

Test Report No:
2520792R-RFUSV03S-A

TEST REPORT

FCC Rules & Regulations

(Class II Permissive Change)

| | |
|---------------------------------|--|
| Product Name | 35b Security Router, Gigabit Broadband Router |
| Brand Name | DrayTek |
| Model No. | Vigor2767Vax (Serial models please refer to section 1.1) |
| FCC ID | VGY2767AX |
| Applicant's Name / Address | Draytek Corporation No. 26, Fu Shing Road, Hukou County, Hsin-Chu Industrial Park, Hsinchu, Taiwan |
| Manufacturer's Name | Draytek Corporation |
| Test Method Requested, Standard | FCC CFR Title 47 Part 15 Subpart E Section 15.407 |
| Verdict Summary | IN COMPLIANCE |
| Documented by Genie Chang |  |
| Tested by Ivan Chuang |  |
| Approved by Steven Tsai |  |
| Date of Receipt | 2025/02/24 |
| Date of Issue | 2025/07/15 |
| Report Version | V1.0 |

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Appendix A. Test Result of AC Power Line Conducted Emission

Appendix B. Test Result of Emission Bandwidth

Appendix C. Test Result of Maximum Conducted Output Power

Appendix D. Test Result of Maximum Power Spectral Density

Appendix E. Test Result of Transmitter Radiated Spurious Emission

Appendix F. Test Setup Photograph

Competences and Guarantees

DEKRA is a testing laboratory competent to carry out the tests described in this report.

In order to assure the traceability to other national and international laboratories, DEKRA has a calibration and maintenance program for its measurement equipment.

DEKRA guarantees the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated in the report and it is based on the knowledge and technical facilities available at DEKRA at the time of performance of the test.

DEKRA is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.

The results presented in this Test Report apply only to the particular item under test established in this document.

IMPORTANT: No parts of this report may be reproduced or quoted out of context, in any form or by any means, except in full, without the previous written permission of DEKRA.

General Conditions

1. The test results relate only to the samples tested.
2. The test results shown in the test report are traceable to the national/international standard through the calibration report of the equipment and evaluated measurement uncertainty herein.
3. This report must not be used to claim product endorsement by TAF or any agency of the government.
4. The test report shall not be reproduced without the written approval of DEKRA Testing and Certification Co., Ltd.
5. Measurement uncertainties evaluated for each testing system and associated connections are given here to provide the system information for reference. Compliance determinations do not take into account measurement uncertainties for each testing system, but are based on the results of the compliance measurement.

Revision History

| Version | Description | Issued Date |
|---------|-------------------------|-------------|
| V1.0 | Initial issue of report | 2025/07/15 |

Permissive Change

| Report No. | Version | Description | Issued Date |
|---------------------|---------|--|-------------|
| 2320217R-RFUSV03S-A | V1.0 | Original application. | 2024/05/03 |
| 2520792R-RFUSV03S-A | V1.0 | This is to request a Class II permissive change. The major change filed under this application is: Change #1: Added U-NII 2A/2C bands and 160 MHz mode (ac/ax). | 2025/07/15 |

Summary of Test Result

| Report Clause | Test Items | Result (PASS/FAIL) | Remark |
|---------------|--|--------------------|--------|
| 3 | AC Power Line Conducted Emission | PASS | - |
| 4 | Emission Bandwidth | PASS | - |
| 5 | Maximum Conducted Output Power | PASS | - |
| 6 | Maximum Power Spectral Density | PASS | - |
| 7 | Transmitter Radiated Spurious Emission | PASS | - |

Comments and Explanations

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

1. General Information

1.1. EUT Description

| | | |
|--------------------------------------|--|---|
| Frequency Range | 5150 ~ 5250 MHz 5250 ~ 5350 MHz 5470 ~ 5725 MHz 5725 ~ 5850 MHz | |
| Operating Frequency / Channel Number | IEEE 802.11a/n/ac/ax (20 MHz) | 5180 ~ 5240 MHz / 4 Channels 5260 ~ 5320 MHz / 4 Channels 5500 ~ 5720 MHz / 12 Channels 5745 ~ 5825 MHz / 5 Channels |
| | IEEE 802.11n/ac/ax (40 MHz) | 5190 ~ 5230 MHz / 2 Channels 5270 ~ 5310 MHz / 2 Channels 5510 ~ 5710 MHz / 6 Channels 5755 ~ 5795 MHz / 2 Channels |
| | IEEE 802.11ac/ax (80 MHz) | 5210 MHz / 1 Channel 5290 MHz / 1 Channel 5530 ~ 5690 MHz / 3 Channels 5775 MHz / 1 Channel |
| | IEEE 802.11ac/ax (160 MHz) | 5250 MHz / 1 Channel 5570 MHz / 1 Channel |
| Type of Modulation | IEEE 802.11a/n | OFDM-BPSK, QPSK, 16QAM, 64QAM |
| | IEEE 802.11ac | OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM, |
| | IEEE 802.11ax | OFDMA-BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM |

| Accessories Information | | | | | |
|-------------------------|----------------|--|-----------------------------|---|-----------------------------------|
| No. | Equipment Name | Brand Name | Model No. | Rating | Remark |
| 1 | Power Adapter | CWT | 2ABL030F US | Input: AC 100-240 V~1 A, 50-60 Hz Output: 12 V---2.5 A | Cable out: Non-Shielded, 1.5 m |
| 2 | Power Adapter | CWT | 2ABL024F US | Input: AC 100-240 V~0.8 A, 50-60 Hz Output: 12 V---2 A | Cable out: Non-Shielded, 1.5 m |
| 3 | Power Adapter | CWT | 2ABN036F US | Input: AC 100-240 V~1 A, 50-60 Hz Output: 12 V---3 A | Cable out: Non-Shielded, 1.5 m |
| 4 | Power Adapter | MOSO | MSS-V2500WR 120-030E0-US | Input: AC 100-240 V~1 A, 50-60 Hz Output: 12 V---2.5 A | Cable out: Non-Shielded, 1.5 m |
| 5 | Power Adapter | MOSO | MS-V2000R120 -024Q0-US | Input: AC 100-240 V~0.7 A, 50-60 Hz Output: 12 V---2 A | Cable out: Non-Shielded, 1.5 m |
| 6 | Power Adapter | MOSO | V30-V3000R12 0-036T0-US | Input: AC 100-240 V~1 A, 50-60 Hz Output: 12 V---3 A, 36 W | Cable out: Non-Shielded, 1.5 m |
| No. | Equipment Name | Description | | | |
| 7 | RJ11 Cable | Non-Shielded, 1.8 m (The cable is only available for models with DSL functionality.) | | | |
| 8 | RJ45 Cable | Non-Shielded, 3 m | | | |

The difference for each model is shown as below:

| Item | Model name | Product name | PCB# | DSL | Eth-RJ45 | SFP | 2.5G | wlan 5GHz | wlan 2.4GHz | FXS | USB port |
|------|----------------|--------------------------|------|--------------|----------|-----|------|-----------|-------------|-----|----------|
| 1 | Vigor 2767Vax | 35b Security Router | V0x | V(vdsl2/35b) | | | V | V | V | 2 | 2 |
| 2 | Vigor 2767ax | | V0x | V(vdsl2/35b) | | | V | V | V | | 2 |
| 3 | Vigor 2136FVax | Gigabit Broadband Router | V2x | | | V | V | V | V | 2 | 2 |
| 4 | Vigor 2136Vax | | V2x | | V | | V | V | V | 2 | 2 |
| 5 | Vigor 2136Fax | | V2x | | | V | V | V | V | | 2 |
| 6 | Vigor 2136ax | | V2x | | V | | V | V | V | | 2 |

From the above models, model: Vigor2767Vax was selected as representative model for the test and its data was recorded in this report.

| Antenna Information | | | | | | |
|---------------------|------------|------------------------------|--------|--------------------|------|------------------------|
| Item. | Brand Name | Model No. | Type | Antenna Gain (dBi) | | Directional Gain (dBi) |
| 1 | Angeei | DPD2430SRW (Main) | Dipole | U-NII 2A | 3.50 | U-NII 2A 6.51 |
| | | DPD2430SRW (Aux) | | U-NII 2C | 3.50 | U-NII 2C 6.51 |
| 2 | INPAQ | RFMTA160800NN5B002 (Only RX) | PIFA | U-NII 2A | 4 | NA |
| | | | | U-NII 2C | 4 | |

Note: The antenna of EUT conforms to FCC 15.203.

For IEEE 802.11a/n/ac/ax Mode: (2TX, 3RX)

1.2. EUT Information

| | | | | |
|--------------------------------|-------------------------------------|-------------------------------|--------------------------|-------------------------|
| EUT Power Type | From Adapter | | | |
| EUT Function | <input checked="" type="checkbox"/> | Point-to-multipoint | <input type="checkbox"/> | Point-to-point |
| TPC Function | <input checked="" type="checkbox"/> | With TPC Function | <input type="checkbox"/> | Without TPC Function |
| Weather Band (5600 ~ 5650 MHz) | <input checked="" type="checkbox"/> | With 5600 ~ 5650 MHz | <input type="checkbox"/> | Without 5600 ~ 5650 MHz |
| Beamforming Function | <input checked="" type="checkbox"/> | With beamforming | <input type="checkbox"/> | Without beamforming |
| Resource Unit of 802.11ax | <input checked="" type="checkbox"/> | Full RU | <input type="checkbox"/> | Partial RU |
| Operating Mode | <input checked="" type="checkbox"/> | Master | | |
| | <input type="checkbox"/> | Slave with radar detection | | |
| | <input type="checkbox"/> | Slave without radar detection | | |

1.3. Testing Location Information

| | |
|--------|---|
| USA | FCC Designation Number: TW0033 |
| Canada | CAB Identifier Number: TW3023 / Company Number: 26930 |

| | |
|------------------|-------------------------|
| Site Description | Accredited by TAF |
| | Accredited Number: 3023 |

| | |
|--------------------|---|
| Test Laboratory | DEKRA Testing and Certification Co., Ltd. |
| | Linkou Laboratory |
| Address | No. 85, Wenlin St., Linkou Dist., New Taipei City 244017, Taiwan, R.O.C. |
| Performed Location | No. 26, Huaya 1st Rd., Guishan Dist., Taoyuan City 333411, Taiwan, R.O.C. |
| Phone Number | +886-3-275-7255 |
| Fax Number | +886-3-327-8031 |

Ambient conditions in the laboratory:

| Performed Item | Items | Required | Actual | Test Date |
|----------------------------------|------------------|----------|---------|-----------------------|
| AC Power Line Conducted Emission | Temperature (°C) | 10~40 °C | 24.3 °C | 2025/05/05 |
| | Humidity (%RH) | 10~90 % | 56.2 % | |
| Radiated Emission | Temperature (°C) | 10~40 °C | 23.3 °C | 2025/04/19~2025/04/25 |
| | Humidity (%RH) | 10~90 % | 60.5 % | |
| RF Conducted Emission | Temperature (°C) | 10~40 °C | 21.3 °C | 2025/05/06~2025/05/07 |
| | Humidity (%RH) | 10~90 % | 62.1 % | |

1.4. Measurement Uncertainty

Uncertainties have been calculated according to the DEKRA internal document.

The reported expanded uncertainties are based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95%.

Measurement uncertainties evaluated for each testing system and associated connections are given here to provide the system information for reference. Compliance determinations do not take into account measurement uncertainties for each testing system, but are based on the results of the compliance measurement.

| Test item | Uncertainty |
|--|---|
| AC Power Line Conducted Emission | ± 3.50 dB |
| Emission Bandwidth | ± 1580.61 Hz |
| Maximum Conducted Output Power | Spectrum Analyzer: ± 2.13 dB Power Meter: ± 1.05 dB |
| Maximum Power Spectral Density | ± 2.13 dB |
| Transmitter Radiated Spurious Emission | 9 kHz~30 MHz: ± 3.30 dB 30 MHz~1 GHz: ± 5.19 dB 1 GHz~18 GHz: ± 4.46 dB 18 GHz~40 GHz: ± 4.19 dB |
| Duty Cycle | ± 0.62 % |

1.5. List of Test Equipment

For Conduction Measurements / HY-SR01

| | Equipment | Manufacturer | Model No. | Serial No. | Cal. Date | Due Date |
|---|--------------------|--------------|-----------|------------|------------|------------|
| V | EMI Test Receiver | R&S | ESR7 | 101601 | 2024/06/24 | 2025/06/23 |
| V | Two-Line V-Network | R&S | ENV216 | 101306 | 2024/04/01 | 2026/03/31 |
| V | Two-Line V-Network | R&S | ENV216 | 101307 | 2023/08/17 | 2025/08/16 |
| V | Coaxial Cable | SUHNER | RG400_BNC | RF001 | 2025/01/10 | 2026/01/09 |

Note:

1. Two-Line V-Network is calibrated every two years, the other equipment is calibrated every year.
2. The test instruments marked with "V" are used to measure the final test results.
3. Test Software Version: e3 230303 dekra V9.

For Conducted Measurements / HY-SR02

| | Equipment | Manufacturer | Model No. | Serial No. | Cal. Date | Due Date |
|---|-----------------------|--------------|-----------|------------|------------|------------|
| V | Spectrum Analyzer | R&S | FSV30 | 103466 | 2024/12/18 | 2025/12/17 |
| V | Peak Power Analyzer | KEYSIGHT | 8990B | MY51000410 | 2024/08/05 | 2025/08/04 |
| V | Wideband Power Sensor | KEYSIGHT | N1923A | MY56080003 | 2024/10/22 | 2025/10/21 |
| V | Wideband Power Sensor | KEYSIGHT | N1923A | MY56080004 | 2024/10/22 | 2025/10/21 |

Note:

1. All equipment is calibrated every year.
2. The test instruments marked with "V" are used to measure the final test results.
3. Test Software Version : DTC_RF_Tool_Release V100

For Radiated Measurements /HY-CB02

| | Equipment | Manufacturer | Model No. | Serial No. | Cal. Date | Due Date |
|---|-------------------|---------------|-------------------|--------------|------------|------------|
| V | Loop Antenna | TESEQ | HLA6121 | 49611 | 2025/02/18 | 2026/02/17 |
| V | Bi-Log Antenna | SCHWARZBECK | VULB9168 | 9168-0675 | 2023/08/09 | 2025/08/08 |
| V | Horn Antenna | RF SPIN | DRH18-E | 210503A18ES | 2024/02/29 | 2026/02/28 |
| V | Horn Antenna | Com-Power | AH-840 | 101101 | 2023/12/04 | 2025/12/03 |
| V | Pre-Amplifier | SGH | SGH0301 | 20230308-1 | 2025/02/06 | 2026/02/05 |
| V | Pre-Amplifier | SGH | SGH118-HS | 20211102-1 | 2025/01/10 | 2026/01/09 |
| V | Pre-Amplifier | EMCI | EMC05820SE | 980285 | 2025/01/10 | 2026/01/09 |
| V | Pre-Amplifier | MICZEN | MZLNA1850GAC40 | WB0103001 | 2025/01/10 | 2026/01/09 |
| V | Pre-Amplifier | EMCI | EMC184045SE | 980369 | 2025/01/10 | 2026/01/09 |
| V | Coaxial Cable | EMCI | EMC102-KM-KM-600 | 1160311 | 2025/01/10 | 2026/01/09 |
| V | Coaxial Cable | EMCI | EMC102-KM-KM-7000 | 170242 | 2025/01/10 | 2026/01/09 |
| | Filter | MICRO TRONICS | BRM20887 | G002 | 2025/01/05 | 2026/01/04 |
| V | Filter | MICRO TRONICS | BRM50716 | G067 | 2025/01/05 | 2026/01/04 |
| V | EMI Test Receiver | R&S | ESR3 | 102793 | 2024/12/06 | 2025/12/05 |
| V | Spectrum Analyzer | R&S | FSV3044 | 101113 | 2025/01/22 | 2026/01/21 |
| V | Coaxial Cable | SGH | HA800 | GD20110223-2 | 2025/01/10 | 2026/01/09 |
| V | Coaxial Cable | SGH | HA800 | GD20110222-4 | 2025/01/10 | 2026/01/09 |
| V | Coaxial Cable | SGH | SGH18 | 202108-5 | 2025/01/10 | 2026/01/09 |
| V | Coaxial Cable | SGH | SGH18 | 202212-2 | 2025/01/10 | 2026/01/09 |

Note:

1. Bi-Log Antenna and Horn Antenna are calibrated every two years, the other equipment is calibrated every year.
2. The test instruments marked with "V" are used to measure the final test results.
3. Test Software Version: e3 230303 dekra V9.

2. Test Configuration of EUT

2.1. Test Condition

| EUT Operational Condition | |
|---------------------------|----------------|
| Testing Voltage | AC 120 V/60 Hz |

2.2. Test Frequency Mode

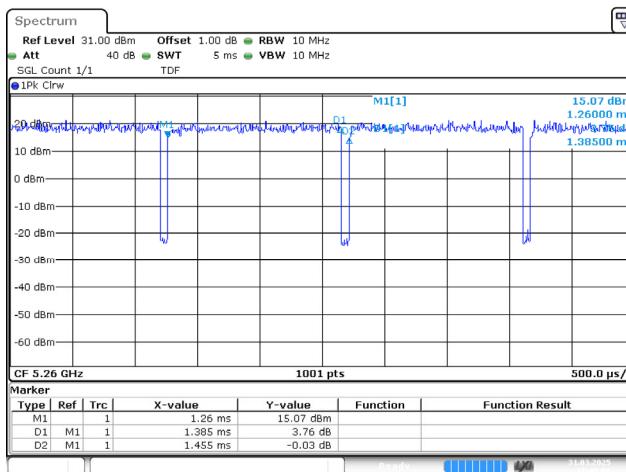
| Test Software Version | QATool / Version 0.0.2.73 |
|-----------------------|---------------------------|
|-----------------------|---------------------------|

| Modulation | Frequency (MHz) | Power Setting |
|--------------------|-----------------|---------------|
| 802.11a (20MHz) | 5260 | 18(24) |
| | 5300 | 19.5(27) |
| | 5320 | 18.5(25) |
| | 5500 | 17.5(23) |
| | 5580 | 18.5(25) |
| | 5700 | 16.5(21) |
| | 5720 | 19(26) |
| 802.11ax (20 MHz) | 5260 | 18.5(25) |
| | 5300 | 19.5(27) |
| | 5320 | 17.5(23) |
| | 5500 | 17(22) |
| | 5580 | 19(26) |
| | 5700 | 16.5(21) |
| | 5720 | 19(26) |
| 802.11ax (40 MHz) | 5270 | 17.5(23) |
| | 5310 | 14(1C) |
| | 5510 | 15.5(1F) |
| | 5550 | 17(22) |
| | 5670 | 17(22) |
| | 5710 | 19(26) |
| 802.11ax (80 MHz) | 5290 | 10.5(15) |
| | 5530 | 13(1A) |
| | 5610 | 15.5(1F) |
| | 5690 | 19(26) |
| 802.11ax (160 MHz) | 5250 | 14.5(1D) |
| | 5570 | 14(1C) |

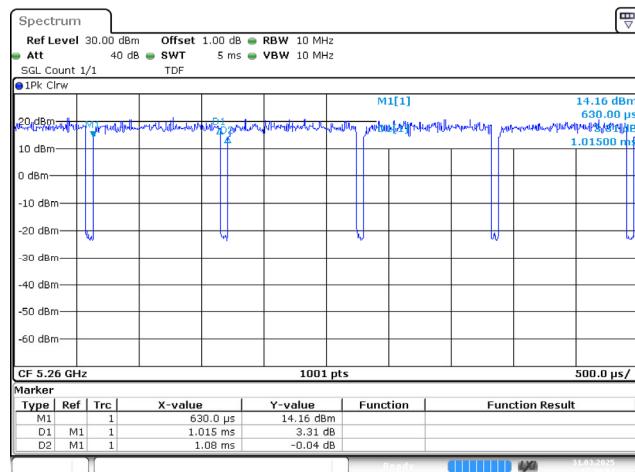
2.3. Duty Cycle

| Modulation | On Time (ms) | On+Off Time (ms) | Duty Cycle (%) | Duty Factor (dB) | 1/T Minimum VBW (Hz) |
|--------------------|--------------|------------------|----------------|------------------|----------------------|
| 802.11a (20MHz) | 1.3850 | 1.4550 | 95.19 | 0.21 | 1000 |
| 802.11ax (20 MHz) | 1.0150 | 1.0800 | 93.98 | 0.27 | 1000 |
| 802.11ax (40 MHz) | 0.3080 | 0.3680 | 83.70 | 0.77 | 5000 |
| 802.11ax (80 MHz) | 0.2920 | 0.3540 | 82.49 | 0.84 | 5000 |
| 802.11ax (160 MHz) | 0.1760 | 0.2380 | 73.95 | 1.31 | 10000 |

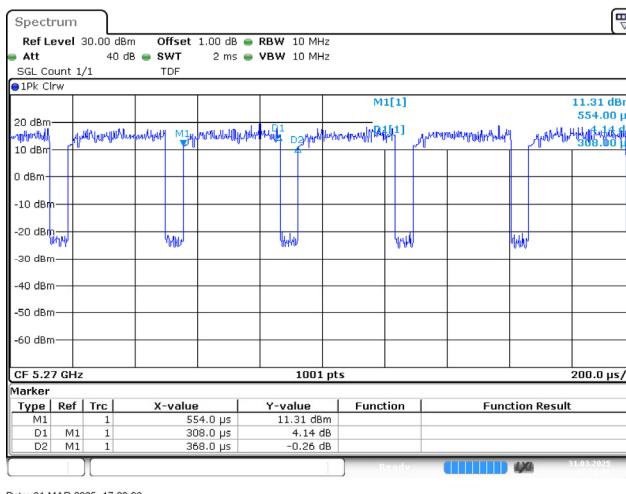
802.11a (20MHz)



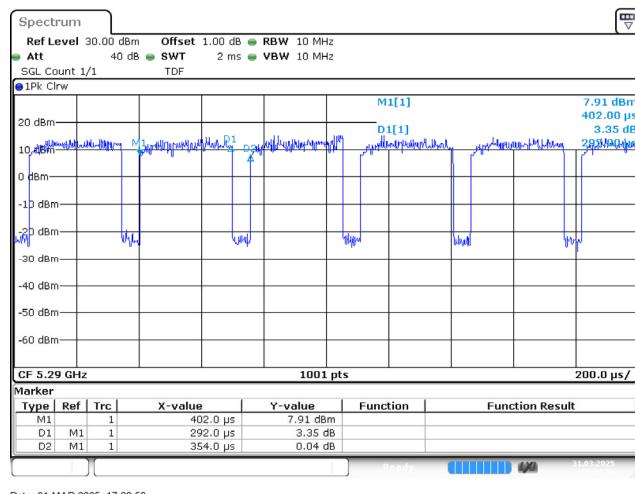
802.11ax (20 MHz)



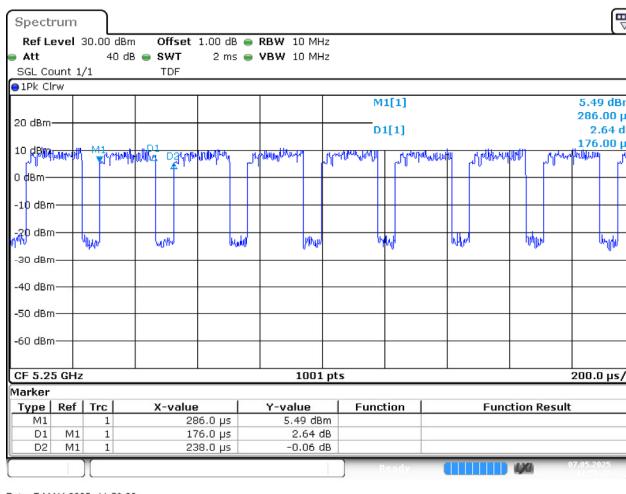
802.11ax (40 MHz)



802.11ax (80 MHz)



802.11ax (160 MHz)



2.4. Measurement Configuration

| | | |
|-----------|-------------------|--------------------------------|
| Test Mode | Mode 1 (Transmit) | 802.11a (20 MHz) |
| | | 802.11ax (20 MHz) |
| | | 802.11ax (40 MHz) |
| | | 802.11ax (80 MHz) |
| | | 802.11ax (160 MHz) |
| | | 802.11ax (20 MHz)-Beamforming |
| | | 802.11ax (40 MHz)-Beamforming |
| | | 802.11ax (80 MHz)-Beamforming |
| | | 802.11ax (160 MHz)-Beamforming |
| | | |

Note:

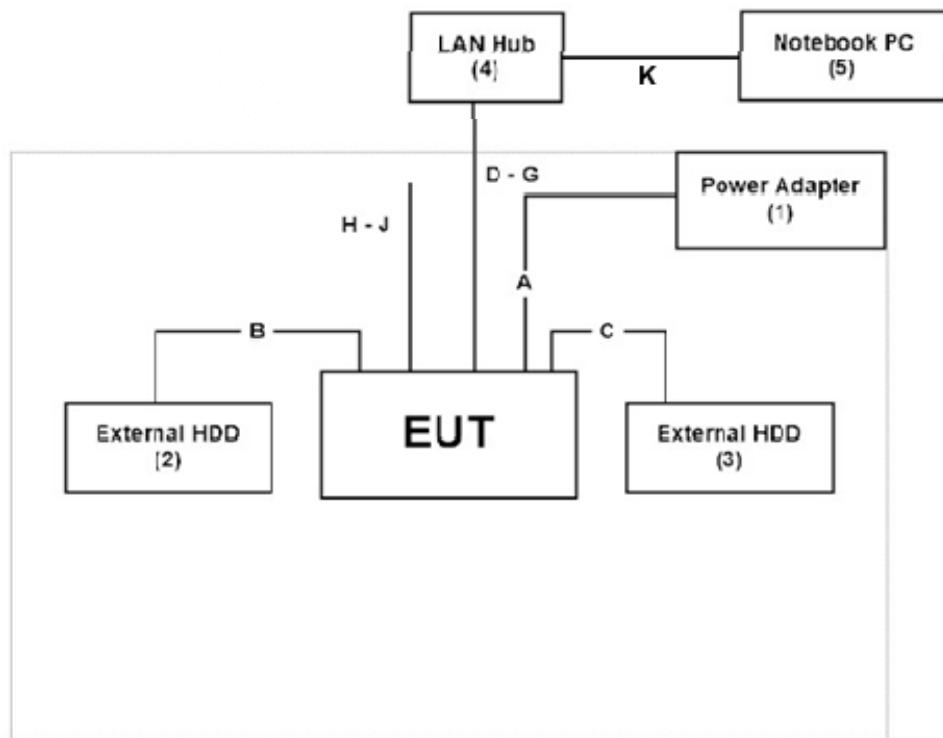
1. Determining compliance shall be based on the results of the compliance measurement, without taking measurement instrumentation uncertainty into account.
2. For transmitter radiated spurious emission below 1 GHz and AC power line conducted emissions, all modes of operation were investigated, and the worst-case emissions are reported.
3. Lowest data rates are tested in each mode. Only worst case is shown in the report.
(802.11a is 6Mbps, 802.11ax is MCS0)
4. The radiation measurements are performed in X, Y, Z axis positioning. Only the worst case is shown in the report.
5. The CDD mode and Beamforming mode are presented in the power output test item. For other test items, CDD mode is the worst case for the final test and shown in this report.

2.5. Tested System Details

| No. | Equipment | Brand Name | Model No. | Serial No. | Power Cord |
|-----|---------------|------------|---------------------------|---------------|---------------------|
| 1 | Power Adapter | MOSO | MS-V2000R120-0 24Q0-US | N/A | N/A |
| 2 | External HDD | Transcend | TS1TSJ25H3B | F21786-0125 | N/A |
| 3 | External HDD | Transcend | TS1TSJ25H3B | F21786-0005 | N/A |
| 4 | LAN Hub | TP-LINK | TL-SG108 | 2161597000471 | Non-Shielded, 1.5 m |
| 5 | Notebook PC | DELL | P62G | CY9FJC2 | N/A |

2.6. Configuration of tested System

Connection Diagram



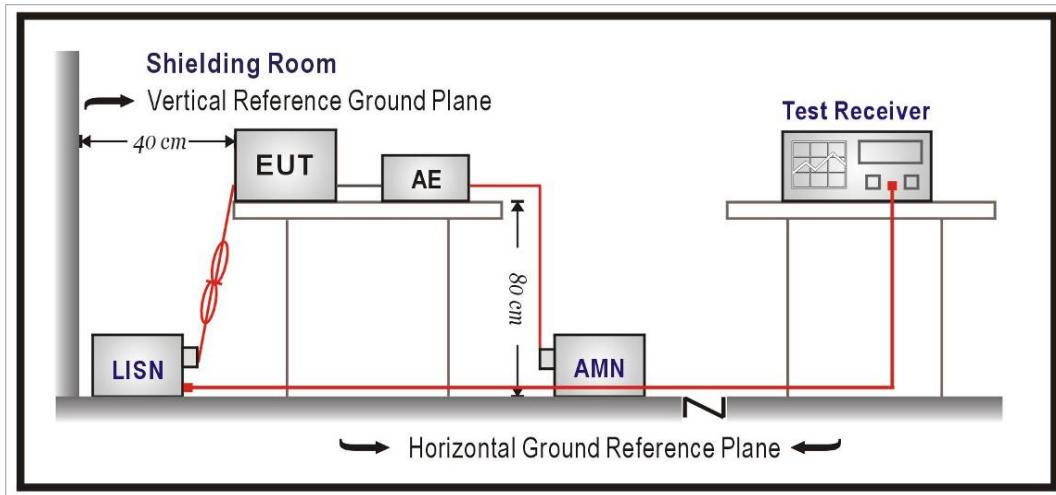
| Signal Cable Type | | Signal cable Description |
|-------------------|-------------|--------------------------|
| A | Power Cable | Non-Shielded, 1.5 m |
| B | USB Cable | Shielded, 0.5 m |
| C | USB Cable | Shielded, 0.5 m |
| D | LAN Cable | Non-Shielded, 3 m |
| E | LAN Cable | Non-Shielded, 3 m |
| F | LAN Cable | Non-Shielded, 3 m |
| G | LAN Cable | Non-Shielded, 3 m |
| H | DSL Cable | Non-Shielded, 7.5 m |
| I | RJ-11 Cable | Non-Shielded, 2.1 m |
| J | RJ-11 Cable | Non-Shielded, 2.1 m |
| K | LAN Cable | Non-Shielded, 3 m |

2.7. EUT Operating Procedures

| | |
|---|---|
| 1 | Setup the EUT as shown in Section 2.6. |
| 2 | Execute software “QATool / Version 0.0.2.73” on the EUT. |
| 3 | Configure the test mode, the test channel, and the data rate. |
| 4 | Verify that the EUT works properly. |

3. AC Power Line Conducted Emission

3.1. Test Setup



3.2. Test Limit

| Frequency (MHz) | QP (dB μ V) | AV (dB μ V) |
|-----------------|-----------------|-----------------|
| 0.15 - 0.50 | 66 - 56 | 56 - 46 |
| 0.50 - 5.0 | 56 | 46 |
| 5.0 - 30 | 60 | 50 |

Remark: In the above table, the tighter limit applies at the band edges.

3.3. Test Procedure

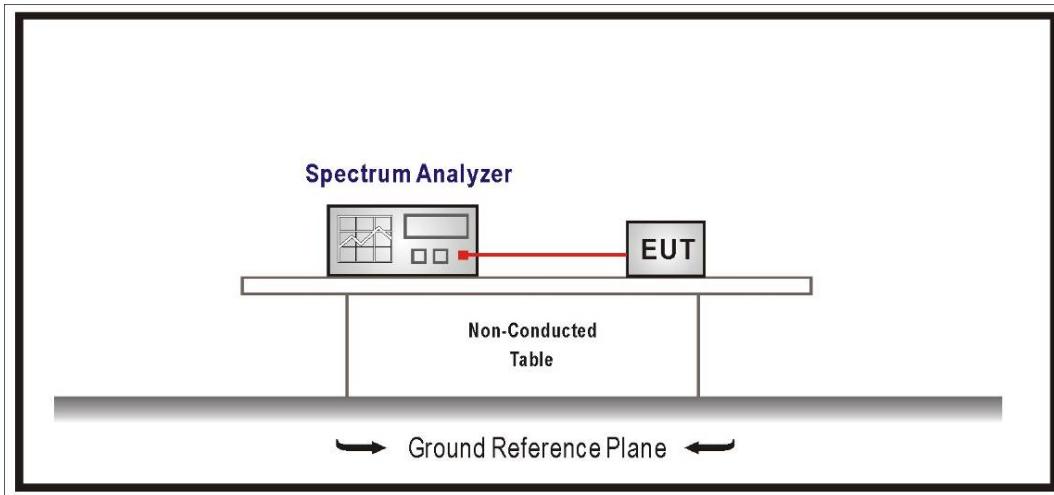
The EUT was setup according to ANSI C63.10-2020 for AC Power Line Conducted Emissions.

3.4. Test Result of AC Power Line Conducted Emission

Refer as Appendix A

4. Emission Bandwidth

4.1. Test Setup



4.2. Test Limit

26 dB Bandwidth : No Required

6 dB Bandwidth \geq 500kHz

4.3. Test Procedure

26 dB Bandwidth, 99% Occupied Bandwidth :

The EUT was tested according to U-NII test procedure of KDB 789033.

Set RBW 1% of the emission bandwidth, VBW equal to 3 times the RBW.

6 dB Bandwidth :

Set RBW = 100kHz, VBW \geq 3xRBW, Sweep time=Auto, Set Peak detector.

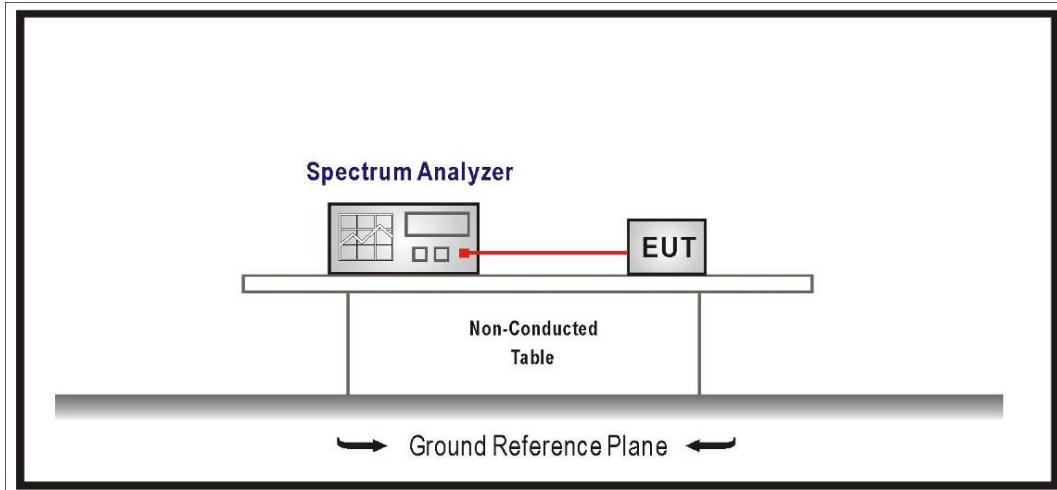
4.4. Test Result of Emission Bandwidth

Refer as Appendix B

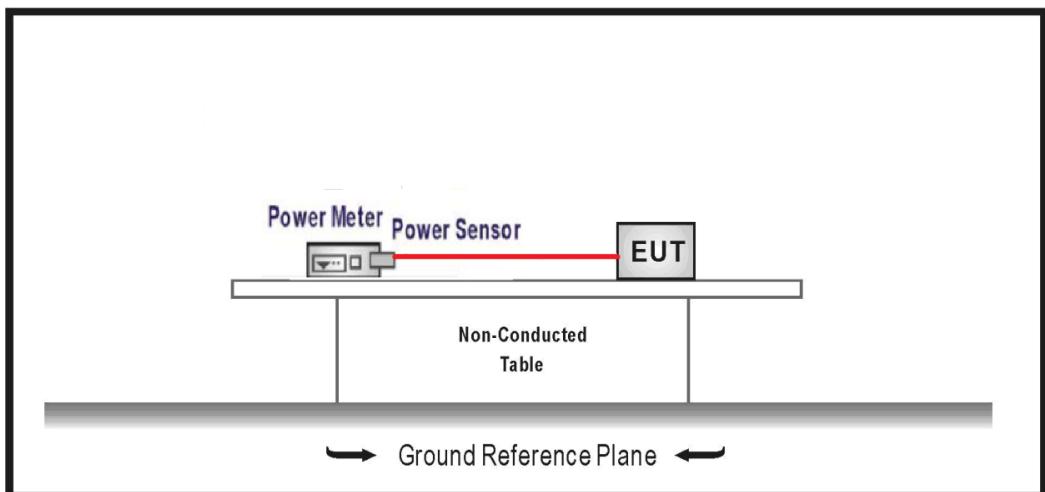
5. Maximum Conducted Output Power

5.1. Test Setup

For straddle channels:



For other channels:



5.2. Test Limit

1. For an outdoor access point and an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
2. For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10 \log B$, where B is the 26 dB emission bandwidth in megahertz. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
3. For the band 5.725-5.850 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

5.3. Test Procedure

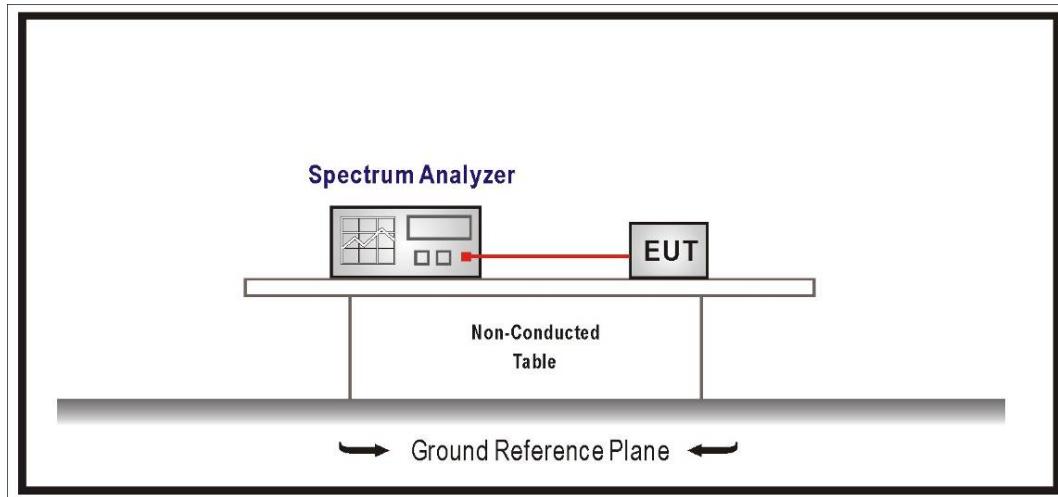
The EUT was setup to ANSI C63.10-2020; tested to U-NII test procedure of 789033.

5.4. Test Result of Maximum Conducted Output Power

Refer as Appendix C

6. Maximum Power Spectral Density

6.1. Test Setup



6.2. Test Limit

1. For the band 5.15 ~ 5.25 GHz, the peak power spectral density shall not exceed 17 dBm in any 1 MHz band. If transmitting antenna of directional gain greater than 6 dBi are used, the peak power spectral density shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.
2. For client devices in the 5.15 ~ 5.25 GHz band, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi
3. For the 5.25 ~ 5.35 GHz, 5470 ~ 5600 MHz and 5650 ~ 5725 MHz, the peak power spectral density shall not exceed 11 dBm in any 1-MHz band. If transmitting antenna of directional gain greater than 6 dBi are used, the peak power spectral density shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.
4. For the band 5.725 ~ 5.850 GHz, the peak power spectral density shall not exceed 30 dBm in any 500 kHz band. If transmitting antenna of directional gain greater than 6 dBi are used, the peak power spectral density shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.

6.3. Test Procedure

The EUT was setup to ANSI C63.10-2020; tested to U-NII test procedure of 789033.

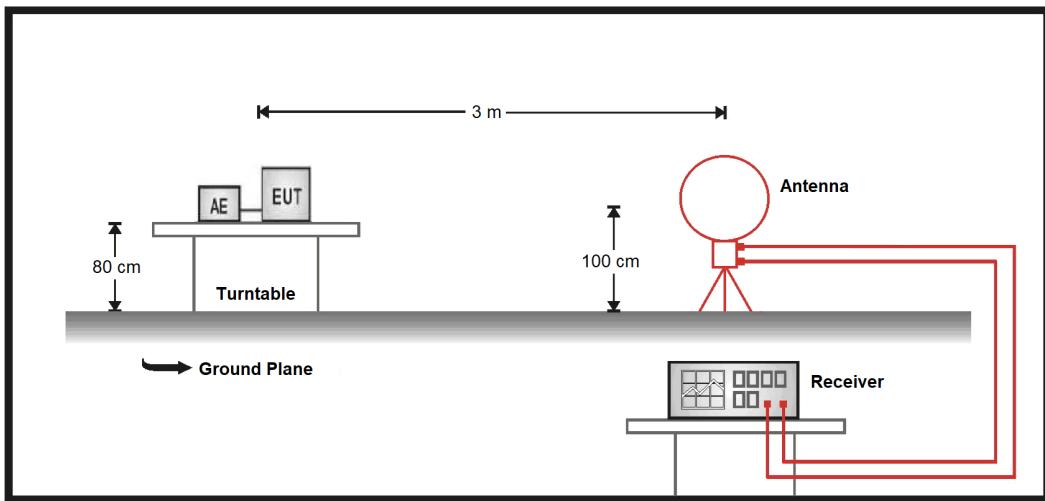
6.4. Test Result of Maximum Power Spectral Density

Refer as Appendix D

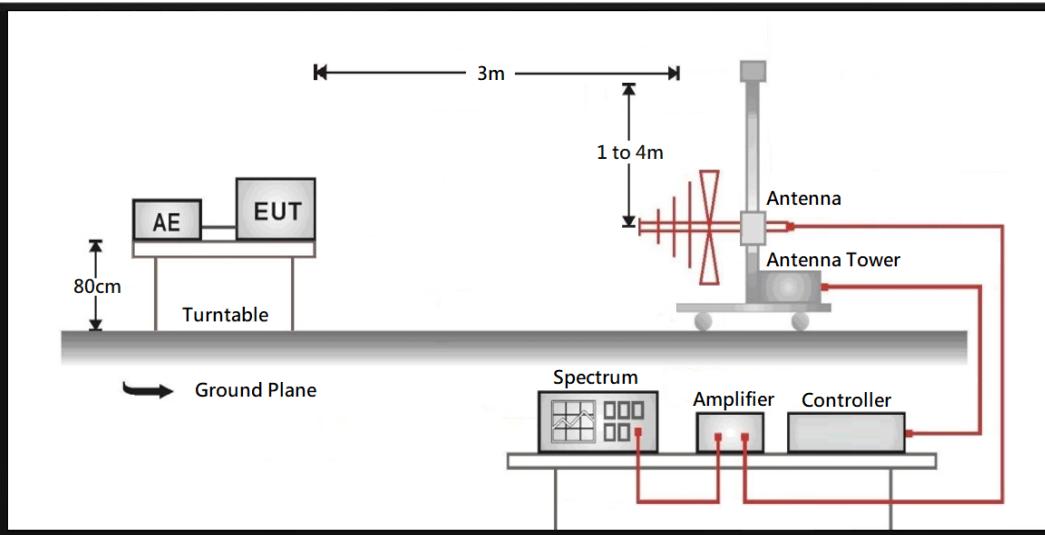
7. Transmitter Radiated Spurious Emission

7.1. Test Setup

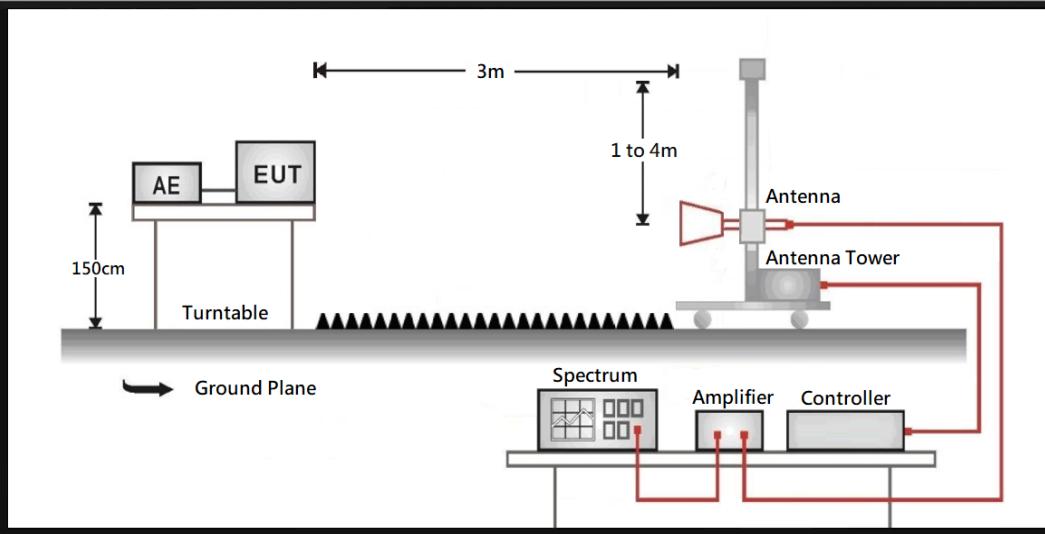
9 kHz ~ 30 MHz



30 MHz ~ 1 GHz



Above 1 GHz



7.2. Test Limit

| Frequency (MHz) | Field strength (μ V/m) | Field strength (dB μ V/m) | Measurement distance (m) |
|-----------------|-----------------------------|-------------------------------|--------------------------|
| 0.009 – 0.490 | 2400/F(kHz) | 20 log (2400/F(kHz)) | 300 |
| 0.490 – 1.705 | 24000/F(kHz) | 20 log (24000/F(kHz)) | 30 |
| 1.705 - 30 | 30 | 29.5 | 30 |
| 30 - 88 | 100 | 40 | 3 |
| 88 - 216 | 150 | 43.5 | 3 |
| 216 - 960 | 200 | 46 | 3 |
| Above 960 | 500 | 54 | 3 |

Remarks:

1. Field strength (dB μ V/m) = 20 log Field strength (μ V/m)
2. In the Above Table, the tighter limit applies at the band edges.
2. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system

Unwanted Emission out of the restricted bands Test Limit

| Frequency (MHz) | EIRP Limit (dBm/MHz) | Equivalent Field Strength (dB μ V/m@3m) |
|-----------------|----------------------|---|
| 5150 – 5250 | -27 | 68.2 |
| 5250 – 5350 | -27 | 68.2 |
| 5470 – 5725 | -27 | 68.2 |
| 5725 – 5850 | -27 * ¹ | 68.2 * ¹ |
| | 10 * ² | 105.2 * ² |
| | 15.6 * ³ | 110.8 * ³ |
| | 27 * ⁴ | 122.2 * ⁴ |

*¹ beyond 75 MHz or more above of the band edge.

*² below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above.

*³ below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above.

*⁴ from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

Remark:

The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

$$E = \frac{1000000\sqrt{30P}}{3} \text{ uV/m, where } P \text{ is the eirp (Watts).}$$

7.3. Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 or 1.5 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level. Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.10-2020 on radiated measurement.

The additional latch filter below 1 GHz was used to measure the level of harmonics radiated emission during field strength of harmonics measurement.

The bandwidth below 1 GHz setting on the field strength meter is 120 kHz, above 1 GHz are 1 MHz.

The frequency range from 9 kHz to 10th harmonics and included The frequency range from the lowest oscillator frequency generated within the device up to the 10th harmonic was checked is checked.

7.4. Test Result of Transmitter Radiated Spurious Emission

Refer as Appendix E