

## Maximum Power Spectral Density

Report No. 13004393S-E-R2  
Test place Shonan EMC Lab. No.3 Shielded Room  
Date September 27, 2019  
Temperature / Humidity 26 deg. C / 42 % RH  
Engineer Takahiro Kawakami  
Mode Tx, 11ac-80 (MIMO), (serial no. B-5)

| Chain 0+1        |                     | MIMO                |                 |           |           |        |                     | Applied limit: 15.407, mobile and portable client device |                 |           |           |        |  |
|------------------|---------------------|---------------------|-----------------|-----------|-----------|--------|---------------------|----------------------------------------------------------|-----------------|-----------|-----------|--------|--|
| Tested Frequency | PSD (Conducted)     |                     |                 |           |           |        | PSD (e.i.r.p.)      |                                                          |                 |           |           |        |  |
|                  | Antenna             |                     |                 | Result    | Limit     | Margin | Antenna             |                                                          |                 | Result    | Limit     | Margin |  |
| [MHz]            | Chain 0<br>[mW/MHz] | Chain 1<br>[mW/MHz] | Sum<br>[mW/MHz] | [dBm/MHz] | [dBm/MHz] | [dB]   | Chain 0<br>[mW/MHz] | Chain 1<br>[mW/MHz]                                      | Sum<br>[mW/MHz] | [dBm/MHz] | [dBm/MHz] | [dB]   |  |
| 5210             | 0.26                | 0.23                | 0.49            | -3.08     | 11.00     | 14.08  | 0.33                | 0.37                                                     | 0.70            | -1.57     | 17.00     | 18.57  |  |
| 5290             | 0.22                | 0.21                | 0.43            | -3.65     | 11.00     | 14.65  | 0.28                | 0.34                                                     | 0.61            | -2.12     | 17.00     | 19.12  |  |
| 5530             | 0.24                | 0.24                | 0.48            | -3.21     | 11.00     | 14.21  | 0.30                | 0.38                                                     | 0.68            | -1.68     | 17.00     | 18.68  |  |
| 5610             | 0.25                | 0.25                | 0.50            | -3.00     | 11.00     | 14.00  | 0.32                | 0.39                                                     | 0.71            | -1.47     | 17.00     | 18.47  |  |
| 5690             | 0.25                | 0.28                | 0.53            | -2.73     | 11.00     | 13.73  | 0.32                | 0.45                                                     | 0.76            | -1.17     | 17.00     | 18.17  |  |
| 5775             | 0.13                | 0.14                | 0.27            | -5.74     | 30.00     | 35.74  | 0.17                | 0.22                                                     | 0.38            | -4.19     | 36.00     | 40.19  |  |

|                  |             |                       | Chain 0     |            |             |              |           |                 | Chain 1     |            |             |              |           |                 |
|------------------|-------------|-----------------------|-------------|------------|-------------|--------------|-----------|-----------------|-------------|------------|-------------|--------------|-----------|-----------------|
| Tested Frequency | Duty Factor | RBW Correction Factor | PSD Reading | Cable Loss | Atten. Loss | Antenna Gain | PSD Cond. | Result e.i.r.p. | PSD Reading | Cable Loss | Atten. Loss | Antenna Gain | PSD Cond. | 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]       |
| 5210             | 0.00        | 0.00                  | -19.71      | 3.92       | 9.90        | 1.04         | -5.89     | -4.85           | -21.18      | 4.67       | 10.21       | 1.98         | -6.30     | -4.32           |
| 5290             | 0.00        | 0.00                  | -20.46      | 3.94       | 9.91        | 1.04         | -6.61     | -5.57           | -21.64      | 4.71       | 10.21       | 1.98         | -6.72     | -4.74           |
| 5530             | 0.00        | 0.00                  | -20.14      | 4.00       | 9.91        | 1.04         | -6.23     | -5.19           | -21.24      | 4.80       | 10.22       | 1.98         | -6.22     | -4.24           |
| 5610             | 0.00        | 0.00                  | -19.85      | 3.94       | 9.91        | 1.04         | -6.00     | -4.96           | -21.01      | 4.76       | 10.23       | 1.98         | -6.02     | -4.04           |
| 5690             | 0.00        | 0.00                  | -19.86      | 3.95       | 9.90        | 1.04         | -6.01     | -4.97           | -20.50      | 4.78       | 10.23       | 1.98         | -5.49     | -3.51           |
| 5775             | 0.00        | 6.99                  | -29.65      | 3.91       | 9.89        | 1.04         | -8.86     | -7.82           | -30.62      | 4.74       | 10.24       | 1.98         | -8.65     | -6.67           |

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

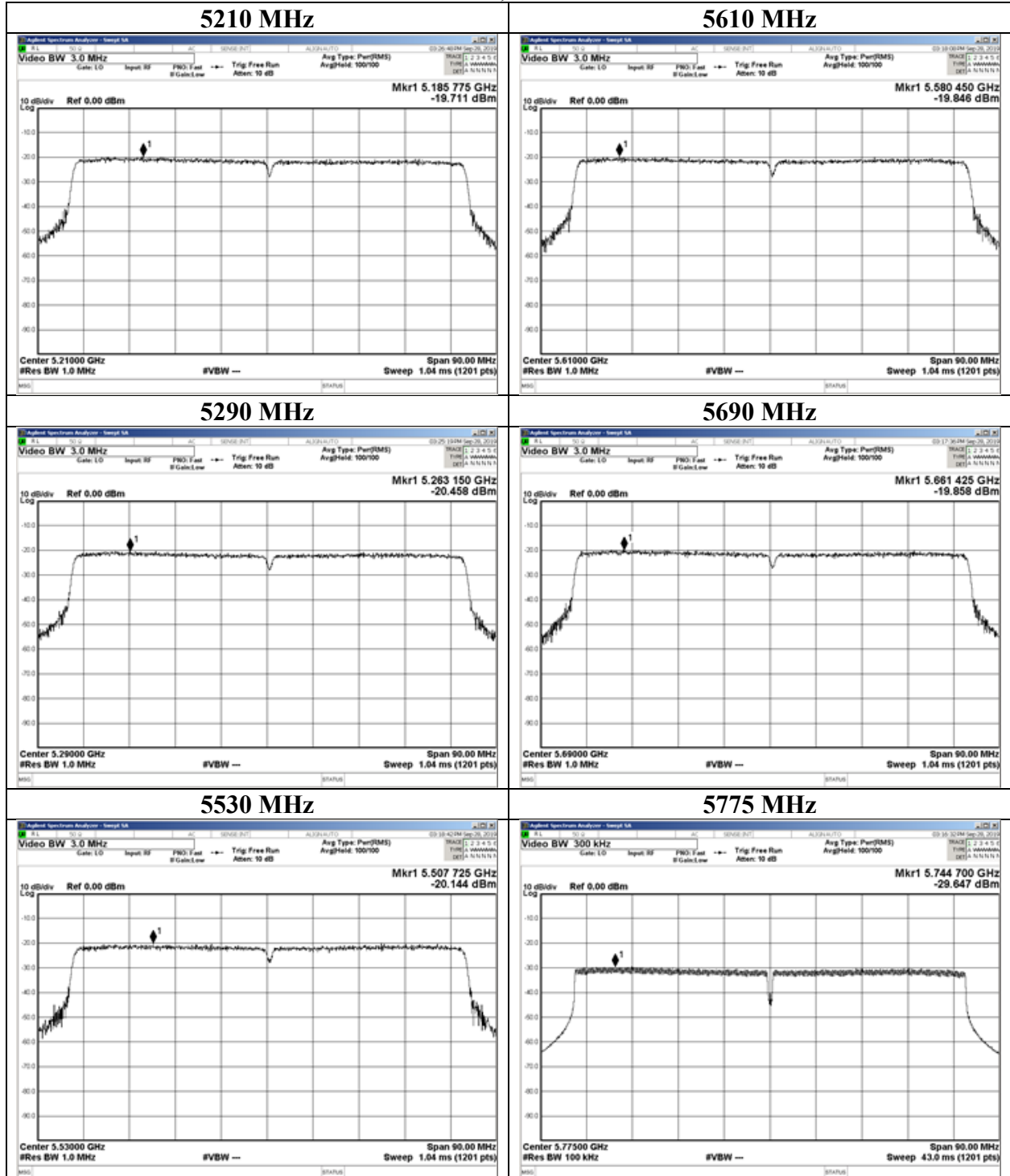
PSD Result (e.i.r.p.) = Conducted PSD Result + Antenna Gain

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

## Maximum Power Spectral Density

|                        |                                      |
|------------------------|--------------------------------------|
| Report No.             | 13004393S-E-R2                       |
| Test place             | Shonan EMC Lab. No.3 Shielded Room   |
| Date                   | September 27, 2019                   |
| Temperature / Humidity | 26 deg. C / 42 % RH                  |
| Engineer               | Takahiro Kawakami                    |
| Mode                   | Tx, 11ac-80 (MIMO), (serial no. B-5) |

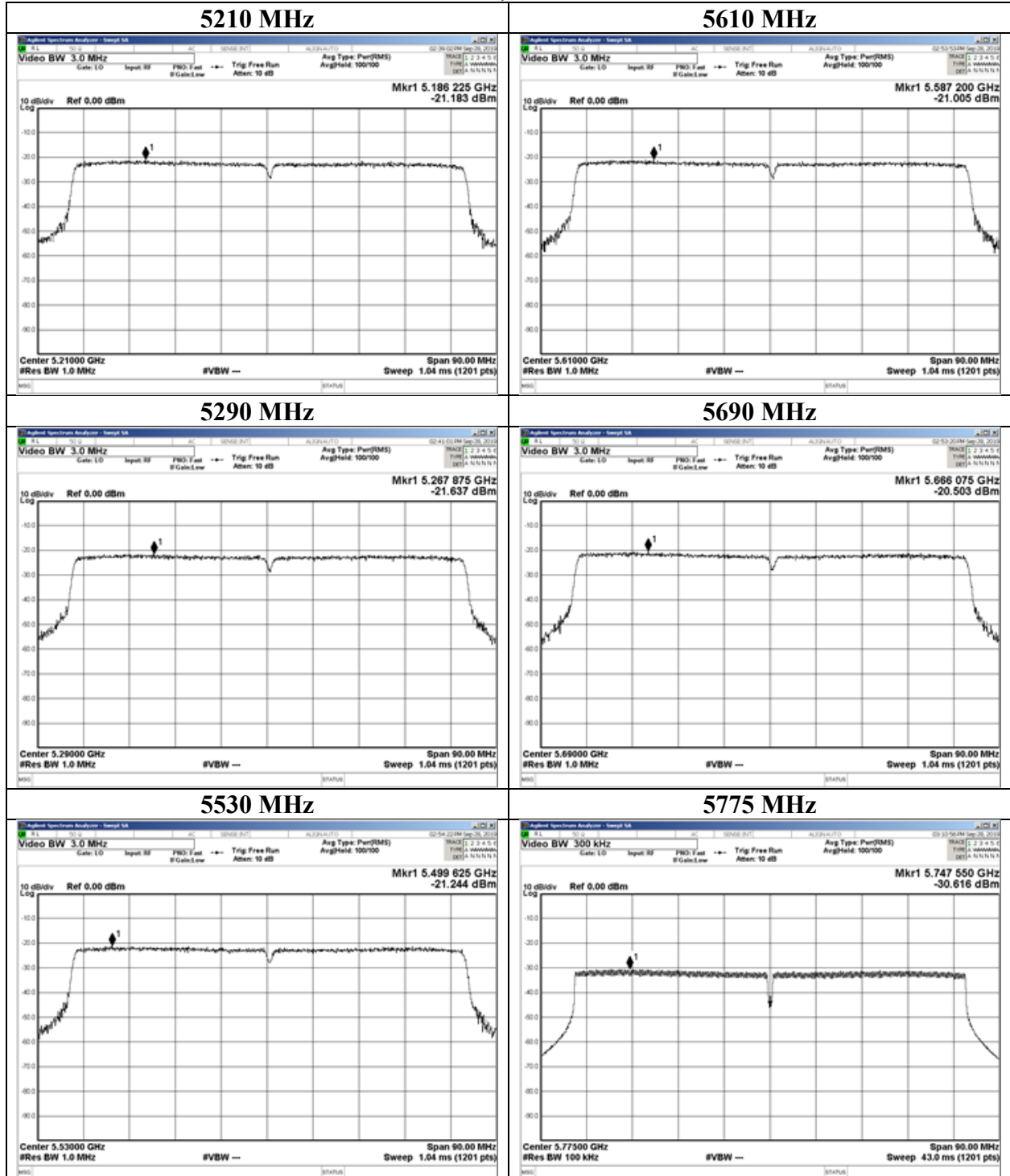
### 11ac-80, Chain 0



## Maximum Power Spectral Density

|                        |                                      |
|------------------------|--------------------------------------|
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| Test place             | Shonan EMC Lab. No.3 Shielded Room   |
| Date                   | September 27, 2019                   |
| Temperature / Humidity | 26 deg. C / 42 % RH                  |
| Engineer               | Takahiro Kawakami                    |
| Mode                   | Tx, 11ac-80 (MIMO), (serial no. B-5) |

### 11ac-80, Chain 1



## Radiated Spurious Emission

|                             |                                                   |                    |                    |                     |                     |
|-----------------------------|---------------------------------------------------|--------------------|--------------------|---------------------|---------------------|
| Report No.                  | 13004393S-E-R2                                    |                    |                    |                     |                     |
| Test place                  | Shonan EMC Lab.                                   |                    |                    |                     |                     |
| Semi Anechoic Chamber (No.) | 3                                                 | 3                  | 3                  | 3                   | 3                   |
| Date                        | September 6, 2019                                 | September 10, 2019 | September 12, 2019 | September 14, 2019  | September 15, 2019  |
| Temperature / Humidity      | 24 deg. C / 61 % RH                               | 23 deg. C / 55 %RH | 24 deg. C / 54 %RH | 25 deg. C / 51 %RH  | 24 deg. C / 63 %RH  |
| Engineer                    | Makoto Hosaka                                     | Kazuya Noda        | Kazuya Noda        | Takahiro Kawakami   | Toshinori Yamada    |
|                             | (1 GHz – 6.4 GHz)                                 | (6.4 G – 13 GHz)   | (13 GHz – 18 GHz)  | (18 GHz – 26.5 GHz) | (26.5 GHz – 40 GHz) |
| Mode                        | Tx, 11n-20 (MIMO), 5180 MHz, (EUT serial no. A-7) |                    |                    |                     |                     |

### (above 1GHz Inside of the restricted band)

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark     |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|------------|
| Hori.    | 5150.000        | PK       | 51.52          | 32.26           | 16.25     | 43.04     | 2.15                 | 59.14           | 73.9           | 14.8        | 132         | 341          | -          |
| Hori.    | 15540.000       | PK       | 48.12          | 39.48           | 11.75     | 40.79     | -9.54                | 49.02           | 73.9           | 24.9        | 255         | 276          | -          |
| Hori.    | 5150.000        | AV       | 39.15          | 32.26           | 16.25     | 43.04     | 2.15                 | 46.77           | 53.9           | 7.1         | 132         | 341          | VBW: 1 kHz |
| Hori.    | 15540.000       | AV       | 37.20          | 39.48           | 11.75     | 40.79     | -9.54                | 38.10           | 53.9           | 15.8        | 255         | 276          | VBW: 1 kHz |
| Vert.    | 5150.000        | PK       | 52.27          | 32.26           | 16.25     | 43.04     | 2.15                 | 59.89           | 73.9           | 14.0        | 275         | 204          | -          |
| Vert.    | 15540.000       | PK       | 49.03          | 39.48           | 11.75     | 40.79     | -9.54                | 49.93           | 73.9           | 24.0        | 203         | 215          | -          |
| Vert.    | 5150.000        | AV       | 39.54          | 32.26           | 16.25     | 43.04     | 2.15                 | 47.16           | 53.9           | 6.7         | 275         | 204          | VBW: 1 kHz |
| Vert.    | 15540.000       | AV       | 37.65          | 39.48           | 11.75     | 40.79     | -9.54                | 38.55           | 53.9           | 15.4        | 203         | 215          | VBW: 1 kHz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.84\text{ m} / 3.0\text{ m}) = 2.15\text{ dB}$

13 GHz - 40 GHz :  $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Result (EIRP) [dBm] | Limit [dBm] | Margin [dB] | Height [cm] | Angle [deg.] | Remark |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|---------------------|-------------|-------------|-------------|--------------|--------|
| Hori.    | 10360.000       | PK       | 49.51          | 39.20           | 9.16      | 42.69     | 2.15                 | 57.33           | -37.89              | -27.0       | 10.9        | 159         | 93           | -      |
| Vert.    | 10360.000       | PK       | 49.49          | 39.20           | 9.16      | 42.69     | 2.15                 | 57.31           | -37.91              | -27.0       | 10.9        | 244         | 144          | -      |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

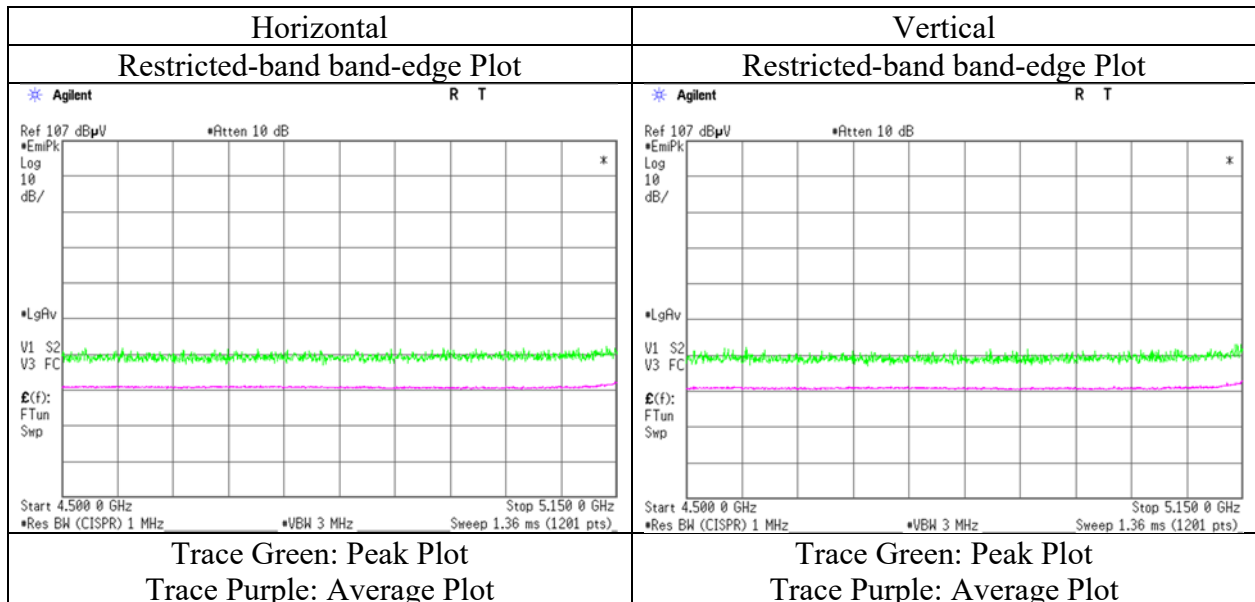
Result(EIRP[dBm])=10\*LOG (({ 10 ^ ( Electric Field Strength [dBuV/m] / 20 ) \* 10 ^ (-6) \* Distance:3[m] ) ^ 2 } / 30) \*10^3)

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.84\text{ m} / 3.0\text{ m}) = 2.15\text{ dB}$

13 GHz - 40 GHz :  $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$



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

**UL Japan, Inc.**

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## Radiated Spurious Emission

|                             |                                                   |                    |                     |                     |
|-----------------------------|---------------------------------------------------|--------------------|---------------------|---------------------|
| Report No.                  | 13004393S-E-R2                                    |                    |                     |                     |
| Test place                  | Shonan EMC Lab.                                   |                    |                     |                     |
| Semi Anechoic Chamber (No.) | 3                                                 | 3                  | 3                   | 3                   |
| Date                        | September 10, 2019                                | September 12, 2019 | September 14, 2019  | September 15, 2019  |
| Temperature / Humidity      | 23 deg.C / 55 %RH                                 | 24 deg.C / 54 %RH  | 25 deg.C / 51 %RH   | 24 deg.C / 63 %RH   |
| Engineer                    | Kazuya Noda                                       | Kazuya Noda        | Takahiro Kawakami   | Toshinori Yamada    |
|                             | (1 GHz - 13 GHz)                                  | (13 GHz - 18 GHz)  | (18 GHz - 26.5 GHz) | (26.5 GHz - 40 GHz) |
| Mode                        | Tx, 11n-20 (MIMO), 5240 MHz, (EUT serial no. A-7) |                    |                     |                     |

### (above 1GHz Inside of the restricted band)

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark     |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|------------|
| Hori.    | 15720.000       | PK       | 47.74          | 38.80           | 11.73     | 40.60     | -9.54                | 48.13           | 73.9           | 25.8        | 253         | 278          | -          |
| Hori.    | 15720.000       | AV       | 36.26          | 38.80           | 11.73     | 40.60     | -9.54                | 36.65           | 53.9           | 17.3        | 253         | 278          | VBW: 1 kHz |
| Vert.    | 15720.000       | PK       | 48.24          | 38.80           | 11.73     | 40.60     | -9.54                | 48.63           | 73.9           | 25.3        | 208         | 211          | -          |
| Vert.    | 15720.000       | AV       | 36.82          | 38.80           | 11.73     | 40.60     | -9.54                | 37.21           | 53.9           | 16.7        | 208         | 211          | VBW: 1 kHz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.84\text{ m} / 3.0\text{ m}) = 2.15\text{ dB}$

13 GHz - 40 GHz :  $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Result (EIRP) [dBm] | Limit [dBm] | Margin [dB] | Height [cm] | Angle [deg.] | Remark |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|---------------------|-------------|-------------|-------------|--------------|--------|
| Hori.    | 10480.000       | PK       | 49.29          | 39.56           | 9.19      | 42.66     | 2.15                 | 57.53           | -37.69              | -27.0       | 10.7        | 162         | 95           | -      |
| Vert.    | 10480.000       | PK       | 48.34          | 39.56           | 9.19      | 42.66     | 2.15                 | 56.58           | -38.64              | -27.0       | 11.6        | 228         | 143          | -      |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result(EIRP[dBm]) =  $10 \cdot \log \left( \left( \left( 10^{\frac{\text{Result [dBuV/m]}}{20}} \right) \cdot \left( \frac{\text{Electric Field Strength [dBuV/m]}}{20} \right) \cdot 10^{-6} \right) \cdot \text{Distance:3[m]}^2 \right) / 30 \cdot 10^3$

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.84\text{ m} / 3.0\text{ m}) = 2.15\text{ dB}$

13 GHz - 40 GHz :  $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

## Radiated Spurious Emission

|                             |                                                   |                                   |                                  |                                          |                                         |
|-----------------------------|---------------------------------------------------|-----------------------------------|----------------------------------|------------------------------------------|-----------------------------------------|
| Report No.                  | 13004393S-E-R2                                    |                                   |                                  |                                          |                                         |
| Test place                  | Shonan EMC Lab.                                   |                                   |                                  |                                          |                                         |
| Semi Anechoic Chamber (No.) | 3                                                 | 3                                 | 3                                | 3                                        | 3                                       |
| Date                        | September 6, 2019                                 | September 10, 2019                | September 12, 2019               | September 14, 2019                       | September 15, 2019                      |
| Temperature / Humidity      | 24 deg. C / 61 % RH                               | 23 deg. C / 55 % RH               | 24 deg. C / 54 % RH              | 25 deg. C / 51 % RH                      | 24 deg. C / 63 % RH                     |
| Engineer                    | Makoto Hosaka<br>(1 GHz – 6.4 GHz)                | Kazuya Noda<br>(6.4 GHz – 13 GHz) | Kazuya Noda<br>(13 GHz – 18 GHz) | Takahiro Kawakami<br>(18 GHz – 26.5 GHz) | Toshinori Yamada<br>(26.5 GHz – 40 GHz) |
| Mode                        | Tx, 11n-20 (MIMO), 5320 MHz, (EUT serial no. A-7) |                                   |                                  |                                          |                                         |

### (above 1GHz Inside of the restricted band)

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark     |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|------------|
| Hori.    | 5350.000        | PK       | 51.06          | 31.98           | 16.29     | 43.21     | 2.15                 | 58.27           | 73.9           | 15.6        | 104         | 342          | -          |
| Hori.    | 10640.000       | PK       | 49.07          | 39.66           | 9.24      | 42.67     | 2.15                 | 57.45           | 73.9           | 16.5        | 152         | 93           | -          |
| Hori.    | 15960.000       | PK       | 48.48          | 38.21           | 11.70     | 40.34     | -9.54                | 48.51           | 73.9           | 25.4        | 144         | 237          | -          |
| Hori.    | 5350.000        | AV       | 38.74          | 31.98           | 16.29     | 43.21     | 2.15                 | 45.95           | 53.9           | 8.0         | 104         | 342          | VBW: 1 kHz |
| Hori.    | 10640.000       | AV       | 37.88          | 39.66           | 9.24      | 42.67     | 2.15                 | 46.26           | 53.9           | 7.6         | 152         | 93           | VBW: 1 kHz |
| Hori.    | 15960.000       | AV       | 36.17          | 38.21           | 11.70     | 40.34     | -9.54                | 36.20           | 53.9           | 17.7        | 144         | 237          | VBW: 1 kHz |
| Vert.    | 5350.000        | PK       | 52.39          | 31.98           | 16.29     | 43.21     | 2.15                 | 59.60           | 73.9           | 14.3        | 261         | 204          | -          |
| Vert.    | 10640.000       | PK       | 49.81          | 39.66           | 9.24      | 42.67     | 2.15                 | 58.19           | 73.9           | 15.7        | 223         | 145          | -          |
| Vert.    | 15960.000       | PK       | 47.95          | 38.21           | 11.70     | 40.34     | -9.54                | 47.98           | 73.9           | 25.9        | 214         | 207          | -          |
| Vert.    | 5350.000        | AV       | 38.70          | 31.98           | 16.29     | 43.21     | 2.15                 | 45.91           | 53.9           | 8.0         | 261         | 204          | VBW: 1 kHz |
| Vert.    | 10640.000       | AV       | 37.91          | 39.66           | 9.24      | 42.67     | 2.15                 | 46.29           | 53.9           | 7.6         | 223         | 145          | VBW: 1 kHz |
| Vert.    | 15960.000       | AV       | 36.08          | 38.21           | 11.70     | 40.34     | -9.54                | 36.11           | 53.9           | 17.8        | 214         | 207          | VBW: 1 kHz |

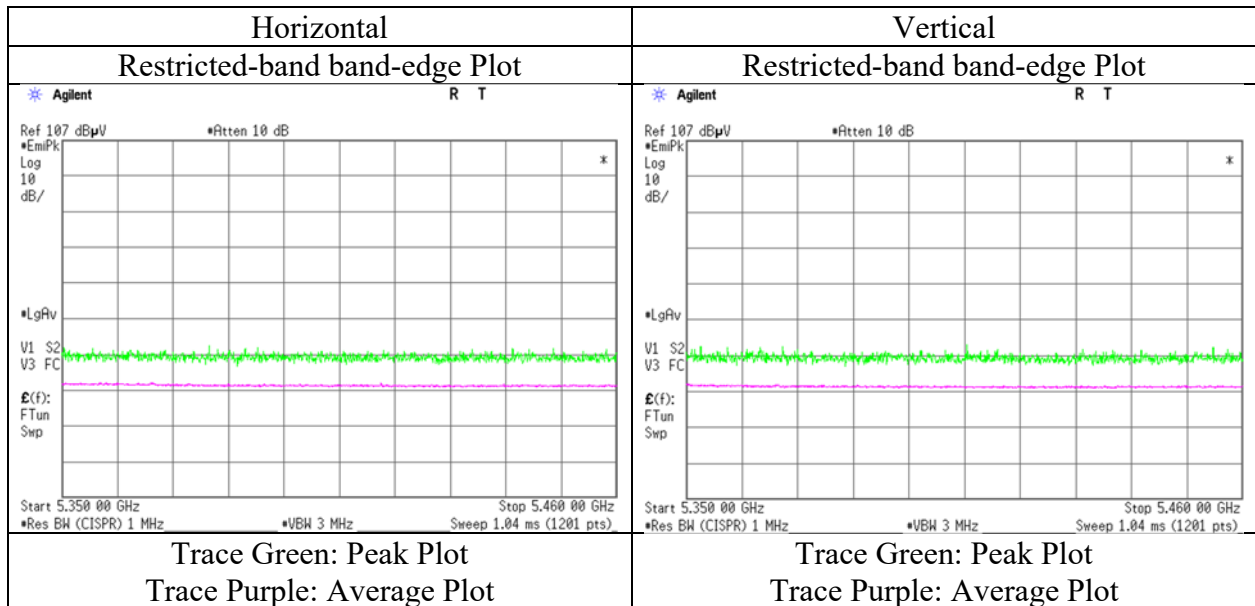
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.84\text{ m} / 3.0\text{ m}) = 2.15\text{ dB}$

13 GHz - 40 GHz :  $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$



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

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## Radiated Spurious Emission

Report No. 13004393S-E-R2  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber No.3  
Date September 6, 2019  
Temperature / Humidity 24 deg. C / 61 % RH  
Engineer Makoto Hosaka  
(1 GHz – 6.4 GHz)  
Mode Tx, 11n-20 (CDD), 5180 MHz, (EUT serial no. A-7)

### (above 1GHz Inside of the restricted band)

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

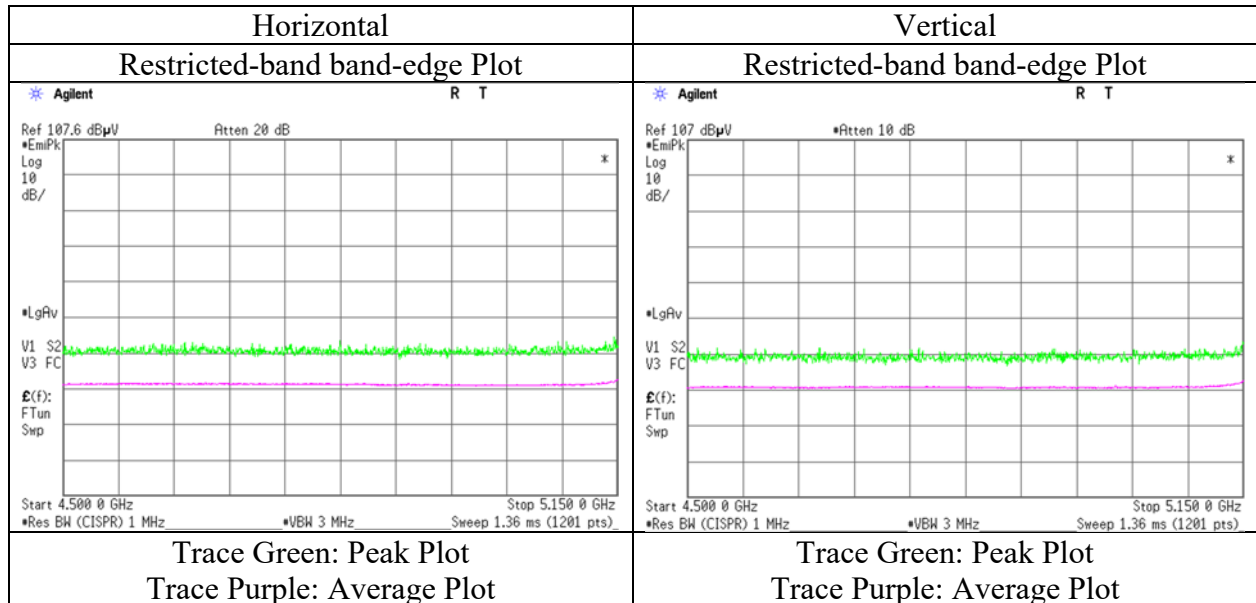
| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark     |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|------------|
| Hori.    | 5150.000        | PK       | 55.09          | 32.26           | 16.25     | 43.04     | 2.15                 | 62.71           | 73.9           | 11.1        | 128         | 336          | -          |
| Hori.    | 5150.000        | AV       | 39.18          | 32.26           | 16.25     | 43.04     | 2.15                 | 46.80           | 53.9           | 7.1         | 128         | 336          | VBW: 510Hz |
| Vert.    | 5150.000        | PK       | 55.65          | 32.26           | 16.25     | 43.04     | 2.15                 | 63.27           | 73.9           | 10.6        | 246         | 181          | -          |
| Vert.    | 5150.000        | AV       | 39.34          | 32.26           | 16.25     | 43.04     | 2.15                 | 46.96           | 53.9           | 6.9         | 246         | 181          | VBW: 510Hz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable + (Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic is not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz : 20log(3.84 m / 3.0 m) = 2.15 dB



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

## Radiated Spurious Emission

|                        |                                                  |
|------------------------|--------------------------------------------------|
| Report No.             | 13004393S-E-R2                                   |
| Test place             | Shonan EMC Lab.                                  |
| Semi Anechoic Chamber  | No.3                                             |
| Date                   | September 6, 2019                                |
| Temperature / Humidity | 24 deg. C / 61 % RH                              |
| Engineer               | Makoto Hosaka                                    |
|                        | (1 GHz – 6.4 GHz)                                |
| Mode                   | Tx, 11n-20 (CDD), 5320 MHz, (EUT serial no. A-7) |

### (above 1GHz Inside of the restricted band)

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

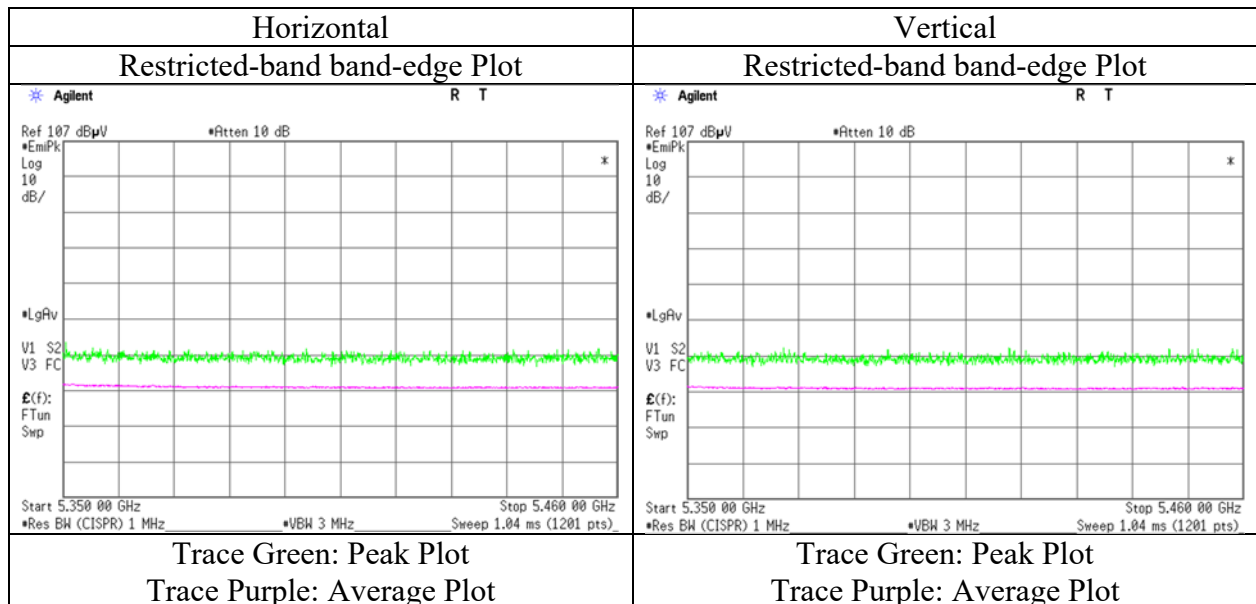
| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark     |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|------------|
| Hori.    | 5350.000        | PK       | 52.98          | 31.98           | 16.29     | 43.21     | 2.15                 | 60.19           | 73.9           | 13.7        | 156         | 336          | -          |
| Hori.    | 5350.000        | AV       | 38.47          | 31.98           | 16.29     | 43.21     | 2.15                 | 45.68           | 53.9           | 8.2         | 156         | 336          | VBW: 510Hz |
| Vert.    | 5350.000        | PK       | 51.36          | 31.98           | 16.29     | 43.21     | 2.15                 | 58.57           | 73.9           | 15.3        | 260         | 205          | -          |
| Vert.    | 5350.000        | AV       | 38.19          | 31.98           | 16.29     | 43.21     | 2.15                 | 45.40           | 53.9           | 8.5         | 260         | 205          | VBW: 510Hz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.84\text{ m} / 3.0\text{ m}) = 2.15\text{ dB}$



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



## Radiated Spurious Emission

Report No. 13004393S-E-R2  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber No.3  
Date September 20, 2019  
Temperature / Humidity 22 deg. C / 64 % RH  
Engineer Makoto Hosaka  
(1 GHz – 6.4 GHz)  
Mode Tx, 11n-20 (CDD), 5180 MHz, with 3DH5 hopping (EUT serial no. A-7)

### (above 1GHz Inside of the restricted band)

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

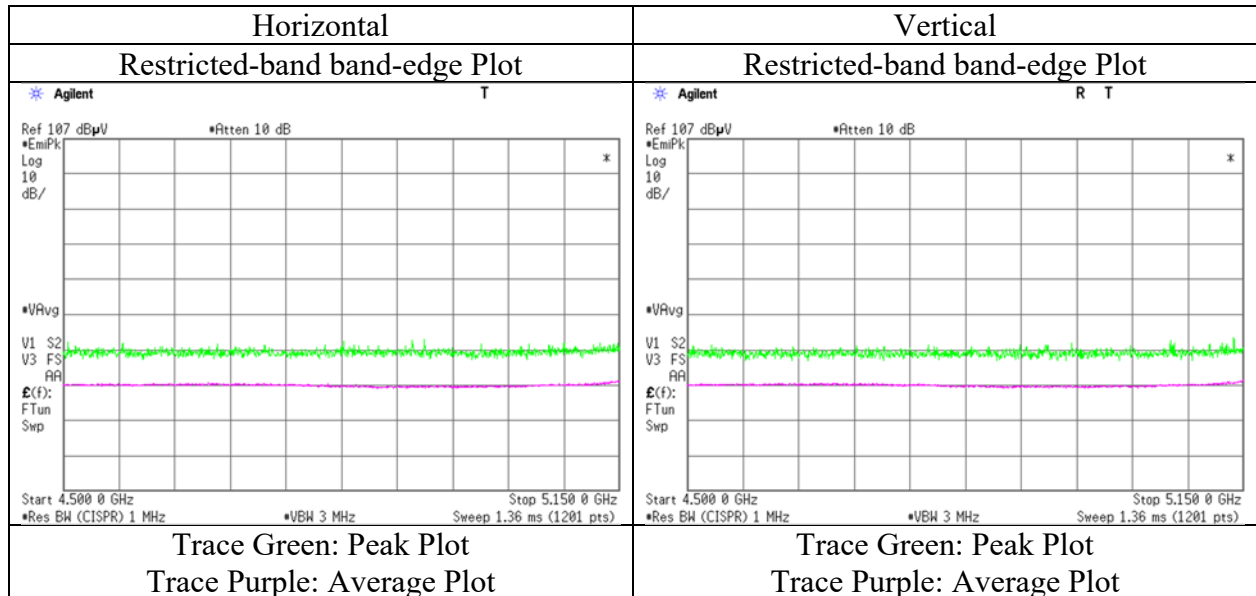
| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark      |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|-------------|
| Hori.    | 5150.000        | PK       | 53.69          | 32.26           | 16.34     | 43.04     | 2.14                 | 61.39           | 73.9           | 12.5        | 146         | 341          | -           |
| Hori.    | 5150.000        | AV       | 38.81          | 32.26           | 16.34     | 43.04     | 2.14                 | 46.51           | 53.9           | 7.3         | 146         | 341          | VBW: 510 Hz |
| Vert.    | 5150.000        | PK       | 54.22          | 32.26           | 16.34     | 43.04     | 2.14                 | 61.92           | 73.9           | 11.9        | 239         | 339          | -           |
| Vert.    | 5150.000        | AV       | 38.71          | 32.26           | 16.34     | 43.04     | 2.14                 | 46.41           | 53.9           | 7.4         | 239         | 339          | VBW: 510 Hz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz : 20log(3.84 m / 3.0 m) = 2.15 dB



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

## Radiated Spurious Emission

Report No. 13004393S-E-R2  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber No.3  
Date September 20, 2019  
Temperature / Humidity 22 deg. C / 64 % RH  
Engineer Makoto Hosaka  
(1 GHz – 6.4 GHz)  
Mode Tx, 11n-20 (CDD), 5320 MHz, with 3DH5 hopping (EUT serial no. A-7)

### (above 1GHz Inside of the restricted band)

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

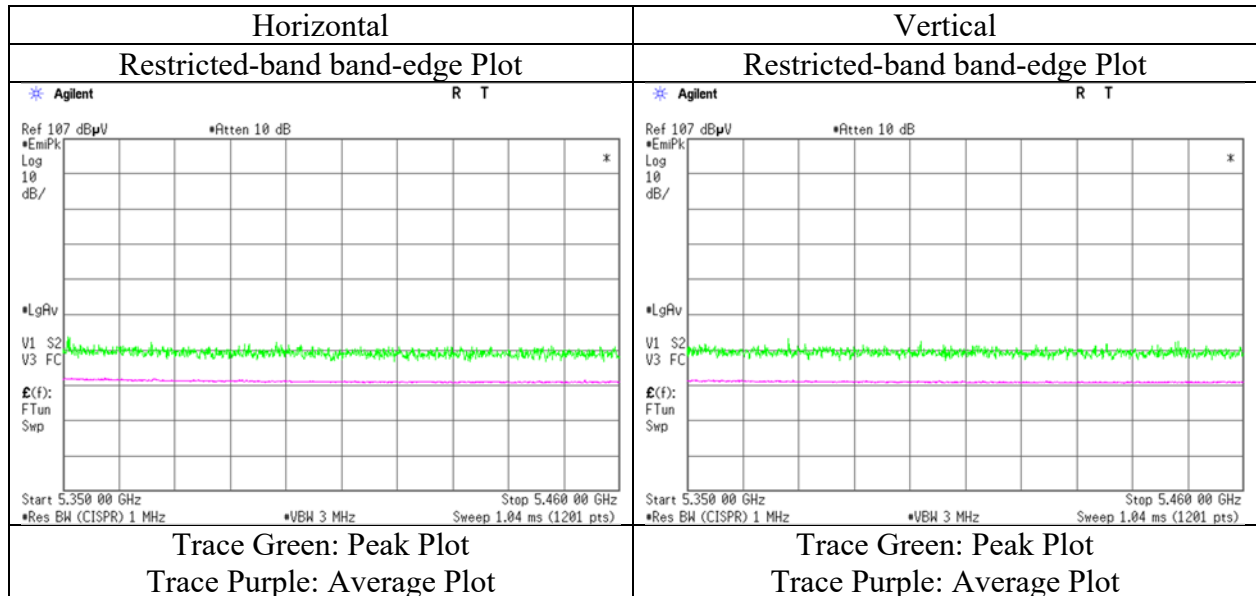
| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark      |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|-------------|
| Hori.    | 5350.000        | PK       | 52.59          | 31.98           | 16.41     | 43.21     | 2.14                 | 59.91           | 73.9           | 13.9        | 115         | 341          | -           |
| Hori.    | 5350.000        | AV       | 38.82          | 31.98           | 16.41     | 43.21     | 2.14                 | 46.14           | 53.9           | 7.7         | 115         | 341          | VBW: 510 Hz |
| Vert.    | 5350.000        | PK       | 50.69          | 31.98           | 16.41     | 43.21     | 2.14                 | 58.01           | 73.9           | 15.8        | 209         | 340          | -           |
| Vert.    | 5350.000        | AV       | 38.04          | 31.98           | 16.41     | 43.21     | 2.14                 | 45.36           | 53.9           | 8.5         | 209         | 340          | VBW: 510 Hz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz : 20log (3.84 m / 3.0 m) = 2.15 dB



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

## Radiated Spurious Emission

|                             |                                                   |                    |                     |                     |
|-----------------------------|---------------------------------------------------|--------------------|---------------------|---------------------|
| Report No.                  | 13004393S-E-R2                                    |                    |                     |                     |
| Test place                  | Shonan EMC Lab.                                   |                    |                     |                     |
| Semi Anechoic Chamber (No.) | 3                                                 | 3                  | 3                   | 3                   |
| Date                        | September 11, 2019                                | September 13, 2019 | September 14, 2019  | September 15, 2019  |
| Temperature / Humidity      | 24 deg. C / 51 % RH                               | 25 deg. C / 50 %RH | 25 deg. C / 51 %RH  | 24 deg. C / 63 %RH  |
| Engineer                    | Kazuya Noda                                       | Hiromasa Sato      | Toshinori Yamada    | Takahiro Kawakami   |
|                             | (1 GHz – 13 GHz)                                  | (13 GHz – 18 GHz)  | (18 GHz – 26.5 GHz) | (26.5 GHz – 40 GHz) |
| Mode                        | Tx, 11n-20 (MIMO), 5180 MHz, (EUT serial no. B-5) |                    |                     |                     |

### (above 1GHz Inside of the restricted band)

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark     |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|------------|
| Hori.    | 15540.000       | PK       | 49.42          | 39.48           | 11.75     | 40.79     | -9.54                | 50.32           | 73.9           | 23.5        | 167         | 254          | -          |
| Hori.    | 15540.000       | AV       | 38.02          | 39.48           | 11.75     | 40.79     | -9.54                | 38.92           | 53.9           | 14.9        | 167         | 254          | VBW: 1 kHz |
| Vert.    | 15540.000       | PK       | 49.06          | 39.48           | 11.75     | 40.79     | -9.54                | 49.96           | 73.9           | 23.9        | 171         | 249          | -          |
| Vert.    | 15540.000       | AV       | 38.78          | 39.48           | 11.75     | 40.79     | -9.54                | 39.68           | 53.9           | 14.2        | 171         | 249          | VBW: 1 kHz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.79\text{ m} / 3.0\text{ m}) = 2.04\text{ dB}$

13 GHz - 40 GHz :  $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Result (EIRP) [dBm] | Limit [dBm] | Margin [dB] | Height [cm] | Angle [deg.] | Remark |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|---------------------|-------------|-------------|-------------|--------------|--------|
| Hori.    | 10360.000       | PK       | 48.72          | 39.20           | 9.16      | 42.69     | 2.04                 | 56.43           | -38.79              | -27.0       | 11.8        | 138         | 346          | -      |
| Vert.    | 10360.000       | PK       | 48.87          | 39.20           | 9.16      | 42.69     | 2.04                 | 56.58           | -38.64              | -27.0       | 11.6        | 106         | 90           | -      |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result(EIRP[dBm])= $10\log((\{10^{\frac{1}{2}} \times (\text{Electric Field Strength [dBuV/m]} / 20) \times 10^{-6} \times \text{Distance:3[m]}^2\} / 30) \times 10^3)$

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.79\text{ m} / 3.0\text{ m}) = 2.04\text{ dB}$

13 GHz - 40 GHz :  $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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## Radiated Spurious Emission

|                             |                                                   |                    |                     |                     |
|-----------------------------|---------------------------------------------------|--------------------|---------------------|---------------------|
| Report No.                  | 13004393S-E-R2                                    |                    |                     |                     |
| Test place                  | Shonan EMC Lab.                                   |                    |                     |                     |
| Semi Anechoic Chamber (No.) | 3                                                 | 3                  | 3                   | 3                   |
| Date                        | September 11, 2019                                | September 13, 2019 | September 14, 2019  | September 15, 2019  |
| Temperature / Humidity      | 24 deg.C / 51 % RH                                | 25 deg.C / 50 %RH  | 25 deg.C / 51 %RH   | 24 deg.C / 63 %RH   |
| Engineer                    | Kazuya Noda                                       | Hiromasa Sato      | Toshinori Yamada    | Takahiro Kawakami   |
|                             | (1 GHz – 13 GHz)                                  | (13 GHz – 18 GHz)  | (18 GHz – 26.5 GHz) | (26.5 GHz – 40 GHz) |
| Mode                        | Tx, 11n-20 (MIMO), 5240 MHz, (EUT serial no. B-5) |                    |                     |                     |

### (above 1GHz Inside of the restricted band)

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark     |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|------------|
| Hori.    | 15720.000       | PK       | 48.04          | 38.80           | 11.73     | 40.60     | -9.54                | 48.43           | 73.9           | 25.5        | 153         | 236          | -          |
| Hori.    | 15720.000       | AV       | 36.74          | 38.80           | 11.73     | 40.60     | -9.54                | 37.13           | 53.9           | 16.8        | 153         | 236          | VBW: 1 kHz |
| Vert.    | 15720.000       | PK       | 47.86          | 38.80           | 11.73     | 40.60     | -9.54                | 48.25           | 73.9           | 25.7        | 162         | 259          | -          |
| Vert.    | 15720.000       | AV       | 37.37          | 38.80           | 11.73     | 40.60     | -9.54                | 37.76           | 53.9           | 16.1        | 162         | 259          | VBW: 1 kHz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.79\text{ m} / 3.0\text{ m}) = 2.04\text{ dB}$

13 GHz - 40 GHz :  $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Result (EIRP) [dBm] | Limit [dBm] | Margin [dB] | Height [cm] | Angle [deg.] | Remark |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|---------------------|-------------|-------------|-------------|--------------|--------|
| Hori.    | 10480.000       | PK       | 48.98          | 39.56           | 9.19      | 42.66     | 2.04                 | 57.11           | -38.11              | -27.0       | 11.1        | 108         | 343          | -      |
| Vert.    | 10480.000       | PK       | 49.19          | 39.56           | 9.19      | 42.66     | 2.04                 | 57.32           | -37.90              | -27.0       | <b>10.9</b> | 121         | 92           | -      |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result(EIRP[dBm])= $10\log((\{10^{\wedge}(\text{Electric Field Strength [dBuV/m]} / 20) * 10^{\wedge}(-6) * \text{Distance:3[m]}^{\wedge}2\} / 30) * 10^{\wedge}3)$

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.79\text{ m} / 3.0\text{ m}) = 2.04\text{ dB}$

13 GHz - 40 GHz :  $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

## Radiated Spurious Emission

|                             |                                                   |                    |                     |                     |
|-----------------------------|---------------------------------------------------|--------------------|---------------------|---------------------|
| Report No.                  | 13004393S-E-R2                                    |                    |                     |                     |
| Test place                  | Shonan EMC Lab.                                   |                    |                     |                     |
| Semi Anechoic Chamber (No.) | 3                                                 | 3                  | 3                   | 3                   |
| Date                        | September 11, 2019                                | September 13, 2019 | September 14, 2019  | September 15, 2019  |
| Temperature / Humidity      | 24 deg. C / 51 % RH                               | 25 deg. C / 50 %RH | 25 deg. C / 51 %RH  | 24 deg. C / 63 %RH  |
| Engineer                    | Kazuya Noda                                       | Hiromasa Sato      | Toshinori Yamada    | Takahiro Kawakami   |
|                             | (1 GHz – 13 GHz)                                  | (13 GHz – 18 GHz)  | (18 GHz – 26.5 GHz) | (26.5 GHz – 40 GHz) |
| Mode                        | Tx, 11n-20 (MIMO), 5320 MHz, (EUT serial no. B-5) |                    |                     |                     |

### (above 1GHz Inside of the restricted band)

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark      |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|-------------|
| Hori.    | 10640.000       | PK       | 49.03          | 39.66           | 9.24      | 42.67     | 2.04                 | 57.30           | 73.9           | 16.6        | 313         | 342          | -           |
| Hori.    | 15960.000       | PK       | 47.75          | 38.21           | 11.70     | 40.34     | -9.54                | 47.78           | 73.9           | 26.1        | 159         | 236          | -           |
| Hori.    | 10640.000       | AV       | 37.31          | 39.66           | 9.24      | 42.67     | 2.04                 | 45.58           | 53.9           | 8.3         | 313         | 342          | VBW : 1 kHz |
| Hori.    | 15960.000       | AV       | 36.93          | 38.21           | 11.70     | 40.34     | -9.54                | 36.96           | 53.9           | 16.9        | 159         | 236          | VBW : 1 kHz |
| Vert.    | 10640.000       | PK       | 49.68          | 39.66           | 9.24      | 42.67     | 2.04                 | 57.95           | 73.9           | 16.0        | 105         | 99           | -           |
| Vert.    | 15960.000       | PK       | 47.83          | 38.21           | 11.70     | 40.34     | -9.54                | 47.86           | 73.9           | 26.0        | 150         | 225          | -           |
| Vert.    | 10640.000       | AV       | 37.56          | 39.66           | 9.24      | 42.67     | 2.04                 | 45.83           | 53.9           | 8.1         | 105         | 99           | VBW : 1 kHz |
| Vert.    | 15960.000       | AV       | 37.76          | 38.21           | 11.70     | 40.34     | -9.54                | 37.79           | 53.9           | 16.1        | 150         | 225          | VBW : 1 kHz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.79\text{ m} / 3.0\text{ m}) = 2.04\text{ dB}$

13 GHz - 40 GHz :  $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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## Radiated Spurious Emission

Report No. 13004393S-E-R2  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber No.3  
Date September 22, 2019  
Temperature / Humidity 24 deg. C / 59 % RH  
Engineer Makoto Hosaka  
(1 GHz – 6.4 GHz)  
Mode Tx, 11n-20 (CDD), 5180 MHz, (EUT serial no. B-5)

### (above 1GHz Inside of the restricted band)

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

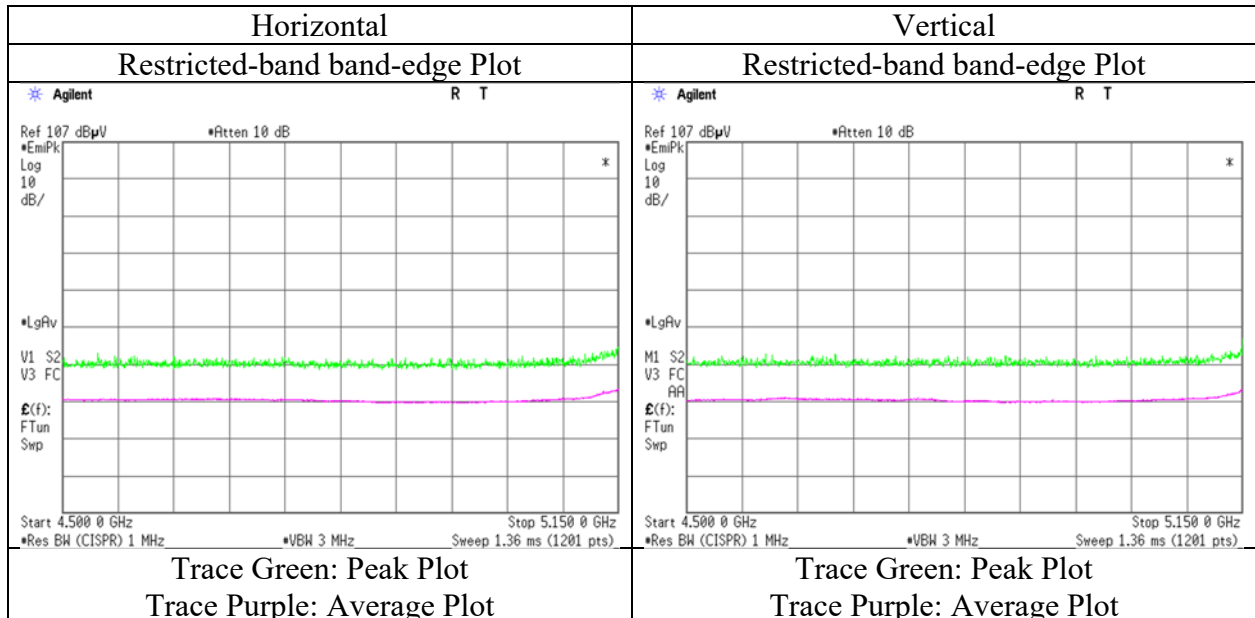
| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark      |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|-------------|
| Hori.    | 5150.000        | PK       | 51.21          | 32.26           | 16.34     | 43.04     | 2.04                 | 58.81           | 73.9           | 15.0        | 102         | 176          | -           |
| Hori.    | 5150.000        | AV       | 40.64          | 32.26           | 16.34     | 43.04     | 2.04                 | 48.24           | 53.9           | 5.6         | 102         | 176          | VBW: 510 Hz |
| Vert.    | 5150.000        | PK       | 55.49          | 32.26           | 16.34     | 43.04     | 2.04                 | 63.09           | 73.9           | 10.8        | 271         | 175          | -           |
| Vert.    | 5150.000        | AV       | 40.96          | 32.26           | 16.34     | 43.04     | 2.04                 | 48.56           | 53.9           | 5.3         | 271         | 175          | VBW: 510 Hz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.79\text{ m} / 3.0\text{ m}) = 2.04\text{ dB}$



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

## Radiated Spurious Emission

Report No. 13004393S-E-R2  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber No.3  
Date September 6, 2019  
Temperature / Humidity 24 deg. C / 61 % RH  
Engineer Makoto Hosaka  
(1 GHz – 6.4 GHz)  
Mode Tx, 11n-20 (CDD), 5320 MHz, (EUT serial no. B-5)

### (above 1GHz Inside of the restricted band)

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

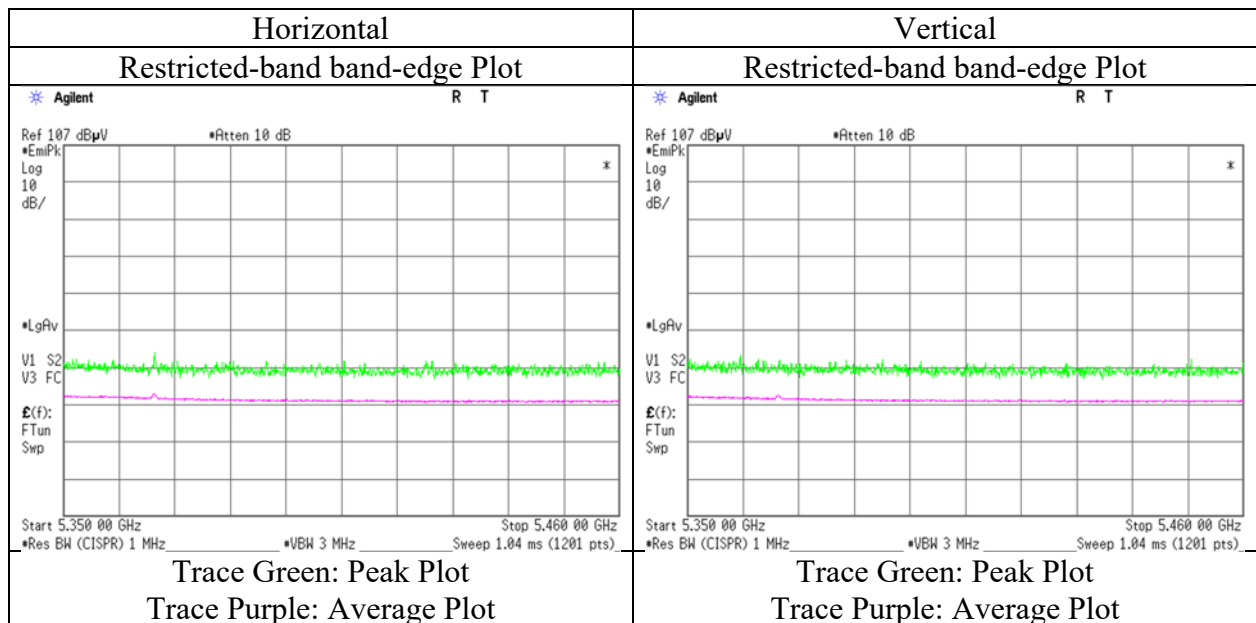
| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark      |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|-------------|
| Hori.    | 5350.000        | PK       | 51.03          | 31.98           | 16.29     | 43.21     | 2.15                 | 58.24           | 73.9           | 15.6        | 132         | 143          | -           |
| Hori.    | 5367.970        | PK       | 52.16          | 32.03           | 16.29     | 43.22     | 2.15                 | 59.41           | 73.9           | 14.4        | 132         | 143          | -           |
| Hori.    | 5350.000        | AV       | 39.16          | 31.98           | 16.29     | 43.21     | 2.15                 | 46.37           | 53.9           | 7.5         | 132         | 143          | VBW: 510 Hz |
| Hori.    | 5367.970        | AV       | 39.91          | 32.03           | 16.29     | 43.22     | 2.15                 | 47.16           | 53.9           | 6.7         | 132         | 143          | VBW: 510 Hz |
| Vert.    | 5350.000        | PK       | 52.47          | 31.98           | 16.29     | 43.21     | 2.15                 | 59.68           | 73.9           | 14.2        | 127         | 208          | -           |
| Vert.    | 5367.970        | PK       | 51.20          | 32.03           | 16.29     | 43.22     | 2.15                 | 58.45           | 73.9           | 15.4        | 127         | 208          | -           |
| Vert.    | 5350.000        | AV       | 39.01          | 31.98           | 16.29     | 43.21     | 2.15                 | 46.22           | 53.9           | 7.6         | 127         | 208          | VBW: 510 Hz |
| Vert.    | 5367.970        | AV       | 39.34          | 32.03           | 16.29     | 43.22     | 2.15                 | 46.59           | 53.9           | 7.3         | 127         | 208          | VBW: 510 Hz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.79\text{ m} / 3.0\text{ m}) = 2.04\text{ dB}$



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

## Radiated Spurious Emission

Report No. 13004393S-E-R2  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber No.3  
Date September 21, 2019  
Temperature / Humidity 25 deg. C / 52 % RH  
Engineer Takahiro Kawakami  
(1 GHz – 6.4 GHz)  
Mode Tx, 11n-20 (CDD), 5180 MHz, with 3DH5 hopping (EUT serial no. B-5)

### (above 1GHz Inside of the restricted band)

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

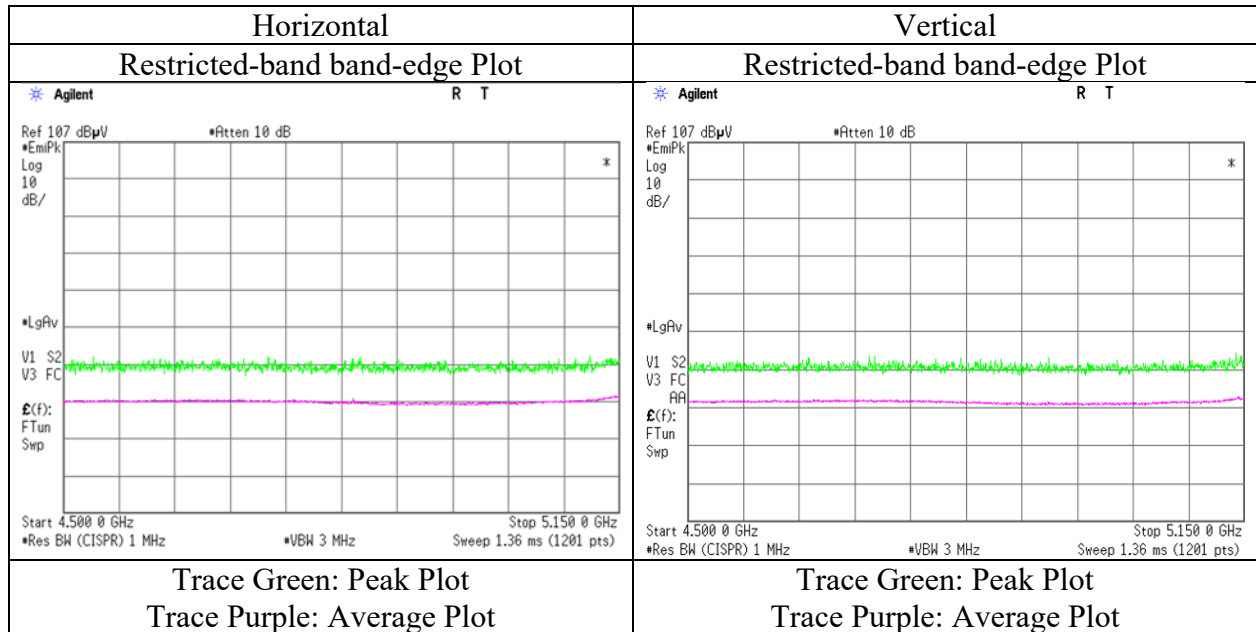
| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark      |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|-------------|
| Hori.    | 5150.000        | PK       | 52.57          | 32.26           | 16.34     | 43.04     | 2.04                 | 60.17           | 73.9           | 13.7        | 150         | 141          | -           |
| Hori.    | 5150.000        | AV       | 39.26          | 32.26           | 16.34     | 43.04     | 2.04                 | 46.86           | 53.9           | 7.0         | 150         | 141          | VBW: 510 Hz |
| Vert.    | 5150.000        | PK       | 52.37          | 32.26           | 16.34     | 43.04     | 2.04                 | 59.97           | 73.9           | 13.9        | 196         | 208          | -           |
| Vert.    | 5150.000        | AV       | 38.60          | 32.26           | 16.34     | 43.04     | 2.04                 | 46.20           | 53.9           | 7.7         | 196         | 208          | VBW: 510 Hz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz : 20log (3.79 m / 3.0 m) = 2.04 dB



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



## Radiated Spurious Emission

|                             |                                                                    |                     |                    |
|-----------------------------|--------------------------------------------------------------------|---------------------|--------------------|
| Report No.                  | 13004393S-E-R2                                                     |                     |                    |
| Test place                  | Shonan EMC Lab.                                                    |                     |                    |
| Semi Anechoic Chamber (No.) | 3                                                                  | 3                   | 3                  |
| Date                        | September 19, 2019                                                 | September 21, 2019  | September 19, 2019 |
| Temperature / Humidity      | 23 deg.C / 62 %RH                                                  | 25 deg. C / 52 % RH | 23 deg.C / 62 %RH  |
| Engineer                    | Takahiro Suzuki                                                    | Takahiro Kawakami   | Takahiro Suzuki    |
|                             | (30 MHz – 1 GHz)                                                   | (1 GHz – 13 GHz)    | (13 GHz – 40 GHz)  |
| Mode                        | Tx, 11n-20 (CDD), 5320 MHz, with 3DH5 hopping (EUT serial no. B-5) |                     |                    |

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

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark      |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|-------------|
| Hori.    | 151.292         | QP       | 35.79          | 14.72           | 7.85      | 32.12     | 0.00                 | 26.24           | 43.5           | 17.2        | 223         | 106          | -           |
| Hori.    | 221.885         | QP       | 43.08          | 11.02           | 8.22      | 32.04     | 0.00                 | 30.28           | 46.0           | 15.7        | 162         | 23           | -           |
| Hori.    | 239.869         | QP       | 43.92          | 11.31           | 8.35      | 32.02     | 0.00                 | 31.56           | 46.0           | 14.4        | 116         | 177          | -           |
| Hori.    | 696.027         | QP       | 35.36          | 19.28           | 10.35     | 31.87     | 0.00                 | 33.12           | 46.0           | 12.8        | 156         | 25           | -           |
| Hori.    | 720.015         | QP       | 34.08          | 19.75           | 10.44     | 31.83     | 0.00                 | 32.44           | 46.0           | 13.5        | 111         | 132          | -           |
| Hori.    | 5350.000        | PK       | 52.41          | 31.98           | 16.29     | 43.21     | 2.04                 | 59.51           | 73.9           | 7.9         | 100         | 1            | -           |
| Hori.    | 10640.000       | PK       | 49.30          | 39.66           | 9.24      | 42.67     | 2.04                 | 57.57           | 73.9           | 16.3        | 150         | 355          | -           |
| Hori.    | 15960.000       | PK       | 46.68          | 38.21           | 11.70     | 40.34     | -9.54                | 46.71           | 73.9           | 27.1        | 134         | 25           | -           |
| Hori.    | 5350.000        | AV       | 39.34          | 31.98           | 16.29     | 43.21     | 2.04                 | 46.44           | 53.9           | 7.4         | 100         | 1            | VBW: 510 Hz |
| Hori.    | 10640.000       | AV       | 36.79          | 39.66           | 9.24      | 42.67     | 2.04                 | 45.06           | 53.9           | 8.8         | 150         | 355          | VBW: 510 Hz |
| Hori.    | 15960.000       | AV       | 33.76          | 38.21           | 11.70     | 40.34     | -9.54                | 33.79           | 53.9           | 20.1        | 134         | 25           | VBW: 510 Hz |
| Vert.    | 94.483          | QP       | 43.35          | 9.01            | 7.50      | 32.15     | 0.00                 | 27.71           | 43.5           | 15.7        | 114         | 153          | -           |
| Vert.    | 155.568         | QP       | 42.26          | 14.86           | 7.89      | 32.11     | 0.00                 | 32.90           | 43.5           | 10.6        | 100         | 162          | -           |
| Vert.    | 684.077         | QP       | 35.69          | 19.25           | 10.31     | 31.89     | 0.00                 | 33.36           | 46.0           | 12.6        | 100         | 325          | -           |
| Vert.    | 713.959         | QP       | 34.39          | 19.62           | 10.42     | 31.84     | 0.00                 | 32.59           | 46.0           | 13.4        | 100         | 354          | -           |
| Vert.    | 920.633         | QP       | 26.18          | 21.67           | 11.08     | 30.90     | 0.00                 | 28.03           | 46.0           | 17.9        | 100         | 147          | -           |
| Vert.    | 5350.000        | PK       | 51.53          | 31.98           | 16.29     | 43.21     | 2.04                 | 58.63           | 73.9           | 15.2        | 100         | 0            | -           |
| Vert.    | 10640.000       | PK       | 49.61          | 39.66           | 9.24      | 42.67     | 2.04                 | 57.88           | 73.9           | 16.0        | 167         | 352          | -           |
| Vert.    | 15960.000       | PK       | 47.89          | 38.21           | 11.70     | 40.34     | -9.54                | 47.92           | 73.9           | 25.9        | 168         | 64           | -           |
| Vert.    | 5350.000        | AV       | 39.27          | 31.98           | 16.29     | 43.21     | 2.04                 | 46.37           | 53.9           | 7.5         | 100         | 0            | VBW: 510 Hz |
| Vert.    | 10640.000       | AV       | 36.86          | 39.66           | 9.24      | 42.67     | 2.04                 | 45.13           | 53.9           | 8.7         | 167         | 352          | VBW: 510 Hz |
| Vert.    | 15960.000       | AV       | 35.11          | 38.21           | 11.70     | 40.34     | -9.54                | 35.14           | 53.9           | 18.7        | 168         | 64           | VBW: 510 Hz |

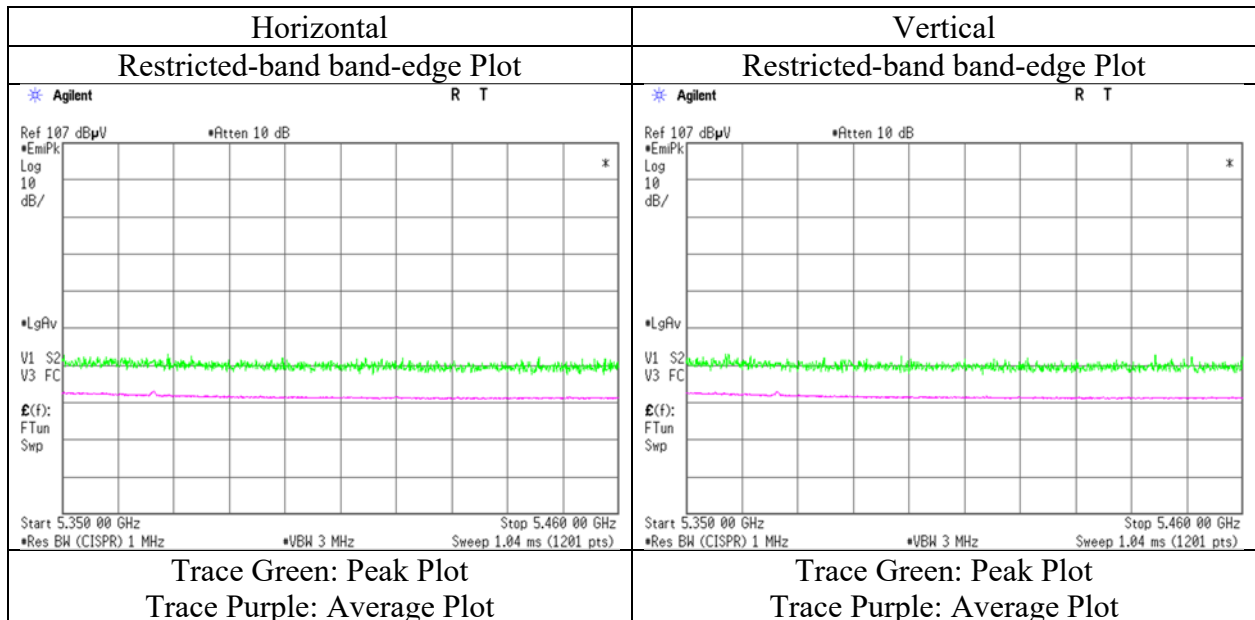
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.79 \text{ m} / 3.0 \text{ m}) = 2.04 \text{ dB}$

13 GHz - 40 GHz :  $20\log(1.0 \text{ m} / 3.0 \text{ m}) = -9.54 \text{ dB}$



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

**UL Japan, Inc.**

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## Radiated Spurious Emission

|                             |                                                    |                                    |                                       |                                  |                                          |                                         |
|-----------------------------|----------------------------------------------------|------------------------------------|---------------------------------------|----------------------------------|------------------------------------------|-----------------------------------------|
| Report No.                  | 13004393S-E-R2                                     |                                    |                                       |                                  |                                          |                                         |
| Test place                  | Shonan EMC Lab.                                    |                                    |                                       |                                  |                                          |                                         |
| Semi Anechoic Chamber (No.) | 3                                                  | 3                                  | 3                                     | 3                                | 3                                        | 3                                       |
| Date                        | September 19, 2019                                 | September 5, 2019                  | September 11, 2019                    | September 12, 2019               | September 14, 2019                       | September 15, 2019                      |
| Temperature / Humidity      | 23 deg. C / 64 % RH                                | 25 deg. C / 65 % RH                | 22 deg.C / 53 %RH                     | 24 deg.C / 54 %RH                | 25 deg.C / 51 %RH                        | 24 deg.C / 63 %RH                       |
| Engineer                    | Takahiro Suzuki<br>(30 MHz – 1 GHz)                | Makoto Hosaka<br>(1 GHz – 6.4 GHz) | Takahiro Kawakami<br>(6.4 G – 13 GHz) | Kazuya Noda<br>(13 GHz – 18 GHz) | Takahiro Kawakami<br>(18 GHz – 26.5 GHz) | Toshinori Yamada<br>(26.5 GHz – 40 GHz) |
| Mode                        | Tx, 11ac-40 (MIMO), 5190 MHz, (EUT serial no. A-7) |                                    |                                       |                                  |                                          |                                         |

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

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark      |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|-------------|
| Hori.    | 152.642         | QP       | 37.18          | 14.79           | 7.86      | 32.12     | 0.00                 | 27.71           | 43.5           | 15.7        | 208         | 78           | -           |
| Hori.    | 226.200         | QP       | 42.07          | 11.03           | 8.25      | 32.04     | 0.00                 | 29.31           | 46.0           | 16.6        | 100         | 186          | -           |
| Hori.    | 239.961         | QP       | 43.12          | 11.31           | 8.35      | 32.02     | 0.00                 | 30.76           | 46.0           | 15.2        | 100         | 233          | -           |
| Hori.    | 707.963         | QP       | 36.86          | 19.51           | 10.40     | 31.85     | 0.00                 | 34.92           | 46.0           | 11.0        | 132         | 1            | -           |
| Hori.    | 719.913         | QP       | 36.08          | 19.75           | 10.44     | 31.83     | 0.00                 | 34.44           | 46.0           | 11.5        | 128         | 329          | -           |
| Hori.    | 929.522         | QP       | 32.93          | 21.65           | 11.10     | 30.82     | 0.00                 | 34.86           | 46.0           | 11.1        | 100         | 304          | -           |
| Hori.    | 5150.000        | PK       | 55.37          | 32.26           | 16.25     | 43.04     | 2.15                 | 62.99           | 73.9           | 10.9        | 107         | 341          | -           |
| Hori.    | 15570.000       | PK       | 47.79          | 39.39           | 11.76     | 40.76     | -9.54                | 48.64           | 73.9           | 25.2        | 263         | 271          | -           |
| Hori.    | 5150.000        | AV       | 42.59          | 32.26           | 16.25     | 43.04     | 2.15                 | 50.21           | 53.9           | 3.6         | 107         | 341          | VBW: 130 Hz |
| Hori.    | 15570.000       | AV       | 36.41          | 39.39           | 11.76     | 40.76     | -9.54                | 37.26           | 53.9           | 16.6        | 263         | 271          | VBW: 130 Hz |
| Vert.    | 107.250         | QP       | 45.72          | 11.33           | 7.30      | 32.15     | 0.00                 | 32.20           | 43.5           | 11.3        | 100         | 132          | -           |
| Vert.    | 165.657         | QP       | 40.84          | 15.29           | 7.92      | 32.10     | 0.00                 | 31.95           | 43.5           | 11.5        | 100         | 336          | -           |
| Vert.    | 714.000         | QP       | 35.37          | 19.62           | 10.42     | 31.84     | 0.00                 | 33.57           | 46.0           | 12.4        | 100         | 356          | -           |
| Vert.    | 720.010         | QP       | 36.18          | 19.75           | 10.44     | 31.83     | 0.00                 | 34.54           | 46.0           | 11.4        | 100         | 349          | -           |
| Vert.    | 5150.000        | PK       | 55.90          | 32.26           | 16.25     | 43.04     | 2.15                 | 63.52           | 73.9           | 10.3        | 220         | 186          | -           |
| Vert.    | 15570.000       | PK       | 48.32          | 39.39           | 11.76     | 40.76     | -9.54                | 49.17           | 73.9           | 24.7        | 215         | 177          | -           |
| Vert.    | 5150.000        | AV       | 42.89          | 32.26           | 16.25     | 43.04     | 2.15                 | 50.51           | 53.9           | 3.3         | 220         | 186          | VBW: 130 Hz |
| Vert.    | 15570.000       | AV       | 36.78          | 39.39           | 11.76     | 40.76     | -9.54                | 37.63           | 53.9           | 16.2        | 215         | 177          | VBW: 130 Hz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.84\text{ m} / 3.0\text{ m}) = 2.15\text{ dB}$

13 GHz - 40 GHz :  $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Result (EIRP) [dBm] | Limit [dBm] | Margin [dB] | Height [cm] | Angle [deg.] | Remark |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|---------------------|-------------|-------------|-------------|--------------|--------|
| Hori.    | 10380.000       | PK       | 48.68          | 39.29           | 9.17      | 42.68     | 2.15                 | 56.61           | -38.61              | -27.0       | 11.6        | 137         | 336          | -      |
| Vert.    | 10380.000       | PK       | 48.23          | 39.29           | 9.17      | 42.68     | 2.15                 | 56.16           | -39.06              | -27.0       | 12.1        | 145         | 334          | -      |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result(EIRP[dBm])= $10\cdot\text{LOG} \left( \left( \{ 10^{\wedge} (\text{Electric Field Strength [dBuV/m]} / 20) * 10^{\wedge} (-6) * \text{Distance:3[m]} \}^{\wedge} 2 \right) / 30 \right) * 10^{\wedge} 3$

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

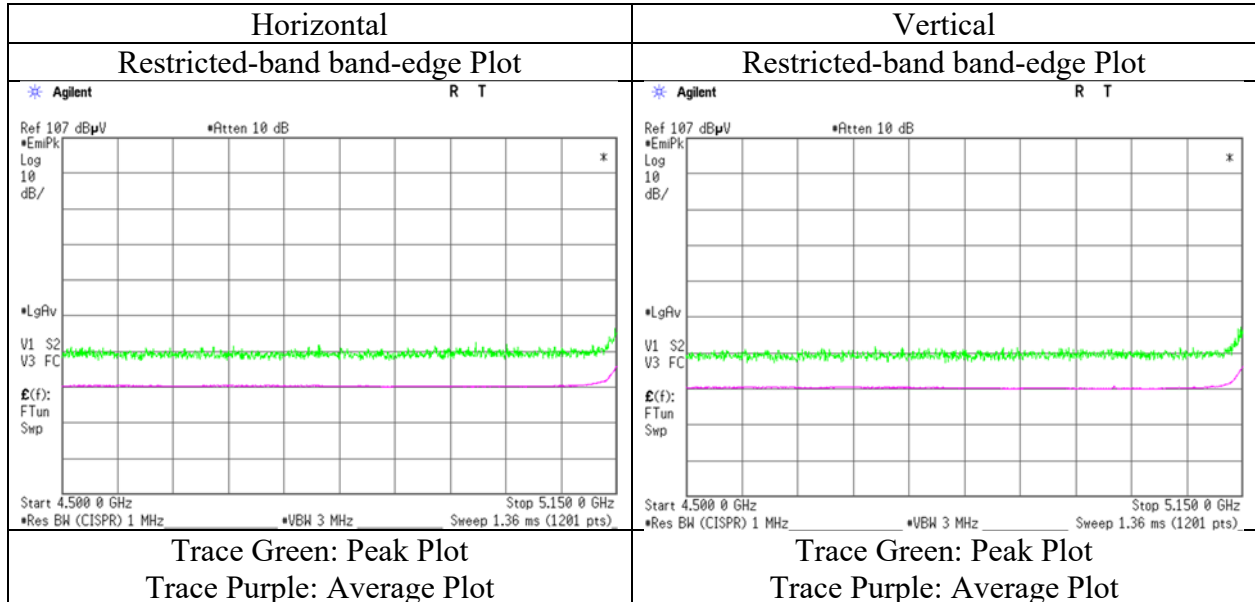
\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.84\text{ m} / 3.0\text{ m}) = 2.15\text{ dB}$

13 GHz - 40 GHz :  $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

## Radiated Spurious Emission

|                             |                                                    |
|-----------------------------|----------------------------------------------------|
| Report No.                  | 13004393S-E-R2                                     |
| Test place                  | Shonan EMC Lab.                                    |
| Semi Anechoic Chamber (No.) | 3                                                  |
| Date                        | September 5, 2019                                  |
| Temperature / Humidity      | 25 deg. C / 65 % RH                                |
| Engineer                    | Makoto Hosaka                                      |
|                             | (1 GHz – 6.4 GHz)                                  |
| Mode                        | Tx, 11ac-40 (MIMO), 5190 MHz, (EUT serial no. A-7) |



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

## Radiated Spurious Emission

Report No. 13004393S-E-R2  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber (No) 3  
Date September 11, 2019 September 12, 2019 September 14, 2019 September 15, 2019  
Temperature / Humidity 22 deg.C / 53 %RH 24 deg.C / 54 %RH 25 deg.C / 51 %RH 24 deg.C / 63 %RH  
Engineer Takahiro Kawakami Kazuya Noda Takahiro Kawakami Toshinori Yamada  
(1 GHz – 13 GHz) (13 GHz – 18 GHz) (18 GHz – 26.5 GHz) (26.5 GHz – 40 GHz)  
Mode Tx, 11ac-40 (MIMO), 5230 MHz, (EUT serial no. A-7)

### (above 1GHz Inside of the restricted band)

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark      |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|-------------|
| Hori.    | 15690.000       | PK       | 47.55          | 38.91           | 11.74     | 40.63     | -9.54                | 48.03           | 73.9           | 25.8        | 239         | 274          | -           |
| Hori.    | 15690.000       | AV       | 36.10          | 38.91           | 11.74     | 40.63     | -9.54                | 36.58           | 53.9           | 17.3        | 239         | 274          | VBW: 130 Hz |
| Vert.    | 15690.000       | PK       | 47.96          | 38.91           | 11.74     | 40.63     | -9.54                | 48.44           | 73.9           | 25.4        | 209         | 208          | -           |
| Vert.    | 15690.000       | AV       | 36.43          | 38.91           | 11.74     | 40.63     | -9.54                | 36.91           | 53.9           | 16.9        | 209         | 208          | VBW: 130 Hz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.84\text{ m} / 3.0\text{ m}) = 2.15\text{ dB}$

13 GHz - 40 GHz :  $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Result (EIRP) [dBm] | Limit [dBm] | Margin [dB] | Height [cm] | Angle [deg.] | Remark |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|---------------------|-------------|-------------|-------------|--------------|--------|
| Hori.    | 10460.000       | PK       | 49.45          | 39.54           | 9.20      | 42.67     | 2.15                 | 57.67           | -37.55              | -27.0       | 10.6        | 160         | 1            | -      |
| Vert.    | 10460.000       | PK       | 50.83          | 39.54           | 9.20      | 42.67     | 2.15                 | 59.05           | -36.17              | -27.0       | 9.2         | 123         | 0            | -      |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result(EIRP[dBm])= $10\log((\{10^{\wedge}(\text{Electric Field Strength [dBuV/m]} / 20) * 10^{\wedge}(-6) * \text{Distance:3[m]}^{\wedge}2\} / 30) * 10^{\wedge}3)$

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.84\text{ m} / 3.0\text{ m}) = 2.15\text{ dB}$

13 GHz - 40 GHz :  $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

## Radiated Spurious Emission

|                             |                                                    |                                         |                                  |                                          |                                         |
|-----------------------------|----------------------------------------------------|-----------------------------------------|----------------------------------|------------------------------------------|-----------------------------------------|
| Report No.                  | 13004393S-E-R2                                     |                                         |                                  |                                          |                                         |
| Test place                  | Shonan EMC Lab.                                    |                                         |                                  |                                          |                                         |
| Semi Anechoic Chamber (No.) | 3                                                  | 3                                       | 3                                | 3                                        | 3                                       |
| Date                        | September 5, 2019                                  | September 11, 2019                      | September 12, 2019               | September 14, 2019                       | September 15, 2019                      |
| Temperature / Humidity      | 25 deg. C / 65 % RH                                | 22 deg. C / 53 % RH                     | 24 deg. C / 54 % RH              | 25 deg. C / 51 % RH                      | 24 deg. C / 63 % RH                     |
| Engineer                    | Makoto Hosaka<br>(1 GHz – 6.4 GHz)                 | Takahiro Kawakami<br>(6.4 GHz – 13 GHz) | Kazuya Noda<br>(13 GHz – 18 GHz) | Takahiro Kawakami<br>(18 GHz – 26.5 GHz) | Toshinori Yamada<br>(26.5 GHz – 40 GHz) |
| Mode                        | Tx, 11ac-40 (MIMO), 5310 MHz, (EUT serial no. A-7) |                                         |                                  |                                          |                                         |

### (above 1GHz Inside of the restricted band)

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark      |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|-------------|
| Hori.    | 5350.000        | PK       | 52.30          | 31.98           | 16.29     | 43.21     | 2.15                 | 59.51           | 73.9           | 14.3        | 100         | 338          | -           |
| Hori.    | 10620.000       | PK       | 48.24          | 39.64           | 9.23      | 42.67     | 2.15                 | 56.59           | 73.9           | 17.3        | 136         | 305          | -           |
| Hori.    | 15930.000       | PK       | 46.78          | 38.25           | 11.69     | 40.37     | -9.54                | 46.81           | 73.9           | 27.0        | 216         | 239          | -           |
| Hori.    | 5350.000        | AV       | 39.38          | 31.98           | 16.29     | 43.21     | 2.15                 | 46.59           | 53.9           | 7.3         | 100         | 338          | VBW: 130 Hz |
| Hori.    | 10620.000       | AV       | 36.72          | 39.64           | 9.23      | 42.67     | 2.15                 | 45.07           | 53.9           | 8.8         | 136         | 305          | VBW: 130 Hz |
| Hori.    | 15930.000       | AV       | 35.74          | 38.25           | 11.69     | 40.37     | -9.54                | 35.77           | 53.9           | 18.1        | 216         | 239          | VBW: 130 Hz |
| Vert.    | 5350.000        | PK       | 51.71          | 31.98           | 16.29     | 43.21     | 2.15                 | 58.92           | 73.9           | 14.9        | 213         | 185          | -           |
| Vert.    | 10620.000       | PK       | 49.85          | 39.64           | 9.23      | 42.67     | 2.15                 | 58.20           | 73.9           | 15.7        | 150         | 0            | -           |
| Vert.    | 15930.000       | PK       | 47.53          | 38.25           | 11.69     | 40.37     | -9.54                | 47.56           | 73.9           | 26.3        | 194         | 222          | -           |
| Vert.    | 5350.000        | AV       | 39.67          | 31.98           | 16.29     | 43.21     | 2.15                 | 46.88           | 53.9           | 7.0         | 213         | 185          | VBW: 130 Hz |
| Vert.    | 10620.000       | AV       | 36.91          | 39.64           | 9.23      | 42.67     | 2.15                 | 45.26           | 53.9           | 8.6         | 150         | 0            | VBW: 130 Hz |
| Vert.    | 15930.000       | AV       | 35.94          | 38.25           | 11.69     | 40.37     | -9.54                | 35.97           | 53.9           | 17.9        | 194         | 222          | VBW: 130 Hz |

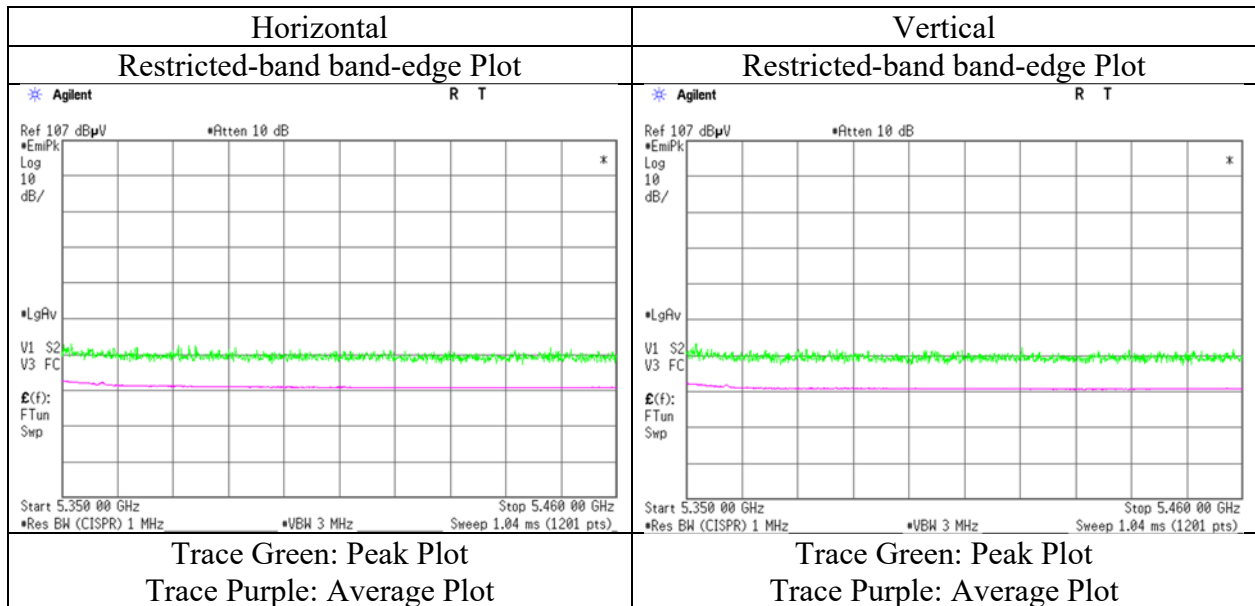
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.84\text{ m} / 3.0\text{ m}) = 2.15\text{ dB}$

13 GHz - 40 GHz :  $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$



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

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## Radiated Spurious Emission

Report No. 13004393S-E-R2  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber No.3  
Date September 6, 2019  
Temperature / Humidity 24 deg. C / 61 % RH  
Engineer Kazuya Noda  
(1 GHz – 6.4 GHz)  
Mode Tx, 11ac-40 (CDD), 5190 MHz, (EUT serial no. A-7)

### (above 1GHz Inside of the restricted band)

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

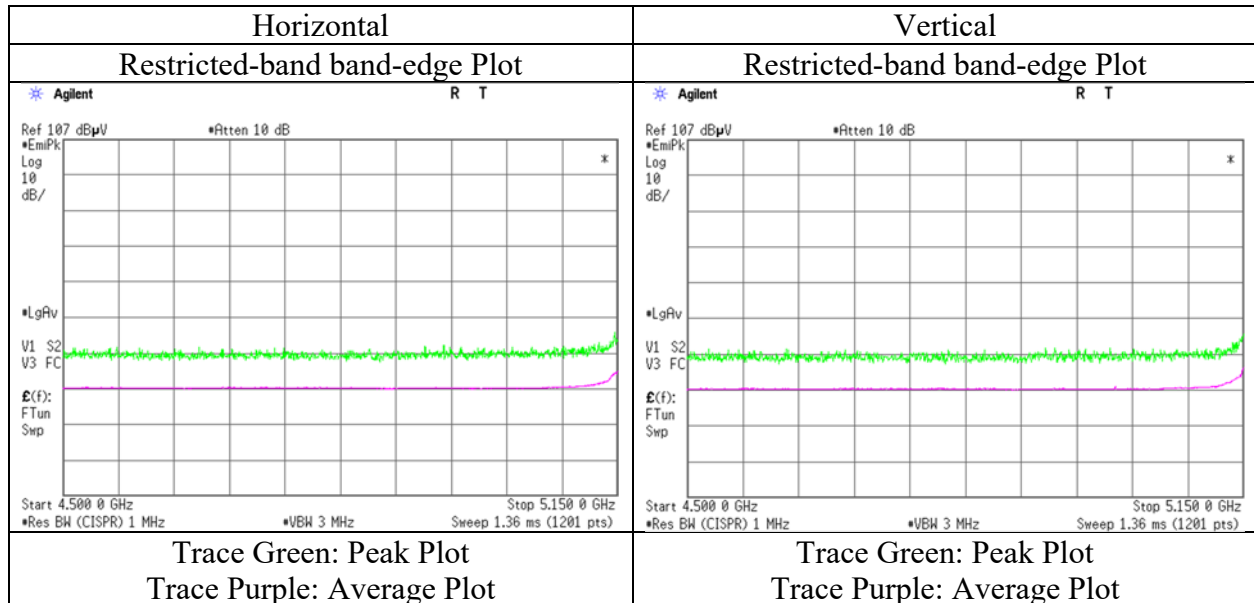
| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark      |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|-------------|
| Hori.    | 5150.000        | PK       | 58.61          | 32.26           | 16.25     | 43.04     | 2.15                 | 66.23           | 73.9           | 7.6         | 156         | 340          | -           |
| Hori.    | 5150.000        | AV       | 41.75          | 32.26           | 16.25     | 43.04     | 2.15                 | 49.37           | 53.9           | 4.5         | 156         | 340          | VBW: 100 Hz |
| Vert.    | 5150.000        | PK       | 59.37          | 32.26           | 16.25     | 43.04     | 2.15                 | 66.99           | 73.9           | 6.9         | 273         | 206          | -           |
| Vert.    | 5150.000        | AV       | 42.97          | 32.26           | 16.25     | 43.04     | 2.15                 | 50.59           | 53.9           | 3.3         | 273         | 206          | VBW: 100 Hz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable + (Attenuator or Filter) (below 18 GHz)) - Gain (Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.84\text{ m} / 3.0\text{ m}) = 2.15\text{ dB}$



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

## Radiated Spurious Emission

|                        |                                                   |
|------------------------|---------------------------------------------------|
| Report No.             | 13004393S-E-R2                                    |
| Test place             | Shonan EMC Lab.                                   |
| Semi Anechoic Chamber  | No.3                                              |
| Date                   | September 6, 2019                                 |
| Temperature / Humidity | 24 deg. C / 61 % RH                               |
| Engineer               | Kazuya Noda                                       |
|                        | (1 GHz – 6.4 GHz)                                 |
| Mode                   | Tx, 11ac-40 (CDD), 5310 MHz, (EUT serial no. A-7) |

### (above 1GHz Inside of the restricted band)

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

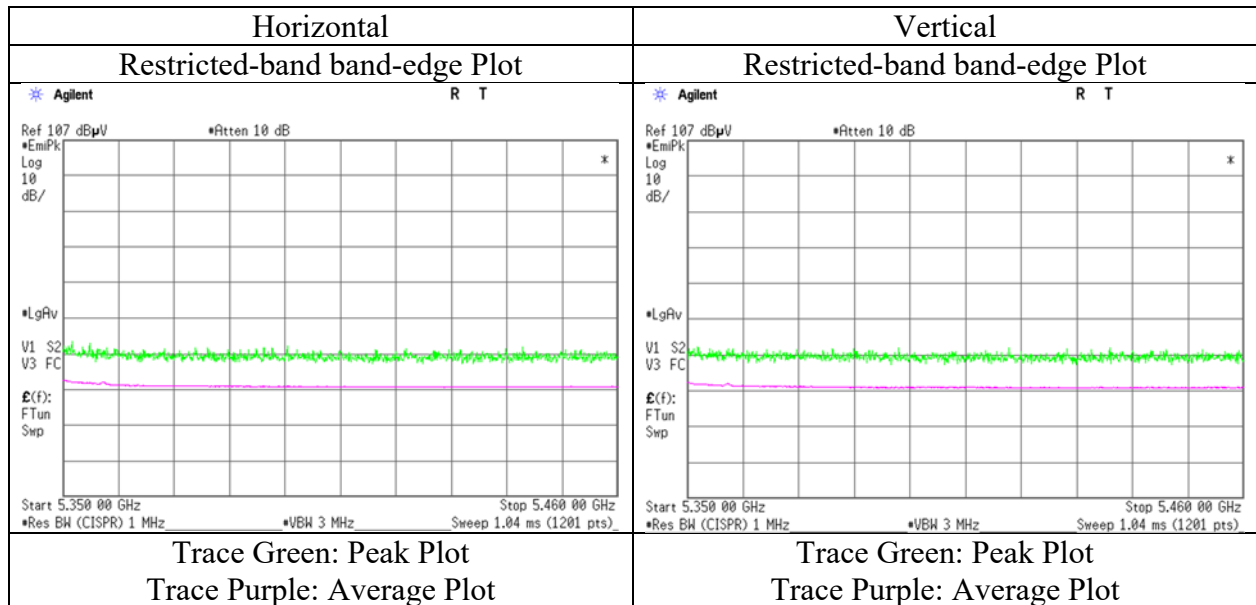
| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark      |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|-------------|
| Hori.    | 5350.000        | PK       | 57.18          | 31.98           | 16.29     | 43.21     | 2.15                 | 64.39           | 73.9           | 9.5         | 164         | 334          | -           |
| Hori.    | 5350.000        | AV       | 39.25          | 31.98           | 16.29     | 43.21     | 2.15                 | 46.46           | 53.9           | 7.4         | 164         | 334          | VBW: 100 Hz |
| Vert.    | 5350.000        | PK       | 57.17          | 31.98           | 16.29     | 43.21     | 2.15                 | 64.38           | 73.9           | 9.5         | 221         | 179          | -           |
| Vert.    | 5350.000        | AV       | 39.04          | 31.98           | 16.29     | 43.21     | 2.15                 | 46.25           | 53.9           | 7.6         | 221         | 179          | VBW: 100 Hz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.84\text{ m} / 3.0\text{ m}) = 2.15\text{ dB}$



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

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## Radiated Spurious Emission

|                             |                                                                     |                    |                    |                    |
|-----------------------------|---------------------------------------------------------------------|--------------------|--------------------|--------------------|
| Report No.                  | 13004393S-E-R2                                                      |                    |                    |                    |
| Test place                  | Shonan EMC Lab.                                                     |                    |                    |                    |
| Semi Anechoic Chamber (No.) | 3                                                                   | 3                  | 3                  | 3                  |
| Date                        | September 19, 2019                                                  | September 20, 2019 | September 21, 2019 | September 19, 2019 |
| Temperature / Humidity      | 23 deg.C / 62 %RH                                                   | 22 deg.C / 64 %RH  | 25 deg.C / 52 %RH  | 23 deg.C / 62 %RH  |
| Engineer                    | Takahiro Suzuki                                                     | Makoto Hosaka      | Takahiro Kawakami  | Takahiro Suzuki    |
|                             | (30 MHz - 1 GHz)                                                    | (1 GHz - 6.4 GHz)  | (6.4 GHz - 13 GHz) | (13 GHz - 40 GHz)  |
| Mode                        | Tx, 11ac-40 (CDD), 5190 MHz, with 3DH5 hopping (EUT serial no. A-7) |                    |                    |                    |

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

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark      |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|-------------|
| Hori.    | 155.546         | QP       | 35.82          | 14.86           | 7.89      | 32.11     | 0.00                 | 26.46           | 43.5           | 17.0        | 223         | 100          | -           |
| Hori.    | 233.912         | QP       | 43.34          | 11.17           | 8.31      | 32.03     | 0.00                 | 30.79           | 46.0           | 15.2        | 162         | 93           | -           |
| Hori.    | 239.899         | QP       | 44.18          | 11.31           | 8.35      | 32.02     | 0.00                 | 31.82           | 46.0           | 14.1        | 123         | 226          | -           |
| Hori.    | 695.944         | QP       | 36.87          | 19.28           | 10.35     | 31.87     | 0.00                 | 34.63           | 46.0           | 11.3        | 148         | 5            | -           |
| Hori.    | 707.958         | QP       | 33.86          | 19.51           | 10.40     | 31.85     | 0.00                 | 31.92           | 46.0           | 14.0        | 122         | 30           | -           |
| Hori.    | 929.407         | QP       | 30.17          | 21.65           | 11.10     | 30.83     | 0.00                 | 32.09           | 46.0           | 13.9        | 100         | 2            | -           |
| Hori.    | 5150.000        | PK       | 56.97          | 32.26           | 16.34     | 43.04     | 2.14                 | 64.67           | 73.9           | 9.2         | 159         | 327          | -           |
| Hori.    | 15570.000       | PK       | 45.03          | 39.39           | 11.76     | 40.76     | -9.54                | 45.88           | 73.9           | 28.0        | 125         | 87           | -           |
| Hori.    | 5150.000        | AV       | 41.82          | 32.26           | 16.34     | 43.04     | 2.14                 | 49.52           | 53.9           | 4.3         | 159         | 327          | VBW: 100 Hz |
| Hori.    | 15570.000       | AV       | 33.23          | 39.39           | 11.76     | 40.76     | -9.54                | 34.08           | 53.9           | 19.8        | 125         | 87           | VBW: 100 Hz |
| Vert.    | 94.520          | QP       | 44.05          | 9.01            | 7.50      | 32.15     | 0.00                 | 28.41           | 43.5           | 15.0        | 100         | 186          | -           |
| Vert.    | 166.251         | QP       | 40.04          | 15.31           | 7.92      | 32.10     | 0.00                 | 31.17           | 43.5           | 12.3        | 100         | 8            | -           |
| Vert.    | 677.898         | QP       | 36.48          | 19.29           | 10.29     | 31.90     | 0.00                 | 34.16           | 46.0           | 11.8        | 100         | 164          | -           |
| Vert.    | 713.952         | QP       | 36.03          | 19.62           | 10.42     | 31.84     | 0.00                 | 34.23           | 46.0           | 11.7        | 100         | 164          | -           |
| Vert.    | 5150.000        | PK       | 54.99          | 32.26           | 16.34     | 43.04     | 2.14                 | 62.69           | 73.9           | 11.2        | 199         | 340          | -           |
| Vert.    | 15570.000       | PK       | 44.42          | 39.39           | 11.76     | 40.76     | -9.54                | 45.27           | 73.9           | 28.6        | 109         | 118          | -           |
| Vert.    | 5150.000        | AV       | 41.83          | 32.26           | 16.34     | 43.04     | 2.14                 | 49.53           | 53.9           | 4.3         | 199         | 340          | VBW: 100 Hz |
| Vert.    | 15570.000       | AV       | 33.12          | 39.39           | 11.76     | 40.76     | -9.54                | 33.97           | 53.9           | 19.9        | 109         | 118          | VBW: 100 Hz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz : 20log (3.84 m / 3.0 m) = 2.15 dB

13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

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

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Result (EIRP) [dBm] | Limit [dBm] | Margin [dB] | Height [cm] | Angle [deg.] | Remark |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|---------------------|-------------|-------------|-------------|--------------|--------|
| Hori.    | 10380.000       | PK       | 49.46          | 39.29           | 9.17      | 42.68     | 2.15                 | 57.39           | -37.83              | -27.0       | 10.8        | 160         | 349          | -      |
| Vert.    | 10380.000       | PK       | 49.65          | 39.29           | 9.17      | 42.68     | 2.15                 | 57.58           | -37.64              | -27.0       | 10.6        | 167         | 352          | -      |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result(EIRP[dBm])=10\*LOG (({ 10 ^ ( Electric Field Strength [dBuV/m] / 20 ) \* 10 ^ (-6) \* Distance:3[m] ) ^ 2 } / 30) \*10^3)

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz : 20log (3.84 m / 3.0 m) = 2.15 dB

13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

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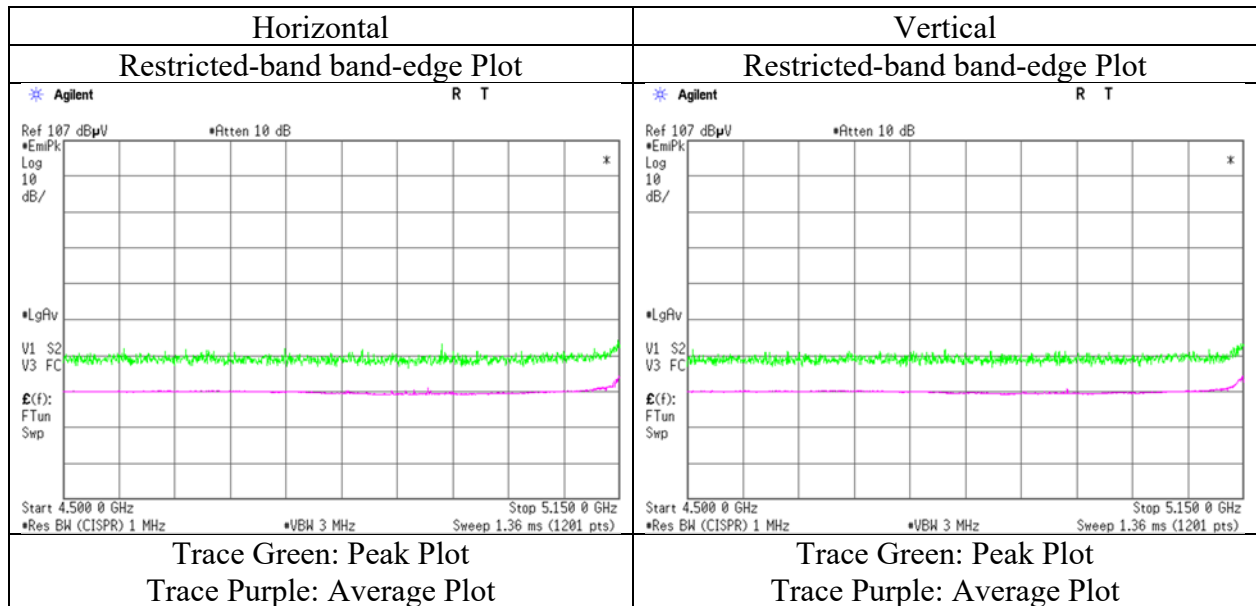
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Facsimile : +81 463 50 6401



## Radiated Spurious Emission

|                        |                                                                     |
|------------------------|---------------------------------------------------------------------|
| Report No.             | 13004393S-E-R2                                                      |
| Test place             | Shonan EMC Lab.                                                     |
| Semi Anechoic Chamber  | No.3                                                                |
| Date                   | September 20, 2019                                                  |
| Temperature / Humidity | 22 deg. C / 64 % RH                                                 |
| Engineer               | Makoto Hosaka                                                       |
|                        | (1 GHz – 6.4 GHz)                                                   |
| Mode                   | Tx, 11ac-40 (CDD), 5190 MHz, with 3DH5 hopping (EUT serial no. A-7) |



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

## Radiated Spurious Emission

Report No. 13004393S-E-R2  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber No.3  
Date September 20, 2019  
Temperature / Humidity 22 deg. C / 64 % RH  
Engineer Makoto Hosaka  
(1 GHz – 6.4 GHz)  
Mode Tx, 11ac-40 (CDD), 5310 MHz, with 3DH5 hopping (EUT serial no. A-7)

### (above 1GHz Inside of the restricted band)

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

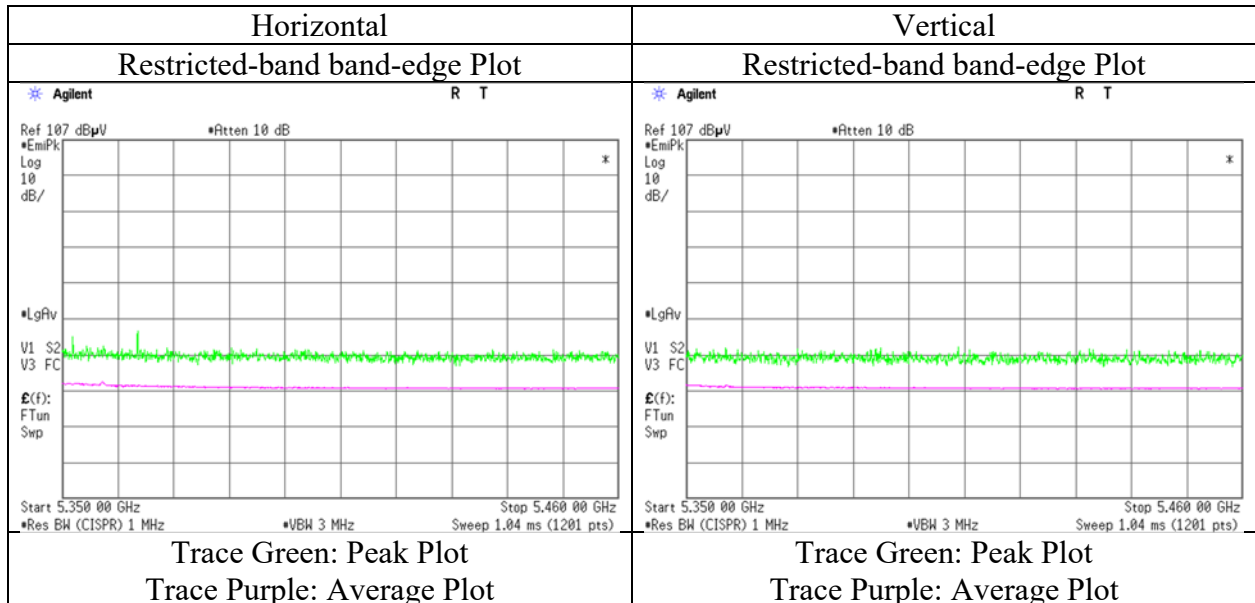
| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark      |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|-------------|
| Hori.    | 5350.000        | PK       | 56.15          | 31.98           | 16.41     | 43.21     | 2.14                 | 63.47           | 73.9           | 10.4        | 121         | 339          | -           |
| Hori.    | 5350.000        | AV       | 38.69          | 31.98           | 16.41     | 43.21     | 2.14                 | 46.01           | 53.9           | 7.8         | 121         | 339          | VBW: 100 Hz |
| Vert.    | 5350.000        | PK       | 54.11          | 31.98           | 16.41     | 43.21     | 2.14                 | 61.43           | 73.9           | 12.4        | 110         | 355          | -           |
| Vert.    | 5350.000        | AV       | 38.16          | 31.98           | 16.41     | 43.21     | 2.14                 | 45.48           | 53.9           | 8.4         | 110         | 355          | VBW: 100 Hz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz : 20log (3.84 m / 3.0 m) = 2.15 dB



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

## Radiated Spurious Emission

|                             |                                                    |                    |                     |                     |
|-----------------------------|----------------------------------------------------|--------------------|---------------------|---------------------|
| Report No.                  | 13004393S-E-R2                                     |                    |                     |                     |
| Test place                  | Shonan EMC Lab.                                    |                    |                     |                     |
| Semi Anechoic Chamber (No.) | 3                                                  | 3                  | 3                   | 3                   |
| Date                        | September 11, 2019                                 | September 13, 2019 | September 14, 2019  | September 15, 2019  |
| Temperature / Humidity      | 24 deg. C / 51 % RH                                | 25 deg. C / 50 %RH | 25 deg. C / 51 %RH  | 24 deg. C / 63 %RH  |
| Engineer                    | Kazuya Noda                                        | Hiromasa Sato      | Toshinori Yamada    | Takahiro Kawakami   |
|                             | (1 GHz – 13 GHz)                                   | (13 GHz – 18 GHz)  | (18 GHz – 26.5 GHz) | (26.5 GHz – 40 GHz) |
| Mode                        | Tx, 11ac-40 (MIMO), 5190 MHz, (EUT serial no. B-5) |                    |                     |                     |

### (above 1GHz Inside of the restricted band)

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark      |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|-------------|
| Hori.    | 15570.000       | PK       | 47.41          | 39.39           | 11.76     | 40.76     | -9.54                | 48.26           | 73.9           | 25.6        | 217         | 183          | -           |
| Hori.    | 15570.000       | AV       | 36.03          | 39.39           | 11.76     | 40.76     | -9.54                | 36.88           | 53.9           | 17.0        | 217         | 183          | VBW: 130 Hz |
| Vert.    | 15570.000       | PK       | 47.92          | 39.39           | 11.76     | 40.76     | -9.54                | 48.77           | 73.9           | 25.1        | 166         | 277          | -           |
| Vert.    | 15570.000       | AV       | 36.91          | 39.39           | 11.76     | 40.76     | -9.54                | 37.76           | 53.9           | 16.1        | 166         | 277          | VBW: 130 Hz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.79\text{ m} / 3.0\text{ m}) = 2.04\text{ dB}$

13 GHz - 40 GHz :  $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Result (EIRP) [dBm] | Limit [dBm] | Margin [dB] | Height [cm] | Angle [deg.] | Remark |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|---------------------|-------------|-------------|-------------|--------------|--------|
| Hori.    | 10380.000       | PK       | 48.76          | 39.29           | 9.17      | 42.68     | 2.04                 | 56.58           | -38.64              | -27.0       | 11.6        | 144         | 346          | -      |
| Vert.    | 10380.000       | PK       | 48.76          | 39.29           | 9.17      | 42.68     | 2.04                 | 56.58           | -38.64              | -27.0       | 11.6        | 136         | 108          | -      |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result(EIRP[dBm])= $10\cdot\text{LOG} \left( \left( \{ 10^{\wedge} ( \text{Electric Field Strength [dBuV/m]} / 20 ) * 10^{\wedge} (-6) * \text{Distance:3[m]}^{\wedge} 2 \} / 30 \right) * 10^{\wedge} 3 \right)$

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.79\text{ m} / 3.0\text{ m}) = 2.04\text{ dB}$

13 GHz - 40 GHz :  $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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## Radiated Spurious Emission

|                            |                                                    |                    |                     |                     |
|----------------------------|----------------------------------------------------|--------------------|---------------------|---------------------|
| Report No.                 | 13004393S-E-R2                                     |                    |                     |                     |
| Test place                 | Shonan EMC Lab.                                    |                    |                     |                     |
| Semi Anechoic Chamber (No) | 3                                                  | 3                  | 3                   | 3                   |
| Date                       | September 11, 2019                                 | September 13, 2019 | September 14, 2019  | September 15, 2019  |
| Temperature / Humidity     | 24 deg.C / 51 % RH                                 | 25 deg.C / 50 %RH  | 25 deg.C / 51 %RH   | 24 deg.C / 63 %RH   |
| Engineer                   | Kazuya Noda                                        | Hiromasa Sato      | Toshinori Yamada    | Takahiro Kawakami   |
|                            | (1 GHz – 13 GHz)                                   | (13 GHz – 18 GHz)  | (18 GHz – 26.5 GHz) | (26.5 GHz – 40 GHz) |
| Mode                       | Tx, 11ac-40 (MIMO), 5230 MHz, (EUT serial no. B-5) |                    |                     |                     |

### (above 1GHz Inside of the restricted band)

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark      |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|-------------|
| Hori.    | 15690.000       | PK       | 47.54          | 38.91           | 11.74     | 40.63     | -9.54                | 48.02           | 73.9           | 25.8        | 179         | 276          | -           |
| Hori.    | 15690.000       | AV       | 36.95          | 38.91           | 11.74     | 40.63     | -9.54                | 37.43           | 53.9           | 16.4        | 179         | 276          | VBW: 130 Hz |
| Vert.    | 15690.000       | PK       | 47.71          | 38.91           | 11.74     | 40.63     | -9.54                | 48.19           | 73.9           | 25.7        | 198         | 129          | -           |
| Vert.    | 15690.000       | AV       | 36.13          | 38.91           | 11.74     | 40.63     | -9.54                | 36.61           | 53.9           | 17.2        | 198         | 129          | VBW: 130 Hz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.79\text{ m} / 3.0\text{ m}) = 2.04\text{ dB}$

13 GHz - 40 GHz :  $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Result (EIRP) [dBm] | Limit [dBm] | Margin [dB] | Height [cm] | Angle [deg.] | Remark |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|---------------------|-------------|-------------|-------------|--------------|--------|
| Hori.    | 10460.000       | PK       | 48.49          | 39.54           | 9.20      | 42.67     | 2.04                 | 56.60           | -38.62              | -27.0       | 11.6        | 122         | 345          | -      |
| Vert.    | 10460.000       | PK       | 49.12          | 39.54           | 9.20      | 42.67     | 2.04                 | 57.23           | -37.99              | -27.0       | 11.0        | 113         | 101          | -      |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result(EIRP[dBm])= $10\log\left(\left(\left\{10^{\left(\frac{\text{Electric Field Strength [dBuV/m]}{20}\right)}\right\} \times 10^{-6}\right) \times \text{Distance:3[m]}^2\right) / 30\right) \times 10^3$

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.79\text{ m} / 3.0\text{ m}) = 2.04\text{ dB}$

13 GHz - 40 GHz :  $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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## Radiated Spurious Emission

|                             |                                                    |                    |                     |                     |
|-----------------------------|----------------------------------------------------|--------------------|---------------------|---------------------|
| Report No.                  | 13004393S-E-R2                                     |                    |                     |                     |
| Test place                  | Shonan EMC Lab.                                    |                    |                     |                     |
| Semi Anechoic Chamber (No.) | 3                                                  | 3                  | 3                   | 3                   |
| Date                        | September 11, 2019                                 | September 13, 2019 | September 14, 2019  | September 15, 2019  |
| Temperature / Humidity      | 24 deg. C / 51 % RH                                | 25 deg. C / 50 %RH | 25 deg. C / 51 %RH  | 24 deg. C / 63 %RH  |
| Engineer                    | Kazuya Noda                                        | Hiromasa Sato      | Toshinori Yamada    | Takahiro Kawakami   |
|                             | (1 GHz – 13 GHz)                                   | (13 GHz – 18 GHz)  | (18 GHz – 26.5 GHz) | (26.5 GHz – 40 GHz) |
| Mode                        | Tx, 11ac-40 (MIMO), 5310 MHz, (EUT serial no. B-5) |                    |                     |                     |

### (above 1GHz Inside of the restricted band)

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark      |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|-------------|
| Hori.    | 10620.000       | PK       | 48.46          | 39.64           | 9.23      | 42.67     | 2.04                 | 56.70           | 73.9           | 17.2        | 270         | 345          | -           |
| Hori.    | 15930.000       | PK       | 48.23          | 38.25           | 11.69     | 40.37     | -9.54                | 48.26           | 73.9           | 25.6        | 150         | 238          | -           |
| Hori.    | 10620.000       | AV       | 37.11          | 39.64           | 9.23      | 42.67     | 2.04                 | 45.35           | 53.9           | 8.5         | 270         | 345          | VBW: 130 Hz |
| Hori.    | 15930.000       | AV       | 35.43          | 38.25           | 11.69     | 40.37     | -9.54                | 35.46           | 53.9           | 18.4        | 150         | 238          | VBW: 130 Hz |
| Vert.    | 10620.000       | PK       | 49.24          | 39.64           | 9.23      | 42.67     | 2.04                 | 57.48           | 73.9           | 16.4        | 103         | 101          | -           |
| Vert.    | 15930.000       | PK       | 46.70          | 38.25           | 11.69     | 40.37     | -9.54                | 46.73           | 73.9           | 27.1        | 157         | 254          | -           |
| Vert.    | 10620.000       | AV       | 37.45          | 39.64           | 9.23      | 42.67     | 2.04                 | 45.69           | 53.9           | 8.2         | 103         | 101          | VBW: 130 Hz |
| Vert.    | 15930.000       | AV       | 35.21          | 38.25           | 11.69     | 40.37     | -9.54                | 35.24           | 53.9           | 18.6        | 157         | 254          | VBW: 130 Hz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.79\text{ m} / 3.0\text{ m}) = 2.04\text{ dB}$

13 GHz - 40 GHz :  $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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## Radiated Spurious Emission

Report No. 13004393S-E-R2  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber No.3  
Date September 6, 2019  
Temperature / Humidity 24 deg. C / 61 % RH  
Engineer Kazuya Noda  
(1 GHz – 6.4 GHz)  
Mode Tx, 11ac-40 (CDD), 5190 MHz, (EUT serial no. B-5)

### (above 1GHz Inside of the restricted band)

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

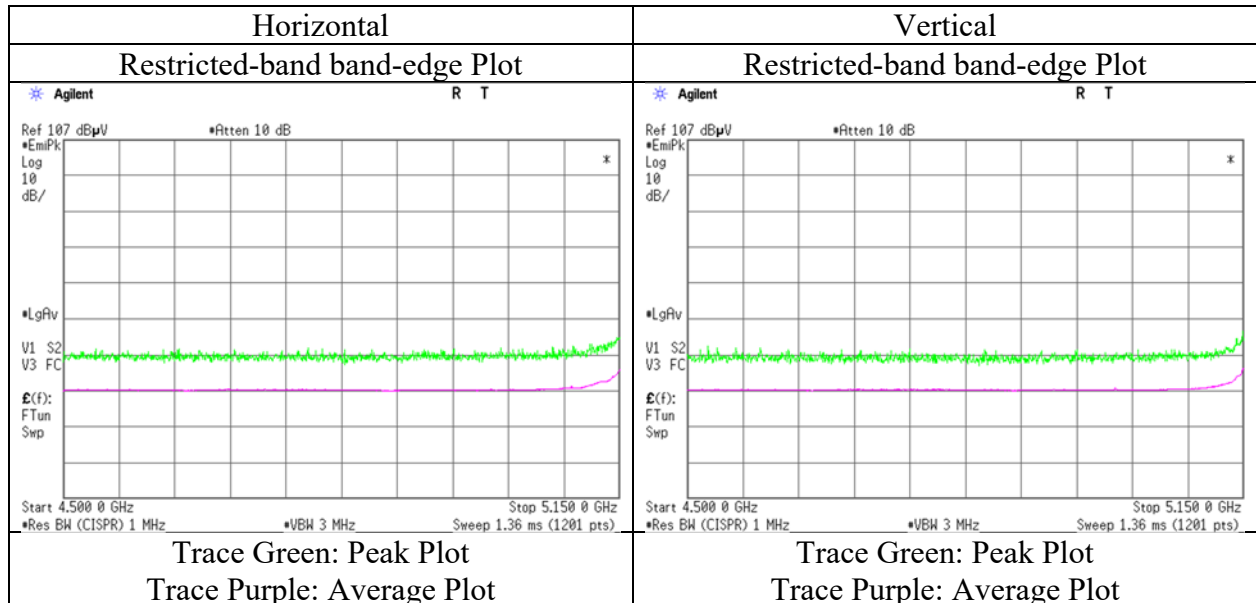
| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark      |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|-------------|
| Hori.    | 5150.000        | PK       | 58.73          | 32.26           | 16.25     | 43.04     | 2.04                 | 66.24           | 73.9           | 7.6         | 170         | 143          | -           |
| Hori.    | 5150.000        | AV       | 42.67          | 32.26           | 16.25     | 43.04     | 2.04                 | 50.18           | 53.9           | 3.7         | 170         | 143          | VBW: 100 Hz |
| Vert.    | 5150.000        | PK       | 59.15          | 32.26           | 16.25     | 43.04     | 2.04                 | 66.66           | 73.9           | 7.2         | 183         | 177          | -           |
| Vert.    | 5150.000        | AV       | 43.21          | 32.26           | 16.25     | 43.04     | 2.04                 | 50.72           | 53.9           | 3.1         | 183         | 177          | VBW: 100 Hz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable + (Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.79\text{ m} / 3.0\text{ m}) = 2.04\text{ dB}$



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

## Radiated Spurious Emission

Report No. 13004393S-E-R2  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber No.3  
Date September 6, 2019  
Temperature / Humidity 24 deg. C / 61 % RH  
Engineer Kazuya Noda  
(1 GHz – 6.4 GHz)  
Mode Tx, 11ac-40 (CDD), 5310 MHz, (EUT serial no. B-5)

### (above 1GHz Inside of the restricted band)

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

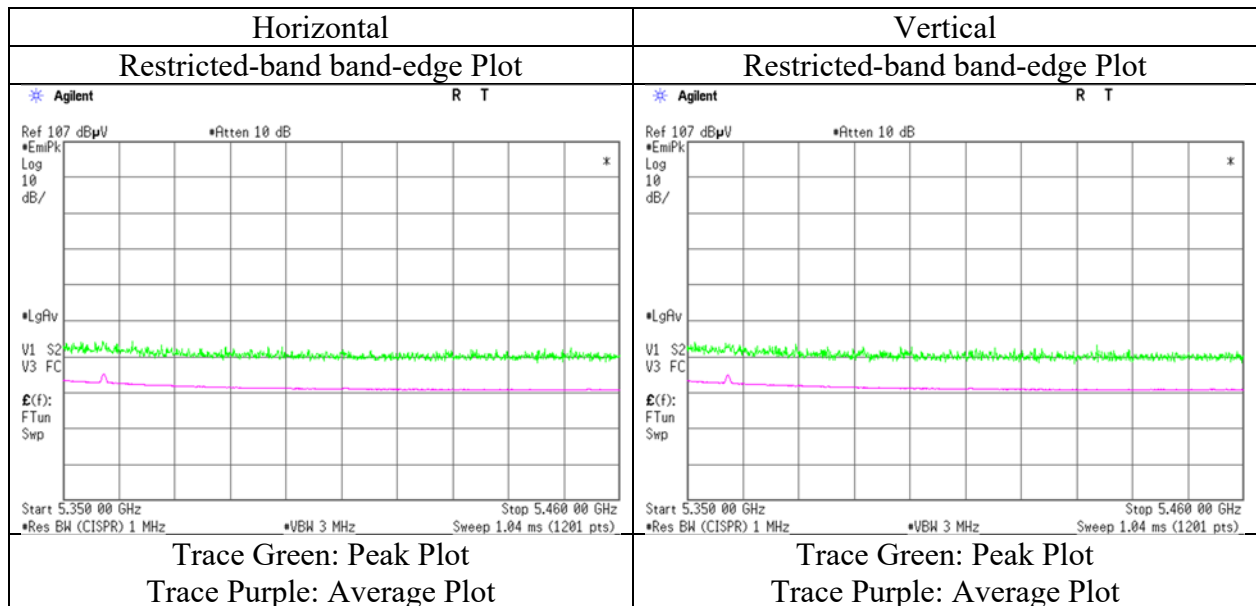
| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark      |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|-------------|
| Hori.    | 5350.000        | PK       | 58.48          | 31.98           | 16.29     | 43.21     | 2.04                 | 65.58           | 73.9           | 8.3         | 154         | 142          | -           |
| Hori.    | 5357.992        | PK       | 56.53          | 32.00           | 16.29     | 43.21     | 2.04                 | 63.65           | 73.9           | 10.2        | 154         | 142          | -           |
| Hori.    | 5350.000        | AV       | 39.92          | 31.98           | 16.29     | 43.21     | 2.04                 | 47.02           | 53.9           | 6.8         | 154         | 142          | VBW: 100 Hz |
| Hori.    | 5357.992        | AV       | 42.20          | 32.00           | 16.29     | 43.21     | 2.04                 | 49.32           | 53.9           | 4.5         | 154         | 142          | VBW: 100 Hz |
| Vert.    | 5350.000        | PK       | 58.87          | 31.98           | 16.29     | 43.21     | 2.04                 | 65.97           | 73.9           | 7.9         | 104         | 177          | -           |
| Vert.    | 5358.022        | PK       | 56.89          | 32.00           | 16.29     | 43.21     | 2.04                 | 64.01           | 73.9           | 9.8         | 104         | 177          | -           |
| Vert.    | 5350.000        | AV       | 39.88          | 31.98           | 16.29     | 43.21     | 2.04                 | 46.98           | 53.9           | 6.9         | 104         | 177          | VBW: 100 Hz |
| Vert.    | 5358.022        | AV       | 41.72          | 32.00           | 16.29     | 43.21     | 2.04                 | 48.84           | 53.9           | 5.0         | 104         | 177          | VBW: 100 Hz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.79\text{ m} / 3.0\text{ m}) = 2.04\text{ dB}$



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

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## Radiated Spurious Emission

Report No. 13004393S-E-R2  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber No.3  
Date September 12, 2019  
Temperature / Humidity 21 deg. C / 58 % RH  
Engineer Takahiro Suzuki  
(1 GHz – 6.4 GHz)  
Mode Tx, 11ac-40 (CDD), 5190 MHz, with 3DH5 hopping (EUT serial no. B-5)

### (above 1GHz Inside of the restricted band)

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

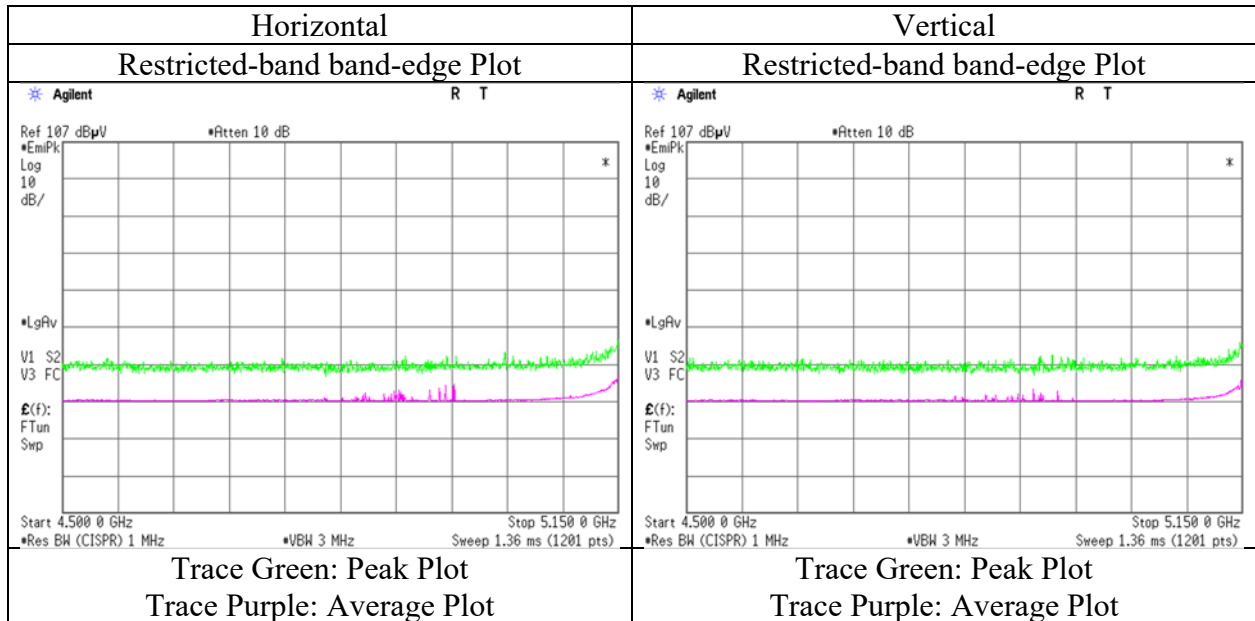
| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark      |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|-------------|
| Hori.    | 5150.000        | PK       | 59.94          | 32.26           | 16.25     | 43.04     | 2.04                 | 67.45           | 73.9           | 6.4         | 100         | 351          | -           |
| Hori.    | 5150.000        | AV       | 43.82          | 32.26           | 16.25     | 43.04     | 2.04                 | 51.33           | 53.9           | 2.5         | 100         | 351          | VBW: 100 Hz |
| Vert.    | 5150.000        | PK       | 58.66          | 32.26           | 16.25     | 43.04     | 2.04                 | 66.17           | 73.9           | 7.7         | 182         | 1            | -           |
| Vert.    | 5150.000        | AV       | 42.98          | 32.26           | 16.25     | 43.04     | 2.04                 | 50.49           | 53.9           | 3.4         | 182         | 1            | VBW: 100 Hz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.79\text{ m}/3.0\text{ m}) = 2.04\text{ dB}$



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



## Radiated Spurious Emission

Report No. 13004393S-E-R2  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber No.3  
Date September 12, 2019  
Temperature / Humidity 21 deg. C / 58 % RH  
Engineer Takahiro Suzuki  
(1 GHz – 6.4 GHz)  
Mode Tx, 11ac-40 (CDD), 5310 MHz, with 3DH5 hopping (EUT serial no. B-5)

### (above 1GHz Inside of the restricted band)

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

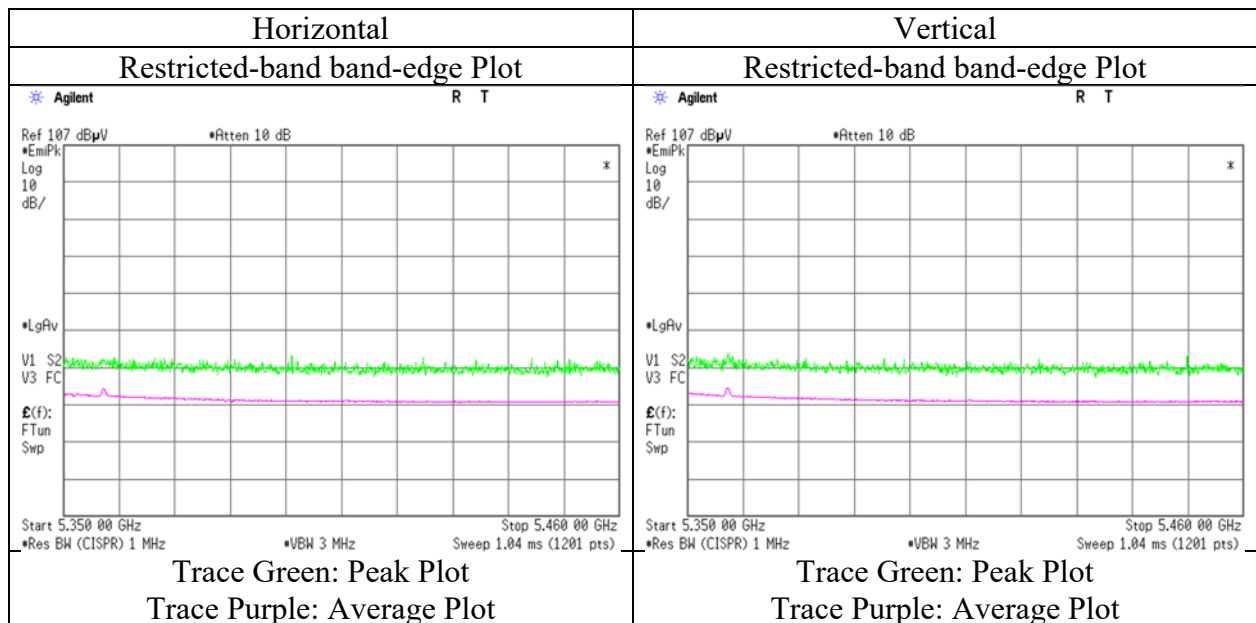
| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark      |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|-------------|
| Hori.    | 5350.000        | PK       | 58.85          | 31.98           | 16.29     | 43.21     | 2.04                 | 65.95           | 73.9           | 7.9         | 103         | 354          | -           |
| Hori.    | 5357.992        | PK       | 56.61          | 32.00           | 16.29     | 43.21     | 2.04                 | 63.73           | 73.9           | 10.1        | 103         | 354          | -           |
| Hori.    | 5350.000        | AV       | 39.50          | 31.98           | 16.29     | 43.21     | 2.04                 | 46.60           | 53.9           | 7.3         | 103         | 354          | VBW: 100 Hz |
| Hori.    | 5357.992        | AV       | 41.95          | 32.00           | 16.29     | 43.21     | 2.04                 | 49.07           | 53.9           | 4.8         | 103         | 354          | VBW: 100 Hz |
| Vert.    | 5350.000        | PK       | 59.95          | 31.98           | 16.29     | 43.21     | 2.04                 | 67.05           | 73.9           | 6.8         | 131         | 354          | -           |
| Vert.    | 5358.022        | PK       | 54.19          | 32.00           | 16.29     | 43.21     | 2.04                 | 61.31           | 73.9           | 12.5        | 131         | 354          | -           |
| Vert.    | 5350.000        | AV       | 39.90          | 31.98           | 16.29     | 43.21     | 2.04                 | 47.00           | 53.9           | 6.9         | 131         | 354          | VBW: 100 Hz |
| Vert.    | 5358.022        | AV       | 41.41          | 32.00           | 16.29     | 43.21     | 2.04                 | 48.53           | 53.9           | 5.3         | 131         | 354          | VBW: 100 Hz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.79\text{ m} / 3.0\text{ m}) = 2.04\text{ dB}$



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

## Radiated Spurious Emission

|                             |                                                    |                     |                     |                     |                     |
|-----------------------------|----------------------------------------------------|---------------------|---------------------|---------------------|---------------------|
| Report No.                  | 13004393S-E-R2                                     |                     |                     |                     |                     |
| Test place                  | Shonan EMC Lab.                                    |                     |                     |                     |                     |
| Semi Anechoic Chamber (No.) | 3                                                  | 3                   | 3                   | 3                   | 3                   |
| Date                        | September 5, 2019                                  | September 11, 2019  | September 12, 2019  | September 14, 2019  | September 15, 2019  |
| Temperature / Humidity      | 25 deg. C / 65 % RH                                | 22 deg. C / 53 % RH | 24 deg. C / 54 % RH | 25 deg. C / 51 % RH | 24 deg. C / 63 % RH |
| Engineer                    | Kazuya Noda                                        | Takahiro Kawakami   | Kazuya Noda         | Takahiro Kawakami   | Toshinori Yamada    |
|                             | (1 GHz - 6.4 GHz)                                  | (6.4 GHz - 13 GHz)  | (13 GHz - 18 GHz)   | (18 GHz - 26.5 GHz) | (26.5 GHz - 40 GHz) |
| Mode                        | Tx, 11ac-80 (MIMO), 5210 MHz, (EUT serial no. A-7) |                     |                     |                     |                     |

### (above 1GHz Inside of the restricted band)

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark      |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|-------------|
| Hori.    | 5150.000        | PK       | 56.70          | 32.26           | 16.25     | 43.04     | 2.15                 | 64.32           | 73.9           | 9.5         | 103         | 342          | -           |
| Hori.    | 15630.000       | PK       | 48.28          | 39.17           | 11.74     | 40.69     | -9.54                | 48.96           | 73.9           | 24.9        | 251         | 221          | -           |
| Hori.    | 5150.000        | AV       | 43.72          | 32.26           | 16.25     | 43.04     | 2.15                 | 51.34           | 53.9           | 2.5         | 103         | 342          | VBW: 270 Hz |
| Hori.    | 15630.000       | AV       | 36.45          | 39.17           | 11.74     | 40.69     | -9.54                | 37.13           | 53.9           | 16.7        | 251         | 221          | VBW: 270 Hz |
| Vert.    | 5150.000        | PK       | 55.73          | 32.26           | 16.25     | 43.04     | 2.15                 | 63.35           | 73.9           | 10.5        | 163         | 327          | -           |
| Vert.    | 15630.000       | PK       | 48.49          | 39.17           | 11.74     | 40.69     | -9.54                | 49.17           | 73.9           | 24.7        | 233         | 224          | -           |
| Vert.    | 5150.000        | AV       | 43.74          | 32.26           | 16.25     | 43.04     | 2.15                 | 51.36           | 53.9           | 2.5         | 163         | 327          | VBW: 270 Hz |
| Vert.    | 15630.000       | AV       | 36.42          | 39.17           | 11.74     | 40.69     | -9.54                | 37.10           | 53.9           | 16.8        | 233         | 224          | VBW: 270 Hz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz : 20log (3.84 m / 3.0 m) = 2.15 dB

13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

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

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Result (EIRP) [dBm] | Limit [dBm] | Margin [dB] | Height [cm] | Angle [deg.] | Remark |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|---------------------|-------------|-------------|-------------|--------------|--------|
| Hori.    | 10420.000       | PK       | 47.77          | 39.45           | 9.18      | 42.68     | 2.15                 | 55.87           | -39.35              | -27.0       | 12.4        | 148         | 285          | -      |
| Vert.    | 10420.000       | PK       | 48.79          | 39.45           | 9.18      | 42.68     | 2.15                 | 56.89           | -38.33              | -27.0       | 11.3        | 139         | 0            | -      |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

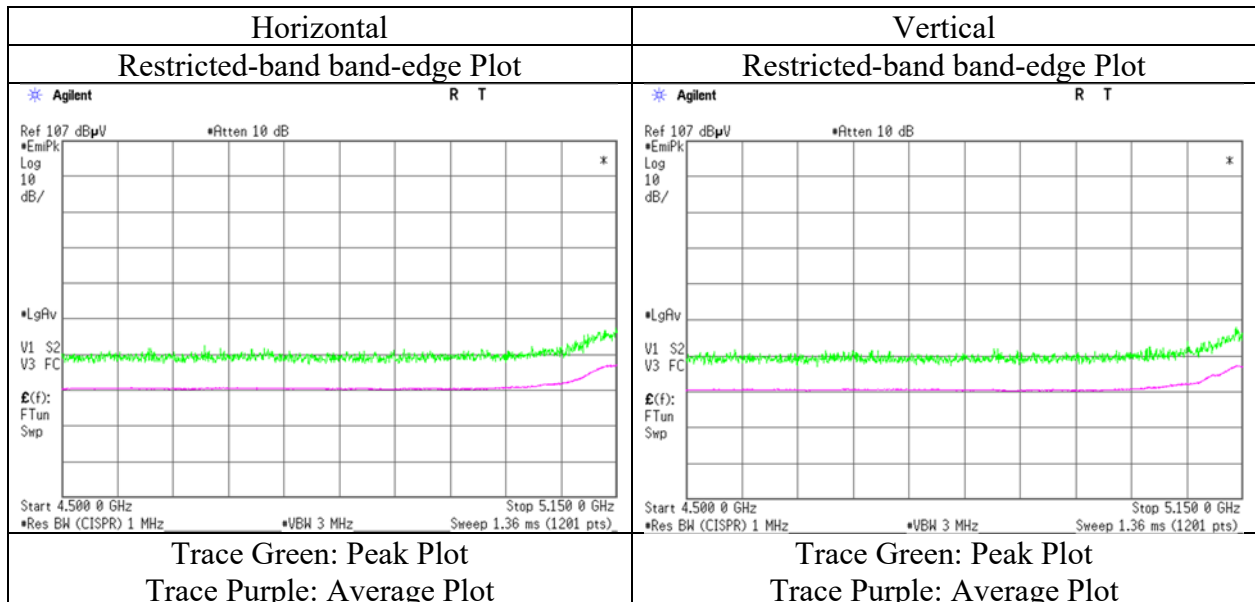
Result(EIRP[dBm])=10\*LOG (({ 10 ^ ( Electric Field Strength [dBuV/m] / 20 ) \* 10 ^ (-6) \* Distance:3[m] ) ^ 2 } / 30) \*10^3)

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz : 20log (3.84 m / 3.0 m) = 2.15 dB

13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB



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

**UL Japan, Inc.**

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## Radiated Spurious Emission

|                             |                                                    |                    |                    |                     |                     |
|-----------------------------|----------------------------------------------------|--------------------|--------------------|---------------------|---------------------|
| Report No.                  | 13004393S-E-R2                                     |                    |                    |                     |                     |
| Test place                  | Shonan EMC Lab.                                    |                    |                    |                     |                     |
| Semi Anechoic Chamber (No.) | 3                                                  | 3                  | 3                  | 3                   | 3                   |
| Date                        | September 5, 2019                                  | September 11, 2019 | September 12, 2019 | September 14, 2019  | September 15, 2019  |
| Temperature / Humidity      | 25 deg.C / 65 % RH                                 | 22 deg.C / 53 %RH  | 24 deg.C / 54 %RH  | 25 deg.C / 51 %RH   | 24 deg.C / 63 %RH   |
| Engineer                    | Kazuya Noda                                        | Takahiro Kawakami  | Kazuya Noda        | Takahiro Kawakami   | Toshinori Yamada    |
|                             | (1 GHz – 6.4 GHz)                                  | (6.4 G – 13 GHz)   | (13 GHz – 18 GHz)  | (18 GHz – 26.5 GHz) | (26.5 GHz – 40 GHz) |
| Mode                        | Tx, 11ac-80 (MIMO), 5290 MHz, (EUT serial no. A-7) |                    |                    |                     |                     |

### (above 1GHz Inside of the restricted band)

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark      |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|-------------|
| Hori.    | 5350.000        | PK       | 52.67          | 31.98           | 16.29     | 43.21     | 2.15                 | 59.88           | 73.9           | 14.0        | 114         | 339          | -           |
| Hori.    | 15870.000       | PK       | 47.33          | 38.35           | 11.71     | 40.44     | -9.54                | 47.41           | 73.9           | 26.4        | 214         | 236          | -           |
| Hori.    | 5350.000        | AV       | 39.31          | 31.98           | 16.29     | 43.21     | 2.15                 | 46.52           | 53.9           | 7.3         | 114         | 339          | VBW: 270 Hz |
| Hori.    | 15870.000       | AV       | 35.84          | 38.35           | 11.71     | 40.44     | -9.54                | 35.92           | 53.9           | 17.9        | 214         | 236          | VBW: 270 Hz |
| Vert.    | 5350.000        | PK       | 52.94          | 31.98           | 16.29     | 43.21     | 2.15                 | 60.15           | 73.9           | 13.7        | 176         | 334          | -           |
| Vert.    | 15870.000       | PK       | 47.41          | 38.35           | 11.71     | 40.44     | -9.54                | 47.49           | 73.9           | 26.4        | 199         | 224          | -           |
| Vert.    | 5350.000        | AV       | 39.22          | 31.98           | 16.29     | 43.21     | 2.15                 | 46.43           | 53.9           | 7.4         | 176         | 334          | VBW: 270 Hz |
| Vert.    | 15870.000       | AV       | 36.04          | 38.35           | 11.71     | 40.44     | -9.54                | 36.12           | 53.9           | 17.7        | 199         | 224          | VBW: 270 Hz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz : 20log (3.84 m / 3.0 m) = 2.15 dB

13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

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

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Result (EIRP) [dBm] | Limit [dBm] | Margin [dB] | Height [cm] | Angle [deg.] | Remark |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|---------------------|-------------|-------------|-------------|--------------|--------|
| Hori.    | 10580.000       | PK       | 47.60          | 39.65           | 9.23      | 42.67     | 2.15                 | 55.96           | -39.26              | -27.0       | 12.3        | 100         | 0            | -      |
| Vert.    | 10580.000       | PK       | 47.65          | 39.65           | 9.23      | 42.67     | 2.15                 | 56.01           | -39.21              | -27.0       | 12.2        | 100         | 0            | -      |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

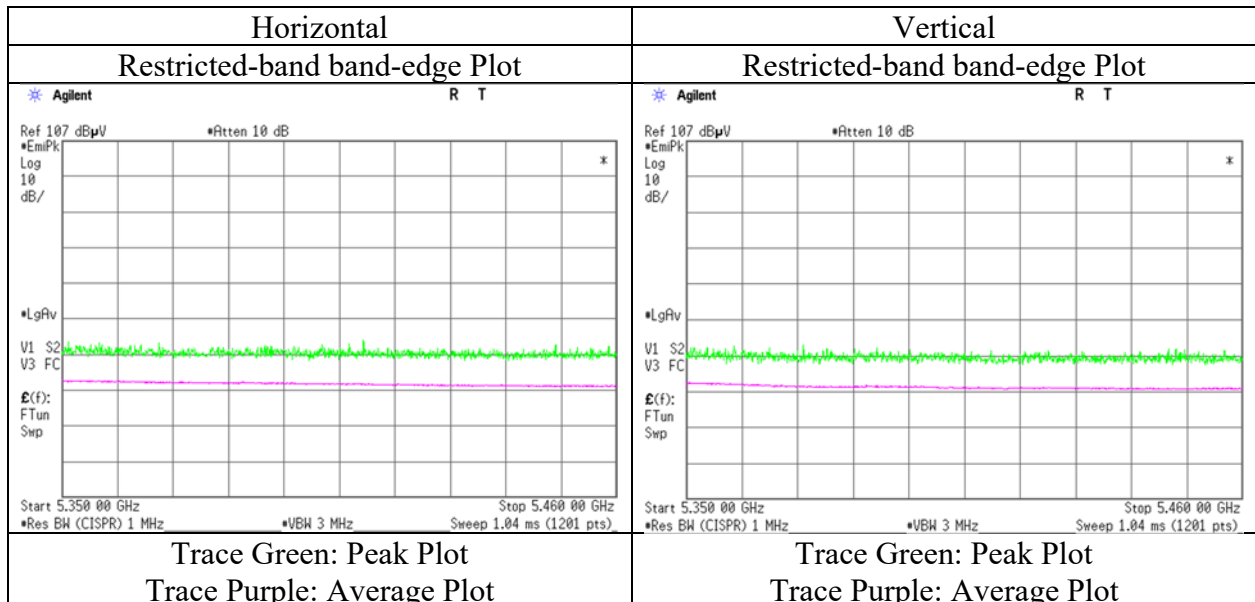
Result(EIRP[dBm])=10\*LOG (( { 10 ^ ( Electric Field Strength [dBuV/m] / 20 ) \* 10 ^ (-6) \* Distance:3[m] ) ^ 2 } / 30 ) \*10^3)

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz : 20log (3.84 m / 3.0 m) = 2.15 dB

13 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB



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

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## Radiated Spurious Emission

Report No. 13004393S-E-R2  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber No.3  
Date September 5, 2019  
Temperature / Humidity 25 deg. C / 65 % RH  
Engineer Kazuya Noda  
(1 GHz – 6.4 GHz)  
Mode Tx, 11ac-80 (CDD), 5210 MHz, (EUT serial no. A-7)

### (above 1GHz Inside of the restricted band)

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

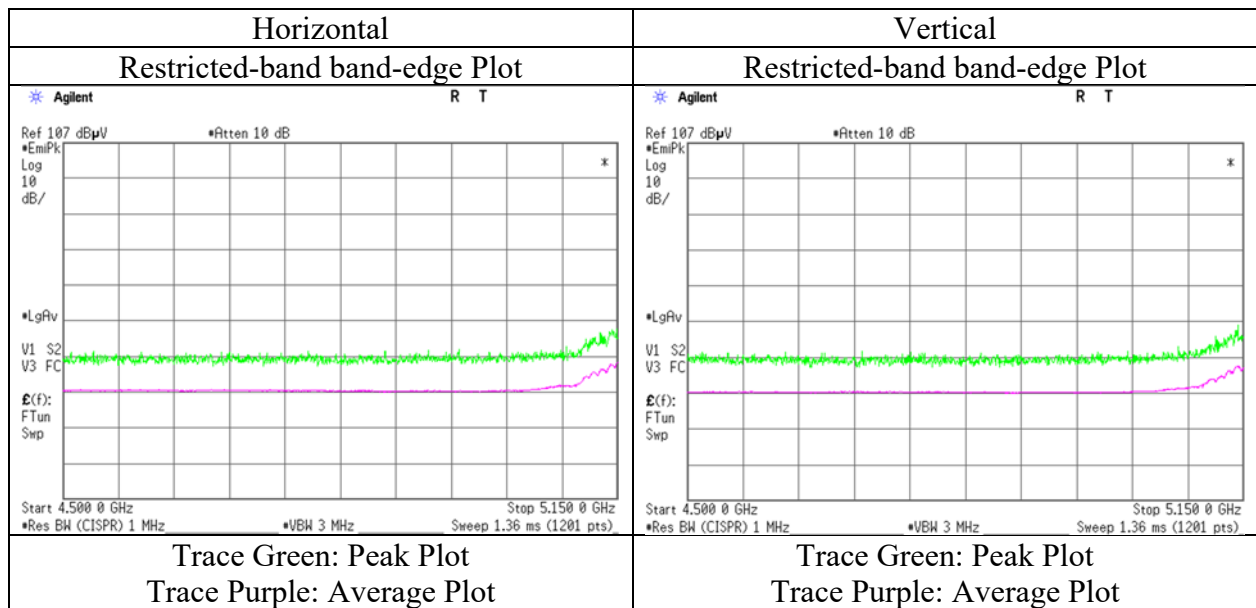
| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark      |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|-------------|
| Hori.    | 5143.000        | PK       | 56.20          | 32.27           | 16.25     | 43.04     | 2.15                 | 63.83           | 73.9           | 10.0        | 197         | 345          | -           |
| Hori.    | 5150.000        | PK       | 58.20          | 32.26           | 16.25     | 43.04     | 2.15                 | 65.82           | 73.9           | 8.0         | 197         | 345          | -           |
| Hori.    | 5143.000        | AV       | 44.34          | 32.27           | 16.25     | 43.04     | 2.15                 | 51.97           | 53.9           | 1.9         | 197         | 345          | VBW: 120 Hz |
| Hori.    | 5150.000        | AV       | 45.05          | 32.26           | 16.25     | 43.04     | 2.15                 | 52.67           | 53.9           | 1.2         | 197         | 345          | VBW: 120 Hz |
| Vert.    | 5143.000        | PK       | 56.33          | 32.27           | 16.25     | 43.04     | 2.15                 | 63.96           | 73.9           | 9.9         | 220         | 337          | -           |
| Vert.    | 5150.000        | PK       | 56.22          | 32.26           | 16.25     | 43.04     | 2.15                 | 63.84           | 73.9           | 10.0        | 220         | 337          | -           |
| Vert.    | 5143.000        | AV       | 44.34          | 32.27           | 16.25     | 43.04     | 2.15                 | 51.97           | 53.9           | 1.9         | 220         | 337          | VBW: 120 Hz |
| Vert.    | 5150.000        | AV       | 43.94          | 32.26           | 16.25     | 43.04     | 2.15                 | 51.56           | 53.9           | 2.3         | 220         | 337          | VBW: 120 Hz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.84\text{ m} / 3.0\text{ m}) = 2.15\text{ dB}$



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

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## Radiated Spurious Emission

Report No. 13004393S-E-R2  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber No.3  
Date September 5, 2019  
Temperature / Humidity 25 deg. C / 65 % RH  
Engineer Kazuya Noda  
(1 GHz – 6.4 GHz)  
Mode Tx, 11ac-80 (CDD), 5290 MHz, (EUT serial no. A-7)

### (above 1GHz Inside of the restricted band)

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

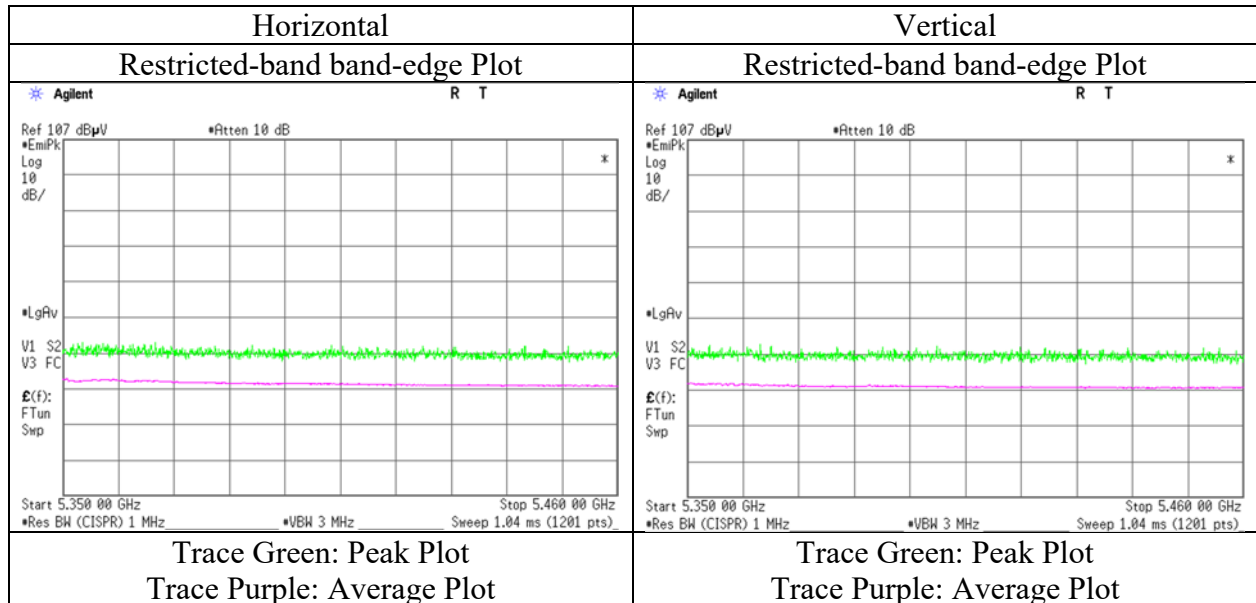
| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark      |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|-------------|
| Hori.    | 5350.000        | PK       | 51.97          | 31.98           | 16.29     | 43.21     | 2.15                 | 59.18           | 73.9           | 14.7        | 147         | 340          | -           |
| Hori.    | 5350.000        | AV       | 39.45          | 31.98           | 16.29     | 43.21     | 2.15                 | 46.66           | 53.9           | 7.2         | 147         | 340          | VBW: 120 Hz |
| Vert.    | 5350.000        | PK       | 50.37          | 31.98           | 16.29     | 43.21     | 2.15                 | 57.58           | 73.9           | 16.3        | 127         | 335          | -           |
| Vert.    | 5350.000        | AV       | 38.47          | 31.98           | 16.29     | 43.21     | 2.15                 | 45.68           | 53.9           | 8.2         | 127         | 335          | VBW: 120 Hz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable + (Attenuator or Filter) (below 18 GHz)) - Gain (Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.84\text{ m} / 3.0\text{ m}) = 2.15\text{ dB}$



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

## Radiated Spurious Emission

Report No. 13004393S-E-R2  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber No.3  
Date September 20, 2019  
Temperature / Humidity 22 deg. C / 64 % RH  
Engineer Makoto Hosaka  
(1 GHz – 6.4 GHz)  
Mode Tx, 11ac-80 (CDD), 5210 MHz, with 3DH5 hopping (EUT serial no. A-7)

### (above 1GHz Inside of the restricted band)

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

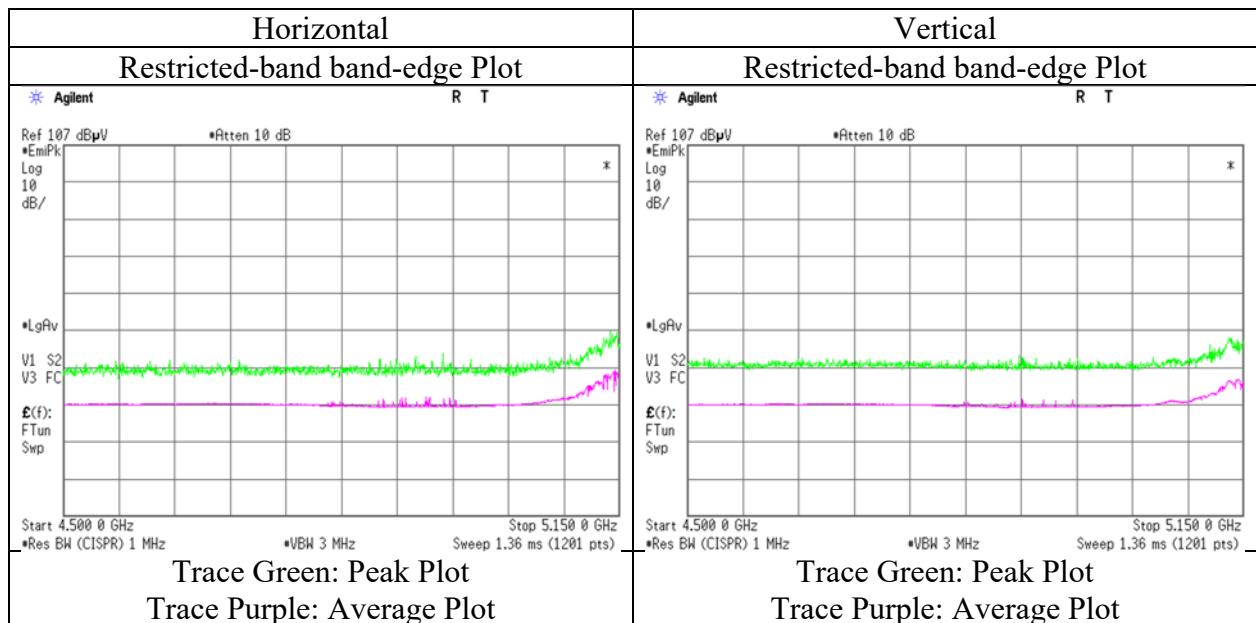
| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark      |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|-------------|
| Hori.    | 5142.583        | PK       | 58.50          | 32.27           | 16.34     | 43.04     | 2.14                 | 66.21           | 73.9           | 7.6         | 189         | 341          | -           |
| Hori.    | 5150.000        | PK       | 57.08          | 32.26           | 16.34     | 43.04     | 2.14                 | 64.78           | 73.9           | 9.1         | 189         | 341          | -           |
| Hori.    | 5142.583        | AV       | 45.05          | 32.27           | 16.34     | 43.04     | 2.14                 | 52.76           | 53.9           | 1.1         | 189         | 341          | VBW: 120 Hz |
| Hori.    | 5150.000        | AV       | 44.21          | 32.26           | 16.34     | 43.04     | 2.14                 | 51.91           | 53.9           | 1.9         | 189         | 341          | VBW: 120 Hz |
| Vert.    | 5142.583        | PK       | 55.99          | 32.27           | 16.34     | 43.04     | 2.14                 | 63.70           | 73.9           | 10.2        | 227         | 339          | -           |
| Vert.    | 5150.000        | PK       | 56.34          | 32.26           | 16.34     | 43.04     | 2.14                 | 64.04           | 73.9           | 9.8         | 227         | 339          | -           |
| Vert.    | 5142.583        | AV       | 43.81          | 32.27           | 16.34     | 43.04     | 2.14                 | 51.52           | 53.9           | 2.3         | 227         | 339          | VBW: 120 Hz |
| Vert.    | 5150.000        | AV       | 43.06          | 32.26           | 16.34     | 43.04     | 2.14                 | 50.76           | 53.9           | 3.1         | 227         | 339          | VBW: 120 Hz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.84\text{ m} / 3.0\text{ m}) = 2.15\text{ dB}$



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

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## Radiated Spurious Emission

Report No. 13004393S-E-R2  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber No.3  
Date September 20, 2019  
Temperature / Humidity 22 deg. C / 64 % RH  
Engineer Makoto Hosaka  
(1 GHz – 6.4 GHz)  
Mode Tx, 11ac-80 (CDD), 5290 MHz, with 3DH5 hopping (EUT serial no. A-7)

### (above 1GHz Inside of the restricted band)

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

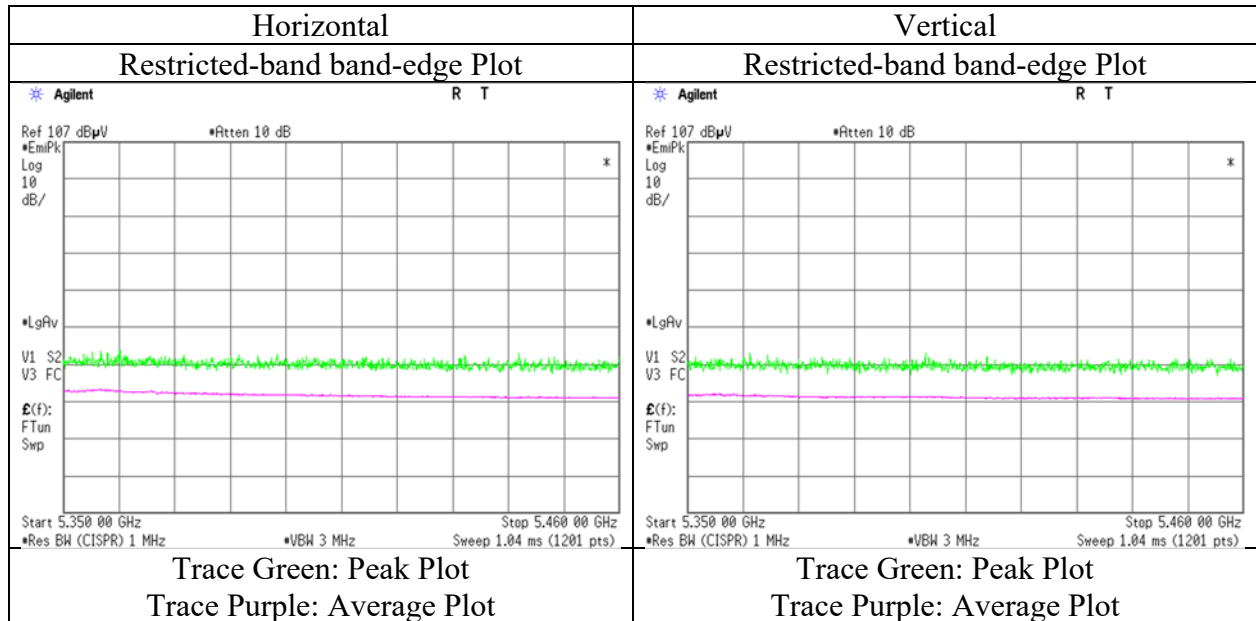
| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark      |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|-------------|
| Hori.    | 5350.000        | PK       | 52.64          | 31.98           | 16.41     | 43.21     | 2.14                 | 59.96           | 73.9           | 13.9        | 145         | 329          | -           |
| Hori.    | 5350.000        | AV       | 39.76          | 31.98           | 16.41     | 43.21     | 2.14                 | 47.08           | 53.9           | 6.8         | 145         | 329          | VBW: 120 Hz |
| Vert.    | 5350.000        | PK       | 50.84          | 31.98           | 16.41     | 43.21     | 2.14                 | 58.16           | 73.9           | 15.7        | 231         | 340          | -           |
| Vert.    | 5350.000        | AV       | 38.40          | 31.98           | 16.41     | 43.21     | 2.14                 | 45.72           | 53.9           | 8.1         | 231         | 340          | VBW: 120 Hz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.84\text{ m} / 3.0\text{ m}) = 2.15\text{ dB}$



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

## Radiated Spurious Emission

|                             |                                                    |                    |                     |                     |
|-----------------------------|----------------------------------------------------|--------------------|---------------------|---------------------|
| Report No.                  | 13004393S-E-R2                                     |                    |                     |                     |
| Test place                  | Shonan EMC Lab.                                    |                    |                     |                     |
| Semi Anechoic Chamber (No.) | 3                                                  | 3                  | 3                   | 3                   |
| Date                        | September 11, 2019                                 | September 13, 2019 | September 14, 2019  | September 15, 2019  |
| Temperature / Humidity      | 24 deg. C / 51 % RH                                | 25 deg. C / 50 %RH | 25 deg. C / 51 %RH  | 24 deg. C / 63 %RH  |
| Engineer                    | Kazuya Noda                                        | Hiromasa Sato      | Toshinori Yamada    | Takahiro Kawakami   |
|                             | (1 GHz – 13 GHz)                                   | (13 GHz – 18 GHz)  | (18 GHz – 26.5 GHz) | (26.5 GHz – 40 GHz) |
| Mode                        | Tx, 11ac-80 (MIMO), 5210 MHz, (EUT serial no. B-5) |                    |                     |                     |

### (above 1GHz Inside of the restricted band)

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark      |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|-------------|
| Hori.    | 15630.000       | PK       | 47.80          | 39.17           | 11.74     | 40.69     | -9.54                | 48.48           | 73.9           | 25.4        | 167         | 236          | -           |
| Hori.    | 15630.000       | AV       | 36.09          | 39.17           | 11.74     | 40.69     | -9.54                | 36.77           | 53.9           | 17.1        | 167         | 236          | VBW: 270 Hz |
| Vert.    | 15630.000       | PK       | 47.35          | 39.17           | 11.74     | 40.69     | -9.54                | 48.03           | 73.9           | 25.8        | 178         | 203          | -           |
| Vert.    | 15630.000       | AV       | 36.02          | 39.17           | 11.74     | 40.69     | -9.54                | 36.70           | 53.9           | 17.2        | 178         | 203          | VBW: 270 Hz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.79\text{ m} / 3.0\text{ m}) = 2.04\text{ dB}$

13 GHz - 40 GHz :  $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Result (EIRP) [dBm] | Limit [dBm] | Margin [dB] | Height [cm] | Angle [deg.] | Remark |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|---------------------|-------------|-------------|-------------|--------------|--------|
| Hori.    | 10420.000       | PK       | 48.47          | 39.45           | 9.18      | 42.68     | 2.04                 | 56.46           | -38.76              | -27.0       | 11.8        | 127         | 345          | -      |
| Vert.    | 10420.000       | PK       | 48.57          | 39.45           | 9.18      | 42.68     | 2.04                 | 56.56           | -38.66              | -27.0       | 11.7        | 117         | 91           | -      |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result(EIRP[dBm])= $10\cdot\text{LOG} \left( \left( \left\{ 10^{\left( \text{Electric Field Strength [dBuV/m]} / 20 \right)} \cdot 10^{(-6)} \cdot \text{Distance:3[m]}^2 \right\} / 30 \right) \cdot 10^{(3)} \right)$

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.79\text{ m} / 3.0\text{ m}) = 2.04\text{ dB}$

13 GHz - 40 GHz :  $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$



## Radiated Spurious Emission

|                             |                                                    |                    |                     |                     |
|-----------------------------|----------------------------------------------------|--------------------|---------------------|---------------------|
| Report No.                  | 13004393S-E-R2                                     |                    |                     |                     |
| Test place                  | Shonan EMC Lab.                                    |                    |                     |                     |
| Semi Anechoic Chamber (No.) | 3                                                  | 3                  | 3                   | 3                   |
| Date                        | September 11, 2019                                 | September 13, 2019 | September 14, 2019  | September 15, 2019  |
| Temperature / Humidity      | 24 deg. C / 51 % RH                                | 25 deg. C / 50 %RH | 25 deg. C / 51 %RH  | 24 deg. C / 63 %RH  |
| Engineer                    | Kazuya Noda                                        | Hiromasa Sato      | Toshinori Yamada    | Takahiro Kawakami   |
|                             | (1 GHz – 13 GHz)                                   | (13 GHz – 18 GHz)  | (18 GHz – 26.5 GHz) | (26.5 GHz – 40 GHz) |
| Mode                        | Tx, 11ac-80 (MIMO), 5290 MHz, (EUT serial no. B-5) |                    |                     |                     |

### (above 1GHz Inside of the restricted band)

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark      |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|-------------|
| Hori.    | 15870.000       | PK       | 46.90          | 38.35           | 11.71     | 40.44     | -9.54                | 46.98           | 73.9           | 26.9        | 173         | 237          | -           |
| Hori.    | 15870.000       | AV       | 36.27          | 38.35           | 11.71     | 40.44     | -9.54                | 36.35           | 53.9           | 17.5        | 173         | 237          | VBW: 270 Hz |
| Vert.    | 15870.000       | PK       | 46.97          | 38.35           | 11.71     | 40.44     | -9.54                | 47.05           | 73.9           | 26.8        | 195         | 255          | -           |
| Vert.    | 15870.000       | AV       | 36.28          | 38.35           | 11.71     | 40.44     | -9.54                | 36.36           | 53.9           | 17.5        | 195         | 255          | VBW: 270 Hz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.79\text{ m} / 3.0\text{ m}) = 2.04\text{ dB}$

13 GHz - 40 GHz :  $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Result (EIRP) [dBm] | Limit [dBm] | Margin [dB] | Height [cm] | Angle [deg.] | Remark |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|---------------------|-------------|-------------|-------------|--------------|--------|
| Hori.    | 10580.000       | PK       | 48.72          | 39.65           | 9.23      | 42.67     | 2.04                 | 56.97           | -38.25              | -27.0       | 11.3        | 171         | 342          | -      |
| Vert.    | 10580.000       | PK       | 48.20          | 39.65           | 9.23      | 42.67     | 2.04                 | 56.45           | -38.77              | -27.0       | 11.8        | 113         | 107          | -      |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result(EIRP[dBm])= $10\cdot\text{LOG} \left( \left( \left\{ 10^{\left( \text{Electric Field Strength [dBuV/m]} / 20 \right)} \cdot 10^{(-6)} \cdot \text{Distance:3[m]} \right\}^2 \right) / 30 \right) \cdot 10^{(3)}$

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.79\text{ m} / 3.0\text{ m}) = 2.04\text{ dB}$

13 GHz - 40 GHz :  $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

**UL Japan, Inc.**

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## Radiated Spurious Emission

Report No. 13004393S-E-R2  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber No.3  
Date September 5, 2019  
Temperature / Humidity 25 deg. C / 65 % RH  
Engineer Makoto Hosaka  
(1 GHz – 6.4 GHz)  
Mode Tx, 11ac-80 (CDD), 5210 MHz, (EUT serial no. B-5)

### (above 1GHz Inside of the restricted band)

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

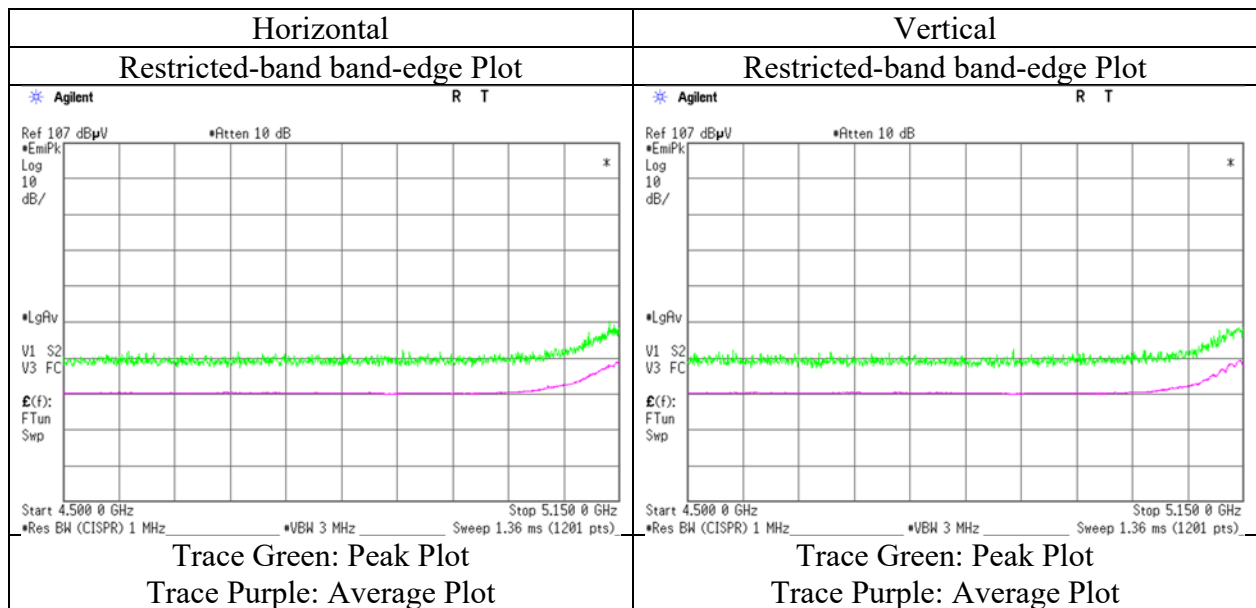
| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark      |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|-------------|
| Hori.    | 5144.500        | PK       | 57.18          | 32.27           | 16.25     | 43.04     | 2.15                 | 64.81           | 73.9           | 9.0         | 109         | 173          | -           |
| Hori.    | 5150.000        | PK       | 57.46          | 32.26           | 16.25     | 43.04     | 2.15                 | 65.08           | 73.9           | 8.8         | 109         | 173          | -           |
| Hori.    | 5144.500        | AV       | 45.08          | 32.27           | 16.25     | 43.04     | 2.15                 | 52.71           | 53.9           | 1.1         | 109         | 173          | VBW: 120 Hz |
| Hori.    | 5150.000        | AV       | 45.25          | 32.26           | 16.25     | 43.04     | 2.15                 | 52.87           | 53.9           | 1.0         | 109         | 173          | VBW: 120 Hz |
| Vert.    | 5144.500        | PK       | 58.81          | 32.27           | 16.25     | 43.04     | 2.15                 | 66.44           | 73.9           | 7.4         | 183         | 185          | -           |
| Vert.    | 5150.000        | PK       | 57.41          | 32.26           | 16.25     | 43.04     | 2.15                 | 65.03           | 73.9           | 8.8         | 183         | 185          | -           |
| Vert.    | 5144.500        | AV       | 45.53          | 32.27           | 16.25     | 43.04     | 2.15                 | 53.16           | 53.9           | 0.7         | 183         | 185          | VBW: 120 Hz |
| Vert.    | 5150.000        | AV       | 44.70          | 32.26           | 16.25     | 43.04     | 2.15                 | 52.32           | 53.9           | 1.5         | 183         | 185          | VBW: 120 Hz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.79\text{ m} / 3.0\text{ m}) = 2.04\text{ dB}$



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

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## Radiated Spurious Emission

Report No. 13004393S-E-R2  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber No.3  
Date September 5, 2019  
Temperature / Humidity 25 deg. C / 65 % RH  
Engineer Makoto Hosaka  
(1 GHz – 6.4 GHz)  
Mode Tx, 11ac-80 (CDD), 5290 MHz, (EUT serial no. B-5)

### (above 1GHz Inside of the restricted band)

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

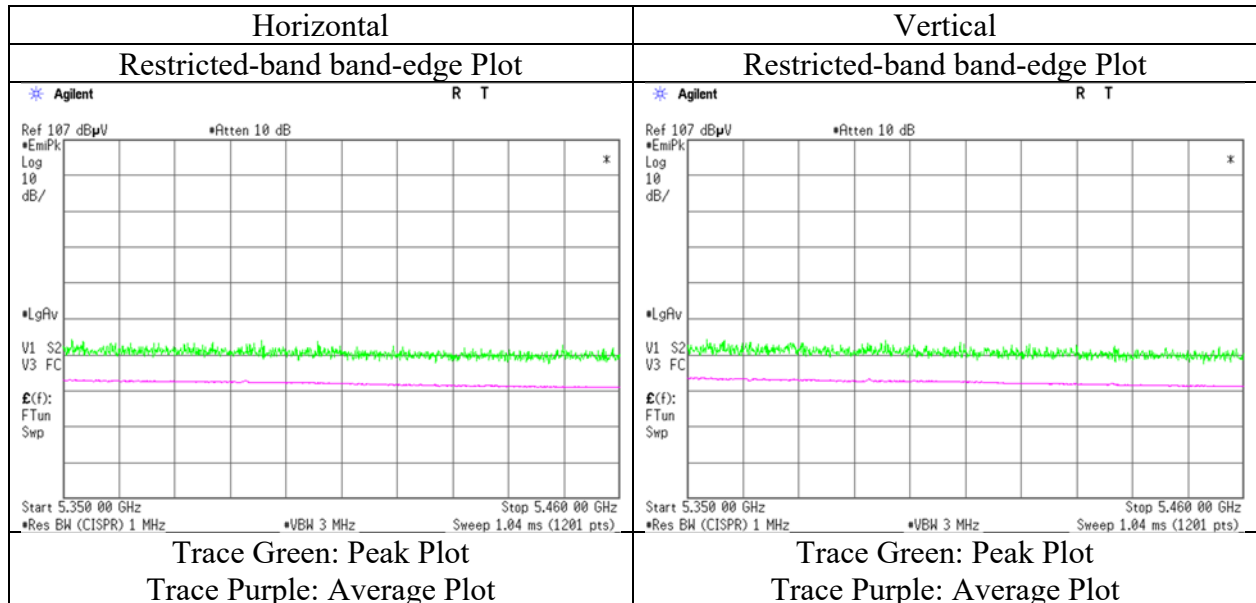
| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark      |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|-------------|
| Hori.    | 5350.000        | PK       | 51.91          | 31.98           | 16.29     | 43.21     | 2.15                 | 59.12           | 73.9           | 14.7        | 143         | 139          | -           |
| Hori.    | 5350.000        | AV       | 39.70          | 31.98           | 16.29     | 43.21     | 2.15                 | 46.91           | 53.9           | 6.9         | 143         | 139          | VBW: 120 Hz |
| Vert.    | 5350.000        | PK       | 54.31          | 31.98           | 16.29     | 43.21     | 2.15                 | 61.52           | 73.9           | 12.3        | 238         | 198          | -           |
| Vert.    | 5350.000        | AV       | 40.17          | 31.98           | 16.29     | 43.21     | 2.15                 | 47.38           | 53.9           | 6.5         | 238         | 198          | VBW: 120 Hz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable + (Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.79\text{ m} / 3.0\text{ m}) = 2.04\text{ dB}$



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

## Radiated Spurious Emission

Report No. 13004393S-E-R2  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber No.3  
Date September 21, 2019  
Temperature / Humidity 25 deg. C / 52 % RH  
Engineer Takahiro Kawakami  
(1 GHz – 6.4 GHz)  
Mode Tx, 11ac-80 (CDD), 5210 MHz, with 3DH5 hopping (EUT serial no. B-5)

### (above 1GHz Inside of the restricted band)

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

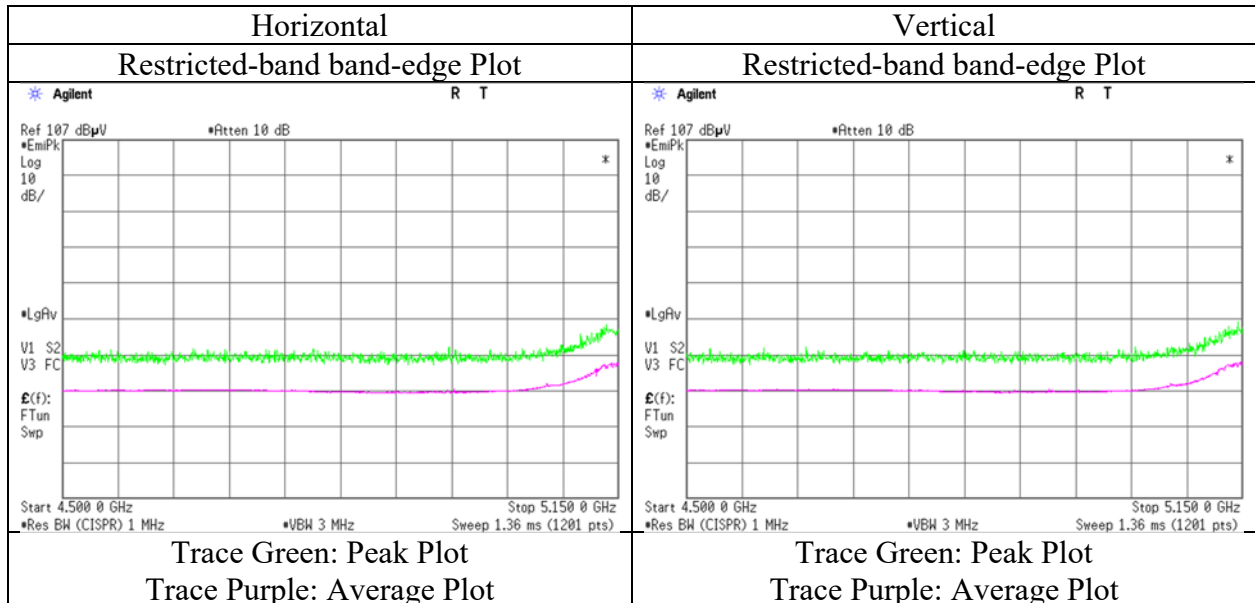
| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark      |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|-------------|
| Hori.    | 5150.000        | PK       | 57.30          | 32.26           | 16.34     | 43.04     | 2.04                 | 64.90           | 73.9           | 9.0         | 165         | 174          | -           |
| Hori.    | 5150.000        | AV       | 44.76          | 32.26           | 16.34     | 43.04     | 2.04                 | 52.36           | 53.9           | 1.5         | 165         | 174          | VBW: 120 Hz |
| Vert.    | 5150.000        | PK       | 55.89          | 32.26           | 16.34     | 43.04     | 2.04                 | 63.49           | 73.9           | 10.4        | 295         | 202          | -           |
| Vert.    | 5150.000        | AV       | 43.56          | 32.26           | 16.34     | 43.04     | 2.04                 | 51.16           | 53.9           | 2.7         | 295         | 202          | VBW: 120 Hz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz : 20log (3.79 m / 3.0 m) = 2.04 dB



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

## Radiated Spurious Emission

Report No. 13004393S-E-R2  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber No.3  
Date September 21, 2019  
Temperature / Humidity 25 deg. C / 52 % RH  
Engineer Takahiro Kawakami  
(1 GHz – 6.4 GHz)  
Mode Tx, 11ac-80 (CDD), 5290 MHz, with 3DH5 hopping (EUT serial no. B-5)

### (above 1GHz Inside of the restricted band)

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

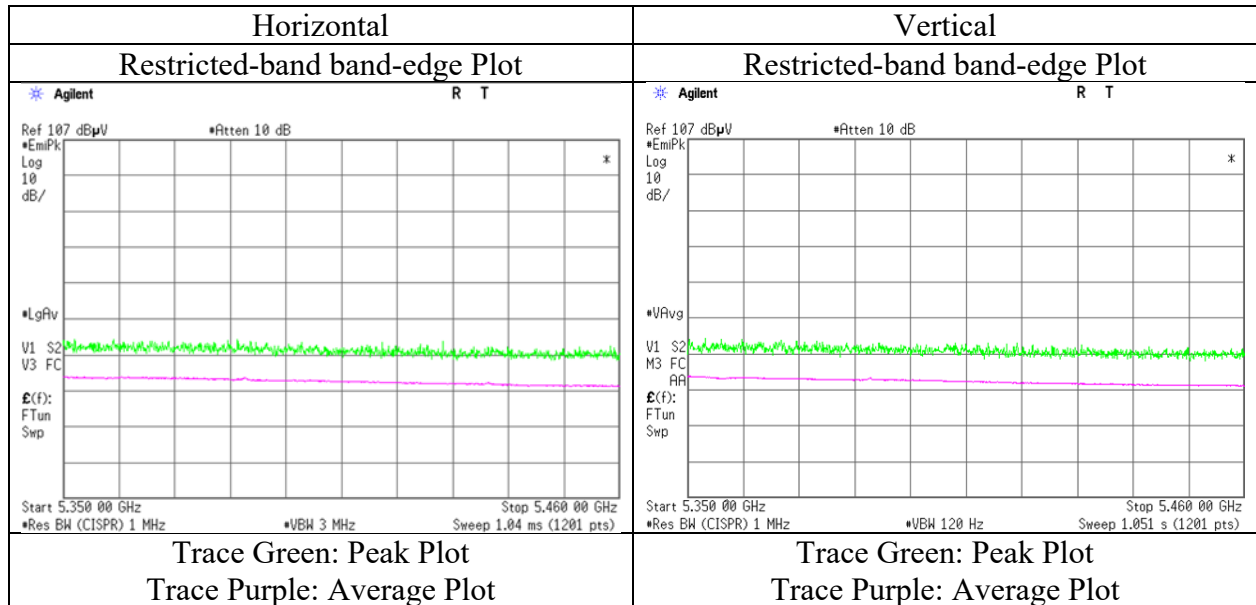
| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark      |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|-------------|
| Hori.    | 5350.000        | PK       | 51.28          | 31.98           | 16.41     | 43.21     | 2.04                 | 58.50           | 73.9           | 15.4        | 172         | 176          | -           |
| Hori.    | 5350.000        | AV       | 40.42          | 31.98           | 16.41     | 43.21     | 2.04                 | 47.64           | 53.9           | 6.2         | 172         | 176          | VBW: 120 Hz |
| Vert.    | 5350.000        | PK       | 54.15          | 31.98           | 16.41     | 43.21     | 2.04                 | 61.37           | 73.9           | 12.5        | 264         | 178          | -           |
| Vert.    | 5350.000        | AV       | 40.25          | 31.98           | 16.41     | 43.21     | 2.04                 | 47.47           | 53.9           | 6.4         | 264         | 178          | VBW: 120 Hz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz : 20log (3.79 m / 3.0 m) = 2.04 dB



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

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## Radiated Spurious Emission

|                             |                                                   |                                   |                                  |                                          |                                         |
|-----------------------------|---------------------------------------------------|-----------------------------------|----------------------------------|------------------------------------------|-----------------------------------------|
| Report No.                  | 13004393S-E-R2                                    |                                   |                                  |                                          |                                         |
| Test place                  | Shonan EMC Lab.                                   |                                   |                                  |                                          |                                         |
| Semi Anechoic Chamber (No.) | 3                                                 | 3                                 | 3                                | 3                                        | 3                                       |
| Date                        | September 6, 2019                                 | September 10, 2019                | September 12, 2019               | September 14, 2019                       | September 15, 2019                      |
| Temperature / Humidity      | 24 deg. C / 61 % RH                               | 23 deg. C / 55 % RH               | 24 deg. C / 54 % RH              | 25 deg. C / 51 % RH                      | 24 deg. C / 63 % RH                     |
| Engineer                    | Makoto Hosaka<br>(1 GHz – 6.4 GHz)                | Kazuya Noda<br>(6.4 GHz – 13 GHz) | Kazuya Noda<br>(13 GHz – 18 GHz) | Takahiro Kawakami<br>(18 GHz – 26.5 GHz) | Toshinori Yamada<br>(26.5 GHz – 40 GHz) |
| Mode                        | Tx, 11n-20 (MIMO), 5500 MHz, (EUT serial no. A-7) |                                   |                                  |                                          |                                         |

### (above 1GHz Inside of the restricted band)

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark     |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|------------|
| Hori.    | 5460.000        | PK       | 50.81          | 32.32           | 16.32     | 43.30     | 2.15                 | 58.30           | 73.9           | 15.6        | 125         | 344          | -          |
| Hori.    | 11000.000       | PK       | 48.89          | 40.38           | 9.36      | 42.70     | 2.15                 | 58.08           | 73.9           | 15.8        | 155         | 88           | -          |
| Hori.    | 5460.000        | AV       | 38.81          | 32.32           | 16.32     | 43.30     | 2.15                 | 46.30           | 53.9           | 7.6         | 125         | 344          | VBW: 1 kHz |
| Hori.    | 11000.000       | AV       | 37.55          | 40.38           | 9.36      | 42.70     | 2.15                 | 46.74           | 53.9           | 7.1         | 155         | 88           | VBW: 1 kHz |
| Vert.    | 5460.000        | PK       | 50.03          | 32.32           | 16.32     | 43.30     | 2.15                 | 57.52           | 73.9           | 16.3        | 108         | 256          | -          |
| Vert.    | 11000.000       | PK       | 48.78          | 40.38           | 9.36      | 42.70     | 2.15                 | 57.97           | 73.9           | 15.9        | 229         | 145          | -          |
| Vert.    | 5460.000        | AV       | 38.53          | 32.32           | 16.32     | 43.30     | 2.15                 | 46.02           | 53.9           | 7.8         | 108         | 256          | VBW: 1 kHz |
| Vert.    | 11000.000       | AV       | 37.58          | 40.38           | 9.36      | 42.70     | 2.15                 | 46.77           | 53.9           | 7.1         | 229         | 145          | VBW: 1 kHz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.84\text{ m} / 3.0\text{ m}) = 2.15\text{ dB}$

13 GHz - 40 GHz :  $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Result (EIRP) [dBm] | Limit [dBm] | Margin [dB] | Height [cm] | Angle [deg.] | Remark |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|---------------------|-------------|-------------|-------------|--------------|--------|
| Hori.    | 5470.000        | PK       | 55.47          | 32.34           | 16.33     | 43.31     | 2.15                 | 62.98           | -32.24              | -27.0       | 5.2         | 125         | 344          | -      |
| Hori.    | 16500.000       | PK       | 46.65          | 39.24           | 12.48     | 40.44     | -9.54                | 48.39           | -46.83              | -27.0       | 19.8        | 268         | 91           | -      |
| Vert.    | 5470.000        | PK       | 51.74          | 32.34           | 16.33     | 43.31     | 2.15                 | 59.25           | -35.97              | -27.0       | 9.0         | 108         | 256          | -      |
| Vert.    | 16500.000       | PK       | 46.81          | 39.24           | 12.48     | 40.44     | -9.54                | 48.55           | -46.67              | -27.0       | 19.7        | 224         | 165          | -      |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

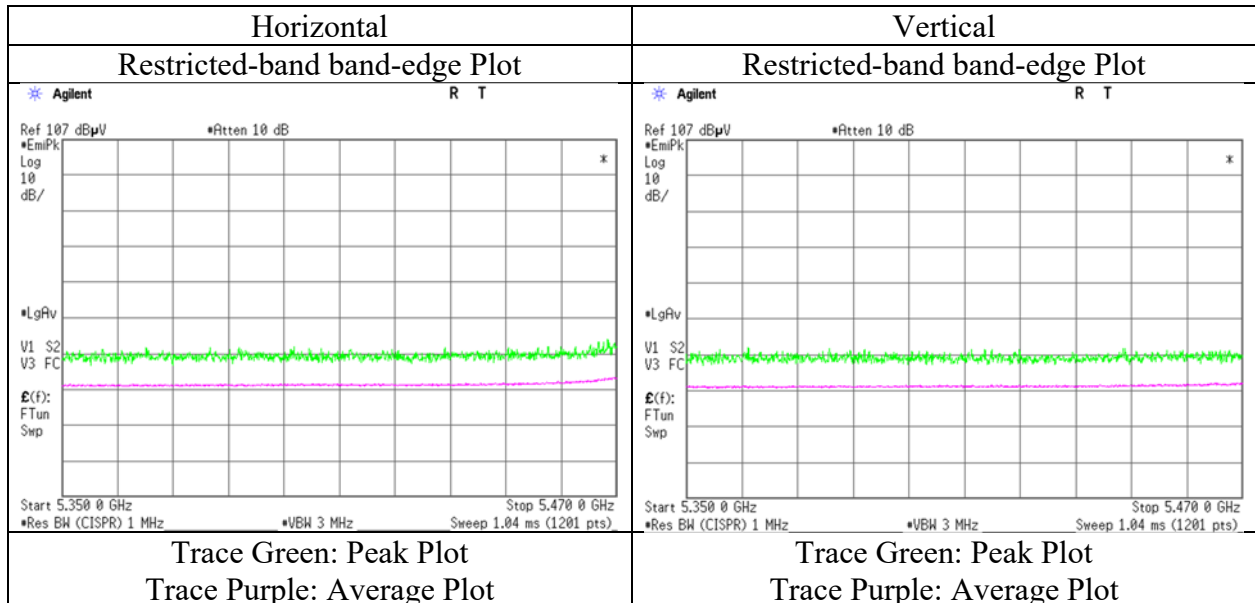
Result(EIRP[dBm]) =  $10 \cdot \log((\{10^{\frac{1}{2}} \cdot (\text{Electric Field Strength [dBuV/m]} / 20) \cdot 10^{(-6)} \cdot \text{Distance}^3[\text{m}]^2\} / 30) \cdot 10^{-3})$

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.84\text{ m} / 3.0\text{ m}) = 2.15\text{ dB}$

13 GHz - 40 GHz :  $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$



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

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## Radiated Spurious Emission

|                             |                                                   |                    |                    |                     |                     |
|-----------------------------|---------------------------------------------------|--------------------|--------------------|---------------------|---------------------|
| Report No.                  | 13004393S-E-R2                                    |                    |                    |                     |                     |
| Test place                  | Shonan EMC Lab.                                   |                    |                    |                     |                     |
| Semi Anechoic Chamber (No.) | 3                                                 | 3                  | 3                  | 3                   | 3                   |
| Date                        | September 11, 2019                                | September 10, 2019 | September 12, 2019 | September 14, 2019  | September 15, 2019  |
| Temperature / Humidity      | 22 deg.C / 53 %RH                                 | 23 deg.C / 55 %RH  | 24 deg.C / 54 %RH  | 25 deg.C / 51 %RH   | 24 deg.C / 63 %RH   |
| Engineer                    | Takahiro Kawakami                                 | Kazuya Noda        | Kazuya Noda        | Takahiro Kawakami   | Toshinori Yamada    |
|                             | (1 GHz – 6.4 GHz)                                 | (6.4 GHz – 13 GHz) | (13 GHz – 18 GHz)  | (18 GHz – 26.5 GHz) | (26.5 GHz – 40 GHz) |
| Mode                        | Tx, 11n-20 (MIMO), 5580 MHz, (EUT serial no. A-7) |                    |                    |                     |                     |

### (above 1GHz Inside of the restricted band)

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark     |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|------------|
| Hori.    | 11160.000       | PK       | 48.79          | 39.92           | 9.53      | 42.67     | 2.15                 | 57.72           | 73.9           | 16.1        | 111         | 114          | -          |
| Hori.    | 11160.000       | AV       | 37.56          | 39.92           | 9.53      | 42.67     | 2.15                 | 46.49           | 53.9           | 7.4         | 111         | 114          | VBW: 1 kHz |
| Vert.    | 11160.000       | PK       | 48.83          | 39.92           | 9.53      | 42.67     | 2.15                 | 57.76           | 73.9           | 16.1        | 147         | 144          | -          |
| Vert.    | 11160.000       | AV       | 37.85          | 39.92           | 9.53      | 42.67     | 2.15                 | 46.78           | 53.9           | 7.1         | 147         | 144          | VBW: 1 kHz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.84\text{ m} / 3.0\text{ m}) = 2.15\text{ dB}$

13 GHz - 40 GHz :  $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Result (EIRP) [dBm] | Limit [dBm] | Margin [dB] | Height [cm] | Angle [deg.] | Remark |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|---------------------|-------------|-------------|-------------|--------------|--------|
| Hori.    | 16740.000       | PK       | 46.87          | 39.38           | 12.43     | 40.40     | -9.54                | 48.74           | -46.48              | -27.0       | 19.5        | 268         | 318          | -      |
| Vert.    | 16740.000       | PK       | 46.70          | 39.38           | 12.43     | 40.40     | -9.54                | 48.57           | -46.65              | -27.0       | 19.7        | 225         | 248          | -      |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result(EIRP[dBm])= $10\cdot\text{LOG} \{ (\{ 10^{\wedge} (\text{Electric Field Strength [dBuV/m]} / 20) * 10^{\wedge} (-6) * \text{Distance:3[m]} )^{\wedge} 2 \} / 30) * 10^{\wedge} 3 \}$

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.84\text{ m} / 3.0\text{ m}) = 2.15\text{ dB}$

13 GHz - 40 GHz :  $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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## Radiated Spurious Emission

|                             |                                                   |                     |                     |                     |                     |
|-----------------------------|---------------------------------------------------|---------------------|---------------------|---------------------|---------------------|
| Report No.                  | 13004393S-E-R2                                    |                     |                     |                     |                     |
| Test place                  | Shonan EMC Lab.                                   |                     |                     |                     |                     |
| Semi Anechoic Chamber (No.) | 3                                                 | 3                   | 3                   | 3                   | 3                   |
| Date                        | September 6, 2019                                 | September 10, 2019  | September 12, 2019  | September 14, 2019  | September 15, 2019  |
| Temperature / Humidity      | 24 deg. C / 61 % RH                               | 23 deg. C / 55 % RH | 24 deg. C / 54 % RH | 25 deg. C / 51 % RH | 24 deg. C / 63 % RH |
| Engineer                    | Makoto Hosaka                                     | Kazuya Noda         | Kazuya Noda         | Takahiro Kawakami   | Toshinori Yamada    |
|                             | (1 GHz – 6.4 GHz)                                 | (6.4 GHz – 13 GHz)  | (13 GHz – 18 GHz)   | (18 GHz – 26.5 GHz) | (26.5 GHz – 40 GHz) |
| Mode                        | Tx, 11n-20 (MIMO), 5700 MHz, (EUT serial no. A-7) |                     |                     |                     |                     |

### (above 1GHz Inside of the restricted band)

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark     |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|------------|
| Hori.    | 11400.000       | PK       | 49.26          | 39.95           | 9.78      | 42.62     | 2.15                 | 58.52           | 73.9           | 15.4        | 119         | 82           | -          |
| Hori.    | 11400.000       | AV       | 37.76          | 39.95           | 9.78      | 42.62     | 2.15                 | 47.02           | 53.9           | 6.9         | 119         | 82           | VBW: 1 kHz |
| Vert.    | 11400.000       | PK       | 49.05          | 39.95           | 9.78      | 42.62     | 2.15                 | 58.31           | 73.9           | 15.6        | 241         | 141          | -          |
| Vert.    | 11400.000       | AV       | 37.67          | 39.95           | 9.78      | 42.62     | 2.15                 | 46.93           | 53.9           | 7.0         | 241         | 141          | VBW: 1 kHz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.84\text{ m} / 3.0\text{ m}) = 2.15\text{ dB}$

13 GHz - 40 GHz :  $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Result (EIRP) [dBm] | Limit [dBm] | Margin [dB] | Height [cm] | Angle [deg.] | Remark |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|---------------------|-------------|-------------|-------------|--------------|--------|
| Hori.    | 5725.000        | PK       | 54.88          | 32.68           | 16.55     | 43.33     | 2.15                 | 62.93           | -32.29              | -27.0       | 5.3         | 112         | 329          | -      |
| Hori.    | 17100.000       | PK       | 46.73          | 40.33           | 12.36     | 40.32     | -9.54                | 49.56           | -45.66              | -27.0       | 18.7        | 253         | 123          | -      |
|          | 5725.000        | PK       | 53.43          | 32.68           | 16.55     | 43.33     | 2.15                 | 61.48           | -33.74              | -27.0       | 6.7         | 105         | 253          | -      |
| Vert.    | 17100.000       | PK       | 46.19          | 40.33           | 12.36     | 40.32     | -9.54                | 49.02           | -46.20              | -27.0       | 19.2        | 215         | 359          | -      |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

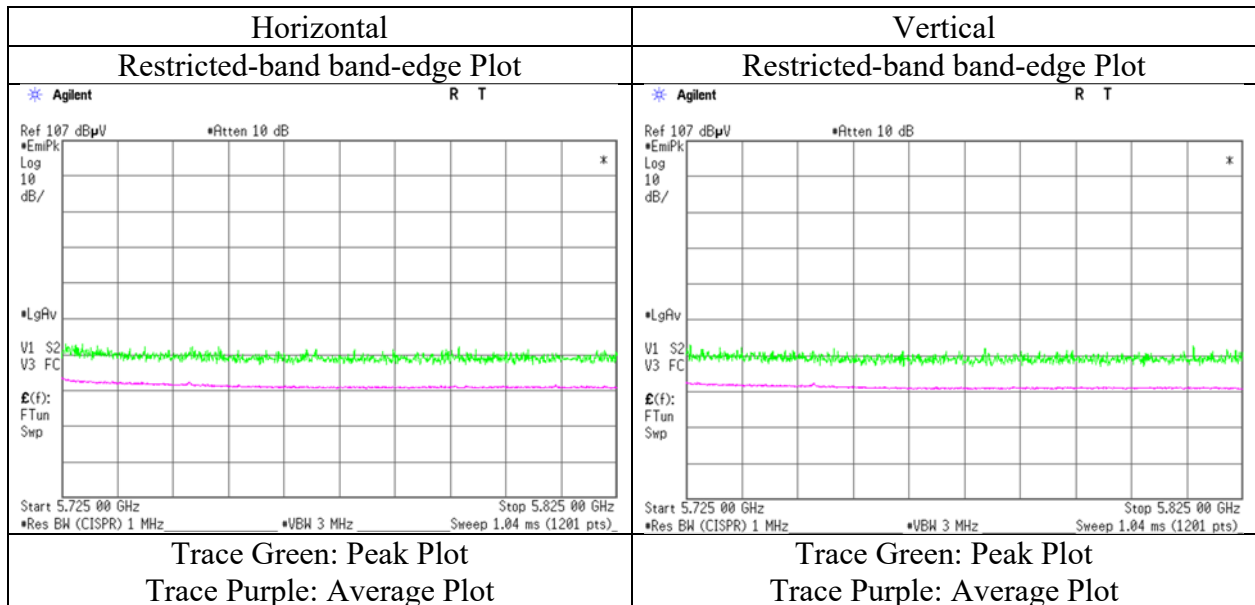
Result(EIRP[dBm])=10\*LOG (( {  $10^{\wedge}(\text{Electric Field Strength [dBuV/m]} / 20)$  } \*  $10^{\wedge}(-6)$  \* Distance:3[m] ) ^ 2 } / 30) \*  $10^{\wedge}3$ )

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.84\text{ m} / 3.0\text{ m}) = 2.15\text{ dB}$

13 GHz - 40 GHz :  $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$



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

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## Radiated Spurious Emission

Report No. 13004393S-E-R2  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber No.3  
Date September 6, 2019  
Temperature / Humidity 24 deg. C / 61 % RH  
Engineer Makoto Hosaka  
(1 GHz – 6.4 GHz)  
Mode Tx, 11n-20 (CDD), 5500 MHz, (EUT serial no. A-7)

### (above 1GHz Inside of the restricted band)

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark     |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|------------|
| Hori.    | 5460.000        | PK       | 50.31          | 32.32           | 16.32     | 43.30     | 2.15                 | 57.80           | 73.9           | 16.1        | 166         | -            | -          |
| Hori.    | 5460.000        | AV       | 38.33          | 32.32           | 16.32     | 43.30     | 2.15                 | 45.82           | 53.9           | 8.0         | 166         | -            | VBW: 510Hz |
| Vert.    | 5460.000        | PK       | 50.07          | 32.32           | 16.32     | 43.30     | 2.15                 | 57.56           | 73.9           | 16.3        | 109         | -            | -          |
| Vert.    | 5460.000        | AV       | 38.09          | 32.32           | 16.32     | 43.30     | 2.15                 | 45.58           | 53.9           | 8.3         | 109         | -            | VBW: 510Hz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.84\text{ m} / 3.0\text{ m}) = 2.15\text{ dB}$

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

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Result (EIRP) [dBm] | Limit [dBm] | Margin [dB] | Height [cm] | Angle [deg.] | Remark |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|---------------------|-------------|-------------|-------------|--------------|--------|
| Hori.    | 5470.000        | PK       | 55.04          | 32.34           | 16.33     | 43.31     | 2.15                 | 62.55           | -32.67              | -27.0       | 5.6         | 166         | 339          | -      |
| Vert.    | 5470.000        | PK       | 52.25          | 32.34           | 16.33     | 43.31     | 2.15                 | 59.76           | -35.46              | -27.0       | 8.4         | 109         | 256          | -      |

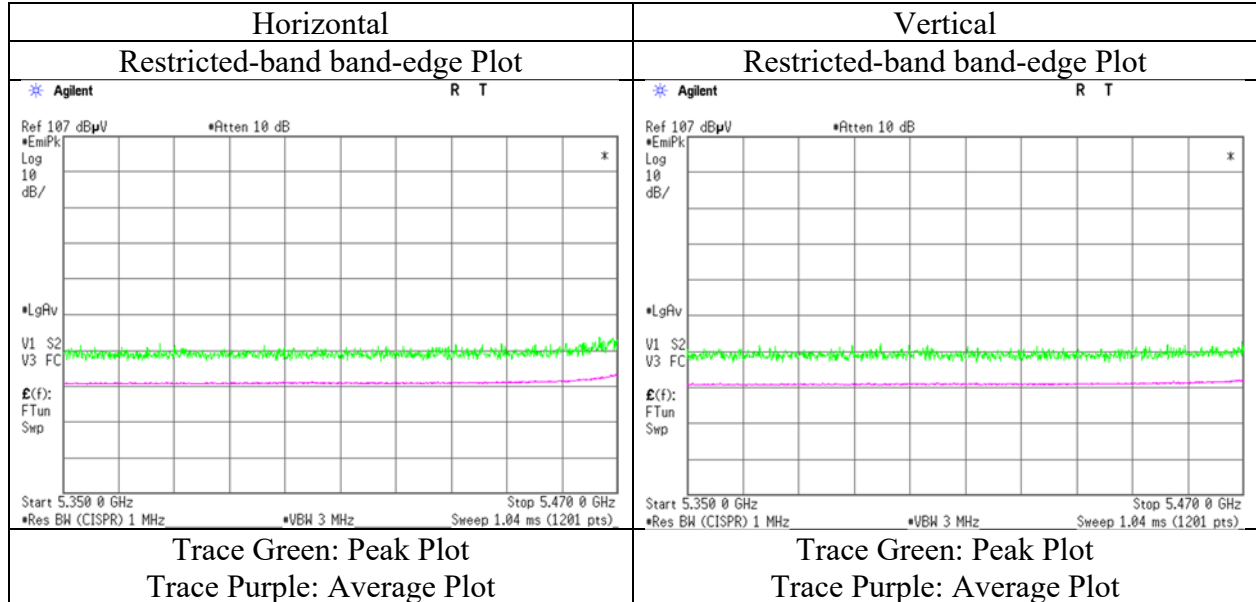
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result(EIRP[dBm]) =  $10 \cdot \text{LOG} \left( \left( \left( \text{Electric Field Strength [dBuV/m]} / 20 \right) \cdot 10^{(-6)} \right) \cdot \text{Distance}^2 \right) / 30 \cdot 10^{(3)}$

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.84\text{ m} / 3.0\text{ m}) = 2.15\text{ dB}$



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

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## Radiated Spurious Emission

|                        |                                                  |
|------------------------|--------------------------------------------------|
| Report No.             | 13004393S-E-R2                                   |
| Test place             | Shonan EMC Lab.                                  |
| Semi Anechoic Chamber  | No.3                                             |
| Date                   | September 6, 2019                                |
| Temperature / Humidity | 24 deg. C / 61 % RH                              |
| Engineer               | Makoto Hosaka                                    |
|                        | (1 GHz – 6.4 GHz)                                |
| Mode                   | Tx, 11n-20 (CDD), 5700 MHz, (EUT serial no. A-7) |

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

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Result (EIRP) [dBm] | Limit [dBm] | Margin [dB] | Height [cm] | Angle [deg.] | Remark |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|---------------------|-------------|-------------|-------------|--------------|--------|
| Hori.    | 5725.000        | PK       | 55.72          | 32.68           | 16.55     | 43.33     | 2.15                 | 63.77           | -31.45              | -27.0       | 4.4         | 119         | 340          | -      |
| Vert.    | 5725.000        | PK       | 53.43          | 32.68           | 16.55     | 43.33     | 2.15                 | 61.48           | -33.74              | -27.0       | 6.7         | 148         | 271          | -      |

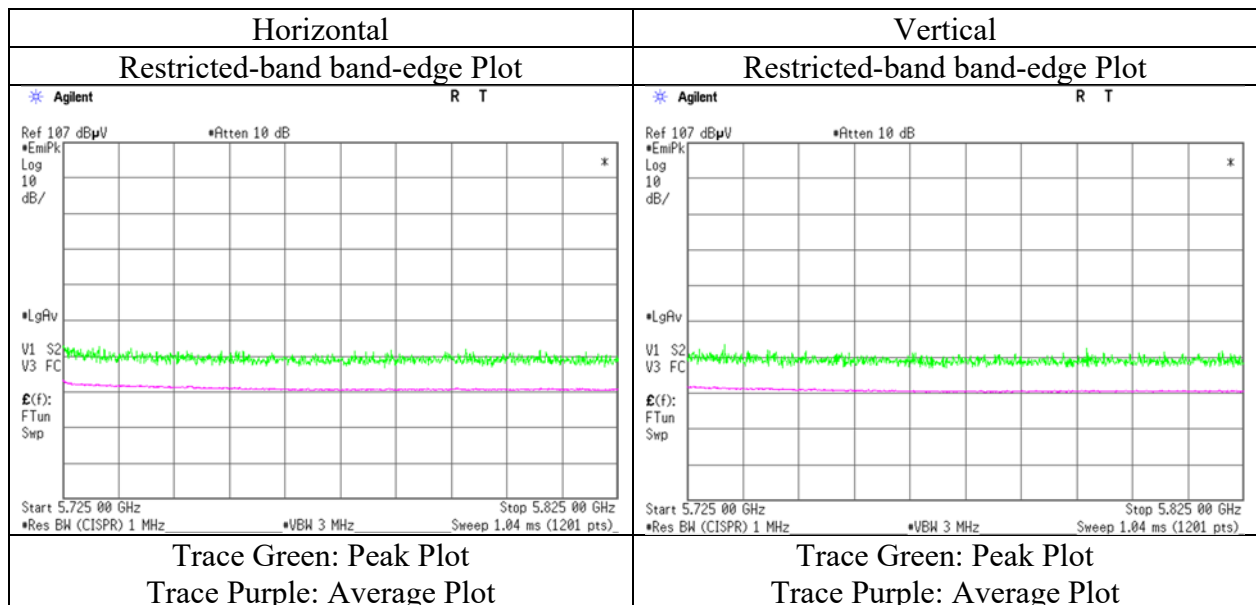
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result(EIRP[dBm])=10\*LOG (({ 10 ^ ( Electric Field Strength [dBuV/m] / 20 ) \* 10 ^ (-6) \* Distance:3[m] ) ^ 2 } / 30) \*10^3)

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz : 20log (3.84 m / 3.0 m) = 2.15 dB



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

## Radiated Spurious Emission

Report No. 13004393S-E-R2  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber No.3  
Date September 20, 2019  
Temperature / Humidity 22 deg. C / 64 % RH  
Engineer Makoto Hosaka  
(1 GHz – 6.4 GHz)  
Mode Tx, 11n-20 (CDD), 5500 MHz, with 3DH5 hopping (EUT serial no. A-7)

### (above 1GHz Inside of the restricted band)

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark      |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|-------------|
| Hori.    | 5460.000        | PK       | 51.15          | 32.32           | 16.47     | 43.30     | 2.14                 | 58.78           | 73.9           | 15.1        | 110         | 348          | -           |
| Hori.    | 5460.000        | AV       | 38.54          | 32.32           | 16.47     | 43.30     | 2.14                 | 46.17           | 53.9           | 7.7         | 110         | 348          | VBW: 510 Hz |
| Vert.    | 5460.000        | PK       | 50.63          | 32.32           | 16.47     | 43.30     | 2.14                 | 58.26           | 73.9           | 15.6        | 101         | 332          | -           |
| Vert.    | 5460.000        | AV       | 38.04          | 32.32           | 16.47     | 43.30     | 2.14                 | 45.67           | 53.9           | 8.2         | 101         | 332          | VBW: 510 Hz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.84\text{ m} / 3.0\text{ m}) = 2.15\text{ dB}$

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

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Result (EIRP) [dBm] | Limit [dBm] | Margin [dB] | Height [cm] | Angle [deg.] | Remark |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|---------------------|-------------|-------------|-------------|--------------|--------|
| Hori.    | 5470.000        | PK       | 56.46          | 32.34           | 16.47     | 43.31     | 2.14                 | 64.10           | -31.12              | -27.0       | 4.1         | 110         | 348          | -      |
| Vert.    | 5470.000        | PK       | 53.34          | 32.34           | 16.47     | 43.31     | 2.14                 | 60.98           | -34.24              | -27.0       | 7.2         | 101         | 332          | -      |

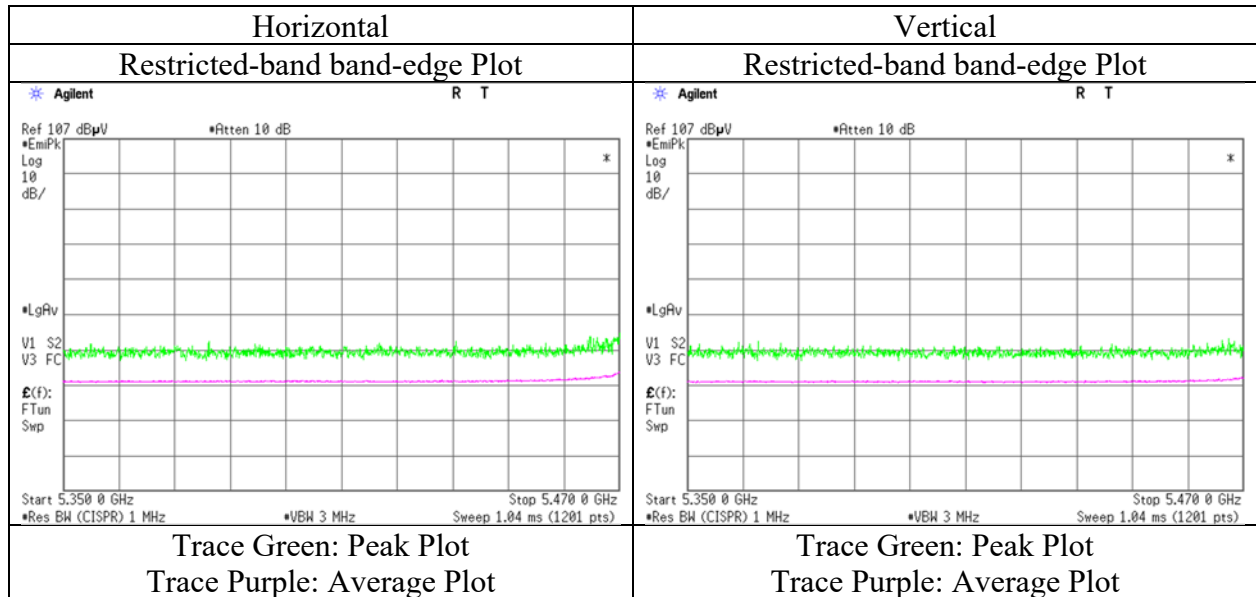
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result(EIRP[dBm])=10\*LOG ( ( { 10 ^ ( Electric Field Strength [dBuV/m] / 20 ) \* 10 ^ (-6) \* Distance:3[m] ) ^ 2 } / 30 ) \* 10 ^ 3 )

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.84\text{ m} / 3.0\text{ m}) = 2.15\text{ dB}$



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

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## Radiated Spurious Emission

Report No. 13004393S-E-R2  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber No.3  
Date September 20, 2019  
Temperature / Humidity 22 deg. C / 64 % RH  
Engineer Makoto Hosaka  
(1 GHz – 6.4 GHz)  
Mode Tx, 11n-20 (CDD), 5700 MHz, with 3DH5 hopping (EUT serial no. A-7)

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

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Result (EIRP) [dBm] | Limit [dBm] | Margin [dB] | Height [cm] | Angle [deg.] | Remark |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|---------------------|-------------|-------------|-------------|--------------|--------|
| Hori.    | 5725.000        | PK       | 50.68          | 32.68           | 16.59     | 43.33     | 2.04                 | 58.66           | -36.56              | -27.0       | 9.5         | 188         | 352          | -      |
| Vert.    | 5725.000        | PK       | 50.91          | 32.68           | 16.59     | 43.33     | 2.04                 | 58.89           | -36.33              | -27.0       | 9.3         | 231         | 220          | -      |

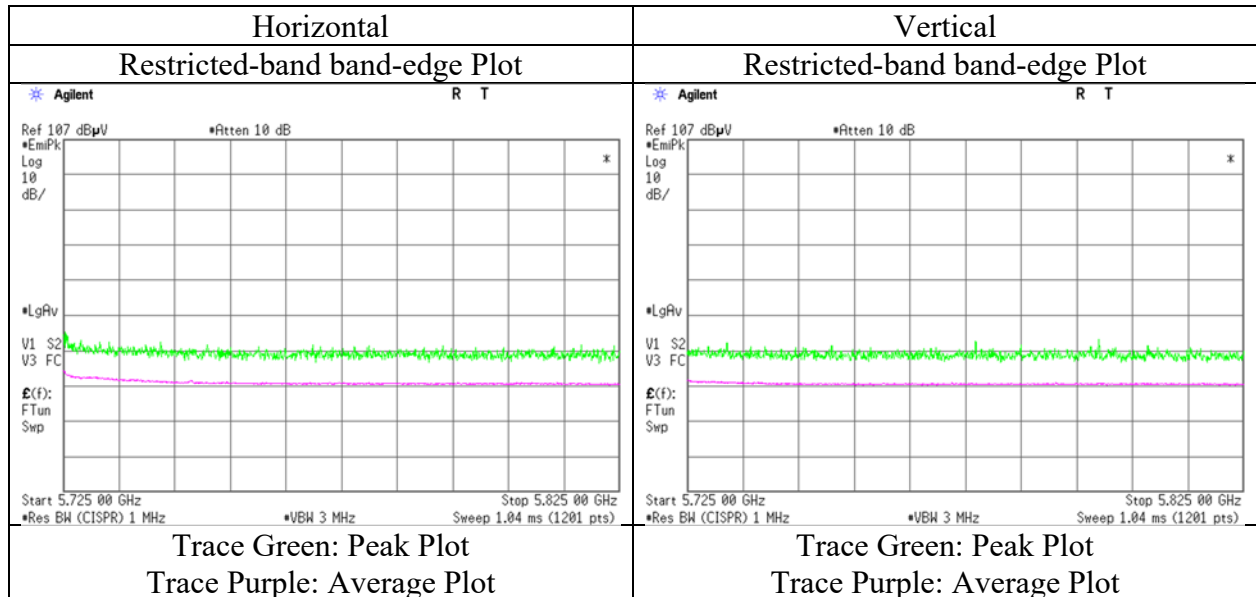
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result(EIRP[dBm])=10\*LOG (( { 10 ^ ( Electric Field Strength [dBuV/m] / 20 ) \* 10 ^ (-6) \* Distance:3[m] ) ^ 2 } / 30) \*10^3)

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz : 20log (3.84 m / 3.0 m) = 2.15 dB



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

## Radiated Spurious Emission

Report No. 13004393S-E-R2  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber (No.) 3  
Date September 11, 2019 September 13, 2019 September 14, 2019 September 15, 2019  
Temperature / Humidity 24 deg. C / 51 % RH 25 deg. C / 50 %RH 25 deg. C / 51 %RH 24 deg. C / 63 %RH  
Engineer Kazuya Noda Hiromasa Sato Toshinori Yamada Takahiro Kawakami  
(1 GHz – 13 GHz) (13 GHz – 18 GHz) (18 GHz – 26.5 GHz) (26.5 GHz – 40 GHz)  
Mode Tx, 11n-20 (MIMO), 5500 MHz, (EUT serial no. B-5)

### (above 1GHz Inside of the restricted band)

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark     |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|------------|
| Hori.    | 11000.000       | PK       | 48.82          | 40.38           | 9.36      | 42.70     | 2.04                 | 57.90           | 73.9           | 16.0        | 277         | 338          | -          |
| Hori.    | 11000.000       | AV       | 37.22          | 40.38           | 9.36      | 42.70     | 2.04                 | 46.30           | 53.9           | 7.6         | 277         | 338          | VBW: 1 kHz |
| Vert.    | 11000.000       | PK       | 49.45          | 40.38           | 9.36      | 42.70     | 2.04                 | 58.53           | 73.9           | 15.3        | 231         | 167          | -          |
| Vert.    | 11000.000       | AV       | 37.55          | 40.38           | 9.36      | 42.70     | 2.04                 | 46.63           | 53.9           | 7.2         | 231         | 167          | VBW: 1 kHz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.79\text{ m} / 3.0\text{ m}) = 2.04\text{ dB}$

13 GHz - 40 GHz :  $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Result (EIRP) [dBm] | Limit [dBm] | Margin [dB] | Height [cm] | Angle [deg.] | Remark |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|---------------------|-------------|-------------|-------------|--------------|--------|
| Hori.    | 16500.000       | PK       | 47.75          | 39.24           | 12.48     | 40.44     | -9.54                | 49.49           | -45.73              | -27.0       | 18.7        | 205         | 278          | -      |
| Vert.    | 16500.000       | PK       | 47.78          | 39.24           | 12.48     | 40.44     | -9.54                | 49.52           | -45.70              | -27.0       | 18.7        | 182         | 211          | -      |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result(EIRP[dBm])= $10\cdot\log\left(\left(\left\{10^{\left(\frac{\text{Electric Field Strength [dBuV/m]}{20}\right)}\right\}\cdot10^{-6}\right)\cdot\left(\frac{\text{Distance:3[m]}}{30}\right)^2\right)\cdot10^{-3}$

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.79\text{ m} / 3.0\text{ m}) = 2.04\text{ dB}$

13 GHz - 40 GHz :  $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

## Radiated Spurious Emission

|                             |                                                   |                    |                    |                     |                     |
|-----------------------------|---------------------------------------------------|--------------------|--------------------|---------------------|---------------------|
| Report No.                  | 13004393S-E-R2                                    |                    |                    |                     |                     |
| Test place                  | Shonan EMC Lab.                                   |                    |                    |                     |                     |
| Semi Anechoic Chamber (No.) | 3                                                 | 3                  | 3                  | 3                   | 3                   |
| Date                        | September 20, 2019                                | September 11, 2019 | September 13, 2019 | September 14, 2019  | September 15, 2019  |
| Temperature / Humidity      | 24 deg.C / 58 %RH                                 | 24 deg.C / 51 % RH | 25 deg.C / 50 %RH  | 25 deg.C / 51 %RH   | 24 deg.C / 63 %RH   |
| Engineer                    | Takahiro Suzuki                                   | Kazuya Noda        | Hiromasa Sato      | Toshinori Yamada    | Takahiro Kawakami   |
|                             | (30 MHz – 1 GHz)                                  | (1 GHz – 13 GHz)   | (13 GHz – 18 GHz)  | (18 GHz – 26.5 GHz) | (26.5 GHz – 40 GHz) |
| Mode                        | Tx, 11n-20 (MIMO), 5580 MHz, (EUT serial no. B-5) |                    |                    |                     |                     |

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

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark     |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|------------|
| Hori.    | 151.500         | QP       | 35.66          | 14.73           | 7.85      | 32.12     | 0.00                 | 26.12           | 43.5           | 17.3        | 225         | 116          | -          |
| Hori.    | 221.948         | QP       | 43.19          | 11.02           | 8.22      | 32.04     | 0.00                 | 30.39           | 46.0           | 15.6        | 160         | 358          | -          |
| Hori.    | 239.848         | QP       | 43.68          | 11.31           | 8.35      | 32.02     | 0.00                 | 31.32           | 46.0           | 14.6        | 121         | 1            | -          |
| Hori.    | 695.901         | QP       | 36.04          | 19.28           | 10.35     | 31.87     | 0.00                 | 33.80           | 46.0           | 12.2        | 155         | 13           | -          |
| Hori.    | 719.973         | QP       | 34.02          | 19.75           | 10.44     | 31.83     | 0.00                 | 32.38           | 46.0           | 13.6        | 118         | 181          | -          |
| Hori.    | 11160.000       | PK       | 48.92          | 39.92           | 9.53      | 42.67     | 2.04                 | 57.74           | 73.9           | 16.1        | 108         | 11           | -          |
| Hori.    | 11160.000       | AV       | 37.41          | 39.92           | 9.53      | 42.67     | 2.04                 | 46.23           | 53.9           | 7.6         | 108         | 11           | VBW: 1 kHz |
| Vert.    | 94.363          | QP       | 43.56          | 8.99            | 7.51      | 32.15     | 0.00                 | 27.91           | 43.5           | 15.5        | 116         | 298          | -          |
| Vert.    | 157.143         | QP       | 42.06          | 14.95           | 7.90      | 32.11     | 0.00                 | 32.80           | 43.5           | 10.7        | 100         | 164          | -          |
| Vert.    | 695.942         | QP       | 36.13          | 19.28           | 10.35     | 31.87     | 0.00                 | 33.89           | 46.0           | 12.1        | 100         | 358          | -          |
| Vert.    | 707.923         | QP       | 35.00          | 19.51           | 10.40     | 31.85     | 0.00                 | 33.06           | 46.0           | 12.9        | 100         | 1            | -          |
| Vert.    | 927.300         | QP       | 26.32          | 21.69           | 11.10     | 30.84     | 0.00                 | 28.27           | 46.0           | 17.7        | 100         | 357          | -          |
| Vert.    | 11160.000       | PK       | 49.10          | 39.92           | 9.53      | 42.67     | 2.04                 | 57.92           | 73.9           | 15.9        | 186         | 206          | -          |
| Vert.    | 11160.000       | AV       | 37.76          | 39.92           | 9.53      | 42.67     | 2.04                 | 46.58           | 53.9           | 7.3         | 186         | 206          | VBW: 1 kHz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.79\text{ m} / 3.0\text{ m}) = 2.04\text{ dB}$

13 GHz - 40 GHz :  $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Result (EIRP) [dBm] | Limit [dBm] | Margin [dB] | Height [cm] | Angle [deg.] | Remark |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|---------------------|-------------|-------------|-------------|--------------|--------|
| Hori.    | 16740.000       | PK       | 46.64          | 39.38           | 12.43     | 40.40     | -9.54                | 48.51           | -46.71              | -27.0       | 19.7        | 192         | 334          | -      |
| Vert.    | 16740.000       | PK       | 46.95          | 39.38           | 12.43     | 40.40     | -9.54                | 48.82           | -46.40              | -27.0       | 19.4        | 183         | 199          | -      |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result(EIRP[dBm])= $10\cdot\text{LOG}((\{10^{\wedge}(\text{Electric Field Strength [dBuV/m]}/20)\cdot10^{\wedge}(-6)\cdot\text{Distance:3[m]}^{\wedge}2\}/30)\cdot10^{\wedge}3)$

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.79\text{ m} / 3.0\text{ m}) = 2.04\text{ dB}$

13 GHz - 40 GHz :  $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

## Radiated Spurious Emission

Report No. 13004393S-E-R2  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber (No.) 3  
Date September 11, 2019 September 13, 2019 September 14, 2019 September 15, 2019  
Temperature / Humidity 24 deg. C / 51 % RH 25 deg. C / 50 %RH 25 deg. C / 51 %RH 24 deg. C / 63 %RH  
Engineer Kazuya Noda Hiromasa Sato Toshinori Yamada Takahiro Kawakami  
(1 GHz – 13 GHz) (13 GHz – 18 GHz) (18 GHz – 26.5 GHz) (26.5 GHz – 40 GHz)  
Mode Tx, 11n-20 (MIMO), 5700 MHz, (EUT serial no. B-5)

### (above 1GHz Inside of the restricted band)

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark     |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|------------|
| Hori.    | 11400.000       | PK       | 48.54          | 39.95           | 9.78      | 42.62     | 2.04                 | 57.69           | 73.9           | 16.2        | 195         | 301          | -          |
| Hori.    | 11400.000       | AV       | 37.35          | 39.95           | 9.78      | 42.62     | 2.04                 | 46.50           | 53.9           | 7.4         | 195         | 301          | VBW: 1 kHz |
| Vert.    | 11400.000       | PK       | 49.02          | 39.95           | 9.78      | 42.62     | 2.04                 | 58.17           | 73.9           | 15.7        | 176         | 101          | -          |
| Vert.    | 11400.000       | AV       | 37.52          | 39.95           | 9.78      | 42.62     | 2.04                 | 46.67           | 53.9           | 7.2         | 176         | 101          | VBW: 1 kHz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.79\text{ m} / 3.0\text{ m}) = 2.04\text{ dB}$

13 GHz - 40 GHz :  $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Result (EIRP) [dBm] | Limit [dBm] | Margin [dB] | Height [cm] | Angle [deg.] | Remark |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|---------------------|-------------|-------------|-------------|--------------|--------|
| Hori.    | 17100.000       | PK       | 47.29          | 40.33           | 12.36     | 40.32     | -9.54                | 50.12           | -45.10              | -27.0       | 18.1        | 221         | 264          | -      |
| Vert.    | 17100.000       | PK       | 47.01          | 40.33           | 12.36     | 40.32     | -9.54                | 49.84           | -45.38              | -27.0       | 18.4        | 207         | 337          | -      |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result(EIRP[dBm])= $10\log((\{10^{\wedge}(\text{Electric Field Strength [dBuV/m]} / 20) * 10^{\wedge}(-6) * \text{Distance:3[m]}^{\wedge}2\} / 30) * 10^{\wedge}3)$

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.79\text{ m} / 3.0\text{ m}) = 2.04\text{ dB}$

13 GHz - 40 GHz :  $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

## Radiated Spurious Emission

Report No. 13004393S-E-R2  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber No.3  
Date September 22, 2019  
Temperature / Humidity 24 deg. C / 59 % RH  
Engineer Makoto Hosaka  
(1 GHz – 6.4 GHz)  
Mode Tx, 11n-20 (CDD), 5500 MHz, (EUT serial no. B-5)

### (above 1GHz Inside of the restricted band)

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark      |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|-------------|
| Hori.    | 5460.000        | PK       | 50.23          | 32.32           | 16.47     | 43.30     | 2.04                 | 57.76           | 73.9           | 16.1        | 103         | 177          | -           |
| Hori.    | 5460.000        | AV       | 38.32          | 32.32           | 16.47     | 43.30     | 2.04                 | 45.85           | 53.9           | 8.0         | 103         | 177          | VBW: 510 Hz |
| Vert.    | 5460.000        | PK       | 51.65          | 32.32           | 16.47     | 43.30     | 2.04                 | 59.18           | 73.9           | 14.7        | 272         | 174          | -           |
| Vert.    | 5460.000        | AV       | 39.39          | 32.32           | 16.47     | 43.30     | 2.04                 | 46.92           | 53.9           | 6.9         | 272         | 174          | VBW: 510 Hz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.79\text{ m} / 3.0\text{ m}) = 2.04\text{ dB}$

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

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Result (EIRP) [dBm] | Limit [dBm] | Margin [dB] | Height [cm] | Angle [deg.] | Remark |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|---------------------|-------------|-------------|-------------|--------------|--------|
| Hori.    | 5470.000        | PK       | 50.86          | 32.34           | 16.47     | 43.31     | 2.04                 | 58.40           | -36.82              | -27.0       | 9.8         | 103         | 177          | -      |
| Vert.    | 5470.000        | PK       | 52.76          | 32.34           | 16.47     | 43.31     | 2.04                 | 60.30           | -34.92              | -27.0       | 7.9         | 272         | 174          | -      |

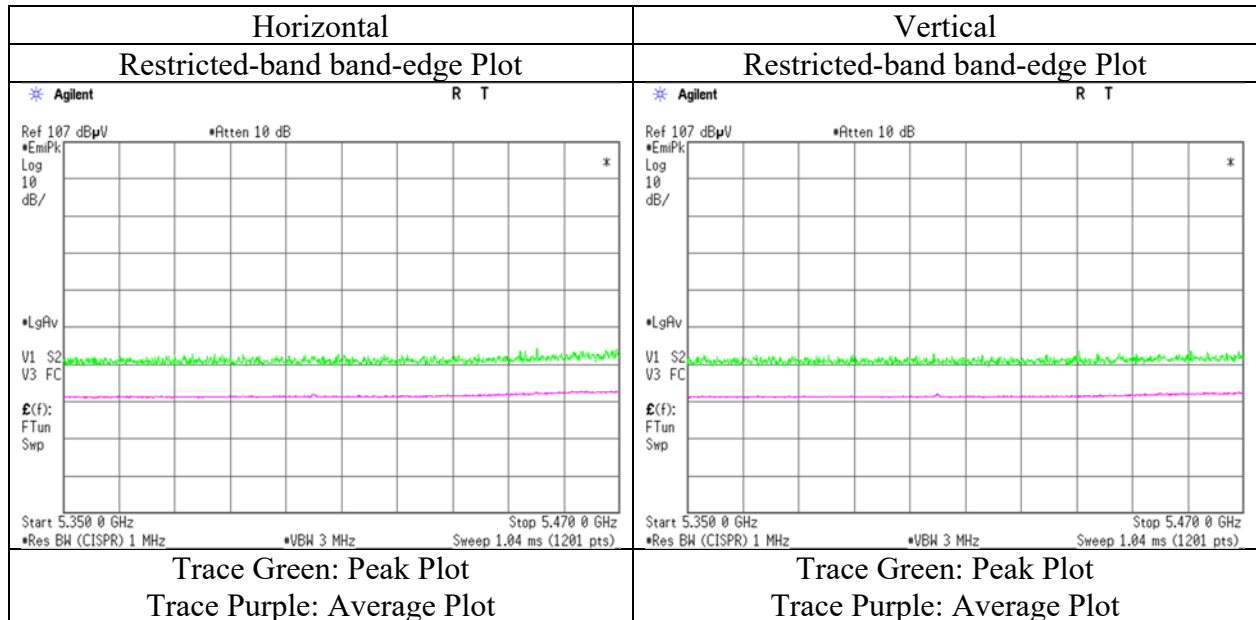
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result(EIRP[dBm])= $10\log((\{10^{\wedge}(\text{Electric Field Strength [dBuV/m] / 20}) * 10^{\wedge}(-6) * \text{Distance:3[m]}^{\wedge}2\} / 30) * 10^{\wedge}3)$

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.79\text{ m} / 3.0\text{ m}) = 2.04\text{ dB}$



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

**UL Japan, Inc.**

**Shonan EMC Lab.**

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

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## Radiated Spurious Emission

Report No. 13004393S-E-R2  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber No.3  
Date September 22, 2019  
Temperature / Humidity 24 deg. C / 59 % RH  
Engineer Makoto Hosaka  
(1 GHz – 6.4 GHz)  
Mode Tx, 11n-20 (CDD), 5700 MHz, (EUT serial no. B-5)

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

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Result (EIRP) [dBm] | Limit [dBm] | Margin [dB] | Height [cm] | Angle [deg.] | Remark |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|---------------------|-------------|-------------|-------------|--------------|--------|
| Hori.    | 5725.000        | PK       | 49.89          | 32.68           | 16.59     | 43.33     | 2.04                 | 57.87           | -37.35              | -27.0       | 10.3        | 103         | 169          | -      |
| Vert.    | 5725.000        | PK       | 50.53          | 32.68           | 16.59     | 43.33     | 2.04                 | 58.51           | -36.71              | -27.0       | 9.7         | 182         | 182          | -      |

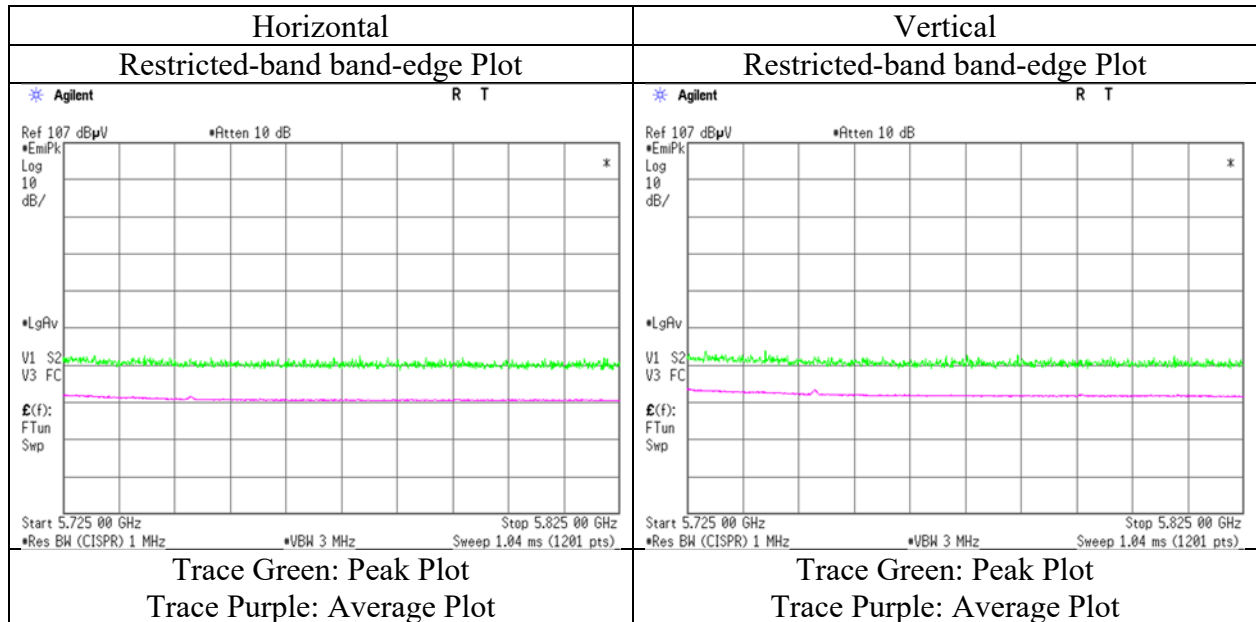
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result(EIRP[dBm])=10\*LOG ( ( { 10 ^ ( Electric Field Strength [dBuV/m] / 20 ) \* 10 ^ (-6) \* Distance:3[m] ) ^ 2 } / 30 ) \*10^3 )

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz : 20log (3.79 m / 3.0 m) = 2.04 dB



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

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## Radiated Spurious Emission

Report No. 13004393S-E-R2  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber No.3  
Date September 21, 2019  
Temperature / Humidity 25 deg. C / 52 % RH  
Engineer Takahiro Kawakami  
(1 GHz – 6.4 GHz)  
Mode Tx, 11n-20 (CDD), 5500 MHz, with 3DH5 hopping (EUT serial no. B-5)

### (above 1GHz Inside of the restricted band)

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark      |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|-------------|
| Hori.    | 5460.000        | PK       | 50.58          | 32.32           | 16.47     | 43.30     | 2.04                 | 58.11           | 73.9           | 15.7        | 153         | 172          | -           |
| Hori.    | 5460.000        | AV       | 38.81          | 32.32           | 16.47     | 43.30     | 2.04                 | 46.34           | 53.9           | 7.5         | 153         | 172          | VBW: 510 Hz |
| Vert.    | 5460.000        | PK       | 51.06          | 32.32           | 16.47     | 43.30     | 2.04                 | 58.59           | 73.9           | 15.3        | 249         | 192          | -           |
| Vert.    | 5460.000        | AV       | 38.69          | 32.32           | 16.47     | 43.30     | 2.04                 | 46.22           | 53.9           | 7.6         | 249         | 192          | VBW: 510 Hz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.79\text{ m} / 3.0\text{ m}) = 2.04\text{ dB}$

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

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Result (EIRP) [dBm] | Limit [dBm] | Margin [dB] | Height [cm] | Angle [deg.] | Remark |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|---------------------|-------------|-------------|-------------|--------------|--------|
| Hori.    | 5470.000        | PK       | 51.40          | 32.34           | 16.47     | 43.31     | 2.04                 | 58.94           | -36.28              | -27.0       | 9.2         | 153         | 172          | -      |
| Vert.    | 5470.000        | PK       | 51.29          | 32.34           | 16.47     | 43.31     | 2.04                 | 58.83           | -36.39              | -27.0       | 9.3         | 249         | 192          | -      |

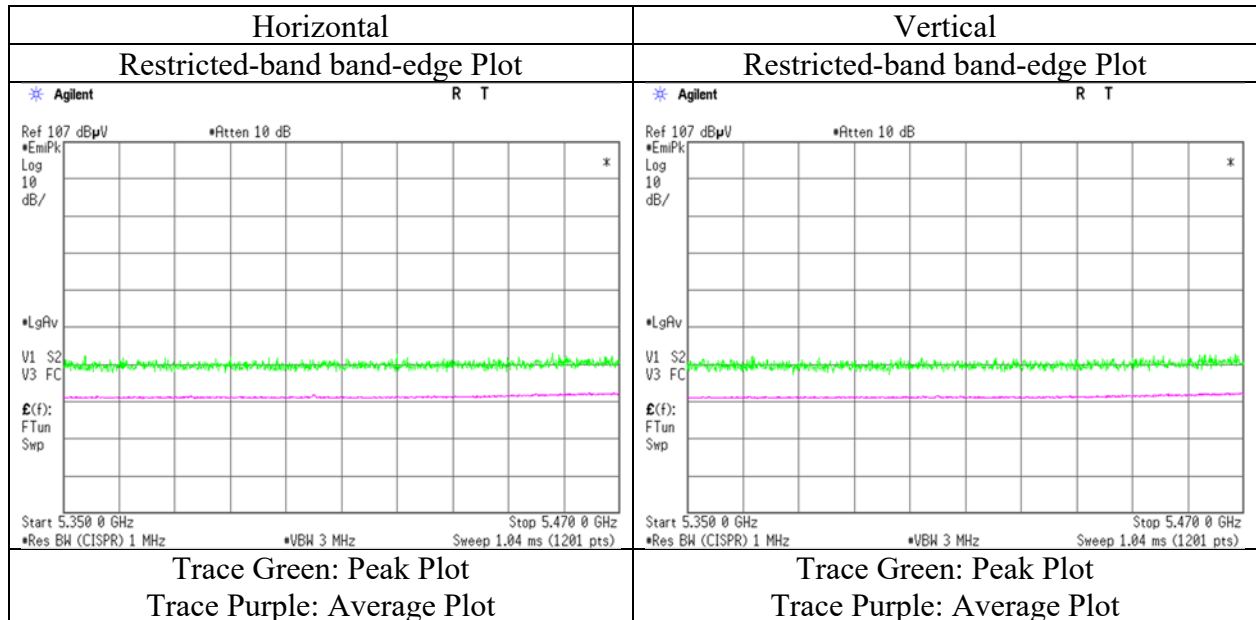
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result(EIRP[dBm])= $10\log((\{10^{\wedge}(\text{Electric Field Strength [dBuV/m] / 20}) * 10^{\wedge}(-6) * \text{Distance:3[m]}^{\wedge}2\} / 30) * 10^{\wedge}3)$

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.79\text{ m} / 3.0\text{ m}) = 2.04\text{ dB}$



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

**UL Japan, Inc.**

**Shonan EMC Lab.**

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

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## Radiated Spurious Emission

Report No. 13004393S-E-R2  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber No.3  
Date September 21, 2019  
Temperature / Humidity 25 deg. C / 52 % RH  
Engineer Takahiro Kawakami  
(1 GHz – 6.4 GHz)  
Mode Tx, 11n-20 (CDD), 5700 MHz, with 3DH5 hopping (EUT serial no. B-5)

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

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Result (EIRP) [dBm] | Limit [dBm] | Margin [dB] | Height [cm] | Angle [deg.] | Remark |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|---------------------|-------------|-------------|-------------|--------------|--------|
| Hori.    | 5725.000        | PK       | 50.68          | 32.68           | 16.59     | 43.33     | 2.04                 | 58.66           | -36.56              | -27.0       | 9.5         | 188         | 352          | -      |
| Vert.    | 5725.000        | PK       | 50.91          | 32.68           | 16.59     | 43.33     | 2.04                 | 58.89           | -36.33              | -27.0       | 9.3         | 231         | 220          | -      |

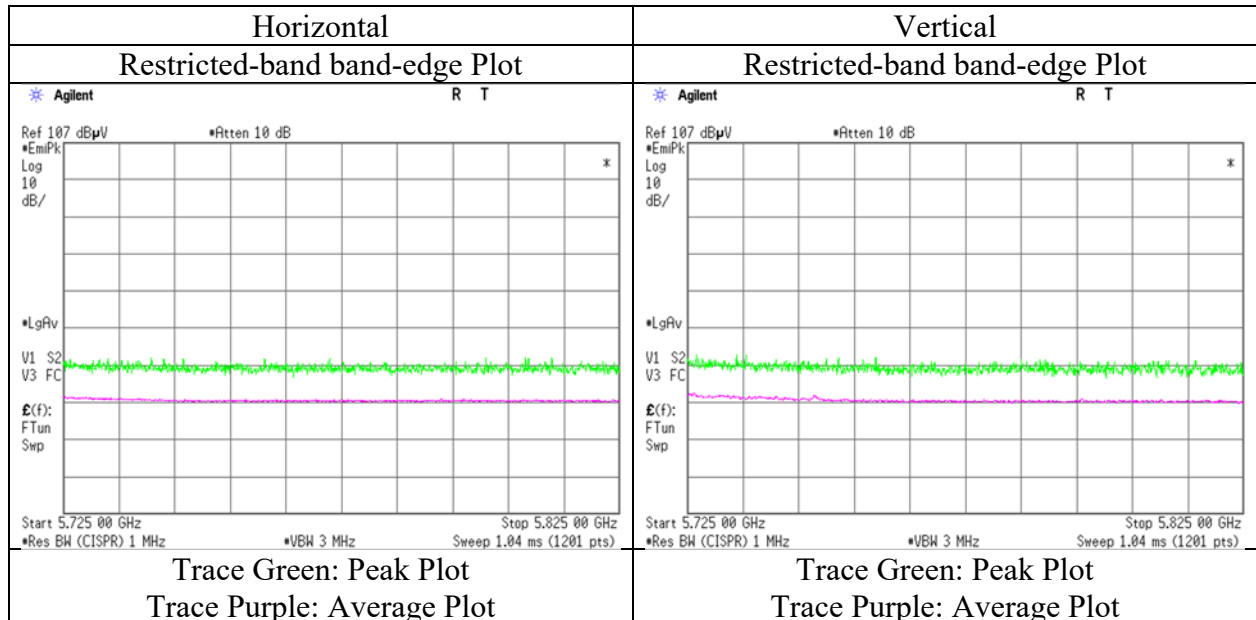
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result(EIRP[dBm])=10\*LOG ( ( { 10 ^ ( Electric Field Strength [dBuV/m] / 20 ) \* 10 ^ (-6) \* Distance:3[m] ) ^ 2 } / 30 ) \*10^3 )

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz : 20log (3.79 m / 3.0 m) = 2.04 dB



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

**UL Japan, Inc.**

**Shonan EMC Lab.**

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

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## Radiated Spurious Emission

|                             |                                                |                     |                     |                     |                     |
|-----------------------------|------------------------------------------------|---------------------|---------------------|---------------------|---------------------|
| Report No.                  | 13004393S-E-R2                                 |                     |                     |                     |                     |
| Test place                  | Shonan EMC Lab.                                |                     |                     |                     |                     |
| Semi Anechoic Chamber (No.) | 3                                              | 3                   | 3                   | 3                   | 3                   |
| Date                        | September 6, 2019                              | September 11, 2019  | September 12, 2019  | September 14, 2019  | September 15, 2019  |
| Temperature / Humidity      | 24 deg. C / 61 % RH                            | 22 deg. C / 53 % RH | 24 deg. C / 54 % RH | 25 deg. C / 51 % RH | 24 deg. C / 63 % RH |
| Engineer                    | Kazuya Noda                                    | Takahiro Kawakami   | Kazuya Noda         | Takahiro Kawakami   | Toshinori Yamada    |
|                             | (1 GHz – 6.4 GHz)                              | (6.4 GHz – 13 GHz)  | (13 GHz – 18 GHz)   | (18 GHz – 26.5 GHz) | (26.5 GHz – 40 GHz) |
| Mode                        | Tx, 11ac-40 (MIMO), 5510 MHz, (serial no. A-7) |                     |                     |                     |                     |

### (above 1GHz Inside of the restricted band)

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark      |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|-------------|
| Hori.    | 5460.000        | PK       | 53.56          | 32.32           | 16.32     | 43.30     | 2.15                 | 61.05           | 73.9           | 12.8        | 106         | 335          | -           |
| Hori.    | 11020.000       | PK       | 48.73          | 40.34           | 9.38      | 42.70     | 2.15                 | 57.90           | 73.9           | 16.0        | 100         | 0            | -           |
| Hori.    | 5460.000        | AV       | 39.09          | 32.32           | 16.32     | 43.30     | 2.15                 | 46.58           | 53.9           | 7.3         | 106         | 335          | VBW: 130 Hz |
| Hori.    | 11020.000       | AV       | 36.45          | 40.34           | 9.38      | 42.70     | 2.15                 | 45.62           | 53.9           | 8.2         | 100         | 0            | VBW: 130 Hz |
| Vert.    | 5460.000        | PK       | 49.70          | 32.32           | 16.32     | 43.30     | 2.15                 | 57.19           | 73.9           | 16.7        | 150         | 330          | -           |
| Vert.    | 11020.000       | PK       | 48.73          | 40.34           | 9.38      | 42.70     | 2.15                 | 57.90           | 73.9           | 16.0        | 100         | 0            | -           |
| Vert.    | 5460.000        | AV       | 37.87          | 32.32           | 16.32     | 43.30     | 2.15                 | 45.36           | 53.9           | 8.5         | 150         | 330          | VBW: 130 Hz |
| Vert.    | 11020.000       | AV       | 36.36          | 40.34           | 9.38      | 42.70     | 2.15                 | 45.53           | 53.9           | 8.3         | 100         | 0            | VBW: 130 Hz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.84\text{ m} / 3.0\text{ m}) = 2.15\text{ dB}$

13 GHz - 40 GHz :  $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Result (EIRP) [dBm] | Limit [dBm] | Margin [dB] | Height [cm] | Angle [deg.] | Remark |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|---------------------|-------------|-------------|-------------|--------------|--------|
| Hori.    | 5470.000        | PK       | 58.87          | 32.34           | 16.33     | 43.31     | 2.15                 | 66.38           | -28.84              | -27.0       | 1.8         | 106         | 335          | -      |
| Hori.    | 16530.000       | PK       | 46.63          | 39.26           | 12.48     | 40.43     | -9.54                | 48.40           | -46.82              | -27.0       | 19.8        | 268         | 101          | -      |
| Vert.    | 5470.000        | PK       | 53.85          | 32.34           | 16.33     | 43.31     | 2.15                 | 61.36           | -33.86              | -27.0       | 6.8         | 150         | 330          | -      |
| Vert.    | 16530.000       | PK       | 46.88          | 39.26           | 12.48     | 40.43     | -9.54                | 48.65           | -46.57              | -27.0       | 19.6        | 203         | 220          | -      |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

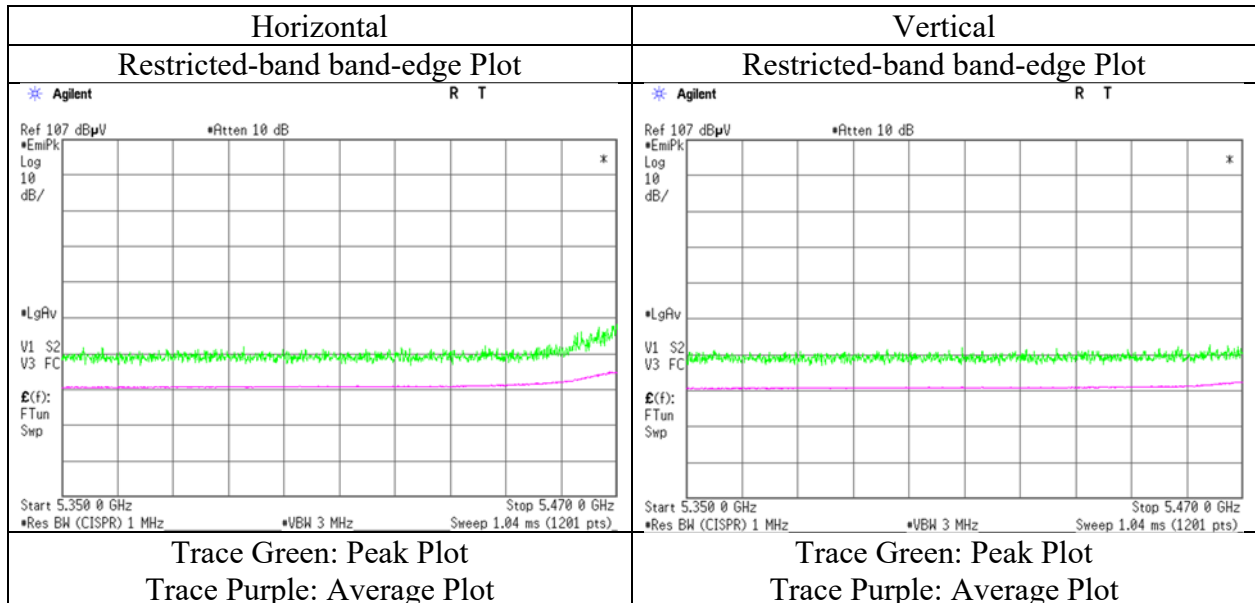
Result(EIRP[dBm])= $10\log((\{10^{\wedge}(\text{Electric Field Strength [dBuV/m]} / 20) * 10^{\wedge}(-6) * \text{Distance:3[m]}^{\wedge}2\} / 30) * 10^{\wedge}3)$

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.84\text{ m} / 3.0\text{ m}) = 2.15\text{ dB}$

13 GHz - 40 GHz :  $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$



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

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## Radiated Spurious Emission

|                             |                                                    |                    |                     |                     |
|-----------------------------|----------------------------------------------------|--------------------|---------------------|---------------------|
| Report No.                  | 13004393S-E-R2                                     |                    |                     |                     |
| Test place                  | Shonan EMC Lab.                                    |                    |                     |                     |
| Semi Anechoic Chamber (No.) | 3                                                  | 3                  | 3                   | 3                   |
| Date                        | September 11, 2019                                 | September 12, 2019 | September 14, 2019  | September 15, 2019  |
| Temperature / Humidity      | 22 deg.C / 53 %RH                                  | 24 deg.C / 54 %RH  | 25 deg.C / 51 %RH   | 24 deg.C / 63 %RH   |
| Engineer                    | Takahiro Kawakami                                  | Kazuya Noda        | Takahiro Kawakami   | Toshinori Yamada    |
|                             | (1 GHz – 13 GHz)                                   | (13 GHz – 18 GHz)  | (18 GHz – 26.5 GHz) | (26.5 GHz – 40 GHz) |
| Mode                        | Tx, 11ac-40 (MIMO), 5550 MHz, (EUT serial no. A-7) |                    |                     |                     |

### (above 1GHz Inside of the restricted band)

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark      |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|-------------|
| Hori.    | 11100.000       | PK       | 48.88          | 40.12           | 9.48      | 42.68     | 2.15                 | 57.95           | 73.9           | 15.9        | 133         | 357          | -           |
| Hori.    | 11100.000       | AV       | 36.61          | 40.12           | 9.48      | 42.68     | 2.15                 | 45.68           | 53.9           | 8.2         | 133         | 357          | VBW: 130 Hz |
| Vert.    | 11100.000       | PK       | 48.23          | 40.12           | 9.48      | 42.68     | 2.15                 | 57.30           | 73.9           | 16.6        | 150         | 54           | -           |
| Vert.    | 11100.000       | AV       | 36.58          | 40.12           | 9.48      | 42.68     | 2.15                 | 45.65           | 53.9           | 8.2         | 150         | 54           | VBW: 130 Hz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.84\text{ m} / 3.0\text{ m}) = 2.15\text{ dB}$

13 GHz - 40 GHz :  $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Result (EIRP) [dBm] | Limit [dBm] | Margin [dB] | Height [cm] | Angle [deg.] | Remark |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|---------------------|-------------|-------------|-------------|--------------|--------|
| Hori.    | 16650.000       | PK       | 46.32          | 39.24           | 12.45     | 40.41     | -9.54                | 48.06           | -47.16              | -27.0       | 20.2        | 221         | 87           | -      |
| Vert.    | 16650.000       | PK       | 46.93          | 39.24           | 12.45     | 40.41     | -9.54                | 48.67           | -46.55              | -27.0       | 19.6        | 231         | 302          | -      |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result(EIRP[dBm])= $10\log((\{10^{\wedge}(Electric\ Field\ Strength\ [dBuV/m] / 20)\} * 10^{\wedge}(-6) * Distance:3[m]^{\wedge}2) / 30) * 10^{\wedge}3)$

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.84\text{ m} / 3.0\text{ m}) = 2.15\text{ dB}$

13 GHz - 40 GHz :  $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

## Radiated Spurious Emission

|                             |                                                    |                     |                     |                     |                     |
|-----------------------------|----------------------------------------------------|---------------------|---------------------|---------------------|---------------------|
| Report No.                  | 13004393S-E-R2                                     |                     |                     |                     |                     |
| Test place                  | Shonan EMC Lab.                                    |                     |                     |                     |                     |
| Semi Anechoic Chamber (No.) | 3                                                  | 3                   | 3                   | 3                   | 3                   |
| Date                        | September 6, 2019                                  | September 11, 2019  | September 12, 2019  | September 14, 2019  | September 15, 2019  |
| Temperature / Humidity      | 24 deg. C / 61 % RH                                | 22 deg. C / 53 % RH | 24 deg. C / 54 % RH | 25 deg. C / 51 % RH | 24 deg. C / 63 % RH |
| Engineer                    | Kazuya Noda                                        | Takahiro Kawakami   | Kazuya Noda         | Takahiro Kawakami   | Toshinori Yamada    |
|                             | (1 GHz - 6.4 GHz)                                  | (6.4 GHz - 13 GHz)  | (13 GHz - 18 GHz)   | (18 GHz - 26.5 GHz) | (26.5 GHz - 40 GHz) |
| Mode                        | Tx, 11ac-40 (MIMO), 5670 MHz, (EUT serial no. A-7) |                     |                     |                     |                     |

### (above 1GHz Inside of the restricted band)

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark      |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|-------------|
| Hori.    | 11340.000       | PK       | 48.43          | 39.83           | 9.73      | 42.63     | 2.15                 | 57.51           | 73.9           | 16.3        | 155         | 75           | -           |
| Hori.    | 11340.000       | AV       | 37.26          | 39.83           | 9.73      | 42.63     | 2.15                 | 46.34           | 53.9           | 7.5         | 155         | 75           | VBW: 130 Hz |
| Vert.    | 11340.000       | PK       | 48.47          | 39.83           | 9.73      | 42.63     | 2.15                 | 57.55           | 73.9           | 16.3        | 147         | 98           | -           |
| Vert.    | 11340.000       | AV       | 37.18          | 39.83           | 9.73      | 42.63     | 2.15                 | 46.26           | 53.9           | 7.6         | 147         | 98           | VBW: 130 Hz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.84\text{ m} / 3.0\text{ m}) = 2.15\text{ dB}$

13 GHz - 40 GHz :  $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Result (EIRP) [dBm] | Limit [dBm] | Margin [dB] | Height [cm] | Angle [deg.] | Remark |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|---------------------|-------------|-------------|-------------|--------------|--------|
| Hori.    | 17010.000       | PK       | 45.42          | 40.24           | 12.37     | 40.35     | -9.54                | 48.14           | -47.08              | -27.00      | 20.1        | 249         | 92           | -      |
| Vert.    | 17010.000       | PK       | 45.65          | 40.24           | 12.37     | 40.35     | -9.54                | 48.37           | -46.85              | -27.00      | 19.9        | 248         | 339          | -      |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

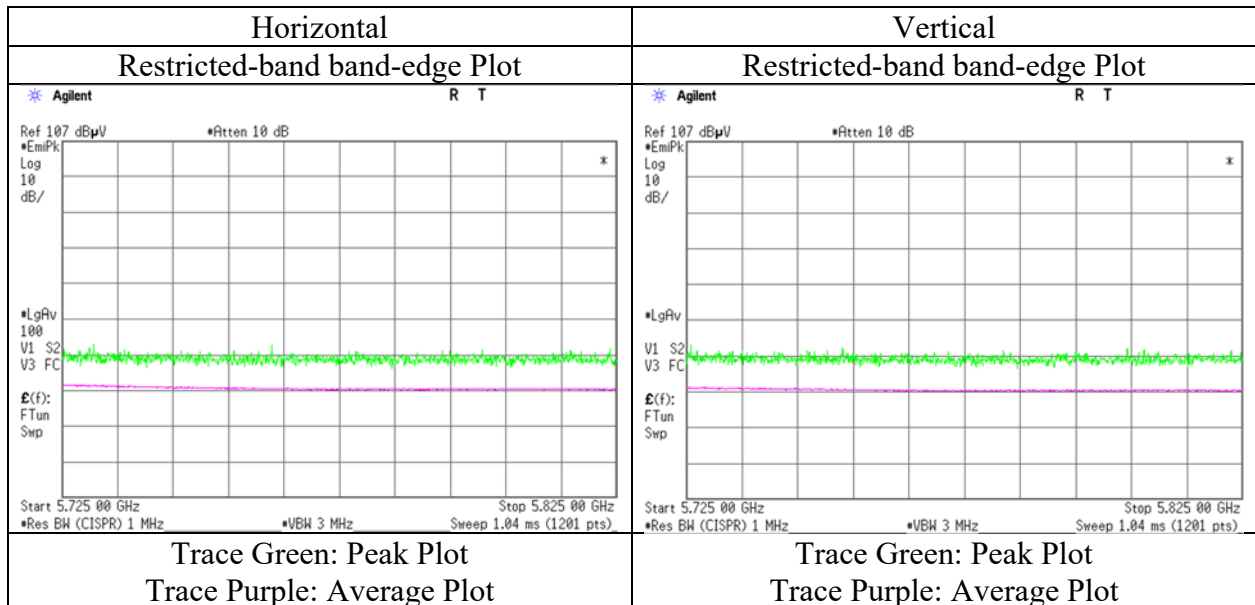
Result(EIRP[dBm]) =  $10 \cdot \log((\{10^{\wedge}(\text{Electric Field Strength [dBuV/m] / 20}) * 10^{\wedge}(-6) * \text{Distance:3[m]}^{\wedge}2\} / 30) * 10^{\wedge}3)$

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.84\text{ m} / 3.0\text{ m}) = 2.15\text{ dB}$

13 GHz - 40 GHz :  $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$



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

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## Radiated Spurious Emission

Report No. 13004393S-E-R2  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber No.3  
Date September 6, 2019  
Temperature / Humidity 24 deg. C / 61 % RH  
Engineer Kazuya Noda  
(1 GHz – 6.4 GHz)  
Mode Tx, 11ac-40 (CDD), 5510 MHz, (EUT serial no. A-7)

### (above 1GHz Inside of the restricted band)

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark      |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|-------------|
| Hori.    | 5460.000        | PK       | 54.41          | 32.32           | 16.32     | 43.30     | 2.15                 | 61.90           | 73.9           | 12.0        | 116         | 340          | -           |
| Hori.    | 5460.000        | AV       | 38.04          | 32.32           | 16.32     | 43.30     | 2.15                 | 45.53           | 53.9           | 8.3         | 116         | 340          | VBW: 100 Hz |
| Vert.    | 5460.000        | PK       | 54.34          | 32.32           | 16.32     | 43.30     | 2.15                 | 61.83           | 73.9           | 12.0        | 230         | 180          | -           |
| Vert.    | 5460.000        | AV       | 37.98          | 32.32           | 16.32     | 43.30     | 2.15                 | 45.47           | 53.9           | 8.4         | 230         | 180          | VBW: 100 Hz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.84\text{ m} / 3.0\text{ m}) = 2.15\text{ dB}$

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

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Result (EIRP) [dBm] | Limit [dBm] | Margin [dB] | Height [cm] | Angle [deg.] | Remark |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|---------------------|-------------|-------------|-------------|--------------|--------|
| Hori.    | 5470.000        | PK       | 58.76          | 32.34           | 16.33     | 43.31     | 2.15                 | 66.27           | -28.95              | -27.0       | 1.9         | 116         | 340          | -      |
| Vert.    | 5470.000        | PK       | 58.48          | 32.34           | 16.33     | 43.31     | 2.15                 | 65.99           | -29.23              | -27.0       | 2.2         | 230         | 180          | -      |

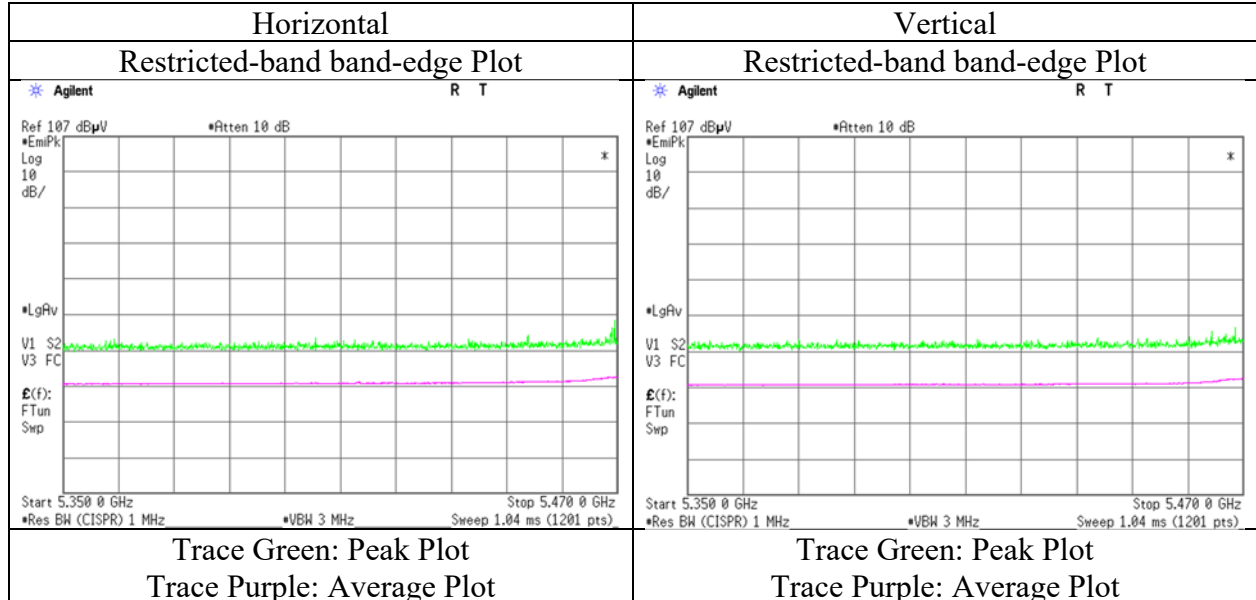
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result(EIRP[dBm]) =  $10 \cdot \text{LOG} \left( \left( \left( \text{Electric Field Strength [dBuV/m]} / 20 \right) \cdot 10^{(-6)} \right) \cdot \text{Distance}^2 \right) / 30 \cdot 10^{(3)}$

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.84\text{ m} / 3.0\text{ m}) = 2.15\text{ dB}$



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

## Radiated Spurious Emission

|                        |                                                   |
|------------------------|---------------------------------------------------|
| Report No.             | 13004393S-E-R2                                    |
| Test place             | Shonan EMC Lab.                                   |
| Semi Anechoic Chamber  | No.3                                              |
| Date                   | September 6, 2019                                 |
| Temperature / Humidity | 24 deg. C / 61 % RH                               |
| Engineer               | Kazuya Noda                                       |
|                        | (1 GHz – 6.4 GHz)                                 |
| Mode                   | Tx, 11ac-40 (CDD), 5670 MHz, (EUT serial no. A-7) |

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

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Result (EIRP) [dBm] | Limit [dBm] | Margin [dB] | Height [cm] | Angle [deg.] | Remark |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|---------------------|-------------|-------------|-------------|--------------|--------|
| Hori.    | 5725.000        | PK       | 56.49          | 32.68           | 16.55     | 43.33     | 2.15                 | 64.54           | -30.68              | -27.0       | 3.6         | 110         | 341          | -      |
| Vert.    | 5725.000        | PK       | 54.48          | 32.68           | 16.55     | 43.33     | 2.15                 | 62.53           | -32.69              | -27.0       | 5.6         | 201         | 196          | -      |

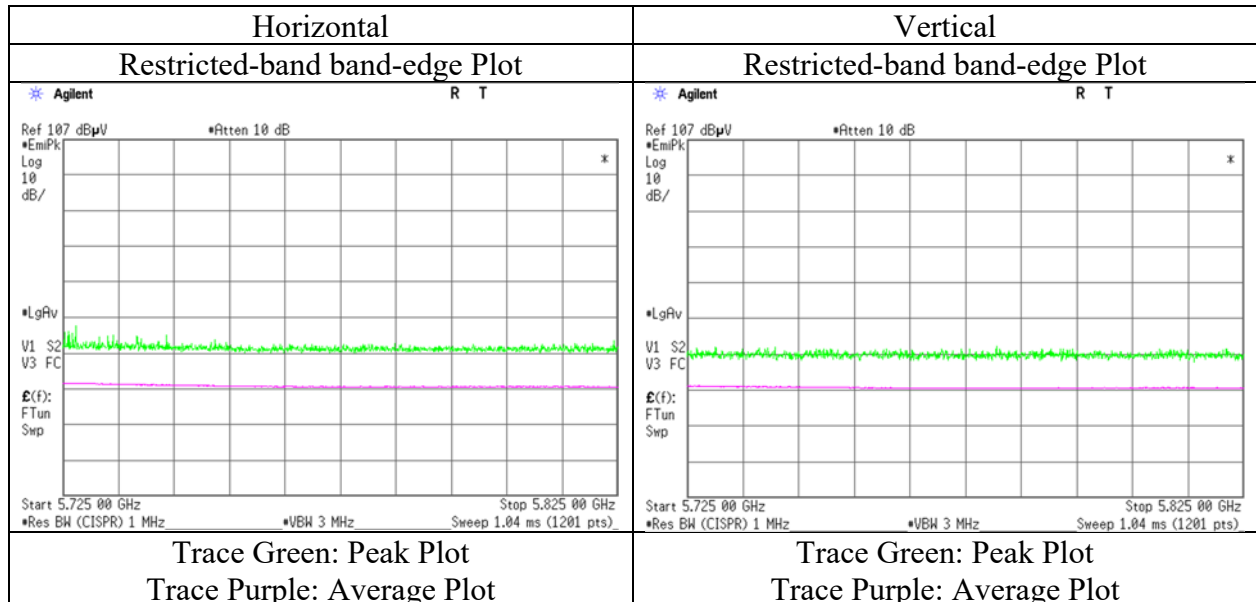
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result(EIRP[dBm])=10\*LOG (( { 10 ^ ( Electric Field Strength [dBuV/m] / 20 ) \* 10 ^ (-6) \* Distance:3[m] ) ^ 2 } / 30) \*10^3)

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz : 20log (3.84 m / 3.0 m) = 2.15 dB



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



## Radiated Spurious Emission

Report No. 13004393S-E-R2  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber No.3  
Date September 20, 2019  
Temperature / Humidity 22 deg. C / 64 % RH  
Engineer Makoto Hosaka  
(1 GHz – 6.4 GHz)  
Mode Tx, 11ac-40 (CDD), 5510 MHz, with 3DH5 hopping (EUT serial no. A-7)

### (above 1GHz Inside of the restricted band)

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark      |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|-------------|
| Hori.    | 5460.000        | PK       | 51.93          | 32.32           | 16.47     | 43.30     | 2.14                 | 59.56           | 73.9           | 14.3        | 117         | 334          | -           |
| Hori.    | 5460.000        | AV       | 38.03          | 32.32           | 16.47     | 43.30     | 2.14                 | 45.66           | 53.9           | 8.2         | 117         | 334          | VBW: 100 Hz |
| Vert.    | 5460.000        | PK       | 51.28          | 32.32           | 16.47     | 43.30     | 2.14                 | 58.91           | 73.9           | 14.9        | 103         | 264          | -           |
| Vert.    | 5460.000        | AV       | 37.66          | 32.32           | 16.47     | 43.30     | 2.14                 | 45.29           | 53.9           | 8.6         | 103         | 264          | VBW: 100 Hz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.84\text{ m} / 3.0\text{ m}) = 2.15\text{ dB}$

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

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Result (EIRP) [dBm] | Limit [dBm] | Margin [dB] | Height [cm] | Angle [deg.] | Remark |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|---------------------|-------------|-------------|-------------|--------------|--------|
| Hori.    | 5470.000        | PK       | 56.96          | 32.34           | 16.47     | 43.31     | 2.14                 | 64.60           | -30.62              | -27.0       | 3.6         | 117         | 334          | -      |
| Vert.    | 5470.000        | PK       | 51.40          | 32.34           | 16.47     | 43.31     | 2.14                 | 59.04           | -36.18              | -27.0       | 9.1         | 103         | 264          | -      |

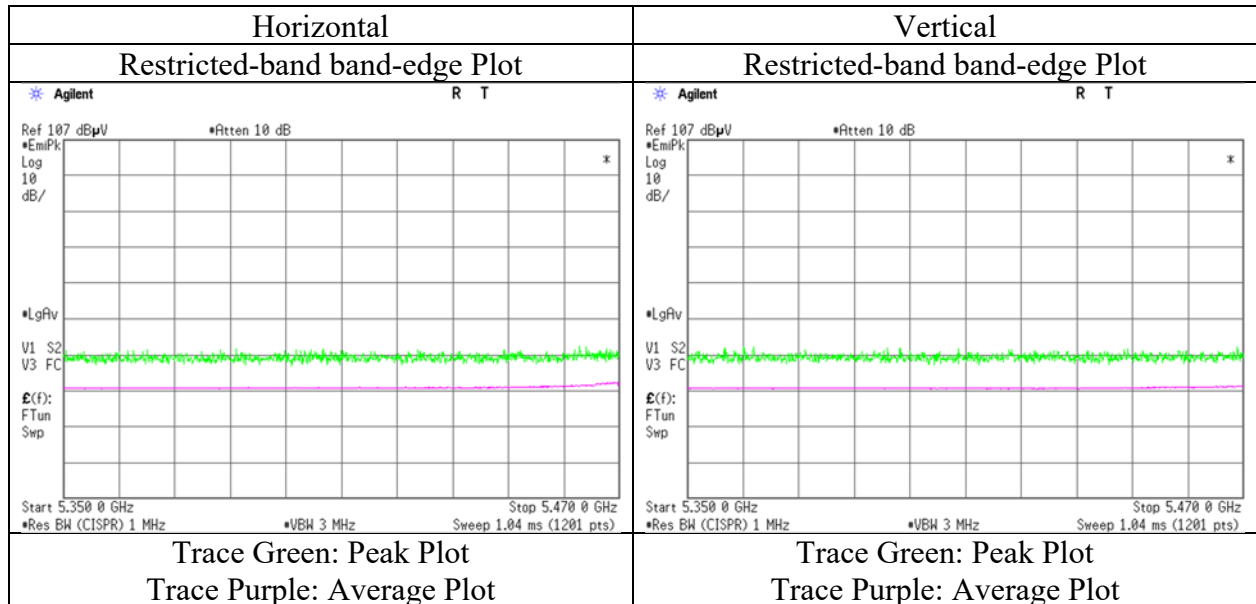
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result(EIRP[dBm])=10\*LOG ( ( { 10 ^ ( Electric Field Strength [dBuV/m] / 20 ) \* 10 ^ (-6) \* Distance:3[m] ) ^ 2 } / 30 ) \* 10 ^ 3 )

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.84\text{ m} / 3.0\text{ m}) = 2.15\text{ dB}$



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

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## Radiated Spurious Emission

|                        |                                                                     |
|------------------------|---------------------------------------------------------------------|
| Report No.             | 13004393S-E-R2                                                      |
| Test place             | Shonan EMC Lab.                                                     |
| Semi Anechoic Chamber  | No.3                                                                |
| Date                   | September 20, 2019                                                  |
| Temperature / Humidity | 22 deg. C / 64 % RH                                                 |
| Engineer               | Makoto Hosaka                                                       |
|                        | (1 GHz – 6.4 GHz)                                                   |
| Mode                   | Tx, 11ac-40 (CDD), 5670 MHz, with 3DH5 hopping (EUT serial no. A-7) |

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

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Result (EIRP) [dBm] | Limit [dBm] | Margin [dB] | Height [cm] | Angle [deg.] | Remark |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|---------------------|-------------|-------------|-------------|--------------|--------|
| Hori.    | 5725.000        | PK       | 56.89          | 32.68           | 16.59     | 43.33     | 2.14                 | 64.97           | -30.25              | -27.0       | 3.2         | 110         | 330          | -      |
| Vert.    | 5725.000        | PK       | 49.20          | 32.68           | 16.59     | 43.33     | 2.14                 | 57.28           | -37.94              | -27.0       | 10.9        | 153         | 348          | -      |

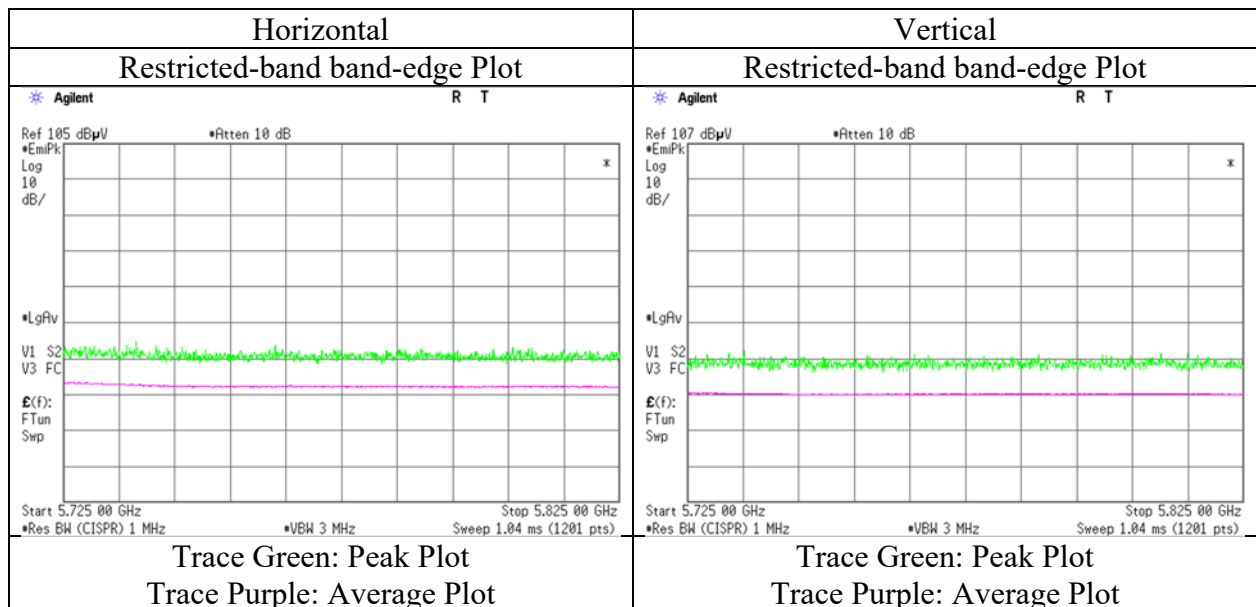
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result(EIRP[dBm])=10\*LOG (( { 10 ^ ( Electric Field Strength [dBuV/m] / 20 ) \* 10 ^ (-6) \* Distance:3[m] ) ^ 2 } / 30) \*10^3)

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz : 20log (3.84 m / 3.0 m) = 2.15 dB



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

## Radiated Spurious Emission

Report No. 13004393S-E-R2  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber (No.) 3  
Date September 11, 2019 September 13, 2019 September 14, 2019 September 15, 2019  
Temperature / Humidity 24 deg. C / 51 % RH 25 deg. C / 50 %RH 25 deg. C / 51 %RH 24 deg. C / 63 %RH  
Engineer Kazuya Noda Hiromasa Sato Toshinori Yamada Takahiro Kawakami  
(1 GHz – 13 GHz) (13 GHz – 18 GHz) (18 GHz – 26.5 GHz) (26.5 GHz – 40 GHz)  
Mode Tx, 11ac-40 (MIMO), 5510 MHz, (serial no. B-5)

### (above 1GHz Inside of the restricted band)

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark      |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|-------------|
| Hori.    | 11020.000       | PK       | 48.43          | 40.34           | 9.38      | 42.70     | 2.04                 | 57.49           | 73.9           | 16.4        | 129         | 309          | -           |
| Hori.    | 11020.000       | AV       | 36.93          | 40.34           | 9.38      | 42.70     | 2.04                 | 45.99           | 53.9           | 7.9         | 129         | 309          | VBW: 130 Hz |
| Vert.    | 11020.000       | PK       | 47.95          | 40.34           | 9.38      | 42.70     | 2.04                 | 57.01           | 73.9           | 16.9        | 137         | 41           | -           |
| Vert.    | 11020.000       | AV       | 36.87          | 40.34           | 9.38      | 42.70     | 2.04                 | 45.93           | 53.9           | 8.0         | 137         | 41           | VBW: 130 Hz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.79\text{ m} / 3.0\text{ m}) = 2.04\text{ dB}$

13 GHz - 40 GHz :  $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Result (EIRP) [dBm] | Limit [dBm] | Margin [dB] | Height [cm] | Angle [deg.] | Remark |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|---------------------|-------------|-------------|-------------|--------------|--------|
| Hori.    | 16530.000       | PK       | 47.74          | 39.26           | 12.48     | 40.43     | -9.54                | 49.51           | -45.71              | -27.0       | 18.7        | 196         | 247          | -      |
| Vert.    | 16530.000       | PK       | 46.81          | 39.26           | 12.48     | 40.43     | -9.54                | 48.58           | -46.64              | -27.0       | 19.6        | 163         | 224          | -      |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result(EIRP[dBm])= $10\log((10^{\frac{1}{2}} \times (\text{Electric Field Strength [dBuV/m]} / 20) \times 10^{-6}) \times \text{Distance}[m]^2 / 30) \times 10^3$

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.79\text{ m} / 3.0\text{ m}) = 2.04\text{ dB}$

13 GHz - 40 GHz :  $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

## Radiated Spurious Emission

|                             |                                                    |                    |                     |                     |
|-----------------------------|----------------------------------------------------|--------------------|---------------------|---------------------|
| Report No.                  | 13004393S-E-R2                                     |                    |                     |                     |
| Test place                  | Shonan EMC Lab.                                    |                    |                     |                     |
| Semi Anechoic Chamber (No.) | 3                                                  | 3                  | 3                   | 3                   |
| Date                        | September 11, 2019                                 | September 13, 2019 | September 14, 2019  | September 15, 2019  |
| Temperature / Humidity      | 24 deg. C / 51 % RH                                | 25 deg. C / 50 %RH | 25 deg. C / 51 %RH  | 24 deg. C / 63 %RH  |
| Engineer                    | Kazuya Noda                                        | Hiromasa Sato      | Toshinori Yamada    | Takahiro Kawakami   |
|                             | (1 GHz – 13 GHz)                                   | (13 GHz – 18 GHz)  | (18 GHz – 26.5 GHz) | (26.5 GHz – 40 GHz) |
| Mode                        | Tx, 11ac-40 (MIMO), 5550 MHz, (EUT serial no. B-5) |                    |                     |                     |

### (above 1GHz Inside of the restricted band)

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark      |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|-------------|
| Hori.    | 11100.000       | PK       | 48.53          | 40.12           | 9.48      | 42.68     | 2.04                 | 57.49           | 73.9           | 16.4        | 119         | 344          | -           |
| Hori.    | 11100.000       | AV       | 37.12          | 40.12           | 9.48      | 42.68     | 2.04                 | 46.08           | 53.9           | 7.8         | 119         | 344          | VBW: 130 Hz |
| Vert.    | 11100.000       | PK       | 48.27          | 40.12           | 9.48      | 42.68     | 2.04                 | 57.23           | 73.9           | 16.6        | 214         | 157          | -           |
| Vert.    | 11100.000       | AV       | 37.33          | 40.12           | 9.48      | 42.68     | 2.04                 | 46.29           | 53.9           | 7.6         | 214         | 157          | VBW: 130 Hz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.79\text{ m} / 3.0\text{ m}) = 2.04\text{ dB}$

13 GHz - 40 GHz :  $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Result (EIRP) [dBm] | Limit [dBm] | Margin [dB] | Height [cm] | Angle [deg.] | Remark |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|---------------------|-------------|-------------|-------------|--------------|--------|
| Hori.    | 16650.000       | PK       | 47.10          | 39.24           | 12.45     | 40.41     | -9.54                | 48.84           | -46.38              | -27.0       | 19.4        | 194         | 302          | -      |
| Vert.    | 16650.000       | PK       | 46.34          | 39.24           | 12.45     | 40.41     | -9.54                | 48.08           | -47.14              | -27.0       | 20.1        | 157         | 260          | -      |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result(EIRP[dBm]) =  $10 \cdot \log \left( \left( \left( 10^{\left( \text{Electric Field Strength [dBuV/m]} / 20 \right)} \right) \cdot 10^{-6} \right) \cdot \text{Distance:3[m]}^2 / 30 \right) \cdot 10^{+3}$

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.79\text{ m} / 3.0\text{ m}) = 2.04\text{ dB}$

13 GHz - 40 GHz :  $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

## Radiated Spurious Emission

|                             |                                                    |                    |                     |                     |
|-----------------------------|----------------------------------------------------|--------------------|---------------------|---------------------|
| Report No.                  | 13004393S-E-R2                                     |                    |                     |                     |
| Test place                  | Shonan EMC Lab.                                    |                    |                     |                     |
| Semi Anechoic Chamber (No.) | 3                                                  | 3                  | 3                   | 3                   |
| Date                        | September 11, 2019                                 | September 13, 2019 | September 14, 2019  | September 15, 2019  |
| Temperature / Humidity      | 24 deg. C / 51 % RH                                | 25 deg. C / 50 %RH | 25 deg. C / 51 %RH  | 24 deg. C / 63 %RH  |
| Engineer                    | Kazuya Noda                                        | Hiromasa Sato      | Toshinori Yamada    | Takahiro Kawakami   |
|                             | (1 GHz – 13 GHz)                                   | (13 GHz – 18 GHz)  | (18 GHz – 26.5 GHz) | (26.5 GHz – 40 GHz) |
| Mode                        | Tx, 11ac-40 (MIMO), 5670 MHz, (EUT serial no. B-5) |                    |                     |                     |

### (above 1GHz Inside of the restricted band)

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark      |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|-------------|
| Hori.    | 11340.000       | PK       | 48.81          | 39.83           | 9.73      | 42.63     | 2.04                 | 57.78           | 73.9           | 16.1        | 133         | 344          | -           |
| Hori.    | 11340.000       | AV       | 36.91          | 39.83           | 9.73      | 42.63     | 2.04                 | 45.88           | 53.9           | 8.0         | 133         | 344          | VBW: 130 Hz |
| Vert.    | 11340.000       | PK       | 48.84          | 39.83           | 9.73      | 42.63     | 2.04                 | 57.81           | 73.9           | 16.0        | 194         | 102          | -           |
| Vert.    | 11340.000       | AV       | 37.11          | 39.83           | 9.73      | 42.63     | 2.04                 | 46.08           | 53.9           | 7.8         | 194         | 102          | VBW: 130 Hz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.79\text{ m} / 3.0\text{ m}) = 2.04\text{ dB}$

13 GHz - 40 GHz :  $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Result (EIRP) [dBm] | Limit [dBm] | Margin [dB] | Height [cm] | Angle [deg.] | Remark |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|---------------------|-------------|-------------|-------------|--------------|--------|
| Hori.    | 17010.000       | PK       | 46.58          | 40.24           | 12.37     | 40.35     | -9.54                | 49.30           | -45.92              | -27.0       | 18.9        | 155         | 218          | -      |
| Vert.    | 17010.000       | PK       | 46.97          | 40.24           | 12.37     | 40.35     | -9.54                | 49.69           | -45.53              | -27.0       | 18.5        | 213         | 290          | -      |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result(EIRP[dBm])= $10\log((\{10^{\frac{1}{2}} \times (\text{Electric Field Strength [dBuV/m]} / 20) \times 10^{-6}\} \times \text{Distance:3[m]}^2) / 30) \times 10^3$

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.79\text{ m} / 3.0\text{ m}) = 2.04\text{ dB}$

13 GHz - 40 GHz :  $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

**UL Japan, Inc.**

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## Radiated Spurious Emission

Report No. 13004393S-E-R2  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber No.3  
Date September 6, 2019  
Temperature / Humidity 24 deg. C / 61 % RH  
Engineer Kazuya Noda  
(1 GHz – 6.4 GHz)  
Mode Tx, 11ac-40 (CDD), 5510 MHz, (EUT serial no. B-5)

### (above 1GHz Inside of the restricted band)

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark      |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|-------------|
| Hori.    | 5460.000        | PK       | 53.74          | 32.32           | 16.32     | 43.30     | 2.04                 | 61.12           | 73.9           | 12.7        | 148         | 139          | -           |
| Hori.    | 5460.000        | AV       | 38.39          | 32.32           | 16.32     | 43.30     | 2.04                 | 45.77           | 53.9           | 8.1         | 148         | 139          | VBW: 100 Hz |
| Vert.    | 5460.000        | PK       | 54.35          | 32.32           | 16.32     | 43.30     | 2.04                 | 61.73           | 73.9           | 12.1        | 105         | 181          | -           |
| Vert.    | 5460.000        | AV       | 38.70          | 32.32           | 16.32     | 43.30     | 2.04                 | 46.08           | 53.9           | 7.8         | 105         | 181          | VBW: 100 Hz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.79\text{ m} / 3.0\text{ m}) = 2.04\text{ dB}$

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

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Result (EIRP) [dBm] | Limit [dBm] | Margin [dB] | Height [cm] | Angle [deg.] | Remark |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|---------------------|-------------|-------------|-------------|--------------|--------|
| Hori.    | 5470.000        | PK       | 57.21          | 32.34           | 16.33     | 43.31     | 2.04                 | 64.61           | -30.61              | -27.0       | 3.6         | 148         | 139          | -      |
| Vert.    | 5470.000        | PK       | 58.62          | 32.34           | 16.33     | 43.31     | 2.04                 | 66.02           | -29.20              | -27.0       | 2.2         | 105         | 181          | -      |

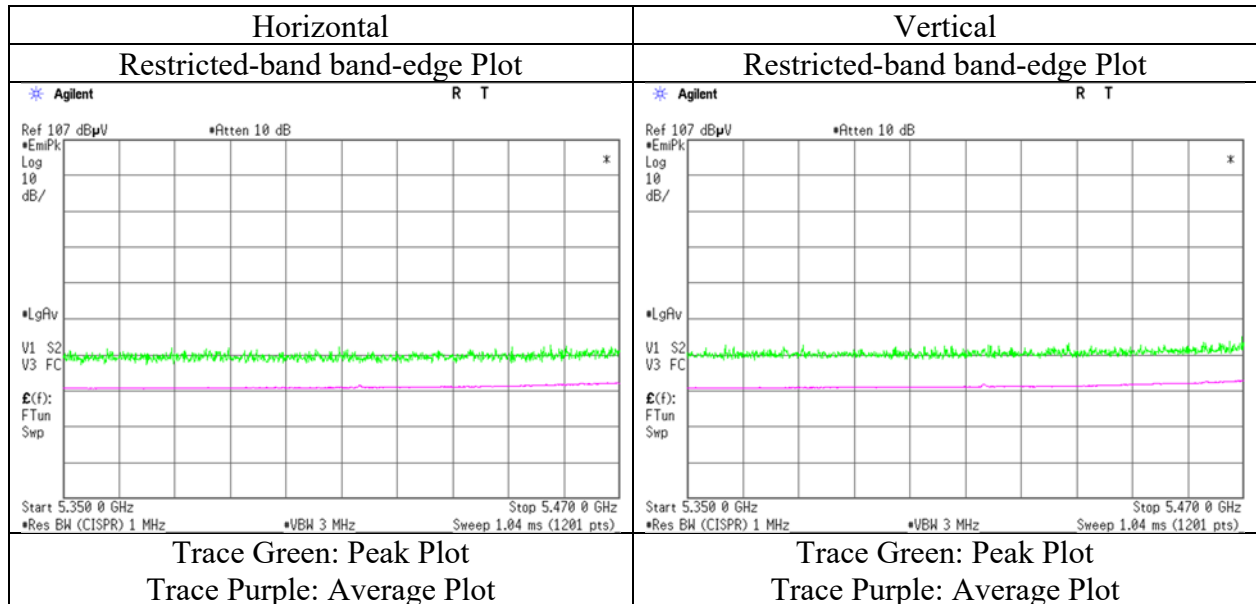
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result(EIRP[dBm])=10\*LOG ( ( { 10 ^ ( Electric Field Strength [dBuV/m] / 20 ) \* 10 ^ (-6) \* Distance:3[m] ) ^ 2 } / 30 ) \* 10 ^ 3 )

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.79\text{ m} / 3.0\text{ m}) = 2.04\text{ dB}$



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

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## Radiated Spurious Emission

|                        |                                                   |
|------------------------|---------------------------------------------------|
| Report No.             | 13004393S-E-R2                                    |
| Test place             | Shonan EMC Lab.                                   |
| Semi Anechoic Chamber  | No.3                                              |
| Date                   | September 6, 2019                                 |
| Temperature / Humidity | 24 deg. C / 61 % RH                               |
| Engineer               | Kazuya Noda                                       |
|                        | (1 GHz – 6.4 GHz)                                 |
| Mode                   | Tx, 11ac-40 (CDD), 5670 MHz, (EUT serial no. B-5) |

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

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Result (EIRP) [dBm] | Limit [dBm] | Margin [dB] | Height [cm] | Angle [deg.] | Remark |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|---------------------|-------------|-------------|-------------|--------------|--------|
| Hori.    | 5725.000        | PK       | 54.83          | 32.68           | 16.55     | 43.33     | 2.04                 | 62.77           | -32.45              | -27.0       | 5.4         | 133         | 353          | -      |
| Vert.    | 5725.000        | PK       | 55.39          | 32.68           | 16.55     | 43.33     | 2.04                 | 63.33           | -31.89              | -27.0       | 4.8         | 161         | 198          | -      |

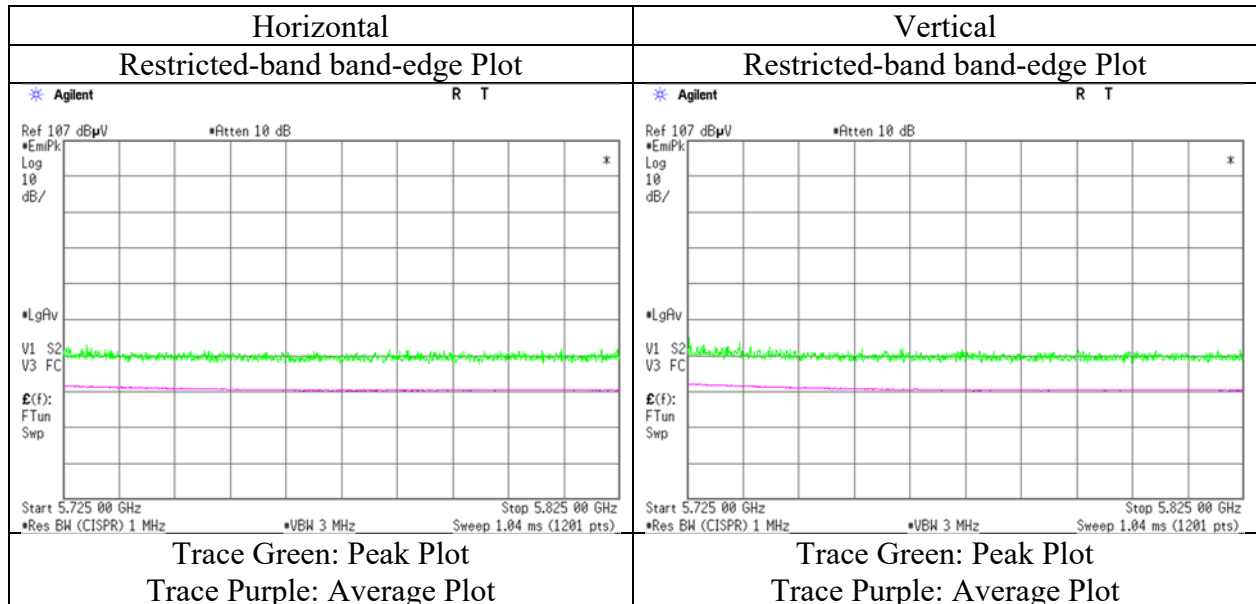
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result(EIRP[dBm])=10\*LOG ( ( { 10 ^ ( Electric Field Strength [dBuV/m] / 20 ) \* 10 ^ (-6) \* Distance:3[m] ) ^ 2 } / 30 ) \*10^3 )

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz : 20log (3.79 m / 3.0 m) = 2.04 dB



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

## Radiated Spurious Emission

Report No. 13004393S-E-R2  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber No.3  
Date September 21, 2019  
Temperature / Humidity 25 deg. C / 52 % RH  
Engineer Takahiro Kawakami  
(1 GHz – 6.4 GHz)  
Mode Tx, 11ac-40 (CDD), 5510 MHz, with 3DH5 hopping (EUT serial no. B-5)

### (above 1GHz Inside of the restricted band)

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark      |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|-------------|
| Hori.    | 5460.000        | PK       | 54.13          | 32.32           | 16.47     | 43.30     | 2.04                 | 61.66           | 73.9           | 12.2        | 100         | 177          | -           |
| Hori.    | 5460.000        | AV       | 39.03          | 32.32           | 16.47     | 43.30     | 2.04                 | 46.56           | 53.9           | 7.3         | 100         | 177          | VBW: 100 Hz |
| Vert.    | 5460.000        | PK       | 52.02          | 32.32           | 16.47     | 43.30     | 2.04                 | 59.55           | 73.9           | 14.3        | 190         | 206          | -           |
| Vert.    | 5460.000        | AV       | 38.74          | 32.32           | 16.47     | 43.30     | 2.04                 | 46.27           | 53.9           | 7.6         | 190         | 206          | VBW: 100 Hz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.79\text{ m} / 3.0\text{ m}) = 2.04\text{ dB}$

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

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Result (EIRP) [dBm] | Limit [dBm] | Margin [dB] | Height [cm] | Angle [deg.] | Remark |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|---------------------|-------------|-------------|-------------|--------------|--------|
| Hori.    | 5470.000        | PK       | 53.23          | 32.34           | 16.47     | 43.31     | 2.04                 | 60.77           | -34.45              | -27.0       | 7.4         | 100         | 177          | -      |
| Vert.    | 5470.000        | PK       | 51.82          | 32.34           | 16.47     | 43.31     | 2.04                 | 59.36           | -35.86              | -27.0       | 8.8         | 190         | 206          | -      |

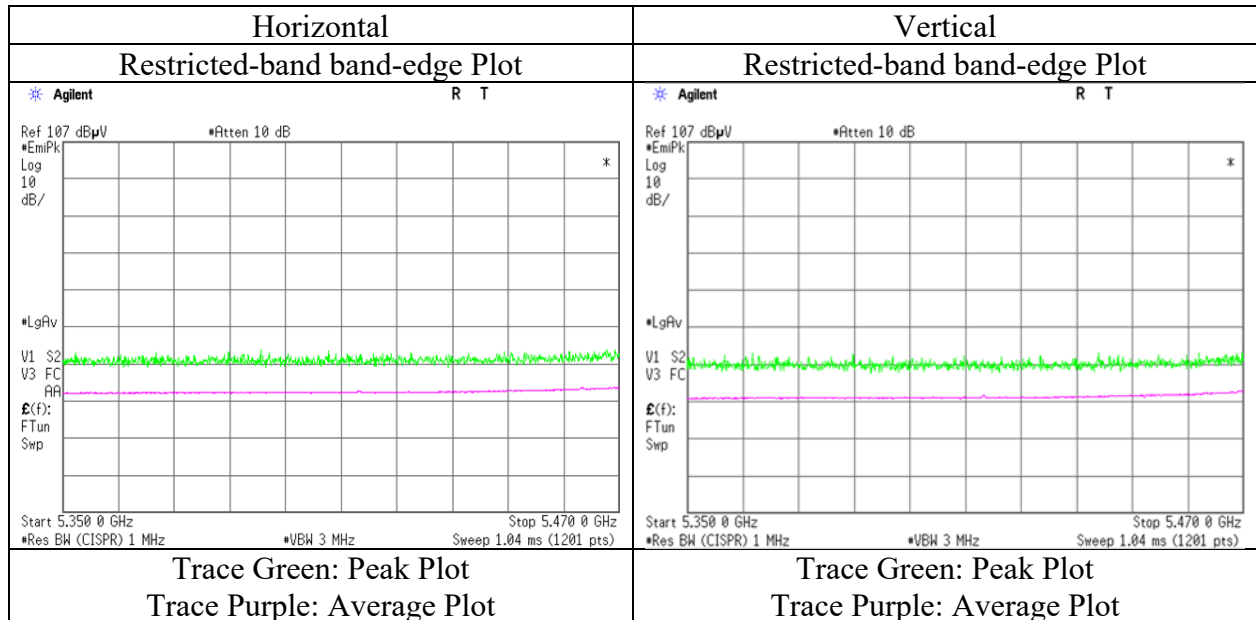
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result(EIRP[dBm])= $10\log((\{10^{\wedge}(\text{Electric Field Strength [dBuV/m]} / 20) * 10^{\wedge}(-6) * \text{Distance:3[m]}^{\wedge}2\} / 30) * 10^{\wedge}3)$

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.79\text{ m} / 3.0\text{ m}) = 2.04\text{ dB}$



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

**UL Japan, Inc.**

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## Radiated Spurious Emission

Report No. 13004393S-E-R2  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber No.3  
Date September 21, 2019  
Temperature / Humidity 25 deg. C / 52 % RH  
Engineer Takahiro Kawakami  
(1 GHz – 6.4 GHz)  
Mode Tx, 11ac-40 (CDD), 5670 MHz, with 3DH5 hopping (EUT serial no. B-5)

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

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Result (EIRP) [dBm] | Limit [dBm] | Margin [dB] | Height [cm] | Angle [deg.] | Remark |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|---------------------|-------------|-------------|-------------|--------------|--------|
| Hori.    | 5725.000        | PK       | 51.86          | 32.68           | 16.59     | 43.33     | 2.04                 | 59.84           | -35.38              | -27.0       | 8.3         | 100         | 164          | -      |
| Vert.    | 5725.000        | PK       | 52.13          | 32.68           | 16.59     | 43.33     | 2.04                 | 60.11           | -35.11              | -27.0       | 8.1         | 200         | 204          | -      |

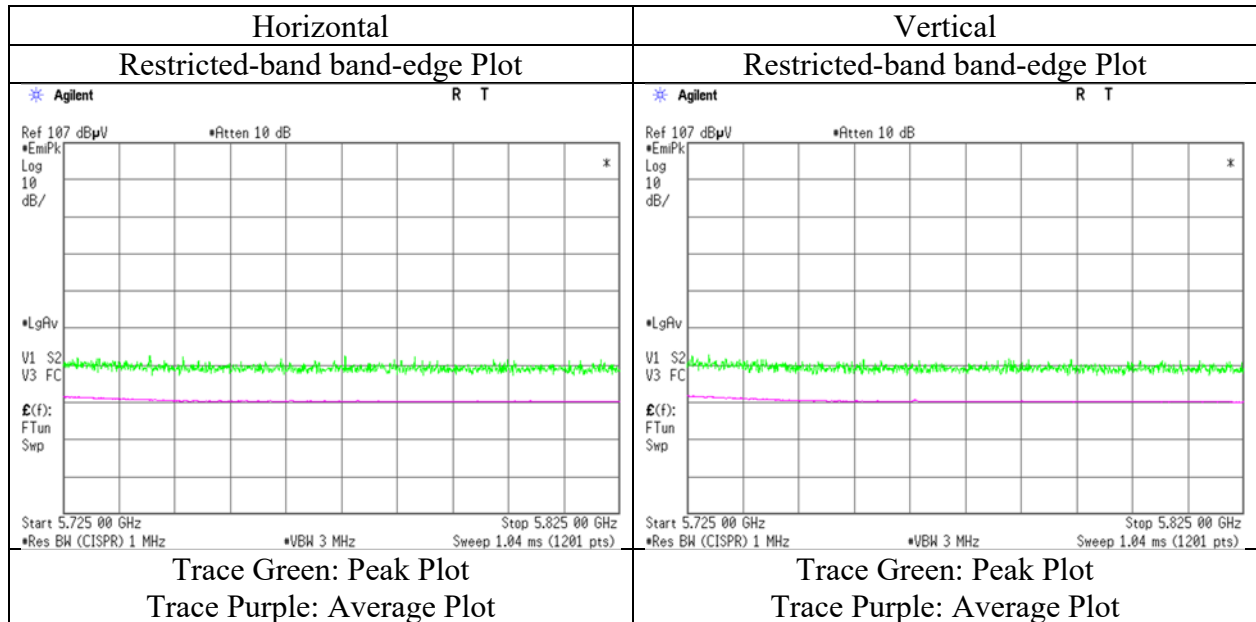
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result(EIRP[dBm])=10\*LOG ( ( { 10 ^ ( Electric Field Strength [dBuV/m] / 20 ) \* 10 ^ (-6) \* Distance:3[m] } ^ 2 ) / 30 ) \*10^3

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz : 20log (3.79 m / 3.0 m) = 2.04 dB



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

## Radiated Spurious Emission

|                             |                                                    |                     |                     |                     |                     |
|-----------------------------|----------------------------------------------------|---------------------|---------------------|---------------------|---------------------|
| Report No.                  | 13004393S-E-R2                                     |                     |                     |                     |                     |
| Test place                  | Shonan EMC Lab.                                    |                     |                     |                     |                     |
| Semi Anechoic Chamber (No.) | 3                                                  | 3                   | 3                   | 3                   | 3                   |
| Date                        | September 5, 2019                                  | September 11, 2019  | September 12, 2019  | September 14, 2019  | September 15, 2019  |
| Temperature / Humidity      | 25 deg. C / 65 % RH                                | 22 deg. C / 53 % RH | 24 deg. C / 54 % RH | 25 deg. C / 51 % RH | 24 deg. C / 63 % RH |
| Engineer                    | Kazuya Noda                                        | Takahiro Kawakami   | Kazuya Noda         | Takahiro Kawakami   | Toshinori Yamada    |
|                             | (1 GHz - 6.4 GHz)                                  | (6.4 GHz - 13 GHz)  | (13 GHz - 18 GHz)   | (18 GHz - 26.5 GHz) | (26.5 GHz - 40 GHz) |
| Mode                        | Tx, 11ac-80 (MIMO), 5530 MHz, (EUT serial no. A-7) |                     |                     |                     |                     |

### (above 1GHz Inside of the restricted band)

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark      |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|-------------|
| Hori.    | 5460.000        | PK       | 54.53          | 32.32           | 16.32     | 43.30     | 2.15                 | 62.02           | 73.9           | 11.8        | 108         | 334          | -           |
| Hori.    | 11060.000       | PK       | 47.86          | 40.24           | 9.42      | 42.69     | 2.15                 | 56.98           | 73.9           | 16.9        | 144         | 0            | -           |
| Hori.    | 5460.000        | AV       | 39.81          | 32.32           | 16.32     | 43.30     | 2.15                 | 47.30           | 53.9           | 6.6         | 108         | 334          | VBW: 270 Hz |
| Hori.    | 11060.000       | AV       | 36.52          | 40.24           | 9.42      | 42.69     | 2.15                 | 45.64           | 53.9           | 8.2         | 144         | 0            | VBW: 270 Hz |
| Vert.    | 5460.000        | PK       | 52.04          | 32.32           | 16.32     | 43.30     | 2.15                 | 59.53           | 73.9           | 14.3        | 108         | 258          | -           |
| Vert.    | 11060.000       | PK       | 47.68          | 40.24           | 9.42      | 42.69     | 2.15                 | 56.80           | 73.9           | 17.1        | 154         | 96           | -           |
| Vert.    | 5460.000        | AV       | 39.23          | 32.32           | 16.32     | 43.30     | 2.15                 | 46.72           | 53.9           | 7.1         | 108         | 258          | VBW: 270 Hz |
| Vert.    | 11060.000       | AV       | 36.60          | 40.24           | 9.42      | 42.69     | 2.15                 | 45.72           | 53.9           | 8.1         | 154         | 96           | VBW: 270 Hz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.84\text{ m} / 3.0\text{ m}) = 2.15\text{ dB}$

13 GHz - 40 GHz :  $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Result (EIRP) [dBm] | Limit [dBm] | Margin [dB] | Height [cm] | Angle [deg.] | Remark |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|---------------------|-------------|-------------|-------------|--------------|--------|
| Hori.    | 5470.000        | PK       | 55.16          | 32.34           | 16.33     | 43.31     | 2.15                 | 62.67           | -32.55              | -27.0       | 5.5         | 108         | 334          | -      |
| Hori.    | 16590.000       | PK       | 46.66          | 39.22           | 12.47     | 40.42     | -9.54                | 48.39           | -46.83              | -27.0       | 19.8        | 185         | 86           | -      |
| Vert.    | 5470.000        | PK       | 51.62          | 32.34           | 16.33     | 43.31     | 2.15                 | 59.13           | -36.09              | -27.0       | 9.0         | 108         | 258          | -      |
| Vert.    | 16590.000       | PK       | 46.81          | 39.22           | 12.47     | 40.42     | -9.54                | 48.54           | -46.68              | -27.00      | 19.7        | 214         | 206          | -      |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

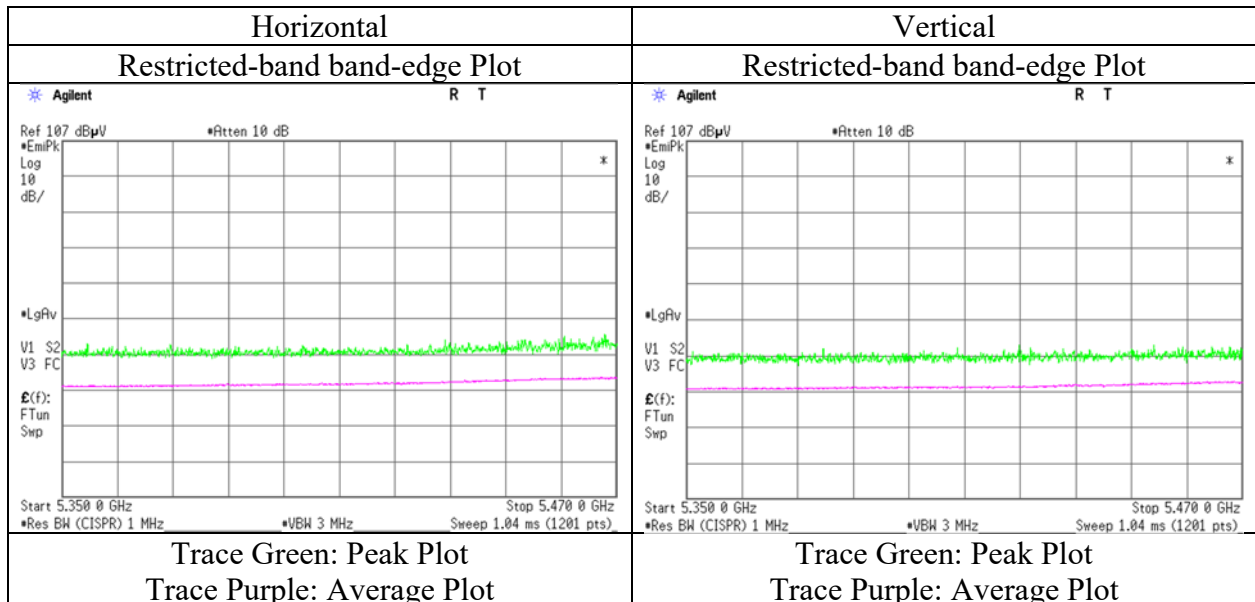
Result(EIRP[dBm]) =  $10 \cdot \log((\{10^{\frac{1}{2}} \cdot (\text{Electric Field Strength [dBuV/m]} / 20) \cdot 10^{-6}\} \cdot \text{Distance[3m]}^2) / 30) \cdot 10^3$

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.84\text{ m} / 3.0\text{ m}) = 2.15\text{ dB}$

13 GHz - 40 GHz :  $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$



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

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## Radiated Spurious Emission

|                             |                                                    |                     |                     |                     |                     |
|-----------------------------|----------------------------------------------------|---------------------|---------------------|---------------------|---------------------|
| Report No.                  | 13004393S-E-R2                                     |                     |                     |                     |                     |
| Test place                  | Shonan EMC Lab.                                    |                     |                     |                     |                     |
| Semi Anechoic Chamber (No.) | 3                                                  | 3                   | 3                   | 3                   | 3                   |
| Date                        | September 5, 2019                                  | September 11, 2019  | September 12, 2019  | September 14, 2019  | September 15, 2019  |
| Temperature / Humidity      | 25 deg. C / 65 % RH                                | 24 deg. C / 51 % RH | 24 deg. C / 54 % RH | 25 deg. C / 51 % RH | 24 deg. C / 63 % RH |
| Engineer                    | Kazuya Noda                                        | Kazuya Noda         | Kazuya Noda         | Takahiro Kawakami   | Toshinori Yamada    |
|                             | (1 GHz - 6.4 GHz)                                  | (6.4 GHz - 13 GHz)  | (13 GHz - 18 GHz)   | (18 GHz - 26.5 GHz) | (26.5 GHz - 40 GHz) |
| Mode                        | Tx, 11ac-80 (MIMO), 5610 MHz, (EUT serial no. A-7) |                     |                     |                     |                     |

### (above 1GHz Inside of the restricted band)

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark      |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|-------------|
| Hori.    | 11220.000       | PK       | 48.82          | 39.82           | 9.60      | 42.66     | 2.15                 | 57.73           | 73.9           | 16.1        | 201         | 81           | -           |
| Hori.    | 11220.000       | AV       | 37.31          | 39.82           | 9.60      | 42.66     | 2.15                 | 46.22           | 53.9           | 7.6         | 201         | 81           | VBW: 270 Hz |
| Vert.    | 11220.000       | PK       | 49.07          | 39.82           | 9.60      | 42.66     | 2.15                 | 57.98           | 73.9           | 15.9        | 355         | 219          | -           |
| Vert.    | 11220.000       | AV       | 38.06          | 39.82           | 9.60      | 42.66     | 2.15                 | 46.97           | 53.9           | 6.9         | 355         | 219          | VBW: 270 Hz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.84\text{ m} / 3.0\text{ m}) = 2.15\text{ dB}$

13 GHz - 40 GHz :  $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Result (EIRP) [dBm] | Limit [dBm] | Margin [dB] | Height [cm] | Angle [deg.] | Remark |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|---------------------|-------------|-------------|-------------|--------------|--------|
| Hori.    | 5725.000        | PK       | 51.59          | 32.68           | 16.55     | 43.33     | 2.15                 | 59.64           | -35.58              | -27.0       | 8.5         | 118         | 342          | -      |
| Hori.    | 16830.000       | PK       | 45.98          | 39.63           | 12.41     | 40.38     | -9.54                | 48.10           | -47.12              | -27.0       | 20.1        | 244         | 84           | -      |
| Vert.    | 5725.000        | PK       | 49.91          | 32.68           | 16.55     | 43.33     | 2.15                 | 57.96           | -37.26              | -27.0       | 10.2        | 104         | 257          | -      |
| Vert.    | 16830.000       | PK       | 46.24          | 39.63           | 12.41     | 40.38     | -9.54                | 48.36           | -46.86              | -27.0       | 19.9        | 222         | 357          | -      |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

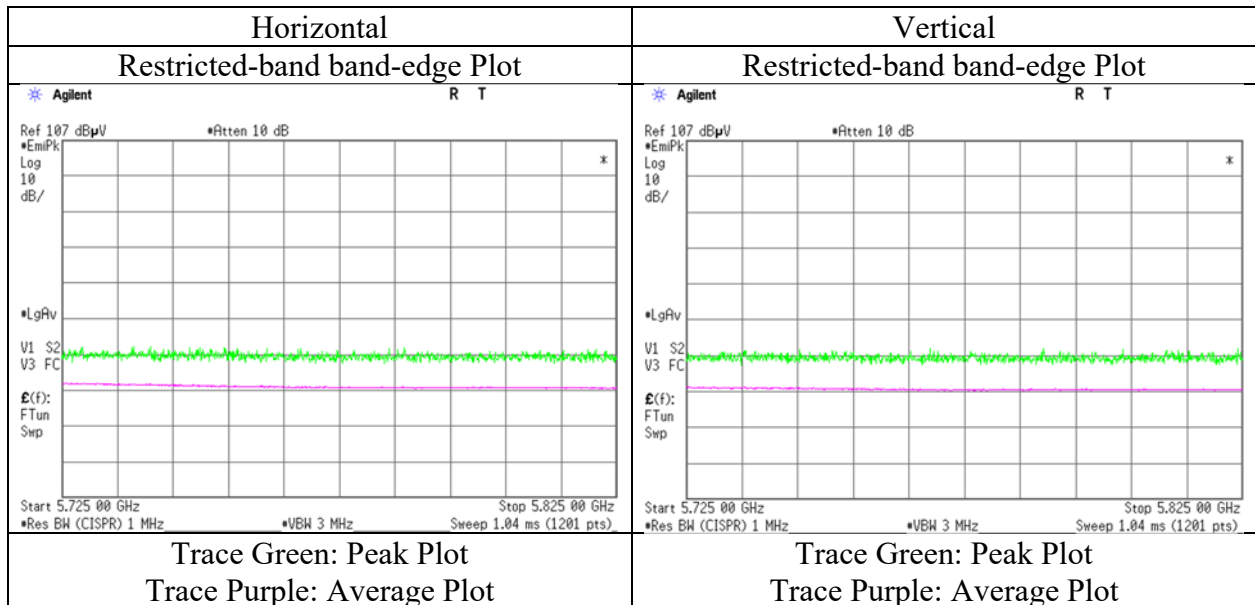
Result(EIRP[dBm])=10\*LOG ( {  $10^{\wedge} ( \text{Electric Field Strength [dBuV/m]} / 20 ) * 10^{\wedge} (-6) * \text{Distance:3[m]}^{\wedge} 2 } / 30 ) * 10^{\wedge} 3$  )

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.84\text{ m} / 3.0\text{ m}) = 2.15\text{ dB}$

13 GHz - 40 GHz :  $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$



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

**UL Japan, Inc.**

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## Radiated Spurious Emission

Report No. 13004393S-E-R2  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber No.3  
Date September 5, 2019  
Temperature / Humidity 25 deg. C / 65 % RH  
Engineer Kazuya Noda  
(1 GHz – 6.4 GHz)  
Mode Tx, 11ac-80 (CDD), 5530 MHz, (EUT serial no. A-7)

### (above 1GHz Inside of the restricted band)

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark      |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|-------------|
| Hori.    | 5460.000        | PK       | 54.41          | 32.32           | 16.32     | 43.30     | 2.15                 | 61.90           | 73.9           | 12.0        | 116         | 340          | -           |
| Hori.    | 5460.000        | AV       | 38.04          | 32.32           | 16.32     | 43.30     | 2.15                 | 45.53           | 53.9           | 8.3         | 116         | 340          | VBW: 120 Hz |
| Vert.    | 5460.000        | PK       | 54.34          | 32.32           | 16.32     | 43.30     | 2.15                 | 61.83           | 73.9           | 12.0        | 230         | 180          | -           |
| Vert.    | 5460.000        | AV       | 37.98          | 32.32           | 16.32     | 43.30     | 2.15                 | 45.47           | 53.9           | 8.4         | 230         | 180          | VBW: 120 Hz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.84\text{ m} / 3.0\text{ m}) = 2.15\text{ dB}$

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

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Result (EIRP) [dBm] | Limit [dBm] | Margin [dB] | Height [cm] | Angle [deg.] | Remark |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|---------------------|-------------|-------------|-------------|--------------|--------|
| Hori.    | 5466.200        | PK       | 57.73          | 32.33           | 16.32     | 43.30     | 2.15                 | 65.23           | -29.99              | -27.0       | 2.9         | 115         | 341          | -      |
| Hori.    | 5470.000        | PK       | 60.04          | 32.34           | 16.33     | 43.31     | 2.15                 | 67.55           | -27.67              | -27.0       | 0.6         | 115         | 341          | -      |
| Vert.    | 5466.200        | PK       | 53.85          | 32.33           | 16.32     | 43.30     | 2.15                 | 61.35           | -33.87              | -27.0       | 6.8         | 177         | 329          | -      |
| Vert.    | 5470.000        | PK       | 56.28          | 32.34           | 16.33     | 43.31     | 2.15                 | 63.79           | -31.43              | -27.0       | 4.4         | 177         | 329          | -      |

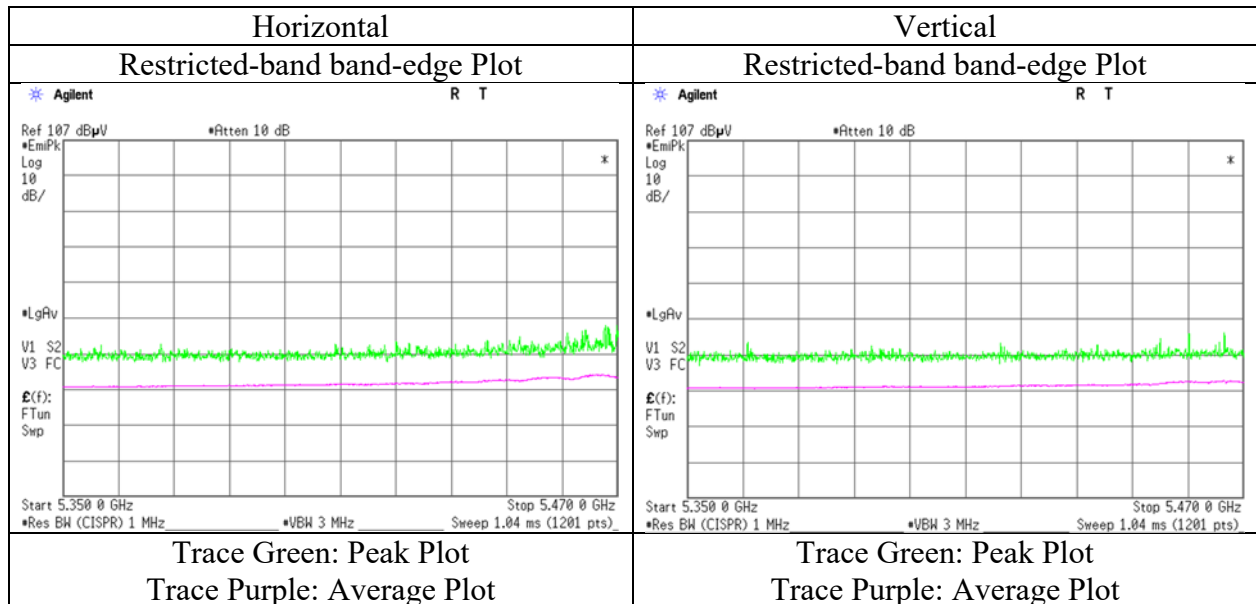
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result(EIRP[dBm]) =  $10 \cdot \log \left( \left( \{ 10^{\frac{1}{2}} \cdot \left( \text{Electric Field Strength [dBuV/m]} / 20 \right) \cdot 10^{-6} \} \cdot \text{Distance:3[m]} \right)^2 / 30 \right) \cdot 10^3$

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.84\text{ m} / 3.0\text{ m}) = 2.15\text{ dB}$



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

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## Radiated Spurious Emission

|                        |                                                   |
|------------------------|---------------------------------------------------|
| Report No.             | 13004393S-E-R2                                    |
| Test place             | Shonan EMC Lab.                                   |
| Semi Anechoic Chamber  | No.3                                              |
| Date                   | September 5, 2019                                 |
| Temperature / Humidity | 25 deg. C / 65 % RH                               |
| Engineer               | Kazuya Noda                                       |
|                        | (1 GHz – 6.4 GHz)                                 |
| Mode                   | Tx, 11ac-80 (CDD), 5610 MHz, (EUT serial no. A-7) |

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

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Result (EIRP) [dBm] | Limit [dBm] | Margin [dB] | Height [cm] | Angle [deg.] | Remark |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|---------------------|-------------|-------------|-------------|--------------|--------|
| Hori.    | 5725.000        | PK       | 50.46          | 32.68           | 16.55     | 43.33     | 2.15                 | 58.51           | -36.71              | -27.0       | 9.7         | 159         | 326          | -      |
| Vert.    | 5725.000        | PK       | 50.33          | 32.68           | 16.55     | 43.33     | 2.15                 | 58.38           | -36.84              | -27.0       | 9.8         | 107         | 251          | -      |

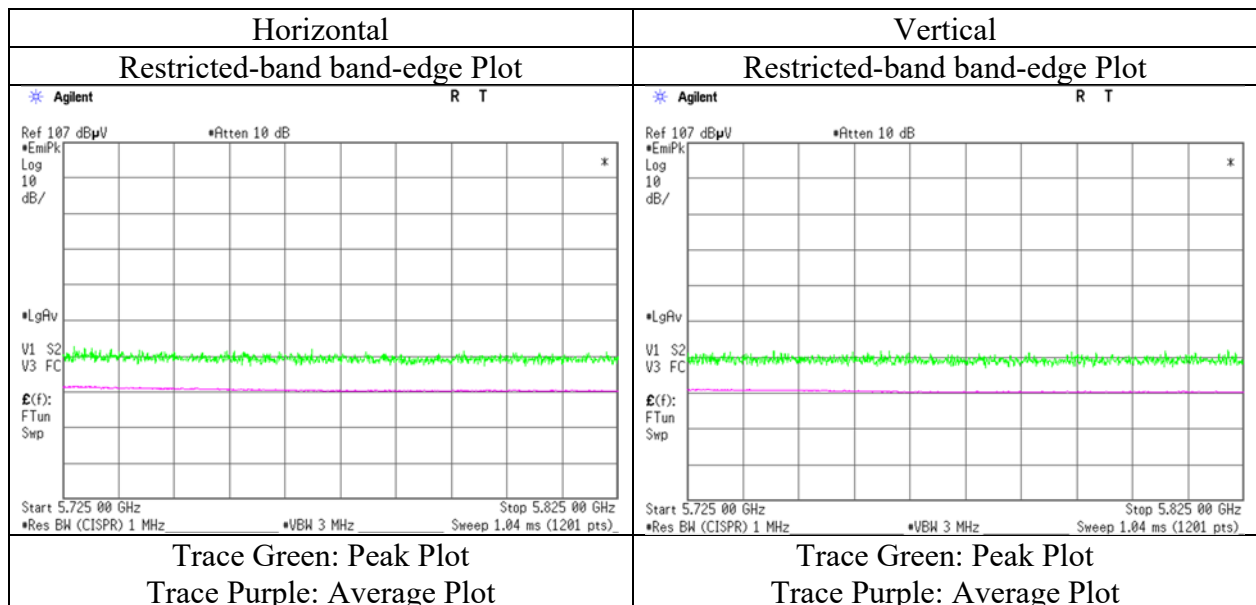
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result(EIRP[dBm])=10\*LOG (({ 10 ^ ( Electric Field Strength [dBuV/m] / 20 ) \* 10 ^ (-6) \* Distance:3[m] ) ^ 2 } / 30) \*10^3)

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz : 20log (3.84 m / 3.0 m) = 2.15 dB



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

## Radiated Spurious Emission

Report No. 13004393S-E-R2  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber No.3  
Date September 20, 2019  
Temperature / Humidity 22 deg. C / 64 % RH  
Engineer Makoto Hosaka  
(1 GHz – 6.4 GHz)  
Mode Tx, 11ac-80 (CDD), 5530 MHz, with 3DH5 hopping (EUT serial no. A-7)

### (above 1GHz Inside of the restricted band)

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark      |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|-------------|
| Hori.    | 5460.000        | PK       | 56.88          | 32.32           | 16.47     | 43.30     | 2.14                 | 64.51           | 73.9           | 9.3         | 153         | 335          | -           |
| Hori.    | 5460.000        | AV       | 39.72          | 32.32           | 16.47     | 43.30     | 2.14                 | 47.35           | 53.9           | 6.5         | 153         | 335          | VBW: 120 Hz |
| Vert.    | 5460.000        | PK       | 53.80          | 32.32           | 16.47     | 43.30     | 2.14                 | 61.43           | 73.9           | 12.4        | 174         | 331          | -           |
| Vert.    | 5460.000        | AV       | 39.10          | 32.32           | 16.47     | 43.30     | 2.14                 | 46.73           | 53.9           | 7.1         | 174         | 331          | VBW: 120 Hz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.84\text{ m} / 3.0\text{ m}) = 2.15\text{ dB}$

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

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Result (EIRP) [dBm] | Limit [dBm] | Margin [dB] | Height [cm] | Angle [deg.] | Remark |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|---------------------|-------------|-------------|-------------|--------------|--------|
| Hori.    | 5470.000        | PK       | 59.57          | 32.34           | 16.47     | 43.31     | 2.14                 | 67.21           | -28.01              | -27.0       | 1.0         | 153         | 335          | -      |
| Vert.    | 5470.000        | PK       | 55.35          | 32.34           | 16.47     | 43.31     | 2.14                 | 62.99           | -32.23              | -27.0       | 5.2         | 174         | 331          | -      |

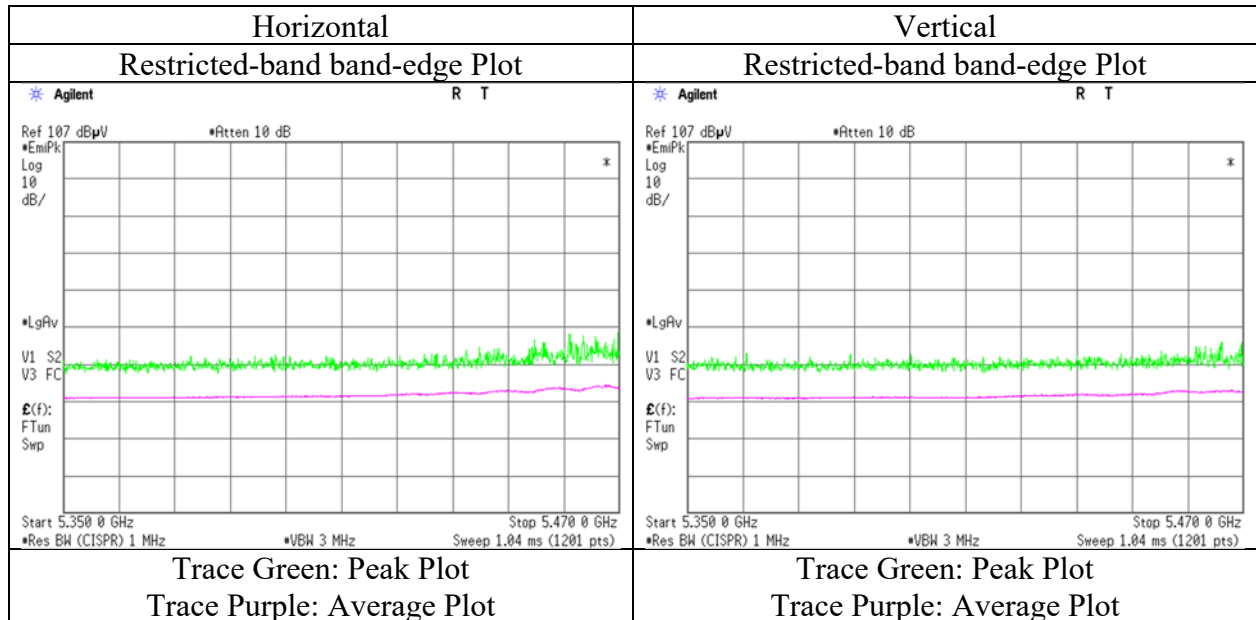
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result(EIRP[dBm])=10\*LOG (( { 10 ^ ( Electric Field Strength [dBuV/m] / 20 ) \* 10 ^ (-6) \* Distance:3[m] ) ^ 2 } / 30 ) \* 10 ^ 3 )

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.84\text{ m} / 3.0\text{ m}) = 2.15\text{ dB}$



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

**UL Japan, Inc.**

**Shonan EMC Lab.**

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

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## Radiated Spurious Emission

Report No. 13004393S-E-R2  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber No.3  
Date September 20, 2019  
Temperature / Humidity 22 deg. C / 64 % RH  
Engineer Makoto Hosaka  
(1 GHz – 6.4 GHz)  
Mode Tx, 11ac-80 (CDD), 5610 MHz, with 3DH5 hopping (EUT serial no. A-7)

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

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Result (EIRP) [dBm] | Limit [dBm] | Margin [dB] | Height [cm] | Angle [deg.] | Remark |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|---------------------|-------------|-------------|-------------|--------------|--------|
| Hori.    | 5725.000        | PK       | 50.15          | 32.68           | 16.59     | 43.33     | 2.14                 | 58.23           | -36.99              | -27.0       | 9.9         | 165         | 337          | -      |
| Vert.    | 5725.000        | PK       | 48.51          | 32.68           | 16.59     | 43.33     | 2.14                 | 56.59           | -38.63              | -27.0       | 11.6        | 147         | 270          | -      |

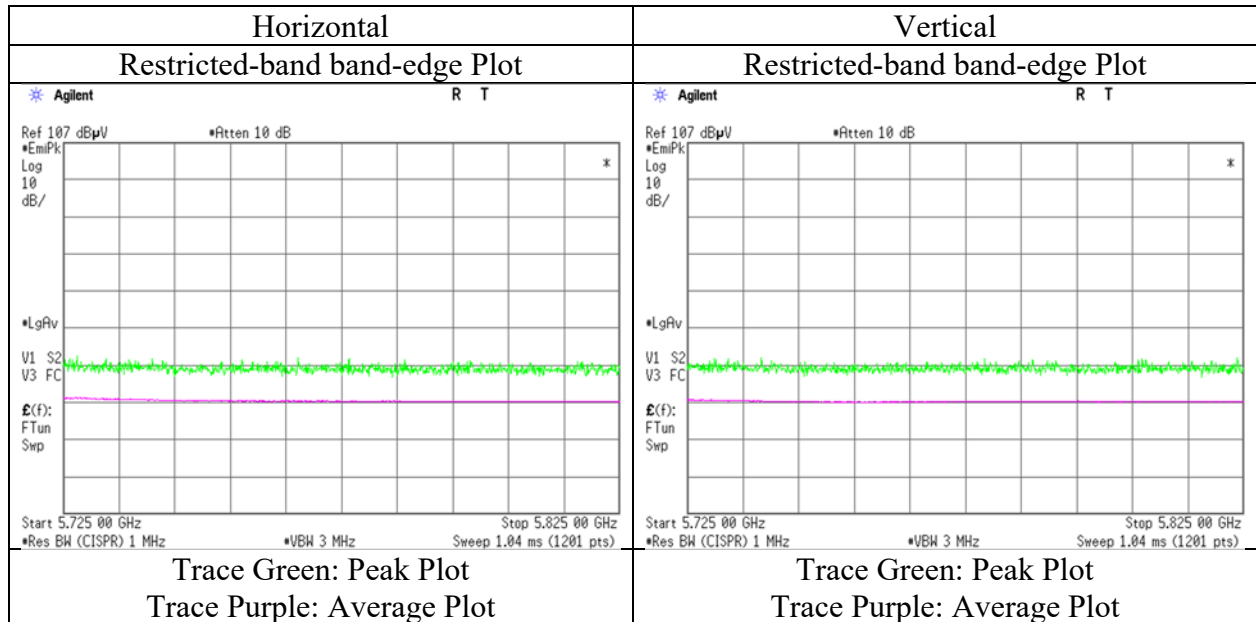
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result(EIRP[dBm])=10\*LOG ( ( { 10 ^ ( Electric Field Strength [dBuV/m] / 20 ) \* 10 ^ (-6) \* Distance:3[m] ) ^ 2 } / 30 ) \*10^3)

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz : 20log (3.84 m / 3.0 m) = 2.15 dB



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

**UL Japan, Inc.**

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## Radiated Spurious Emission

|                             |                                                    |                     |                     |                     |
|-----------------------------|----------------------------------------------------|---------------------|---------------------|---------------------|
| Report No.                  | 13004393S-E-R2                                     |                     |                     |                     |
| Test place                  | Shonan EMC Lab.                                    |                     |                     |                     |
| Semi Anechoic Chamber (No.) | 3                                                  | 3                   | 3                   | 3                   |
| Date                        | September 11, 2019                                 | September 13, 2019  | September 14, 2019  | September 15, 2019  |
| Temperature / Humidity      | 24 deg. C / 51 % RH                                | 25 deg. C / 50 % RH | 25 deg. C / 51 % RH | 24 deg. C / 63 % RH |
| Engineer                    | Kazuya Noda                                        | Hiromasa Sato       | Toshinori Yamada    | Takahiro Kawakami   |
|                             | (1 GHz – 13 GHz)                                   | (13 GHz – 18 GHz)   | (18 GHz – 26.5 GHz) | (26.5 GHz – 40 GHz) |
| Mode                        | Tx, 11ac-80 (MIMO), 5530 MHz, (EUT serial no. B-5) |                     |                     |                     |

### (above 1GHz Inside of the restricted band)

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark      |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|-------------|
| Hori.    | 11060.000       | PK       | 48.35          | 40.24           | 9.42      | 42.69     | 2.04                 | 57.36           | 73.9           | 16.5        | 127         | 14           | -           |
| Hori.    | 11060.000       | AV       | 37.03          | 40.24           | 9.42      | 42.69     | 2.04                 | 46.04           | 53.9           | 7.9         | 127         | 14           | VBW: 270 Hz |
| Vert.    | 11060.000       | PK       | 48.61          | 40.24           | 9.42      | 42.69     | 2.04                 | 57.62           | 73.9           | 16.3        | 219         | 202          | -           |
| Vert.    | 11060.000       | AV       | 37.31          | 40.24           | 9.42      | 42.69     | 2.04                 | 46.32           | 53.9           | 7.6         | 219         | 202          | VBW: 270 Hz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.79\text{ m} / 3.0\text{ m}) = 2.04\text{ dB}$

13 GHz - 40 GHz :  $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Result (EIRP) [dBm] | Limit [dBm] | Margin [dB] | Height [cm] | Angle [deg.] | Remark |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|---------------------|-------------|-------------|-------------|--------------|--------|
| Hori.    | 16590.000       | PK       | 46.82          | 39.22           | 12.47     | 40.42     | -9.54                | 48.55           | -46.67              | -27.0       | 19.7        | 197         | 208          | -      |
| Vert.    | 16590.000       | PK       | 46.68          | 39.22           | 12.47     | 40.42     | -9.54                | 48.41           | -46.81              | -27.0       | 19.8        | 188         | 200          | -      |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result(EIRP[dBm])=10\*LOG ( ( { 10 ^ ( Electric Field Strength [dBuV/m] / 20 ) \* 10 ^ (-6) \* Distance:3[m] } ) ^ 2 / 30 ) \* 10 ^ 3 )

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.79\text{ m} / 3.0\text{ m}) = 2.04\text{ dB}$

13 GHz - 40 GHz :  $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$



## Radiated Spurious Emission

Report No. 13004393S-E-R2  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber (No.) 3  
Date September 11, 2019 September 13, 2019 September 14, 2019 September 15, 2019  
Temperature / Humidity 24 deg. C / 51 % RH 25 deg. C / 50 %RH 25 deg. C / 51 %RH 24 deg. C / 63 %RH  
Engineer Kazuya Noda Hiromasa Sato Toshinori Yamada Takahiro Kawakami  
(1 GHz – 13 GHz) (13 GHz – 18 GHz) (18 GHz – 26.5 GHz) (26.5 GHz – 40 GHz)  
Mode Tx, 11ac-80 (MIMO), 5610 MHz, (EUT serial no. B-5)

### (above 1GHz Inside of the restricted band)

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark      |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|-------------|
| Hori.    | 11220.000       | PK       | 48.48          | 39.82           | 9.60      | 42.66     | 2.04                 | 57.28           | 73.9           | 16.6        | 368         | 335          | -           |
| Hori.    | 11220.000       | AV       | 37.10          | 39.82           | 9.60      | 42.66     | 2.04                 | 45.90           | 53.9           | 8.0         | 368         | 335          | VBW: 270 Hz |
| Vert.    | 11220.000       | PK       | 49.05          | 39.82           | 9.60      | 42.66     | 2.04                 | 57.85           | 73.9           | 16.0        | 274         | 204          | -           |
| Vert.    | 11220.000       | AV       | 37.58          | 39.82           | 9.60      | 42.66     | 2.04                 | 46.38           | 53.9           | 7.5         | 274         | 204          | VBW: 270 Hz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.79\text{ m} / 3.0\text{ m}) = 2.04\text{ dB}$

13 GHz - 40 GHz :  $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Result (EIRP) [dBm] | Limit [dBm] | Margin [dB] | Height [cm] | Angle [deg.] | Remark |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|---------------------|-------------|-------------|-------------|--------------|--------|
| Hori.    | 16830.000       | PK       | 46.24          | 39.63           | 12.41     | 40.38     | -9.54                | 48.36           | -46.86              | -27.0       | 19.9        | 177         | 294          | -      |
| Vert.    | 16830.000       | PK       | 46.95          | 39.63           | 12.41     | 40.38     | -9.54                | 49.07           | -46.15              | -27.0       | 19.2        | 155         | 255          | -      |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result(EIRP[dBm])= $10\log((\{10^{\wedge}(\text{Electric Field Strength [dBuV/m]} / 20) * 10^{\wedge}(-6) * \text{Distance:3[m]}^{\wedge}2\} / 30) * 10^{\wedge}3)$

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.79\text{ m} / 3.0\text{ m}) = 2.04\text{ dB}$

13 GHz - 40 GHz :  $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

## Radiated Spurious Emission

Report No. 13004393S-E-R2  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber No.3  
Date September 5, 2019  
Temperature / Humidity 25 deg. C / 65 % RH  
Engineer Makoto Hosaka  
(1 GHz – 6.4 GHz)  
Mode Tx, 11ac-80 (CDD), 5530 MHz, (EUT serial no. B-5)

### (above 1GHz Inside of the restricted band)

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark      |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|-------------|
| Hori.    | 5460.000        | PK       | 53.93          | 32.32           | 16.32     | 43.30     | 2.15                 | 61.42           | 73.9           | 12.4        | 104         | 167          | -           |
| Hori.    | 5460.000        | AV       | 41.76          | 32.32           | 16.32     | 43.30     | 2.15                 | 49.25           | 53.9           | 4.6         | 104         | 167          | VBW: 120 Hz |
| Vert.    | 5460.000        | PK       | 53.64          | 32.32           | 16.32     | 43.30     | 2.15                 | 61.13           | 73.9           | 12.7        | 161         | 187          | -           |
| Vert.    | 5460.000        | AV       | 41.30          | 32.32           | 16.32     | 43.30     | 2.15                 | 48.79           | 53.9           | 5.1         | 161         | 187          | VBW: 120 Hz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.79\text{ m} / 3.0\text{ m}) = 2.04\text{ dB}$

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

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Result (EIRP) [dBm] | Limit [dBm] | Margin [dB] | Height [cm] | Angle [deg.] | Remark |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|---------------------|-------------|-------------|-------------|--------------|--------|
| Hori.    | 5470.000        | PK       | 57.21          | 32.34           | 16.33     | 43.31     | 2.04                 | 64.61           | -30.61              | -27.0       | 3.6         | 148         | 139          | -      |
| Vert.    | 5470.000        | PK       | 58.62          | 32.34           | 16.33     | 43.31     | 2.04                 | 66.02           | -29.20              | -27.0       | 2.2         | 105         | 181          | -      |

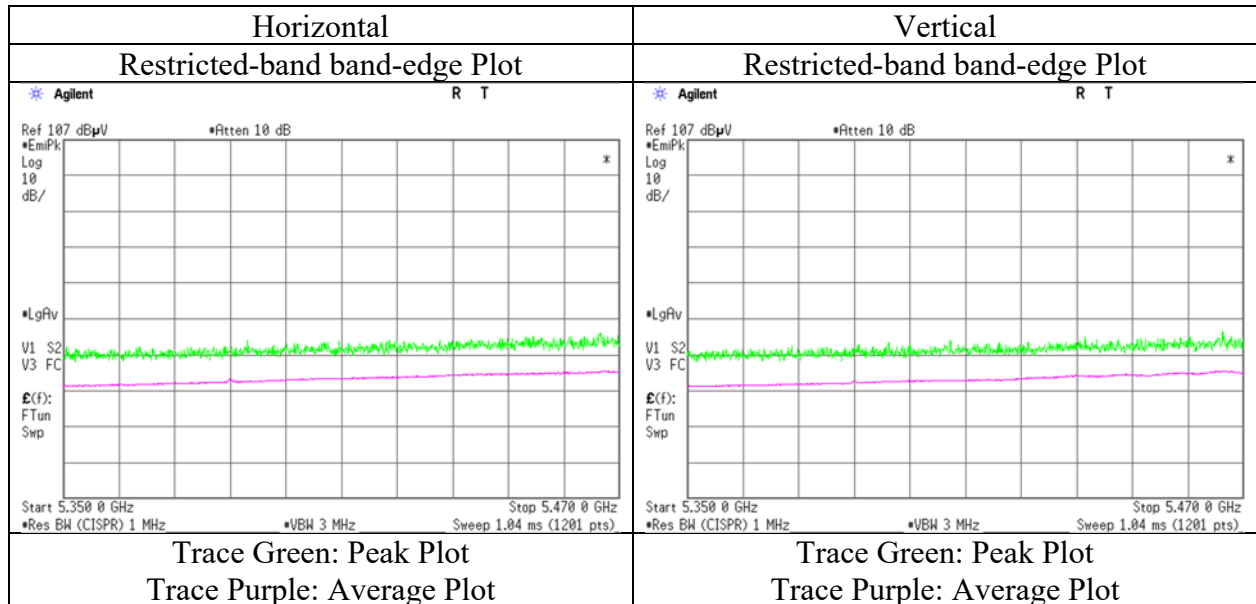
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result(EIRP[dBm])=10\*LOG ( ( { 10 ^ ( Electric Field Strength [dBuV/m] / 20 ) \* 10 ^ (-6) \* Distance:3[m] ) ^ 2 } / 30 ) \* 10 ^ 3 )

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.79\text{ m} / 3.0\text{ m}) = 2.04\text{ dB}$



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

**UL Japan, Inc.**

**Shonan EMC Lab.**

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

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Facsimile : +81 463 50 6401

## Radiated Spurious Emission

|                        |                                                   |
|------------------------|---------------------------------------------------|
| Report No.             | 13004393S-E-R2                                    |
| Test place             | Shonan EMC Lab.                                   |
| Semi Anechoic Chamber  | No.3                                              |
| Date                   | September 5, 2019                                 |
| Temperature / Humidity | 25 deg. C / 65 % RH                               |
| Engineer               | Makoto Hosaka                                     |
|                        | (1 GHz – 6.4 GHz)                                 |
| Mode                   | Tx, 11ac-80 (CDD), 5610 MHz, (EUT serial no. B-5) |

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

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Result (EIRP) [dBm] | Limit [dBm] | Margin [dB] | Height [cm] | Angle [deg.] | Remark |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|---------------------|-------------|-------------|-------------|--------------|--------|
| Hori.    | 5725.000        | PK       | 50.04          | 32.68           | 16.55     | 43.33     | 2.15                 | 58.09           | -37.13              | -27.0       | 10.1        | 102         | 160          | -      |
| Vert.    | 5725.000        | PK       | 50.99          | 32.68           | 16.55     | 43.33     | 2.15                 | 59.04           | -36.18              | -27.0       | 9.1         | 149         | 238          | -      |

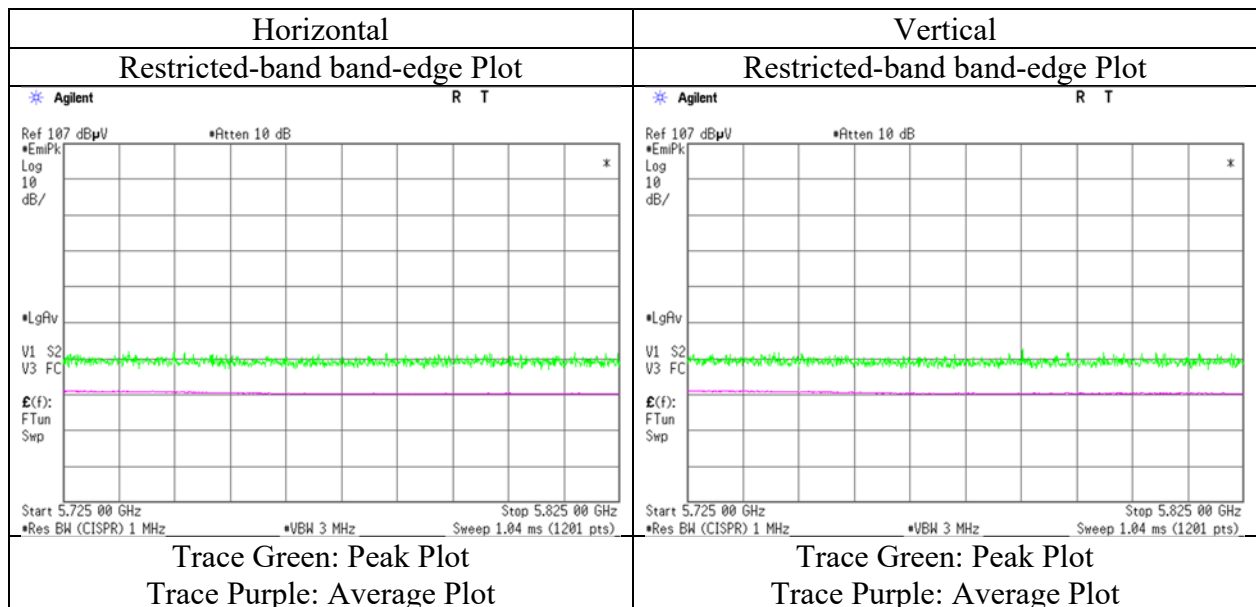
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result(EIRP[dBm])=10\*LOG ( ( { 10 ^ ( Electric Field Strength [dBuV/m] / 20 ) \* 10 ^ (-6) \* Distance:3[m] ) ^ 2 } / 30 ) \*10^3 )

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz : 20log (3.79 m/ 3.0 m) = 2.04 dB



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

## Radiated Spurious Emission

Report No. 13004393S-E-R2  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber No.3  
Date September 21, 2019  
Temperature / Humidity 25 deg. C / 52 % RH  
Engineer Takahiro Kawakami  
(1 GHz – 6.4 GHz)  
Mode Tx, 11ac-80 (CDD), 5530 MHz, with 3DH5 hopping (EUT serial no. B-5)

### (above 1GHz Inside of the restricted band)

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark      |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|-------------|
| Hori.    | 5460.000        | PK       | 53.45          | 32.32           | 16.47     | 43.30     | 2.04                 | 60.98           | 73.9           | 12.9        | 119         | 173          | -           |
| Hori.    | 5460.000        | AV       | 41.15          | 32.32           | 16.47     | 43.30     | 2.04                 | 48.68           | 53.9           | 5.2         | 119         | 173          | VBW: 120 Hz |
| Vert.    | 5460.000        | PK       | 54.74          | 32.32           | 16.47     | 43.30     | 2.04                 | 62.27           | 73.9           | 11.6        | 167         | 190          | -           |
| Vert.    | 5460.000        | AV       | 41.67          | 32.32           | 16.47     | 43.30     | 2.04                 | 49.20           | 53.9           | 4.7         | 167         | 190          | VBW: 120 Hz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.79\text{ m} / 3.0\text{ m}) = 2.04\text{ dB}$

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

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Result (EIRP) [dBm] | Limit [dBm] | Margin [dB] | Height [cm] | Angle [deg.] | Remark |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|---------------------|-------------|-------------|-------------|--------------|--------|
| Hori.    | 5470.000        | PK       | 53.64          | 32.34           | 16.47     | 43.31     | 2.04                 | 61.18           | -34.04              | -27.0       | 7.0         | 119         | 173          | -      |
| Vert.    | 5470.000        | PK       | 55.68          | 32.34           | 16.47     | 43.31     | 2.04                 | 63.22           | -32.00              | -27.0       | 5.0         | 167         | 190          | -      |

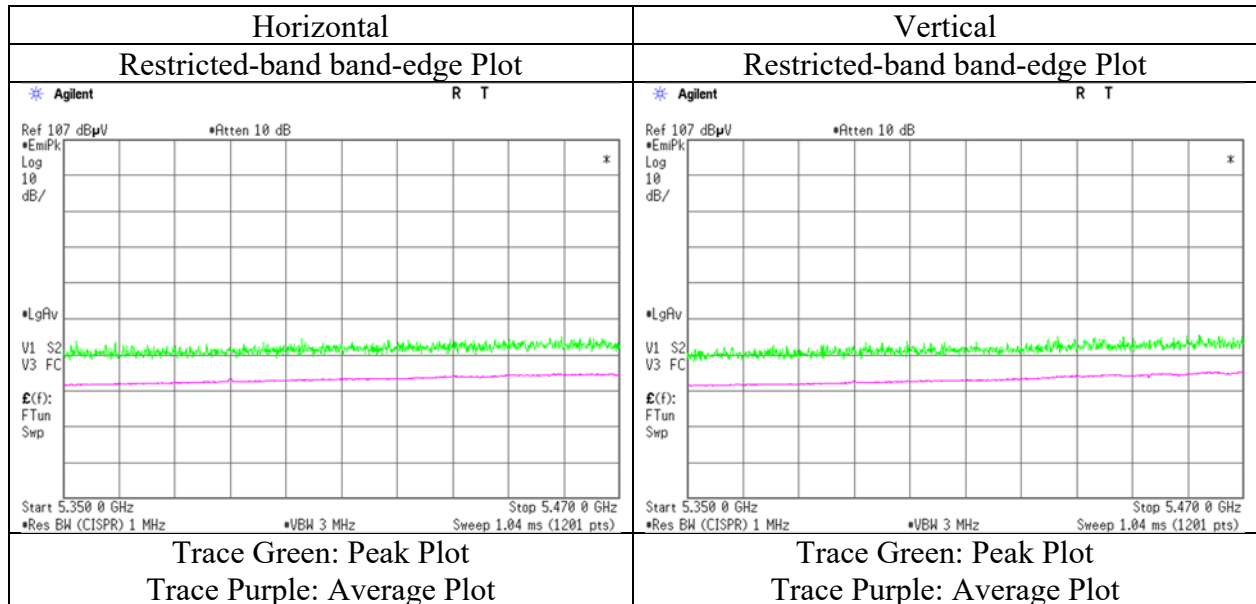
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result(EIRP[dBm])=10\*LOG ( ( { 10 ^ ( Electric Field Strength [dBuV/m] / 20 ) \* 10 ^ (-6) \* Distance:3[m] ) ^ 2 } / 30 ) \* 10 ^ 3 )

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.79\text{ m} / 3.0\text{ m}) = 2.04\text{ dB}$



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

**UL Japan, Inc.**

**Shonan EMC Lab.**

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

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Facsimile : +81 463 50 6401

## Radiated Spurious Emission

Report No. 13004393S-E-R2  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber No.3  
Date September 21, 2019  
Temperature / Humidity 25 deg. C / 52 % RH  
Engineer Takahiro Kawakami  
(1 GHz – 6.4 GHz)  
Mode Tx, 11ac-80 (CDD), 5610 MHz, with 3DH5 hopping (EUT serial no. B-5)

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

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Result (EIRP) [dBm] | Limit [dBm] | Margin [dB] | Height [cm] | Angle [deg.] | Remark |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|---------------------|-------------|-------------|-------------|--------------|--------|
| Hori.    | 5725.000        | PK       | 51.19          | 32.68           | 16.59     | 43.33     | 2.04                 | 59.17           | -36.05              | -27.0       | 9.0         | 113         | 158          | -      |
| Vert.    | 5725.000        | PK       | 51.15          | 32.68           | 16.59     | 43.33     | 2.04                 | 59.13           | -36.09              | -27.0       | 9.0         | 190         | 219          | -      |

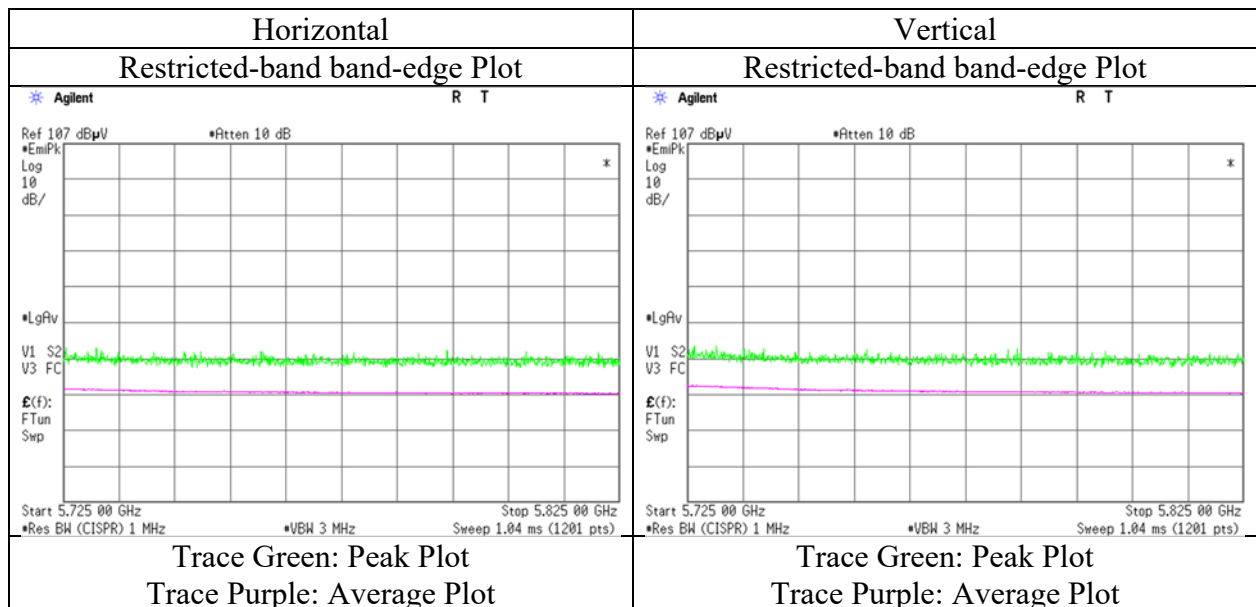
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result(EIRP[dBm])=10\*LOG (({ 10 ^ ( Electric Field Strength [dBuV/m] / 20 ) \* 10 ^ (-6) \* Distance:3[m] ) ^ 2 } / 30) \*10^3)

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz : 20log (3.79 m / 3.0 m) = 2.04 dB



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

## Radiated Spurious Emission

|                             |                                                   |                    |                     |
|-----------------------------|---------------------------------------------------|--------------------|---------------------|
| Report No.                  | 13004393S-E-R2                                    |                    |                     |
| Test place                  | Shonan EMC Lab.                                   |                    |                     |
| Semi Anechoic Chamber (No.) | 3                                                 | 3                  | 3                   |
| Date                        | September 7, 2019                                 | September 10, 2019 | September 12, 2019  |
| Temperature / Humidity      | 23 deg.C / 58 % RH                                | 23 deg.C / 55 %RH  | 24 deg.C / 54 %RH   |
| Engineer                    | Kazuya Noda                                       | Kazuya Noda        | Kazuya Noda         |
|                             | (1 GHz – 13 GHz)                                  | (13 GHz – 18 GHz)  | (18 GHz – 26.5 GHz) |
| Mode                        | Tx, 11n-20 (MIMO), 5745 MHz, (EUT serial no. A-7) |                    |                     |
|                             |                                                   |                    | September 14, 2019  |
|                             |                                                   |                    | 25 deg.C / 51 %RH   |
|                             |                                                   |                    | Takahiro Kawakami   |
|                             |                                                   |                    | (26.5 GHz – 40 GHz) |

### (above 1GHz Inside of the restricted band)

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark     |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|------------|
| Hori.    | 11490.000       | PK       | 48.68          | 40.08           | 9.90      | 42.60     | 2.15                 | 58.21           | 73.9           | 15.6        | 110         | 108          | -          |
| Hori.    | 11490.000       | AV       | 37.73          | 40.08           | 9.90      | 42.60     | 2.15                 | 47.26           | 53.9           | 6.6         | 110         | 108          | VBW: 1 kHz |
| Vert.    | 11490.000       | PK       | 48.55          | 40.08           | 9.90      | 42.60     | 2.15                 | 58.08           | 73.9           | 15.8        | 115         | 144          | -          |
| Vert.    | 11490.000       | AV       | 37.39          | 40.08           | 9.90      | 42.60     | 2.15                 | 46.92           | 53.9           | 6.9         | 115         | 144          | VBW: 1 kHz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.84\text{ m} / 3.0\text{ m}) = 2.15\text{ dB}$

13 GHz - 40 GHz :  $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Result (EIRP) [dBm] | Limit [dBm] | Margin [dB] | Height [cm] | Angle [deg.] | Remark |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|---------------------|-------------|-------------|-------------|--------------|--------|
| Hori.    | 5650.000        | PK       | 49.84          | 32.46           | 16.47     | 43.33     | 2.15                 | 57.59           | -37.63              | -27.0       | 10.6        | 113         | 339          | -      |
| Hori.    | 5700.000        | PK       | 50.23          | 32.61           | 16.53     | 43.33     | 2.15                 | 58.19           | -37.03              | 10.0        | 47.0        | 113         | 339          | -      |
| Hori.    | 5720.000        | PK       | 54.32          | 32.66           | 16.54     | 43.33     | 2.15                 | 62.34           | -32.88              | 15.6        | 48.4        | 113         | 339          | -      |
| Hori.    | 5725.000        | PK       | 60.74          | 32.68           | 16.55     | 43.33     | 2.15                 | 68.79           | -26.43              | 27.0        | 53.4        | 113         | 339          | -      |
| Hori.    | 17235.000       | PK       | 46.65          | 40.77           | 12.36     | 40.29     | -9.54                | 49.95           | -45.27              | -27.0       | 18.3        | 219         | 92           | -      |
| Vert.    | 5650.000        | PK       | 49.42          | 32.46           | 16.47     | 43.33     | 2.15                 | 57.17           | -38.05              | -27.0       | 11.0        | 101         | 260          | -      |
| Vert.    | 5700.000        | PK       | 49.79          | 32.61           | 16.53     | 43.33     | 2.15                 | 57.75           | -37.47              | 10.0        | 47.4        | 101         | 260          | -      |
| Vert.    | 5720.000        | PK       | 52.72          | 32.66           | 16.54     | 43.33     | 2.15                 | 60.74           | -34.48              | 15.6        | 50.0        | 101         | 260          | -      |
| Vert.    | 5725.000        | PK       | 55.44          | 32.68           | 16.55     | 43.33     | 2.15                 | 63.49           | -31.73              | 27.0        | 58.7        | 101         | 260          | -      |
| Vert.    | 17235.000       | PK       | 46.70          | 40.77           | 12.36     | 40.29     | -9.54                | 50.00           | -45.22              | -27.0       | 18.2        | 217         | 351          | -      |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

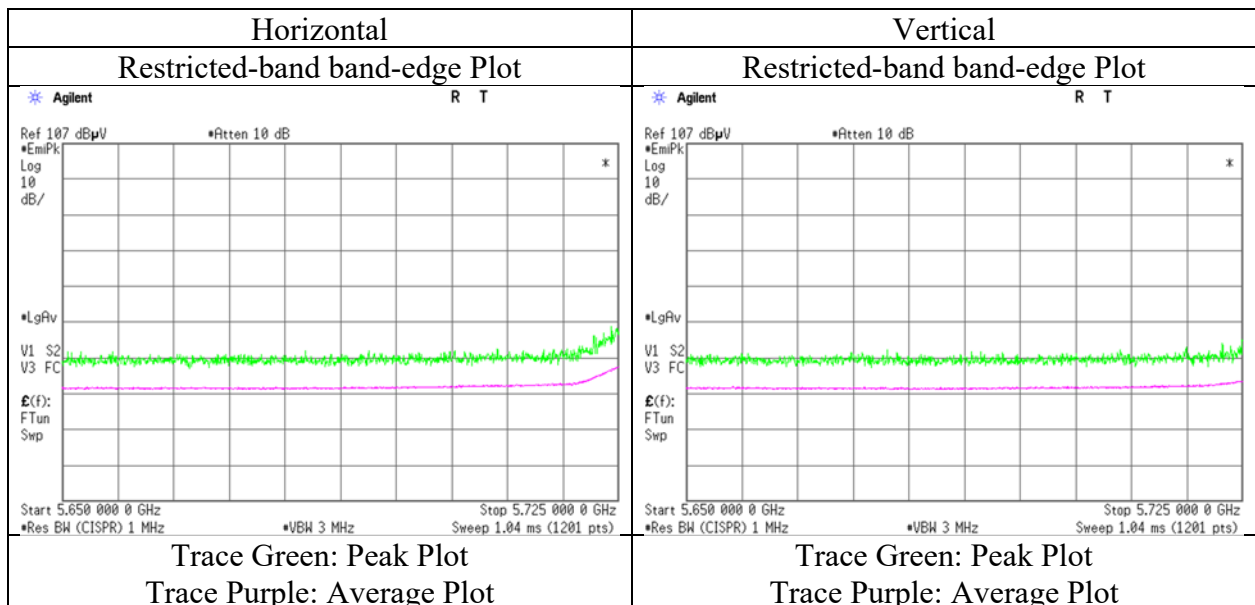
Result(EIRP[dBm])= $10\cdot\text{LOG}((\{10^{\wedge}(\text{Electric Field Strength [dBuV/m]} / 20)\} * 10^{\wedge}(-6) * \text{Distance:3[m]}^{\wedge}2) / 30) * 10^{\wedge}3)$

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.84\text{ m} / 3.0\text{ m}) = 2.15\text{ dB}$

13 GHz - 40 GHz :  $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$



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

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**Shonan EMC Lab.**

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## Radiated Spurious Emission

Report No. 13004393S-E-R2  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber (No.) 3 3 3 3 3  
Date September 11, 2019 September 10, 2019 September 12, 2019 September 14, 2019 September 15, 2019  
Temperature / Humidity 22 deg.C / 53 %RH 23 deg.C / 55 %RH 24 deg.C / 54 %RH 25 deg.C / 51 %RH 24 deg.C / 63 %RH  
Engineer Takahiro Kawakami Kazuya Noda Kazuya Noda Takahiro Kawakami Toshinori Yamada  
(1 GHz – 6.4 GHz) (6.4 GHz – 13 GHz) (13 GHz – 18 GHz) (18 GHz – 26.5 GHz) (26.5 GHz – 40 GHz)  
Mode Tx, 11n-20 (MIMO), 5785 MHz, (EUT serial no. A-7)

### (above 1GHz Inside of the restricted band)

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark     |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|------------|
| Hori.    | 11570.000       | PK       | 48.41          | 39.96           | 9.91      | 42.56     | 2.15                 | 57.87           | 73.9           | 16.0        | 114         | 108          | -          |
| Hori.    | 11570.000       | AV       | 37.43          | 39.96           | 9.91      | 42.56     | 2.15                 | 46.89           | 53.9           | 7.0         | 114         | 108          | VBW: 1 kHz |
| Vert.    | 11570.000       | PK       | 48.53          | 39.96           | 9.91      | 42.56     | 2.15                 | 57.99           | 73.9           | 15.9        | 132         | 48           | -          |
| Vert.    | 11570.000       | AV       | 37.27          | 39.96           | 9.91      | 42.56     | 2.15                 | 46.73           | 53.9           | 7.1         | 132         | 48           | VBW: 1 kHz |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.84\text{ m} / 3.0\text{ m}) = 2.15\text{ dB}$

13 GHz - 40 GHz :  $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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

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

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Result (EIRP) [dBm] | Limit [dBm] | Margin [dB] | Height [cm] | Angle [deg.] | Remark |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|---------------------|-------------|-------------|-------------|--------------|--------|
| Hori.    | 17355.000       | PK       | 46.49          | 41.40           | 12.34     | 40.26     | -9.54                | 50.43           | -44.79              | -27.0       | 17.8        | 249         | 69           | -      |
| Vert.    | 17355.000       | PK       | 46.66          | 41.40           | 12.34     | 40.26     | -9.54                | 50.60           | -44.62              | -27.0       | 17.6        | 203         | 328          | -      |

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result(EIRP[dBm])= $10\cdot\text{LOG} \{ ( \{ 10^{\wedge} ( \text{Electric Field Strength [dBuV/m]} / 20 ) * 10^{\wedge} (-6) * \text{Distance:3[m]}^{\wedge} 2 \} / 30 ) * 10^{\wedge} 3 \}$

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

\*The 4th harmonic was not seen so the result was its base noise level.

Distance factor : 1 GHz - 13 GHz :  $20\log(3.84\text{ m} / 3.0\text{ m}) = 2.15\text{ dB}$

13 GHz - 40 GHz :  $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$