Report on the RF Testing of:

KYOCERA Corporation Mobile Phone, Model: EB1146 FCC ID: JOYEB1146

In accordance with FCC Part15 Subpart C

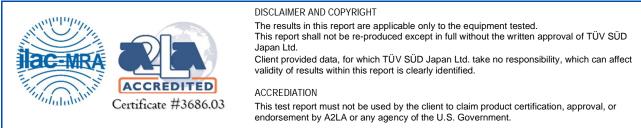
Prepared for: KYOCERA Corporation Yokohama Office 2-1-1 Kagahara, Tsuzuki-ku Yokohama-shi, Kanagawa, Japan Phone: +81-45-943-6253 Fax: +81-45-943-6314

COMMERCIAL-IN-CONFIDENCE

Document Number: JPD-TR-22192-0

| SIGNATURE | | | |
|----------------------------|--|---------------------------------|----------------------------|
| la | Lioak Sugahi | | |
| NAME | JOB TITLE | RESPONSIBLE FOR | ISSUE DATE |
| Hiroaki Suzuki | Deputy Manager of RF Group | Approved Signatory | 2022,11,17 |
| Signatures in this approve | al box have checked this document in line with the rec | quirements of TÜV SÜD Japan Lto | d. document control rules. |

EXECUTIVE SUMMARY – Result: Complied A sample of this product was tested and the result above was confirmed in accordance with FCC Part15 Subpart C.



TÜV SÜD Japan Ltd. Yonezawa Testing Center 5-4149-7 Hachimanpara, Yonezawa-shi, Yamagata, 992-1128 Japan Phone: +81 (0) 238 28 2881 www.tuvsud.com/ja-jp

TÜV SÜD Japan Ltd.





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1 Summary of Test

1.1 Modification history of the test report

| Document Number | Modification History | Issue Date |
|-----------------|----------------------|-------------------------|
| JPD-TR-22192-0 | First Issue | Refer to the cover page |

1.2 Standards

CFR47 FCC Part 15 Subpart C

1.3 Test methods

ANSI C63.10-2013 KDB 558074 D01 15.247 Meas Guidance v05r02

1.4 Deviation from standards

None

1.5 List of applied test(s) of the EUT

| Test item section | Test item | Condition | Result | Remark |
|-------------------------------|---|-----------|--------|--------|
| 15.247(a)(2) | DTS Bandwidth / Occupied Bandwidth (99%) | Conducted | PASS | - |
| 15.247(b)(3) | Maximum conducted (average) output power | Conducted | PASS | - |
| 15.247(d) | Band Edge Compliance of RF Conducted Emissions | Conducted | PASS | - |
| 15.247(d) | | Conducted | PASS | - |
| 15.205 15.209 | Spurious Emissions | Radiated | PASS | - |
| 15.247(d) 15.205 15.209 | Restricted Bands of Operation | Radiated | PASS | - |
| 15.247(e) | Transmitter Power Spectral Density | Conducted | PASS | - |
| 15.207 | AC Power Line Conducted Emissions | Conducted | PASS | - |

1.6 Test information

None

1.7 Test set up

Table-top

1.8 Test period

6-October-2022 - 19-October-2022



2 Equipment Under Test

All information in this chapter was provided by the applicant.

2.1 EUT information

| KYOCERA Corporation |
|---|
| Yokohama Office 2-1-1 Kagahara, Tsuzuki-ku Yokohama-shi, Kanagawa, Japan |
| Phone: +81-45-943-6253 Fax: +81-45-943-6314 |
| Mobile Phone |
| EB1146 |
| 354663600011776, 354663600011206, 354663600011222 |
| Kyocera |
| 3 |
| Pre-Production |
| Battery: DC 3.87 V |
| (W) 69 mm × (D) 153 mm × (H) 8.9 mm |
| Indoor and Outdoor use |
| -20 °C to 60 °C |
| DMT |
| 0.110YO.9017.a |
| Not applicable |
| |
| IEEE802.11b, IEEE802.11g, IEEE802.11n (HT20), |
| IEEE802.11b /11g /11n (HT20): 2412 MHz-2462 MHz |
| 11 Channels |
| IEEE802.11b: DSSS (DBPSK, DQPSK, CCK) IEEE802.11g / 11n (HT20): OFDM (BPSK, QPSK, 16QAM, 64QAM) |
| IEEE802.11b: 1, 2, 5.5, 11Mbps IEEE802.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps IEEE802.11n (HT20 LGI): 6.5, 13, 19.5, 26, 39, 52, 58.5, 65Mbps IEEE802.11n (HT20 SGI): 7.2, 14.4, 21.7, 28.9, 43.3, 57.8, 65, 72.2Mbps |
| 5 MHz |
| 54.576 mW (IEEE802.11b) 214.289 mW (IEEE802.11g) 245.471 mW (IEEE802.11n: HT20) |
| Internal antenna |
| -0.5 dBi |
| |



2.2 Modification to the EUT

The table below details modifications made to the EUT during the test project.

| [| Modification State Description of Modification | | Modification fitted by | Date of Modification |
|---|---|--|------------------------|----------------------|
| | Model: EB1146, Serial Number: 354663600011776, 354663600011206, 354663600011222 | | | |
| | 0 As supplied by the applicant | | Not Applicable | Not Applicable |

2.3 Variation of family model(s)

2.3.1 List of family model(s)

Not applicable

2.3.2 Reason for selection of EUT

Not applicable

2.4 Operating channels and frequencies

| Channel | Frequency [MHz] |
|---------|-----------------|
| 1 | 2412 |
| 2 | 2417 |
| 3 | 2422 |
| 4 | 2427 |
| 5 | 2432 |
| 6 | 2437 |
| 7 | 2442 |
| 8 | 2447 |
| 9 | 2452 |
| 10 | 2457 |
| 11 | 2462 |



2.5 Description of test mode

The EUT had been tested under operating condition. There are three channels have been tested as following:

| Tested Channel [11b, 11g, 11n(HT20)] | Frequency [MHz] |
|--------------------------------------|-----------------|
| Low | 2412 |
| Middle | 2437 |
| High | 2462 |

The pre-test has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates.

| Tested Channel | Modulation Type | Data Rate |
|-------------------|------------------------------|----------------|
| Low, Middle, High | IEEE802.11b: DSSS | 1Mbps |
| Low, Middle, High | IEEE802.11g: OFDM | 6Mbps |
| Low, Middle, High | IEEE802.11n (HT20 LGI): OFDM | MCS0 (6.5Mbps) |

The field strength of spurious emissions was measured at each position of all three axis X, Y and Z to compare the level, and the maximum noise.

The worst emission was found in Z-axis and the worst case recorded.

Pre-scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports.

2.6 Operating flow

- Tx mode

- i) Test program setup to the Software
- ii) Select a Test mode

[IEEE802.11b, IEEE802.11g, IEEE802.11n (HT20)] Operating frequency: Channel Low: 2412MHz, Channel Middle: 2437MHz, Channel High: 2462MHz

iii) Start test mode

- Rx mode

- i) Test program setup to the Software
- Select a Test mode [IEEE802.11b, IEEE802.11g, IEEE802.11n (HT20)]
 Operating frequency: Channel Low: 2412MHz, Channel Middle: 2437MHz, Channel High: 2462MHz
- iii) Start test mode



3 Configuration of Equipment

Numbers assigned to equipment on the diagram in "3.3 System configuration" correspond to the list in "3.1 Equipment used" and "3.2 Cable(s) used".

This test configuration is based on the manufacture's instruction.

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

3.1 Equipment used

| No. | Equipment | Company | Model No. | Serial No. | FCC ID/DoC | Comment |
|-----|--------------|---------|-----------|---|------------|---------|
| 1 | Mobile Phone | KYOCERA | EB1146 | 354663600011776, 354663600011206, 354663600011222 | JOYEB1146 | EUT |
| 2 | AC Adapter | KDDI | 0602PQA | N/A | N/A | * |

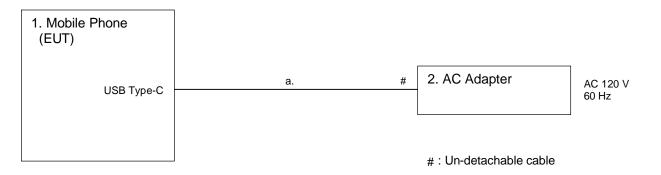
*:AC power line Conducted Emission Test.

3.2 Cable(s) used

| No. | Equipment | Length[m] | Shield | Connector | Comment |
|---------|----------------------------|-----------|--------|-----------|---------|
| а | USB cable (for AC Adapter) | 1.5 | No | Plastic | * |
| * * * * | | | | | |

*: AC power line Conducted Emission Test.

3.3 System configuration





4 Test Result

4.1 DTS Bandwidth / Occupied Bandwidth (99%)

4.1.1 Measurement procedure

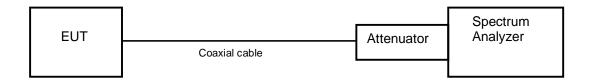
[FCC 15.247(a)(2), KDB 558074 D01 v05r02, Section 8.2]

The bandwidth at 6dB down from the highest inband spectral density 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;

- a) RBW = 100kHz.
- b) VBW \geq 3 x RBW.
- c) Sweep time = auto-couple.
- d) Detector = peak.
- e) Trace mode = max hold.

- Test configuration



4.1.2 Limit

The minimum permissible 6 dB bandwidth is 500 kHz.



4.1.3 Measurement result

| Date | : | 19-October-2022 |
|-------------|---|--------------------|
| Temperature | : | 19.9 [°C] |
| Humidity | : | 38.1 [%] |
| Test place | : | Shielded room No.4 |

Test engineer :

Kazunori Saito

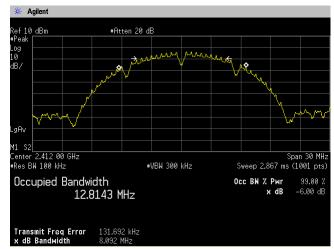
| Channal | | DTS Bandwidth [MHz] | |
|---------|-------------|---------------------|--------------------|
| Channel | IEEE802.11b | IEEE802.11g | IEEE802.11n (HT20) |
| Low | 8.092 | 15.495 | 15.359 |
| Middle | 8.570 | 15.354 | 15.159 |
| High | 8.085 | 11.348 | 15.148 |

| Channel | | Occupied Bandwidth (99%) [MH | z] |
|---------|-------------|------------------------------|--------------------|
| Channel | IEEE802.11b | IEEE802.11g | IEEE802.11n (HT20) |
| Low | 12.814 | 16.357 | 17.544 |
| Middle | 12.856 | 16.363 | 17.554 |
| High | 12.495 | 16.120 | 17.502 |

4.1.4 Trace data

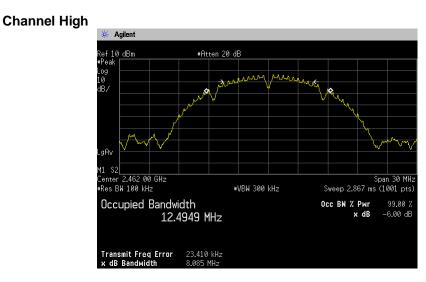
[IEEE802.11b]

Channel Low



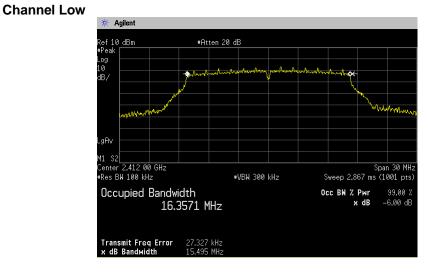
Channel Middle



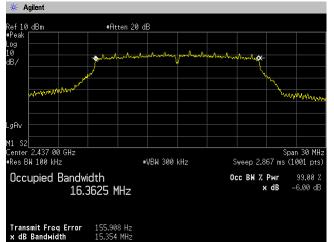


Japan

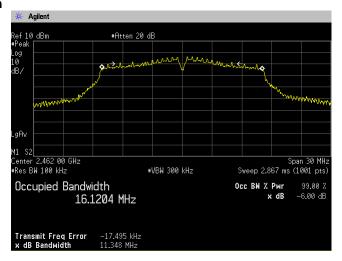
[IEEE802.11g]



Channel Middle

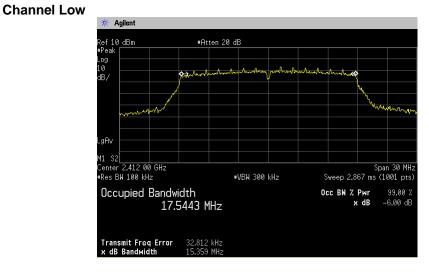


Channel High





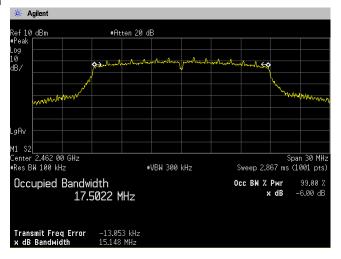
[IEEE802.11n (HT20)]



Channel Middle

| ····································· | 0 00 | 15 | | | | | |
|---------------------------------------|-------------|----------|------|-------------|-----------|--------|-----------|
| ef 10 dBm Peak | #Atten 20 | dR | | | | | |
| og | | | | | | | |
| 0 | And mertion | moundary | mont | motornation | Annal. 60 | | |
| B/ | / | | / | · · · | | | |
| | | | | | | h. | |
| mprontenterter | | | | | | Why a | |
| | | | | | | N. | withoung |
| | | | | | | | |
| gAv | | | | | | | |
| | | | | | | | |
| 1 \$2 Senter 2.437 00 GHz | | | | | | Sn | an 30 MH: |
| Res BW 100 kHz | | #VBW 300 | kHz | S | weep 2.8 | | 1001 pts |
| Occupied Bandwi | idth | | | 00 | CBW % | Рwr | 99.00 % |
| | 5542 MHz | | | | × | dB | -6.00 dB |
| ±7.5 | 5546-1112 | | | | | | |
| | | | | | | | |
| Transmit Freg Error | 4 479 kHz | | | | | | |
| x dB Bandwidth | 15.159 MHz | | | | | | |

Channel High







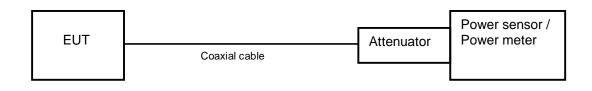
4.2 Maximum Conducted Output Power

4.2.1 Measurement procedure

[FCC 15.247(b)(3), KDB 558074 D01 v05r02, Section 8.3.1.3]

The peak power is measured with a power sensor connected to the antenna terminal, while EUT is operating in transmission mode at the appropriate center frequency.

- Test configuration



4.2.2 Limit

1 W (1000 mW) or less



4.2.3 **Measurement result**

| Date Temperature | : | 14-October-2022 24.8 [°C] | | | |
|---------------------|---|------------------------------|---------------|---|----------------|
| Humidity | : | 48.3 [%] | Test engineer | : | |
| Test place | : | Shielded room No.4 | - | | Taiki Watanabe |

[IEEE802.11b] Battery Full

| Channel | Center Frequency (MHz) | Reading (dBm) | Factor (dB) | Level (dBm) | Peak Output Power (mW) | Limit (mW) | Result |
|---------|------------------------------|------------------|----------------|----------------|------------------------------|---------------|--------|
| Low | 2412 | 6.43 | 10.52 | 16.95 | 49.545 | ≦1000 | PASS |
| Middle | 2437 | 6.85 | 10.52 | 17.37 | 54.576 | ≦1000 | PASS |
| High | 2462 | 6.56 | 10.52 | 17.08 | 51.050 | ≦1000 | PASS |

[IEEE802.11g] Battery Full

| Channel | Center Frequency (MHz) | Reading (dBm) | Factor (dB) | Level (dBm) | Peak Output Power (mW) | Limit (mW) | Result |
|---------|------------------------------|------------------|----------------|----------------|------------------------------|---------------|--------|
| Low | 2412 | 12.79 | 10.52 | 23.31 | 214.289 | ≦1000 | PASS |
| Middle | 2437 | 12.31 | 10.52 | 22.83 | 191.867 | ≦1000 | PASS |
| High | 2462 | 11.42 | 10.52 | 21.94 | 156.315 | ≦1000 | PASS |

[IEEE802.11n (HT20)] **Battery Full**

| Channel | Center Frequency (MHz) | Reading (dBm) | Factor (dB) | Level (dBm) | Peak Output Power (mW) | Limit (mW) | Result |
|---------|------------------------------|------------------|----------------|----------------|------------------------------|---------------|--------|
| Low | 2412 | 13.38 | 10.52 | 23.90 | 245.471 | ≦1000 | PASS |
| Middle | 2437 | 13.33 | 10.52 | 23.85 | 242.661 | ≦1000 | PASS |
| High | 2462 | 12.57 | 10.52 | 23.09 | 203.704 | ≦1000 | PASS |

Calculation;

Reading (dBm) + Factor (dB) = Level (dBm) $10\log P = Level (dBm)$ $P = 10^{(Maximum Peak Output Power / 10)} (mW)$



4.3 Band Edge Compliance of RF Conducted Emissions

4.3.1 Measurement procedure

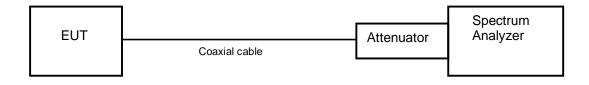
[FCC 15.247(d), KDB 558074 D01 v05r02, Section 8.5]

The Band Edge 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;

- a) Span = Arbitrary setting. (Setting suitable for measurement.)
- b) RBW = 100kHz.
- c) VBW \ge 3 x RBW
- d) Sweep time = auto-couple.
- e) Detector = peak.
- f) Trace mode = max hold.

- Test configuration



4.3.2 Limit

In any 100 kHz bandwidth outside the frequency band the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power.



4.3.3 Measurement result

| Date | : | 7-October-2022 |
|-------------|---|--------------------|
| Temperature | : | 23.2 [°C] |
| Humidity | : | 39.3 [%] |
| Test place | : | Shielded room No.4 |

Test engineer :

Taiki Watanabe

[IEEE802.11b]

| Channel | Frequency (MHz) | RF Power Level (dBm) | Band-edge Frequency (MHz) | Band- edge Level (dBm) | Difference Level (dBm) | Limit (dBm) | Result |
|---------|--------------------|-------------------------------|---------------------------------|---------------------------------|------------------------------|-------------------------------------|--------|
| Low | 2412 | -4.33 | 2399.52 | -56.32 | 51.99 | At least 20dB below from peak of RF | PASS |
| High | 2462 | -3.99 | 2487.98 | -65.30 | 61.31 | At least 20dB below from peak of RF | PASS |

[IEEE802.11g]

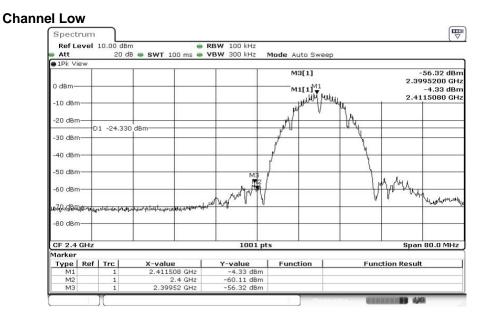
| Channel | Frequency (MHz) | RF Power Level (dBm) | Band-edge Frequency (MHz) | Band- edge Level (dBm) | Difference Level (dBm) | Limit (dBm) | Result |
|---------|--------------------|-------------------------------|---------------------------------|---------------------------------|------------------------------|-------------------------------------|--------|
| Low | 2412 | -7.28 | 2399.84 | -45.43 | 38.15 | At least 20dB below from peak of RF | PASS |
| High | 2462 | -7.25 | 2483.58 | -54.06 | 46.81 | At least 20dB below from peak of RF | PASS |

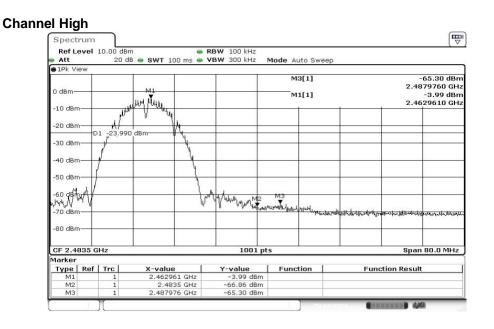
[IEEE802.11n (HT20)]

| Channel | Frequency (MHz) | RF Power Level (dBm) | Band-edge Frequency (MHz) | Band- edge Level (dBm) | Difference Level (dBm) | Limit (dBm) | Result |
|---------|--------------------|-------------------------------|---------------------------------|---------------------------------|------------------------------|-------------------------------------|--------|
| Low | 2412 | -7.30 | 2399.44 | -44.50 | 37.20 | At least 20dB below from peak of RF | PASS |
| High | 2462 | -7.74 | 2484.46 | -52.18 | 44.44 | At least 20dB below from peak of RF | PASS |

4.3.4 Trace data

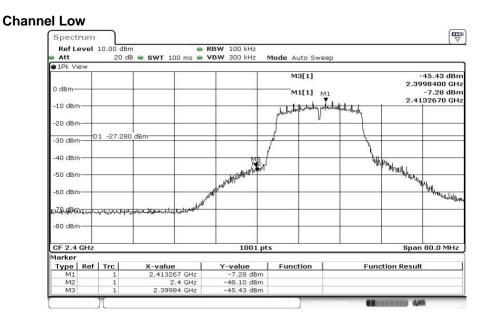
[IEEE802.11b]

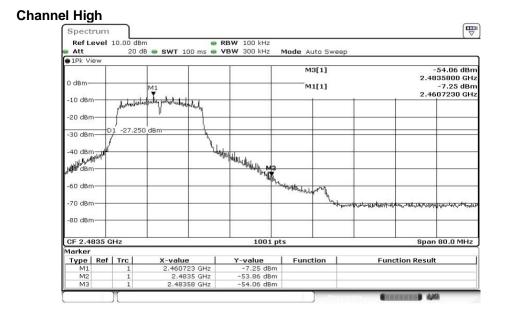






[IEEE802.11g]

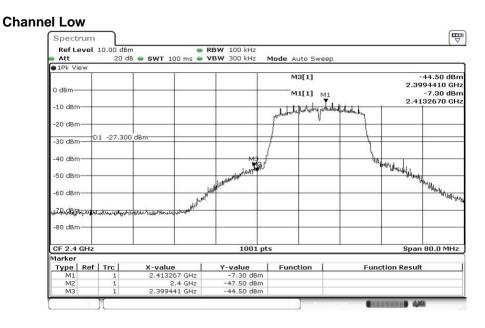


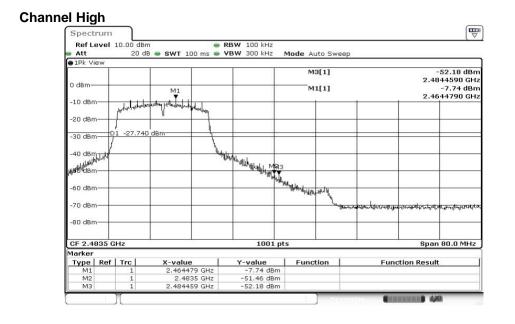






[IEEE802.11n (HT20)]







4.4 Spurious emissions - Conducted -

4.4.1 Measurement procedure

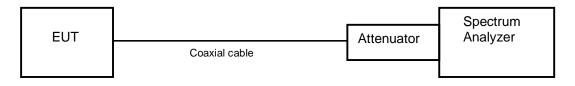
[FCC 15.247(d), KDB 558074 D01 v05r02, Section 8.5]

The spurious emissions (Conducted) are 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;

- a) Span = wide enough to fully capture the emission being measured.
- b) RBW = 100 kHz.
- c)́ VBW ≥ RBW.
- d) Sweep time = auto-couple.
- e) Detector = peak.
- f) Trace mode = max hold.

- Test configuration



4.4.2 Limit

In any 100 kHz bandwidth outside the frequency band the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power.



4.4.3 Measurement result

| Date | : 6-October-2022 | | |
|-------------|----------------------|---------------|----------------|
| Temperature | : 22.4 [°C] | | |
| Humidity | : 45.4 [%] | Test engineer | : |
| Test place | : Shielded room No.4 | - | Taiki Watanabe |

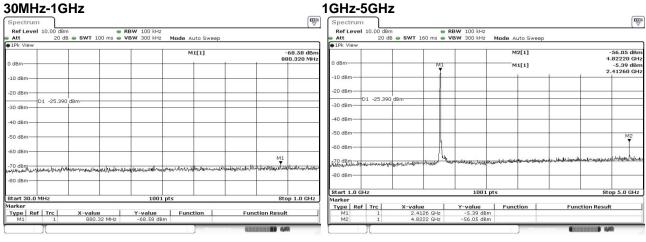
[IEEE802.11b、IEEE802.11g、IEEE802.11n (HT20)]

| Channel | Frequency [MHz] | Limit [dB] | Results Chart | Result |
|---------|--------------------|-------------------------------------|--------------------|--------|
| Low | 2412 | At least 20dB below from peak of RF | See the trace Data | PASS |
| Middle | 2437 | At least 20dB below from peak of RF | See the trace Data | PASS |
| High | 2462 | At least 20dB below from peak of RF | See the trace Data | PASS |



4.4.4 Trace data

[IEEE802.11b] Channel Low 30MHz-1GHz



5GHz-10GHz

| 1Pk Vi | 3W | | | | | | | | |
|---------|--------------------|----------|--------------|----------------------------|------------------------|-------------|-------------------------------|-------------------------------|----------------------------|
| | | | | | | M1[1 | 1 | | -64.41 dBm 6.19130 GHz |
| 0 dBm— | - | | | | | 1 | 1 | | 6.19130 GH |
| -10 dBm | _ | | | | | | | | - |
| -20 dBm | _ | | | | | | | | _ |
| -30 dBm | | 25.390 | dBm- | - | | | | | |
| -40 dBm | _ | | | | | | | | - |
| -50 dBm | | | | | | | | | |
| -60 dBm | | | M1 | - | | | | | _ |
| WHERE A | another law readed | diplican | April Manual | A the second second second | and instantic boulders | witherenter | ويتحادثهم المحيوما ومعدا تعمد | ومرغا المراسع سالما يستطرونهم | ليرابع الغريبانية ويعامهما |
| -80 dBm | _ | | | | | | | | |
| Start 5 | 0 GHz | | | 14 | 1001 p | its | ~ | St | op 10.0 GHz |
| larker | | | | | | | | | |

10GHz-15GHz

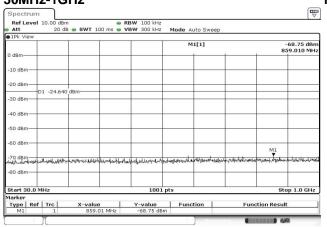
| Ref Level | | m B - SWT 100 ms - | RBW 100 kHz | Mode Auto Swe | | |
|----------------|----------------|---|---------------------------|------------------|---------------------------------|----------------------------|
| 1Pk View | 20 0 | 5 - 3W1 100 ms | VBW 300 KH2 | Mode Auto Swe | ah | |
| 1 dBm | | | | M1[1] | 2 2 | -64.26 dBr 14.53300 GH |
| J dBm- | | | | | | |
| -10 dBm | | | | | _ | |
| -20 dBm | | | | | | |
| 2022/2022/2022 | 01 -25,390 |) dBm | | | | |
| -30 dBm | 201051 | | + + | | | |
| -40 dBm | | | | | _ | |
| 50 dBm | | | | | | |
| -60 dBm | | | | | | M1 |
| 10 dBm | osur-wereshill | and a phase of the second s | end. Warred were lased or | Waterprotections | delater the second strategy and | here approved to delay and |
| -80 dBm | | | | | | |
| Start 10.0 (| GHz | | 1001 p | ts | | Stop 15.0 GHz |
| larker | 1 - I | | | 1 | | |
| Type Ref M1 | 1 1 | X-value 14.533 GHz | Y-value -64.26 dBm | Function | Functio | n Result |
| | 717 | | | | E B B B B B B B B B B | 430 |

15GHz-20GHz

20GHz-25GHz

| Ref Level 10.00 dBm RBW Att 20 dB SWT 100 ms VBW IPk View | | | Ref Level 10.00 dE Att 20 1Pk View | dB 🖶 SWT 100 ms 🖶 V | BW 100 kHz BW 300 kHz Mode | Auto Sweep | |
|---|---|-----------------------------------|--|---|-------------------------------------|---|--|
| 0 dBm- | M1[1] | -61.09 dBm 19.28820 GHz | 0 dBm- | | | M1[1] | -61.89 dB 20.32220 GF |
| -10 dBm | | | -10 dBm | | | | |
| -20 dBm D1 -25.390 dBm | | | -20 dBm | 00 dBm | | | |
| 40 dBm | | | -40 dBm | | | | |
| -50 dBm | | M1 | -50 dBm | | | | |
| -60 dBm | underformertree mechanical Mankahigewitter the second state of the second second second second second second se | Male work Monte and the share the | -70 dBm | .ergPaythysolidistaliyldesatirvitetivedhetisede | landf-burgh-absorbling-bablaticanni | when the most have been a start of the second | or and the second s |
| -80 dBm | | | -80 dBm | | | | |
| Start 15.0 GHz | 1001 pts | Stop 20.0 GHz | Start 20.0 GHz | | 1001 pts | | Stop 25.0 GHz |
| | value Function Fu | Inction Result | Marker Type Ref Trc M1 1 | X-value 20.3222 GHz | Y-value Fu | nction Fi | unction Result |

Channel Middle 30MHz-1GHz



1GHz-5GHz Spectrum Ref Level 10.00 di Att 20 Mode Auto Sweep • 1Pk V M2[1] -58.76 dBm 4.87410 GHz -4.64 dBm 2.43660 GHz M1[1] -10 dBn -20 dBm D1 -24.640 -30 dBm 40 dBn 50 dBn 60 dBm 70 dBm alway julia -80 dBn Stop 5.0 GHz Star 1ark 1001 Marker Type Ref Trc M1 1 M2 1 Y-value Function -4.64 dBm -58.76 dBm X-value 2.4366 GHz 4.8741 GHz Function Result

5GHz-10GHz

| Spectrum Ref Level 10.00 dBm Att 20 dB SWT 100 m | RBW 100 kHz ns VBW 300 kHz Mode Auto Sweep | | Spectrum Ref Level 10.00 dB | m • RBW 100 kH IB • SWT 100 ms • VBW 300 kH | | E C |
|---|---|--|--------------------------------|---|--|--------------------------|
| 1Pk View | In the source where where were sweep | | ● 1Pk View | | - Mode Auto Sweep | |
| 0 dBm | M1[1] | -64.01 dBm 6.79070 GHz | 0 dBm | | M1[1] | -63.88 dB 13.82870 GF |
| -10 dBm | | | -10 dBm | | | |
| -20 dBm D1 -24,640 dBm | | | -20 dBm-D1 -24.64 | 0 dBm | | |
| -30 dBm | | | -30 dBm | | | |
| -50 dBm | | | -50 dBm | | | |
| -60 dBm | M2 | served and redention for bill the medical to be stated on a low makers which | -60 dBm | where the second way that has been a second s | Universition of the state of th | MI |
| -80 dBm | | | -80 dBm | | | |
| Start 5.0 GHz | 1001 pts | Stop 10.0 GHz | Start 10.0 GHz | 100 | 1 pts | Stop 15.0 GHz |
| Marker Type Ref Trc X-value M1 1 6.7907 0 | Y-value Function | Function Result | Marker Type Ref Trc M1 1 | X-value Y-value 13.8287 GHz -63.88 d | Function Bm | Function Result |
|)[| | (11111111) 4/4 | | | | (10000000) 494 |

15GHz-20GHz

20GHz-25GHz

10GHz-15GHz

| 1Pk Vi | ew. | | | | | | | | | | 1Pk View |
|----------|-----------|--------------|---|---------------|-------------------------------|-----------|----------|------------------|---------------|--------------------------|------------|
| 0 dBm- | | | | | | M1[| 1] | 2 | | -60.91 dBm .24330 GHz | 0 dBm- |
| U UBIII- | | | | | | | | | | | U UBIII- |
| -10 dBn | - | | | | - | | | | | | -10 dBm- |
| -20 dBn | - | | | | | | | | | | -20 dBm- |
| | | -24.640 | dBm | | | | | | | | |
| -30 dBn | | | | | | | | | | | -30 dBm |
| -40 dBn | - | | | | - | | | | | | -40 dBm |
| -50 dBn | | | | | | | | | | | -50 dBm |
| -60 dBn | | | | | | | | | M1 | | -60 dB |
| -DU UBN | enterious | Harris Labor | shall a start and a start and a start and a start a sta | -kikon Mardia | the work of the of the second | no-wanter | Numeraly | my freederstrond | hillion which | modulinstanifications, | -60 about |
| -70 dBn | + | 2005 AN | | . SA | | 00.000 | 0 240 25 | | | | -70 dBm- |
| -80 dBn | - | | | | | | | | | | -80 dBm |
| Start 1 | 5.0 GH | Iz | | | 1001 | pts | | | Stor | 20.0 GHz | Start 20.0 |
| Marker | | | | 221 | | | 22 | | | | Marker |
| Type | Ref | Trc | X-value | 3 GHz | Y-value -60.91 dBr | Functio | in | Functio | on Result | t | Type Re |

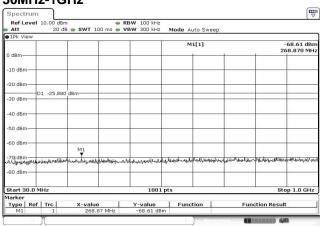
| Att 20 dB • | | RBW 100 kHz VBW 300 kHz | Mode Auto Sweep | | |
|-----------------------|-----------------------|---|------------------------------|--|----------------------------|
| 1Pk View | | | | - | |
| | | | M1[1] | | -61.79 dB 20.31220 GH |
| 0 dBm | | | | | |
| -10 dBm | | | | | |
| -20 dBm D1 -24,640 dB | | | | | |
| -30 dBm | m | | | | |
| -40 dBm | | | | | |
| -50 dBm | | _ | | | |
| -60 dBm | 06 N2 3 | | | | |
| -70 dBm | intradual annalishing | A colored and a second the later of the second s | viquond and the objection of | international states and the second second | Meneripation Levellaholder |
| -80 dBm | | | | | |
| Start 20.0 GHz | 107 | 1001 p | ts | | Stop 25.0 GH: |
| Marker | | | | | |
| Type Ref Trc M1 1 | 20.3122 GHz | -61.79 dBm | Function | Function | n Result |

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M2

ILLIN AN

Channel High 30MHz-1GHz



1GHz-5GHz Spectrum Ref Level 10.00 di Att 20 Mode Auto Sweep • 1Pk V M2[1] -58.15 dBm 4.92210 GHz -5.88 dBm 2.46050 GHz M1[1] MJ -10 dBn -20 dBm D1 -25.880 -30 dBm 40 dBn 50 dBr M2 60 dBn -70 dBmdistantioner of 80 dBn op 5.0 GHz Star 1ark 100 Marker Type Ref Trc M1 1 M2 1 Y-value Function -5.88 dBm -58.15 dBm X-value 2.4605 GHz 4.9221 GHz Function Result III 646

5GHz-10GHz

| 1Pk View | | | | 1Pk View | - | | 1 1 | | |
|------------------------------|-------------|--|--|--------------------|------------|------------------------------------|---------------|--------------|--|
| dBm | | M1[1] | -64.27 dBm 6.97550 GHz | 0 dBm | | | | M1[1] | -63.94 dt 10.60690 G |
| 0 dBm | | | | -10 dBm- | | | | | |
| 0 dBm | | | | -20 dBm- | | | | | |
| D1 -25.880 dBm | | | | -30 dBm | D1 -25.880 | dBm | | | |
| 0 dBm | | | | -40 dBm | | | | | |
| 0 dBm | | | | -50 dBm— | | | | | |
| io dBm | 141. | - Heren when the south and the souther the | have been and the second and the sec | -60 dBm -70 dBm | T T | Rightheor Angerson and so for fail | union materia | Mathematical | angh Jake Aglen all the march and the stress |
| 0 dBm | | | | -80 dBm- | | | | | |
| art 5.0 GHz | NY CO | 1001 pts | Stop 10.0 GHz | Start 10.0 | GHz | | 1001 p | ts | Stop 15.0 GF |
| nrker ype Ref Trc 3 | (-value Y | -value Function | Function Result | Marker Type Re | flitrol | X-value | Y-value | Function | Function Result |

G

15GHz-20GHz

20GHz-25GHz

10GHz-15GHz

| ●1Pk Vi | ew. | | | | | | ●1Pk View |
|---------|-------|----------------------|--|-------------------------|--------------------|--|-------------------------------|
| | | | | | M1[1] | -61.06 dBn 19.41310 GH | |
| 0 dBm- | | | | | 1 | | 0 dBm- |
| -10 dBn | + | | | | | | -10 dBm |
| -20 dBn | - | | | | | | -20 dBm |
| -30 dBn | | 1 -25.880 | dBm | | | | -30 dBm |
| -40 dBn | + | | | | | | -40 dBm |
| -50 dBn | + | | | | | | -50 dBm |
| -60 dBm | | | | | | M1 | -60 dBn |
| -70 dBn | where | ellenter (reduction) | an in the second s | ulfenereraturations | aweltstantenterter | y month a last fair south and the state of the | H yahaya Maringan -70 dBm- |
| -80 dBn | + | | | | | | -80 dBm |
| Start 1 | 5.0 G | Hz | | 1001 pt | s | Stop 20.0 GHz | Start 20.0 |
| Marker | | | 0 | () () () | Function | Function Result | Marker |
| Type | Ret | 1 | X-value 19.4131 GH | Y-value z -61.06 dBm | Function | Function Result | Type Re M1 |

| Ref Level 10.00 |) dBm 20 dB 👄 SWT | | BW 100 kHz | Mode Auto Sv | | |
|-----------------|----------------------|---------------------------|---|-------------------|---------------------------------|--|
| 1Pk View | 20 UB 🖷 SWI | 100 ms 🖶 🖌 | BW 300 KH2 | Mode Auto SV | veep | |
| IFK TIOW | | | | M1[1] | | -61.86 dBi 20.35710 GH |
| 0 dBm | | | + + | 1 | | 1 1 |
| -10 dBm | | | | | | |
| -20 dBm | | | | | | |
| -30 dBm | 5.880 dBm | | | | | · · · · · · · · · · · · · · · · · · · |
| -40 dBm | | | - | | | |
| -50 dBm | | | | | | |
| -60 dBm | | | 2.00 | | | |
| -70 dBm | allingtondefination | elevered with the terrine | willight the contraction of the little between the | whether big shulp | بديوها والمعامية والمواعد ويرين | an you want an |
| -80 dBm | | | | | | |
| Start 20.0 GHz | | 192 | 1001 | pts | | Stop 25.0 GHz |
| 1arker | | 2741 | | 1251 | 20 | |
| Type Ref Tro | | lue | Y-value -61.86 dBn | Function | Fund | ction Result |

Japan

Ì



| Spectrum | | | | | [₩ |
|---------------------------------------|--|-------------------------------------|--|--|--|
| Ref Level 10.00 dBm | | RBW 100 kHz | | | |
| | 👄 SWT 100 ms 👄 ' | VBW 300 kHz 1 | Mode Auto Swee | p | |
| 1Pk View | | | | | |
| | | | M1[1] | | -69.35 dBn 947.190 MHz |
| 0 dBm | | | - | | 947.190 МП |
| 10 dBm | | | | | _ |
| 20 dBm | | | | | |
| -30 dBm D1 -30.330 | dBm | | | | _ |
| -40 dBm | | | | | _ |
| -50 dBm | | - | | | _ |
| -60 dBm | | | | | _ |
| 70 dBm | | | | | M1 |
| begar will wanter it with deterted in | ومدارا المؤولان والمراجع المؤاجر بالمتحلي المروي والمحار | halfer share share have been a head | or which the second states | wayn bywranden terfel al bren ywan de brennoge | where we are a series of the s |
| -80 dBm | | | | | - |
| Start 30.0 MHz | | 1001 pt | s | | top 1.0 GHz |
| larker | | | | | |
| Type Ref Trc M1 1 | X-value 947.19 MHz | -69.35 dBm | Function | Function Res | ult |
| T T | | | 1. | | 4.365 |

1GHz-5GHz

10GHz-15GHz

| Ref Lev | rel 10.00 dE | m dB = SWT 100 | | BW 100 kHz | Mode A | ito Sweep | | |
|-----------|-----------------------------|--------------------------|----------|---|--|-----------|--------------------|---|
| 1Pk View | | | | 511 000 M H | mode Ac | ito oneop | | |
| | | | | | M: | 2[1] | | -65.45 dB 4.93010 GF |
| 0 dBm- | | | | | M | 1[1] | | -10.33 dB |
| -10 dBm- | | | M1 | | | | - | 2.40860 GH |
| | | | 1 | 1 1 | | | | |
| -20 dBm- | | | | | | | | |
| 30 d8m- | D1 -30.33 | 0_dBm | _ | | | | | |
| -40 dBm- | | + | _ | | | | | |
| -50 dBm- | | | | | | | | |
| -60 dBm- | | | -11- | | | | | |
| | | | W | | 1805 | | | |
| -70 dBm- | interfeature and the second | monounder adoption | queed to | production to be the state of the second states of | pet and a state of the state of | the state | disanta sina malan | martin and an and an and an |
| -80 dBm- | | | | - | | | | |
| Start 1.0 | GH7 | | | 1001 p | te | | | Stop 5.0 GH |
| Marker | GILE | | | 1001 | | | | 0.000 0.0 011 |
| Type F | Ref Trc | X-value | 1 | Y-value | Funct | ion | Functio | on Result |
| M1 M2 | 1 | 2.4086 | | -10.33 dBm -65.45 dBm | | | | |

5GHz-10GHz

| Spectrum | | | | | |
|---------------------------------|-------------------------------------|-----------------------|-----------------|---------------------------------------|--------------------------|
| Ref Level 10.00 dBr Att 20 d | n 😑 SWT 100 ms 👄 | RBW 100 kHz | Mode Auto Sweep | | |
| 1Pk View | | 1011 300 KHZ | HOUE AUTO SWEEL | | |
| | | | M1[1] | | -63.53 dBm 6.99550 GH |
| 0 dBm | | - | 1 | 1 | 6.99330 GH |
| -10 dBm | | | | | - |
| -20 dBm | | _ | | | |
| -30 dBm D1 -30.330 |) dBm | | | | _ |
| -40 dBm | | | | | _ |
| -50 dBm | | | | | - |
| -60 dBm | | MI | | | _ |
| wold Barrow which the work | and the second second second second | al about many and the | haddenlandatha | advantanages the hand and which which | an plant symbols |
| -80 dBm | | | | | _ |
| Start 5.0 GHz | | 1001 pt | s | s | top 10.0 GHz |
| Marker | Marca I | the strengtheory of | | | |
| Type Ref Trc M1 1 | X-value 6.9955 GHz | -63.53 dBm | Function | Function Res | sult |

Spectrum Ref Level 10.0 Att RBW 100 kHz SWT 100 ms VBW 300 kHz Mode Auto Sweep M1[1] -63.48 dBm 14.64790 GHz dBr 10 dBm -20 dBm-30 dBr 1 -30.33 40 dBm 50 dBm -60 dBn Hurr -70 dBm -80 dBm Start 10.0 GHz 1001 pt Stop 15.0 GHz Marker Type Ref Trc M1 1 Y-value Function Function Result X-value 14.6479 GH

20GHz-25GHz Spectrum ٦

| Ref Le Att | vel 10 | 0.00 dBm 20 dB | - SWT 10 | | BW 100 kHz | | uto Sweep | | | |
|-----------------------|------------|-------------------|--------------------|-------------|----------------------|---------------------|--------------------|---------------------|--------------------|--------------|
| ●1Pk Vie | w | 10 00 | | | DIT GOO MIL | induc A | ito oneep | | | |
| | | | | | | м | 1[1] | | | 62.38 dB |
| 0 dBm— | + | | | 8 | - | | - | 1 | 20 | .36210 G |
| | | | | | | | | | | |
| -10 dBm- | | | | | | | | | | |
| -20 dBm- | | | | | | | | | | |
| | | | | | | | | | | |
| -30 dBm- | D1 | -30.330 | dBm | | - | | | | | |
| -40 dBm- | | | | | | | | | | |
| | | | | | | | | | | |
| -50 dBm- | + | | | | | | | | | |
| -60 dBM | <u>ا</u> ا | | | | | | | | | |
| Water bole to the for | | Hallala Lav. L | Notes and a second | the Another | marchandrow | had all the another | Loui, birth | W. HARMAN | الماس | and the bill |
| -70 dBm- | waynes. | teratory and | | | 1.444 | Suffiel (part | - How O'STRATED OF | in the second fille | of the section and | anse and the |
| -80 dBm- | | | | | | | | | | |
| -80 dBm- | | | | | | | | | | |
| Start 20 | .0 GH | z | | | 100: | L pts | | | Stop | 25.0 GH |
| Marker | | 1.0 | | | | | | | | |
| Type M1 | Ref | Trc 1 | X-value 20.362 | | Y-value -62.38 dB | Func | tion | Fund | tion Result | t |

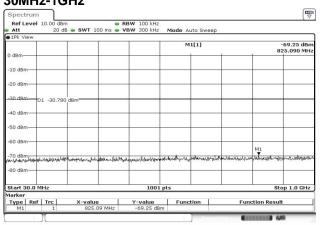
15GHz-20GHz

| Att | | 20 dB | SWT | 100 ms 😑 | VBW 300 kHz | Mode Aut | o Sweep | | | |
|------------|-----------|-------------|---------|----------|----------------------|--|----------------------|----------------------|-------------------------------------|-------------|
| ●1Pk Vi | ew. | | | - | | | | | | |
| | | | | | | M1[| 1] | | | -60.73 dBn |
| 0 dBm- | - | | 5 | | - | - 1 | 1 | | | .22030 GH |
| -10 dBm | | | - | | | | | | | |
| -20 dBm | 4 | | | _ | | | | | | |
| -30 d8m | D1 | -30.330 | dBm | | | | | | | |
| -40 dBm | | | | | | | | | | |
| -50 dBm | - | | | - | - | | | | | - |
| -60 dBm | | | | | | | 1.7 . 1.0. 141 | | M1 | |
| -70 dBrr | white whi | in when the | NUMBURS | repaired | howangerman | where the states of the states | under all Maladiates | on the second of the | And and a contraction of the second | Jahr Martin |
| -80 dBm | | | | | | | | | | |
| Start 1 | 5.0 GH | z | | | 1001 | ots | | | Sto | p 20.0 GHz |
| Marker | n (| ~ 1 | | | na all meri al prove | 1 | | - | | |
| Type M1 | Ref | Trc 1 | X-valu | 283 GHz | -60.73 dBm | Functio | on | Fund | tion Resu | lt |

TÜV SÜD Japan Ltd.



Channel Middle 30MHz-1GHz



1GHz-5GHz

| Ref Level | 10.00 dbr | | e D | BW 100 kHz | | | | |
|--------------|-------------|-----------------------|-------|------------------------------|---------------|----------|--------------------------------|--------------------------|
| Att | | n B 👄 SWT 100 m | | | Mode A | uto Swee | an | |
| 1Pk View | | | | | noue A | 00000000 | ·P | |
| | | | | | M | 2[1] | | -66.13 dBr |
| 0 dBm | | - | | | | | | 4.08290 GH |
| | | | M1 | | IVI | 1[1] | | -10.78 dBr 2.44060 GH |
| -10 dBm | | | T | | | - | | 1 1 |
| -20 dBm | | | | | | | | |
| -30 dBm | 1 -30.780 | dam | | | | | | |
| L | 1 -30.780 | dBm | | | | | | |
| -40 dBm | | | | | | | | |
| -50 dBm | | | -11- | | | | | |
| -60 dBm | | | | | | | M2 | |
| | | | 14 | | | | T | 6 . C |
| -70 dBm | manutal his | and the second second | w Luu | the the second of the second | Anorth Bagget | Hunstern | الم يعالينا هاديم حصرت أحيالها | hundhingungenishikkorl |
| -80 dBm | 24250 - 3 | | | | | | | |
| Start 1.0 GF | | | | 1001 pt | | | | Stop 5.0 GHz |
| Marker | 2 | | | 1001 pt | .5 | | | atup 3.0 GH2 |
| Type Ref | Trc | X-value | Ĩ | Y-value | Eunc | tion | Fun | ction Result |
| M1 | 1 | 2.4406 G | Hz | -10.78 dBm | | | | |
| M2 | 1 | 4.0829 G | H2 | -66.13 dBm | | | | |

5GHz-10GHz

| Spectrum | | | | | | | | \ |
|----------------|--------------|---------------------------------------|------------------------------|---------------------|---------------------------|-----------------------|--------------------|---------------------|
| Ref Level | | | RBW 100 kHz s VBW 300 kHz | | te Curen | | | |
| 1Pk View | 20 0 | 5 3 W 1 100 m | 5 W YBW 300 KH2 | MOUE AU | ILO SWEEP | | | |
| | | | | MI | l[1] | | | 64.10 dBm |
| 0 dBm | | | | | | | 6 | 78070 GHa |
| -10 dBm | | | | | | | | |
| -20 dBm | | | | | | | | |
| -30.dBm-0 | 01 -30.780 | dBm | | | | | | |
| -40 dBm | | | | | | | | |
| -50 dBm | | | | | | | | |
| -60 dBm | | | M1 | | | | | |
| -96-1818 | munderpriver | personal and the stranger between the | where the shine | erenel day i bleade | the market and the second | a heriority introduce | www.allala.deplers | artunin der weitige |
| -80 dBm | | | | | | | | |
| Start 5.0 GF | Ηz | | 1001 | L pts | | | Stop | 10.0 GHz |
| Marker | r 1 | | 1 | | | | | |
| Type Ref M1 | Trc 1 | X-value 6.7807 GI | Y-value Hz -64.10 dE | Funct | ion | Func | tion Result | |

10GHz-15GHz

| Ref Level 1 Att | | | | RBW 100 kHz /BW 300 kHz | Mode A | uto Sweep | | | |
|--------------------|-----------------|----------------|------------------|------------------------------|------------|-------------------|--------------------|-------------------|-----------------------|
| 1Pk View | | | | | | | | | |
| | | | | | м | 1[1] | | | 63.31 dBr 59290 GH |
| 0 dBm | | | | | | 1 | | | |
| -10 dBm | | - | | | | | | - | |
| -20 dBm | | | | | | | | | |
| -30.dBm-0: | -30.78 | dBm | | | | | | | |
| -40 dBm | | | | | | | | | |
| -50 dBm | | - | | | | | | | |
| -60 dBm | | | | | | | | | M1 |
| Maggard dBm | here and a star | (ordengthrough | laborlan delawya | leftertage-gestable-gebieder | minikykawa | ant historication | Whango Jahan Malak | halenhean Allehad | ability sections. |
| -80 dBm | | | | | | | | | |
| Start 10.0 G | -lz | | | 1001 p | ts | | | Stop | 15.0 GHz |
| larker | - | | | | | | | | |
| Type Ref M1 | Trc 1 | X-value | 29 GHz | -63.31 dBm | Func | tion | Func | tion Result | |

15GHz-20GHz

| Ref Le | vel 10.00 dBr | n B 🖶 SWT 100 ms 曼 | RBW 100 kHz | Mode Auto Swe | 200 | |
|----------------|--|--|-------------------------------|---------------------------------------|--------------------------|--------------------------------|
| e 1Pk Vie | | 0 0 0 0 0 1 1 0 0 m 5 0 | DH SOUTH | HOLE AUTO SWE | iep | |
| | | | | M1[1] | | -61.39 dB 19.22330 GF |
| 0 dBm— | | 2 | | | 1 | |
| -10 dBm | | | _ | | | |
| -20 dBm | | | | | | |
| -30 dBm | D1 -30.780 |) dBm | | | | |
| -40 dBm | | | | | | |
| -50 dBm | _ | | | | | |
| -60 dBm | | | | | | M1 |
| Huchthaute | home and the server to the server and the server an | المواحا المرمي محمد المنطقة المعالي المحمد المعالين المح | and all and the second second | had a state of the state of the state | man conservation for the | hallow from the states and the |
| -70 dBm | _ | | | | | |
| -80 dBm | | | | | | |
| Start 1 | 5.0 GHz | | 1001 p | ts | | Stop 20.0 GH |
| Marker Type | Ref Trc | X-value | Y-value | Function | Fund | ion Result |
| M1 | 1 | 19.2233 GHz | -61.39 dBm | runction | T unc | lon Result |

20GHz-25GHz

| Spectrum | | | | | 1 |
|---------------------|-------------------------------------|-------------------------------|------------------|-----------------------|---------------------------|
| Ref Level 10.00 dBr | n | • RBW 100 kHz | | | |
| Att 20 d | B 👄 SWT 100 ms (| • VBW 300 kHz | Mode Auto Sweep | 0 | |
| 1Pk View | | | | | |
| | | | M1[1] | | -62.44 dBr 20.07240 GH |
| 0 dBm | | | | | 20.07240 GH |
| -10 dBm | | | | | |
| -20 dBm | | | | | |
| 20 0011 | | | | | |
| -30.dBm D1 -30.780 | dBm | | | | _ |
| -40 dBm | | _ | | | |
| -50 dBm | | | | - <u>-</u> | |
| 90 dBm | | | | | |
| 20 dem human | والموالي والمراجع والمراجع والمراجع | Harley we Harrison the Andrew | Budden marke the | unpurport | usilation a desilation of |
| -70 dBm | | | | and a sector designed | |
| -80 dBm | | | | | |
| Start 20.0 GHz | | 1001 p | its | | Stop 25.0 GHz |
| /larker | | | | | |
| Type Ref Trc | X-value | Y-value | Function | Function R | esult |
| M1 1 | 20.0724 GHz | -62.44 dBm | | | |



Channel High

| Spectrum | | | | | | |
|--------------|-----------------------|---------------------------------|------------------------------|-----------------------------|----------------------------|--------------------------|
| Ref Level | | | RBW 100 kHz | | | |
| Att | 20 dB | 👄 SWT 100 ms | VBW 300 kHz | Mode Auto Swee | ер | |
| 1Pk View | | | | | | |
| | | | | M1[1] | | -68.73 dBn 824.120 MH |
| 0 dBm | | | | 1 | - E - E | 624.120 MH |
| | | | | | | |
| -10 dBm | | | | | | |
| | | | | | | |
| -20 dBm | | | | | | |
| | | | | | | |
| -30 dBm | 1 -31.030 | dBm | | | - | |
| -40 dBm | | | | | | |
| -40 dBill | | | | | | |
| -50 dBm | | | | | | |
| | | | | | | |
| -60 dBm | | | | | | |
| | | | | | M: | |
| -70 dBm | الالالبراط والجميداني | a hotely Agrandie Barrow bolton | most line trans real another | add a source and the second | multiple market during the | myahilahilahalahilah |
| | | | | | | |
| -80 dBm | | | | | | |
| Start 30.0 M | L17 | | 1001 | ate . | | Stop 1.0 GHz |
| Marker | | | 1001 | | | 0100 110 012 |
| Type Ref | Trc | X-value | Y-value | Function | Functio | n Result |
| M1 | 1 | 824.12 MHz | -68.73 dBm | 1 | | |

1GHz-5GHz

Ref Level 10.00 dBm Att 20 dB 1Pk Vier -66.30 dBm 4.71430 GHz -11.03 dBm 2.46050 GHz M2[1]) dBm M1[1] M1 -10 dBm -20 dBm-30.dBm-D1 -31.030 40 dBm--50 dBm -60 dBm M2 -70 dBmmandpromotore -80 dBm-Start 1.0 GH top 5.0 GHz Marker Type Ref Trc M1 1 M2 1 X-value Y-value Function 2.4605 GHz -11.03 dBm 4.7143 GHz -66.30 dBm Function Result CONTRACTOR AND

10GHz-15GHz

| Spectrum | | | | | ₹ |
|--|-----------------------------------|--------------------------|-------------------|--|-------|
| Att 20 dB | e SWT 100 ms e ' | RBW 100 kHz | Mode Auto Sweep | | |
| 1Pk View | awi 100 ms | VBW 300 KH2 | HOUR AUTO SWEEP | | |
| | | | M1[1] | -63.81 | |
| 0 dBm | | | - | 6.96050 | J GH |
| -10 dBm | | | | | |
| -20 dBm | | | | | |
| -30 dBm D1 -31.030 d | Bm | | | | |
| -40 dBm | | | | | |
| -50 dBm | | | | | |
| -60 dBm | | Ma | | | |
| ul de de la de La de la d | anternecklynnether and the second | have not an advantage la | manuscoulungation | warder and a second a | adage |
| -80 dBm | | _ | | | |
| Start 5.0 GHz | | 1001 pt | s | Stop 10.0 | GHz |
| Marker | Muselus I | M | Function | Counting Deput | |
| Type Ref Trc M1 1 | X-value 6.9605 GHz | -63.81 dBm | Function | Function Result | |

| 1Pk View | | | | | | | | |
|-------------------|-------------|------------------|-----------|--------------------------|--------------------------|------------------------|---------------------|------------------------------|
| | | | | | M1[| 1] | | -63.72 dB |
| 0 dBm | | | | | | | 12 | 10.60190 GH |
| | | | | | | | | |
| -10 dBm | | | | | | | | |
| | | | | | | | | |
| 20 dBm | | | | | | | | |
| 30 dBm | 1 -31.030 | dam | | | | | | |
| | 1 -31.030 | | | 1 1 | | | | |
| 40 dBm | | | - | - | | | | |
| 50 dBm | | | | | | | | |
| | | | | | | | | |
| 60 dBm 🕂 | 41 ¥ | | | | | | | |
| may have a second | Muchappenes | Juliatermination | - | becarbet on or provident | anot-contribution of the | المهاراليوروالللولي وا | wond line the grade | identerination in recipioned |
| /0 ubiii | | | | | | | | |
| 80 dBm | | | | | | | | |
| | | | | | | | | |
| Start 10.0 G | Hz | | · | 1001 | ots | | | Stop 15.0 GHz |
| larker | (I | | | | | | - | |
| Type Ref M1 | Trc 1 | X-valu | e D19 GHz | -63.72 dBm | Functio | on | Function | Result |

15GHz-20GHz

5GHz-10GHz

| Ref Level | 10.00 dBm | | RBW 100 kHz | | |
|----------------------|------------------|------------------|----------------------------|---------------------------------|---|
| Att | 20 dB | 8 👄 SWT 100 ms 👄 | VBW 300 kHz | Mode Auto Sweep | |
| ●1Pk View | | | 1 | M1[1] | -59.58 dB |
| I | | | | MILI | 19.27320 GF |
| 0 dBm | | 1 | | | |
| -10 dBm | | | | | |
| -20 dBm | | | | | |
| -30 dBm-0 | 01 -31.030 | dBm | | | |
| -40 dBm | | | | | |
| -50 dBm | | | | | · · · · · · · · · · · · · · · · · · · |
| -60 dBm | | | | | M1 |
| -70 dBm | lions of high to | naninan | within providential stated | nichally and a same of the form | erecolors and the second se |
| -80 dBm | | | | | |
| Start 15.0 C | Hz | | 1001 p | ts | Stop 20.0 GHz |
| | | X-value | Y-value | Function | Function Result |
| Marker Type Ref | | | | | |

20GHz-25GHz

| Pofloyol | 1 10.00 dBn | | | RBW 100 kHz | | | | | |
|----------------|-----------------------------|-----------------------------|----------------|---|--------------|------------------|---------------------------|--------------------|-------------|
| Att | | | | VBW 300 kHz | Mode A | uto Sweep | | | |
| 1Pk View | | | | | | | | | |
| | | | | | м | 1[1] | | | -61.22 dBn |
| 0 dBm | | | | - | | 1 | 1 | | 1 |
| -10 dBm | | | | | | | | | |
| -20 dBm | | | | | | | | | |
| -30 dBm | D1 -31.030 | dBm | | | | | | | |
| -40 dBm | | | | | | | | | |
| -50 dBm | | | | | | | | | |
| -60 dBm | | | | | | | | | |
| -70 dBm | horderstation of the second | entron when the hast of the | relforgenderme | or all the second se | unananananan | e-shurphyperited | ant and the second second | astronay developer | resplansive |
| -80 dBm | | | | | | | | | |
| Start 20.0 | GHz | | | 1001 | pts | | | Sto | p 25.0 GHz |
| larker | d and | | . î | the effective Restore | 1 | | | | |
| Type Ret M1 | f Trc | X-value | 22 GHz | -61.22 dBr | Func | tion | Fund | tion Resul | t |

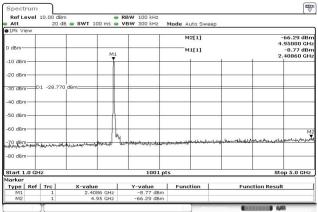




[IEEE802.11n (HT20)] Channel Low 30MHz-1GHz

| Ref Level | ID OD dBm | | RBW 100 kHz | | |
|---|--------------|----------------------------|-----------------------------|----------------------------------|---|
| Att | | . SWT 100 ms . | | 1ode Auto Swee | P |
| 1Pk View | | | | | |
| | | | | M1[1] | -68.98 690.390 |
| 0 dBm | | | - | | |
| -10 dBm | | | | | |
| -20 dBm | | | | | |
| -30 dBm 0 | 1 -28.770 | dBm | | | |
| -40 dBm | | | | | |
| -50 dBm | | | | | |
| -60 dBm | | | | | |
| 000000000000000000000000000000000000000 | | | | | 11 |
| -70 dBm | Andrahapered | burnership of the province | autorially out or which the | البهر المقاصمية الالمحام ويرامية | have a for the stand and the second south the ready |
| -80 dBm | 8 | | | 2.0 | |
| Start 30.0 M | Hz | | 1001 pts | 5 | Stop 1.0 G |
| Marker | | | | | × |
| Type Ref | Trc | X-value 690,39 MHz | Y-value -68,98 dBm | Function | Function Result |

1GHz-5GHz



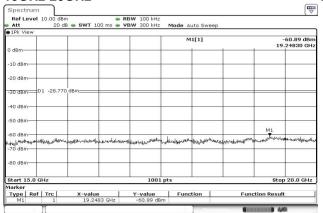
5GHz-10GHz

| D1Pk Vi | ew | | - | | VBW 300 kHz | | ito Sweep | | | | |
|----------------|-----------|-----------------|---|--------------------|---------------------|---------------|-------------------------|--------------------|--------------------------|--|--|
| | | | | | | M1[1] | | | -64.18 dBn 6.55590 GH | | |
| 0 dBm- | | | | | | | | | | | |
| -10 dBn | - | | | | | | | | | | |
| -20 dBn | - | | | | · · · · · | | | | | | |
| -30 dBn | | 1 -28.770 | dBm: | | - | | | - | | | |
| -40 dBn | | | | | | | | - | | | |
| -50 dBn | - | | | | - | | | | | | |
| -60 dBn | | | 13 | M1 | | | | - | | | |
| いが自然 | where and | neutron (1994). | langer an | hytullitanii(titan | when and the second | alderate/hidd | with a formation of the | a share shrowing a | liphotorin a huse | And had an the second sec | |
| -80 dBn | - | | | | | | | | | | |
| Start 5 | .0 GH | z | | | 1001 | pts | | | Sto | o 10.0 GHz | |
| Marker Type | Ref | Tre | X-value | . 1 | Y-value | Funct | ion | Fund | tion Resul | | |
| M1 | | 1 | | 59 GHz | -64.18 dBm | | | | | | |

10GHz-15GHz

| Ref Le | evel | 10.00 dBm 20 dB | | | BW 100 kHz BW 300 kHz | Mode A | uto Sweep | | | |
|----------------|----------|--------------------|---------------------|-------------------|----------------------------|------------------|------------------|---------------|---|----------------|
| • 1Pk Vi | ew | | | | | | | | | |
| | | | | | | M1[1] -6 13.8 | | | | |
| 0 dBm— | | | | - | | | | | 10. | |
| -10 dBm | - | | | - | - | | | | | |
| -20 dBm | - | | | | | | | | | |
| -30 dBm | D | 1 -28.770 | dBm==== | | | | | | | |
| -40 dBm | - | | | | | | | | | |
| -50 dBm | - | | | | | | | | | |
| -60 dBm | - | | | - | | | | M1 | | |
| 70 dBm | الاغتبيه | who much his | legendycomercesculu | idhild sortygeter | -gy19952100066666-66676600 | rwa.deara | chitte-alphouldb | durate series | manaly an | rdurinvelanich |
| -80 dBm | + | | | | | | | | | |
| Start 1 | 0.0 G | Hz | | | 1001 | pts | | | Stop | 15.0 GHz |
| 1arker Type | Ref | Teo I | X-valu | | Y-value | Func | tion | Euro | tion Result | |
| M1 | rer | 1 | | 86 GHz | -64.61 dBn | | cion | Func | cion Result | |

15GHz-20GHz

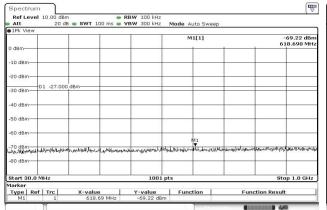


20GHz-25GHz

| | evel | 10.00 dBm | | RBW 100 kHz | | | |
|---------------|--------|----------------|--|--|---------------------------|---------------------------------------|------------------------|
| Att 1Pk Vi | | 20 dB | 🖷 SWT 100 ms 🖷 | VBW 300 kHz | Mode Auto Swee | ep | |
| DIPK VI | ew | | r r | | M1[1] | | -62.19 dB |
| | | | | | MILLI | | 20.32220 GH |
| 0 dBm- | - | | | - | 1 | | |
| | | | | | | | |
| -10 dBm | | | | | | | |
| -20 dBm | | | | | | | |
| -20 dBh | | | | | | | |
| -30 dBm | | 1 -28.770 | dBm | | | _ | |
| | | | | | | | 1 |
| -40 dBm | | | | | | | |
| | · | | | | | | |
| -50 dBm | - | | | - | | | |
| -60 dB | 1 | | | | | | |
| -60 dB | | 2010/12 | - 100 IN | | CA1200 1211-002 1202 1202 | | 2004 D2 95 300 |
| -70 dBm | - Alas | outhornalition | numbers it in support a prime with the | and a second surplicity of the second s | authorization | the market the sources and the second | antertally drived work |
| -70 UBI | | | | | | | |
| -80 dBm | - | | | | | | |
| | | | | | | | |
| Start 2 | 0.0.0 | LI7 | | 1001 p | te | | Stop 25.0 GH: |
| Marker | 0.0 0 | | | 1001 p | | | 0.0p 20.0 dra |
| Type | Ref | Trc | X-value | Y-value | Function | Function | Result |
| M1 | | 1 | 20.3222 GHz | -62.19 dBm | | | |







| Ref Level Att | | | RBW 100 kHz VBW 300 kHz | Mode Auto Swe | ер | |
|-------------------------------------|------------|------------------------|----------------------------|--|--|---|
| 0 dBm | | M | L | M2[1] | | -66.02 dBn 4.87410 GH -7.00 dBn 2.44060 GH |
| -10 dBm | | | | | | 2.44060 GH |
| -20 dBm | | | | | | |
| -30 dBm 0 | 1 -27.000 | dBm | | | | |
| -40 dBm | | | | | _ | |
| -50 dBm | | | | | _ | |
| -60 dBm | | | | | | M2 |
| -70 dBm Pulk & Andrew -80 dBm | Adrahabang | millionartonialitation | underst president and the | warder og van de | angali daga sa | man and the second s |
| Start 1.0 GH | 2 | | 1001 p | | | Stop 5.0 GHz |
| larker | | | 1001 p | | | 500 0.0 GHz |
| Type Ref M1 | Trc 1 | X-value 2.4406 GHz | -7.00 dBm | Function | Func | tion Result |

5GHz-10GHz

| | vel : | LO.OO dBm | | | 100 kHz | | | | | |
|------------|-------|-------------|--------------------------|--------------|--|----------|--------------------|-------------------|--------------|-----------------------|
| Att | | 20 dB | e SWT 100 m | s 👄 VBW | 300 kHz 1 | Mode Au | ito Sweep | | | |
| TLE AR | | | | | | м | 1[1] | | | 64.03 dBr 93060 GH |
| 0 dBm— | | | | | | | | | | 33000 GH |
| -10 dBm | _ | | | | | | | | | |
| -20 dBm | _ | | | | | | | | | |
| -30 dBm | D | 1 -27.000 | dBm | | | | | | | |
| -40 dBm | _ | | | | | | | | | |
| -50 dBm | _ | | | | | | | | | |
| -60 dBm | | | | M1 | | | | | | |
| -Howeld in | 11444 | uruha padat | herdet have a calence to | happeddiller | المعتبدين المريد والمعاد المعاد ا | labrahue | Priselly Black and | libed - Heferower | muthilipuper | elle plannente |
| -80 dBm | - | | | | | | | | | |
| Start 5 | 0 GH | z | | | 1001 pt | s | | | Stop | 0 10.0 GHz |
| | Ref | | X-value | | value | Func | tion | Fund | tion Result | |
| M1 | | 1 | 6.9306 G | Hz · | 64.03 dBm | | | | | |

10GHz-15GHz

| ●1Pk Vi | ew | | | | | | | | | |
|----------------|-------|-------------------|----------------------------------|----------|-------------------|--------------|---------------------|----------------------------|---------------|-----------------------|
| | | | | | | м | 1[1] | | | 64.23 dBr 84370 GH |
| 0 dBm— | - | | | | | | | | 13. | 84370 GH |
| -10 dBm | - | | | | | | | | | |
| -20 dBm | | | | | | | | | | |
| -30 dBm | D | 1 -27.000 | dBm | | | | | | | |
| -40 dBm | - | | | | | | | | | |
| -50 dBm | - | | | | | | | | | |
| -60 dBm | - | | | | | | | M1 | | |
| -70 dBn | when | new actuality whe | , the open of a plane is a plane | unnensko | bytering allowing | well, Allang | Laboriteinungetriku | haupat, gerale with the of | lisheredering | pholosukayout |
| -80 dBn | + | | | | | | | | | |
| Start 1 | 0.0 G | Hz | | | 1001 p | ts | | | Stop | 15.0 GHz |
| 1arker Type | Ref | Trc | X-value | 1 | Y-value | Fund | Nan I | F | tion Result | |

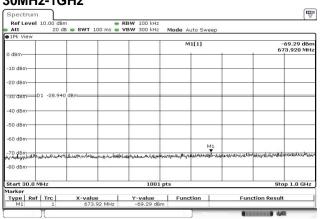
15GHz-20GHz

| Att | 10.00 dBn 20 dB | | | 3W 100 kHz 3W 300 kHz | Mode Au | uto Sweep | | | |
|---------------------------|---------------------|-----------------------|--------------------|--------------------------|---|---------------------|------------------------------------|-------------|---------------------|
| ●1Pk View | | | | | M1[1] -61. 19.373 | | | | |
| 0 dBm | | | | | | | | | |
| -10 dBm | | | | | | | | | |
| -20 dBm | | | | | | | | | |
| -30 dBm | D1 -27.000 | dBm | | | | | | | |
| | | | | | | | 1 | 1 | |
| -40 dBm | | | | | | | | | |
| -50 dBm | | | - | | | | | | |
| -60 dBm | DA 12 | 15 | | | | | | M1 | |
| чинан (Newman) -70 dBm | Money of the second | liverskillerkerstreel | eby tophic nations | outran warmen | arthe and the second | hospital plans have | afger and and the above the larger | High Langer | en all and a filler |
| -80 dBm | | | | | | | | | |
| Start 15.0 | GHz | | | 1001 | pts | | | Stop | 20.0 GHz |
| 1arker | f Trc | X-value | | Y-value | Fund | | | ion Result | |

20GHz-25GHz

| Ref Leve Att | 10.00 dBm 20 dE | | RBW 100 kH VBW 300 kH | | uto Sweep | | | |
|-----------------------------|--------------------|-----------------------------|--|----------------------------|-------------------------|--------------|---------------------|----------------------|
| ●1Pk View | | | | | | | | |
| | | | | N | 11[1] | | | 61.83 dB 29720 GF |
| 0 dBm | | | | | | | 20. | 29720 GF |
| -10 dBm— | - | | | - | | | | |
| -20 dBm— | | | | - | | | | |
| -30 dBm- | D1 -27.000 | dBm | | | | | | |
| -40 dBm— | | | | | | | | |
| -50 dBm— | | | | | | | | |
| -60 dBm | | | - | | | | | |
| ൾഡില്ലാണ്സിപ്പം -70 dBm— | ulaut.watend | Rose-Hallinghowing anger Ra | abeline remarking | all sighter and the second | a House contraction for | Williamarkan | - marchaellertother | -installed |
| -80 dBm— | | | | | | | | |
| Start 20.0 | GHz | | 100 | 01 pts | | | Stop | 25.0 GH |
| Marker Type Re | of Trc | X-value | Y-value | Fund | tion | Fund | tion Result | |
| M1 | 1 | 20.2972 G | Iz -61.83 (| dBm | | | | |

Channel High 30MHz-1GHz



1GHz-5GHz

| | evel : | 10.00 dBm | | | 3W 100 kHz | | | | |
|----------|--------|--------------|-----------------------------|--------------|-------------------------|---------------|--------------|------|---------------------------|
| Att | | 20 dB | SWT 100 m | 5 e V | BW 300 kHz | Mode A | uto Swee | р | |
| DIPK VI | ew | | | | <u>г г</u> | M | 12[1] | | -66.02 dBr |
| 0 dBm- | | | | | | | | | 4.91810 GH |
| U UBIII- | | | | M1 | | M | 11[1] | | -8.94 dBi 2.45650 GH |
| -10 dBm | - | | | Ţ | | | | | 2.43630 GF |
| | ~ | | | | | | | | |
| -20 dBm | | | | - | ++ | | | | |
| | | | 10 | | | | | | |
| -30 dBn | | 1 -28.940 | dBm | | | | | _ | |
| -40 dBm | | | | | | | | | |
| -40 UBII | | | | 7 | | | | | |
| -50 dBm | | | | | | | - | | |
| | | | | 11 | | | | | |
| -60 dBm | | | | -11 | | | - | - | Ma |
| - | | | | 1 | | | 1 | | and the set of the second |
| ill and | Winner | sicconscions | hour matter through the pol | at yat | demistrene (auto | Margaropana w | Area Malanes | | and the second second |
| -80 dBm | - | | | | · · · · · · · · · · · · | | | _ | |
| | a | | | | | | | | |
| Start 1 | .0 GH | z | | | 1001 p | ots | | | Stop 5.0 GHz |
| larker | | | | | | | | | |
| Type | Ref | Trc | X-value | 1 | Y-value | Fund | tion | Func | tion Result |
| M1 | | 1 | 2.4565 G | | -8.94 dBm | | | | |

5GHz-10GHz

| 1Pk Vie | 8W | | | | | | | | | |
|----------------|--|----------------|------------------|---------------------------------|---------|------------------|-------------------|--------------------|-----------------------|-------------|
| | | | | | | M1[1] | | | | 64.56 dBr |
| 0 dBm— | | | | | - | | | | 6. | .82370 GH |
| -10 dBm | | | | | - | | | | | |
| -20 dBm | | | | | - | | | | | |
| -30 dBm | D1 -2 | 8.940 dt | 3m | | - | | | | | |
| -40 dBm | _ | | | | | | | | | |
| -50 dBm | | | | | | | | | | |
| -60 dBm | _ | _ | | M1 | - | | | | | |
| -Horatin | water the state of | astal bill out | مائلها المريانال | and a contraction of the second | human | engrillane-enter | weelstalitedeese, | terrent destroy by | hard and have all and | almanna had |
| -80 dBm | _ | _ | | | | | | | | |
| Start 5 | 0 GHz | | | | 1001 | pts | | | Stop | 0 10.0 GHz |
| Marker Type | Ref Tro | | X-valu | | Y-value | Func | | | tion Result | |

10GHz-15GHz

| ●1Pk Vi | ew | | | | | | |
|---------------------------|----------------------|-------------------------|------------|---------------------------|-----------------------------|-------------------------------|--|
| | | | | | M1[1] | | -63.79 dBn 10.26220 GH |
| 0 dBm- | | | - | | | | 10120220 011 |
| -10 dBn | i | | - | | | _ | |
| -20 dBn | <u> </u> | | _ | | | | |
| -30 dBn | D1 -28 | 3.940 dBm=== | _ | | | _ | _ |
| -40 dBn | · | | | | | | |
| -50 dBn | n | | | | | | |
| -60 (#Bh | | | - | | | | |
| -70 dBn | and theme | ware and a state of the | whenrywall | how he are the strategy i | holenniguberegenertationhut | alerpoor millowing on the way | hand glace have been and a state of the stat |
| -80 dBn | | | | | | | |
| | 0.0 GHz | | | 1001 pt | s | | Stop 15.0 GHz |
| Start 1 larker Type | 0.0 GHz Ref Trc | X-va | | 1001 pt | s Function | Function F | |

15GHz-20GHz

Ref Level 10.00 c Mode Auto Sweep Att 1Pk Viev M1[1] -61.38 dBr 19.22830 GH dBn -10 dBm--20 dBm-01 -28.94 -30 dBm--40 dBm -50 dBm--60 dBm դու "Թևիիսդ -70 dBm — MI ant days Maghalett Johnson -80 dBm-Start 15.0 GHz Marker Type Ref Trc M1 1 1001 pts Stop 20.0 GHz X-value 19.2283 Y-value Function Function Result **III** 440

20GHz-25GHz

| Att | 20 de | 8 👄 SWT 100 ms (| WBW 300 KHZ | Mode Auto Swee | p | |
|---------------------|------------------------|--------------------------------|----------------------------------|---|------------------------------------|-------------------------------------|
| | | | | M1[1] | | -61.37 dB 20.31220 GF |
| 0 dBm | | | | | | |
| -10 dBm | | | | | | |
| -20 dBm— | | | | | - | |
| -30 dBm | D1 -28.940 | dBm | - | | | |
| -40 dBm | | | | | | |
| -50 dBm— | | | _ | | - | |
| -60 dB | | | | | _ | |
| -70 dBm | distanticher disserved | Lauly-Ulm Josephills-Allabytic | istendard the states whether the | whether of the second stands and the second s | deep the type of the street of the | sheen the philes of a second second |
| -80 dBm | | | _ | | | |
| Start 20.0 | GHz | | 1001 | ots | | Stop 25.0 GHz |
| Marker Type Re | f Trc | X-value | Y-value | Function | Fund | tion Result |

SUD



4.5 Spurious Emissions - Radiated -

4.5.1 Measurement procedure

[FCC 15.247(d), 15.205, 15.209, KDB 558074 D01 v05r02, Section 8.6]

Test was applied by following conditions.

| Test method Frequency range Test place EUT was placed on | : | ANSI C63.10 9 kHz to 25 GHz 3m Semi-anechoic chamber Styrofoam table / (W) $1.0 \times (D) 1.0 \times (H) 0.8$ m (below 1 GHz) Styrofoam table / (W) $0.6 \times (D) 0.6 \times (H)1.5$ m (above 1 GHz) |
|--|---|---|
| Antenna distance | : | 3 m |
| Test receiver setting - Detector - Bandwidth Spectrum analyzer setting - Peak - Average | : | Below 1 GHz Average (9 kHz-90 kHz, 110 kHz-490 kHz), Quasi-peak 200 Hz, 120 kHz Above 1 GHz RBW=1 MHz, VBW=3 MHz, Span=0 Hz, Sweep=auto 11b: RBW=1 MHz, VBW=3 kHz, Span=0 Hz, Sweep=auto 11g, 11n: RBW=1 MHz, VBW=1 kHz, Span=0 Hz, Sweep=auto Display mode=Linear |

Average Measurement Setting [VBW]

| mode | Duty Cycle (%) | Ton [µs] | Toff [µs] | 1/Ton (kHz) | Determined VBW Setting |
|-----------|-------------------|-------------|--------------|----------------|------------------------|
| 11b | 97.07 | 993.25 | 30 | 1.007 | 3kHz |
| 11g | 95.49 | 1375 | 65 | 0.727 | 1kHz |
| 11n(HT20) | 95.86 | 1275 | 55 | 0.784 | 1kHz |

Although these tests were performed other than open area test site, adequate comparison measurements

were confirmed against 30 m open are test site.

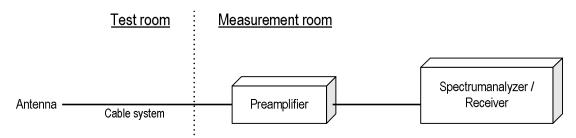
Therefore, sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field based on KDB 937606.

Radiated emission measurements are performed at 3m distance with the broadband antenna (Loop antenna, Biconical antenna, Log periodic antenna and Double ridged guide antenna). The antenna is positioned both the horizontal and vertical planes of polarization and height is varied 1m to 4m and stopped at height producing the maximum emission. As for the Loop antenna, it is positioned with its plane vertical, and the center of the Loop antenna is 1m above the ground plane.

The EUT is Placed on a turntable, which is 0.8m/1.5m above ground plane. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level. The test results represent the worst cases emission for each emission with manipulating the EUT, support equipment, interconnecting cables and varying the mode of operation. Sufficient time for the EUT, support equipment, and test equipment are allowed in order for them to warm up to their normal operating condition.



- Test configuration



4.5.2 Calculation method

[9 kHz to 150 kHz] Emission level = Reading + (Ant factor + Cable system loss) Margin = Limit – Emission level

[150 kHz to 25 GHz] Emission level = Reading + (Ant factor + Cable system loss - Amp. Gain) Margin = Limit – Emission level

Example:

Limit @ 4824.0 MHz: 74.0 dBuV/m (Peak Limit) S.A Reading = 49.5 dBuV Cable system loss = 8.4 dB Result = 49.5 + 8.4 = 45.1 dBuV/m Margin = 74.0 - 45.1 = 16.1 dB

4.5.3 Limit

| Frequency | Field s | Distance | |
|-------------|-----------------|---------------|-----|
| [MHz] | [uV/m] | [dBuV/m] | [m] |
| 0.009-0.490 | 2400 / F [kHz] | 20logE [uV/m] | 300 |
| 0.490-1.705 | 24000 / F [kHz] | 20logE [uV/m] | 30 |
| 1.705-30 | 30 | 29.5 | 30 |
| 30-88 | 100 | 40.0 | 3 |
| 88-216 | 150 | 43.5 | 3 |
| 216-960 | 200 | 46.0 | 3 |
| Above 960 | 500 | 54.0 | 3 |

Note:

1. The lower limit shall apply at the transition frequencies.

2. Emission level [dBuV/m] = 20log Emission [uV/m]

3. As shown in 15.35(b), for frequencies above 1000 MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20 dB under any condition modulation.



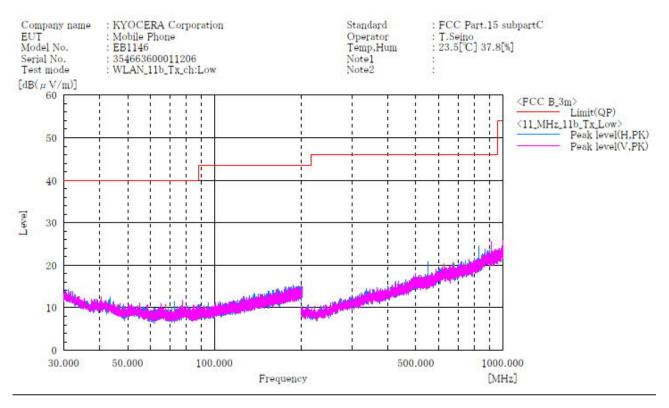
4.5.4 Test data

| Date Temperature Humidity Test place | : | 12-October-2022 23.5 [°C] 37.8 [%] 3m Semi-anechoic chamber | Test engineer : | _ | Tadahiro Seino |
|---|-------|--|-----------------|---|----------------|
| Date Temperature Humidity Test place | : : | 7-October-2022 22.8 [°C] 36.2 [%] 3m Semi-anechoic chamber | Test engineer : | _ | Chiaki Kanno |
| Date Temperature Humidity Test place | : : : | 13-October-2022 23.4 [°C] 35.2 [%] 3m Semi-anechoic chamber | Test engineer : | _ | Chiaki Kanno |



4.5.4.1 Transmission mode

[11b] Channel Low BELOW 1GHz



Final Result

| No. | Frequency | (P) | c.f | Height | Angle |
|-----|-----------|-------------|---|--------|-------|
| | [MHz] | | $\left[\mathrm{d}B\left(1/m\right) \right]$ | [cm] | [°] |

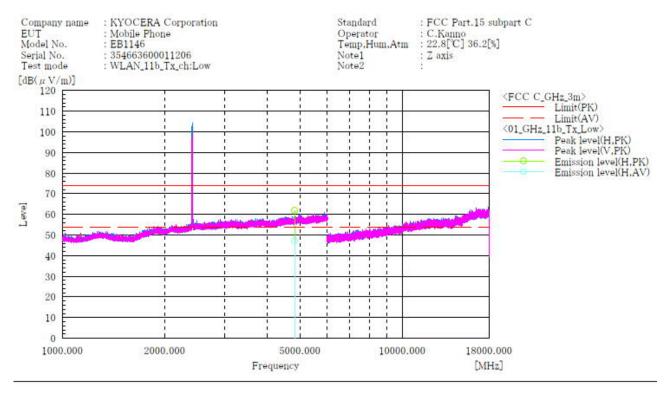
Note:

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

2. No emission were detected in frequency range 9kHz to 1000MHz at the 3 meters distance.



[11b] Channel Low ABOVE 1GHz



Final Result

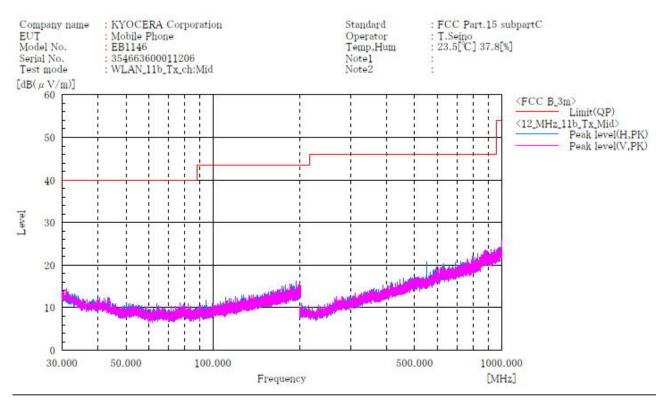
| No. | Frequency | (P) | Reading | Reading | c. 1 | Result | Result | Limit | Limit | Margin | Margin | Height | Angle | Remark |
|-----|-------------------|-----|---------------|---------------|-----------|-----------------|-----------------|--------------------------|-----------------|--------|--------|--------|-------|--------|
| | | | PK | AV | | PK | AV | PK | AV | PK | AV | | | |
| | [MH:] 4824.000 | | $[dB(\mu V)]$ | $[dB(\mu V)]$ | [dB(1/m)] | $[dB(\mu V/m)]$ | $[dB(\mu V/m)]$ | PK [dB(µV/m)] 74.0 | $[dB(\mu V/m)]$ | [dB] | [dB] | [cm] | ["] | |
| 1 | 4824,000 | H | 51.7 | 37.0 | 10.2 | 61.9 | 47.2 | 74.0 | 54.0 | 12.1 | 6.8 | 100.0 | 123.0 | |

Note:

- 1. Emission Level (Margin) = Limit [Reading + Factor (Antenna + Cable Amp)]
- 2. No emission were detected in frequency range 18GHz to 25GHz at the 3 meters distance.



[11b] Channel Middle BELOW 1GHz



Final Result

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

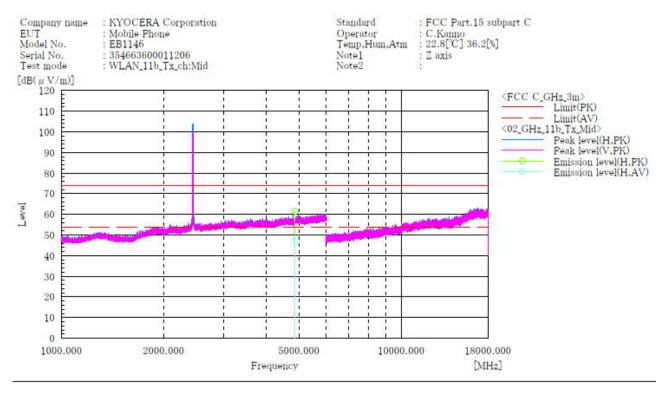
Note:

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

2. No emission were detected in frequency range 9kHz to 1000MHz at the 3 meters distance.



[11b] Channel Middle ABOVE 1GHz



Final Result

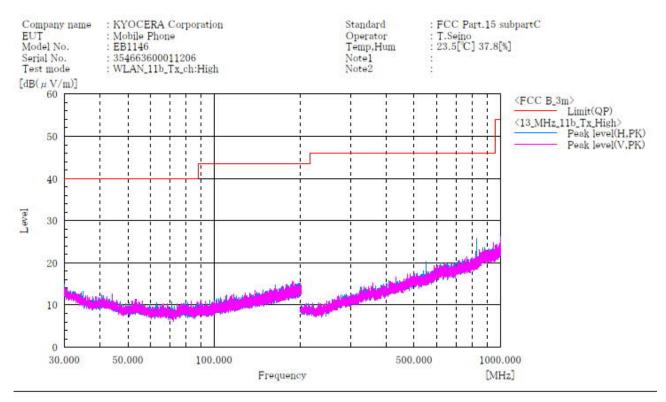
| No. | Frequency | (P) | Reading | Reading | c. 1 | Result | Result | Limit | Limit | Margin | Margin | Height | Angle | Remark |
|-----|-------------------|-----|---------------|---------------|-----------|-----------------|-----------------|--------------------|-----------------|--------|--------|---------------|-------|--------|
| | | | PK | AV | 1.10 | PK | AV | PK | AV | PK | AV | | | |
| | [MH:] 4874.000 | | $[dB(\mu V)]$ | $[dB(\mu V)]$ | [dB(1/m)] | $[dB(\mu V/m)]$ | $[dB(\mu V/m)]$ | [dB(µV/m)] 74.0 | $[dB(\mu V/m)]$ | dB. | [dB] | [cm] 100.0 | C. J. | |
| 1 | 4874,000 | H | 51.3 | 36, 8 | 10.4 | 01.7 | 47.2 | 74.0 | 34.0 | 12.3 | 6, 8 | 100.0 | 39.0 | |

Note:

- 1. Emission Level (Margin) = Limit [Reading + Factor (Antenna + Cable Amp)]
- 2. No emission were detected in frequency range 18GHz to 25GHz at the 3 meters distance.



[11b] Channel High BELOW 1GHz



Final Result

| No. | Frequency | (P) | c.f | Height | Angle |
|-----|-----------|-----|-----|--------|-------|
| | | | | | |

| [MHz] | [dB(1/m)] | [cm] | [" |] | |
|-------|-----------|------|----|---|--|
| | | | | | |

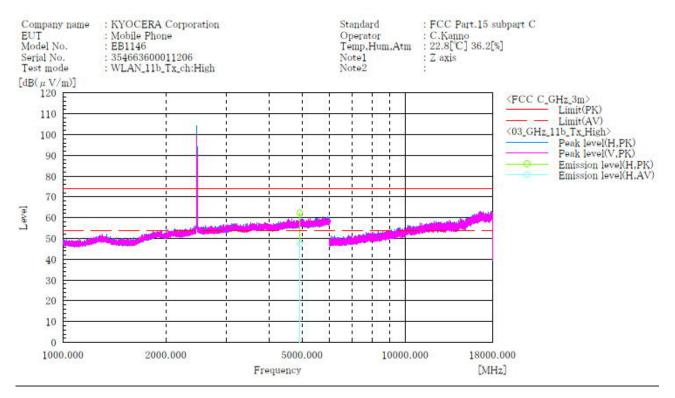
Note:

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

2. No emission were detected in frequency range 9kHz to 1000MHz at the 3 meters distance.



[11b] Channel High ABOVE 1GHz



Final Result

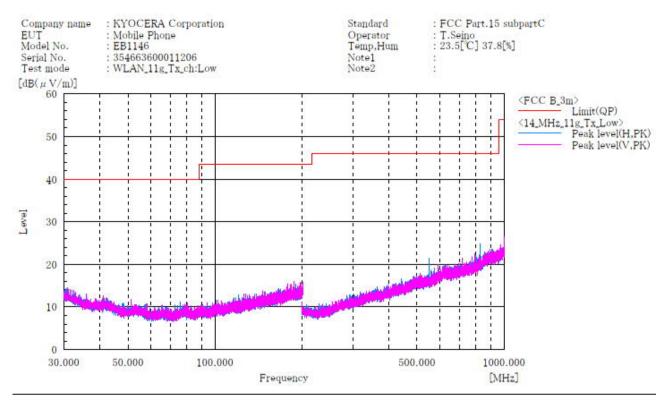
| No. | Frequency | (P) | Reading | Reading | c.f | Result | Result | Limit | Limit | Margin | Margin | Height | Angle | Remark |
|-----|-------------------|-----|---|------------------------|-----------|---|--|--------------------------|--|------------|------------|--------|-------|--------|
| 1 | [MH:] 4924.000 | н | $\begin{bmatrix} PK \\ [dB(\mu V)] \\ 51.6 \end{bmatrix}$ | AV [dB(μV)] 36.9 | [dB(1/m)] | $\begin{bmatrix} dB(\mu V/m) \end{bmatrix}$ | $\begin{bmatrix} dB \begin{pmatrix} AV \\ \mu V/m \end{pmatrix} \end{bmatrix}$ | PK [dB(μV/n)] 74.0 | $\begin{bmatrix} dB (\mu V/m) \end{bmatrix}$ | PK [dB] | AV [dB] | [cm] | [°] | |

Note:

- 1. Emission Level (Margin) = Limit [Reading + Factor (Antenna + Cable Amp)]
- 2. No emission were detected in frequency range 18GHz to 25GHz at the 3 meters distance.



[11g] Channel Low BELOW 1GHz



Final Result

| No. | Frequency | (P) | c.f | Height | Angle |
|-----|-----------|-----|--|--------|-------|
| | [MHz] | | $\left[\mathrm{d}B\left(1/m\right)\right]$ | [cm] | [°] |

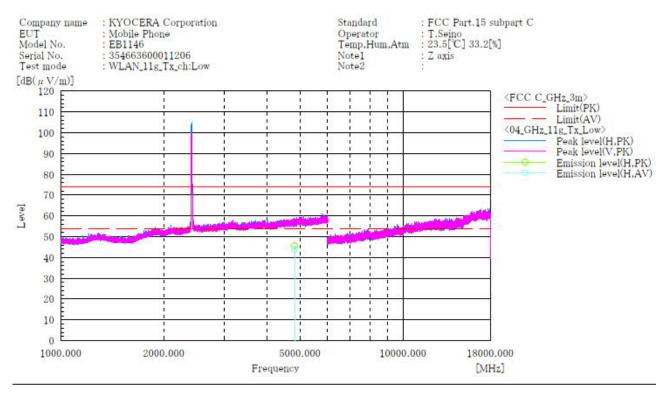
Note:

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

2. No emission were detected in frequency range 9kHz to 1000MHz at the 3 meters distance.



[11g] Channel Low ABOVE 1GHz



Final Result

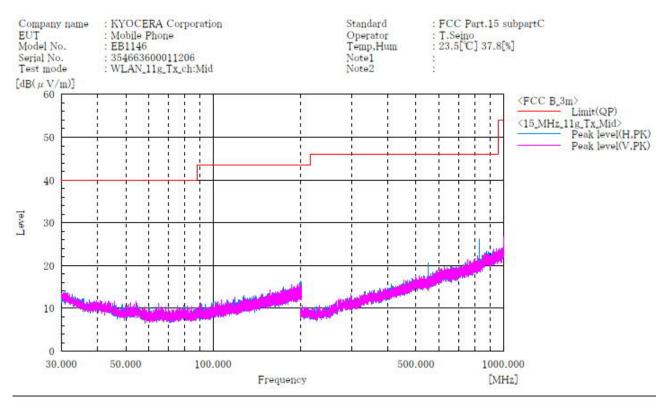
| No. | Frequency | (P) | Reading | Reading | c. f | Result | Result | Limit | Limit | Margin | Margin | Height | Angle | Remark |
|-----|-------------------|-----|---------|---------|-----------|------------|--------|--------------------------|-----------------|--------|--------|--------|-------|--------|
| | Der 1 | | PK | AV | 5 | PK | AV | PK [dB(µV/m)] 74.0 | AV | PK | AV | | | |
| 1 | [MHz] 4824,000 | н | dB(µV)] | 33 7 | [dB(1/m)] | (dB(µV/m)) | 43.9 | $[dB(\mu V/m)]$ | $[dB(\mu V/m)]$ | 18 3 | 10 1 | 169 0 | 213 0 | |

Note:

- 1. Emission Level (Margin) = Limit [Reading + Factor (Antenna + Cable Amp)]
- 2. No emission were detected in frequency range 18GHz to 25GHz at the 3 meters distance.



[11g] Channel Middle BELOW 1GHz



Final Result

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

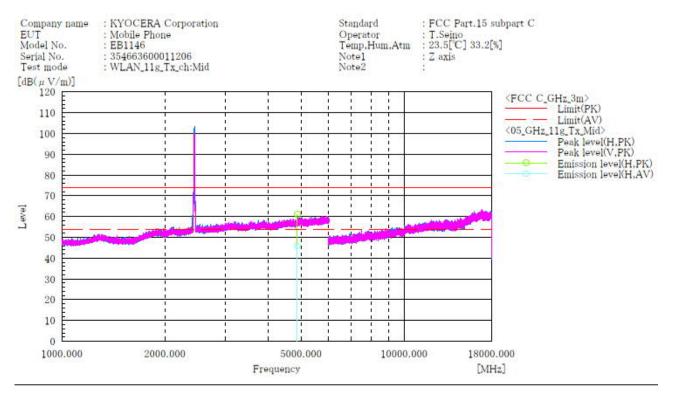
Note:

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

2. No emission were detected in frequency range 9kHz to 1000MHz at the 3 meters distance.



[11g] Channel Middle ABOVE 1GHz



Final Result

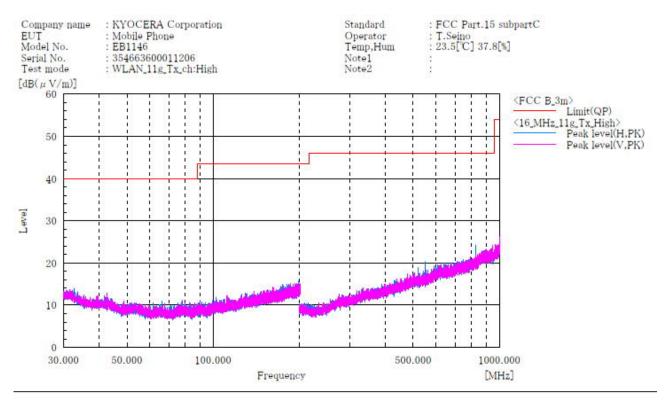
| No. | Frequency | (P) | Reading | Reading | c. f | Result | Result | Limit | Limit | Margin | Margin | Height | Angle | Remark |
|-----|-------------------|-----|---|------------------------|-----------|--------------------|--------------------|--------------------|--------------------------|--------------|-------------|---------------|---------------|--------|
| 1 | [MH:] 4874.000 | Н | $\begin{bmatrix} dB(\mu V) \end{bmatrix} \\ 50.7 \end{bmatrix}$ | AV [dB(μV)] 35.5 | [dB(1/m)] | [dB(µV/m)] 61.1 | [dB(µV/m)] 45.9 | [dB(µV/n)] 74.0 | AV [dB(μV/m)] 54.0 | [dB] 12.9 | [dB] 8.1 | [cm] 163.0 | [°] 210.0 | |

Note:

- 1. Emission Level (Margin) = Limit [Reading + Factor (Antenna + Cable Amp)]
- 2. No emission were detected in frequency range 18GHz to 25GHz at the 3 meters distance.



[11g] Channel High BELOW 1GHz



Final Result

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

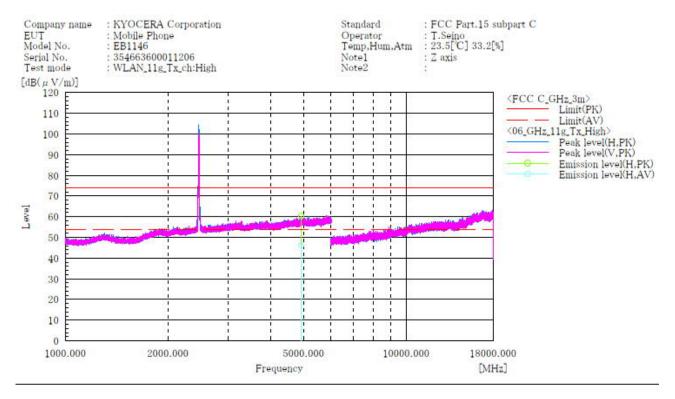
Note:

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

2. No emission were detected in frequency range 9kHz to 1000MHz at the 3 meters distance.



[11g] Channel High ABOVE 1GHz



Final Result

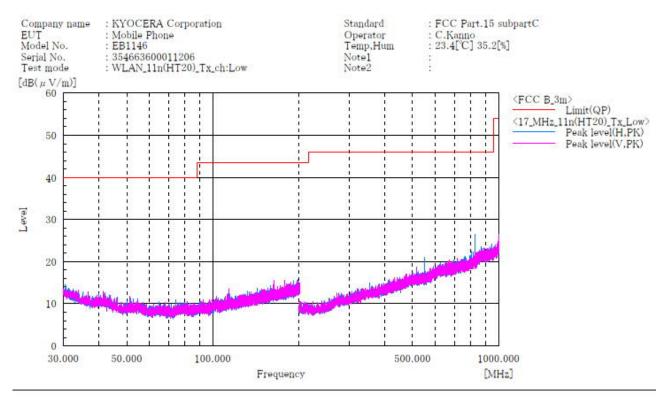
| No. | Frequency | (P) | Reading | Reading | c. f | Result | Result | Limit PK | Limit | Margin | Margin | Height | Angle | Remark |
|-----|-------------------|-----|------------------|------------------|-------------------|--------------------|-------------------------|--------------------|--------------------------|--------------|-------------|----------------|---------------|--------|
| 1 | [MH:] 4924.000 | H | [dB(µV)] 49.7 | [dB(µV)] 35.5 | [dB(1/m)] 10.7 | [dB(µV/m)] 60.4 | $[dB(\mu V/m)]$ 46.2 | [dB(µV/n)] 74.0 | AV [dB(μV/m)] 54.0 | [dB] 13.6 | [dB] 7.8 | [cm] [62, 0 | [°] 213.0 | |

Note:

- 1. Emission Level (Margin) = Limit [Reading + Factor (Antenna + Cable Amp)]
- 2. No emission were detected in frequency range 18GHz to 25GHz at the 3 meters distance.



[11n(HT20)] Channel Low BELOW 1GHz



Final Result

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

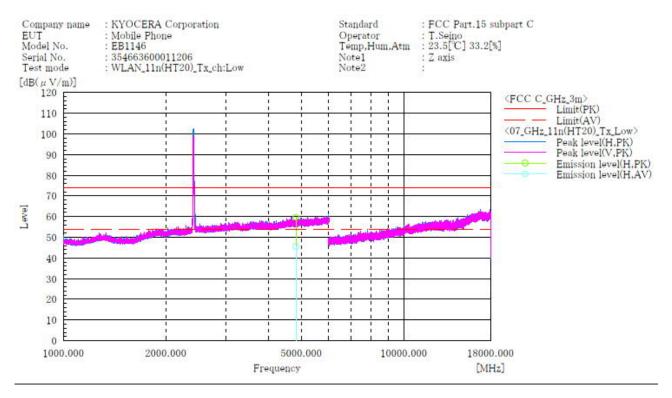
Note:

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

2. No emission were detected in frequency range 9kHz to 1000MHz at the 3 meters distance.



[11n(HT20)] Channel Low ABOVE 1GHz



Final Result

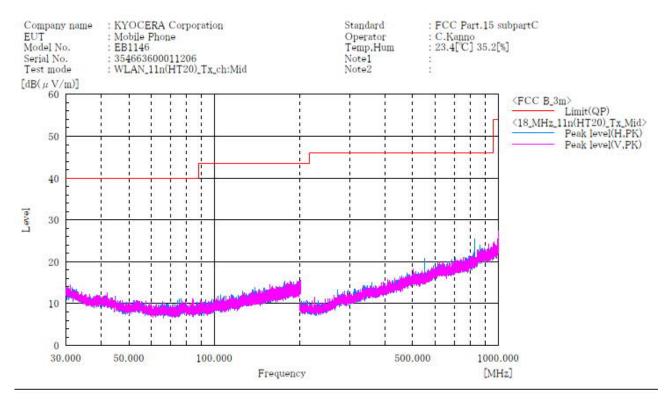
| No. | Frequency | (P) | Reading | Reading | c.f | Result | Result | Limit | Limit | Margin | Margin | Height | Angle | Remark |
|-----|-------------------|-----|----------------|----------------|-----------|-----------------|---|--------------------------|---|------------|------------|--------|-------|--------|
| | [MH:] 4824.000 | | PK [dB(µV)] | AV [dB(µV)] | [dB(1/m)] | $[dB(\mu V/m)]$ | $\begin{bmatrix} dB(\mu V/m) \end{bmatrix}$ | PK [dB(µV/m)] 74.0 | $\begin{bmatrix} dB(\mu V/m) \end{bmatrix}$ | PK [dB] | AV [dB] | [cm] | [°] | |
| 1 | 4824.000 | H | 49.5 | 35.3 | 10.2 | 59.7 | 45.5 | 74.0 | 54.0 | 14.3 | 8.5 | 141.0 | 217.0 | |

Note:

- 1. Emission Level (Margin) = Limit [Reading + Factor (Antenna + Cable Amp)]
- 2. No emission were detected in frequency range 18GHz to 25GHz at the 3 meters distance.



[11n(HT20)] Channel Middle BELOW 1GHz



Final Result

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

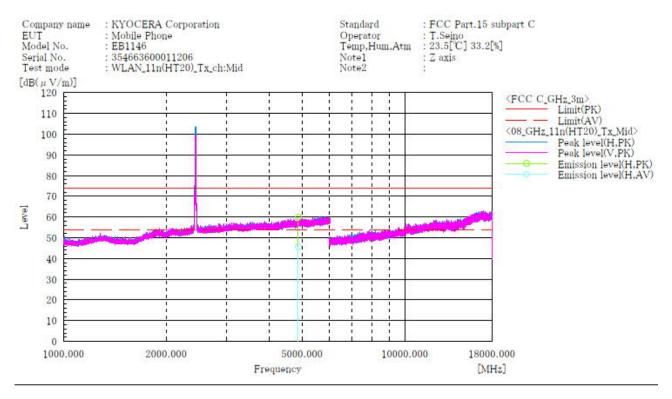
Note:

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

2. No emission were detected in frequency range 9kHz to 1000MHz at the 3 meters distance.



[11n(HT20)] Channel Middle ABOVE 1GHz



Final Result

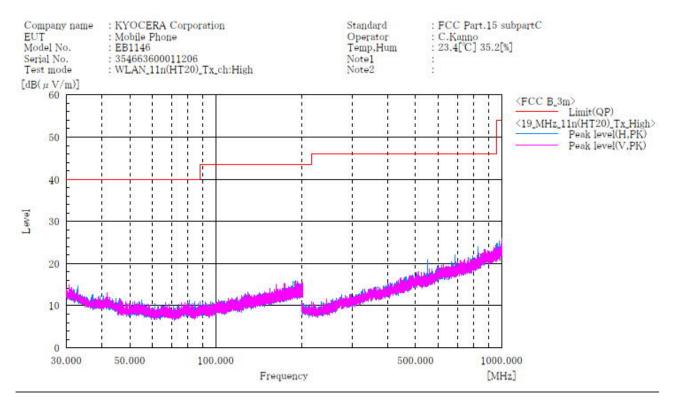
| No. | Frequency | (P) | Reading | Reading | c. f | Result | Result | Limit | Limit | Margin | Margin | Height | Angle | Remark |
|-----|-------------------|-----|---------|---------|--------------|------------------|--------|---|-------|--------|--------|--------|-------|--------|
| | Data-1 | | PK | AV | LID (1 /m)] | PK LIP (W (-)] | AV AV | PK FAR (NI (-)] | AV AV | PK | AV | [] | 79 T | |
| 1 | [MH:] 4874.000 | H | 49.4 | 35.3 | 10.4 | 59.8 | 45.7 | $\begin{bmatrix} dB(\mu V/n) \\ 74.0 \end{bmatrix}$ | 54.0 | 14.2 | 8.3 | 142.0 | 215.0 | |

Note:

- 1. Emission Level (Margin) = Limit [Reading + Factor (Antenna + Cable Amp)]
- 2. No emission were detected in frequency range 18GHz to 25GHz at the 3 meters distance.



[11n(HT20)] Channel High BELOW 1GHz



Final Result

| no. If educity (1) C.1 Height Migre | No. | Frequency | (P) | c.f | Height | Angle |
|-------------------------------------|-----|-----------|-----|-----|--------|-------|
|-------------------------------------|-----|-----------|-----|-----|--------|-------|

| [MHz] | [dB(1/m)] | [cm] | [°] |
|-------|-----------|------|-----|
| | | | |

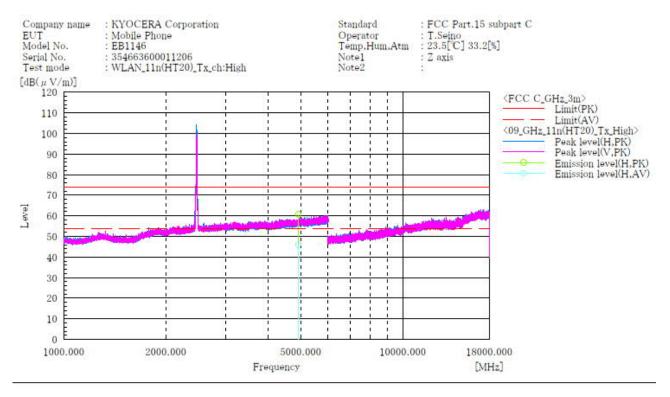
Note:

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

2. No emission were detected in frequency range 9kHz to 1000MHz at the 3 meters distance.



[11n(HT20)] Channel High ABOVE 1GHz



Final Result

| No. | Frequency | (P) | Reading | Reading | c.f | Result | Result | Limit | Limit | Margin | Margin | Height | Angle | Remark |
|-----|-------------------|-----|------------------------|------------------------|---|--------------------------|---|--------------------------|--------------------------|--------------|-------------------|---------------|----------------|--------|
| 1 | [MH:] 4924.000 | Н | PK [dB(μV)] 50.1 | AV [dB(μV)] 35.4 | $\begin{bmatrix} dB(1/m) \\ 10.7 \end{bmatrix}$ | PK [dB(µV/m)] 60.8 | $\begin{bmatrix} dB(\mu V/m) \end{bmatrix}$ | PK [dB(µV/m)] 74.0 | AV [dB(μV/m)] 54.0 | [dB] 13.2 | AV [dB] 7.9 | [cm] 159.0 | [°] 209. 0 | |

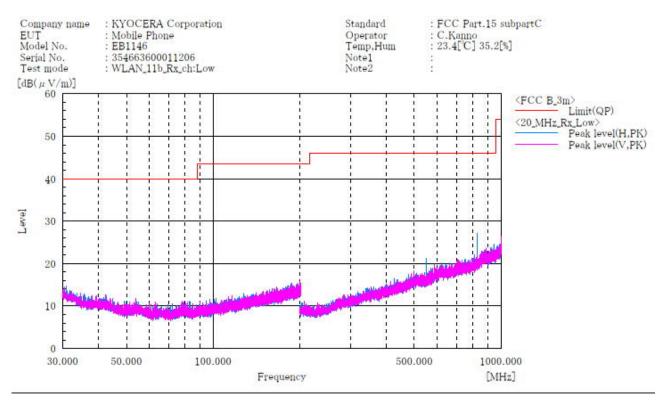
Note:

- 1. Emission Level (Margin) = Limit [Reading + Factor (Antenna + Cable Amp)]
- 2. No emission were detected in frequency range 18GHz to 25GHz at the 3 meters distance.



4.5.4.2 Receive mode

Channel Low BELOW 1GHz



Final Result

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

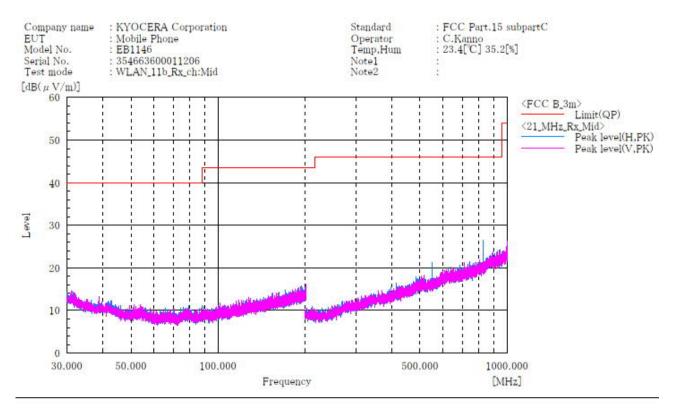
Note:

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

2. No emission were detected in frequency range 9kHz to 1000MHz and 1GHz to 25GHz at the 3 meters distance.



Channel Middle BELOW 1GHz



Final Result

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

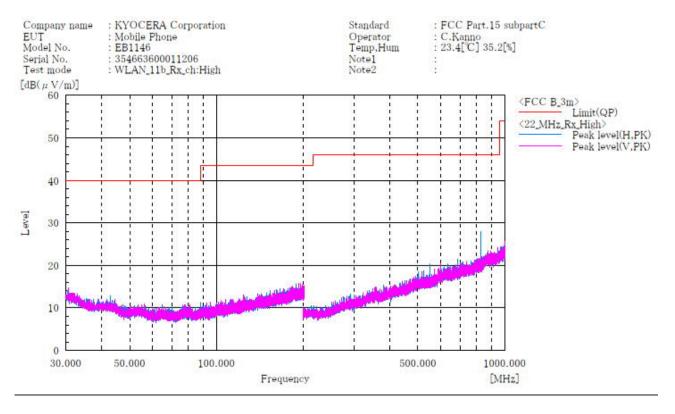
Note:

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

2. No emission were detected in frequency range 9kHz to 1000MHz and 1GHz to 25GHz at the 3 meters distance.



Channel High BELOW 1GHz



Final Result

| No. | Frequency | (P) | c.f | Height | Angle | |
|-----|-----------|-----|----------------------|--------|-------|--|
| | [MHz] | | $[\mathrm{d}B(1/m)]$ | [cm] | [°] | |

Note:

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

2. No emission were detected in frequency range 9kHz to 1000MHz and 1GHz to 25GHz at the 3 meters distance.



4.6 Restricted Band of Operation

4.6.1 Measurement procedure

[FCC 15.247(d), 15.205, 15.209, KDB 558074 D01 v05r02, Section 8.6]

Test was applied by following conditions.

| Test method Test place EUT was placed on Antenna distance | : : | ANSI C63.10 3m Semi-anechoic chamber Styrofoam table / (W) $1.0 \times (D) 1.0 \times (H) 0.8 \text{ m}$ (below 1 GHz) Styrofoam table / (W) $0.6 \times (D) 0.6 \times (H) 1.5 \text{ m}$ (above 1 GHz) 3m |
|--|-----|---|
| Spectrum analyzer setting - Peak - Average | : | RBW=1 MHz, VBW=3 MHz, Span=Arbitrary setting, Sweep=auto 11b: RBW=1 MHz, VBW=3 kHz, Span= Arbitrary setting, Sweep=auto 11g, 11n : RBW=1 MHz, VBW=1 kHz, Span= Arbitrary setting, Sweep=auto Display mode=Linear |

Average Measurement Setting [VBW]

| Mode | Duty Cycle (%) | Ton [µs] | Toff [μs] | 1/Ton (kHz) | Determined VBW Setting |
|-----------|----------------------|-------------|--------------|----------------|---------------------------|
| 11b | 97.07 | 993.25 | 30 | 1.007 | 3kHz |
| 11g | 95.49 | 1375 | 65 | 0.727 | 1kHz |
| 11n(HT20) | 95.86 | 1275 | 55 | 0.784 | 1kHz |

Although these tests were performed other than open area test site, adequate comparison measurements

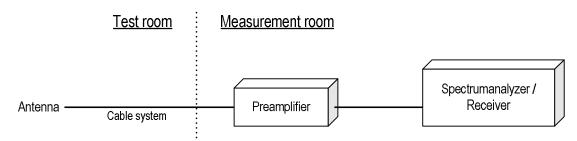
were confirmed against 30 m open are test site.

Therefore, sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field based on KDB 937606.

Radiated emission measurements are performed at 3m distance with the broadband antenna (Double ridged guide antenna). The antenna is positioned both the horizontal and vertical planes of polarization and height is varied 1m to 4m and stopped at height producing the maximum emission.

The EUT is Placed on a turntable, which is 0.8m/1.5m above ground plane. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level. The test results represent the worst case emission for each emission with manipulating the EUT, support equipment, interconnecting cables and varying the mode of operation. Sufficient time for the EUT, support equipment, and test equipment are allowed in order for them to warm up to their normal operating condition.

- Test configuration





4.6.2 Limit

Emission at the boundary of the restricted band provided by 15.205 shall be lower than 15.209 limit.

4.6.3 Measurement Result

[IEEE802.11b、IEEE802.11g、IEEE802.11n (HT20)]

| Channel | Frequency [MHz] | Results Chart | Result |
|---------|-----------------|--------------------|--------|
| Low | 2412 | See the Trace Data | Pass |
| High | 2462 | See the Trace Data | Pass |

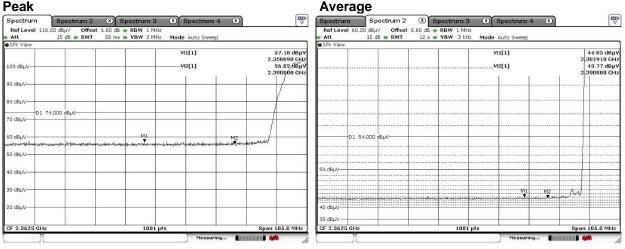
4.6.4 Test data

| Date | : | 12-October-2022 | | | |
|-------------|---|--------------------------|---------------|---|--------------|
| Temperature | : | 23.5 [°C] | | | |
| Humidity | : | 37.8 [%] | Test engineer | : | |
| Test place | : | 3m Semi-anechoic chamber | - | | Chiaki Kanno |
| | | | | | |



[IEEE802.11b]

Channel Low Horizontal Peak



Vertical Peak

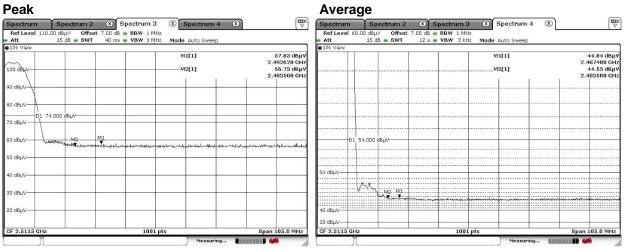
Average

| Att 15 dB SWT | 50 ms 🖷 YBW 3 MHz | | 1 | 1Pk View | | | | |
|----------------|-------------------------------|--|--|----------|----------------|------|----------------|--|
| .00 dBµV | | M1[1] —M2[1] | 57.07 dBµV 2.356800 GHz 55.58 dBµV 2.390000 GHz | | | | м1[1] м2[1] | 43.84 2:387360 43.53 2:390000 |
| 0 dBµV | | | | | | | | |
| D1 74,000 dBuV | | | 1 | | | | | |
|) dBµV | | | | | | | | |
| | MI anaradhaantanahanahanah | alunghinikan kunun ku | M2 Winderson | | 01 54.000 dBµV | | | |
| dByV | T | อิมพูลิสส์สภาจิมสะกัจมีเสียกการอิมุชโตรงหนึ่ง | M2 | C |)1 54.000 dBµV | | | |
| I dBµV | T | augeneense van de seeren aan de seeren a In de seeren aan de seeren a | NZ June June Alert | C |)1 54.000 dBµV | | | |



[IEEE802.11b]

Channel High Horizontal Peak



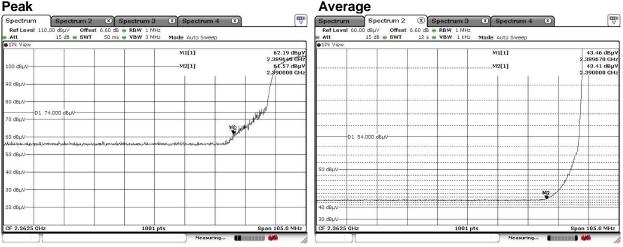
Vertical Book

| Peak | | | Average | | | |
|--|---|--|-----------------------------------|--|-----------------|--|
| Spectrum 2 🛞 Spectrum 3 | | | | trum 2 🛛 🛞 Spectrum 3 | Spectrum 4 🛞 | |
| | IHz IHz Mode Auto Sweep | | Ref Level 60.00 dBµV Att 15 dB | Offset 7.00 dB - RBW 1 MHz SWT 12 s - YBW 3 kHz | Mode Auto Sweep | |
| ●1Pk View 100 dBµV | M1[1] M2[1] | 58.16 dBμV 2.491260 GHz 55.83 dBμV 2.483500 GHz | IPk View | | M1[1] M2[1] | 44.79 dBµ 2.488000 GF 43.99 dBµ 2.483500 GF |
| 90 dBµV | | | | | | |
| 70 dBµV 60 dBµV 10-10-10-10-10-10-10-10-10-10-10-10-10-1 | eller som de service ander darbeiter ander de service | เปลาให้ไปปี | 01 54.000 dBµ | N | | |
| 50 dBµV | | | | | | |
| 40 dBµV | | | 50 dBµV | MI | | |
| 20 dBµV | | | 40 dBµV | | a fra , web | |
| CF 2.5115 GHz 1001 | | | 30 dBµV | 1001 p | | Span 105.0 MHz |



[IEEE802.11g]

Channel Low Horizontal Peak



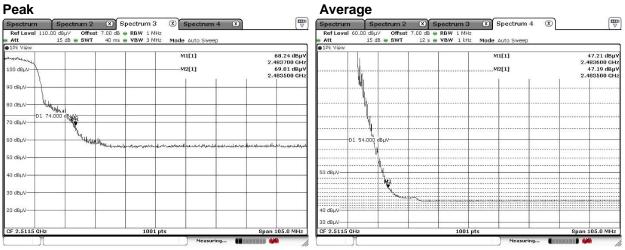
Vertical

Peak Average Spectrum Spectrum 2 Spectrum 3 Spectrum 4 Spectrum 4 Ref Level 110.00 dbµ/ Offset 6.60 db RBW 1 MHz Att Spectrum 4 43.17 dBµV 2.388930 GHz 43.18 dBµV 2.390000 GHz M1[1] 57.34 dBμV 2.383550 GHz 56.16 dBμV 2.390000 GHz M1[1] 100 dBuV M2[1] M2[1] 90 dBµV 80 dBµV D1 74.000 dBµV 70 dBµVj. 60 dBµ\ D1 54.000 dBuV M2 write nutrit 50 dBµV 40 dBµ\ 0 dBµV 30 dBµV MANE2 20 dBµV-40 dBµV 30 dBuV F 2.3625 100 05.0 MHz F 2.3625 GHz 1001 pt: 8pan 105.0 MHz Spa 1111



[IEEE802.11g]

Channel High Horizontal Peak



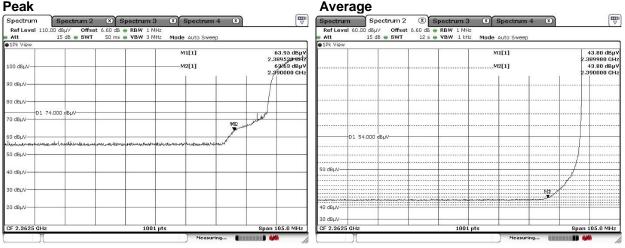
Vertical Book

| Peak | | Average | | | | |
|--|--|--------------------------|----------|----------------------------|----------------|--|
| Spectrum 2 (X) Spectrum 3 (X) Spectrum 4 | × | Spectrum S | | ectrum 3 🛛 🙁 | Spectrum 4 🙁 | |
| Ref Level 110.00 dBµV Offset 7.00 dB ● RBW 1 MHz Att 15 dB ● SWT 40 ms ● YBW 3 MHz Mode Auto Sweep | | | | RBW 1 MHz YBW 1 kHz Mod | le Auto Sweep | |
| ●LDk View M1[1] | 63.58 dBµV 2.483700 GHz 62.83 dBµV 2.483500 GHz | 1Pk View | | | M1[1] M2[1] | 44.88 dBµ 2.493600 GH 44.83 dBµ 2.483500 GH |
| 00 dBµV- 80 dBµV- D 74,000 dBµV- D 74,000 dBµV- D 74,000 dBµV- D 74,000 dBµV- | | | | | | |
| 60 dB/V | rgeiteren staterbannen jaren ber | D1 54.000 |) dBµV | | | |
| 40 dBµV | | 50 dBµV | | | | |
| 30 dBµV | | 40 dBμV | 1,92 | | | 4011003132100 001044449500 |
| CF 2.5115 GHz 1001 pts | Span 105.0 MHz | 30 dBµV CF 2.5115 GHz | | 1001 pts | | Span 105.0 MHz |



[IEEE802.11n (HT20)]

Channel Low Horizontal Peak



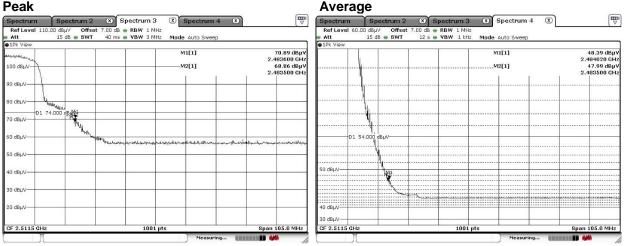
Vertical

Peak Average Spectrum Spectrum 2 Spectrum 3 Spectrum 4 Spectrum 4 Ref Level 110.00 dbµ/ Offset 6.60 db RBW 1 MHz Att Spectrum 4 59.49 dBµV 2.389320 GHz 58.85 dBµW 2.390000 GHz 43.23 dBµV .388930 GHz 43.16 dBµV .390000 GHz M1[1] M1[1] 100 dBuV M2[1] M2[1] 90 dBµV 80 dBµV D1 74.000 dBµV 70 dBµV-W 1012 60 dBµ\ D1 54.000 dBuV autorita Mulu 50 dBµV 40 dBµV 0 dBµV 30 dBµV MAI2 20 dBµV-40 dBµV 30 dBuV F 2.3625 100 Spar 05.0 MHz F 2.3625 GH 1001 pt: 8pan 105.0 MHz



[IEEE802.11n (HT20)]

Channel High Horizontal Peak



Vertical

Peak Average Spectrum Spectrum 3 Spectrum 4 Spectrum 4 Ref Level 60.00 dBµV Offset 7.00 db = RBW 1 NHt; Att 15 db = SWT 12 s = VBW 1 kHt; IPk View IPk View IPk View IPk View IPk View IPk View Spectrum Spectrum 2 Spectrum 3 Ref Level 110.00 dbµ/ Offset 7.00 db @ RBW 1 MHz Att 15 db @ SWT 40 ms @ VBW 3 MHz IPR View 100 db @ SWT 10 ms @ VBW 3 MHz Spectrum 4 🛛 Mode Auto Sy M1[1] 65.44 dBµV 2.484650 GHz 64.32 dBµV 2.483500 GHz M1[1] 45.78 dBμV 2.483710 GHz 45.72 dBμV 2.483500 GHz M2[1] M2[1] 90 dBuV D1 74,000 dBµV BD dBµV 70 dBµV 60 dBµV .000 50 dBµ 40 dBµV 0 dBµV 1362 30 dBµ\ HO dBµV-20 dBµV-30 dBuV F 2.5115 100 Spar 05.0 MHz F 2.5115 GHz 1001 pt: 8pan 105.0 MHz



4.7 Transmitter Power Spectral Density

4.7.1 Measurement procedure

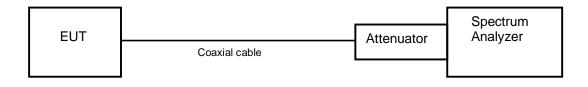
[FCC 15.247(e), KDB 558074 D01 v05r02, Section 8.4]

The peak power 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;

- a) Span = 1.5 times the 6 dB bandwidth.
- b) RBW = 3kHz 100kHz.
- c) VBW \geq 3 x RBW.
- d) Sweep time = auto-couple.
- e) Detector = peak.
- f) Trace mode = max hold.

- Test configuration



4.7.2 Limit

The peak power spectral density shall not be greater than 8 dBm in any 3 kHz band.

4.7.3 Measurement result

| Date | : | 11-October-2022 | | | | |
|-------------|---|--------------------|--------|----------|---|----------------|
| Temperature | : | 22.5 [°C] | | | | |
| Humidity | : | 46.1 [%] | Test e | engineer | : | |
| Test place | : | Shielded room No.4 | | | | Taiki Watanabe |



[IEEE802.11b]

| Channel | Center Frequency (MHz) | Reading (dBm) | Factor (dB) | Level (dBm) | Limit (dBm) | Margin (dBm) | Result |
|---------|------------------------------|------------------|----------------|----------------|----------------|-----------------|--------|
| Low | 2412 | -16.21 | 10.52 | -5.69 | 8.00 | 13.69 | PASS |
| Middle | 2437 | -17.38 | 10.52 | -6.86 | 8.00 | 14.86 | PASS |
| High | 2462 | -17.63 | 10.52 | -7.11 | 8.00 | 15.11 | PASS |

Calculation;

Transmitter Power Spectral Density Level (Margin) = Limit – (Reading + Factor)

[IEEE802.11g]

| Channel | Center Frequency (MHz) | Reading (dBm) | Factor (dB) | Level (dBm) | Limit (dBm) | Margin (dBm) | Result |
|---------|------------------------------|------------------|----------------|----------------|----------------|-----------------|--------|
| Low | 2412 | -19.87 | 10.52 | -9.35 | 8.00 | 17.35 | PASS |
| Middle | 2437 | -19.99 | 10.52 | -9.47 | 8.00 | 17.47 | PASS |
| High | 2462 | -19.91 | 10.52 | -9.39 | 8.00 | 17.39 | PASS |

Calculation;

Transmitter Power Spectral Density Level (Margin) = Limit – (Reading + Factor)

[IEEE802.11n (HT20)]

| Channel | Center Frequency (MHz) | Reading (dBm) | Factor (dB) | Level (dBm) | Limit (dBm) | Margin (dBm) | Result |
|---------|------------------------------|------------------|----------------|----------------|----------------|-----------------|--------|
| Low | 2412 | -20.68 | 10.52 | -10.16 | 8.00 | 18.16 | PASS |
| Middle | 2437 | -20.92 | 10.52 | -10.40 | 8.00 | 18.40 | PASS |
| High | 2462 | -22.65 | 10.52 | -12.13 | 8.00 | 20.13 | PASS |

Calculation;

Transmitter Power Spectral Density Level (Margin) = Limit – (Reading + Factor)

4.7.4 Trace data

[IEEE802.11b]

Channel Low

| Att | 20.00 dBn 30 dB | | RBN 0 ms | | Mode Aut | to FFT | | | |
|-------------|--------------------|--------------|----------------|----|----------|--------------------|-----------|------|-----------------|
| 1Pk View | | 0 0111 / | | | Houe Hu | | | | |
| | | | | | | 41[1] | | | 16.21 dBr |
| 10 dBm | | | | | | 1 | | 2.41 | 13560 GH |
| | | | | | | | | | |
| 0 dBm | | | - | | | | 2 | - | - |
| -10 dBm | | | | M1 | | | | | |
| -20 dBm | | | June Land | | whent | destronal modeling | and white | | |
| 0.011010000 | alanton | and all here | and the second | 1 | 1 | | march | when | |
| -30 dBm | ∇f | | | | ¥ l | | | T | and the present |
| -40 dBm- | -¥ | | | | | | | Ψ | |
| -50 dBm | | | - | | | - | | | - |
| -60 dBm | | | | | | | | | |
| -70 dBm | | | | | | | - | - | 5 |
| | | | | | | | | | |

Channel Middle

| 1Pk View | | 0 ms 🖷 VBN | | Mode Aut | | | | |
|----------|-------------------|---------------------------|----|--------------|-------------------------------|--------------|-------------------------|-----------------------|
| | | | | , | 11[1] | | | 17.38 dBr 62360 GH |
| 10 dBm | | | | | 1 | | - | |
| 0 dBm | | | | | - | 2 | | |
| -10 dBm | | | M1 | | | | | |
| -20 dBm | and the stand | aptition windows all in a | | pourtuchiles | ford abad have showing the of | Martyper and | | |
| -30 dBm | | | | / | | | $\overline{\mathbf{V}}$ | and a first and and |
| -50 dBm | | | | | | | | |
| -60 dBm | | | | | - | | | |
| -70 dBm | | | | | - | - | | |

Channel High

| | | | 1 | | 11[1] | | | 17.63 dBr |
|---------|--|------------------------------|-----|----------|--|------------|------|--------------|
| | | | | | 11[1] | | | 09960 GH |
| 10 dBm | | | | | | | | - |
| 0 dBm | | | | | | | | |
| -10 dBm | | | 3.7 | | | | | |
| -20 dBm | | and the factor of the finite | MI | Junelune | , and a state of the state of t | Hundre . | | ~ |
| -30 dBm | North States and | | | V | | - Adultaly | my a | Mar. |
| 40 dBm | w | | | | | | V | and a server |
| -50 dBm | | _ | | | - | | | - |
| -60 dBm | | | | | | | | |
| -70 dBm | | | | | | - | | 8 |

Japan

[IEEE802.11g]

| Spectrum | ſ | | | | | | |
|---------------|-------------------------|-------------|-------------|-----------------------|----------|------------|------------------------|
| Ref Level 20. | 00 dBm 30 dB 👄 SWT : | | 3 kHz | de Auto FFT | | | |
| 1Pk View | 30 GB 🥌 SW1 : | lu ms 🖷 VBW | IU KHZ MIO | de Auto FFT | | | |
| | | | | M1[1] | 15 | | 19.87 dBm 36230 GHz |
| 10 dBm | | | | | | | |
| 0 dBm | | | | | | | |
| -10 dBm | | | | | | | |
| -20 dBm | La esta | | AN BABAR | MI V MANA ANANA | ntahaada | | |
| -30 dBm | MANN | wwwwww | 140400 * | ARAA MARARA | namana | 柳竹 | |
| | | | ų | | | h. | |
| -40 dBm | N" | | | | | Muhu | |
| -50 dBm | | | | | | , | WAR |
| N08464 | | | | | | | x harry |
| -70 dBm | | - | - | | | - | |
| CF 2.412 GHz | | | 1001 pt | _ | | Snan | 25.0 MHz |
| CF 2.412 GH2 | | | 1001 pt | 3 | | apan 44 | |

Channel Middle

| Att : | 30 dB 🥌 SW | T 10 ms 🖷 VB | W 10 kHz | Mode Auto | FFT | | | |
|--|------------|---|----------|-----------|-------|--------|---|--------------------------|
| | | | | M1 | [1] | | | -19.99 dBn 407460 GH: |
| 10 dBm | | | | | | | | |
| 0 dBm | | | | | | | 5 | - |
| -10 dBm | _ | | | | | | | |
| | | | | | M1 | | | |
| -20 dBm | | | 1 MAGAN | black. | | | | |
| | NUMBER | MMMMM | hun | MUMM | whith | with | M | |
| -30 dBm | NUMAN | MMMMMM | MMM | MAANA | wwww | with | 4 | |
| -30 dBm | NANN | www.www | MMM | MAAAAAA | wwww | within | M | |
| -30 dBm | NAWW | daman and a second s | - Mining | MMM | wwww | white | 4 | |
| 30 dBm 40 dBm 50 dBm | NHWIN | MAMAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA | MMM | MMMM | www | wuhu | 4 | |
| -20 dBm -30 dBm -40 dBm -50 dBm -50 dBm -70 dBm | NWWW | | | MAAA | www | whyn | 4 | - When |

Channel High

| Att 30 d | iB 👄 SWT 10 m: | s 👄 VBW 10 kHz | Mode Auto FFT | | |
|-----------|----------------|----------------|---------------|--------|----------------------------|
| | | | M1[1] | | -19.91 dBn 2.4613760 GH |
| 10 dBm | | | | | 2.1010700 011 |
| 0 dBm | | | | | |
| 107070000 | | | | | |
| -10 dBm | - | | | | |
| -20 dBm | - | M | | | |
| M | MMMMM | MANAMANN | y when when | MMANAN | |
| 30 dBm | | | Ψ | 1 | |
| | | | | | (a |
| 40 dBm | | | | 2 | "Ma |
| MANY | - | | - | - | - Wu |
| 50 dBm | | | | | WWW |
| 50 dBm | | | | | hy hum |
| -40 dBm | | | | | - WWWW |

Japan

[IEEE802.11n (HT20)]

Channel Low

| Ref Level Att | | n B 👄 SWT | • R 10 ms • V | BW 3 kHz BW 10 kHz | Mode Au | to FFT | | | |
|------------------|----|--------------|------------------|-----------------------|-------------|----------------|---------|--|-----------|
| ●1Pk View | | | | | | | | | |
| | | | | | | м1[1] | | | 20.68 dBr |
| 10 dBm | | | | | | + | + | - | |
| | | | | | | | | | |
| 0 dBm | | | | | | | | | |
| -10 dBm | | | _ | _ | | | | | |
| | | | | M1 | | | | | |
| -20 dBm | | 20.001 | | no Indudit | ANANAA J | ALAAAA. | ANNA AL | | - |
| -30 dBm | MA | MANN | AAAAAAA | 1449 00 Mar | III a kanab | OAAAAAAAAAAAAA | www.wh | MM | |
| oo abiii | | | | | Ψ | | | | |
| -40 dBm | | | _ | | | | | h | |
| | 1ª | | | | | | | ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ | |
| -50 dBm | | | | | | | | | M. |
| Appropriet | | | | | | | | | Mary |
| | | | | | | | | | |
| -70 dBm | | | - | - | | 1 | | | |
| | | | | | | | | | |
| CF 2.412 G | HZ | | | 100 | 1 pts | | | Span | 25.0 MHz |

Channel Middle

| Att 30 d 1Pk View | iB 👄 SWT 10 ms 🖷 | VBW 10 kHz | Mode Auto FFT | | | |
|----------------------|-------------------------|-------------------|---|----------------|---------|---------------------|
| | | | M1[1] | | | 0.92 dBn 4270 GH |
| 10 dBm | | | 1 | | | |
| 0 dBm | | | | | - | |
| 10 dBm | | | | | | |
| 20 dBm | www.www | M1 | badda addi | in the second | | |
| 1 | | ANAAWA BAAA | I I V V V V V V V V V V V V V V V V V V | VIRAAMAAAA. MA | 144644 | |
| 30 dBm /1/// | MAN MARA 444 | | W 1 | 04004040468 | NANN | |
| 30 dBm | Add Al action and a day | | V I | | WVVVA | |
| 40 dBm | NODALOAAAA | | | | NV V/VI | |
| 40 dBm | | | | | | Y |
| 40 dBm | | | | | | L. |
| 30 dBm | | | | | | L. |

Channel High

| Att 1Pk View | 0.00 dBm 30 dB | SWT 10 | e RBV ms e VBV | | Mode Auto | D FFT | | | |
|---|-------------------|--------|-------------------|-------|-----------|-------|--------|-----|-----------------------|
| | | | | | м | 1[1] | | | 22.65 dBr 07510 GH |
| 10 dBm | | | | | | | | | ororo di |
| 0 dBm | | | | | | | e. | | |
| -10 dBm | | | | | | | | | |
| -20 dBm | | | | M1 | • []]] | | | | - |
| -30 dBm | MM | WANN | MAAM | MANNA | MANAM | mmm | Whanny | Why | |
| 40 dBm | | | | 1 | 1 | | | | |
| 50 dBm | r ⁿ | | | | | | | h | 0 |
| SU dBm | | | | | | | | J | ų, |
| , e | | | | | | | | | Why |
| 60 dBmh | | | | | | | | | 1. |
| -60 dBm/ /////////////////////////////////// | | | | | | | | | |

Japan



4.8 AC Power Line Conducted Emissions

4.8.1 Measurement procedure

[FCC 15.207]

Test was applied by following conditions.

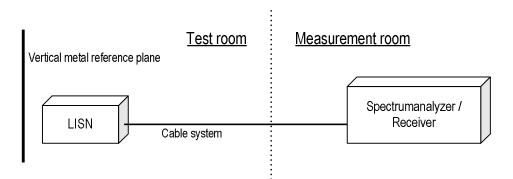
| Test method | : | ANSI C63.10 |
|--------------------------------|---|---|
| Frequency range | : | 0.15 MHz to 30 MHz |
| Test place | : | 3m Semi-anechoic chamber |
| EUT was placed on | : | FRP table / (W) 2.0 × (D) 1.0 × (H) 0.8 m |
| Vertical Metal Reference Plane | : | (W) 2.0 × (H) 2.0 m, 0.4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

EUT and peripherals are connected to $50\Omega/50 \mu$ H 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



4.8.2 Calculation method

Emission level = Reading + (LISN. Factor + Cable system loss) Margin = Limit – Emission level

Example: Limit @ 0.403 MHz: 57.8 dB μ V(Quasi-peak) : 47.8 dB μ V(Average) (Quasi peak)Reading = 22.7 dB μ V c.f. = 10.4 dB Emission level = 22.7 + 10.4 = 33.1 dB μ V Margin = 57.8 - 33.1 = 24.7 dB (Average) Reading = 6.5 dB μ V c.f. = 10.4 dB Emission level = 6.5 + 10.4 = 16.9 dB μ V Margin = 47.8 - 16.9 = 30.9 dB



4.8.3 Limit

| Frequency | Limit | | | |
|-----------|-----------|-----------|--|--|
| [MHz] | 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 0.15MHz to 0.5MHz.



4.8.4 Test data

| Date Temperature Humidity Test place | 17-October-2022 21.3 [°C] 48.3 [%] 3m Semi-anechoic chamber | Test engineer : Tadahiro Seino |
|---|--|---|
| Company Name EUT Model No. Serial No. Test mode [dB(µV)] | : KYOCERA Corporation : Mobile Phone : EB1146 : 354663600011206 : WLAN_11b_Tx | Standard : FCC Part.15 Subpart C Operator : T.Seino Temp,Hum,Atm : 21.3[°C] 48.3[%] Note1 : Note2 : |
| 80 70 60 | | <pre></pre> |
| 50 1 1 2 30 | | Emission level-AV(L1) Emission level-QP(L2) Emission level-AV(L2) |
| 20 | | |
| 0.150 | 0.500 1.000 Frequency | 5.000 10.000 30.000 [MHz] |

Final Result

| No. | Frequency | Reading QP | Reading CAV | c.f | Result QP | Result CAV | Limit QP | Limit AV | Margin QP | Margin CAV |
|--------|-----------|---------------|----------------|------|---------------|---------------|----------------------|---------------|----------------------|---------------|
| | [MHz] | $[dB(\mu V)]$ | $[dB(\mu V)]$ | [dB] | $[dB(\mu V)]$ | $[dB(\mu V)]$ | $[dB(\mu V)]$ | $[dB(\mu V)]$ | [dB] | [dB] |
| 1 | 0.150 | 42.3 | 15.9 | 10.3 | 52.6 | 26.2 | 66.0 | 56.0 | 13.4 | 29.8 |
| 23 | 0.699 | 22.0 | 12.1 | 10.2 | 32.2 | 22.3 | 56.0 | 46.0 | 23.8 | 23.7 |
| | 4.996 | 16.9 | 6.8 | 10.4 | 27.3 | 17.2 | 56.0 | 46.0 | 28.7 | 28.8 |
| 45 | 7.002 | 23.7 | 13.1 | 10.5 | 34.2 | 23.6 | 60.0 | 50.0 | 25.8 | 26.4 |
| 5 | 7.033 | 22.7 | 12.1 | 10.5 | 33.2 | 22.6 | 60.0 | 50.0 | 26.8 | 27.4 |
| 6 | 7.059 | 23.1 | 12.7 | 10.5 | 33.6 | 23.2 | 60.0 | 50.0 | 26.4 | 26.8 |
| | L2 Phase | | | | | | | | | |
| No. | Frequency | Reading QP | Reading CAV | c.f | Result QP | Result CAV | QP Limit | Limit AV | Margin QP | Margin CAV |
| | [MHz] | $[dB(\mu V)]$ | $[dB(\mu V)]$ | [dB] | $[dB(\mu V)]$ | $[dB(\mu V)]$ | $[dB(\mu V)]$ | $[dB(\mu V)]$ | [dB] | [dB] |
| 1 | 0.150 | 43.0 | 17.0 | 10.3 | 53.3 | 27.3 | 66.0 | 56.0 | 12.7 | 28.7 |
| 2 | 0.701 | 20.6 | 10.5 | 10.2 | 30.8 | 20.7 | 56.0 | 46.0 | 25.2 | 25.3 |
| - | | 16 0 | 4.9 | 10.4 | 26.6 | 15.3 | 56.0 | 46.0 | 29.4 | 30.7 |
| 23 | 4.987 | 16.2 | | | | | | | | |
| 3 4 | 6.998 | 24.2 | 12.4 | 10.5 | 34.7 | 22.9 | 60.0 | 50.0 | 25.3 | 27.1 |
| 3456 | | | | | | | 60.0 60.0 60.0 | | 25.3 25.4 25.3 | |



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) | ±3.7 dB |
| Conducted emission, AMN (150 kHz – 30 MHz) | ±3.3 dB |
| Radiated emission (9kHz – 30 MHz) | ±3.2 dB |
| Radiated emission (30 MHz – 1000 MHz) | ±5.5 dB |
| Radiated emission (1 GHz – 6 GHz) | ±4.8 dB |
| Radiated emission (6 GHz – 18 GHz) | ±4.4 dB |
| Radiated emission (18 GHz – 40 GHz) | ±6.4 dB |
| Radio Frequency | ±1.3 * 10 ⁻⁸ |
| RF power, conducted | ±0.7 dB |
| Adjacent channel power | ±1.5 dB |
| Temperature | ±0.6 °C |
| Humidity | ±1.2 % |
| Voltage (DC) | ±0.4 % |
| Voltage (AC, <10kHz) | ±0.2 % |

| Judge | | Measured value and standard limit value |
|-------|-------|--|
| PASS | Case1 | value ice_rtainty -Uncertainty Even if it takes uncertainty into consideration, Measured value a standard limit value is fulfilled. Although measured value is in a standard limit value, a limit value won't be fulfilled if uncertainty is taken into consideration. |
| FAIL | Case3 | Although measured value exceeds a standard limit value, a limit value will be fulfilled if uncertainty is taken into consideration. Even if it takes uncertainty into consideration, a standard limit value isn't fulfilled. |



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 JapanPhone:+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-2023 | 05-Sep-2022 |
| Attenuator | Weinschel | 56-10 | J4993 | 31-Dec-2022 | 21-Dec-2021 |
| Power meter | ROHDE&SCHWARZ | NRP2 | 103269 | 31-Mar-2023 | 02-Mar-2022 |
| Power sensor | ROHDE&SCHWARZ | NRP-Z81 | 102467 | 31-Mar-2023 | 02-Mar-2022 |
| Radiated emission | | | | | |
| Equipment | Company | Model No. | Serial No. | Cal. Due | Cal. Date |
| EMI Receiver | ROHDE&SCHWARZ | ESCI | 100765 | 30-Sep-2023 | 14-Sep-2022 |
| Spectrum analyzer | Agilent Technologies | E4440A | US44302655 | 30-Sep-2023 | 05-Sep-2022 |
| Spectrum analyzer | ROHDE&SCHWARZ | FSV40 | 101731 | 31-Mar-2023 | 03-Mar-2022 |
| Preamplifier | SONOMA | 310 | 372170 | 30-Sep-2023 | 28-Sep-2022 |
| Loop antenna | ROHDE&SCHWARZ | HFH2-Z2 | 100515 | 30-Apr-2023 | 18-Apr-2022 |
| Attenuator | TOYO Connector | NA-PJ-6 | N/A(S507) | 28-Feb-2023 | 03-Feb-2022 |
| Biconical antenna | Schwarzbeck | VHBB9124/BBA9106 | 1333 | 31-Dec-2022 | 15-Dec-2021 |
| Log periodic antenna | Schwarzbeck | VUSLP9111B | 346 | 31-Oct-2022 | 15-Oct-2021 |
| Attenuator | TOYO Connector | NA-PJ-6/6dB | N/A(S541) | 30-Sep-2023 | 28-Sep-2022 |
| Attenuator | TAMAGAWA.ELEC | CFA-10/3dB | N/A(S503) | 31-Jul-2023 | 14-Jul-2022 |
| Preamplifier | TSJ | MLA-100M18-B02-40 | 1929118 | 31-Dec-2022 | 22-Dec-2021 |
| Attenuator | AEROFLEX | 26A-10 | 081217-08 | 31-Dec-2022 | 22-Dec-2021 |
| Double ridged guide antenna | ETS LINDGREN | 3117 | 00052315 | 30-Jun-2023 | 22-Jun-2022 |
| Attenuator | HUBER+SUHNER | 6803.17.B | N/A(2340) | 31-Dec-2022 | 23-Dec-2021 |
| Double ridged guide antenna | A.H.Systems Inc. | SAS-574 | 469 | 31-Aug-2023 | 19-Aug-2022 |
| Preamplifier | TSJ | MLA-1840-B03-35 | 1240332 | 31-Aug-2023 | 19-Aug-2022 |
| Notch Filter | Micro-Tronics | BRM50702 | G433 | 30-Sep-2023 | 28-Sep-2022 |
| | | SUCOFLEX104/9m | MY30037/4 | 31-Dec-2022 | 22-Dec-2021 |
| | | SUCOFLEX104/1m | my24610/4 | 31-Dec-2022 | 22-Dec-2021 |
| Manager and the | | SUCOFLEX104/8m | SN MY30033/4 | 31-Dec-2022 | 22-Dec-2021 |
| Microwave cable | HUBER+SUHNER | SUCOFLEX104/1m | MY32976/4 | 31-Dec-2022 | 22-Dec-2021 |
| | | SUCOFLEX104/2m | SN MY28404/4 | 31-Dec-2022 | 22-Dec-2021 |
| | | SUCOFLEX104/7m | 41625/6 | 31-Dec-2022 | 22-Dec-2021 |
| 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-2023 | 28-May-2022 |
| 3m Semi an-echoic Chamber | TOKIN | N/A | N/A(9002-SVSWR) | 31-May-2023 | 28-May-2022 |

Conducted emission at mains port

| Conducted chilipsion at 1 | | | | | |
|--------------------------------------|------------------------------------|----------------|-----------------|-------------|-------------|
| Equipment | Company | Model No. | Serial No. | Cal. Due | Cal. Date |
| EMI Receiver | ROHDE&SCHWARZ | ESCI | 100765 | 30-Sep-2023 | 14-Sep-2022 |
| Attenuator | HUBER+SUHNER | 6810.01.A | N/A (S411) | 31-Dec-2022 | 22-Dec-2021 |
| Line impedance stabilization network | Kyoritsu Electrical Works, Ltd. | TNW-407F2 | 12-17-110-2 | 30-Jun-2023 | 15-Jun-2022 |
| Microwave cable | HUBER+SUHNER | SUCOFLEX104/5m | MY33601/4 | 31-Oct-2022 | 26-Oct-2021 |
| Microwave cable | HUBER+SUHNER | SUCOFLEX104/2m | MY37268/4 | 31-Oct-2022 | 28-Oct-2021 |
| Coaxial cable | HUBER+SUHNER | RG214/U/10m | N/A (S194) | 31-Dec-2022 | 22-Dec-2021 |
| PC | DELL | DIMENSION | 75465BX | N/A | N/A |
| Software | TOYO Corporation | EP5/CE-AJ | 0611193/V5.4.11 | N/A | N/A |

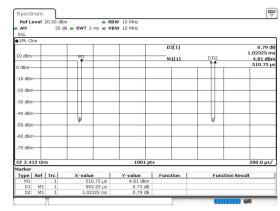
*: The calibrations of the above equipment are traceable to NIST or equivalent standards of the reference organizations.



Appendix B. Duty Cycle

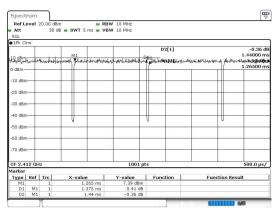
[Plot & Calculation]

11b



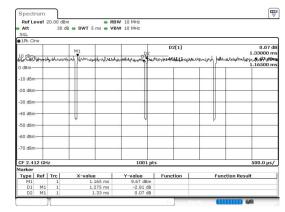
Duty Cycle = Ton / (Ton + Toff) = 993.25[µs] / (993.25[µs] + 30[µs]) =97.07[%]

11g



Duty Cycle = Ton / (Ton + Toff) = $1375[\mu s] / (1375[\mu s] + 65[\mu s]) = 95.49[\%]$





Duty Cycle = Ton / (Ton + Toff) = $1275[\mu s] / (1275[\mu s] + 55[\mu s]) = 95.86[\%]$