



# **RADIO TEST REPORT**

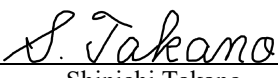
**Test Report No. : 13408107S-C**

**Applicant** : Panasonic Corporation  
**Type of EUT** : Car Navigation  
**Model Number of EUT** : AT2104  
**FCC ID** : ACJ932AT2104  
**Test regulation** : FCC Part 15 Subpart E: 2020  
**Test Item** : Antenna Terminal Conducted Tests  
**Test result** : Complied (Refer to SECTION 3.2)

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2. The results in this report apply only to the sample tested.
3. This sample tested is in compliance with the limits of the above regulation.
4. The test results in this test report are traceable to the national or international standards.
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6. This test report covers Radio technical requirements.  
It does not cover administrative issues such as Manual or non-Radio test related Requirements. (if applicable)
7. The all test items in this test report are conducted by UL Japan, Inc. Shonan EMC Lab.
8. The opinions and the interpretations to the result of the description in this report are outside scopes where UL Japan has been accredited.
9. The information provided from the customer for this report is identified in SECTION 1.

**Date of test:** July 10 to August 17, 2020

**Representative test engineer:**   
Shiro Kobayashi  
Engineer  
Consumer Technology Division

**Approved by:**   
Shinichi Takano  
Engineer  
Consumer Technology Division



CERTIFICATE 1266.03

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

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## **REVISION HISTORY**

**Original Test Report No.: 13385909S-C**

| Revision     | Test report No. | Date               | Page revised | Contents |
|--------------|-----------------|--------------------|--------------|----------|
| - (Original) | 13408107S-C     | September 29, 2020 | -            | -        |

## Reference: Abbreviations (Including words undescribed in this report)

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

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## **SECTION 1: Customer information**

|                  |   |                                                                              |
|------------------|---|------------------------------------------------------------------------------|
| Company Name     | : | Panasonic Corporation                                                        |
| Address          | : | 4261 Ikonobe-cho, Tsuzuki-ku, Yokohama-shi, Kanagawa-ken,<br>224-8520, Japan |
| Telephone Number | : | +81-50-3689-7112                                                             |
| Contact Person   | : | Takahisa Sakai                                                               |

The information provided from the customer is as follows;

- Applicant, Type 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
- SECTION 4: Operation of EUT during testing

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

## **SECTION 2: Equipment under test (EUT)**

### **2.1 Identification of EUT**

|                            |   |                                                                                           |
|----------------------------|---|-------------------------------------------------------------------------------------------|
| Type                       | : | Car Navigation                                                                            |
| Model Number               | : | AT2104                                                                                    |
| Serial Number              | : | Refer to SECTION 4.2                                                                      |
| Rating                     | : | DC 13.2 V                                                                                 |
| Receipt Date               | : | June 29, 2020                                                                             |
| Country of Mass-production | : | Japan, Mexico, Czech Republic                                                             |
| Condition                  | : | Production prototype<br>(Not for Sale: This sample is equivalent to mass-produced items.) |
| Modification               | : | No Modification by the test lab.                                                          |

## 2.2 Product Description

Model: AT2104 (referred to as the EUT in this report) are a Car Navigation.

There are 2 type for AT2104; Hi type(14 inch Display) and Lo type(8 inch Display). The same radio module and antenna are installed in these models, however the substrate pattern and antenna arrangement are different.

### Radio Specification

|                        | IEEE802.11b                              | IEEE802.11g                              | IEEE802.11n<br>(20 MHz band)                                  | IEEE802.11n<br>(40 MHz band)           |
|------------------------|------------------------------------------|------------------------------------------|---------------------------------------------------------------|----------------------------------------|
| Frequency of operation | 2412 MHz - 2462 MHz                      | 2412 MHz - 2462 MHz                      | 2412 MHz – 2462 MHz, 5180 MHz – 5240 MHz, 5745 MHz – 5825 MHz | 5190 MHz, 5230 MHz, 5755 MHz, 5795 MHz |
| Channel spacing        | 5 MHz                                    |                                          | 2.4 GHz band: 5 MHz<br>5 GHz band: 20 MHz                     | 40 MHz                                 |
| Modulation             | DSSS (CCK, DQPSK, DBPSK)                 | OFDM-CCK (64QAM, 16QAM, QPSK, BPSK)      | OFDM (64QAM, 16QAM, QPSK, BPSK)                               |                                        |
|                        | IEEE802.11a                              | IEEE802.11ac<br>(20 MHz band)            | IEEE802.11ac<br>(40 MHz band)                                 | IEEE802.11ac<br>(80 MHz band)          |
| Frequency of operation | 5180 MHz – 5240 MHz, 5745 MHz – 5825 MHz | 5180 MHz – 5240 MHz, 5745 MHz – 5825 MHz | 5190 MHz, 5230 MHz, 5755 MHz, 5795 MHz                        | 5210 MHz, 5775 MHz                     |
| Channel spacing        | 20 MHz                                   |                                          | 40 MHz                                                        | 80 MHz                                 |
| Modulation             | OFDM (64QAM, 16QAM, QPSK, BPSK)          | OFDM (256QAM,16QAM,QPSK,BPSK)            |                                                               |                                        |
|                        | Bluetooth (BR/EDR)                       |                                          | Bluetooth Low Energy                                          |                                        |
| Frequency of operation | 2402 MHz – 2480 MHz                      |                                          | 2402 MHz – 2480 MHz                                           |                                        |
| Channel spacing        | 1 MHz                                    |                                          | 2 MHz                                                         |                                        |
| Modulation             | FHSS, GFSK, $\pi/4$ DQPSK, 8DPSK         |                                          | FHSS, GFSK                                                    |                                        |
| Antenna type           | Inverted F type antenna                  |                                          |                                                               |                                        |
| Antenna Gain           | Hi type<br>(14 inch Display)             | RF0                                      | 2.4 GHz WLAN                                                  | -0.83 dBi                              |
|                        |                                          |                                          | U-NII-1                                                       | 2.17 dBi                               |
|                        |                                          |                                          | U-NII-3                                                       | 2.37 dBi                               |
|                        |                                          | RF1                                      | BT, BT LE                                                     | -0.13 dBi                              |
|                        |                                          |                                          | U-NII-1                                                       | 2.59 dBi                               |
|                        |                                          |                                          | U-NII-3                                                       | 2.64 dBi                               |
|                        | Lo type<br>(8 inch Display)              | RF0                                      | 2.4 GHz WLAN                                                  | 2.25 dBi                               |
|                        |                                          |                                          | U-NII-1                                                       | 1.41 dBi                               |
|                        |                                          |                                          | U-NII-3                                                       | 0.99 dBi                               |
|                        |                                          | RF1                                      | BT, BT LE                                                     | -0.22 dBi                              |
|                        |                                          |                                          | U-NII-1                                                       | 1.08 dBi                               |
|                        |                                          |                                          | U-NII-3                                                       | 2.14 dBi                               |
| Antenna Connector type | U.FL connector                           |                                          |                                                               |                                        |
| Operating Temperature  | -30 deg. C to + 65 deg. C                |                                          |                                                               |                                        |

## SECTION 3: Test specification, procedures & results

### 3.1 Test Specification

Test Specification : FCC Part 15 Subpart E  
FCC Part 15 final revised on May 26, 2020 and effective July 27, 2020

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

\* The revision does not affect the test result conducted before its effective date.

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

### 3.2 Procedures and results

| Item                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Test Procedure                                                    | Specification                                                                                | Worst margin | Results     | Remarks              |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|----------------------------------------------------------------------------------------------|--------------|-------------|----------------------|
| Conducted Emission                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | FCC: ANSI C63.10-2013<br>ISED: RSS-Gen 8.8                        | FCC: 15.407 (b) (6) / 15.207<br>ISED: RSS-Gen 8.8                                            | -            | N/A *1)     | -                    |
| 26 dB Emission Bandwidth                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | FCC: KDB Publication Number 789033<br>ISED: -                     | FCC: 15.407 (a) (1) (2) (3)<br>ISED: -                                                       | See data     | N/A         | Conducted            |
| Maximum Conducted Output Power                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | FCC: KDB Publication Number 789033<br>ISED: -                     | FCC: 15.407 (a) (1) (2) (3)<br>ISED: RSS-247 6.2.1.1<br>6.2.2.1<br>6.2.3.1<br>6.2.4.1        |              | Complied a) | Conducted            |
| Maximum Power Spectral Density                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | FCC: KDB Publication Number 789033<br>ISED: -                     | FCC : 15.407 (a) (1) (2) (3)<br>ISED: RSS-247 6.2.1.1<br>6.2.2.1<br>6.2.3.1<br>6.2.4.1       |              | N/A b)      | Conducted            |
| Spurious Emission Restricted Band Edge                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | FCC: ANSI C63.10-2013<br>KDB Publication Number 789033<br>ISED: - | FCC: 15.407 (b), 15.205 and 15.209<br>ISED: RSS-247 6.2.1.2<br>6.2.2.2<br>6.2.3.2<br>6.2.4.2 | See data     | Complied c) | Conducted (< 30 MHz) |
| 6 dB Emission Bandwidth                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | FCC: ANSI C63.10-2013<br>ISED: -                                  | FCC: 15.407 (e)<br>ISED: RSS-247 6.2.4.1                                                     | See data     | Complied d) | Conducted            |
| Note: UL Japan, Inc.'s EMI Work Procedures No. 13-EM-W0420 and 13-EM-W0422.<br>*1) The test is not applicable since the EUT does not have AC Mains.<br><br>a) Refer to APPENDIX 1 (data of Maximum Conducted Output Power)<br>b) Refer to APPENDIX 1 (data of Maximum Power Spectral Density)<br>c) Refer to APPENDIX 1 (data of Conducted Spurious Emission)<br>d) Refer to APPENDIX 1 (data of 6 dB Bandwidth)<br><br>Symbols:<br>Complied The data of this test item has enough margin, more than the measurement uncertainty.<br>Complied# The data of this test item meets the limits unless the measurement uncertainty is taken into consideration. |                                                                   |                                                                                              |              |             |                      |

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

### **FCC Part 15.31 (e)**

The EUT provides stable voltage constantly to the 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.

## **3.3 Addition to standard**

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

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

## **3.4 Uncertainty**

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

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

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| Antenna terminal test                                   | Uncertainty (+/-) |
|---------------------------------------------------------|-------------------|
| Power Measurement above 1 GHz (Average Detector)_SPM-06 | 0.98 dB           |
| Power Measurement above 1 GHz (Peak Detector)_SPM-06    | 1.75 dB           |
| Power Measurement above 1 GHz (Average Detector)_SPM-07 | 0.89 dB           |
| Power Measurement above 1 GHz (Peak Detector)_SPM-07    | 1.12 dB           |
| Power Measurement above 1 GHz (Average Detector)_SPM-13 | 1.06 dB           |
| Power Measurement above 1 GHz (Peak Detector)_SPM-13    | 1.24 dB           |
| Spurious emission (Conducted) below 1GHz                | 0.9 dB            |
| Spurious emission (Conducted) 1 GHz-3 GHz               | 0.9 dB            |
| Spurious emission (Conducted) 3 GHz-18 GHz              | 2.9 dB            |
| Spurious emission (Conducted) 18 GHz-26.5 GHz           | 2.6 dB            |
| Spurious emission (Conducted) 26.5 GHz-40 GHz           | 2.0 dB            |
| Bandwidth Measurement                                   | 0.07 %            |
| Duty cycle and Time Measurement                         | 0.262 %           |
| Temperature                                             | 0.95 deg.C.       |
| Voltage                                                 | 0.83 %            |

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### 3.5 Test Location

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A2LA Certificate Number: 1266.03 (FCC Test Firm Registration Number: 626366, ISED Lab Company Number: 2973D)

| Test site                  | IC Registration Number | Width x Depth x Height (m) | Size of reference ground plane (m) / horizontal conducting plane | Maximum measurement distance |
|----------------------------|------------------------|----------------------------|------------------------------------------------------------------|------------------------------|
| No.1 Semi-anechoic chamber | 2973D-1                | 20.6 x 11.3 x 7.65         | 20.6 x 11.3                                                      | 10 m                         |
| No.2 Semi-anechoic chamber | 2973D-2                | 20.6 x 11.3 x 7.65         | 20.6 x 11.3                                                      | 10 m                         |
| No.3 Semi-anechoic chamber | 2973D-3                | 12.7 x 7.7 x 5.35          | 12.7 x 7.7                                                       | 5 m                          |
| No.4 Semi-anechoic chamber | -                      | 8.1 x 5.1 x 3.55           | 8.1 x 5.1                                                        | -                            |
| No.1 Shielded room         | -                      | 6.8 x 4.1 x 2.7            | 6.8 x 4.1                                                        | -                            |
| No.2 Shielded room         | -                      | 6.8 x 4.1 x 2.7            | 6.8 x 4.1                                                        | -                            |
| No.3 Shielded room         | -                      | 6.3 x 4.7 x 2.7            | 6.3 x 4.7                                                        | -                            |
| No.4 Shielded room         | -                      | 4.4 x 4.7 x 2.7            | 4.4 x 4.7                                                        | -                            |
| No.5 Shielded room         | -                      | 7.8 x 6.4 x 2.7            | 7.8 x 6.4                                                        | -                            |
| No.6 Shielded room         | -                      | 7.8 x 6.4 x 2.7            | 7.8 x 6.4                                                        | -                            |
| No.8 Shielded room         | -                      | 3.45 x 5.5 x 2.4           | 3.45 x 5.5                                                       | -                            |
| No.1 Measurement room      | -                      | 2.55 x 4.1 x 2.5           | -                                                                | -                            |

### 3.6 Test data, Test instruments, and Test set up

Refer to APPENDIX.

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## **SECTION 4: Operation of EUT during testing**

### **4.1 Operating Mode(s)**

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

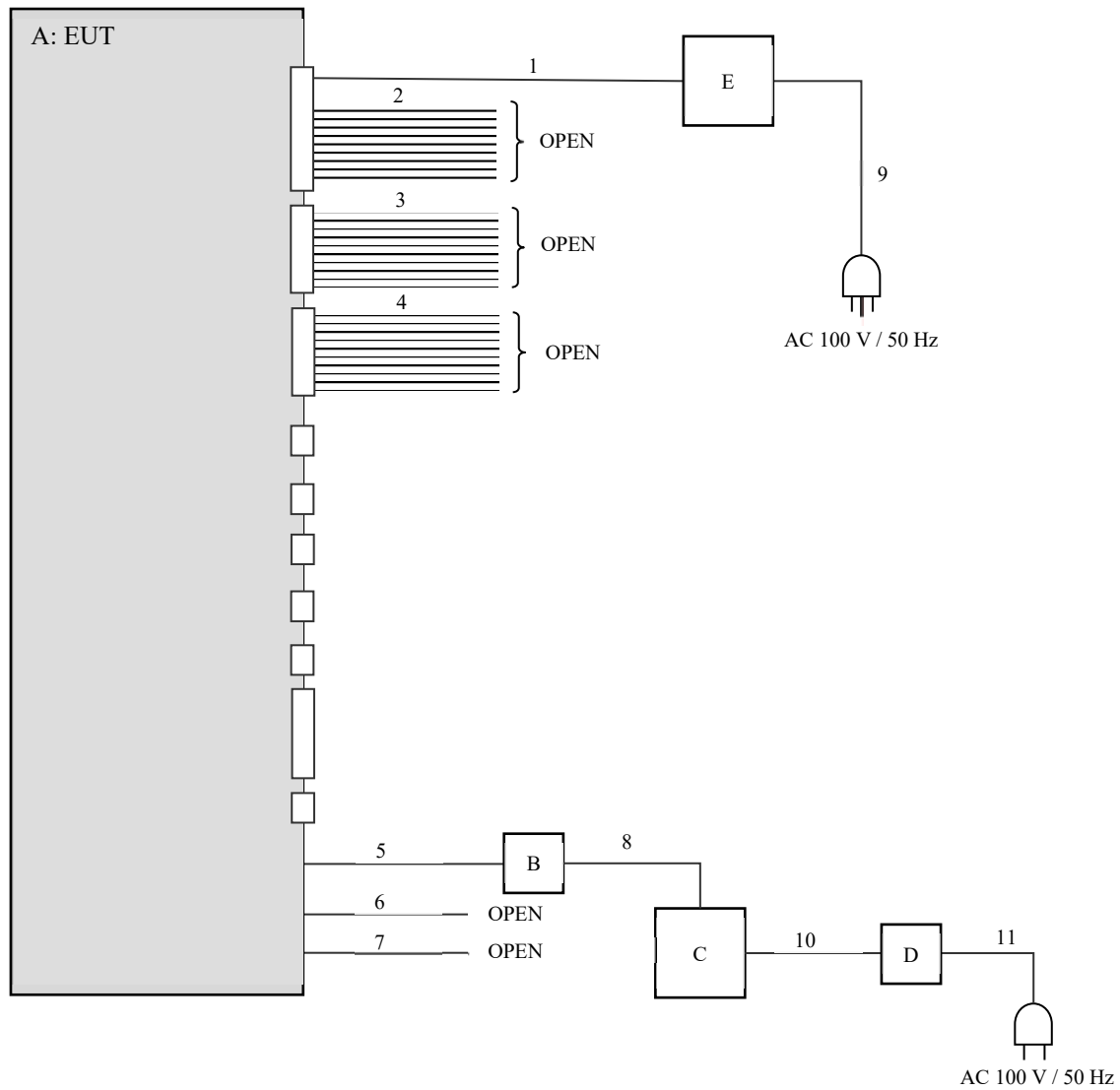
| <b>Mode</b>                                                                                                                                                                                                          | <b>Remarks*</b>          |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| IEEE 802.11a SISO (11a SISO)                                                                                                                                                                                         | 54 Mbps (RF0, RF1), PN9  |
| IEEE 802.11a CDD (11a CDD)                                                                                                                                                                                           | 54 Mbps (RF0 + RF1), PN9 |
| IEEE 802.11n SISO 20 MHz BW (11n-20 SISO)                                                                                                                                                                            | MCS 7 (RF0, RF1), PN9    |
| IEEE 802.11n CDD 20 MHz BW (11n-20 CDD)                                                                                                                                                                              | MCS 7 (RF0 + RF1), PN9   |
| IEEE 802.11n MIMO 20 MHz BW (11n-20 MIMO)                                                                                                                                                                            | MCS 15 (RF0 + RF1), PN9  |
| IEEE 802.11ac SISO 20 MHz BW (11ac-20 SISO)                                                                                                                                                                          | MCS 8 (RF0, RF1), PN9    |
| IEEE 802.11ac CDD 20 MHz BW (11ac-20 CDD)                                                                                                                                                                            | MCS 8 (RF0 + RF1), PN9   |
| IEEE 802.11ac MIMO 20 MHz BW (11ac-20 MIMO)                                                                                                                                                                          | MCS 8 (RF0 + RF1), PN9   |
| IEEE 802.11n SISO 40 MHz BW (11n-40 SISO)                                                                                                                                                                            | MCS 7 (RF0, RF1), PN9    |
| IEEE 802.11n CDD 40 MHz BW (11n-40 CDD)                                                                                                                                                                              | MCS 7 (RF0 + RF1), PN9   |
| IEEE 802.11n MIMO 40 MHz BW (11n-40 MIMO)                                                                                                                                                                            | MCS 15 (RF0 + RF1), PN9  |
| IEEE 802.11ac SISO 40 MHz BW (11ac-40 SISO)                                                                                                                                                                          | MCS 7 (RF0, RF1), PN9    |
| IEEE 802.11ac CDD 40 MHz BW (11ac-40 CDD)                                                                                                                                                                            | MCS 7 (RF0 + RF1), PN9   |
| IEEE 802.11ac MIMO 40 MHz BW (11ac-40 MIMO)                                                                                                                                                                          | MCS 7 (RF0 + RF1), PN9   |
| IEEE 802.11ac SISO 80 MHz BW (11ac-80 SISO)                                                                                                                                                                          | MCS 7 (RF0, RF1), PN9    |
| IEEE 802.11ac CDD 80 MHz BW (11ac-80 CDD)                                                                                                                                                                            | MCS 7 (RF0 + RF1), PN9   |
| IEEE 802.11ac MIMO 80 MHz BW (11ac-80 MIMO)                                                                                                                                                                          | MCS 7 (RF0 + RF1), PN9   |
| *The worst antenna (RF1) and condition was determined based on the test result of Maximum Conducted Output Power.                                                                                                    |                          |
| *Power of the EUT was set by the software as follows;<br>Power settings: 5 dBm<br>Software: Labtool Version: 2.0.0.71<br>(Date: 2020.05.29, Storage location: EUT memory)                                            |                          |
| *This setting of software is the worst case.<br>Any conditions under the normal use do not exceed the condition of setting.<br>In addition, end users cannot change the settings of the output power of the product. |                          |

\*The details of Operation mode(s)

| Test Item                                                         | Operating Mode        | Tested Antenna | Tested Frequency |              |
|-------------------------------------------------------------------|-----------------------|----------------|------------------|--------------|
|                                                                   |                       |                | U-NII-1 Band     | U-NII-3 Band |
| 99 % Occupied Bandwidth                                           | 11a SISO/CDD          | RF1            | 5180 MHz         | 5745 MHz     |
|                                                                   | 11n-20 SISO/CDD/MIMO  |                | 5220 MHz         | 5785 MHz     |
|                                                                   | 11ac-20 SISO/CDD/MIMO |                | 5240 MHz         | 5825 MHz     |
|                                                                   | 11n-40 SISO/CDD/MIMO  | RF1            | 5190 MHz         | 5755 MHz     |
|                                                                   | 11ac-40 SISO/CDD/MIMO |                | 5230 MHz         | 5795 MHz     |
|                                                                   | 11ac-80 SISO/CDD/MIMO | RF1            | 5210 MHz         | 5775 MHz     |
| Maximum Conducted Output Power,<br>Maximum Power Spectral Density | 11a SISO              | RF0, RF1       | 5180 MHz         | 5745 MHz     |
|                                                                   | 11n-20 SISO           |                | 5220 MHz         | 5785 MHz     |
|                                                                   | 11ac-20 SISO          |                | 5240 MHz         | 5825 MHz     |
|                                                                   | 11a CDD               | RF0 + RF1      | 5180 MHz         | 5745 MHz     |
|                                                                   | 11n-20 CDD            |                | 5220 MHz         | 5785 MHz     |
|                                                                   | 11ac-20 CDD           |                | 5240 MHz         | 5825 MHz     |
|                                                                   | 11n-20 MIMO           | RF0 + RF1      | 5180 MHz         | 5745 MHz     |
|                                                                   | 11ac-20 MIMO          |                | 5220 MHz         | 5785 MHz     |
|                                                                   |                       |                | 5240 MHz         | 5825 MHz     |
|                                                                   | 11n-40 SISO           | RF0, RF1       | 5190 MHz         | 5755 MHz     |
|                                                                   | 11ac-40 SISO          |                | 5230 MHz         | 5795 MHz     |
|                                                                   | 11n-40 CDD            | RF0 + RF1      | 5190 MHz         | 5755 MHz     |
| 6 dB Bandwidth                                                    | 11a SISO/CDD/MIMO     | RF1            | -                | 5745 MHz     |
|                                                                   | 11n-20 SISO/CDD/MIMO  |                |                  | 5785 MHz     |
|                                                                   | 11ac-20 SISO/CDD/MIMO |                |                  | 5825 MHz     |
|                                                                   | 11n-40 SISO/CDD/MIMO  | RF1            | -                | 5755 MHz     |
|                                                                   | 11ac-40 SISO/CDD/MIMO |                |                  | 5795 MHz     |
|                                                                   | 11ac-80 SISO/CDD/MIMO | RF1            | -                | 5775 MHz     |
| Conducted Spurious Emission                                       | 11ac MIMO *1)         | RF1            | -                | 5745 MHz     |

\*1) The test was performed with the antenna that had higher power as a representative.

## 4.2 Configuration and peripherals



#### Description of EUT and support equipment

| No. | Item              | Model number                       | Serial number             | Manufacturer          | Remarks |
|-----|-------------------|------------------------------------|---------------------------|-----------------------|---------|
| A   | Car Navigation    | AT2104 Lo type<br>(8 inch Display) | 500107                    | Panasonic Corporation | EUT     |
| B   | Jig board         | RCarDBG JTAG2                      | WR19-4014                 | WESTEK                | -       |
| C   | Laptop Computer   | 7666-77J                           | LV-B8R1X 08/05            | Lenovo                | -       |
| D   | AC Adapter        | 42T4422                            | 11S92P1154Z1DXF<br>1DBFDN | Lenovo                | -       |
| E   | Power Supply (DC) | PAN35-10A                          | ML002085                  | KIKUSUI               | -       |

#### List of cables used

| No. | Name   | Length (m) | Shield     |            | Remarks |
|-----|--------|------------|------------|------------|---------|
|     |        |            | Cable      | Connector  |         |
| 1   | DC     | 1.0        | Unshielded | Unshielded | -       |
| 2   | Signal | 0.2        | Unshielded | Unshielded | -       |
| 3   | Signal | 0.2        | Unshielded | Unshielded | -       |
| 4   | Signal | 0.2        | Shielded   | Shielded   | -       |
| 5   | Signal | 0.1        | Unshielded | Unshielded | *1)     |
| 6   | Signal | 0.2        | Unshielded | Unshielded | *1)     |
| 7   | UART   | 0.3        | Unshielded | Unshielded | *1)     |
| 8   | USB    | 1.5        | Shielded   | Shielded   | -       |
| 9   | AC     | 2.0        | Unshielded | Unshielded | -       |
| 10  | DC     | 1.8        | Unshielded | Unshielded | -       |
| 11  | AC     | 0.9        | Unshielded | Unshielded | -       |

\*1) This cable is for testing and is not included with products.

## **SECTION 5: Antenna Terminal Conducted Tests**

### **Test Procedure**

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

| Test                               | Span                                    | RBW                  | VBW              | Sweep time | Detector                        | Trace       | Instrument used and Test method                |
|------------------------------------|-----------------------------------------|----------------------|------------------|------------|---------------------------------|-------------|------------------------------------------------|
| 99 % Occupied Bandwidth *1)        | Enough width to display emission skirts | 1 % to 5 % of OBW    | $\geq 3$ RBW     | Auto       | Peak                            | Max Hold    | Spectrum Analyzer                              |
| 6 dB Bandwidth                     | Enough to capture the emission          | 100 kHz              | 300 kHz          | Auto       | Peak                            | Max Hold    | Spectrum Analyzer                              |
| Maximum Conducted Output Power     | -                                       | -                    | -                | -          | Average                         | -           | Power Meter (Sensor: 160 MHz BW) (Method PM-G) |
| Maximum Power Spectral Density     | Encompass the entire EBW                | 1 MHz or 100 kHz *2) | $\geq 3$ RBW     | Auto       | RMS Power Averaging (100 times) | Clear Write | Spectrum Analyzer                              |
| Conducted Spurious Emission*3) *4) | 9 kHz – 150 kHz<br>150 kHz – 30 MHz     | 200 Hz<br>10 kHz     | 620 Hz<br>30 kHz | Auto       | Peak                            | Max Hold    | Spectrum Analyzer                              |

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

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

\*2) KDB 789033 D02 says that RBW is set to be 500 kHz for 5.725 GHz-5.850 GHz, but it is not possible with spectrum analyzer, so RBW Correction Factor ( $10 \log(500 \text{ kHz} / 100 \text{ kHz})$ ) was added to the test result.

\*3) In the frequency range below 30 MHz, RBW was narrowed to separate the noise contents.

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

\*4) The limits in CFR 47, Part 15, Subpart C, paragraph 15.209(a), are identical to those in RSS-Gen section 8.9, Table 6, since the measurements are performed in terms of magnetic field strength and converted to electric field strength levels (as reported in the table) using the free space impedance of 377 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.

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

**Test data** : APPENDIX  
**Test result** : Pass

## APPENDIX 1: Test data

### 99 % Occupied Bandwidth

|                        |                                    |
|------------------------|------------------------------------|
| Report No.             | 13408107S-C                        |
| Test place             | Shonan EMC Lab. No.5 Shielded Room |
| Date                   | July 4, 2020                       |
| Temperature / Humidity | 23 deg. C / 43 % RH                |
| Engineer               | Hiromasa Sato                      |
| Mode                   | Tx                                 |

11a SISO

| Antenna | Tested Frequency [MHz] | 99 % Occupied Bandwidth [kHz] |
|---------|------------------------|-------------------------------|
| RF1     | 5180                   | 16698.5                       |
|         | 5220                   | 16718.7                       |
|         | 5240                   | 16699.9                       |
|         | 5745                   | 16640.7                       |
|         | 5785                   | 16663.6                       |
|         | 5825                   | 16659.2                       |

11n-20 SISO

| Antenna | Tested Frequency [MHz] | 99 % Occupied Bandwidth [kHz] |
|---------|------------------------|-------------------------------|
| RF1     | 5180                   | 17763.8                       |
|         | 5220                   | 17791.9                       |
|         | 5240                   | 17725.6                       |
|         | 5745                   | 17801.0                       |
|         | 5785                   | 17705.6                       |
|         | 5825                   | 17769.1                       |

11a CDD

| Antenna | Tested Frequency [MHz] | 99 % Occupied Bandwidth [kHz] |
|---------|------------------------|-------------------------------|
| RF1     | 5180                   | 16706.0                       |
|         | 5220                   | 16708.6                       |
|         | 5240                   | 16686.3                       |
|         | 5745                   | 16660.1                       |
|         | 5785                   | 16659.3                       |
|         | 5825                   | 16678.1                       |

11n-20 CDD

| Antenna | Tested Frequency [MHz] | 99 % Occupied Bandwidth [kHz] |
|---------|------------------------|-------------------------------|
| RF1     | 5180                   | 17813.6                       |
|         | 5220                   | 17793.5                       |
|         | 5240                   | 17793.1                       |
|         | 5745                   | 17702.0                       |
|         | 5785                   | 17721.4                       |
|         | 5825                   | 17772.5                       |

11n-20 MIMO

| Antenna | Tested Frequency [MHz] | 99 % Occupied Bandwidth [kHz] |
|---------|------------------------|-------------------------------|
| RF1     | 5180                   | 17799.9                       |
|         | 5220                   | 17790.8                       |
|         | 5240                   | 17807.8                       |
|         | 5745                   | 17785.2                       |
|         | 5785                   | 17799.8                       |
|         | 5825                   | 17811.3                       |

## 99 % Occupied Bandwidth

Report No. 13408107S-C  
Test place Shonan EMC Lab. No.5 Shielded Room  
Date July 4, 2020 July 7, 2020  
Temperature / Humidity 23 deg. C / 43 % RH 25 deg. C / 54 % RH  
Engineer Hiromasa Sato Hiromasa Sato  
Mode Tx

11ac-20 SISO

| Antenna | Tested Frequency [MHz] | 99 % Occupied Bandwidth [kHz] |
|---------|------------------------|-------------------------------|
| RF1     | 5180                   | 17754.2                       |
|         | 5220                   | 17731.1                       |
|         | 5240                   | 17741.4                       |
|         | 5745                   | 17723.3                       |
|         | 5785                   | 17741.9                       |
|         | 5825                   | 17758.2                       |

11n-40 SISO

| Antenna | Tested Frequency [MHz] | 99 % Occupied Bandwidth [kHz] |
|---------|------------------------|-------------------------------|
| RF1     | 5190                   | 36207.2                       |
|         | 5230                   | 36250.7                       |
|         | 5755                   | 36246.0                       |
|         | 5795                   | 36230.1                       |

11ac-20 CDD

| Antenna | Tested Frequency [MHz] | 99 % Occupied Bandwidth [kHz] |
|---------|------------------------|-------------------------------|
| RF1     | 5180                   | 17720.9                       |
|         | 5220                   | 17722.4                       |
|         | 5240                   | 17812.8                       |
|         | 5745                   | 17710.6                       |
|         | 5785                   | 17790.1                       |
|         | 5825                   | 17812.9                       |

11n-40 CDD

| Antenna | Tested Frequency [MHz] | 99 % Occupied Bandwidth [kHz] |
|---------|------------------------|-------------------------------|
| RF1     | 5190                   | 36324.1                       |
|         | 5230                   | 36224.4                       |
|         | 5755                   | 36208.6                       |
|         | 5795                   | 36261.3                       |

11ac-20 MIMO

| Antenna | Tested Frequency [MHz] | 99 % Occupied Bandwidth [kHz] |
|---------|------------------------|-------------------------------|
| RF1     | 5180                   | 17825.7                       |
|         | 5220                   | 17745.1                       |
|         | 5240                   | 17814.6                       |
|         | 5745                   | 17740.7                       |
|         | 5785                   | 17711.2                       |
|         | 5825                   | 17730.3                       |

11n-40 MIMO

| Antenna | Tested Frequency [MHz] | 99 % Occupied Bandwidth [kHz] |
|---------|------------------------|-------------------------------|
| RF1     | 5190                   | 36461.0                       |
|         | 5230                   | 36433.9                       |
|         | 5755                   | 36269.6                       |
|         | 5795                   | 36263.1                       |

## 99 % Occupied Bandwidth

|                        |                                    |                     |
|------------------------|------------------------------------|---------------------|
| Report No.             | 13408107S-C                        |                     |
| Test place             | Shonan EMC Lab. No.5 Shielded Room |                     |
| Date                   | July 4, 2020                       | July 7, 2020        |
| Temperature / Humidity | 23 deg. C / 43 % RH                | 25 deg. C / 54 % RH |
| Engineer               | Hiromasa Sato                      | Hiromasa Sato       |
| Mode                   | Tx                                 |                     |

11ac-40 SISO

| Antenna | Tested Frequency [MHz] | 99 % Occupied Bandwidth [kHz] |
|---------|------------------------|-------------------------------|
| RF1     | 5190                   | 36263.3                       |
|         | 5230                   | 36205.3                       |
|         | 5755                   | 36184.6                       |
|         | 5795                   | 36234.9                       |

11ac-80 SISO

| Antenna | Tested Frequency [MHz] | 99 % Occupied Bandwidth [kHz] |
|---------|------------------------|-------------------------------|
| RF1     | 5210                   | 76585.0                       |
|         | 5775                   | 76431.1                       |

11ac-40 CDD

| Antenna | Tested Frequency [MHz] | 99 % Occupied Bandwidth [kHz] |
|---------|------------------------|-------------------------------|
| RF1     | 5190                   | 36342.6                       |
|         | 5230                   | 36277.8                       |
|         | 5755                   | 36276.6                       |
|         | 5795                   | 36111.0                       |

11ac-80 CDD

| Antenna | Tested Frequency [MHz] | 99 % Occupied Bandwidth [kHz] |
|---------|------------------------|-------------------------------|
| RF1     | 5210                   | 76553.1                       |
|         | 5775                   | 76264.0                       |

11ac-40 MIMO

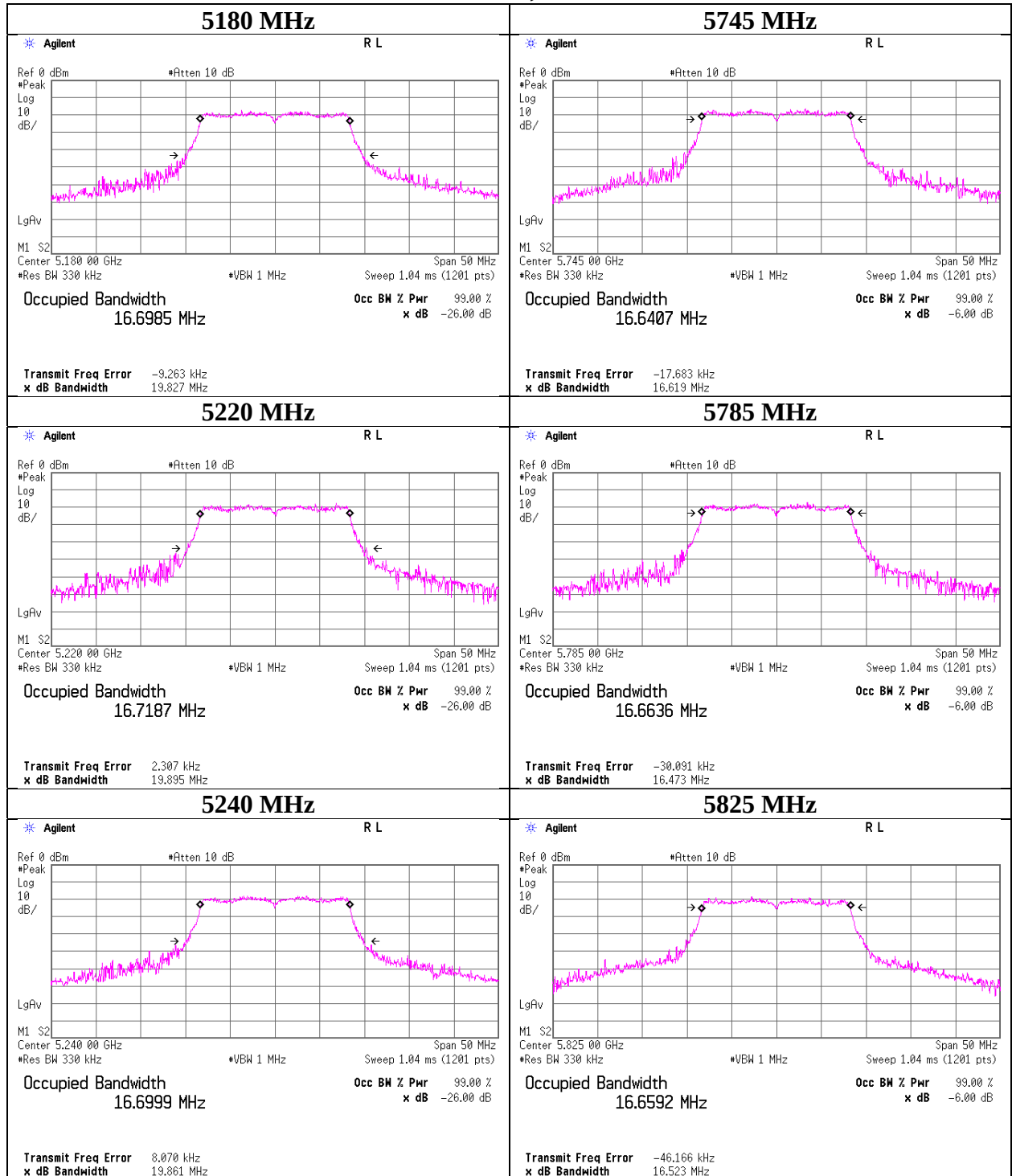
| Antenna | Tested Frequency [MHz] | 99 % Occupied Bandwidth [kHz] |
|---------|------------------------|-------------------------------|
| RF1     | 5190                   | 36319.5                       |
|         | 5230                   | 36270.2                       |
|         | 5755                   | 36401.5                       |
|         | 5795                   | 36464.4                       |

11ac-80 MIMO

| Antenna | Tested Frequency [MHz] | 99 % Occupied Bandwidth [kHz] |
|---------|------------------------|-------------------------------|
| RF1     | 5210                   | 76846.2                       |
|         | 5775                   | 76157.5                       |

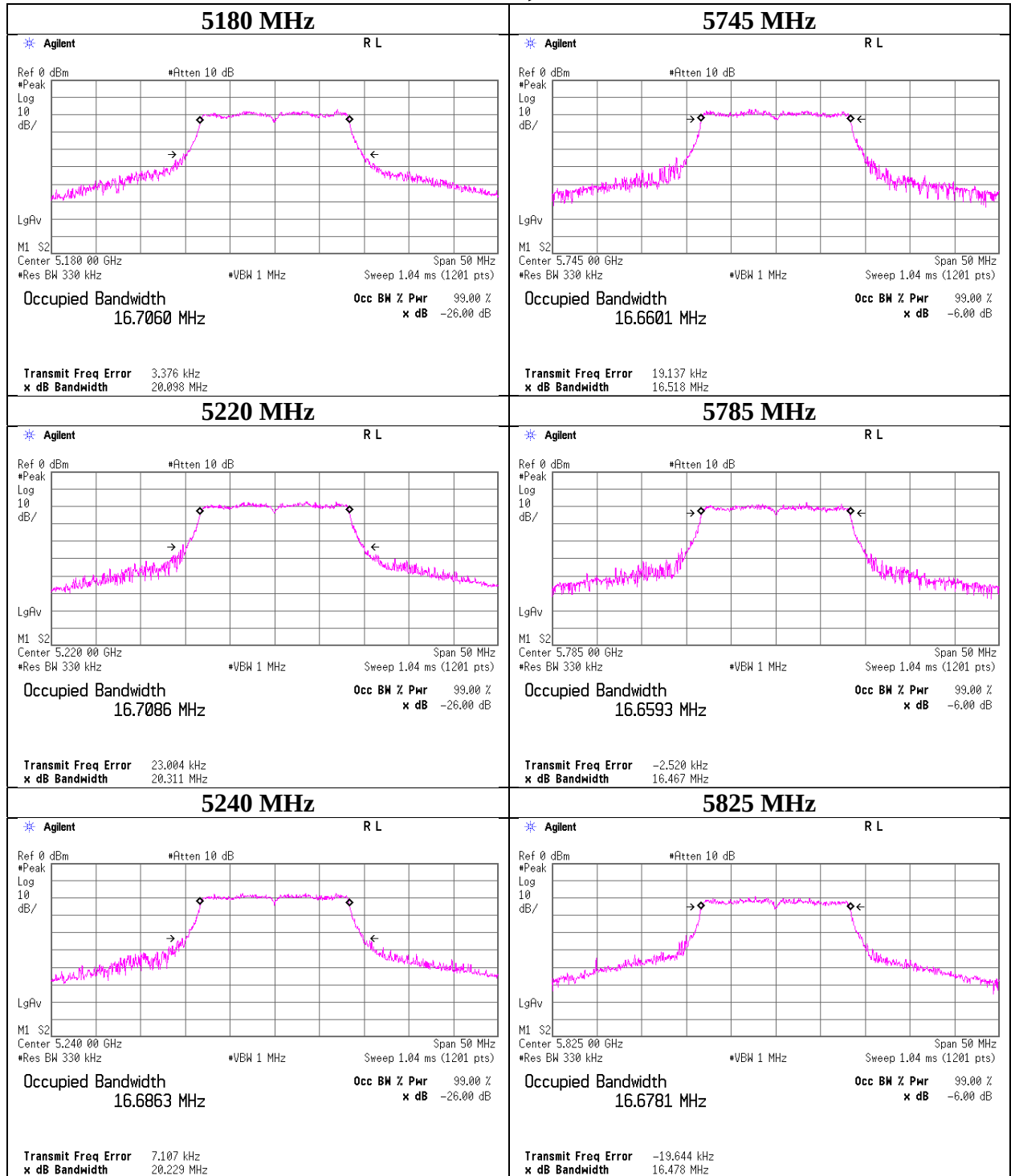
## 99 % Occupied Bandwidth

### 11a SISO, RF1



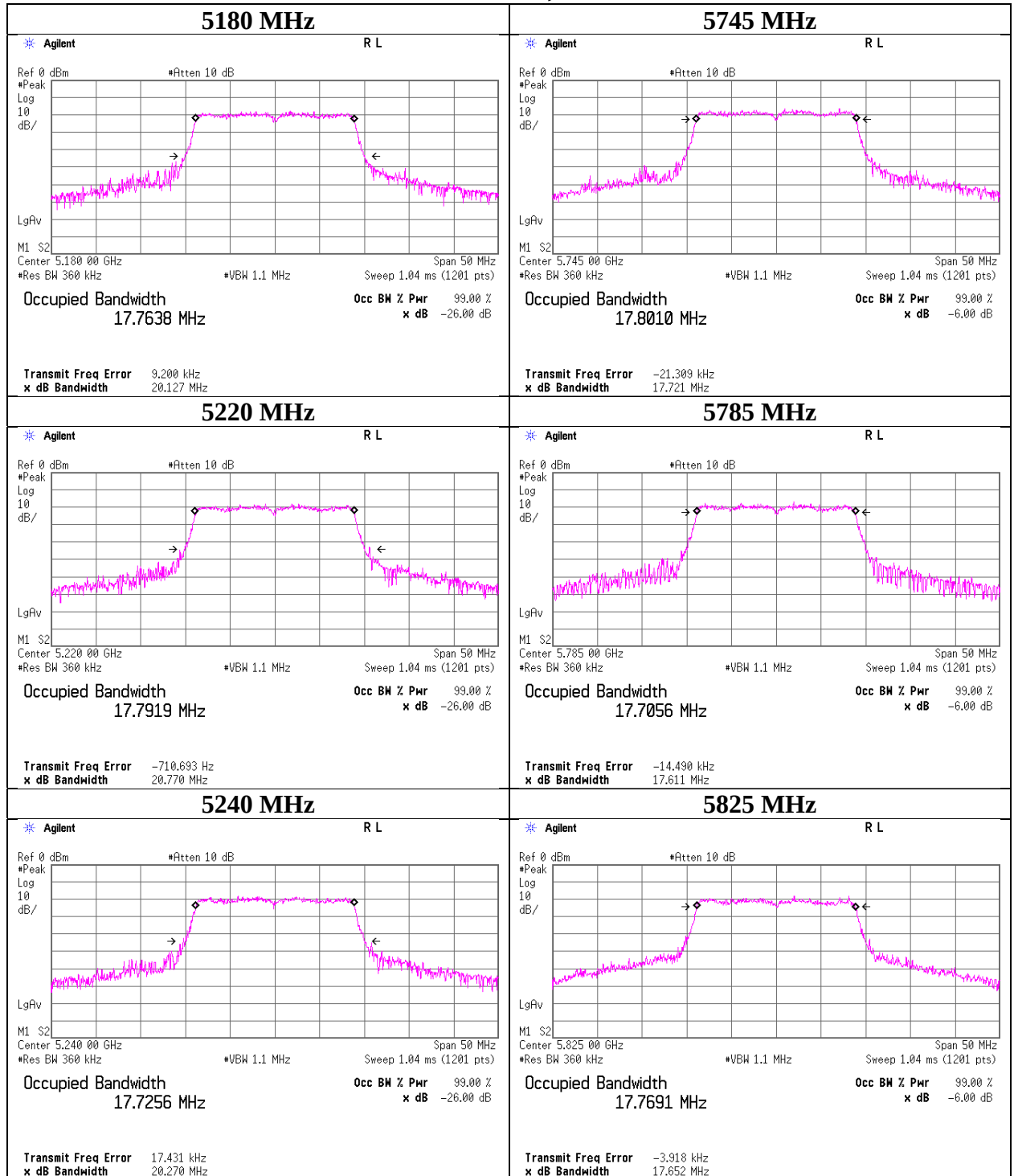
## 99 % Occupied Bandwidth

### 11a CDD, RF1



## 99 % Occupied Bandwidth

### 11n-20 SISO, RF1



UL Japan, Inc.

Shonan EMC Lab.

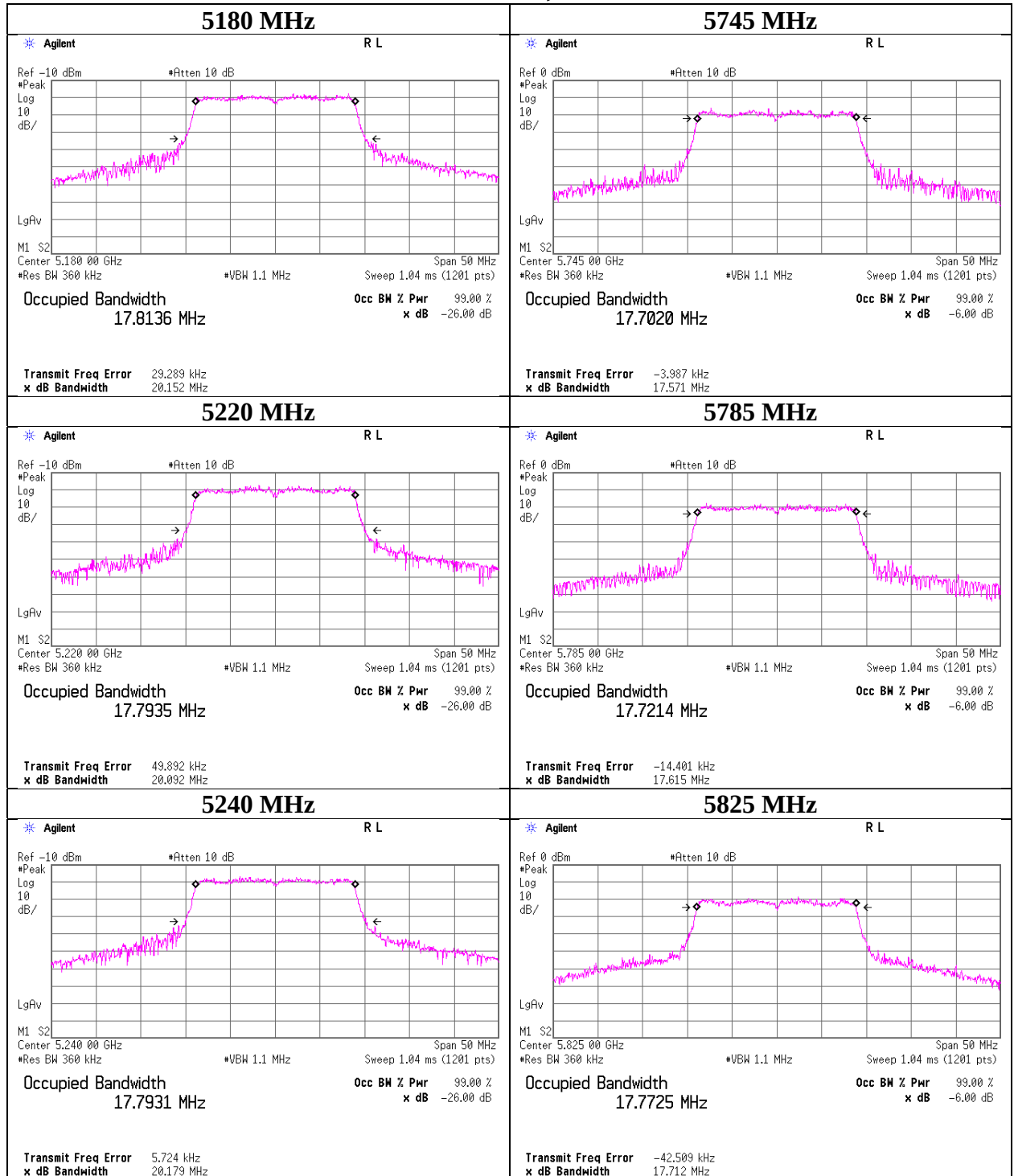
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

## 99 % Occupied Bandwidth

### 11n-20 CDD, RF1



UL Japan, Inc.

Shonan EMC Lab.

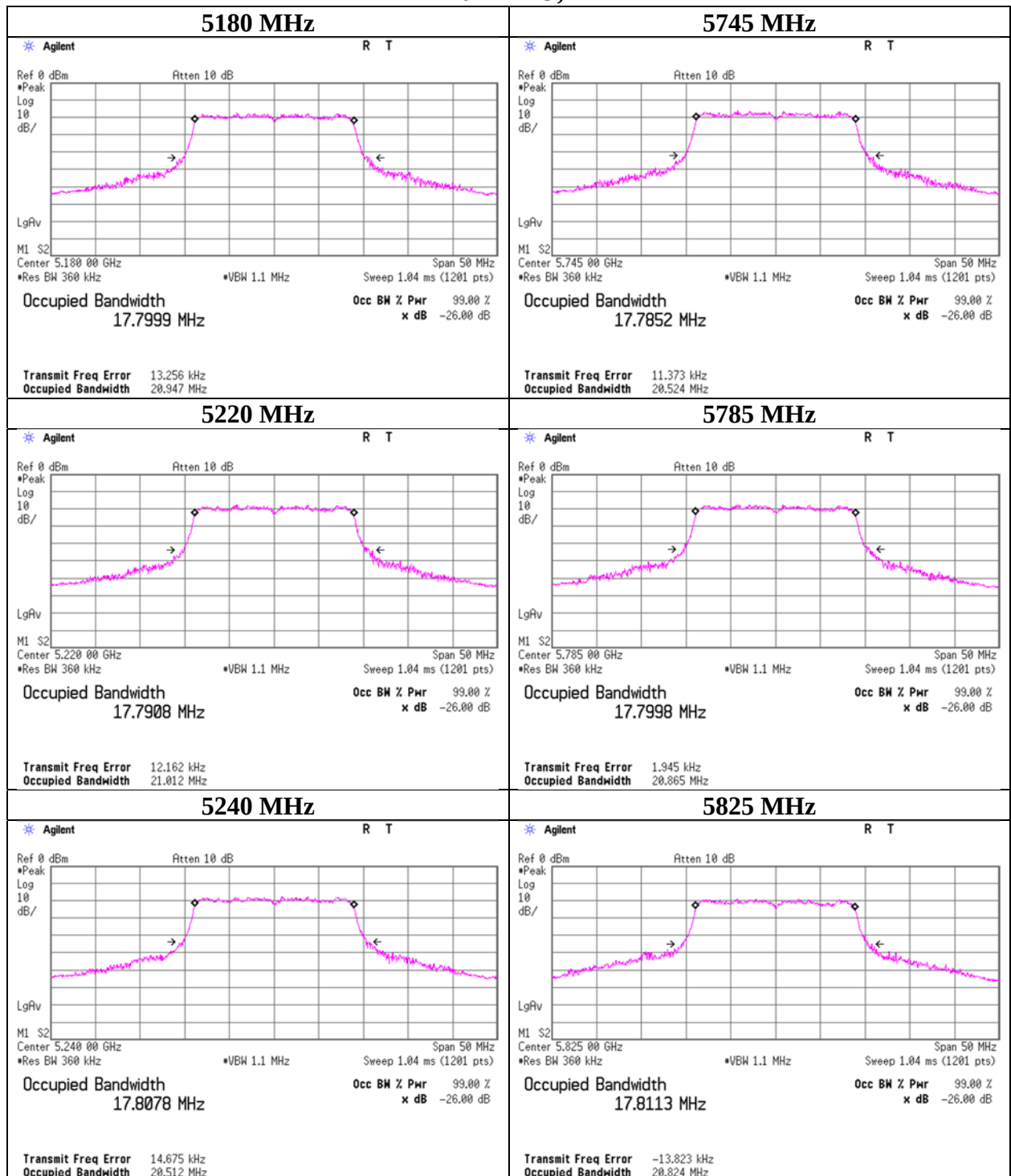
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

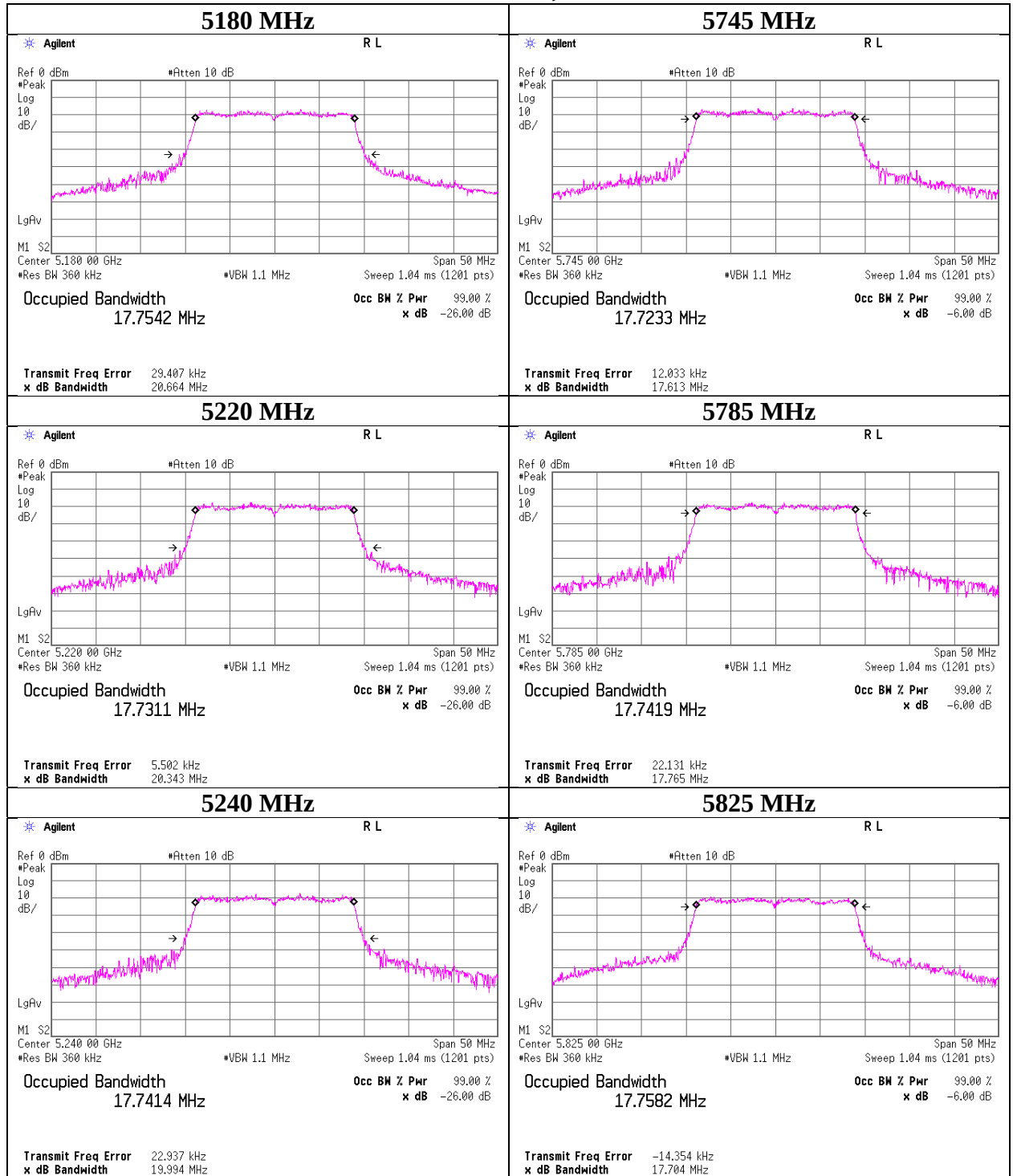
## 99 % Occupied Bandwidth

### 11n-20 MIMO, RF1



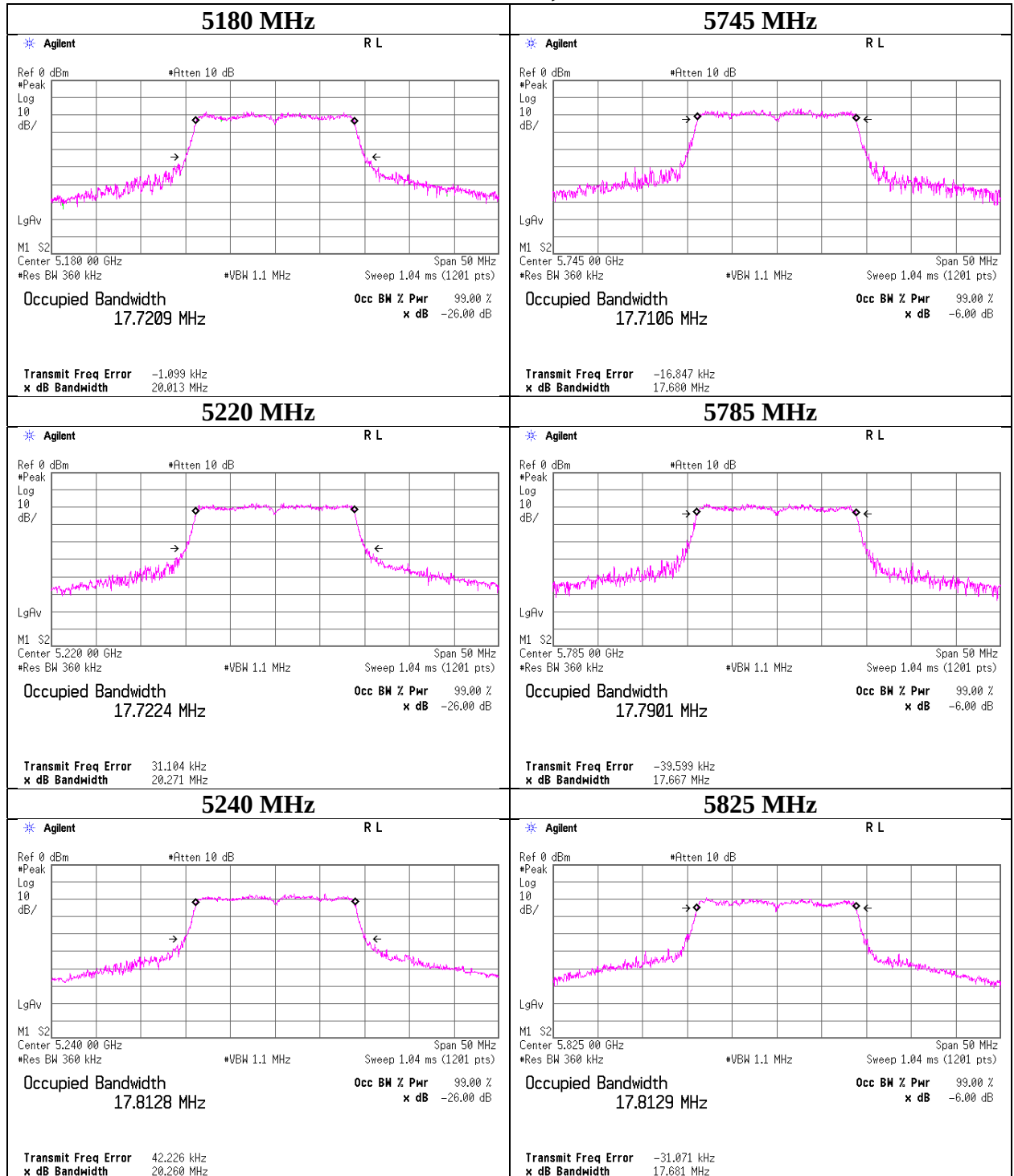
## 99 % Occupied Bandwidth

### 11ac-20 SISO, RF1



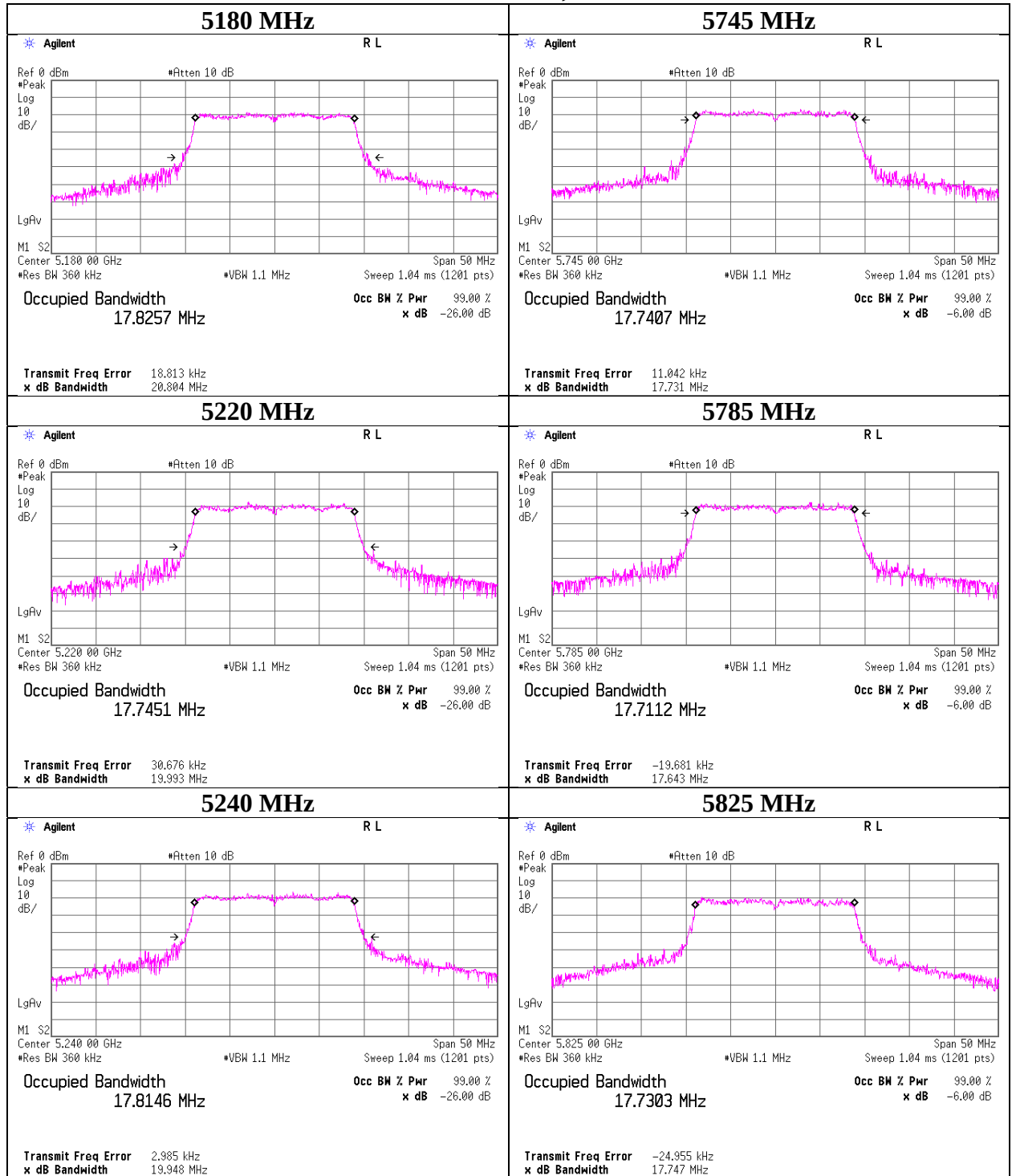
## 99 % Occupied Bandwidth

### 11ac-20 CDD, RF1



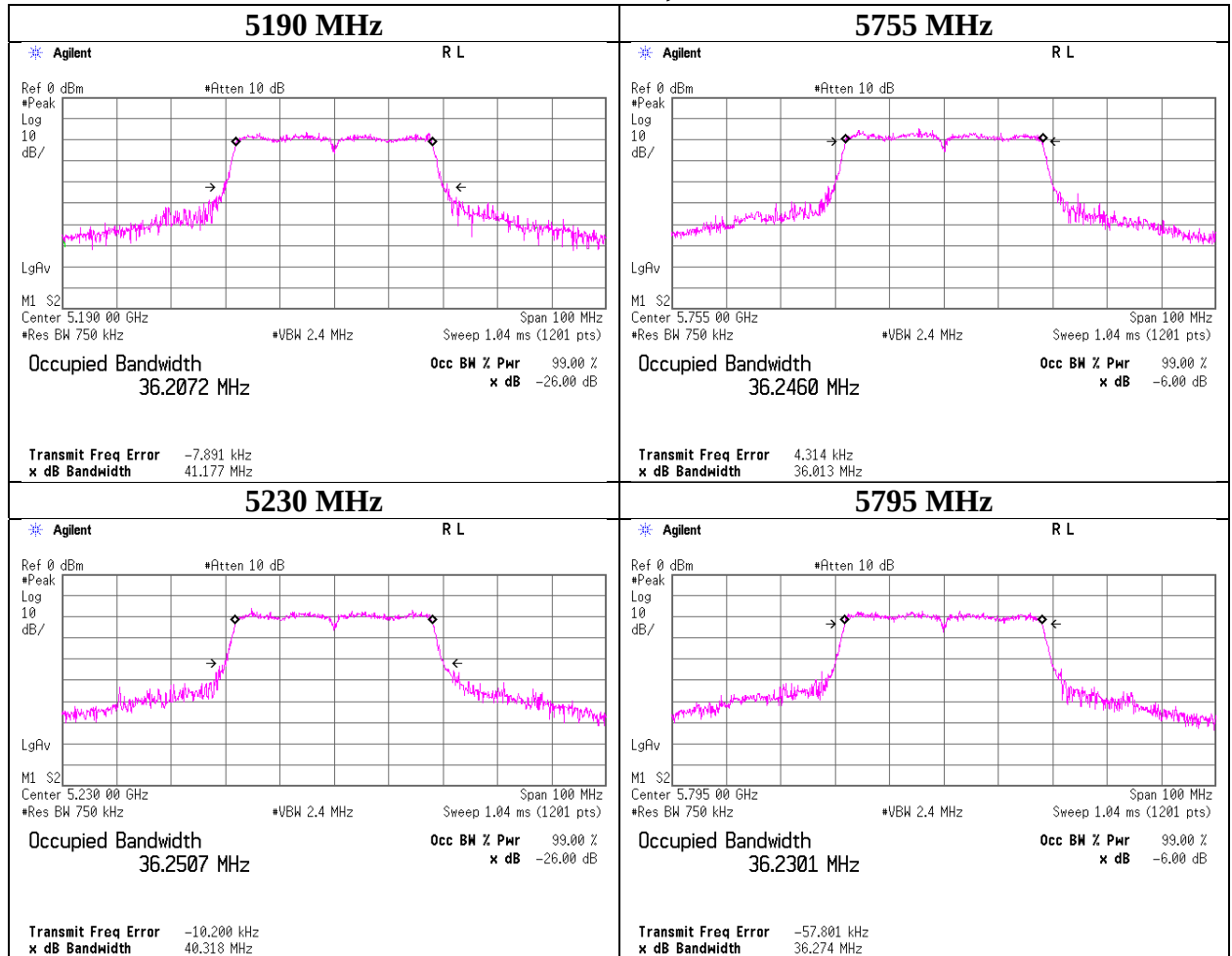
## 99 % Occupied Bandwidth

### 11ac-20 MIMO, RF1



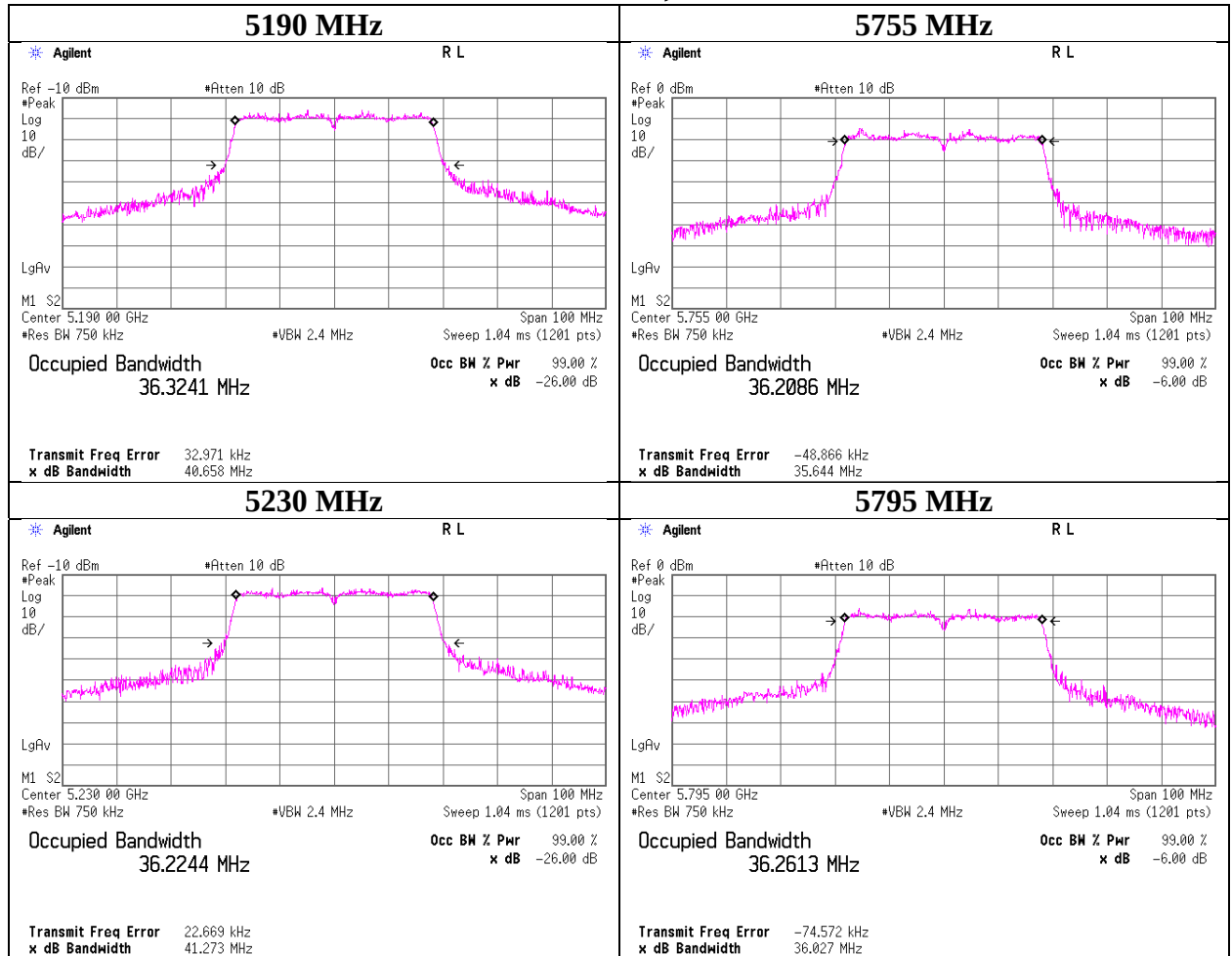
## 99 % Occupied Bandwidth

### 11n-40 SISO, RF1



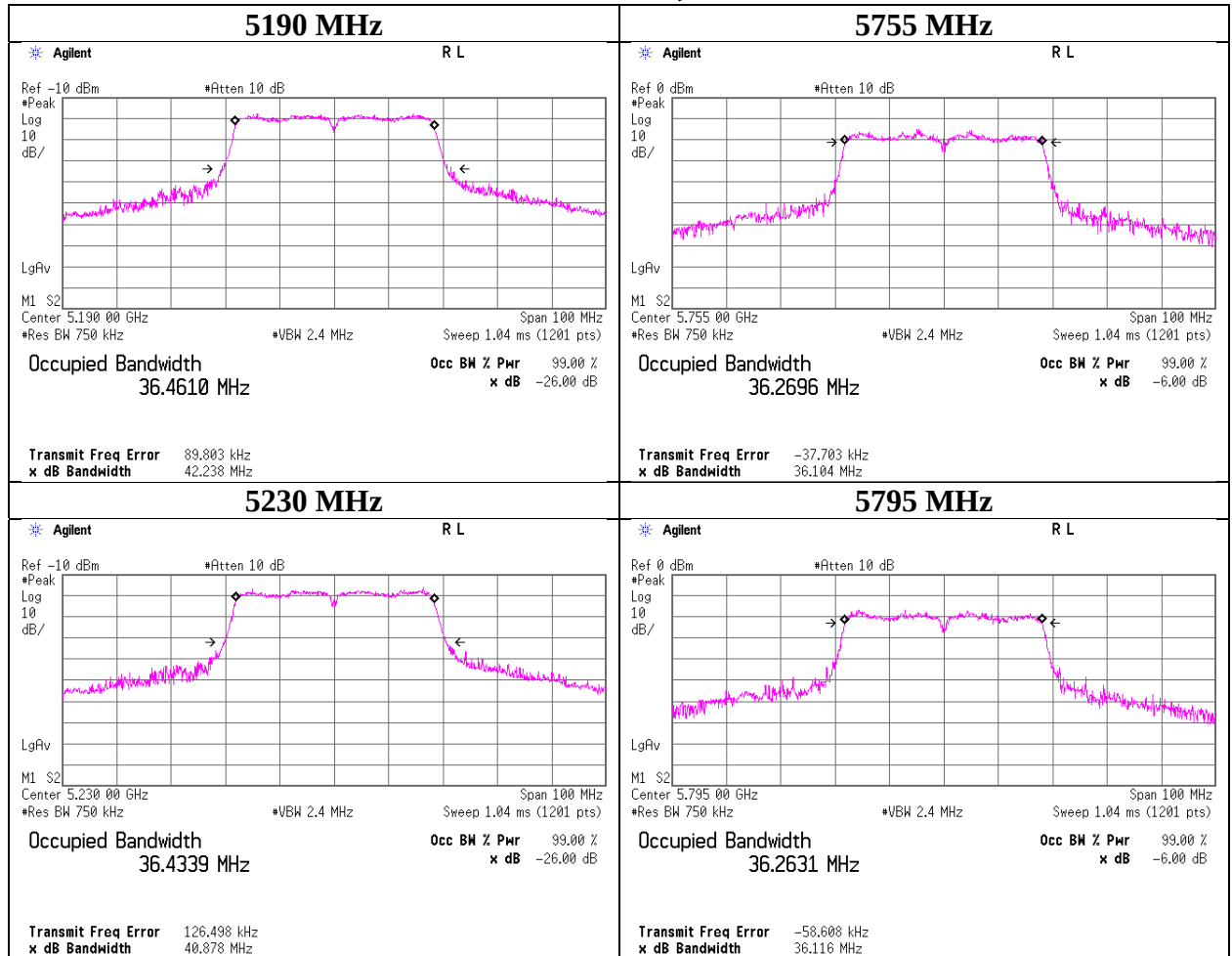
## 99 % Occupied Bandwidth

### 11n-40 CDD, RF1



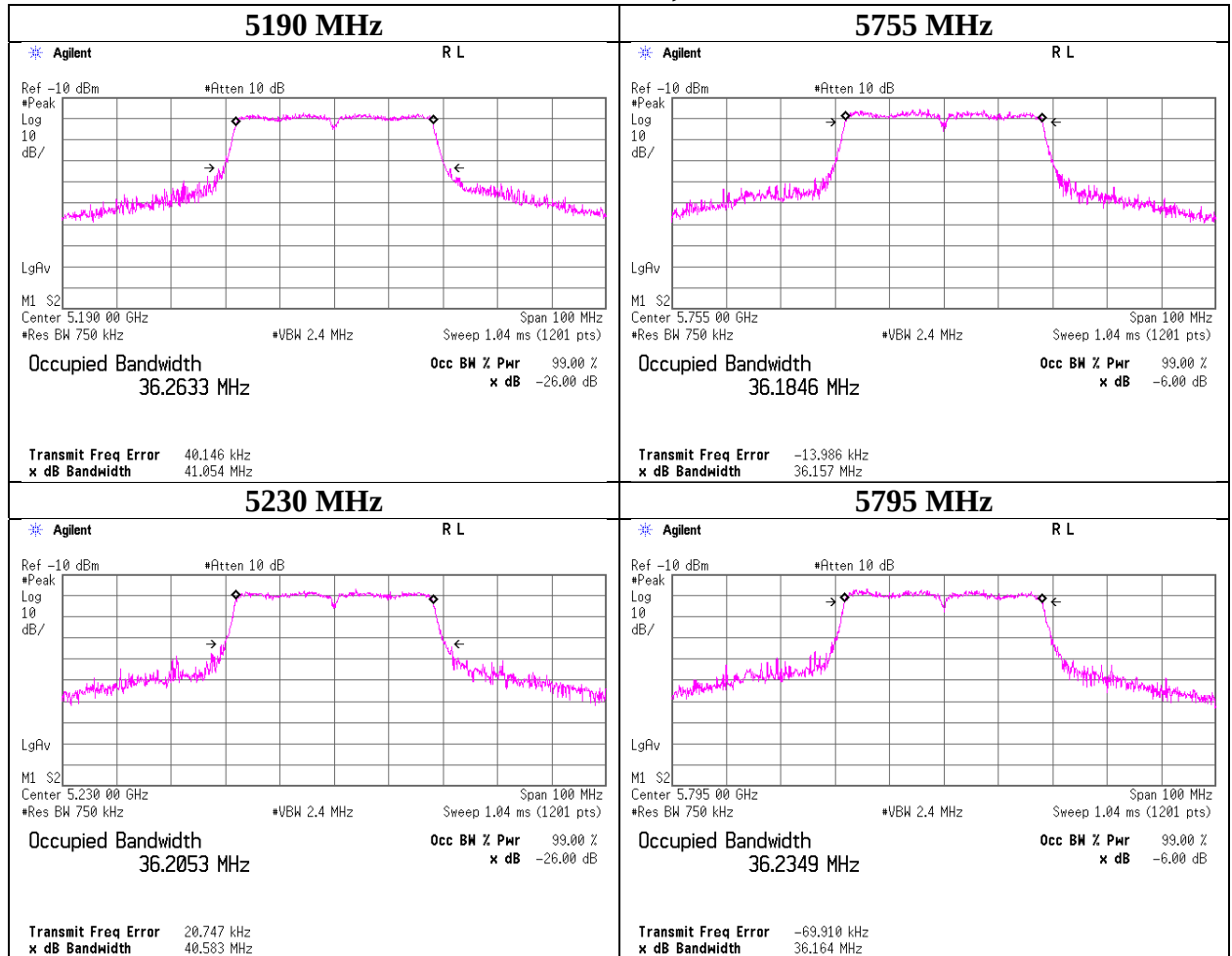
## 99 % Occupied Bandwidth

### 11n-40 MIMO, RF1



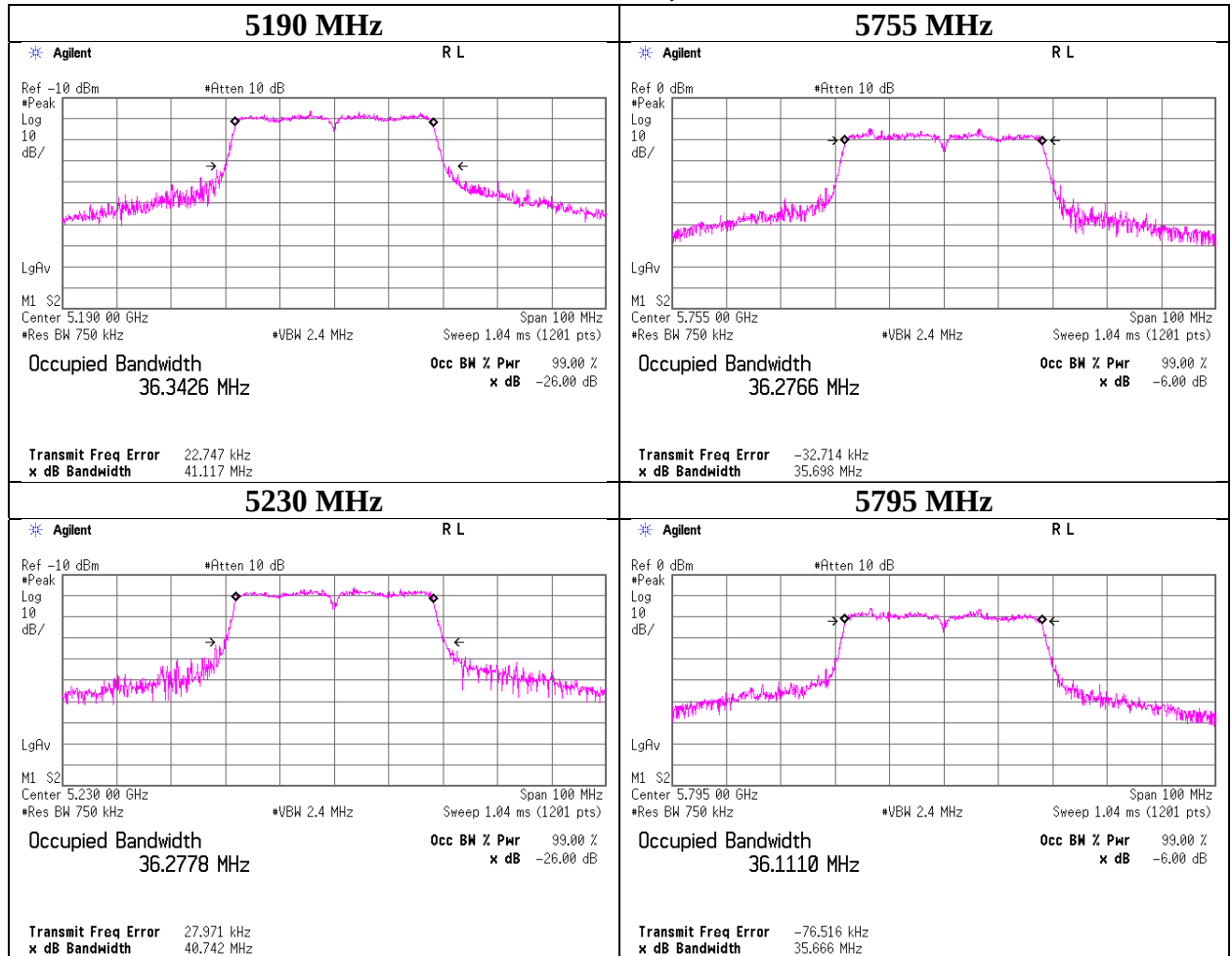
## 99 % Occupied Bandwidth

### 11ac-40 SISO, RF1



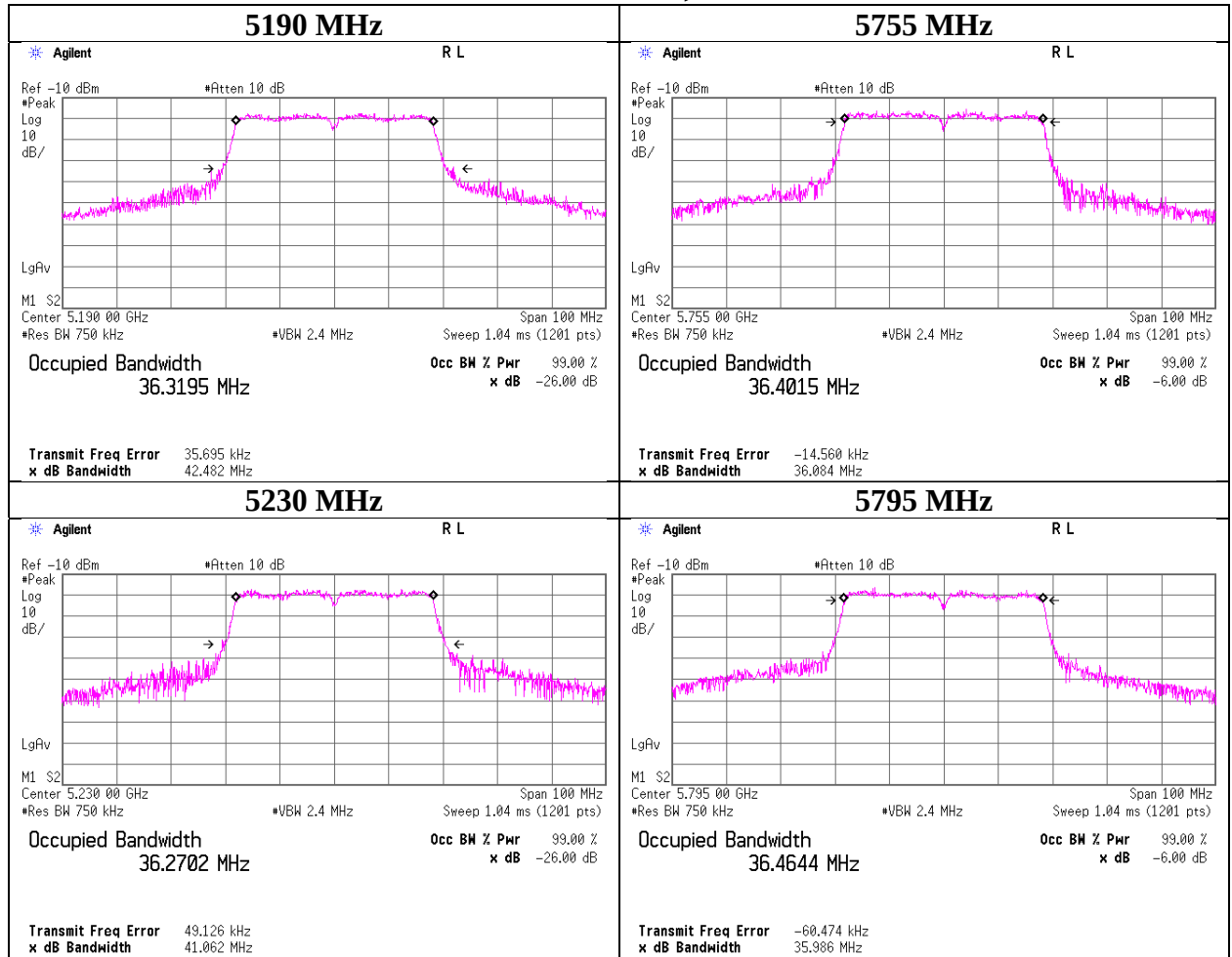
## 99 % Occupied Bandwidth

### 11ac-40 CDD, RF1

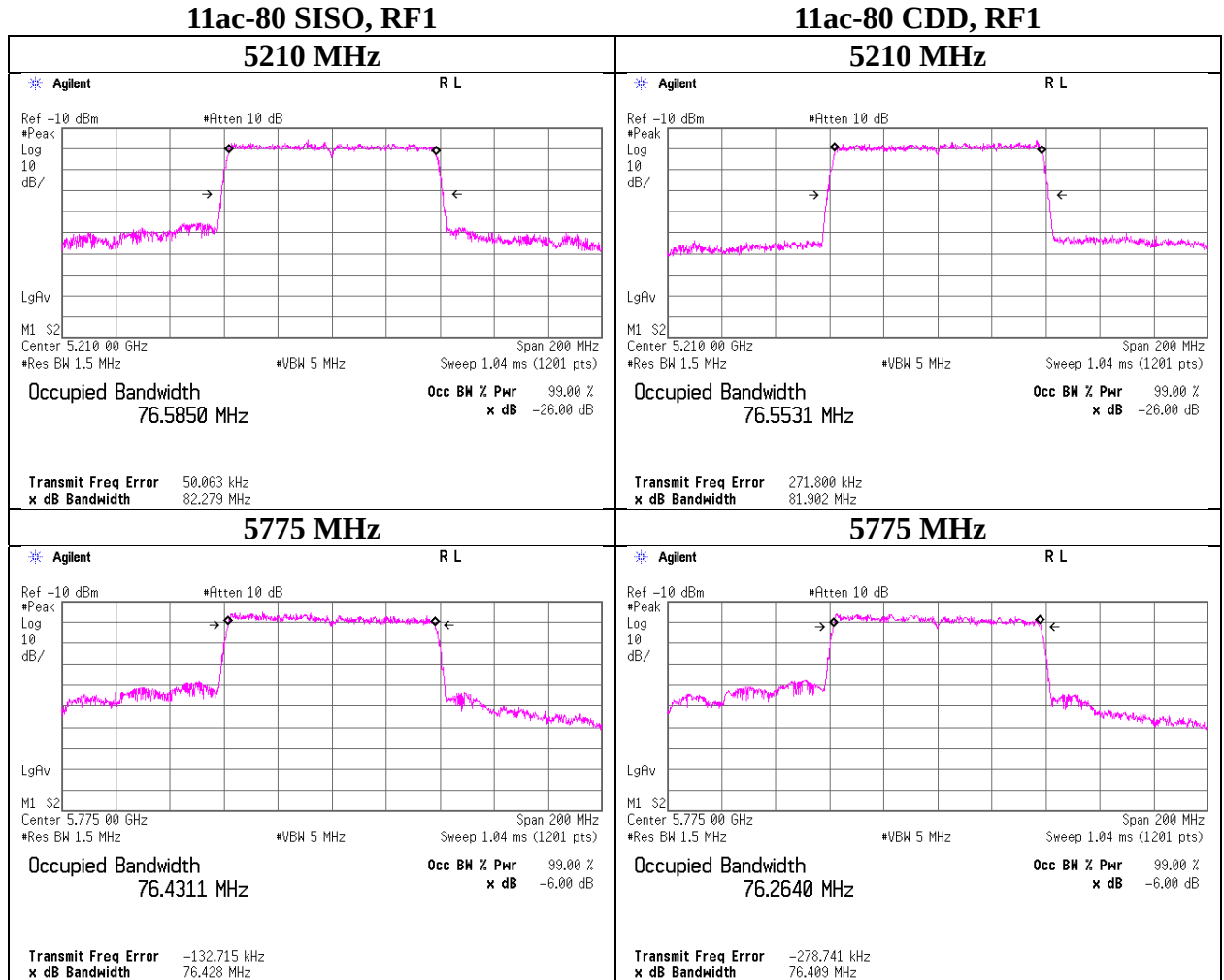


## 99 % Occupied Bandwidth

### 11ac-40 MIMO, RF1

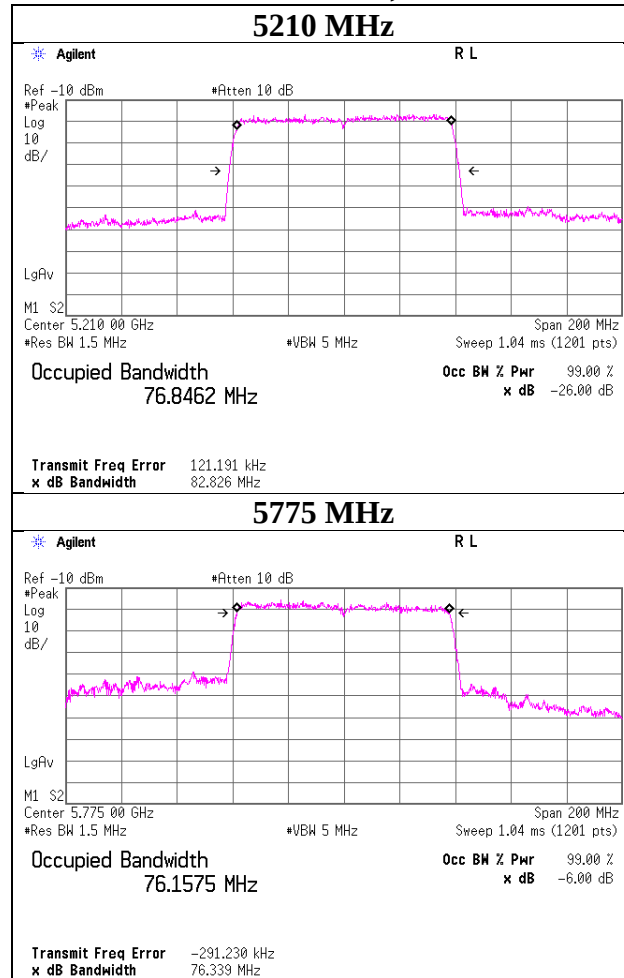


## 99 % Occupied Bandwidth



## 99 % Occupied Bandwidth

### 11ac-80 MIMO, RF1



## 6 dB Bandwidth

|                        |                                    |
|------------------------|------------------------------------|
| Report No.             | 13408107S-C                        |
| Test place             | Shonan EMC Lab. No.5 Shielded Room |
| Date                   | August 7, 2020                     |
| Temperature / Humidity | 25 deg. C / 54 % RH                |
| Engineer               | Hiromasa Sato                      |
| Mode                   | Tx                                 |

11a SISO

| Antenna | Tested Frequency [MHz] | 6 dB Bandwidth [MHz] | Limit [MHz] |
|---------|------------------------|----------------------|-------------|
| RF1     | 5745                   | 16.457               | > 0.500     |
|         | 5785                   | 16.463               | > 0.500     |
|         | 5825                   | 16.482               | > 0.500     |

11a CDD

| Antenna | Tested Frequency [MHz] | 6 dB Bandwidth [MHz] | Limit [MHz] |
|---------|------------------------|----------------------|-------------|
| RF1     | 5745                   | 16.492               | > 0.500     |
|         | 5785                   | 16.514               | > 0.500     |
|         | 5825                   | 16.473               | > 0.500     |

11n-20 SISO

| Antenna | Tested Frequency [MHz] | 6 dB Bandwidth [MHz] | Limit [MHz] |
|---------|------------------------|----------------------|-------------|
| RF1     | 5745                   | 17.595               | > 0.500     |
|         | 5785                   | 17.696               | > 0.500     |
|         | 5825                   | 17.627               | > 0.500     |

11n-20 CDD

| Antenna | Tested Frequency [MHz] | 6 dB Bandwidth [MHz] | Limit [MHz] |
|---------|------------------------|----------------------|-------------|
| RF1     | 5745                   | 17.350               | > 0.500     |
|         | 5785                   | 17.587               | > 0.500     |
|         | 5825                   | 17.590               | > 0.500     |

11n-20 MIMO

| Antenna | Tested Frequency [MHz] | 6 dB Bandwidth [MHz] | Limit [MHz] |
|---------|------------------------|----------------------|-------------|
| RF1     | 5745                   | 17.605               | > 0.500     |
|         | 5785                   | 17.681               | > 0.500     |
|         | 5825                   | 17.616               | > 0.500     |

11ac-20 SISO

| Antenna | Tested Frequency [MHz] | 6 dB Bandwidth [MHz] | Limit [MHz] |
|---------|------------------------|----------------------|-------------|
| RF1     | 5745                   | 17.584               | > 0.500     |
|         | 5785                   | 17.495               | > 0.500     |
|         | 5825                   | 17.595               | > 0.500     |

11ac-20 CDD

| Antenna | Tested Frequency [MHz] | 6 dB Bandwidth [MHz] | Limit [MHz] |
|---------|------------------------|----------------------|-------------|
| RF1     | 5745                   | 17.350               | > 0.500     |
|         | 5785                   | 17.587               | > 0.500     |
|         | 5825                   | 17.590               | > 0.500     |

11ac-20 MIMO

| Antenna | Tested Frequency [MHz] | 6 dB Bandwidth [MHz] | Limit [MHz] |
|---------|------------------------|----------------------|-------------|
| RF1     | 5745                   | 17.605               | > 0.500     |
|         | 5785                   | 17.681               | > 0.500     |
|         | 5825                   | 17.616               | > 0.500     |

## 6 dB Bandwidth

|                        |                                    |
|------------------------|------------------------------------|
| Report No.             | 13408107S-C                        |
| Test place             | Shonan EMC Lab. No.5 Shielded Room |
| Date                   | August 4, 2020                     |
| Temperature / Humidity | 23 deg. C / 43 % RH                |
| Engineer               | Hiromasa Sato                      |
| Mode                   | Tx                                 |

11n-40 SISO

| Antenna | Tested Frequency [MHz] | 6 dB Bandwidth [MHz] | Limit [MHz] |
|---------|------------------------|----------------------|-------------|
| RF1     | 5755                   | 35.826               | > 0.500     |
|         | 5795                   | 35.936               | > 0.500     |

11ac-40 SISO

| Antenna | Tested Frequency [MHz] | 6 dB Bandwidth [MHz] | Limit [MHz] |
|---------|------------------------|----------------------|-------------|
| RF1     | 5755                   | 35.813               | > 0.500     |
|         | 5795                   | 36.066               | > 0.500     |

11n-40 CDD

| Antenna | Tested Frequency [MHz] | 6 dB Bandwidth [MHz] | Limit [MHz] |
|---------|------------------------|----------------------|-------------|
| RF1     | 5755                   | 35.329               | > 0.500     |
|         | 5795                   | 36.258               | > 0.500     |

11ac-40 CDD

| Antenna | Tested Frequency [MHz] | 6 dB Bandwidth [MHz] | Limit [MHz] |
|---------|------------------------|----------------------|-------------|
| RF1     | 5755                   | 35.558               | > 0.500     |
|         | 5795                   | 35.730               | > 0.500     |

11n-40 MIMO

| Antenna | Tested Frequency [MHz] | 6 dB Bandwidth [MHz] | Limit [MHz] |
|---------|------------------------|----------------------|-------------|
| RF1     | 5755                   | 35.475               | > 0.500     |
|         | 5795                   | 35.511               | > 0.500     |

11ac-40 MIMO

| Antenna | Tested Frequency [MHz] | 6 dB Bandwidth [MHz] | Limit [MHz] |
|---------|------------------------|----------------------|-------------|
| RF1     | 5755                   | 35.516               | > 0.500     |
|         | 5795                   | 35.593               | > 0.500     |

11ac-80 SISO

| Antenna | Tested Frequency [MHz] | 6 dB Bandwidth [MHz] | Limit [MHz] |
|---------|------------------------|----------------------|-------------|
| RF1     | 5775                   | 75.890               | > 0.500     |

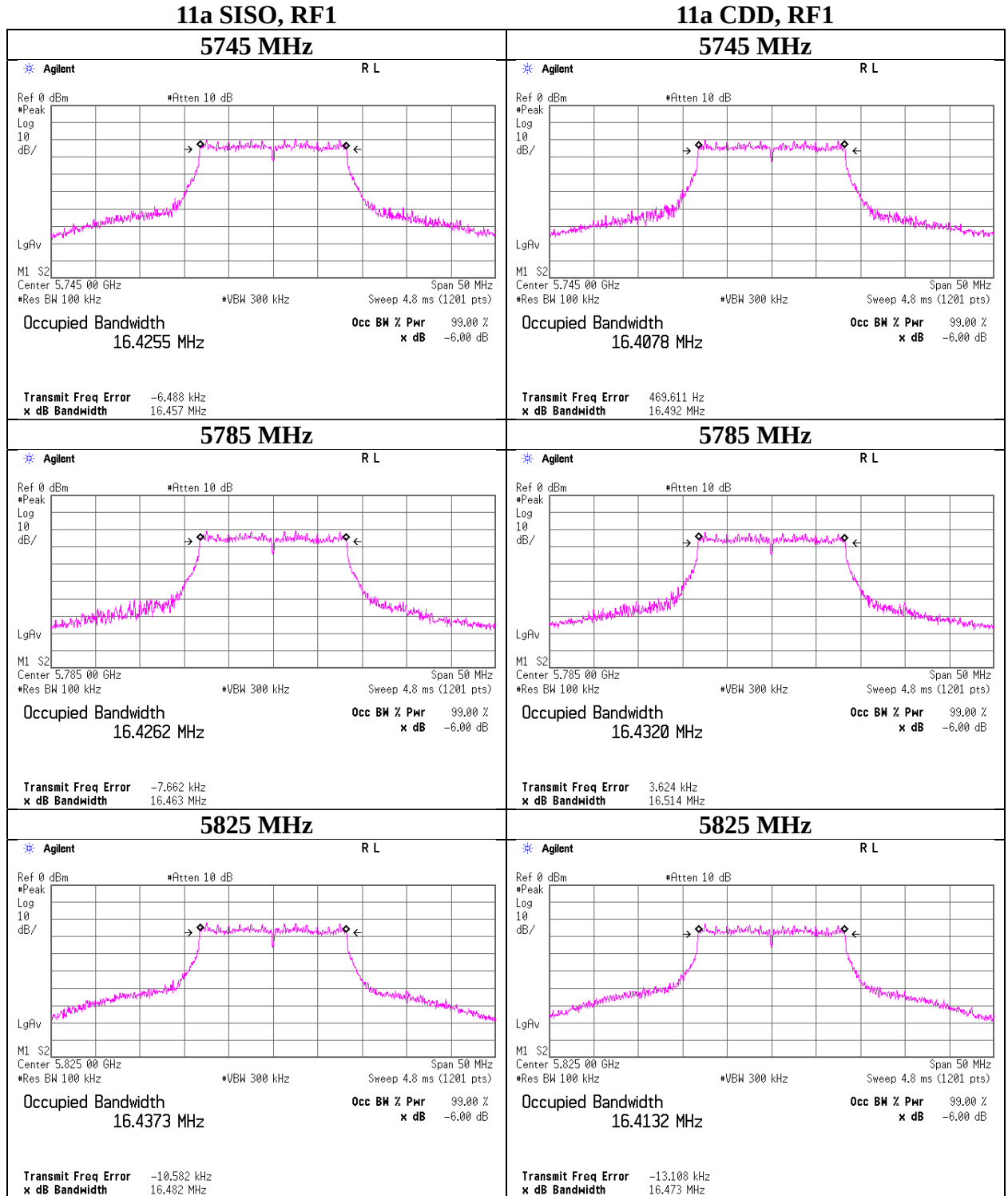
11ac-80 CDD

| Antenna | Tested Frequency [MHz] | 6 dB Bandwidth [MHz] | Limit [MHz] |
|---------|------------------------|----------------------|-------------|
| RF1     | 5775                   | 76.259               | > 0.500     |

11ac-80 MIMO

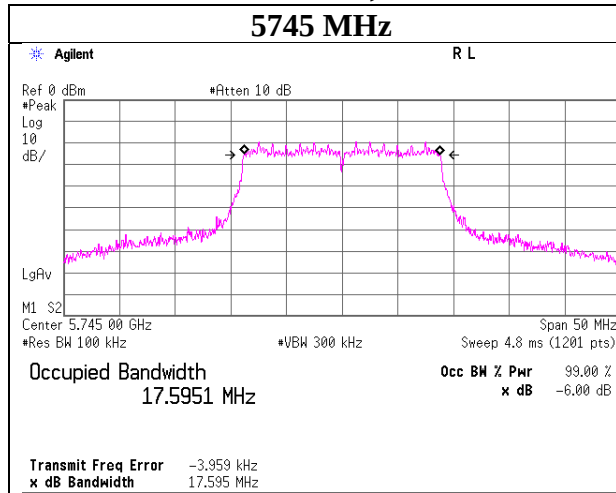
| Antenna | Tested Frequency [MHz] | 6 dB Bandwidth [MHz] | Limit [MHz] |
|---------|------------------------|----------------------|-------------|
| RF1     | 5775                   | 75.790               | > 0.500     |

## 6 dB Bandwidth

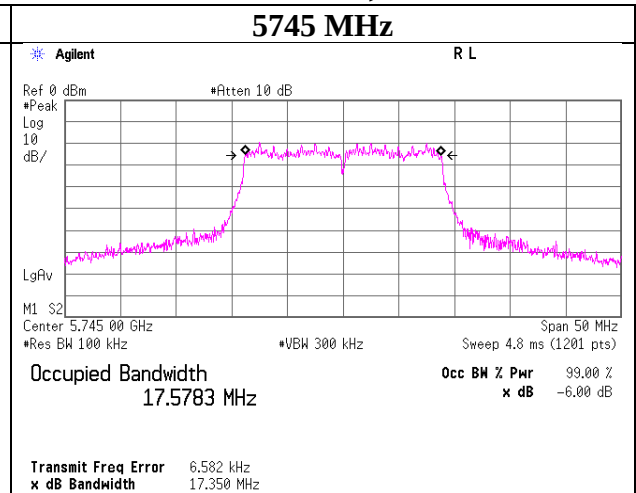


## 6 dB Bandwidth

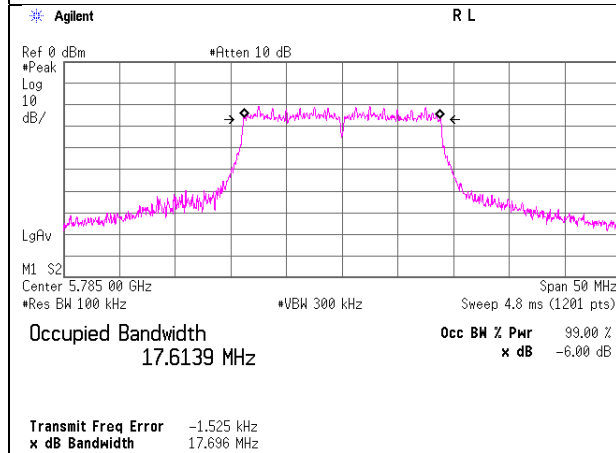
### 11n-20 SISO, RF1



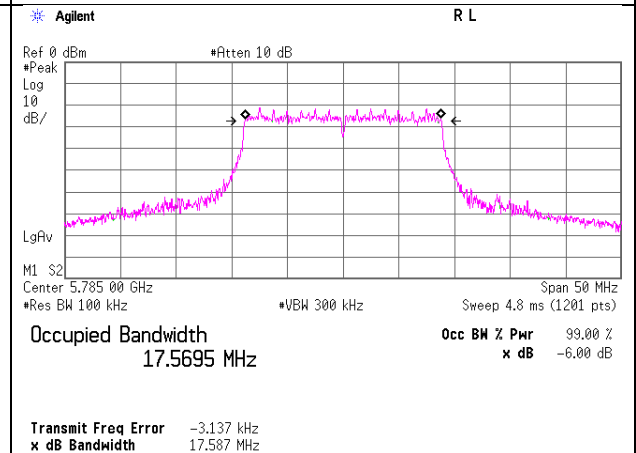
### 11n-20 CDD, RF1



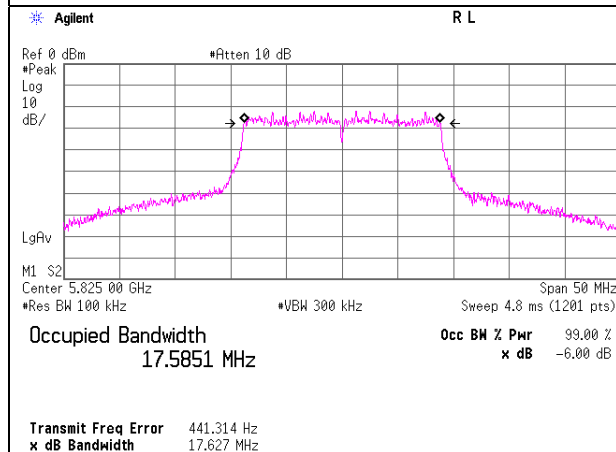
### 5785 MHz



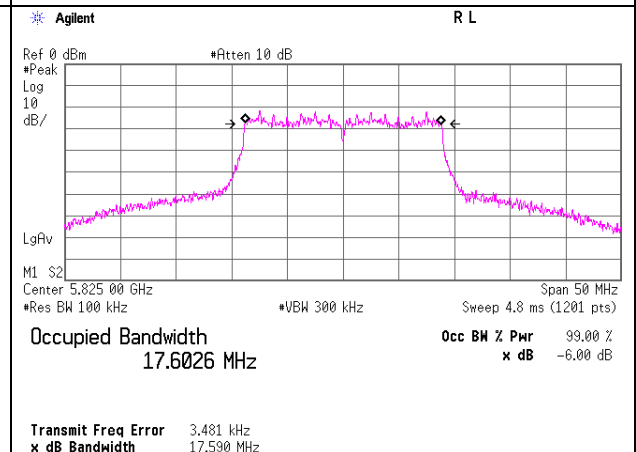
### 5785 MHz



### 5825 MHz



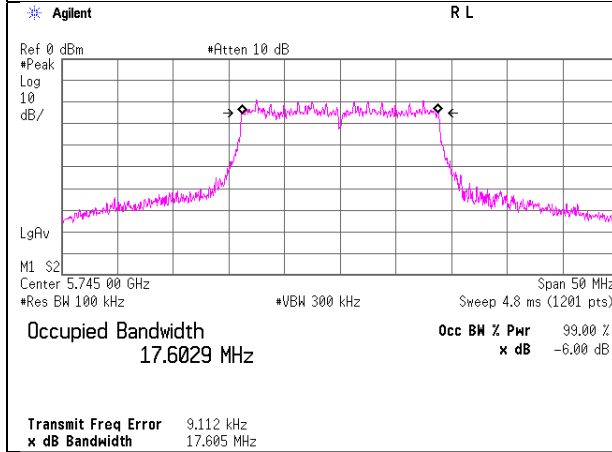
### 5825 MHz



## 6 dB Bandwidth

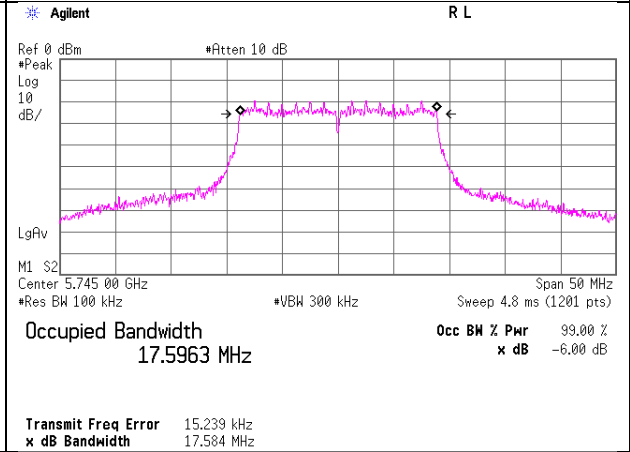
### 11n-20 MIMO, RF1

#### 5745 MHz

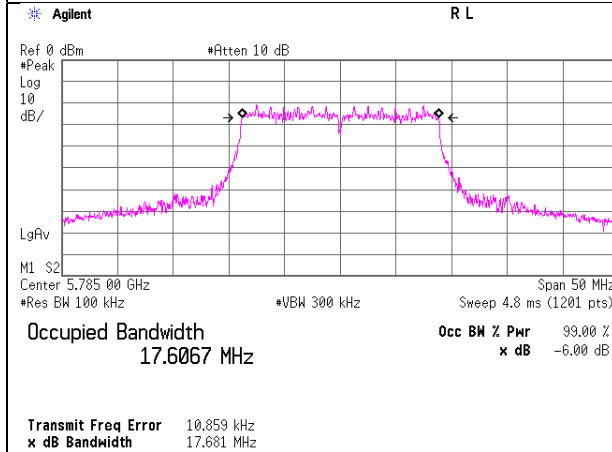


### 11ac-20 SISO, RF1

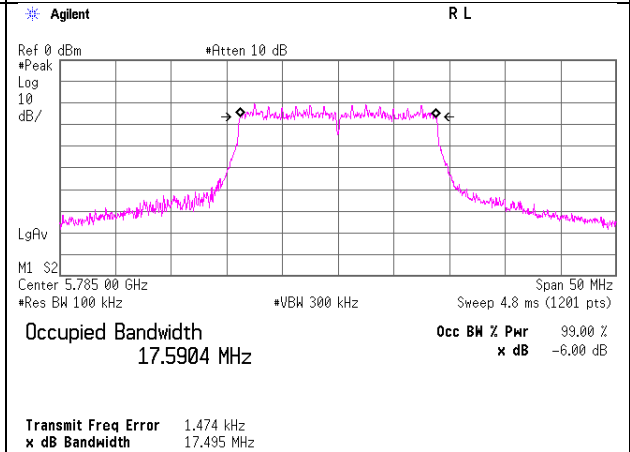
#### 5745 MHz



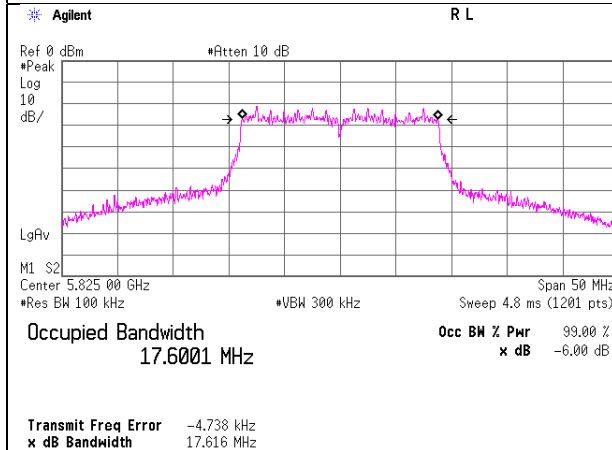
#### 5785 MHz



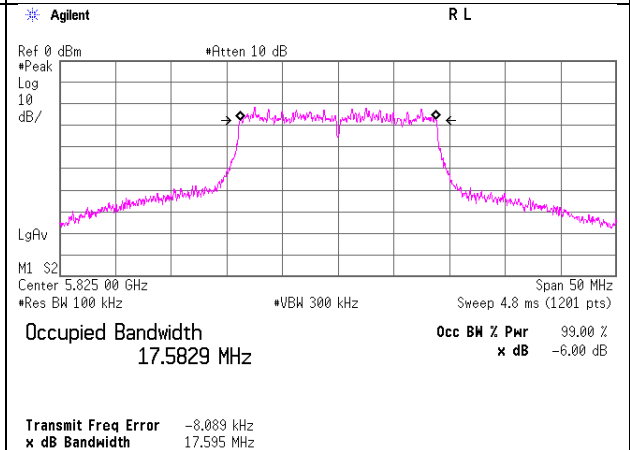
#### 5785 MHz



#### 5825 MHz

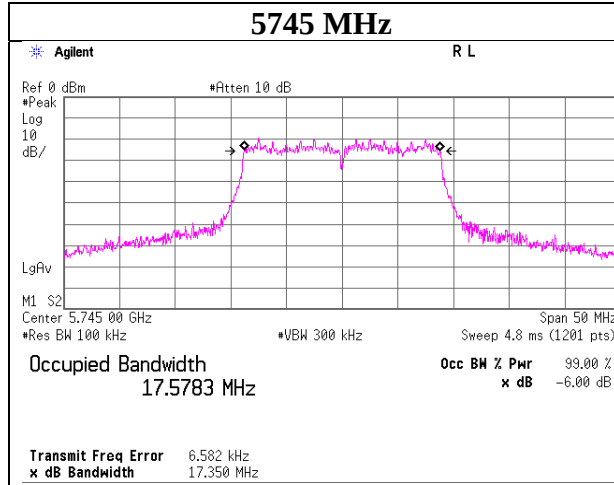


#### 5825 MHz

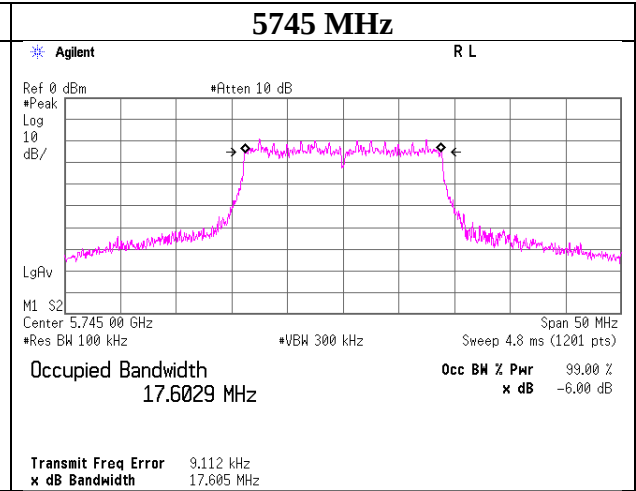


## 6 dB Bandwidth

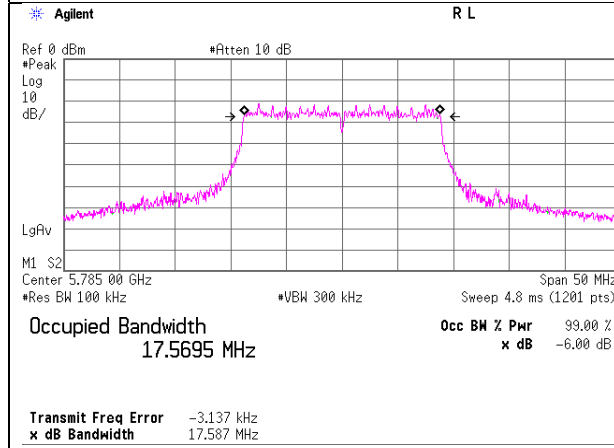
### 11ac-20 CDD, RF1



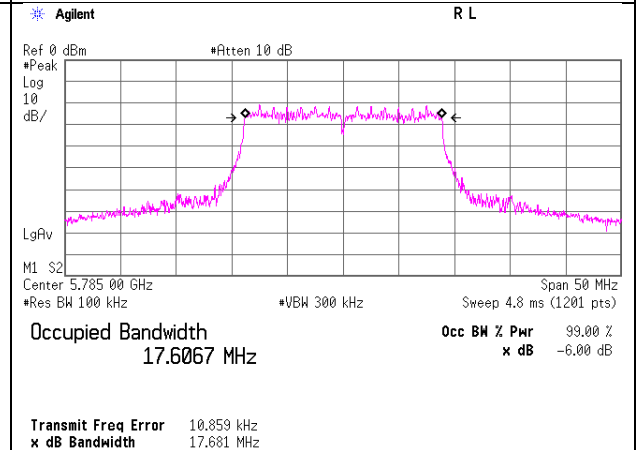
### 11ac-20 MIMO, RF1



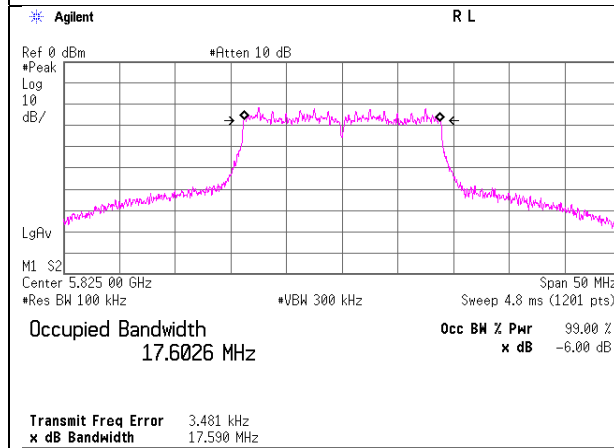
### 5785 MHz



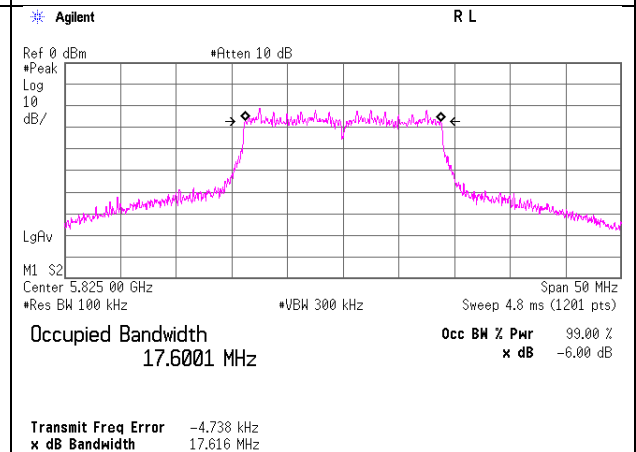
### 5785 MHz



### 5825 MHz

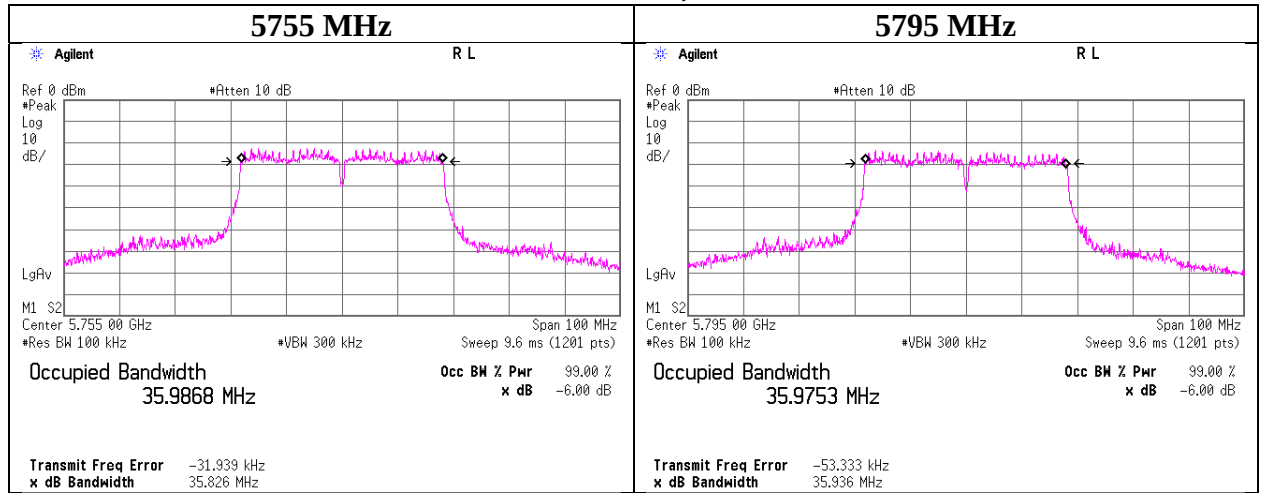


### 5825 MHz

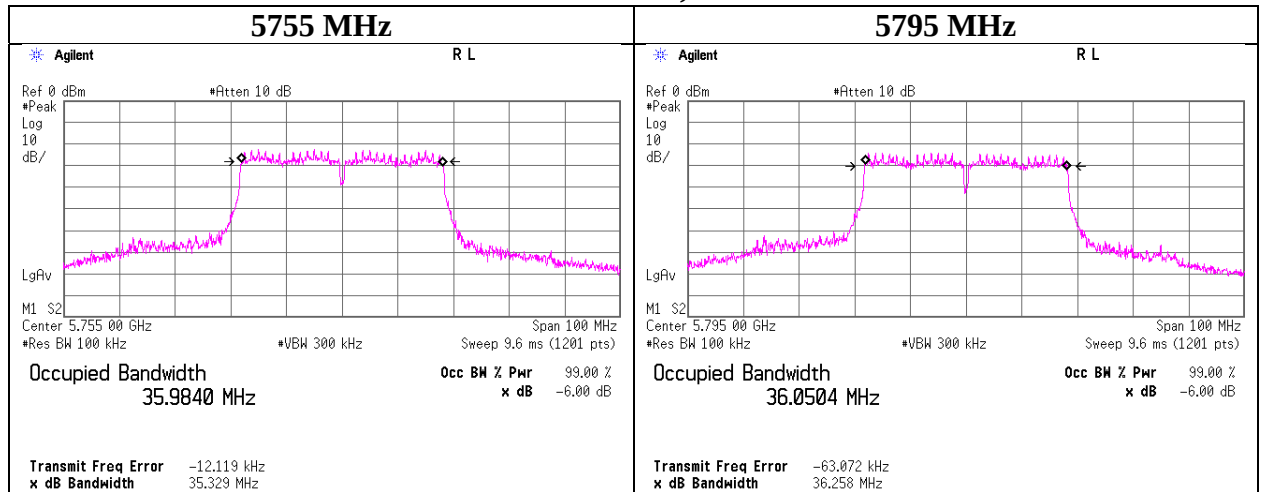


## 6 dB Bandwidth

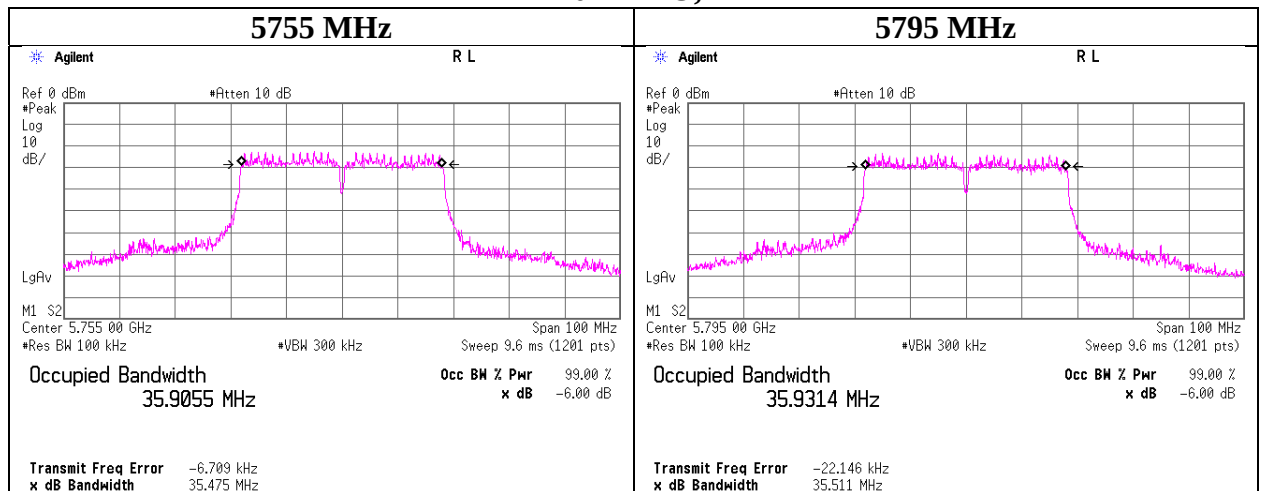
### 11n-40 SISO, RF1



### 11n-40 CDD, RF1



### 11n-40 MIMO, RF1



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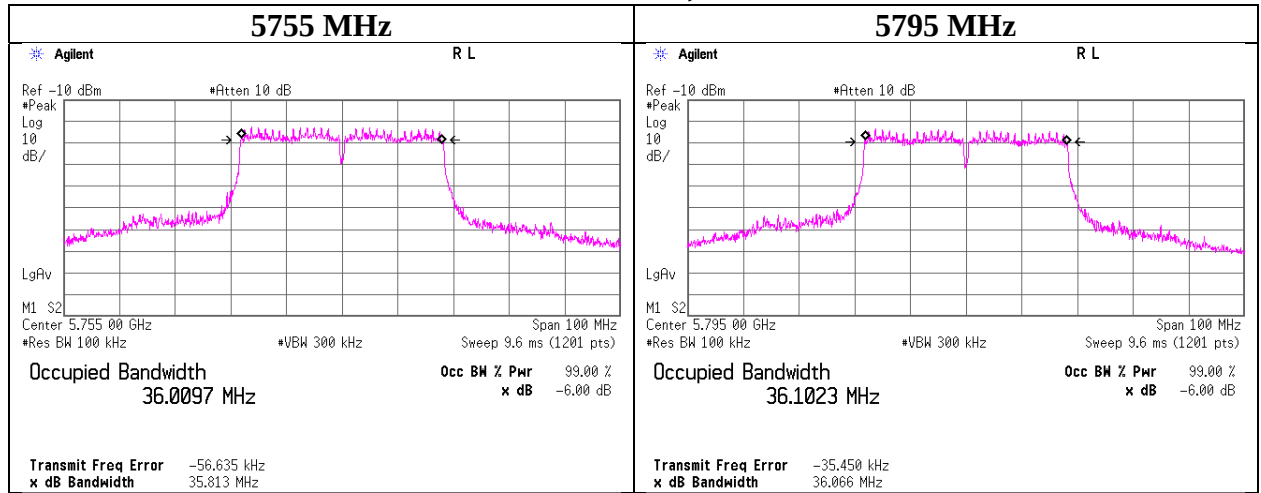
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

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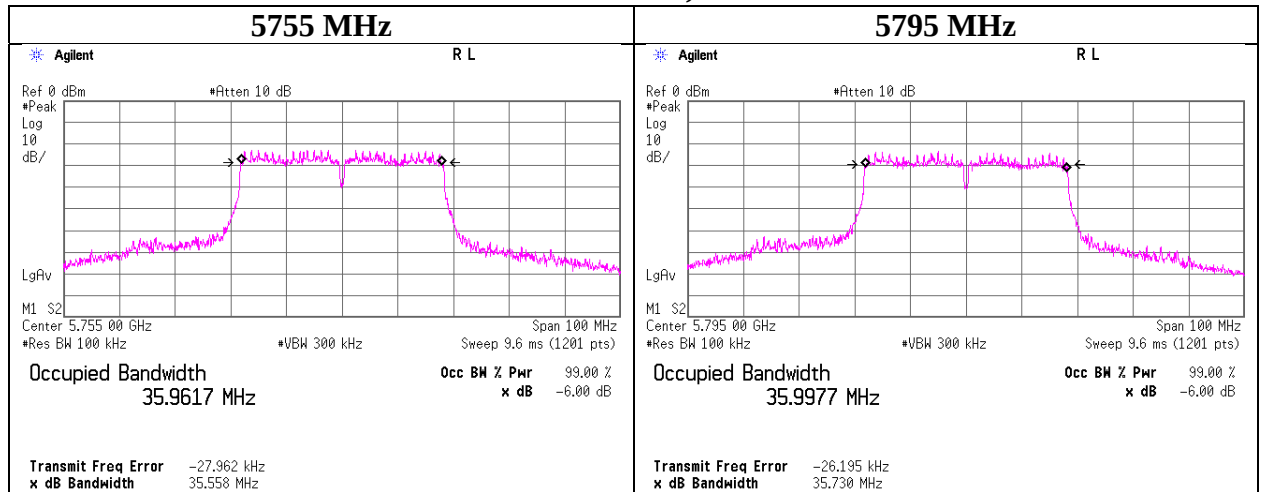
Facsimile : +81 463 50 6401

## 6 dB Bandwidth

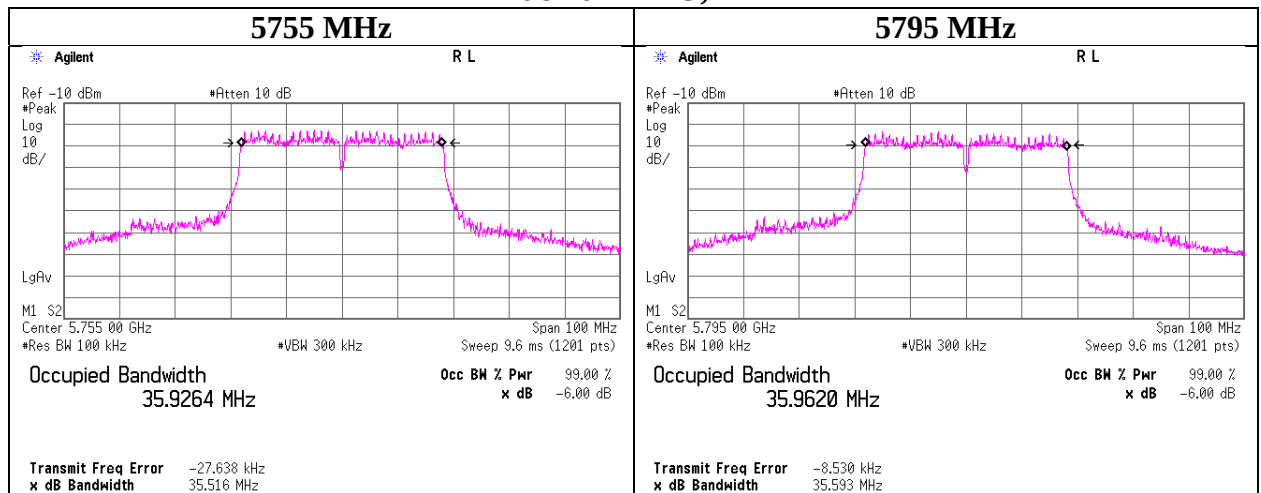
### 11ac-40 SISO, RF1



### 11ac-40 CDD, RF1



### 11ac-40 MIMO, RF1



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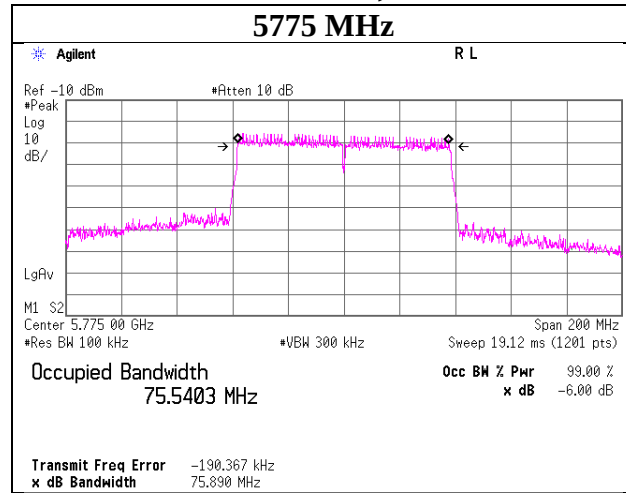
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone : +81 463 50 6400

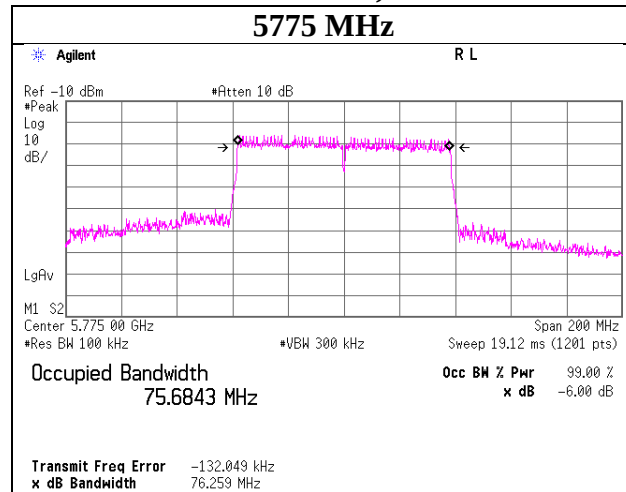
Facsimile : +81 463 50 6401

## 6 dB Bandwidth

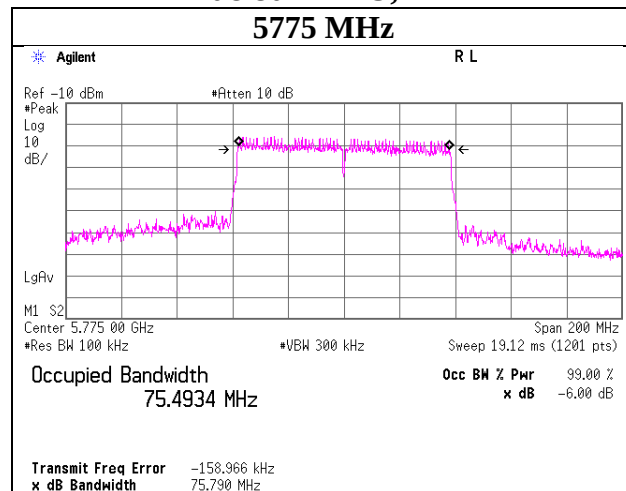
### 11ac-80 SISO, RF1



### 11ac-80 CDD, RF1



### 11ac-80 MIMO, RF1



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Telephone : +81 463 50 6400

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## Maximum Conducted Output Power

Report No. 13408107S-C  
Test place Shonan EMC Lab. No.5 Shielded Room  
Date July 10, 2020 July 22, 2020  
Temperature / Humidity 25 deg. C / 52 % RH 22 deg. C / 56 % RH  
Engineer Hiromasa Sato Hiromasa Sato  
Mode Tx 11a SISO

### 11a SISO, RF0

Applied limit: 15.407, mobile and portable client device

| Tested<br>Frequency | Reading | Cable<br>Loss | Atten.<br>Loss | Duty<br>Factor<br>*1) | Antenna<br>Gain<br>*2) | 26 dB<br>EBW<br>(B for FCC) | 99%<br>OBW<br>(B for IC) | Conducted Power |      |       |        | e.i.r.p. |      |       |        |
|---------------------|---------|---------------|----------------|-----------------------|------------------------|-----------------------------|--------------------------|-----------------|------|-------|--------|----------|------|-------|--------|
|                     |         |               |                |                       |                        |                             |                          | Result          |      | Limit | Margin | Result   |      | Limit | Margin |
|                     |         |               |                |                       |                        |                             |                          | [dBm]           | [mW] | [dBm] | [dB]   | [dBm]    | [mW] | [dBm] | [dB]   |
| 5180                | -11.53  | 3.50          | 9.87           | -                     | 2.17                   | -                           | 16.698                   | 1.84            | 1.53 | 23.97 | 22.13  | 4.01     | 2.52 | 29.97 | 25.96  |
| 5220                | -10.78  | 3.51          | 9.87           | -                     | 2.17                   | -                           | 16.719                   | 2.60            | 1.82 | 23.97 | 21.37  | 4.77     | 3.00 | 29.97 | 25.20  |
| 5240                | -10.56  | 3.51          | 9.88           | -                     | 2.17                   | -                           | 16.700                   | 2.83            | 1.92 | 23.97 | 21.14  | 5.00     | 3.16 | 29.97 | 24.97  |
| 5745                | -10.91  | 3.60          | 9.89           | -                     | 2.37                   | -                           | 16.641                   | 2.58            | 1.81 | 30.00 | 27.42  | 4.95     | 3.13 | 36.00 | 31.05  |
| 5785                | -11.32  | 3.61          | 9.89           | -                     | 2.37                   | -                           | 16.664                   | 2.18            | 1.65 | 30.00 | 27.82  | 4.55     | 2.85 | 36.00 | 31.45  |
| 5825                | -11.57  | 3.62          | 9.89           | -                     | 2.37                   | -                           | 16.659                   | 1.94            | 1.56 | 30.00 | 28.06  | 4.31     | 2.70 | 36.00 | 31.69  |

\*1) Duty Factor is not required because the measurement using a gated RF average power meter.

\*2) Antenna Gain applied the higher of the two models.

Sample Calculation:

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

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

Conducted Power Limit (5150 MHz-5250 MHz) = 250 mW

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

### 11a SISO, RF1

Applied limit: 15.407, mobile and portable client device

| Tested Frequency | Reading | Cable Loss | Atten. Loss | Duty Factor *1) | Antenna Gain *2) | 26 dB EBW<br>(B for FCC) | 99% OBW<br>(B for IC) | Conducted Power |      |       |        | e.i.r.p. |      |       |        |
|------------------|---------|------------|-------------|-----------------|------------------|--------------------------|-----------------------|-----------------|------|-------|--------|----------|------|-------|--------|
|                  |         |            |             |                 |                  |                          |                       | Result          |      | Limit | Margin | Result   |      | Limit | Margin |
|                  |         |            |             |                 |                  |                          |                       | [dBm]           | [mW] | [dBm] | [dB]   | [dBm]    | [mW] | [dBm] | [dB]   |
| 5180             | -10.73  | 3.51       | 9.93        | -               | 2.59             | -                        | 16.698                | 2.71            | 1.87 | 23.97 | 21.26  | 5.30     | 3.39 | 29.97 | 24.67  |
| 5220             | -11.15  | 3.52       | 9.93        | -               | 2.59             | -                        | 16.719                | 2.30            | 1.70 | 23.97 | 21.67  | 4.89     | 3.08 | 29.97 | 25.08  |
| 5240             | -11.21  | 3.52       | 9.93        | -               | 2.59             | -                        | 16.700                | 2.24            | 1.67 | 23.97 | 21.73  | 4.83     | 3.04 | 29.97 | 25.14  |
| 5745             | -9.60   | 3.61       | 9.93        | -               | 2.64             | -                        | 16.641                | 3.94            | 2.48 | 30.00 | 26.06  | 6.58     | 4.55 | 36.00 | 29.42  |
| 5785             | -10.76  | 3.62       | 9.93        | -               | 2.64             | -                        | 16.664                | 2.79            | 1.90 | 30.00 | 27.21  | 5.43     | 3.49 | 36.00 | 30.57  |
| 5825             | -12.07  | 3.62       | 9.93        | -               | 2.64             | -                        | 16.659                | 1.48            | 1.41 | 30.00 | 28.52  | 4.12     | 2.58 | 36.00 | 31.88  |

\*1) Duty Factor is not required because the measurement using a gated RF average power meter.

\*2) Antenna Gain applied the higher of the two models.

Sample Calculation:

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

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

Conducted Power Limit (5150 MHz-5250 MHz) = 250 mW

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

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Facsimile : +81 463 50 6401

## Maximum Conducted Output Power

Report No. 13408107S-C  
Test place Shonan EMC Lab. No.5 Shielded Room  
Date July 10, 2020 July 22, 2020  
Temperature / Humidity 25 deg. C / 52 % RH 22 deg. C / 56 % RH  
Engineer Hiromasa Sato Hiromasa Sato  
Mode Tx 11a CDD

### RF0 + RF1

Applied limit: 15.407, mobile and portable client device

| Tested Frequency<br>[MHz] | 26 dB EBW<br>(B for FCC)<br>[MHz] | 99% OBW<br>(B for IC)<br>[MHz] | Conducted power |                      |             |                 |                |                | e.i.r.p.     |                      |             |                 |                |                |
|---------------------------|-----------------------------------|--------------------------------|-----------------|----------------------|-------------|-----------------|----------------|----------------|--------------|----------------------|-------------|-----------------|----------------|----------------|
|                           |                                   |                                | RF 0<br>[mW]    | Antenna RF 1<br>[mW] | Sum<br>[mW] | Result<br>[dBm] | Limit<br>[dBm] | Margin<br>[dB] | RF 0<br>[mW] | Antenna RF 1<br>[mW] | Sum<br>[mW] | Result<br>[dBm] | Limit<br>[dBm] | Margin<br>[dB] |
| 5180                      | -                                 | 16.706                         | 1.44            | 1.70                 | 3.14        | 4.97            | 23.97          | 19.00          | 2.61         | 3.08                 | 5.70        | 7.56            | 29.97          | 22.41          |
| 5220                      | -                                 | 16.709                         | 1.71            | 1.55                 | 3.26        | 5.13            | 23.97          | 18.84          | 3.10         | 2.81                 | 5.91        | 7.72            | 29.97          | 22.25          |
| 5240                      | -                                 | 16.686                         | 1.84            | 1.53                 | 3.37        | 5.27            | 23.97          | 18.70          | 3.34         | 2.77                 | 6.12        | 7.86            | 29.97          | 22.11          |
| 5745                      | -                                 | 16.660                         | 1.68            | 2.31                 | 3.99        | 6.01            | 30.00          | 23.99          | 3.09         | 4.24                 | 7.33        | 8.65            | 36.00          | 27.35          |
| 5785                      | -                                 | 16.659                         | 1.53            | 1.64                 | 3.17        | 5.01            | 30.00          | 24.99          | 2.82         | 3.01                 | 5.82        | 7.65            | 36.00          | 28.35          |
| 5825                      | -                                 | 16.678                         | 1.46            | 1.24                 | 2.69        | 4.30            | 30.00          | 25.70          | 2.67         | 2.27                 | 4.94        | 6.94            | 36.00          | 29.06          |

|                  |                 | RF0     |            |             |                  |                   |                | RF1     |            |             |                  |                   |                |
|------------------|-----------------|---------|------------|-------------|------------------|-------------------|----------------|---------|------------|-------------|------------------|-------------------|----------------|
| Tested Frequency | Duty Factor *1) | Reading | Cable Loss | Atten. Loss | Directional Gain | Result            |                | Reading | Cable Loss | Atten. Loss | Directional Gain | Result            |                |
| [MHz]            | [dB]            | [dBm]   | [dB]       | [dB]        | [dBi]            | Cond. Power [dBm] | e.i.r.p. [dBm] | [dBm]   | [dB]       | [dB]        | [dBi]            | Cond. Power [dBm] | e.i.r.p. [dBm] |
| 5180             | -               | -11.79  | 3.50       | 9.87        | 2.59             | 1.58              | 4.17           | -11.14  | 3.51       | 9.93        | 2.59             | 2.30              | 4.89           |
| 5220             | -               | -11.05  | 3.51       | 9.87        | 2.59             | 2.33              | 4.92           | -11.56  | 3.52       | 9.93        | 2.59             | 1.89              | 4.48           |
| 5240             | -               | -10.74  | 3.51       | 9.88        | 2.59             | 2.65              | 5.24           | -11.61  | 3.52       | 9.93        | 2.59             | 1.84              | 4.43           |
| 5745             | -               | -11.23  | 3.60       | 9.89        | 2.64             | 2.26              | 4.90           | -9.91   | 3.61       | 9.93        | 2.64             | 3.63              | 6.27           |
| 5785             | -               | -11.64  | 3.61       | 9.89        | 2.64             | 1.86              | 4.50           | -11.41  | 3.62       | 9.93        | 2.64             | 2.14              | 4.78           |
| 5825             | -               | -11.88  | 3.62       | 9.89        | 2.64             | 1.63              | 4.27           | -12.63  | 3.62       | 9.93        | 2.64             | 0.92              | 3.56           |

\*1) Duty Factor is not required because the measurement using a gated RF average power meter.

Sample Calculation:

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

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

Directional Gain =  $G_{ANT}(Antenna\ Gain^{*2}) + Array\ Gain$

Array Gain = 0 dB(i.e.,no array gain) for  $N_{ANT} < 4$

$N_{ANT}$  = number of transmit antennas = 2

\*2) Antenna Gain applied the highest gain of the two models.

Conducted Power Limit (5150 MHz-5250 MHz) = 250 mW

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

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Facsimile : +81 463 50 6401

## Maximum Conducted Output Power

Report No. 13408107S-C  
Test place Shonan EMC Lab. No.5 Shielded Room  
Date July 10, 2020 July 22, 2020  
Temperature / Humidity 25 deg. C / 52 % RH 22 deg. C / 56 % RH  
Engineer Hiromasa Sato Hiromasa Sato  
Mode Tx 11n-20 SISO

### 11n-20 SISO, RF0

Applied limit: 15.407, mobile and portable client device

| Tested<br>Frequency | Reading | Cable<br>Loss | Atten.<br>Loss | Duty<br>Factor<br>*1) | Antenna<br>Gain<br>*2) | 26 dB<br>EBW<br>(B for FCC) | 99%<br>OBW<br>(B for IC) | Conducted Power |      |       |        | e.i.r.p. |      |       |        |
|---------------------|---------|---------------|----------------|-----------------------|------------------------|-----------------------------|--------------------------|-----------------|------|-------|--------|----------|------|-------|--------|
|                     |         |               |                |                       |                        |                             |                          | Result          |      | Limit | Margin | Result   |      | Limit | Margin |
|                     |         |               |                |                       |                        |                             |                          | [dBm]           | [mW] | [dBm] | [dB]   | [dBm]    | [mW] | [dBm] | [dB]   |
| 5180                | -11.46  | 3.50          | 9.87           | -                     | 2.17                   | -                           | 17.764                   | 1.91            | 1.55 | 23.97 | 22.06  | 4.08     | 2.56 | 29.97 | 25.89  |
| 5220                | -10.70  | 3.51          | 9.87           | -                     | 2.17                   | -                           | 17.792                   | 2.68            | 1.85 | 23.97 | 21.29  | 4.85     | 3.05 | 29.97 | 25.12  |
| 5240                | -10.83  | 3.51          | 9.88           | -                     | 2.17                   | -                           | 17.726                   | 2.56            | 1.80 | 23.97 | 21.41  | 4.73     | 2.97 | 29.97 | 25.24  |
| 5745                | -10.81  | 3.60          | 9.89           | -                     | 2.37                   | -                           | 17.801                   | 2.68            | 1.85 | 30.00 | 27.32  | 5.05     | 3.20 | 36.00 | 30.95  |
| 5785                | -11.31  | 3.61          | 9.89           | -                     | 2.37                   | -                           | 17.706                   | 2.19            | 1.66 | 30.00 | 27.81  | 4.56     | 2.86 | 36.00 | 31.44  |
| 5825                | -11.49  | 3.62          | 9.89           | -                     | 2.37                   | -                           | 17.769                   | 2.02            | 1.59 | 30.00 | 27.98  | 4.39     | 2.75 | 36.00 | 31.61  |

\*1) Duty Factor is not required because the measurement using a gated RF average power meter.

\*2) Antenna Gain applied the higher of the two models.

Sample Calculation:

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

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

Conducted Power Limit (5150 MHz-5250 MHz) = 250 mW

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

### 11n-20 SISO, RF1

Applied limit: 15.407, mobile and portable client device

| Tested Frequency | Reading | Cable Loss | Atten. Loss | Duty Factor *1) | Antenna Gain *2) | 26 dB EBW<br>(B for FCC) | 99% OBW<br>(B for IC) | Conducted Power |      |       |        | e.i.r.p. |      |       |        |
|------------------|---------|------------|-------------|-----------------|------------------|--------------------------|-----------------------|-----------------|------|-------|--------|----------|------|-------|--------|
|                  |         |            |             |                 |                  |                          |                       | Result          |      | Limit | Margin | Result   |      | Limit | Margin |
| [MHz]            | [dBm]   | [dB]       | [dB]        | [dB]            | [dBi]            | [MHz]                    | [MHz]                 | [dBm]           | [mW] | [dBm] | [dB]   | [dBm]    | [mW] | [dBm] | [dB]   |
| 5180             | -10.61  | 3.51       | 9.93        | -               | 2.59             | -                        | 17.764                | 2.83            | 1.92 | 23.97 | 21.14  | 5.42     | 3.48 | 29.97 | 24.55  |
| 5220             | -10.97  | 3.52       | 9.93        | -               | 2.59             | -                        | 17.792                | 2.48            | 1.77 | 23.97 | 21.49  | 5.07     | 3.21 | 29.97 | 24.90  |
| 5240             | -11.06  | 3.52       | 9.93        | -               | 2.59             | -                        | 17.726                | 2.39            | 1.73 | 23.97 | 21.58  | 4.98     | 3.15 | 29.97 | 24.99  |
| 5745             | -9.41   | 3.61       | 9.93        | -               | 2.64             | -                        | 17.801                | 4.13            | 2.59 | 30.00 | 25.87  | 6.77     | 4.75 | 36.00 | 29.23  |
| 5785             | -10.62  | 3.62       | 9.93        | -               | 2.64             | -                        | 17.706                | 2.93            | 1.96 | 30.00 | 27.07  | 5.57     | 3.61 | 36.00 | 30.43  |
| 5825             | -11.98  | 3.62       | 9.93        | -               | 2.64             | -                        | 17.769                | 1.57            | 1.44 | 30.00 | 28.43  | 4.21     | 2.64 | 36.00 | 31.79  |

\*1) Duty Factor is not required because the measurement using a gated RF average power meter.

\*2) Antenna Gain applied the higher of the two models.

Sample Calculation:

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

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

Conducted Power Limit (5150 MHz-5250 MHz) = 250 mW

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

UL Japan, Inc.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

## Maximum Conducted Output Power

Report No. 13408107S-C  
Test place Shonan EMC Lab. No.5 Shielded Room  
Date July 10, 2020 July 22, 2020  
Temperature / Humidity 25 deg. C / 52 % RH 22 deg. C / 56 % RH  
Engineer Hiromasa Sato Hiromasa Sato  
Mode Tx 11n-20 CDD

### RF0 + RF1

Applied limit: 15.407, mobile and portable client device

| Tested Frequency<br>[MHz] | 26 dB EBW<br>(B for FCC)<br>[MHz] | 99% OBW<br>(B for IC)<br>[MHz] | Conducted power |                      |             |                 |                |                | e.i.r.p.     |                      |             |                 |                |                |
|---------------------------|-----------------------------------|--------------------------------|-----------------|----------------------|-------------|-----------------|----------------|----------------|--------------|----------------------|-------------|-----------------|----------------|----------------|
|                           |                                   |                                | RF 0<br>[mW]    | Antenna RF 1<br>[mW] | Sum<br>[mW] | Result<br>[dBm] | Limit<br>[dBm] | Margin<br>[dB] | RF 0<br>[mW] | Antenna RF 1<br>[mW] | Sum<br>[mW] | Result<br>[dBm] | Limit<br>[dBm] | Margin<br>[dB] |
| 5180                      | -                                 | 17.814                         | 1.48            | 1.73                 | 3.21        | 5.06            | 23.97          | 18.91          | 2.68         | 3.14                 | 5.82        | 7.65            | 29.97          | 22.32          |
| 5220                      | -                                 | 17.794                         | 1.74            | 1.59                 | 3.33        | 5.22            | 23.97          | 18.75          | 3.16         | 2.89                 | 6.05        | 7.81            | 29.97          | 22.16          |
| 5240                      | -                                 | 17.793                         | 1.89            | 1.58                 | 3.47        | 5.40            | 23.97          | 18.57          | 3.44         | 2.86                 | 6.30        | 7.99            | 29.97          | 21.98          |
| 5745                      | -                                 | 17.702                         | 1.69            | 2.31                 | 4.00        | 6.02            | 30.00          | 23.98          | 3.10         | 4.25                 | 7.34        | 8.66            | 36.00          | 27.34          |
| 5785                      | -                                 | 17.721                         | 1.55            | 1.66                 | 3.21        | 5.06            | 30.00          | 24.94          | 2.84         | 3.05                 | 5.89        | 7.70            | 36.00          | 28.30          |
| 5825                      | -                                 | 17.773                         | 1.48            | 1.27                 | 2.75        | 4.39            | 30.00          | 25.61          | 2.72         | 2.33                 | 5.05        | 7.03            | 36.00          | 28.97          |

|                  |                 | RF0     |            |             |                  |             |          | RF1     |            |             |                  |             |          |
|------------------|-----------------|---------|------------|-------------|------------------|-------------|----------|---------|------------|-------------|------------------|-------------|----------|
| Tested Frequency | Duty Factor *1) | Reading | Cable Loss | Atten. Loss | Directional Gain | Result      |          | Reading | Cable Loss | Atten. Loss | Directional Gain | Result      |          |
| [MHz]            | [dB]            | [dBm]   | [dB]       | [dB]        | [dBi]            | Cond. Power | e.i.r.p. | [dBm]   | [dB]       | [dB]        | [dBi]            | Cond. Power | e.i.r.p. |
|                  |                 |         |            |             |                  | [dBm]       | [dBm]    |         |            |             |                  | [dBm]       | [dBm]    |
| 5180             | -               | -11.68  | 3.50       | 9.87        | 2.59             | 1.69        | 4.28     | -11.06  | 3.51       | 9.93        | 2.59             | 2.38        | 4.97     |
| 5220             | -               | -10.98  | 3.51       | 9.87        | 2.59             | 2.40        | 4.99     | -11.43  | 3.52       | 9.93        | 2.59             | 2.02        | 4.61     |
| 5240             | -               | -10.62  | 3.51       | 9.88        | 2.59             | 2.77        | 5.36     | -11.47  | 3.52       | 9.93        | 2.59             | 1.98        | 4.57     |
| 5745             | -               | -11.22  | 3.60       | 9.89        | 2.64             | 2.27        | 4.91     | -9.90   | 3.61       | 9.93        | 2.64             | 3.64        | 6.28     |
| 5785             | -               | -11.60  | 3.61       | 9.89        | 2.64             | 1.90        | 4.54     | -11.35  | 3.62       | 9.93        | 2.64             | 2.20        | 4.84     |
| 5825             | -               | -11.81  | 3.62       | 9.89        | 2.64             | 1.70        | 4.34     | -12.51  | 3.62       | 9.93        | 2.64             | 1.04        | 3.68     |

\*1) Duty Factor is not required because the measurement using a gated RF average power meter.

Sample Calculation:

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

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

Directional Gain =  $G_{ANT}(\text{Antenna Gain}^{*2}) + \text{Array Gain}$

Array Gain = 0 dB(i.e., no array gain) for  $N_{ANT} < 4$

$N_{ANT}$  = number of transmit antennas = 2

\*2) Antenna Gain applied the highest gain of the two models.

Conducted Power Limit (5150 MHz-5250 MHz) = 250 mW

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

## Maximum Conducted Output Power

Report No. 13408107S-C  
Test place Shonan EMC Lab. No.5 Shielded Room  
Date July 10, 2020 July 22, 2020  
Temperature / Humidity 25 deg. C / 52 % RH 22 deg. C / 56 % RH  
Engineer Hiromasa Sato Hiromasa Sato  
Mode Tx 11n-20 MIMO

### RF0 + RF1

Applied limit: 15.407, mobile and portable client device

| Tested Frequency<br>[MHz] | 26 dB EBW<br>(B for FCC)<br>[MHz] | 99% OBW<br>(B for IC)<br>[MHz] | Conducted power |                      |             |                 |                |                | e.i.r.p.     |                      |             |                 |                |                |
|---------------------------|-----------------------------------|--------------------------------|-----------------|----------------------|-------------|-----------------|----------------|----------------|--------------|----------------------|-------------|-----------------|----------------|----------------|
|                           |                                   |                                | RF 0<br>[mW]    | Antenna RF 1<br>[mW] | Sum<br>[mW] | Result<br>[dBm] | Limit<br>[dBm] | Margin<br>[dB] | RF 0<br>[mW] | Antenna RF 1<br>[mW] | Sum<br>[mW] | Result<br>[dBm] | Limit<br>[dBm] | Margin<br>[dB] |
| 5180                      | -                                 | 17.800                         | 1.50            | 1.79                 | 3.29        | 5.17            | 23.97          | 18.80          | 2.48         | 3.24                 | 5.72        | 7.57            | 29.97          | 22.40          |
| 5220                      | -                                 | 17.791                         | 1.81            | 1.66                 | 3.47        | 5.40            | 23.97          | 18.57          | 2.99         | 3.01                 | 6.00        | 7.78            | 29.97          | 22.19          |
| 5240                      | -                                 | 17.808                         | 1.88            | 1.60                 | 3.48        | 5.42            | 23.97          | 18.55          | 3.10         | 2.90                 | 6.00        | 7.78            | 29.97          | 22.19          |
| 5745                      | -                                 | 17.785                         | 1.76            | 2.34                 | 4.10        | 6.13            | 30.00          | 23.87          | 3.04         | 4.30                 | 7.34        | 8.65            | 36.00          | 27.35          |
| 5785                      | -                                 | 17.800                         | 1.60            | 1.77                 | 3.37        | 5.28            | 30.00          | 24.72          | 2.77         | 3.25                 | 6.02        | 7.79            | 36.00          | 28.21          |
| 5825                      | -                                 | 17.811                         | 1.50            | 1.31                 | 2.81        | 4.48            | 30.00          | 25.52          | 2.59         | 2.40                 | 4.99        | 6.98            | 36.00          | 29.02          |

|                  |                 | RF0     |            |             |                  |                   |                | RF1     |            |             |                  |                   |                |
|------------------|-----------------|---------|------------|-------------|------------------|-------------------|----------------|---------|------------|-------------|------------------|-------------------|----------------|
| Tested Frequency | Duty Factor *1) | Reading | Cable Loss | Atten. Loss | Antenna Gain *2) | Result            |                | Reading | Cable Loss | Atten. Loss | Antenna Gain *2) | Result            |                |
| [MHz]            | [dB]            | [dBm]   | [dB]       | [dB]        | [dBi]            | Cond. Power [dBm] | e.i.r.p. [dBm] | [dBm]   | [dB]       | [dB]        | [dBi]            | Cond. Power [dBm] | e.i.r.p. [dBm] |
| 5180             | -               | -11.60  | 3.50       | 9.87        | 2.17             | 1.77              | 3.94           | -10.92  | 3.51       | 9.93        | 2.59             | 2.52              | 5.11           |
| 5220             | -               | -10.80  | 3.51       | 9.87        | 2.17             | 2.58              | 4.75           | -11.25  | 3.52       | 9.93        | 2.59             | 2.20              | 4.79           |
| 5240             | -               | -10.64  | 3.51       | 9.88        | 2.17             | 2.75              | 4.92           | -11.42  | 3.52       | 9.93        | 2.59             | 2.03              | 4.62           |
| 5745             | -               | -11.03  | 3.60       | 9.89        | 2.37             | 2.46              | 4.83           | -9.85   | 3.61       | 9.93        | 2.64             | 3.69              | 6.33           |
| 5785             | -               | -11.45  | 3.61       | 9.89        | 2.37             | 2.05              | 4.42           | -11.07  | 3.62       | 9.93        | 2.64             | 2.48              | 5.12           |
| 5825             | -               | -11.75  | 3.62       | 9.89        | 2.37             | 1.76              | 4.13           | -12.39  | 3.62       | 9.93        | 2.64             | 1.16              | 3.80           |

\*1) Duty Factor is not required because the measurement using a gated RF average power meter.

\*2) Antenna Gain applied the higher of the two models.

Sample Calculation:

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

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

Conducted Power Limit (5150 MHz-5250 MHz) = 250 mW

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

## Maximum Conducted Output Power

Report No. 13408107S-C  
Test place Shonan EMC Lab. No.5 Shielded Room  
Date July 10, 2020 July 22, 2020  
Temperature / Humidity 25 deg. C / 52 % RH 22 deg. C / 56 % RH  
Engineer Hiromasa Sato Hiromasa Sato  
Mode Tx 11ac-20 SISO

### 11ac-20 SISO, RF0

Applied limit: 15.407, mobile and portable client device

| Tested<br>Frequency | Reading | Cable<br>Loss | Atten.<br>Loss | Duty<br>Factor<br>*1) | Antenna<br>Gain<br>*2) | 26 dB<br>EBW<br>(B for FCC) | 99%<br>OBW<br>(B for IC) | Conducted Power |      |       |        | e.i.r.p. |      |       |        |
|---------------------|---------|---------------|----------------|-----------------------|------------------------|-----------------------------|--------------------------|-----------------|------|-------|--------|----------|------|-------|--------|
|                     |         |               |                |                       |                        |                             |                          | Result          |      | Limit | Margin | Result   |      | Limit | Margin |
|                     |         |               |                |                       |                        |                             |                          | [dBm]           | [mW] | [dBm] | [dB]   | [dBm]    | [mW] | [dBm] | [dB]   |
| 5180                | -11.49  | 3.50          | 9.87           | -                     | 2.17                   | -                           | 17.754                   | 1.88            | 1.54 | 23.97 | 22.09  | 4.05     | 2.54 | 29.97 | 25.92  |
| 5220                | -10.72  | 3.51          | 9.87           | -                     | 2.17                   | -                           | 17.731                   | 2.66            | 1.85 | 23.97 | 21.31  | 4.83     | 3.04 | 29.97 | 25.14  |
| 5240                | -10.56  | 3.51          | 9.88           | -                     | 2.17                   | -                           | 17.741                   | 2.83            | 1.92 | 23.97 | 21.14  | 5.00     | 3.16 | 29.97 | 24.97  |
| 5745                | -10.84  | 3.60          | 9.89           | -                     | 2.37                   | -                           | 17.723                   | 2.65            | 1.84 | 30.00 | 27.35  | 5.02     | 3.18 | 36.00 | 30.98  |
| 5785                | -11.28  | 3.61          | 9.89           | -                     | 2.37                   | -                           | 17.742                   | 2.22            | 1.67 | 30.00 | 27.78  | 4.59     | 2.88 | 36.00 | 31.41  |
| 5825                | -11.55  | 3.62          | 9.89           | -                     | 2.37                   | -                           | 17.758                   | 1.96            | 1.57 | 30.00 | 28.04  | 4.33     | 2.71 | 36.00 | 31.67  |

\*1) Duty Factor is not required because the measurement using a gated RF average power meter.

\*2) Antenna Gain applied the higher of the two models.

Sample Calculation:

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

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

Conducted Power Limit (5150 MHz-5250 MHz) = 250 mW

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

### 11ac-20 SISO, RF1

Applied limit: 15.407, mobile and portable client device

| Tested<br>Frequency | Reading | Cable<br>Loss | Atten.<br>Loss | Duty<br>Factor<br>*1) | Antenna<br>Gain<br>*2) | 26 dB<br>EBW<br>(B for FCC) | 99%<br>OBW<br>(B for IC) | Conducted Power |      |       |        | e.i.r.p. |      |       |        |
|---------------------|---------|---------------|----------------|-----------------------|------------------------|-----------------------------|--------------------------|-----------------|------|-------|--------|----------|------|-------|--------|
|                     |         |               |                |                       |                        |                             |                          | Result          |      | Limit | Margin | Result   |      | Limit | Margin |
|                     |         |               |                |                       |                        |                             |                          | [dBm]           | [mW] | [dBm] | [dB]   | [dBm]    | [mW] | [dBm] | [dB]   |
| 5180                | -10.72  | 3.51          | 9.93           | -                     | 2.59                   | -                           | 17.754                   | 2.72            | 1.87 | 23.97 | 21.25  | 5.31     | 3.39 | 29.97 | 24.66  |
| 5220                | -11.03  | 3.52          | 9.93           | -                     | 2.59                   | -                           | 17.731                   | 2.42            | 1.74 | 23.97 | 21.55  | 5.01     | 3.17 | 29.97 | 24.96  |
| 5240                | -11.10  | 3.52          | 9.93           | -                     | 2.59                   | -                           | 17.741                   | 2.35            | 1.72 | 23.97 | 21.62  | 4.94     | 3.12 | 29.97 | 25.03  |
| 5745                | -9.44   | 3.61          | 9.93           | -                     | 2.64                   | -                           | 17.723                   | 4.10            | 2.57 | 30.00 | 25.90  | 6.74     | 4.72 | 36.00 | 29.26  |
| 5785                | -10.60  | 3.62          | 9.93           | -                     | 2.64                   | -                           | 17.742                   | 2.95            | 1.97 | 30.00 | 27.05  | 5.59     | 3.62 | 36.00 | 30.41  |
| 5825                | -11.96  | 3.62          | 9.93           | -                     | 2.64                   | -                           | 17.758                   | 1.59            | 1.44 | 30.00 | 28.41  | 4.23     | 2.65 | 36.00 | 31.77  |

\*1) Duty Factor is not required because the measurement using a gated RF average power meter.

\*2) Antenna Gain applied the higher of the two models.

Sample Calculation:

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

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

Conducted Power Limit (5150 MHz-5250 MHz) = 250 mW

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

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## Maximum Conducted Output Power

Report No. 13408107S-C  
Test place Shonan EMC Lab. No.5 Shielded Room  
Date July 10, 2020 July 22, 2020  
Temperature / Humidity 25 deg. C / 52 % RH 22 deg. C / 56 % RH  
Engineer Hiromasa Sato Hiromasa Sato  
Mode Tx 11ac-20 CDD

### RF0 + RF1

Applied limit: 15.407, mobile and portable client device

| Tested Frequency<br>[MHz] | 26 dB EBW<br>(B for FCC)<br>[MHz] | 99% OBW<br>(B for IC)<br>[MHz] | Conducted power |                      |             |                 |                |                | e.i.r.p.     |                      |             |                 |                |                |
|---------------------------|-----------------------------------|--------------------------------|-----------------|----------------------|-------------|-----------------|----------------|----------------|--------------|----------------------|-------------|-----------------|----------------|----------------|
|                           |                                   |                                | RF 0<br>[mW]    | Antenna RF 1<br>[mW] | Sum<br>[mW] | Result<br>[dBm] | Limit<br>[dBm] | Margin<br>[dB] | RF 0<br>[mW] | Antenna RF 1<br>[mW] | Sum<br>[mW] | Result<br>[dBm] | Limit<br>[dBm] | Margin<br>[dB] |
| 5180                      | -                                 | 17.721                         | 1.48            | 1.76                 | 3.24        | 5.10            | 23.97          | 18.87          | 2.69         | 3.19                 | 5.88        | 7.69            | 29.97          | 22.28          |
| 5220                      | -                                 | 17.722                         | 1.75            | 1.60                 | 3.36        | 5.26            | 23.97          | 18.71          | 3.18         | 2.91                 | 6.09        | 7.85            | 29.97          | 22.12          |
| 5240                      | -                                 | 17.813                         | 1.84            | 1.54                 | 3.38        | 5.29            | 23.97          | 18.68          | 3.33         | 2.80                 | 6.13        | 7.88            | 29.97          | 22.09          |
| 5745                      | -                                 | 17.711                         | 1.71            | 2.33                 | 4.04        | 6.06            | 30.00          | 23.94          | 3.13         | 4.29                 | 7.42        | 8.70            | 36.00          | 27.30          |
| 5785                      | -                                 | 17.790                         | 1.53            | 1.66                 | 3.19        | 5.04            | 30.00          | 24.96          | 2.82         | 3.05                 | 5.87        | 7.68            | 36.00          | 28.32          |
| 5825                      | -                                 | 17.813                         | 1.47            | 1.26                 | 2.73        | 4.36            | 30.00          | 25.64          | 2.70         | 2.31                 | 5.01        | 7.00            | 36.00          | 29.00          |

|                  |                 | RF0     |            |             |                  |                   |                | RF1     |            |             |                  |                   |                |
|------------------|-----------------|---------|------------|-------------|------------------|-------------------|----------------|---------|------------|-------------|------------------|-------------------|----------------|
| Tested Frequency | Duty Factor *1) | Reading | Cable Loss | Atten. Loss | Directional Gain | Result            |                | Reading | Cable Loss | Atten. Loss | Directional Gain | Result            |                |
| [MHz]            | [dB]            | [dBm]   | [dB]       | [dB]        | [dBi]            | Cond. Power [dBm] | e.i.r.p. [dBm] | [dBm]   | [dB]       | [dB]        | [dBi]            | Cond. Power [dBm] | e.i.r.p. [dBm] |
| 5180             | -               | -11.67  | 3.50       | 9.87        | 2.59             | 1.70              | 4.29           | -10.99  | 3.51       | 9.93        | 2.59             | 2.45              | 5.04           |
| 5220             | -               | -10.94  | 3.51       | 9.87        | 2.59             | 2.44              | 5.03           | -11.40  | 3.52       | 9.93        | 2.59             | 2.05              | 4.64           |
| 5240             | -               | -10.75  | 3.51       | 9.88        | 2.59             | 2.64              | 5.23           | -11.57  | 3.52       | 9.93        | 2.59             | 1.88              | 4.47           |
| 5745             | -               | -11.17  | 3.60       | 9.89        | 2.64             | 2.32              | 4.96           | -9.86   | 3.61       | 9.93        | 2.64             | 3.68              | 6.32           |
| 5785             | -               | -11.64  | 3.61       | 9.89        | 2.64             | 1.86              | 4.50           | -11.35  | 3.62       | 9.93        | 2.64             | 2.20              | 4.84           |
| 5825             | -               | -11.84  | 3.62       | 9.89        | 2.64             | 1.67              | 4.31           | -12.55  | 3.62       | 9.93        | 2.64             | 1.00              | 3.64           |

\*1) Duty Factor is not required because the measurement using a gated RF average power meter.

Sample Calculation:

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

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

Directional Gain =  $G_{ANT}(Antenna\ Gain^{*2}) + Array\ Gain$

Array Gain = 0 dB(i.e.,no array gain) for  $N_{ANT} < 4$

$N_{ANT}$  = number of transmit antennas = 2

\*2) Antenna Gain applied the highest gain of the two models.

Conducted Power Limit (5150 MHz-5250 MHz) = 250 mW

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

## Maximum Conducted Output Power

Report No. 13408107S-C  
Test place Shonan EMC Lab. No.5 Shielded Room  
Date July 10, 2020 July 22, 2020  
Temperature / Humidity 25 deg. C / 52 % RH 22 deg. C / 56 % RH  
Engineer Hiromasa Sato Hiromasa Sato  
Mode Tx 11ac-20 MIMO

### RF0 + RF1

Applied limit: 15.407, mobile and portable client device

| Tested Frequency<br>[MHz] | 26 dB EBW<br>(B for FCC)<br>[MHz] | 99% OBW<br>(B for IC)<br>[MHz] | Conducted power |                      |             |                 |                |                | e.i.r.p.     |                      |             |                 |                |                |
|---------------------------|-----------------------------------|--------------------------------|-----------------|----------------------|-------------|-----------------|----------------|----------------|--------------|----------------------|-------------|-----------------|----------------|----------------|
|                           |                                   |                                | RF 0<br>[mW]    | Antenna RF 1<br>[mW] | Sum<br>[mW] | Result<br>[dBm] | Limit<br>[dBm] | Margin<br>[dB] | RF 0<br>[mW] | Antenna RF 1<br>[mW] | Sum<br>[mW] | Result<br>[dBm] | Limit<br>[dBm] | Margin<br>[dB] |
| 5180                      | -                                 | 17.826                         | 1.49            | 1.79                 | 3.28        | 5.16            | 23.97          | 18.81          | 2.45         | 3.26                 | 5.71        | 7.56            | 29.97          | 22.41          |
| 5220                      | -                                 | 17.745                         | 1.77            | 1.65                 | 3.41        | 5.33            | 23.97          | 18.64          | 2.91         | 2.99                 | 5.90        | 7.71            | 29.97          | 22.26          |
| 5240                      | -                                 | 17.815                         | 1.96            | 1.62                 | 3.58        | 5.54            | 23.97          | 18.43          | 3.23         | 2.94                 | 6.17        | 7.90            | 29.97          | 22.07          |
| 5745                      | -                                 | 17.741                         | 1.79            | 2.40                 | 4.19        | 6.22            | 30.00          | 23.78          | 3.08         | 4.41                 | 7.49        | 8.74            | 36.00          | 27.26          |
| 5785                      | -                                 | 17.711                         | 1.61            | 1.82                 | 3.43        | 5.36            | 30.00          | 24.64          | 2.78         | 3.35                 | 6.13        | 7.87            | 36.00          | 28.13          |
| 5825                      | -                                 | 17.730                         | 1.52            | 1.33                 | 2.85        | 4.55            | 30.00          | 25.45          | 2.62         | 2.44                 | 5.07        | 7.05            | 36.00          | 28.95          |

|                  |                 | RF0     |            |             |                  |                   |                | RF1     |            |             |                  |                   |                |
|------------------|-----------------|---------|------------|-------------|------------------|-------------------|----------------|---------|------------|-------------|------------------|-------------------|----------------|
| Tested Frequency | Duty Factor *1) | Reading | Cable Loss | Atten. Loss | Antenna Gain *2) | Result            |                | Reading | Cable Loss | Atten. Loss | Antenna Gain *2) | Result            |                |
| [MHz]            | [dB]            | [dBm]   | [dB]       | [dB]        | [dBi]            | Cond. Power [dBm] | e.i.r.p. [dBm] | [dBm]   | [dB]       | [dB]        | [dBi]            | Cond. Power [dBm] | e.i.r.p. [dBm] |
| 5180             | -               | -11.65  | 3.50       | 9.87        | 2.17             | 1.72              | 3.89           | -10.90  | 3.51       | 9.93        | 2.59             | 2.54              | 5.13           |
| 5220             | -               | -10.91  | 3.51       | 9.87        | 2.17             | 2.47              | 4.64           | -11.28  | 3.52       | 9.93        | 2.59             | 2.17              | 4.76           |
| 5240             | -               | -10.47  | 3.51       | 9.88        | 2.17             | 2.92              | 5.09           | -11.36  | 3.52       | 9.93        | 2.59             | 2.09              | 4.68           |
| 5745             | -               | -10.97  | 3.60       | 9.89        | 2.37             | 2.52              | 4.89           | -9.74   | 3.61       | 9.93        | 2.64             | 3.80              | 6.44           |
| 5785             | -               | -11.43  | 3.61       | 9.89        | 2.37             | 2.07              | 4.44           | -10.94  | 3.62       | 9.93        | 2.64             | 2.61              | 5.25           |
| 5825             | -               | -11.69  | 3.62       | 9.89        | 2.37             | 1.82              | 4.19           | -12.31  | 3.62       | 9.93        | 2.64             | 1.24              | 3.88           |

\*1) Duty Factor is not required because the measurement using a gated RF average power meter.

\*2) Antenna Gain applied the higher of the two models.

Sample Calculation:

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

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

Conducted Power Limit (5150 MHz-5250 MHz) = 250 mW

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

## Maximum Conducted Output Power

Report No. 13408107S-C  
Test place Shonan EMC Lab. No.5 Shielded Room  
Date July 10, 2020 July 22, 2020  
Temperature / Humidity 25 deg. C / 52 % RH 22 deg. C / 56 % RH  
Engineer Hiromasa Sato Hiromasa Sato  
Mode Tx 11n-40 SISO

### 11n-40 SISO, RF0

Applied limit: 15.407, mobile and portable client device

| Tested<br>Frequency | Reading | Cable<br>Loss | Atten.<br>Loss | Duty<br>Factor<br>*1) | Antenna<br>Gain<br>*2) | 26 dB<br>EBW<br>(B for FCC) | 99%<br>OBW<br>(B for IC) | Conducted Power |      |       |        | e.i.r.p. |      |       |        |
|---------------------|---------|---------------|----------------|-----------------------|------------------------|-----------------------------|--------------------------|-----------------|------|-------|--------|----------|------|-------|--------|
|                     |         |               |                |                       |                        |                             |                          | Result          |      | Limit | Margin | Result   |      | Limit | Margin |
|                     |         |               |                |                       |                        |                             |                          | [dBm]           | [mW] | [dBm] | [dB]   | [dBm]    | [mW] | [dBm] | [dB]   |
| [MHz]               | [dBm]   | [dB]          | [dB]           | [dB]                  | [dBi]                  | [MHz]                       | [MHz]                    | [dBm]           | [mW] | [dBm] | [dB]   | [dBm]    | [mW] | [dBm] | [dB]   |
| 5190                | -11.31  | 3.50          | 9.87           | -                     | 2.17                   | -                           | 36.207                   | 2.06            | 1.61 | 23.97 | 21.91  | 4.23     | 2.65 | 29.97 | 25.74  |
| 5230                | -10.57  | 3.51          | 9.87           | -                     | 2.17                   | -                           | 36.251                   | 2.81            | 1.91 | 23.97 | 21.16  | 4.98     | 3.15 | 29.97 | 24.99  |
| 5755                | -11.00  | 3.61          | 9.89           | -                     | 2.37                   | -                           | 36.246                   | 2.50            | 1.78 | 30.00 | 27.50  | 4.87     | 3.07 | 36.00 | 31.13  |
| 5795                | -11.35  | 3.61          | 9.89           | -                     | 2.37                   | -                           | 36.230                   | 2.15            | 1.64 | 30.00 | 27.85  | 4.52     | 2.83 | 36.00 | 31.48  |

\*1) Duty Factor is not required because the measurement using a gated RF average power meter.

\*2) Antenna Gain applied the higher of the two models.

Sample Calculation:

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

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

Conducted Power Limit (5150 MHz-5250 MHz) = 250 mW

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

### 11n-40 SISO, RF1

Applied limit: 15.407, mobile and portable client device

| Tested<br>Frequency | Reading | Cable<br>Loss | Atten.<br>Loss | Duty<br>Factor<br>*1) | Antenna<br>Gain<br>*2) | 26 dB<br>EBW<br>(B for FCC) | 99%<br>OBW<br>(B for IC) | Conducted Power |      |       |        | e.i.r.p. |      |       |        |
|---------------------|---------|---------------|----------------|-----------------------|------------------------|-----------------------------|--------------------------|-----------------|------|-------|--------|----------|------|-------|--------|
|                     |         |               |                |                       |                        |                             |                          | Result          |      | Limit | Margin | Result   |      | Limit | Margin |
|                     |         |               |                |                       |                        |                             |                          | [dBm]           | [mW] | [dBm] | [dB]   | [dBm]    | [mW] | [dBm] | [dB]   |
| [MHz]               | [dBm]   | [dB]          | [dB]           | [dB]                  | [dBi]                  | [MHz]                       | [MHz]                    | [dBm]           | [mW] | [dBm] | [dB]   | [dBm]    | [mW] | [dBm] | [dB]   |
| 5190                | -10.66  | 3.51          | 9.93           | -                     | 2.59                   | -                           | 36.207                   | 2.78            | 1.90 | 23.97 | 21.19  | 5.37     | 3.44 | 29.97 | 24.60  |
| 5230                | -11.01  | 3.52          | 9.93           | -                     | 2.59                   | -                           | 36.251                   | 2.44            | 1.75 | 23.97 | 21.53  | 5.03     | 3.18 | 29.97 | 24.94  |
| 5755                | -9.54   | 3.61          | 9.93           | -                     | 2.64                   | -                           | 36.246                   | 4.00            | 2.51 | 30.00 | 26.00  | 6.64     | 4.61 | 36.00 | 29.36  |
| 5795                | -10.81  | 3.62          | 9.93           | -                     | 2.64                   | -                           | 36.230                   | 2.74            | 1.88 | 30.00 | 27.26  | 5.38     | 3.45 | 36.00 | 30.62  |

\*1) Duty Factor is not required because the measurement using a gated RF average power meter.

\*2) Antenna Gain applied the higher of the two models.

Sample Calculation:

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

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

Conducted Power Limit (5150 MHz-5250 MHz) = 250 mW

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

## Maximum Conducted Output Power

Report No. 13408107S-C  
Test place Shonan EMC Lab. No.5 Shielded Room  
Date July 10, 2020 July 22, 2020  
Temperature / Humidity 25 deg. C / 52 % RH 22 deg. C / 56 % RH  
Engineer Hiromasa Sato Hiromasa Sato  
Mode Tx 11n-40 CDD

### RF0 + RF1

Applied limit: 15.407, mobile and portable client device

| Tested Frequency<br>[MHz] | 26 dB EBW<br>(B for FCC)<br>[MHz] | 99% OBW<br>(B for IC)<br>[MHz] | Conducted power |                      |             |                 |                |                | e.i.r.p.     |                      |             |                 |                |                |
|---------------------------|-----------------------------------|--------------------------------|-----------------|----------------------|-------------|-----------------|----------------|----------------|--------------|----------------------|-------------|-----------------|----------------|----------------|
|                           |                                   |                                | RF 0<br>[mW]    | Antenna RF 1<br>[mW] | Sum<br>[mW] | Result<br>[dBm] | Limit<br>[dBm] | Margin<br>[dB] | RF 0<br>[mW] | Antenna RF 1<br>[mW] | Sum<br>[mW] | Result<br>[dBm] | Limit<br>[dBm] | Margin<br>[dB] |
| 5190                      | -                                 | 36.324                         | 1.52            | 1.74                 | 3.26        | 5.13            | 23.97          | 18.84          | 2.75         | 3.16                 | 5.92        | 7.72            | 29.97          | 22.25          |
| 5230                      | -                                 | 36.224                         | 1.82            | 1.60                 | 3.43        | 5.35            | 23.97          | 18.62          | 3.31         | 2.91                 | 6.22        | 7.94            | 29.97          | 22.03          |
| 5755                      | -                                 | 36.209                         | 1.66            | 2.33                 | 3.99        | 6.01            | 30.00          | 23.99          | 3.05         | 4.28                 | 7.32        | 8.65            | 36.00          | 27.35          |
| 5795                      | -                                 | 36.261                         | 1.56            | 1.64                 | 3.20        | 5.05            | 30.00          | 24.95          | 2.87         | 3.01                 | 5.88        | 7.69            | 36.00          | 28.31          |

|                  |                 | RF0     |            |             |                  |             |          | RF1     |            |             |                  |             |          |
|------------------|-----------------|---------|------------|-------------|------------------|-------------|----------|---------|------------|-------------|------------------|-------------|----------|
| Tested Frequency | Duty Factor *1) | Reading | Cable Loss | Atten. Loss | Directional Gain | Result      |          | Reading | Cable Loss | Atten. Loss | Directional Gain | Result      |          |
|                  |                 |         |            |             |                  | Cond. Power | e.i.r.p. |         |            |             |                  | Cond. Power | e.i.r.p. |
| [MHz]            | [dB]            | [dBm]   | [dB]       | [dB]        | [dBi]            | [dBm]       | [dBm]    | [dBm]   | [dB]       | [dB]        | [dBi]            | [dBm]       | [dBm]    |
| 5190             | -               | -11.56  | 3.50       | 9.87        | 2.59             | 1.81        | 4.40     | -11.03  | 3.51       | 9.93        | 2.59             | 2.41        | 5.00     |
| 5230             | -               | -10.77  | 3.51       | 9.87        | 2.59             | 2.61        | 5.20     | -11.40  | 3.52       | 9.93        | 2.59             | 2.05        | 4.64     |
| 5755             | -               | -11.30  | 3.61       | 9.89        | 2.64             | 2.20        | 4.84     | -9.87   | 3.61       | 9.93        | 2.64             | 3.67        | 6.31     |
| 5795             | -               | -11.56  | 3.61       | 9.89        | 2.64             | 1.94        | 4.58     | -11.41  | 3.62       | 9.93        | 2.64             | 2.14        | 4.78     |

\*1) Duty Factor is not required because the measurement using a gated RF average power meter.

Sample Calculation:

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

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

Directional Gain =  $G_{ANT}$  (Antenna Gain \*2)) + Array Gain

Array Gain = 0 dB (i.e., no array gain) for  $N_{ANT} < 4$

$N_{ANT}$  = number of transmit antennas = 2

\*2) Antenna Gain applied the highest gain of the two models.

Conducted Power Limit (5150 MHz-5250 MHz) = 250 mW

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

## Maximum Conducted Output Power

Report No. 13408107S-C  
Test place Shonan EMC Lab. No.5 Shielded Room  
Date July 10, 2020 July 22, 2020  
Temperature / Humidity 25 deg. C / 52 % RH 22 deg. C / 56 % RH  
Engineer Hiromasa Sato Hiromasa Sato  
Mode Tx 11n-40 MIMO

### RF0 + RF1

Applied limit: 15.407, mobile and portable client device

| Tested Frequency<br>[MHz] | 26 dB EBW<br>(B for FCC)<br>[MHz] | 99% OBW<br>(B for IC)<br>[MHz] | Conducted power |              |             |                 |                |                | e.i.r.p.     |              |             |                 |                |                |
|---------------------------|-----------------------------------|--------------------------------|-----------------|--------------|-------------|-----------------|----------------|----------------|--------------|--------------|-------------|-----------------|----------------|----------------|
|                           |                                   |                                | Antenna         |              |             | Result<br>[dBm] | Limit<br>[dBm] | Margin<br>[dB] | Antenna      |              |             | Result<br>[dBm] | Limit<br>[dBm] | Margin<br>[dB] |
|                           |                                   |                                | RF 0<br>[mW]    | RF 1<br>[mW] | Sum<br>[mW] |                 |                |                | RF 0<br>[mW] | RF 1<br>[mW] | Sum<br>[mW] |                 |                |                |
| 5190                      | -                                 | 36.461                         | 1.52            | 1.79         | 3.32        | 5.21            | 23.97          | 18.76          | 2.51         | 3.26         | 5.77        | 7.61            | 29.97          | 22.36          |
| 5230                      | -                                 | 36.434                         | 1.83            | 1.63         | 3.45        | 5.38            | 23.97          | 18.59          | 3.01         | 2.95         | 5.96        | 7.76            | 29.97          | 22.21          |
| 5755                      | -                                 | 36.270                         | 1.70            | 2.30         | 3.99        | 6.01            | 30.00          | 23.99          | 2.93         | 4.22         | 7.15        | 8.54            | 36.00          | 27.46          |
| 5795                      | -                                 | 36.263                         | 1.56            | 1.68         | 3.25        | 5.11            | 30.00          | 24.89          | 2.70         | 3.09         | 5.79        | 7.63            | 36.00          | 28.37          |

| RF0                       |                            |                  |                    |                     |                              |                      | RF1               |                  |                    |                     |                              |                      |                   |
|---------------------------|----------------------------|------------------|--------------------|---------------------|------------------------------|----------------------|-------------------|------------------|--------------------|---------------------|------------------------------|----------------------|-------------------|
| Tested Frequency<br>[MHz] | Duty Factor<br>*1)<br>[dB] | Reading<br>[dBm] | Cable Loss<br>[dB] | Atten. Loss<br>[dB] | Antenna Gain<br>*2)<br>[dBi] | Result               |                   | Reading<br>[dBm] | Cable Loss<br>[dB] | Atten. Loss<br>[dB] | Antenna Gain<br>*2)<br>[dBi] | Result               |                   |
|                           |                            |                  |                    |                     |                              | Cond. Power<br>[dBm] | e.i.r.p.<br>[dBm] |                  |                    |                     |                              | Cond. Power<br>[dBm] | e.i.r.p.<br>[dBm] |
| 5190                      | -                          | -11.54           | 3.50               | 9.87                | 2.17                         | 1.83                 | 4.00              | -10.90           | 3.51               | 9.93                | 2.59                         | 2.54                 | 5.13              |
| 5230                      | -                          | -10.76           | 3.51               | 9.87                | 2.17                         | 2.62                 | 4.79              | -11.34           | 3.52               | 9.93                | 2.59                         | 2.11                 | 4.70              |
| 5755                      | -                          | -11.20           | 3.61               | 9.89                | 2.37                         | 2.30                 | 4.67              | -9.93            | 3.61               | 9.93                | 2.64                         | 3.61                 | 6.25              |
| 5795                      | -                          | -11.56           | 3.61               | 9.89                | 2.37                         | 1.94                 | 4.31              | -11.29           | 3.62               | 9.93                | 2.64                         | 2.26                 | 4.90              |

\*1) Duty Factor is not required because the measurement using a gated RF average power meter.

\*2) Antenna Gain applied the higher of the two models.

Sample Calculation:

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

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

Conducted Power Limit (5150 MHz-5250 MHz) = 250 mW

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

## Maximum Conducted Output Power

Report No. 13408107S-C  
Test place Shonan EMC Lab. No.5 Shielded Room  
Date July 10, 2020 July 22, 2020  
Temperature / Humidity 25 deg. C / 52 % RH 22 deg. C / 56 % RH  
Engineer Hiromasa Sato Hiromasa Sato  
Mode Tx 11ac-40 SISO

### 11ac-40 SISO, RF0

Applied limit: 15.407, mobile and portable client device

| Tested Frequency | Reading | Cable Loss | Atten. Loss | Duty Factor *1) | Antenna Gain *2) | 26 dB EBW (B for FCC) | 99% OBW (B for IC) | Conducted Power |      |       |        | e.i.r.p. |      |       |        |
|------------------|---------|------------|-------------|-----------------|------------------|-----------------------|--------------------|-----------------|------|-------|--------|----------|------|-------|--------|
|                  |         |            |             |                 |                  |                       |                    | Result          |      | Limit | Margin | Result   |      | Limit | Margin |
| [MHz]            | [dBm]   | [dB]       | [dB]        | [dB]            | [dBi]            | [MHz]                 | [MHz]              | [dBm]           | [mW] | [dBm] | [dB]   | [dBm]    | [mW] | [dBm] | [dB]   |
| 5190             | -11.35  | 3.50       | 9.87        | -               | 2.17             | -                     | 36.263             | 2.02            | 1.59 | 23.97 | 21.95  | 4.19     | 2.62 | 29.97 | 25.78  |
| 5230             | -10.64  | 3.51       | 9.87        | -               | 2.17             | -                     | 36.205             | 2.74            | 1.88 | 23.97 | 21.23  | 4.91     | 3.10 | 29.97 | 25.06  |
| 5755             | -10.94  | 3.61       | 9.89        | -               | 2.37             | -                     | 36.185             | 2.56            | 1.80 | 30.00 | 27.44  | 4.93     | 3.11 | 36.00 | 31.07  |
| 5795             | -11.33  | 3.61       | 9.89        | -               | 2.37             | -                     | 36.235             | 2.17            | 1.65 | 30.00 | 27.83  | 4.54     | 2.84 | 36.00 | 31.46  |

\*1) Duty Factor is not required because the measurement using a gated RF average power meter.

\*2) Antenna Gain applied the higher of the two models.

Sample Calculation:

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

Conducted Power Limit (5150 MHz-5250 MHz) = 250 mW

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

### 11ac-40 SISO, RF1

Applied limit: 15.407, mobile and portable client device

| Tested<br>Frequency | Reading | Cable<br>Loss | Atten.<br>Loss | Duty<br>Factor<br>*1) | Antenna<br>Gain<br>*2) | 26 dB<br>EBW<br>(B for FCC) | 99%<br>OBW<br>(B for IC) | Conducted Power |      |       |        | e.i.r.p. |      |       |        |
|---------------------|---------|---------------|----------------|-----------------------|------------------------|-----------------------------|--------------------------|-----------------|------|-------|--------|----------|------|-------|--------|
|                     |         |               |                |                       |                        |                             |                          | Result          |      | Limit | Margin | Result   |      | Limit | Margin |
|                     |         |               |                |                       |                        |                             |                          | [dBm]           | [mW] | [dBm] | [dB]   | [dBm]    | [mW] | [dBm] | [dB]   |
| [MHz]               | [dBm]   | [dB]          | [dB]           | [dB]                  | [dBi]                  | [MHz]                       | [MHz]                    | [dBm]           | [mW] | [dBm] | [dB]   | [dBm]    | [mW] | [dBm] | [dB]   |
| 5190                | -10.60  | 3.51          | 9.93           | -                     | 2.59                   | -                           | 36.263                   | 2.84            | 1.92 | 23.97 | 21.13  | 5.43     | 3.49 | 29.97 | 24.54  |
| 5230                | -11.04  | 3.52          | 9.93           | -                     | 2.59                   | -                           | 36.205                   | 2.41            | 1.74 | 23.97 | 21.56  | 5.00     | 3.16 | 29.97 | 24.97  |
| 5755                | -9.64   | 3.61          | 9.93           | -                     | 2.64                   | -                           | 36.185                   | 3.90            | 2.45 | 30.00 | 26.10  | 6.54     | 4.51 | 36.00 | 29.46  |
| 5795                | -10.85  | 3.62          | 9.93           | -                     | 2.64                   | -                           | 36.235                   | 2.70            | 1.86 | 30.00 | 27.30  | 5.34     | 3.42 | 36.00 | 30.66  |

\*1) Duty Factor is not required because the measurement using a gated RF average power meter.

\*2) Antenna Gain applied the higher of the two models.

Sample Calculation:

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

Conducted Power Limit (5150 MHz-5250 MHz) = 250 mW

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

## Maximum Conducted Output Power

Report No. 13408107S-C  
Test place Shonan EMC Lab. No.5 Shielded Room  
Date July 10, 2020 July 22, 2020  
Temperature / Humidity 25 deg. C / 52 % RH 22 deg. C / 56 % RH  
Engineer Hiromasa Sato Hiromasa Sato  
Mode Tx 11ac-40 CDD

### RF0 + RF1

Applied limit: 15.407, mobile and portable client device

| Tested Frequency<br>[MHz] | 26 dB EBW<br>(B for FCC)<br>[MHz] | 99% OBW<br>(B for IC)<br>[MHz] | Conducted power |                      |             |                 |                |                | e.i.r.p.     |                      |             |                 |                |                |
|---------------------------|-----------------------------------|--------------------------------|-----------------|----------------------|-------------|-----------------|----------------|----------------|--------------|----------------------|-------------|-----------------|----------------|----------------|
|                           |                                   |                                | RF 0<br>[mW]    | Antenna RF 1<br>[mW] | Sum<br>[mW] | Result<br>[dBm] | Limit<br>[dBm] | Margin<br>[dB] | RF 0<br>[mW] | Antenna RF 1<br>[mW] | Sum<br>[mW] | Result<br>[dBm] | Limit<br>[dBm] | Margin<br>[dB] |
| 5190                      | -                                 | 36.343                         | 1.53            | 1.75                 | 3.28        | 5.16            | 23.97          | 18.81          | 2.77         | 3.18                 | 5.95        | 7.75            | 29.97          | 22.22          |
| 5230                      | -                                 | 36.278                         | 1.82            | 1.62                 | 3.43        | 5.36            | 23.97          | 18.61          | 3.30         | 2.94                 | 6.23        | 7.95            | 29.97          | 22.02          |
| 5755                      | -                                 | 36.277                         | 1.66            | 2.31                 | 3.97        | 5.99            | 30.00          | 24.01          | 3.05         | 4.24                 | 7.29        | 8.63            | 36.00          | 27.37          |
| 5795                      | -                                 | 36.111                         | 1.55            | 1.61                 | 3.16        | 5.00            | 30.00          | 25.00          | 2.84         | 2.96                 | 5.81        | 7.64            | 36.00          | 28.36          |

|                  |                 | RF0     |            |             |                  |             |          | RF1     |            |             |                  |             |          |
|------------------|-----------------|---------|------------|-------------|------------------|-------------|----------|---------|------------|-------------|------------------|-------------|----------|
| Tested Frequency | Duty Factor *1) | Reading | Cable Loss | Atten. Loss | Directional Gain | Result      |          | Reading | Cable Loss | Atten. Loss | Directional Gain | Result      |          |
|                  |                 |         |            |             |                  | Cond. Power | e.i.r.p. |         |            |             |                  | Cond. Power | e.i.r.p. |
| [MHz]            | [dB]            | [dBm]   | [dB]       | [dB]        | [dBi]            | [dBm]       | [dBm]    | [dBm]   | [dB]       | [dB]        | [dBi]            | [dBm]       | [dBm]    |
| 5190             | -               | -11.53  | 3.50       | 9.87        | 2.59             | 1.84        | 4.43     | -11.01  | 3.51       | 9.93        | 2.59             | 2.43        | 5.02     |
| 5230             | -               | -10.79  | 3.51       | 9.87        | 2.59             | 2.59        | 5.18     | -11.36  | 3.52       | 9.93        | 2.59             | 2.09        | 4.68     |
| 5755             | -               | -11.29  | 3.61       | 9.89        | 2.64             | 2.21        | 4.85     | -9.91   | 3.61       | 9.93        | 2.64             | 3.63        | 6.27     |
| 5795             | -               | -11.60  | 3.61       | 9.89        | 2.64             | 1.90        | 4.54     | -11.47  | 3.62       | 9.93        | 2.64             | 2.08        | 4.72     |

\*1) Duty Factor is not required because the measurement using a gated RF average power meter.

Sample Calculation:

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

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

Directional Gain =  $G_{ANT}$ (Antenna Gain \*2)) + Array Gain

Array Gain = 0 dB(i.e.,no array gain) for  $N_{ANT} < 4$

$N_{ANT}$  = number of transmit antennas = 2

\*2) Antenna Gain applied the highest gain of the two models.

Conducted Power Limit (5150 MHz-5250 MHz) = 250 mW

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

## Maximum Conducted Output Power

Report No. 13408107S-C  
Test place Shonan EMC Lab. No.5 Shielded Room  
Date July 10, 2020 July 22, 2020  
Temperature / Humidity 25 deg. C / 52 % RH 22 deg. C / 56 % RH  
Engineer Hiromasa Sato Hiromasa Sato  
Mode Tx 11ac-40 MIMO

### RF0 + RF1

Applied limit: 15.407, mobile and portable client device

| Tested Frequency<br>[MHz] | 26 dB EBW<br>(B for FCC)<br>[MHz] | 99% OBW<br>(B for IC)<br>[MHz] | Conducted power |              |             |                 |                |                | e.i.r.p.     |              |             |                 |                |                |
|---------------------------|-----------------------------------|--------------------------------|-----------------|--------------|-------------|-----------------|----------------|----------------|--------------|--------------|-------------|-----------------|----------------|----------------|
|                           |                                   |                                | Antenna         |              |             | Result<br>[dBm] | Limit<br>[dBm] | Margin<br>[dB] | Antenna      |              |             | Result<br>[dBm] | Limit<br>[dBm] | Margin<br>[dB] |
|                           |                                   |                                | RF 0<br>[mW]    | RF 1<br>[mW] | Sum<br>[mW] |                 |                |                | RF 0<br>[mW] | RF 1<br>[mW] | Sum<br>[mW] |                 |                |                |
| 5190                      | -                                 | 36.320                         | 1.57            | 1.81         | 3.38        | 5.29            | 23.97          | 18.68          | 2.59         | 3.28         | 5.87        | 7.69            | 29.97          | 22.28          |
| 5230                      | -                                 | 36.270                         | 1.86            | 1.67         | 3.54        | 5.49            | 23.97          | 18.48          | 3.07         | 3.04         | 6.11        | 7.86            | 29.97          | 22.11          |
| 5755                      | -                                 | 36.402                         | 1.72            | 2.37         | 4.09        | 6.12            | 30.00          | 23.88          | 2.96         | 4.36         | 7.32        | 8.65            | 36.00          | 27.35          |
| 5795                      | -                                 | 36.464                         | 1.58            | 1.71         | 3.28        | 5.16            | 30.00          | 24.84          | 2.72         | 3.13         | 5.86        | 7.68            | 36.00          | 28.32          |

| RF0                       |                            |                  |                    |                     |                              |                      | RF1               |                  |                    |                     |                              |                      |                   |
|---------------------------|----------------------------|------------------|--------------------|---------------------|------------------------------|----------------------|-------------------|------------------|--------------------|---------------------|------------------------------|----------------------|-------------------|
| Tested Frequency<br>[MHz] | Duty Factor<br>*1)<br>[dB] | Reading<br>[dBm] | Cable Loss<br>[dB] | Atten. Loss<br>[dB] | Antenna Gain<br>*2)<br>[dBi] | Result               |                   | Reading<br>[dBm] | Cable Loss<br>[dB] | Atten. Loss<br>[dB] | Antenna Gain<br>*2)<br>[dBi] | Result               |                   |
|                           |                            |                  |                    |                     |                              | Cond. Power<br>[dBm] | e.i.r.p.<br>[dBm] |                  |                    |                     |                              | Cond. Power<br>[dBm] | e.i.r.p.<br>[dBm] |
| 5190                      | -                          | -11.41           | 3.50               | 9.87                | 2.17                         | 1.96                 | 4.13              | -10.87           | 3.51               | 9.93                | 2.59                         | 2.57                 | 5.16              |
| 5230                      | -                          | -10.68           | 3.51               | 9.87                | 2.17                         | 2.70                 | 4.87              | -11.21           | 3.52               | 9.93                | 2.59                         | 2.24                 | 4.83              |
| 5755                      | -                          | -11.15           | 3.61               | 9.89                | 2.37                         | 2.35                 | 4.72              | -9.79            | 3.61               | 9.93                | 2.64                         | 3.75                 | 6.39              |
| 5795                      | -                          | -11.52           | 3.61               | 9.89                | 2.37                         | 1.98                 | 4.35              | -11.23           | 3.62               | 9.93                | 2.64                         | 2.32                 | 4.96              |

\*1) Duty Factor is not required because the measurement using a gated RF average power meter.

\*2) Antenna Gain applied the higher of the two models.

Sample Calculation:

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

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

Conducted Power Limit (5150 MHz-5250 MHz) = 250 mW

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

## Maximum Conducted Output Power

Report No. 13408107S-C  
Test place Shonan EMC Lab. No.5 Shielded Room  
Date July 10, 2020 July 22, 2020  
Temperature / Humidity 25 deg. C / 52 % RH 22 deg. C / 56 % RH  
Engineer Hiromasa Sato Hiromasa Sato  
Mode Tx 11ac-80 SISO

### 11ac-80 SISO, RF0

Applied limit: 15.407, mobile and portable client device

| Tested Frequency | Reading | Cable Loss | Atten. Loss | Duty Factor *1) | Antenna Gain *2) | 26 dB EBW (B for FCC) | 99% OBW (B for IC) | Conducted Power |      |       |        | e.i.r.p. |      |       |        |
|------------------|---------|------------|-------------|-----------------|------------------|-----------------------|--------------------|-----------------|------|-------|--------|----------|------|-------|--------|
|                  |         |            |             |                 |                  |                       |                    | Result          |      | Limit | Margin | Result   |      | Limit | Margin |
| [MHz]            | [dBm]   | [dB]       | [dB]        | [dB]            | [dBi]            | [MHz]                 | [MHz]              | [dBm]           | [mW] | [dBm] | [dB]   | [dBm]    | [mW] | [dBm] | [dB]   |
| 5210             | -10.79  | 3.51       | 9.87        | -               | 2.17             | -                     | 76.585             | 2.59            | 1.82 | 23.97 | 21.38  | 4.76     | 2.99 | 29.97 | 25.21  |
| 5775             | -10.96  | 3.61       | 9.89        | -               | 2.37             | -                     | 76.431             | 2.54            | 1.79 | 30.00 | 27.46  | 4.91     | 3.10 | 36.00 | 31.09  |

\*1) Duty Factor is not required because the measurement using a gated RF average power meter.

\*2) Antenna Gain applied the higher of the two models.

Sample Calculation:

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

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

Conducted Power Limit (5150 MHz-5250 MHz) = 250 mW

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

### 11ac-80 SISO, RF1

Applied limit: 15.407, mobile and portable client device

| Tested Frequency | Reading | Cable Loss | Atten. Loss | Duty Factor *1) | Antenna Gain *2) | 26 dB EBW (B for FCC) | 99% OBW (B for IC) | Conducted Power |      |       |        | e.i.r.p. |      |       |        |
|------------------|---------|------------|-------------|-----------------|------------------|-----------------------|--------------------|-----------------|------|-------|--------|----------|------|-------|--------|
|                  |         |            |             |                 |                  |                       |                    | Result          |      | Limit | Margin | Result   |      | Limit | Margin |
| [MHz]            | [dBm]   | [dB]       | [dB]        | [dB]            | [dBi]            | [MHz]                 | [MHz]              | [dBm]           | [mW] | [dBm] | [dB]   | [dBm]    | [mW] | [dBm] | [dB]   |
| 5210             | -10.63  | 3.52       | 9.93        | -               | 2.59             | -                     | 76.585             | 2.82            | 1.91 | 23.97 | 21.15  | 5.41     | 3.47 | 29.97 | 24.56  |
| 5775             | -10.31  | 3.62       | 9.93        | -               | 2.64             | -                     | 76.431             | 3.24            | 2.11 | 30.00 | 26.76  | 5.88     | 3.87 | 36.00 | 30.12  |

\*1) Duty Factor is not required because the measurement using a gated RF average power meter.

\*2) Antenna Gain applied the higher of the two models.

Sample Calculation:

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

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

Conducted Power Limit (5150 MHz-5250 MHz) = 250 mW

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

## Maximum Conducted Output Power

Report No. 13408107S-C  
Test place Shonan EMC Lab. No.5 Shielded Room  
Date July 10, 2020 July 22, 2020  
Temperature / Humidity 25 deg. C / 52 % RH 22 deg. C / 56 % RH  
Engineer Hiromasa Sato Hiromasa Sato  
Mode Tx 11ac-80 CDD

### RF0 + RF1

Applied limit: 15.407, mobile and portable client device

| Tested Frequency<br>[MHz] | 26 dB EBW<br>(B for FCC)<br>[MHz] | 99% OBW<br>(B for IC)<br>[MHz] | Conducted power |                         |             |                 |                |                | e.i.r.p.     |                         |             |                 |                |                |
|---------------------------|-----------------------------------|--------------------------------|-----------------|-------------------------|-------------|-----------------|----------------|----------------|--------------|-------------------------|-------------|-----------------|----------------|----------------|
|                           |                                   |                                | RF 0<br>[mW]    | Antenna<br>RF 1<br>[mW] | Sum<br>[mW] | Result<br>[dBm] | Limit<br>[dBm] | Margin<br>[dB] | RF 0<br>[mW] | Antenna<br>RF 1<br>[mW] | Sum<br>[mW] | Result<br>[dBm] | Limit<br>[dBm] | Margin<br>[dB] |
| 5210                      | -                                 | 76.553                         | 1.74            | 1.72                    | 3.46        | 5.39            | 23.97          | 18.58          | 3.16         | 3.13                    | 6.29        | 7.98            | 29.97          | 21.99          |
| 5775                      | -                                 | 76.264                         | 1.76            | 2.06                    | 3.81        | 5.81            | 30.00          | 24.19          | 3.23         | 3.78                    | 7.00        | 8.45            | 36.00          | 27.55          |

|                  |                 | RF0     |            |             |                  |                   |                | RF1     |            |             |                  |                   |                |
|------------------|-----------------|---------|------------|-------------|------------------|-------------------|----------------|---------|------------|-------------|------------------|-------------------|----------------|
| Tested Frequency | Duty Factor *1) | Reading | Cable Loss | Atten. Loss | Directional Gain | Result            |                | Reading | Cable Loss | Atten. Loss | Directional Gain | Result            |                |
| [MHz]            | [dB]            | [dBm]   | [dB]       | [dB]        | [dBi]            | Cond. Power [dBm] | e.i.r.p. [dBm] | [dBm]   | [dB]       | [dB]        | [dBi]            | Cond. Power [dBm] | e.i.r.p. [dBm] |
| 5210             | -               | -10.98  | 3.51       | 9.87        | 2.59             | 2.40              | 4.99           | -11.08  | 3.52       | 9.93        | 2.59             | 2.37              | 4.96           |
| 5775             | -               | -11.05  | 3.61       | 9.89        | 2.64             | 2.45              | 5.09           | -10.42  | 3.62       | 9.93        | 2.64             | 3.13              | 5.77           |

\*1) Duty Factor is not required because the measurement using a gated RF average power meter.

Sample Calculation:

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

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

Directional Gain =  $G_{ANT}(Antenna\ Gain^{*2}) + Array\ Gain$

\*2) Antenna Gain applied the highest gain of the two models.

Array Gain = 0 dB(i.e.,no array gain) for  $N_{ANT} < 4$

$N_{ANT}$  = number of transmit antennas = 2

Conducted Power Limit (5150 MHz-5250 MHz) = 250 mW

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

## Maximum Conducted Output Power

Report No. 13408107S-C  
Test place Shonan EMC Lab. No.5 Shielded Room  
Date July 10, 2020 July 22, 2020  
Temperature / Humidity 25 deg. C / 52 % RH 22 deg. C / 56 % RH  
Engineer Hiromasa Sato Hiromasa Sato  
Mode Tx 11ac-80 MIMO

### RF0 + RF1

Applied limit: 15.407, mobile and portable client device

| Tested Frequency<br>[MHz] | 26 dB EBW<br>(B for FCC)<br>[MHz] | 99% OBW<br>(B for IC)<br>[MHz] | Conducted power |                      |             |                 |                |                | e.i.r.p.     |                      |             |                 |                |                |
|---------------------------|-----------------------------------|--------------------------------|-----------------|----------------------|-------------|-----------------|----------------|----------------|--------------|----------------------|-------------|-----------------|----------------|----------------|
|                           |                                   |                                | RF 0<br>[mW]    | Antenna RF 1<br>[mW] | Sum<br>[mW] | Result<br>[dBm] | Limit<br>[dBm] | Margin<br>[dB] | RF 0<br>[mW] | Antenna RF 1<br>[mW] | Sum<br>[mW] | Result<br>[dBm] | Limit<br>[dBm] | Margin<br>[dB] |
| 5210                      | -                                 | 76.846                         | 1.76            | 1.77                 | 3.53        | 5.47            | 23.97          | 18.50          | 2.90         | 3.21                 | 6.11        | 7.86            | 29.97          | 22.11          |
| 5775                      | -                                 | 76.158                         | 1.77            | 2.21                 | 3.98        | 6.00            | 30.00          | 24.00          | 3.05         | 4.06                 | 7.11        | 8.52            | 36.00          | 27.48          |

|                  |                 | RF0     |            |             |                  |                   |                | RF1     |            |             |                  |                   |                |
|------------------|-----------------|---------|------------|-------------|------------------|-------------------|----------------|---------|------------|-------------|------------------|-------------------|----------------|
| Tested Frequency | Duty Factor *1) | Reading | Cable Loss | Atten. Loss | Antenna Gain *2) | Result            |                | Reading | Cable Loss | Atten. Loss | Antenna Gain *2) | Result            |                |
| [MHz]            | [dB]            | [dBm]   | [dB]       | [dB]        | [dBi]            | Cond. Power [dBm] | e.i.r.p. [dBm] | [dBm]   | [dB]       | [dB]        | [dBi]            | Cond. Power [dBm] | e.i.r.p. [dBm] |
| 5210             | -               | -10.93  | 3.51       | 9.87        | 2.17             | 2.45              | 4.62           | -10.97  | 3.52       | 9.93        | 2.59             | 2.48              | 5.07           |
| 5775             | -               | -11.02  | 3.61       | 9.89        | 2.37             | 2.48              | 4.85           | -10.11  | 3.62       | 9.93        | 2.64             | 3.44              | 6.08           |

\*1) Duty Factor is not required because the measurement using a gated RF average power meter.

\*2) Antenna Gain applied the higher of the two models.

Sample Calculation:

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

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

Conducted Power Limit (5150 MHz-5250 MHz) = 250 mW

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

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## Maximum Conducted Output Power

|                        |                                    |
|------------------------|------------------------------------|
| Report No.             | 13408107S-C                        |
| Test place             | Shonan EMC Lab. No.5 Shielded Room |
| Date                   | July 10, 2020                      |
| Temperature / Humidity | 25 deg. C / 52 % RH                |
| Engineer               | Hiromasa Sato                      |
| Mode                   | Tx 11a SISO                        |

### 5180 MHz

| Antenna | Rate<br>[Mbps] | Reading<br>[dBm] | Cable<br>Loss<br>[dB] | Atten.<br>Loss<br>[dB] | Duty<br>factor *1)<br>[dB] | Conducted Power<br>Result<br>[dBm] | Remarks |
|---------|----------------|------------------|-----------------------|------------------------|----------------------------|------------------------------------|---------|
| RF0     | 6              | -11.67           | 3.50                  | 9.87                   | -                          | 1.70                               | -       |
|         | 9              | -11.65           | 3.50                  | 9.87                   | -                          | 1.72                               | -       |
|         | 12             | -11.65           | 3.50                  | 9.87                   | -                          | 1.72                               | -       |
|         | 18             | -11.62           | 3.50                  | 9.87                   | -                          | 1.75                               | -       |
|         | 24             | -11.60           | 3.50                  | 9.87                   | -                          | 1.77                               | -       |
|         | 36             | -11.58           | 3.50                  | 9.87                   | -                          | 1.79                               | -       |
|         | 48             | -11.57           | 3.50                  | 9.87                   | -                          | 1.80                               | -       |
| RF1     | 54             | -11.53           | 3.50                  | 9.87                   | -                          | 1.84                               | -       |
|         | 6              | -11.67           | 3.51                  | 9.93                   | -                          | 1.77                               | -       |
|         | 9              | -11.09           | 3.51                  | 9.93                   | -                          | 2.35                               | -       |
|         | 12             | -10.96           | 3.51                  | 9.93                   | -                          | 2.48                               | -       |
|         | 18             | -10.92           | 3.51                  | 9.93                   | -                          | 2.52                               | -       |
|         | 24             | -10.88           | 3.51                  | 9.93                   | -                          | 2.56                               | -       |
|         | 36             | -10.77           | 3.51                  | 9.93                   | -                          | 2.67                               | -       |
|         | 48             | -10.75           | 3.51                  | 9.93                   | -                          | 2.69                               | -       |
|         | 54             | -10.73           | 3.51                  | 9.93                   | -                          | 2.71                               | *       |

\* Worst rate

Sample Calculation:

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

\*1) Duty facotr is not required because the measurement use a gated average power meter.

## Maximum Conducted Output Power

|                        |                                    |
|------------------------|------------------------------------|
| Report No.             | 13408107S-C                        |
| Test place             | Shonan EMC Lab. No.5 Shielded Room |
| Date                   | July 10, 2020                      |
| Temperature / Humidity | 25 deg. C / 52 % RH                |
| Engineer               | Hiromasa Sato                      |
| Mode                   | Tx 11a CDD                         |

### 5180 MHz

| Rate<br>[Mbps] | Conducted power        |             |             | Result<br>[dBm] | Remarks |
|----------------|------------------------|-------------|-------------|-----------------|---------|
|                | Antenna<br>RF0<br>[mW] | RF1<br>[mW] | Sum<br>[mW] |                 |         |
| 6              | 1.36                   | 1.53        | 2.89        | 4.60            | -       |
| 9              | 1.36                   | 1.53        | 2.90        | 4.62            | -       |
| 12             | 1.37                   | 1.55        | 2.92        | 4.66            | -       |
| 18             | 1.38                   | 1.61        | 2.98        | 4.75            | -       |
| 24             | 1.38                   | 1.66        | 3.04        | 4.83            | -       |
| 36             | 1.39                   | 1.66        | 3.05        | 4.84            | -       |
| 48             | 1.43                   | 1.69        | 3.11        | 4.93            | -       |
| 54             | 1.44                   | 1.70        | 3.14        | 4.97            | *       |

\* Worst Rate

| Rate<br>[Mbps] | Duty<br>Factor<br>*1)<br>[dB] | RF0              |                       |                        |                                   | RF1              |                       |                        |                                   |
|----------------|-------------------------------|------------------|-----------------------|------------------------|-----------------------------------|------------------|-----------------------|------------------------|-----------------------------------|
|                |                               | Reading<br>[dBm] | Cable<br>Loss<br>[dB] | Atten.<br>Loss<br>[dB] | Result<br>Cond.<br>Power<br>[dBm] | Reading<br>[dBm] | Cable<br>Loss<br>[dB] | Atten.<br>Loss<br>[dB] | Result<br>Cond.<br>Power<br>[dBm] |
| 6              | -                             | -12.04           | 3.50                  | 9.87                   | 1.33                              | -11.60           | 3.51                  | 9.93                   | 1.84                              |
| 9              | -                             | -12.02           | 3.50                  | 9.87                   | 1.35                              | -11.58           | 3.51                  | 9.93                   | 1.86                              |
| 12             | -                             | -12.00           | 3.50                  | 9.87                   | 1.37                              | -11.53           | 3.51                  | 9.93                   | 1.91                              |
| 18             | -                             | -11.98           | 3.50                  | 9.87                   | 1.39                              | -11.38           | 3.51                  | 9.93                   | 2.06                              |
| 24             | -                             | -11.96           | 3.50                  | 9.87                   | 1.41                              | -11.25           | 3.51                  | 9.93                   | 2.19                              |
| 36             | -                             | -11.95           | 3.50                  | 9.87                   | 1.42                              | -11.23           | 3.51                  | 9.93                   | 2.21                              |
| 48             | -                             | -11.83           | 3.50                  | 9.87                   | 1.54                              | -11.17           | 3.51                  | 9.93                   | 2.27                              |
| 54             | -                             | -11.79           | 3.50                  | 9.87                   | 1.58                              | -11.14           | 3.51                  | 9.93                   | 2.30                              |

\*1) Duty Factor is not required because the measurement using a gated RF average power meter.

Sample Calculation:

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

## Maximum Conducted Output Power

|                        |                                    |
|------------------------|------------------------------------|
| Report No.             | 13408107S-C                        |
| Test place             | Shonan EMC Lab. No.5 Shielded Room |
| Date                   | July 10, 2020                      |
| Temperature / Humidity | 25 deg. C / 52 % RH                |
| Engineer               | Hiromasa Sato                      |
| Mode                   | Tx 11n-20 SISO                     |

### 5180 MHz

| Antenna | Rate<br>[MCS] | Reading<br>[dBm] | Cable<br>Loss<br>[dB] | Atten.<br>Loss<br>[dB] | Duty<br>factor *1)<br>[dB] | Conducted Power<br>Result<br>[dBm] | Remarks |
|---------|---------------|------------------|-----------------------|------------------------|----------------------------|------------------------------------|---------|
| RF0     | 0             | -11.75           | 3.50                  | 9.87                   | -                          | 1.62                               | -       |
|         | 1             | -11.73           | 3.50                  | 9.87                   | -                          | 1.64                               | -       |
|         | 2             | -11.70           | 3.50                  | 9.87                   | -                          | 1.67                               | -       |
|         | 3             | -11.58           | 3.50                  | 9.87                   | -                          | 1.79                               | -       |
|         | 4             | -11.56           | 3.50                  | 9.87                   | -                          | 1.81                               | -       |
|         | 5             | -11.51           | 3.50                  | 9.87                   | -                          | 1.86                               | -       |
|         | 6             | -11.48           | 3.50                  | 9.87                   | -                          | 1.89                               | -       |
|         | 7             | -11.46           | 3.50                  | 9.87                   | -                          | 1.91                               | -       |
| RF1     | 0             | -11.12           | 3.51                  | 9.93                   | -                          | 2.32                               | -       |
|         | 1             | -10.93           | 3.51                  | 9.93                   | -                          | 2.51                               | -       |
|         | 2             | -10.85           | 3.51                  | 9.93                   | -                          | 2.59                               | -       |
|         | 3             | -10.80           | 3.51                  | 9.93                   | -                          | 2.64                               | -       |
|         | 4             | -10.78           | 3.51                  | 9.93                   | -                          | 2.66                               | -       |
|         | 5             | -10.66           | 3.51                  | 9.93                   | -                          | 2.78                               | -       |
|         | 6             | -10.65           | 3.51                  | 9.93                   | -                          | 2.79                               | -       |
|         | 7             | -10.61           | 3.51                  | 9.93                   | -                          | 2.83                               | *       |

\* Worst rate

Sample Calculation:

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

\*1) Duty facotr is not required because the measurement use a gated average power meter.

## Maximum Conducted Output Power

|                        |                                    |
|------------------------|------------------------------------|
| Report No.             | 13408107S-C                        |
| Test place             | Shonan EMC Lab. No.5 Shielded Room |
| Date                   | July 10, 2020                      |
| Temperature / Humidity | 25 deg. C / 52 % RH                |
| Engineer               | Hiromasa Sato                      |
| Mode                   | Tx 11n-20 CDD                      |

### 5180 MHz

| Rate<br>[MCS] | Conducted power<br>Antenna |             |             | Result<br>[dBm] | Remarks |
|---------------|----------------------------|-------------|-------------|-----------------|---------|
|               | RF0<br>[mW]                | RF1<br>[mW] | Sum<br>[mW] |                 |         |
| 0             | 1.37                       | 1.54        | 2.91        | 4.63            | -       |
| 1             | 1.41                       | 1.56        | 2.97        | 4.73            | -       |
| 2             | 1.43                       | 1.67        | 3.10        | 4.91            | -       |
| 3             | 1.43                       | 1.69        | 3.12        | 4.94            | -       |
| 4             | 1.45                       | 1.71        | 3.15        | 4.99            | -       |
| 5             | 1.45                       | 1.71        | 3.16        | 5.00            | -       |
| 6             | 1.46                       | 1.71        | 3.17        | 5.01            | -       |
| 7             | 1.48                       | 1.73        | 3.21        | 5.06            | *       |

| Rate<br>[MCS] | Duty<br>Factor<br>*1)<br>[dB] | RF0              |                       |                        |                                   | RF1              |                       |                        |                                   |
|---------------|-------------------------------|------------------|-----------------------|------------------------|-----------------------------------|------------------|-----------------------|------------------------|-----------------------------------|
|               |                               | Reading<br>[dBm] | Cable<br>Loss<br>[dB] | Atten.<br>Loss<br>[dB] | Result<br>Cond.<br>Power<br>[dBm] | Reading<br>[dBm] | Cable<br>Loss<br>[dB] | Atten.<br>Loss<br>[dB] | Result<br>Cond.<br>Power<br>[dBm] |
| 0             | -                             | -12.01           | 3.50                  | 9.87                   | 1.36                              | -11.57           | 3.51                  | 9.93                   | 1.87                              |
| 1             | -                             | -11.89           | 3.50                  | 9.87                   | 1.48                              | -11.50           | 3.51                  | 9.93                   | 1.94                              |
| 2             | -                             | -11.83           | 3.50                  | 9.87                   | 1.54                              | -11.20           | 3.51                  | 9.93                   | 2.24                              |
| 3             | -                             | -11.82           | 3.50                  | 9.87                   | 1.55                              | -11.16           | 3.51                  | 9.93                   | 2.28                              |
| 4             | -                             | -11.77           | 3.50                  | 9.87                   | 1.60                              | -11.12           | 3.51                  | 9.93                   | 2.32                              |
| 5             | -                             | -11.76           | 3.50                  | 9.87                   | 1.61                              | -11.11           | 3.51                  | 9.93                   | 2.33                              |
| 6             | -                             | -11.73           | 3.50                  | 9.87                   | 1.64                              | -11.10           | 3.51                  | 9.93                   | 2.34                              |
| 7             | -                             | -11.68           | 3.50                  | 9.87                   | 1.69                              | -11.06           | 3.51                  | 9.93                   | 2.38                              |

\*1) Duty Factor is not required because the measurement using a gated RF average power meter.

Sample Calculation:

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

## Maximum Conducted Output Power

|                        |                                    |
|------------------------|------------------------------------|
| Report No.             | 13408107S-C                        |
| Test place             | Shonan EMC Lab. No.5 Shielded Room |
| Date                   | July 10, 2020                      |
| Temperature / Humidity | 25 deg. C / 52 % RH                |
| Engineer               | Hiromasa Sato                      |
| Mode                   | Tx 11n-20 MIMO                     |

### 5180 MHz

| Rate  | Conducted power |      |      | Result | Remarks |
|-------|-----------------|------|------|--------|---------|
|       | Antenna         |      |      |        |         |
| [MCS] | RF0             | RF1  | Sum  | [dBm]  |         |
|       | [mW]            | [mW] | [mW] |        |         |
| 8     | 1.41            | 1.60 | 3.02 | 4.79   | -       |
| 9     | 1.43            | 1.63 | 3.06 | 4.85   | -       |
| 10    | 1.45            | 1.66 | 3.12 | 4.94   | -       |
| 11    | 1.46            | 1.67 | 3.13 | 4.95   | -       |
| 12    | 1.48            | 1.71 | 3.19 | 5.04   | -       |
| 13    | 1.48            | 1.72 | 3.20 | 5.06   | -       |
| 14    | 1.49            | 1.78 | 3.26 | 5.14   | -       |
| 15    | 1.50            | 1.79 | 3.29 | 5.17   | *       |

| Rate  | Duty Factor<br>*1) | RF0     |            |             |                    | RF1     |            |             |                    |
|-------|--------------------|---------|------------|-------------|--------------------|---------|------------|-------------|--------------------|
|       |                    | Reading | Cable Loss | Atten. Loss | Result Cond. Power | Reading | Cable Loss | Atten. Loss | Result Cond. Power |
| [MCS] | [dB]               | [dBm]   | [dB]       | [dB]        | [dBm]              | [dBm]   | [dB]       | [dB]        | [dBm]              |
| 8     | -                  | -11.87  | 3.50       | 9.87        | 1.50               | -11.39  | 3.51       | 9.93        | 2.05               |
| 9     | -                  | -11.81  | 3.50       | 9.87        | 1.56               | -11.33  | 3.51       | 9.93        | 2.11               |
| 10    | -                  | -11.75  | 3.50       | 9.87        | 1.62               | -11.23  | 3.51       | 9.93        | 2.21               |
| 11    | -                  | -11.73  | 3.50       | 9.87        | 1.64               | -11.22  | 3.51       | 9.93        | 2.22               |
| 12    | -                  | -11.68  | 3.50       | 9.87        | 1.69               | -11.10  | 3.51       | 9.93        | 2.34               |
| 13    | -                  | -11.66  | 3.50       | 9.87        | 1.71               | -11.08  | 3.51       | 9.93        | 2.36               |
| 14    | -                  | -11.65  | 3.50       | 9.87        | 1.72               | -10.94  | 3.51       | 9.93        | 2.50               |
| 15    | -                  | -11.60  | 3.50       | 9.87        | 1.77               | -10.92  | 3.51       | 9.93        | 2.52               |

\*1) Duty Factor is not required because the measurement using a gated RF average power meter.

Sample Calculation:

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

## Maximum Conducted Output Power

|                        |                                    |
|------------------------|------------------------------------|
| Report No.             | 13408107S-C                        |
| Test place             | Shonan EMC Lab. No.5 Shielded Room |
| Date                   | July 10, 2020                      |
| Temperature / Humidity | 25 deg. C / 52 % RH                |
| Engineer               | Hiromasa Sato                      |
| Mode                   | Tx 11ac-20 SISO                    |

### 5180 MHz

| Antenna | Rate<br>[MCS] | Reading<br>[dBm] | Cable<br>Loss<br>[dB] | Atten.<br>Loss<br>[dB] | Duty<br>factor *1)<br>[dB] | Conducted power<br>Result<br>[dBm] | Remarks |
|---------|---------------|------------------|-----------------------|------------------------|----------------------------|------------------------------------|---------|
| RF0     | 0             | -11.70           | 3.50                  | 9.87                   | -                          | 1.67                               | -       |
|         | 1             | -11.68           | 3.50                  | 9.87                   | -                          | 1.69                               | -       |
|         | 2             | -11.65           | 3.50                  | 9.87                   | -                          | 1.72                               | -       |
|         | 3             | -11.64           | 3.50                  | 9.87                   | -                          | 1.73                               | -       |
|         | 4             | -11.60           | 3.50                  | 9.87                   | -                          | 1.77                               | -       |
|         | 5             | -11.57           | 3.50                  | 9.87                   | -                          | 1.80                               | -       |
|         | 6             | -11.54           | 3.50                  | 9.87                   | -                          | 1.83                               | -       |
|         | 7             | -11.51           | 3.50                  | 9.87                   | -                          | 1.86                               | -       |
|         | 8             | -11.49           | 3.50                  | 9.87                   | -                          | 1.88                               | -       |
| RF1     | 0             | -11.02           | 3.51                  | 9.93                   | -                          | 2.42                               | -       |
|         | 1             | -11.01           | 3.51                  | 9.93                   | -                          | 2.43                               | -       |
|         | 2             | -10.97           | 3.51                  | 9.93                   | -                          | 2.47                               | -       |
|         | 3             | -10.91           | 3.51                  | 9.93                   | -                          | 2.53                               | -       |
|         | 4             | -10.88           | 3.51                  | 9.93                   | -                          | 2.56                               | -       |
|         | 5             | -10.87           | 3.51                  | 9.93                   | -                          | 2.57                               | -       |
|         | 6             | -10.81           | 3.51                  | 9.93                   | -                          | 2.63                               | -       |
|         | 7             | -10.74           | 3.51                  | 9.93                   | -                          | 2.70                               | -       |
|         | 8             | -10.72           | 3.51                  | 9.93                   | -                          | 2.72                               | *       |

\* Worst rate

Sample Calculation:

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

\*1) Duty factor is not required because the measurement use a gated average power meter.

## Maximum Conducted Output Power

|                        |                                    |
|------------------------|------------------------------------|
| Report No.             | 13408107S-C                        |
| Test place             | Shonan EMC Lab. No.5 Shielded Room |
| Date                   | July 10, 2020                      |
| Temperature / Humidity | 25 deg. C / 52 % RH                |
| Engineer               | Hiromasa Sato                      |
| Mode                   | Tx 11ac-20 CDD                     |

### 5180 MHz

| Rate<br>[MCS] | Conducted power        |             |             | Result<br>[dBm] | Remarks |
|---------------|------------------------|-------------|-------------|-----------------|---------|
|               | Antenna<br>RF0<br>[mW] | RF1<br>[mW] | Sum<br>[mW] |                 |         |
| 0             | 1.42                   | 1.63        | 3.05        | 4.84            | -       |
| 1             | 1.43                   | 1.64        | 3.07        | 4.88            | -       |
| 2             | 1.43                   | 1.65        | 3.08        | 4.89            | -       |
| 3             | 1.45                   | 1.68        | 3.12        | 4.95            | -       |
| 4             | 1.46                   | 1.72        | 3.17        | 5.02            | -       |
| 5             | 1.46                   | 1.73        | 3.19        | 5.04            | -       |
| 6             | 1.47                   | 1.73        | 3.20        | 5.05            | -       |
| 7             | 1.48                   | 1.73        | 3.21        | 5.06            | -       |
| 8             | 1.48                   | 1.76        | 3.24        | 5.10            | *       |

| Rate<br>[MCS] | Duty<br>Factor<br>*1)<br>[dB] | RF0              |                       |                        |                                   | RF1              |                       |                        |                                   |
|---------------|-------------------------------|------------------|-----------------------|------------------------|-----------------------------------|------------------|-----------------------|------------------------|-----------------------------------|
|               |                               | Reading<br>[dBm] | Cable<br>Loss<br>[dB] | Atten.<br>Loss<br>[dB] | Result<br>Cond.<br>Power<br>[dBm] | Reading<br>[dBm] | Cable<br>Loss<br>[dB] | Atten.<br>Loss<br>[dB] | Result<br>Cond.<br>Power<br>[dBm] |
| 0             | -                             | -11.84           | 3.50                  | 9.87                   | 1.53                              | -11.33           | 3.51                  | 9.93                   | 2.11                              |
| 1             | -                             | -11.82           | 3.50                  | 9.87                   | 1.55                              | -11.28           | 3.51                  | 9.93                   | 2.16                              |
| 2             | -                             | -11.81           | 3.50                  | 9.87                   | 1.56                              | -11.26           | 3.51                  | 9.93                   | 2.18                              |
| 3             | -                             | -11.77           | 3.50                  | 9.87                   | 1.60                              | -11.19           | 3.51                  | 9.93                   | 2.25                              |
| 4             | -                             | -11.74           | 3.50                  | 9.87                   | 1.63                              | -11.09           | 3.51                  | 9.93                   | 2.35                              |
| 5             | -                             | -11.72           | 3.50                  | 9.87                   | 1.65                              | -11.07           | 3.51                  | 9.93                   | 2.37                              |
| 6             | -                             | -11.69           | 3.50                  | 9.87                   | 1.68                              | -11.07           | 3.51                  | 9.93                   | 2.37                              |
| 7             | -                             | -11.68           | 3.50                  | 9.87                   | 1.69                              | -11.06           | 3.51                  | 9.93                   | 2.38                              |
| 8             | -                             | -11.67           | 3.50                  | 9.87                   | 1.70                              | -10.99           | 3.51                  | 9.93                   | 2.45                              |

\*1) Duty Factor is not required because the measurement using a gated RF average power meter.

Sample Calculation:

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

## Maximum Conducted Output Power

|                        |                                    |
|------------------------|------------------------------------|
| Report No.             | 13408107S-C                        |
| Test place             | Shonan EMC Lab. No.5 Shielded Room |
| Date                   | July 10, 2020                      |
| Temperature / Humidity | 25 deg. C / 52 % RH                |
| Engineer               | Hiromasa Sato                      |
| Mode                   | Tx 11ac-20 MIMO                    |

### 5180 MHz

| Rate<br>[MCS] | Conducted power        |             |             | Result<br>[dBm] | Remarks |
|---------------|------------------------|-------------|-------------|-----------------|---------|
|               | Antenna<br>RF0<br>[mW] | RF1<br>[mW] | Sum<br>[mW] |                 |         |
| 0             | 1.38                   | 1.60        | 2.98        | 4.74            | -       |
| 1             | 1.40                   | 1.64        | 3.03        | 4.82            | -       |
| 2             | 1.40                   | 1.67        | 3.07        | 4.88            | -       |
| 3             | 1.41                   | 1.67        | 3.08        | 4.89            | -       |
| 4             | 1.43                   | 1.72        | 3.15        | 4.99            | -       |
| 5             | 1.46                   | 1.74        | 3.20        | 5.05            | -       |
| 6             | 1.47                   | 1.78        | 3.25        | 5.12            | -       |
| 7             | 1.43                   | 1.73        | 3.16        | 5.00            | -       |
| 8             | 1.49                   | 1.79        | 3.28        | 5.16            | *       |

| Rate<br>[MCS] | Duty<br>Factor<br>*1)<br>[dB] | RF0              |                       |                        |                                   | RF1              |                       |                        |                                   |
|---------------|-------------------------------|------------------|-----------------------|------------------------|-----------------------------------|------------------|-----------------------|------------------------|-----------------------------------|
|               |                               | Reading<br>[dBm] | Cable<br>Loss<br>[dB] | Atten.<br>Loss<br>[dB] | Result<br>Cond.<br>Power<br>[dBm] | Reading<br>[dBm] | Cable<br>Loss<br>[dB] | Atten.<br>Loss<br>[dB] | Result<br>Cond.<br>Power<br>[dBm] |
| 0             | -                             | -11.98           | 3.50                  | 9.87                   | 1.39                              | -11.40           | 3.51                  | 9.93                   | 2.04                              |
| 1             | -                             | -11.92           | 3.50                  | 9.87                   | 1.45                              | -11.30           | 3.51                  | 9.93                   | 2.14                              |
| 2             | -                             | -11.90           | 3.50                  | 9.87                   | 1.47                              | -11.21           | 3.51                  | 9.93                   | 2.23                              |
| 3             | -                             | -11.88           | 3.50                  | 9.87                   | 1.49                              | -11.20           | 3.51                  | 9.93                   | 2.24                              |
| 4             | -                             | -11.81           | 3.50                  | 9.87                   | 1.56                              | -11.08           | 3.51                  | 9.93                   | 2.36                              |
| 5             | -                             | -11.73           | 3.50                  | 9.87                   | 1.64                              | -11.04           | 3.51                  | 9.93                   | 2.40                              |
| 6             | -                             | -11.70           | 3.50                  | 9.87                   | 1.67                              | -10.93           | 3.51                  | 9.93                   | 2.51                              |
| 7             | -                             | -11.82           | 3.50                  | 9.87                   | 1.55                              | -11.06           | 3.51                  | 9.93                   | 2.38                              |
| 8             | -                             | -11.65           | 3.50                  | 9.87                   | 1.72                              | -10.90           | 3.51                  | 9.93                   | 2.54                              |

\*1) Duty Factor is not required because the measurement using a gated RF average power meter.

Sample Calculation:

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

## Maximum Conducted Output Power

|                        |                                    |
|------------------------|------------------------------------|
| Report No.             | 13408107S-C                        |
| Test place             | Shonan EMC Lab. No.5 Shielded Room |
| Date                   | July 10, 2020                      |
| Temperature / Humidity | 25 deg. C / 52 % RH                |
| Engineer               | Hiromasa Sato                      |
| Mode                   | Tx 11n-40 SISO                     |

### 5190 MHz

| Antenna | Rate<br>[MCS] | Reading<br>[dBm] | Cable<br>Loss<br>[dB] | Atten.<br>Loss<br>[dB] | Duty<br>factor *1)<br>[dB] | Conducted power<br>Result<br>[dBm] | Remarks |
|---------|---------------|------------------|-----------------------|------------------------|----------------------------|------------------------------------|---------|
| RF0     | 0             | -11.50           | 3.50                  | 9.87                   | -                          | 1.87                               | -       |
|         | 1             | -11.48           | 3.50                  | 9.87                   | -                          | 1.89                               | -       |
|         | 2             | -11.47           | 3.50                  | 9.87                   | -                          | 1.90                               | -       |
|         | 3             | -11.45           | 3.50                  | 9.87                   | -                          | 1.92                               | -       |
|         | 4             | -11.39           | 3.50                  | 9.87                   | -                          | 1.98                               | -       |
|         | 5             | -11.36           | 3.50                  | 9.87                   | -                          | 2.01                               | -       |
|         | 6             | -11.35           | 3.50                  | 9.87                   | -                          | 2.02                               | -       |
| RF1     | 7             | -11.31           | 3.50                  | 9.87                   | -                          | 2.06                               | -       |
|         | 0             | -11.04           | 3.51                  | 9.93                   | -                          | 2.40                               | -       |
|         | 1             | -10.91           | 3.51                  | 9.93                   | -                          | 2.53                               | -       |
|         | 2             | -10.88           | 3.51                  | 9.93                   | -                          | 2.56                               | -       |
|         | 3             | -10.81           | 3.51                  | 9.93                   | -                          | 2.63                               | -       |
|         | 4             | -10.80           | 3.51                  | 9.93                   | -                          | 2.64                               | -       |
|         | 5             | -10.77           | 3.51                  | 9.93                   | -                          | 2.67                               | -       |
|         | 6             | -10.71           | 3.51                  | 9.93                   | -                          | 2.73                               | -       |
|         | 7             | -10.66           | 3.51                  | 9.93                   | -                          | 2.78                               | *       |

\* Worst rate

Sample Calculation:

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

\*1) Duty facotr is not required because the measurement use a gated average power meter.

## Maximum Conducted Output Power

|                        |                                    |
|------------------------|------------------------------------|
| Report No.             | 13408107S-C                        |
| Test place             | Shonan EMC Lab. No.5 Shielded Room |
| Date                   | July 10, 2020                      |
| Temperature / Humidity | 25 deg. C / 52 % RH                |
| Engineer               | Hiromasa Sato                      |
| Mode                   | Tx 11n-40 CDD                      |

### 5190 MHz

| Rate<br>[MCS] | Conducted power<br>Antenna |             |             | Result<br>[dBm] | Remarks |
|---------------|----------------------------|-------------|-------------|-----------------|---------|
|               | RF0<br>[mW]                | RF1<br>[mW] | Sum<br>[mW] |                 |         |
| 0             | 1.44                       | 1.55        | 2.99        | 4.76            | -       |
| 1             | 1.45                       | 1.57        | 3.02        | 4.79            | -       |
| 2             | 1.46                       | 1.58        | 3.04        | 4.82            | -       |
| 3             | 1.48                       | 1.60        | 3.08        | 4.88            | -       |
| 4             | 1.49                       | 1.60        | 3.09        | 4.89            | -       |
| 5             | 1.50                       | 1.61        | 3.11        | 4.93            | -       |
| 6             | 1.51                       | 1.67        | 3.18        | 5.03            | -       |
| 7             | 1.52                       | 1.74        | 3.26        | 5.13            | *       |

| Rate<br>[MCS] | Duty<br>Factor<br>*1)<br>[dB] | RF0              |                       |                        |                                   | RF1              |                       |                        |                                   |
|---------------|-------------------------------|------------------|-----------------------|------------------------|-----------------------------------|------------------|-----------------------|------------------------|-----------------------------------|
|               |                               | Reading<br>[dBm] | Cable<br>Loss<br>[dB] | Atten.<br>Loss<br>[dB] | Result<br>Cond.<br>Power<br>[dBm] | Reading<br>[dBm] | Cable<br>Loss<br>[dB] | Atten.<br>Loss<br>[dB] | Result<br>Cond.<br>Power<br>[dBm] |
| 0             | -                             | -11.78           | 3.50                  | 9.87                   | 1.59                              | -11.54           | 3.51                  | 9.93                   | 1.90                              |
| 1             | -                             | -11.77           | 3.50                  | 9.87                   | 1.60                              | -11.48           | 3.51                  | 9.93                   | 1.96                              |
| 2             | -                             | -11.73           | 3.50                  | 9.87                   | 1.64                              | -11.46           | 3.51                  | 9.93                   | 1.98                              |
| 3             | -                             | -11.67           | 3.50                  | 9.87                   | 1.70                              | -11.40           | 3.51                  | 9.93                   | 2.04                              |
| 4             | -                             | -11.65           | 3.50                  | 9.87                   | 1.72                              | -11.40           | 3.51                  | 9.93                   | 2.04                              |
| 5             | -                             | -11.60           | 3.50                  | 9.87                   | 1.77                              | -11.38           | 3.51                  | 9.93                   | 2.06                              |
| 6             | -                             | -11.58           | 3.50                  | 9.87                   | 1.79                              | -11.21           | 3.51                  | 9.93                   | 2.23                              |
| 7             | -                             | -11.56           | 3.50                  | 9.87                   | 1.81                              | -11.03           | 3.51                  | 9.93                   | 2.41                              |

\*1) Duty Factor is not required because the measurement using a gated RF average power meter.

Sample Calculation:

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

## Maximum Conducted Output Power

|                        |                                    |
|------------------------|------------------------------------|
| Report No.             | 13408107S-C                        |
| Test place             | Shonan EMC Lab. No.5 Shielded Room |
| Date                   | July 10, 2020                      |
| Temperature / Humidity | 25 deg. C / 52 % RH                |
| Engineer               | Hiromasa Sato                      |
| Mode                   | Tx 11n-40 MIMO                     |

### 5190 MHz

| Rate<br>[MCS] | Conducted power<br>Antenna |             |             | Result<br>[dBm] | Remarks |
|---------------|----------------------------|-------------|-------------|-----------------|---------|
|               | RF0<br>[mW]                | RF1<br>[mW] | Sum<br>[mW] |                 |         |
| 8             | 1.44                       | 1.63        | 3.07        | 4.87            | -       |
| 9             | 1.46                       | 1.63        | 3.09        | 4.90            | -       |
| 10            | 1.47                       | 1.67        | 3.14        | 4.97            | -       |
| 11            | 1.49                       | 1.70        | 3.19        | 5.04            | -       |
| 12            | 1.52                       | 1.75        | 3.27        | 5.14            | -       |
| 13            | 1.53                       | 1.75        | 3.28        | 5.16            | -       |
| 14            | 1.53                       | 1.78        | 3.31        | 5.20            | -       |
| 15            | 1.52                       | 1.79        | 3.32        | 5.21            | *       |

| Rate<br>[MCS] | Duty<br>Factor<br>*1)<br>[dB] | RF0              |                       |                        |                                   | RF1              |                       |                         |                                   |
|---------------|-------------------------------|------------------|-----------------------|------------------------|-----------------------------------|------------------|-----------------------|-------------------------|-----------------------------------|
|               |                               | Reading<br>[dBm] | Cable<br>Loss<br>[dB] | Atten.<br>Loss<br>[dB] | Result<br>Cond.<br>Power<br>[dBm] | Reading<br>[dBm] | Cable<br>Loss<br>[dB] | Antenna<br>Loss<br>[dB] | Result<br>Cond.<br>Power<br>[dBm] |
| 8             | -                             | -11.78           | 3.50                  | 9.87                   | 1.59                              | -11.33           | 3.51                  | 9.93                    | 2.11                              |
| 9             | -                             | -11.74           | 3.50                  | 9.87                   | 1.63                              | -11.31           | 3.51                  | 9.93                    | 2.13                              |
| 10            | -                             | -11.69           | 3.50                  | 9.87                   | 1.68                              | -11.22           | 3.51                  | 9.93                    | 2.22                              |
| 11            | -                             | -11.65           | 3.50                  | 9.87                   | 1.72                              | -11.13           | 3.51                  | 9.93                    | 2.31                              |
| 12            | -                             | -11.55           | 3.50                  | 9.87                   | 1.82                              | -11.02           | 3.51                  | 9.93                    | 2.42                              |
| 13            | -                             | -11.53           | 3.50                  | 9.87                   | 1.84                              | -11.00           | 3.51                  | 9.93                    | 2.44                              |
| 14            | -                             | -11.53           | 3.50                  | 9.87                   | 1.84                              | -10.93           | 3.51                  | 9.93                    | 2.51                              |
| 15            | -                             | -11.54           | 3.50                  | 9.87                   | 1.83                              | -10.90           | 3.51                  | 9.93                    | 2.54                              |

\*1) Duty Factor is not required because the measurement using a gated RF average power meter.

Sample Calculation:

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

## Maximum Conducted Output Power

|                        |                                    |
|------------------------|------------------------------------|
| Report No.             | 13408107S-C                        |
| Test place             | Shonan EMC Lab. No.5 Shielded Room |
| Date                   | July 10, 2020                      |
| Temperature / Humidity | 25 deg. C / 52 % RH                |
| Engineer               | Huromasa Sato                      |
| Mode                   | Tx 11ac-40 SISO                    |

### 5190 MHz

| Antenna | Rate<br>[MCS] | Reading<br>[dBm] | Cable<br>Loss<br>[dB] | Atten.<br>Loss<br>[dB] | Duty<br>factor *1)<br>[dB] | Conducted power<br>Result<br>[dBm] | Remarks |
|---------|---------------|------------------|-----------------------|------------------------|----------------------------|------------------------------------|---------|
| RF0     | 0             | -11.64           | 3.50                  | 9.87                   | -                          | 1.73                               | -       |
|         | 1             | -11.62           | 3.50                  | 9.87                   | -                          | 1.75                               | -       |
|         | 2             | -11.61           | 3.50                  | 9.87                   | -                          | 1.76                               | -       |
|         | 3             | -11.56           | 3.50                  | 9.87                   | -                          | 1.81                               | -       |
|         | 4             | -11.51           | 3.50                  | 9.87                   | -                          | 1.86                               | -       |
|         | 5             | -11.42           | 3.50                  | 9.87                   | -                          | 1.95                               | -       |
|         | 6             | -11.36           | 3.50                  | 9.87                   | -                          | 2.01                               | -       |
|         | 7             | -11.35           | 3.50                  | 9.87                   | -                          | 2.02                               | -       |
|         | 8             | -11.31           | 3.50                  | 9.87                   | -                          | 2.06                               | -       |
|         | 9             | -11.36           | 3.50                  | 9.87                   | -                          | 2.01                               | -       |
| RF1     | 0             | -11.24           | 3.51                  | 9.93                   | -                          | 2.20                               | -       |
|         | 1             | -11.21           | 3.51                  | 9.93                   | -                          | 2.23                               | -       |
|         | 2             | -11.14           | 3.51                  | 9.93                   | -                          | 2.30                               | -       |
|         | 3             | -11.13           | 3.51                  | 9.93                   | -                          | 2.31                               | -       |
|         | 4             | -11.06           | 3.51                  | 9.93                   | -                          | 2.38                               | -       |
|         | 5             | -10.97           | 3.51                  | 9.93                   | -                          | 2.47                               | -       |
|         | 6             | -10.74           | 3.51                  | 9.93                   | -                          | 2.70                               | -       |
|         | 7             | -10.60           | 3.51                  | 9.93                   | -                          | 2.84                               | *       |
|         | 8             | -10.73           | 3.51                  | 9.93                   | -                          | 2.71                               | -       |
|         | 9             | -10.75           | 3.51                  | 9.93                   | -                          | 2.69                               | -       |

\* Worst rate

Sample Calculation:

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

\*1) Duty factor is not required because the measurement use a gated average power meter.

## Maximum Conducted Output Power

|                        |                                    |
|------------------------|------------------------------------|
| Report No.             | 13408107S-C                        |
| Test place             | Shonan EMC Lab. No.5 Shielded Room |
| Date                   | July 10, 2020                      |
| Temperature / Humidity | 25 deg. C / 52 % RH                |
| Engineer               | Hirumasa Sato                      |
| Mode                   | Tx 11ac-40 CDD                     |

### 5190 MHz

| Rate<br>[MCS] | Conducted power        |             |             | Result<br>[dBm] | Remarks |
|---------------|------------------------|-------------|-------------|-----------------|---------|
|               | Antenna<br>RF0<br>[mW] | RF1<br>[mW] | Sum<br>[mW] |                 |         |
| 0             | 1.42                   | 1.57        | 2.99        | 4.76            | -       |
| 1             | 1.47                   | 1.66        | 3.13        | 4.95            | -       |
| 2             | 1.48                   | 1.67        | 3.15        | 4.98            | -       |
| 3             | 1.49                   | 1.68        | 3.17        | 5.01            | -       |
| 4             | 1.51                   | 1.71        | 3.22        | 5.08            | -       |
| 5             | 1.50                   | 1.72        | 3.23        | 5.09            | -       |
| 6             | 1.52                   | 1.74        | 3.25        | 5.13            | -       |
| 7             | 1.53                   | 1.75        | 3.28        | 5.16            | *       |
| 8             | 1.49                   | 1.72        | 3.21        | 5.07            | -       |
| 9             | 1.51                   | 1.71        | 3.23        | 5.09            | -       |

| Rate<br>[MCS] | Duty<br>Factor<br>*1)<br>[dB] | RF0              |                       |                        |                                   | RF1              |                       |                         |                                   |
|---------------|-------------------------------|------------------|-----------------------|------------------------|-----------------------------------|------------------|-----------------------|-------------------------|-----------------------------------|
|               |                               | Reading<br>[dBm] | Cable<br>Loss<br>[dB] | Atten.<br>Loss<br>[dB] | Result<br>Cond.<br>Power<br>[dBm] | Reading<br>[dBm] | Cable<br>Loss<br>[dB] | Antenna<br>Loss<br>[dB] | Result<br>Cond.<br>Power<br>[dBm] |
| 0             | -                             | -11.84           | 3.50                  | 9.87                   | 1.53                              | -11.49           | 3.51                  | 9.93                    | 1.95                              |
| 1             | -                             | -11.71           | 3.50                  | 9.87                   | 1.66                              | -11.23           | 3.51                  | 9.93                    | 2.21                              |
| 2             | -                             | -11.67           | 3.50                  | 9.87                   | 1.70                              | -11.21           | 3.51                  | 9.93                    | 2.23                              |
| 3             | -                             | -11.65           | 3.50                  | 9.87                   | 1.72                              | -11.18           | 3.51                  | 9.93                    | 2.26                              |
| 4             | -                             | -11.57           | 3.50                  | 9.87                   | 1.80                              | -11.12           | 3.51                  | 9.93                    | 2.32                              |
| 5             | -                             | -11.60           | 3.50                  | 9.87                   | 1.77                              | -11.08           | 3.51                  | 9.93                    | 2.36                              |
| 6             | -                             | -11.56           | 3.50                  | 9.87                   | 1.81                              | -11.04           | 3.51                  | 9.93                    | 2.40                              |
| 7             | -                             | -11.53           | 3.50                  | 9.87                   | 1.84                              | -11.01           | 3.51                  | 9.93                    | 2.43                              |
| 8             | -                             | -11.64           | 3.50                  | 9.87                   | 1.73                              | -11.08           | 3.51                  | 9.93                    | 2.36                              |
| 9             | -                             | -11.57           | 3.50                  | 9.87                   | 1.80                              | -11.10           | 3.51                  | 9.93                    | 2.34                              |

\*1) Duty Factor is not required because the measurement using a gated RF average power meter.

Sample Calculation:

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

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## Maximum Conducted Output Power

|                        |                                    |
|------------------------|------------------------------------|
| Report No.             | 13408107S-C                        |
| Test place             | Shonan EMC Lab. No.5 Shielded Room |
| Date                   | July 10, 2020                      |
| Temperature / Humidity | 25 deg. C / 52 % RH                |
| Engineer               | Hiromasa Sato                      |
| Mode                   | Tx 11ac-40 MIMO                    |

### 5190 MHz

| Rate<br>[MCS] | Conducted power        |             |             | Result<br>[dBm] | Remarks |
|---------------|------------------------|-------------|-------------|-----------------|---------|
|               | Antenna<br>RF0<br>[mW] | RF1<br>[mW] | Sum<br>[mW] |                 |         |
| 0             | 1.46                   | 1.61        | 3.07        | 4.87            | -       |
| 1             | 1.50                   | 1.63        | 3.13        | 4.95            | -       |
| 2             | 1.51                   | 1.66        | 3.17        | 5.01            | -       |
| 3             | 1.51                   | 1.71        | 3.22        | 5.08            | -       |
| 4             | 1.52                   | 1.72        | 3.24        | 5.11            | -       |
| 5             | 1.54                   | 1.76        | 3.30        | 5.19            | -       |
| 6             | 1.55                   | 1.76        | 3.31        | 5.20            | -       |
| 7             | 1.57                   | 1.81        | 3.38        | 5.29            | *       |
| 8             | 1.57                   | 1.78        | 3.35        | 5.25            | -       |
| 9             | 1.56                   | 1.76        | 3.32        | 5.21            | -       |

| Rate<br>[MCS] | Duty<br>Factor<br>*1)<br>[dB] | RF0              |                       |                        |                                   | RF1              |                       |                         |                                   |
|---------------|-------------------------------|------------------|-----------------------|------------------------|-----------------------------------|------------------|-----------------------|-------------------------|-----------------------------------|
|               |                               | Reading<br>[dBm] | Cable<br>Loss<br>[dB] | Atten.<br>Loss<br>[dB] | Result<br>Cond.<br>Power<br>[dBm] | Reading<br>[dBm] | Cable<br>Loss<br>[dB] | Antenna<br>Loss<br>[dB] | Result<br>Cond.<br>Power<br>[dBm] |
| 0             | -                             | -11.72           | 3.50                  | 9.87                   | 1.65                              | -11.38           | 3.51                  | 9.93                    | 2.06                              |
| 1             | -                             | -11.62           | 3.50                  | 9.87                   | 1.75                              | -11.32           | 3.51                  | 9.93                    | 2.12                              |
| 2             | -                             | -11.58           | 3.50                  | 9.87                   | 1.79                              | -11.24           | 3.51                  | 9.93                    | 2.20                              |
| 3             | -                             | -11.57           | 3.50                  | 9.87                   | 1.80                              | -11.11           | 3.51                  | 9.93                    | 2.33                              |
| 4             | -                             | -11.55           | 3.50                  | 9.87                   | 1.82                              | -11.08           | 3.51                  | 9.93                    | 2.36                              |
| 5             | -                             | -11.49           | 3.50                  | 9.87                   | 1.88                              | -10.98           | 3.51                  | 9.93                    | 2.46                              |
| 6             | -                             | -11.46           | 3.50                  | 9.87                   | 1.91                              | -10.98           | 3.51                  | 9.93                    | 2.46                              |
| 7             | -                             | -11.41           | 3.50                  | 9.87                   | 1.96                              | -10.87           | 3.51                  | 9.93                    | 2.57                              |
| 8             | -                             | -11.41           | 3.50                  | 9.87                   | 1.96                              | -10.93           | 3.51                  | 9.93                    | 2.51                              |
| 9             | -                             | -11.44           | 3.50                  | 9.87                   | 1.93                              | -10.98           | 3.51                  | 9.93                    | 2.46                              |

\*1) Duty Factor is not required because the measurement using a gated RF average power meter.

Sample Calculation:

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

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## Maximum Conducted Output Power

|                        |                                    |
|------------------------|------------------------------------|
| Report No.             | 13408107S-C                        |
| Test place             | Shonan EMC Lab. No.5 Shielded Room |
| Date                   | July 10, 2020                      |
| Temperature / Humidity | 25 deg. C / 52 % RH                |
| Engineer               | Hiromasa Sato                      |
| Mode                   | Tx 11ac-80 SISO                    |

### 5210 MHz

| Antenna | Rate<br>[MCS] | Reading<br>[dBm] | Cable<br>Loss<br>[dB] | Atten.<br>Loss<br>[dB] | Duty<br>factor *1)<br>[dB] | Conducted power<br>Result<br>[dBm] | Remarks |
|---------|---------------|------------------|-----------------------|------------------------|----------------------------|------------------------------------|---------|
| RF0     | 0             | -11.10           | 3.51                  | 9.87                   | -                          | 2.28                               | -       |
|         | 1             | -11.06           | 3.51                  | 9.87                   | -                          | 2.32                               | -       |
|         | 2             | -11.02           | 3.51                  | 9.87                   | -                          | 2.36                               | -       |
|         | 3             | -10.95           | 3.51                  | 9.87                   | -                          | 2.43                               | -       |
|         | 4             | -10.91           | 3.51                  | 9.87                   | -                          | 2.47                               | -       |
|         | 5             | -10.89           | 3.51                  | 9.87                   | -                          | 2.49                               | -       |
|         | 6             | -10.84           | 3.51                  | 9.87                   | -                          | 2.54                               | -       |
|         | 7             | -10.79           | 3.51                  | 9.87                   | -                          | 2.59                               | -       |
|         | 8             | -10.81           | 3.51                  | 9.87                   | -                          | 2.57                               | -       |
|         | 9             | -10.85           | 3.51                  | 9.87                   | -                          | 2.53                               | -       |
| RF1     | 0             | -11.17           | 3.52                  | 9.93                   | -                          | 2.28                               | -       |
|         | 1             | -10.99           | 3.52                  | 9.93                   | -                          | 2.46                               | -       |
|         | 2             | -10.98           | 3.52                  | 9.93                   | -                          | 2.47                               | -       |
|         | 3             | -10.87           | 3.52                  | 9.93                   | -                          | 2.58                               | -       |
|         | 4             | -10.76           | 3.52                  | 9.93                   | -                          | 2.69                               | -       |
|         | 5             | -10.70           | 3.52                  | 9.93                   | -                          | 2.75                               | -       |
|         | 6             | -10.67           | 3.52                  | 9.93                   | -                          | 2.78                               | -       |
|         | 7             | -10.63           | 3.52                  | 9.93                   | -                          | 2.82                               | *       |
|         | 8             | -10.66           | 3.52                  | 9.93                   | -                          | 2.79                               | -       |
|         | 9             | -10.76           | 3.52                  | 9.93                   | -                          | 2.69                               | -       |

\* Worst rate

Sample Calculation:

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

\*1) Duty facotr is not required because the measurement use a gated average power meter.

## Maximum Conducted Output Power

|                        |                                    |
|------------------------|------------------------------------|
| Report No.             | 13408107S-C                        |
| Test place             | Shonan EMC Lab. No.5 Shielded Room |
| Date                   | July 10, 2020                      |
| Temperature / Humidity | 25 deg. C / 52 % RH                |
| Engineer               | Hiromasa Sato                      |
| Mode                   | Tx 11ac-80 CDD                     |

### 5210 MHz

| Rate<br>[MCS] | Conducted power        |             |             | Result<br>[dBm] | Remarks |
|---------------|------------------------|-------------|-------------|-----------------|---------|
|               | Antenna<br>RF0<br>[mW] | RF1<br>[mW] | Sum<br>[mW] |                 |         |
| 0             | 1.59                   | 1.50        | 3.08        | 4.89            | -       |
| 1             | 1.60                   | 1.62        | 3.23        | 5.09            | -       |
| 2             | 1.60                   | 1.65        | 3.25        | 5.12            | -       |
| 3             | 1.65                   | 1.66        | 3.31        | 5.19            | -       |
| 4             | 1.67                   | 1.66        | 3.33        | 5.23            | -       |
| 5             | 1.68                   | 1.68        | 3.36        | 5.26            | -       |
| 6             | 1.73                   | 1.69        | 3.42        | 5.33            | -       |
| 7             | 1.74                   | 1.72        | 3.46        | 5.39            | *       |
| 8             | 1.69                   | 1.67        | 3.36        | 5.26            | -       |
| 9             | 1.67                   | 1.65        | 3.32        | 5.21            | -       |

| Rate<br>[MCS] | Duty<br>Factor<br>*1)<br>[dB] | RF0              |                       |                        |                                   | RF1              |                       |                         |                                   |
|---------------|-------------------------------|------------------|-----------------------|------------------------|-----------------------------------|------------------|-----------------------|-------------------------|-----------------------------------|
|               |                               | Reading<br>[dBm] | Cable<br>Loss<br>[dB] | Atten.<br>Loss<br>[dB] | Result<br>Cond.<br>Power<br>[dBm] | Reading<br>[dBm] | Cable<br>Loss<br>[dB] | Antenna<br>Loss<br>[dB] | Result<br>Cond.<br>Power<br>[dBm] |
| 0             | -                             | -11.37           | 3.51                  | 9.87                   | 2.01                              | -11.70           | 3.52                  | 9.93                    | 1.75                              |
| 1             | -                             | -11.33           | 3.51                  | 9.87                   | 2.05                              | -11.34           | 3.52                  | 9.93                    | 2.11                              |
| 2             | -                             | -11.33           | 3.51                  | 9.87                   | 2.05                              | -11.27           | 3.52                  | 9.93                    | 2.18                              |
| 3             | -                             | -11.21           | 3.51                  | 9.87                   | 2.17                              | -11.25           | 3.52                  | 9.93                    | 2.20                              |
| 4             | -                             | -11.14           | 3.51                  | 9.87                   | 2.24                              | -11.25           | 3.52                  | 9.93                    | 2.20                              |
| 5             | -                             | -11.13           | 3.51                  | 9.87                   | 2.25                              | -11.20           | 3.52                  | 9.93                    | 2.25                              |
| 6             | -                             | -11.00           | 3.51                  | 9.87                   | 2.38                              | -11.18           | 3.52                  | 9.93                    | 2.27                              |
| 7             | -                             | -10.98           | 3.51                  | 9.87                   | 2.40                              | -11.08           | 3.52                  | 9.93                    | 2.37                              |
| 8             | -                             | -11.10           | 3.51                  | 9.87                   | 2.28                              | -11.23           | 3.52                  | 9.93                    | 2.22                              |
| 9             | -                             | -11.16           | 3.51                  | 9.87                   | 2.22                              | -11.26           | 3.52                  | 9.93                    | 2.19                              |

\*1) Duty Factor is not required because the measurement using a gated RF average power meter.

Sample Calculation:

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

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## Maximum Conducted Output Power

|                        |                                    |
|------------------------|------------------------------------|
| Report No.             | 13408107S-C                        |
| Test place             | Shonan EMC Lab. No.5 Shielded Room |
| Date                   | July 10, 2020                      |
| Temperature / Humidity | 25 deg. C / 52 % RH                |
| Engineer               | Huromasa Sato                      |
| Mode                   | Tx 11ac-80 MIMO                    |

### 5210 MHz

| Rate<br>[MCS] | Conducted power        |             |             | Result<br>[dBm] | Remarks |
|---------------|------------------------|-------------|-------------|-----------------|---------|
|               | Antenna<br>RF0<br>[mW] | RF1<br>[mW] | Sum<br>[mW] |                 |         |
| 0             | 1.68                   | 1.66        | 3.34        | 5.24            | -       |
| 1             | 1.70                   | 1.68        | 3.38        | 5.28            | -       |
| 2             | 1.71                   | 1.69        | 3.39        | 5.30            | -       |
| 3             | 1.74                   | 1.74        | 3.48        | 5.42            | -       |
| 4             | 1.72                   | 1.74        | 3.46        | 5.39            | -       |
| 5             | 1.75                   | 1.74        | 3.49        | 5.43            | -       |
| 6             | 1.75                   | 1.75        | 3.50        | 5.44            | -       |
| 7             | 1.76                   | 1.77        | 3.53        | 5.47            | *       |
| 8             | 1.73                   | 1.76        | 3.48        | 5.42            | -       |
| 9             | 1.74                   | 1.75        | 3.49        | 5.43            | -       |

| Rate<br>[MCS] | Duty<br>Factor<br>*1)<br>[dB] | RF0              |                       |                        |                                   | RF1              |                       |                         |                                   |
|---------------|-------------------------------|------------------|-----------------------|------------------------|-----------------------------------|------------------|-----------------------|-------------------------|-----------------------------------|
|               |                               | Reading<br>[dBm] | Cable<br>Loss<br>[dB] | Atten.<br>Loss<br>[dB] | Result<br>Cond.<br>Power<br>[dBm] | Reading<br>[dBm] | Cable<br>Loss<br>[dB] | Antenna<br>Loss<br>[dB] | Result<br>Cond.<br>Power<br>[dBm] |
| 0             | -                             | -11.12           | 3.51                  | 9.87                   | 2.26                              | -11.25           | 3.52                  | 9.93                    | 2.20                              |
| 1             | -                             | -11.08           | 3.51                  | 9.87                   | 2.30                              | -11.20           | 3.52                  | 9.93                    | 2.25                              |
| 2             | -                             | -11.06           | 3.51                  | 9.87                   | 2.32                              | -11.18           | 3.52                  | 9.93                    | 2.27                              |
| 3             | -                             | -10.97           | 3.51                  | 9.87                   | 2.41                              | -11.04           | 3.52                  | 9.93                    | 2.41                              |
| 4             | -                             | -11.02           | 3.51                  | 9.87                   | 2.36                              | -11.05           | 3.52                  | 9.93                    | 2.40                              |
| 5             | -                             | -10.96           | 3.51                  | 9.87                   | 2.42                              | -11.03           | 3.52                  | 9.93                    | 2.42                              |
| 6             | -                             | -10.95           | 3.51                  | 9.87                   | 2.43                              | -11.01           | 3.52                  | 9.93                    | 2.44                              |
| 7             | -                             | -10.93           | 3.51                  | 9.87                   | 2.45                              | -10.97           | 3.52                  | 9.93                    | 2.48                              |
| 8             | -                             | -11.01           | 3.51                  | 9.87                   | 2.37                              | -11.00           | 3.52                  | 9.93                    | 2.45                              |
| 9             | -                             | -10.97           | 3.51                  | 9.87                   | 2.41                              | -11.01           | 3.52                  | 9.93                    | 2.44                              |

\*1) Duty Factor is not required because the measurement using a gated RF average power meter.

Sample Calculation:

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

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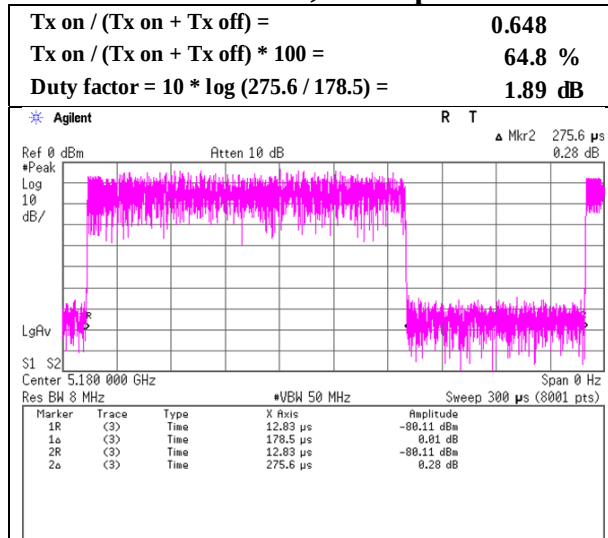
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

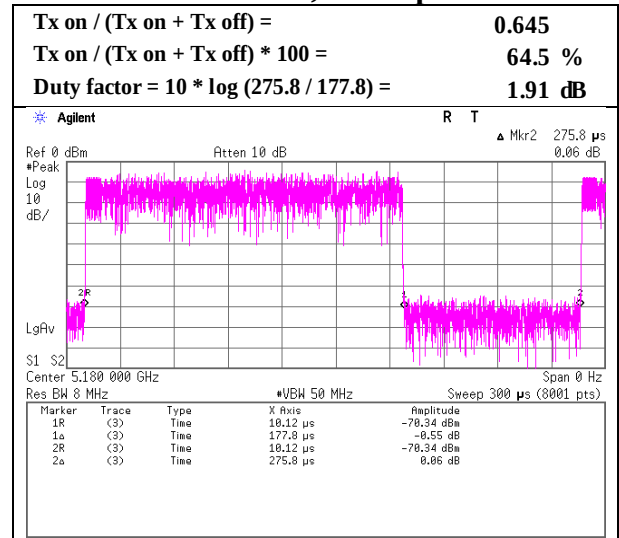
## Burst rate confirmation

Report No. 13408107S-C  
Test place Shonan EMC Lab. No.5 Shielded Room  
Date August 7, 2020  
Temperature / Humidity 25 deg. C / 53 % RH  
Engineer Hiromasa Sato  
Mode Tx

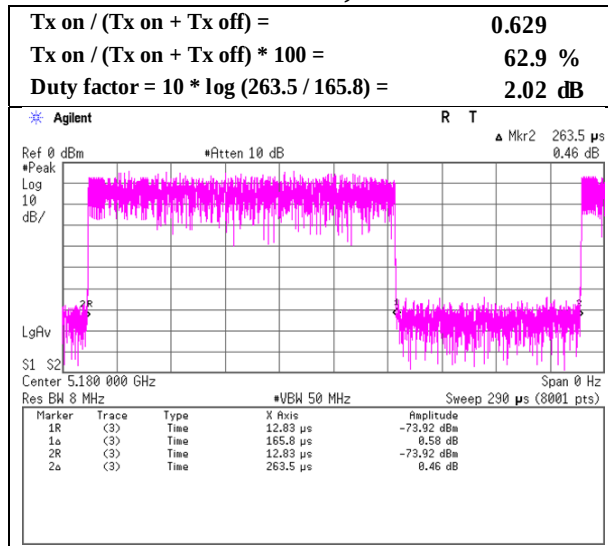
### 11a SISO, 54 Mbps



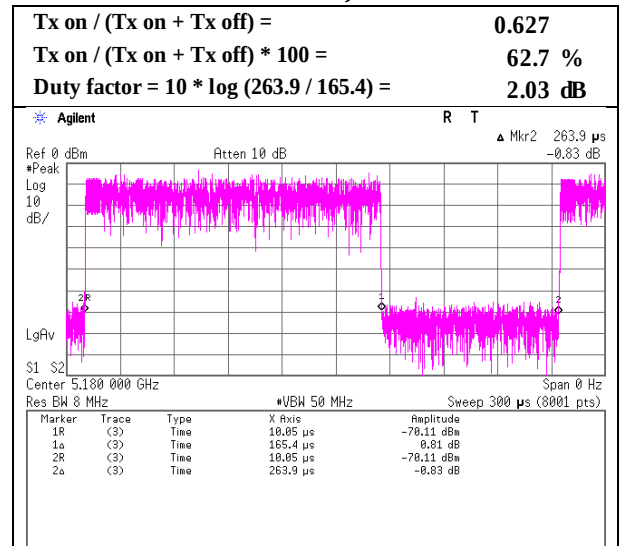
### 11a CDD, 54 Mbps



### 11n-20 SISO, MCS 7



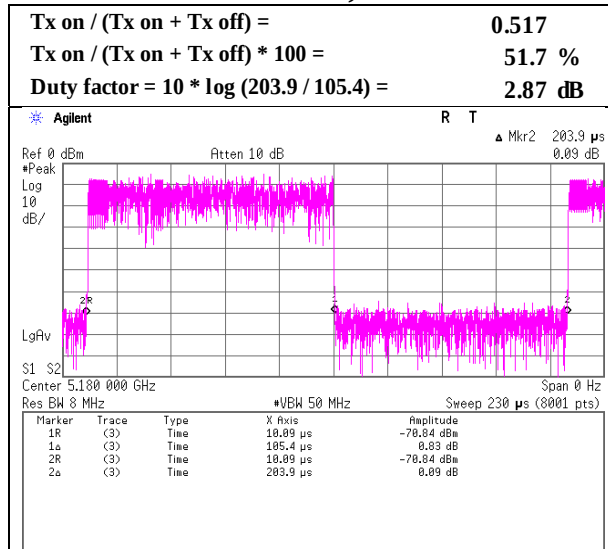
### 11n-20 CDD, MCS 7



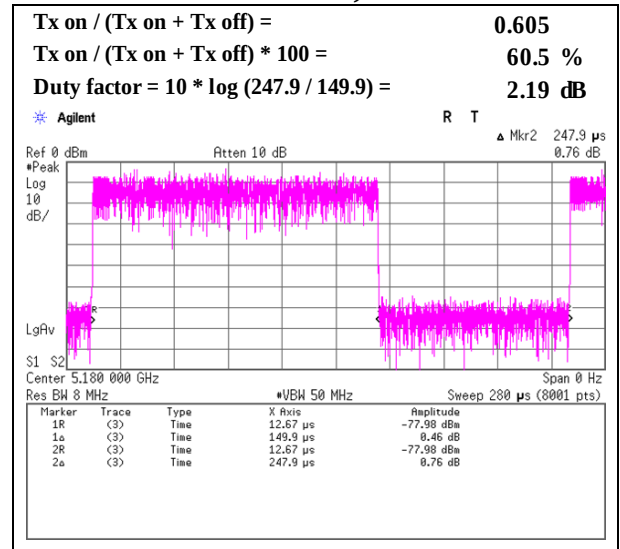
## Burst rate confirmation

Report No. 13408107S-C  
Test place Shonan EMC Lab. No.5 Shielded Room  
Date July 27, 2020 August 6, 2020 August 7, 2020  
Temperature / Humidity 27 deg. C / 57 % RH 23 deg. C / 61 % RH 25 deg. C / 53 % RH  
Engineer Shiro Kobayashi Hiromasa Sato Hiromasa Sato  
Mode Tx

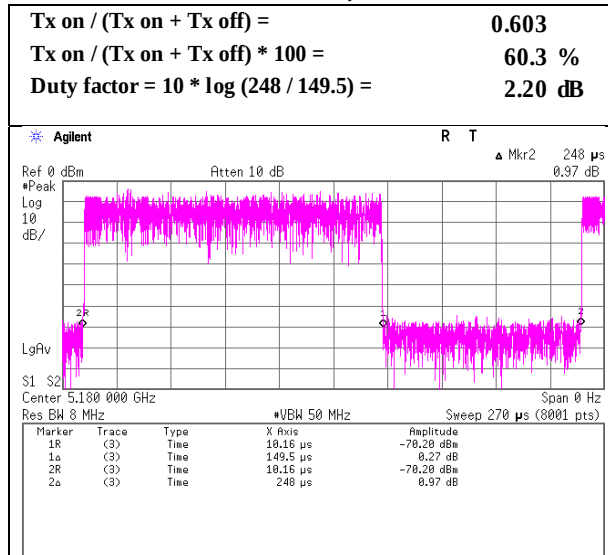
### 11n-20 MIMO, MCS 15



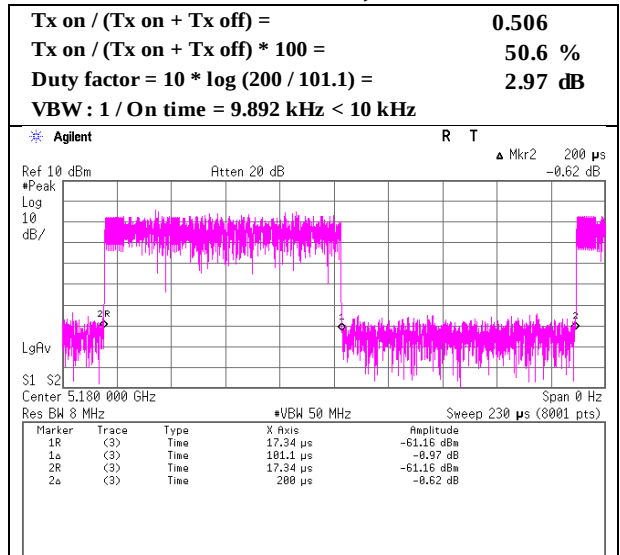
### 11ac-20 SISO, MCS 8



### 11ac-20 CDD, MCS 8



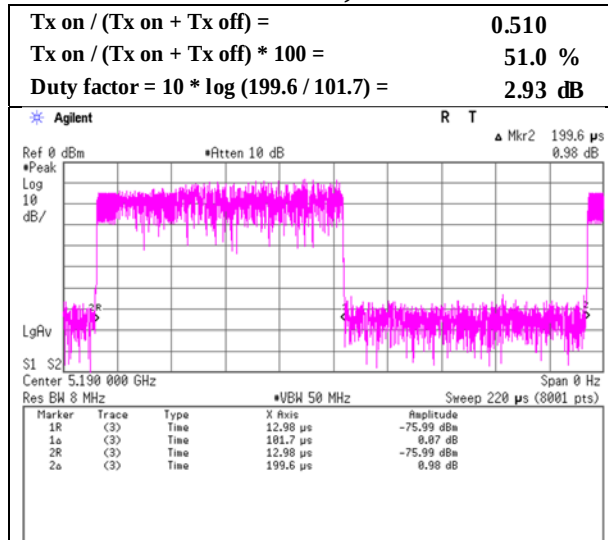
### 11ac-20 MIMO, MCS 8



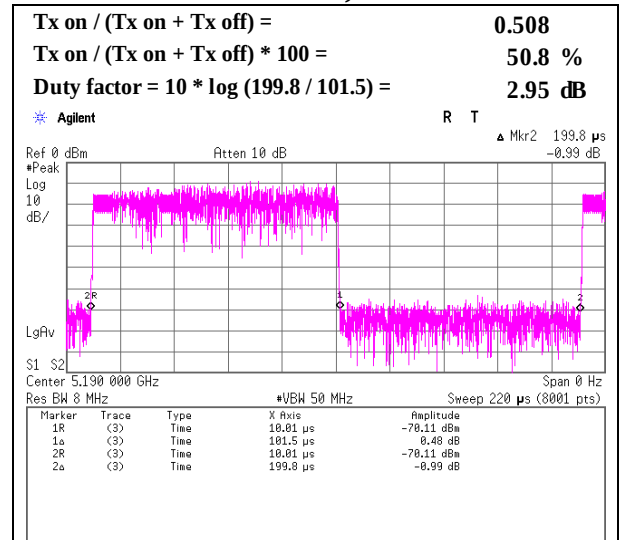
## Burst rate confirmation

Report No. 13408107S-C  
Test place Shonan EMC Lab. No.5 Shielded Room  
Date August 6, 2020  
Temperature / Humidity 23 deg. C / 61 % RH  
Engineer Hiromasa Sato  
Mode Tx  
August 7, 2020  
25 deg. C / 53 % RH  
Hiromasa Sato

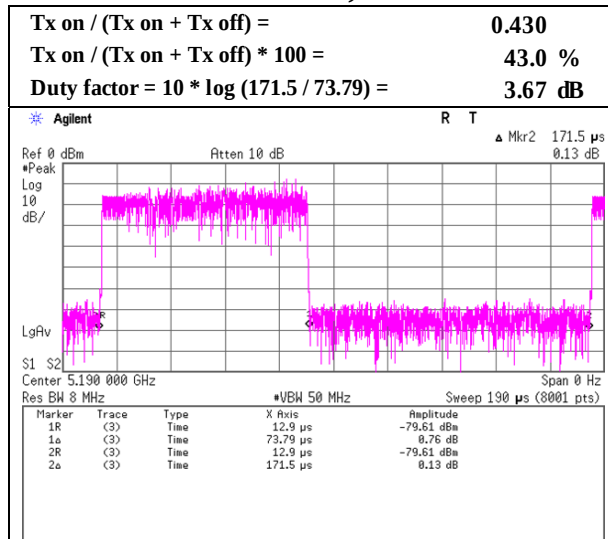
### 11n-40 SISO, MCS 7



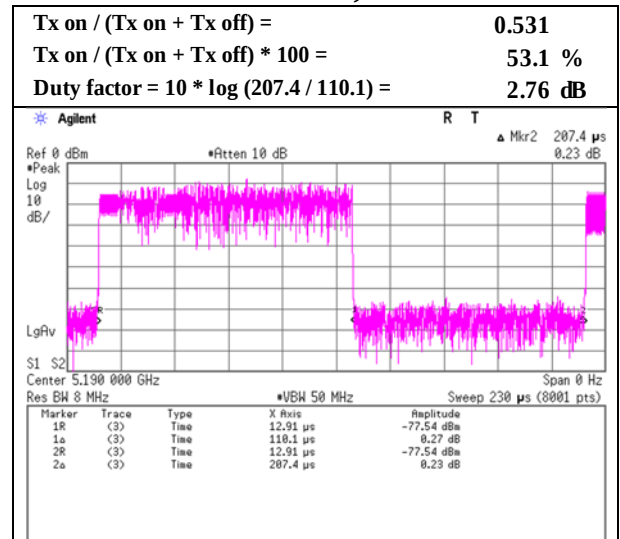
### 11n-40 CDD, MCS 7



### 11n-40 MIMO, MCS 15



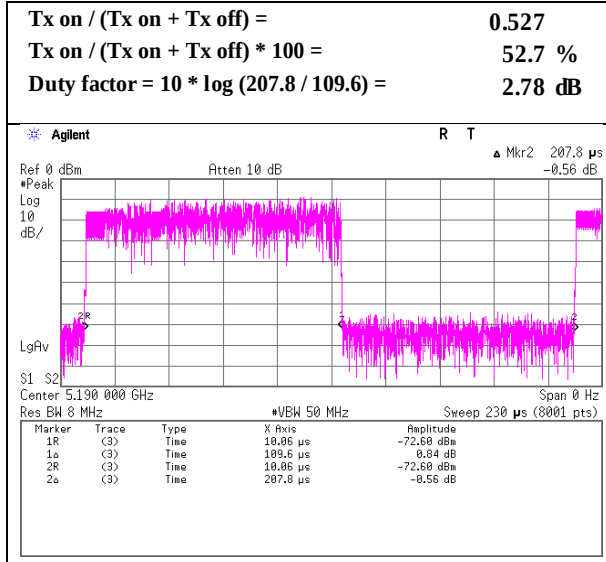
### 11ac-40 SISO, MCS 7



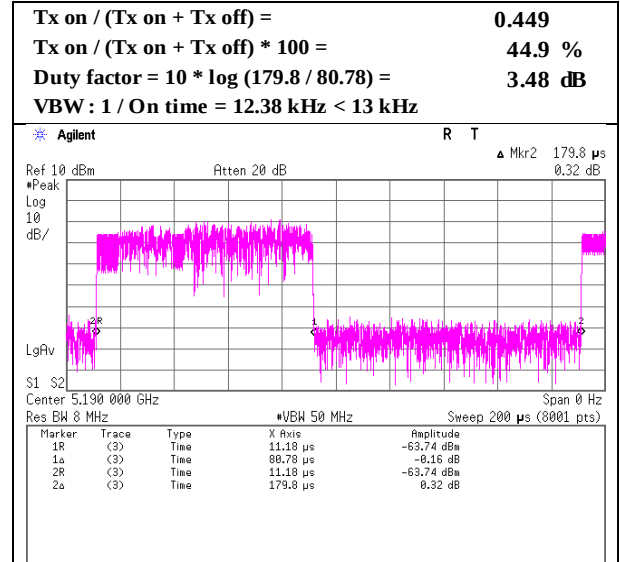
## Burst rate confirmation

Report No. 13408107S-C  
Test place Shonan EMC Lab. No.5 Shielded Room  
Date July 27, 2020 August 7, 2020  
Temperature / Humidity 27 deg. C / 57 % RH 25 deg. C / 53 % RH  
Engineer Shiro Kobayashi Hiromasa Sato  
Mode Tx

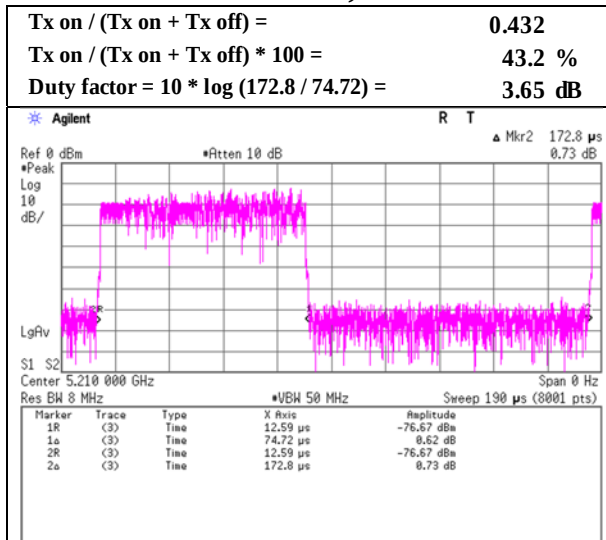
### 11ac-40 CDD, MCS 7



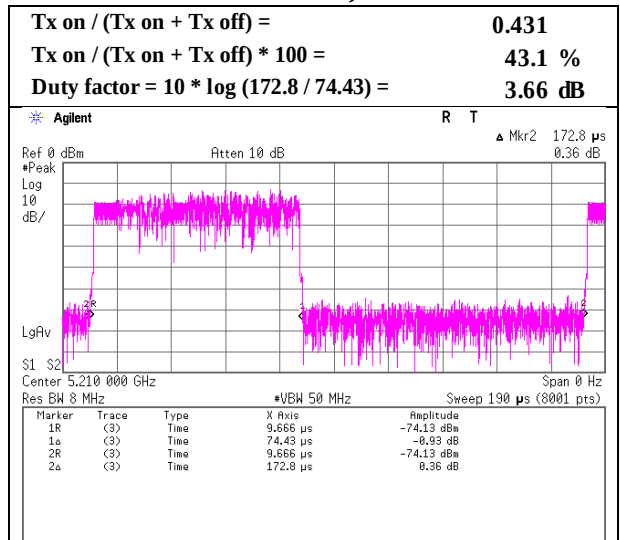
### 11ac-40 MIMO, MCS 7



### 11ac-80 SISO, MCS 7



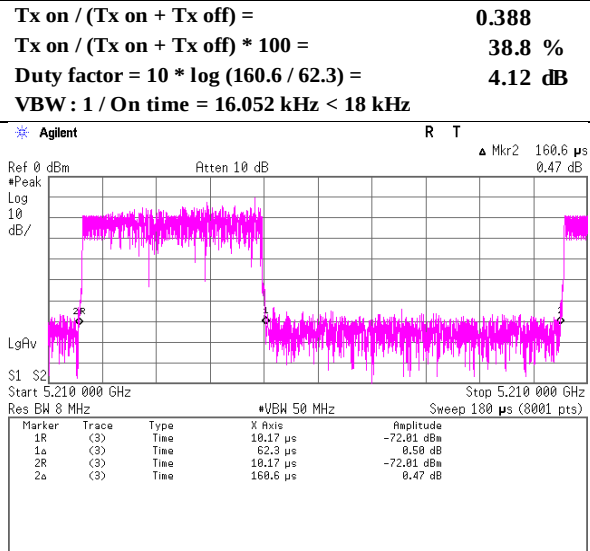
### 11ac-80 CDD, MCS 7



## Burst rate confirmation

Report No. 13408107S-C  
Test place Shonan EMC Lab. No.5 Shielded Room  
Date July 27, 2020  
Temperature / Humidity 27 deg. C / 57 % RH  
Engineer Shiro Kobayashi  
Mode Tx

### 11ac-40 MIMO, MCS 7



## Maximum Power Spectral Density

|                        |                                    |                     |                     |
|------------------------|------------------------------------|---------------------|---------------------|
| Report No.             | 13408107S-C                        |                     |                     |
| Test place             | Shonan EMC Lab. No.5 Shielded Room |                     |                     |
| Date                   | August 4, 2020                     | August 6, 2020      | August 17, 2020     |
| Temperature / Humidity | 23 deg. C / 43 % RH                | 23 deg. C / 61 % RH | 24 deg. C / 54 % RH |
| Engineer               | Hiromasa Sato                      | Shiro Kobayashi     | Shiro Kobayashi     |
| Mode                   | Tx 11a SISO                        |                     |                     |

### 11a SISO, RF0

Applied limit: 15.407, mobile and portable client device

| Tested Frequency<br>[MHz] | PSD Reading<br>[dBm /MHz] | Cable Loss<br>[dB] | Atten. Loss<br>[dB] | Duty Factor<br>[dB] | Antenna Gain<br>*1)<br>[dBi] | RBW Correction Factor<br>[dB] | PSD (Conducted)      |                     |                | PSD (e.i.r.p.)       |                     |                |
|---------------------------|---------------------------|--------------------|---------------------|---------------------|------------------------------|-------------------------------|----------------------|---------------------|----------------|----------------------|---------------------|----------------|
|                           |                           |                    |                     |                     |                              |                               | Result<br>[dBm /MHz] | Limit<br>[dBm /MHz] | Margin<br>[dB] | Result<br>[dBm /MHz] | Limit<br>[dBm /MHz] | Margin<br>[dB] |
| 5180                      | -22.62                    | 3.50               | 9.87                | 1.89                | 2.17                         | 0.00                          | -7.36                | 11.00               | 18.36          | -5.19                | 17.00               | 22.19          |
| 5220                      | -22.07                    | 3.51               | 9.87                | 1.89                | 2.17                         | 0.00                          | -6.80                | 11.00               | 17.80          | -4.63                | 17.00               | 21.63          |
| 5240                      | -21.48                    | 3.51               | 9.88                | 1.89                | 2.17                         | 0.00                          | -6.20                | 11.00               | 17.20          | -4.03                | 17.00               | 21.03          |
| 5745                      | -30.69                    | 3.61               | 9.89                | 1.89                | 2.37                         | 6.99                          | -8.31                | 30.00               | 38.31          | -5.94                | 36.00               | 41.94          |
| 5785                      | -30.76                    | 3.62               | 9.89                | 1.89                | 2.37                         | 6.99                          | -8.37                | 30.00               | 38.37          | -6.00                | 36.00               | 42.00          |
| 5825                      | -30.81                    | 3.62               | 9.89                | 1.89                | 2.37                         | 6.99                          | -8.42                | 30.00               | 38.42          | -6.05                | 36.00               | 42.05          |

\*1) Antenna Gain applied the higher of the two models.

#### Sample Calculation:

PSD: Power Spectral Density

The PSD within 5725 MHz to 5825 MHz are based on any 500 kHz band.

RBW Correction Factor =  $10 * \log (\text{Specified bandwidth} / \text{Measured bandwidth})$

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

PSD Result (e.i.r.p.) = Conducted PSD Result + Antenna Gain

### 11a SISO, RF1

Applied limit: 15.407, mobile and portable client device

| Tested Frequency<br>[MHz] | PSD Reading<br>[dBm /MHz] | Cable Loss<br>[dB] | Atten. Loss<br>[dB] | Duty Factor<br>[dB] | Antenna Gain<br>*1)<br>[dBi] | RBW Correction Factor<br>[dB] | PSD (Conducted)      |                     |                | PSD (e.i.r.p.)       |                     |                |
|---------------------------|---------------------------|--------------------|---------------------|---------------------|------------------------------|-------------------------------|----------------------|---------------------|----------------|----------------------|---------------------|----------------|
|                           |                           |                    |                     |                     |                              |                               | Result<br>[dBm /MHz] | Limit<br>[dBm /MHz] | Margin<br>[dB] | Result<br>[dBm /MHz] | Limit<br>[dBm /MHz] | Margin<br>[dB] |
| 5180                      | -22.05                    | 3.51               | 9.93                | 1.89                | 2.59                         | 0.00                          | -6.72                | 11.00               | 17.72          | -4.13                | 17.00               | 21.13          |
| 5220                      | -22.48                    | 3.52               | 9.93                | 1.89                | 2.59                         | 0.00                          | -7.15                | 11.00               | 18.15          | -4.56                | 17.00               | 21.56          |
| 5240                      | -22.38                    | 3.52               | 9.93                | 1.89                | 2.59                         | 0.00                          | -7.04                | 11.00               | 18.04          | -4.45                | 17.00               | 21.45          |
| 5745                      | -29.47                    | 3.61               | 9.93                | 1.89                | 2.64                         | 6.99                          | -7.05                | 30.00               | 37.05          | -4.41                | 36.00               | 40.41          |
| 5785                      | -30.28                    | 3.62               | 9.93                | 1.89                | 2.64                         | 6.99                          | -7.85                | 30.00               | 37.85          | -5.21                | 36.00               | 41.21          |
| 5825                      | -32.13                    | 3.62               | 9.93                | 1.89                | 2.64                         | 6.99                          | -9.70                | 30.00               | 39.70          | -7.06                | 36.00               | 43.06          |

\*1) Antenna Gain applied the higher of the two models.

#### Sample Calculation:

PSD: Power Spectral Density

The PSD within 5725 MHz to 5825 MHz are based on any 500 kHz band.

RBW Correction Factor =  $10 * \log (\text{Specified bandwidth} / \text{Measured bandwidth})$

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

PSD Result (e.i.r.p.) = Conducted PSD Result + Antenna Gain

**UL Japan, Inc.**

**Shonan EMC Lab.**

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## Maximum Power Spectral Density

Report No. 13408107S-C  
Test place Shonan EMC Lab. No.5 Shielded Room  
Date August 4, 2020 August 6, 2020 August 17, 2020  
Temperature / Humidity 23 deg. C / 43 % RH 23 deg. C / 61 % RH 24 deg. C / 54 % RH  
Engineer Hiromasa Sato Shiro Kobayashi Shiro Kobayashi  
Mode Tx 11a CDD

**RF0 + RF1** Applied limit: 15.407, mobile and portable client device

| Tested Frequency<br>[MHz] | PSD (Conducted) |                            |                 |                     |                    |                | PSD (e.i.r.p.)  |                            |                 |                     |                    |                |
|---------------------------|-----------------|----------------------------|-----------------|---------------------|--------------------|----------------|-----------------|----------------------------|-----------------|---------------------|--------------------|----------------|
|                           | RF0<br>[mW/MHz] | Antenna<br>RF1<br>[mW/MHz] | Sum<br>[mW/MHz] | Result<br>[dBm/MHz] | Limit<br>[dBm/MHz] | Margin<br>[dB] | RF0<br>[mW/MHz] | Antenna<br>RF1<br>[mW/MHz] | Sum<br>[mW/MHz] | Result<br>[dBm/MHz] | Limit<br>[dBm/MHz] | Margin<br>[dB] |
| 5180                      | 0.17            | 0.21                       | 0.38            | -4.15               | 11.00              | 15.15          | 0.63            | 0.77                       | 1.40            | 1.46                | 17.00              | 15.54          |
| 5220                      | 0.16            | 0.20                       | 0.36            | -4.39               | 11.00              | 15.39          | 0.60            | 0.73                       | 1.32            | 1.22                | 17.00              | 15.78          |
| 5240                      | 0.17            | 0.23                       | 0.40            | -4.02               | 11.00              | 15.02          | 0.61            | 0.83                       | 1.44            | 1.59                | 17.00              | 15.41          |
| 5745                      | 0.15            | 0.23                       | 0.38            | -4.25               | 30.00              | 34.25          | 0.55            | 0.83                       | 1.38            | 1.41                | 36.00              | 34.59          |
| 5785                      | 0.12            | 0.14                       | 0.27            | -5.72               | 30.00              | 35.72          | 0.46            | 0.53                       | 0.99            | -0.06               | 36.00              | 36.06          |
| 5825                      | 0.12            | 0.09                       | 0.21            | -6.81               | 30.00              | 36.81          | 0.42            | 0.34                       | 0.77            | -1.15               | 36.00              | 37.15          |

|                  |             |                       | RF0         |            |             |                  |            |           | RF1         |            |             |                  |            |           |
|------------------|-------------|-----------------------|-------------|------------|-------------|------------------|------------|-----------|-------------|------------|-------------|------------------|------------|-----------|
| Tested Frequency | Duty Factor | RBW Correction Factor | PSD Reading | Cable Loss | Atten. Loss | Directional Gain | PSD Result |           | PSD Reading | Cable Loss | Atten. Loss | Directional Gain | PSD Result |           |
|                  |             |                       |             |            |             |                  | Cond.      | e.i.r.p.  |             |            |             |                  | Cond.      | e.i.r.p.  |
| [MHz]            | [dB]        | [dB]                  | [dBm/MHz]   | [dB]       | [dB]        | [dBi]            | [dBm/MHz]  | [dBm/MHz] | [dBm/MHz]   | [dB]       | [dB]        | [dBi]            | [dBm/MHz]  | [dBm/MHz] |
| 5180             | 1.91        | 0.00                  | -22.88      | 3.50       | 9.87        | 5.61             | -7.60      | -1.99     | -22.12      | 3.51       | 9.93        | 5.61             | -6.77      | -1.16     |
| 5220             | 1.91        | 0.00                  | -23.13      | 3.51       | 9.87        | 5.61             | -7.84      | -2.23     | -22.36      | 3.52       | 9.93        | 5.61             | -7.00      | -1.39     |
| 5240             | 1.91        | 0.00                  | -23.03      | 3.51       | 9.88        | 5.61             | -7.73      | -2.12     | -21.79      | 3.52       | 9.93        | 5.61             | -6.43      | -0.82     |
| 5745             | 1.91        | 6.99                  | -30.63      | 3.60       | 9.89        | 5.66             | -8.24      | -2.58     | -28.91      | 3.61       | 9.93        | 5.66             | -6.47      | -0.81     |
| 5785             | 1.91        | 6.99                  | -31.45      | 3.61       | 9.89        | 5.66             | -9.05      | -3.39     | -30.89      | 3.62       | 9.93        | 5.66             | -8.44      | -2.78     |
| 5825             | 1.91        | 6.99                  | -31.80      | 3.62       | 9.89        | 5.66             | -9.39      | -3.73     | -32.75      | 3.62       | 9.93        | 5.66             | -10.30     | -4.64     |

Sample Calculation:

PSD: Power Spectral Density

The PSD within 5725 MHz to 5825 MHz are based on any 500 kHz band.

RBW Correction Factor =  $10 \cdot \log(\text{Specified bandwidth} / \text{Measured bandwidth})$

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

PSD Result (e.i.r.p.) = Conducted PSD Result + Directional Gain

Directional Gain =  $G_{\text{ANT}}(\text{Antenna Gain}^{*1}) + \text{Array Gain}$

\*1) Antenna Gain applied the highest gain of the two models.

Array Gain =  $10 \log(N_{\text{ANT}}/N_{\text{SS}})$  dB.

$N_{\text{ANT}}$  = number of transmit antennas = 2

$N_{\text{SS}}$  = number of spatial streams = 1

## Maximum Power Spectral Density

|                        |                                    |                     |
|------------------------|------------------------------------|---------------------|
| Report No.             | 13408107S-C                        |                     |
| Test place             | Shonan EMC Lab. No.5 Shielded Room |                     |
| Date                   | August 4, 2020                     | August 6, 2020      |
| Temperature / Humidity | 23 deg. C / 43 % RH                | 23 deg. C / 61 % RH |
| Engineer               | Hiromasa Sato                      | Shiro Kobayashi     |
| Mode                   | Tx 11n-20 SISO                     |                     |

### 11n-20 SISO, RF0

Applied limit: 15.407, mobile and portable client device

| Tested Frequency<br>[MHz] | PSD Reading<br>[dBm /MHz] | Cable Loss<br>[dB] | Atten. Loss<br>[dB] | Duty Factor<br>[dB] | Antenna Gain<br>*1)<br>[dBi] | RBW Correction Factor<br>[dB] | PSD (Conducted)      |                     |                | PSD (e.i.r.p.)       |                     |                |
|---------------------------|---------------------------|--------------------|---------------------|---------------------|------------------------------|-------------------------------|----------------------|---------------------|----------------|----------------------|---------------------|----------------|
|                           |                           |                    |                     |                     |                              |                               | Result<br>[dBm /MHz] | Limit<br>[dBm /MHz] | Margin<br>[dB] | Result<br>[dBm /MHz] | Limit<br>[dBm /MHz] | Margin<br>[dB] |
| 5180                      | -23.10                    | 3.50               | 9.87                | 2.02                | 2.17                         | 0.00                          | -7.72                | 11.00               | 18.72          | -5.55                | 17.00               | 22.55          |
| 5220                      | -22.19                    | 3.51               | 9.87                | 2.02                | 2.17                         | 0.00                          | -6.79                | 11.00               | 17.79          | -4.62                | 17.00               | 21.62          |
| 5240                      | -22.03                    | 3.51               | 9.88                | 2.02                | 2.17                         | 0.00                          | -6.62                | 11.00               | 17.62          | -4.45                | 17.00               | 21.45          |
| 5745                      | -30.94                    | 3.60               | 9.89                | 2.02                | 2.37                         | 6.99                          | -8.44                | 30.00               | 38.44          | -6.07                | 36.00               | 42.07          |
| 5785                      | -31.51                    | 3.61               | 9.89                | 2.02                | 2.37                         | 6.99                          | -9.00                | 30.00               | 39.00          | -6.63                | 36.00               | 42.63          |
| 5825                      | -32.06                    | 3.62               | 9.89                | 2.02                | 2.37                         | 6.99                          | -9.54                | 30.00               | 39.54          | -7.17                | 36.00               | 43.17          |

\*1) Antenna Gain applied the higher of the two models.

### Sample Calculation:

PSD: Power Spectral Density

The PSD within 5725 MHz to 5825 MHz are based on any 500 kHz band.

RBW Correction Factor =  $10 * \log (\text{Specified bandwidth} / \text{Measured bandwidth})$

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

PSD Result (e.i.r.p.) = Conducted PSD Result + Antenna Gain

### 11n-20 SISO, RF1

Applied limit: 15.407, mobile and portable client device

| Tested Frequency<br>[MHz] | PSD Reading<br>[dBm /MHz] | Cable Loss<br>[dB] | Atten. Loss<br>[dB] | Duty Factor<br>[dB] | Antenna Gain<br>*1)<br>[dBi] | RBW Correction Factor<br>[dB] | PSD (Conducted)      |                     |                | PSD (e.i.r.p.)       |                     |                |
|---------------------------|---------------------------|--------------------|---------------------|---------------------|------------------------------|-------------------------------|----------------------|---------------------|----------------|----------------------|---------------------|----------------|
|                           |                           |                    |                     |                     |                              |                               | Result<br>[dBm /MHz] | Limit<br>[dBm /MHz] | Margin<br>[dB] | Result<br>[dBm /MHz] | Limit<br>[dBm /MHz] | Margin<br>[dB] |
| 5180                      | -22.50                    | 3.51               | 9.93                | 2.02                | 2.59                         | 0.00                          | -7.05                | 11.00               | 18.05          | -4.46                | 17.00               | 21.46          |
| 5220                      | -23.04                    | 3.52               | 9.93                | 2.02                | 2.59                         | 0.00                          | -7.57                | 11.00               | 18.57          | -4.98                | 17.00               | 21.98          |
| 5240                      | -22.31                    | 3.52               | 9.93                | 2.02                | 2.59                         | 0.00                          | -6.84                | 11.00               | 17.84          | -4.25                | 17.00               | 21.25          |
| 5745                      | -28.87                    | 3.61               | 9.93                | 2.02                | 2.64                         | 6.99                          | -6.32                | 30.00               | 36.32          | -3.68                | 36.00               | 39.68          |
| 5785                      | -30.76                    | 3.62               | 9.93                | 2.02                | 2.64                         | 6.99                          | -8.20                | 30.00               | 38.20          | -5.56                | 36.00               | 41.56          |
| 5825                      | -31.66                    | 3.62               | 9.93                | 2.02                | 2.64                         | 6.99                          | -9.10                | 30.00               | 39.10          | -6.46                | 36.00               | 42.46          |

\*1) Antenna Gain applied the higher of the two models.

### Sample Calculation:

PSD: Power Spectral Density

The PSD within 5725 MHz to 5825 MHz are based on any 500 kHz band.

RBW Correction Factor =  $10 * \log (\text{Specified bandwidth} / \text{Measured bandwidth})$

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

PSD Result (e.i.r.p.) = Conducted PSD Result + Antenna Gain

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## Maximum Power Spectral Density

|                        |                                    |                     |
|------------------------|------------------------------------|---------------------|
| Report No.             | 13408107S-C                        |                     |
| Test place             | Shonan EMC Lab. No.5 Shielded Room |                     |
| Date                   | August 4, 2020                     | August 17, 2020     |
| Temperature / Humidity | 23 deg. C / 43 % RH                | 23 deg. C / 61 % RH |
| Engineer               | Hiromasa Sato                      | Shiro Kobayashi     |
| Mode                   | Tx 11n-20 CDD                      | Shiro Kobayashi     |

### RF0 + RF1

Applied limit: 15.407, mobile and portable client device

| Tested Frequency<br>[MHz] | PSD (Conducted) |          |          |           |           |        | PSD (e.i.r.p.) |          |          |           |           |        |
|---------------------------|-----------------|----------|----------|-----------|-----------|--------|----------------|----------|----------|-----------|-----------|--------|
|                           | Antenna         |          |          | Result    | Limit     | Margin | Antenna        |          |          | Result    | Limit     | Margin |
|                           | RF0             | RF1      | Sum      |           |           |        | RF0            | RF1      | Sum      |           |           |        |
|                           | [mW/MHz]        | [mW/MHz] | [mW/MHz] | [dBm/MHz] | [dBm/MHz] | [dB]   | [mW/MHz]       | [mW/MHz] | [mW/MHz] | [dBm/MHz] | [dBm/MHz] | [dB]   |
| 5180                      | 0.15            | 0.21     | 0.36     | -4.41     | 11.00     | 15.41  | 0.54           | 0.78     | 1.32     | 1.20      | 17.00     | 15.80  |
| 5220                      | 0.23            | 0.17     | 0.39     | -4.04     | 11.00     | 15.04  | 0.83           | 0.61     | 1.44     | 1.57      | 17.00     | 15.43  |
| 5240                      | 0.22            | 0.18     | 0.40     | -3.93     | 11.00     | 14.93  | 0.81           | 0.66     | 1.47     | 1.68      | 17.00     | 15.32  |
| 5745                      | 0.16            | 0.22     | 0.37     | -4.30     | 30.00     | 34.30  | 0.57           | 0.80     | 1.37     | 1.36      | 36.00     | 34.64  |
| 5785                      | 0.12            | 0.16     | 0.28     | -5.49     | 30.00     | 35.49  | 0.44           | 0.60     | 1.04     | 0.17      | 36.00     | 35.83  |
| 5825                      | 0.11            | 0.12     | 0.23     | -6.31     | 30.00     | 36.31  | 0.42           | 0.45     | 0.86     | -0.65     | 36.00     | 36.65  |

| RF0              |             |                       |             |            |             |                  |                | RF1         |            |             |                  |                |             |            |             |
|------------------|-------------|-----------------------|-------------|------------|-------------|------------------|----------------|-------------|------------|-------------|------------------|----------------|-------------|------------|-------------|
| Tested Frequency | Duty Factor | RBW Correction Factor | PSD Reading | Cable Loss | Atten. Loss | Directional Gain | PSD Result     | PSD Reading | Cable Loss | Atten. Loss | Directional Gain | PSD Result     | PSD Reading | Cable Loss | Atten. Loss |
| [MHz]            | [dB]        | [dB]                  | [dBm/MHz]   | [dB]       | [dB]        | [dBi]            | Cond. e.i.r.p. | [dBm/MHz]   | [dB]       | [dB]        | [dBi]            | Cond. e.i.r.p. | [dBm/MHz]   | [dB]       | [dB]        |
| 5180             | 2.03        | 0.00                  | -23.68      | 3.50       | 9.87        | 5.61             | -8.28 -2.67    | -22.16      | 3.51       | 9.93        | 5.61             | -6.69 -1.08    | -22.16      | 3.51       | 9.93        |
| 5220             | 2.03        | 0.00                  | -21.84      | 3.51       | 9.87        | 5.61             | -6.43 -0.82    | -23.26      | 3.52       | 9.93        | 5.61             | -7.78 -2.17    | -23.26      | 3.52       | 9.93        |
| 5240             | 2.03        | 0.00                  | -21.93      | 3.51       | 9.88        | 5.61             | -6.51 -0.90    | -22.90      | 3.52       | 9.93        | 5.61             | -7.42 -1.81    | -22.90      | 3.52       | 9.93        |
| 5745             | 2.03        | 6.99                  | -30.60      | 3.60       | 9.89        | 5.66             | -8.09 -2.43    | -29.21      | 3.61       | 9.93        | 5.66             | -6.65 -0.99    | -29.21      | 3.61       | 9.93        |
| 5785             | 2.03        | 6.99                  | -31.75      | 3.61       | 9.89        | 5.66             | -9.23 -3.57    | -30.45      | 3.62       | 9.93        | 5.66             | -7.88 -2.22    | -30.45      | 3.62       | 9.93        |
| 5825             | 2.03        | 6.99                  | -32.01      | 3.62       | 9.89        | 5.66             | -9.48 -3.82    | -31.74      | 3.62       | 9.93        | 5.66             | -9.17 -3.51    | -31.74      | 3.62       | 9.93        |

### Sample Calculation:

PSD: Power Spectral Density

The PSD within 5725 MHz to 5825 MHz are based on any 500 kHz band.

RBW Correction Factor =  $10 \cdot \log(\text{Specified bandwidth} / \text{Measured bandwidth})$

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

PSD Result (e.i.r.p.) = Conducted PSD Result + Directional Gain

Directional Gain =  $G_{\text{ANT}}(\text{Antenna Gain}^{*1}) + \text{Array Gain}$

\*1) Antenna Gain applied the highest gain of the two models.

Array Gain =  $10 \log(N_{\text{ANT}}/N_{\text{SS}})$  dB.

$N_{\text{ANT}}$  = number of transmit antennas = 2

$N_{\text{SS}}$  = number of spatial streams = 1

## Maximum Power Spectral Density

|                        |                                    |                     |
|------------------------|------------------------------------|---------------------|
| Report No.             | 13408107S-C                        |                     |
| Test place             | Shonan EMC Lab. No.5 Shielded Room |                     |
| Date                   | August 4, 2020                     | August 17, 2020     |
| Temperature / Humidity | 23 deg. C / 43 % RH                | 23 deg. C / 61 % RH |
| Engineer               | Hiromasa Sato                      | Shiro Kobayashi     |
| Mode                   | Tx 11n-20 MIMO                     | Shiro Kobayashi     |

**RF0 + RF1** Applied limit: 15.407, mobile and portable client device

| Tested Frequency<br>[MHz] | PSD (Conducted) |          |          |           |           |        | PSD (e.i.r.p.) |          |          |           |           |        |
|---------------------------|-----------------|----------|----------|-----------|-----------|--------|----------------|----------|----------|-----------|-----------|--------|
|                           | Antenna         |          |          | Result    | Limit     | Margin | Antenna        |          |          | Result    | Limit     | Margin |
|                           | RF0             | RF1      | Sum      |           |           |        | RF0            | RF1      | Sum      |           |           |        |
|                           | [mW/MHz]        | [mW/MHz] | [mW/MHz] | [dBm/MHz] | [dBm/MHz] | [dB]   | [mW/MHz]       | [mW/MHz] | [mW/MHz] | [dBm/MHz] | [dBm/MHz] | [dB]   |
| 5180                      | 0.18            | 0.21     | 0.39     | -4.09     | 11.00     | 15.09  | 0.30           | 0.37     | 0.68     | -1.69     | 17.00     | 18.69  |
| 5220                      | 0.21            | 0.19     | 0.40     | -4.01     | 11.00     | 15.01  | 0.34           | 0.34     | 0.69     | -1.64     | 17.00     | 18.64  |
| 5240                      | 0.23            | 0.23     | 0.46     | -3.37     | 11.00     | 14.37  | 0.38           | 0.42     | 0.80     | -0.98     | 17.00     | 17.98  |
| 5745                      | 0.23            | 0.28     | 0.50     | -2.99     | 30.00     | 32.99  | 0.39           | 0.51     | 0.90     | -0.47     | 36.00     | 36.47  |
| 5785                      | 0.16            | 0.18     | 0.34     | -4.73     | 30.00     | 34.73  | 0.27           | 0.33     | 0.60     | -2.22     | 36.00     | 38.22  |
| 5825                      | 0.14            | 0.14     | 0.28     | -5.58     | 30.00     | 35.58  | 0.24           | 0.25     | 0.49     | -3.07     | 36.00     | 39.07  |

| RF0              |             |                       |             |            |             |                  |            | RF1       |           |        |         |            |           |       |        |
|------------------|-------------|-----------------------|-------------|------------|-------------|------------------|------------|-----------|-----------|--------|---------|------------|-----------|-------|--------|
| Tested Frequency | Duty Factor | RBW Correction Factor | PSD Reading | Cable Loss | Atten. Loss | Antenna Gain *1) | PSD Result | PSD       | Cable     | Atten. | Antenna | PSD Result | PSD       | Cable | Atten. |
| [MHz]            | [dB]        | [dB]                  | [dBm/MHz]   | [dB]       | [dB]        | [dBi]            | Cond.      | e.i.r.p.  | Reading   | Loss   | Loss    | Gain       | Cond.     | Loss  | Loss   |
|                  |             |                       |             |            |             |                  | [dBm/MHz]  | [dBm/MHz] | [dBm/MHz] | [dB]   | [dB]    | [dBi]      | [dBm/MHz] | [dB]  | [dB]   |
| 5180             | 2.87        | 0.00                  | -23.60      | 3.50       | 9.87        | 2.17             | -7.36      | -5.19     | -23.16    | 3.51   | 9.93    | 2.59       | -6.85     | -4.26 |        |
| 5220             | 2.87        | 0.00                  | -23.04      | 3.51       | 9.87        | 2.17             | -6.79      | -4.62     | -23.59    | 3.52   | 9.93    | 2.59       | -7.27     | -4.68 |        |
| 5240             | 2.87        | 0.00                  | -22.63      | 3.51       | 9.88        | 2.17             | -6.37      | -4.20     | -22.70    | 3.52   | 9.93    | 2.59       | -6.38     | -3.79 |        |
| 5745             | 2.87        | 6.99                  | -29.81      | 3.60       | 9.89        | 2.37             | -6.46      | -4.09     | -28.99    | 3.61   | 9.93    | 2.64       | -5.59     | -2.95 |        |
| 5785             | 2.87        | 6.99                  | -31.43      | 3.61       | 9.89        | 2.37             | -8.07      | -5.70     | -30.85    | 3.62   | 9.93    | 2.64       | -7.44     | -4.80 |        |
| 5825             | 2.87        | 6.99                  | -31.94      | 3.62       | 9.89        | 2.37             | -8.57      | -6.20     | -32.01    | 3.62   | 9.93    | 2.64       | -8.60     | -5.96 |        |

\*1) Antenna Gain applied the highest gain of the two models.

Sample Calculation:

PSD: Power Spectral Density

The PSD within 5725 MHz to 5825 MHz are based on any 500 kHz band.

RBW Correction Factor =  $10 \cdot \log(\text{Specified bandwidth} / \text{Measured bandwidth})$

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

PSD Result (e.i.r.p.) = Conducted PSD Result + Antenna Gain

## Maximum Power Spectral Density

Report No. 13408107S-C  
Test place Shonan EMC Lab. No.5 Shielded Room  
Date August 4, 2020 August 6, 2020 August 17, 2020  
Temperature / Humidity 23 deg. C / 43 % RH 23 deg. C / 61 % RH 24 deg. C / 54 % RH  
Engineer Hiromasa Sato Shiro Kobayashi Shiro Kobayashi  
Mode Tx 11ac-20 SISO

### 11ac-20 SISO, RF0

Applied limit: 15.407, mobile and portable client device

| Tested Frequency<br>[MHz] | PSD Reading<br>[dBm /MHz] | Cable Loss<br>[dB] | Atten. Loss<br>[dB] | Duty Factor<br>[dB] | Antenna Gain<br>*1)<br>[dBi] | RBW Correction Factor<br>[dB] | PSD (Conducted)      |                     |                | PSD (e.i.r.p.)       |                     |                |
|---------------------------|---------------------------|--------------------|---------------------|---------------------|------------------------------|-------------------------------|----------------------|---------------------|----------------|----------------------|---------------------|----------------|
|                           |                           |                    |                     |                     |                              |                               | Result<br>[dBm /MHz] | Limit<br>[dBm /MHz] | Margin<br>[dB] | Result<br>[dBm /MHz] | Limit<br>[dBm /MHz] | Margin<br>[dB] |
| 5180                      | -22.78                    | 3.50               | 9.87                | 2.19                | 2.17                         | 0.00                          | -7.22                | 11.00               | 18.22          | -5.05                | 17.00               | 22.05          |
| 5220                      | -22.22                    | 3.51               | 9.87                | 2.19                | 2.17                         | 0.00                          | -6.66                | 11.00               | 17.66          | -4.49                | 17.00               | 21.49          |
| 5240                      | -22.26                    | 3.51               | 9.88                | 2.19                | 2.17                         | 0.00                          | -6.68                | 11.00               | 17.68          | -4.51                | 17.00               | 21.51          |
| 5745                      | -31.08                    | 3.60               | 9.89                | 2.19                | 2.37                         | 6.99                          | -8.41                | 30.00               | 38.41          | -6.04                | 36.00               | 42.04          |
| 5785                      | -31.54                    | 3.61               | 9.89                | 2.19                | 2.37                         | 6.99                          | -8.86                | 30.00               | 38.86          | -6.49                | 36.00               | 42.49          |
| 5825                      | -32.48                    | 3.61               | 9.89                | 2.19                | 2.37                         | 6.99                          | -9.80                | 30.00               | 39.80          | -7.43                | 36.00               | 43.43          |

\*1) Antenna Gain applied the higher of the two models.

#### Sample Calculation:

PSD: Power Spectral Density

The PSD within 5725 MHz to 5825 MHz are based on any 500 kHz band.

RBW Correction Factor =  $10 \cdot \log(\text{Specified bandwidth} / \text{Measured bandwidth})$

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

PSD Result (e.i.r.p.) = Conducted PSD Result + Antenna Gain

### 11ac-20 SISO, RF1

Applied limit: 15.407, mobile and portable client device

| Tested Frequency<br>[MHz] | PSD Reading<br>[dBm /MHz] | Cable Loss<br>[dB] | Atten. Loss<br>[dB] | Duty Factor<br>[dB] | Antenna Gain<br>*1)<br>[dBi] | RBW Correction Factor<br>[dB] | PSD (Conducted)      |                     |                | PSD (e.i.r.p.)       |                     |                |
|---------------------------|---------------------------|--------------------|---------------------|---------------------|------------------------------|-------------------------------|----------------------|---------------------|----------------|----------------------|---------------------|----------------|
|                           |                           |                    |                     |                     |                              |                               | Result<br>[dBm /MHz] | Limit<br>[dBm /MHz] | Margin<br>[dB] | Result<br>[dBm /MHz] | Limit<br>[dBm /MHz] | Margin<br>[dB] |
| 5180                      | -22.79                    | 3.51               | 9.93                | 2.19                | 2.59                         | 0.00                          | -7.16                | 11.00               | 18.16          | -4.57                | 17.00               | 21.57          |
| 5220                      | -22.69                    | 3.52               | 9.93                | 2.19                | 2.59                         | 0.00                          | -7.06                | 11.00               | 18.06          | -4.47                | 17.00               | 21.47          |
| 5240                      | -22.80                    | 3.52               | 9.93                | 2.19                | 2.59                         | 0.00                          | -7.16                | 11.00               | 18.16          | -4.57                | 17.00               | 21.57          |
| 5745                      | -28.74                    | 3.61               | 9.93                | 2.19                | 2.64                         | 6.99                          | -6.02                | 30.00               | 36.02          | -3.38                | 36.00               | 39.38          |
| 5785                      | -30.70                    | 3.62               | 9.93                | 2.19                | 2.64                         | 6.99                          | -7.97                | 30.00               | 37.97          | -5.33                | 36.00               | 41.33          |
| 5825                      | -31.91                    | 3.62               | 9.93                | 2.19                | 2.64                         | 6.99                          | -9.18                | 30.00               | 39.18          | -6.54                | 36.00               | 42.54          |

\*1) Antenna Gain applied the higher of the two models.

#### Sample Calculation:

PSD: Power Spectral Density

The PSD within 5725 MHz to 5825 MHz are based on any 500 kHz band.

RBW Correction Factor =  $10 \cdot \log(\text{Specified bandwidth} / \text{Measured bandwidth})$

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

PSD Result (e.i.r.p.) = Conducted PSD Result + Antenna Gain

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**Shonan EMC Lab.**

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## Maximum Power Spectral Density

Report No. 13408107S-C  
Test place Shonan EMC Lab. No.5 Shielded Room  
Date August 4, 2020 August 6, 2020 August 17, 2020  
Temperature / Humidity 23 deg. C / 43 % RH 23 deg. C / 61 % RH 24 deg. C / 54 % RH  
Engineer Hiromasa Sato Shiro Kobayashi Shiro Kobayashi  
Mode Tx 11ac-20 CDD

### RF0 + RF1

Applied limit: 15.407, mobile and portable client device

| Tested Frequency<br>[MHz] | PSD (Conducted) |          |          |           |           |        | PSD (e.i.r.p.) |          |          |           |           |        |
|---------------------------|-----------------|----------|----------|-----------|-----------|--------|----------------|----------|----------|-----------|-----------|--------|
|                           | Antenna         |          |          | Result    | Limit     | Margin | Antenna        |          |          | Result    | Limit     | Margin |
|                           | RF0             | RF1      | Sum      |           |           |        | RF0            | RF1      | Sum      |           |           |        |
|                           | [mW/MHz]        | [mW/MHz] | [mW/MHz] | [dBm/MHz] | [dBm/MHz] | [dB]   | [mW/MHz]       | [mW/MHz] | [mW/MHz] | [dBm/MHz] | [dBm/MHz] | [dB]   |
| 5180                      | 0.16            | 0.20     | 0.36     | -4.43     | 11.00     | 15.43  | 0.59           | 0.72     | 1.31     | 1.18      | 17.00     | 15.82  |
| 5220                      | 0.21            | 0.18     | 0.39     | -4.14     | 11.00     | 15.14  | 0.77           | 0.64     | 1.40     | 1.47      | 17.00     | 15.53  |
| 5240                      | 0.23            | 0.17     | 0.40     | -4.00     | 11.00     | 15.00  | 0.82           | 0.62     | 1.45     | 1.61      | 17.00     | 15.39  |
| 5745                      | 0.14            | 0.21     | 0.35     | -4.59     | 30.00     | 34.59  | 0.51           | 0.77     | 1.28     | 1.07      | 36.00     | 34.93  |
| 5785                      | 0.13            | 0.19     | 0.33     | -4.86     | 30.00     | 34.86  | 0.49           | 0.71     | 1.20     | 0.80      | 36.00     | 35.20  |
| 5825                      | 0.14            | 0.10     | 0.24     | -6.26     | 30.00     | 36.26  | 0.50           | 0.37     | 0.87     | -0.60     | 36.00     | 36.60  |

| RF0              |             |                       |             |            |             |                  | RF1              |                     |             |            |             |                  |                  |                     |
|------------------|-------------|-----------------------|-------------|------------|-------------|------------------|------------------|---------------------|-------------|------------|-------------|------------------|------------------|---------------------|
| Tested Frequency | Duty Factor | RBW Correction Factor | PSD Reading | Cable Loss | Atten. Loss | Directional Gain | PSD Result Cond. | PSD Result e.i.r.p. | PSD Reading | Cable Loss | Atten. Loss | Directional Gain | PSD Result Cond. | PSD Result e.i.r.p. |
| [MHz]            | [dB]        | [dB]                  | [dBm/MHz]   | [dB]       | [dB]        | [dBi]            | [dBm/MHz]        | [dBm/MHz]           | [dBm/MHz]   | [dB]       | [dB]        | [dBi]            | [dBm/MHz]        | [dBm/MHz]           |
| 5180             | 2.20        | 0.00                  | -23.45      | 3.50       | 9.87        | 5.61             | -7.88            | -2.27               | -22.68      | 3.51       | 9.93        | 5.61             | -7.04            | -1.43               |
| 5220             | 2.20        | 0.00                  | -22.34      | 3.51       | 9.87        | 5.61             | -6.76            | -1.15               | -23.22      | 3.52       | 9.93        | 5.61             | -7.57            | -1.96               |
| 5240             | 2.20        | 0.00                  | -22.04      | 3.51       | 9.88        | 5.61             | -6.45            | -0.84               | -23.31      | 3.52       | 9.93        | 5.61             | -7.66            | -2.05               |
| 5745             | 2.20        | 6.99                  | -31.23      | 3.60       | 9.89        | 5.66             | -8.55            | -2.89               | -29.55      | 3.61       | 9.93        | 5.66             | -6.82            | -1.16               |
| 5785             | 2.20        | 6.99                  | -31.42      | 3.61       | 9.89        | 5.66             | -8.73            | -3.07               | -29.89      | 3.62       | 9.93        | 5.66             | -7.15            | -1.49               |
| 5825             | 2.20        | 6.99                  | -31.39      | 3.62       | 9.89        | 5.66             | -8.69            | -3.03               | -32.68      | 3.62       | 9.93        | 5.66             | -9.94            | -4.28               |

### Sample Calculation:

PSD: Power Spectral Density

The PSD within 5725 MHz to 5825 MHz are based on any 500 kHz band.

RBW Correction Factor =  $10 \cdot \log(\text{Specified bandwidth} / \text{Measured bandwidth})$

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

PSD Result (e.i.r.p.) = Conducted PSD Result + Directional Gain

Directional Gain =  $G_{\text{ANT}}(\text{Antenna Gain}^{*1}) + \text{Array Gain}$

\*1) Antenna Gain applied the highest gain of the two models.

Array Gain =  $10 \log(N_{\text{ANT}}/N_{\text{SS}})$  dB.

$N_{\text{ANT}}$  = number of transmit antennas = 2

$N_{\text{SS}}$  = number of spatial streams = 1

## Maximum Power Spectral Density

|                        |                                    |                     |
|------------------------|------------------------------------|---------------------|
| Report No.             | 13408107S-C                        |                     |
| Test place             | Shonan EMC Lab. No.5 Shielded Room |                     |
| Date                   | August 4, 2020                     | August 17, 2020     |
| Temperature / Humidity | 23 deg. C / 43 % RH                | 23 deg. C / 61 % RH |
| Engineer               | Hiromasa Sato                      | Shiro Kobayashi     |
| Mode                   | Tx 11ac-20 MIMO                    | Shiro Kobayashi     |

**RF0 + RF1** Applied limit: 15.407, mobile and portable client device

| Tested Frequency<br>[MHz] | PSD (Conducted) |          |          |           |           |        | PSD (e.i.r.p.) |          |          |           |           |        |
|---------------------------|-----------------|----------|----------|-----------|-----------|--------|----------------|----------|----------|-----------|-----------|--------|
|                           | Antenna         |          |          | Result    | Limit     | Margin | Antenna        |          |          | Result    | Limit     | Margin |
|                           | RF0             | RF1      | Sum      |           |           |        | RF0            | RF1      | Sum      |           |           |        |
|                           | [mW/MHz]        | [mW/MHz] | [mW/MHz] | [dBm/MHz] | [dBm/MHz] | [dB]   | [mW/MHz]       | [mW/MHz] | [mW/MHz] | [dBm/MHz] | [dBm/MHz] | [dB]   |
| 5180                      | 0.16            | 0.20     | 0.37     | -4.36     | 11.00     | 15.36  | 0.27           | 0.37     | 0.64     | -1.95     | 17.00     | 18.95  |
| 5220                      | 0.23            | 0.18     | 0.41     | -3.89     | 11.00     | 14.89  | 0.38           | 0.33     | 0.70     | -1.53     | 17.00     | 18.53  |
| 5240                      | 0.23            | 0.18     | 0.41     | -3.83     | 11.00     | 14.83  | 0.38           | 0.33     | 0.71     | -1.47     | 17.00     | 18.47  |
| 5745                      | 0.18            | 0.28     | 0.45     | -3.44     | 30.00     | 33.44  | 0.31           | 0.51     | 0.81     | -0.90     | 36.00     | 36.90  |
| 5785                      | 0.15            | 0.16     | 0.31     | -5.13     | 30.00     | 35.13  | 0.26           | 0.29     | 0.55     | -2.62     | 36.00     | 38.62  |
| 5825                      | 0.14            | 0.14     | 0.28     | -5.60     | 30.00     | 35.60  | 0.24           | 0.25     | 0.49     | -3.09     | 36.00     | 39.09  |

|                  |             |                       | RF0         |            |             |              |            |          | RF1         |            |             |              |            |          |
|------------------|-------------|-----------------------|-------------|------------|-------------|--------------|------------|----------|-------------|------------|-------------|--------------|------------|----------|
| Tested Frequency | Duty Factor | RBW Correction Factor | PSD Reading | Cable Loss | Atten. Loss | Antenna Gain | PSD Result |          | PSD Reading | Cable Loss | Atten. Loss | Antenna Gain | PSD Result |          |
| [MHz]            | [dB]        | [dB]                  | [dBm/MHz]   | [dB]       | [dB]        | [dBi]        | [dBm/MHz]  | e.i.r.p. | [dBm/MHz]   | [dB]       | [dB]        | [dBi]        | [dBm/MHz]  | e.i.r.p. |
| 5180             | 2.97        | 0.00                  | -24.22      | 3.50       | 9.87        | 2.17         | -7.88      | -5.71    | -23.33      | 3.51       | 9.93        | 2.59         | -6.92      | -4.33    |
| 5220             | 2.97        | 0.00                  | -22.76      | 3.51       | 9.87        | 2.17         | -6.41      | -4.24    | -23.87      | 3.52       | 9.93        | 2.59         | -7.45      | -4.86    |
| 5240             | 2.97        | 0.00                  | -22.75      | 3.51       | 9.88        | 2.17         | -6.39      | -4.22    | -23.77      | 3.52       | 9.93        | 2.59         | -7.35      | -4.76    |
| 5745             | 2.97        | 6.99                  | -30.98      | 3.60       | 9.89        | 2.37         | -7.53      | -5.16    | -29.08      | 3.61       | 9.93        | 2.64         | -5.58      | -2.94    |
| 5785             | 2.97        | 6.99                  | -31.71      | 3.61       | 9.89        | 2.37         | -8.25      | -5.88    | -31.56      | 3.62       | 9.93        | 2.64         | -8.05      | -5.41    |
| 5825             | 2.97        | 6.99                  | -32.08      | 3.62       | 9.89        | 2.37         | -8.61      | -6.24    | -32.11      | 3.62       | 9.93        | 2.64         | -8.60      | -5.96    |

\*1) Antenna Gain applied the highest gain of the two models.

Sample Calculation:

PSD: Power Spectral Density

The PSD within 5725 MHz to 5825 MHz are based on any 500 kHz band.

RBW Correction Factor =  $10 \cdot \log(\text{Specified bandwidth} / \text{Measured bandwidth})$

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

PSD Result (e.i.r.p.) = Conducted PSD Result + Antenna Gain

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## Maximum Power Spectral Density

|                        |                                    |                     |
|------------------------|------------------------------------|---------------------|
| Report No.             | 13408107S-C                        |                     |
| Test place             | Shonan EMC Lab. No.5 Shielded Room |                     |
| Date                   | August 4, 2020                     | August 17, 2020     |
| Temperature / Humidity | 23 deg. C / 43 % RH                | 23 deg. C / 61 % RH |
| Engineer               | Hiromasa Sato                      | Shiro Kobayashi     |
| Mode                   | Tx 11n-40 SISO                     | Shiro Kobayashi     |

### 11n-40 SISO, RF0

Applied limit: 15.407, mobile and portable client device

| Tested Frequency<br>[MHz] | PSD Reading<br>[dBm /MHz] | Cable Loss<br>[dB] | Atten. Loss<br>[dB] | Duty Factor<br>[dB] | Antenna Gain<br>*1)<br>[dBi] | RBW Correction Factor<br>[dB] | PSD (Conducted)      |                     |                | PSD (e.i.r.p.)       |                     |                |
|---------------------------|---------------------------|--------------------|---------------------|---------------------|------------------------------|-------------------------------|----------------------|---------------------|----------------|----------------------|---------------------|----------------|
|                           |                           |                    |                     |                     |                              |                               | Result<br>[dBm /MHz] | Limit<br>[dBm /MHz] | Margin<br>[dB] | Result<br>[dBm /MHz] | Limit<br>[dBm /MHz] | Margin<br>[dB] |
| 5190                      | -26.40                    | 3.50               | 9.87                | 2.93                | 2.17                         | 0.00                          | -10.10               | 11.00               | 21.10          | -7.93                | 17.00               | 24.93          |
| 5230                      | -25.92                    | 3.51               | 9.87                | 2.93                | 2.17                         | 0.00                          | -9.62                | 11.00               | 20.62          | -7.45                | 17.00               | 24.45          |
| 5755                      | -33.90                    | 3.61               | 9.89                | 2.93                | 2.37                         | 6.99                          | -10.48               | 30.00               | 40.48          | -8.11                | 36.00               | 44.11          |
| 5795                      | -34.21                    | 3.61               | 9.89                | 2.93                | 2.37                         | 6.99                          | -10.79               | 30.00               | 40.79          | -8.42                | 36.00               | 44.42          |

\*1) Antenna Gain applied the higher of the two models.

#### Sample Calculation:

PSD: Power Spectral Density

The PSD within 5725 MHz to 5825 MHz are based on any 500 kHz band.

RBW Correction Factor =  $10 \cdot \log(\text{Specified bandwidth} / \text{Measured bandwidth})$

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

PSD Result (e.i.r.p.) = Conducted PSD Result + Antenna Gain

### 11n-40 SISO, RF1

Applied limit: 15.407, mobile and portable client device

| Tested Frequency<br>[MHz] | PSD Reading<br>[dBm /MHz] | Cable Loss<br>[dB] | Atten. Loss<br>[dB] | Duty Factor<br>[dB] | Antenna Gain<br>*1)<br>[dBi] | RBW Correction Factor<br>[dB] | PSD (Conducted)      |                     |                | PSD (e.i.r.p.)       |                     |                |
|---------------------------|---------------------------|--------------------|---------------------|---------------------|------------------------------|-------------------------------|----------------------|---------------------|----------------|----------------------|---------------------|----------------|
|                           |                           |                    |                     |                     |                              |                               | Result<br>[dBm /MHz] | Limit<br>[dBm /MHz] | Margin<br>[dB] | Result<br>[dBm /MHz] | Limit<br>[dBm /MHz] | Margin<br>[dB] |
| 5190                      | -25.83                    | 3.51               | 9.93                | 2.93                | 2.59                         | 0.00                          | -9.46                | 11.00               | 20.46          | -6.87                | 17.00               | 23.87          |
| 5230                      | -25.90                    | 3.52               | 9.93                | 2.93                | 2.59                         | 0.00                          | -9.52                | 11.00               | 20.52          | -6.93                | 17.00               | 23.93          |
| 5755                      | -31.89                    | 3.61               | 9.93                | 2.93                | 2.64                         | 6.99                          | -8.43                | 30.00               | 38.43          | -5.79                | 36.00               | 41.79          |
| 5795                      | -33.85                    | 3.62               | 9.93                | 2.93                | 2.64                         | 6.99                          | -10.38               | 30.00               | 40.38          | -7.74                | 36.00               | 43.74          |

\*1) Antenna Gain applied the higher of the two models.

#### Sample Calculation:

PSD: Power Spectral Density

The PSD within 5725 MHz to 5825 MHz are based on any 500 kHz band.

RBW Correction Factor =  $10 \cdot \log(\text{Specified bandwidth} / \text{Measured bandwidth})$

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

PSD Result (e.i.r.p.) = Conducted PSD Result + Antenna Gain

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## Maximum Power Spectral Density

|                        |                                    |                     |
|------------------------|------------------------------------|---------------------|
| Report No.             | 13408107S-C                        |                     |
| Test place             | Shonan EMC Lab. No.5 Shielded Room |                     |
| Date                   | August 4, 2020                     | August 6, 2020      |
| Temperature / Humidity | 23 deg. C / 43 % RH                | 23 deg. C / 61 % RH |
| Engineer               | Hiromasa Sato                      | Shiro Kobayashi     |
| Mode                   | Tx 11n-40 CDD                      |                     |

**RF0 + RF1** Applied limit: 15.407, mobile and portable client device

| Tested Frequency<br>[MHz] | PSD (Conducted) |          |          |           |           |        | PSD (e.i.r.p.) |          |          |           |           |        |
|---------------------------|-----------------|----------|----------|-----------|-----------|--------|----------------|----------|----------|-----------|-----------|--------|
|                           | Antenna         |          |          | Result    | Limit     | Margin | Antenna        |          |          | Result    | Limit     | Margin |
|                           | RF0             | RF1      | Sum      |           |           |        | RF0            | RF1      | Sum      |           |           |        |
|                           | [mW/MHz]        | [mW/MHz] | [mW/MHz] | [dBm/MHz] | [dBm/MHz] | [dB]   | [mW/MHz]       | [mW/MHz] | [mW/MHz] | [dBm/MHz] | [dBm/MHz] | [dB]   |
| 5190                      | 0.09            | 0.10     | 0.19     | -7.14     | 11.00     | 18.14  | 0.32           | 0.38     | 0.70     | -1.53     | 17.00     | 18.53  |
| 5230                      | 0.10            | 0.09     | 0.19     | -7.22     | 11.00     | 18.22  | 0.36           | 0.33     | 0.69     | -1.61     | 17.00     | 18.61  |
| 5755                      | 0.09            | 0.15     | 0.24     | -6.29     | 30.00     | 36.29  | 0.33           | 0.54     | 0.87     | -0.63     | 36.00     | 36.63  |
| 5795                      | 0.08            | 0.09     | 0.17     | -7.76     | 30.00     | 37.76  | 0.29           | 0.33     | 0.62     | -2.10     | 36.00     | 38.10  |

|                  |             |                       | RF0         |            |             |                  |            |           | RF1         |            |             |                  |            |           |
|------------------|-------------|-----------------------|-------------|------------|-------------|------------------|------------|-----------|-------------|------------|-------------|------------------|------------|-----------|
| Tested Frequency | Duty Factor | RBW Correction Factor | PSD Reading | Cable Loss | Atten. Loss | Directional Gain | PSD Result |           | PSD Reading | Cable Loss | Atten. Loss | Directional Gain | PSD Result |           |
|                  |             |                       |             |            |             |                  | Cond.      | e.i.r.p.  |             |            |             |                  | Cond.      | e.i.r.p.  |
| [MHz]            | [dB]        | [dB]                  | [dBm/MHz]   | [dB]       | [dB]        | [dBi]            | [dBm/MHz]  | [dBm/MHz] | [dBm/MHz]   | [dB]       | [dB]        | [dBi]            | [dBm/MHz]  | [dBm/MHz] |
| 5190             | 2.95        | 0.00                  | -26.85      | 3.50       | 9.87        | 5.61             | -10.53     | -4.92     | -26.20      | 3.51       | 9.93        | 5.61             | -9.81      | -4.20     |
| 5230             | 2.95        | 0.00                  | -26.33      | 3.51       | 9.87        | 5.61             | -10.00     | -4.39     | -26.86      | 3.52       | 9.93        | 5.61             | -10.46     | -4.85     |
| 5755             | 2.95        | 6.99                  | -33.95      | 3.61       | 9.89        | 5.66             | -10.51     | -4.85     | -31.83      | 3.61       | 9.93        | 5.66             | -8.35      | -2.69     |
| 5795             | 2.95        | 6.99                  | -34.48      | 3.61       | 9.89        | 5.66             | -11.04     | -5.38     | -34.01      | 3.62       | 9.93        | 5.66             | -10.52     | -4.86     |

Sample Calculation:

PSD: Power Spectral Density

The PSD within 5725 MHz to 5825 MHz are based on any 500 kHz band.

RBW Correction Factor =  $10 \cdot \log(\text{Specified bandwidth} / \text{Measured bandwidth})$

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

PSD Result (e.i.r.p.) = Conducted PSD Result + Directional Gain

Directional Gain =  $G_{\text{ANT}}(\text{Antenna Gain}^{*1}) + \text{Array Gain}$

\*1) Antenna Gain applied the highest gain of the two models.

Array Gain =  $10 \log(N_{\text{ANT}}/N_{\text{SS}})$  dB.

$N_{\text{ANT}}$  = number of transmit antennas = 2

$N_{\text{SS}}$  = number of spatial streams = 1

## Maximum Power Spectral Density

|                        |                                    |                     |
|------------------------|------------------------------------|---------------------|
| Report No.             | 13408107S-C                        |                     |
| Test place             | Shonan EMC Lab. No.5 Shielded Room |                     |
| Date                   | August 4, 2020                     | August 6, 2020      |
| Temperature / Humidity | 23 deg. C / 43 % RH                | 23 deg. C / 61 % RH |
| Engineer               | Hiromasa Sato                      | Shiro Kobayashi     |
| Mode                   | Tx 11n-40 MIMO                     | Shiro Kobayashi     |

**RF0 + RF1** Applied limit: 15.407, mobile and portable client device

| Tested Frequency<br>[MHz] | PSD (Conducted) |          |          |           |           |        | PSD (e.i.r.p.) |          |          |           |           |        |
|---------------------------|-----------------|----------|----------|-----------|-----------|--------|----------------|----------|----------|-----------|-----------|--------|
|                           | Antenna         |          |          | Result    | Limit     | Margin | Antenna        |          |          | Result    | Limit     | Margin |
|                           | RF0             | RF1      | Sum      |           |           |        | RF0            | RF1      | Sum      |           |           |        |
|                           | [mW/MHz]        | [mW/MHz] | [mW/MHz] | [dBm/MHz] | [dBm/MHz] | [dB]   | [mW/MHz]       | [mW/MHz] | [mW/MHz] | [dBm/MHz] | [dBm/MHz] | [dB]   |
| 5190                      | 0.09            | 0.11     | 0.20     | -7.01     | 11.00     | 18.01  | 0.14           | 0.20     | 0.35     | -4.60     | 17.00     | 21.60  |
| 5230                      | 0.11            | 0.10     | 0.21     | -6.78     | 11.00     | 17.78  | 0.18           | 0.18     | 0.36     | -4.40     | 17.00     | 21.40  |
| 5755                      | 0.09            | 0.14     | 0.23     | -6.41     | 30.00     | 36.41  | 0.15           | 0.26     | 0.41     | -3.87     | 36.00     | 39.87  |
| 5795                      | 0.08            | 0.12     | 0.21     | -6.86     | 30.00     | 36.86  | 0.14           | 0.23     | 0.37     | -4.33     | 36.00     | 40.33  |

|                  |             |                       | RF0         |            |             |              |            |           | RF1         |            |             |              |            |           |
|------------------|-------------|-----------------------|-------------|------------|-------------|--------------|------------|-----------|-------------|------------|-------------|--------------|------------|-----------|
| Tested Frequency | Duty Factor | RBW Correction Factor | PSD Reading | Cable Loss | Atten. Loss | Antenna Gain | PSD Result |           | PSD Reading | Cable Loss | Atten. Loss | Antenna Gain | PSD Result |           |
|                  |             |                       |             |            |             |              | Cond.      | e.i.r.p.  |             |            |             |              | Cond.      | e.i.r.p.  |
| [MHz]            | [dB]        | [dB]                  | [dBm/MHz]   | [dB]       | [dB]        | [dBi]        | [dBm/MHz]  | [dBm/MHz] | [dBm/MHz]   | [dB]       | [dB]        | [dBi]        | [dBm/MHz]  | [dBm/MHz] |
| 5190             | 3.67        | 0.00                  | -27.61      | 3.50       | 9.87        | 2.17         | -10.57     | -8.40     | -26.63      | 3.51       | 9.93        | 2.59         | -9.52      | -6.93     |
| 5230             | 3.67        | 0.00                  | -26.67      | 3.51       | 9.87        | 2.17         | -9.62      | -7.45     | -27.08      | 3.52       | 9.93        | 2.59         | -9.96      | -7.37     |
| 5755             | 3.67        | 6.99                  | -34.79      | 3.61       | 9.89        | 2.37         | -10.63     | -8.26     | -32.67      | 3.61       | 9.93        | 2.64         | -8.47      | -5.83     |
| 5795             | 3.67        | 6.99                  | -34.99      | 3.61       | 9.89        | 2.37         | -10.83     | -8.46     | -33.30      | 3.62       | 9.93        | 2.64         | -9.09      | -6.45     |

\*1) Antenna Gain applied the highest gain of the two models.

Sample Calculation:

PSD: Power Spectral Density

The PSD within 5725 MHz to 5825 MHz are based on any 500 kHz band.

RBW Correction Factor =  $10 * \log(\text{Specified bandwidth} / \text{Measured bandwidth})$

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

PSD Result (e.i.r.p.) = Conducted PSD Result + Antenna Gain

## Maximum Power Spectral Density

|                        |                                    |                     |                     |
|------------------------|------------------------------------|---------------------|---------------------|
| Report No.             | 13408107S-C                        |                     |                     |
| Test place             | Shonan EMC Lab. No.5 Shielded Room |                     |                     |
| Date                   | August 4, 2020                     | August 6, 2020      | August 17, 2020     |
| Temperature / Humidity | 23 deg. C / 43 % RH                | 23 deg. C / 61 % RH | 24 deg. C / 54 % RH |
| Engineer               | Hiromasa Sato                      | Shiro Kobayashi     | Shiro Kobayashi     |
| Mode                   | Tx 11ac-40 SISO                    |                     |                     |

### 11ac-40 SISO, RF0

Applied limit: 15.407, mobile and portable client device

| Tested Frequency<br>[MHz] | PSD Reading<br>[dBm]<br>/MHz] | Cable Loss<br>[dB] | Atten. Loss<br>[dB] | Duty Factor<br>[dB] | Antenna Gain<br>*1)<br>[dBi] | RBW Correction Factor<br>[dB] | PSD (Conducted)          |                         |                | PSD (e.i.r.p.)           |                         |                |
|---------------------------|-------------------------------|--------------------|---------------------|---------------------|------------------------------|-------------------------------|--------------------------|-------------------------|----------------|--------------------------|-------------------------|----------------|
|                           |                               |                    |                     |                     |                              |                               | Result<br>[dBm]<br>/MHz] | Limit<br>[dBm]<br>/MHz] | Margin<br>[dB] | Result<br>[dBm]<br>/MHz] | Limit<br>[dBm]<br>/MHz] | Margin<br>[dB] |
| 5190                      | -26.12                        | 3.50               | 9.87                | 2.76                | 2.17                         | 0.00                          | -9.99                    | 11.00                   | 20.99          | -7.82                    | 17.00                   | 24.82          |
| 5230                      | -25.73                        | 3.51               | 9.87                | 2.76                | 2.17                         | 0.00                          | -9.60                    | 11.00                   | 20.60          | -7.43                    | 17.00                   | 24.43          |
| 5755                      | -33.81                        | 3.61               | 9.89                | 2.76                | 2.37                         | 6.99                          | -10.56                   | 30.00                   | 40.56          | -8.19                    | 36.00                   | 44.19          |
| 5795                      | -34.95                        | 3.61               | 9.89                | 2.76                | 2.37                         | 6.99                          | -11.70                   | 30.00                   | 41.70          | -9.33                    | 36.00                   | 45.33          |

\*1) Antenna Gain applied the higher of the two models.

#### Sample Calculation:

PSD: Power Spectral Density

The PSD within 5725 MHz to 5825 MHz are based on any 500 kHz band.

RBW Correction Factor =  $10 \cdot \log(\text{Specified bandwidth} / \text{Measured bandwidth})$

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

PSD Result (e.i.r.p.) = Conducted PSD Result + Antenna Gain

### 11ac-40 SISO, RF1

Applied limit: 15.407, mobile and portable client device

| Tested Frequency<br>[MHz] | PSD Reading<br>[dBm]<br>/MHz] | Cable Loss<br>[dB] | Atten. Loss<br>[dB] | Duty Factor<br>[dB] | Antenna Gain<br>*1)<br>[dBi] | RBW Correction Factor<br>[dB] | PSD (Conducted)          |                         |                | PSD (e.i.r.p.)           |                         |                |
|---------------------------|-------------------------------|--------------------|---------------------|---------------------|------------------------------|-------------------------------|--------------------------|-------------------------|----------------|--------------------------|-------------------------|----------------|
|                           |                               |                    |                     |                     |                              |                               | Result<br>[dBm]<br>/MHz] | Limit<br>[dBm]<br>/MHz] | Margin<br>[dB] | Result<br>[dBm]<br>/MHz] | Limit<br>[dBm]<br>/MHz] | Margin<br>[dB] |
| 5190                      | -26.28                        | 3.51               | 9.93                | 2.76                | 2.59                         | 0.00                          | -10.08                   | 11.00                   | 21.08          | -7.49                    | 17.00                   | 24.49          |
| 5230                      | -26.70                        | 3.52               | 9.93                | 2.76                | 2.59                         | 0.00                          | -10.49                   | 11.00                   | 21.49          | -7.90                    | 17.00                   | 24.90          |
| 5755                      | -32.24                        | 3.61               | 9.93                | 2.76                | 2.64                         | 6.99                          | -8.95                    | 30.00                   | 38.95          | -6.31                    | 36.00                   | 42.31          |
| 5795                      | -33.72                        | 3.62               | 9.93                | 2.76                | 2.64                         | 6.99                          | -10.42                   | 30.00                   | 40.42          | -7.78                    | 36.00                   | 43.78          |

\*1) Antenna Gain applied the higher of the two models.

#### Sample Calculation:

PSD: Power Spectral Density

The PSD within 5725 MHz to 5825 MHz are based on any 500 kHz band.

RBW Correction Factor =  $10 \cdot \log(\text{Specified bandwidth} / \text{Measured bandwidth})$

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

PSD Result (e.i.r.p.) = Conducted PSD Result + Antenna Gain

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## Maximum Power Spectral Density

Report No. 13408107S-C  
Test place Shonan EMC Lab. No.5 Shielded Room  
Date August 4, 2020 August 6, 2020 August 17, 2020  
Temperature / Humidity 23 deg. C / 43 % RH 23 deg. C / 61 % RH 24 deg. C / 54 % RH  
Engineer Hiromasa Sato Shiro Kobayashi Shiro Kobayashi  
Mode Tx 11ac-40 CDD

**RF0 + RF1** Applied limit: 15.407, mobile and portable client device

| Tested Frequency<br>[MHz] | PSD (Conducted) |          |          |           |           |        | PSD (e.i.r.p.) |          |          |           |           |        |
|---------------------------|-----------------|----------|----------|-----------|-----------|--------|----------------|----------|----------|-----------|-----------|--------|
|                           | Antenna         |          |          | Result    | Limit     | Margin | Antenna        |          |          | Result    | Limit     | Margin |
|                           | RF0             | RF1      | Sum      |           |           |        | RF0            | RF1      | Sum      |           |           |        |
|                           | [mW/MHz]        | [mW/MHz] | [mW/MHz] | [dBm/MHz] | [dBm/MHz] | [dB]   | [mW/MHz]       | [mW/MHz] | [mW/MHz] | [dBm/MHz] | [dBm/MHz] | [dB]   |
| 5190                      | 0.09            | 0.13     | 0.22     | -6.61     | 11.00     | 17.61  | 0.34           | 0.46     | 0.79     | -1.00     | 17.00     | 18.00  |
| 5230                      | 0.10            | 0.10     | 0.20     | -6.96     | 11.00     | 17.96  | 0.36           | 0.37     | 0.73     | -1.35     | 17.00     | 18.35  |
| 5755                      | 0.09            | 0.12     | 0.21     | -6.87     | 30.00     | 36.87  | 0.32           | 0.44     | 0.76     | -1.21     | 36.00     | 37.21  |
| 5795                      | 0.08            | 0.08     | 0.16     | -7.94     | 30.00     | 37.94  | 0.28           | 0.31     | 0.59     | -2.28     | 36.00     | 38.28  |

| Tested Frequency<br>[MHz] | RF0         |                       |             |            |             |                  |            | RF1       |             |            |             |                  |            |           |
|---------------------------|-------------|-----------------------|-------------|------------|-------------|------------------|------------|-----------|-------------|------------|-------------|------------------|------------|-----------|
|                           | Duty Factor | RBW Correction Factor | PSD Reading | Cable Loss | Atten. Loss | Directional Gain | PSD Result |           | PSD Reading | Cable Loss | Atten. Loss | Directional Gain | PSD Result |           |
|                           |             |                       |             |            |             |                  | Cond.      | e.i.r.p.  |             |            |             |                  | Cond.      | e.i.r.p.  |
|                           | [dB]        | [dB]                  | [dBm/MHz]   | [dB]       | [dB]        | [dBi]            | [dBm/MHz]  | [dBm/MHz] | [dBm/MHz]   | [dB]       | [dB]        | [dBi]            | [dBm/MHz]  | [dBm/MHz] |
| 5190                      | 2.78        | 0.00                  | -26.47      | 3.50       | 9.87        | 5.61             | -10.32     | -4.71     | -25.24      | 3.51       | 9.93        | 5.61             | -9.02      | -3.41     |
| 5230                      | 2.78        | 0.00                  | -26.18      | 3.51       | 9.87        | 5.61             | -10.02     | -4.41     | -26.16      | 3.52       | 9.93        | 5.61             | -9.93      | -4.32     |
| 5755                      | 2.78        | 6.99                  | -33.93      | 3.61       | 9.89        | 5.66             | -10.66     | -5.00     | -32.53      | 3.61       | 9.93        | 5.66             | -9.22      | -3.56     |
| 5795                      | 2.78        | 6.99                  | -34.42      | 3.61       | 9.89        | 5.66             | -11.15     | -5.49     | -34.07      | 3.62       | 9.93        | 5.66             | -10.75     | -5.09     |

Sample Calculation:

PSD: Power Spectral Density

The PSD within 5725 MHz to 5825 MHz are based on any 500 kHz band.

RBW Correction Factor =  $10 \cdot \log(\text{Specified bandwidth} / \text{Measured bandwidth})$

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

PSD Result (e.i.r.p.) = Conducted PSD Result + Directional Gain

Directional Gain =  $G_{\text{ANT}}(\text{Antenna Gain}^{*1}) + \text{Array Gain}$

\*1) Antenna Gain applied the highest gain of the two models.

Array Gain =  $10 \log(N_{\text{ANT}}/N_{\text{SS}})$  dB.

$N_{\text{ANT}}$  = number of transmit antennas = 2

$N_{\text{SS}}$  = number of spatial streams = 1

## Maximum Power Spectral Density

|                        |                                    |                     |                     |
|------------------------|------------------------------------|---------------------|---------------------|
| Report No.             | 13408107S-C                        |                     |                     |
| Test place             | Shonan EMC Lab. No.5 Shielded Room |                     |                     |
| Date                   | August 4, 2020                     | August 6, 2020      | August 17, 2020     |
| Temperature / Humidity | 23 deg. C / 43 % RH                | 23 deg. C / 61 % RH | 24 deg. C / 54 % RH |
| Engineer               | Hiromasa Sato                      | Shiro Kobayashi     | Shiro Kobayashi     |
| Mode                   | Tx 11ac-40 MIMO                    |                     |                     |

**RF0 + RF1** Applied limit: 15.407, mobile and portable client device

| Tested Frequency<br>[MHz] | PSD (Conducted) |          |          |           |           |        | PSD (e.i.r.p.) |          |          |           |           |        |
|---------------------------|-----------------|----------|----------|-----------|-----------|--------|----------------|----------|----------|-----------|-----------|--------|
|                           | Antenna         |          |          | Result    | Limit     | Margin | Antenna        |          |          | Result    | Limit     | Margin |
|                           | RF0             | RF1      | Sum      |           |           |        | RF0            | RF1      | Sum      |           |           |        |
|                           | [mW/MHz]        | [mW/MHz] | [mW/MHz] | [dBm/MHz] | [dBm/MHz] | [dB]   | [mW/MHz]       | [mW/MHz] | [mW/MHz] | [dBm/MHz] | [dBm/MHz] | [dB]   |
| 5190                      | 0.10            | 0.11     | 0.21     | -6.87     | 11.00     | 17.87  | 0.16           | 0.20     | 0.36     | -4.47     | 17.00     | 21.47  |
| 5230                      | 0.09            | 0.09     | 0.18     | -7.38     | 11.00     | 18.38  | 0.15           | 0.16     | 0.32     | -4.99     | 17.00     | 21.99  |
| 5755                      | 0.08            | 0.18     | 0.26     | -5.79     | 30.00     | 35.79  | 0.14           | 0.33     | 0.48     | -3.23     | 36.00     | 39.23  |
| 5795                      | 0.07            | 0.12     | 0.19     | -7.13     | 30.00     | 37.13  | 0.13           | 0.22     | 0.35     | -4.59     | 36.00     | 40.59  |

| Tested Frequency<br>[MHz] | Duty Factor<br>[dB] | RBW Correction Factor<br>[dB] | RF0         |            |             |              |                  | RF1                 |             |            |             |              | PSD Result       |                     |
|---------------------------|---------------------|-------------------------------|-------------|------------|-------------|--------------|------------------|---------------------|-------------|------------|-------------|--------------|------------------|---------------------|
|                           |                     |                               | PSD Reading | Cable Loss | Atten. Loss | Antenna Gain | PSD Result Cond. | PSD Result e.i.r.p. | PSD Reading | Cable Loss | Atten. Loss | Antenna Gain | PSD Result Cond. | PSD Result e.i.r.p. |
|                           |                     |                               | [dBm/MHz]   | [dB]       | [dB]        | [dBi]        | [dBm/MHz]        | [dBm/MHz]           | [dBm/MHz]   | [dB]       | [dB]        | [dBi]        | [dBm/MHz]        | [dBm/MHz]           |
| 5190                      | 3.48                | 0.00                          | -27.07      | 3.50       | 9.87        | 2.17         | -10.22           | -8.05               | -26.48      | 3.51       | 9.93        | 2.59         | -9.56            | -6.97               |
| 5230                      | 3.48                | 0.00                          | -27.21      | 3.51       | 9.87        | 2.17         | -10.35           | -8.18               | -27.36      | 3.52       | 9.93        | 2.59         | -10.43           | -7.84               |
| 5755                      | 3.48                | 6.99                          | -34.83      | 3.61       | 9.89        | 2.37         | -10.86           | -8.49               | -31.41      | 3.61       | 9.93        | 2.64         | -7.40            | -4.76               |
| 5795                      | 3.48                | 6.99                          | -35.23      | 3.61       | 9.89        | 2.37         | -11.26           | -8.89               | -33.27      | 3.62       | 9.93        | 2.64         | -9.25            | -6.61               |

\*1) Antenna Gain applied the highest gain of the two models.

Sample Calculation:

PSD: Power Spectral Density

The PSD within 5725 MHz to 5825 MHz are based on any 500 kHz band.

RBW Correction Factor =  $10 \cdot \log(\text{Specified bandwidth} / \text{Measured bandwidth})$

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

PSD Result (e.i.r.p.) = Conducted PSD Result + Antenna Gain

## Maximum Power Spectral Density

|                        |                                    |                     |                     |
|------------------------|------------------------------------|---------------------|---------------------|
| Report No.             | 13408107S-C                        |                     |                     |
| Test place             | Shonan EMC Lab. No.5 Shielded Room |                     |                     |
| Date                   | August 4, 2020                     | August 6, 2020      | August 17, 2020     |
| Temperature / Humidity | 23 deg. C / 43 % RH                | 23 deg. C / 61 % RH | 24 deg. C / 54 % RH |
| Engineer               | Hiromasa Sato                      | Shiro Kobayashi     | Shiro Kobayashi     |
| Mode                   | Tx 11ac-80 SISO                    |                     |                     |

### 11ac-80 SISO, RF0

Applied limit: 15.407, mobile and portable client device

| Tested Frequency<br>[MHz] | PSD Reading<br>[dBm /MHz] | Cable Loss<br>[dB] | Atten. Loss<br>[dB] | Duty Factor<br>[dB] | Antenna Gain<br>*1)<br>[dBi] | RBW Correction Factor<br>[dB] | PSD (Conducted)      |                     |                | PSD (e.i.r.p.)       |                     |                |
|---------------------------|---------------------------|--------------------|---------------------|---------------------|------------------------------|-------------------------------|----------------------|---------------------|----------------|----------------------|---------------------|----------------|
|                           |                           |                    |                     |                     |                              |                               | Result<br>[dBm /MHz] | Limit<br>[dBm /MHz] | Margin<br>[dB] | Result<br>[dBm /MHz] | Limit<br>[dBm /MHz] | Margin<br>[dB] |
| 5210                      | -29.85                    | 3.51               | 9.87                | 3.65                | 2.17                         | 0.00                          | -12.82               | 11.00               | 23.82          | -10.65               | 17.00               | 27.65          |
| 5775                      | -38.20                    | 3.61               | 9.89                | 3.65                | 2.37                         | 6.99                          | -14.06               | 30.00               | 44.06          | -11.69               | 36.00               | 47.69          |

\*1) Antenna Gain applied the higher of the two models.

#### Sample Calculation:

PSD: Power Spectral Density

The PSD within 5725 MHz to 5825 MHz are based on any 500 kHz band.

RBW Correction Factor =  $10 \cdot \log(\text{Specified bandwidth} / \text{Measured bandwidth})$

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

PSD Result (e.i.r.p.) = Conducted PSD Result + Antenna Gain

### 11ac-80 SISO, RF1

Applied limit: 15.407, mobile and portable client device

| Tested Frequency<br>[MHz] | PSD Reading<br>[dBm /MHz] | Cable Loss<br>[dB] | Atten. Loss<br>[dB] | Duty Factor<br>[dB] | Antenna Gain<br>*1)<br>[dBi] | RBW Correction Factor<br>[dB] | PSD (Conducted)      |                     |                | PSD (e.i.r.p.)       |                     |                |
|---------------------------|---------------------------|--------------------|---------------------|---------------------|------------------------------|-------------------------------|----------------------|---------------------|----------------|----------------------|---------------------|----------------|
|                           |                           |                    |                     |                     |                              |                               | Result<br>[dBm /MHz] | Limit<br>[dBm /MHz] | Margin<br>[dB] | Result<br>[dBm /MHz] | Limit<br>[dBm /MHz] | Margin<br>[dB] |
| 5210                      | -30.21                    | 3.52               | 9.93                | 3.65                | 2.59                         | 0.00                          | -13.11               | 11.00               | 24.11          | -10.52               | 17.00               | 27.52          |
| 5775                      | -36.76                    | 3.62               | 9.93                | 3.65                | 2.64                         | 6.99                          | -12.57               | 30.00               | 42.57          | -9.93                | 36.00               | 45.93          |

\*1) Antenna Gain applied the higher of the two models.

#### Sample Calculation:

PSD: Power Spectral Density

The PSD within 5725 MHz to 5825 MHz are based on any 500 kHz band.

RBW Correction Factor =  $10 \cdot \log(\text{Specified bandwidth} / \text{Measured bandwidth})$

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

PSD Result (e.i.r.p.) = Conducted PSD Result + Antenna Gain

## Maximum Power Spectral Density

Report No. 13408107S-C  
Test place Shonan EMC Lab. No.5 Shielded Room  
Date August 4, 2020 August 6, 2020 August 17, 2020  
Temperature / Humidity 23 deg. C / 43 % RH 23 deg. C / 61 % RH 24 deg. C / 54 % RH  
Engineer Hiromasa Sato Shiro Kobayashi Shiro Kobayashi  
Mode Tx 11ac-80 CDD

**RF0 + RF1** Applied limit: 15.407, mobile and portable client device

| Tested Frequency<br>[MHz] | PSD (Conducted) |          |          |           |           |        | PSD (e.i.r.p.) |          |          |           |           |        |
|---------------------------|-----------------|----------|----------|-----------|-----------|--------|----------------|----------|----------|-----------|-----------|--------|
|                           | Antenna         |          |          | Result    | Limit     | Margin | Antenna        |          |          | Result    | Limit     | Margin |
|                           | RF0             | RF1      | Sum      |           |           |        | RF0            | RF1      | Sum      |           |           |        |
|                           | [mW/MHz]        | [mW/MHz] | [mW/MHz] | [dBm/MHz] | [dBm/MHz] | [dB]   | [mW/MHz]       | [mW/MHz] | [mW/MHz] | [dBm/MHz] | [dBm/MHz] | [dB]   |
| 5210                      | 0.05            | 0.05     | 0.10     | -10.21    | 11.00     | 21.21  | 0.18           | 0.17     | 0.35     | -4.60     | 17.00     | 21.60  |
| 5775                      | 0.04            | 0.05     | 0.09     | -10.27    | 30.00     | 40.27  | 0.14           | 0.20     | 0.35     | -4.62     | 36.00     | 40.62  |

|                  |             |                       | RF0         |            |             |                  |            |           | RF1         |            |             |                  |            |           |
|------------------|-------------|-----------------------|-------------|------------|-------------|------------------|------------|-----------|-------------|------------|-------------|------------------|------------|-----------|
| Tested Frequency | Duty Factor | RBW Correction Factor | PSD Reading | Cable Loss | Atten. Loss | Directional Gain | PSD Result |           | PSD Reading | Cable Loss | Atten. Loss | Directional Gain | PSD Result |           |
|                  |             |                       |             |            |             |                  | Cond.      | e.i.r.p.  |             |            |             |                  | Cond.      | e.i.r.p.  |
| [MHz]            | [dB]        | [dB]                  | [dBm/MHz]   | [dB]       | [dB]        | [dBi]            | [dBm/MHz]  | [dBm/MHz] | [dBm/MHz]   | [dB]       | [dB]        | [dBi]            | [dBm/MHz]  | [dBm/MHz] |
| 5210             | 3.66        | 0.00                  | -30.08      | 3.51       | 9.87        | 5.61             | -13.04     | -7.43     | -30.52      | 3.52       | 9.93        | 5.61             | -13.41     | -7.80     |
| 5775             | 3.66        | 6.99                  | -38.19      | 3.61       | 9.89        | 5.65             | -14.04     | -8.39     | -36.84      | 3.62       | 9.93        | 5.65             | -12.64     | -6.99     |

Sample Calculation:

PSD: Power Spectral Density

The PSD within 5725 MHz to 5825 MHz are based on any 500 kHz band.

RBW Correction Factor =  $10 \cdot \log(\text{Specified bandwidth} / \text{Measured bandwidth})$

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

PSD Result (e.i.r.p.) = Conducted PSD Result + Directional Gain

Directional Gain =  $G_{\text{ANT}}(\text{Antenna Gain}^{*1}) + \text{Array Gain}$

\*1) Antenna Gain applied the highest gain of the two models.

Array Gain =  $10 \log(N_{\text{ANT}}/N_{\text{SS}})$  dB.

$N_{\text{ANT}}$  = number of transmit antennas = 2

$N_{\text{SS}}$  = number of spatial streams = 1

## Maximum Power Spectral Density

|                        |                                    |                     |                     |
|------------------------|------------------------------------|---------------------|---------------------|
| Report No.             | 13408107S-C                        |                     |                     |
| Test place             | Shonan EMC Lab. No.5 Shielded Room |                     |                     |
| Date                   | August 4, 2020                     | August 6, 2020      | August 17, 2020     |
| Temperature / Humidity | 23 deg. C / 43 % RH                | 23 deg. C / 61 % RH | 24 deg. C / 54 % RH |
| Engineer               | Hiromasa Sato                      | Shiro Kobayashi     | Shiro Kobayashi     |
| Mode                   | Tx 11ac-80 MIMO                    |                     |                     |

**RF0 + RF1** Applied limit: 15.407, mobile and portable client device

| Tested Frequency<br>[MHz] | PSD (Conducted) |          |          |           |           |        | PSD (e.i.r.p.) |          |          |           |           |        |
|---------------------------|-----------------|----------|----------|-----------|-----------|--------|----------------|----------|----------|-----------|-----------|--------|
|                           | Antenna         |          |          | Result    | Limit     | Margin | Antenna        |          |          | Result    | Limit     | Margin |
|                           | RF0             | RF1      | Sum      |           |           |        | RF0            | RF1      | Sum      |           |           |        |
|                           | [mW/MHz]        | [mW/MHz] | [mW/MHz] | [dBm/MHz] | [dBm/MHz] | [dB]   | [mW/MHz]       | [mW/MHz] | [mW/MHz] | [dBm/MHz] | [dBm/MHz] | [dB]   |
| 5210                      | 0.05            | 0.05     | 0.10     | -10.11    | 11.00     | 21.11  | 0.08           | 0.08     | 0.17     | -7.73     | 17.00     | 24.73  |
| 5775                      | 0.05            | 0.09     | 0.14     | -8.44     | 30.00     | 38.44  | 0.09           | 0.17     | 0.26     | -5.90     | 36.00     | 41.90  |

| RF0              |             |                       |             |            |             |              |            | RF1         |            |             |              |            |             |            |             |
|------------------|-------------|-----------------------|-------------|------------|-------------|--------------|------------|-------------|------------|-------------|--------------|------------|-------------|------------|-------------|
| Tested Frequency | Duty Factor | RBW Correction Factor | PSD Reading | Cable Loss | Atten. Loss | Antenna Gain | PSD Result | PSD Reading | Cable Loss | Atten. Loss | Antenna Gain | PSD Result | PSD Reading | Cable Loss | Atten. Loss |
| [MHz]            | [dB]        | [dB]                  | [dBm/MHz]   | [dB]       | [dB]        | [dBi]        | [dBm/MHz]  | [dBm/MHz]   | [dB]       | [dB]        | [dBi]        | [dBm/MHz]  | [dBm/MHz]   | [dB]       | [dB]        |
| 5210             | 4.12        | 0.00                  | -30.44      | 3.51       | 9.87        | 2.17         | -12.94     | -10.77      | -30.87     | 3.52        | 9.93         | 2.59       | -13.30      | -10.71     | -7.71       |
| 5775             | 4.12        | 6.99                  | -37.55      | 3.61       | 9.89        | 2.37         | -12.94     | -10.57      | -35.01     | 3.62        | 9.93         | 2.64       | -10.35      | -10.71     | -7.71       |

\*1) Antenna Gain applied the highest gain of the two models.

Sample Calculation:

PSD: Power Spectral Density

The PSD within 5725 MHz to 5825 MHz are based on any 500 kHz band.

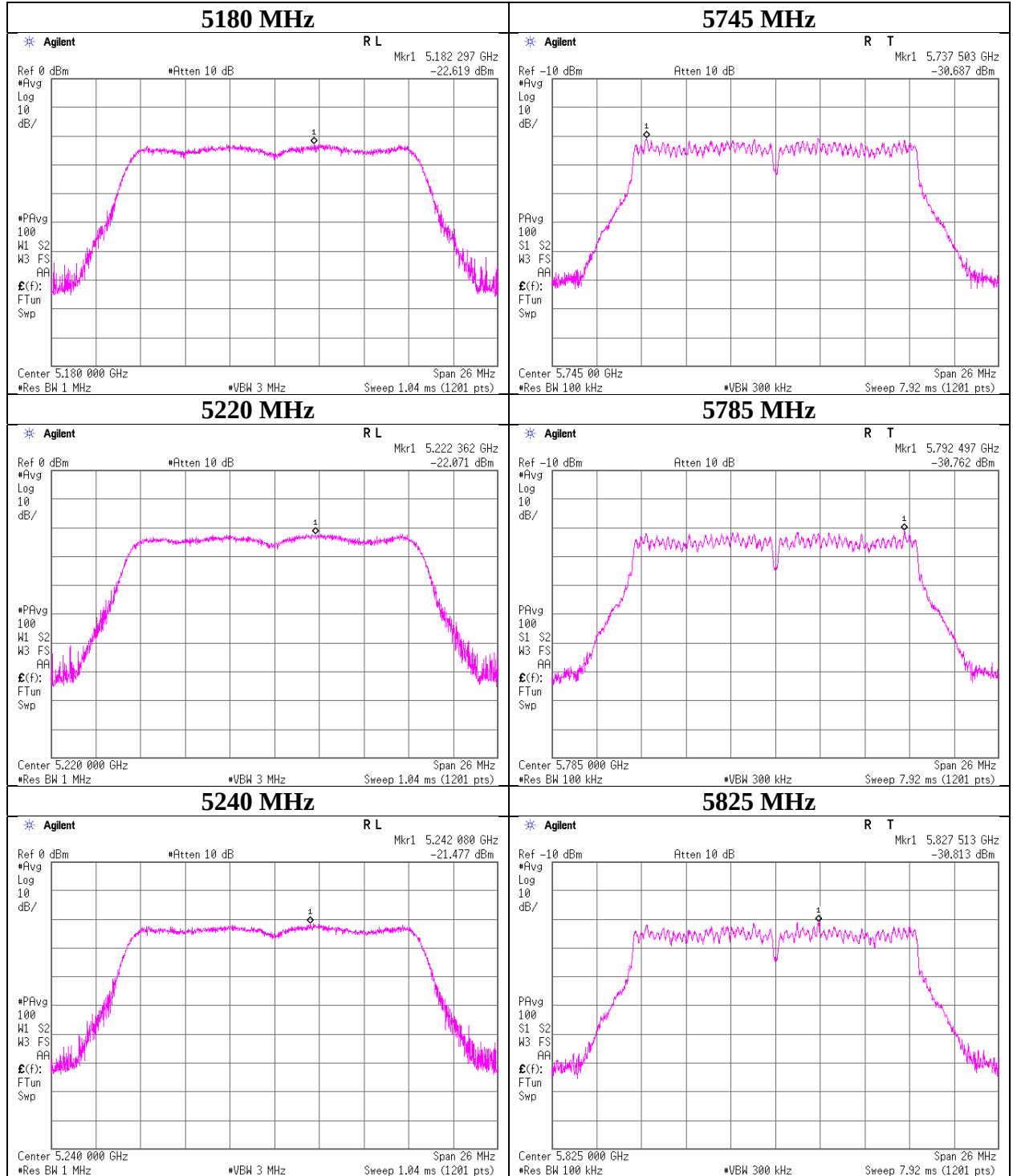
RBW Correction Factor =  $10 \cdot \log(\text{Specified bandwidth} / \text{Measured bandwidth})$

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

PSD Result (e.i.r.p.) = Conducted PSD Result + Antenna Gain

## Maximum Power Spectral Density

### 11a SISO, RF0



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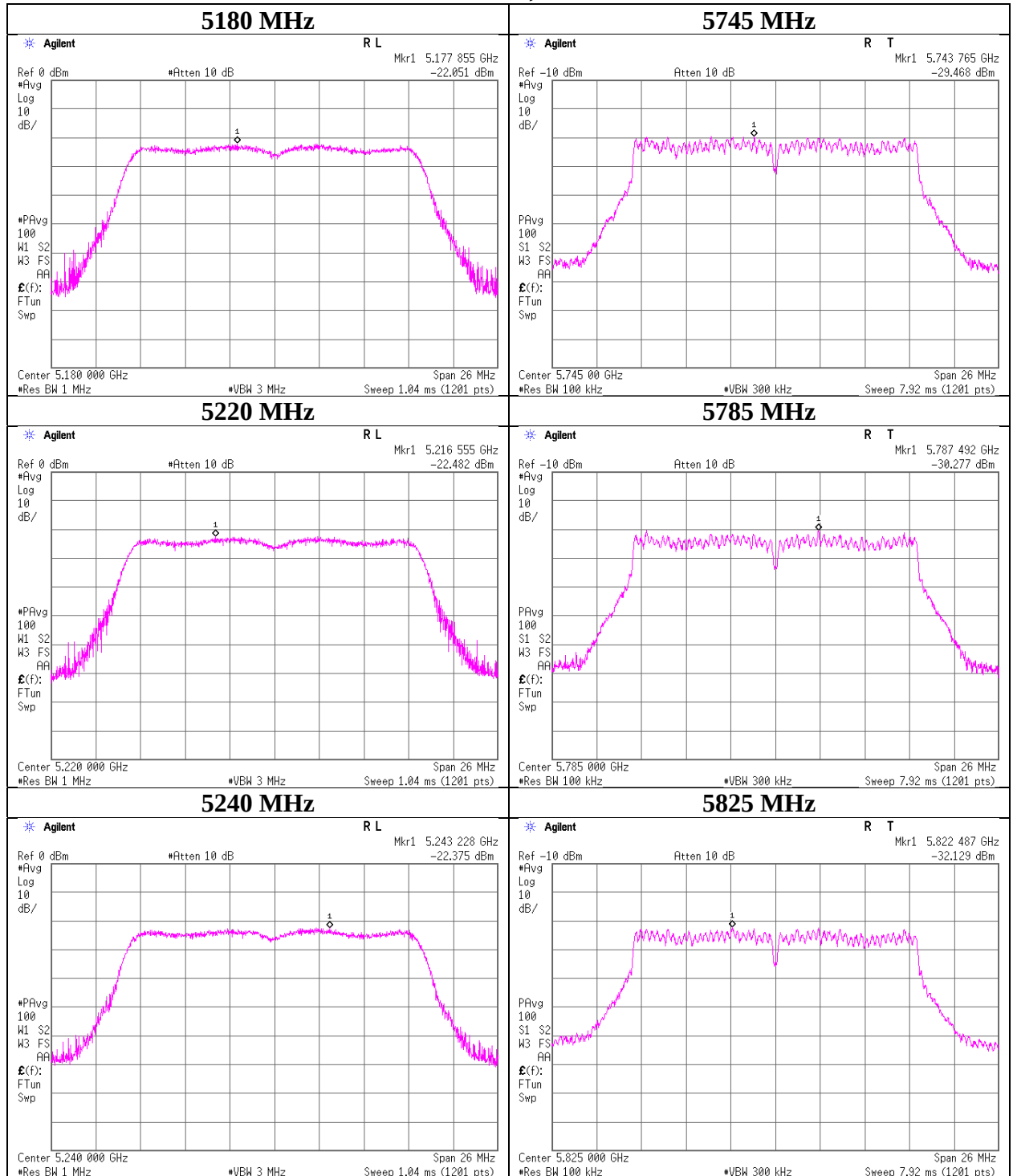
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

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## Maximum Power Spectral Density

### 11a SISO, RF1



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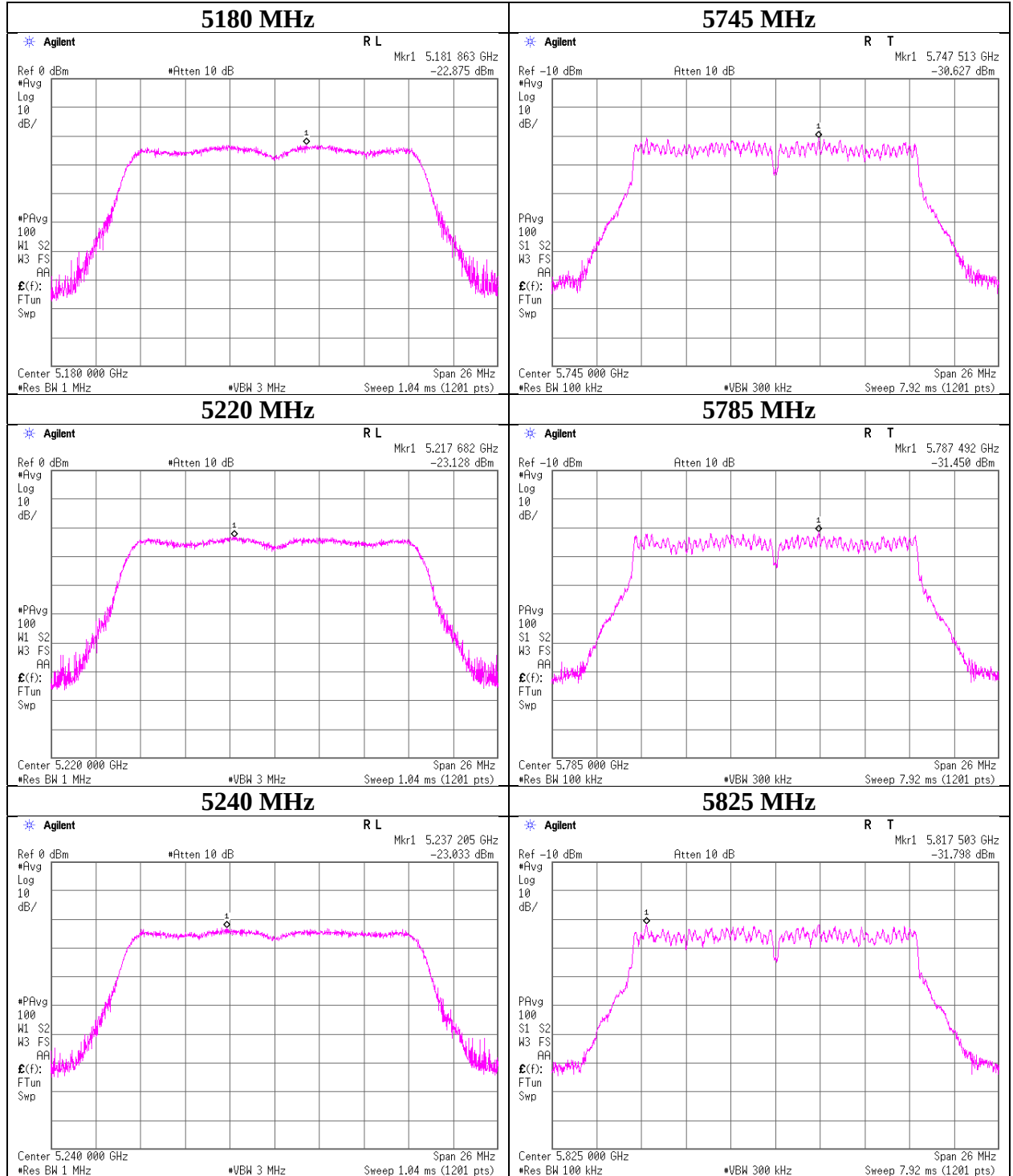
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## Maximum Power Spectral Density

### 11a CDD, RF0



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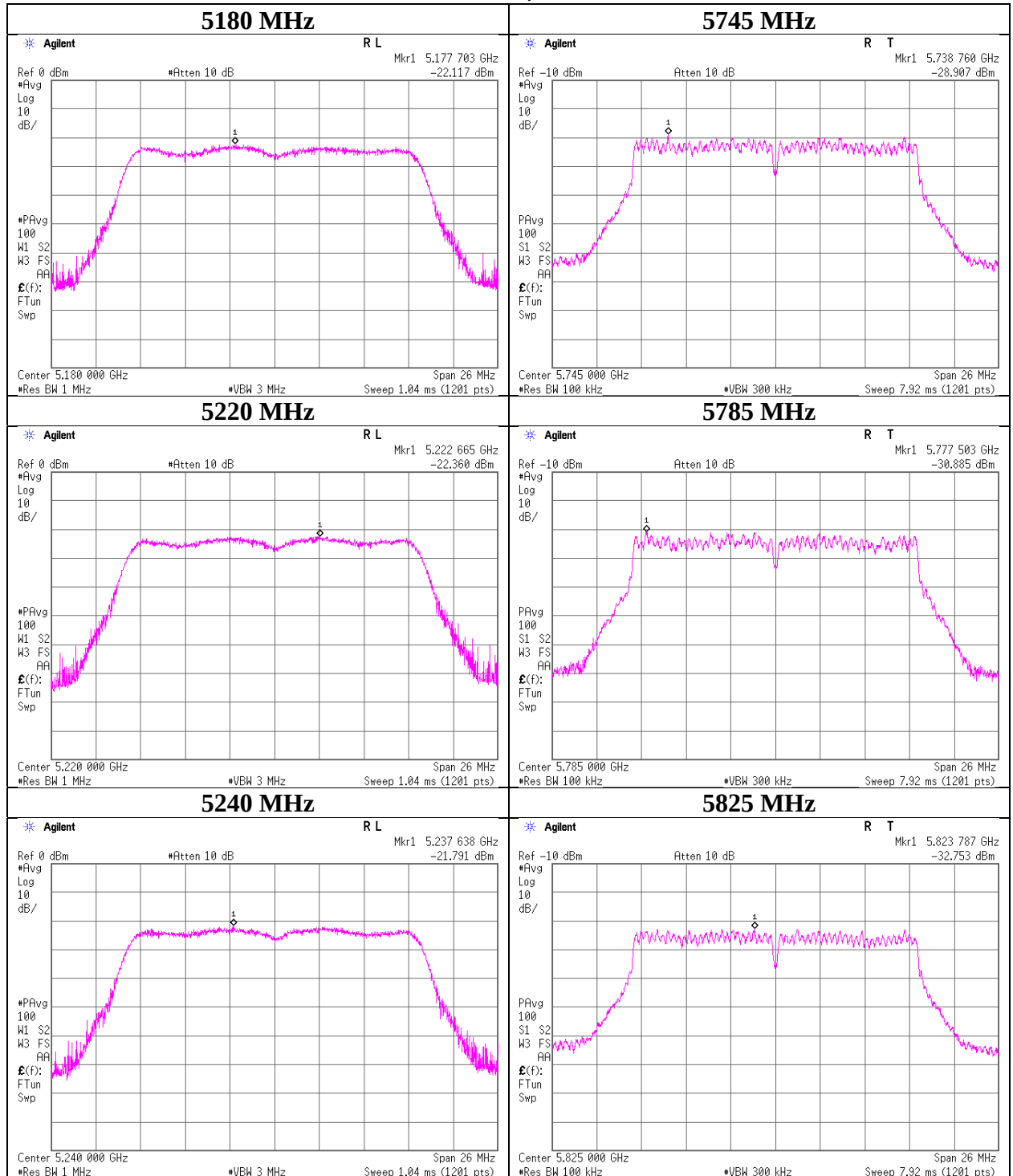
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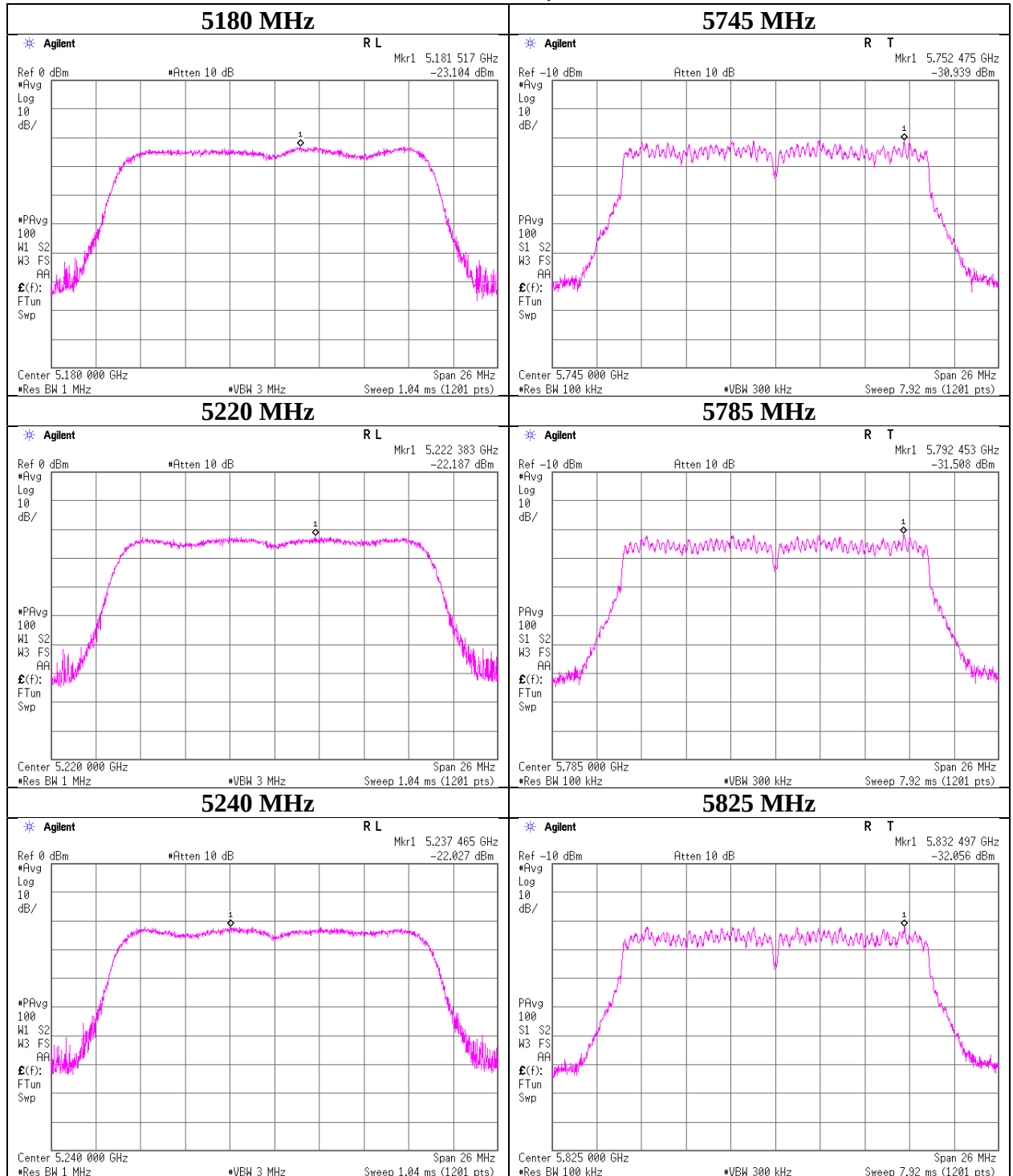
## Maximum Power Spectral Density

### 11a CDD, RF1



## Maximum Power Spectral Density

### 11n-20 SISO, RF0



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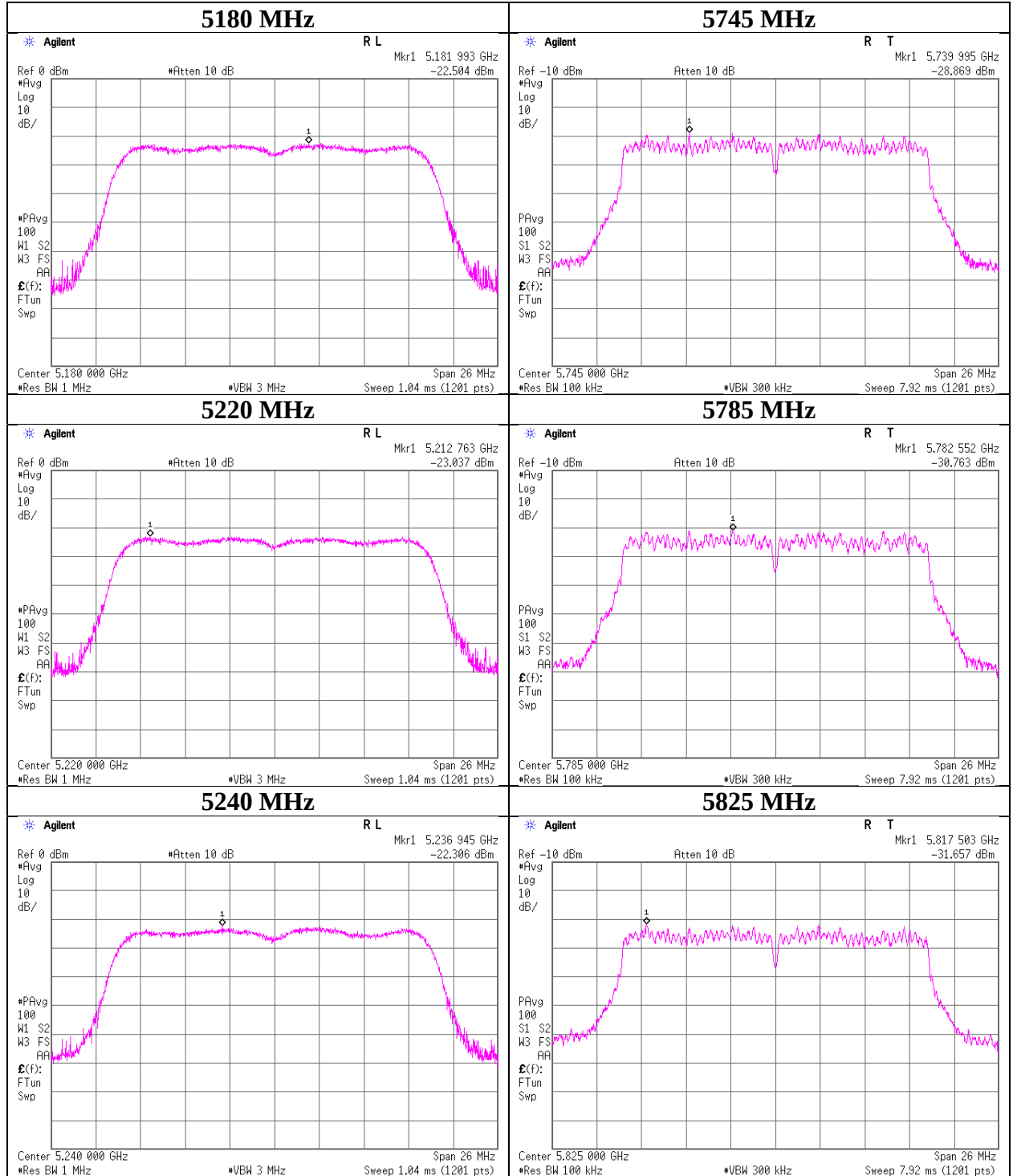
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## Maximum Power Spectral Density

### 11n-20 SISO, RF1



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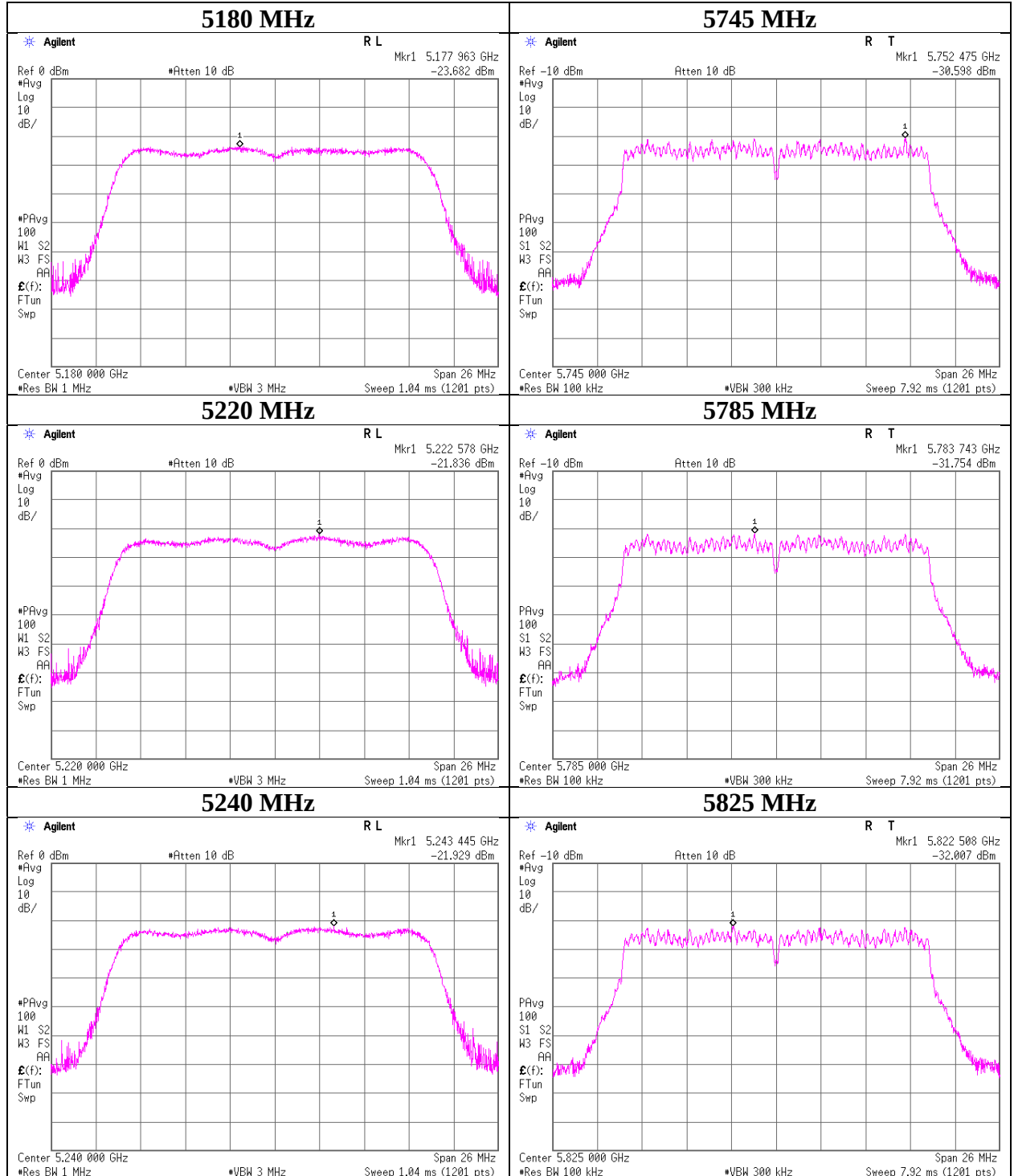
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## Maximum Power Spectral Density

### 11n-20 CDD, RF0



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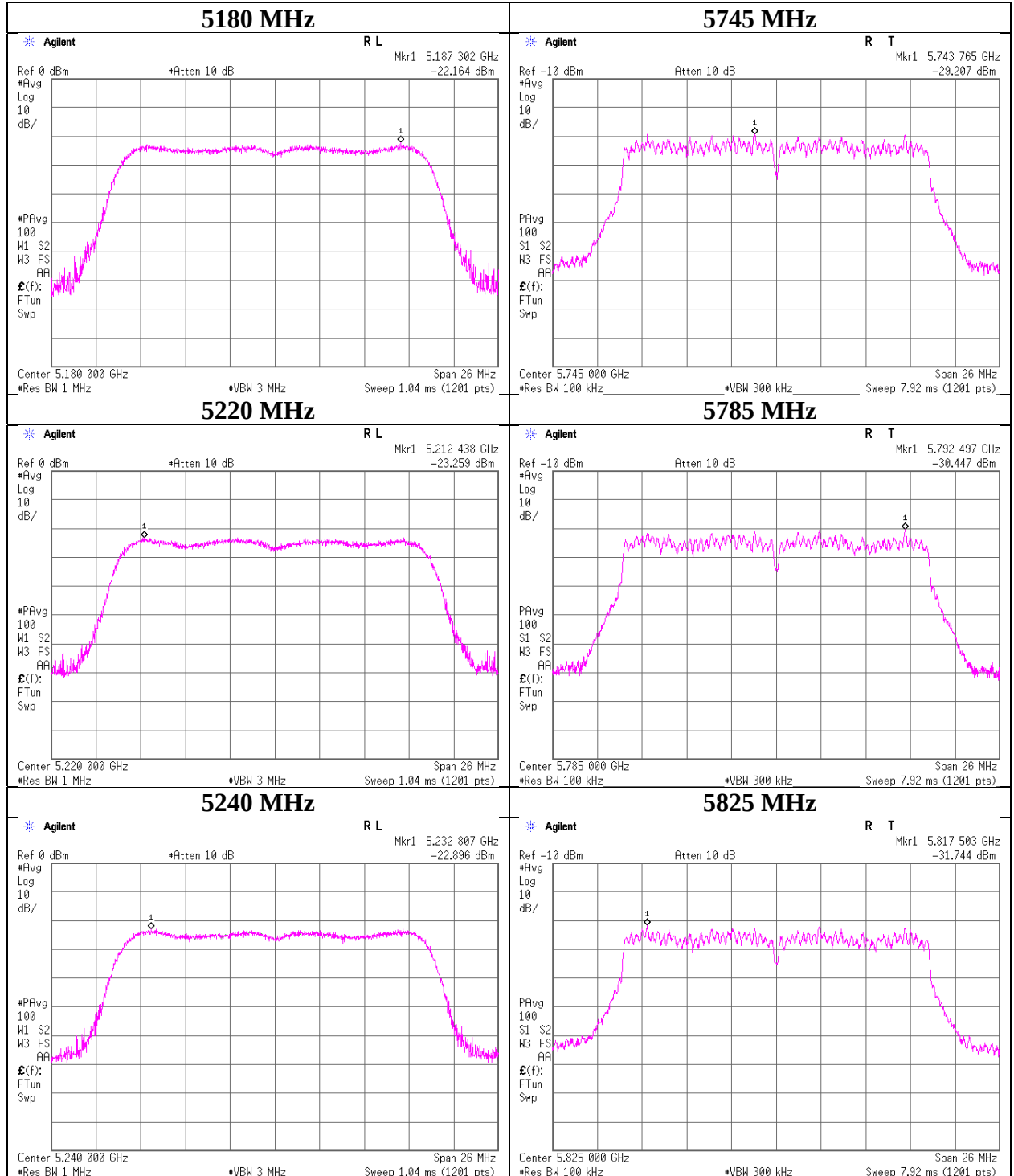
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## Maximum Power Spectral Density

### 11n-20 CDD, RF1



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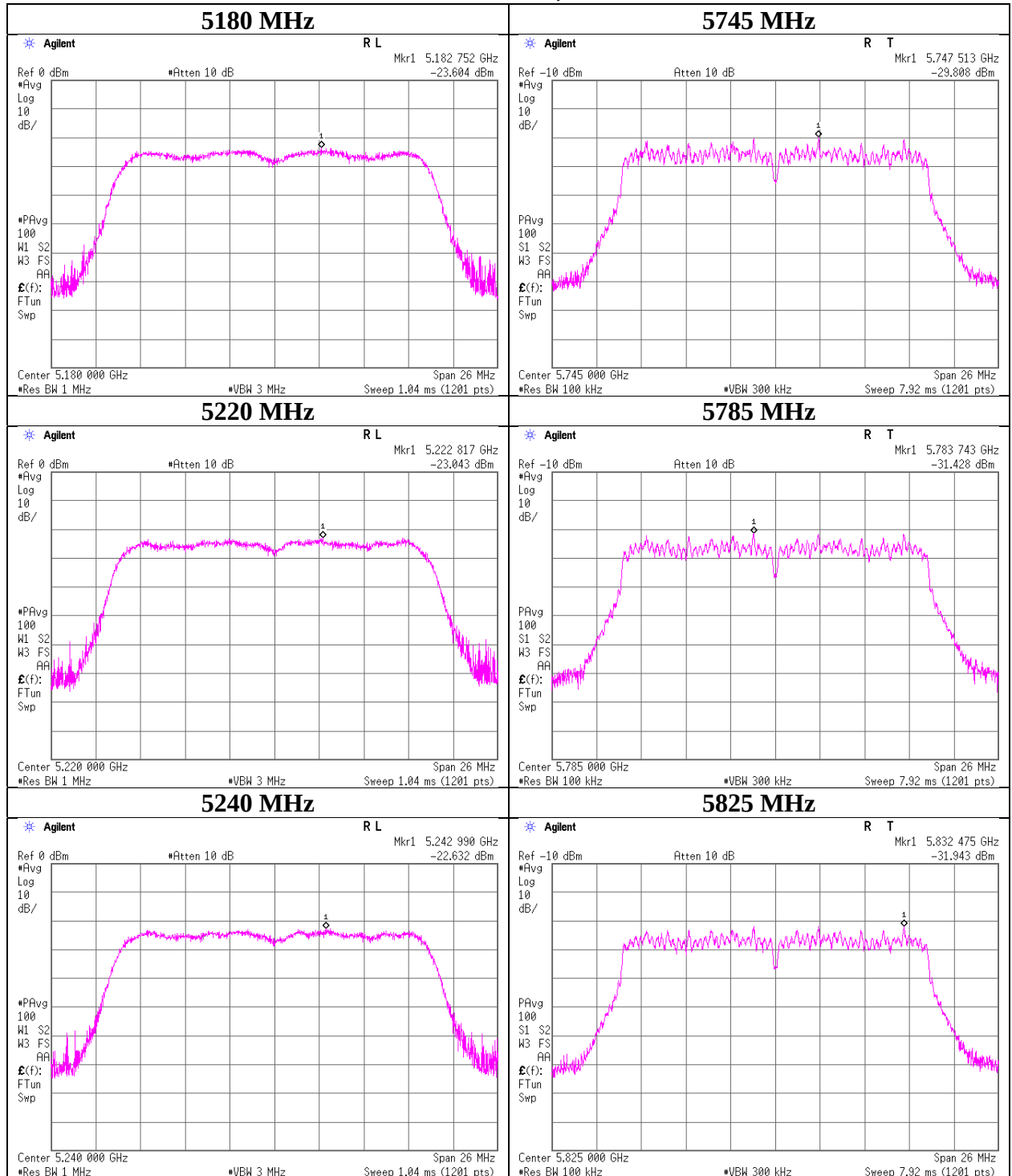
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## Maximum Power Spectral Density

### 11n-20 MIMO, RF0



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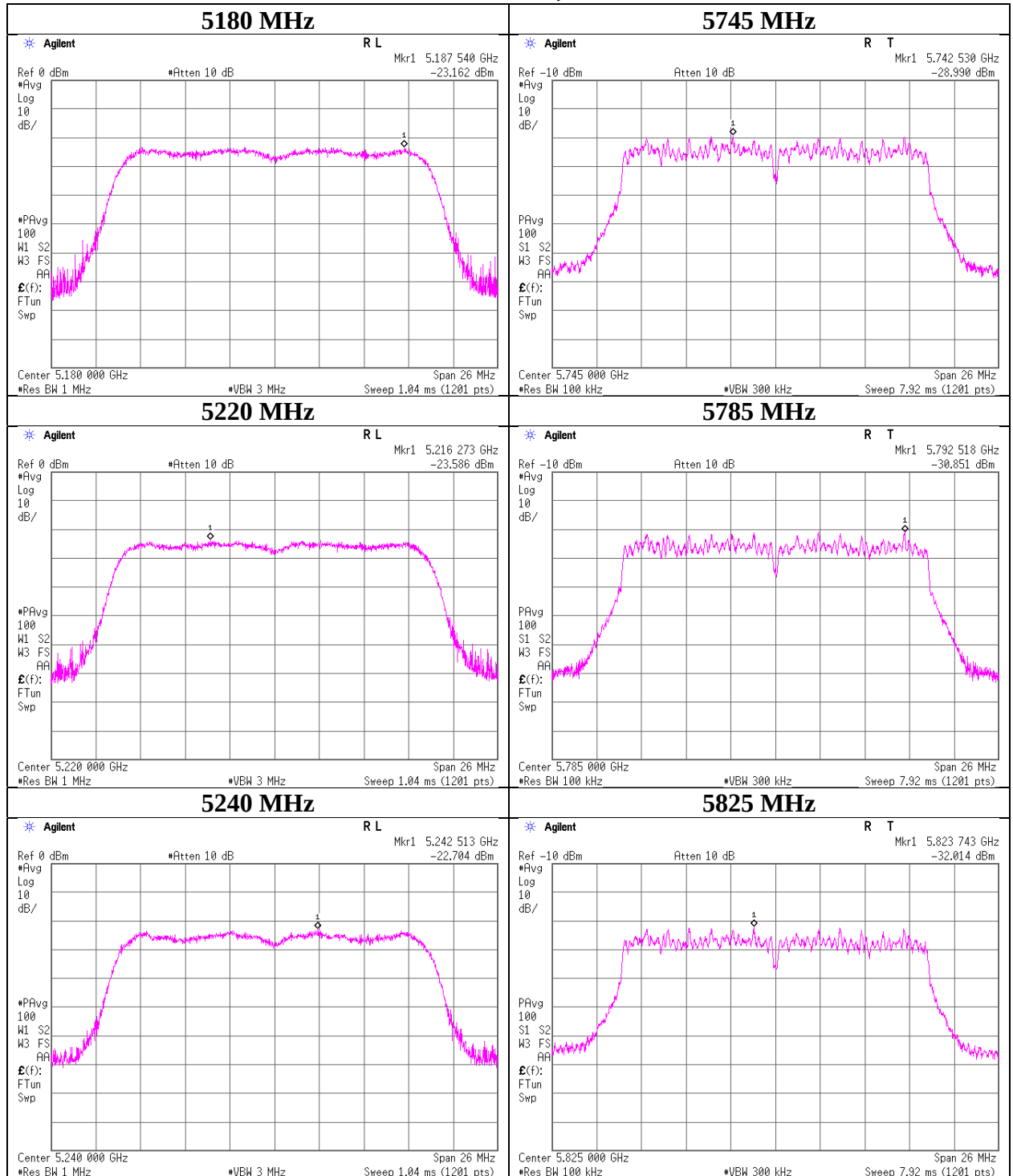
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## Maximum Power Spectral Density

### 11n-20 MIMO, RF1



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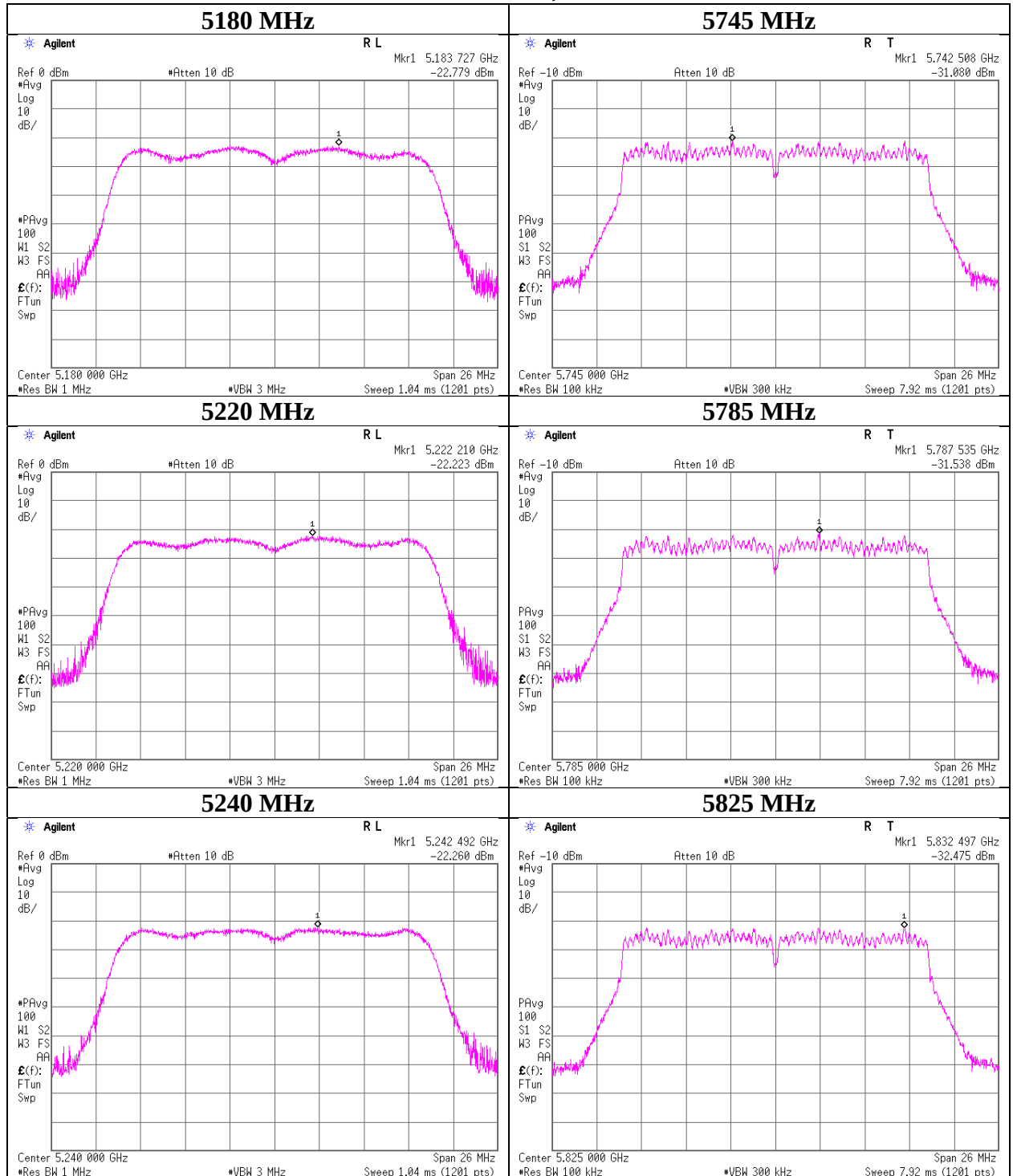
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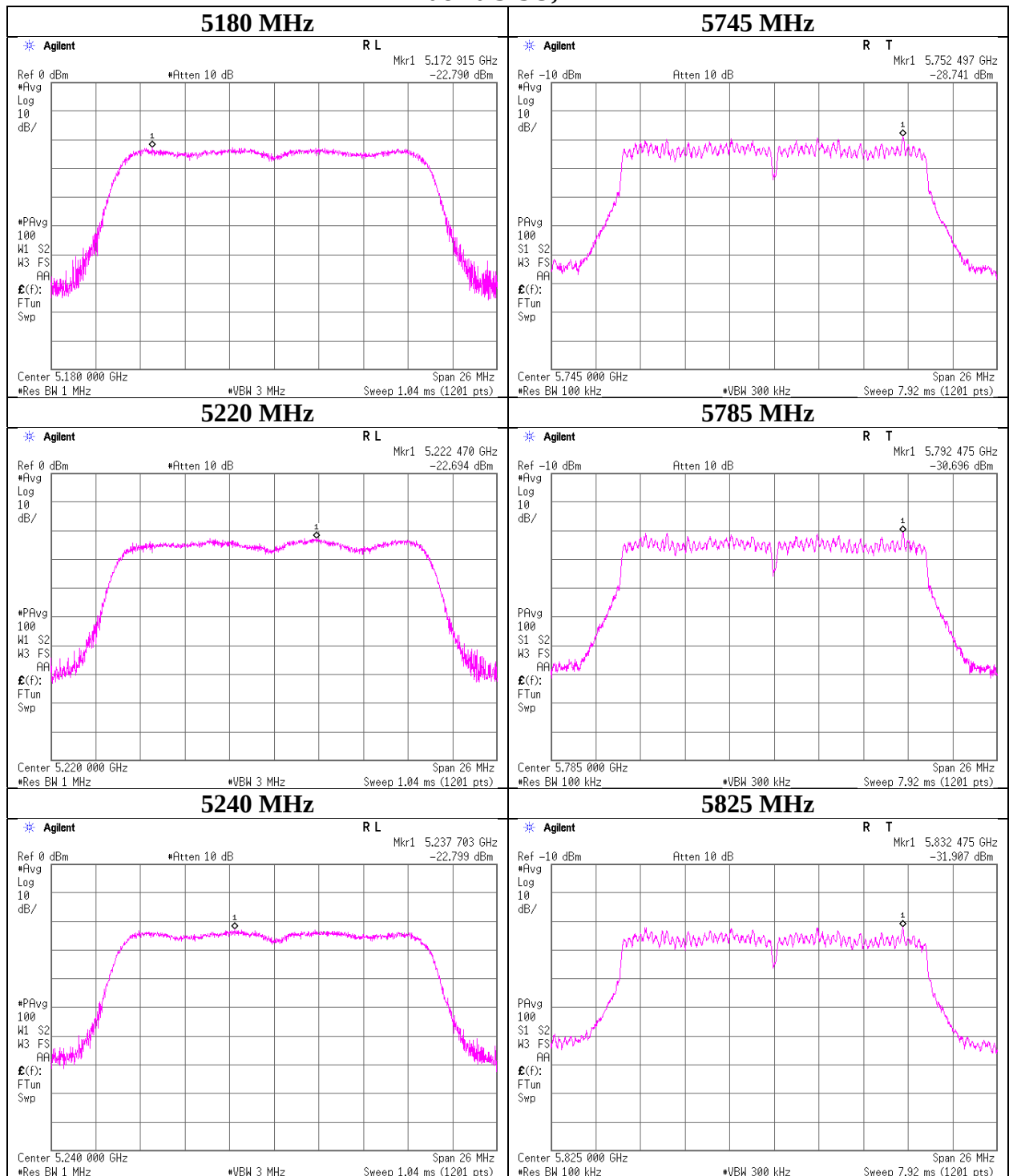
## Maximum Power Spectral Density

### 11ac-20 SISO, RF0



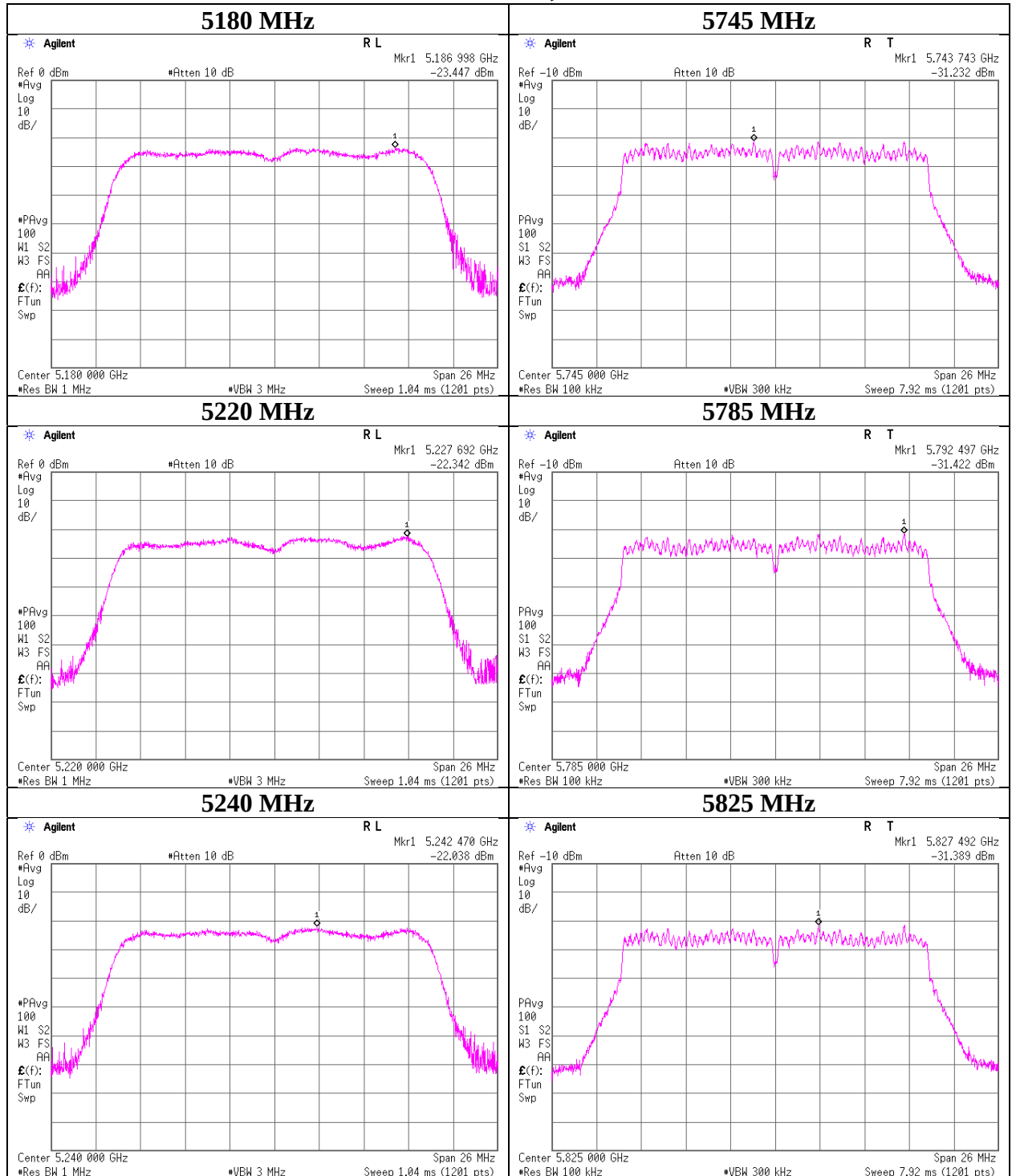
## Maximum Power Spectral Density

### 11ac-20 SISO, RF1



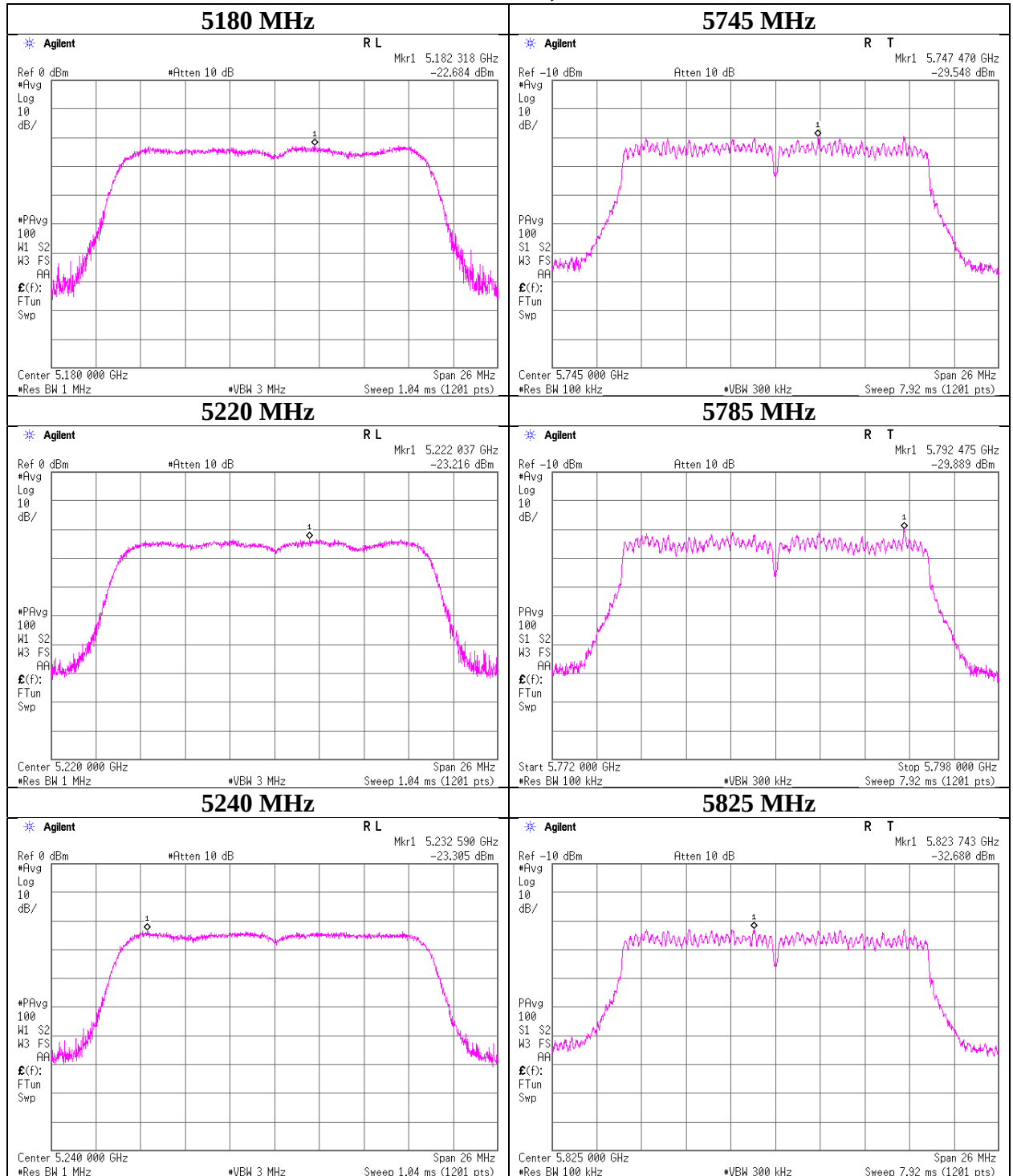
## Maximum Power Spectral Density

### 11ac-20 CDD, RF0



## Maximum Power Spectral Density

### 11ac-20 CDD, RF1



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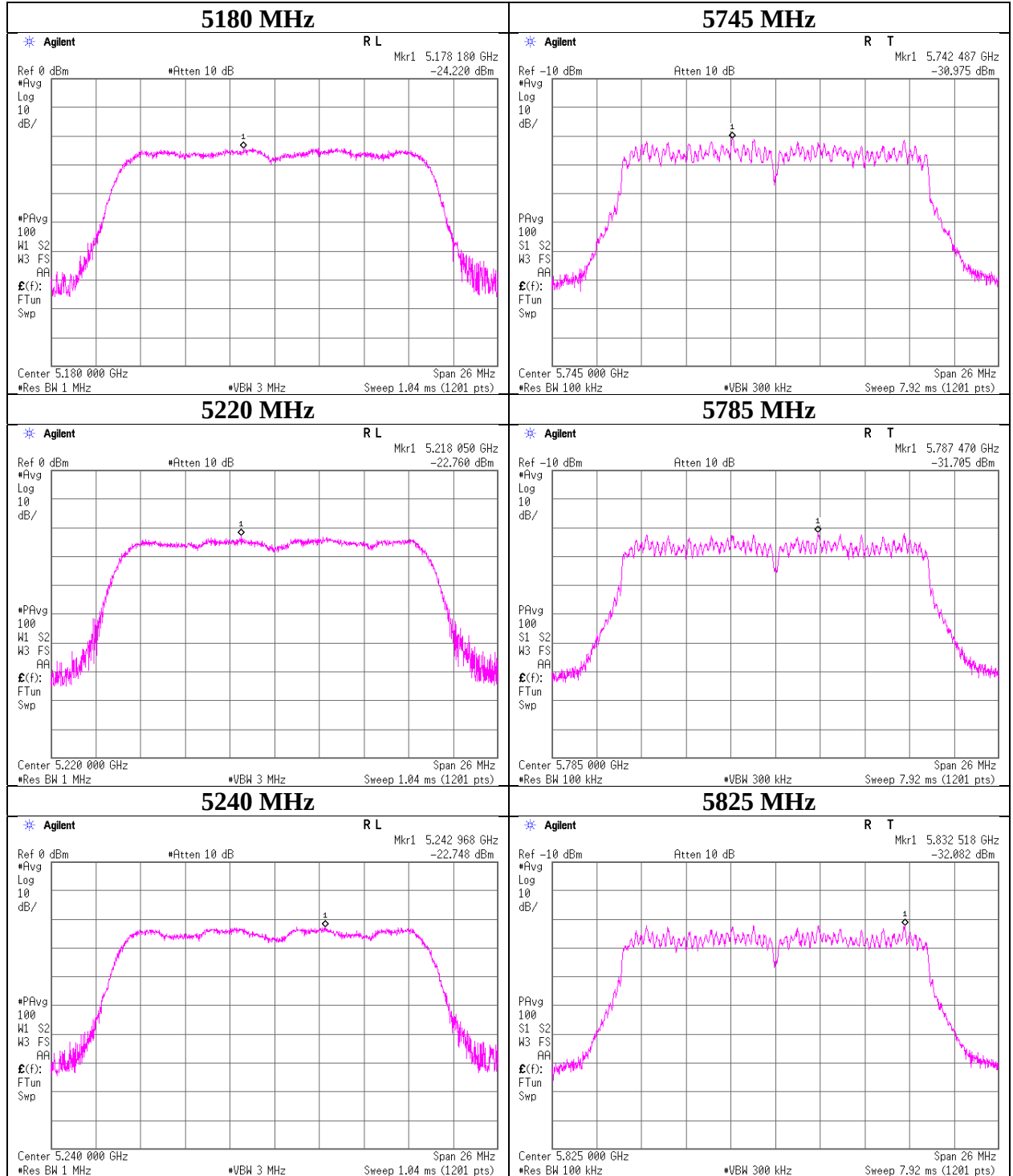
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## Maximum Power Spectral Density

### 11ac-20 MIMO, RF0



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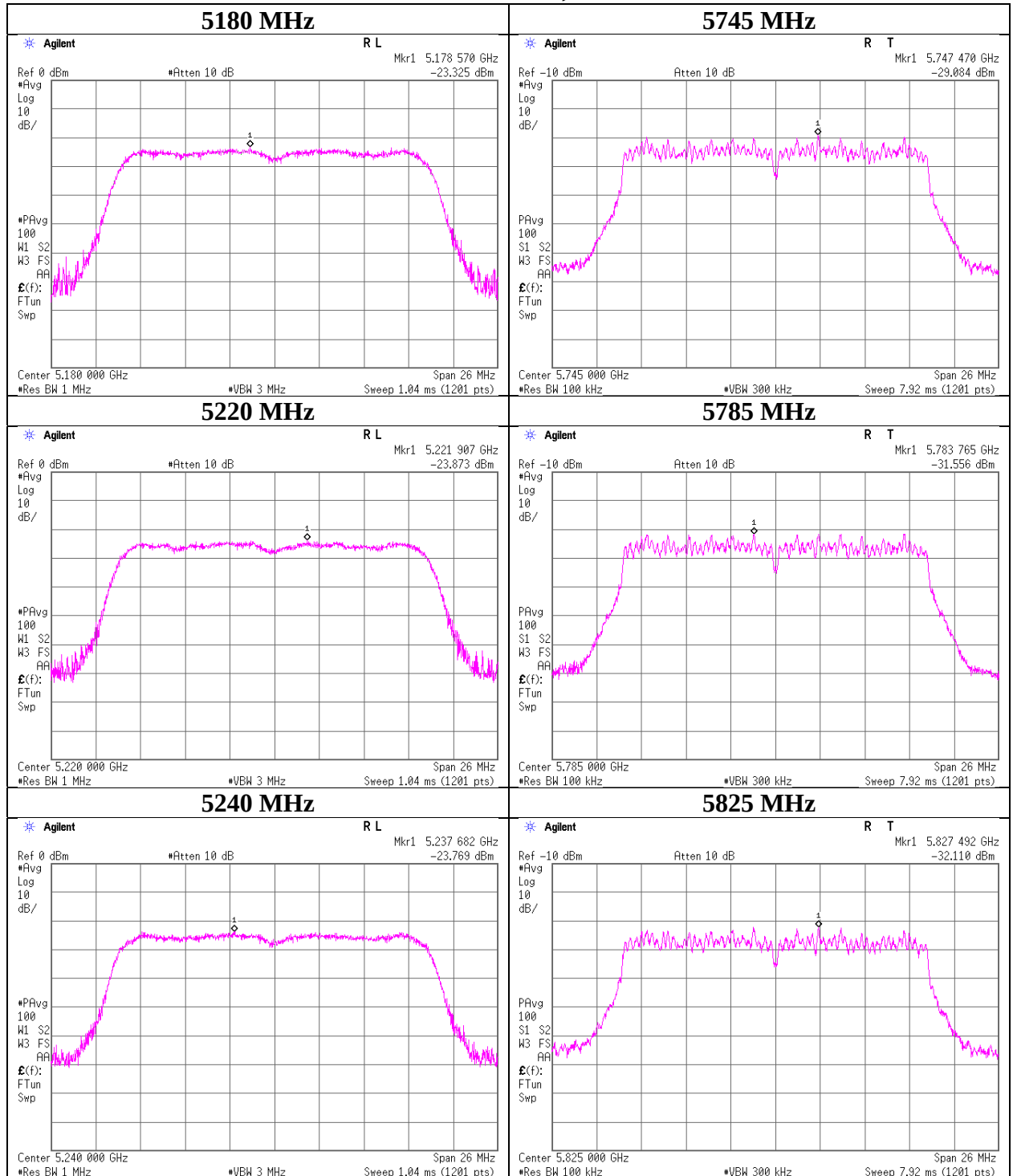
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## Maximum Power Spectral Density

### 11ac-20 MIMO, RF1



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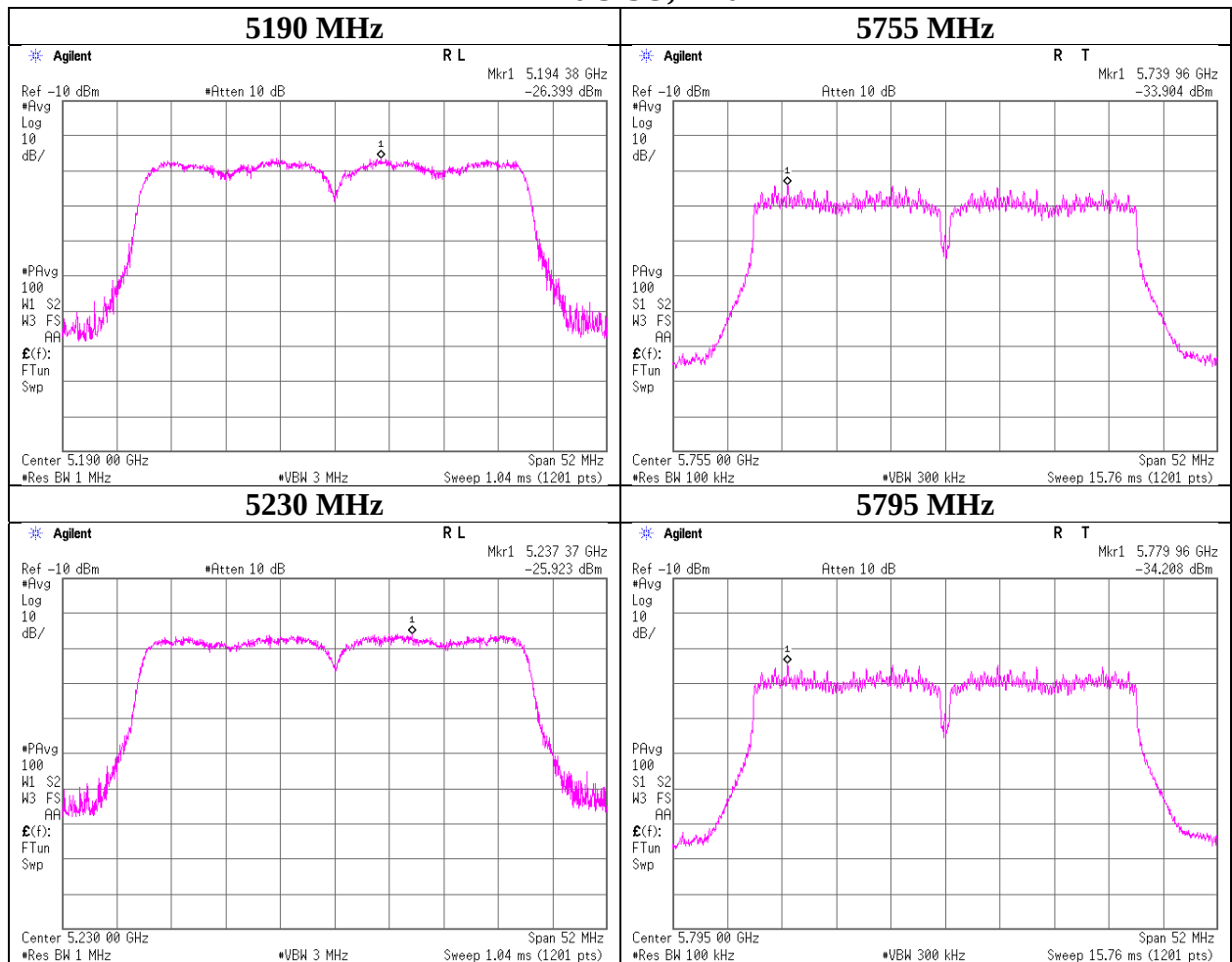
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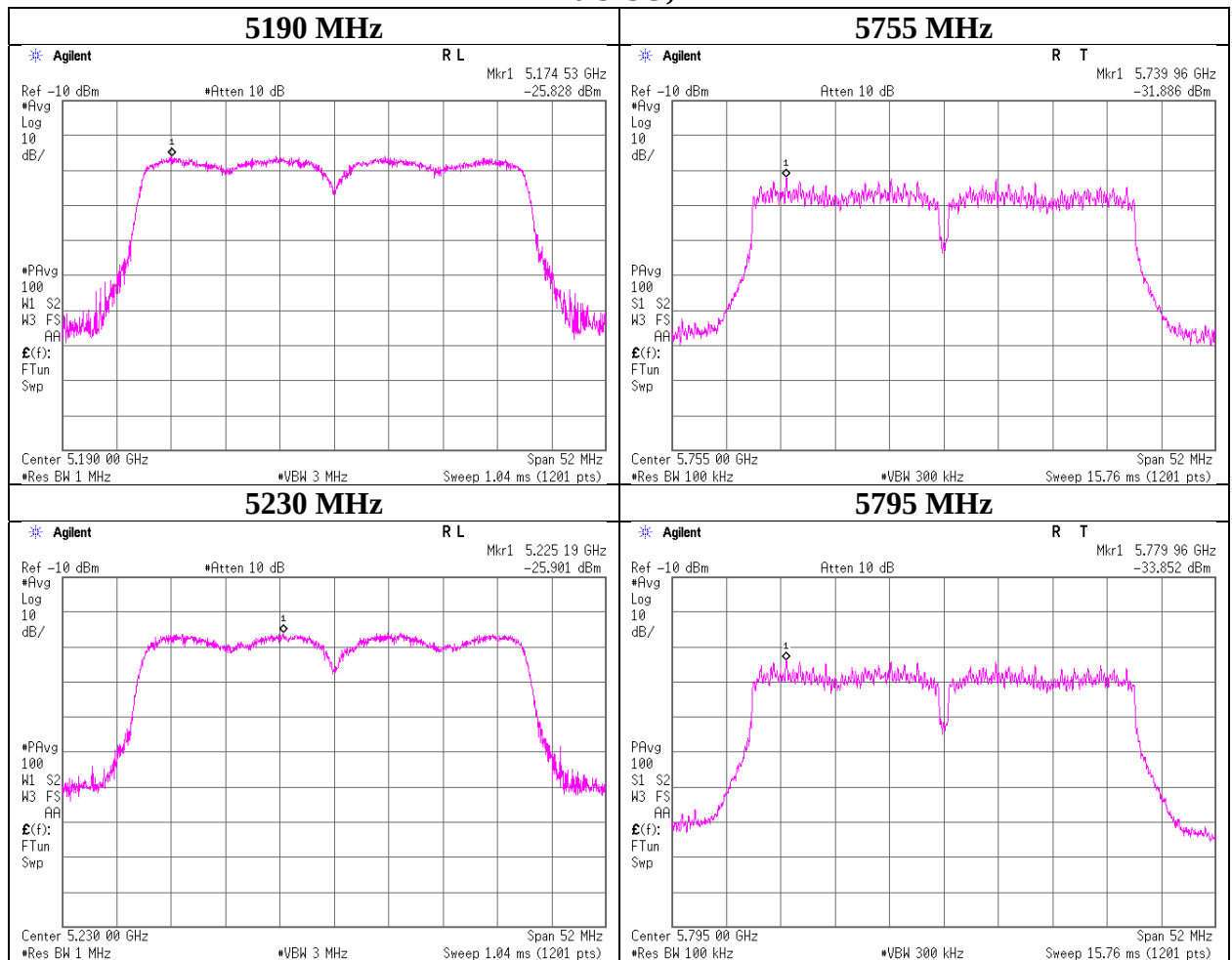
## Maximum Power Spectral Density

### 11n-40 SISO, RF0



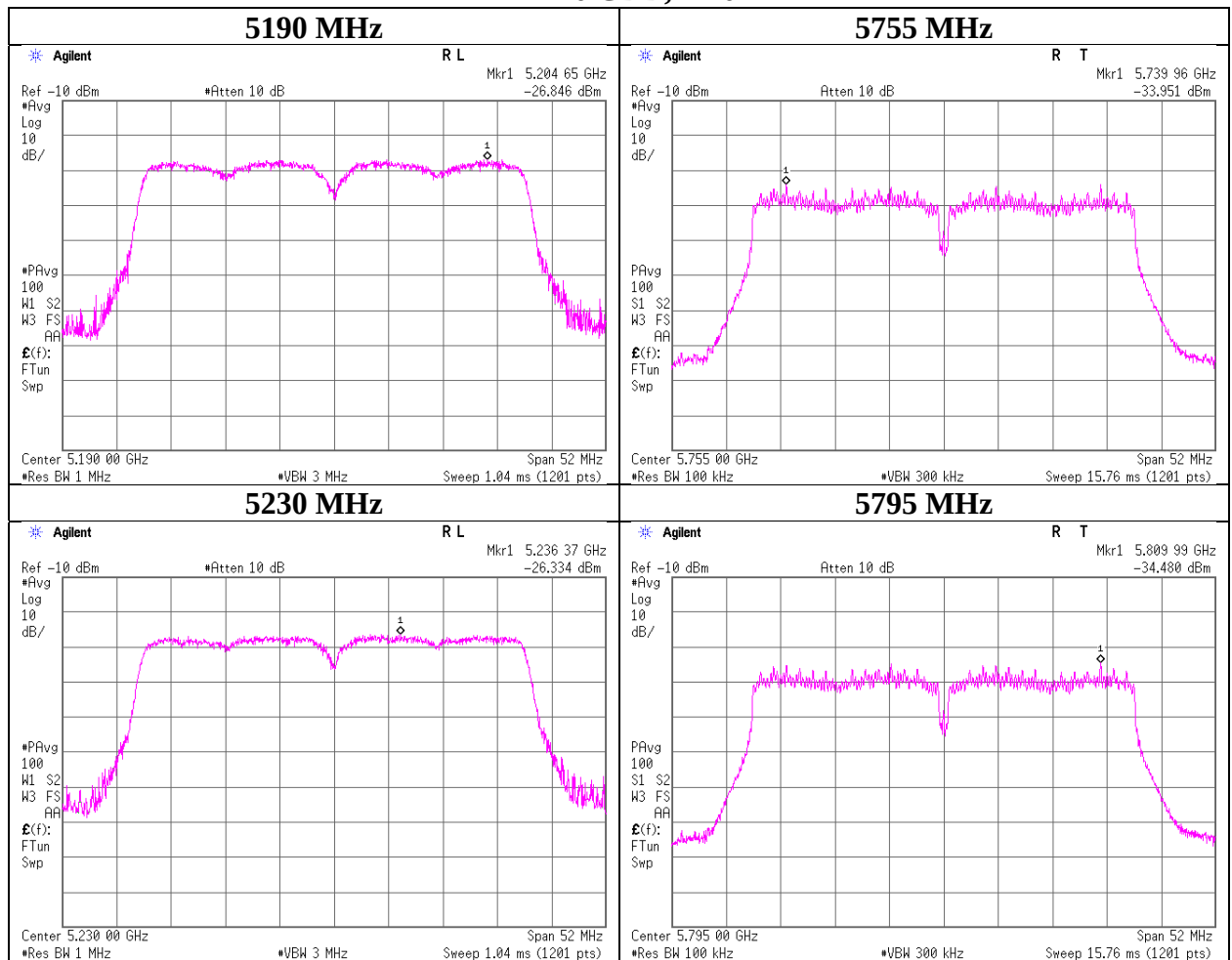
## Maximum Power Spectral Density

### 11n-40 SISO, RF1



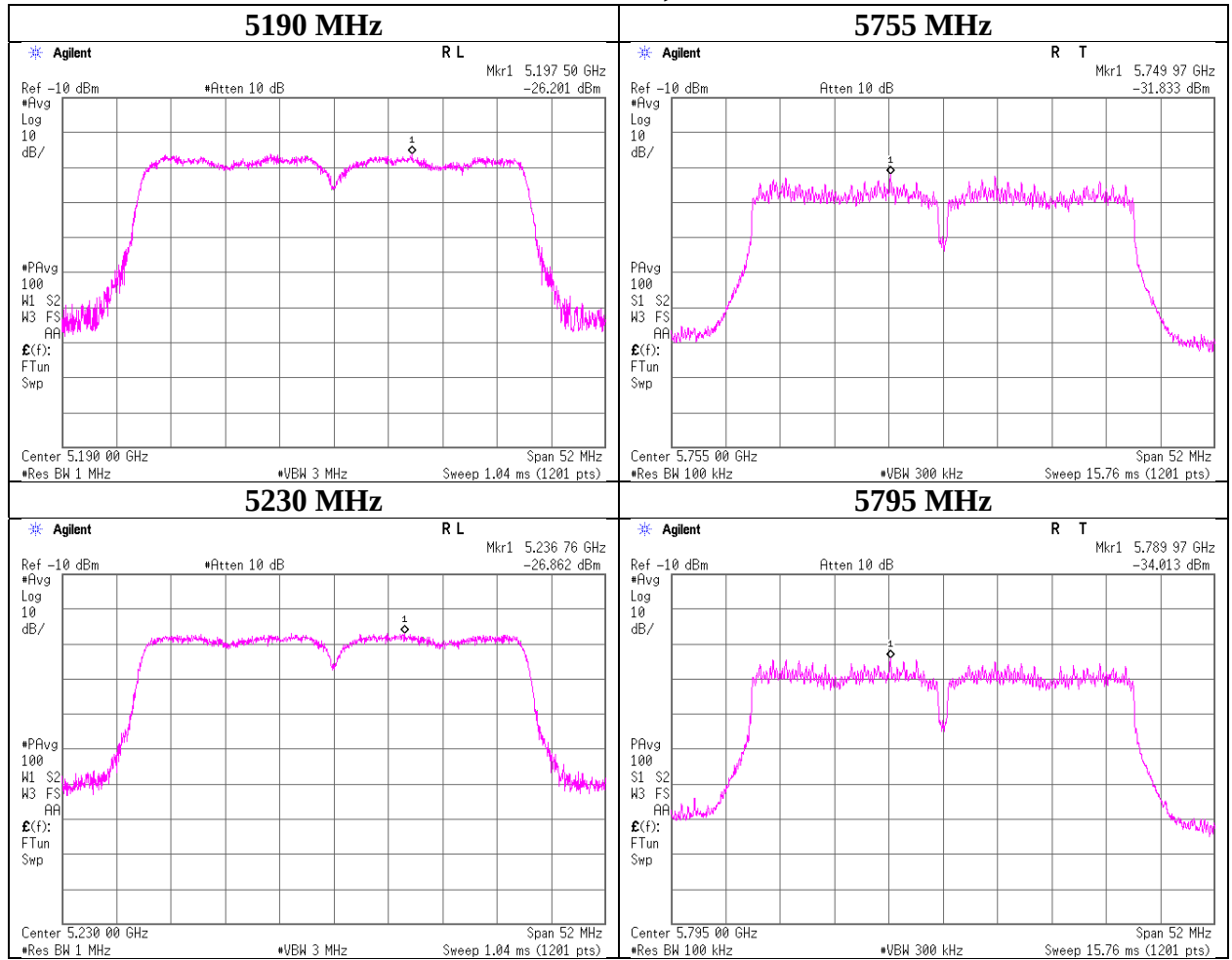
## Maximum Power Spectral Density

### 11n-40 CDD, RF0



## Maximum Power Spectral Density

### 11n-40 CDD, RF1



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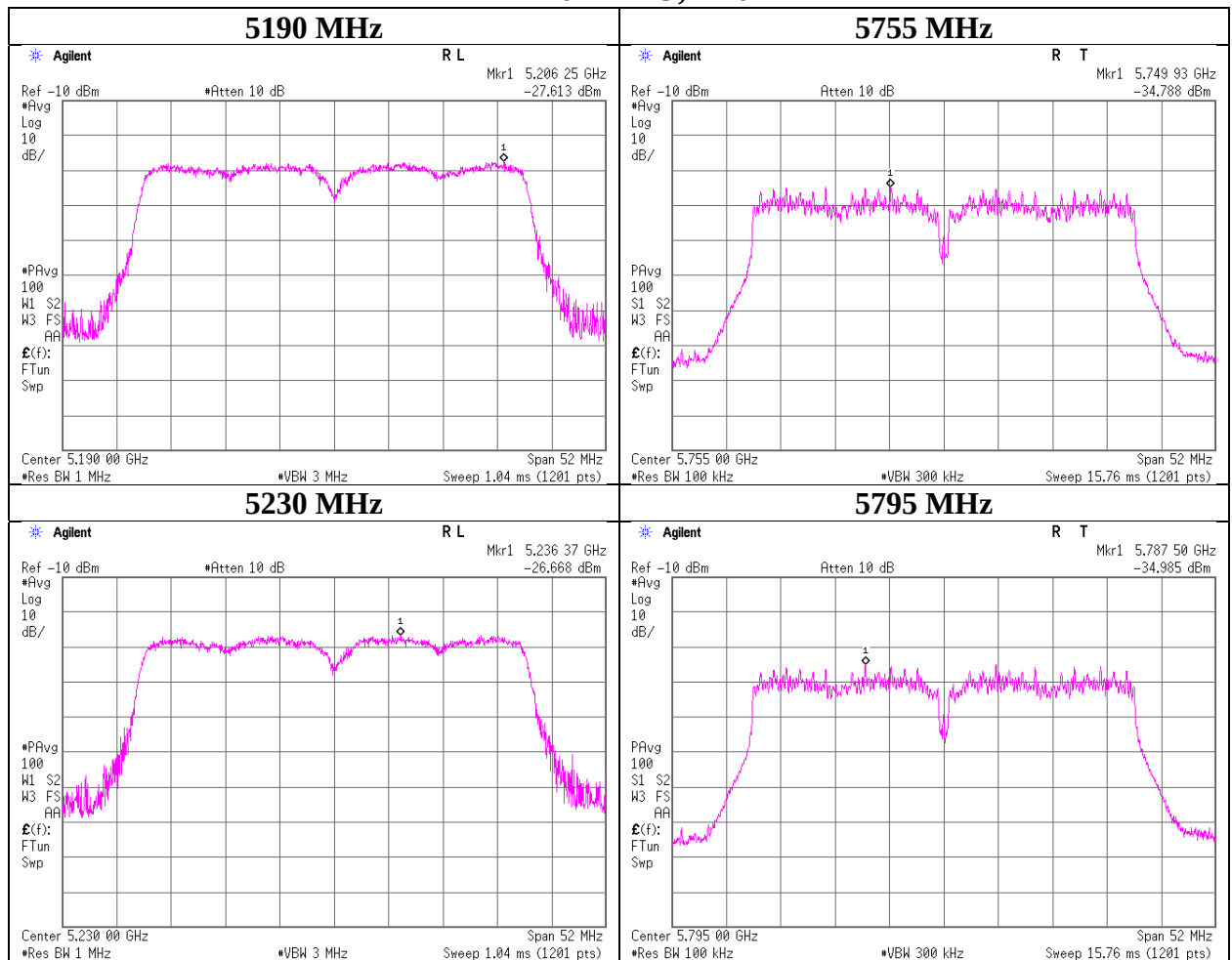
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Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

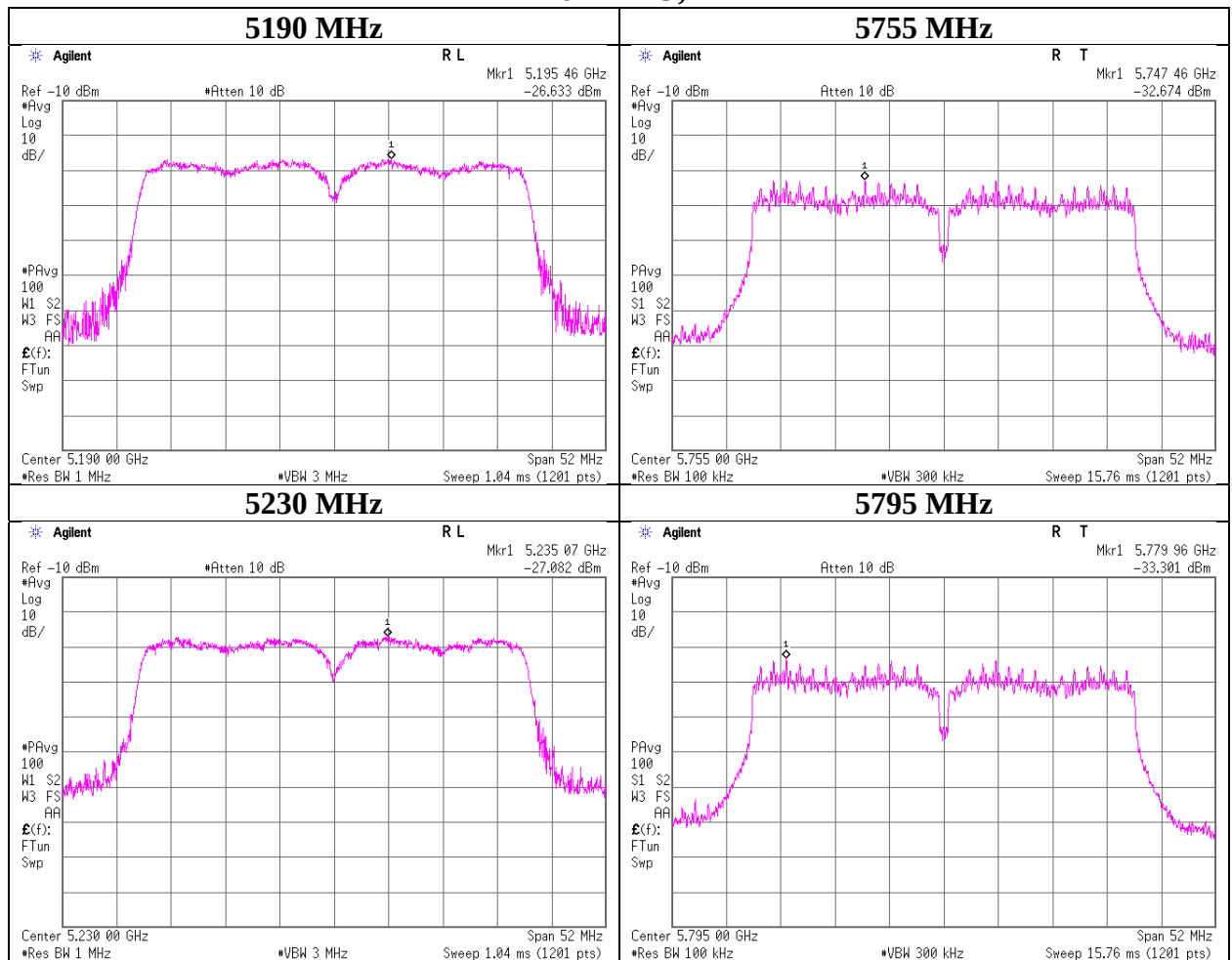
## Maximum Power Spectral Density

### 11n-40 MIMO, RF0



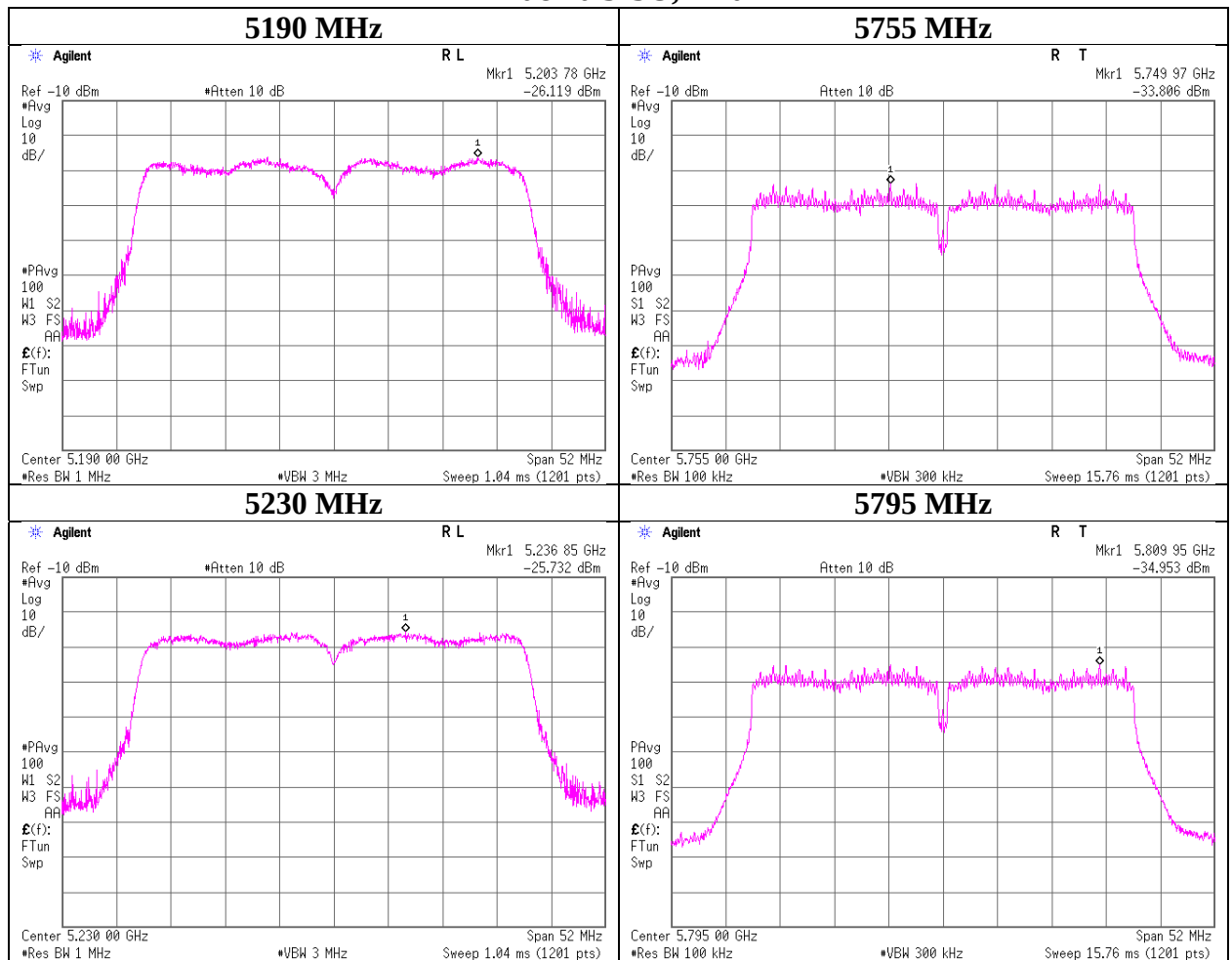
## Maximum Power Spectral Density

### 11n-40 MIMO, RF1



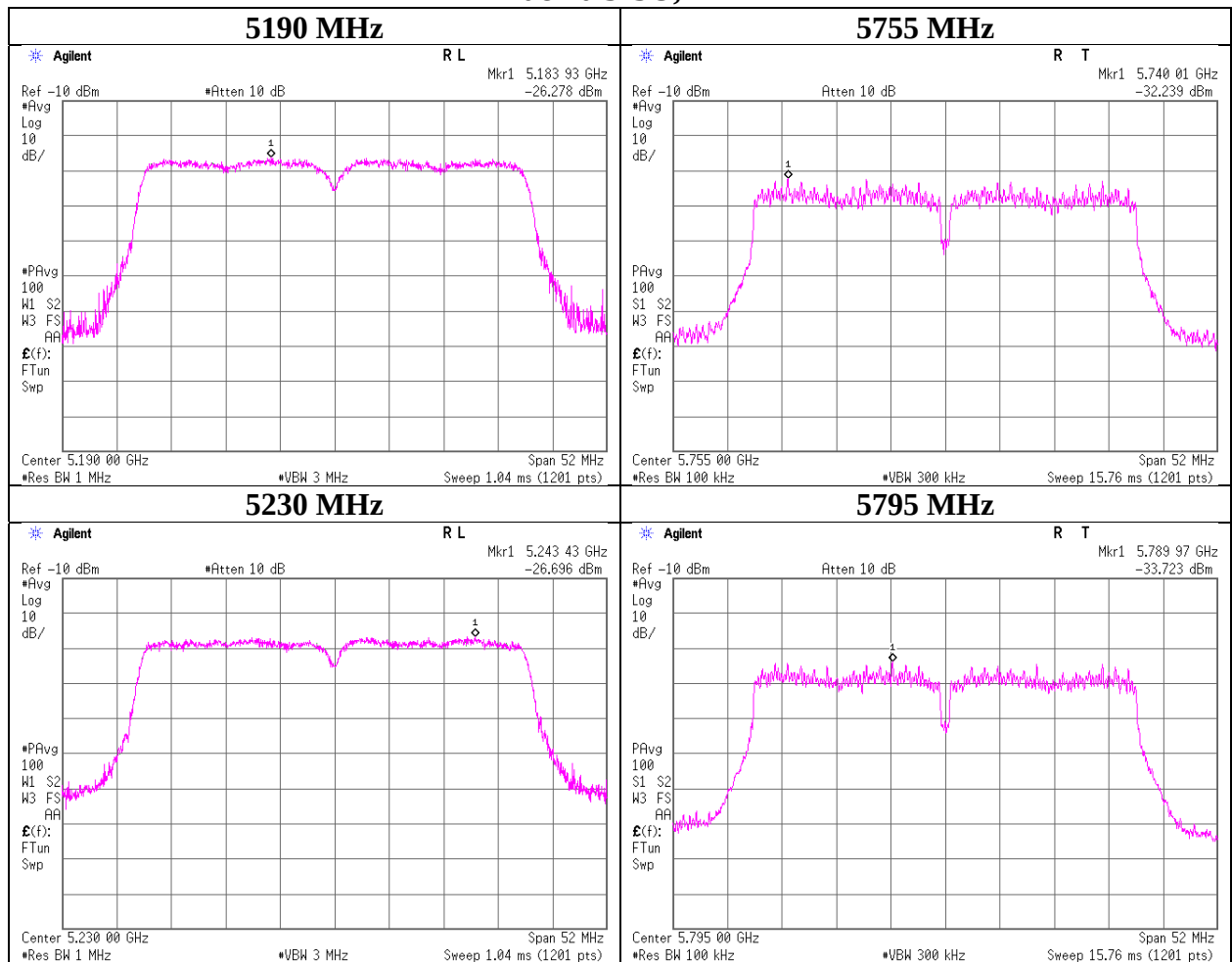
## Maximum Power Spectral Density

### 11ac-40 SISO, RF0



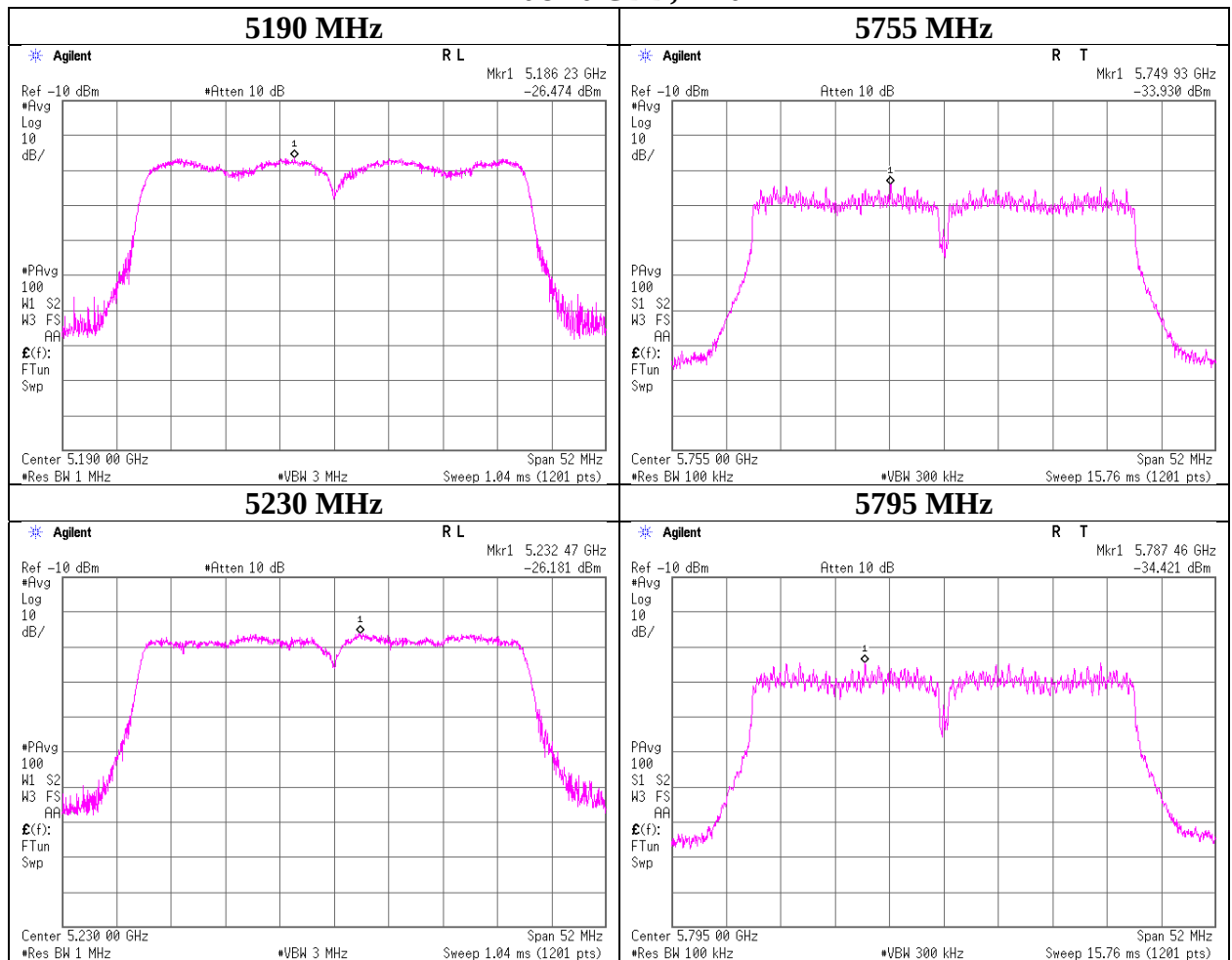
## Maximum Power Spectral Density

### 11ac-40 SISO, RF1



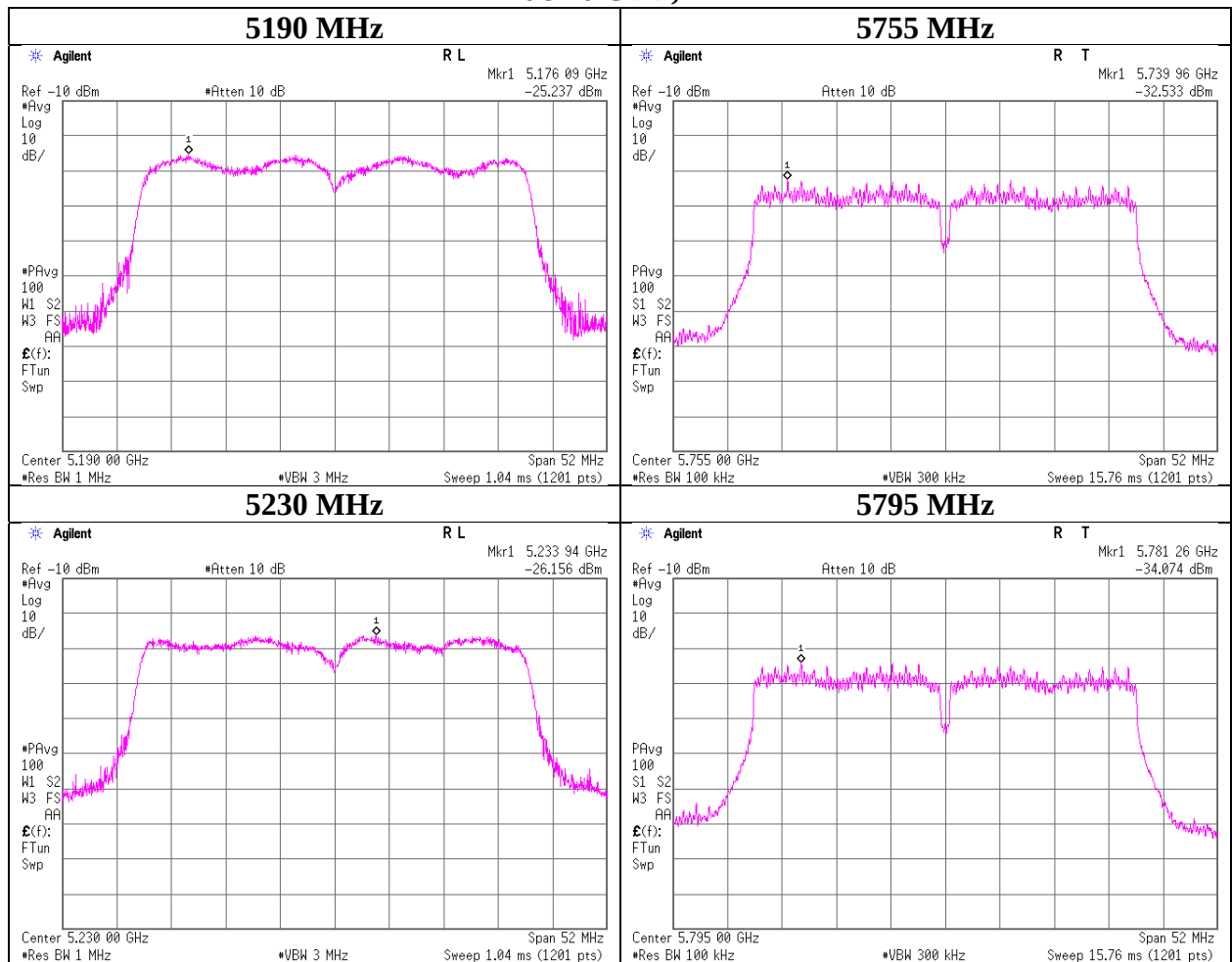
## Maximum Power Spectral Density

### 11ac-40 CDD, RF0



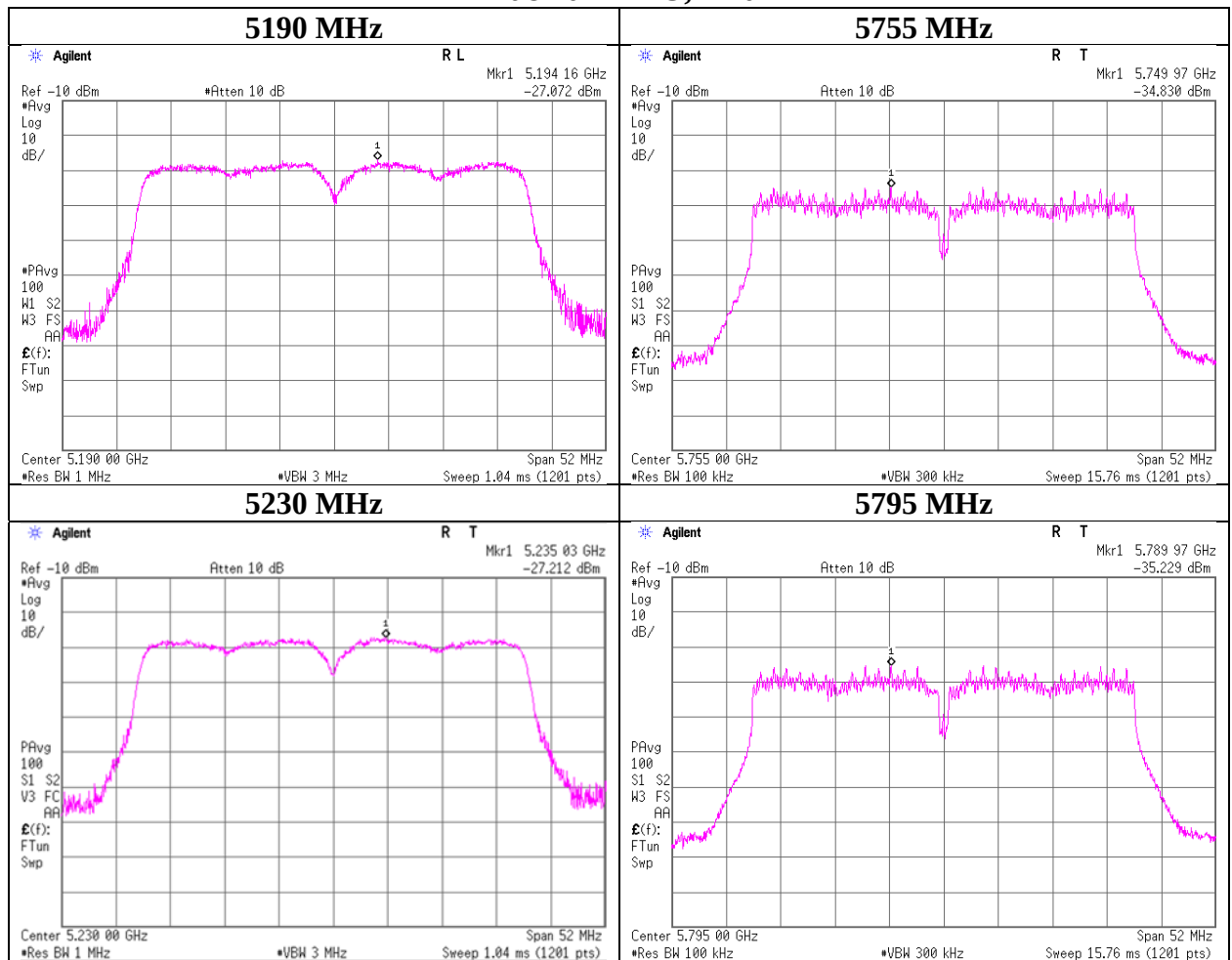
## Maximum Power Spectral Density

### 11ac-40 CDD, RF1



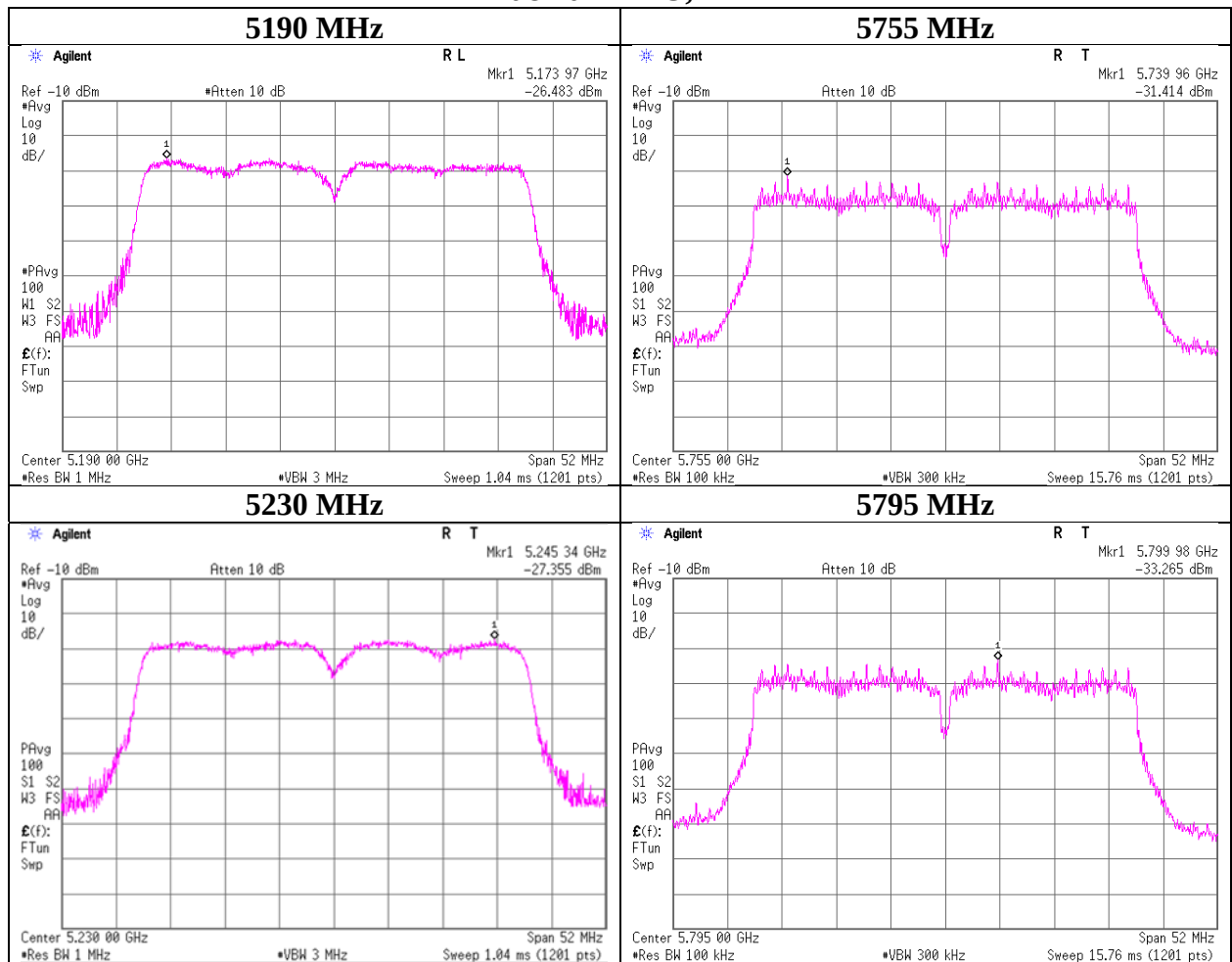
## Maximum Power Spectral Density

### 11ac-40 MIMO, RF0



## Maximum Power Spectral Density

### 11ac-40 MIMO, RF1



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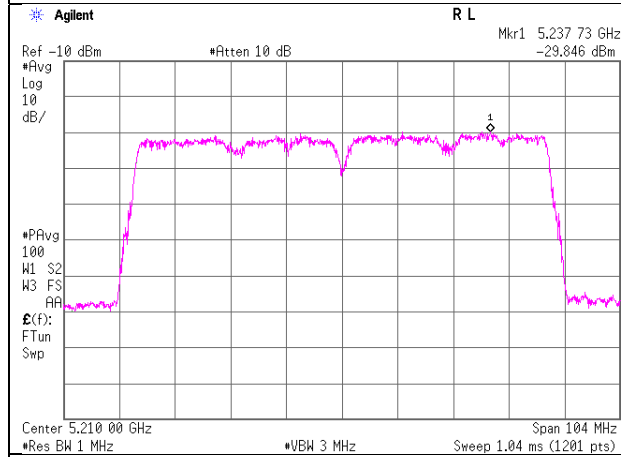
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## Maximum Power Spectral Density

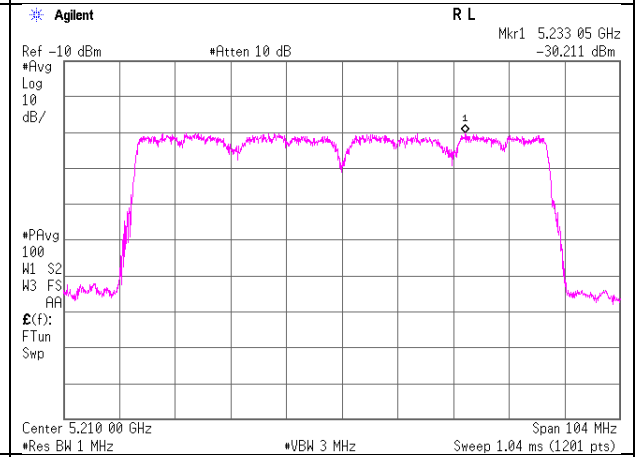
11ac-80 SISO, RF0

5210 MHz

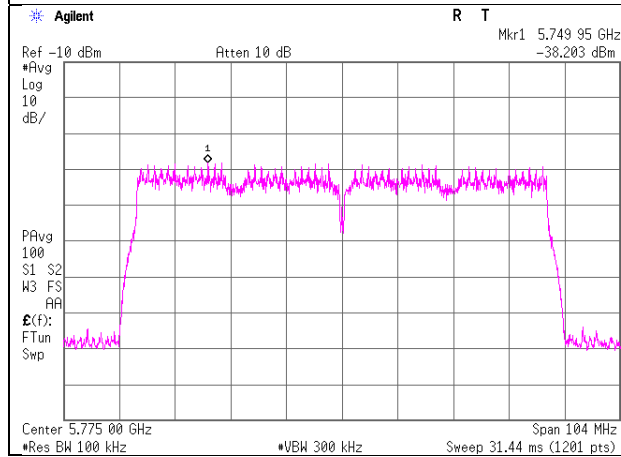


11ac-80 SISO, RF1

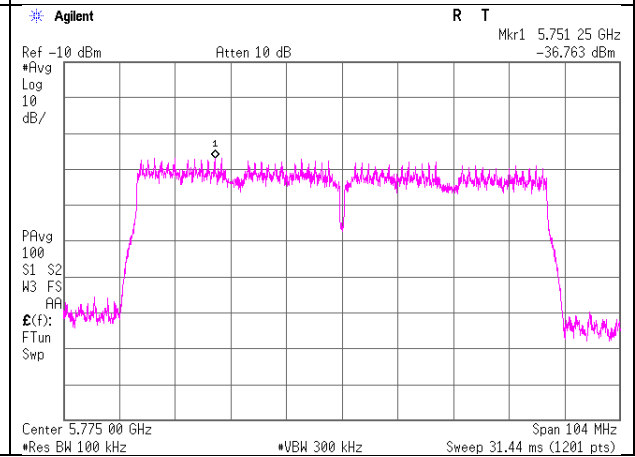
5210 MHz



5775 MHz



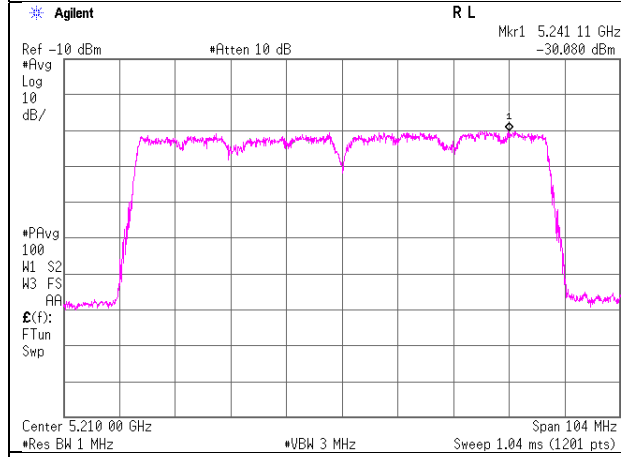
5775 MHz



## Maximum Power Spectral Density

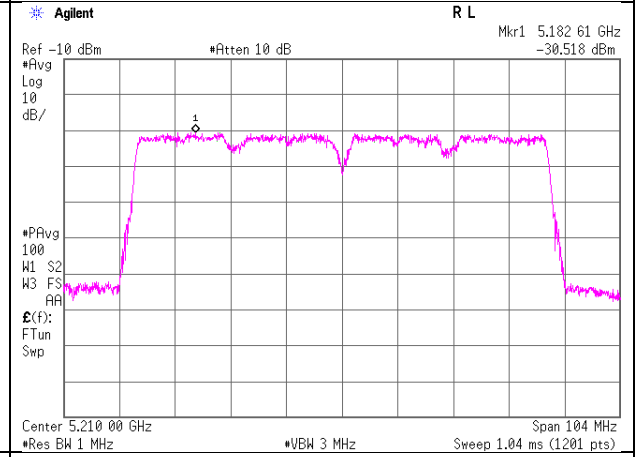
**11ac-80 CDD, RF0**

**5210 MHz**

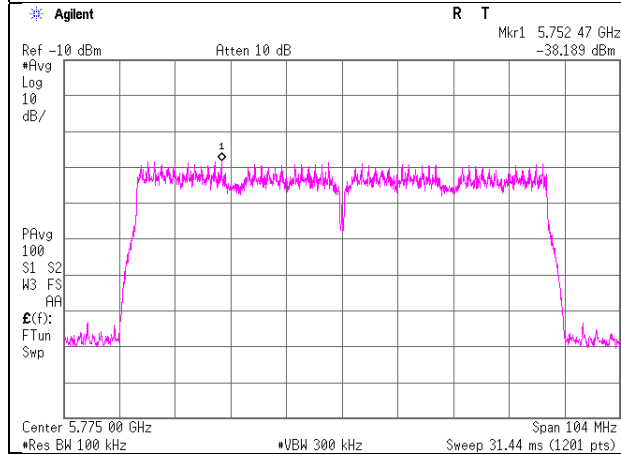


**11ac-80 CDD, RF1**

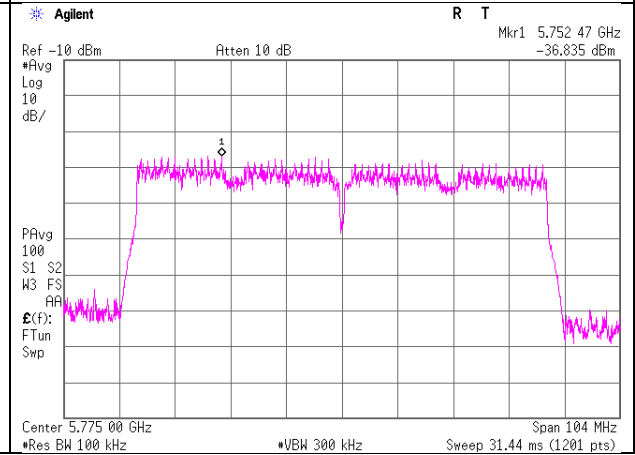
**5210 MHz**



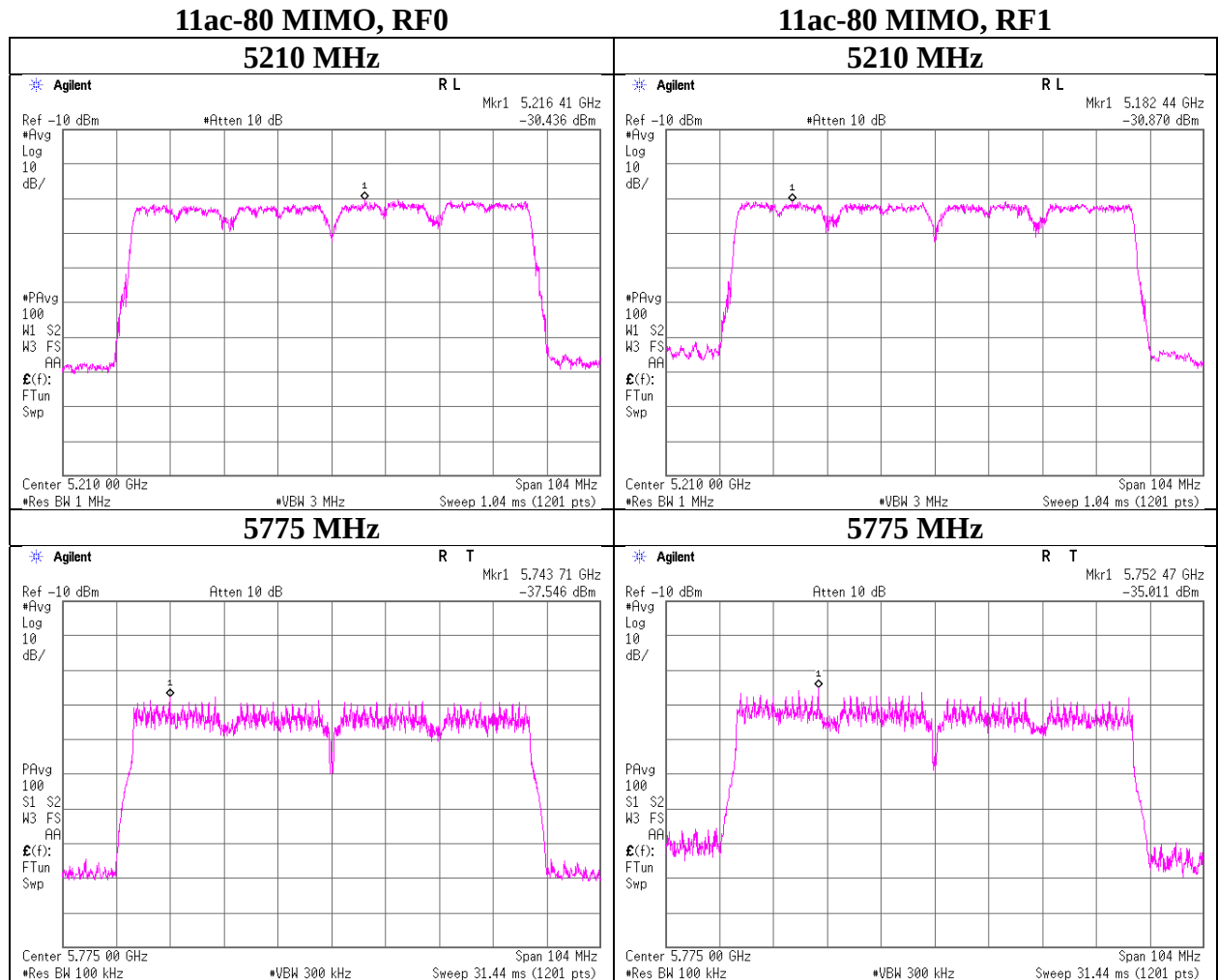
**5775 MHz**



**5775 MHz**

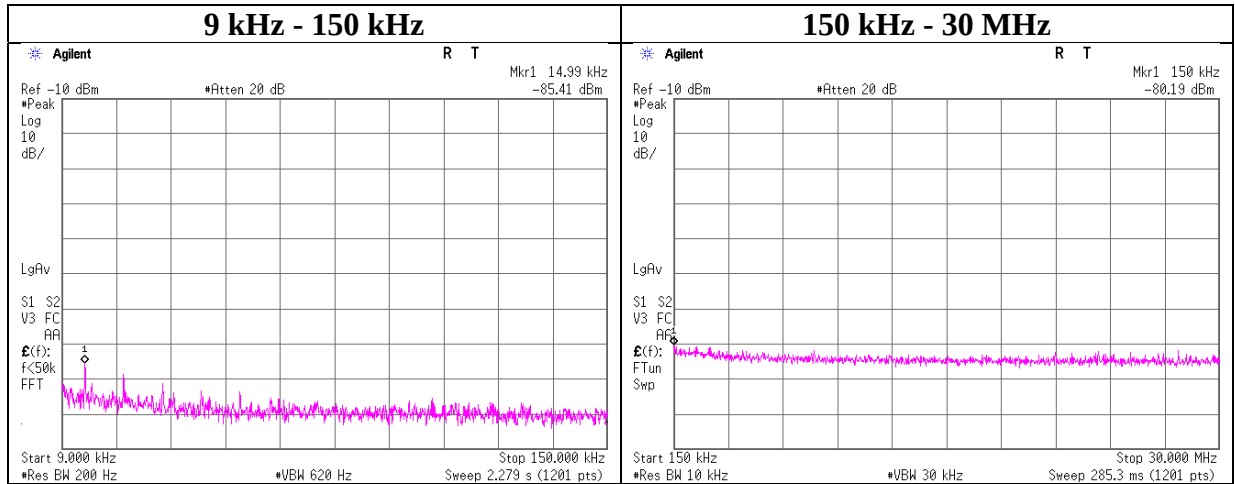


## Maximum Power Spectral Density



## Conducted Spurious Emission

Report No. 13408107S-C  
Test place Shonan EMC Lab. No.5 Shielded Room  
Date August 17, 2020  
Temperature / Humidity 24 deg. C / 54 % RH  
Engineer Shiro Kobayashi  
Mode Tx 11ac-20 MIMO 5745 MHz



| Frequency<br>[kHz] | Reading<br>[dBm] | Cable<br>Loss<br>[dB] | Attenuator<br>[dB] | Antenna<br>Gain<br>[dBi] | N<br>(Number<br>of Output) | EIRP<br>[dBm] | Distance<br>[m] | Ground<br>bounce<br>[dB] | E<br>(field strength)<br>[dBuV/m] | Limit<br>[dBuV/m] | Margin<br>[dB] | Remark |
|--------------------|------------------|-----------------------|--------------------|--------------------------|----------------------------|---------------|-----------------|--------------------------|-----------------------------------|-------------------|----------------|--------|
| 14.99              | -85.4            | 0.01                  | 9.81               | 2.64                     | 2                          | -69.9         | 300             | 6.0                      | -8.7                              | 44.0              | 52.7           | -      |
| 150.00             | -80.2            | 0.01                  | 9.81               | 2.64                     | 2                          | -64.7         | 300             | 6.0                      | -3.5                              | 24.0              | 27.5           | -      |

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

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

N: Number of output

## **APPENDIX 2: Test instruments**

### **Test equipment**

| Test Name | Local ID | LIMS ID | Description        | Manufacturer              | Model        | Serial     | Last Calibration Date | Calibration Interval (Month) |
|-----------|----------|---------|--------------------|---------------------------|--------------|------------|-----------------------|------------------------------|
| AT        | KSA-08   | 145089  | Spectrum Analyzer  | Keysight Technologies Inc | E4446A       | MY46180525 | 2019/11/05            | 12                           |
| AT        | KTS-07   | 145111  | Digital Tester     | SANWA                     | PC500        | 7019232    | 2019/10/01            | 12                           |
| AT        | SAT10-14 | 154591  | Attenuator         | Weinschel Corp.           | 54A-10       | 81595      | 2020/04/01            | 12                           |
| AT        | SAT10-16 | 160494  | Attenuator         | Weinschel Corp.           | 54A-10       | 83420      | 2019/12/12            | 12                           |
| AT        | SCC-G66  | 196947  | Coaxial Cable      | HUBER+SUNER               | SUCOFLEX 102 | 803478/2   | 2020/03/10            | 12                           |
| AT        | SCC-G67  | 196949  | Coaxial Cable      | HUBER+SUNER               | SUCOFLEX 102 | 803480/2   | 2020/03/10            | 12                           |
| AT        | SOS-19   | 175823  | Humidity Indicator | CUSTOM. Inc               | CTH-201      | -          | 2019/12/19            | 12                           |
| AT        | SPM-07   | 146247  | Power Meter        | Keysight Technologies Inc | 8990B        | MY5100272  | 2020/05/27            | 12                           |
| AT        | SPSS-04  | 146310  | Power sensor       | Keysight Technologies Inc | N1923A       | MY5326009  | 2020/05/27            | 12                           |
| AT        | SPSS-05  | 146311  | Power sensor       | Keysight Technologies Inc | N1923A       | MY5349008  | 2020/05/27            | 12                           |
| AT        | SRENT-15 | 160899  | Spectrum Analyzer  | Keysight Technologies Inc | E4440A       | MY46185516 | 2020/01/15            | 12                           |
| AT        | STM-G6   | 146207  | Terminator         | JFW                       | 50T-128      | -          | 2019/11/05            | 12                           |

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

The expiration date of the calibration is the end of the expired month.

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

All equipment is calibrated with valid calibrations. Each measurement data is traceable to the national or international standards.

Test item:

AT: Antenna Terminal Conducted test

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