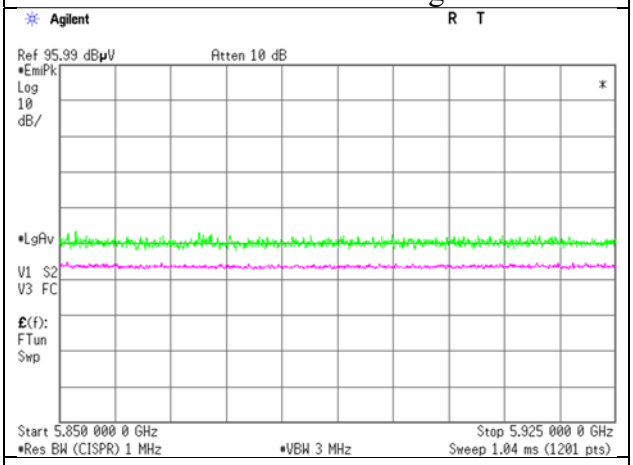
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.
Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Report No.	13294722S-C-R3			
Test place	Shonan EMC Lab.			
Semi Anechoic Chamber	No.1	No.1	No.1	No.1
Date	April 5, 2020	April 6, 2020	April 7, 2020	April 4, 2020
Temperature / Humidity	22 deg. C / 35 % RH	22 deg. C / 42 % RH	18 deg. C / 41 % RH	21 deg. C / 41 % RH
Engineer	Kazuya Noda	Toshinori Yamada	Makoto Hosaka	Toshinori Yamada
	(1 GHz - 6.4 GHz)	(6.4 GHz - 13 GHz)	(13 GHz - 18 GHz)	(18 GHz - 40 GHz)
Mode	Tx 11ac-40 (SISO) 5755 MHz			

(above 1 GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11510.000	PK	45.62	40.16	10.65	39.42	2.17	59.18	73.9	14.7	155	192	
Hori.	11510.000	AV	36.29	40.16	10.65	39.42	2.17	49.85	53.9	4.1	155	192	VBW : 8.2 kHz
Vert.	11510.000	PK	45.27	40.16	10.65	39.42	2.17	58.83	73.9	15.1	166	217	
Vert.	11510.000	AV	36.35	40.16	10.65	39.42	2.17	49.91	53.9	**4.0**	166	217	VBW : 8.2 kHz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

(Calculation) (above 1 GHz Outside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5650.000	PK	45.45	32.43	16.94	39.90	2.17	57.09	-38.14	-27.0	11.1	152	245	
Hori.	5700.000	PK	45.82	32.57	16.97	39.94	2.17	57.59	-37.64	10.0	47.6	152	245	
Hori.	5720.000	PK	45.84	32.63	16.98	39.95	2.17	57.67	-37.56	15.6	53.2	152	245	
Hori.	5725.000	PK	45.87	32.65	16.99	39.96	2.17	57.72	-37.51	27.0	64.5	152	245	
Hori.	17265.000	PK	46.47	42.12	13.45	38.88	-9.54	53.62	-41.61	-27.0	14.6	100	0	
Vert.	5650.000	PK	45.67	32.43	16.94	39.90	2.17	57.31	-37.92	-27.0	10.9	100	172	
Vert.	5700.000	PK	45.72	32.57	16.97	39.94	2.17	57.49	-37.74	10.0	47.7	100	172	
Vert.	5720.000	PK	45.75	32.63	16.98	39.95	2.17	57.58	-37.65	15.6	53.2	100	172	
Vert.	5725.000	PK	46.01	32.65	16.99	39.96	2.17	57.86	-37.37	27.0	64.4	100	172	
Vert.	17265.000	PK	46.09	42.12	13.45	38.88	-9.54	53.24	-41.99	-27.0	15.0	100	0	

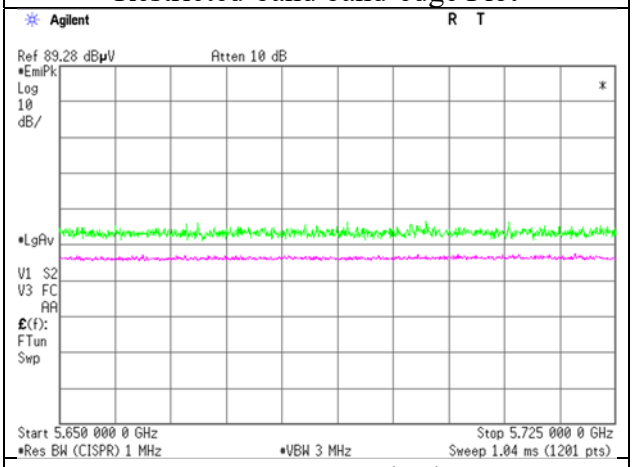
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Resrult(EIRP[dBm])=10*LOG （({ 10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) *10^3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Radiated Spurious Emission

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	No.1
Date	April 5, 2020
Temperature / Humidity	22 deg. C / 35 % RH
Engineer	Kazuya Noda (1 GHz - 6.4 GHz)
Mode	Tx 11ac-40 (SISO) 5755 MHz

Horizontal

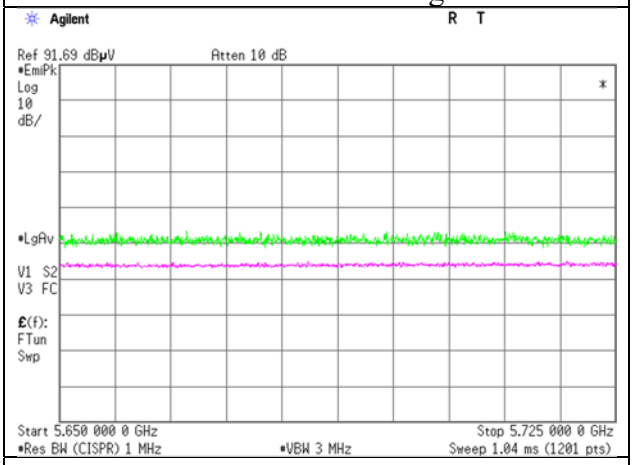
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.
Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Report No.	13294722S-C-R3			
Test place	Shonan EMC Lab.			
Semi Anechoic Chamber	No.1	No.1	No.1	No.1
Date	April 5, 2020	April 6, 2020	April 7, 2020	April 4, 2020
Temperature / Humidity	22 deg. C / 35 % RH	22 deg. C / 42 % RH	18 deg. C / 41 % RH	21 deg. C / 41 % RH
Engineer	Kazuya Noda	Toshinori Yamada	Makoto Hosaka	Toshinori Yamada
	(1 GHz - 6.4 GHz)	(6.4 GHz - 13 GHz)	(13 GHz - 18 GHz)	(18 GHz - 40 GHz)
Mode	Tx 11ac-40 (SISO) 5795 MHz			

(above 1 GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11590.000	PK	45.74	40.03	10.74	39.37	2.17	59.31	73.9	14.6	159	194	
Hori.	11590.000	AV	36.31	40.03	10.74	39.37	2.17	49.88	53.9	**4.0**	159	194	VBW : 8.2 kHz
Vert.	11590.000	PK	45.55	40.03	10.74	39.37	2.17	59.12	73.9	14.8	163	212	
Vert.	11590.000	AV	36.22	40.03	10.74	39.37	2.17	49.79	53.9	4.1	163	212	VBW : 8.2 kHz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

(Calculation) (above 1 GHz Outside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5850.000	PK	45.82	33.01	17.07	40.05	2.17	58.02	-37.21	27.0	64.2	173	142	
Hori.	5855.000	PK	45.75	33.02	17.07	40.06	2.17	57.95	-37.28	15.6	52.9	173	142	
Hori.	5875.000	PK	45.57	33.06	17.09	40.07	2.17	57.82	-37.41	10.0	47.4	173	142	
Hori.	5925.000	PK	45.69	33.16	17.12	40.11	2.17	58.03	-37.20	-27.0	10.2	173	142	
Hori.	17385.000	PK	46.38	43.16	13.52	38.51	-9.54	55.01	-40.22	-27.0	13.2	100	0	
Vert.	5850.000	PK	45.72	33.01	17.07	40.05	2.17	57.92	-37.31	27.0	64.3	100	172	
Vert.	5855.000	PK	45.83	33.02	17.07	40.06	2.17	58.03	-37.20	15.6	52.8	100	172	
Vert.	5875.000	PK	45.70	33.06	17.09	40.07	2.17	57.95	-37.28	10.0	47.3	100	172	
Vert.	5925.000	PK	45.66	33.16	17.12	40.11	2.17	58.00	-37.23	-27.0	10.2	100	172	
Vert.	17385.000	PK	46.56	43.16	13.52	38.51	-9.54	55.19	-40.04	-27.0	13.0	100	0	

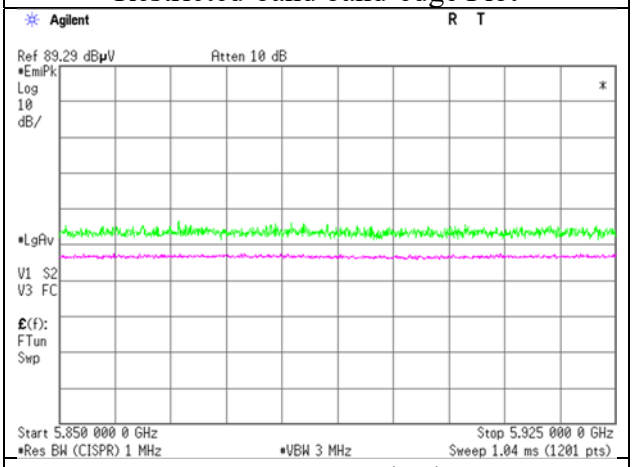
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Resrult(EIRP[dBm])=10*LOG （({ 10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) *10^3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Radiated Spurious Emission

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	No.1
Date	April 5, 2020
Temperature / Humidity	22 deg. C / 35 % RH
Engineer	Kazuya Noda (1 GHz - 6.4 GHz)
Mode	Tx 11ac-40 (SISO) 5795 MHz

Horizontal

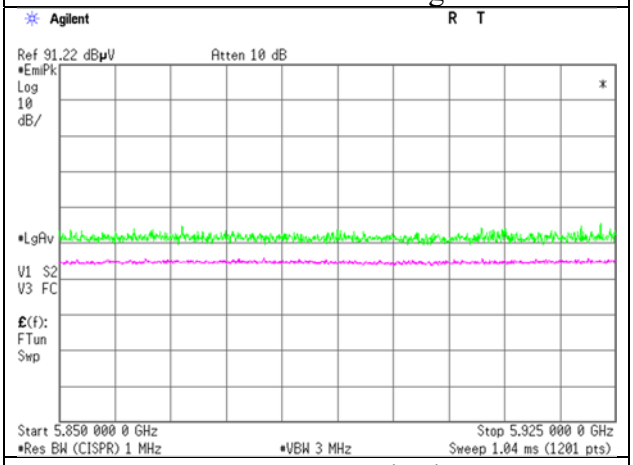
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.
Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	No.3
Date	April 10, 2020
Temperature / Humidity	24 deg. C / 31 % RH
Engineer	Kazuya Noda (1 GHz - 6.4 GHz)
Mode	Tx 11ac-40 (SISO) 5755 MHz with 3DH5 Hopping

(Calculation) (above 1 GHz Outside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5650.000	PK	49.33	32.46	16.45	43.46	2.17	56.95	-38.28	-27.0	11.3	147	245	
Hori.	5700.000	PK	49.51	32.61	16.49	43.45	2.17	57.33	-37.90	10.0	47.9	147	245	
Hori.	5720.000	PK	49.45	32.66	16.50	43.44	2.17	57.34	-37.89	15.6	53.5	147	245	
Hori.	5725.000	PK	49.63	32.68	16.50	43.44	2.17	57.54	-37.69	27.0	64.7	147	245	
Vert.	5650.000	PK	49.66	32.46	16.45	43.46	2.17	57.28	-37.95	-27.0	**10.9**	120	174	
Vert.	5700.000	PK	49.44	32.61	16.49	43.45	2.17	57.26	-37.97	10.0	48.0	120	174	
Vert.	5720.000	PK	49.83	32.66	16.50	43.44	2.17	57.72	-37.51	15.6	53.1	120	174	
Vert.	5725.000	PK	49.86	32.68	16.50	43.44	2.17	57.77	-37.46	27.0	64.5	120	174	

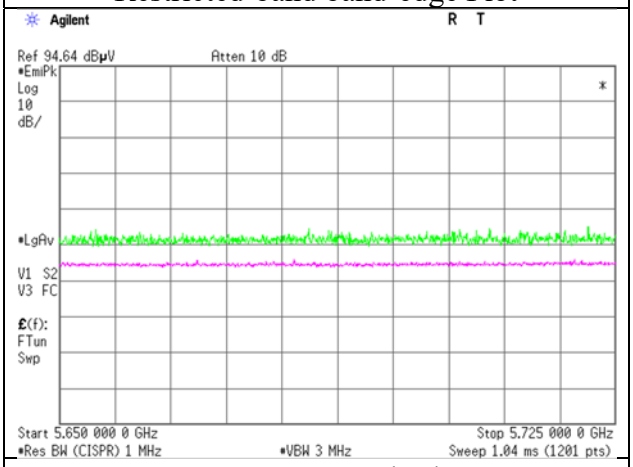
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Resrult(EIRP[dBm])=10*LOG （({ 10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) *10^3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Radiated Spurious Emission

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	No.3
Date	April 10, 2020
Temperature / Humidity	24 deg. C / 31 % RH
Engineer	Kazuya Noda (1 GHz - 6.4 GHz)
Mode	Tx 11ac-40 (SISO) 5755 MHz with 3DH5 Hopping

Horizontal

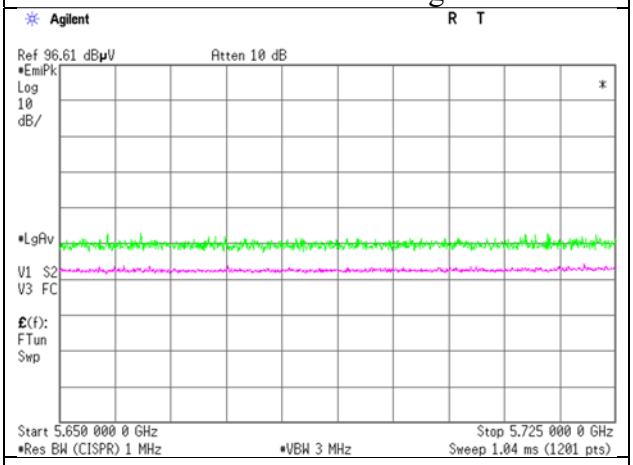
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.
Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	No.3
Date	April 10, 2020
Temperature / Humidity	24 deg. C / 31 % RH
Engineer	Kazuya Noda (1 GHz - 6.4 GHz)
Mode	Tx 11ac-40 (SISO) 5795 MHz with 3DH5 Hopping

(Calculation) (above 1 GHz Outside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5850.000	PK	49.86	33.02	16.60	43.41	2.17	58.24	-36.99	27.0	64.0	190	142	
Hori.	5855.000	PK	49.83	33.03	16.60	43.41	2.17	58.22	-37.01	15.6	52.6	190	142	
Hori.	5875.000	PK	49.62	33.08	16.61	43.41	2.17	58.07	-37.16	10.0	47.2	190	142	
Hori.	5925.000	PK	49.44	33.18	16.64	43.40	2.17	58.03	-37.20	-27.0	10.2	190	142	
Vert.	5850.000	PK	49.82	33.02	16.60	43.41	2.17	58.20	-37.03	27.0	64.0	116	173	
Vert.	5855.000	PK	49.84	33.03	16.60	43.41	2.17	58.23	-37.00	15.6	52.6	116	173	
Vert.	5875.000	PK	49.64	33.08	16.61	43.41	2.17	58.09	-37.14	10.0	47.1	116	173	
Vert.	5925.000	PK	49.58	33.18	16.64	43.40	2.17	58.17	-37.06	-27.0	**10.1**	116	173	

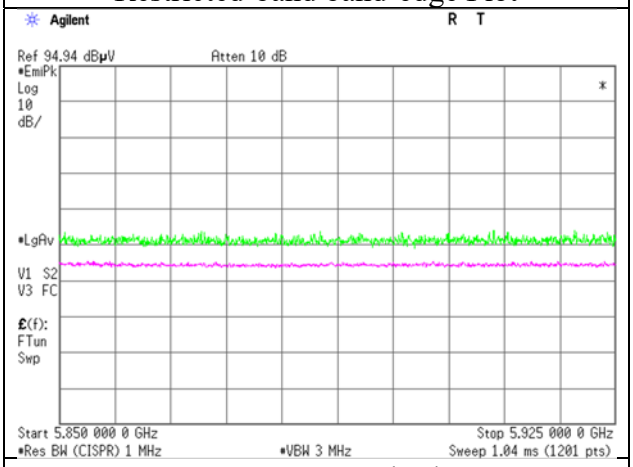
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Resrult(EIRP[dBm])=10*LOG （({ 10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) *10^3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Radiated Spurious Emission

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	No.3
Date	April 10, 2020
Temperature / Humidity	24 deg. C / 31 % RH
Engineer	Kazuya Noda (1 GHz - 6.4 GHz)
Mode	Tx 11ac-40 (SISO) 5795 MHz with 3DH5 Hopping

Horizontal

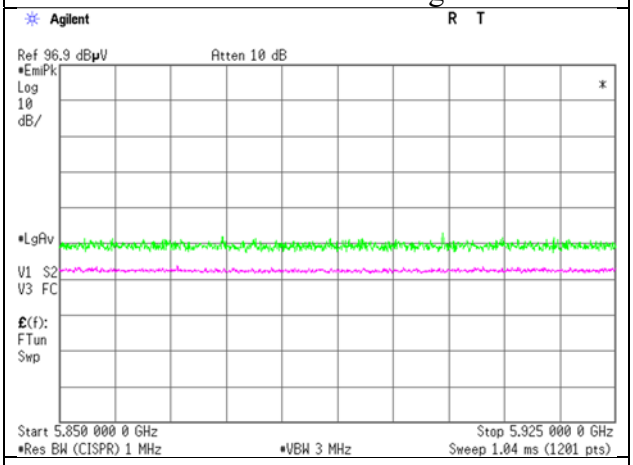
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.
Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Report No.	13294722S-C-R3			
Test place	Shonan EMC Lab.			
Semi Anechoic Chamber	No.1	No.1	No.1	No.1
Date	April 5, 2020	April 6, 2020	April 7, 2020	April 4, 2020
Temperature / Humidity	22 deg. C / 35 % RH	22 deg. C / 42 % RH	18 deg. C / 41 % RH	21 deg. C / 41 % RH
Engineer	Kazuya Noda	Toshinori Yamada	Makoto Hosaka	Toshinori Yamada
	(1 GHz - 6.4 GHz)	(6.4 GHz - 13 GHz)	(13 GHz - 18 GHz)	(18 GHz - 40 GHz)
Mode	Tx 11ac-80 (SISO) 5775 MHz			

(above 1 GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11550.000	PK	45.24	40.11	10.69	39.40	2.17	58.81	73.9	15.1	166	191	
Hori.	11550.000	AV	35.76	40.11	10.69	39.40	2.17	49.33	53.9	**4.6**	166	191	VBW : 5.6 kHz
Vert.	11550.000	PK	45.09	40.11	10.69	39.40	2.17	58.66	73.9	15.2	152	220	
Vert.	11550.000	AV	35.64	40.11	10.69	39.40	2.17	49.21	53.9	4.7	152	220	VBW : 5.6 kHz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

(Calculation) (above 1 GHz Outside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5650.000	PK	45.57	32.43	16.94	39.90	2.17	57.21	-38.02	-27.0	11.0	172	141	
Hori.	5700.000	PK	45.61	32.57	16.97	39.94	2.17	57.38	-37.85	10.0	47.8	172	141	
Hori.	5720.000	PK	45.62	32.63	16.98	39.95	2.17	57.45	-37.78	15.6	53.4	172	141	
Hori.	5725.000	PK	45.74	32.65	16.99	39.96	2.17	57.59	-37.64	27.0	64.6	172	141	
Hori.	5850.000	PK	45.80	33.01	17.07	40.05	2.17	58.00	-37.23	27.0	64.2	172	141	
Hori.	5855.000	PK	45.85	33.02	17.07	40.06	2.17	58.05	-37.18	15.6	52.8	172	141	
Hori.	5875.000	PK	45.83	33.06	17.09	40.07	2.17	58.08	-37.15	10.0	47.1	172	141	
Hori.	5925.000	PK	45.72	33.16	17.12	40.11	2.17	58.06	-37.17	-27.0	10.2	172	141	
Hori.	17325.000	PK	46.12	42.63	13.48	38.70	-9.54	53.99	-41.24	-27.0	14.2	100	0	
Vert.	5650.000	PK	45.59	32.43	16.94	39.90	2.17	57.23	-38.00	-27.0	11.0	100	172	
Vert.	5700.000	PK	45.63	32.57	16.97	39.94	2.17	57.40	-37.83	10.0	47.8	100	172	
Vert.	5720.000	PK	45.74	32.63	16.98	39.95	2.17	57.57	-37.66	15.6	53.3	100	172	
Vert.	5725.000	PK	45.73	32.65	16.99	39.96	2.17	57.58	-37.65	27.0	64.6	100	172	
Vert.	5850.000	PK	45.71	33.01	17.07	40.05	2.17	57.91	-37.32	27.0	64.3	100	172	
Vert.	5855.000	PK	45.58	33.02	17.07	40.06	2.17	57.78	-37.45	15.6	53.0	100	172	
Vert.	5875.000	PK	45.73	33.06	17.09	40.07	2.17	57.98	-37.25	10.0	47.2	100	172	
Vert.	5925.000	PK	45.85	33.16	17.12	40.11	2.17	58.19	-37.04	-27.0	10.0	100	172	
Vert.	17325.000	PK	46.21	42.63	13.48	38.70	-9.54	54.08	-41.15	-27.0	14.1	100	0	

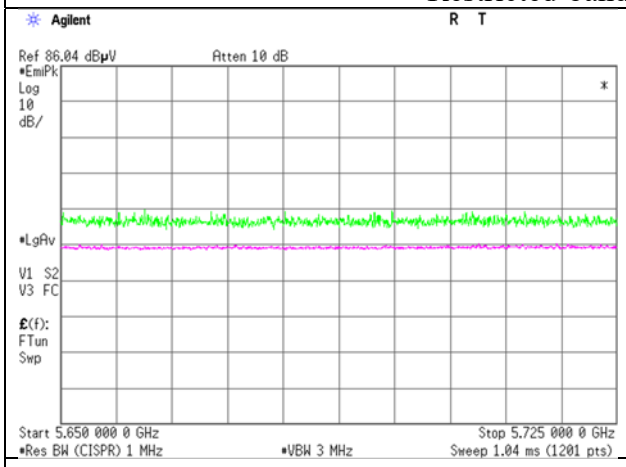
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Resrult(EIRP[dBm])=10*LOG （({ 10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) *10^3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

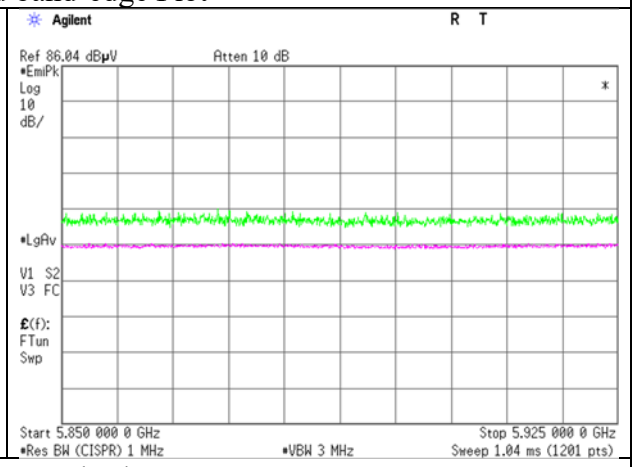
Radiated Spurious Emission

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	No.1
Date	April 5, 2020
Temperature / Humidity	22 deg. C / 35 % RH
Engineer	Kazuya Noda (1 GHz - 6.4 GHz)
Mode	Tx 11ac-80 (SISO) 5775 MHz

Horizontal

Restricted-band band-edge Plot

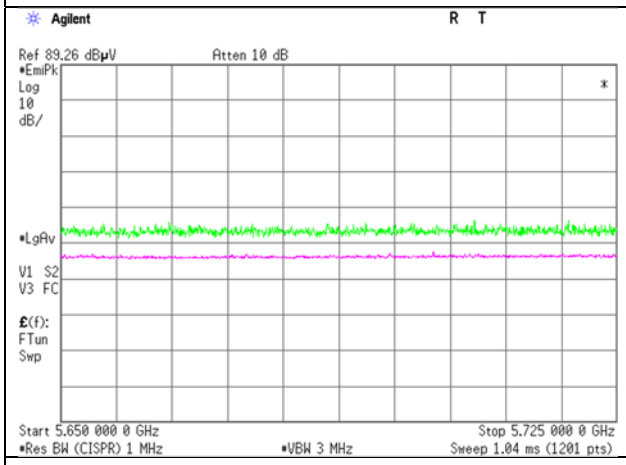


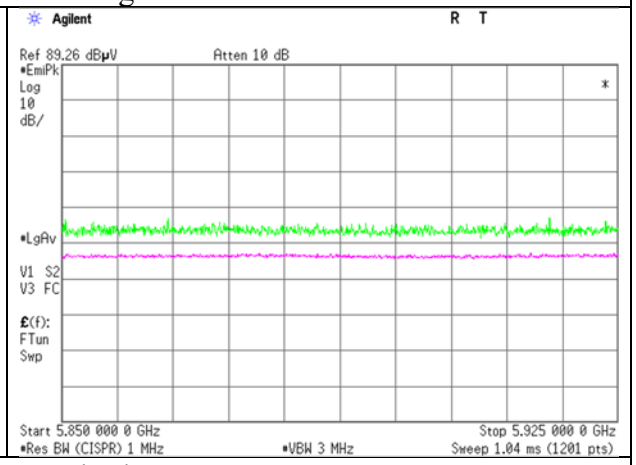


Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot





Trace Green: Peak Plot
Trace Purple: Average Plot

* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.
Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	No.3
Date	April 10, 2020
Temperature / Humidity	24 deg. C / 31 % RH
Engineer	Kazuya Noda (1 GHz - 6.4 GHz)
Mode	Tx 11ac-80 (SISO) 5775 MHz with 3DH5 Hopping

(Calculation) (above 1 GHz Outside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5650.000	PK	49.49	32.46	16.45	43.46	2.17	57.11	-38.12	-27.0	11.1	185	141	
Hori.	5700.000	PK	49.41	32.61	16.49	43.45	2.17	57.23	-38.00	10.0	48.0	185	141	
Hori.	5720.000	PK	49.74	32.66	16.50	43.44	2.17	57.63	-37.60	15.6	53.2	185	141	
Hori.	5725.000	PK	49.78	32.68	16.50	43.44	2.17	57.69	-37.54	27.0	64.5	185	141	
Hori.	5850.000	PK	49.81	33.02	16.60	43.41	2.17	58.19	-37.04	27.0	64.0	185	141	
Hori.	5855.000	PK	49.87	33.03	16.60	43.41	2.17	58.26	-36.97	15.6	52.6	185	141	
Hori.	5875.000	PK	49.54	33.08	16.61	43.41	2.17	57.99	-37.24	10.0	47.2	185	141	
Hori.	5925.000	PK	49.65	33.18	16.64	43.40	2.17	58.24	-36.99	-27.0	10.0	185	141	
Vert.	5650.000	PK	49.55	32.46	16.45	43.46	2.17	57.17	-38.06	-27.0	11.1	143	174	
Vert.	5700.000	PK	49.79	32.61	16.49	43.45	2.17	57.61	-37.62	10.0	47.6	143	174	
Vert.	5720.000	PK	49.74	32.66	16.50	43.44	2.17	57.63	-37.60	15.6	53.2	143	174	
Vert.	5725.000	PK	49.91	32.68	16.50	43.44	2.17	57.82	-37.41	27.0	64.4	143	174	
Vert.	5850.000	PK	49.88	33.02	16.60	43.41	2.17	58.26	-36.97	27.0	64.0	143	174	
Vert.	5855.000	PK	49.69	33.03	16.60	43.41	2.17	58.08	-37.15	15.6	52.7	143	174	
Vert.	5875.000	PK	49.71	33.08	16.61	43.41	2.17	58.16	-37.07	10.0	47.1	143	174	
Vert.	5925.000	PK	49.82	33.18	16.64	43.40	2.17	58.41	-36.82	-27.0	**9.8**	143	174	

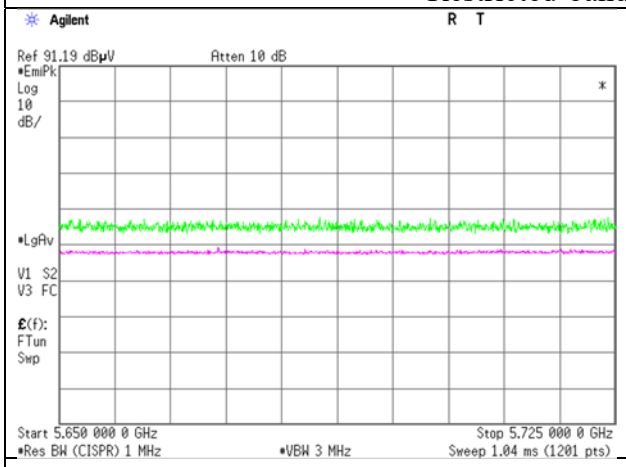
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Resrult(EIRP[dBm])=10*LOG （({ 10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) *10^3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

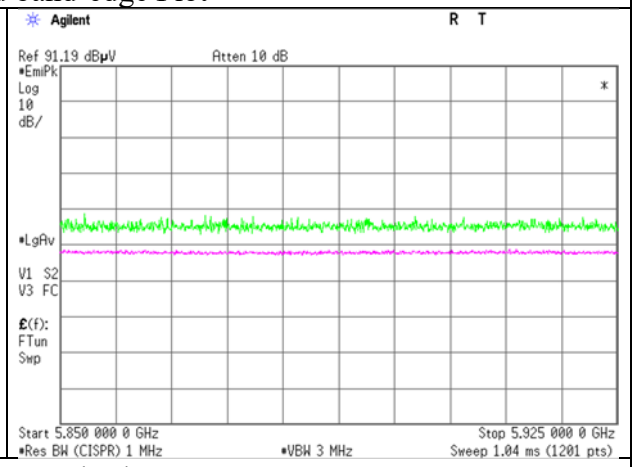
Radiated Spurious Emission

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	No.3
Date	April 10, 2020
Temperature / Humidity	24 deg. C / 31 % RH
Engineer	Kazuya Noda (1 GHz - 6.4 GHz)
Mode	Tx 11ac-80 (SISO) 5775 MHz with 3DH5 Hopping

Horizontal

Restricted-band band-edge Plot

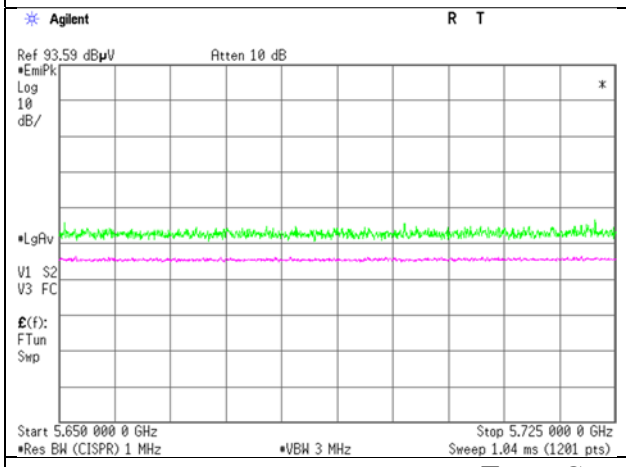


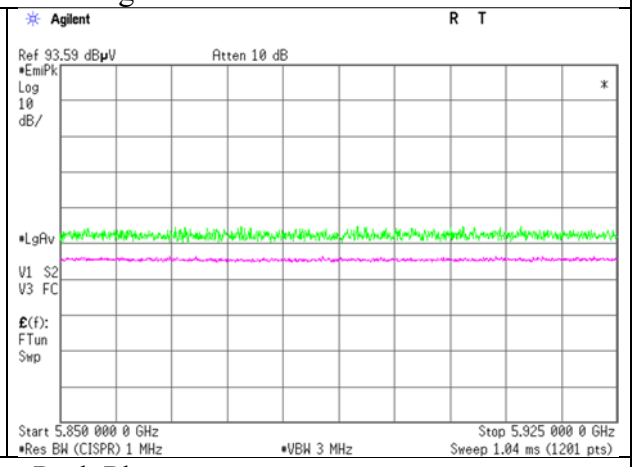


Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot





Trace Green: Peak Plot
Trace Purple: Average Plot

* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.
Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Report No.	13294722S-C-R3			
Test place	Shonan EMC Lab.			
Semi Anechoic Chamber	No.1	No.1	No.1	No.1
Date	April 7, 2020	April 6, 2020	April 6, 2020	April 7, 2020
Temperature / Humidity	21 deg. C / 35 % RH	22 deg. C / 42 % RH	20 deg. C / 39 % RH	18 deg. C / 41 % RH
Engineer	Kazuya Noda	Toshinori Yamada	Kazuya Noda	Makoto Hosaka
	(1 GHz - 6.4 GHz)	(6.4 GHz - 13 GHz)	(13 GHz - 18 GHz)	(18 GHz - 40 GHz)
Mode	Tx 11n-20 (MIMO) 5745 MHz			

(above 1 GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11490.000	PK	44.97	40.15	10.65	39.44	2.17	58.50	73.9	15.4	176	200	
Hori.	11490.000	AV	33.59	40.15	10.65	39.44	2.17	47.12	53.9	**6.8**	176	200	VBW : 750 Hz
Vert.	11490.000	PK	44.86	40.15	10.65	39.44	2.17	58.39	73.9	15.5	156	237	
Vert.	11490.000	AV	33.58	40.15	10.65	39.44	2.17	47.11	53.9	6.8	156	237	VBW: 750 Hz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

(Calculation) (above 1 GHz Outside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5650.000	PK	45.91	32.43	16.94	39.90	2.17	57.55	-37.68	-27.0	10.7	168	129	
Hori.	5700.000	PK	46.52	32.57	16.97	39.94	2.17	58.29	-36.94	10.0	46.9	168	129	
Hori.	5720.000	PK	50.86	32.63	16.98	39.95	2.17	62.69	-32.54	15.6	48.1	168	129	
Hori.	5725.000	PK	53.41	32.65	16.99	39.96	2.17	65.26	-29.97	27.0	57.0	168	129	
Hori.	17235.000	PK	44.83	41.83	13.44	38.97	-9.54	51.59	-43.64	-27.0	16.6	100	0	
Vert.	5650.000	PK	45.64	32.43	16.94	39.90	2.17	57.28	-37.95	-27.0	10.9	204	218	
Vert.	5700.000	PK	47.21	32.57	16.97	39.94	2.17	58.98	-36.25	10.0	46.2	204	218	
Vert.	5720.000	PK	53.44	32.63	16.98	39.95	2.17	65.27	-29.96	15.6	45.6	204	218	
Vert.	5725.000	PK	56.41	32.65	16.99	39.96	2.17	68.26	-26.97	27.0	54.0	204	218	
Vert.	17235.000	PK	45.01	41.83	13.44	38.97	-9.54	51.77	-43.46	-27.0	16.5	100	0	

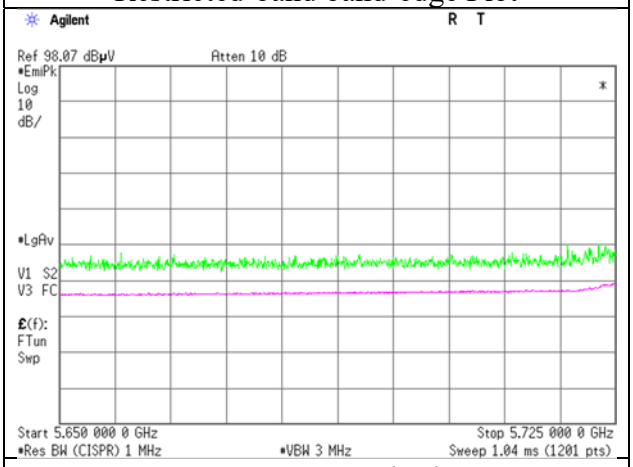
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Resrult(EIRP[dBm])=10*LOG （({ 10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) * 10^3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Radiated Spurious Emission

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	No.1
Date	April 7, 2020
Temperature / Humidity	21 deg. C / 35 % RH
Engineer	Kazuya Noda (1 GHz - 6.4 GHz)
Mode	Tx 11n-20 (MIMO) 5745 MHz

Horizontal

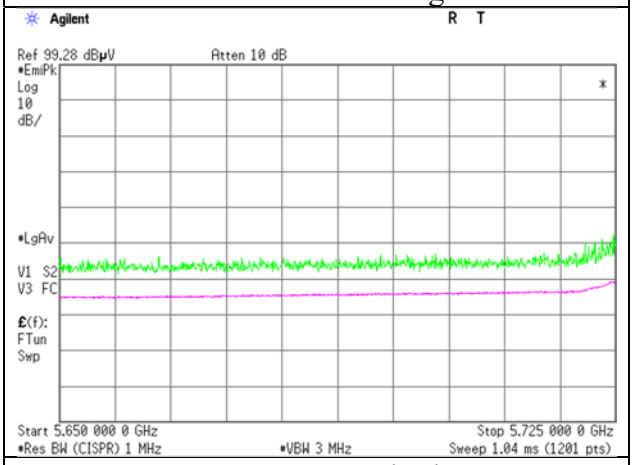
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.
Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Report No.	13294722S-C-R3			
Test place	Shonan EMC Lab.			
Semi Anechoic Chamber	No.1	No.1	No.1	No.1
Date	April 7, 2020	April 6, 2020	April 6, 2020	April 7, 2020
Temperature / Humidity	21 deg. C / 35 % RH	22 deg. C / 42 % RH	20 deg. C / 39 % RH	18 deg. C / 41 % RH
Engineer	Kazuya Noda	Toshinori Yamada	Kazuya Noda	Makoto Hosaka
	(1 GHz - 6.4 GHz)	(6.4 GHz - 13 GHz)	(13 GHz - 18 GHz)	(18 GHz - 40 GHz)
Mode	Tx 11n-20 (MIMO) 5785 MHz			

(above 1 GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11570.000	PK	45.25	40.07	10.71	39.38	2.17	58.82	73.9	15.1	157	192	
Hori.	11570.000	AV	34.22	40.07	10.71	39.38	2.17	47.79	53.9	**6.1**	157	192	VBW : 750 Hz
Vert.	11570.000	PK	45.37	40.07	10.71	39.38	2.17	58.94	73.9	15.0	170	211	
Vert.	11570.000	AV	34.09	40.07	10.71	39.38	2.17	47.66	53.9	6.2	170	211	VBW : 750 Hz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

(Calculation) (above 1 GHz Outside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	17355.000	PK	45.31	42.90	13.51	38.60	-9.54	53.58	-41.65	-27.0	14.6	100	0	
Vert.	17355.000	PK	45.18	42.90	13.51	38.60	-9.54	53.45	-41.78	-27.0	14.8	100	0	

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Resrult(EIRP[dBm])=10*LOG （({ 10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) *10^3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Radiated Spurious Emission

Report No.	13294722S-C-R3			
Test place	Shonan EMC Lab.			
Semi Anechoic Chamber	No.1	No.1	No.1	No.1
Date	April 7, 2020	April 6, 2020	April 6, 2020	April 7, 2020
Temperature / Humidity	21 deg. C / 35 % RH	22 deg. C / 42 % RH	20 deg. C / 39 % RH	18 deg. C / 41 % RH
Engineer	Kazuya Noda	Toshinori Yamada	Kazuya Noda	Makoto Hosaka
	(1 GHz - 6.4 GHz)	(6.4 GHz - 13 GHz)	(13 GHz - 18 GHz)	(18 GHz - 40 GHz)
Mode	Tx 11n-20 (MIMO) 5805 MHz			

(above 1 GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11610.000	PK	45.35	39.97	10.75	39.36	2.17	58.88	73.9	15.0	157	193	
Hori.	11610.000	AV	33.50	39.97	10.75	39.36	2.17	47.03	53.9	6.9	157	193	VBW : 750 Hz
Vert.	11610.000	PK	45.12	39.97	10.75	39.36	2.17	58.65	73.9	15.3	152	212	
Vert.	11610.000	AV	33.60	39.97	10.75	39.36	2.17	47.13	53.9	**6.8**	152	212	VBW : 750 Hz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

(Calculation) (above 1 GHz Outside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5850.000	PK	45.98	33.01	17.07	40.05	2.17	58.18	-37.05	27.0	64.0	149	83	
Hori.	5855.000	PK	46.21	33.02	17.07	40.06	2.17	58.41	-36.82	15.6	52.4	149	83	
Hori.	5875.000	PK	45.79	33.06	17.09	40.07	2.17	58.04	-37.19	10.0	47.2	149	83	
Hori.	5925.000	PK	45.66	33.16	17.12	40.11	2.17	58.00	-37.23	-27.0	10.2	149	83	
Hori.	17415.000	PK	44.59	43.36	13.54	38.42	-9.54	53.53	-41.70	-27.0	14.7	100	0	
Vert.	5850.000	PK	46.33	33.01	17.07	40.05	2.17	58.53	-36.70	27.0	63.7	186	218	
Vert.	5855.000	PK	45.67	33.02	17.07	40.06	2.17	57.87	-37.36	15.6	53.0	186	218	
Vert.	5875.000	PK	45.89	33.06	17.09	40.07	2.17	58.14	-37.09	10.0	47.1	186	218	
Vert.	5925.000	PK	45.95	33.16	17.12	40.11	2.17	58.29	-36.94	-27.0	9.9	186	218	
Vert.	17415.000	PK	44.94	43.36	13.54	38.42	-9.54	53.88	-41.35	-27.0	14.3	100	0	

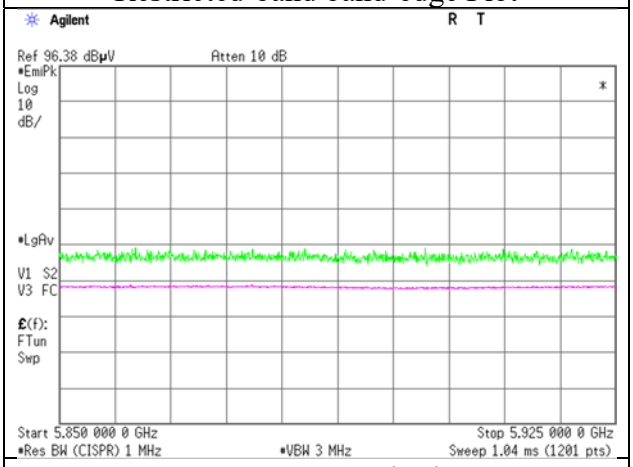
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Resrult(EIRP[dBm])=10*LOG （({ 10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) *10^3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Radiated Spurious Emission

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	No.1
Date	April 7, 2020
Temperature / Humidity	21 deg. C / 35 % RH
Engineer	Kazuya Noda (1 GHz - 6.4 GHz)
Mode	Tx 11n-20 (MIMO) 5805 MHz

Horizontal

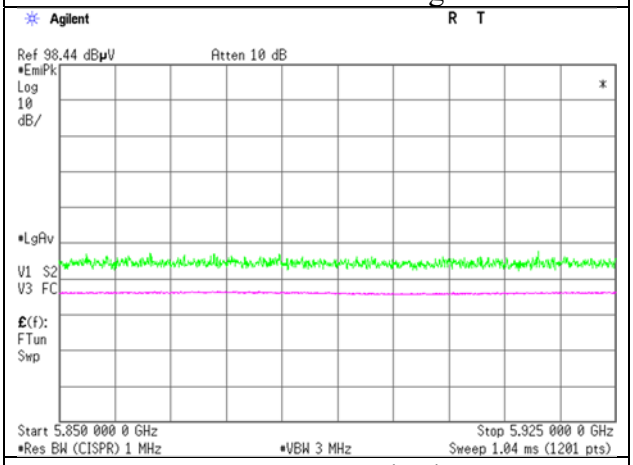
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.
Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	No.3
Date	April 9, 2020
Temperature / Humidity	24 deg. C / 40 % RH
Engineer	Kazuya Noda (1 GHz - 6.4 GHz)
Mode	Tx 11n-20 (MIMO) 5745 MHz with 3DH5 Hopping

(Calculation) (above 1 GHz Outside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5650.000	PK	49.17	32.46	16.45	43.46	2.17	56.79	-38.44	-27.0	**11.4**	172	129	
Hori.	5700.000	PK	50.55	32.61	16.49	43.45	2.17	58.37	-36.86	10.0	46.9	172	129	
Hori.	5720.000	PK	54.66	32.66	16.50	43.44	2.17	62.55	-32.68	15.6	48.3	172	129	
Hori.	5725.000	PK	57.18	32.68	16.50	43.44	2.17	65.09	-30.14	27.0	57.1	172	129	
Vert.	5650.000	PK	48.82	32.46	16.45	43.46	2.17	56.44	-38.79	-27.0	11.8	202	218	
Vert.	5700.000	PK	50.79	32.61	16.49	43.45	2.17	58.61	-36.62	10.0	46.6	202	218	
Vert.	5720.000	PK	57.95	32.66	16.50	43.44	2.17	65.84	-29.39	15.6	45.0	202	218	
Vert.	5725.000	PK	60.89	32.68	16.50	43.44	2.17	68.80	-26.43	27.0	53.4	202	218	

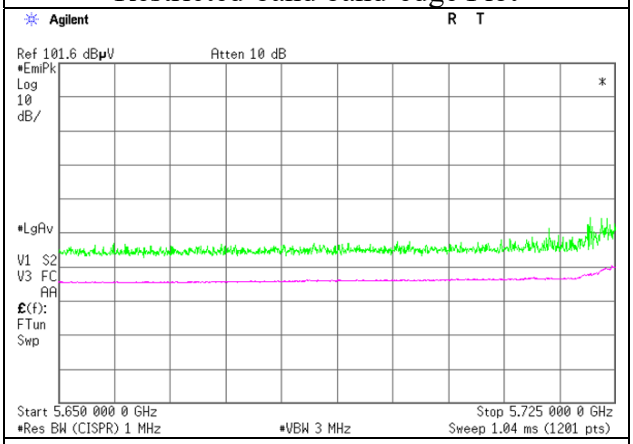
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Resrult(EIRP[dBm])=10*LOG （({ 10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) *10^3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Radiated Spurious Emission

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	No.3
Date	April 9, 2020
Temperature / Humidity	24 deg. C / 40 % RH
Engineer	Kazuya Noda (1 GHz - 6.4 GHz)
Mode	Tx 11n-20 (MIMO) 5745 MHz with 3DH5 Hopping

Horizontal

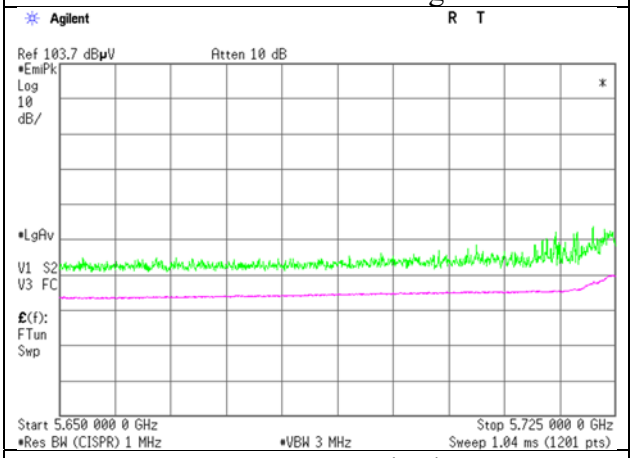
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.
Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	No.3
Date	April 9, 2020
Temperature / Humidity	24 deg. C / 40 % RH
Engineer	Kazuya Noda (1 GHz - 6.4 GHz)
Mode	Tx 11n-20 (MIMO) 5805 MHz with 3DH5 Hopping

(Calculation) (above 1 GHz Outside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5850.000	PK	49.93	33.02	16.60	43.41	2.17	58.31	-36.92	27.0	63.9	163	128	
Hori.	5855.000	PK	49.74	33.03	16.60	43.41	2.17	58.13	-37.10	15.6	52.7	163	128	
Hori.	5875.000	PK	49.42	33.08	16.61	43.41	2.17	57.87	-37.36	10.0	47.4	163	128	
Hori.	5925.000	PK	49.44	33.18	16.64	43.40	2.17	58.03	-37.20	-27.0	**10.2**	163	128	
Vert.	5850.000	PK	49.88	33.02	16.60	43.41	2.17	58.26	-36.97	27.0	64.0	177	217	
Vert.	5855.000	PK	49.32	33.03	16.60	43.41	2.17	57.71	-37.52	15.6	53.1	177	217	
Vert.	5875.000	PK	49.24	33.08	16.61	43.41	2.17	57.69	-37.54	10.0	47.5	177	217	
Vert.	5925.000	PK	49.04	33.18	16.64	43.40	2.17	57.63	-37.60	-27.0	10.6	177	217	

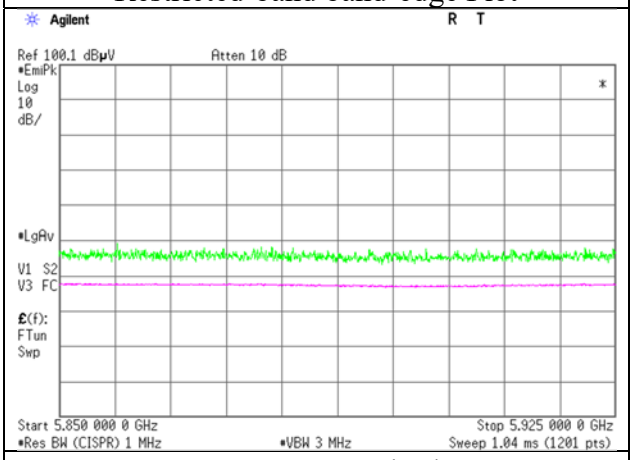
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Resrult(EIRP[dBm])=10*LOG （({ 10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) *10^3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Radiated Spurious Emission

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	No.3
Date	April 9, 2020
Temperature / Humidity	24 deg. C / 40 % RH
Engineer	Kazuya Noda (1 GHz - 6.4 GHz)
Mode	Tx 11n-20 (MIMO) 5805 MHz with 3DH5 Hopping

Horizontal

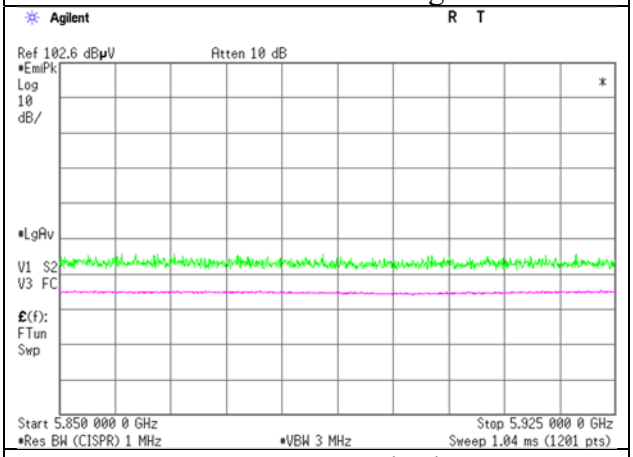
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.
Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Report No.	13294722S-C-R3			
Test place	Shonan EMC Lab.			
Semi Anechoic Chamber	No.2	No.1	No.1	No.1
Date	April 15, 2020	April 7, 2020	April 6, 2020	April 7, 2020
Temperature / Humidity	22 deg. C / 39 % RH	21 deg. C / 35 % RH	20 deg. C / 39 % RH	18 deg. C / 41 % RH
Engineer	Takahiro Kawakami (30 MHz - 1 GHz)	Kazuya Noda (1 GHz - 6.4 GHz)	Kazuya Noda (6.4 GHz - 18 GHz)	Makoto Hosaka (18 GHz - 40 GHz)
Mode	Tx 11ac-20 (MIMO) 5745 MHz			

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	148.502	QP	42.40	14.77	8.70	31.80	0.00	34.07	43.5	9.4	221	224	
Hori.	368.637	QP	46.20	15.05	7.36	31.63	0.00	36.98	46.0	9.0	100	70	
Hori.	480.051	QP	41.40	17.24	7.99	31.61	0.00	35.02	46.0	11.0	100	75	
Hori.	503.807	QP	42.30	17.73	8.08	31.60	0.00	36.51	46.0	9.5	100	82	
Hori.	516.095	QP	43.50	17.68	8.14	31.62	0.00	37.70	46.0	8.3	100	72	
Hori.	614.398	QP	40.50	19.45	8.57	31.61	0.00	36.91	46.0	9.1	168	196	
Hori.	1500.001	PK	48.02	25.35	13.44	39.27	2.17	49.71	73.9	24.1	217	184	
Hori.	11490.000	PK	45.77	40.15	10.65	39.44	2.17	59.30	73.9	14.6	157	181	
Hori.	22980.000	PK	43.87	40.46	13.49	47.69	-9.54	40.59	73.9	33.3	150	0	
Hori.	1500.001	AV	38.12	25.35	13.44	39.27	2.17	39.81	53.9	14.0	217	184	VBW : 10 Hz
Hori.	11490.000	AV	35.63	40.15	10.65	39.44	2.17	49.16	53.9	**4.7**	157	181	VBW : 5.6 kHz
Hori.	22980.000	AV	33.67	40.46	13.49	47.69	-9.54	30.39	53.9	23.5	150	0	VBW : 5.6 kHz
Vert.	184.321	QP	34.90	16.13	8.93	31.77	0.00	28.19	43.5	15.3	100	88	
Vert.	368.640	QP	45.10	15.05	7.36	31.63	0.00	35.88	46.0	10.1	120	218	
Vert.	1499.994	PK	46.89	25.35	13.44	39.27	2.17	48.58	73.9	25.3	166	152	
Vert.	11490.000	PK	45.24	40.15	10.65	39.44	2.17	58.77	73.9	15.1	160	237	
Vert.	22980.000	PK	44.73	40.46	13.49	47.69	-9.54	41.45	73.9	32.4	150	0	
Vert.	1499.994	AV	36.11	25.35	13.44	39.27	2.17	37.80	53.9	16.1	166	152	VBW : 10 Hz
Vert.	11490.000	AV	35.57	40.15	10.65	39.44	2.17	49.10	53.9	4.8	160	237	VBW : 5.6 kHz
Vert.	22980.000	AV	33.85	40.46	13.49	47.69	-9.54	30.57	53.9	23.3	150	0	VBW : 5.6 kHz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

(Calculation) (above 1 GHz Outside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5650.000	PK	45.43	32.43	16.94	39.90	2.17	57.07	-38.16	-27.0	11.2	170	128	
Hori.	5700.000	PK	46.72	32.57	16.97	39.94	2.17	58.49	-36.74	10.0	46.7	170	128	
Hori.	5720.000	PK	47.44	32.63	16.98	39.95	2.17	59.27	-35.96	15.6	51.6	170	128	
Hori.	5725.000	PK	48.03	32.65	16.99	39.96	2.17	59.88	-35.35	27.0	62.3	170	128	
Hori.	17235.000	PK	45.02	41.83	13.44	38.97	-9.54	51.78	-43.45	-27.0	16.4	100	0	
Vert.	5650.000	PK	45.44	32.43	16.94	39.90	2.17	57.08	-38.15	-27.0	11.1	201	219	
Vert.	5700.000	PK	46.96	32.57	16.97	39.94	2.17	58.73	-36.50	10.0	46.5	201	219	
Vert.	5720.000	PK	48.38	32.63	16.98	39.95	2.17	60.21	-35.02	15.6	50.6	201	219	
Vert.	5725.000	PK	50.19	32.65	16.99	39.96	2.17	62.04	-33.19	27.0	60.2	201	219	
Vert.	17235.000	PK	45.17	41.83	13.44	38.97	-9.54	51.93	-43.30	-27.0	16.3	100	0	

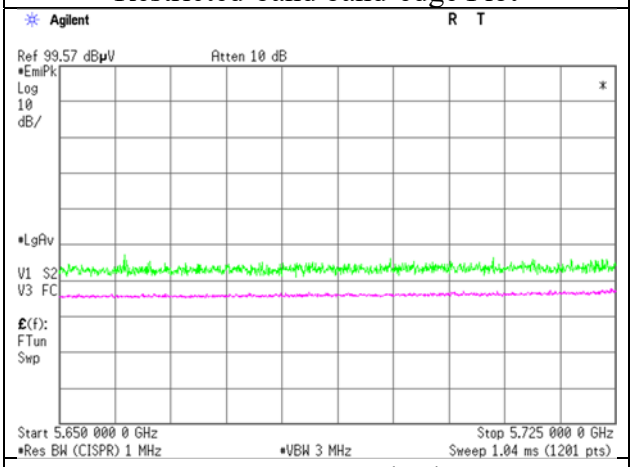
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Resrult(EIRP[dBm])=10*LOG (((10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) *10^3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Radiated Spurious Emission

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	No.1
Date	April 7, 2020
Temperature / Humidity	21 deg. C / 35 % RH
Engineer	Kazuya Noda (1 GHz - 6.4 GHz)
Mode	Tx 11ac-20 (MIMO) 5745 MHz

Horizontal

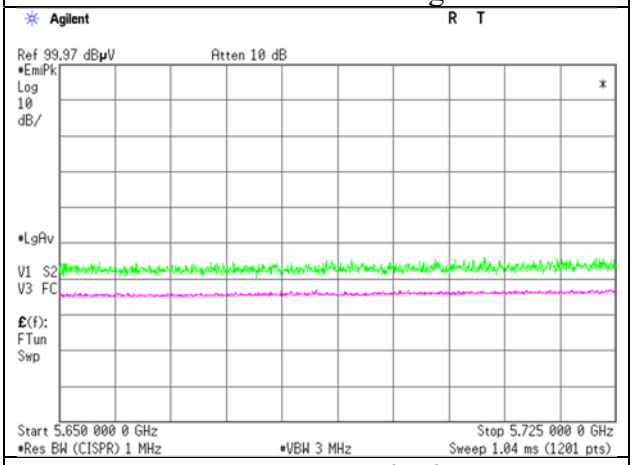
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.
Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Report No.	13294722S-C-R3		
Test place	Shonan EMC Lab.		
Semi Anechoic Chamber	No.1	No.1	No.1
Date	April 7, 2020	April 6, 2020	April 7, 2020
Temperature / Humidity	21 deg. C / 35 % RH	20 deg. C / 39 % RH	18 deg. C / 41 % RH
Engineer	Kazuya Noda	Kazuya Noda	Makoto Hosaka
	(1 GHz - 6.4 GHz)	(6.4 GHz - 18 GHz)	(18 GHz - 40 GHz)
Mode	Tx 11ac-20 (MIMO) 5785 MHz		

(above 1 GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11570.000	PK	45.89	40.07	10.71	39.38	2.17	59.46	73.9	14.4	159	194	
Hori.	11570.000	AV	35.96	40.07	10.71	39.38	2.17	49.53	53.9	**4.4**	159	194	VBW : 5.6 kHz
Vert.	11570.000	PK	45.84	40.07	10.71	39.38	2.17	59.41	73.9	14.5	165	212	
Vert.	11570.000	AV	35.87	40.07	10.71	39.38	2.17	49.44	53.9	4.5	165	212	VBW : 5.6 kHz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

(Calculation) (above 1 GHz Outside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	17355.000	PK	45.22	42.90	13.51	38.60	-9.54	53.49	-41.74	-27.0	14.7	100	0	
Vert.	17355.000	PK	45.12	42.90	13.51	38.60	-9.54	53.39	-41.84	-27.0	14.8	100	0	

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Resrult(EIRP[dBm])=10*LOG （({ 10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) *10^3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Radiated Spurious Emission

Report No.	13294722S-C-R3		
Test place	Shonan EMC Lab.		
Semi Anechoic Chamber	No.1	No.1	No.1
Date	April 7, 2020	April 6, 2020	April 7, 2020
Temperature / Humidity	21 deg. C / 35 % RH	20 deg. C / 39 % RH	18 deg. C / 41 % RH
Engineer	Kazuya Noda	Kazuya Noda	Makoto Hosaka
	(1 GHz - 6.4 GHz)	(6.4 GHz - 18 GHz)	(18 GHz - 40 GHz)
Mode	Tx 11ac-20 (MIMO) 5805 MHz		

(above 1 GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11610.000	PK	45.51	39.97	10.75	39.36	2.17	59.04	73.9	14.9	159	191	
Hori.	11610.000	AV	35.56	39.97	10.75	39.36	2.17	49.09	53.9	**4.8**	159	191	VBW : 5.6 kHz
Vert.	11610.000	PK	45.35	39.97	10.75	39.36	2.17	58.88	73.9	15.0	163	212	
Vert.	11610.000	AV	35.47	39.97	10.75	39.36	2.17	49.00	53.9	4.9	163	212	VBW : 5.6 kHz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

(Calculation) (above 1 GHz Outside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5850.000	PK	46.47	33.01	17.07	40.05	2.17	58.67	-36.56	27.0	63.6	188	287	
Hori.	5855.000	PK	46.36	33.02	17.07	40.06	2.17	58.56	-36.67	15.6	52.3	188	287	
Hori.	5875.000	PK	46.51	33.06	17.09	40.07	2.17	58.76	-36.47	10.0	46.5	188	287	
Hori.	5925.000	PK	46.12	33.16	17.12	40.11	2.17	58.46	-36.77	-27.0	9.8	188	287	
Hori.	17415.000	PK	45.15	43.36	13.54	38.42	-9.54	54.09	-41.14	-27.0	14.1	100	0	
Vert.	5850.000	PK	46.22	33.01	17.07	40.05	2.17	58.42	-36.81	27.0	63.8	197	219	
Vert.	5855.000	PK	46.39	33.02	17.07	40.06	2.17	58.59	-36.64	15.6	52.2	197	219	
Vert.	5875.000	PK	45.85	33.06	17.09	40.07	2.17	58.10	-37.13	10.0	47.1	197	219	
Vert.	5925.000	PK	45.87	33.16	17.12	40.11	2.17	58.21	-37.02	-27.0	10.0	197	219	
Vert.	17415.000	PK	45.08	43.36	13.54	38.42	-9.54	54.02	-41.21	-27.0	14.2	100	0	

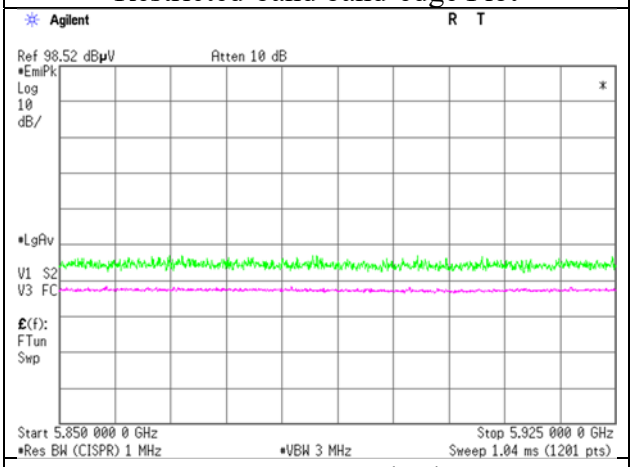
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Resrult(EIRP[dBm])=10*LOG （({ 10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) *10^3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Radiated Spurious Emission

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	No.1
Date	April 7, 2020
Temperature / Humidity	21 deg. C / 35 % RH
Engineer	Kazuya Noda (1 GHz - 6.4 GHz)
Mode	Tx 11ac-20 (MIMO) 5805 MHz

Horizontal

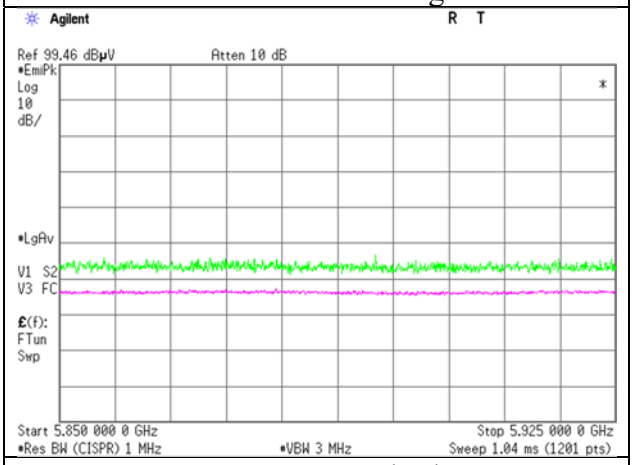
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.
Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Report No.	13294722S-C-R3			
Test place	Shonan EMC Lab.			
Semi Anechoic Chamber	No.2	No.3	No.3	No.3
Date	April 13, 2020	April 9, 2020	April 10, 2020	April 10, 2020
Temperature / Humidity	26 deg. C /26 % RH	24 deg. C / 40 % RH	24 deg. C / 31 % RH	23 deg. C / 33 % RH
Engineer	Takahiro Kawakami (30 MHz - 1 GHz)	Kazuya Noda (1 GHz - 6.4 GHz)	Kazuya Noda (6.4 GHz - 13 GHz)	Makoto Hosaka (13 GHz - 40 GHz)
Mode	Tx 11ac-20 (MIMO) 5745 MHz with 3DH5 Hopping			

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	148.500	QP	42.50	14.77	8.70	31.80	0.00	34.17	43.5	9.3	232	223	
Hori.	250.006	QP	46.00	11.79	6.30	31.70	0.00	32.39	46.0	13.6	100	154	
Hori.	368.637	QP	46.00	15.05	7.36	31.63	0.00	36.78	46.0	9.2	100	92	
Hori.	503.804	QP	42.60	17.73	8.08	31.60	0.00	36.81	46.0	9.2	100	82	
Hori.	516.093	QP	43.50	17.68	8.14	31.62	0.00	37.70	46.0	8.3	100	72	
Hori.	528.400	QP	42.30	17.58	8.20	31.64	0.00	36.44	46.0	9.6	100	65	
Hori.	614.399	QP	42.00	19.45	8.57	31.61	0.00	38.41	46.0	7.6	166	195	
Hori.	1500.074	PK	47.86	25.35	13.44	39.27	2.17	49.55	73.9	24.3	166	145	
Hori.	11490.000	PK	48.92	40.08	9.72	42.63	2.17	58.26	73.9	15.6	220	199	
Hori.	22980.000	PK	43.71	40.46	13.49	47.69	-9.54	40.43	73.9	33.4	150	0	
Hori.	1500.074	AV	38.03	25.35	13.44	39.27	2.17	39.72	53.9	14.1	166	145	VBW : 10 Hz
Hori.	11490.000	AV	38.05	40.08	9.72	42.63	2.17	47.39	53.9	6.5	220	199	VBW : 5.6 kHz
Hori.	22980.000	AV	33.89	40.46	13.49	47.69	-9.54	30.61	53.9	23.2	150	0	VBW : 5.6 kHz
Vert.	148.503	QP	36.10	14.77	8.70	31.80	0.00	27.77	43.5	15.7	100	105	
Vert.	368.638	QP	45.40	15.05	7.36	31.63	0.00	36.18	46.0	9.8	122	231	
Vert.	1499.996	PK	47.04	25.35	13.44	39.27	2.17	48.73	73.9	25.1	170	158	
Vert.	11490.000	PK	48.95	40.08	9.72	42.63	2.17	58.29	73.9	15.6	147	238	
Vert.	22980.000	PK	44.90	40.46	13.49	47.69	-9.54	41.62	73.9	32.2	150	0	
Vert.	1499.996	AV	36.88	25.35	13.44	39.27	2.17	38.57	53.9	15.3	170	158	VBW : 10 Hz
Vert.	11490.000	AV	38.12	40.08	9.72	42.63	2.17	47.46	53.9	**6.4**	147	238	VBW : 5.6 kHz
Vert.	22980.000	AV	33.65	40.46	13.49	47.69	-9.54	30.37	53.9	23.5	150	0	VBW : 5.6 kHz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

(Calculation) (above 1 GHz Outside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5650.000	PK	48.83	32.46	16.45	43.46	2.17	56.45	-38.78	-27.0	11.8	172	131	
Hori.	5700.000	PK	49.29	32.61	16.49	43.45	2.17	57.11	-38.12	10.0	48.1	172	131	
Hori.	5720.000	PK	50.04	32.66	16.50	43.44	2.17	57.93	-37.30	15.6	52.9	172	131	
Hori.	5725.000	PK	50.15	32.68	16.50	43.44	2.17	58.06	-37.17	27.0	64.2	172	131	
Hori.	17235.000	PK	48.16	41.54	12.15	40.31	-9.54	52.00	-43.23	-27.0	16.2	100	0	
Vert.	5650.000	PK	48.76	32.46	16.45	43.46	2.17	56.38	-38.85	-27.0	11.8	172	219	
Vert.	5700.000	PK	50.34	32.61	16.49	43.45	2.17	58.16	-37.07	10.0	47.1	172	219	
Vert.	5720.000	PK	50.37	32.66	16.50	43.44	2.17	58.26	-36.97	15.6	52.6	172	219	
Vert.	5725.000	PK	52.57	32.68	16.50	43.44	2.17	60.48	-34.75	27.0	61.7	172	219	
Vert.	17235.000	PK	48.06	41.54	12.15	40.31	-9.54	51.90	-43.33	-27.0	16.3	100	0	

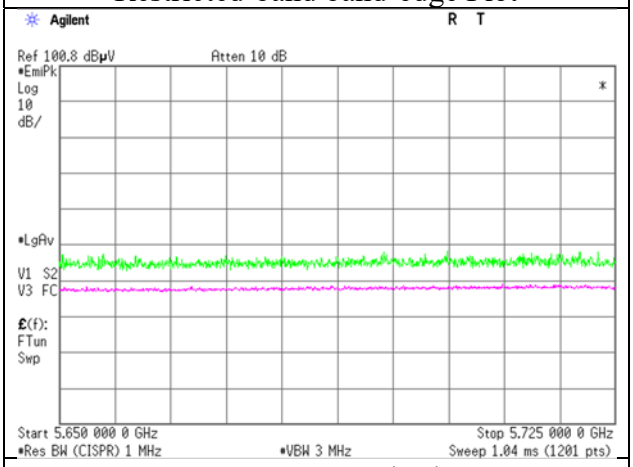
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Resrult(EIRP[dBm])=10*LOG (({ 10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) * 10^3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Radiated Spurious Emission

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	No.3
Date	April 9, 2020
Temperature / Humidity	24 deg. C / 40 % RH
Engineer	Kazuya Noda (1 GHz - 6.4 GHz)
Mode	Tx 11ac-20 (MIMO) 5745 MHz with 3DH5 Hopping

Horizontal

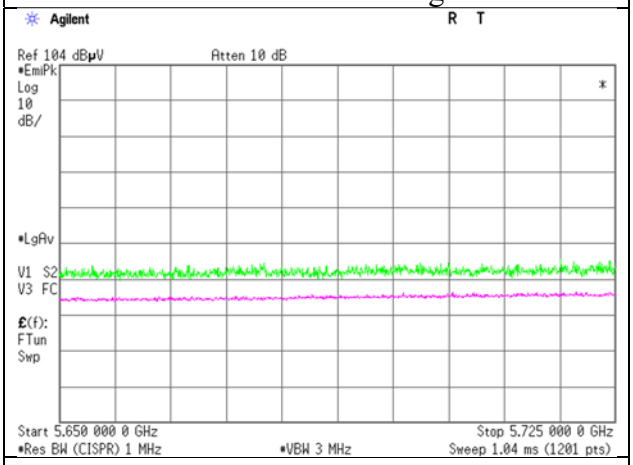
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.
Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	No.3
Date	April 9, 2020
Temperature / Humidity	24 deg. C / 40 % RH
Engineer	Kazuya Noda (1 GHz - 6.4 GHz)
Mode	Tx 11ac-20 (MIMO) 5805 MHz with 3DH5 Hopping

(Calculation) (above 1 GHz Outside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5850.000	PK	49.96	33.02	16.60	43.41	2.17	58.34	-36.89	27.0	63.9	171	284	
Hori.	5855.000	PK	49.88	33.03	16.60	43.41	2.17	58.27	-36.96	15.6	52.6	171	284	
Hori.	5875.000	PK	49.57	33.08	16.61	43.41	2.17	58.02	-37.21	10.0	47.2	171	284	
Hori.	5925.000	PK	49.69	33.18	16.64	43.40	2.17	58.28	-36.95	-27.0	**9.9**	171	284	
Vert.	5850.000	PK	49.98	33.02	16.60	43.41	2.17	58.36	-36.87	27.0	63.9	179	219	
Vert.	5855.000	PK	49.81	33.03	16.60	43.41	2.17	58.20	-37.03	15.6	52.6	179	219	
Vert.	5875.000	PK	49.51	33.08	16.61	43.41	2.17	57.96	-37.27	10.0	47.3	179	219	
Vert.	5925.000	PK	49.54	33.18	16.64	43.40	2.17	58.13	-37.10	-27.0	10.1	179	219	

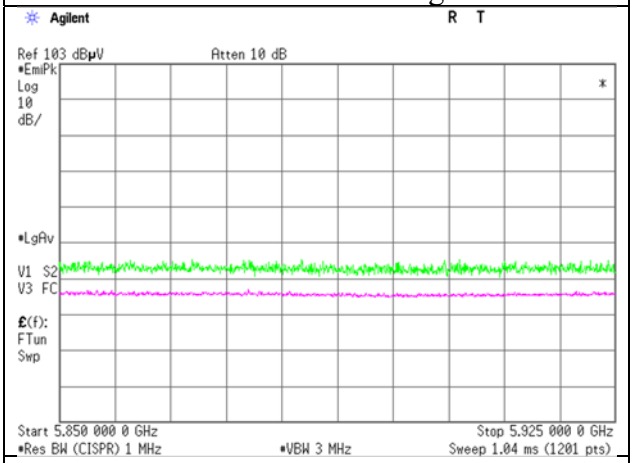
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Resrult(EIRP[dBm])=10*LOG （({ 10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) *10^3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Radiated Spurious Emission

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	No.3
Date	April 9, 2020
Temperature / Humidity	24 deg. C / 40 % RH
Engineer	Kazuya Noda (1 GHz - 6.4 GHz)
Mode	Tx 11ac-20 (MIMO) 5805 MHz with 3DH5 Hopping

Horizontal

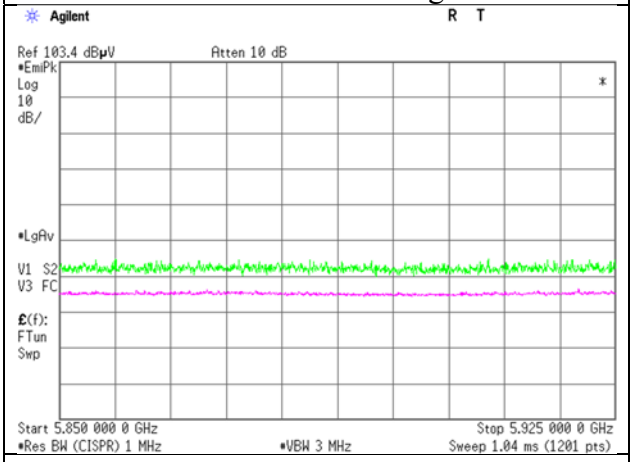
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.
Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Report No.	13294722S-C-R3		
Test place	Shonan EMC Lab.		
Semi Anechoic Chamber	No.1	No.1	No.1
Date	April 7, 2020	April 6, 2020	April 7, 2020
Temperature / Humidity	21 deg. C / 35 % RH	20 deg. C / 39 % RH	18 deg. C / 41 % RH
Engineer	Kazuya Noda	Kazuya Noda	Makoto Hosaka
	(1 GHz - 6.4 GHz)	(6.4 GHz - 18 GHz)	(18 GHz - 40 GHz)
Mode	Tx 11n-40 (MIMO) 5755 MHz		

(above 1 GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11510.000	PK	45.25	40.16	10.65	39.42	2.17	58.81	73.9	15.1	149	196	
Hori.	11510.000	AV	35.72	40.16	10.65	39.42	2.17	49.28	53.9	4.6	149	196	VBW : 7.5 kHz
Vert.	11510.000	PK	45.35	40.16	10.65	39.42	2.17	58.91	73.9	15.0	152	213	
Vert.	11510.000	AV	35.89	40.16	10.65	39.42	2.17	49.45	53.9	**4.5**	152	213	VBW : 7.5 kHz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

(Calculation) (above 1 GHz Outside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5650.000	PK	45.92	32.43	16.94	39.90	2.17	57.56	-37.67	-27.0	10.7	165	129	
Hori.	5700.000	PK	45.81	32.57	16.97	39.94	2.17	57.58	-37.65	10.0	47.6	165	129	
Hori.	5720.000	PK	45.98	32.63	16.98	39.95	2.17	57.81	-37.42	15.6	53.0	165	129	
Hori.	5725.000	PK	46.19	32.65	16.99	39.96	2.17	58.04	-37.19	27.0	64.2	165	129	
Hori.	17265.000	PK	45.04	42.12	13.45	38.88	-9.54	52.19	-43.04	-27.0	16.0	100	0	
Vert.	5650.000	PK	45.92	32.43	16.94	39.90	2.17	57.56	-37.67	-27.0	10.7	199	220	
Vert.	5700.000	PK	46.25	32.57	16.97	39.94	2.17	58.02	-37.21	10.0	47.2	199	220	
Vert.	5720.000	PK	46.42	32.63	16.98	39.95	2.17	58.25	-36.98	15.6	52.6	199	220	
Vert.	5725.000	PK	46.39	32.65	16.99	39.96	2.17	58.24	-36.99	27.0	64.0	199	220	
Vert.	17265.000	PK	45.19	42.12	13.45	38.88	-9.54	52.34	-42.89	-27.0	15.9	100	0	

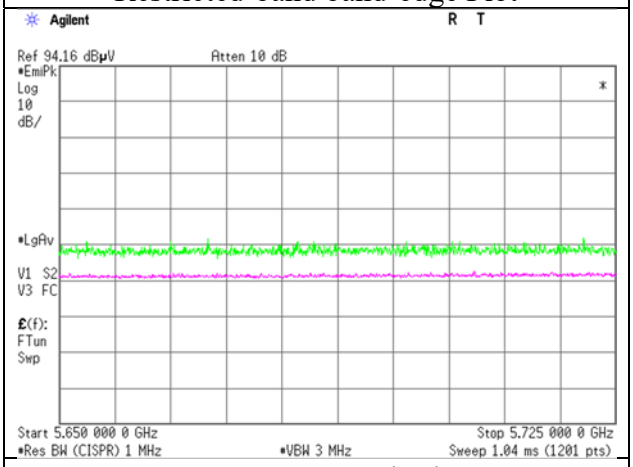
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Resrult(EIRP[dBm])=10*LOG （({ 10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) * 10^3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Radiated Spurious Emission

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	No.1
Date	April 7, 2020
Temperature / Humidity	21 deg. C / 35 % RH
Engineer	Kazuya Noda (1 GHz - 6.4 GHz)
Mode	Tx 11n-40 (MIMO) 5755 MHz

Horizontal

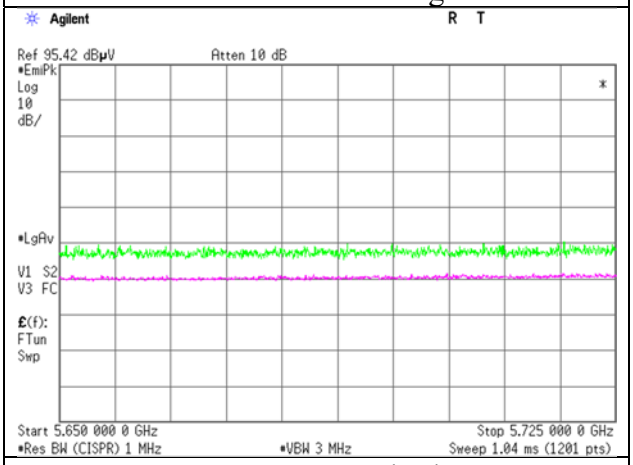
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.
Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Report No.	13294722S-C-R3		
Test place	Shonan EMC Lab.		
Semi Anechoic Chamber	No.1	No.1	No.1
Date	April 7, 2020	April 6, 2020	April 7, 2020
Temperature / Humidity	21 deg. C / 35 % RH	20 deg. C / 39 % RH	18 deg. C / 41 % RH
Engineer	Kazuya Noda	Kazuya Noda	Makoto Hosaka
	(1 GHz - 6.4 GHz)	(6.4 GHz - 18 GHz)	(18 GHz - 40 GHz)
Mode	Tx 11n-40 (MIMO) 5795 MHz		

(above 1 GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11590.000	PK	45.51	40.03	10.74	39.37	2.17	59.08	73.9	14.8	165	193	
Hori.	11590.000	AV	35.86	40.03	10.74	39.37	2.17	49.43	53.9	**4.5**	165	193	VBW : 7.5 kHz
Vert.	11590.000	PK	45.23	40.03	10.74	39.37	2.17	58.80	73.9	15.1	157	194	
Vert.	11590.000	AV	35.76	40.03	10.74	39.37	2.17	49.33	53.9	4.6	157	194	VBW : 7.5 kHz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

(Calculation) (above 1 GHz Outside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5850.000	PK	46.24	33.01	17.07	40.05	2.17	58.44	-36.79	27.0	63.8	161	129	
Hori.	5855.000	PK	46.13	33.02	17.07	40.06	2.17	58.33	-36.90	15.6	52.5	161	129	
Hori.	5875.000	PK	46.16	33.06	17.09	40.07	2.17	58.41	-36.82	10.0	46.8	161	129	
Hori.	5925.000	PK	45.89	33.16	17.12	40.11	2.17	58.23	-37.00	-27.0	10.0	161	129	
Hori.	17385.000	PK	45.07	43.16	13.52	38.51	-9.54	53.70	-41.53	-27.0	14.5	100	0	
Vert.	5850.000	PK	46.48	33.01	17.07	40.05	2.17	58.68	-36.55	27.0	63.5	134	205	
Vert.	5855.000	PK	46.31	33.02	17.07	40.06	2.17	58.51	-36.72	15.6	52.3	134	205	
Vert.	5875.000	PK	45.94	33.06	17.09	40.07	2.17	58.19	-37.04	10.0	47.0	134	205	
Vert.	5925.000	PK	45.73	33.16	17.12	40.11	2.17	58.07	-37.16	-27.0	10.2	134	205	
Vert.	17385.000	PK	45.02	43.16	13.52	38.51	-9.54	53.65	-41.58	-27.0	14.6	100	0	

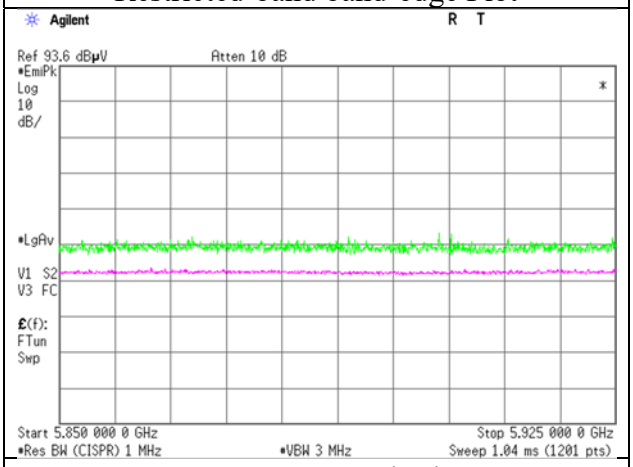
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Resrult(EIRP[dBm])=10*LOG （({ 10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) * 10^3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Radiated Spurious Emission

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	No.1
Date	April 7, 2020
Temperature / Humidity	21 deg. C / 35 % RH
Engineer	Kazuya Noda (1 GHz - 6.4 GHz)
Mode	Tx 11n-40 (MIMO) 5795 MHz

Horizontal

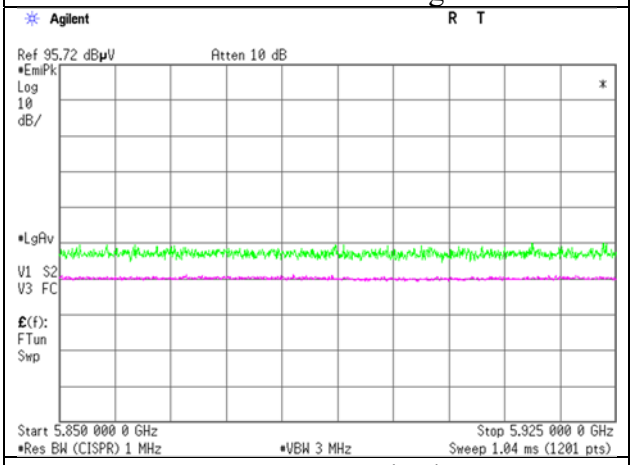
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.
Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	No.3
Date	April 9, 2020
Temperature / Humidity	24 deg. C / 40 % RH
Engineer	Kazuya Noda (1 GHz - 6.4 GHz)
Mode	Tx 11n-40 (MIMO) 5755 MHz with 3DH5 Hopping

(Calculation) (above 1 GHz Outside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5650.000	PK	48.91	32.46	16.45	43.46	2.17	56.53	-38.70	-27.0	11.7	166	129	
Hori.	5700.000	PK	49.21	32.61	16.49	43.45	2.17	57.03	-38.20	10.0	48.2	166	129	
Hori.	5720.000	PK	49.44	32.66	16.50	43.44	2.17	57.33	-37.90	15.6	53.5	166	129	
Hori.	5725.000	PK	50.03	32.68	16.50	43.44	2.17	57.94	-37.29	27.0	64.3	166	129	
Vert.	5650.000	PK	49.35	32.46	16.45	43.46	2.17	56.97	-38.26	-27.0	**11.3**	174	219	
Vert.	5700.000	PK	49.87	32.61	16.49	43.45	2.17	57.69	-37.54	10.0	47.5	174	219	
Vert.	5720.000	PK	49.91	32.66	16.50	43.44	2.17	57.80	-37.43	15.6	53.0	174	219	
Vert.	5725.000	PK	50.16	32.68	16.50	43.44	2.17	58.07	-37.16	27.0	64.2	174	219	

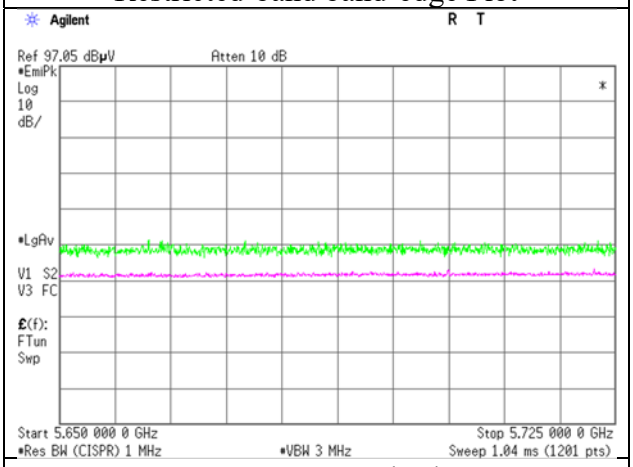
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Resrult(EIRP[dBm])=10*LOG （({ 10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) *10^3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Radiated Spurious Emission

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	No.3
Date	April 9, 2020
Temperature / Humidity	24 deg. C / 40 % RH
Engineer	Kazuya Noda (1 GHz - 6.4 GHz)
Mode	Tx 11n-40 (MIMO) 5755 MHz with 3DH5 Hopping

Horizontal

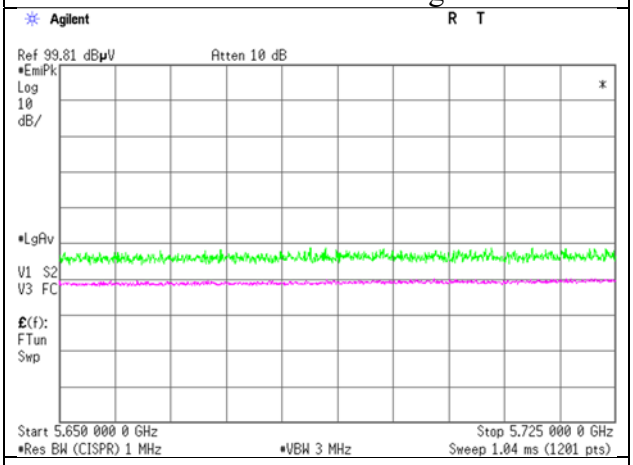
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.
Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	No.3
Date	April 9, 2020
Temperature / Humidity	24 deg. C / 40 % RH
Engineer	Kazuya Noda (1 GHz - 6.4 GHz)
Mode	Tx 11n-40 (MIMO) 5795 MHz with 3DH5 Hopping

(Calculation) (above 1 GHz Outside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5850.000	PK	49.61	33.02	16.60	43.41	2.17	57.99	-37.24	27.0	64.2	179	283	
Hori.	5855.000	PK	49.49	33.03	16.60	43.41	2.17	57.88	-37.35	15.6	52.9	179	283	
Hori.	5875.000	PK	49.37	33.08	16.61	43.41	2.17	57.82	-37.41	10.0	47.4	179	283	
Hori.	5925.000	PK	49.18	33.18	16.64	43.40	2.17	57.77	-37.46	-27.0	10.5	179	283	
Vert.	5850.000	PK	49.51	33.02	16.60	43.41	2.17	57.89	-37.34	27.0	64.3	201	218	
Vert.	5855.000	PK	49.59	33.03	16.60	43.41	2.17	57.98	-37.25	15.6	52.8	201	218	
Vert.	5875.000	PK	49.49	33.08	16.61	43.41	2.17	57.94	-37.29	10.0	47.3	201	218	
Vert.	5925.000	PK	49.33	33.18	16.64	43.40	2.17	57.92	-37.31	-27.0	**10.3**	201	218	

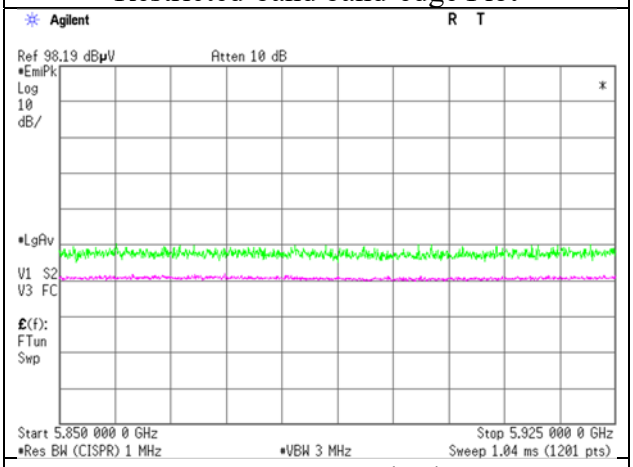
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Resrult(EIRP[dBm])=10*LOG （({ 10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) *10^3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Radiated Spurious Emission

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	No.3
Date	April 9, 2020
Temperature / Humidity	24 deg. C / 40 % RH
Engineer	Kazuya Noda (1 GHz - 6.4 GHz)
Mode	Tx 11n-40 (MIMO) 5795 MHz with 3DH5 Hopping

Horizontal

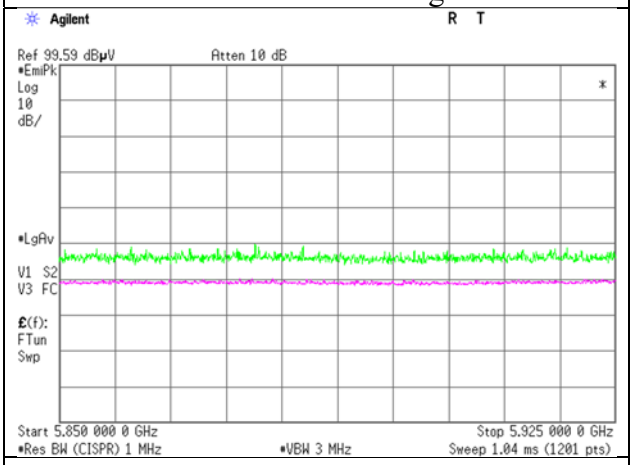
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.
Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Report No.	13294722S-C-R3		
Test place	Shonan EMC Lab.		
Semi Anechoic Chamber	No.1	No.1	No.1
Date	April 7, 2020	April 6, 2020	April 7, 2020
Temperature / Humidity	21 deg. C / 35 % RH	20 deg. C / 39 % RH	18 deg. C / 41 % RH
Engineer	Kazuya Noda	Kazuya Noda	Makoto Hosaka
	(1 GHz - 6.4 GHz)	(6.4 GHz - 18 GHz)	(18 GHz - 40 GHz)
Mode	Tx 11ac-40 (MIMO) 5755 MHz		

(above 1 GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11510.000	PK	45.67	40.16	10.65	39.42	2.17	59.23	73.9	14.7	158	193	
Hori.	11510.000	AV	34.26	40.16	10.65	39.42	2.17	47.82	53.9	**6.1**	158	193	VBW : 1.5 kHz
Vert.	11510.000	PK	45.39	40.16	10.65	39.42	2.17	58.95	73.9	15.0	159	213	
Vert.	11510.000	AV	34.04	40.16	10.65	39.42	2.17	47.60	53.9	6.3	159	213	VBW : 1.5 kHz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

(Calculation) (above 1 GHz Outside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5650.000	PK	45.73	32.43	16.94	39.90	2.17	57.37	-37.86	-27.0	10.9	191	129	
Hori.	5700.000	PK	46.26	32.57	16.97	39.94	2.17	58.03	-37.20	10.0	47.2	191	129	
Hori.	5720.000	PK	48.85	32.63	16.98	39.95	2.17	60.68	-34.55	15.6	50.1	191	129	
Hori.	5725.000	PK	48.93	32.65	16.99	39.96	2.17	60.78	-34.45	27.0	61.4	191	129	
Hori.	17265.000	PK	45.11	42.12	13.45	38.88	-9.54	52.26	-42.97	-27.0	16.0	100	0	
Vert.	5650.000	PK	45.61	32.43	16.94	39.90	2.17	57.25	-37.98	-27.0	11.0	196	219	
Vert.	5700.000	PK	46.69	32.57	16.97	39.94	2.17	58.46	-36.77	10.0	46.8	196	219	
Vert.	5720.000	PK	50.29	32.63	16.98	39.95	2.17	62.12	-33.11	15.6	48.7	196	219	
Vert.	5725.000	PK	50.76	32.65	16.99	39.96	2.17	62.61	-32.62	27.0	59.6	196	219	
Vert.	17265.000	PK	45.19	42.12	13.45	38.88	-9.54	52.34	-42.89	-27.0	15.9	100	0	

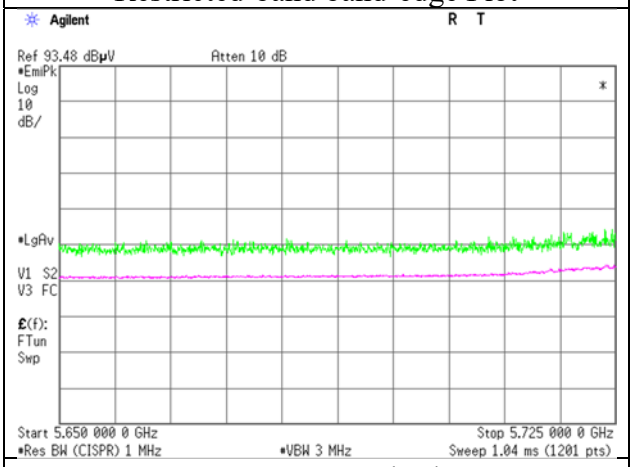
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Resrult(EIRP[dBm])=10*LOG （({ 10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) * 10^3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Radiated Spurious Emission

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	No.1
Date	April 7, 2020
Temperature / Humidity	21 deg. C / 35 % RH
Engineer	Kazuya Noda (1 GHz - 6.4 GHz)
Mode	Tx 11ac-40 (MIMO) 5755 MHz

Horizontal

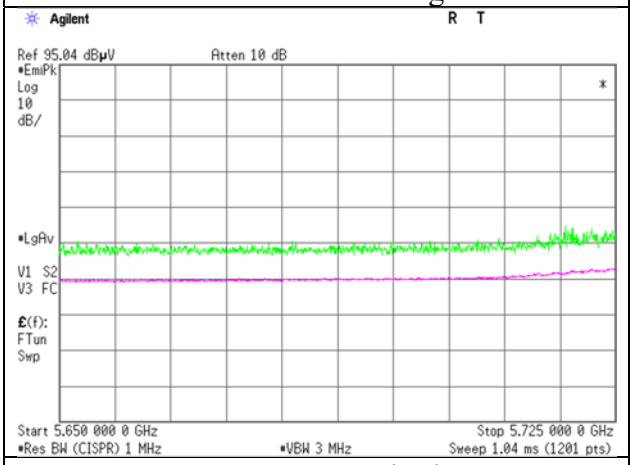
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.
Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Report No.	13294722S-C-R3		
Test place	Shonan EMC Lab.		
Semi Anechoic Chamber	No.1	No.1	No.1
Date	April 7, 2020	April 6, 2020	April 7, 2020
Temperature / Humidity	21 deg. C / 35 % RH	20 deg. C / 39 % RH	18 deg. C / 41 % RH
Engineer	Kazuya Noda	Kazuya Noda	Makoto Hosaka
	(1 GHz - 6.4 GHz)	(6.4 GHz - 18 GHz)	(18 GHz - 40 GHz)
Mode	Tx 11ac-40 (MIMO) 5795 MHz		

(above 1 GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11590.000	PK	45.71	40.03	10.74	39.37	2.17	59.28	73.9	14.6	159	193	
Hori.	11590.000	AV	34.35	40.03	10.74	39.37	2.17	47.92	53.9	**6.0**	159	193	VBW : 1.5 kHz
Vert.	11590.000	PK	46.03	40.03	10.74	39.37	2.17	59.60	73.9	14.3	155	212	
Vert.	11590.000	AV	34.33	40.03	10.74	39.37	2.17	47.90	53.9	6.0	155	212	VBW : 1.5 kHz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

(Calculation) (above 1 GHz Outside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5850.000	PK	46.27	33.01	17.07	40.05	2.17	58.47	-36.76	27.0	63.8	164	129	
Hori.	5855.000	PK	46.07	33.02	17.07	40.06	2.17	58.27	-36.96	15.6	52.6	164	129	
Hori.	5875.000	PK	46.09	33.06	17.09	40.07	2.17	58.34	-36.89	10.0	46.9	164	129	
Hori.	5925.000	PK	45.88	33.16	17.12	40.11	2.17	58.22	-37.01	-27.0	10.0	164	129	
Hori.	17385.000	PK	45.45	43.16	13.52	38.51	-9.54	54.08	-41.15	-27.0	14.1	100	0	
Vert.	5850.000	PK	46.20	33.01	17.07	40.05	2.17	58.40	-36.83	27.0	63.8	207	218	
Vert.	5855.000	PK	45.98	33.02	17.07	40.06	2.17	58.18	-37.05	15.6	52.6	207	218	
Vert.	5875.000	PK	46.06	33.06	17.09	40.07	2.17	58.31	-36.92	10.0	46.9	207	218	
Vert.	5925.000	PK	45.69	33.16	17.12	40.11	2.17	58.03	-37.20	-27.0	10.2	207	218	
Vert.	17385.000	PK	45.51	43.16	13.52	38.51	-9.54	54.14	-41.09	-27.0	14.1	100	0	

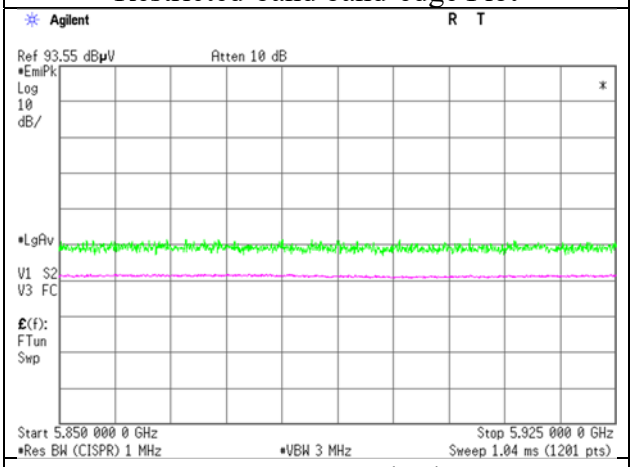
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Resrult(EIRP[dBm])=10*LOG （({ 10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) * 10^3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Radiated Spurious Emission

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	No.1
Date	April 7, 2020
Temperature / Humidity	21 deg. C / 35 % RH
Engineer	Kazuya Noda (1 GHz - 6.4 GHz)
Mode	Tx 11ac-40 (MIMO) 5795 MHz

Horizontal

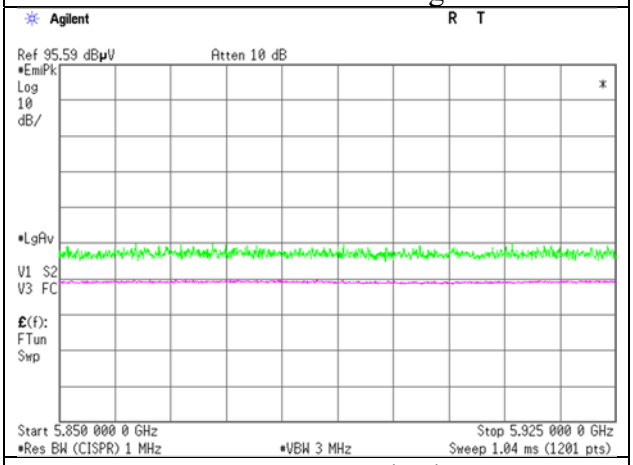
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.
Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	No.3
Date	April 9, 2020
Temperature / Humidity	24 deg. C / 40 % RH
Engineer	Kazuya Noda (1 GHz - 6.4 GHz)
Mode	Tx 11ac-40 (MIMO) 5755 MHz with 3DH5 Hopping

(Calculation) (above 1 GHz Outside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5650.000	PK	49.26	32.46	16.45	43.46	2.17	56.88	-38.35	-27.0	11.3	167	127	
Hori.	5700.000	PK	49.95	32.61	16.49	43.45	2.17	57.77	-37.46	10.0	47.5	167	127	
Hori.	5720.000	PK	51.62	32.66	16.50	43.44	2.17	59.51	-35.72	15.6	51.3	167	127	
Hori.	5725.000	PK	51.83	32.68	16.50	43.44	2.17	59.74	-35.49	27.0	62.5	167	127	
Vert.	5650.000	PK	49.67	32.46	16.45	43.46	2.17	57.29	-37.94	-27.0	**10.9**	203	218	
Vert.	5700.000	PK	50.33	32.61	16.49	43.45	2.17	58.15	-37.08	10.0	47.1	203	218	
Vert.	5720.000	PK	53.59	32.66	16.50	43.44	2.17	61.48	-33.75	15.6	49.3	203	218	
Vert.	5725.000	PK	54.57	32.68	16.50	43.44	2.17	62.48	-32.75	27.0	59.7	203	218	

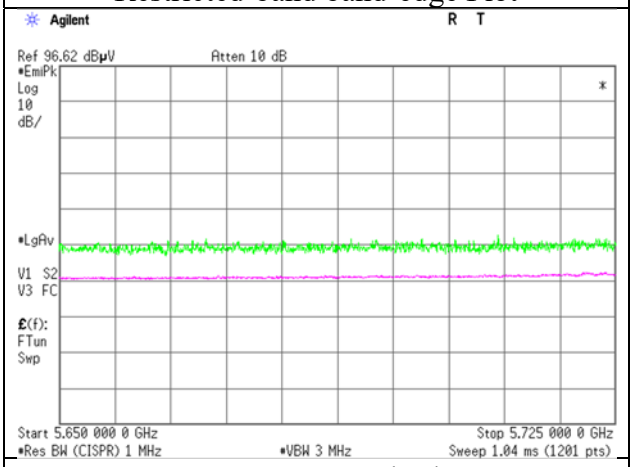
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Resrult(EIRP[dBm])=10*LOG （({ 10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) *10^3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Radiated Spurious Emission

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	No.3
Date	April 9, 2020
Temperature / Humidity	24 deg. C / 40 % RH
Engineer	Kazuya Noda (1 GHz - 6.4 GHz)
Mode	Tx 11ac-40 (MIMO) 5755 MHz with 3DH5 Hopping

Horizontal

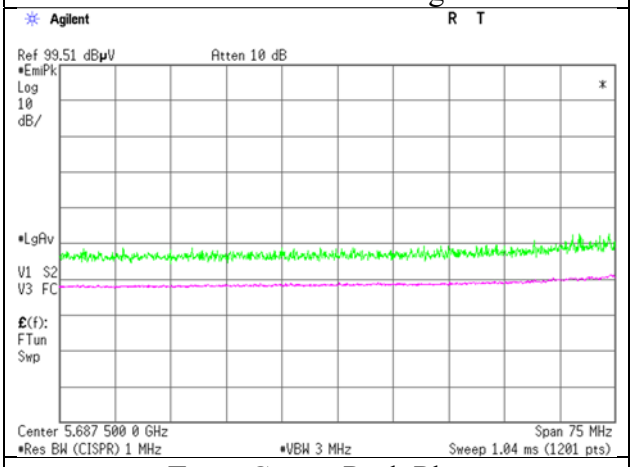
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.
Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	No.3
Date	April 9, 2020
Temperature / Humidity	24 deg. C / 40 % RH
Engineer	Kazuya Noda (1 GHz - 6.4 GHz)
Mode	Tx 11ac-40 (MIMO) 5795 MHz with 3DH5 Hopping

(Calculation) (above 1 GHz Outside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5850.000	PK	49.62	33.02	16.60	43.41	2.17	58.00	-37.23	27.0	64.2	172	285	
Hori.	5855.000	PK	49.54	33.03	16.60	43.41	2.17	57.93	-37.30	15.6	52.9	172	285	
Hori.	5875.000	PK	49.55	33.08	16.61	43.41	2.17	58.00	-37.23	10.0	47.2	172	285	
Hori.	5925.000	PK	49.31	33.18	16.64	43.40	2.17	57.90	-37.33	-27.0	10.3	172	285	
Vert.	5850.000	PK	49.64	33.02	16.60	43.41	2.17	58.02	-37.21	27.0	64.2	179	218	
Vert.	5855.000	PK	49.58	33.03	16.60	43.41	2.17	57.97	-37.26	15.6	52.9	179	218	
Vert.	5875.000	PK	49.45	33.08	16.61	43.41	2.17	57.90	-37.33	10.0	47.3	179	218	
Vert.	5925.000	PK	49.43	33.18	16.64	43.40	2.17	58.02	-37.21	-27.0	**10.2**	179	218	

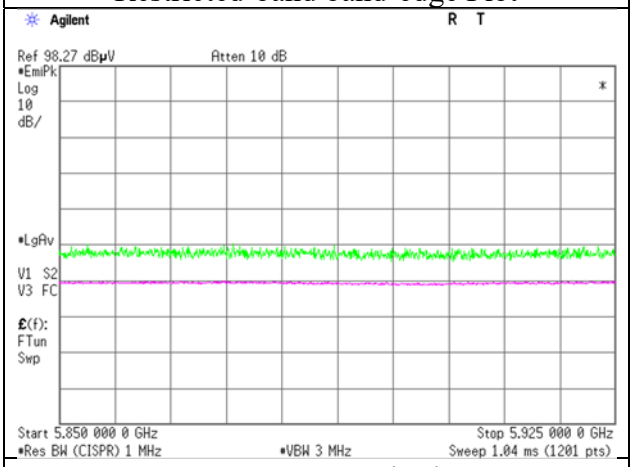
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Resrult(EIRP[dBm])=10*LOG （({ 10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) *10^3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Radiated Spurious Emission

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	No.3
Date	April 9, 2020
Temperature / Humidity	24 deg. C / 40 % RH
Engineer	Kazuya Noda (1 GHz - 6.4 GHz)
Mode	Tx 11ac-40 (MIMO) 5795 MHz with 3DH5 Hopping

Horizontal

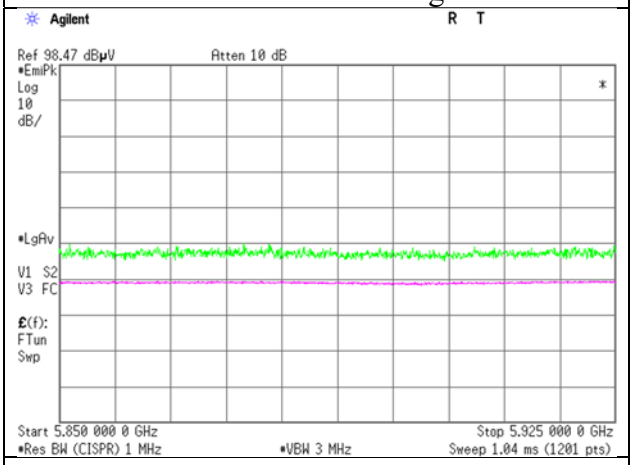
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.
Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Report No.	13294722S-C-R3			
Test place	Shonan EMC Lab.			
Semi Anechoic Chamber	No.1	No.1	No.1	No.1
Date	April 7, 2020	April 6, 2020	April 6, 2020	April 7, 2020
Temperature / Humidity	21 deg. C / 35 % RH	22 deg. C / 42 % RH	20 deg. C / 39 % RH	18 deg. C / 41 % RH
Engineer	Kazuya Noda	Toshinori Yamada	Kazuya Noda	Makoto Hosaka
	(1 GHz - 6.4 GHz)	(6.4 GHz - 13 GHz)	(13 GHz - 18 GHz)	(18 GHz - 40 GHz)
Mode	Tx 11ac-80 (MIMO) 5775 MHz			

(above 1 GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11550.000	PK	45.38	40.11	10.69	39.40	2.17	58.95	73.9	15.0	151	194	
Hori.	11550.000	AV	35.68	40.11	10.69	39.40	2.17	49.25	53.9	4.7	151	194	VBW : 5.6 kHz
Vert.	11550.000	PK	45.29	40.11	10.69	39.40	2.17	58.86	73.9	15.0	132	238	
Vert.	11550.000	AV	35.72	40.11	10.69	39.40	2.17	49.29	53.9	**4.6**	132	238	VBW : 5.6 kHz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

(Calculation) (above 1 GHz Outside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5650.000	PK	45.45	32.43	16.94	39.90	2.17	57.09	-38.14	-27.0	11.1	160	127	
Hori.	5700.000	PK	48.44	32.57	16.97	39.94	2.17	60.21	-35.02	10.0	45.0	160	127	
Hori.	5720.000	PK	49.16	32.63	16.98	39.95	2.17	60.99	-34.24	15.6	49.8	160	127	
Hori.	5725.000	PK	49.70	32.65	16.99	39.96	2.17	61.55	-33.68	27.0	60.7	160	127	
Hori.	5850.000	PK	46.29	33.01	17.07	40.05	2.17	58.49	-36.74	27.0	63.7	160	127	
Hori.	5855.000	PK	45.97	33.02	17.07	40.06	2.17	58.17	-37.06	15.6	52.7	160	127	
Hori.	5875.000	PK	45.93	33.06	17.09	40.07	2.17	58.18	-37.05	10.0	47.0	160	127	
Hori.	5925.000	PK	46.14	33.16	17.12	40.11	2.17	58.48	-36.75	-27.0	9.7	160	127	
Hori.	17325.000	PK	45.00	42.63	13.48	38.70	-9.54	52.87	-42.36	-27.0	15.4	100	0	
Vert.	5650.000	PK	45.64	32.43	16.94	39.90	2.17	57.28	-37.95	-27.0	10.9	196	220	
Vert.	5700.000	PK	48.57	32.57	16.97	39.94	2.17	60.34	-34.89	10.0	44.9	196	220	
Vert.	5720.000	PK	51.14	32.63	16.98	39.95	2.17	62.97	-32.26	15.6	47.9	196	220	
Vert.	5725.000	PK	51.63	32.65	16.99	39.96	2.17	63.48	-31.75	27.0	58.7	196	220	
Vert.	5850.000	PK	46.72	33.01	17.07	40.05	2.17	58.92	-36.31	27.0	63.3	196	220	
Vert.	5855.000	PK	46.32	33.02	17.07	40.06	2.17	58.52	-36.71	15.6	52.3	196	220	
Vert.	5875.000	PK	46.19	33.06	17.09	40.07	2.17	58.44	-36.79	10.0	46.8	196	220	
Vert.	5925.000	PK	46.06	33.16	17.12	40.11	2.17	58.40	-36.83	-27.0	9.8	196	220	
Vert.	17325.000	PK	45.13	42.63	13.48	38.70	-9.54	53.00	-42.23	-27.0	15.2	100	0	

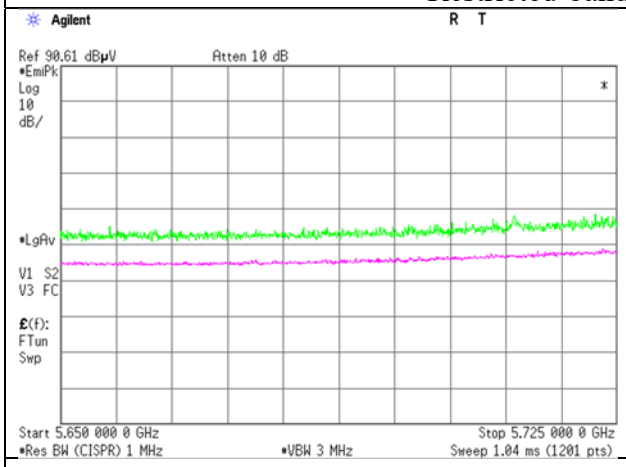
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Resrult(EIRP[dBm])=10*LOG （({ 10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) *10^3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

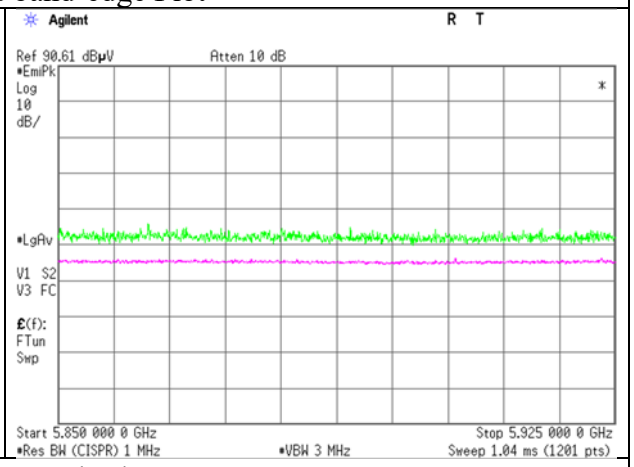
Radiated Spurious Emission

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	No.1
Date	April 7, 2020
Temperature / Humidity	21 deg. C / 35 % RH
Engineer	Kazuya Noda (1 GHz - 6.4 GHz)
Mode	Tx 11ac-80 (MIMO) 5775 MHz

Horizontal

Restricted-band band-edge Plot

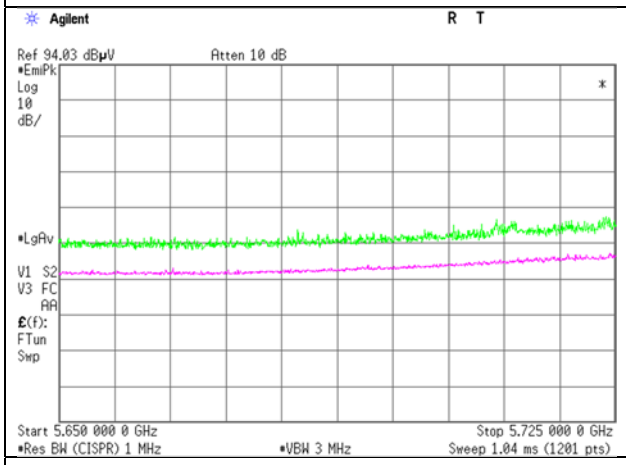


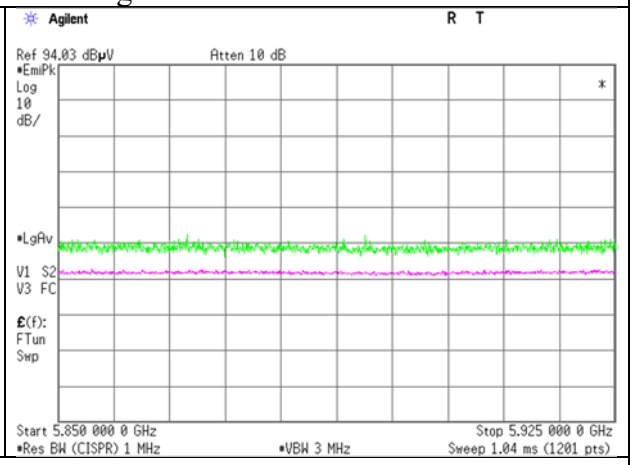


Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot





Trace Green: Peak Plot
Trace Purple: Average Plot

* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.
Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	No.3
Date	April 9, 2020
Temperature / Humidity	24 deg. C / 40 % RH
Engineer	Kazuya Noda (1 GHz - 6.4 GHz)
Mode	Tx 11ac-80 (MIMO) 5775 MHz with 3DH5 Hopping

(Calculation) (above 1 GHz Outside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]
Hori.	5650.000	PK	49.12	32.46	16.45	43.46	2.17	56.74	-38.49	-27.0	11.5	166	128
Hori.	5700.000	PK	51.45	32.61	16.49	43.45	2.17	59.27	-35.96	10.0	46.0	166	128
Hori.	5720.000	PK	52.27	32.66	16.50	43.44	2.17	60.16	-35.07	15.6	50.7	166	128
Hori.	5725.000	PK	52.51	32.68	16.50	43.44	2.17	60.42	-34.81	27.0	61.8	166	128
Hori.	5850.000	PK	49.85	33.02	16.60	43.41	2.17	58.23	-37.00	27.0	64.0	166	128
Hori.	5855.000	PK	49.76	33.03	16.60	43.41	2.17	58.15	-37.08	15.6	52.7	166	128
Hori.	5875.000	PK	49.74	33.08	16.61	43.41	2.17	58.19	-37.04	10.0	47.0	166	128
Hori.	5925.000	PK	49.61	33.18	16.64	43.40	2.17	58.20	-37.03	-27.0	**10.0**	166	128
Vert.	5650.000	PK	49.37	32.46	16.45	43.46	2.17	56.99	-38.24	-27.0	11.2	169	219
Vert.	5700.000	PK	52.27	32.61	16.49	43.45	2.17	60.09	-35.14	10.0	45.1	169	219
Vert.	5720.000	PK	53.96	32.66	16.50	43.44	2.17	61.85	-33.38	15.6	49.0	169	219
Vert.	5725.000	PK	54.34	32.68	16.50	43.44	2.17	62.25	-32.98	27.0	60.0	169	219
Vert.	5850.000	PK	49.67	33.02	16.60	43.41	2.17	58.05	-37.18	27.0	64.2	169	219
Vert.	5855.000	PK	49.62	33.03	16.60	43.41	2.17	58.01	-37.22	15.6	52.8	169	219
Vert.	5875.000	PK	49.44	33.08	16.61	43.41	2.17	57.89	-37.34	10.0	47.3	169	219
Vert.	5925.000	PK	49.53	33.18	16.64	43.40	2.17	58.12	-37.11	-27.0	10.1	169	219

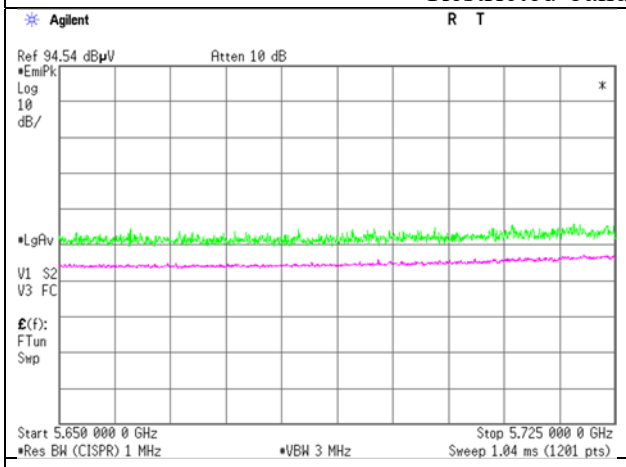
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amprifier) + Distance factor
Resrult(EIRP[dBm])=10*LOG （({ 10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2 } / 30) *10^3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
*The 4th harmonic was not seen so the result was its base noise level.
Distance factor : 1 GHz - 13 GHz : 20log (3.85 m / 3.0 m) = 2.17 dB
13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

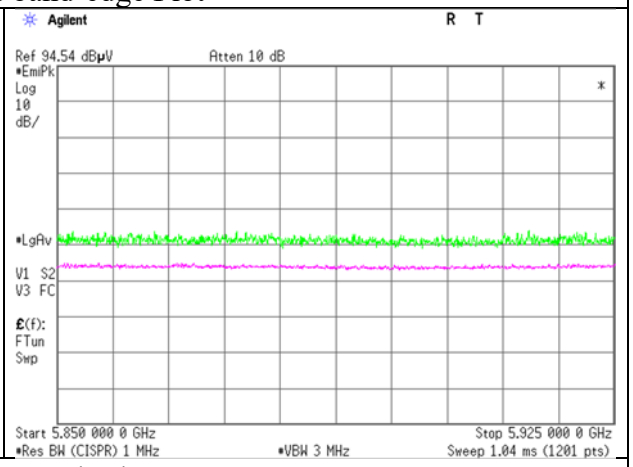
Radiated Spurious Emission

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	No.3
Date	April 9, 2020
Temperature / Humidity	24 deg. C / 40 % RH
Engineer	Kazuya Noda (1 GHz - 6.4 GHz)
Mode	Tx 11ac-80 (MIMO) 5775 MHz with 3DH5 Hopping

Horizontal

Restricted-band band-edge Plot

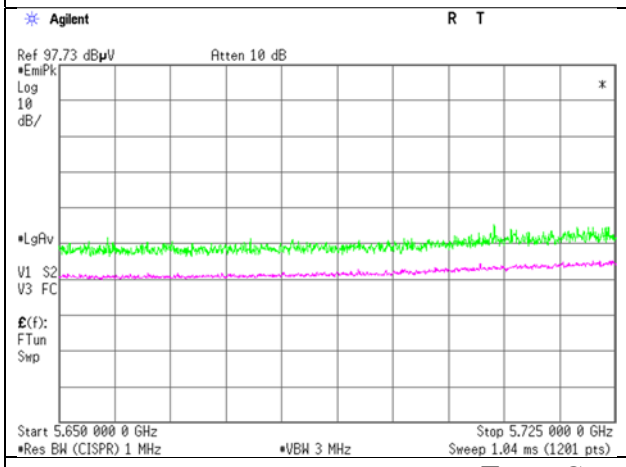


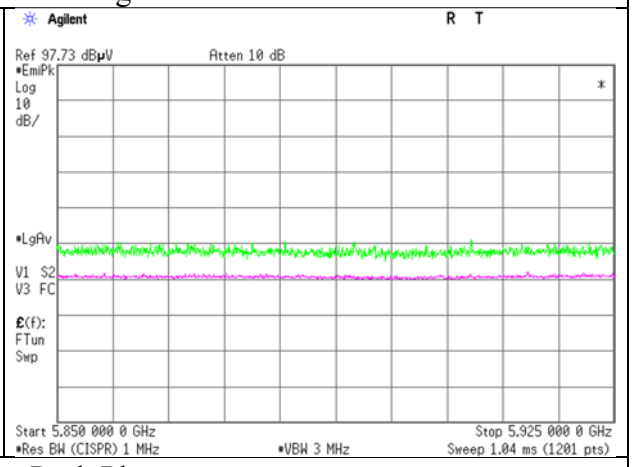


Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



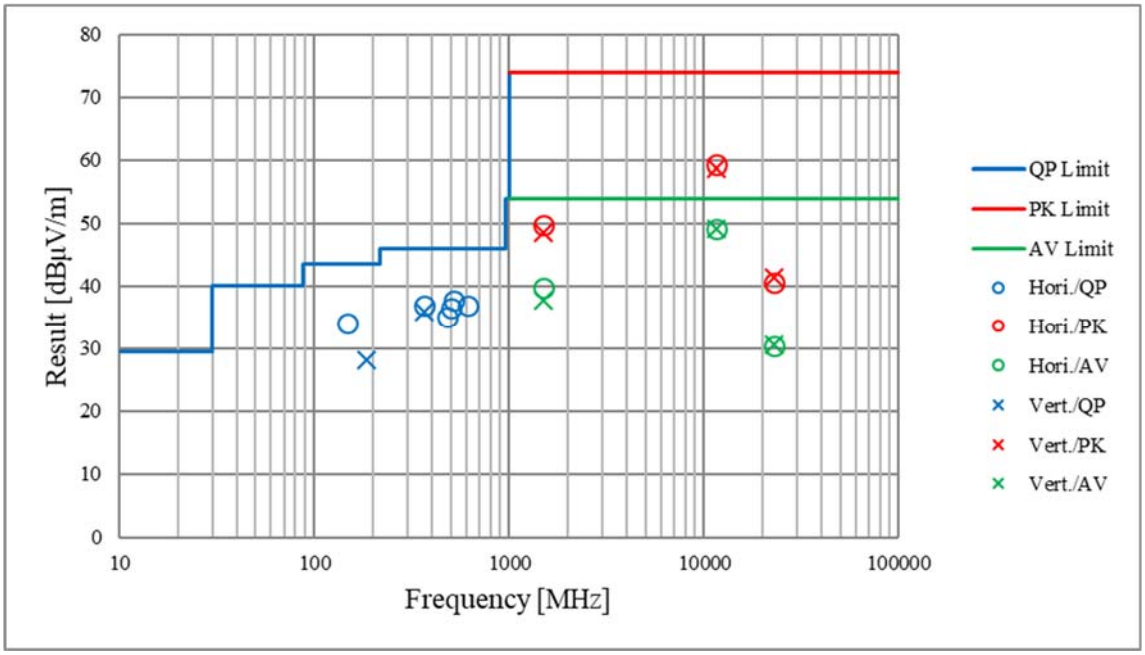


Trace Green: Peak Plot
Trace Purple: Average Plot

* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.
Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission
(Plot data, Worst case)

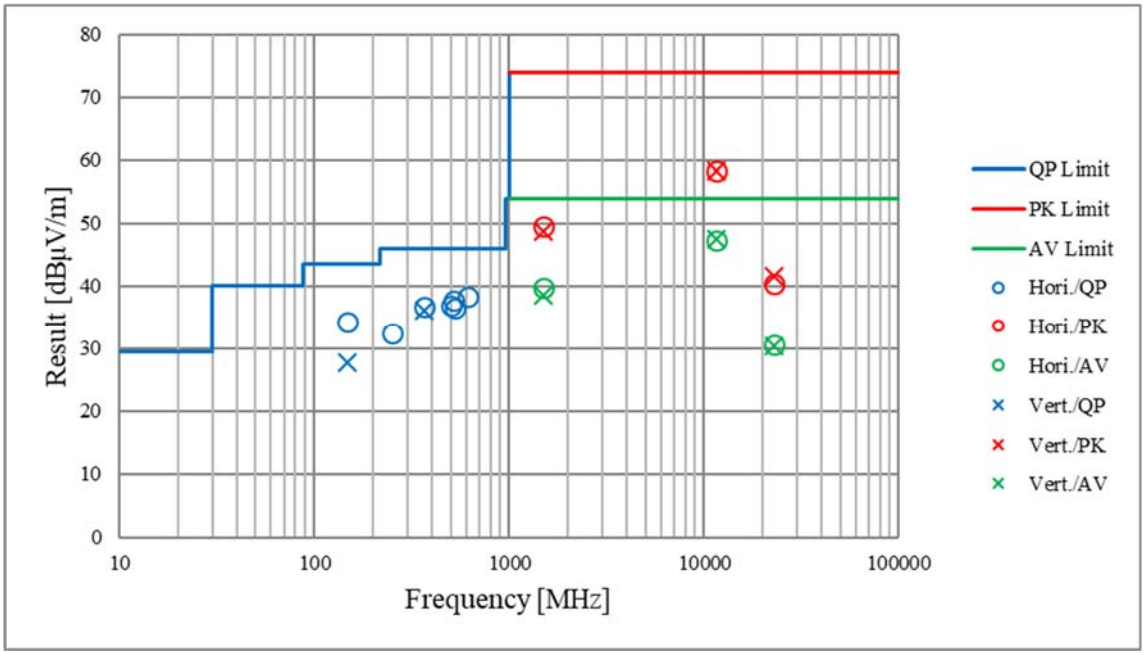
Report No.	13294722S-C-R3			
Test place	Shonan EMC Lab.			
Semi Anechoic Chamber	No.2	No.1	No.1	No.1
Date	April 15, 2020	April 7, 2020	April 6, 2020	April 7, 2020
Temperature / Humidity	22 deg. C / 39 % RH	21 deg. C / 35 % RH	20 deg. C / 39 % RH	18 deg. C / 41 % RH
Engineer	Takahiro Kawakami (30 MHz - 1 GHz)	Kazuya Noda (1 GHz - 6.4 GHz)	Kazuya Noda (6.4 GHz - 18 GHz)	Makoto Hosaka (18 GHz - 40 GHz)
Mode	Tx 11ac-20 (MIMO) 5745 MHz			



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

Radiated Spurious Emission
(Plot data, Worst case)

Report No.	13294722S-C-R3			
Test place	Shonan EMC Lab.			
Semi Anechoic Chamber	2	3	3	3
Date	April 15, 2020	April 9, 2020	April 10, 2020	April 10, 2020
Temperature / Humidity	22 deg. C / 39 % RH	24 deg. C / 40 % RH	24 deg. C / 31 % RH	23 deg. C / 33 % RH
Engineer	Takahiro Kawakami (30 MHz - 1 GHz)	Kazuya Noda (1 GHz - 6.4 GHz)	Kazuya Noda (6.4 GHz - 13 GHz)	Makoto Hosaka (13 GHz - 40 GHz)
Mode	Tx 11ac-20 (MIMO) 5745 MHz with 3DH5 Hopping			

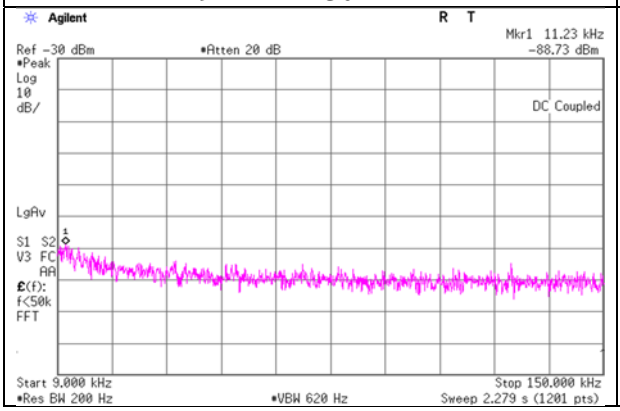


*These plots data contains sufficient number to show the trend of characteristic features for EUT.

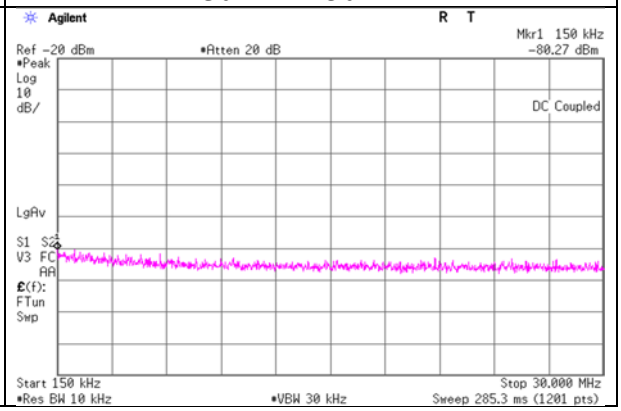
Conducted Spurious Emission

Report No.	13294722S-C-R3
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	April 9, 2020
Temperature / Humidity	22 deg. C / 41 % RH
Engineer	Takahiro Kawakami
Mode	Tx 11ac-20 (MIMO) 5745 MHz

9 kHz - 150 kHz



150 kHz - 30 MHz



Frequency [kHz]	Reading [dBm]	Cable Loss [dB]	Attenuator [dB]	Antenna Gain* [dBi]	N (Number of Output)	EIRP [dBm]	Distance [m]	Ground bounce [dB]	E (field strength) [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
11.230	-88.73	0.01	9.54	2.00	2	-74.17	300	6.0	-12.91	46.50	59.41	-
150.000	-80.27	0.01	9.54	2.00	2	-65.71	300	6.0	-4.45	24.00	28.45	-

E [dBuV/m] = EIRP [dBm] - 20 log (Distance [m]) + Ground bounce [dB] + 104.8 [dBuV/m]

EIRP[dBm] = Reading [dBm] + Cable loss [dB] + Attenuator Loss [dB] + Antenna gain [dBi] + 10 * log (N)

N: Number of output

*2.0 dBi was applied to the test result based on KDB 789033 since antenna gain was less than 2.0 dBi.

APPENDIX 2: Test instruments

Test Instruments (1/2)

Test Name	Local ID	LIMS ID	Description	Manufacturer	Model	Serial	Last Calibration Date	Calibration Interval (Month)
AT	SAT10-09	145132	Attenuator	Weinschel Corp.	54A-10	W5692	2019/11/05	12
AT	SCC-G63	196946	Coaxial Cable	HUBER+SUNER	SUCOFLEX 102	803411/2	2020/03/10	12
AT	SOS-27	191845	Humidity Indicator	CUSTOM	CTH-201	-	2019/12/12	12
AT	SPM-07	146247	Power Meter	Keysight Technologies Inc	8990B	MY5100272	2019/07/16	12
AT	SPSS-04	146310	Power sensor	Keysight Technologies Inc	N1923A	MY5326009	2019/07/16	12
AT	SRENT-15	160899	Spectrum Analyzer	Keysight Technologies Inc	E4440A	MY46185516	2020/01/15	12
AT	STM-G10	171617	Terminator	Weinschel - API Technologies Corp	M1459A	92420	2019/07/04	12
AT	STS-05	146212	Digital Hitester	Hioki	3805-50	80997828	2019/10/01	12
AT,RE	KSA-08	145089	Spectrum Analyzer	Keysight Technologies Inc	E4446A	MY46180525	2019/11/05	12
AT,RE	SSA-03	145801	Spectrum Analyzer	Keysight Technologies Inc	E4448A	MY48250152	2019/08/08	12
RE	COTS-SEMI-5	170932	EMI Software	TSJ	TEPTO-DV3(RE,CE, ME,PE)	-	-	-
RE	KJM-02	146432	Measure	TAJIMA	GL19-55	-	-	-
RE	KJM-09	145929	Measure	KOMELON	KMC-36	-	-	-
RE	SAEC-01(SVSWR)	145561	Semi-Anechoic Chamber	TDK	SAEC-01(SVSWR)	1	2019/05/07	12
RE	SAEC-02(NSA)	145563	Semi-Anechoic Chamber	TDK	SAEC-02(NSA)	2	2020/03/20	12
RE	SAEC-03(SVSWR)	145566	Semi-Anechoic Chamber	TDK	SAEC-03(SVSWR)	3	2019/05/03	12
RE	SAF-02	145004	Pre Amplifier	SONOMA	310N	290212	2020/02/19	12
RE	SAF-04	145127	Pre Amplifier	Toyo Corporation	TPA0118-36	2072554	2019/06/04	12
RE	SAF-06	145005	Pre Amplifier	Toyo Corporation	TPA0118-36	1440491	2020/02/20	12
RE	SAF-08	145007	Pre Amplifier	Toyo Corporation	HAP18-26W	19	2020/03/03	12
RE	SAF-10	145129	Pre Amplifier	Toyo Corporation	HAP26-40W	10	2020/03/03	12
RE	SAT10-06	145137	Attenuator	Keysight Technologies Inc	8493C-010	74865	2019/11/06	12
RE	SAT3-11	150921	Attenuator	JFW	50HF-003N	-	2020/01/30	12
RE	SAT6-14	167095	Attenuator	JFW	50HF-006N	-	2020/02/21	12
RE	SBA-02	145022	Biconical Antenna	Schwarzbeck Mess - Elektronik	BBA9106	91032665	2020/04/04	12
RE	SCC-B1/B3/B5/B7/B8/B13/SRSE-02	144975	Coaxial Cable&RF Selector	Fujikura/Fujikura/Suhner/Suhner/Suhner/Suhner/TOYO	8D2W/12DSFA/141PE/141PE/141PE/141PE/NS4906	-/0901-270(RF Selector)	2019/04/19	12
RE	SCC-B2/B4/B6/B7/B8/B13/SRSE-02	144976	Coaxial Cable&RF Selector	Fujikura/Fujikura/Suhner/Suhner/Suhner/Suhner/TOYO	8D2W/12DSFA/141PE/141PE/141PE/141PE/NS4906	-/0901-270(RF Selector)	2019/04/19	12

Test Instruments (2/2)

Test Name	Local ID	LIMS ID	Description	Manufacturer	Model	Serial	Last Calibration Date	Calibration Interval (Month)
RE	SCC-G05	145039	Coaxial Cable	Junkosha	J12J102207-00	APR-30-15-037	2020/01/31	12
RE	SCC-G15	145176	Coaxial Cable	Suhner	SUCOFLEX 102	32703/2	2020/03/04	12
RE	SCC-G40	166491	Coaxial Cable	Junkosha	MWX221-01000NFSN MS/B	1612S005	2020/01/08	12
RE	SCC-G41	151617	Coaxial Cable	Junkosha	MWX221-01000NFSN MS/B	1612S006	2020/01/08	12
RE	SCC-G43	156380	Coaxial Cable	HUBER+SUNER	SUCOFLEX _104_E	SN MY 13406/4E	2019/07/03	12
RE	SCC-G45	168301	Coaxial Cable	HUBER+SUNER	SUCOFLEX 102 E	800137/2EA	2020/03/04	12
RE	SCC-G56	179539	Coaxial Cable	Huber+Suhner	SUCOFLEX 104	803289/4	2019/05/16	12
RE	SCC-G57	179540	Coaxial Cable	Huber+Suhner	SUCOFLEX 102	802815/2	2019/05/16	12
RE	SCC-G58	183047	Coaxial Cable	HUBER+SUNER	SUCOFLEX 104	800287/4A	2019/07/23	12
RE	SFL-03	145377	Highpass Filter	MICRO-TRONICS	HPM50112	28	2019/11/06	12
RE	SHA-01	145383	Horn Antenna	Schwarzbeck Mess - Elektronik	BBHA9120D	9120D-725	2019/05/09	12
RE	SHA-03	145501	Horn Antenna	Schwarzbeck Mess - Elektronik	BBHA9120D	9120D-739	2019/06/26	12
RE	SHA-04	145512	Horn Antenna	ETS LINDGREN	3160-09	00094868	2019/06/26	12
RE	SHA-06	145514	Horn Antenna	ETS LINDGREN	3160-10	00092383	2019/06/26	12
RE	SJM-09	145336	Measure	PROMART	SEN1935	-	-	-
RE	SLA-06	145528	Logperiodic Antenna	Schwarzbeck Mess - Elektronik	VUSLP9111 B	195	2020/04/04	12
RE	SOS-20	191837	Humidity Indicator	CUSTOM	CTH-201	-	2019/12/12	12
RE	SOS-21	191838	Humidity Indicator	CUSTOM	CTH-201	-	2019/12/12	12
RE	SOS-23	191840	Humidity Indicator	CUSTOM	CTH-201	-	2019/12/12	12
RE	SRENT-09	150461	Spectrum Analyzer	Keysight Technologies Inc	E4440A	MY46186392	2020/02/10	12
RE	STR-01	145790	Test Receiver	Rohde & Schwarz	ESU40	100093	2019/04/14	12
RE	STR-07	146209	Test Receiver	Rohde & Schwarz	ESU26	100484	2019/09/13	12
RE	STR-08	150463	Test Receiver	Rohde & Schwarz	ESW44	101581	2019/11/22	12
RE	STS-01	145792	Digital Hitester	Hioki	3805-50	80997812	2019/10/01	12

***Hyphens for Last Calibration Date, Calibration Due Date and Cal Int (month) are instruments that Calibration is not required (e.g. software), or instruments checked in advance before use.**

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

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

Test item:

RE: Radiated Emission
AT: Antenna Terminal Conducted test