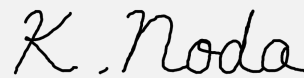


RADIO TEST REPORT

Test Report No. 15486544S-B-R1

Customer	ALPS ALPINE CO., LTD.
Description of EUT	Vehicle equipment
Model Number of EUT	AH00CDC
FCC ID	A269ZUA174
Test Regulation	FCC Part 15 Subpart C
Test Result	Complied
Issue Date	September 2, 2025
Remarks	Wireless LAN (2.4 GHz band) and Bluetooth Low Energy part(s)

Representative Test EngineerHiromasa Sato
Engineer**Approved By**Kazuya Noda
Leader

CERTIFICATE 1266.03

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

Report Cover Page - Form-ULID-003532 (DCS:13-EM-F0429) Issue# 24.0

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- The results in this report apply only to the sample tested. (Laboratory was not involved in sampling.)
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- This test report covers Radio technical requirements.
It does not cover administrative issues such as Manual or non-Radio test related Requirements. (if applicable)
- The all test items in this test report are conducted by UL Japan, Inc. Shonan EMC Lab.
- The opinions and the interpretations to the result of the description in this report are outside scopes where UL Japan, Inc. has been accredited.
- The information provided by the customer for this report is identified in SECTION 1.
- The laboratory is not responsible for information provided by the customer which can impact the validity of the results.
- For test report(s) referred in this report, the latest version (including any revisions) is always referred.
- If the latest version is a revision, it replaces the previous version. See the table below for revisions and versions.

REVISION HISTORY

Revision	Test Report No.	Date	Page Revised Contents
- (Original)	15486544S-B	August 6, 2025	-
1	15486544S-B-R1	September 2, 2025	Page 11: Addition of "Tx 11ax-20 (OFDMA) MIMO" to Test Item: Radiated Spurious Emission (Above 1 GHz), Power Density. Correction of Operating Mode of Conducted Spurious Emission: From Tx BT LE 2 M-PHY To Tx BT LE 2 M-PHY *1) Page 19: Correction of Span setting of 6 dB Bandwidth. From 3 MHz, 5 MHz, 10 MHz, 50 MHz To Enough width to display of - 6 dB down amplitude Page 34, 36, 38, 40, 42, 43 Correction of word: From Antenna Gain To Directional Gain Addition of Directional Gain calculation. Page 42: Correction of Mode. From 11ax-20(OFDM) MIMO To 11ax-20(OFDMA) MIMO Page 62: Correction of Limit and Margin of above 4924 MHz. Page 71: Correction of Mode. From 11ax-20(OFDM) MIMO, 2412 MHz To 11ax-20(OFDMA) MIMO, 2437 MHz

Reference: Abbreviations (Including words undescribed in this report)

A2LA	The American Association for Laboratory Accreditation	IEC	International Electrotechnical Commission
AC	Alternating Current	IEEE	Institute of Electrical and Electronics Engineers
AFH	Adaptive Frequency Hopping	IF	Intermediate Frequency
AM	Amplitude Modulation	ILAC	International Laboratory Accreditation Conference
Amp, AMP	Amplifier	ISED	Innovation, Science and Economic Development Canada
ANSI	American National Standards Institute	ISO	International Organization for Standardization
Ant, ANT	Antenna	JAB	Japan Accreditation Board
AP	Access Point	LAN	Local Area Network
ASK	Amplitude Shift Keying	LIMS	Laboratory Information Management System
Atten., ATT	Attenuator	MCS	Modulation and Coding Scheme
AV	Average	MRA	Mutual Recognition Arrangement
BPSK	Binary Phase-Shift Keying	N/A	Not Applicable
BR	Bluetooth Basic Rate	NIST	National Institute of Standards and Technology
BT	Bluetooth	NS	No signal detect.
BT LE	Bluetooth Low Energy	NSA	Normalized Site Attenuation
BW	BandWidth	NVLAP	National Voluntary Laboratory Accreditation Program
Cal Int	Calibration Interval	OBW	Occupied Band Width
CCK	Complementary Code Keying	OFDM	Orthogonal Frequency Division Multiplexing
Ch., CH	Channel	OFDMA	Orthogonal Frequency Division Multiple Access
CISPR	Comite International Special des Perturbations Radioelectriques	P/M	Power meter
CW	Continuous Wave	PCB	Printed Circuit Board
DBPSK	Differential BPSK	PER	Packet Error Rate
DC	Direct Current	PHY	Physical Layer
D-factor	Distance factor	PK	Peak
DFS	Dynamic Frequency Selection	PN	Pseudo random Noise
DQPSK	Differential QPSK	PP	Preamble Puncturing
DSSS	Direct Sequence Spread Spectrum	PRBS	Pseudo-Random Bit Sequence
EDR	Enhanced Data Rate	PSD	Power Spectral Density
EIRP, e.i.r.p.	Equivalent Isotropically Radiated Power	QAM	Quadrature Amplitude Modulation
EMC	ElectroMagnetic Compatibility	QP	Quasi-Peak
EMI	ElectroMagnetic Interference	QPSK	Quadri-Phase Shift Keying
EN	European Norm	RBW	Resolution Band Width
ERP, e.r.p.	Effective Radiated Power	RDS	Radio Data System
EU	European Union	RE	Radio Equipment
EUT	Equipment Under Test	RF	Radio Frequency
Fac.	Factor	RMS	Root Mean Square
FCC	Federal Communications Commission	RSS	Radio Standards Specifications
FHSS	Frequency Hopping Spread Spectrum	Rx	Receiving
FM	Frequency Modulation	SA, S/A	Spectrum Analyzer
Freq.	Frequency	SG	Signal Generator
FSK	Frequency Shift Keying	SVSWR	Site-Voltage Standing Wave Ratio
GFSK	Gaussian Frequency-Shift Keying	TR	Test Receiver
GNSS	Global Navigation Satellite System	Tx	Transmitting
GPS	Global Positioning System	VBW	Video BandWidth
Hori.	Horizontal	Vert.	Vertical
ICES	Interference-Causing Equipment Standard	WLAN	Wireless LAN

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SECTION 1: Customer Information

Company Name	ALPS ALPINE CO., LTD.
Address	20-1 Yoshima Industrial park, Iwaki, Fukushima, Japan 970-1192
Telephone Number	+81-246-36-4111
Contact Person	Kenji Nagase

The information provided by the customer is as follows;

- Customer, Description of EUT, Model Number of EUT, FCC ID on the cover and other relevant pages
- Operating/Test Mode(s) (Mode(s)) on all the relevant pages
- SECTION 1: Customer Information
- SECTION 2: Equipment Under Test (EUT) other than the Receipt Date and Test Date
- SECTION 4: Operation of EUT during testing

SECTION 2: Equipment Under Test (EUT)

2.1 Identification of EUT

Description	Vehicle equipment
Model Number	AH00CDC
Serial Number	Refer to SECTION 4.2
Condition	Engineering prototype (Not for Sale: This sample is equivalent to mass-produced items.)
Modification	No Modification by the test lab
Receipt Date	December 17, 2024
Test Date	December 17, 2024 to April 15, 2025

2.2 Product Description

General Specification

Rating	DC 13.5 V
Operating temperature	-30 deg. C to +70 deg. C

Radio Specification

This report contains data provided by the customer which can impact the validity of results. UL Japan, Inc. is only responsible for the validity of results after the integration of the data provided by the customer. The data provided by the customer is marked "a)" in the table below.

WLAN (IEEE802.11b/11g/11n-20/11ax-20)

Equipment Type	Transceiver	
Frequency of Operation	20 MHz Band: 2412 MHz to 2462 MHz	
Type of Modulation	DSSS, OFDM	
	OFDMA (IEEE802.11ax Only)	20 MHz: 26/52/106/242-tone RU
Antenna Type	Printed Inverted F Antenna	
Antenna Gain ^{a)}	ANT1: -1.70 dBi	
	ANT2: -1.70 dBi	

Bluetooth (BR/EDR/Low Energy)

Equipment Type	Transceiver	
Frequency of Operation	2402 MHz to 2480 MHz	
Type of Modulation	BT: FHSS (GFSK, $\pi/4$ DQPSK, 8 DPSK) BT LE: GFSK	
Antenna Type	Printed Inverted F Antenna	
Antenna Gain ^{a)}	-1.70 dBi	

WLAN (IEEE802.11a/11n-20/11ac-20/11ax-20/11n-40/11ac-40/11ax-40/11ac-80/11ax-80/11ac-160/11ax-160)

Equipment Type	Transceiver	
Frequency of Operation	20 MHz Band	5180 MHz to 5240 MHz 5260 MHz to 5320 MHz 5500 MHz to 5720 MHz 5745 MHz to 5825 MHz 5955 MHz to 6415 MHz 6535 MHz to 6855 MHz
	40 MHz Band	5190 MHz to 5230 MHz 5270 MHz to 5310 MHz 5510 MHz to 5710 MHz 5755 MHz to 5795 MHz 5965 MHz to 6405 MHz 6565 MHz to 6845 MHz
	80 MHz Band	5210 MHz, 5290 MHz 5530 MHz to 5690 MHz 5775 MHz 5985 MHz to 6385 MHz 6625 MHz to 6785 MHz
	160 MHz Band	5250 MHz, 5570 MHz 6025 MHz to 6345 MHz 6665 MHz
Type of Modulation	OFDM	
	OFDMA (IEEE802.11ax Only)	20 MHz: 26/52/106/242-tone RU
		40 MHz: 26/52/106/242/484-tone RU
		80 MHz: 26/52/106/242/484/996-tone RU
	160 MHz: 26/52/106/242/484/996/2x996-tone RU	
Antenna Type	Printed Inverted F Antenna	
Antenna Gain ^{a)}	U-NII-1, -2A, -2C, -3	ANT1: 2.73 dBi
		ANT2: 3.30 dBi
	U-NII-5, 7	ANT1: 4.67 dBi
		ANT2: 4.42 dBi

SECTION 3: Test Summary

3.1 Test Specification

Test Specification	FCC Part 15 Subpart C The latest version on the first day of the testing period
Title	FCC 47 CFR Part 15 Radio Frequency Device Subpart C Intentional Radiators Section 15.207 Conducted limits Section 15.247 Operation within the bands 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz

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

3.2 Reference Standards

ANSI/USEMCSC C63.2-2023
ANSI C63.4-2014/C63.4a-2017
ANSI C63.5-2017
ANSI C63.10-2020
ANSI/USEMCSC C63.10/Cor 1-2023
ANSI/USEMCSC C63.10a-2024 for ISED
ANSI C63.25.1-2018
KDB 558074 D01 v05r02
KDB 662911 D01 v02r01 for FCC MIMO device
RSS-Gen Issue 5/Amendment 1/Amendment 2 for ISED

3.3 Summary of Test Results

Item	Specification	Results	Remarks
Conducted Emission	FCC: Section 15.207 ISED: RSS-Gen 8.8	N/A	*1)
6dB Bandwidth	FCC: Section 15.247(a)(2) ISED: RSS-247 5.2(a)	Complied	Conducted
Maximum Peak Output Power	FCC: Section 15.247(b)(3) ISED: RSS-247 5.4(d)	Complied	Conducted
Power Density	FCC: Section 15.247(e) ISED: RSS-247 5.2(b)	Complied	Conducted
Spurious Emission Restricted Band Edges	FCC: Section 15.247(d) ISED: RSS-247 5.5 RSS-Gen 8.9 RSS-Gen 8.10	Complied	Conducted (below 30 MHz) / Radiated (above 30 MHz) *2)

Note: UL Japan, Inc.'s EMI Work Procedures: Work Instructions-ULID-003591 and Work Instructions-ULID-003593.

*1) The test is not applicable since the EUT does not have AC Mains.

*2) Radiated test was selected over 30 MHz based on section 15.247(d) and KDB 558074 D01 15.247 Meas Guidance v05r02 8.5 and 8.6.

FCC Part 15.31 (e)

The EUT provides stable voltage constantly to the RF Part 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.

3.4 Addition to Standard

Item	Specification	Results	Remarks
99% Occupied Bandwidth	ISED: -	-	Conducted

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

3.5 Uncertainty

Measurement uncertainty is not taken into account when stating conformity with a specified requirement.
Note: When margins obtained from test results are less than the measurement uncertainty, the test results may exceed the limit.

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

Item	Frequency range	Uncertainty (+/-)
Conducted Emission (AC Mains) LISN	150 kHz to 30 MHz	3.0 dB
Radiated Emission (Measurement distance: 3 m)	9 kHz to 30 MHz	3.3 dB
	30 MHz to 200 MHz	4.8 dB
	200 MHz to 1 GHz	6.1 dB
	1 GHz to 6 GHz	4.7 dB
	6 GHz to 18 GHz	5.3 dB
	18 GHz to 40 GHz	5.5 dB
Radiated Emission (Measurement distance: 1 m)	1 GHz to 18 GHz	5.6 dB
	18 GHz to 40 GHz	5.8 dB

Antenna terminal test	Uncertainty (+/-)
Power Measurement above 1 GHz (Average Detector)	1.3 dB
Power Measurement above 1 GHz (Peak Detector)	1.5 dB
Spurious Emission (Conducted) below 1 GHz	0.93 dB
Conducted Emissions Power Density Measurement 1 GHz to 3 GHz	0.93 dB
Conducted Emissions Power Density Measurement 3 GHz to 18 GHz	3.0 dB
Spurious Emission (Conducted) 18 GHz to 26.5 GHz	2.8 dB
Spurious Emission (Conducted) 26.5 GHz to 40 GHz	2.3 dB
Bandwidth Measurement	0.012 %
Duty Cycle and Time Measurement	0.27 %
Temperature	2.2 deg.C.
Humidity	3.4 %
Voltage	0.92 %

3.6 Test Location

UL Japan, Inc. Shonan EMC Lab.

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

Telephone: +81-463-50-6400

A2LA Certificate Number: 1266.03

(FCC test firm registration number: 626366, ISED lab company number: 2973D / CAB identifier: JP0001)

Test room	Width x Depth x Height (m)	Size of reference ground plane (m) / horizontal conducting plane	Maximum measurement distance
No.1 Semi-anechoic chamber (SAC1)	20.6 x 11.3 x 7.65	20.6 x 11.3	10 m
No.2 Semi-anechoic chamber (SAC2)	20.6 x 11.3 x 7.65	20.6 x 11.3	10 m
No.3 Semi-anechoic chamber (SAC3)	12.7 x 7.7 x 5.35	12.7 x 7.7	5 m
No.4 Semi-anechoic chamber (SAC4)	8.1 x 5.1 x 3.55	8.1 x 5.1	-
Wireless anechoic chamber 1 (WAC1)	9.5 x 6.0 x 5.4	9.5 x 6.0	3 m
Wireless anechoic chamber 2 (WAC2)	9.5 x 6.0 x 5.4	9.5 x 6.0	3 m
No.1 Shielded room (SR1)	6.8 x 4.1 x 2.7	6.8 x 4.1	-
No.2 Shielded room (SR2)	6.8 x 4.1 x 2.7	6.8 x 4.1	-
No.3 Shielded room (SR3)	6.3 x 4.7 x 2.7	6.3 x 4.7	-
No.4 Shielded room (SR4)	4.4 x 4.7 x 2.7	4.4 x 4.7	-
No.5 Shielded room (SR5)	7.8 x 6.4 x 2.7	7.8 x 6.4	-
No.6 Shielded room (SR6)	7.8 x 6.4 x 2.7	7.8 x 6.4	-
No.8 Shielded room (SR8)	3.45 x 5.5 x 2.4	3.45 x 5.5	-
No.1 Measurement room (MR1)	2.55 x 4.1 x 2.5	-	-
No.2 Measurement room (MR2)	4.5 x 3.5 x 2.5	-	-
Wireless shielded room 1 (WSR1)	3.0 x 4.5 x 2.7	3.0 x 4.5	-
Wireless shielded room 2 (WSR2)	3.0 x 4.5 x 2.7	3.0 x 4.5	-

3.7 Test Data, Test Instruments, and Test Set Up

Refer to APPENDIX.

SECTION 4: Operation of EUT during testing

4.1 Operating Mode(s)

Mode	Remarks*
IEEE 802.SISO 11b (11b SISO)	2 Mbps (Short), PN9
IEEE 802.11b MIMO (11b MIMO)	2 Mbps (Short), PN9
IEEE 802.11g SISO (11g SISO)	54 Mbps, PN9
IEEE 802.11g MIMO (11g MIMO)	54 Mbps, PN9
IEEE 802.11n SISO 20 MHz BW (11n-20 SISO)	MCS 7, PN9
IEEE 802.11n MIMO 20 MHz BW (11n-20 MIMO)	MCS 7 (1 Streams), PN9
IEEE 802.11ax SISO 20 MHz BW (11ax-20 SISO)	MCS 11, PN9
IEEE 802.11ax MIMO 20 MHz BW (11ax-20 MIMO)	MCS 11 (1 Streams), PN9
Bluetooth Low Energy (BT LE 1 M-PHY)	Uncoded 1M-PHY (1M), Maximum Packet Size, PRBS9
Bluetooth Low Energy (BT LE 2 M-PHY)	Uncoded 2M-PHY (2M), Maximum Packet Size, PRBS9
*The worst antenna (ANT2) and condition was determined based on the test result of Maximum Peak Output Power (Low Channel)	
*Power of the EUT was set by the software as follows; Power Setting: See below table Software: QRCT Version: 4.0.125.1 (Date: 2024.12.17, Storage location: Driven by connected PC) *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. 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 802.11ax mode by the pre-test.	

Power Setting table

[Non-OFDMA]

Mode	Setting Values
11b	11.5
11g	7
11n-20	6
11ax-20 (OFDM)	5.5

[OFDMA]

Mode	RU	Setting Values
11ax-20 (OFDMA)	26-tone RU	5.5
	52-tone RU	
	106-tone RU	
	242-tone RU	

Note:

1. These above setting values are a unitless value (not dBm).
2. SISO and MIMO have the same setting value.

*The Details of Operating Mode(s)

Test Item	Operating Mode	Tested Antenna	Tested Frequency
Radiated Spurious Emission (Below 1 GHz)	Tx 11g MIMO *1)	ANT1 + ANT2	2462 MHz
	Tx BT LE 2 M-PHY	ANT1	2440 MHz
Maximum Peak Output Power	Tx 11b SISO / MIMO Tx 11g SISO / MIMO Tx 11n-20 SISO / MIMO Tx 11ax-20 (OFDM) SISO / MIMO Tx 11ax-20 (OFDMA) SISO / MIMO	ANT1 + ANT2	2412 MHz 2437 MHz 2462 MHz
	Tx BT LE 1 M-PHY Tx BT LE 2 M-PHY	ANT1	2402 MHz 2440 MHz 2480 MHz
Radiated Spurious Emission (Above 1 GHz), Power Density *4)	Tx 11b MIMO Tx 11g MIMO Tx 11n-20 MIMO Tx 11ax-20 (OFDM) MIMO Tx 11ax-20 (OFDMA) MIMO	ANT1 + ANT2	2412 MHz 2437 MHz 2462 MHz
	Tx BT LE 1 M-PHY Tx BT LE 2 M-PHY	ANT1	2402 MHz 2440 MHz 2480 MHz
Radiated Spurious Emission (Band edge) *3), *4)	Tx 11ax-20 (OFDMA) MIMO	ANT1 + ANT2	2412 MHz 2462 MHz
6 dB Bandwidth, 99 % Occupied Bandwidth	Tx 11b MIMO Tx 11g MIMO Tx 11n-20 MIMO Tx 11ax-20 (OFDM) MIMO Tx 11ax-20 (OFDMA) MIMO	ANT2 *2)	2412 MHz 2437 MHz 2462 MHz
	Tx BT LE 1 M-PHY Tx BT LE 2 M-PHY	ANT1	2402 MHz 2440 MHz 2480 MHz
Conducted Spurious Emission	Tx 11g MIMO *1)	ANT2 *2)	2462 MHz
	Tx BT LE 2 M-PHY *1)	ANT 1	2440 MHz
*1) The mode was tested as a representative, because it had the highest power at antenna terminal test. *2) The testing was conducted with ANT 2 as representative, since after preliminary testing of ANT 1 and ANT 2 was no differences. *3) OFDMA mode was performed only at the band edge, since preliminary testing indicated that the other spurious emission was lower than OFDM mode. *4) The test was performed with MIMO mode as representative as it had higher power than SISO mode.			

Simultaneous transmission

Test Item	Operating Mode *1)	Tested Antenna
Radiated Spurious Emission	Tx 11ax-20(OFDM), MIMO 2462 MHz with 11ac-20 5825 MHz	2.4 GHz WLAN: ANT1 + ANT2 5 GHz WLAN: ANT1 + ANT2
	Tx 11ax-20(OFDM), MIMO 2462 MHz with 11ax-160(OFDM) 6665 MHz	2.4 GHz WLAN: ANT1 + ANT2 6 GHz WLAN: ANT1 + ANT2
	Tx BT LE 1 M-PHY 2480 MHz with 11ac-20 5825 MHz	BT LE: ANT1 5 GHz WLAN: ANT1 + ANT2
	Tx BT LE 1 M-PHY 2480 MHz with 11ax-160(OFDM) 6665 MHz	BT LE: ANT1 6 GHz WLAN: ANT1 + ANT2
*1) This test was conducted using a combination of the worst mode above 1 GHz in the 2.4 GHz WLAN / BT LE spurious emissions test and the highest power mode in the antenna terminal conducted test as the representative mode.		

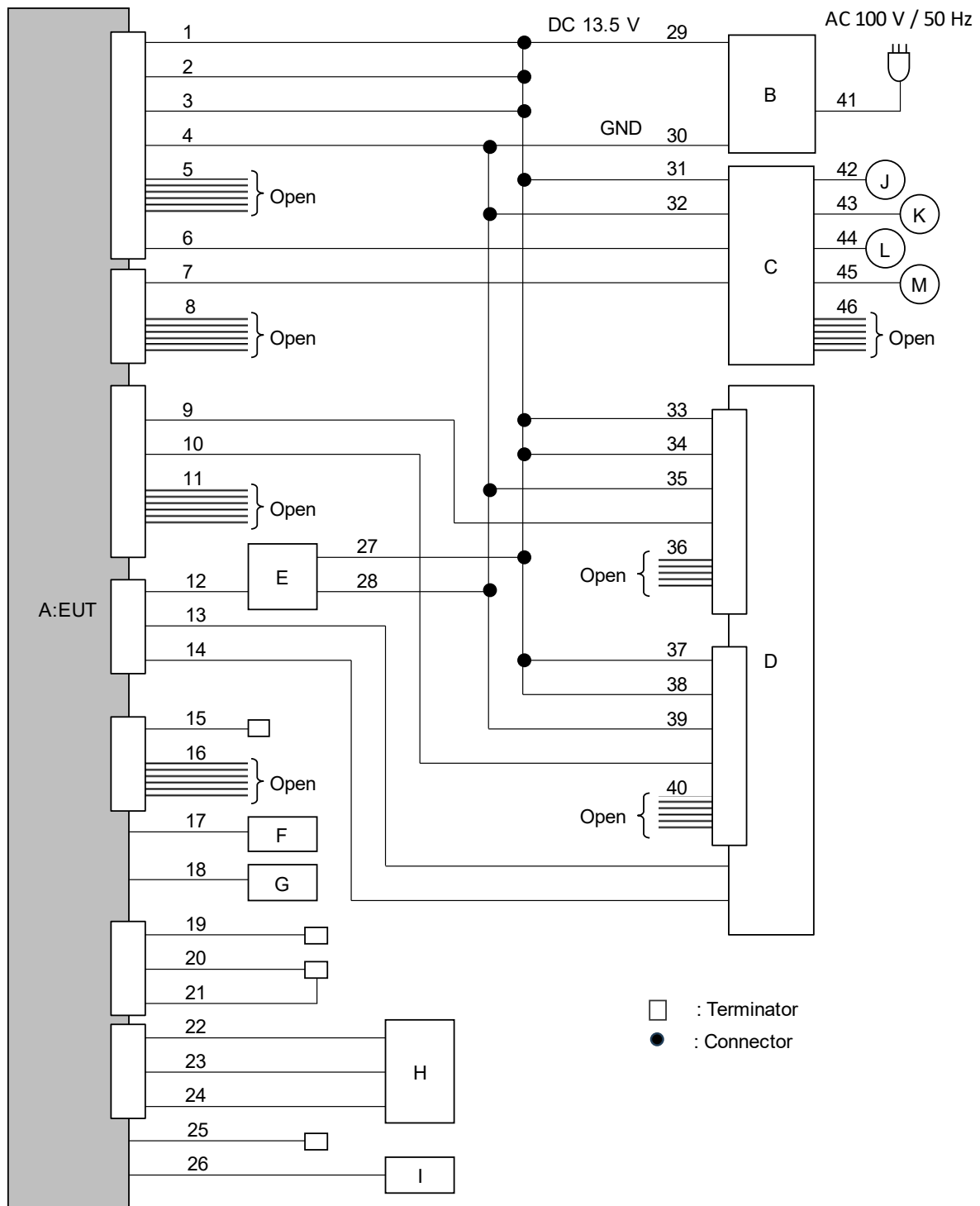
Description of EUT and Support Equipment

No.	Item	Model Number	Serial Number	Manufacturer	Remarks
A	Vehicle equipment	AH00CDC	No.020	ALPS ALPINE CO., LTD.	EUT
B	Display Unit	QH00287A	WK2 379 307	ALPS ALPINE CO., LTD.	-
C	Laptop PC	HP 255 G10	5CD4407TJY	HP	-
D	AC Adapter	TPN-CA14	WHGRE0EV2JWJRT	HP	-
E	Power Supply(DC)	PNA16-10A	ER001077	Kikusui Electronics Corp.	-
F	Mouse	4YH-00003	9170523025388	Microsoft	-

List of Cables Used

No.	Name	Length (m)	Shield		Remarks
			Cable	Connector	
1	IG	0.5+0.1	Unshielded	Unshielded	-
2	ACC	0.5+0.5	Unshielded	Unshielded	-
3	+B	0.5+0.5	Unshielded	Unshielded	-
4	GND	0.5+0.5	Unshielded	Unshielded	-
5	Signal	0.5	Unshielded	Unshielded	-
6	CENTER DISP CONT	0.5	Unshielded	Unshielded	-
7	METER DISP CONT	0.5	Unshielded	Unshielded	-
8	Signal	0.5	Unshielded	Unshielded	-
9	GVIF	0.5	Shielded	Shielded	-
10	GMSL	0.5	Shielded	Shielded	-
11	Signal	0.5	Shielded	Shielded	-
12	USB	0.45 + 2.0	Shielded	Shielded	-
13	DC(+)	1.4	Unshielded	Unshielded	-
14	GND	1.4	Unshielded	Unshielded	-
15	IG1 CID	0.9	Unshielded	Unshielded	-
16	+B CID	0.9	Unshielded	Unshielded	-
17	GND	0.9	Unshielded	Unshielded	-
18	CENTER DISP CONT	0.9	Unshielded	Unshielded	-
19	Signal	0.9	Unshielded	Unshielded	-
20	IG1 METER	0.9	Unshielded	Unshielded	-
21	+B METER	0.9	Unshielded	Unshielded	-
22	GND	0.9	Unshielded	Unshielded	-
23	METER DISP CONT	0.9	Unshielded	Unshielded	-
24	Signal	0.9	Unshielded	Unshielded	-
25	DC	0.9	Unshielded	Unshielded	-
26	AC	1.8	Unshielded	Unshielded	-
27	AC	2.0	Unshielded	Unshielded	-
28	USB	1.8	Shielded	Shielded	-

[Radiated Emission test]



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

Description of EUT and Support Equipment

No.	Item	Model Number	Serial Number	Manufacturer	Remarks
A	Vehicle equipment	AH00CDC	No.030	ALPS ALPINE CO., LTD.	EUT
B	Power Supply(DC)	PAN35-10A	CY002948	KIKUSUI	-
C	Amplifier	AMP ASSY 17CH	No.03	HARMAN	-
D	Display Unit	QH00287A	E239Z1QH00 287A26000062	ALPS ALPINE CO., LTD.	-
E	Ether Jig	-	-	-	-
F	USB Memory	USM4GL-W	-	Sony Corporation	-
G	GPS Antenna	8B550-T20-A111- M1-03N10907	-	ALPS ALPINE CO., LTD.	-
H	HUD Jig	-	-	-	-
I	Tablet Computer	JDN2-L09	D89E61C92966	Huawei	-
J	Speaker	KFC-RS160	-	KENWOOD	-
K	Speaker	KFC-RS160	-	KENWOOD	-
L	Speaker	KFC-RS160	-	KENWOOD	-
M	Speaker	KFC-RS160	-	KENWOOD	-

List of Cables Used [1/2]

No.	Name	Length (m)	Shield		Remarks
			Cable	Connector	
1	IG	0.5+0.2	Unshielded	Unshielded	-
2	ACC	0.5+0.1	Unshielded	Unshielded	-
3	+B	0.5+0.5	Unshielded	Unshielded	-
4	GND	0.5+0.2	Unshielded	Unshielded	-
5	Signal	0.5+1.0	Unshielded	Unshielded	-
6	SWD +B	0.5+1.0	Unshielded	Unshielded	-
7	A2B AUDIO B+/-	0.5+1.0	Unshielded	Unshielded	-
8	Signal	0.5+1.0	Unshielded	Unshielded	-
9	CTR DISP CONT	0.5+1.0	Unshielded	Unshielded	-
10	METER DISP CONT	0.5+1.0	Unshielded	Unshielded	-
11	Signal	0.5+1.0	Unshielded	Unshielded	-
12	Ether	2.2+0.6	Shielded	Shielded	-
13	GVIF	2.2	Shielded	Shielded	-
14	GMLS	2.2	Shielded	Shielded	-
15	Camera	1.1	Shielded	Shielded	-
16	Camera	1.1	Shielded	Shielded	-
17	USB	0.5+2.0	Shielded	Shielded	-
18	GPS	0.4+0.4	Shielded	Shielded	-
19	FM/AM	0.2+2.0	Shielded	Shielded	Main
20	FM/AM	0.3	Shielded	Shielded	Sub
21	AMT+B	0.2+1.0	Unshielded	Unshielded	-
22	Signal	0.8	Shielded	Shielded	-
23	DC(+)	0.8	Unshielded	Unshielded	-
24	GND	0.8	Unshielded	Unshielded	-
25	SiriusXM	0.5+2.0	Shielded	Shielded	-
26	HDMI	0.2+2.9	Shielded	Shielded	-
27	DC(+)	0.5+0.4	Unshielded	Unshielded	-
28	GND	0.5+0.2	Unshielded	Unshielded	-
29	DC(+)	1.5	Unshielded	Unshielded	-
30	GND	1.5	Unshielded	Unshielded	-
31	DC(+)	1.0+0.9	Unshielded	Unshielded	-
32	GND	1.0+0.5	Unshielded	Unshielded	-
33	IG1 CID	1.0+0.4	Unshielded	Unshielded	-
34	+B CID	1.0+0.6	Unshielded	Unshielded	-
35	GND	1.0+0.1	Unshielded	Unshielded	-
36	Signal	1.0	Unshielded	Unshielded	-

List of Cables Used [2/2]

No.	Name	Length (m)	Shield		Remarks
			Cable	Connector	
37	IG1 METER	1.0+0.3	Unshielded	Unshielded	-
38	+B METER	1.0+0.7	Unshielded	Unshielded	-
39	GND	1.0+0.3	Unshielded	Unshielded	-
40	Signal	1.0	Unshielded	Unshielded	-
41	AC	2.9	Unshielded	Unshielded	-
42	Speaker	1.0+2.0	Unshielded	Unshielded	-
43	Speaker	1.0+2.0	Unshielded	Unshielded	-
44	Speaker	1.0+2.0	Unshielded	Unshielded	-
45	Speaker	1.0+2.0	Unshielded	Unshielded	-
46	Signal	1.0	Unshielded	Unshielded	-

SECTION 5: Radiated Spurious Emission

Test Procedure

[For below 1 GHz]

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.

[For above 1 GHz]

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

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.

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

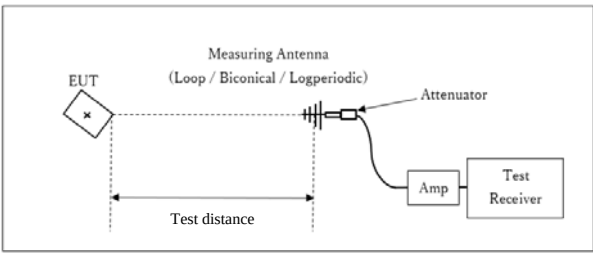
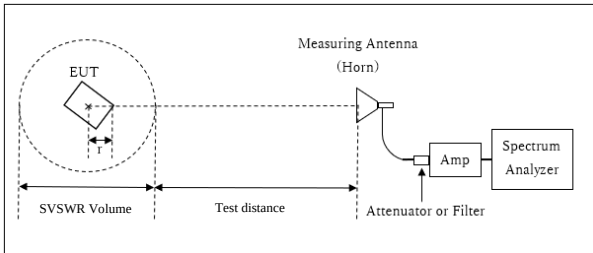
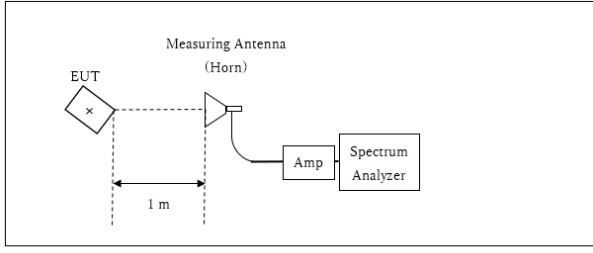
In any 100 kHz bandwidth outside the restricted band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator confirmed 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on a radiated measurement.

20 dBc was applied to the frequency over the limit of FCC 15.209 / Table 4 of RSS-Gen 8.9(ISED) and outside the restricted band of FCC15.205 / Table 6 of RSS-Gen 8.10 (ISED).

It was measured with the settings below based on ANSI C63.10.

Frequency	Below 1 GHz	Above 1 GHz		20 dBc
Instrument Used	Test Receiver	Spectrum Analyzer		Spectrum Analyzer
Detector	QP	PK	AV	PK
IF Bandwidth	BW 120 kHz	RBW: 1 MHz VBW: 3 MHz	11.12.2.5.1 RBW: 1 MHz VBW: 3 MHz Detector: Power Averaging (RMS) Trace: 100 traces 11.12.2.5.2 The duty cycle was less than 98% for detected noise, a duty factor was added to the 11.12.2.5.1 results.	RBW: 100 kHz VBW: 300 kHz

Figure 2: Test Setup

Below 1 GHz	
 × : Center of turn table	Test Distance: 3 m
1 GHz to 10 GHz	
 r : Radius of an outer periphery of EUT × : Center of turn table	Distance Factor: $20 \times \log (3.87 \text{ m}^* / 3.0 \text{ m}) = 2.22 \text{ dB}$ *(Test Distance + SVSWR Volume / 2) - r = 3.87 m Test Distance: 3 m SVSWR Volume: 2 m (SVSWR Volume has been calibrated based on CISPR 16-1-4.) r: 0.13 m
10 GHz to 40 GHz	
 × : Center of turn table	Distance Factor: $20 \times \log (1.0 \text{ m} / 3.0 \text{ m}) = -9.54 \text{ dB}$ *Test Distance: 1 m

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

Measurement Range : 30 MHz to 26.5 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
6 dB Bandwidth	Enough width to display of - 6 dB down amplitude	100 kHz	300 kHz	Auto	Peak	Max Hold	Spectrum Analyzer
99 % Occupied Bandwidth *1)	Enough width to display emission skirts	1 to 5 % of OBW	Three times of RBW	Auto	Peak	Max Hold	Spectrum Analyzer
Maximum Peak Output Power	-	-	-	Auto	Peak/ Average *2)	-	Power Meter (Sensor: 160 MHz BW)
Peak Power Density	1.5 times the 6 dB Bandwidth	3 kHz	9.1 kHz	Auto	Peak	Max Hold	Spectrum Analyzer *3)
Conducted Spurious Emission *4) *5)	9 kHz to 150 kHz	200 Hz	620 Hz	Auto	Peak	Max Hold	Spectrum Analyzer
	150 kHz to 30 MHz	10 kHz	30 kHz				

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

*2) Reference data

*3) Section 11.10.2 Method PKPSD (peak PSD) of "ANSI C63.10-2020".

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

Then, wide-band noise near the limit was checked separately, however the noise was low enough as shown in the chart.
(9 kHz - 150 kHz: RBW = 200 Hz, 150 kHz - 30 MHz: RBW = 10 kHz).

*5) 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 Ohms. 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.

Test results are rounded off and limit are rounded down, 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 and 6 dB Bandwidth

Mode	Tx			
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Date	Test Place	Temperature	Humidity	Engineer
December 24, 2024	SR5	21 deg. C	40 % RH	Hiromasa Sato

Mode	Tested Frequency [MHz]	99 % Occupied Bandwidth [kHz]	6 dB Bandwidth [MHz]	Limit for 6 dB Bandwidth [MHz]
11b	2412	13175.4	7.843	> 0.500
	2437	13154.2	7.673	> 0.500
	2462	13166.7	7.885	> 0.500

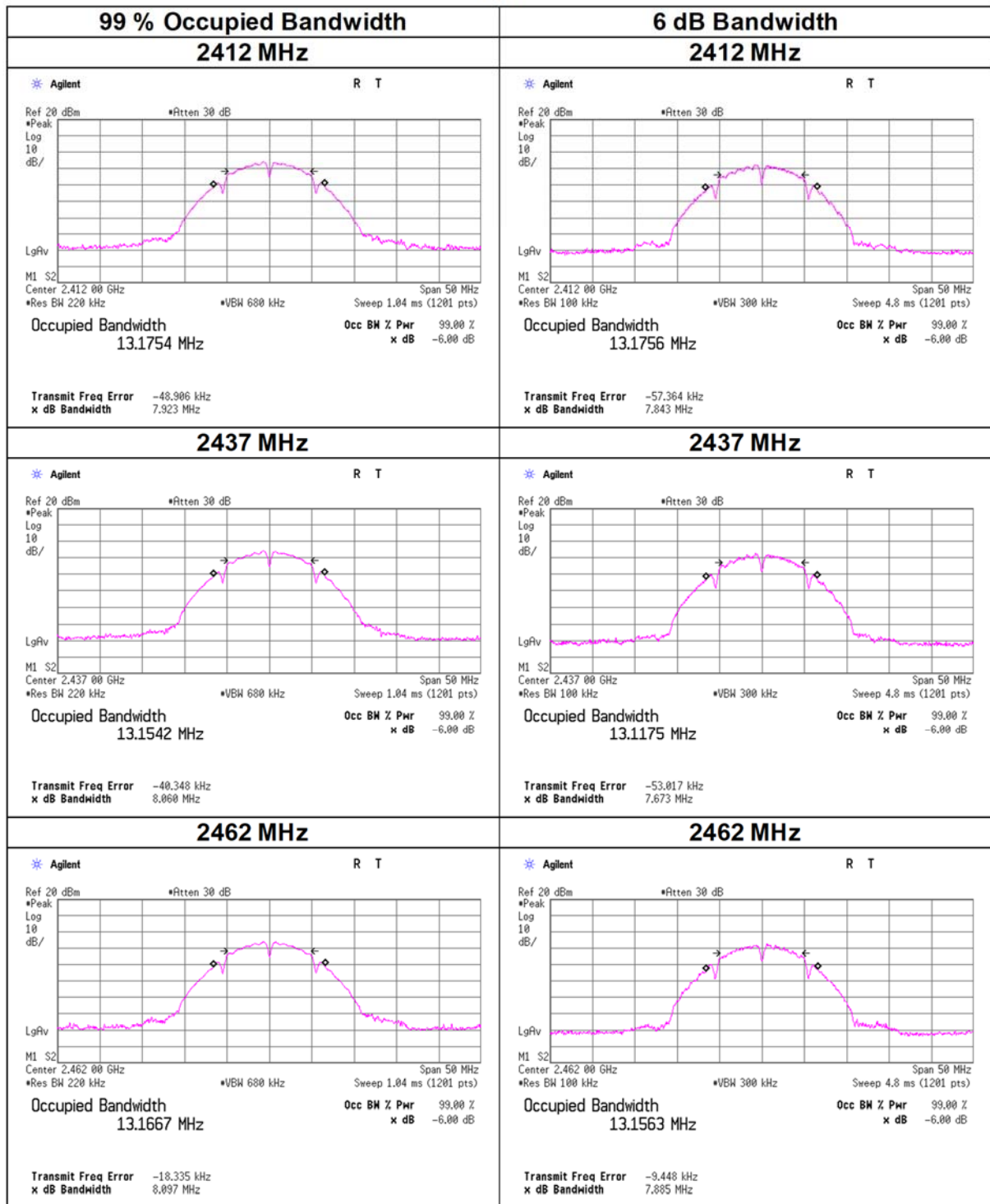
Mode	Tested Frequency [MHz]	99 % Occupied Bandwidth [kHz]	6 dB Bandwidth [MHz]	Limit for 6 dB Bandwidth [MHz]
11g	2412	16610.1	16.548	> 0.500
	2437	16625.8	16.539	> 0.500
	2462	16597.0	16.540	> 0.500

Mode	Tested Frequency [MHz]	99 % Occupied Bandwidth [kHz]	6 dB Bandwidth [MHz]	Limit for 6 dB Bandwidth [MHz]
11n-20	2412	17804.3	17.767	> 0.500
	2437	17838.8	17.797	> 0.500
	2462	17837.5	17.796	> 0.500

Mode	Tested Frequency [MHz]	99 % Occupied Bandwidth [kHz]	6 dB Bandwidth [MHz]	Limit for 6 dB Bandwidth [MHz]
11ax-20(OFDM)	2412	19088.6	19.169	> 0.500
	2437	19085.9	19.162	> 0.500
	2462	19129.8	19.152	> 0.500

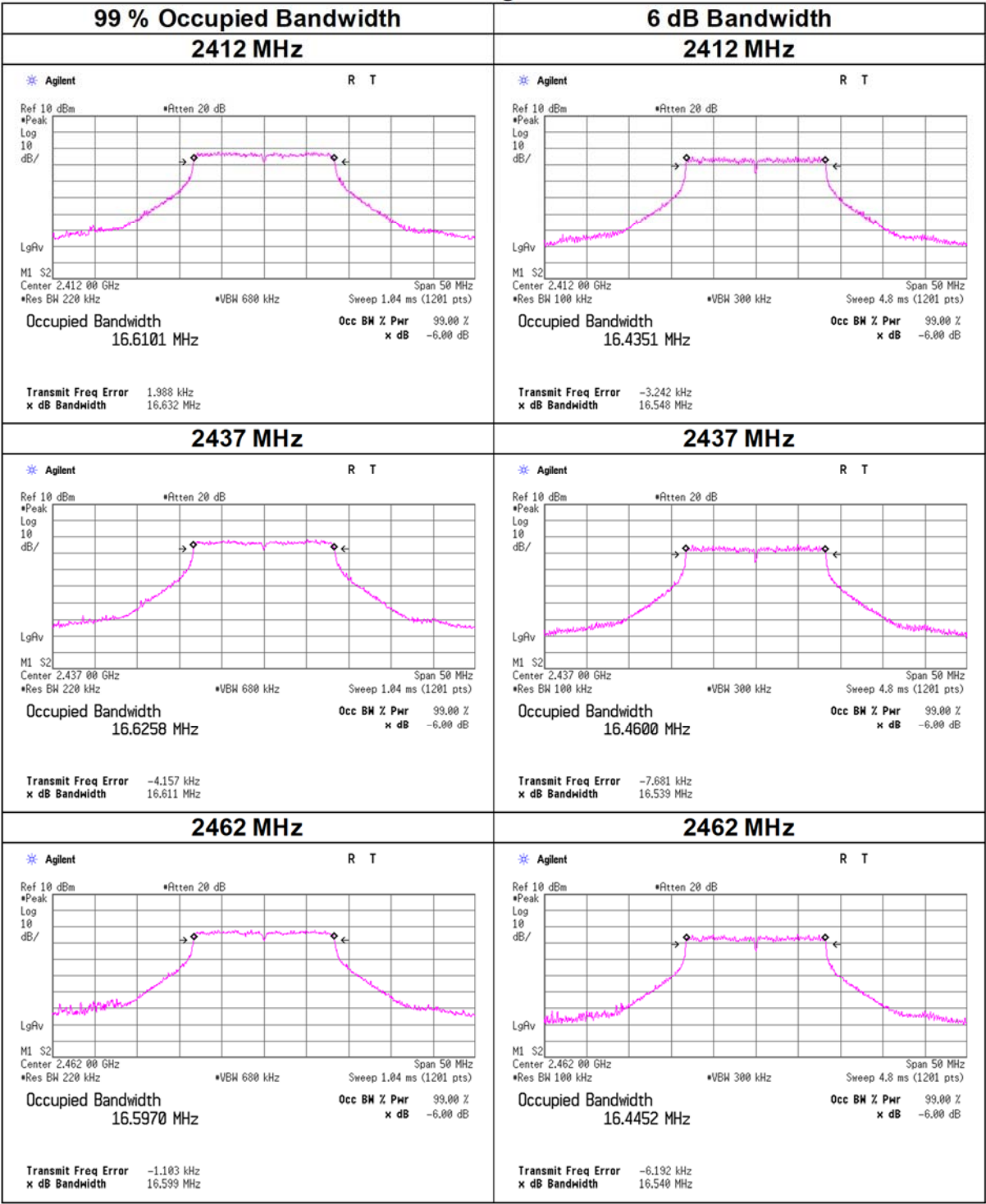
99 % Occupied Bandwidth and 6 dB Bandwidth

11b



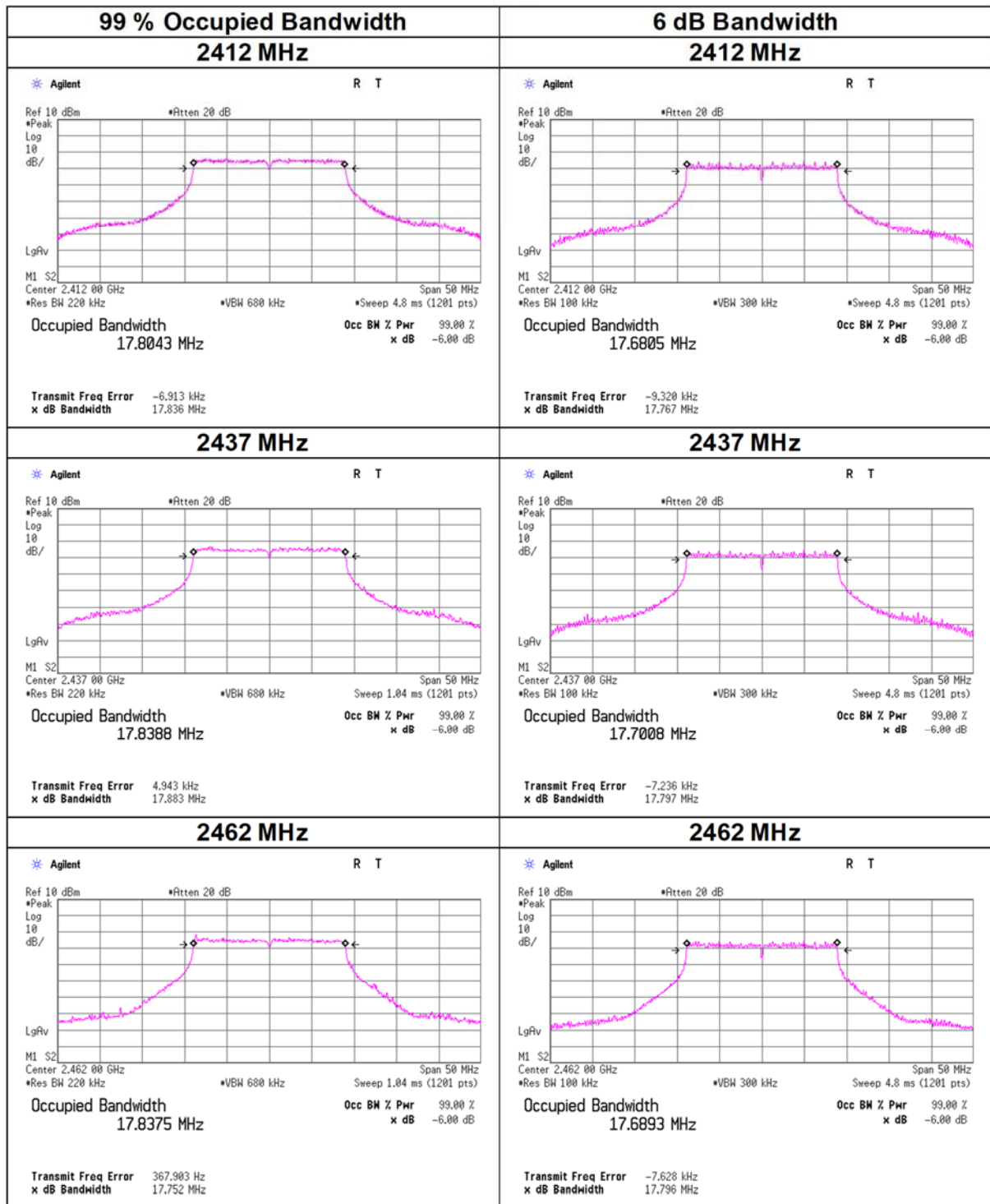
99 % Occupied Bandwidth and 6 dB Bandwidth

11g



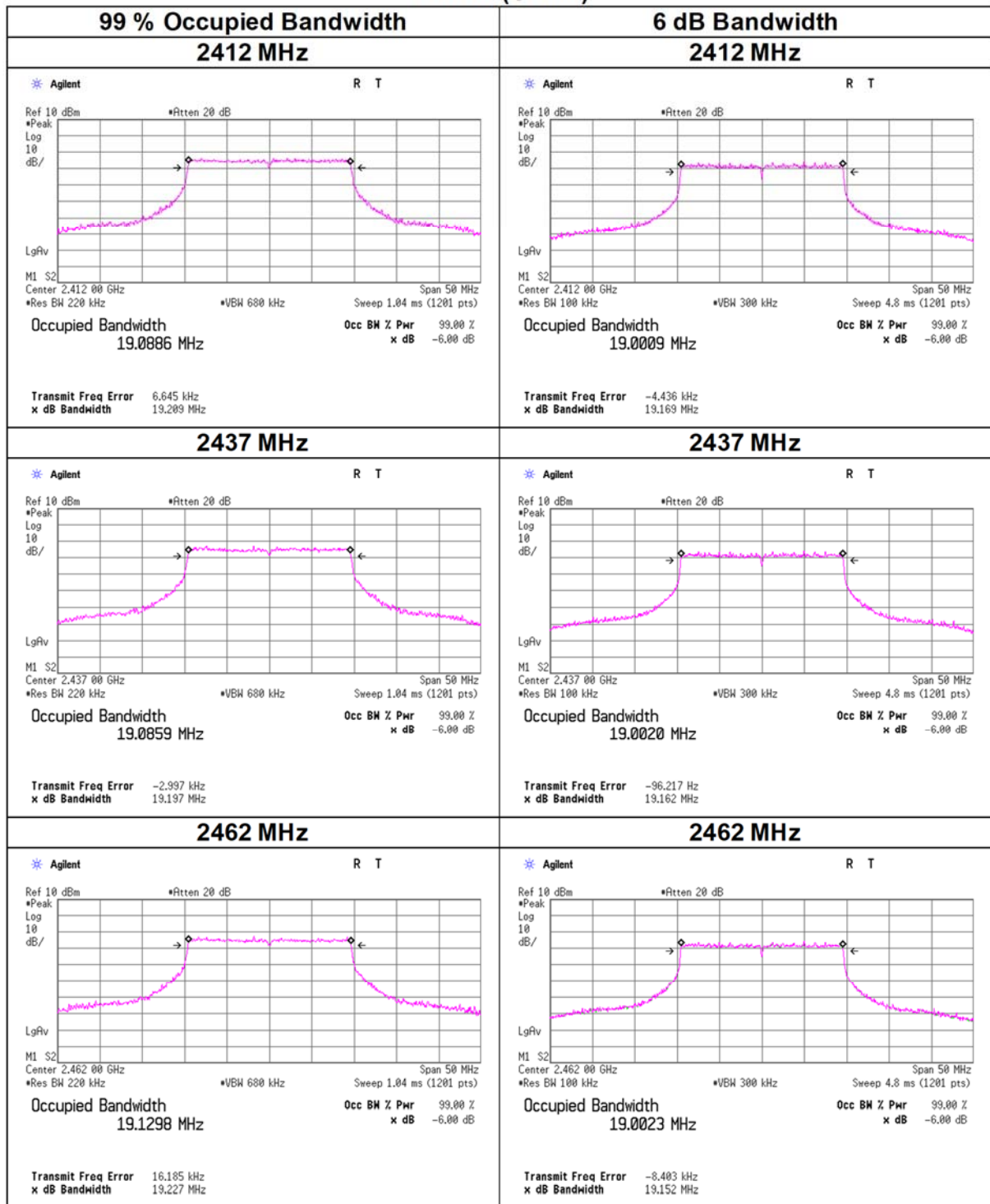
99 % Occupied Bandwidth and 6 dB Bandwidth

11n-20



99 % Occupied Bandwidth and 6 dB Bandwidth

11ax-20(OFDM)



99 % Occupied Bandwidth and 6 dB Bandwidth

Mode	Tx
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Date	Test Place	Temperature	Humidity	Engineer
December 25, 2024	SR5	21 deg. C	41 % RH	Yohsuke Matsuzawa

RU Type	Tested Frequency [MHz]	RU Index	99 % Occupied Bandwidth [kHz]	6 dB Bandwidth [MHz]	Limit for 6 dB Bandwidth [MHz]
26-tone RU	2412	0	18565.9	2.067	> 0.500
	2437	4	17129.5	2.701	> 0.500
	2462	8	18428.9	2.071	> 0.500

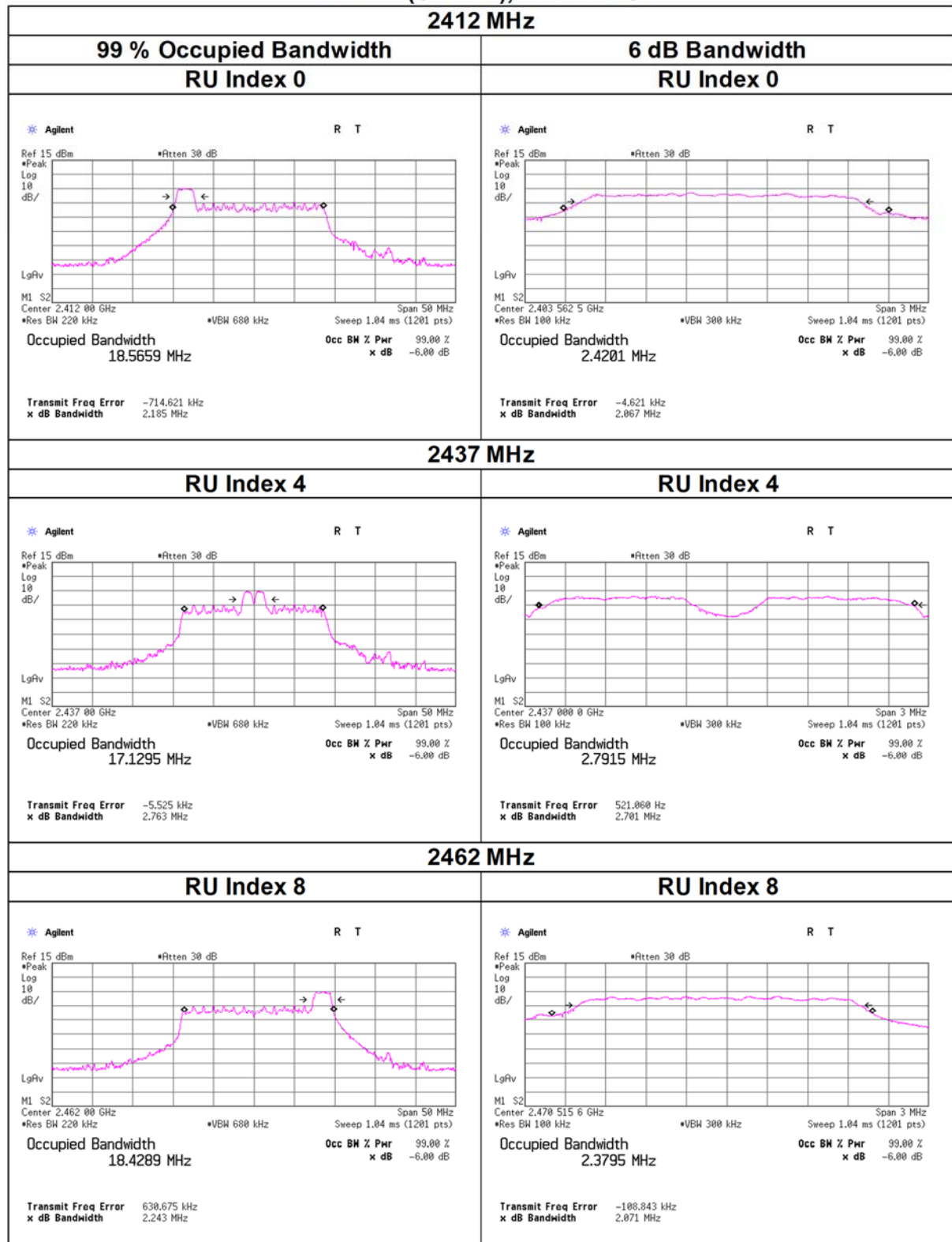
RU Type	Tested Frequency [MHz]	RU Index	99 % Occupied Bandwidth [kHz]	6 dB Bandwidth [MHz]	Limit for 6 dB Bandwidth [MHz]
52-tone RU	2412	37	18163.8	4.091	> 0.500
	2437	38	17245.4	4.238	> 0.500
	2462	40	18396.5	4.077	> 0.500

RU Type	Tested Frequency [MHz]	RU Index	99 % Occupied Bandwidth [kHz]	6 dB Bandwidth [MHz]	Limit for 6 dB Bandwidth [MHz]
106-tone RU	2412	53	18260.1	8.378	> 0.500
	2437	53	18258.9	8.375	> 0.500
	2462	54	18258.2	8.610	> 0.500

RU Type	Tested Frequency [MHz]	RU Index	99 % Occupied Bandwidth [kHz]	6 dB Bandwidth [MHz]	Limit for 6 dB Bandwidth [MHz]
242-tone RU	2412	61	19079.2	19.128	> 0.500
	2437	61	19079.2	19.165	> 0.500
	2462	61	19062.9	19.103	> 0.500

99 % Occupied Bandwidth and 6 dB Bandwidth

11ax-20(OFDMA), 26-tone RU



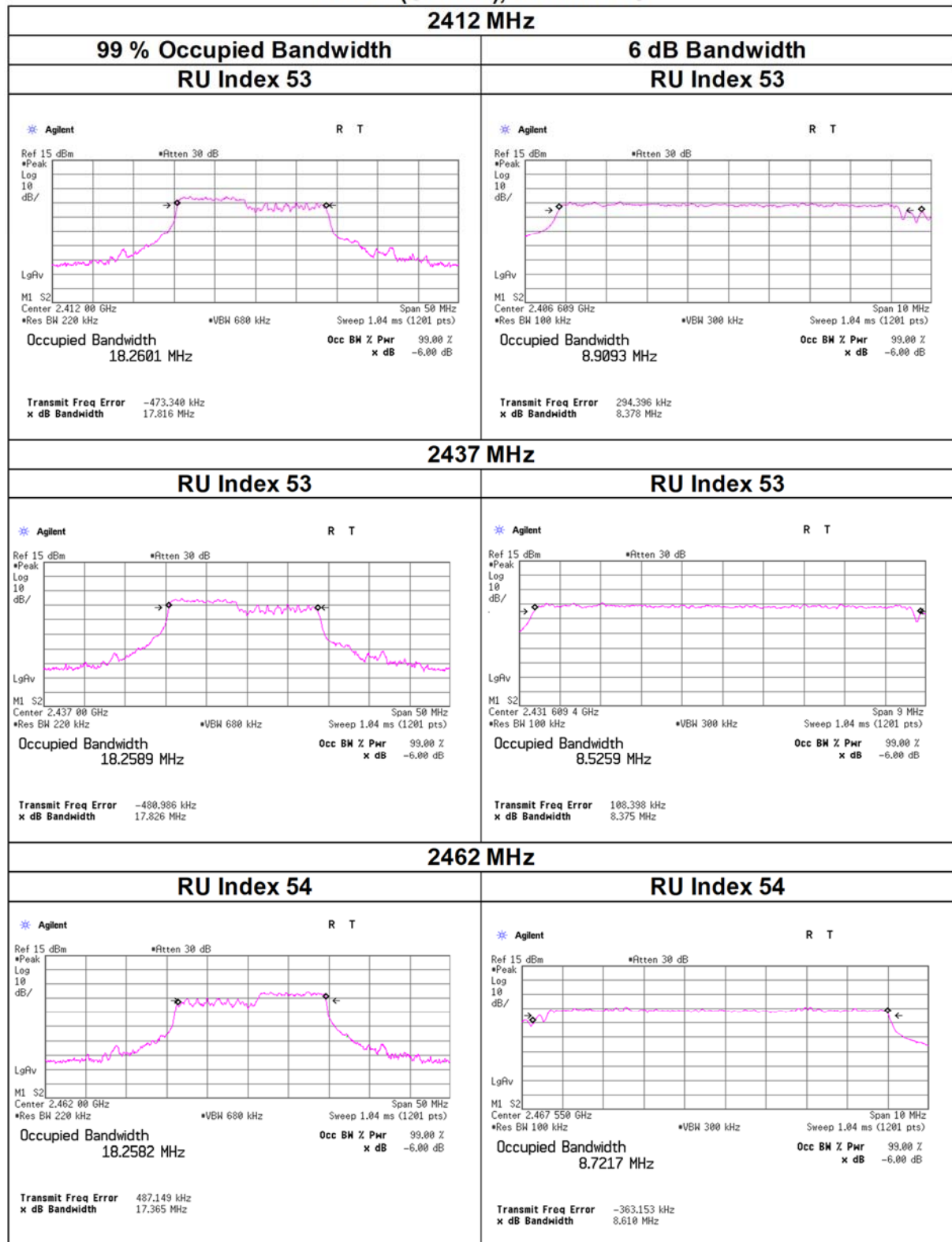
99 % Occupied Bandwidth and 6 dB Bandwidth

11ax-20(OFDMA), 52-tone RU

2412 MHz	
99 % Occupied Bandwidth	6 dB Bandwidth
RU Index 37	RU Index 37
Agilent R T Ref 15 dBm Peak Log 10 dB/ *Atten 30 dB M1 S2 Center 2.412 00 GHz Res BW 220 kHz VEW 600 kHz Sweep 1.04 ms (1201 pts) Span 50 MHz Occupied Bandwidth 18.1638 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB Transmit Freq Error -519.401 kHz x dB Bandwidth 4.146 MHz	Agilent R T Ref 15 dBm Peak Log 10 dB/ *Atten 30 dB M1 S2 Center 2.404 378 GHz Res BW 100 kHz VEW 300 kHz Sweep 1.04 ms (1201 pts) Span 5 MHz Occupied Bandwidth 4.1689 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB Transmit Freq Error 168.369 kHz x dB Bandwidth 4.091 MHz
2437 MHz	
RU Index 38	RU Index 38
Agilent R T Ref 15 dBm Peak Log 10 dB/ *Atten 30 dB M1 S2 Center 2.437 00 GHz Res BW 220 kHz VEW 600 kHz Sweep 1.04 ms (1201 pts) Span 50 MHz Occupied Bandwidth 17.2454 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB Transmit Freq Error -16.024 kHz x dB Bandwidth 4.182 MHz	Agilent R T Ref 15 dBm Peak Log 10 dB/ *Atten 30 dB M1 S2 Center 2.433 719 GHz Res BW 100 kHz VEW 300 kHz Sweep 1.04 ms (1201 pts) Span 5 MHz Occupied Bandwidth 4.5519 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB Transmit Freq Error 1.423 kHz x dB Bandwidth 4.238 MHz
2462 MHz	
RU Index 40	RU Index 40
Agilent R T Ref 15 dBm Peak Log 10 dB/ *Atten 30 dB M1 S2 Center 2.462 00 GHz Res BW 220 kHz VEW 600 kHz Sweep 1.04 ms (1201 pts) Span 50 MHz Occupied Bandwidth 18.3965 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB Transmit Freq Error 607.763 kHz x dB Bandwidth 4.164 MHz	Agilent R T Ref 15 dBm Peak Log 10 dB/ *Atten 30 dB M1 S2 Center 2.469 600 GHz Res BW 100 kHz VEW 300 kHz Sweep 1.04 ms (1201 pts) Span 5 MHz Occupied Bandwidth 4.2832 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB Transmit Freq Error -140.152 kHz x dB Bandwidth 4.077 MHz

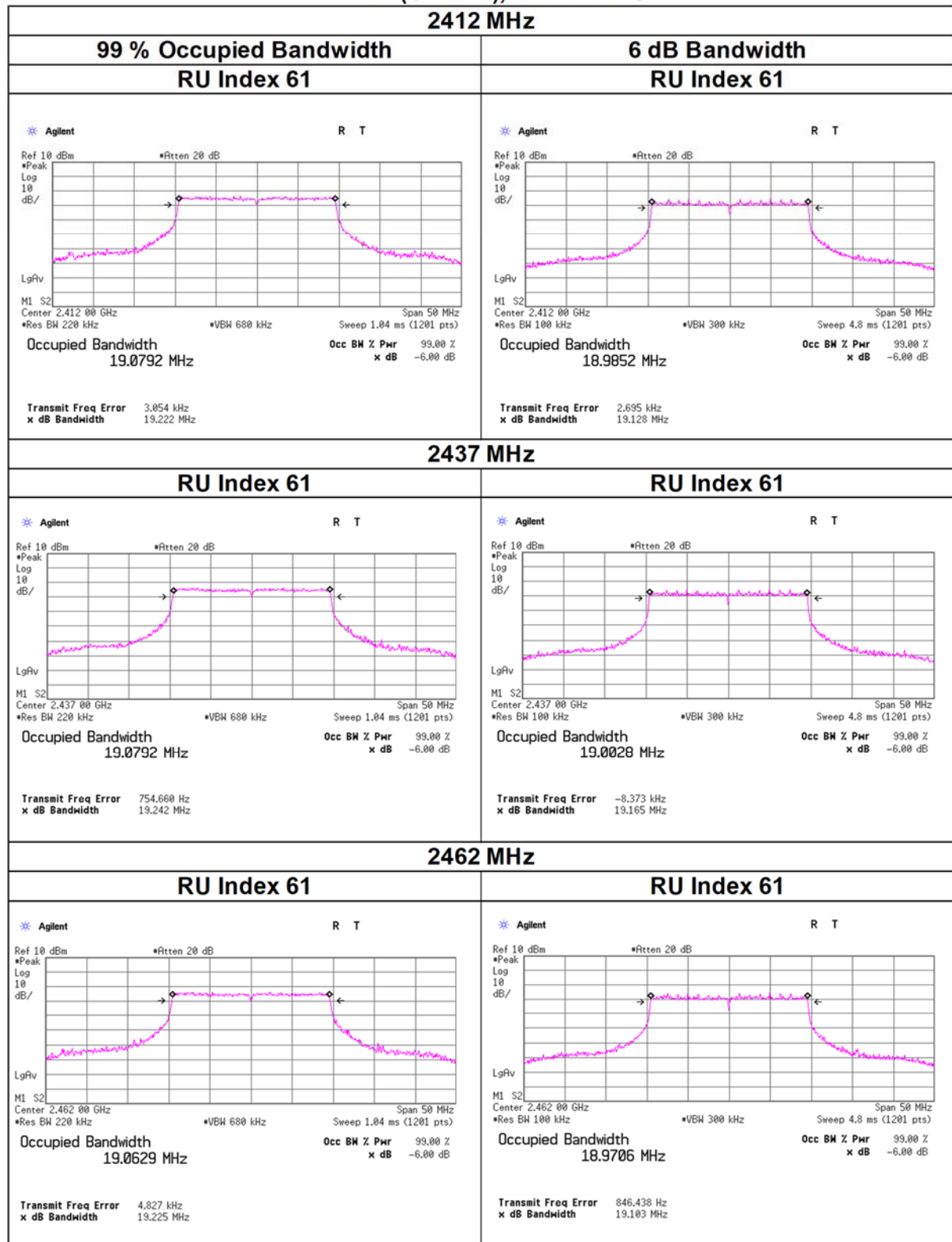
99 % Occupied Bandwidth and 6 dB Bandwidth

11ax-20(OFDMA), 106-tone RU



99 % Occupied Bandwidth and 6 dB Bandwidth

11ax-20(OFDMA), 242-tone RU



99 % Occupied Bandwidth and 6 dB Bandwidth

Mode	Tx
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Date	Test Place	Temperature	Humidity	Engineer
December 19, 2024	SR5	24 deg. C	44 % RH	Yuta Shiba

BT LE 1M-PHY

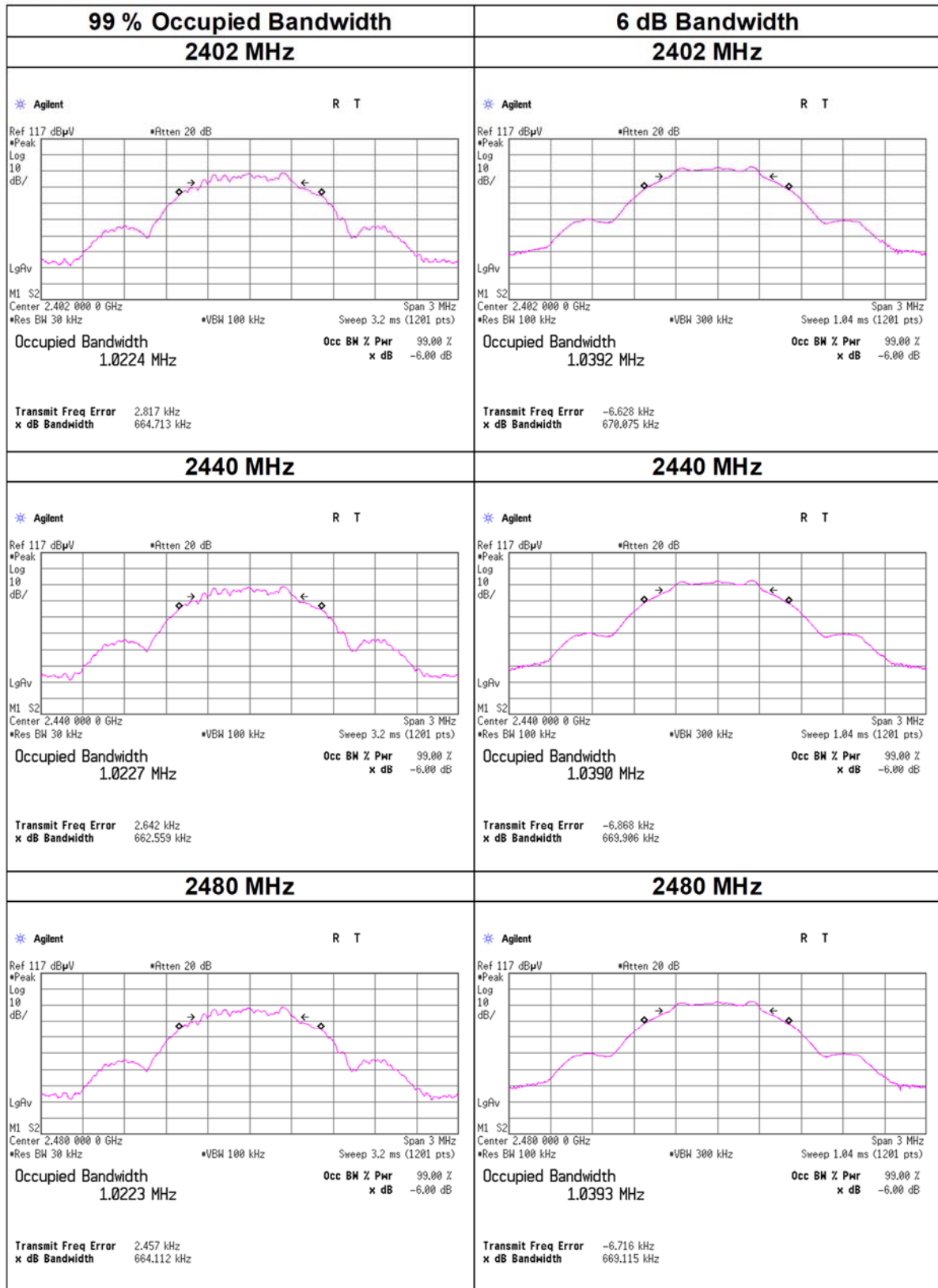
Frequency [MHz]	99 % Occupied Bandwidth [kHz]	6 dB Bandwidth [MHz]	Limit for 6 dB Bandwidth [MHz]
2402	1022.4	0.670	> 0.5000
2440	1022.7	0.670	> 0.5000
2480	1022.3	0.669	> 0.5000

BT LE 2M-PHY

Frequency [MHz]	99 % Occupied Bandwidth [kHz]	6 dB Bandwidth [MHz]	Limit for 6 dB Bandwidth [MHz]
2402	1997.9	1.174	> 0.5000
2440	1997.9	1.172	> 0.5000
2480	1997.8	1.176	> 0.5000

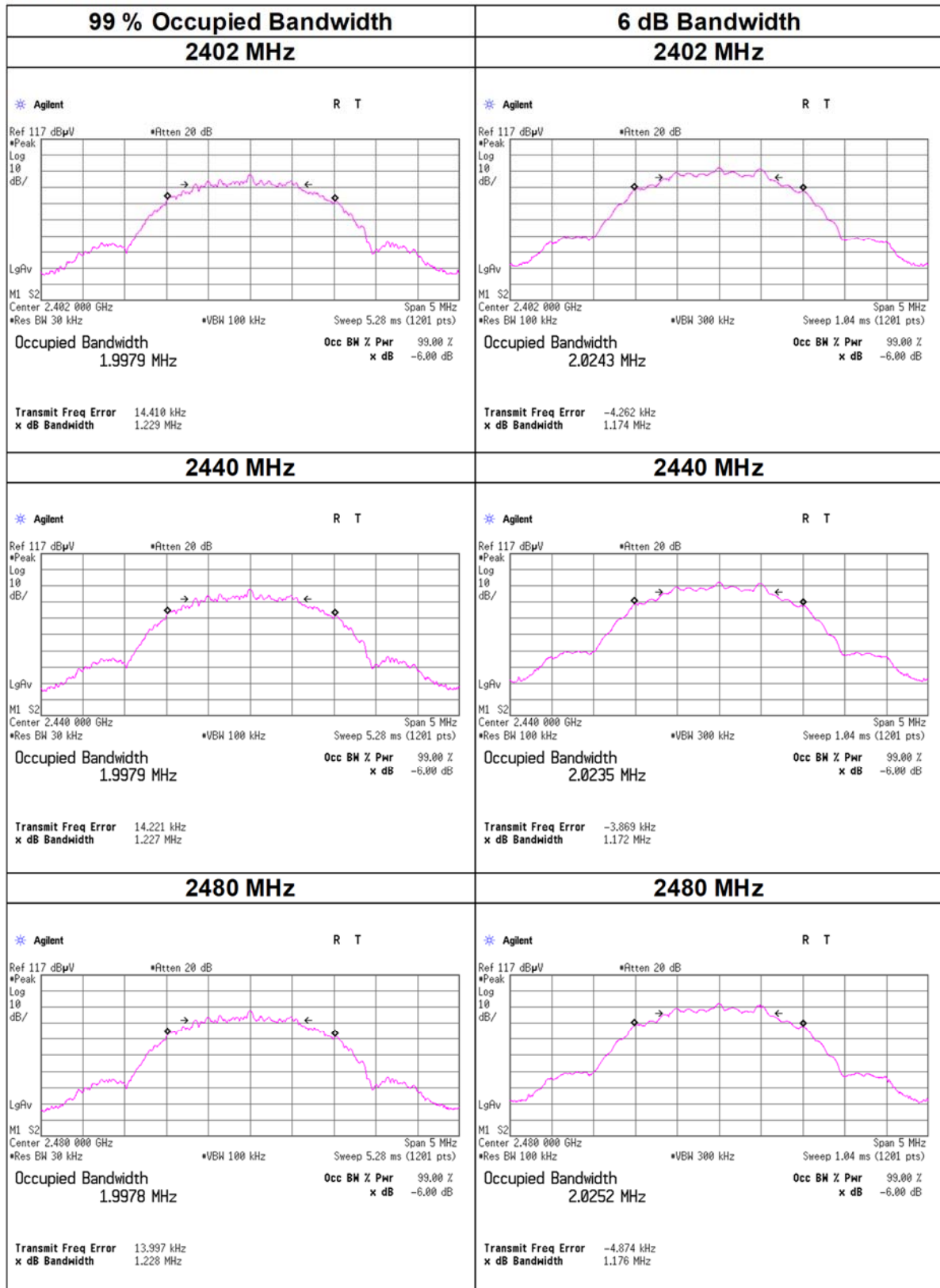
99 % Occupied Bandwidth and 6 dB Bandwidth

BT LE 1M-PHY



99 % Occupied Bandwidth and 6 dB Bandwidth

BT LE 2M-PHY



Maximum Peak Output Power

Mode	Tx, 11b SISO
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Date	Test Place	Temperature	Humidity	Engineer
December 17, 2024	SR5	24 deg. C	38 % RH	Masahide Ozaki

				Conducted Power					e.i.r.p. for RSS-247					
Freq.	Reading	Cable Loss	Atten. Loss	Result		Limit		Margin	Antenna Gain	Result		Limit		Margin
[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[dBm]	[mW]	[dB]	[dBi]	[dBm]	[mW]	[dBm]	[mW]	[dB]
2412	3.64	1.00	10.18	14.82	30.34	30.00	1000	15.18	-1.70	13.12	20.51	36.02	4000	22.90
2437	3.75	1.02	10.18	14.95	31.26	30.00	1000	15.05	-1.70	13.25	21.13	36.02	4000	22.77
2462	3.61	1.07	10.18	14.86	30.62	30.00	1000	15.14	-1.70	13.16	20.70	36.02	4000	22.86

Sample Calculation:
Result = Reading + Cable Loss + Attenuator Loss
e.i.r.p. Result = Conducted Power Result + Antenna Gain

Worst Rate Check (2412 MHz)

Antenna Port	Rate (Mbps)	Reading [dBm]	Remarks
ANT1	1(Long)	2.85	-
	2(Long)	2.80	-
	5.5(Long)	2.78	-
	11(Long)	2.86	-
	2(Short)	2.93	-
	5.5(Short)	3.00	-
	11(Short)	2.97	-
ANT2	1(Long)	3.42	-
	2(Long)	3.45	-
	5.5(Long)	3.51	-
	11(Long)	3.39	-
	2(Short)	3.64	*
	5.5(Short)	3.56	-
	11(Short)	3.54	-

*: Worst Rate

* Since the burst rate is not different between the channels, the data has been obtained on the representative channel.

* All comparisons were carried out on same frequency and measurement factors.

Maximum Peak Output Power

Mode	Tx, 11b MIMO
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Date	Test Place	Temperature	Humidity	Engineer
December 18, 2024	SR5	22 deg. C	39 % RH	Yusuke Tanikawara

ANT1 + ANT2

Freq. [MHz]	Conducted Power					e.i.r.p.				
	Result ANT1 + ANT2		Limit		Margin	Result ANT1 + ANT2		Limit		Margin
	[dBm]	[mW]	[dBm]	[mW]		[dBm]	[mW]	[dBm]	[mW]	[dB]
2412	17.77	59.90	30.00	1000	12.23	16.07	40.50	36.02	4000	19.95
2437	17.85	61.00	30.00	1000	12.15	16.15	41.24	36.02	4000	19.87
2462	17.75	59.62	30.00	1000	12.25	16.05	40.31	36.02	4000	19.97

ANT1

(* P/M: Power Meter with power sensor)

Freq. [MHz]	P/M (Peak) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result		Directional Gain [dBi]	Result (e.i.r.p.)	
				[dBm]	[mW]		[dBm]	[mW]
2412	3.22	1.00	10.18	14.40	27.54	-1.70	12.70	18.62
2437	3.23	1.02	10.18	14.43	27.73	-1.70	12.73	18.75
2462	3.14	1.07	10.18	14.39	27.48	-1.70	12.69	18.58

ANT2

(* P/M: Power Meter with power sensor)

Freq. [MHz]	P/M (Peak) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result		Directional Gain [dBi]	Result (e.i.r.p.)	
				[dBm]	[mW]		[dBm]	[mW]
2412	4.14	1.02	9.94	15.10	32.36	-1.70	13.40	21.88
2437	4.23	1.05	9.94	15.22	33.27	-1.70	13.52	22.49
2462	4.04	1.09	9.94	15.07	32.14	-1.70	13.37	21.73

Sample Calculation:

Result = Reading + Cable Loss + Atten. Loss

Result (e.i.r.p.) = Reading + Cable Loss + Atten. Loss + Directional Gain

Directional Gain = $G_{ANT} + \text{Array Gain}$ * G_{ANT} applied the antenna gain of higher of ANT1 and ANT2.

Array Gain = 0 dB (i.e., no array gain) $N_{ANT} \leq 4$, N_{ANT} = number of transmit antennas = 2

Worst Rate Check (2412 MHz)

Rate (Mbps)	Reading [dBm]	Cable Loss [dB]	ANT1 Atten. Loss [dB]	Result		Reading [dBm]	Cable Loss [dB]	ANT2 Atten. Loss [dB]	Result		Total Result Power		Remarks
				[dBm]	[mW]				[dBm]	[mW]	[dBm]	[mW]	
1(Long)	3.14	1.00	10.18	14.32	27.04	3.92	1.02	9.94	14.88	30.76	17.62	57.80	-
2(Long)	3.13	1.00	10.18	14.31	26.98	3.88	1.02	9.94	14.84	30.48	17.59	57.46	-
5.5(Long)	3.08	1.00	10.18	14.26	26.67	3.90	1.02	9.94	14.86	30.62	17.58	57.29	-
11(Long)	3.14	1.00	10.18	14.32	27.04	4.01	1.02	9.94	14.97	31.41	17.67	58.45	-
2(Short)	3.22	1.00	10.18	14.40	27.54	4.14	1.02	9.94	15.10	32.36	17.77	59.90	*
5.5(Short)	3.19	1.00	10.18	14.37	27.35	4.06	1.02	9.94	15.02	31.77	17.72	59.12	-
11(Short)	3.21	1.00	10.18	14.39	27.48	4.09	1.02	9.94	15.05	31.99	17.74	59.47	-

+: Worst Rate

Sample Calculation:

Each Result = Reading + Cable Loss + Atten. Loss

Total Result = ANT1 Result + ANT2 Result

Maximum Peak Output Power

Mode	Tx, 11g SISO
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Date	Test Place	Temperature	Humidity	Engineer
December 17, 2024	SR5	24 deg. C	38 % RH	Masahide Ozaki

Freq.	Reading	Cable Loss	Atten. Loss	Conducted Power					e.i.r.p. for RSS-247					
				Result		Limit		Margin	Antenna Gain	Result		Limit		Margin
				[dBm]	[mW]	[dBm]	[mW]	[dB]	[dBi]	[dBm]	[mW]	[dBm]	[mW]	[dB]
2412	7.38	1.00	10.18	18.56	71.78	30.00	1000	11.44	-1.70	16.86	48.53	36.02	4000	19.16
2437	7.41	1.02	10.18	18.61	72.61	30.00	1000	11.39	-1.70	16.91	49.09	36.02	4000	19.11
2462	7.45	1.07	10.18	18.70	74.13	30.00	1000	11.30	-1.70	17.00	50.12	36.02	4000	19.02

Sample Calculation:

Result = Reading + Cable Loss + Attenuator Loss

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

Worst Rate Check (2412 MHz)

Antenna Port	Rate (Mbps)	Reading [dBm]	Remarks
ANT1	6	3.03	-
	9	2.97	-
	12	2.75	-
	18	5.58	-
	24	7.20	-
	36	7.31	-
	48	6.97	-
	54	7.17	-
ANT2	6	3.54	-
	9	3.60	-
	12	3.38	-
	18	6.36	-
	24	7.22	-
	36	7.34	-
	48	6.87	-
	54	7.38	*

*: Worst Rate

* Since the burst rate is not different between the channels, the data has been obtained on the representative channel.

* All comparisons were carried out on same frequency and measurement factors.

Maximum Peak Output Power

Mode	Tx, 11g MIMO
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Date	Test Place	Temperature	Humidity	Engineer
December 18, 2024	SR5	22 deg. C	39 % RH	Yusuke Tanikawara

ANT1 + ANT2

Freq. [MHz]	Conducted Power					e.i.r.p.				
	Result		Limit		Margin	Result		Limit		Margin
	ANT1 + ANT2 [dBm]	[mW]	[dBm]	[mW]		ANT1 + ANT2 [dBm]	[mW]	[dBm]	[mW]	[dB]
2412	20.74	118.48	30.00	1000	9.26	19.04	80.10	36.02	4000	16.98
2437	20.90	123.04	30.00	1000	9.10	19.20	83.19	36.02	4000	16.82
2462	20.96	124.66	30.00	1000	9.04	19.26	84.28	36.02	4000	16.76

ANT1

(* P/M: Power Meter with power sensor)

Freq. [MHz]	P/M (Peak) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result		Directional Gain [dBi]	Result (e.i.r.p.)	
				[dBm]	[mW]		[dBm]	[mW]
2412	5.08	1.00	10.18	16.26	42.27	-1.70	14.56	28.58
2437	5.44	1.02	10.18	16.64	46.13	-1.70	14.94	31.19
2462	5.54	1.07	10.18	16.79	47.75	-1.70	15.09	32.28

ANT2

(* P/M: Power Meter with power sensor)

Freq. [MHz]	P/M (Peak) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result		Directional Gain [dBi]	Result (e.i.r.p.)	
				[dBm]	[mW]		[dBm]	[mW]
2412	7.86	1.02	9.94	18.82	76.21	-1.70	17.12	51.52
2437	7.87	1.05	9.94	18.86	76.91	-1.70	17.16	52.00
2462	7.83	1.09	9.94	18.86	76.91	-1.70	17.16	52.00

Sample Calculation:

Result = Reading + Cable Loss + Atten. Loss

Result (e.i.r.p.) = Reading + Cable Loss + Atten. Loss + Directional Gain

Directional Gain = $G_{ANT} + \text{Array Gain}$ * G_{ANT} applied the antenna gain of higher of ANT1 and ANT2.

Array Gain = 0 dB (i.e., no array gain) $N_{ANT} \leq 4$, N_{ANT} = number of transmit antennas = 2

Worst Rate Check (2412 MHz)

Rate (Mbps)	Reading [dBm]	Cable Loss [dB]	ANT1 Atten. Loss [dB]	Result		Reading [dBm]	Cable Loss [dB]	ANT2 Atten. Loss [dB]	Result		Total Result Power		Remarks
				[dBm]	[mW]				[dBm]	[mW]	[dBm]	[mW]	
6	1.08	1.00	10.18	12.26	16.83	4.45	1.02	9.94	15.41	34.75	17.12	51.58	-
9	1.11	1.00	10.18	12.29	16.94	4.46	1.02	9.94	15.42	34.83	17.14	51.77	-
12	0.79	1.00	10.18	11.97	15.74	4.19	1.02	9.94	15.15	32.73	16.85	48.47	-
18	3.38	1.00	10.18	14.56	28.58	6.84	1.02	9.94	17.80	60.26	19.49	88.84	-
24	5.09	1.00	10.18	16.27	42.36	7.68	1.02	9.94	18.64	73.11	20.62	115.47	-
36	5.05	1.00	10.18	16.23	41.98	7.49	1.02	9.94	18.45	69.98	20.49	111.96	-
48	5.00	1.00	10.18	16.18	41.50	7.50	1.02	9.94	18.46	70.15	20.48	111.65	-
54	5.08	1.00	10.18	16.26	42.27	7.86	1.02	9.94	18.82	76.21	20.74	118.48	*

*: Worst Rate

Sample Calculation:

Each Result = Reading + Cable Loss + Atten. Loss

Total Result = ANT1 Result + ANT2 Result

Maximum Peak Output Power

Mode	Tx, 11n-20 SISO
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Date	Test Place	Temperature	Humidity	Engineer
December 17, 2024	SR5	24 deg. C	38 % RH	Masahide Ozaki

Freq.	Reading	Cable Loss	Atten. Loss	Conducted Power					e.i.r.p. for RSS-247					
				Result		Limit		Margin	Antenna Gain	Result		Limit		Margin
				[dBm]	[mW]	[dBm]	[mW]			[dB]	[dBm]	[mW]	[dBm]	
[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[dBm]	[mW]	[dB]	[dBi]	[dBm]	[mW]	[dBm]	[mW]	[dB]
2412	6.13	1.00	10.18	17.31	53.83	30.00	1000	12.69	-1.70	15.61	36.39	36.02	4000	20.41
2437	6.28	1.02	10.18	17.48	55.98	30.00	1000	12.52	-1.70	15.78	37.84	36.02	4000	20.24
2462	6.73	1.07	10.18	17.98	62.81	30.00	1000	12.02	-1.70	16.28	42.46	36.02	4000	19.74

Sample Calculation:

Result = Reading + Cable Loss + Attenuator Loss

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

Worst Rate Check (2412 MHz)

Antenna Port	MCS Index	Reading [dBm]	Remarks
ANT1	0	0.71	-
	1	0.59	-
	2	3.11	-
	3	2.93	-
	4	3.22	-
	5	3.52	-
	6	3.72	-
	7	4.05	-
ANT2	0	1.16	-
	1	0.99	-
	2	3.68	-
	3	4.03	-
	4	5.48	-
	5	5.70	-
	6	5.79	-
	7	6.13	*

*: Worst Rate

* Since the burst rate is not different between the channels, the data has been obtained on the representative channel.

* All comparisons were carried out on same frequency and measurement factors.

Maximum Peak Output Power

Mode	Tx, 11n-20 MIMO
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Date	Test Place	Temperature	Humidity	Engineer
December 18, 2024	SR5	22 deg. C	39 % RH	Yusuke Tanikawara

ANT1 + ANT2

Freq. [MHz]	Conducted Power					e.i.r.p.				
	Result ANT1 + ANT2		Limit		Margin [dB]	Result ANT1 + ANT2		Limit		Margin [dB]
	[dBm]	[mW]	[dBm]	[mW]		[dBm]	[mW]	[dBm]	[mW]	
2412	19.17	82.53	30.00	1000	10.83	17.47	55.80	36.02	4000	18.55
2437	19.71	93.57	30.00	1000	10.29	18.01	63.26	36.02	4000	18.01
2462	19.76	94.69	30.00	1000	10.24	18.06	64.02	36.02	4000	17.96

ANT1

(* P/M: Power Meter with power sensor)

Freq. [MHz]	P/M (Peak) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result		Directional Gain [dBi]	Result (e.i.r.p.)	
				[dBm]	[mW]		[dBm]	[mW]
2412	4.38	1.00	10.18	15.56	35.97	-1.70	13.86	24.32
2437	5.39	1.02	10.18	16.59	45.60	-1.70	14.89	30.83
2462	4.48	1.07	10.18	15.73	37.41	-1.70	14.03	25.29

ANT2

(* P/M: Power Meter with power sensor)

Freq. [MHz]	P/M (Peak) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result		Directional Gain [dBi]	Result (e.i.r.p.)	
				[dBm]	[mW]		[dBm]	[mW]
2412	5.72	1.02	9.94	16.68	46.56	-1.70	14.98	31.48
2437	5.82	1.05	9.94	16.81	47.97	-1.70	15.11	32.43
2462	6.55	1.09	9.94	17.58	57.28	-1.70	15.88	38.73

Sample Calculation:

Result = Reading + Cable Loss + Atten. Loss

Result (e.i.r.p.) = Reading + Cable Loss + Atten. Loss + Directional Gain

Directional Gain = $G_{ANT} + \text{Array Gain}$ * G_{ANT} applied the antenna gain of higher of ANT1 and ANT2.

Array Gain = 0 dB (i.e., no array gain) $N_{ANT} \leq 4$, N_{ANT} = number of transmit antennas = 2

Worst Rate Check (2412 MHz)

MCS Index	Reading [dBm]	Cable Loss [dB]	ANT1 Atten. Loss [dB]	Result		Reading [dBm]	Cable Loss [dB]	ANT2 Atten. Loss [dB]	Result		Total Result Power		Remarks
				[dBm]	[mW]				[dBm]	[mW]	[dBm]	[mW]	
0	-0.04	1.00	10.18	11.14	13.00	1.41	1.02	9.94	12.37	17.26	14.81	30.26	-
1	0.01	1.00	10.18	11.19	13.15	1.37	1.02	9.94	12.33	17.10	14.81	30.25	-
2	2.20	1.00	10.18	13.38	21.78	4.09	1.02	9.94	15.05	31.99	17.31	53.77	-
3	2.22	1.00	10.18	13.40	21.88	3.30	1.02	9.94	14.26	26.67	16.86	48.55	-
4	4.36	1.00	10.18	15.54	35.81	5.66	1.02	9.94	16.62	45.92	19.12	81.73	-
5	4.06	1.00	10.18	15.24	33.42	5.34	1.02	9.94	16.30	42.66	18.81	76.08	-
6	4.43	1.00	10.18	15.61	36.39	5.61	1.02	9.94	16.57	45.39	19.13	81.78	-
7	4.38	1.00	10.18	15.56	35.97	5.72	1.02	9.94	16.68	46.56	19.17	82.53	*
8	-0.11	1.00	10.18	11.07	12.79	1.39	1.02	9.94	12.35	17.18	14.77	29.97	-
9	-0.18	1.00	10.18	11.00	12.59	1.33	1.02	9.94	12.29	16.94	14.70	29.53	-
10	2.26	1.00	10.18	13.44	22.08	4.05	1.02	9.94	15.01	31.70	17.31	53.78	-
11	2.31	1.00	10.18	13.49	22.34	3.13	1.02	9.94	14.09	25.64	16.81	47.98	-
12	4.25	1.00	10.18	15.43	34.91	5.72	1.02	9.94	16.68	46.56	19.11	81.47	-
13	4.09	1.00	10.18	15.27	33.65	5.80	1.02	9.94	16.76	47.42	19.09	81.07	-
14	4.11	1.00	10.18	15.29	33.81	5.81	1.02	9.94	16.77	47.53	19.10	81.34	-
15	4.10	1.00	10.18	15.28	33.73	5.70	1.02	9.94	16.66	46.34	19.03	80.07	-

*: Worst Rate

Sample Calculation:

Each Result = Reading + Cable Loss + Atten. Loss

Total Result = ANT1 Result + ANT2 Result

Maximum Peak Output Power

Mode	Tx, 11ax-20(OFDM) SISO
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Date	Test Place	Temperature	Humidity	Engineer
December 17, 2024	SR5	24 deg. C	38 % RH	Masahide Ozaki

Freq.	Reading	Cable Loss	Atten. Loss	Conducted Power					e.i.r.p. for RSS-247						
				Result		Limit		Margin	Antenna Gain	Result		Limit		Margin	
				[dBm]	[mW]	[dBm]	[mW]			[dB]	[dBm]	[mW]	[dBm]		[mW]
[MHz]	[dBm]	[dB]	[dB]						[dBi]						
2412	6.24	1.00	10.18	17.42	55.21	30.00	1000	12.58	-1.70	15.72	37.33	36.02	4000	20.30	
2437	6.23	1.02	10.18	17.43	55.34	30.00	1000	12.57	-1.70	15.73	37.41	36.02	4000	20.29	
2462	6.04	1.07	10.18	17.29	53.58	30.00	1000	12.71	-1.70	15.59	36.22	36.02	4000	20.43	

Sample Calculation:

Result = Reading + Cable Loss + Attenuator Loss

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

Worst Rate Check (2412 MHz)

Antenna Port	MCS Index	Reading [dBm]	Remarks
ANT1	0	2.38	-
	1	2.47	-
	2	4.76	-
	3	3.85	-
	4	4.31	-
	5	4.27	-
	6	4.99	-
	7	4.74	-
	8	4.69	-
	9	4.81	-
	10	4.35	-
	11	5.06	-
ANT2	0	3.03	-
	1	3.08	-
	2	4.92	-
	3	4.36	-
	4	5.31	-
	5	6.00	-
	6	6.11	-
	7	5.59	-
	8	5.90	-
	9	6.17	-
	10	5.97	-
	11	6.24	*

*: Worst Rate

* Since the burst rate is not different between the channels, the data has been obtained on the representative channel.

* All comparisons were carried out on same frequency and measurement factors.

Maximum Peak Output Power

Mode	Tx, 11ax-20(OFDM) MIMO
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Date	Test Place	Temperature	Humidity	Engineer
December 18, 2024	SR5	22 deg. C	39 % RH	Yusuke Tanikawara

ANT1 + ANT2

Freq. [MHz]	Conducted Power					e.i.r.p.				
	Result ANT1 + ANT2		Limit		Margin [dB]	Result ANT1 + ANT2		Limit		Margin [dB]
	[dBm]	[mW]	[dBm]	[mW]		[dBm]	[mW]	[dBm]	[mW]	
2412	19.43	87.72	30.00	1000	10.57	17.73	59.30	36.02	4000	18.29
2437	19.40	87.02	30.00	1000	10.60	17.70	58.83	36.02	4000	18.32
2462	19.55	90.17	30.00	1000	10.45	17.85	60.96	36.02	4000	18.17

ANT1

(* P/M: Power Meter with power sensor)

Freq. [MHz]	P/M (Peak) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result		Directional Gain [dBi]	Result (e.i.r.p.)	
				[dBm]	[mW]		[dBm]	[mW]
2412	5.02	1.00	10.18	16.20	41.69	-1.70	14.50	28.18
2437	5.09	1.02	10.18	16.29	42.56	-1.70	14.59	28.77
2462	5.22	1.07	10.18	16.47	44.36	-1.70	14.77	29.99

ANT2

(* P/M: Power Meter with power sensor)

Freq. [MHz]	P/M (Peak) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result		Directional Gain [dBi]	Result (e.i.r.p.)	
				[dBm]	[mW]		[dBm]	[mW]
2412	5.67	1.02	9.94	16.63	46.03	-1.70	14.93	31.12
2437	5.49	1.05	9.94	16.48	44.46	-1.70	14.78	30.06
2462	5.58	1.09	9.94	16.61	45.81	-1.70	14.91	30.97

Sample Calculation:

Result = Reading + Cable Loss + Atten. Loss

Result (e.i.r.p.) = Reading + Cable Loss + Atten. Loss + Directional Gain

Directional Gain = $G_{ANT} + \text{Array Gain}$ * G_{ANT} applied the antenna gain of higher of ANT1 and ANT2.

Array Gain = 0 dB (i.e., no array gain) $N_{ANT} \leq 4$, N_{ANT} = number of transmit antennas = 2

Worst Rate Check (2412 MHz)

MCS Index	Reading [dBm]	Cable Loss [dB]	ANT1 Atten. Loss [dB]	Result		Reading [dBm]	Cable Loss [dB]	ANT2 Atten. Loss [dB]	Result		Total Result Power		Remarks
				[dBm]	[mW]				[dBm]	[mW]	[dBm]	[mW]	
0 (1SS)	2.65	1.00	10.18	13.83	24.15	3.02	1.02	9.94	13.98	25.00	16.92	49.15	-
1 (1SS)	2.50	1.00	10.18	13.68	23.33	3.04	1.02	9.94	14.00	25.12	16.85	48.45	-
2 (1SS)	4.31	1.00	10.18	15.49	35.40	5.38	1.02	9.94	16.34	43.05	18.95	78.45	-
3 (1SS)	3.48	1.00	10.18	14.66	29.24	4.34	1.02	9.94	15.30	33.88	18.00	63.12	-
4 (1SS)	4.22	1.00	10.18	15.40	34.67	5.14	1.02	9.94	16.10	40.74	18.77	75.41	-
5 (1SS)	4.35	1.00	10.18	15.53	35.73	5.32	1.02	9.94	16.28	42.46	18.93	78.19	-
6 (1SS)	4.67	1.00	10.18	15.85	38.46	5.52	1.02	9.94	16.48	44.46	19.19	82.92	-
7 (1SS)	4.63	1.00	10.18	15.81	38.11	5.41	1.02	9.94	16.37	43.35	19.11	81.46	-
8 (1SS)	4.63	1.00	10.18	15.81	38.11	5.48	1.02	9.94	16.44	44.06	19.15	82.17	-
9 (1SS)	4.39	1.00	10.18	15.57	36.06	5.64	1.02	9.94	16.60	45.71	19.13	81.77	-
10 (1SS)	4.53	1.00	10.18	15.71	37.24	5.32	1.02	9.94	16.28	42.46	19.01	79.70	-
11 (1SS)	5.02	1.00	10.18	16.20	41.69	5.67	1.02	9.94	16.63	46.03	19.43	87.72	*
0 (2SS)	2.70	1.00	10.18	13.88	24.43	2.91	1.02	9.94	13.87	24.38	16.89	48.81	-
1 (2SS)	2.63	1.00	10.18	13.81	24.04	2.89	1.02	9.94	13.85	24.27	16.84	48.31	-
2 (2SS)	4.69	1.00	10.18	15.87	38.64	5.36	1.02	9.94	16.32	42.85	19.11	81.49	-
3 (2SS)	3.81	1.00	10.18	14.99	31.55	4.14	1.02	9.94	15.10	32.36	18.06	63.91	-
4 (2SS)	4.51	1.00	10.18	15.69	37.07	5.62	1.02	9.94	16.58	45.50	19.17	82.57	-
5 (2SS)	4.62	1.00	10.18	15.80	38.02	5.67	1.02	9.94	16.63	46.03	19.25	84.05	-
6 (2SS)	4.65	1.00	10.18	15.83	38.28	5.33	1.02	9.94	16.29	42.56	19.08	80.84	-
7 (2SS)	4.51	1.00	10.18	15.69	37.07	5.52	1.02	9.94	16.48	44.46	19.11	81.53	-
8 (2SS)	4.35	1.00	10.18	15.53	35.73	5.67	1.02	9.94	16.63	46.03	19.13	81.76	-
9 (2SS)	4.46	1.00	10.18	15.64	36.64	5.64	1.02	9.94	16.60	45.71	19.16	82.35	-
10 (2SS)	4.77	1.00	10.18	15.95	39.36	5.41	1.02	9.94	16.37	43.35	19.18	82.71	-
11 (2SS)	4.58	1.00	10.18	15.76	37.67	5.48	1.02	9.94	16.44	44.06	19.12	81.73	-

*: Worst Rate

Sample Calculation:

Each Result = Reading + Cable Loss + Atten. Loss

Total Result = ANT1 Result + ANT2 Result

Maximum Peak Output Power

Mode	Tx, 11ax-20(OFDMA) SISO
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Date	Test Place	Temperature	Humidity	Engineer
January 6, 2025	SR5	21 deg. C	27 % RH	Makoto Hosaka

26-tone RU

Freq.	RU Index	Reading	Cable Loss	Atten. Loss	Conducted Power					e.i.r.p. for RSS-247					
					Result		Limit		Margin	Antenna Gain	Result		Limit		Margin
					[dBm]	[mW]	[dBm]	[mW]			[dB]	[dBm]	[mW]	[dBm]	
					[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[dB]	[dBi]	[dBm]	[mW]	[dBm]
2412	0	5.59	1.00	10.18	16.77	47.53	30.00	1000	13.23	-1.70	15.07	32.14	36.02	4000	20.95
2437	4	5.64	1.02	10.18	16.84	48.31	30.00	1000	13.16	-1.70	15.14	32.66	36.02	4000	20.88
2462	8	5.76	1.07	10.18	17.01	50.23	30.00	1000	12.99	-1.70	15.31	33.96	36.02	4000	20.71

52-tone RU

					Conducted Power					e.i.r.p. for RSS-247					
Freq.	RU Index	Reading	Cable Loss	Atten. Loss	Result		Limit		Margin	Antenna Gain	Result		Limit		Margin
[MHz]		[dBm]	[dB]	[dB]	[dBm]	[mW]	[dBm]	[mW]	[dB]	[dBi]	[dBm]	[mW]	[dBm]	[mW]	[dB]
2412	37	5.57	1.00	10.18	16.75	47.32	30.00	1000	13.25	-1.70	15.05	31.99	36.02	4000	20.97
2437	38	5.62	1.02	10.18	16.82	48.08	30.00	1000	13.18	-1.70	15.12	32.51	36.02	4000	20.90
2462	40	5.76	1.07	10.18	17.01	50.23	30.00	1000	12.99	-1.70	15.31	33.96	36.02	4000	20.71

106-tone RU

					Conducted Power					e.i.r.p. for RSS-247					
Freq.	RU Index	Reading	Cable Loss	Atten. Loss	Result		Limit		Margin	Antenna Gain	Result		Limit		Margin
[MHz]		[dBm]	[dB]	[dB]	[dBm]	[mW]	[dBm]	[mW]	[dB]	[dBi]	[dBm]	[mW]	[dBm]	[mW]	[dB]
2412	53	5.61	1.00	10.18	16.79	47.75	30.00	1000	13.21	-1.70	15.09	32.28	36.02	4000	20.93
2437	53	5.66	1.02	10.18	16.86	48.53	30.00	1000	13.14	-1.70	15.16	32.81	36.02	4000	20.86
2462	54	5.78	1.07	10.18	17.03	50.47	30.00	1000	12.97	-1.70	15.33	34.12	36.02	4000	20.69

242-tone RU

					Conducted Power					e.i.r.p. for RSS-247					
Freq.	RU Index	Reading	Cable Loss	Atten. Loss	Result		Limit		Margin	Antenna Gain	Result		Limit		Margin
[MHz]		[dBm]	[dB]	[dB]	[dBm]	[mW]	[dBm]	[mW]	[dB]	[dBi]	[dBm]	[mW]	[dBm]	[mW]	[dB]
2412	61	5.26	1.00	10.18	16.44	44.06	30.00	1000	13.56	-1.70	14.74	29.79	36.02	4000	21.28
2437	61	5.29	1.02	10.18	16.49	44.57	30.00	1000	13.51	-1.70	14.79	30.13	36.02	4000	21.23
2462	61	5.41	1.07	10.18	16.66	46.34	30.00	1000	13.34	-1.70	14.96	31.33	36.02	4000	21.06

Sample Calculation:

Result = Reading + Cable Loss + Attenuator Loss
e.i.r.p. Result = Conducted Power Result + Antenna Gain

Maximum Peak Output Power

Mode	Tx, 11ax-20(OFDMA) MIMO
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Date	Test Place	Temperature	Humidity	Engineer
December 18, 2024	SR5	22 deg. C	39 % RH	Yusuke Tanikawara

26-tone RU ANT1 + ANT2

Freq. [MHz]	RU Index	Conducted Power					e.i.r.p.				
		Result ANT1 + ANT2		Limit		Margin	Result ANT1 + ANT2		Limit		Margin
		[dBm]	[mW]	[dBm]	[mW]		[dBm]	[mW]	[dBm]	[mW]	[dB]
2412	0	19.11	81.47	30.00	1000	10.89	17.41	55.08	36.02	4000	18.61
2437	4	19.21	83.35	30.00	1000	10.79	17.51	56.35	36.02	4000	18.51
2462	8	19.35	86.09	30.00	1000	10.65	17.65	58.20	36.02	4000	18.37

ANT1

(* P/M: Power Meter with power sensor)

Freq. [MHz]	RU Index	P/M (Peak) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result		Directional Gain [dBi]	Result (e.i.r.p.)	
					[dBm]	[mW]		[dBm]	[mW]
2412	0	4.07	1.00	10.18	15.25	33.50	-1.70	13.55	22.65
2437	4	4.26	1.02	10.18	15.46	35.16	-1.70	13.76	23.77
2462	8	4.31	1.07	10.18	15.56	35.97	-1.70	13.86	24.32

ANT2

(* P/M: Power Meter with power sensor)

Freq. [MHz]	RU Index	P/M (Peak) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result		Directional Gain [dBi]	Result (e.i.r.p.)	
					[dBm]	[mW]		[dBm]	[mW]
2412	0	5.85	1.02	9.94	16.81	47.97	-1.70	15.11	32.43
2437	4	5.84	1.05	9.94	16.83	48.19	-1.70	15.13	32.58
2462	8	5.97	1.09	9.94	17.00	50.12	-1.70	15.30	33.88

52-tone RU

ANT1 + ANT2

Freq. [MHz]	RU Index	Conducted Power					e.i.r.p.				
		Result ANT1 + ANT2		Limit		Margin	Result ANT1 + ANT2		Limit		Margin
		[dBm]	[mW]	[dBm]	[mW]		[dBm]	[mW]	[dBm]	[mW]	[dB]
2412	37	19.07	80.72	30.00	1000	10.93	17.37	54.57	36.02	4000	18.65
2437	38	19.17	82.67	30.00	1000	10.83	17.47	55.90	36.02	4000	18.55
2462	40	19.27	84.59	30.00	1000	10.73	17.57	57.19	36.02	4000	18.45

ANT1

(* P/M: Power Meter with power sensor)

Freq. [MHz]	RU Index	P/M (Peak) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result		Directional Gain [dBi]	Result (e.i.r.p.)	
					[dBm]	[mW]		[dBm]	[mW]
2412	37	4.10	1.00	10.18	15.28	33.73	-1.70	13.58	22.80
2437	38	4.19	1.02	10.18	15.39	34.59	-1.70	13.69	23.39
2462	40	4.21	1.07	10.18	15.46	35.16	-1.70	13.76	23.77

ANT2

(* P/M: Power Meter with power sensor)

Freq. [MHz]	RU Index	P/M (Peak) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result		Directional Gain [dBi]	Result (e.i.r.p.)	
					[dBm]	[mW]		[dBm]	[mW]
2412	37	5.76	1.02	9.94	16.72	46.99	-1.70	15.02	31.77
2437	38	5.83	1.05	9.94	16.82	48.08	-1.70	15.12	32.51
2462	40	5.91	1.09	9.94	16.94	49.43	-1.70	15.24	33.42

Sample Calculation:

Result = Reading + Cable Loss + Atten. Loss

Result (e.i.r.p.) = Reading + Cable Loss + Atten. Loss + Directional Gain

Directional Gain = $G_{ANT} + \text{Array Gain}$ * G_{ANT} applied the antenna gain of higher of ANT1 and ANT2.

Array Gain = 0 dB (i.e., no array gain) $N_{ANT} \leq 4$, N_{ANT} = number of transmit antennas = 2

Maximum Peak Output Power

Mode	Tx, 11ax-20(OFDMA) MIMO
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Date	Test Place	Temperature	Humidity	Engineer
January 6, 2025	SR5	21 deg. C	27 % RH	Makoto Hosaka

106-tone RU

ANT1 + ANT2

Freq. [MHz]	RU Index	Conducted Power					e.i.r.p.				
		Result ANT1 + ANT2		Limit		Margin	Result ANT1 + ANT2		Limit		Margin
		[dBm]	[mW]	[dBm]	[mW]		[dBm]	[mW]	[dBm]	[mW]	[dB]
2412	53	19.04	80.19	30.00	1000	10.96	17.34	54.21	36.02	4000	18.68
2437	53	19.16	82.33	30.00	1000	10.84	17.46	55.66	36.02	4000	18.57
2462	54	19.29	85.01	30.00	1000	10.71	17.59	57.47	36.02	4000	18.43

ANT1

(* P/M: Power Meter with power sensor)

Freq. [MHz]	RU Index	P/M (Peak) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result		Directional Gain [dBi]	Result (e.i.r.p.)	
					[dBm]	[mW]		[dBm]	[mW]
2412	53	4.06	1.00	10.18	15.24	33.42	-1.70	13.54	22.59
2437	53	4.16	1.02	10.18	15.36	34.36	-1.70	13.66	23.23
2462	54	4.22	1.07	10.18	15.47	35.24	-1.70	13.77	23.82

ANT2

(* P/M: Power Meter with power sensor)

Freq. [MHz]	RU Index	P/M (Peak) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result		Directional Gain [dBi]	Result (e.i.r.p.)	
					[dBm]	[mW]		[dBm]	[mW]
2412	53	5.74	1.02	9.94	16.70	46.77	-1.70	15.00	31.62
2437	53	5.82	1.05	9.94	16.81	47.97	-1.70	15.11	32.43
2462	54	5.94	1.09	9.94	16.97	49.77	-1.70	15.27	33.65

242-tone RU

ANT1 + ANT2

Freq. [MHz]	RU Index	Conducted Power					e.i.r.p.				
		Result ANT1 + ANT2		Limit		Margin	Result ANT1 + ANT2		Limit		Margin
		[dBm]	[mW]	[dBm]	[mW]		[dBm]	[mW]	[dBm]	[mW]	[dB]
2412	61	18.80	75.88	30.00	1000	11.20	17.10	51.30	36.02	4000	18.92
2437	61	19.31	85.38	30.00	1000	10.69	17.61	57.72	36.02	4000	18.41
2462	61	19.02	79.81	30.00	1000	10.98	17.32	53.96	36.02	4000	18.70

ANT1

(* P/M: Power Meter with power sensor)

Freq. [MHz]	RU Index	P/M (Peak) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result		Directional Gain [dBi]	Result (e.i.r.p.)	
					[dBm]	[mW]		[dBm]	[mW]
2412	61	3.97	1.00	10.18	15.15	32.73	-1.70	13.45	22.13
2437	61	4.53	1.02	10.18	15.73	37.41	-1.70	14.03	25.29
2462	61	4.01	1.07	10.18	15.26	33.57	-1.70	13.56	22.70

ANT2

(* P/M: Power Meter with power sensor)

Freq. [MHz]	RU Index	P/M (Peak) Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result		Directional Gain [dBi]	Result (e.i.r.p.)	
					[dBm]	[mW]		[dBm]	[mW]
2412	61	5.39	1.02	9.94	16.35	43.15	-1.70	14.65	29.17
2437	61	5.82	1.05	9.94	16.81	47.97	-1.70	15.11	32.43
2462	61	5.62	1.09	9.94	16.65	46.24	-1.70	14.95	31.26

Sample Calculation:

Result = Reading + Cable Loss + Atten. Loss

Result (e.i.r.p.) = Reading + Cable Loss + Atten. Loss + Directional Gain

Directional Gain = $G_{ANT} + \text{Array Gain}$ * G_{ANT} applied the antenna gain of higher of ANT1 and ANT2.

Array Gain = 0 dB (i.e., no array gain) $N_{ANT} \leq 4$, N_{ANT} = number of transmit antennas = 2

Maximum Peak Output Power

Mode	Tx, BT LE
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Date	Test Place	Temperature	Humidity	Engineer
December 19, 2024	SR5	21 deg. C	45 % RH	Yosuke Murakami

BT LE 1 M-PHY

				Conducted Power					e.i.r.p. for RSS-247					
Freq.	Reading	Cable Loss	Atten. Loss	Result		Limit		Margin	Antenna Gain	Result		Limit		Margin
[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[dBm]	[mW]	[dB]	[dBi]	[dBm]	[mW]	[dBm]	[mW]	[dB]
2402	-6.91	1.01	10.18	4.28	2.68	30.00	1000	25.72	-1.70	2.58	1.81	36.02	4000	33.44
2440	-6.88	1.02	10.18	4.32	2.70	30.00	1000	25.68	-1.70	2.62	1.83	36.02	4000	33.40
2480	-7.06	1.06	10.18	4.18	2.62	30.00	1000	25.82	-1.70	2.48	1.77	36.02	4000	33.54

Worst Rate Check (2402 MHz)

Mode	Reading [dBm]	Remarks
1 M-PHY	-6.91	*
S = 8	-6.93	-
S = 2	-6.92	-

*: Worst Rate

* Since the burst rate is not different between the channels, the data has been obtained on the representative channel.

* All comparisons were carried out on same frequency and measurement factors.

BT LE 2 M-PHY

				Conducted Power					e.i.r.p. for RSS-247					
Freq.	Reading	Cable Loss	Atten. Loss	Result		Limit		Margin	Antenna Gain	Result		Limit		Margin
[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[dBm]	[mW]	[dB]	[dBi]	[dBm]	[mW]	[dBm]	[mW]	[dB]
2402	-6.72	1.01	10.18	4.47	2.80	30.00	1000	25.53	-1.70	2.77	1.89	36.02	4000	33.25
2440	-6.69	1.02	10.18	4.51	2.82	30.00	1000	25.49	-1.70	2.81	1.91	36.02	4000	33.21
2480	-6.87	1.06	10.18	4.37	2.74	30.00	1000	25.63	-1.70	2.67	1.85	36.02	4000	33.35

Sample Calculation:

Result = Reading + Cable Loss + Attenuator Loss

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

Average Output Power
(Reference data for RF Exposure)

Mode	Tx, 11b SISO
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Date	Test Place	Temperature	Humidity	Engineer
December 17, 2024	SR5	24 deg. C	38 % RH	Masahide Ozaki

Freq. [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result	
				[dBm]	[mW]
2412	1.06	1.00	10.18	12.24	16.75
2437	1.11	1.02	10.18	12.31	17.02
2462	0.98	1.07	10.18	12.23	16.71

Sample Calculation:
Result = Reading + Cable Loss + Attenuator Loss
* Power was mesasured with using the gate function of power meter.

Worst Rate Check (2412 MHz)

Antenna Port	Rate (Mbps)	Reading [dBm]	Remarks
ANT1	1(Long)	0.16	-
	2(Long)	0.13	-
	5.5(Long)	0.19	-
	11(Long)	0.23	-
	2(Short)	0.32	-
	5.5(Short)	0.39	-
	11(Short)	0.41	-
ANT2	1(Long)	0.86	-
	2(Long)	0.87	-
	5.5(Long)	0.88	-
	11(Long)	0.89	-
	2(Short)	1.06	*
	5.5(Short)	1.01	-
	11(Short)	1.05	-

*: Worst Rate

* Since the burst rate is not different between the channels, the data has been obtained on the representative channel.
* All comparisons were carried out on same frequency and measurement factors.
* Power was mesasured with using the gate function of power meter.

Average Output Power
(Reference data for RF Exposure)

Mode	Tx, 11b MIMO
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Date	Test Place	Temperature	Humidity	Engineer
December 18, 2024	SR5	22 deg. C	39 % RH	Yusuke Tanikawara

Freq. [MHz]	Reading [dBm]	Cable Loss [dB]	ANT1		Result [dBm] [mW]	Reading [dBm]	Cable Loss [dB]	ANT2 Atten. Loss [dB]	Result		Total Result Power	
			Atten. Loss [dB]	Loss [dB]					[dBm]	[mW]	[dBm]	[mW]
2412	0.57	1.00	10.18		11.75 14.96	1.52	1.02	9.94	12.48	17.70	15.14	32.66
2437	0.63	1.02	10.18		11.83 15.24	1.63	1.05	9.94	12.62	18.28	15.25	33.52
2462	0.52	1.07	10.18		11.77 15.03	1.43	1.09	9.94	12.46	17.62	15.14	32.65

Worst Rate Check (2412 MHz)

Rate (Mbps)	Reading [dBm]	Cable Loss [dB]	ANT1		Result [dBm] [mW]	Reading [dBm]	Cable Loss [dB]	ANT2 Atten. Loss [dB]	Result		Total Result Power		Remarks
			Atten. Loss [dB]	Loss [dB]					[dBm]	[mW]	[dBm]	[mW]	
1(Long)	0.43	1.00	10.18		11.61 14.49	1.32	1.02	9.94	12.28	16.90	14.97	31.39	-
2(Long)	0.44	1.00	10.18		11.62 14.52	1.27	1.02	9.94	12.23	16.71	14.95	31.23	-
5.5(Long)	0.45	1.00	10.18		11.63 14.55	1.31	1.02	9.94	12.27	16.87	14.97	31.42	-
11(Long)	0.42	1.00	10.18		11.60 14.45	1.40	1.02	9.94	12.36	17.22	15.01	31.67	-
2(Short)	0.57	1.00	10.18		11.75 14.96	1.52	1.02	9.94	12.48	17.70	15.14	32.66	*
5.5(Short)	0.51	1.00	10.18		11.69 14.76	1.46	1.02	9.94	12.42	17.46	15.08	32.22	-
11(Short)	0.56	1.00	10.18		11.74 14.93	1.52	1.02	9.94	12.48	17.70	15.14	32.63	-

*: Worst Rate

Sample Calculation:

Each Result = Reading + Cable Loss + Atten. Loss

Total Result = ANT1 Result + ANT2 Result

* Power was mesasured with using the gate function of power meter.

Average Output Power
(Reference data for RF Exposure)

Mode	Tx, 11g SISO
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Date	Test Place	Temperature	Humidity	Engineer
December 17, 2024	SR5	24 deg. C	38 % RH	Masahide Ozaki

Freq. [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result	
				[dBm]	[mW]
2412	-3.01	1.00	10.18	8.17	6.56
2437	-2.95	1.02	10.18	8.25	6.68
2462	-3.08	1.07	10.18	8.17	6.56

Sample Calculation:
Result = Reading + Cable Loss + Attenuator Loss
* Power was measured with using the gate function of power meter.

Worst Rate Check (2412 MHz)

Antenna Port	Rate (Mbps)	Reading [dBm]	Remarks
ANT1	6	-4.13	-
	9	-4.25	-
	12	-4.41	-
	18	-3.90	-
	24	-4.13	-
	36	-4.16	-
	48	-4.22	-
	54	-4.16	-
ANT2	6	-3.49	-
	9	-3.50	-
	12	-3.64	-
	18	-3.01	*
	24	-3.47	-
	36	-3.42	-
	48	-3.44	-
	54	-3.48	-

*: Worst Rate

* Since the burst rate is not different between the channels, the data has been obtained on the representative channel.
* All comparisons were carried out on same frequency and measurement factors.
* Power was measured with using the gate function of power meter.

Average Output Power
(Reference data for RF Exposure)

Mode	Tx, 11g MIMO
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Date	Test Place	Temperature	Humidity	Engineer
December 18, 2024	SR5	22 deg. C	39 % RH	Yusuke Tanikawara

Freq. [MHz]	Reading [dBm]	Cable Loss [dB]	ANT1		Result [dBm] [mW]	Reading [dBm]	Cable Loss [dB]	ANT2 Atten. Loss [dB]	Result [dBm] [mW]	Total Result Power	
			Atten. Loss [dB]							[dBm]	[mW]
2412	-3.74	1.00	10.18	7.44	5.55	-2.78	1.02	9.94	8.18	6.58	12.13
2437	-3.68	1.02	10.18	7.52	5.65	-2.71	1.05	9.94	8.28	6.73	12.38
2462	-3.86	1.07	10.18	7.39	5.48	-2.96	1.09	9.94	8.07	6.41	11.89

Worst Rate Check (2412 MHz)

Rate (Mbps)	Reading [dBm]	Cable Loss [dB]	ANT1		Result [dBm] [mW]	Reading [dBm]	Cable Loss [dB]	ANT2 Atten. Loss [dB]	Result [dBm] [mW]	Total Result Power		Remarks
			Atten. Loss [dB]							[dBm]	[mW]	
6	-3.94	1.00	10.18	7.24	5.30	-3.01	1.02	9.94	7.95	6.24	11.54	-
9	-4.07	1.00	10.18	7.11	5.14	-2.99	1.02	9.94	7.97	6.27	11.41	-
12	-4.28	1.00	10.18	6.90	4.90	-3.24	1.02	9.94	7.72	5.92	10.82	-
18	-3.74	1.00	10.18	7.44	5.55	-2.78	1.02	9.94	8.18	6.58	12.13	*
24	-3.90	1.00	10.18	7.28	5.35	-3.13	1.02	9.94	7.83	6.07	11.42	-
36	-3.89	1.00	10.18	7.29	5.36	-3.15	1.02	9.94	7.81	6.04	11.40	-
48	-3.90	1.00	10.18	7.28	5.35	-3.14	1.02	9.94	7.82	6.05	11.40	-
54	-3.90	1.00	10.18	7.28	5.35	-3.12	1.02	9.94	7.84	6.08	11.43	-

*: Worst Rate

Sample Calculation:

Each Result = Reading + Cable Loss + Atten. Loss

Total Result = ANT1 Result + ANT2 Result

* Power was measured with using the gate function of power meter.

Average Output Power
(Reference data for RF Exposure)

Mode	Tx, 11n-20 SISO
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Date	Test Place	Temperature	Humidity	Engineer
December 17, 2024	SR5	24 deg. C	38 % RH	Masahide Ozaki

Freq. [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result	
				[dBm]	[mW]
2412	-4.20	1.00	10.18	6.98	4.99
2437	-4.11	1.02	10.18	7.09	5.12
2462	-4.25	1.07	10.18	7.00	5.01

Sample Calculation:

Result = Reading + Cable Loss + Attenuator Loss

* Power was measured with using the gate function of power meter.

Worst Rate Check (2412 MHz)

Antenna Port	MCS Index	Reading [dBm]	Remarks
ANT1	0	-5.20	-
	1	-5.26	-
	2	-4.81	-
	3	-4.72	-
	4	-4.92	-
	5	-4.99	-
	6	-4.88	-
	7	-4.98	-
ANT2	0	-4.69	-
	1	-4.77	-
	2	-4.20	*
	3	-4.25	-
	4	-4.24	-
	5	-4.23	-
	6	-4.25	-
	7	-4.23	-

*: Worst Rate

* Since the burst rate is not different between the channels, the data has been obtained on the representative channel.

* All comparisons were carried out on same frequency and measurement factors.

* Power was measured with using the gate function of power meter.

Average Output Power
(Reference data for RF Exposure)

Mode	Tx, 11n-20 MIMO
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Date	Test Place	Temperature	Humidity	Engineer
December 18, 2024	SR5	22 deg. C	39 % RH	Yusuke Tanikawara

Freq. [MHz]	Reading [dBm]	Cable Loss [dB]	ANT1		Result [dBm] [mW]	Reading [dBm]	Cable Loss [dB]	ANT2 Loss [dB]	Result		Total Result Power	
			Atten. Loss [dB]						[dBm]	[mW]	[dBm]	[mW]
2412	-4.87	1.00	10.18		6.31 4.28	-3.91	1.02	9.94	7.05	5.07	9.71	9.35
2437	-4.86	1.02	10.18		6.34 4.31	-3.88	1.05	9.94	7.11	5.14	9.75	9.45
2462	-4.90	1.07	10.18		6.35 4.32	-3.94	1.09	9.94	7.09	5.12	9.75	9.44

Worst Rate Check (2412 MHz)

MCS Index	Reading [dBm]	Cable Loss [dB]	ANT1		Result [dBm] [mW]	Reading [dBm]	Cable Loss [dB]	ANT2 Loss [dB]	Result		Total Result Power		Remarks
			Atten. Loss [dB]						[dBm]	[mW]	[dBm]	[mW]	
0	-5.42	1.00	10.18		5.76 3.77	-4.53	1.02	9.94	6.43	4.40	9.12	8.17	-
1	-5.33	1.00	10.18		5.85 3.85	-4.52	1.02	9.94	6.44	4.41	9.17	8.26	-
2	-4.87	1.00	10.18		6.31 4.28	-3.91	1.02	9.94	7.05	5.07	9.71	9.35	*
3	-4.86	1.00	10.18		6.32 4.29	-4.08	1.02	9.94	6.88	4.88	9.62	9.17	-
4	-5.08	1.00	10.18		6.10 4.07	-4.14	1.02	9.94	6.82	4.81	9.48	8.88	-
5	-5.04	1.00	10.18		6.14 4.11	-4.07	1.02	9.94	6.89	4.89	9.54	9.00	-
6	-4.92	1.00	10.18		6.26 4.23	-4.14	1.02	9.94	6.82	4.81	9.56	9.04	-
7	-4.98	1.00	10.18		6.20 4.17	-4.09	1.02	9.94	6.87	4.86	9.56	9.03	-
8	-5.41	1.00	10.18		5.77 3.78	-4.51	1.02	9.94	6.45	4.42	9.14	8.20	-
9	-5.40	1.00	10.18		5.78 3.78	-4.54	1.02	9.94	6.42	4.39	9.12	8.17	-
10	-4.85	1.00	10.18		6.33 4.30	-3.96	1.02	9.94	7.00	5.01	9.69	9.31	-
11	-4.84	1.00	10.18		6.34 4.31	-4.10	1.02	9.94	6.86	4.85	9.62	9.16	-
12	-4.99	1.00	10.18		6.19 4.16	-4.13	1.02	9.94	6.83	4.82	9.53	8.98	-
13	-4.93	1.00	10.18		6.25 4.22	-4.14	1.02	9.94	6.82	4.81	9.56	9.03	-
14	-4.91	1.00	10.18		6.27 4.24	-4.13	1.02	9.94	6.83	4.82	9.57	9.06	-
15	-4.98	1.00	10.18		6.20 4.17	-4.15	1.02	9.94	6.81	4.80	9.53	8.97	-

*: Worst Rate

Sample Calculation:

Each Result = Reading + Cable Loss + Atten. Loss

Total Result = ANT1 Result + ANT2 Result

* Power was measured with using the gate function of power meter.

Average Output Power
(Reference data for RF Exposure)

Mode	Tx, 11ax-20(OFDM) SISO
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Date	Test Place	Temperature	Humidity	Engineer
December 17, 2024	SR5	24 deg. C	38 % RH	Masahide Ozaki

Freq. [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result	
				[dBm]	[mW]
2412	-4.63	1.00	10.18	6.55	4.52
2437	-4.61	1.02	10.18	6.59	4.56
2462	-4.58	1.07	10.18	6.67	4.65

Sample Calculation:
Result = Reading + Cable Loss + Attenuator Loss
* Power was mesasured with using the gate function of power meter.

Worst Rate Check (2412 MHz)

Antenna Port	MCS Index	Reading [dBm]	Remarks
ANT1	0	-5.51	-
	1	-5.52	-
	2	-5.14	-
	3	-5.28	-
	4	-5.29	-
	5	-5.28	-
	6	-5.29	-
	7	-5.29	-
	8	-5.22	-
	9	-5.28	-
	10	-5.28	-
ANT2	11	-5.27	-
	0	-4.97	-
	1	-4.96	-
	2	-4.63	*
	3	-4.78	-
	4	-4.68	-
	5	-4.71	-
	6	-4.68	-
	7	-4.71	-
	8	-4.68	-
	9	-4.69	-
	10	-4.71	-
	11	-4.66	-

*: Worst Rate

* Since the burst rate is not different between the channels, the data has been obtained on the representative channel.
* All comparisons were carried out on same frequency and measurement factors.
* Power was mesasured with using the gate function of power meter.

Average Output Power (Reference data for RF Exposure)

Mode	Tx, 11ax-20(OFDM) MIMO
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Date	Test Place	Temperature	Humidity	Engineer
December 18, 2024	SR5	22 deg. C	39 % RH	Yusuke Tanikawara

Freq. [MHz]	Reading [dBm]	Cable Loss [dB]	ANT1		Result [dBm] [mW]	Reading [dBm]	Cable Loss [dB]	ANT2 Loss [dB]	Result [dBm] [mW]		Total Result Power [dBm] [mW]	
			Atten. Loss [dB]									
2412	-5.32	1.00	10.18	5.86	3.85	-4.39	1.02	9.94	6.57	4.54	9.24	8.39
2437	-5.27	1.02	10.18	5.93	3.92	-4.36	1.05	9.94	6.63	4.60	9.30	8.52
2462	-5.37	1.07	10.18	5.88	3.87	-4.36	1.09	9.94	6.67	4.65	9.30	8.52

Worst Rate Check (2412 MHz)

MCS Index	Reading [dBm]	Cable Loss [dB]	ANT1		Result [dBm] [mW]	Reading [dBm]	Cable Loss [dB]	ANT2 Loss [dB]	Result [dBm] [mW]		Total Result Power [dBm] [mW]		Remarks
			Atten. Loss [dB]										
0 (1SS)	-5.64	1.00	10.18	5.54	3.58	-4.72	1.02	9.94	6.24	4.21	8.92	7.79	-
1 (1SS)	-5.67	1.00	10.18	5.51	3.56	-4.69	1.02	9.94	6.27	4.24	8.92	7.80	-
2 (1SS)	-5.32	1.00	10.18	5.86	3.85	-4.39	1.02	9.94	6.57	4.54	9.24	8.39	*
3 (1SS)	-5.52	1.00	10.18	5.66	3.68	-4.58	1.02	9.94	6.38	4.35	9.05	8.03	-
4 (1SS)	-5.56	1.00	10.18	5.62	3.65	-4.65	1.02	9.94	6.31	4.28	8.99	7.93	-
5 (1SS)	-5.52	1.00	10.18	5.66	3.68	-4.66	1.02	9.94	6.30	4.27	9.00	7.95	-
6 (1SS)	-5.55	1.00	10.18	5.63	3.66	-4.60	1.02	9.94	6.36	4.33	9.03	7.99	-
7 (1SS)	-5.51	1.00	10.18	5.67	3.69	-4.60	1.02	9.94	6.36	4.33	9.04	8.02	-
8 (1SS)	-5.56	1.00	10.18	5.62	3.65	-4.60	1.02	9.94	6.36	4.33	9.02	7.98	-
9 (1SS)	-5.56	1.00	10.18	5.62	3.65	-4.59	1.02	9.94	6.37	4.34	9.03	7.99	-
10 (1SS)	-5.53	1.00	10.18	5.65	3.67	-4.64	1.02	9.94	6.32	4.29	9.01	7.96	-
11 (1SS)	-5.49	1.00	10.18	5.69	3.71	-4.54	1.02	9.94	6.42	4.39	9.08	8.10	-
0 (2SS)	-5.66	1.00	10.18	5.52	3.56	-4.74	1.02	9.94	6.22	4.19	8.89	7.75	-
1 (2SS)	-5.65	1.00	10.18	5.53	3.57	-4.75	1.02	9.94	6.21	4.18	8.89	7.75	-
2 (2SS)	-5.33	1.00	10.18	5.85	3.85	-4.42	1.02	9.94	6.54	4.51	9.22	8.36	-
3 (2SS)	-5.46	1.00	10.18	5.72	3.73	-4.53	1.02	9.94	6.43	4.40	9.10	8.13	-
4 (2SS)	-5.55	1.00	10.18	5.63	3.66	-4.67	1.02	9.94	6.29	4.26	8.99	7.92	-
5 (2SS)	-5.49	1.00	10.18	5.69	3.71	-4.68	1.02	9.94	6.28	4.25	9.01	7.96	-
6 (2SS)	-5.50	1.00	10.18	5.68	3.70	-4.56	1.02	9.94	6.40	4.37	9.07	8.07	-
7 (2SS)	-5.55	1.00	10.18	5.63	3.66	-4.61	1.02	9.94	6.35	4.32	9.02	7.98	-
8 (2SS)	-5.52	1.00	10.18	5.66	3.68	-4.59	1.02	9.94	6.37	4.34	9.04	8.02	-
9 (2SS)	-5.50	1.00	10.18	5.68	3.70	-4.58	1.02	9.94	6.38	4.35	9.06	8.05	-
10 (2SS)	-5.53	1.00	10.18	5.65	3.67	-4.61	1.02	9.94	6.35	4.32	9.03	7.99	-
11 (2SS)	-5.51	1.00	10.18	5.67	3.69	-4.65	1.02	9.94	6.31	4.28	9.01	7.97	-

*: Worst Rate

Sample Calculation:

Each Result = Reading + Cable Loss + Atten. Loss

Total Result = ANT1 Result + ANT2 Result

* Power was measured with using the gate function of power meter.

Average Output Power (Reference data for RF Exposure)

Mode	Tx, 11ax-20(OFDMA) SISO				
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Date	Test Place	Temperature	Humidity	Engineer
January 6, 2025	SR5	21 deg. C	27 % RH	Makoto Hosaka

26-tone RU

Freq. [MHz]	RU Index	Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result	
					[dBm]	[mW]
2412	0	-4.45	1.00	10.18	6.73	4.71
2437	4	-4.80	1.02	10.18	6.40	4.37
2462	8	-4.76	1.07	10.18	6.49	4.46

52-tone RU

Freq. [MHz]	RU Index	Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result	
					[dBm]	[mW]
2412	37	-4.64	1.00	10.18	6.54	4.51
2437	38	-4.75	1.02	10.18	6.45	4.42
2462	40	-4.80	1.07	10.18	6.45	4.42

106-tone RU

Freq. [MHz]	RU Index	Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result	
					[dBm]	[mW]
2412	53	-4.66	1.00	10.18	6.52	4.49
2437	53	-4.58	1.02	10.18	6.62	4.59
2462	54	-4.57	1.07	10.18	6.68	4.66

242-tone RU

Freq. [MHz]	RU Index	Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result	
					[dBm]	[mW]
2412	61	-4.49	1.00	10.18	6.69	4.67
2437	61	-4.51	1.02	10.18	6.69	4.67
2462	61	-4.50	1.07	10.18	6.75	4.73

Sample Calculation:

$$\text{Result} = \text{Reading} + \text{Cable Loss} + \text{Attenuator Loss}$$

* Power was measured with using the gate function of power meter.

Average Output Power (Reference data for RF Exposure)

Mode	Tx, 11ax-20(OFDMA) MIMO
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Date	Test Place	Temperature	Humidity	Engineer
January 6, 2025	SR5	21 deg. C	27 % RH	Makoto Hosaka

26-tone RU

Freq. [MHz]	RU Index	Reading [dBm]	Cable Loss [dB]	ANT1		Result		Reading [dBm]	Cable Loss [dB]	ANT2		Result		Total Result Power	
				Atten. Loss [dB]						Atten. Loss [dB]					
2412	0	-5.52	1.00	10.18		5.66	3.68	-4.04	1.02	9.94		6.92	4.92	9.34	8.60
2437	4	-5.23	1.02	10.18		5.97	3.95	-4.39	1.05	9.94		6.60	4.57	9.30	8.52
2462	8	-4.79	1.07	10.18		6.46	4.43	-4.14	1.09	9.94		6.89	4.89	9.69	9.32

52-tone RU

Freq. [MHz]	RU Index	Reading [dBm]	Cable Loss [dB]	ANT1		Result		Reading [dBm]	Cable Loss [dB]	ANT2		Result		Total Result Power	
				Atten. Loss [dB]						Atten. Loss [dB]					
2412	37	-5.77	1.00	10.18		5.41	3.48	-4.30	1.02	9.94		6.66	4.63	9.09	8.11
2437	38	-5.62	1.02	10.18		5.58	3.61	-4.82	1.05	9.94		6.17	4.14	8.89	7.75
2462	40	-5.23	1.07	10.18		6.02	4.00	-4.48	1.09	9.94		6.55	4.52	9.30	8.52

106-tone RU

Freq. [MHz]	RU Index	Reading [dBm]	Cable Loss [dB]	ANT1		Result		Reading [dBm]	Cable Loss [dB]	ANT2		Result		Total Result Power	
				Atten. Loss [dB]						Atten. Loss [dB]					
2412	53	-5.43	1.00	10.18		5.75	3.76	-4.40	1.02	9.94		6.56	4.53	9.19	8.29
2437	53	-5.54	1.02	10.18		5.66	3.68	-4.45	1.05	9.94		6.54	4.51	9.13	8.19
2462	54	-5.42	1.07	10.18		5.83	3.83	-4.40	1.09	9.94		6.63	4.60	9.26	8.43

242-tone RU

Freq. [MHz]	RU Index	Reading [dBm]	Cable Loss [dB]	ANT1		Result		Reading [dBm]	Cable Loss [dB]	ANT2		Result		Total Result Power	
				Atten. Loss [dB]						Atten. Loss [dB]					
2412	61	-5.40	1.00	10.18		5.78	3.78	-4.43	1.02	9.94		6.53	4.50	9.18	8.28
2437	61	-5.37	1.02	10.18		5.83	3.83	-4.41	1.05	9.94		6.58	4.55	9.23	8.38
2462	61	-5.54	1.07	10.18		5.71	3.72	-4.41	1.09	9.94		6.62	4.59	9.20	8.31

Sample Calculation:

Each Result = Reading + Cable Loss + Atten. Loss

Total Result = ANT1 Result + ANT2 Result

* Power was measured with using the gate function of power meter.

Average Output Power
(Reference data for RF Exposure)

Mode	Tx, BT LE
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Date	Test Place	Temperature	Humidity	Engineer
December 20, 2024	SR5	21 deg. C	45 % RH	Yosuke Murakami

BT LE 1 M-PHY

Freq. [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result	
				[dBm]	[mW]
2402	-7.42	1.01	10.18	3.77	2.38
2440	-7.38	1.02	10.18	3.82	2.41
2480	-7.56	1.06	10.18	3.68	2.33

Worst Rate Check (2402 MHz)

Mode	Reading [dBm]	Remarks
1 M-PHY	-7.42	*
S = 8	-7.44	-
S = 2	-7.44	-

*: Worst Rate

* Since the burst rate is not different between the channels, the data has been obtained on the representative channel.
* All comparisons were carried out on same frequency and measurement factors.

BT LE 2 M-PHY

Freq. [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result	
				[dBm]	[mW]
2402	-7.44	1.01	10.18	3.75	2.37
2440	-7.37	1.02	10.18	3.83	2.42
2480	-7.57	1.06	10.18	3.67	2.33

Sample Calculation:

Result = Reading + Cable Loss + Attenuator Loss

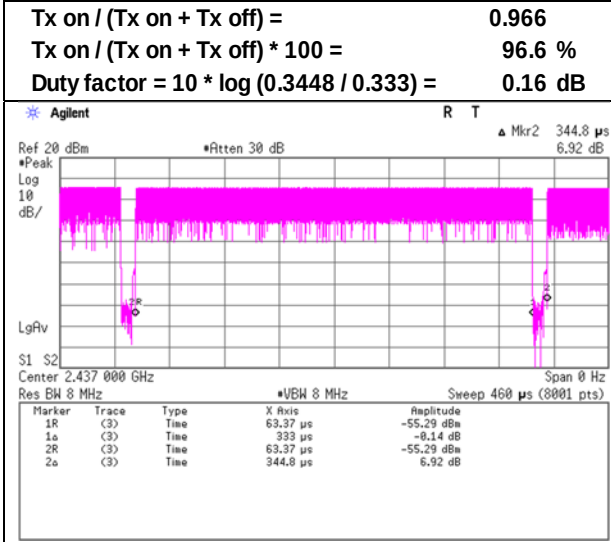
* Power was measured with using the gate function of power meter.

Burst rate confirmation

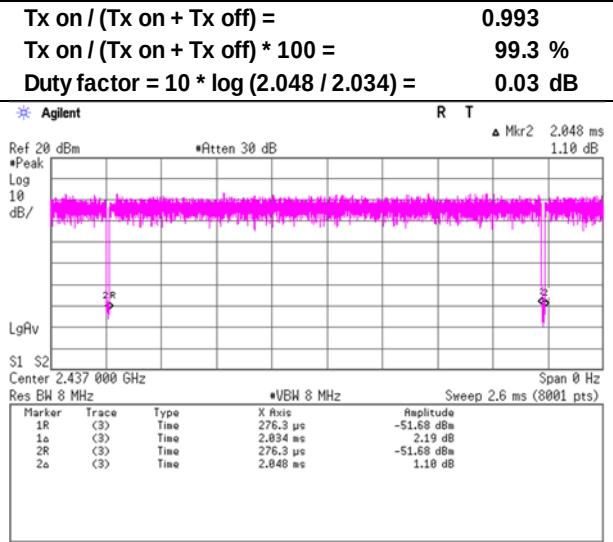
Mode	Tx
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Date	Test Place	Temperature	Humidity	Engineer
December 24, 2024	SR5	21 deg. C	40 % RH	Hiromasa Sato

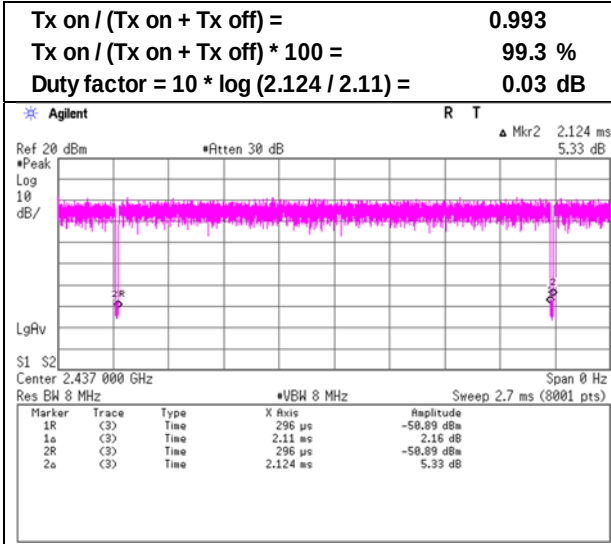
11b MIMO, 2 Mbps(short)



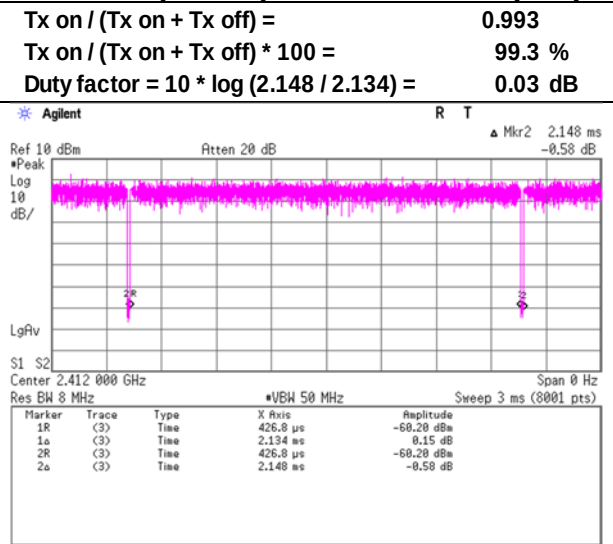
11g MIMO, 54 Mbps



11n-20 MIMO, MCS 7



11ax-20 (OFDM) MIMO, MCS 11 (1ss)



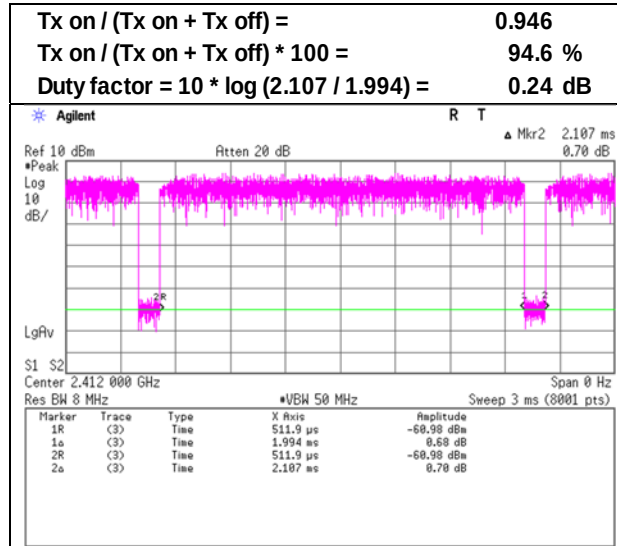
* Since the burst rate is not different between the channels, the data has been obtained on the representative channel.

Burst rate confirmation

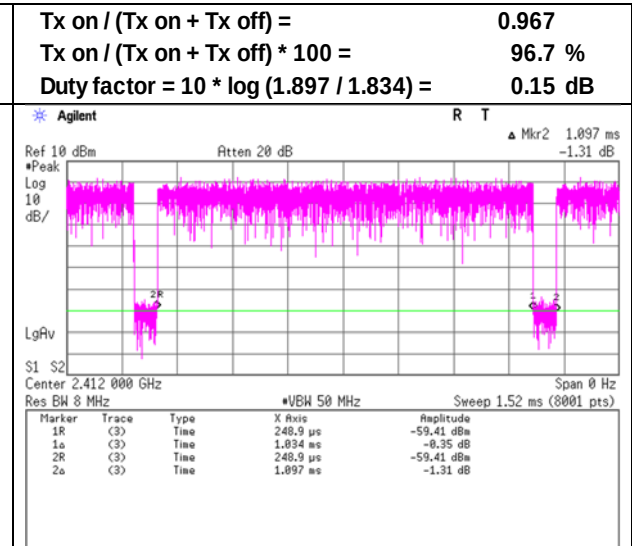
Mode	Tx
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Date	Test Place	Temperature	Humidity	Engineer
December 25, 2024	SR5	21 deg. C	41 % RH	Yohsuke Matsuzawa

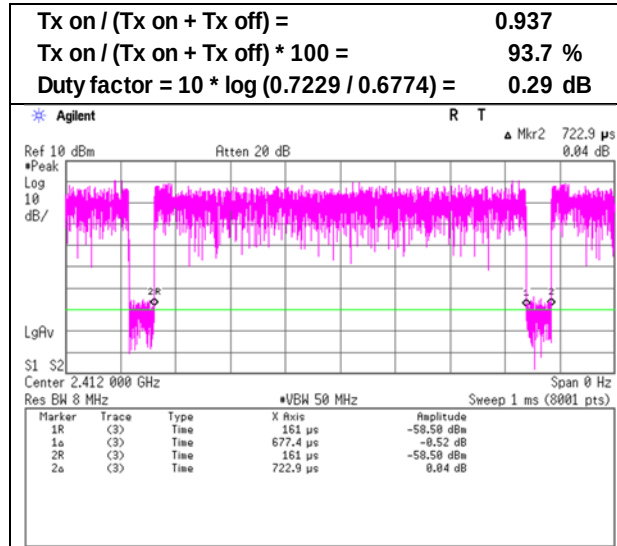
**11ax-20 (OFDMA) MIMO, MCS 11 (1ss)
26-tone RU**



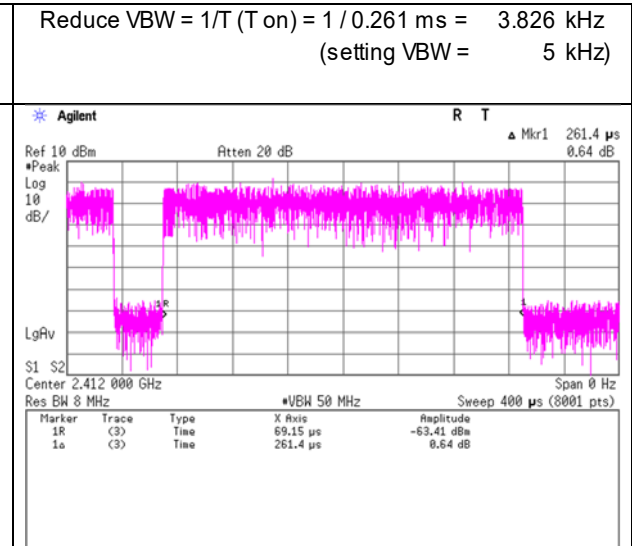
**11ax-20 (OFDMA) MIMO, MCS 11 (1ss)
52-tone RU**



**11ax-20 (OFDMA) MIMO, MCS 11 (1ss)
106-tone RU**



**11ax-20 (OFDMA) MIMO, MCS 11 (1ss)
242-tone RU**



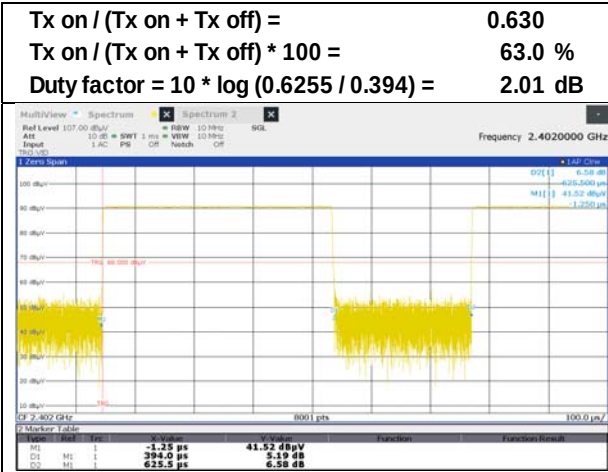
* Since the burst rate is not different between the channels, the data has been obtained on the representative channel.

Burst rate confirmation

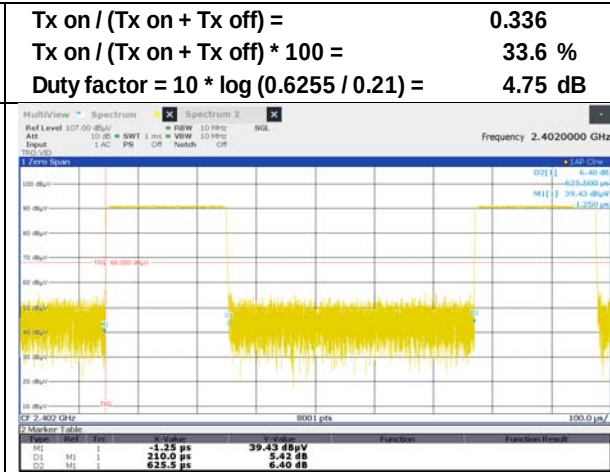
Mode	Tx
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Date	Test Place	Temperature	Humidity	Engineer
February 21, 2025	WAC2	18 deg. C	25 % RH	Huromasa Sato

BT LE 1 M-PHY



BT LE 2 M-PHY



* Since the burst rate is not different between the channels, the data has been obtained on the representative channel.

Radiated Spurious Emission

Mode	Tx 11b MIMO, 2412 MHz
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Date	Test site	Temperature	Humidity	Engineer	Measurement Range
February 19, 2025	WAC2	18 deg. C	28 % RH	Miku Ikudome	1 GHz to 2.8 GHz
March 3, 2025	WAC2	21 deg. C	39 % RH	Shiro Kobayashi	2.8 GHz to 10 GHz
March 5, 2025	WAC2	22 deg. C	28 % RH	Yuta Shiba	10 GHz to 18 GHz
March 7, 2025	WAC2	21 deg. C	32 % RH	Miku Ikudome	18 GHz to 26.5 GHz

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Fac. [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	2383.103	PK	48.60	27.73	-28.59	-	2.22	49.96	73.9	23.9	400	287	-
Hori.	2390.000	PK	49.15	27.75	-28.59	-	2.22	50.53	73.9	23.3	400	287	-
Hori.	4824.000	PK	49.52	31.67	-36.43	-	2.22	46.98	73.9	26.9	156	56	-
Hori.	7236.000	PK	46.94	36.35	-34.81	-	2.22	50.70	73.9	23.2	150	0	Floor Noise
Hori.	9648.000	PK	46.57	38.12	-31.94	-	2.22	54.97	73.9	18.9	150	0	Floor Noise
Hori.	7236.000	AV	36.00	36.35	-34.81	-	2.22	39.76	53.9	14.1	150	0	Floor Noise
Hori.	9648.000	AV	34.98	38.12	-31.94	-	2.22	43.38	53.9	10.5	150	0	Floor Noise
Vert.	2383.103	PK	50.31	27.73	-28.59	-	2.22	51.67	73.9	22.2	100	0	-
Vert.	2390.000	PK	49.50	27.75	-28.59	-	2.22	50.88	73.9	23.0	286	91	-
Vert.	4824.000	PK	50.30	31.67	-36.43	-	2.22	47.76	73.9	26.1	227	85	-
Vert.	7236.000	PK	46.42	36.35	-34.81	-	2.22	50.18	73.9	23.7	150	67	Floor Noise
Vert.	9648.000	PK	45.66	38.12	-31.94	-	2.22	54.06	73.9	19.8	150	304	Floor Noise
Vert.	7236.000	AV	35.84	36.35	-34.81	-	2.22	39.60	53.9	14.3	150	67	Floor Noise
Vert.	9648.000	AV	35.05	38.12	-31.94	-	2.22	43.45	53.9	10.4	150	304	Floor Noise

Result = Reading + Ant.Fac. + Loss (Cable + (Atten or Filter)(below 18 GHz) - Gain(Amp) (1 GHz to 18 GHz)) - Gain(Amp) (only below 1 GHz & above 18 GHz) + Distance Fac.

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

Distance Fac. : 1 GHz to 10 GHz : $20\log(3.87[m] / 3.0[m]) = 2.22 [dB]$

10 GHz to 40 GHz : $20\log(1.00[m] / 3.0[m]) = -9.54 [dB]$

Average measurement value with Duty Factor

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Duty Fac. [dB]	Distance Fac. [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2383.103	AV	38.69	27.73	-28.59	-	0.16	2.22	40.21	53.9	13.6	*2)
Hori.	2390.000	AV	37.58	27.75	-28.59	-	0.16	2.22	39.12	53.9	14.7	*1)
Hori.	4824.000	AV	38.45	31.67	-36.43	-	0.16	2.22	36.07	53.9	17.8	-
Vert.	2383.103	AV	41.38	27.73	-28.59	-	0.16	2.22	42.90	53.9	11.0	*2)
Vert.	2390.000	AV	39.08	27.75	-28.59	-	0.16	2.22	40.62	53.9	13.2	*1)
Vert.	4824.000	AV	41.67	31.67	-36.43	-	0.16	2.22	39.29	53.9	14.6	-

Result = Reading + Ant.Fac. + Loss (Cable + (Atten or Filter)(below 18 GHz) - Gain(Amp) (1 GHz to 18 GHz)) - Gain(Amp) (only below 1 GHz & above 18 GHz) + Duty Fac. + Distance Fac.

Distance Fac. : 1 GHz to 10 GHz : $20\log(3.87[m] / 3.0[m]) = 2.22 [dB]$

10 GHz to 40 GHz : $20\log(1.00[m] / 3.0[m]) = -9.54 [dB]$

Duty factor refer to "Burst rate confirmation" sheet.

*1) Not out of band emission (Leakage Power)

*2) Noise synchronized with duty of carrier frequency.

20 dBc Data Sheet

(RBW 100 kHz, VBW 300 kHz)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Fac. [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2412.000	PK	96.00	27.79	-28.58	-	2.22	97.43	-	-	Carrier
Hori.	2400.000	PK	46.54	27.77	-28.58	-	2.22	47.95	77.4	29.4	-
Vert.	2412.000	PK	99.28	27.79	-28.58	-	2.22	100.71	-	-	Carrier
Vert.	2400.000	PK	49.50	27.77	-28.58	-	2.22	50.91	80.7	29.7	-

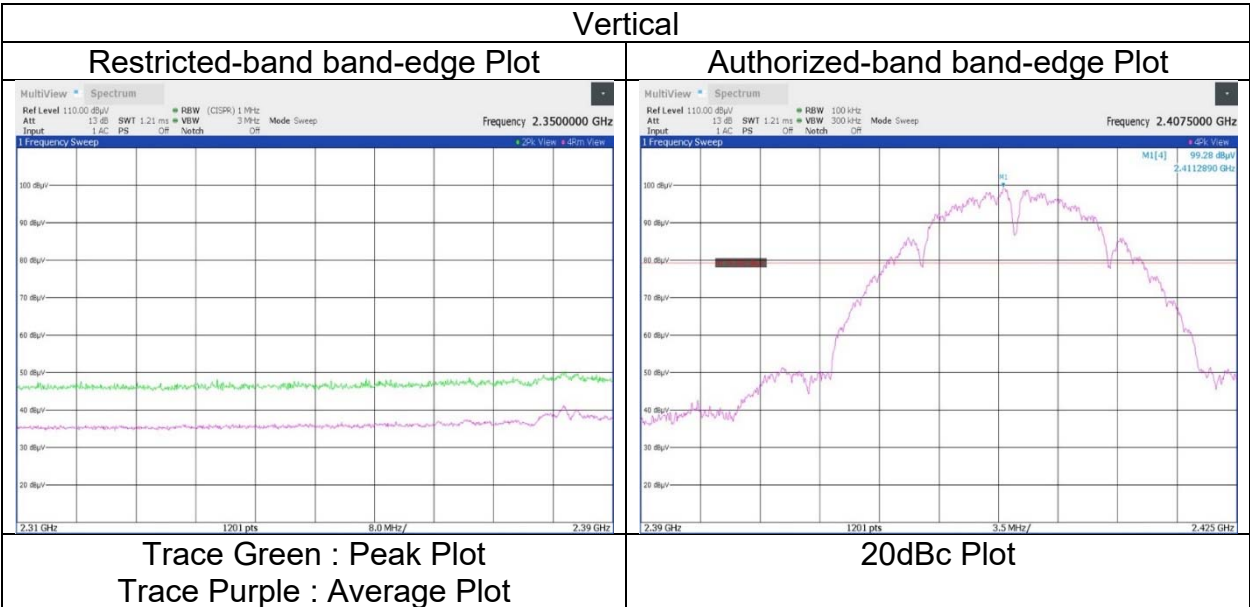
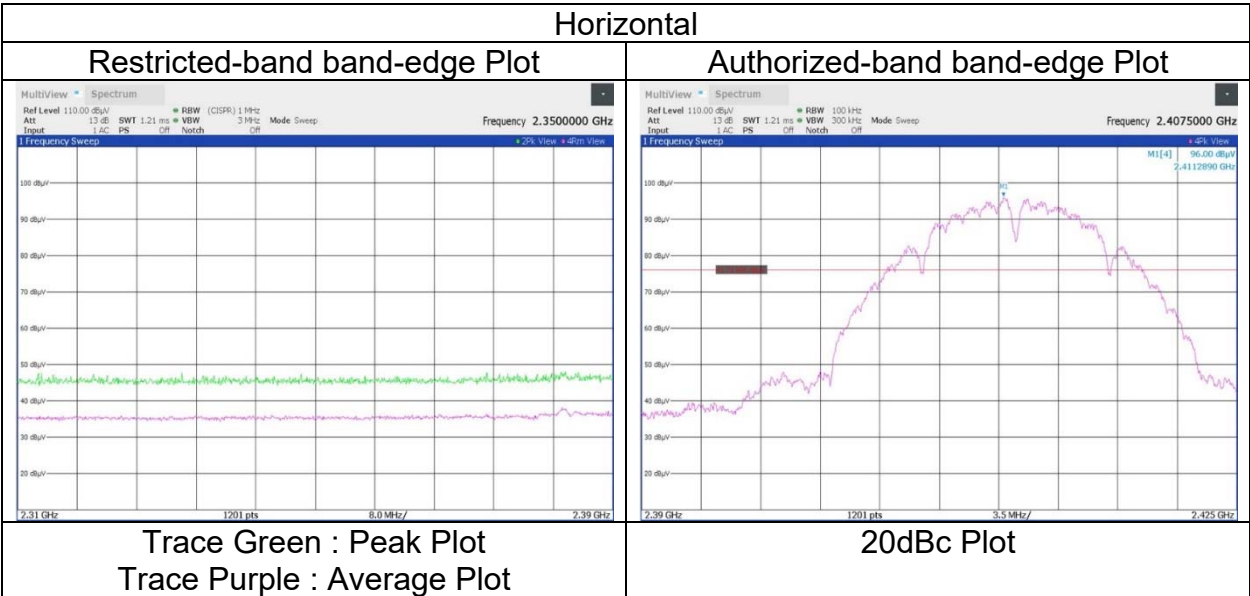
Result = Reading + Ant.Fac. + Loss (Cable + (Atten or Filter)(below 18 GHz) - Gain(Amp) (1 GHz to 18 GHz)) - Gain(Amp) (only below 1 GHz & above 18 GHz) + Distance Fac.

Distance Fac. : 1 GHz to 10 GHz : $20\log(3.87[m] / 3.0[m]) = 2.22 [dB]$

10 GHz to 40 GHz : $20\log(1.00[m] / 3.0[m]) = -9.54 [dB]$

Radiated Spurious Emission
(Reference Plot for band-edge)

Mode	Tx 11b MIMO, 2412 MHz				
Date	Test site	Temperature	Humidity	Engineer	Measurement Range
February 19, 2025	WAC2	18 deg. C	28 % RH	Miku Ikudome	1 GHz to 2.8 GHz



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

Radiated Spurious Emission

Mode	Tx 11b MIMO, 2437 MHz
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Date	Test site	Temperature	Humidity	Engineer	Measurement Range
March 3, 2025	WAC2	21 deg. C	39 % RH	Shiro Kobayashi	1 GHz to 10 GHz
March 5, 2025	WAC2	22 deg. C	28 % RH	Yuta Shiba	10 GHz to 18 GHz
March 7, 2025	WAC2	21 deg. C	32 % RH	Miku Ikudome	18 GHz to 26.5 GHz

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Fac. [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	4874.000	PK	49.51	31.92	-36.42	-	2.22	47.23	73.9	26.6	183	225	-
Hori.	7311.000	PK	47.35	36.63	-34.68	-	2.22	51.52	73.9	22.3	150	0	Floor Noise
Hori.	9748.000	PK	45.43	38.11	-31.80	-	2.22	53.96	73.9	19.9	150	0	Floor Noise
Hori.	7311.000	AV	36.53	36.63	-34.68	-	2.22	40.70	53.9	13.2	150	0	Floor Noise
Hori.	9748.000	AV	34.52	38.11	-31.80	-	2.22	43.05	53.9	10.8	150	0	Floor Noise
Vert.	4874.000	PK	51.56	31.92	-36.42	-	2.22	49.28	73.9	24.6	150	321	-
Vert.	7311.000	PK	46.80	36.63	-34.68	-	2.22	50.97	73.9	22.9	150	0	Floor Noise
Vert.	9748.000	PK	45.27	38.11	-31.80	-	2.22	53.80	73.9	20.1	150	0	Floor Noise
Vert.	7311.000	AV	36.30	36.63	-34.68	-	2.22	40.47	53.9	13.4	150	0	Floor Noise
Vert.	9748.000	AV	34.48	38.11	-31.80	-	2.22	43.01	53.9	10.8	150	0	Floor Noise

Result = Reading + Ant.Fac. + Loss (Cable + (Atten or Filter)(below 18 GHz) - Gain(Amp) (1 GHz to 18 GHz)) - Gain(Amp) (only below 1 GHz & above 18 GHz) + Distance Fac.

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

Distance Fac. : 1 GHz to 10 GHz : $20\log(3.87[m]/3.0[m]) = 2.22 [dB]$

10 GHz to 40 GHz : $20\log(1.00[m]/3.0[m]) = -9.54 [dB]$

Average measurement value with Duty Factor

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Duty Fac. [dB]	Distance Fac. [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	4874.000	AV	40.01	31.92	-36.42	-	0.16	2.22	37.89	53.9	16.0	-
Vert.	4874.000	AV	43.64	31.92	-36.42	-	0.16	2.22	41.52	53.9	12.3	-

Result = Reading + Ant.Fac. + Loss (Cable + (Atten or Filter)(below 18 GHz) - Gain(Amp) (1 GHz to 18 GHz)) - Gain(Amp) (only below 1 GHz & above 18 GHz) + Duty Fac. + Distance Fac.

Distance Fac. : 1 GHz to 10 GHz : $20\log(3.87[m]/3.0[m]) = 2.22 [dB]$

10 GHz to 40 GHz : $20\log(1.00[m]/3.0[m]) = -9.54 [dB]$

Duty factor refer to "Burst rate confirmation" sheet.

Radiated Spurious Emission

Mode	Tx 11b MIMO, 2462 MHz
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Date	Test site	Temperature	Humidity	Engineer	Measurement Range
February 19, 2025	WAC2	18 deg. C	28 % RH	Miku Ikudome	1 GHz to 2.8 GHz
March 3, 2025	WAC2	21 deg. C	39 % RH	Shiro Kobayashi	2.8 GHz to 10 GHz
March 5, 2025	WAC2	22 deg. C	28 % RH	Yuta Shiba	10 GHz to 18 GHz
March 7, 2025	WAC2	21 deg. C	32 % RH	Miku Ikudome	18 GHz to 26.5 GHz

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

Polarity	Frequency	Detector	Reading	Ant.Fac.	Loss	Gain	Distance	Result	Limit	Margin	Height	Angle	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	Fac. [dB]	[dBuV/m]	[dBuV/m]	[dB]	[cm]	[deg.]	
Hori.	2483.500	PK	48.24	27.65	-28.53	-	2.22	49.58	73.9	24.3	271	300	-
Hori.	2490.431	PK	48.68	27.64	-28.53	-	2.22	50.01	73.9	23.8	271	300	-
Hori.	2499.780	PK	51.92	27.63	-28.52	-	2.22	53.25	73.9	20.6	271	300	-
Hori.	4924.000	PK	49.75	32.14	-36.40	-	2.22	47.71	73.9	26.1	105	203	-
Hori.	7386.000	PK	47.12	36.77	-34.55	-	2.22	51.56	73.9	22.3	150	0	Floor Noise
Hori.	9848.000	PK	46.09	38.07	-31.65	-	2.22	54.73	73.9	19.1	150	0	Floor Noise
Hori.	7386.000	AV	36.13	36.77	-34.55	-	2.22	40.57	53.9	13.3	150	0	Floor Noise
Hori.	9848.000	AV	34.98	38.07	-31.65	-	2.22	43.62	53.9	10.2	150	0	Floor Noise
Vert.	2483.500	PK	48.80	27.65	-28.53	-	2.22	50.14	73.9	23.7	323	93	-
Vert.	2490.257	PK	49.59	27.64	-28.53	-	2.22	50.92	73.9	22.9	323	93	-
Vert.	2499.717	PK	50.10	27.63	-28.52	-	2.22	51.43	73.9	22.4	323	93	-
Vert.	4924.000	PK	51.67	32.14	-36.40	-	2.22	49.63	73.9	24.2	193	153	-
Vert.	7386.000	PK	46.00	36.77	-34.55	-	2.22	50.44	73.9	23.4	150	0	Floor Noise
Vert.	9848.000	PK	45.72	38.07	-31.65	-	2.22	54.36	73.9	19.5	150	0	Floor Noise
Vert.	7386.000	AV	35.87	36.77	-34.55	-	2.22	40.31	53.9	13.5	150	0	Floor Noise
Vert.	9848.000	AV	35.02	38.07	-31.65	-	2.22	43.66	53.9	10.2	150	0	Floor Noise

Result = Reading + Ant.Fac. + Loss (Cable + (Atten or Filter)(below 18 GHz) - Gain(Amp) (1 GHz to 18 GHz)) - Gain(Amp) (only below 1 GHz & above 18 GHz) + Distance Fac.

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

Distance Fac. : 1 GHz to 10 GHz : $20\log(3.87[m]/3.0[m]) = 2.22[dB]$

10 GHz to 40 GHz : $20\log(1.00[m]/3.0[m]) = -9.54[dB]$

Average measurement value with Duty Factor

Polarity	Frequency	Detector	Reading	Ant.Fac.	Loss	Gain	Duty	Distance	Result	Limit	Margin	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	Fac. [dB]	Fac. [dB]	[dBuV/m]	[dBuV/m]	[dB]	
Hori.	2483.500	AV	38.67	27.65	-28.53	-	0.16	2.22	40.17	53.9	13.7	*1)
Hori.	2490.431	AV	37.93	27.64	-28.53	-	0.16	2.22	39.42	53.9	14.4	*2)
Hori.	2499.780	AV	38.61	27.63	-28.52	-	0.16	2.22	40.10	53.9	13.8	*2)
Hori.	4924.000	AV	40.61	32.14	-36.40	-	0.16	2.22	38.73	53.9	15.1	-
Vert.	2483.500	AV	37.68	27.65	-28.53	-	0.16	2.22	39.18	53.9	14.7	*1)
Vert.	2490.257	AV	39.11	27.64	-28.53	-	0.16	2.22	40.60	53.9	13.3	*2)
Vert.	2499.717	AV	38.43	27.63	-28.52	-	0.16	2.22	39.92	53.9	13.9	*2)
Vert.	4924.000	AV	44.15	32.14	-36.40	-	0.16	2.22	42.27	53.9	11.6	-

Result = Reading + Ant.Fac. + Loss (Cable + (Atten or Filter)(below 18 GHz) - Gain(Amp) (1 GHz to 18 GHz)) - Gain(Amp) (only below 1 GHz & above 18 GHz) + Duty Fac. + Distance Fac.

Distance Fac. : 1 GHz to 10 GHz : $20\log(3.87[m]/3.0[m]) = 2.22[dB]$

10 GHz to 40 GHz : $20\log(1.00[m]/3.0[m]) = -9.54[dB]$

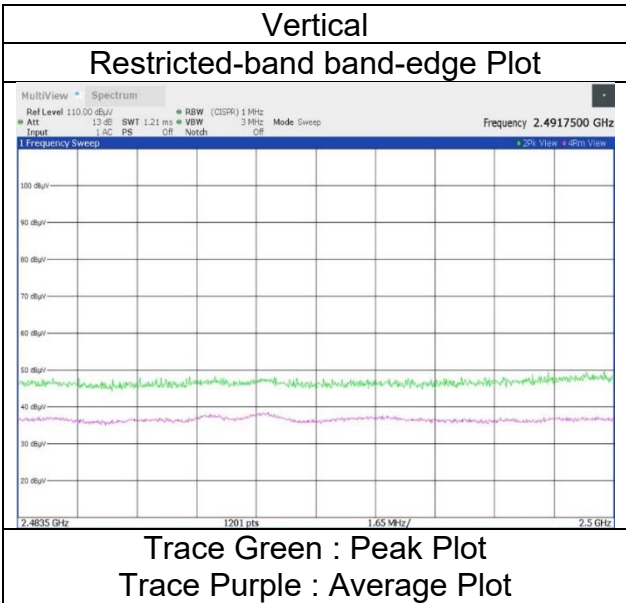
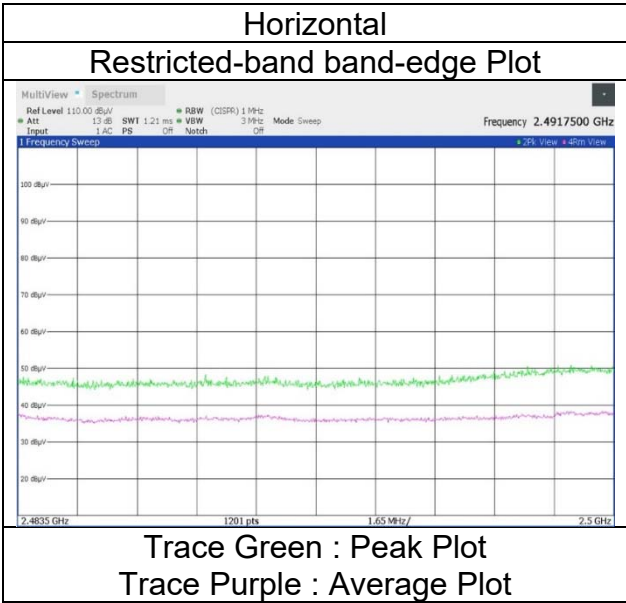
Duty factor refer to "Burst rate confirmation" sheet.

*1) Not out of band emission (Leakage Power)

*2) Noise synchronized with duty of carrier frequency.

Radiated Spurious Emission
(Reference Plot for band-edge)

Mode	Tx 11b MIMO, 2462 MHz				
Date	Test site	Temperature	Humidity	Engineer	Measurement Range
February 19, 2025	WAC2	18 deg. C	28 % RH	Miku Ikudome	1 GHz to 2.8 GHz



* 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

Mode	Tx 11g MIMO, 2412 MHz
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Date	Test site	Temperature	Humidity	Engineer	Measurement Range
February 19, 2025	WAC2	18 deg. C	28 % RH	Miku Ikudome	1 GHz to 2.8 GHz
March 3, 2025	WAC2	21 deg. C	39 % RH	Shiro Kobayashi	2.8 GHz to 10 GHz
March 5, 2025	WAC2	22 deg. C	28 % RH	Yuta Shiba	10 GHz to 18 GHz
March 7, 2025	WAC2	21 deg. C	32 % RH	Miku Ikudome	18 GHz to 26.5 GHz

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

Polarity	Frequency	Detector	Reading	Ant.Fac.	Loss	Gain	Distance	Result	Limit	Margin	Height	Angle	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	Fac. [dB]	[dBuV/m]	[dBuV/m]	[dB]	[cm]	[deg.]	
Hori.	2389.051	PK	56.70	27.75	-28.59	-	2.22	58.08	73.9	15.8	287	65	-
Hori.	2390.000	PK	57.57	27.75	-28.59	-	2.22	58.95	73.9	14.9	287	65	-
Hori.	4824.000	PK	47.35	31.67	-36.43	-	2.22	44.81	73.9	29.0	150	0	Floor Noise
Hori.	7236.000	PK	46.90	36.35	-34.81	-	2.22	50.66	73.9	23.2	150	0	Floor Noise
Hori.	9648.000	PK	46.24	38.12	-31.94	-	2.22	54.64	73.9	19.2	150	0	Floor Noise
Hori.	4824.000	AV	36.66	31.67	-36.43	-	2.22	34.12	53.9	19.7	150	0	Floor Noise
Hori.	7236.000	AV	35.91	36.35	-34.81	-	2.22	39.67	53.9	14.2	150	0	Floor Noise
Hori.	9648.000	AV	35.14	38.12	-31.94	-	2.22	43.54	53.9	10.3	150	0	Floor Noise
Vert.	2386.934	PK	55.77	27.74	-28.59	-	2.22	57.14	73.9	16.7	288	72	-
Vert.	2390.000	PK	58.12	27.75	-28.59	-	2.22	59.50	73.9	14.4	288	72	-
Vert.	4824.000	PK	47.86	31.67	-36.43	-	2.22	45.32	73.9	28.5	150	0	Floor Noise
Vert.	7236.000	PK	46.77	36.35	-34.81	-	2.22	50.53	73.9	23.3	150	0	Floor Noise
Vert.	9648.000	PK	46.44	38.12	-31.94	-	2.22	54.84	73.9	19.0	150	0	Floor Noise
Vert.	4824.000	AV	36.60	31.67	-36.43	-	2.22	34.06	53.9	19.8	150	0	Floor Noise
Vert.	7236.000	AV	36.03	36.35	-34.81	-	2.22	39.79	53.9	14.1	150	0	Floor Noise
Vert.	9648.000	AV	35.01	38.12	-31.94	-	2.22	43.41	53.9	10.4	150	0	Floor Noise

Result = Reading + Ant.Fac. + Loss (Cable + (Atten or Filter)(below 18 GHz) - Gain(Amp) (1 GHz to 18 GHz)) - Gain(Amp) (only below 1 GHz & above 18 GHz) + Distance Fac.

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

Distance Fac. : 1 GHz to 10 GHz : $20\log(3.87[m]/3.0[m]) = 2.22 [dB]$

10 GHz to 40 GHz : $20\log(1.00[m]/3.0[m]) = -9.54 [dB]$

Average measurement value with Duty Factor

Polarity	Frequency	Detector	Reading	Ant.Fac.	Loss	Gain	Duty	Distance	Result	Limit	Margin	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	Fac. [dB]	Fac. [dB]	[dBuV/m]	[dBuV/m]	[dB]	
Hori.	2389.051	AV	40.83	27.75	-28.59	-	0.03	2.22	42.24	53.9	11.6	*2)
Hori.	2390.000	AV	41.08	27.75	-28.59	-	0.03	2.22	42.49	53.9	11.4	*1)
Vert.	2386.934	AV	39.08	27.74	-28.59	-	0.03	2.22	40.48	53.9	13.4	*2)
Vert.	2390.000	AV	40.95	27.75	-28.59	-	0.03	2.22	42.36	53.9	11.5	*1)

Result = Reading + Ant.Fac. + Loss (Cable + (Atten or Filter)(below 18 GHz) - Gain(Amp) (1 GHz to 18 GHz)) - Gain(Amp) (only below 1 GHz & above 18 GHz) + Duty Fac. + Distance Fac.

Distance Fac. : 1 GHz to 10 GHz : $20\log(3.87[m]/3.0[m]) = 2.22 [dB]$

10 GHz to 40 GHz : $20\log(1.00[m]/3.0[m]) = -9.54 [dB]$

Duty factor refer to "Burst rate confirmation" sheet.

*1) Not out of band emission (Leakage Power)

*2) Noise synchronized with duty of carrier frequency.

20 dBc Data Sheet

(RBW 100 kHz, VBW 300 kHz)

Polarity	Frequency	Detector	Reading	Ant.Fac.	Loss	Gain	Distance	Result	Limit	Margin	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	Fac. [dB]	[dBuV/m]	[dBuV/m]	[dB]	
Hori.	2412.000	PK	90.19	27.79	-28.58	-	2.22	91.62	-	-	Carrier
Hori.	2400.000	PK	56.75	27.77	-28.58	-	2.22	58.16	71.6	13.4	-
Vert.	2412.000	PK	92.31	27.79	-28.58	-	2.22	93.74	-	-	Carrier
Vert.	2400.000	PK	58.04	27.77	-28.58	-	2.22	59.45	73.7	14.2	-

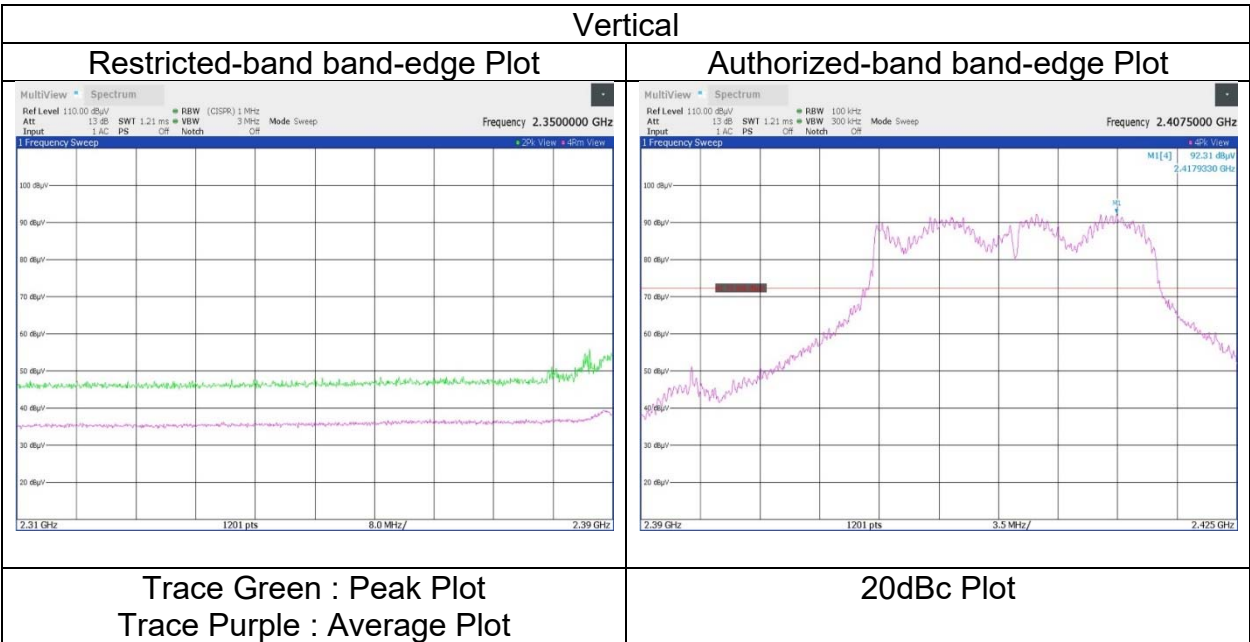
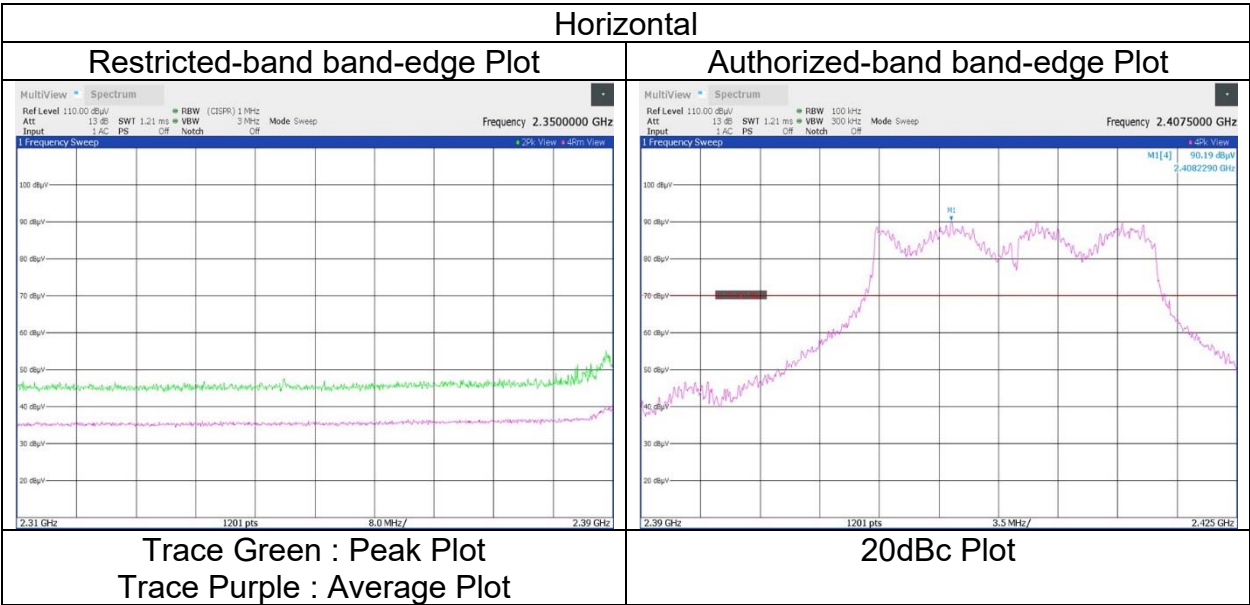
Result = Reading + Ant.Fac. + Loss (Cable + (Atten or Filter)(below 18 GHz) - Gain(Amp) (1 GHz to 18 GHz)) - Gain(Amp) (only below 1 GHz & above 18 GHz) + Distance Fac.

Distance Fac. : 1 GHz to 10 GHz : $20\log(3.87[m]/3.0[m]) = 2.22 [dB]$

10 GHz to 40 GHz : $20\log(1.00[m]/3.0[m]) = -9.54 [dB]$

Radiated Spurious Emission
(Reference Plot for band-edge)

Mode	Tx 11g MIMO, 2412 MHz				
Date	Test site	Temperature	Humidity	Engineer	Measurement Range
February 19, 2025	WAC2	18 deg. C	28 % RH	Miku Ikudome	1 GHz to 2.8 GHz



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

Radiated Spurious Emission

Mode	Tx 11g MIMO, 2437 MHz
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Date	Test site	Temperature	Humidity	Engineer	Measurement Range
March 3, 2025	WAC2	21 deg. C	39 % RH	Shiro Kobayashi	1 GHz to 10 GHz
March 5, 2025	WAC2	22 deg. C	28 % RH	Yuta Shiba	10 GHz to 18 GHz
March 7, 2025	WAC2	21 deg. C	32 % RH	Miku Ikudome	18 GHz to 26.5 GHz

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Fac. [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	4874.000	PK	47.37	31.92	-36.42	-	2.22	45.09	73.9	28.8	150	0	Floor Noise
Hori.	7311.000	PK	48.41	36.63	-34.68	-	2.22	52.58	73.9	21.3	150	0	Floor Noise
Hori.	9748.000	PK	45.35	38.11	-31.80	-	2.22	53.88	73.9	20.0	150	0	Floor Noise
Hori.	4874.000	AV	36.47	31.92	-36.42	-	2.22	34.19	53.9	19.7	150	0	Floor Noise
Hori.	7311.000	AV	36.43	36.63	-34.68	-	2.22	40.60	53.9	13.3	150	0	Floor Noise
Hori.	9748.000	AV	34.39	38.11	-31.80	-	2.22	42.92	53.9	10.9	150	0	Floor Noise
Vert.	4874.000	PK	47.49	31.92	-36.42	-	2.22	45.21	73.9	28.6	150	0	Floor Noise
Vert.	7311.000	PK	47.00	36.63	-34.68	-	2.22	51.17	73.9	22.7	150	0	Floor Noise
Vert.	9748.000	PK	45.44	38.11	-31.80	-	2.22	53.97	73.9	19.9	150	0	Floor Noise
Vert.	4874.000	AV	36.77	31.92	-36.42	-	2.22	34.49	53.9	19.4	150	0	Floor Noise
Vert.	7311.000	AV	36.37	36.63	-34.68	-	2.22	40.54	53.9	13.3	150	0	Floor Noise
Vert.	9748.000	AV	34.68	38.11	-31.80	-	2.22	43.21	53.9	10.6	150	0	Floor Noise

Result = Reading + Ant.Fac. + Loss (Cable + (Atten or Filter)(below 18 GHz) - Gain(Amp) (1 GHz to 18 GHz)) - Gain(Amp) (only below 1 GHz & above 18 GHz) + Distance Fac.

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

Distance Fac. : 1 GHz to 10 GHz : $20\log(3.87[m] / 3.0[m]) = 2.22 [dB]$

10 GHz to 40 GHz : $20\log(1.00[m] / 3.0[m]) = -9.54 [dB]$

Radiated Spurious Emission

Mode	Tx 11g MIMO, 2462 MHz				
Date	Test site	Temperature	Humidity	Engineer	Measurement Range
April 14, 2025	WAC2	29 deg. C	23 % RH	Yuta Shiba	Below 1 GHz
February 19, 2025	WAC2	18 deg. C	28 % RH	Miku Ikudome	1 GHz to 2.8 GHz
March 3, 2025	WAC2	21 deg. C	39 % RH	Shiro Kobayashi	2.8 GHz to 10 GHz
March 5, 2025	WAC2	22 deg. C	28 % RH	Yuta Shiba	10 GHz to 18 GHz
March 7, 2025	WAC2	21 deg. C	32 % RH	Miku Ikudome	18 GHz to 26.5 GHz

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Fac. [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	43.300	QP	45.20	13.57	6.69	32.18	0.00	33.28	40.0	6.7	400	152	-
Hori.	45.465	QP	43.70	12.80	6.73	32.18	0.00	31.05	40.0	8.9	400	203	-
Hori.	49.534	QP	44.40	11.31	6.77	32.18	0.00	30.30	40.0	9.7	400	256	-
Hori.	52.812	QP	47.70	10.19	6.75	32.18	0.00	32.46	40.0	7.5	400	42	-
Hori.	55.159	QP	49.60	9.42	6.72	32.18	0.00	33.56	40.0	6.4	400	42	-
Hori.	57.502	QP	52.80	8.76	6.64	32.17	0.00	36.03	40.0	3.9	400	248	-
Hori.	59.631	QP	51.10	8.22	6.56	32.17	0.00	33.71	40.0	6.2	375	269	-
Hori.	67.251	QP	49.20	6.85	6.61	32.17	0.00	30.49	40.0	9.5	400	68	-
Hori.	69.466	QP	52.40	6.60	6.74	32.16	0.00	33.58	40.0	6.4	289	230	-
Hori.	2483.500	PK	55.81	27.80	-28.53	-	2.22	57.30	73.9	16.6	185	300	-
Hori.	2487.697	PK	53.07	27.79	-28.53	-	2.22	54.55	73.9	19.3	185	300	-
Hori.	4924.000	PK	47.58	32.14	-36.40	-	2.22	45.54	73.9	28.3	150	0	Floor Noise
Hori.	7386.000	PK	46.56	36.77	-34.55	-	2.22	51.00	73.9	22.9	150	0	Floor Noise
Hori.	9848.000	PK	46.05	38.07	-31.65	-	2.22	54.69	73.9	19.2	150	0	Floor Noise
Hori.	4924.000	AV	36.70	32.14	-36.40	-	2.22	34.66	53.9	19.2	150	0	Floor Noise
Hori.	7386.000	AV	36.06	36.77	-34.55	-	2.22	40.50	53.9	13.4	150	0	Floor Noise
Hori.	9848.000	AV	35.10	38.07	-31.65	-	2.22	43.74	53.9	10.1	150	0	Floor Noise
Vert.	43.310	QP	44.40	13.57	6.69	32.18	0.00	32.48	40.0	7.5	100	94	-
Vert.	55.201	QP	45.40	9.41	6.73	32.18	0.00	29.36	40.0	10.6	100	100	-
Vert.	60.621	QP	45.90	7.98	6.54	32.17	0.00	28.25	40.0	11.7	100	303	-
Vert.	69.481	QP	50.40	6.60	6.75	32.16	0.00	31.59	40.0	8.4	100	129	-
Vert.	2483.500	PK	57.75	27.80	-28.53	-	2.22	59.24	73.9	14.6	266	89	-
Vert.	2487.835	PK	55.21	27.79	-28.53	-	2.22	56.69	73.9	17.2	266	89	-
Vert.	4924.000	PK	47.38	32.14	-36.40	-	2.22	45.34	73.9	28.5	150	0	Floor Noise
Vert.	7386.000	PK	46.88	36.77	-34.55	-	2.22	51.32	73.9	22.5	150	0	Floor Noise
Vert.	9848.000	PK	45.95	38.07	-31.65	-	2.22	54.59	73.9	19.3	150	0	Floor Noise
Vert.	4924.000	AV	36.63	32.14	-36.40	-	2.22	34.59	53.9	19.3	150	0	Floor Noise
Vert.	7386.000	AV	36.11	36.77	-34.55	-	2.22	40.55	53.9	13.3	150	0	Floor Noise
Vert.	9848.000	AV	35.02	38.07	-31.65	-	2.22	43.66	53.9	10.2	150	0	Floor Noise

Result = Reading + Ant.Fac. + Loss (Cable + (Atten or Filter)(below 18 GHz) - Gain(Amp) (1 GHz to 18 GHz)) - Gain(Amp) (only below 1 GHz & above 18 GHz) + Distance Fac.

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

Distance Fac. : 1 GHz to 10 GHz : $20\log(3.87[m]/3.0[m]) = 2.22[dB]$

10 GHz to 40 GHz : $20\log(1.00[m]/3.0[m]) = -9.54[dB]$

Average measurement value with Duty Factor

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Duty Fac. [dB]	Distance Fac. [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2483.500	AV	40.31	27.80	-28.53	-	0.03	2.22	41.83	53.9	12.0	*1)
Hori.	2487.697	AV	37.72	27.79	-28.53	-	0.03	2.22	39.23	53.9	14.6	*2)
Vert.	2483.500	AV	42.53	27.80	-28.53	-	0.03	2.22	44.05	53.9	9.8	*1)
Vert.	2487.835	AV	39.05	27.79	-28.53	-	0.03	2.22	40.56	53.9	13.3	*2)

Result = Reading + Ant.Fac. + Loss (Cable + (Atten or Filter)(below 18 GHz) - Gain(Amp) (1 GHz to 18 GHz)) - Gain(Amp) (only below 1 GHz & above 18 GHz) + Duty Fac. + Distance Fac.

Distance Fac. : 1 GHz to 10 GHz : $20\log(3.87[m]/3.0[m]) = 2.22[dB]$

10 GHz to 40 GHz : $20\log(1.00[m]/3.0[m]) = -9.54[dB]$

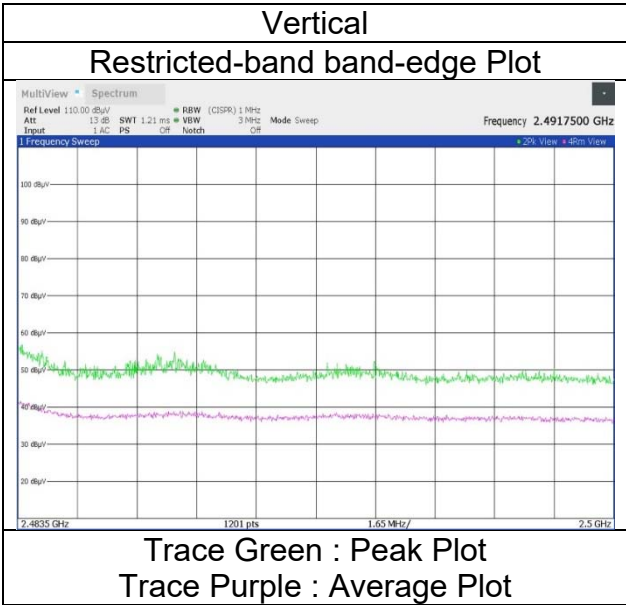
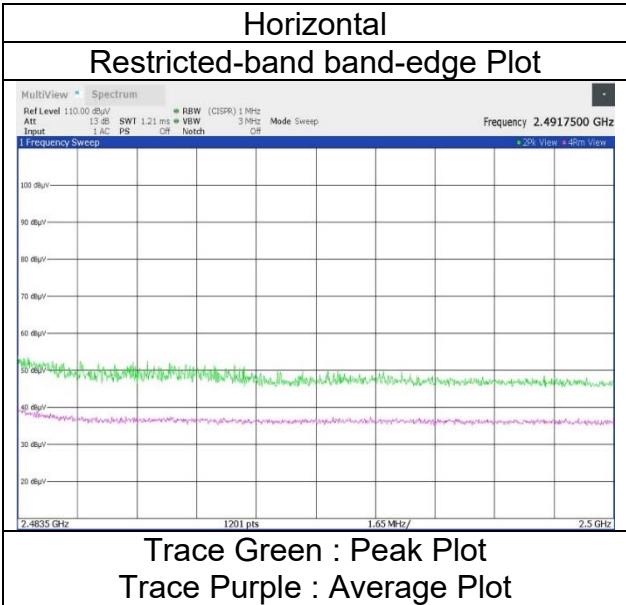
Duty factor refer to "Burst rate confirmation" sheet.

*1) Not out of band emission (Leakage Power)

*2) Noise synchronized with duty of carrier frequency.

Radiated Spurious Emission
(Reference Plot for band-edge)

Mode	Tx 11g MIMO, 2462 MHz				
Date	Test site	Temperature	Humidity	Engineer	Measurement Range
February 19, 2025	WAC2	18 deg. C	28 % RH	Miku Ikudome	1 GHz to 2.8 GHz



* 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

Mode	Tx 11n-20 MIMO, 2412 MHz
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Date	Test site	Temperature	Humidity	Engineer	Measurement Range
February 19, 2025	WAC2	18 deg. C	28 % RH	Miku Ikudome	1 GHz to 2.8 GHz
March 3, 2025	WAC2	21 deg. C	39 % RH	Shiro Kobayashi	2.8 GHz to 10 GHz
March 5, 2025	WAC2	22 deg. C	28 % RH	Yuta Shiba	10 GHz to 18 GHz
March 7, 2025	WAC2	21 deg. C	32 % RH	Miku Ikudome	18 GHz to 26.5 GHz

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Fac. [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	2390.000	PK	59.46	27.75	-28.59	-	2.22	60.84	73.9	13.0	285	61	-
Hori.	4824.000	PK	47.06	31.67	-36.43	-	2.22	44.52	73.9	29.3	150	0	Floor Noise
Hori.	7236.000	PK	47.11	36.35	-34.81	-	2.22	50.87	73.9	23.0	150	0	Floor Noise
Hori.	9648.000	PK	46.07	38.12	-31.94	-	2.22	54.47	73.9	19.4	150	0	Floor Noise
Hori.	4824.000	AV	36.50	31.67	-36.43	-	2.22	33.96	53.9	19.9	150	0	Floor Noise
Hori.	7236.000	AV	36.17	36.35	-34.81	-	2.22	39.93	53.9	13.9	150	0	Floor Noise
Hori.	9648.000	AV	35.05	38.12	-31.94	-	2.22	43.45	53.9	10.4	150	0	Floor Noise
Vert.	2390.000	PK	59.24	27.75	-28.59	-	2.22	60.62	73.9	13.2	286	75	-
Vert.	4824.000	PK	47.21	31.67	-36.43	-	2.22	44.67	73.9	29.2	150	0	Floor Noise
Vert.	7236.000	PK	47.66	36.35	-34.81	-	2.22	51.42	73.9	22.4	150	0	Floor Noise
Vert.	9648.000	PK	45.44	38.12	-31.94	-	2.22	53.84	73.9	20.0	150	0	Floor Noise
Vert.	4824.000	AV	36.41	31.67	-36.43	-	2.22	33.87	53.9	20.0	150	0	Floor Noise
Vert.	7236.000	AV	36.06	36.35	-34.81	-	2.22	39.82	53.9	14.0	150	0	Floor Noise
Vert.	9648.000	AV	35.21	38.12	-31.94	-	2.22	43.61	53.9	10.2	150	0	Floor Noise

Result = Reading + Ant.Fac. + Loss (Cable + (Atten or Filter)(below 18 GHz) - Gain(Amp) (1 GHz to 18 GHz)) - Gain(Amp) (only below 1 GHz & above 18 GHz) + Distance Fac.

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

Distance Fac.: 1 GHz to 10 GHz : $20\log(3.87[m] / 3.0[m]) = 2.22 [dB]$

10 GHz to 40 GHz : $20\log(1.00[m] / 3.0[m]) = -9.54 [dB]$

Average measurement value with Duty Factor

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Duty Fac. [dB]	Distance Fac. [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2390.000	AV	44.10	27.75	-28.59	-	0.03	2.22	45.51	53.9	8.3	*1)
Vert.	2390.000	AV	44.73	27.75	-28.59	-	0.03	2.22	46.14	53.9	7.7	*1)

Result = Reading + Ant.Fac. + Loss (Cable + (Atten or Filter)(below 18 GHz) - Gain(Amp) (1 GHz to 18 GHz)) - Gain(Amp) (only below 1 GHz & above 18 GHz) + Duty Fac. + Distance Fac.

Distance Fac.: 1 GHz to 10 GHz : $20\log(3.87[m] / 3.0[m]) = 2.22 [dB]$

10 GHz to 40 GHz : $20\log(1.00[m] / 3.0[m]) = -9.54 [dB]$

Duty factor refer to "Burst rate confirmation" sheet.

*1) Not out of band emission (Leakage Power)

20 dBc Data Sheet

(RBW 100 kHz, VBW 300 kHz)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Fac. [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2412.000	PK	88.44	27.79	-28.58	-	2.22	89.87	-	-	Carrier
Hori.	2400.000	PK	57.42	27.77	-28.58	-	2.22	58.83	69.8	10.9	-
Vert.	2412.000	PK	91.88	27.79	-28.58	-	2.22	93.31	-	-	Carrier
Vert.	2400.000	PK	59.36	27.77	-28.58	-	2.22	60.77	73.3	12.5	-

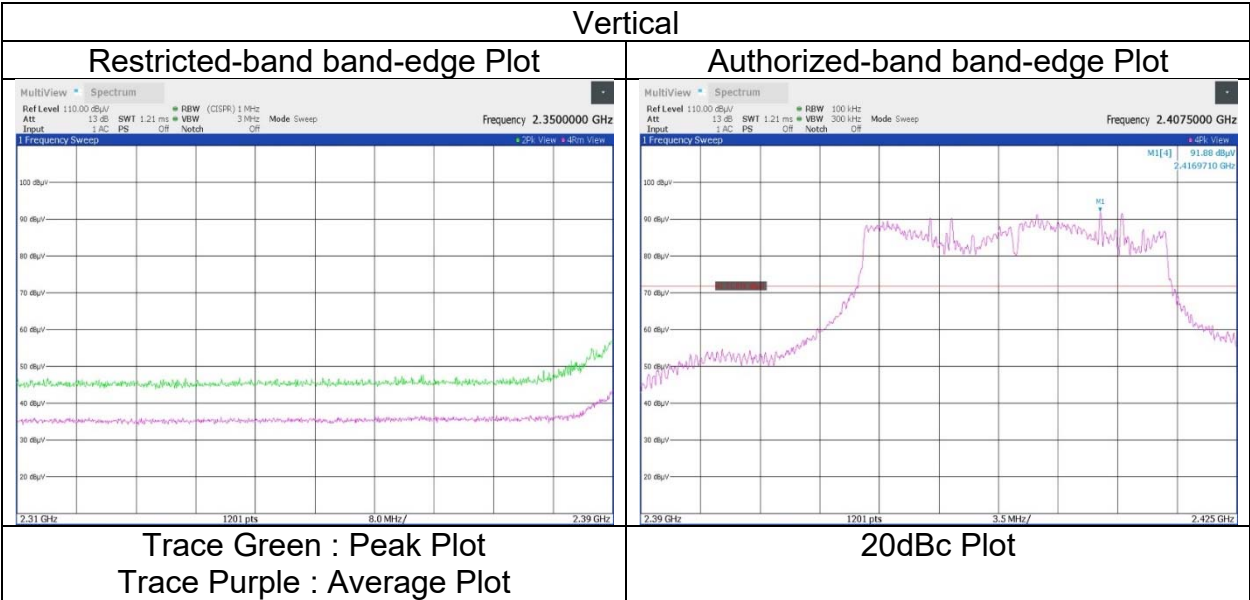
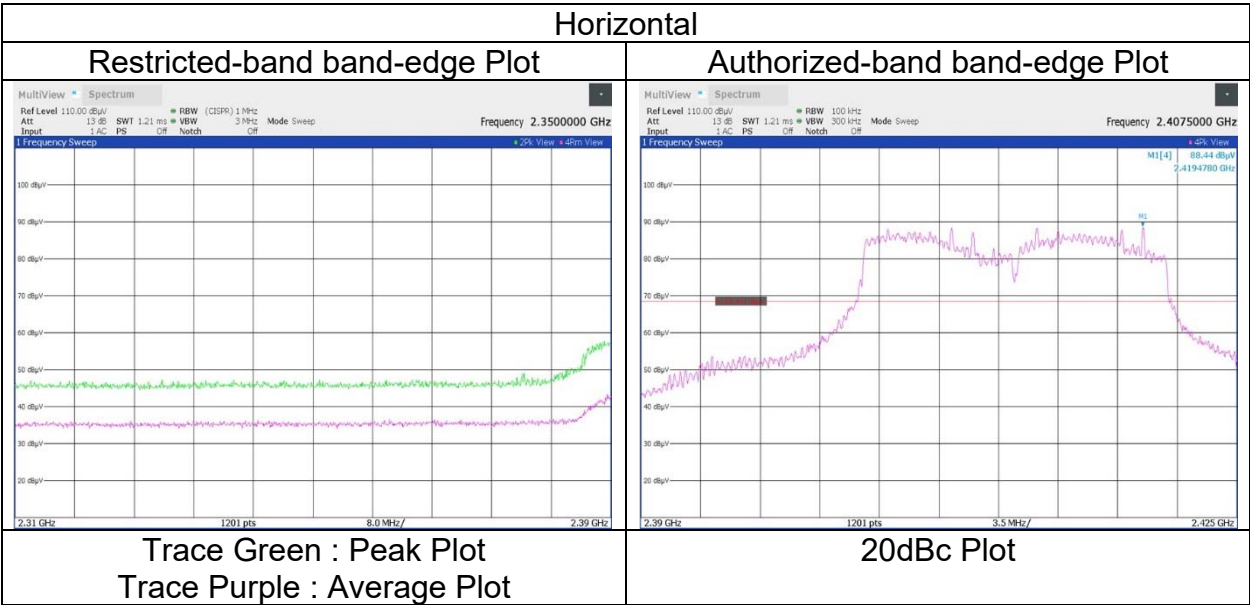
Result = Reading + Ant.Fac. + Loss (Cable + (Atten or Filter)(below 18 GHz) - Gain(Amp) (1 GHz to 18 GHz)) - Gain(Amp) (only below 1 GHz & above 18 GHz) + Distance Fac.

Distance Fac.: 1 GHz to 10 GHz : $20\log(3.87[m] / 3.0[m]) = 2.22 [dB]$

10 GHz to 40 GHz : $20\log(1.00[m] / 3.0[m]) = -9.54 [dB]$

Radiated Spurious Emission
(Reference Plot for band-edge)

Mode	Tx 11n-20 MIMO, 2412 MHz				
Date	Test site	Temperature	Humidity	Engineer	Measurement Range
February 19, 2025	WAC2	18 deg. C	28 % RH	Miku Ikudome	1 GHz to 2.8 GHz



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

Radiated Spurious Emission

Mode	Tx 11n-20 MIMO, 2437 MHz
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Date	Test site	Temperature	Humidity	Engineer	Measurement Range
March 3, 2025	WAC2	21 deg. C	39 % RH	Shiro Kobayashi	1 GHz to 10 GHz
March 5, 2025	WAC2	22 deg. C	28 % RH	Yuta Shiba	10 GHz to 18 GHz
March 7, 2025	WAC2	21 deg. C	32 % RH	Miku Ikudome	18 GHz to 26.5 GHz

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Fac. [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	4874.000	PK	47.40	31.92	-36.42	-	2.22	45.12	73.9	28.7	150	0	Floor Noise
Hori.	7311.000	PK	47.33	36.63	-34.68	-	2.22	51.50	73.9	22.4	150	0	Floor Noise
Hori.	9748.000	PK	45.39	38.11	-31.80	-	2.22	53.92	73.9	19.9	150	0	Floor Noise
Hori.	4874.000	AV	36.44	31.92	-36.42	-	2.22	34.16	53.9	19.7	150	0	Floor Noise
Hori.	7311.000	AV	36.31	36.63	-34.68	-	2.22	40.48	53.9	13.4	150	0	Floor Noise
Hori.	9748.000	AV	34.50	38.11	-31.80	-	2.22	43.03	53.9	10.8	150	0	Floor Noise
Vert.	4874.000	PK	47.02	31.92	-36.42	-	2.22	44.74	73.9	29.1	150	0	Floor Noise
Vert.	7311.000	PK	47.72	36.63	-34.68	-	2.22	51.89	73.9	22.0	150	0	Floor Noise
Vert.	9748.000	PK	45.40	38.11	-31.80	-	2.22	53.93	73.9	19.9	150	0	Floor Noise
Vert.	4874.000	AV	36.39	31.92	-36.42	-	2.22	34.11	53.9	19.7	150	0	Floor Noise
Vert.	7311.000	AV	36.42	36.63	-34.68	-	2.22	40.59	53.9	13.3	150	0	Floor Noise
Vert.	9748.000	AV	34.51	38.11	-31.80	-	2.22	43.04	53.9	10.8	150	0	Floor Noise

Result = Reading + Ant.Fac. + Loss (Cable + (Atten or Filter)(below 18 GHz) - Gain(Amp) (1 GHz to 18 GHz)) - Gain(Amp) (only below 1 GHz & above 18 GHz) + Distance Fac.

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

Distance Fac. : 1 GHz to 10 GHz : $20\log(3.87[m] / 3.0[m]) = 2.22 [dB]$

10 GHz to 40 GHz : $20\log(1.00[m] / 3.0[m]) = -9.54 [dB]$

Radiated Spurious Emission

Mode	Tx 11n-20 MIMO, 2462 MHz
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Date	Test site	Temperature	Humidity	Engineer	Measurement Range
February 19, 2025	WAC2	18 deg. C	28 % RH	Miku Ikudome	1 GHz to 2.8 GHz
March 3, 2025	WAC2	21 deg. C	39 % RH	Shiro Kobayashi	2.8 GHz to 10 GHz
March 5, 2025	WAC2	22 deg. C	28 % RH	Yuta Shiba	10 GHz to 18 GHz
March 7, 2025	WAC2	21 deg. C	32 % RH	Miku Ikudome	18 GHz to 26.5 GHz

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Fac. [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	2483.500	PK	60.02	27.80	-28.53	-	2.22	61.51	73.9	12.3	162	121	-
Hori.	4924.000	PK	47.70	32.14	-36.40	-	2.22	45.66	73.9	28.2	150	0	Floor Noise
Hori.	7386.000	PK	46.50	36.77	-34.55	-	2.22	50.94	73.9	22.9	150	0	Floor Noise
Hori.	9848.000	PK	46.02	38.07	-31.65	-	2.22	54.66	73.9	19.2	150	0	Floor Noise
Hori.	4924.000	AV	36.72	32.14	-36.40	-	2.22	34.68	53.9	19.2	150	0	Floor Noise
Hori.	7386.000	AV	35.93	36.77	-34.55	-	2.22	40.37	53.9	13.5	150	0	Floor Noise
Hori.	9848.000	AV	35.09	38.07	-31.65	-	2.22	43.73	53.9	10.1	150	0	Floor Noise
Vert.	2483.500	PK	63.00	27.80	-28.53	-	2.22	64.49	73.9	9.4	278	81	-
Vert.	4924.000	PK	46.83	32.14	-36.40	-	2.22	44.79	73.9	29.1	150	0	Floor Noise
Vert.	7386.000	PK	46.58	36.77	-34.55	-	2.22	51.02	73.9	22.8	150	0	Floor Noise
Vert.	9848.000	PK	46.60	38.07	-31.65	-	2.22	55.24	73.9	18.6	150	0	Floor Noise
Vert.	4924.000	AV	36.71	32.14	-36.40	-	2.22	34.67	53.9	19.2	150	0	Floor Noise
Vert.	7386.000	AV	36.03	36.77	-34.55	-	2.22	40.47	53.9	13.4	150	0	Floor Noise
Vert.	9848.000	AV	34.94	38.07	-31.65	-	2.22	43.58	53.9	10.3	150	0	Floor Noise

Result = Reading + Ant.Fac. + Loss (Cable + (Atten or Filter)(below 18 GHz) - Gain(Amp) (1 GHz to 18 GHz)) - Gain(Amp) (only below 1 GHz & above 18 GHz) + Distance Fac.

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

Distance Fac. : 1 GHz to 10 GHz : $20\log(3.87\text{ [m]} / 3.0\text{ [m]}) = 2.22\text{ [dB]}$

10 GHz to 40 GHz : $20\log(1.00\text{ [m]} / 3.0\text{ [m]}) = -9.54\text{ [dB]}$

Average measurement value with Duty Factor

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Duty Fac. [dB]	Distance Fac. [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2483.500	AV	45.13	27.80	-28.53	-	0.03	2.22	46.65	53.9	7.2	*1)
Vert.	2483.500	AV	47.58	27.80	-28.53	-	0.03	2.22	49.10	53.9	4.8	*1)

Result = Reading + Ant.Fac. + Loss (Cable + (Atten or Filter)(below 18 GHz) - Gain(Amp) (1 GHz to 18 GHz)) - Gain(Amp) (only below 1 GHz & above 18 GHz) + Duty Fac. + Distance Fac.

Distance Fac. : 1 GHz to 10 GHz : $20\log(3.87\text{ [m]} / 3.0\text{ [m]}) = 2.22\text{ [dB]}$

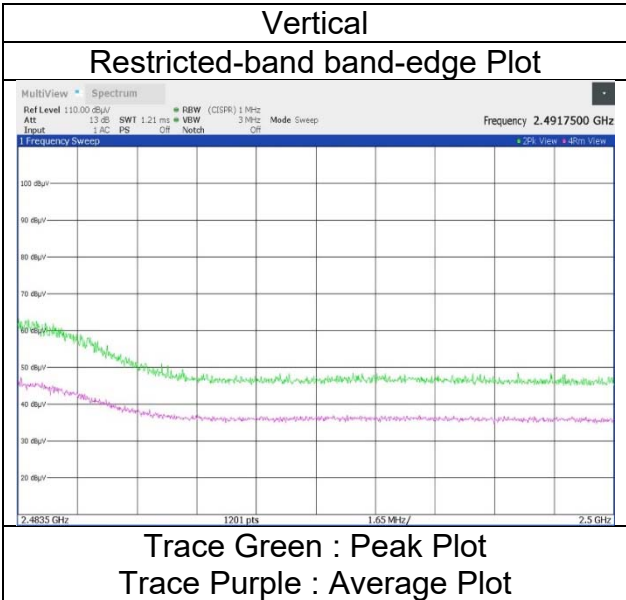
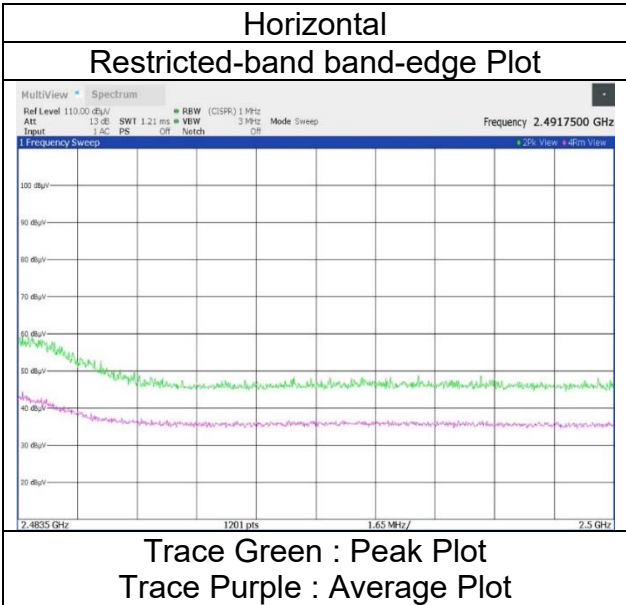
10 GHz to 40 GHz : $20\log(1.00\text{ [m]} / 3.0\text{ [m]}) = -9.54\text{ [dB]}$

Duty factor refer to "Burst rate confirmation" sheet.

*1) Not out of band emission (Leakage Power)

Radiated Spurious Emission
(Reference Plot for band-edge)

Mode	Tx 11n-20 MIMO, 2462 MHz				
Date	Test site	Temperature	Humidity	Engineer	Measurement Range
February 19, 2025	WAC2	18 deg. C	28 % RH	Miku Ikudome	1 GHz to 2.8 GHz



* 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

Mode	Tx 11ax-20(OFDM) MIMO, 2412 MHz
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Date	Test site	Temperature	Humidity	Engineer	Measurement Range
February 19, 2025	WAC2	18 deg. C	28 % RH	Miku Ikudome	1 GHz to 2.8 GHz
March 4, 2025	WAC2	20 deg. C	32 % RH	Yuta Shiba	2.8 GHz to 10 GHz
March 5, 2025	WAC2	22 deg. C	28 % RH	Yuta Shiba	10 GHz to 18 GHz
March 7, 2025	WAC2	21 deg. C	32 % RH	Miku Ikudome	18 GHz to 26.5 GHz

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Fac. [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	2387.036	PK	60.51	27.74	-28.59	-	2.22	61.88	73.9	12.0	321	57	-
Hori.	2390.000	PK	59.26	27.75	-28.59	-	2.22	60.64	73.9	13.2	321	57	-
Hori.	4824.000	PK	47.45	31.67	-36.43	-	2.22	44.91	73.9	28.9	150	0	Floor Noise
Hori.	7236.000	PK	46.50	36.35	-34.81	-	2.22	50.26	73.9	23.6	150	0	Floor Noise
Hori.	9648.000	PK	45.16	38.12	-31.94	-	2.22	53.56	73.9	20.3	150	0	Floor Noise
Hori.	4824.000	AV	36.26	31.67	-36.43	-	2.22	33.72	53.9	20.1	150	0	Floor Noise
Hori.	7236.000	AV	35.91	36.35	-34.81	-	2.22	39.67	53.9	14.2	150	0	Floor Noise
Hori.	9648.000	AV	35.00	38.12	-31.94	-	2.22	43.40	53.9	10.5	150	0	Floor Noise
Vert.	2386.570	PK	61.95	27.74	-28.59	-	2.22	63.32	73.9	10.5	287	69	-
Vert.	2390.000	PK	59.44	27.75	-28.59	-	2.22	60.82	73.9	13.0	287	69	-
Vert.	4824.000	PK	46.94	31.67	-36.43	-	2.22	44.40	73.9	29.5	150	0	Floor Noise
Vert.	7236.000	PK	45.80	36.35	-34.81	-	2.22	49.56	73.9	24.3	150	0	Floor Noise
Vert.	9648.000	PK	45.42	38.12	-31.94	-	2.22	53.82	73.9	20.0	150	0	Floor Noise
Vert.	4824.000	AV	36.05	31.67	-36.43	-	2.22	33.51	53.9	20.3	150	0	Floor Noise
Vert.	7236.000	AV	36.09	36.35	-34.81	-	2.22	39.85	53.9	14.0	150	0	Floor Noise
Vert.	9648.000	AV	34.80	38.12	-31.94	-	2.22	43.20	53.9	10.7	150	0	Floor Noise

Result = Reading + Ant.Fac. + Loss (Cable + (Atten or Filter)(below 18 GHz) - Gain(Amp) (1 GHz to 18 GHz)) - Gain(Amp) (only below 1 GHz & above 18 GHz) + Distance Fac.

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

Distance Fac. : 1 GHz to 10 GHz : $20\log(3.87[m]/3.0[m]) = 2.22 [dB]$

10 GHz to 40 GHz : $20\log(1.00[m]/3.0[m]) = -9.54 [dB]$

Average measurement value with Duty Factor

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Duty Fac. [dB]	Distance Fac. [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2387.036	AV	43.20	27.74	-28.59	-	0.03	2.22	44.60	53.9	9.3	*2)
Hori.	2390.000	AV	43.90	27.75	-28.59	-	0.03	2.22	45.31	53.9	8.5	*1)
Vert.	2386.570	AV	44.35	27.74	-28.59	-	0.03	2.22	45.75	53.9	8.1	*2)
Vert.	2390.000	AV	45.19	27.75	-28.59	-	0.03	2.22	46.60	53.9	7.3	*1)

Result = Reading + Ant.Fac. + Loss (Cable + (Atten or Filter)(below 18 GHz) - Gain(Amp) (1 GHz to 18 GHz)) - Gain(Amp) (only below 1 GHz & above 18 GHz) + Duty Fac. + Distance Fac.

Distance Fac. : 1 GHz to 10 GHz : $20\log(3.87[m]/3.0[m]) = 2.22 [dB]$

10 GHz to 40 GHz : $20\log(1.00[m]/3.0[m]) = -9.54 [dB]$

Duty factor refer to "Burst rate confirmation" sheet.

*1) Not out of band emission (Leakage Power)

*2) Noise synchronized with duty of carrier frequency.

20 dBc Data Sheet

(RBW 100 kHz, VBW 300 kHz)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Fac. [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2412.000	PK	87.33	27.79	-28.58	-	2.22	88.76	-	-	Carrier
Hori.	2400.000	PK	54.84	27.77	-28.58	-	2.22	56.25	68.7	12.4	-
Vert.	2412.000	PK	90.60	27.79	-28.58	-	2.22	92.03	-	-	Carrier
Vert.	2400.000	PK	58.59	27.77	-28.58	-	2.22	60.00	72.0	12.0	-

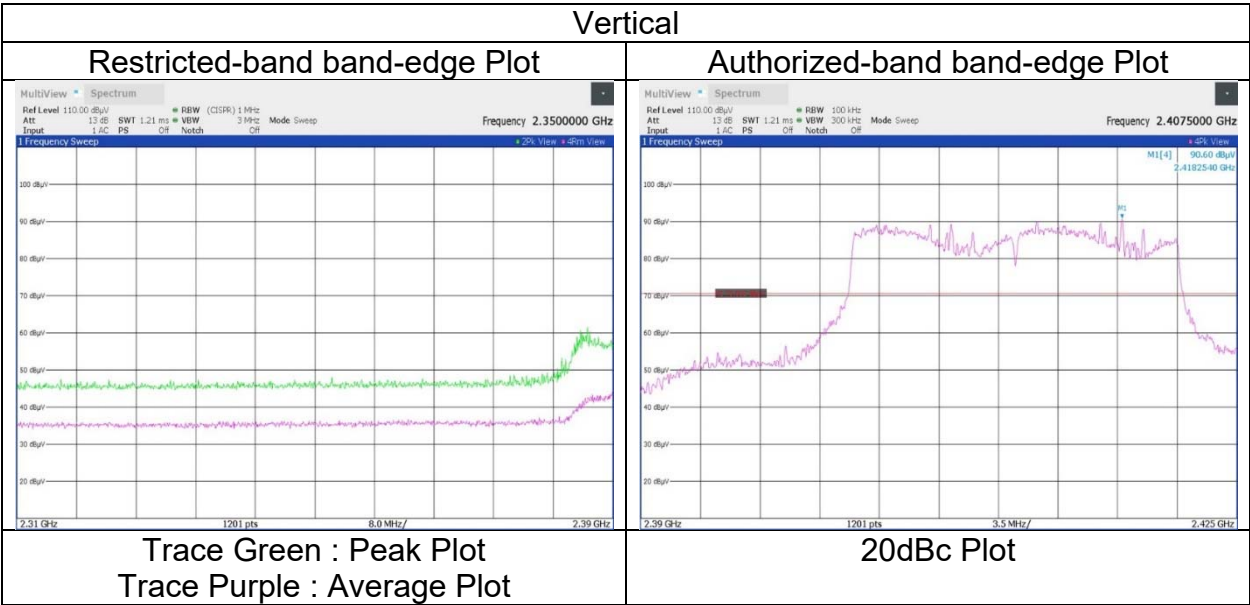
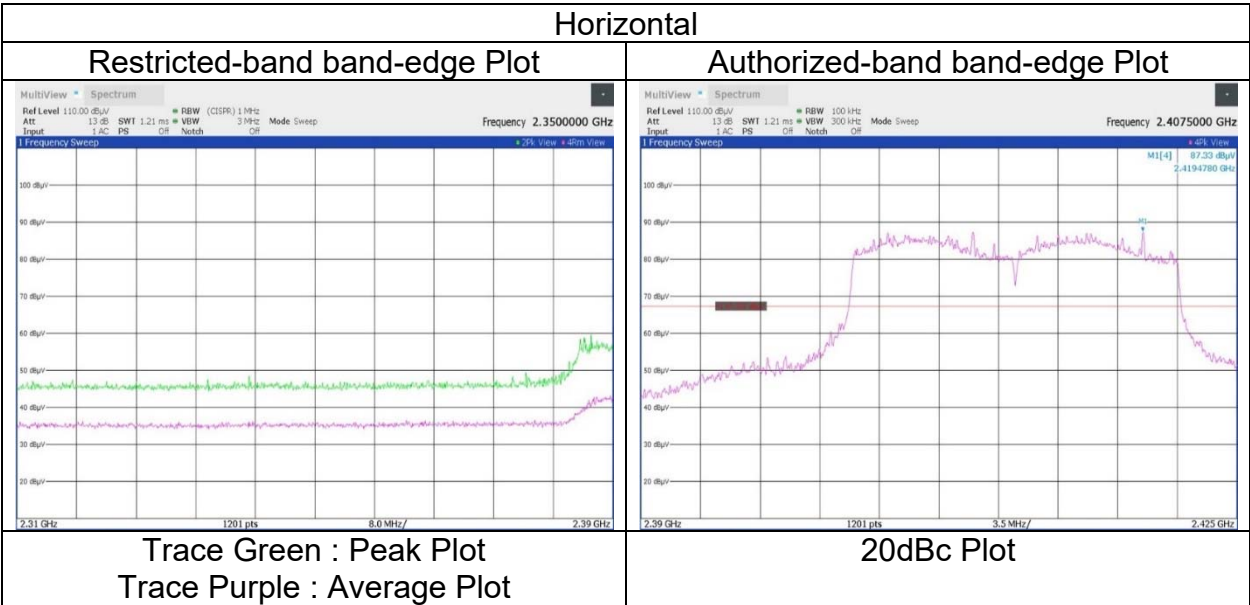
Result = Reading + Ant.Fac. + Loss (Cable + (Atten or Filter)(below 18 GHz) - Gain(Amp) (1 GHz to 18 GHz)) - Gain(Amp) (only below 1 GHz & above 18 GHz) + Distance Fac.

Distance Fac. : 1 GHz to 10 GHz : $20\log(3.87[m]/3.0[m]) = 2.22 [dB]$

10 GHz to 40 GHz : $20\log(1.00[m]/3.0[m]) = -9.54 [dB]$

Radiated Spurious Emission
(Reference Plot for band-edge)

Mode	Tx 11ax-20(OFDM) MIMO, 2412 MHz				
Date	Test site	Temperature	Humidity	Engineer	Measurement Range
February 19, 2025	WAC2	18 deg. C	28 % RH	Miku Ikudome	1 GHz to 2.8 GHz



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

Radiated Spurious Emission

Mode	Tx 11ax-20(OFDM) MIMO, 2437 MHz
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Date	Test site	Temperature	Humidity	Engineer	Measurement Range
March 4, 2025	WAC2	20 deg. C	32 % RH	Yuta Shiba	1 GHz to 10 GHz
March 5, 2025	WAC2	22 deg. C	28 % RH	Yuta Shiba	10 GHz to 18 GHz
March 7, 2025	WAC2	21 deg. C	32 % RH	Miku Ikudome	18 GHz to 26.5 GHz

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Fac. [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	4874.000	PK	47.19	31.92	-36.42	-	2.22	44.91	73.9	28.9	150	0	Floor Noise
Hori.	7311.000	PK	47.62	36.63	-34.68	-	2.22	51.79	73.9	22.1	150	0	Floor Noise
Hori.	9748.000	PK	44.97	38.11	-31.80	-	2.22	53.50	73.9	20.4	150	0	Floor Noise
Hori.	4874.000	AV	36.11	31.92	-36.42	-	2.22	33.83	53.9	20.0	150	0	Floor Noise
Hori.	7311.000	AV	36.18	36.63	-34.68	-	2.22	40.35	53.9	13.5	150	0	Floor Noise
Hori.	9748.000	AV	34.37	38.11	-31.80	-	2.22	42.90	53.9	11.0	150	0	Floor Noise
Vert.	4874.000	PK	46.63	31.92	-36.42	-	2.22	44.35	73.9	29.5	150	0	Floor Noise
Vert.	7311.000	PK	46.93	36.63	-34.68	-	2.22	51.10	73.9	22.8	150	0	Floor Noise
Vert.	9748.000	PK	45.48	38.11	-31.80	-	2.22	54.01	73.9	19.8	150	0	Floor Noise
Vert.	4874.000	AV	36.13	31.92	-36.42	-	2.22	33.85	53.9	20.0	150	0	Floor Noise
Vert.	7311.000	AV	36.33	36.63	-34.68	-	2.22	40.50	53.9	13.4	150	0	Floor Noise
Vert.	9748.000	AV	34.68	38.11	-31.80	-	2.22	43.21	53.9	10.6	150	0	Floor Noise

Result = Reading + Ant.Fac. + Loss (Cable + (Atten or Filter)(below 18 GHz) - Gain(Amp) (1 GHz to 18 GHz)) - Gain(Amp) (only below 1 GHz & above 18 GHz) + Distance Fac.

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

Distance Fac. : 1 GHz to 10 GHz : $20\log(3.87[m] / 3.0[m]) = 2.22 [dB]$

10 GHz to 40 GHz : $20\log(1.00[m] / 3.0[m]) = -9.54 [dB]$

Radiated Spurious Emission

Mode	Tx 11ax-20(OFDM) MIMO, 2462 MHz
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Date	Test site	Temperature	Humidity	Engineer	Measurement Range
February 19, 2025	WAC2	18 deg. C	28 % RH	Miku Ikudome	1 GHz to 2.8 GHz
March 4, 2025	WAC2	20 deg. C	32 % RH	Yuta Shiba	2.8 GHz to 10 GHz
March 5, 2025	WAC2	22 deg. C	28 % RH	Yuta Shiba	10 GHz to 18 GHz
March 7, 2025	WAC2	21 deg. C	32 % RH	Miku Ikudome	18 GHz to 26.5 GHz

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Fac. [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	2483.500	PK	61.52	27.80	-28.53	-	2.22	63.01	73.9	10.8	188	307	-
Hori.	2483.988	PK	62.17	27.80	-28.53	-	2.22	63.66	73.9	10.2	188	307	-
Hori.	4924.000	PK	47.18	32.14	-36.40	-	2.22	45.14	73.9	28.7	150	0	Floor Noise
Hori.	7386.000	PK	45.82	36.77	-34.55	-	2.22	50.26	73.9	23.6	150	0	Floor Noise
Hori.	9848.000	PK	44.86	38.07	-31.65	-	2.22	53.50	73.9	20.4	150	0	Floor Noise
Hori.	4924.000	AV	36.06	32.14	-36.40	-	2.22	34.02	53.9	19.8	150	0	Floor Noise
Hori.	7386.000	AV	35.81	36.77	-34.55	-	2.22	40.25	53.9	13.6	150	0	Floor Noise
Hori.	9848.000	AV	34.82	38.07	-31.65	-	2.22	43.46	53.9	10.4	150	0	Floor Noise
Vert.	2483.500	PK	64.52	27.80	-28.53	-	2.22	66.01	73.9	7.8	282	78	-
Vert.	2483.988	PK	64.40	27.80	-28.53	-	2.22	65.89	73.9	8.0	282	78	-
Vert.	4924.000	PK	46.84	32.14	-36.40	-	2.22	44.80	73.9	29.1	150	0	Floor Noise
Vert.	7386.000	PK	46.17	36.77	-34.55	-	2.22	50.61	73.9	23.2	150	0	Floor Noise
Vert.	9848.000	PK	45.28	38.07	-31.65	-	2.22	53.92	73.9	19.9	150	0	Floor Noise
Vert.	4924.000	AV	36.40	32.14	-36.40	-	2.22	34.36	53.9	19.5	150	0	Floor Noise
Vert.	7386.000	AV	35.82	36.77	-34.55	-	2.22	40.26	53.9	13.6	150	0	Floor Noise
Vert.	9848.000	AV	34.70	38.07	-31.65	-	2.22	43.34	53.9	10.5	150	0	Floor Noise

Result = Reading + Ant.Fac. + Loss (Cable + (Atten or Filter)(below 18 GHz) - Gain(Amp) (1 GHz to 18 GHz)) - Gain(Amp) (only below 1 GHz & above 18 GHz) + Distance Fac.

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

Distance Fac. : 1 GHz to 10 GHz : $20\log(3.87[m]/3.0[m]) = 2.22$ [dB]

10 GHz to 40 GHz : $20\log(1.00[m]/3.0[m]) = -9.54$ [dB]

Average measurement value with Duty Factor

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Duty Fac. [dB]	Distance Fac. [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2483.500	AV	45.13	27.80	-28.53	-	0.03	2.22	46.65	53.9	7.2	*1)
Hori.	2483.988	AV	45.53	27.80	-28.53	-	0.03	2.22	47.05	53.9	6.8	*2)
Vert.	2483.500	AV	47.88	27.80	-28.53	-	0.03	2.22	49.40	53.9	4.4	*1)
Vert.	2483.988	AV	47.95	27.80	-28.53	-	0.03	2.22	49.47	53.9	4.4	*2)

Result = Reading + Ant.Fac. + Loss (Cable + (Atten or Filter)(below 18 GHz) - Gain(Amp) (1 GHz to 18 GHz)) - Gain(Amp) (only below 1 GHz & above 18 GHz) + Duty Fac. + Distance Fac.

Distance Fac. : 1 GHz to 10 GHz : $20\log(3.87[m]/3.0[m]) = 2.22$ [dB]

10 GHz to 40 GHz : $20\log(1.00[m]/3.0[m]) = -9.54$ [dB]

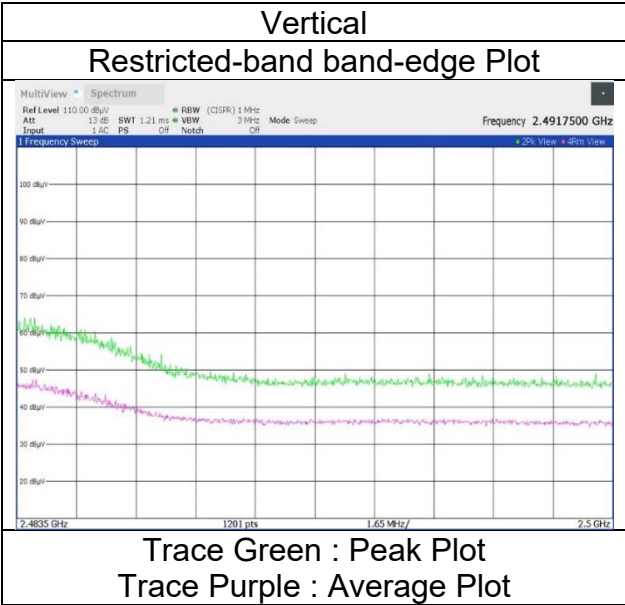
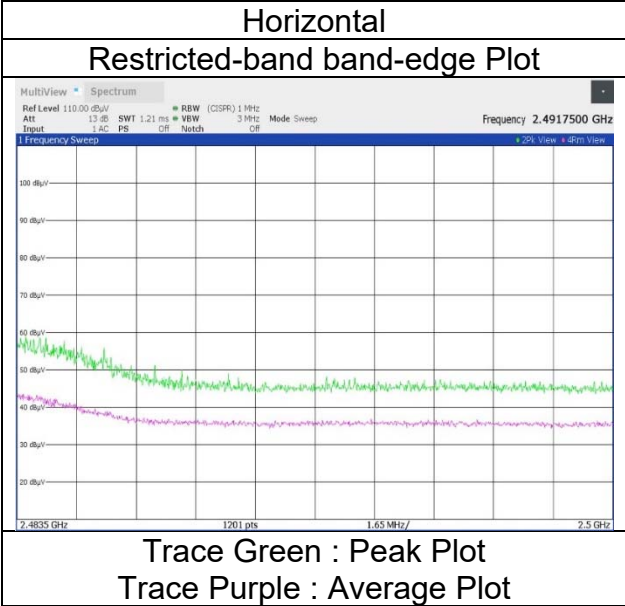
Duty factor refer to "Burst rate confirmation" sheet.

*1) Not out of band emission (Leakage Power)

*2) Noise synchronized with duty of carrier frequency.

Radiated Spurious Emission
(Reference Plot for band-edge)

Mode	Tx 11ax-20(OFDM) MIMO, 2462 MHz				
Date	Test site	Temperature	Humidity	Engineer	Measurement Range
February 19, 2025	WAC2	18 deg. C	28 % RH	Miku Ikudome	1 GHz to 2.8 GHz



* 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

Mode	Tx 11ax-20(OFDMA) 26-tone RU, RU Index 0, MIMO, 2412 MHz												
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Date	Test site	Temperature	Humidity	Engineer	Measurement Range
February 19, 2025	WAC2	18 deg. C	28 % RH	Miku Ikudome	1 GHz to 2.8 GHz

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

Polarity	Frequency	Detector	Reading	Ant.Fac.	Loss	Gain	Distance Fac.	Result	Limit	Margin	Height	Angle	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	[cm]	[deg.]	
Hori.	2387.902	PK	50.01	27.74	-28.59	-	2.22	51.38	73.9	22.5	398	92	-
Hori.	2390.000	PK	50.12	27.75	-28.59	-	2.22	51.50	73.9	22.4	398	92	-
Vert.	2387.702	PK	53.06	27.74	-28.59	-	2.22	54.43	73.9	19.4	303	94	-
Vert.	2390.000	PK	52.28	27.75	-28.59	-	2.22	53.66	73.9	20.2	303	94	-

Result = Reading + Ant.Fac. + Loss (Cable + (Atten or Filter)(below 18 GHz) - Gain(Amp) (1 GHz to 18 GHz)) - Gain(Amp) (only below 1 GHz & above 18 GHz) + Distance Fac.

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

Distance Fac. : 1 GHz to 10 GHz : $20\log(3.87[m]/3.0[m]) = 2.22 [dB]$

10 GHz to 40 GHz : $20\log(1.00[m]/3.0[m]) = -9.54 [dB]$

Average measurement value with Duty Factor

Polarity	Frequency	Detector	Reading	Ant.Fac.	Loss	Gain	Duty Fac.	Distance Fac.	Result	Limit	Margin	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
Hori.	2387.902	AV	36.77	27.74	-28.59	-	0.24	2.22	38.38	53.9	15.5	*2)
Hori.	2390.000	AV	37.05	27.75	-28.59	-	0.24	2.22	38.67	53.9	15.2	*1)
Vert.	2387.702	AV	37.99	27.74	-28.59	-	0.24	2.22	39.60	53.9	14.3	*2)
Vert.	2390.000	AV	37.79	27.75	-28.59	-	0.24	2.22	39.41	53.9	14.4	*1)

Result = Reading + Ant.Fac. + Loss (Cable + (Atten or Filter)(below 18 GHz) - Gain(Amp) (1 GHz to 18 GHz)) - Gain(Amp) (only below 1 GHz & above 18 GHz) + Duty Fac. + Distance Fac.

Distance Fac. : 1 GHz to 10 GHz : $20\log(3.87[m]/3.0[m]) = 2.22 [dB]$

10 GHz to 40 GHz : $20\log(1.00[m]/3.0[m]) = -9.54 [dB]$

Duty factor refer to "Burst rate confirmation" sheet.

*1) Not out of band emission (Leakage Power)

*2) Noise synchronized with duty of carrier frequency.

20 dBc Data Sheet

(RBW 100 kHz, VBW 300 kHz)

Polarity	Frequency	Detector	Reading	Ant.Fac.	Loss	Gain	Distance Fac.	Result	Limit	Margin	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
Hori.	2412.000	PK	96.53	27.79	-28.58	-	2.22	97.96	-	-	Carrier
Hori.	2400.000	PK	61.02	27.77	-28.58	-	2.22	62.43	77.9	15.4	-
Vert.	2412.000	PK	98.92	27.79	-28.58	-	2.22	100.35	-	-	Carrier
Vert.	2400.000	PK	63.52	27.77	-28.58	-	2.22	64.93	80.3	15.3	-

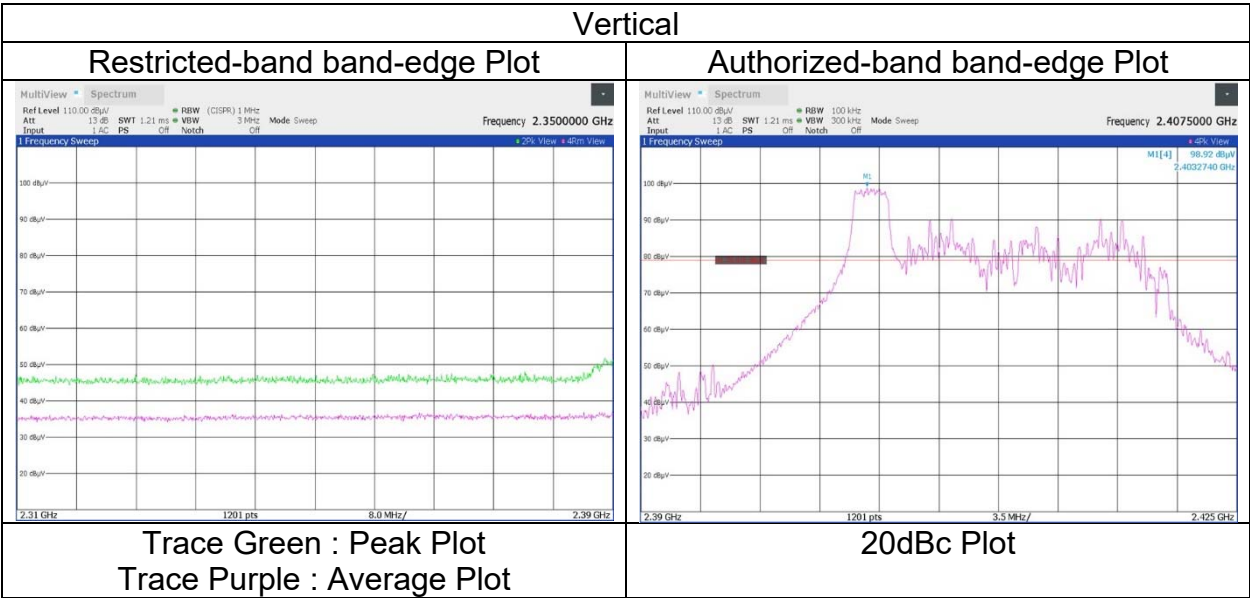
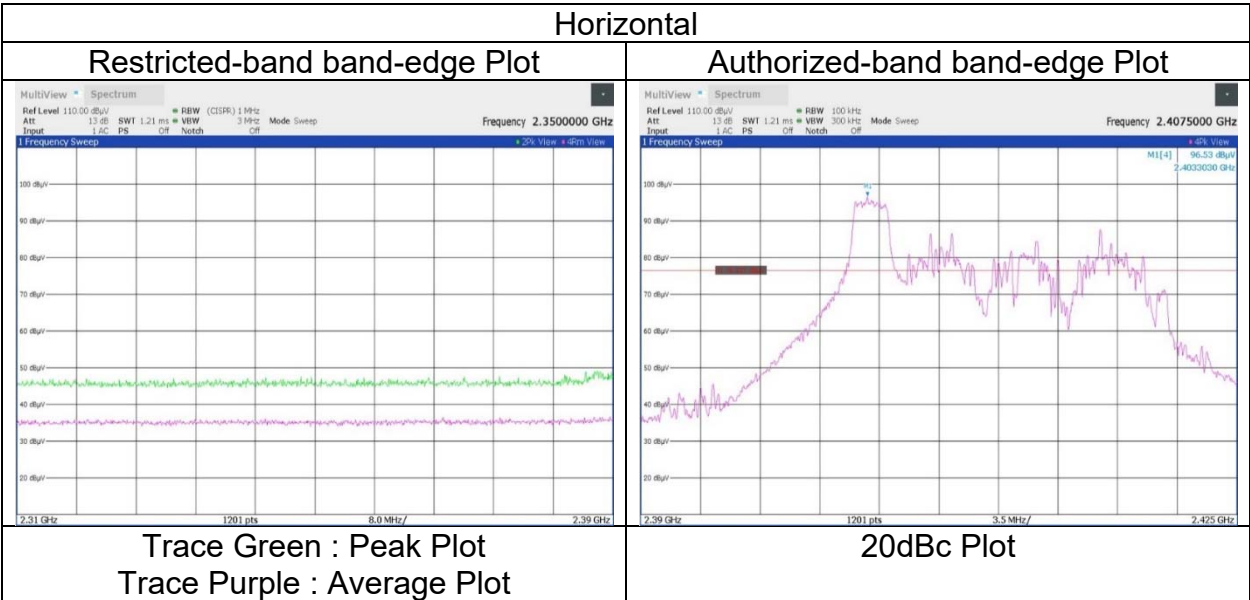
Result = Reading + Ant.Fac. + Loss (Cable + (Atten or Filter)(below 18 GHz) - Gain(Amp) (1 GHz to 18 GHz)) - Gain(Amp) (only below 1 GHz & above 18 GHz) + Distance Fac.

Distance Fac. : 1 GHz to 10 GHz : $20\log(3.87[m]/3.0[m]) = 2.22 [dB]$

10 GHz to 40 GHz : $20\log(1.00[m]/3.0[m]) = -9.54 [dB]$

Radiated Spurious Emission
(Reference Plot for band-edge)

Mode	Tx 11ax-20(OFDMA) 26-tone RU, RU Index 0, MIMO, 2412 MHz				
Date	Test site	Temperature	Humidity	Engineer	Measurement Range
February 19, 2025	WAC2	18 deg. C	28 % RH	Miku Ikudome	1 GHz to 2.8 GHz



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

Radiated Spurious Emission

Mode	Tx 11ax-20(OFDMA) 26-tone RU, RU Index 8, MIMO, 2462 MHz
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Date	Test site	Temperature	Humidity	Engineer	Measurement Range
February 19, 2025	WAC2	18 deg. C	28 % RH	Miku Ikudome	1 GHz to 2.8 GHz

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

Polarity	Frequency	Detector	Reading	Ant.Fac.	Loss	Gain	Distance Fac.	Result	Limit	Margin	Height	Angle	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	[cm]	[deg.]	
Hori.	2483.500	PK	53.31	27.80	-28.53	-	2.22	54.80	73.9	19.1	148	120	-
Vert.	2483.500	PK	53.43	27.80	-28.53	-	2.22	54.92	73.9	18.9	374	157	-

Result = Reading + Ant.Fac. + Loss (Cable + (Atten or Filter)(below 18 GHz) - Gain(Amp) (1 GHz to 18 GHz)) - Gain(Amp) (only below 1 GHz & above 18 GHz) + Distance Fac.

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

Distance Fac. : 1 GHz to 10 GHz : $20\log(3.87[m] / 3.0[m]) = 2.22 [dB]$

10 GHz to 40 GHz : $20\log(1.00[m] / 3.0[m]) = -9.54 [dB]$

Average measurement value with Duty Factor

Polarity	Frequency	Detector	Reading	Ant.Fac.	Loss	Gain	Duty Fac.	Distance Fac.	Result	Limit	Margin	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
Hori.	2483.500	AV	37.16	27.80	-28.53	-	0.24	2.22	38.89	53.9	15.0	*1)
Vert.	2483.500	AV	37.75	27.80	-28.53	-	0.24	2.22	39.48	53.9	14.4	*1)

Result = Reading + Ant.Fac. + Loss (Cable + (Atten or Filter)(below 18 GHz) - Gain(Amp) (1 GHz to 18 GHz)) - Gain(Amp) (only below 1 GHz & above 18 GHz) + Duty Fac. + Distance Fac.

Distance Fac. : 1 GHz to 10 GHz : $20\log(3.87[m] / 3.0[m]) = 2.22 [dB]$

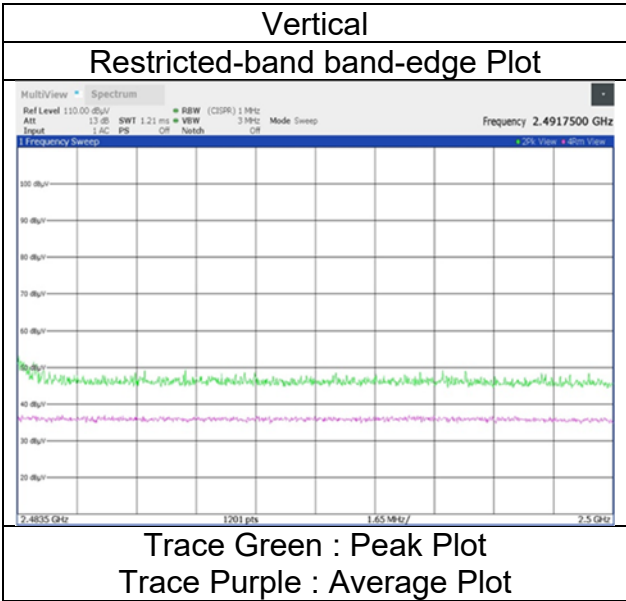
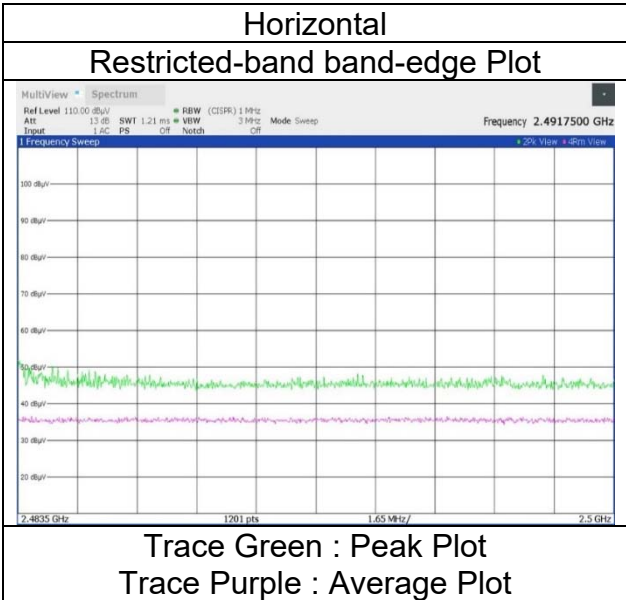
10 GHz to 40 GHz : $20\log(1.00[m] / 3.0[m]) = -9.54 [dB]$

Duty factor refer to "Burst rate confirmation" sheet.

*1) Not out of band emission (Leakage Power)

**Radiated Spurious Emission
(Reference Plot for band-edge)**

Mode	Tx 11ax-20(OFDMA) 26-tone RU, RU Index 8, MIMO, 2462 MHz				
Date	Test site	Temperature	Humidity	Engineer	Measurement Range
February 19, 2025	WAC2	18 deg. C	28 % RH	Miku Ikudome	1 GHz to 2.8 GHz



* 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

Mode	Tx 11ax-20(OFDMA) 52-tone RU, RU Index 37, MIMO, 2412 MHz
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Date	Test site	Temperature	Humidity	Engineer	Measurement Range
February 19, 2025	WAC2	18 deg. C	28 % RH	Miku Ikudome	1 GHz to 2.8 GHz

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

Polarity	Frequency	Detector	Reading	Ant.Fac.	Loss	Gain	Distance Fac.	Result	Limit	Margin	Height	Angle	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	[cm]	[deg.]	
Hori.	2390.000	PK	54.20	27.75	-28.59	-	2.22	55.58	73.9	18.3	284	63	-
Vert.	2390.000	PK	53.03	27.75	-28.59	-	2.22	54.41	73.9	19.4	295	94	-

Result = Reading + Ant.Fac. + Loss (Cable + (Atten or Filter)(below 18 GHz) - Gain(Amp) (1 GHz to 18 GHz)) - Gain(Amp) (only below 1 GHz & above 18 GHz) + Distance Fac.

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

Distance Fac. : 1 GHz to 10 GHz : $20\log(3.87 [m] / 3.0 [m]) = 2.22 [dB]$

10 GHz to 40 GHz : $20\log(1.00 [m] / 3.0 [m]) = -9.54 [dB]$

Average measurement value with Duty Factor

Polarity	Frequency	Detector	Reading	Ant.Fac.	Loss	Gain	Duty Fac.	Distance Fac.	Result	Limit	Margin	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
Hori.	2390.000	AV	38.53	27.75	-28.59	-	0.15	2.22	40.06	53.9	13.8	*1)
Vert.	2390.000	AV	38.09	27.75	-28.59	-	0.15	2.22	39.62	53.9	14.2	*1)

Result = Reading + Ant.Fac. + Loss (Cable + (Atten or Filter)(below 18 GHz) - Gain(Amp) (1 GHz to 18 GHz)) - Gain(Amp) (only below 1 GHz & above 18 GHz) + Duty Fac. + Distance Fac.

Distance Fac. : 1 GHz to 10 GHz : $20\log(3.87 [m] / 3.0 [m]) = 2.22 [dB]$

10 GHz to 40 GHz : $20\log(1.00 [m] / 3.0 [m]) = -9.54 [dB]$

Duty factor refer to "Burst rate confirmation" sheet.

*1) Not out of band emission (Leakage Power)

20 dBc Data Sheet

(RBW 100 kHz, VBW 300 kHz)

Polarity	Frequency	Detector	Reading	Ant.Fac.	Loss	Gain	Distance Fac.	Result	Limit	Margin	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
Hori.	2412.000	PK	93.35	27.79	-28.58	-	2.22	94.78	-	-	Carrier
Hori.	2400.000	PK	57.66	27.77	-28.58	-	2.22	59.07	74.7	15.6	-
Vert.	2412.000	PK	95.70	27.79	-28.58	-	2.22	97.13	-	-	Carrier
Vert.	2400.000	PK	59.77	27.77	-28.58	-	2.22	61.18	77.1	15.9	-

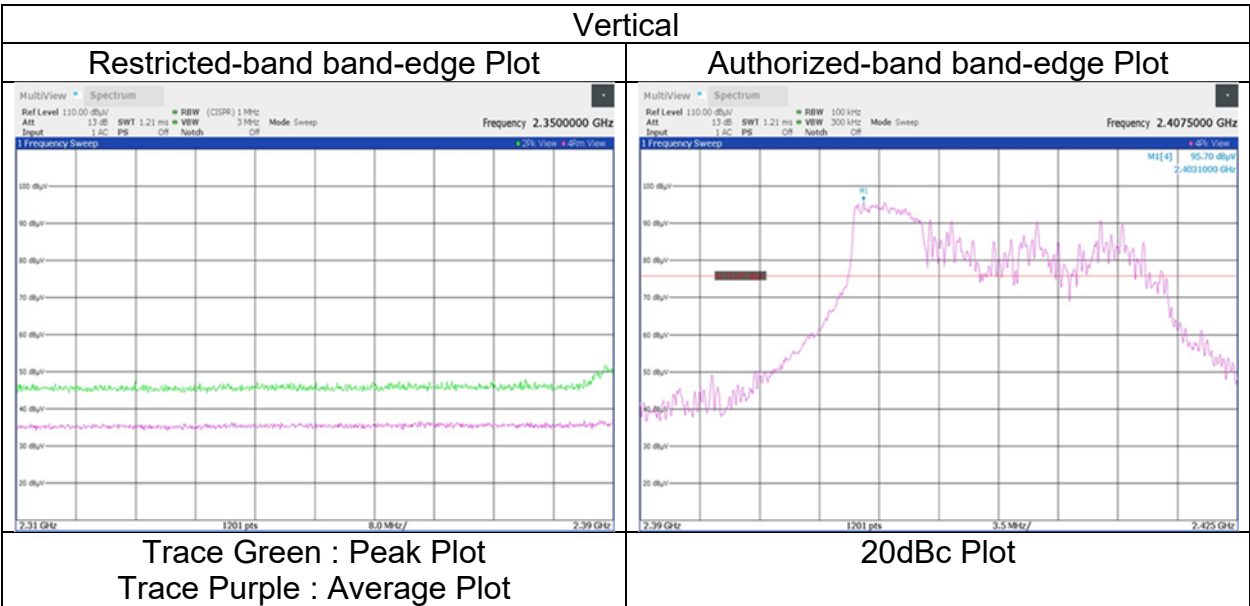
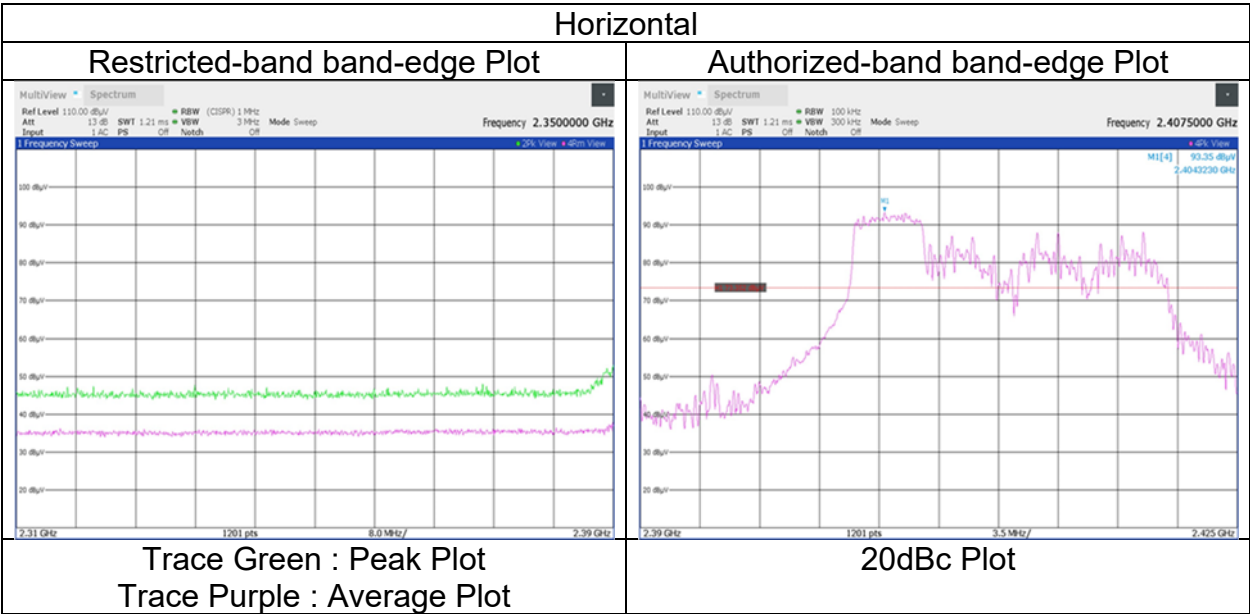
Result = Reading + Ant.Fac. + Loss (Cable + (Atten or Filter)(below 18 GHz) - Gain(Amp) (1 GHz to 18 GHz)) - Gain(Amp) (only below 1 GHz & above 18 GHz) + Distance Fac.

Distance Fac. : 1 GHz to 10 GHz : $20\log(3.87 [m] / 3.0 [m]) = 2.22 [dB]$

10 GHz to 40 GHz : $20\log(1.00 [m] / 3.0 [m]) = -9.54 [dB]$

Radiated Spurious Emission
(Reference Plot for band-edge)

Mode	Tx 11ax-20(OFDMA) 52-tone RU, RU Index 37, MIMO, 2412 MHz				
Date	Test site	Temperature	Humidity	Engineer	Measurement Range
February 19, 2025	WAC2	18 deg. C	28 % RH	Miku Ikudome	1 GHz to 2.8 GHz



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

Radiated Spurious Emission

Mode	Tx 11ax-20(OFDMA) 52-tone RU, RU Index 40, MIMO, 2462 MHz
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Date	Test site	Temperature	Humidity	Engineer	Measurement Range
February 19, 2025	WAC2	18 deg. C	28 % RH	Miku Ikudome	1 GHz to 2.8 GHz

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

Polarity	Frequency	Detector	Reading	Ant.Fac.	Loss	Gain	Distance Fac.	Result	Limit	Margin	Height	Angle	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	[cm]	[deg.]	
Hori.	2483.500	PK	53.55	27.80	-28.53	-	2.22	55.04	73.9	18.8	114	304	-
Vert.	2483.500	PK	52.23	27.80	-28.53	-	2.22	53.72	73.9	20.1	370	151	-

Result = Reading + Ant.Fac. + Loss (Cable + (Atten or Filter)(below 18 GHz) - Gain(Amp) (1 GHz to 18 GHz)) - Gain(Amp) (only below 1 GHz & above 18 GHz) + Distance Fac.

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

Distance Fac. : 1 GHz to 10 GHz : $20\log(3.87[m] / 3.0[m]) = 2.22 [dB]$

10 GHz to 40 GHz : $20\log(1.00[m] / 3.0[m]) = -9.54 [dB]$

Average measurement value with Duty Factor

Polarity	Frequency	Detector	Reading	Ant.Fac.	Loss	Gain	Duty Fac.	Distance Fac.	Result	Limit	Margin	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
Hori.	2483.500	AV	36.71	27.80	-28.53	-	0.15	2.22	38.35	53.9	15.5	*1)
Vert.	2483.500	AV	36.92	27.80	-28.53	-	0.15	2.22	38.56	53.9	15.3	*1)

Result = Reading + Ant.Fac. + Loss (Cable + (Atten or Filter)(below 18 GHz) - Gain(Amp) (1 GHz to 18 GHz)) - Gain(Amp) (only below 1 GHz & above 18 GHz) + Duty Fac. + Distance Fac.

Distance Fac. : 1 GHz to 10 GHz : $20\log(3.87[m] / 3.0[m]) = 2.22 [dB]$

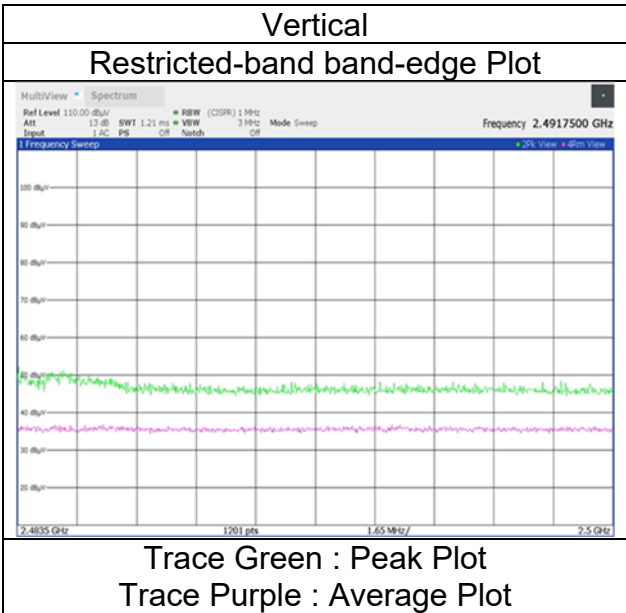
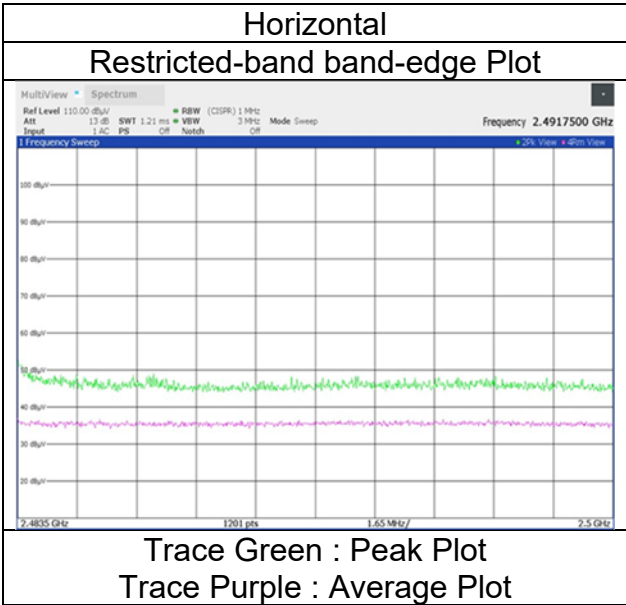
10 GHz to 40 GHz : $20\log(1.00[m] / 3.0[m]) = -9.54 [dB]$

Duty factor refer to "Burst rate confirmation" sheet.

*1) Not out of band emission (Leakage Power)

Radiated Spurious Emission
(Reference Plot for band-edge)

Mode	Tx 11ax-20(OFDMA) 52-tone RU, RU Index 40, MIMO, 2462 MHz				
Date	Test site	Temperature	Humidity	Engineer	Measurement Range
February 19, 2025	WAC2	18 deg. C	28 % RH	Miku Ikudome	1 GHz to 2.8 GHz



* 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

Mode	Tx 11ax-20(OFDMA) 106-tone RU, RU Index 53, MIMO, 2412 MHz
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Date	Test site	Temperature	Humidity	Engineer	Measurement Range
February 19, 2025	WAC2	18 deg. C	28 % RH	Miku Ikudome	1 GHz to 2.8 GHz

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

Polarity	Frequency	Detector	Reading	Ant.Fac.	Loss	Gain	Distance Fac.	Result	Limit	Margin	Height	Angle	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	[cm]	[deg.]	
Hori.	2390.000	PK	52.76	27.75	-28.59	-	2.22	54.14	73.9	19.7	243	57	-
Vert.	2390.000	PK	53.76	27.75	-28.59	-	2.22	55.14	73.9	18.7	295	94	-

Result = Reading + Ant.Fac. + Loss (Cable + (Atten or Filter)(below 18 GHz) - Gain(Amp) (1 GHz to 18 GHz)) - Gain(Amp) (only below 1 GHz & above 18 GHz) + Distance Fac.

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

Distance Fac. : 1 GHz to 10 GHz : $20\log(3.87 [m] / 3.0 [m]) = 2.22 [dB]$

10 GHz to 40 GHz : $20\log(1.00 [m] / 3.0 [m]) = -9.54 [dB]$

Average measurement value with Duty Factor

Polarity	Frequency	Detector	Reading	Ant.Fac.	Loss	Gain	Duty Fac.	Distance Fac.	Result	Limit	Margin	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
Hori.	2390.000	AV	38.12	27.75	-28.59	-	0.29	2.22	39.79	53.9	14.1	*1)
Vert.	2390.000	AV	38.46	27.75	-28.59	-	0.29	2.22	40.13	53.9	13.7	*1)

Result = Reading + Ant.Fac. + Loss (Cable + (Atten or Filter)(below 18 GHz) - Gain(Amp) (1 GHz to 18 GHz)) - Gain(Amp) (only below 1 GHz & above 18 GHz) + Duty Fac. + Distance Fac.

Distance Fac. : 1 GHz to 10 GHz : $20\log(3.87 [m] / 3.0 [m]) = 2.22 [dB]$

10 GHz to 40 GHz : $20\log(1.00 [m] / 3.0 [m]) = -9.54 [dB]$

Duty factor refer to "Burst rate confirmation" sheet.

*1) Not out of band emission (Leakage Power)

20 dBc Data Sheet

(RBW 100 kHz, VBW 300 kHz)

Polarity	Frequency	Detector	Reading	Ant.Fac.	Loss	Gain	Distance Fac.	Result	Limit	Margin	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
Hori.	2412.000	PK	89.44	27.79	-28.58	-	2.22	90.87	-	-	Carrier
Hori.	2400.000	PK	55.73	27.77	-28.58	-	2.22	57.14	70.8	13.6	-
Vert.	2412.000	PK	91.93	27.79	-28.58	-	2.22	93.36	-	-	Carrier
Vert.	2400.000	PK	58.79	27.77	-28.58	-	2.22	60.20	73.3	13.1	-

Result = Reading + Ant.Fac. + Loss (Cable + (Atten or Filter)(below 18 GHz) - Gain(Amp) (1 GHz to 18 GHz)) - Gain(Amp) (only below 1 GHz & above 18 GHz) + Distance Fac.

Distance Fac. : 1 GHz to 10 GHz : $20\log(3.87 [m] / 3.0 [m]) = 2.22 [dB]$

10 GHz to 40 GHz : $20\log(1.00 [m] / 3.0 [m]) = -9.54 [dB]$