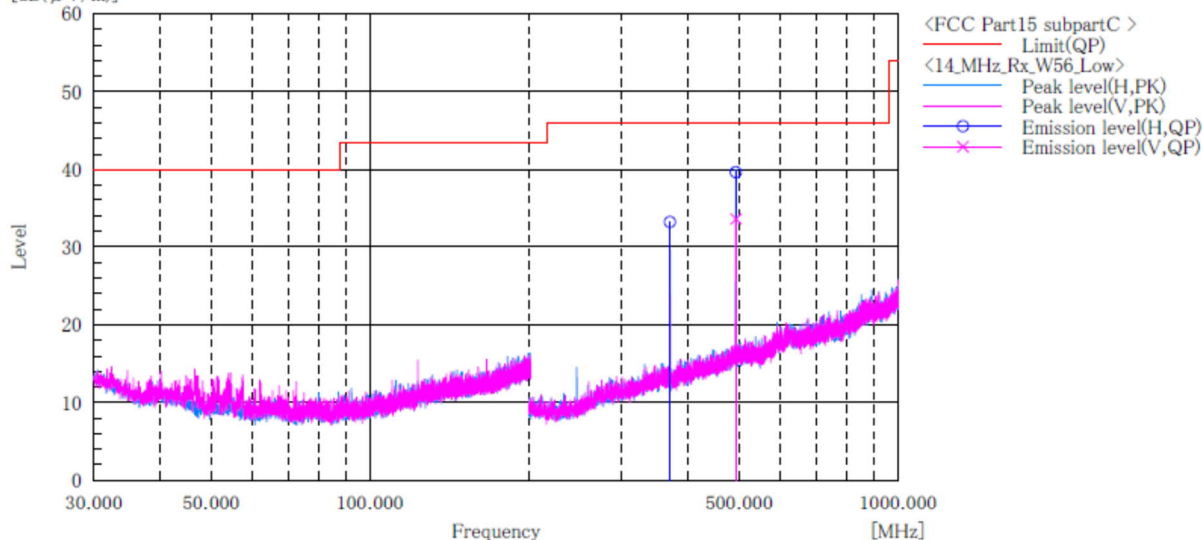


**W56 / Channel Low  
BELOW 1GHz**

Company name : KYOCERA Corporation  
EUT : Tablet  
Model No. : KC-T303DT  
Serial No. : 1080FCCR02  
Test mode : 5GHz\_W56\_Rx\_Low

Standard : FCC Part.15 subpart E  
Operator : C.Kanno  
Temp,Hum,Atm : 22.8[°C] 35.9[%]  
Note1 : Ch:100.5500MHz  
Note2 :

[dB(μV/m)]


**Final Result**

| No. | Frequency [MHz] | (P) | Reading QP [dB(μV)] | c. f [dB(1/m)] | Result QP [dB(μV/m)] | Limit QP [dB(μV/m)] | Margin QP [dB] | Height [cm] | Angle [°] | Remark |
|-----|-----------------|-----|---------------------|----------------|----------------------|---------------------|----------------|-------------|-----------|--------|
| 1   | 369.740         | H   | 45.4                | -12.2          | 33.2                 | 46.0                | 12.8           | 100.0       | 78.0      |        |
| 2   | 493.000         | H   | 48.9                | -9.2           | 39.7                 | 46.0                | 6.3            | 198.0       | 249.0     |        |
| 3   | 493.000         | V   | 42.8                | -9.2           | 33.6                 | 46.0                | 12.4           | 201.0       | 314.0     |        |

**Note:**

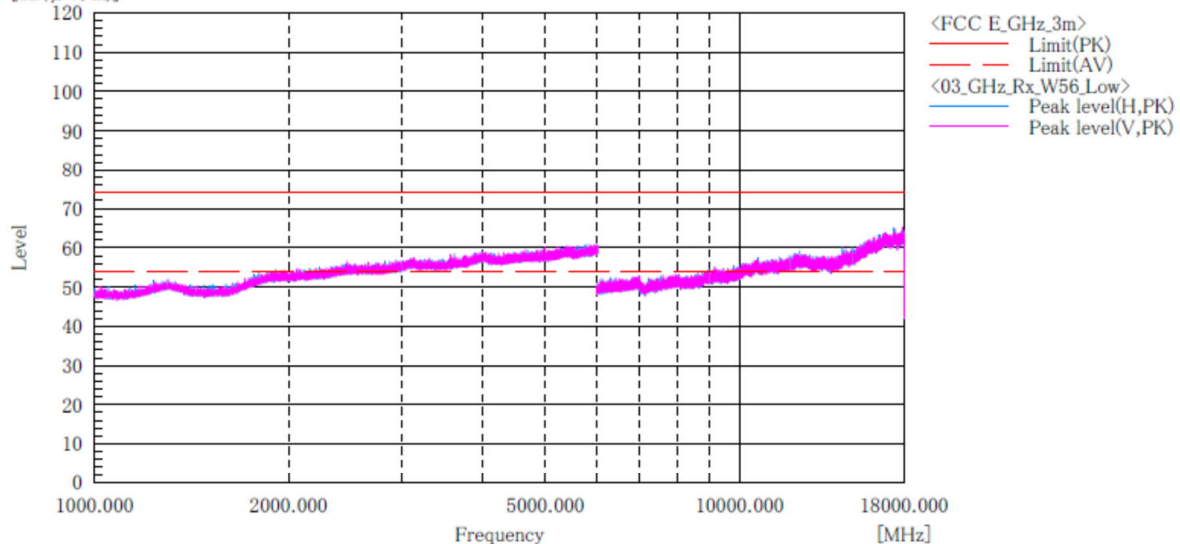
1. Emission Level (Margin) = Limit - [Reading + Factor ( Antenna + Cable – Amp)]

# W56 / Channel Low ABOVE 1GHz

Company name : KYOCERA Corporation  
EUT : Tablet  
Model No. : KC-T303DT  
Serial No. : 1080FCCR02  
Test mode : WLAN\_W56\_11a\_Rx\_Low

Standard : FCC Part.15 subpart E  
Operator : C.Kanno  
Temp,Hum,Atm : 22.8[°C] 35.9[%]  
Note1 : ch:100.5500MHz  
Note2 :

[dB(μV/m)]



## Final Result

| No. | Frequency (P) | c.f       | Height | Angle | Remark |
|-----|---------------|-----------|--------|-------|--------|
|     | [MHz]         | [dB(1/m)] | [cm]   | [°]   |        |

### Note:

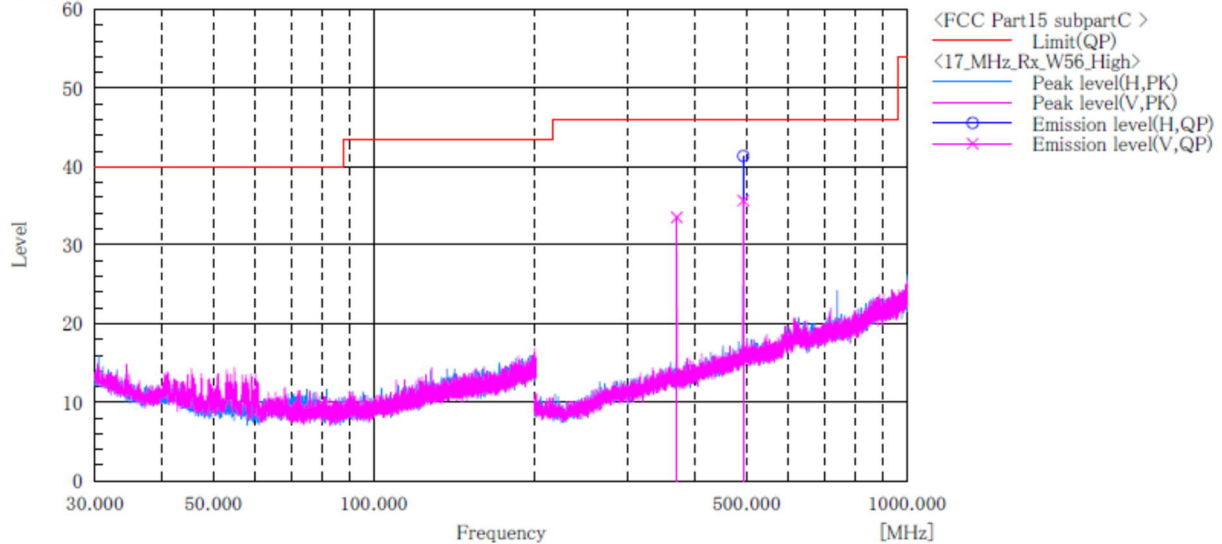
- Emission Level (Margin) = Limit - [Reading + Factor ( Antenna + Cable – Amp)]
- No emission were detected in frequency range 18GHz to 40GHz at the 3 meters distance.

# W56 / Channel High BELOW 1GHz

Company name : KYOCERA Corporation  
EUT : Tablet  
Model No. : KC-T303DT  
Serial No. : 1080FCCR02  
Test mode : 5GHz\_W56\_Rx\_High

Standard : FCC Part.15 subpart E  
Operator : T.Seino  
Temp,Hum,Atm : 24.4[°C] 30.5[%]  
Note1 : Ch:144\_5720MHz  
Note2 :

[dB(μV/m)]



## Final Result

| No. | Frequency [MHz] | (P) | Reading QP [dB(μV)] | c.f [dB(1/m)] | Result QP [dB(μV/m)] | Limit QP [dB(μV/m)] | Margin QP [dB] | Height [cm] | Angle [°] | Remark |
|-----|-----------------|-----|---------------------|---------------|----------------------|---------------------|----------------|-------------|-----------|--------|
| 1   | 369.750         | V   | 45.7                | -12.2         | 33.5                 | 46.0                | 12.5           | 100.0       | 90.0      |        |
| 2   | 493.000         | H   | 50.6                | -9.2          | 41.4                 | 46.0                | 4.6            | 214.0       | 270.0     |        |
| 3   | 493.000         | V   | 44.8                | -9.2          | 35.6                 | 46.0                | 10.4           | 213.0       | 341.0     |        |

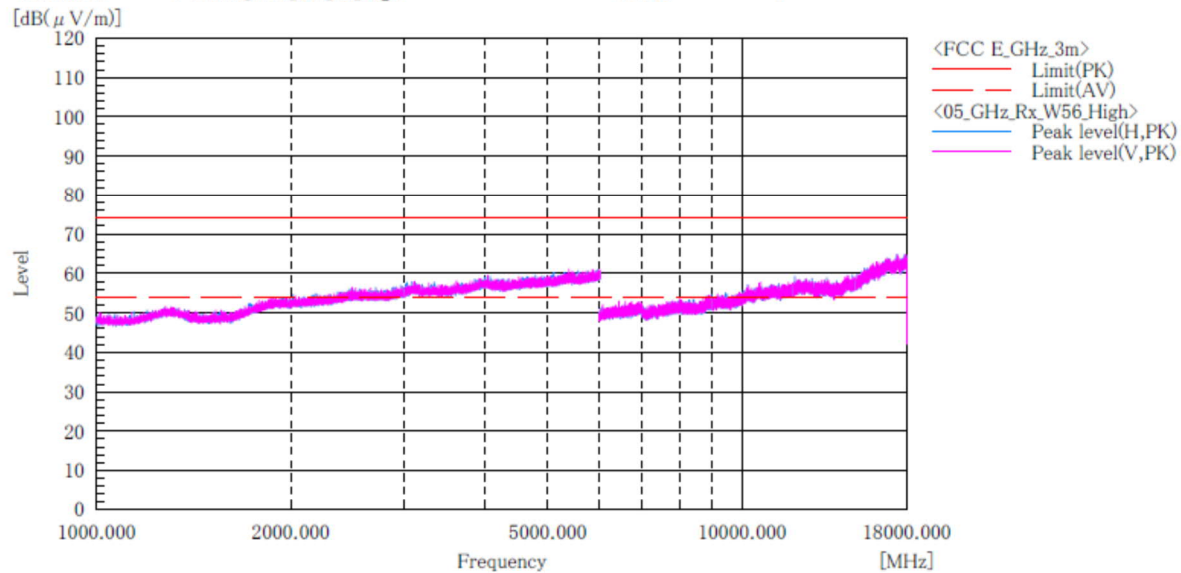
Note:

1. Emission Level (Margin) = Limit - [Reading + Factor ( Antenna + Cable – Amp)]

## W56 / Channel High ABOVE 1GHz

Company name : KYOCERA Corporation  
EUT : Tablet  
Model No. : KC-T303DT  
Serial No. : 1080FCCR02  
Test mode : WLAN\_W56\_11a\_Rx\_High

Standard : FCC Part.15 subpart E  
Operator : C.Kanno  
Temp,Hum,Atm : 22.8[°C] 35.9[%]  
Note1 : ch:144,5720MHz  
Note2 :



### Final Result

| No. | Frequency (P)<br>[MHz] | c.f<br>[dB(1/m)] | Height<br>[cm] | Angle<br>[°] | Remark |
|-----|------------------------|------------------|----------------|--------------|--------|
|-----|------------------------|------------------|----------------|--------------|--------|

### Note:

- Emission Level (Margin) = Limit - [Reading + Factor ( Antenna + Cable - Amp)]
- No emission were detected in frequency range 18GHz to 40GHz at the 3 meters distance.

## 4.5 Frequency Stability

### 4.5.1 Measurement procedure

#### [FCC 15.407(g)]

The EUT was placed of an inside of an constant temperature chamber as the temperature in the chamber was varied between  $-30^{\circ}\text{C}$  and  $+60^{\circ}\text{C}$ . The temperature was incremented by  $10^{\circ}\text{C}$  intervals and the unit was allowed to stabilize at each measurement. The center frequency of the transmitting channel was evaluated at each temperature and the frequency deviation from the channels center frequency was recorded.

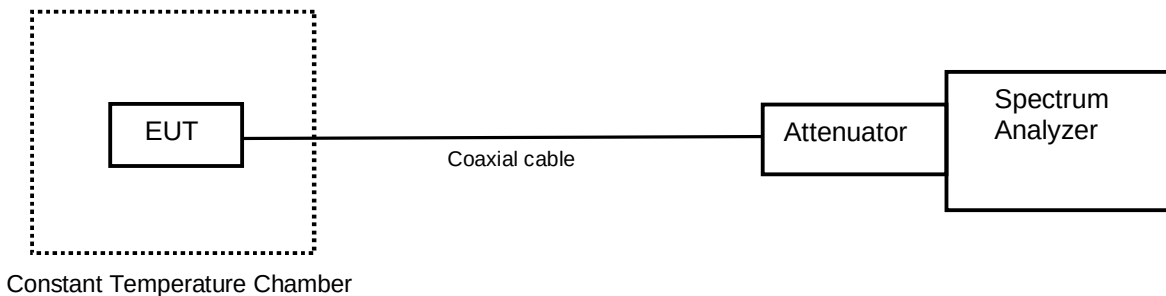
The EUT was set to operate with following conditions.

- 5.2 GHz Band, 5.3 GHz Band, 5.6 GHz Band

The test mode of EUT is as follows.

- Tx mode

- Test configuration



### 4.5.2 Limit

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified.

#### 4.5.3 Measurement result

Date : 29-September-2021  
 Temperature : 20.0 [°C]  
 Humidity : 62.3 [%]  
 Test place : Shielded room No.4

Test engineer : Kazunori Saito

##### [Channel: 36 (5180 MHz)]

| Power Supply | Temperature | Measurements Frequency (startup) | Frequency Tolerance (startup) | Measurements Frequency (2mins) | Frequency Tolerance (2mins) | Measurements Frequency (5mins) | Frequency Tolerance (5mins) | Measurements Frequency (10mins) | Frequency Tolerance (10mins) |
|--------------|-------------|----------------------------------|-------------------------------|--------------------------------|-----------------------------|--------------------------------|-----------------------------|---------------------------------|------------------------------|
| [V]          | [°C]        | [Hz]                             | [ppm]                         | [Hz]                           | [ppm]                       | [Hz]                           | [ppm]                       | [Hz]                            | [ppm]                        |
| 3.80         | 25(Ref.)    | 5180002302                       | 0.00000000                    | 5179999256                     | -0.58808179                 | 5180000706                     | -0.30815816                 | 5180012824                      | 2.03127323                   |
|              | 60          | 5179981731                       | -3.97123376                   | 5179962218                     | -7.73822050                 | 5179980554                     | -4.19845373                 | 5179980866                      | -4.13822210                  |
|              | 50          | 5179962857                       | -7.61486148                   | 5179965460                     | -7.11235205                 | 5179965099                     | -7.18204314                 | 5179986375                      | -3.07470906                  |
|              | 40          | 5179987401                       | -2.87663965                   | 5179993282                     | -1.74131197                 | 5179978371                     | -4.61988212                 | 5179992297                      | -1.93146632                  |
|              | 30          | 5180005694                       | 0.65482596                    | 5180009424                     | 1.37490286                  | 5179996329                     | -1.15308829                 | 5179991540                      | -2.07760525                  |
|              | 20          | 5180018557                       | 3.13802949                    | 5180008057                     | 1.11100337                  | 5180019524                     | 3.32470895                  | 5180014685                      | 2.39053948                   |
|              | 10          | 5180021372                       | 3.68146555                    | 5180023855                     | 4.16080896                  | 5180016061                     | 2.65617643                  | 5180017701                      | 2.97277860                   |
|              | 0           | 5180026113                       | 4.59671610                    | 5180035275                     | 6.36544119                  | 5180045450                     | 8.32972603                  | 5180042356                      | 7.73242900                   |
|              | -10         | 5180016923                       | 2.82258562                    | 5180032558                     | 5.84092405                  | 5180038374                     | 6.96370347                  | 5180025995                      | 4.57393619                   |
|              | -20         | 5180033853                       | 6.09092393                    | 5180022479                     | 3.89517201                  | 5180019162                     | 3.25482481                  | 5180024316                      | 4.24980506                   |
|              | -30         | 5180012653                       | 1.99826166                    | 5179995340                     | -1.34401485                 | 5179994518                     | -1.50270203                 | 5179993488                      | -1.70154365                  |
| 3.42         | 25          | 5180005503                       | 0.61795339                    | 5179992190                     | -1.95212268                 | 5180019213                     | 3.26467036                  | 5179988920                      | -2.58339654                  |
| 4.18         | 25          | 5179987407                       | -2.87548135                   | 5179992629                     | -1.86737369                 | 5180004953                     | 0.51177583                  | 5180012796                      | 2.02586783                   |

Frequency Tolerance (ppm) = Measurements Frequency (Hz) – Reference Frequency (Hz) / Reference Frequency (Hz) x 1000000

**[Channel: 64 (5320 MHz)]**

| Power Supply | Temperature | Measurements Frequency (startup) | Frequency Tolerance (startup) | Measurements Frequency (2mins) | Frequency Tolerance (2mins) | Measurements Frequency (5mins) | Frequency Tolerance (5mins) | Measurements Frequency (10mins) | Frequency Tolerance (10mins) |
|--------------|-------------|----------------------------------|-------------------------------|--------------------------------|-----------------------------|--------------------------------|-----------------------------|---------------------------------|------------------------------|
| [V]          | [°C]        | [Hz]                             | [ppm]                         | [Hz]                           | [ppm]                       | [Hz]                           | [ppm]                       | [Hz]                            | [ppm]                        |
| 3.80         | 25(Ref.)    | 5320002941                       | 0.00000000                    | 5320005064                     | 0.39905993                  | 5319993786                     | -1.72086371                 | 5319997057                      | -1.10601443                  |
|              | 60          | 5319983407                       | -3.67180248                   | 5319974873                     | -5.27593693                 | 5319992189                     | -2.02105151                 | 5319975307                      | -5.19435803                  |
|              | 50          | 5319978054                       | -4.67800493                   | 5319973171                     | -5.59586157                 | 5319975653                     | -5.12932047                 | 5319976899                      | -4.89511008                  |
|              | 40          | 5319990493                       | -2.33984833                   | 5319979904                     | -4.33026076                 | 5319975118                     | -5.22988433                 | 5319973056                      | -5.61747810                  |
|              | 30          | 5319989829                       | -2.46466029                   | 5319996410                     | -1.22763090                 | 5319991878                     | -2.07951013                 | 5320000164                      | -0.52196813                  |
|              | 20          | 5320030628                       | 5.20432043                    | 5320020664                     | 3.33138914                  | 5320010774                     | 1.47236761                  | 5320010451                      | 1.41165335                   |
|              | 10          | 5320019349                       | 3.08420882                    | 5320028720                     | 4.84567401                  | 5320019909                     | 3.18947192                  | 5320021540                      | 3.49605070                   |
|              | 0           | 5320043254                       | 7.57762739                    | 5320034509                     | 5.93383131                  | 5320034781                     | 5.98495910                  | 5320021652                      | 3.51710332                   |
|              | -10         | 5320026934                       | 4.50995991                    | 5320050589                     | 8.95638603                  | 5320020646                     | 3.32800568                  | 5320000034                      | -0.54646229                  |
|              | -20         | 5320016721                       | 2.59022413                    | 5320022650                     | 3.70469720                  | 5320019938                     | 3.19492305                  | 5320021894                      | 3.56259202                   |
|              | -30         | 5320016925                       | 2.62856998                    | 5320012198                     | 1.74003663                  | 5320003263                     | 0.06052628                  | 5319997611                      | -1.00187915                  |
| 3.42         | 25          | 5320014621                       | 2.19548751                    | 5319999698                     | -0.60952635                 | 5320012608                     | 1.81710426                  | 5319989354                      | -2.55394596                  |
| 4.18         | 25          | 5319982303                       | -3.87932116                   | 5320000437                     | -0.47065218                 | 5320007403                     | 0.83872134                  | 5319997492                      | -1.02424755                  |

Frequency Tolerance (ppm) = Measurements Frequency (Hz) – Reference Frequency (Hz) / Reference Frequency (Hz) x 1000000

**[Channel: 144 (5720 MHz)]**

| Power Supply | Temperature | Measurements Frequency (startup) | Frequency Tolerance (startup) | Measurements Frequency (2mins) | Frequency Tolerance (2mins) | Measurements Frequency (5mins) | Frequency Tolerance (5mins) | Measurements Frequency (10mins) | Frequency Tolerance (10mins) |
|--------------|-------------|----------------------------------|-------------------------------|--------------------------------|-----------------------------|--------------------------------|-----------------------------|---------------------------------|------------------------------|
| [V]          | [°C]        | [Hz]                             | [ppm]                         | [Hz]                           | [ppm]                       | [Hz]                           | [ppm]                       | [Hz]                            | [ppm]                        |
| 3.80         | 25(Ref.)    | 5700008790                       | 0.00000000                    | 5700013963                     | 0.90754246                  | 5700000785                     | -1.40440538                 | 5700011354                      | 0.44982387                   |
|              | 60          | 5699971479                       | -6.54577938                   | 5699966990                     | -7.33332202                 | 5699976608                     | -5.64595621                 | 5699978377                      | -5.33560581                  |
|              | 50          | 5699979629                       | -5.11595702                   | 5699978736                     | -5.27262345                 | 5699970477                     | -6.72156858                 | 5699957847                      | -8.93735464                  |
|              | 40          | 5699983909                       | -4.36508099                   | 5699991049                     | -3.11245134                 | 5699999441                     | -1.64011712                 | 5699958322                      | -8.85402143                  |
|              | 30          | 5699991267                       | -3.07420579                   | 5699996126                     | -2.22175096                 | 5700013892                     | 0.89508634                  | 5700000612                      | -1.43476761                  |
|              | 20          | 5700023563                       | 2.59175039                    | 5700025547                     | 2.93982003                  | 5700012523                     | 0.65491127                  | 5700020696                      | 2.08876871                   |
|              | 10          | 5700024165                       | 2.69736426                    | 5700011539                     | 0.48227996                  | 5700020048                     | 1.97508467                  | 5700036078                      | 4.78736104                   |
|              | 0           | 5700043945                       | 6.16753435                    | 5700026839                     | 3.16648635                  | 5700027108                     | 3.21367925                  | 5700039628                      | 5.41016710                   |
|              | -10         | 5700034589                       | 4.52613337                    | 5700038984                     | 5.29718481                  | 5700036244                     | 4.81648380                  | 5700024061                      | 2.67911868                   |
|              | -20         | 5700013732                       | 0.86701621                    | 5700032149                     | 4.09806386                  | 5700035121                     | 4.61946656                  | 5700021513                      | 2.23210182                   |
|              | -30         | 5700010836                       | 0.35894681                    | 5700009795                     | 0.17631552                  | 5700005901                     | -0.50684132                 | 5699999368                      | -1.65303096                  |
| 3.42         | 25          | 5700000584                       | -1.43959059                   | 5700008698                     | -0.01614033                 | 5700001743                     | -1.23631388                 | 5700001670                      | -1.24912088                  |
| 4.18         | 25          | 5700011585                       | 0.49035012                    | 5700006206                     | -0.45333263                 | 5699987214                     | -3.78525732                 | 5700005500                      | -0.57719209                  |

Frequency Tolerance (ppm) = Measurements Frequency (Hz) – Reference Frequency (Hz) / Reference Frequency (Hz) x 1000000

## 4.6 AC Power Line Conducted Emissions

### 4.6.1 Measurement procedure

#### [FCC 15.207]

Test was applied by following conditions.

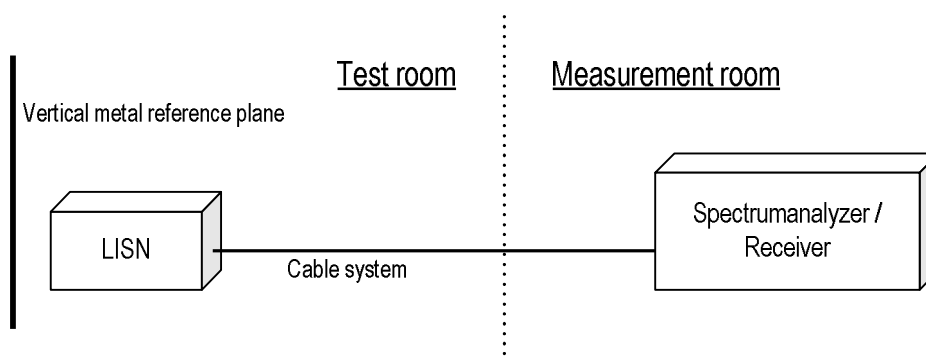
|                                |                                             |
|--------------------------------|---------------------------------------------|
| Test method                    | : ANSI C63.10                               |
| Frequency range                | : 0.15 MHz to 30 MHz                        |
| Test place                     | : 3m Semi-anechoic chamber                  |
| EUT was placed on              | : FRP table / (W) 1.5 × (D) 1.0 × (H) 0.8 m |
| Vertical Metal Reference Plane | : (W) 2.0 × (H) 2.0 m, 0.4 m away from EUT  |
| Test receiver setting          |                                             |
| - Detector                     | : Quasi-peak, Average                       |
| - Bandwidth                    | : 9 kHz                                     |

EUT and peripherals are connected to 50Ω/50μH Line Impedance Stabilization Network (LISN) which are connected to reference ground plane, and are placed 80cm away from EUT. Excess of AC power cable is bundled in center.

LISN for peripheral is terminated in 50Ω.

EUT operating mode is selected to emit the maximum noise. Overall frequency range is investigated with spectrum analyzer using peak detector. Maximum emission configuration is determined by manipulating the EUT, peripherals, interconnecting cables. Then, emission measurements are performed with test receiver in above setting to each current-carrying conductor of the mains port. Sufficient time for EUT, peripherals and test equipment is provided in order for them to warm up to their normal operating condition. If the average limit is met when using a quasi-peak detector receiver, the EUT shall be deemed to meet both limits.

- Test configuration



### 4.6.2 Calculation method

Emission level = Reading + (LISN. factor + Cable system loss)

Margin = Limit – Emission level



#### 4.6.3 Limit

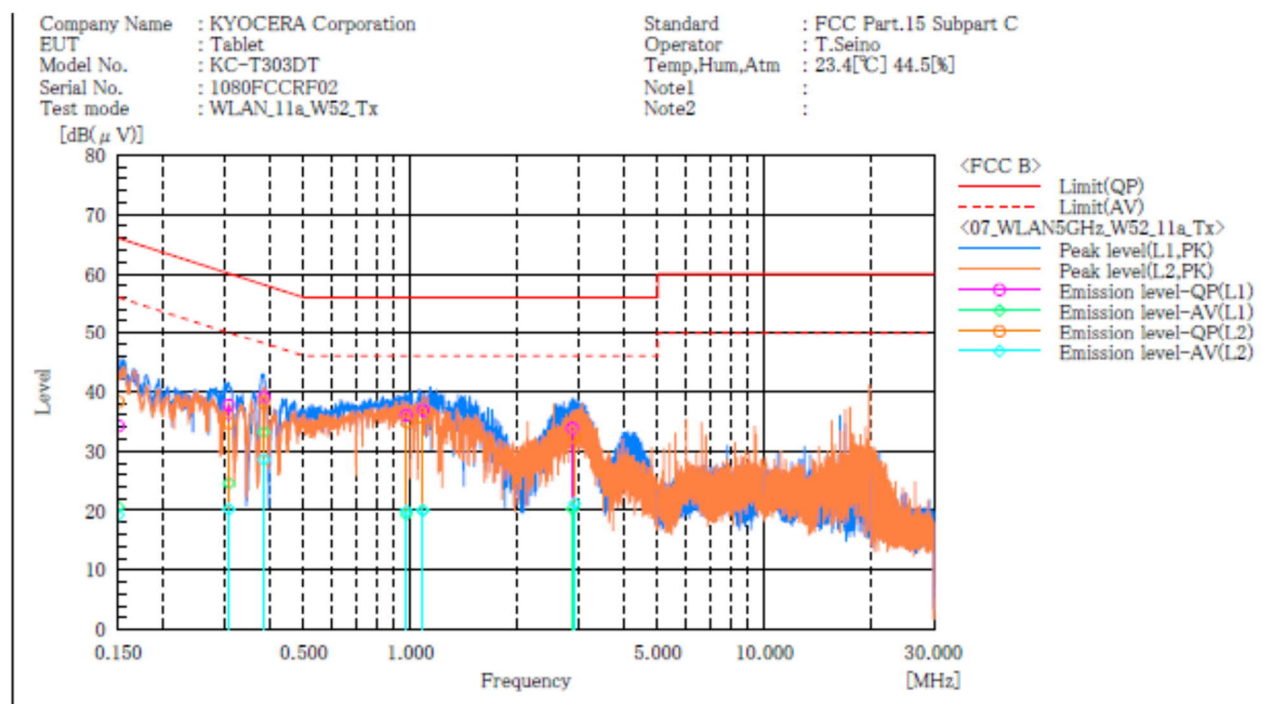
| Frequency<br>[MHz] | Limit     |           |
|--------------------|-----------|-----------|
|                    | QP [dBuV] | AV [dBuV] |
| 0.15-0.5           | 66-56*    | 56-46*    |
| 0.5-5              | 56        | 46        |
| 5-30               | 60        | 50        |

\*: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.

#### 4.6.4 Test data

Date : 9-November-2021  
 Temperature : 23.4 [°C]  
 Humidity : 44.5 [%]  
 Test place : 3m Semi-anechoic chamber

Test engineer : Tadahiro Seino



#### Final Result

##### — L1 Phase —

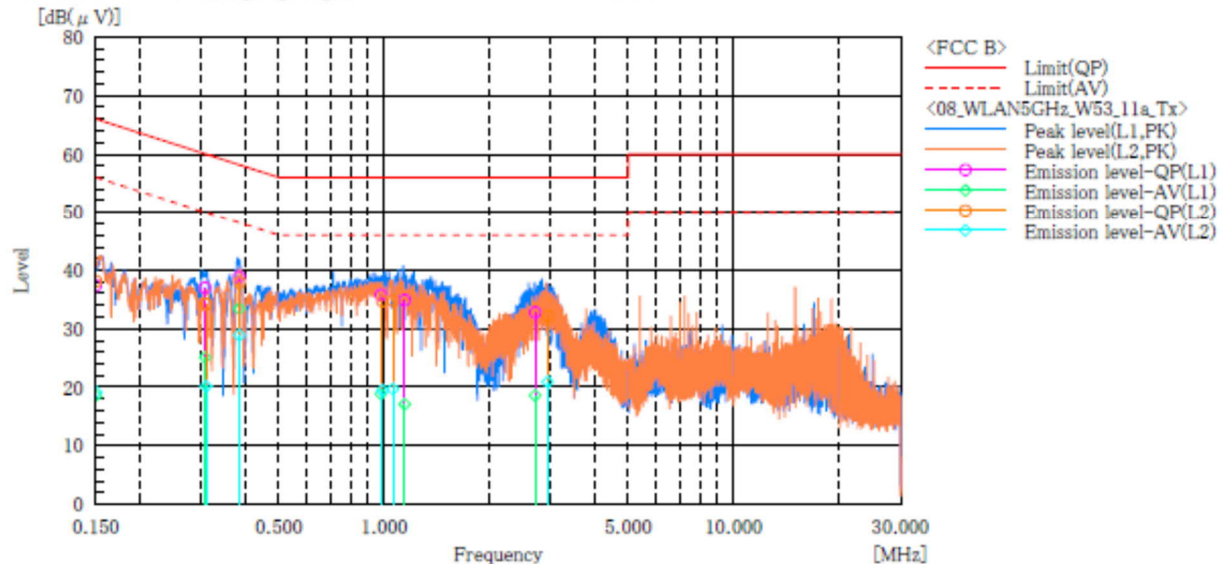
| No. | Frequency | Reading  | Reading  | c. f | Result   | Result   | Limit    | Limit    | Margin | Margin |
|-----|-----------|----------|----------|------|----------|----------|----------|----------|--------|--------|
|     | [MHz]     | QP       | CAV      |      | QP       | CAV      | QP       | AV       | QP     | CAV    |
|     |           | [dB(μV)] | [dB(μV)] | [dB] | [dB(μV)] | [dB(μV)] | [dB(μV)] | [dB(μV)] | [dB]   | [dB]   |
| 1   | 0.150     | 23.6     | 10.0     | 10.6 | 34.2     | 20.6     | 66.0     | 56.0     | 31.8   | 35.4   |
| 2   | 0.308     | 27.3     | 14.2     | 10.4 | 37.7     | 24.6     | 60.0     | 50.0     | 22.3   | 25.4   |
| 3   | 0.386     | 28.6     | 22.8     | 10.4 | 39.0     | 33.2     | 58.1     | 48.1     | 19.1   | 14.9   |
| 4   | 0.974     | 25.6     | 9.0      | 10.4 | 36.0     | 19.4     | 56.0     | 46.0     | 20.0   | 26.6   |
| 5   | 1.085     | 26.4     | 9.6      | 10.4 | 36.8     | 20.0     | 56.0     | 46.0     | 19.2   | 26.0   |
| 6   | 2.869     | 23.3     | 9.8      | 10.5 | 33.8     | 20.3     | 56.0     | 46.0     | 22.2   | 25.7   |

##### — L2 Phase —

| No. | Frequency | Reading  | Reading  | c. f | Result   | Result   | Limit    | Limit    | Margin | Margin |
|-----|-----------|----------|----------|------|----------|----------|----------|----------|--------|--------|
|     | [MHz]     | QP       | CAV      |      | QP       | CAV      | QP       | AV       | QP     | CAV    |
|     |           | [dB(μV)] | [dB(μV)] | [dB] | [dB(μV)] | [dB(μV)] | [dB(μV)] | [dB(μV)] | [dB]   | [dB]   |
| 1   | 0.150     | 27.7     | 8.7      | 10.6 | 38.3     | 19.3     | 66.0     | 56.0     | 27.7   | 36.7   |
| 2   | 0.308     | 24.3     | 9.8      | 10.4 | 34.7     | 20.2     | 60.0     | 50.0     | 25.3   | 29.8   |
| 3   | 0.386     | 27.7     | 18.2     | 10.4 | 38.1     | 28.6     | 58.1     | 48.1     | 20.0   | 19.5   |
| 4   | 0.975     | 24.4     | 9.4      | 10.5 | 34.9     | 19.9     | 56.0     | 46.0     | 21.1   | 26.1   |
| 5   | 1.083     | 25.1     | 9.5      | 10.5 | 35.6     | 20.0     | 56.0     | 46.0     | 20.4   | 26.0   |
| 6   | 2.909     | 21.8     | 10.6     | 10.6 | 32.4     | 21.2     | 56.0     | 46.0     | 23.6   | 24.8   |

Company Name : KYOCERA Corporation  
 EUT : Tablet  
 Model No. : KC-T303DT  
 Serial No. : 1080FCCRF02  
 Test mode : WLAN\_11a\_W53\_Tx

Standard : FCC Part.15 Subpart C  
 Operator : T.Seino  
 Temp,Hum,Atm : 23.4[°C] 44.5[%]  
 Note1 :  
 Note2 :



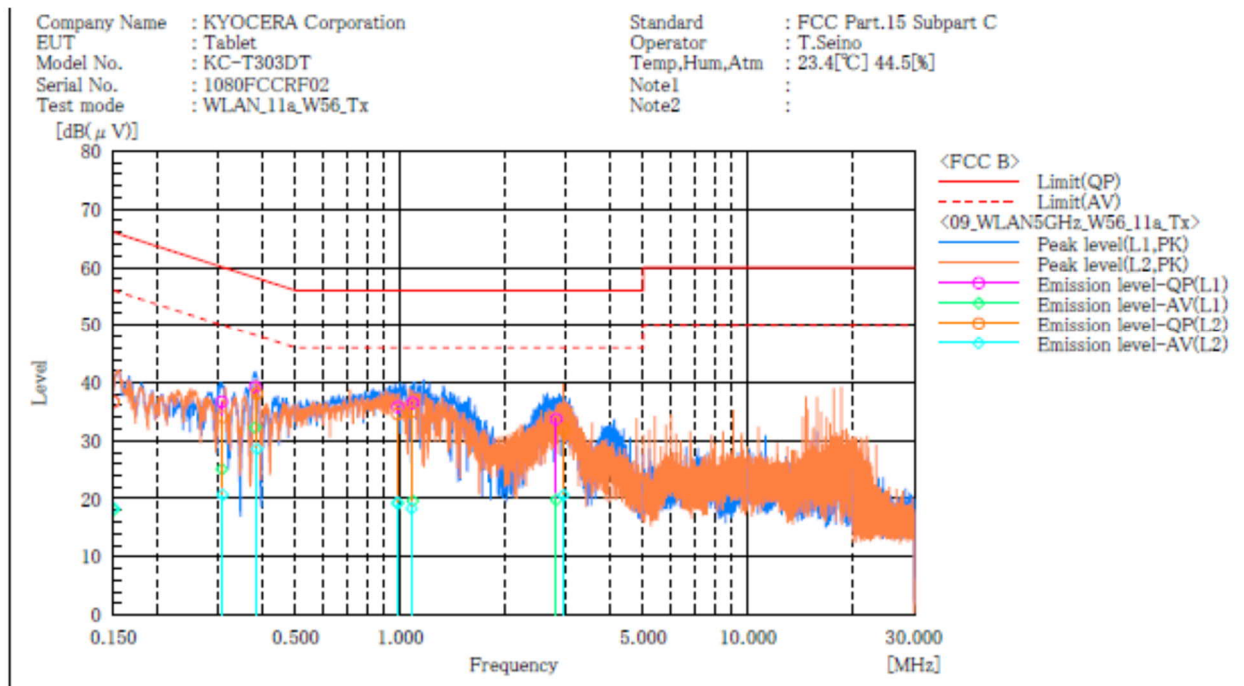
## Final Result

## --- L1 Phase ---

| No. | Frequency<br>[MHz] | Reading<br>QP<br>[dB(μV)] | Reading<br>CAV<br>[dB(μV)] | c. f<br>[dB] | Result<br>QP<br>[dB(μV)] | Result<br>CAV<br>[dB(μV)] | Limit<br>QP<br>[dB(μV)] | Limit<br>AV<br>[dB(μV)] | Margin<br>QP<br>[dB] | Margin<br>CAV<br>[dB] |
|-----|--------------------|---------------------------|----------------------------|--------------|--------------------------|---------------------------|-------------------------|-------------------------|----------------------|-----------------------|
| 1   | 0.150              | 26.8                      | 8.0                        | 10.6         | 37.4                     | 18.6                      | 66.0                    | 56.0                    | 28.6                 | 37.4                  |
| 2   | 0.308              | 26.6                      | 14.7                       | 10.4         | 37.0                     | 25.1                      | 60.0                    | 50.0                    | 23.0                 | 24.9                  |
| 3   | 0.385              | 28.5                      | 23.0                       | 10.4         | 38.9                     | 33.4                      | 58.2                    | 48.2                    | 19.3                 | 14.8                  |
| 4   | 0.980              | 25.4                      | 8.5                        | 10.4         | 35.8                     | 18.9                      | 56.0                    | 46.0                    | 20.2                 | 27.1                  |
| 5   | 1.146              | 24.5                      | 6.7                        | 10.4         | 34.9                     | 17.1                      | 56.0                    | 46.0                    | 21.1                 | 28.9                  |
| 6   | 2.707              | 22.3                      | 8.1                        | 10.5         | 32.8                     | 18.6                      | 56.0                    | 46.0                    | 23.2                 | 27.4                  |

## --- L2 Phase ---

| No. | Frequency<br>[MHz] | Reading<br>QP<br>[dB(μV)] | Reading<br>CAV<br>[dB(μV)] | c. f<br>[dB] | Result<br>QP<br>[dB(μV)] | Result<br>CAV<br>[dB(μV)] | Limit<br>QP<br>[dB(μV)] | Limit<br>AV<br>[dB(μV)] | Margin<br>QP<br>[dB] | Margin<br>CAV<br>[dB] |
|-----|--------------------|---------------------------|----------------------------|--------------|--------------------------|---------------------------|-------------------------|-------------------------|----------------------|-----------------------|
| 1   | 0.150              | 27.5                      | 8.6                        | 10.6         | 38.1                     | 19.2                      | 66.0                    | 56.0                    | 27.9                 | 36.8                  |
| 2   | 0.310              | 23.8                      | 9.7                        | 10.4         | 34.2                     | 20.1                      | 60.0                    | 50.0                    | 25.8                 | 29.9                  |
| 3   | 0.386              | 27.5                      | 18.5                       | 10.4         | 37.9                     | 28.9                      | 58.1                    | 48.1                    | 20.2                 | 19.2                  |
| 4   | 0.988              | 24.2                      | 9.0                        | 10.5         | 34.7                     | 19.5                      | 56.0                    | 46.0                    | 21.3                 | 26.5                  |
| 5   | 1.061              | 24.3                      | 9.2                        | 10.5         | 34.8                     | 19.7                      | 56.0                    | 46.0                    | 21.2                 | 26.3                  |
| 6   | 2.940              | 21.6                      | 10.3                       | 10.6         | 32.2                     | 20.9                      | 56.0                    | 46.0                    | 23.8                 | 25.1                  |



## Final Result

## --- L1 Phase ---

| No. | Frequency<br>[MHz] | Reading<br>QP<br>[dB(μV)] | Reading<br>CAV<br>[dB(μV)] | c. f<br>[dB] | Result<br>QP<br>[dB(μV)] | Result<br>CAV<br>[dB(μV)] | Limit<br>QP<br>[dB(μV)] | Limit<br>AV<br>[dB(μV)] | Margin<br>QP<br>[dB] | Margin<br>CAV<br>[dB] |
|-----|--------------------|---------------------------|----------------------------|--------------|--------------------------|---------------------------|-------------------------|-------------------------|----------------------|-----------------------|
| 1   | 0.150              | 26.1                      | 7.5                        | 10.6         | 36.7                     | 18.1                      | 66.0                    | 56.0                    | 29.3                 | 37.9                  |
| 2   | 0.307              | 26.3                      | 14.7                       | 10.4         | 36.7                     | 25.1                      | 60.1                    | 50.1                    | 23.4                 | 25.0                  |
| 3   | 0.383              | 28.8                      | 21.9                       | 10.4         | 39.2                     | 32.3                      | 58.2                    | 48.2                    | 19.0                 | 15.9                  |
| 4   | 0.983              | 25.4                      | 8.8                        | 10.4         | 35.8                     | 19.2                      | 56.0                    | 46.0                    | 20.2                 | 26.8                  |
| 5   | 1.087              | 26.1                      | 9.2                        | 10.4         | 36.5                     | 19.6                      | 56.0                    | 46.0                    | 19.5                 | 26.4                  |
| 6   | 2.808              | 23.2                      | 9.3                        | 10.5         | 33.7                     | 19.8                      | 56.0                    | 46.0                    | 22.3                 | 26.2                  |

## --- L2 Phase ---

| No. | Frequency<br>[MHz] | Reading<br>QP<br>[dB(μV)] | Reading<br>CAV<br>[dB(μV)] | c. f<br>[dB] | Result<br>QP<br>[dB(μV)] | Result<br>CAV<br>[dB(μV)] | Limit<br>QP<br>[dB(μV)] | Limit<br>AV<br>[dB(μV)] | Margin<br>QP<br>[dB] | Margin<br>CAV<br>[dB] |
|-----|--------------------|---------------------------|----------------------------|--------------|--------------------------|---------------------------|-------------------------|-------------------------|----------------------|-----------------------|
| 1   | 0.150              | 26.1                      | 7.8                        | 10.6         | 36.7                     | 18.4                      | 66.0                    | 56.0                    | 29.3                 | 37.6                  |
| 2   | 0.309              | 23.7                      | 10.3                       | 10.4         | 34.1                     | 20.7                      | 60.0                    | 50.0                    | 25.9                 | 29.3                  |
| 3   | 0.387              | 27.7                      | 18.2                       | 10.4         | 38.1                     | 28.6                      | 58.1                    | 48.1                    | 20.0                 | 19.5                  |
| 4   | 0.981              | 24.1                      | 8.8                        | 10.5         | 34.6                     | 19.3                      | 56.0                    | 46.0                    | 21.4                 | 26.7                  |
| 5   | 1.079              | 24.5                      | 7.8                        | 10.5         | 35.0                     | 18.3                      | 56.0                    | 46.0                    | 21.0                 | 27.7                  |
| 6   | 2.948              | 21.4                      | 10.0                       | 10.6         | 32.0                     | 20.6                      | 56.0                    | 46.0                    | 24.0                 | 25.4                  |

## 4.7 Duty Cycle

### 4.7.1 Measurement procedure

#### [KDB 789033 D02, Section B, Zero-Span Spectrum Analyzer Method]

The duty cycle is measured with a spectrum analyzer connected to the antenna terminal, while EUT is operating in transmission mode at the appropriate center frequency.

The spectrum analyzer is set to;

- RBW=8 MHz, VBW=8 MHz, Span=0 Hz, Sweep=Auto, Detector=Peak, Trace mode=Single

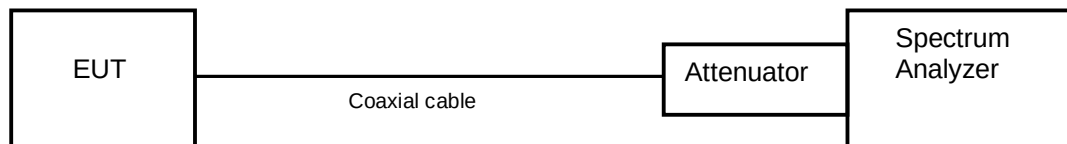
The EUT was set to operate with following conditions.

- 5.2 GHz Band, 5.3 GHz Band, 5.6 GHz Band

The test mode of EUT is as follows.

- Tx mode

- Test configuration



### 4.7.2 Limit

None

### 4.7.3 Measurement result

Date : 27-September-2021  
Temperature : 18.1 [°C]  
Humidity : 62.8 [%]  
Test place : Shielded room No.4

Test engineer : Kazunori Saito

| Mode    | Channel | Frequency (MHz) | Duty Cycle  |                 |       |       | DCF (dB)<br>10log(1/x) | DCF (dB)<br>20log(1/x) |
|---------|---------|-----------------|-------------|-----------------|-------|-------|------------------------|------------------------|
|         |         |                 | On Time(ms) | On+Off Time(ms) | X     | 1/T   |                        |                        |
| 802.11a | 36      | 5180            | 1.392       | 1.436           | 0.969 | 718.4 | 0.135                  | 0.270                  |
|         | 40      | 5200            |             |                 |       |       |                        |                        |
|         | 48      | 5240            |             |                 |       |       |                        |                        |
|         | 52      | 5260            | 1.390       | 1.436           | 0.968 | 719.4 | 0.141                  | 0.283                  |
|         | 56      | 5280            |             |                 |       |       |                        |                        |
|         | 64      | 5320            |             |                 |       |       |                        |                        |
|         | 100     | 5500            | 1.392       | 1.436           | 0.969 | 718.4 | 0.135                  | 0.270                  |
|         | 116     | 5580            |             |                 |       |       |                        |                        |
|         | 140     | 5700            |             |                 |       |       |                        |                        |
|         | 144     | 5720            |             |                 |       |       |                        |                        |

Note: X = On time / (On + Off time)

| Mode               | Channel | Frequency (MHz) | Duty Cycle  |                 |       |       | DCF (dB)<br>10log(1/x) | DCF (dB)<br>20log(1/x) |
|--------------------|---------|-----------------|-------------|-----------------|-------|-------|------------------------|------------------------|
|                    |         |                 | On Time(ms) | On+Off Time(ms) | X     | 1/T   |                        |                        |
| 802.11n<br>(20MHz) | 36      | 5180            | 1.286       | 1.332           | 0.965 | 777.6 | 0.153                  | 0.305                  |
|                    | 40      | 5200            |             |                 |       |       |                        |                        |
|                    | 48      | 5240            |             |                 |       |       |                        |                        |
|                    | 52      | 5260            | 1.288       | 1.332           | 0.967 | 776.4 | 0.146                  | 0.292                  |
|                    | 56      | 5280            |             |                 |       |       |                        |                        |
|                    | 64      | 5320            |             |                 |       |       |                        |                        |
|                    | 100     | 5500            | 1.288       | 1.334           | 0.966 | 776.4 | 0.152                  | 0.305                  |
|                    | 116     | 5580            |             |                 |       |       |                        |                        |
|                    | 140     | 5700            |             |                 |       |       |                        |                        |
|                    | 144     | 5720            |             |                 |       |       |                        |                        |

Note: X = On time / (On + Off time)

| Mode               | Channel | Frequency (MHz) | Duty Cycle  |                 |       |        | DCF (dB)<br>10log(1/x) | DCF (dB)<br>20log(1/x) |
|--------------------|---------|-----------------|-------------|-----------------|-------|--------|------------------------|------------------------|
|                    |         |                 | On Time(ms) | On+Off Time(ms) | X     | 1/T    |                        |                        |
| 802.11n<br>(40MHz) | 38      | 5190            | 0.636       | 0.680           | 0.935 | 1572.3 | 0.291                  | 0.581                  |
|                    | 46      | 5230            |             |                 |       |        |                        |                        |
|                    | 54      | 5270            | 0.636       | 0.680           | 0.935 | 1572.3 | 0.291                  | 0.581                  |
|                    | 62      | 5310            |             |                 |       |        |                        |                        |
|                    | 102     | 5510            | 0.635       | 0.681           | 0.932 | 1574.8 | 0.304                  | 0.607                  |
|                    | 110     | 5550            |             |                 |       |        |                        |                        |
|                    | 134     | 5670            |             |                 |       |        |                        |                        |
|                    | 142     | 5710            |             |                 |       |        |                        |                        |

Note: X = On time / (On + Off time)

| Mode                | Channel | Frequency (MHz) | Duty Cycle  |                 |       |        | DCF (dB)<br>10log(1/x) | DCF (dB)<br>20log(1/x) |
|---------------------|---------|-----------------|-------------|-----------------|-------|--------|------------------------|------------------------|
|                     |         |                 | On Time(ms) | On+Off Time(ms) | X     | 1/T    |                        |                        |
| 802.11ac<br>(80MHz) | 42      | 5210            | 0.323       | 0.368           | 0.878 | 3097.9 | 0.567                  | 1.134                  |
|                     | 58      | 5290            | 0.324       | 0.368           | 0.879 | 3086.4 | 0.558                  | 1.115                  |
|                     | 106     | 5530            | 0.323       | 0.367           | 0.879 | 3095.0 | 0.558                  | 1.116                  |
|                     | 122     | 5610            | 0.324       | 0.369           | 0.880 | 3084.5 | 0.556                  | 1.112                  |
|                     | 138     | 5690            | 0.323       | 0.368           | 0.878 | 3095.0 | 0.564                  | 1.128                  |

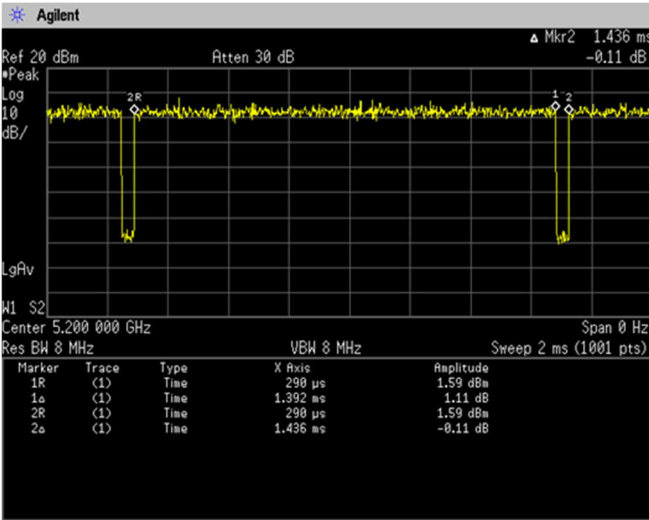
Note: X = On time / (On + Off time)



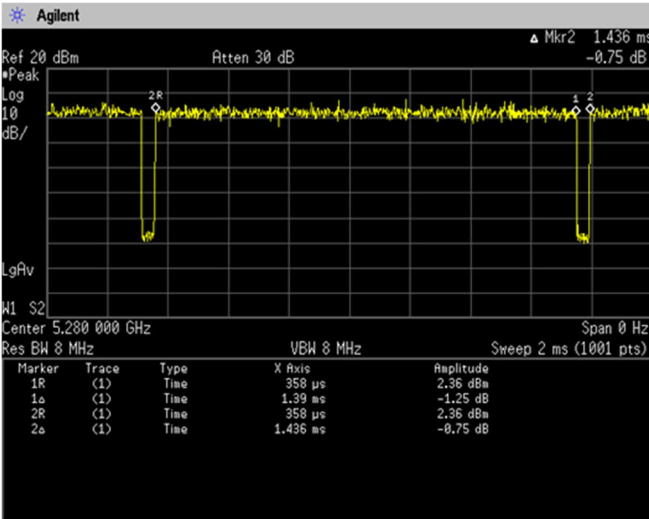
#### 4.7.4 Trace data

[IEEE802.11a]

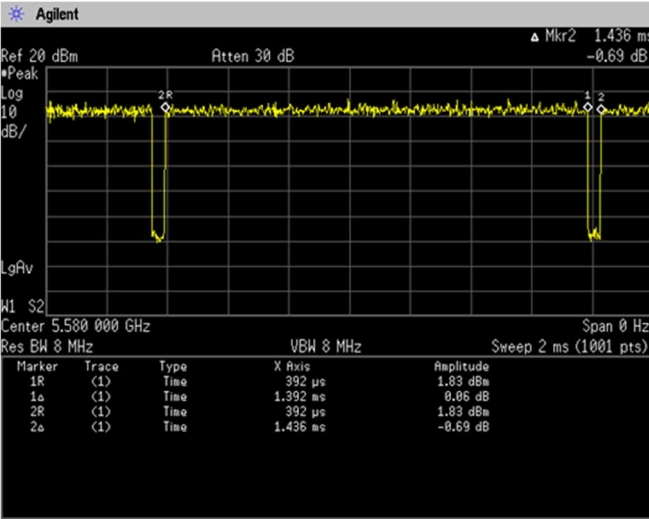
Channel: 40



Channel: 56



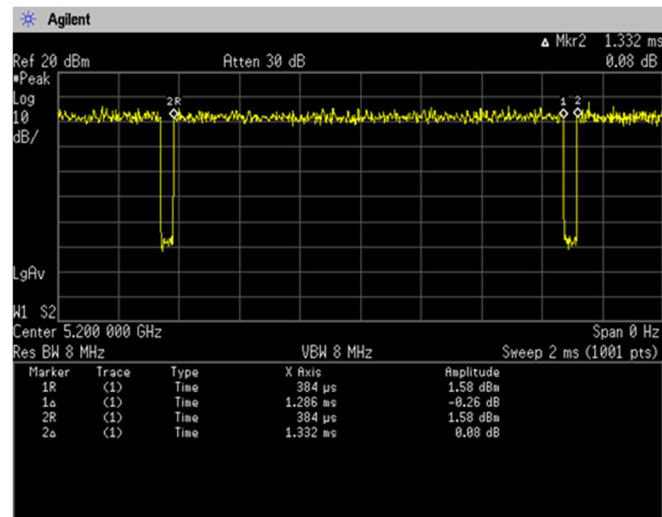
Channel: 116



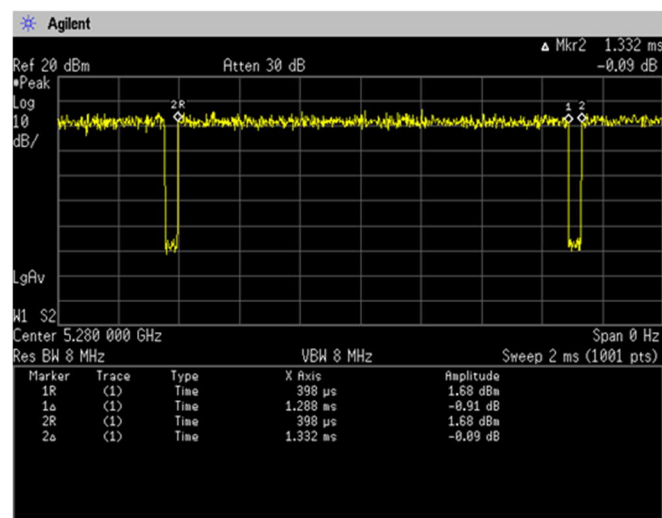


## [IEEE802.11n (HT20)]

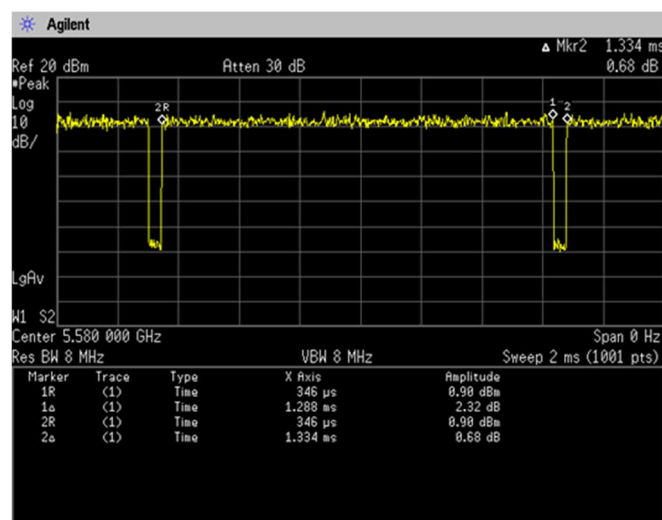
Channel: 40



Channel: 56

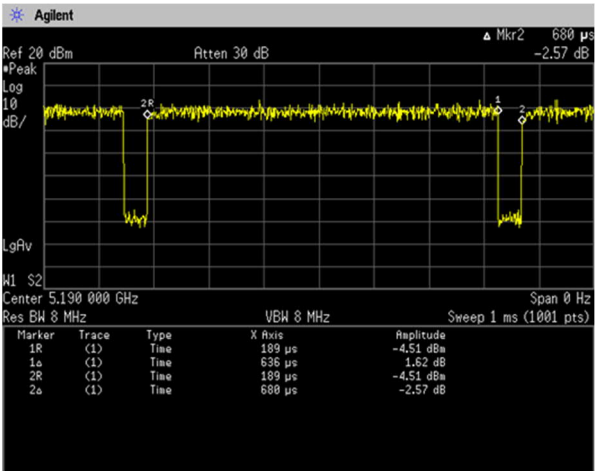


Channel: 116

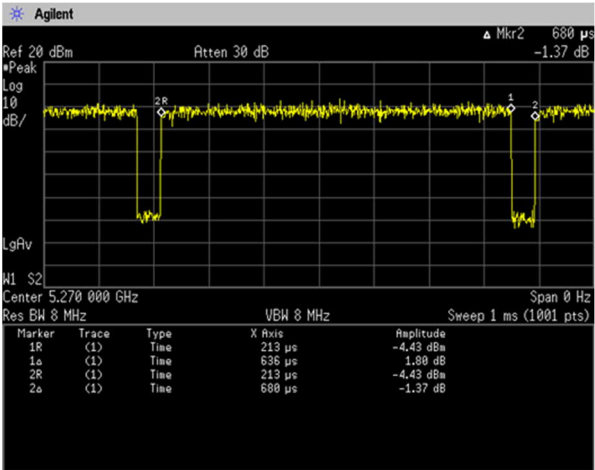


[IEEE802.11n (HT40)]

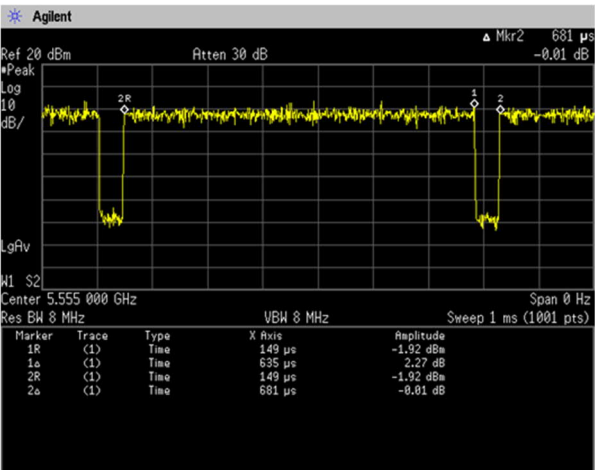
Channel: 38



Channel: 54

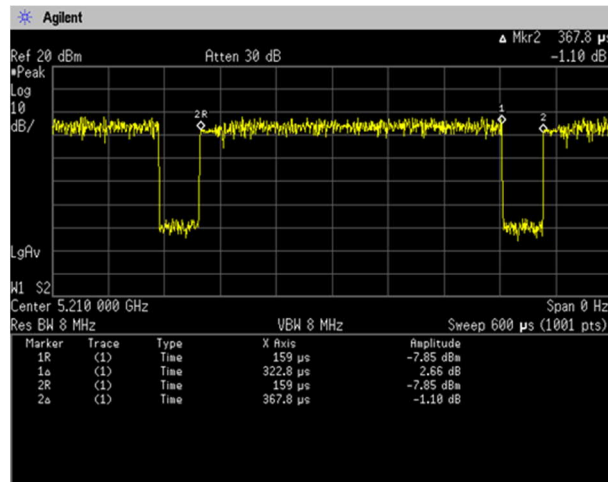


Channel: 110

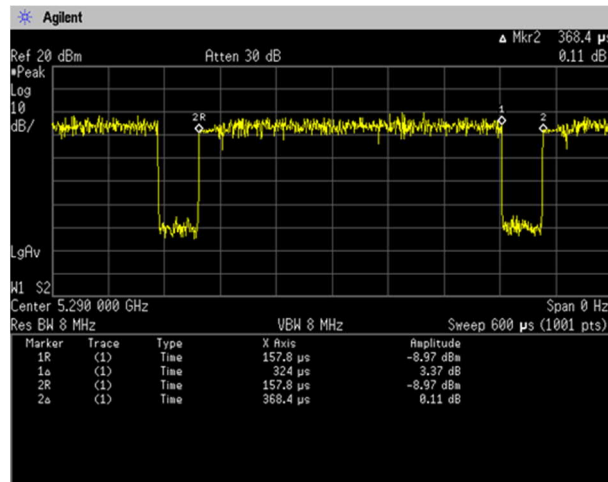


[IEEE802.11ac (HT80)]

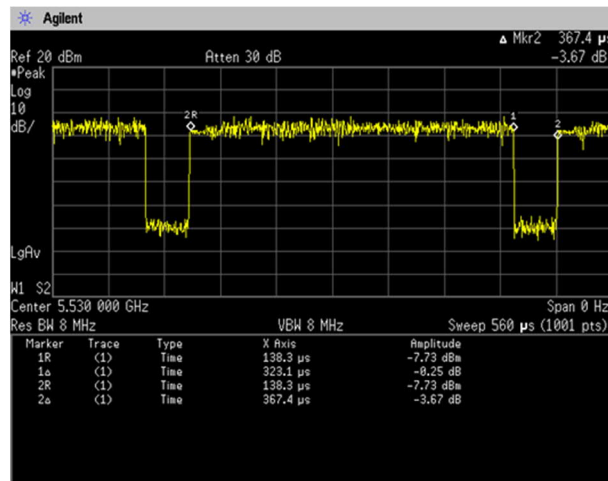
Channel: 42



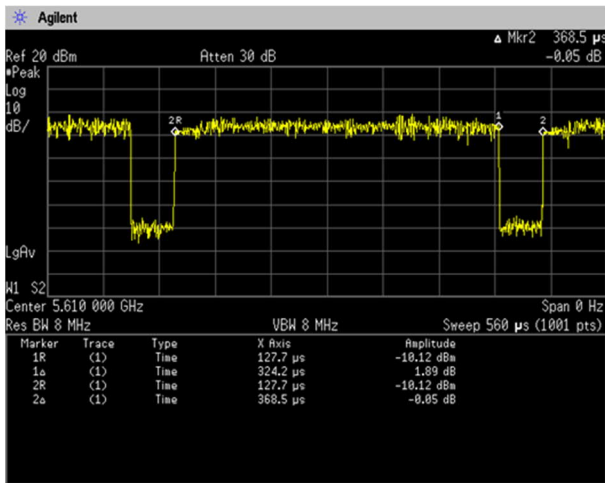
Channel: 58



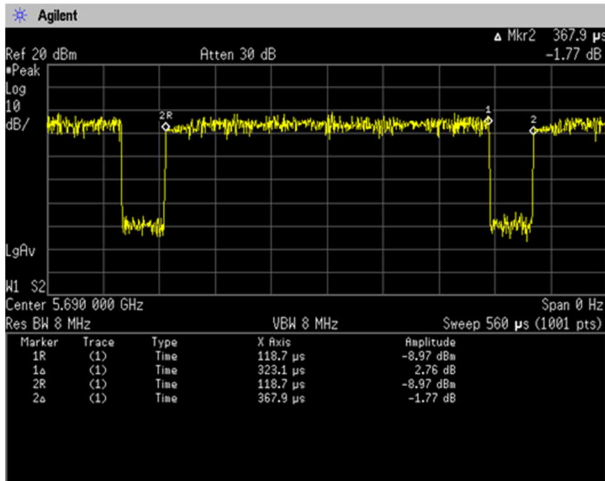
Channel: 106



Channel: 122



Channel: 138





Japan

## 5 Antenna requirement

According to FCC section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The antenna is a special antenna mounted inside of the EUT. Therefore, the EUT complies with the antenna requirement of FCC section 15.203.

## 6 Measurement uncertainty

Expanded uncertainties stated are calculated with a coverage Factor  $k=2$ .  
Please note that these results are not taken into account when measurement uncertainty considerations contained in ETSI TR 100 028 Parts 1 and 2 determining compliance or non-compliance with test result.

| Test item                                  | Measurement uncertainty  |
|--------------------------------------------|--------------------------|
| Conducted emission, AMN (9 kHz – 150 kHz)  | $\pm 3.7$ dB             |
| Conducted emission, AMN (150 kHz – 30 MHz) | $\pm 3.3$ dB             |
| Radiated emission (9kHz – 30 MHz)          | $\pm 3.2$ dB             |
| Radiated emission (30 MHz – 1000 MHz)      | $\pm 5.3$ dB             |
| Radiated emission (1 GHz – 6 GHz)          | $\pm 4.8$ dB             |
| Radiated emission (6 GHz – 18 GHz)         | $\pm 4.5$ dB             |
| Radiated emission (18 GHz – 40 GHz)        | $\pm 6.4$ dB             |
| Radio Frequency                            | $\pm 1.4 \times 10^{-8}$ |
| RF power, conducted                        | $\pm 0.8$ dB             |
| Adjacent channel power                     | $\pm 2.4$ dB             |
| Temperature                                | $\pm 0.6$ °C             |
| Humidity                                   | $\pm 1.2$ %              |
| Voltage (DC)                               | $\pm 0.4$ %              |
| Voltage (AC, <10kHz)                       | $\pm 0.2$ %              |

| Judge | Measured value and standard limit value                                                                                                                                                                                                                                                                               |  |
|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| PASS  | <div> <div> <div>Standard limit value</div> <div> <div>+Uncertainty</div> <div>-Uncertainty</div> </div> <div>Measured value</div> </div> <div> <p>Case1</p> <p>Even if it takes uncertainty into consideration, a standard limit value is fulfilled.</p> </div> </div>                                               |  |
|       | <div> <div> <div>Standard limit value</div> <div> <div>+Uncertainty</div> <div>-Uncertainty</div> </div> <div>Measured value</div> </div> <div> <p>Case2</p> <p>Although measured value is in a standard limit value, a limit value won't be fulfilled if uncertainty is taken into consideration.</p> </div> </div>  |  |
| FAIL  | <div> <div> <div>Standard limit value</div> <div> <div>+Uncertainty</div> <div>-Uncertainty</div> </div> <div>Measured value</div> </div> <div> <p>Case3</p> <p>Although measured value exceeds a standard limit value, a limit value will be fulfilled if uncertainty is taken into consideration.</p> </div> </div> |  |
|       | <div> <div> <div>Standard limit value</div> <div> <div>+Uncertainty</div> <div>-Uncertainty</div> </div> <div>Measured value</div> </div> <div> <p>Case4</p> <p>Even if it takes uncertainty into consideration, a standard limit value isn't fulfilled.</p> </div> </div>                                            |  |



Japan

## 7 Laboratory Information

Testing was performed and the report was issued at:

**TÜV SÜD Japan Ltd. Yonezawa Testing Center**

Address: 5-4149-7 Hachimanpara, Yonezawa-shi, Yamagata, 992-1128 Japan  
Phone: +81-238-28-2881

**Accreditation and Registration**

A2LA

Certificate #3686.03

VLAC

Accreditation No.: VLAC-013

BSMI

Laboratory Code: SL2-IN-E-6018, SL2-A1-E-6018

Innovation, Science and Economic Development Canada

ISED#: 4224A

VCCI Council

Registration number: A-0166

## Appendix A. Test Equipment

### Antenna port conducted test

| Equipment                            | Company              | Model No. | Serial No. | Cal. Due    | Cal. Date   |
|--------------------------------------|----------------------|-----------|------------|-------------|-------------|
| Spectrum analyzer                    | Agilent Technologies | E4440A    | US44302655 | 30-Sep-2022 | 01-Sep-2021 |
| Attenuator                           | Weinschel            | 56-10     | J4180      | 31-Jul-2022 | 20-Jul-2021 |
| Micro wave cable                     | Junkosha Inc.        | MWX221/1m | N/A(S400)  | 31-Mar-2022 | 10-Mar-2021 |
| Low temperature and humidity chamber | Espec                | PL1KP     | 14007261   | 30-Sep-2022 | 03-Sep-2021 |

### Radiated emission

| Equipment                   | Company              | Model No.         | Serial No.       | Cal. Due    | Cal. Date   |
|-----------------------------|----------------------|-------------------|------------------|-------------|-------------|
| EMI Receiver                | ROHDE&SCHWARZ        | ESCI              | 100765           | 30-Sep-2022 | 15-Sep-2021 |
| Spectrum analyzer           | Agilent Technologies | E4447A            | MY46180188       | 31-Mar-2022 | 11-Mar-2021 |
| Spectrum analyzer           | Agilent Technologies | E4440A            | US40420937       | 31-Dec-2021 | 11-Dec-2020 |
| Spectrum analyzer           | ROHDE&SCHWARZ        | FSV40             | 101731           | 30-Jun-2022 | 08-Jun-2021 |
| Preamplifier                | SONOMA               | 310               | 372170           | 30-Sep-2022 | 15-Sep-2021 |
| Loop antenna                | ROHDE&SCHWARZ        | HFH2-Z2           | 100515           | 30-Apr-2022 | 27-Apr-2021 |
| Attenuator                  | TOYO Connector       | NA-PJ-6           | N/A(S507)        | 28-Feb-2022 | 03-Feb-2021 |
| Biconical antenna           | Schwarzbeck          | VHBB9124/BBA9106  | 1333             | 31-Dec-2021 | 15-Dec-2020 |
| Log periodic antenna        | Schwarzbeck          | VUSLP9111B        | 346              | 31-Oct-2022 | 19-Oct-2021 |
| Attenuator                  | TOYO Connector       | NA-PJ-6/6dB       | N/A(S541)        | 30-Sep-2022 | 16-Sep-2021 |
| Attenuator                  | TAMAGAWA.ELEC        | CFA-10/3dB        | N/A(S503)        | 31-Jul-2022 | 20-Jul-2021 |
| Preamplifier                | TSJ                  | MLA-100M18-B02-40 | 1929118          | 31-Dec-2021 | 15-Dec-2020 |
| Attenuator                  | AEROFLEX             | 26A-10            | 081217-08        | 31-Dec-2021 | 14-Dec-2020 |
| Double ridged guide antenna | ETS LINDGREN         | 3117              | 00224193         | 31-Mar-2022 | 30-Mar-2021 |
| Attenuator                  | HUBER+SUHNER         | 6803.17.B         | N/A(2340)        | 31-Dec-2021 | 15-Dec-2020 |
| Double ridged guide antenna | A.H.Systems Inc.     | SAS-574           | 469              | 31-Aug-2022 | 02-Aug-2021 |
| Preamplifier                | TSJ                  | MLA-1840-B03-35   | 1240332          | 31-Aug-2022 | 02-Aug-2021 |
| Band rejection filter       | Micro-Tronics        | BRM50716          | 006              | 31-Jul-2022 | 20-Jul-2021 |
| Microwave cable             | HUBER+SUHNER         | SUCOFLEX104/9m    | MY30037/4        | 31-Dec-2021 | 15-Dec-2020 |
|                             |                      | SUCOFLEX104/1m    | my24610/4        | 31-Dec-2021 | 15-Dec-2020 |
|                             |                      | SUCOFLEX104/8m    | SN MY30033/4     | 31-Dec-2021 | 15-Dec-2020 |
|                             |                      | SUCOFLEX104/1m    | MY32976/4        | 31-Dec-2021 | 15-Dec-2020 |
|                             |                      | SUCOFLEX104/2m    | SN MY28404/4     | 31-Dec-2021 | 15-Dec-2020 |
|                             |                      | SUCOFLEX104/7m    | 41625/6          | 31-Dec-2021 | 15-Dec-2020 |
| PC                          | DELL                 | DIMENSION E521    | 75465BX          | N/A         | N/A         |
| Software                    | TOYO Corporation     | EP5/RE-AJ         | 0611193/V6.0.140 | N/A         | N/A         |
| Absorber                    | RIKEN                | PFP30             | N/A              | N/A         | N/A         |
| 3m Semi an-echoic Chamber   | TOKIN                | N/A               | N/A(9002-NSA)    | 31-May-2022 | 20-May-2021 |
| 3m Semi an-echoic Chamber   | TOKIN                | N/A               | N/A(9002-SVSWR)  | 31-May-2022 | 20-May-2021 |

### Conducted emission at mains port

| Equipment                            | Company                         | Model No.   | Serial No.      | Cal. Due    | Cal. Date   |
|--------------------------------------|---------------------------------|-------------|-----------------|-------------|-------------|
| EMI Receiver                         | ROHDE&SCHWARZ                   | ESCI        | 100765          | 30-Sep-2022 | 15-Sep-2021 |
| Attenuator                           | HUBER+SUHNER                    | 6810.01.A   | N/A (S411)      | 31-Dec-2021 | 15-Dec-2020 |
| Line impedance stabilization network | Kyoritsu Electrical Works, Ltd. | TNW-407F2   | 12-17-110-2     | 30-Jun-2022 | 17-Jun-2021 |
| Coaxial cable                        | FUJIKURA                        | 5D-2W/4m    | N/A (S350)      | 31-Dec-2021 | 15-Dec-2020 |
| Coaxial cable                        | FUJIKURA                        | 5D-2W/1m    | N/A (S193)      | 31-Dec-2021 | 15-Dec-2020 |
| Coaxial cable                        | HUBER+SUHNER                    | RG214/U/10m | N/A (S194)      | 31-Dec-2021 | 15-Dec-2020 |
| PC                                   | DELL                            | DIMENSION   | 75465BX         | N/A         | N/A         |
| Software                             | TOYO Corporation                | EP5/CE-AJ   | 0611193/V5.4.11 | N/A         | N/A         |

\*: The calibrations of the above equipment are traceable to NIST or equivalent standards of the reference organizations.