



# TEST REPORT

Applicant Name : Shenzhen Xinyi Technology Co., Ltd  
Address : C505, Bay Area Digital Warehouse, Taoyuan Community,  
Dalang Street, Longhua District, Shenzhen, China  
Report Number: 2504T31635E-RF-00B  
FCC ID: 2BERO-HY300X

## Test Standard (s)

FCC PART 15.247

## Sample Description

Product Type: Smart Projector  
Model No.: HY300X, HY300X-1, HY300X-3, HY300X-4, HY300X-5  
Trade Mark: MAGCUBIC  
Date Received: 2025-05-16  
Date of Test: 2025-06-09 to 2025-06-18  
Report Date: 2025-07-03

|              |  |
|--------------|--|
| Test Result: | The EUT complied with the standards above. |
|--------------|--|

## Prepared and Checked By:

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Matt Liang  
EMC Engineer

## Approved By:

*Bob Liao*

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EMC Engineer

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DOCUMENT REVISION HISTORY

| Revision Number | Report Number      | Description of Revision | Date of Revision |
|-----------------|--------------------|-------------------------|------------------|
| Rev.00          | 2504T31635E-RF-00B | Original Report         | 2025-07-03       |

## GENERAL INFORMATION

### Product Description for Equipment under Test (EUT)

|                                  |   |
|----------------------------------|---|
| Product                          | Smart Projector   |
| Tested Model                     | HY300X  |
| Multiple Model                   | HY300X-1, HY300X-3, HY300X-4, HY300X-5  |
| Model Difference <sup>#</sup>    | The difference between the above models is only difference appearance color and model name. Please refer to DOS letter for details.<br>The applicant provided model "HY300X" for testing. |
| Voltage Range <sup>#</sup>       | DC 12V or 36V from adapter  |
| Adapter Information <sup>#</sup> | Model: HYP317-360095US<br>Input: 100-240V~, 50/60Hz 1.0A Max<br>Output1: 36.0V $\overline{\text{---}}$ 0.95A<br>Output2: 12.0V $\overline{\text{---}}$ 0.7A<br>Total Output Power: 42.6W  |

|                                     |  |
|-------------------------------------|--|
| Frequency Range                     | BLE 1M/2M: 2402-2480MHz  |
| Maximum Conducted Peak Output Power | 7.52dBm  |
| Modulation Technique                | GFSK   |
| Antenna Specification <sup>#</sup>  | 3.32dBi (It is provided by the applicant.)   |
| Sample Serial Number                | 331Q-1 (For CE&RE Test), 331Q-6 (For RF Conducted Test)<br>(Assigned by ATC, Shenzhen) |
| Sample/EUT Status                   | Good condition   |

## Objective

This test report is in accordance with Part 2-Subpart J, Part 15-Subparts A and C of the Federal Communication Commission rules.

The tests were performed in order to determine compliance with FCC Part 15, Subpart C, section 15.203, 15.205, 15.207, 15.209 and 15.247 rules.

## Test Methodology

All measurements contained in this report were conducted with ANSI C63.10-2020, American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices.

And KDB 558074 D01 15.247 Meas Guidance v05r02.

Unless otherwise stated there are no any additions to, deviations, or exclusions from the method.

## Test Facility

The test site used by Shenzhen Accurate Technology Co., Ltd. to collect test data is located on the Floor 1, KuMaKe Building, Dongzhou Community, Guangming Street, Guangming District, Shenzhen, Guangdong, China.

Accredited by American Association for Laboratory Accreditation (A2LA).The Certificate Number is 4297.01.

## Measurement Uncertainty

| Parameter                          |                 | Uncertainty            |
|------------------------------------|-----------------|------------------------|
| Occupied Channel Bandwidth         |                 | 5%                     |
| RF Frequency                       |                 | $0.064 \times 10^{-7}$ |
| RF output power, conducted         |                 | 0.3 dB                 |
| Unwanted Emission, conducted       |                 | 1.2 dB                 |
| AC Power Lines Conducted Emissions |                 | 2.7 dB                 |
| Emissions,<br>Radiated             | 9kHz - 30MHz    | 2.1 dB                 |
|                                    | 30MHz - 1GHz    | 4.3 dB                 |
|                                    | 1GHz - 18GHz    | 4.9 dB                 |
|                                    | 18GHz - 26.5GHz | 5.2 dB                 |
| Temperature                        |                 | 1°C                    |
| Humidity                           |                 | 7%                     |
| Supply voltages                    |                 | 0.4%                   |

*Note: The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval. Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty.*

## SYSTEM TEST CONFIGURATION

### Description of Test Configuration

For BLE,40 channels are provided to testing:

| Channel | Freq.<br>(MHz) | Channel | Freq.<br>(MHz) | Channel | Freq.<br>(MHz) | Channel | Freq.<br>(MHz) |
|---------|----------------|---------|----------------|---------|----------------|---------|----------------|
| 0       | 2402           | 10      | 2422           | 20      | 2442           | 30      | 2462           |
| 1       | 2404           | 11      | 2424           | 21      | 2444           | 31      | 2464           |
| ...     | ...            | ...     | ...            | ...     | ...            | ...     | ...            |
| ...     | ...            | ...     | ...            | ...     | ...            | ...     | ...            |
| 8       | 2418           | 18      | 2438           | 28      | 2458           | 38      | 2478           |
| 9       | 2420           | 19      | 2440           | 29      | 2460           | 39      | 2480           |

EUT was tested with Channel 0, 19 and 39.

### EUT Exercise Software and Power Level<sup>#</sup>

|                           |                            |
|---------------------------|----------------------------|
| <b>Exercise Software:</b> | adb command                |
| <b>Power Level:</b>       | BLE 1M:0x5f<br>BLE 2M:0x6f |

Note: The information in the above table is provided by the applicant.

### Special Accessories

No special accessory.

### Equipment Modifications

No modification was made to the EUT tested.

### Support Equipment List and Details

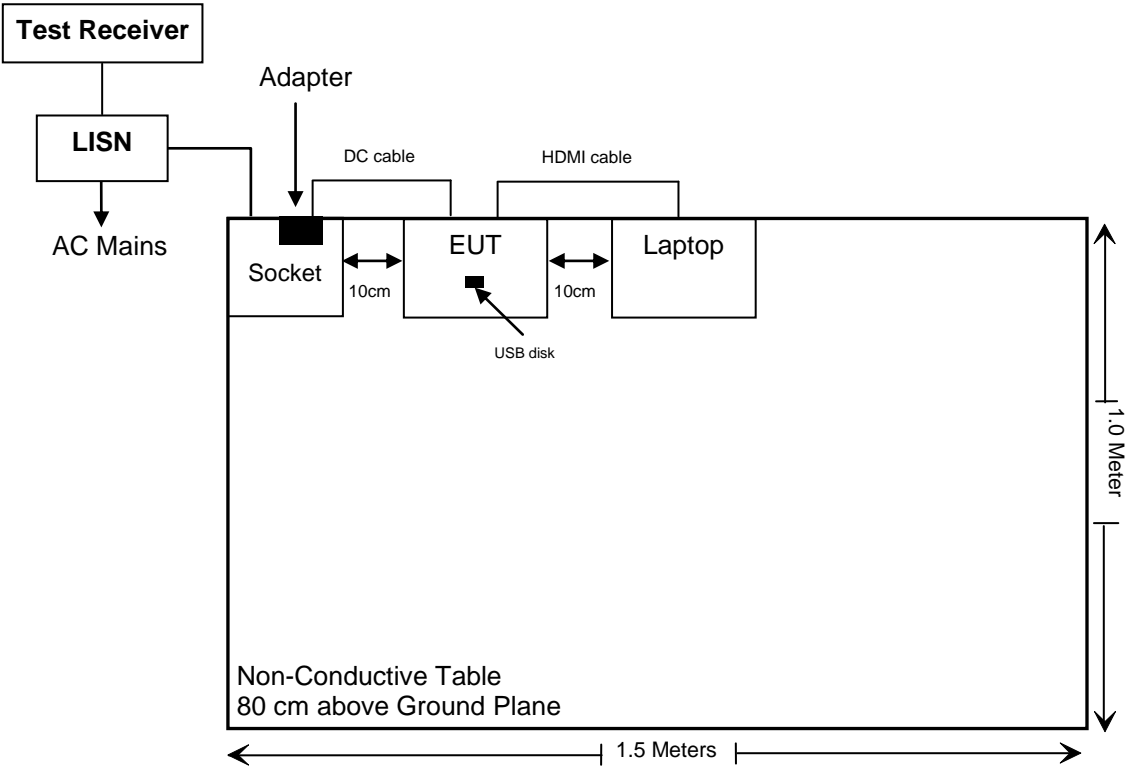
| Manufacturer | Description | Model         | Serial Number |
|--------------|-------------|---------------|---------------|
| LENOVO       | Laptop      | ThinkPad x240 | SL10F31638JS  |
| Kinston      | USB disk    | Unknown       | Unknown       |

### External I/O Cable

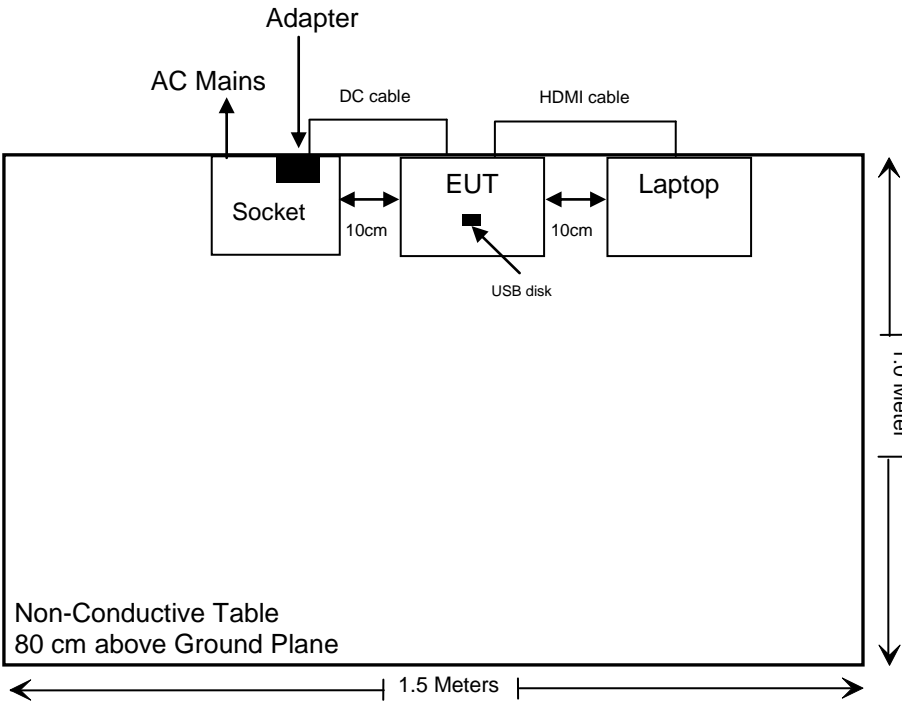
| Cable Description | Shielding Type | Length (m) | From Port | To  |
|-------------------|----------------|------------|-----------|-----|
| DC Cable          | NO             | 1.2        | Adapter   | EUT |
| HDMI cable        | YES            | 0.5        | Laptop    | EUT |

Block Diagram of Test Setup

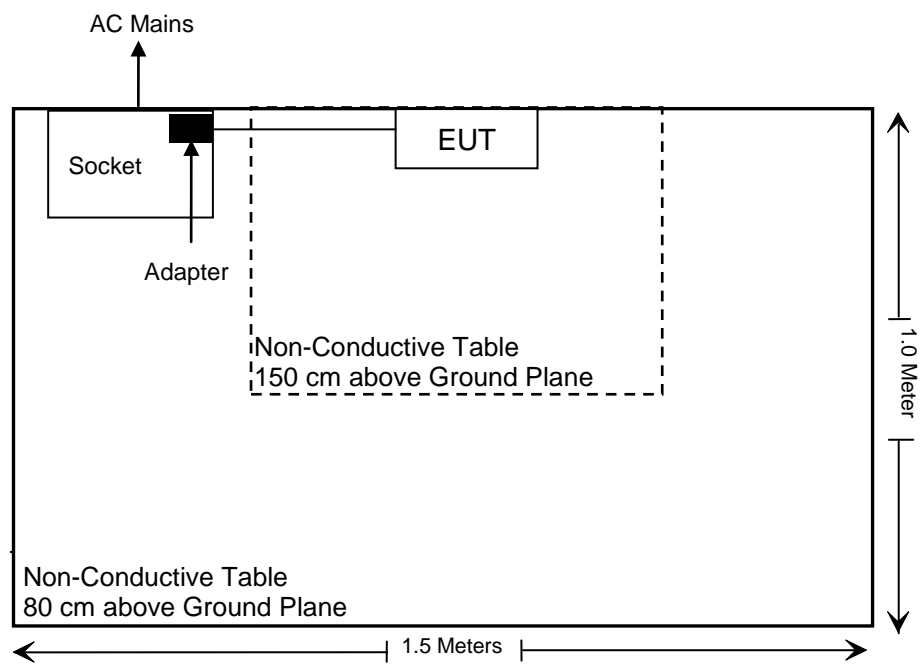
For Conducted Emission:



For Radiated Emission Below 1GHz:



For Radiated Emission Above 1GHz:



SUMMARY OF TEST RESULTS

| FCC Rules                    | Description of Test                          | Result     |
|------------------------------|--|------------|
| §15.203                      | Antenna Requirement                          | Compliance |
| §15.207(a)                   | AC Line Conducted Emissions                  | Compliance |
| §15.205, §15.209, §15.247(d) | Radiated Spurious Emissions                  | Compliance |
| §15.247(a)(2)                | 6 dB Emission Bandwidth & Occupied Bandwidth | Compliance |
| §15.247(b)(3)                | Maximum Conducted Output Power               | Compliance |
| §15.247(d)                   | 100 kHz Bandwidth of Frequency Band Edge     | Compliance |
| §15.247(e)                   | Power Spectral Density                       | Compliance |

- Note 1: For AC line conducted emissions, the maximum output power mode and channel was tested.
- Note 2: For Radiated Spurious Emissions 9kHz~1GHz/18GHz~25GHz, the maximum output power mode and channel was tested.
- Note 3: This device is installed vertically in Y-axes orientation. It was provided by applicant. The Y-axes orientation was tested and recorded in the report.
- Note 4: The cable loss is 0.5dB, which was added into the all RF test results.

**TEST EQUIPMENT LIST**

| Manufacturer                                       | Description                       | Model           | Serial Number | Calibration Date | Calibration Due Date |
|--|-----------------------------------|-----------------|---------------|------------------|----------------------|
| <b>Conducted Emissions Test</b>                    |                                   |                 |               |                  |                      |
| Rohde & Schwarz                                    | EMI Test Receiver                 | ESCI            | 100784        | 2024/11/08       | 2025/11/07           |
| Rohde & Schwarz                                    | L.I.S.N.                          | ENV216          | 101314        | 2024/11/08       | 2025/11/07           |
| Anritsu Corp                                       | 50 Coaxial Switch                 | MP59B           | 6100237248    | 2024/10/08       | 2025/10/07           |
| Rohde & Schwarz                                    | Pulse Limiter                     | ESH3-Z2         | 100312        | 2024/10/08       | 2025/10/07           |
| Unknown  | RF Coaxial Cable                  | No.17           | N0350         | 2024/10/08       | 2025/10/07           |
| Test Software: e3 191218 (V9)                      |                                   |                 |               |                  |                      |
| <b>Radiated Spurious Emission Test(Below 1GHz)</b> |                                   |                 |               |                  |                      |
| Rohde & Schwarz                                    | Test Receiver                     | ESR             | 102725        | 2024/11/08       | 2025/11/07           |
| SONOMA INSTRUMENT                                  | Amplifier                         | 310N            | 186131        | 2025/03/26       | 2026/03/25           |
| Schwarzbeck  | Bilog Antenna                     | VULB9163        | 9163-323      | 2024/08/08       | 2027/08/07           |
| Unknown  | RF Coaxial Cable                  | No.12           | N040          | 2024/10/08       | 2025/10/07           |
| Unknown  | RF Coaxial Cable                  | No.13           | N300          | 2024/10/08       | 2025/10/07           |
| Unknown  | RF Coaxial Cable                  | No.14           | N800          | 2024/10/08       | 2025/10/07           |
| BACL   | LOOP ANTENNA                      | 1313-1A         | 3110711       | 2024/01/16       | 2027/01/15           |
| Test Software: e3 191218 (V9)                      |                                   |                 |               |                  |                      |
| <b>Radiated Spurious Emission Test(Above 1GHz)</b> |                                   |                 |               |                  |                      |
| Rohde & Schwarz                                    | Spectrum Analyzer                 | FSV40           | 101949        | 2024/10/08       | 2025/10/07           |
| Decentest  | Filter Switch Unit                | DT7220FSU       | DQ77927       | 2024/10/08       | 2025/10/07           |
| Decentest  | Multiplex Switch Test Control Set | DT7220CSU       | DQ77924       | 2024/10/08       | 2025/10/07           |
| A.H. Systems, inc.                                 | Preamplifier                      | PAM-0118        | 226           | 2025/03/20       | 2026/03/19           |
| Schwarzbeck  | Horn Antenna                      | BBHA9120D       | 837           | 2023/02/22       | 2026/02/21           |
| Unknown  | RF Coaxial Cable                  | No.10           | N050          | 2024/10/08       | 2025/10/07           |
| Unknown  | RF Coaxial Cable                  | No.11           | N1000         | 2024/10/08       | 2025/10/07           |
| Unknown  | RF Coaxial Cable                  | No.19           | N500          | 2024/10/08       | 2025/10/07           |
| Schwarzbeck  | HORN ANTENNA                      | BBHA9170        | 9170-359      | 2023/12/12       | 2026/12/11           |
| BACL   | Amplifier                         | BACL-1313-A1840 | 4012521       | 2024/07/05       | 2025/07/04           |
| Unknown  | RF Coaxial Cable                  | No.15           | N600          | 2024/10/08       | 2025/10/07           |
| Unknown  | RF Coaxial Cable                  | No.16           | N650          | 2024/10/08       | 2025/10/07           |
| Test Software: e3 191218 (V9)                      |                                   |                 |               |                  |                      |

| Manufacturer                           | Description       | Model  | Serial Number | Calibration Date | Calibration Due Date |
|--|-------------------|--------|---------------|------------------|----------------------|
| RF Conducted test                      |                   |        |               |                  |                      |
| Rohde & Schwarz                        | Spectrum Analyzer | FSV-40 | 101948        | 2024/10/08       | 2025/10/07           |
| WEINSCHEL                              | 10dB Attenuator   | 5324   | AU 3842       | 2025/03/26       | 2026/03/25           |
| Test Software: JDAutoTestSystem V1.0.0 |                   |        |               |                  |                      |

\* **Statement of Traceability:** Shenzhen Accurate Technology Co., Ltd. attests that all calibrations have been performed in accordance to requirements that traceable to National Primary Standards and International System of Units (SI).

## FCC §15.203-ANTENNA REQUIREMENT

### Applicable Standard

According to § 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 use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the user of a standard antenna jack or electrical connector is prohibited. The structure and application of the EUT were analyzed to determine compliance with section §15.203 of the rules. §15.203 state that the subject device must meet the following criteria:

- a. Antenna must be permanently attached to the unit.
- b. Antenna must use a unique type of connector to attach to the EUT.
- c. Unit must be professionally installed, and installer shall be responsible for verifying that the correct antenna is employed with the unit.

And according to FCC 47 CFR section 15.247 (b), if the transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

### Antenna Connector Construction

The EUT has one internal antenna arrangement, which were permanently attached to the EUT, fulfill the requirement of this section. Please refer to the EUT photos.

| Frequency Range | Antenna gain |
|-----------------|--------------|
| 2402-2480MHz    | 3.32dBi      |

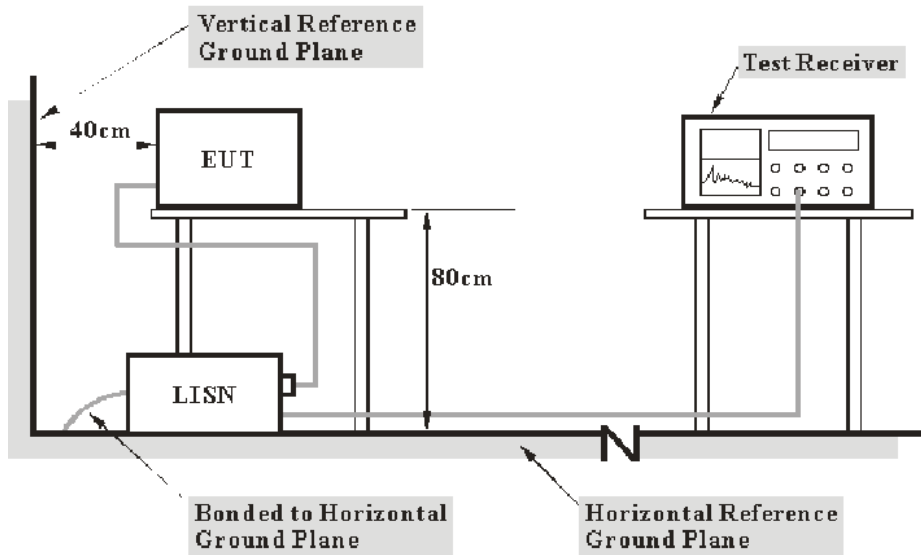
**Result:** Compliance.

FCC §15.207 (a)-AC LINE CONDUCTED EMISSIONS

Applicable Standard

FCC §15.207(a).

EUT Setup



- Note: 1. Support units were connected to second LISN.  
2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

The measurement procedure of EUT setup is according with ANSI C63.10-2020. The related limit was specified in FCC Part 15.207.

The spacing between the peripherals was 10 cm.

EMI Test Receiver Setup

The EMI test receiver was set to investigate the spectrum from 150 kHz to 30 MHz.  
During the conducted emission test, the EMI test receiver was set with the following configurations:

| Frequency Range  | IF B/W |
|------------------|--------|
| 150 kHz – 30 MHz | 9 kHz  |

Test Procedure

During the conducted emission test, the adapter was connected to the outlet of the LISN.  
Maximizing procedure was performed on the six (6) highest emissions of the EUT.  
All final data was recorded in the Quasi-peak and average detection mode.

## Calculation

The Factor is calculated by adding LISN VDF (Voltage Division Factor), Cable Loss and Limiter Attenuation. The basic equation is as follows:

$$\text{Factor} = \text{LISN VDF} + \text{Cable Loss} + 10\text{dB Attenuation(Limiter)}$$

The “**Over limit**” column of the following data tables indicates the degree of compliance with the applicable limit. For example, an over limit of -7 dB means the emission is 7 dB below the limit. The equation for calculation is as follows:

$$\text{Over Limit} = \text{Level} - \text{Limit}$$

$$\text{Level} = \text{Read Level} + \text{Factor}$$

## Test Data

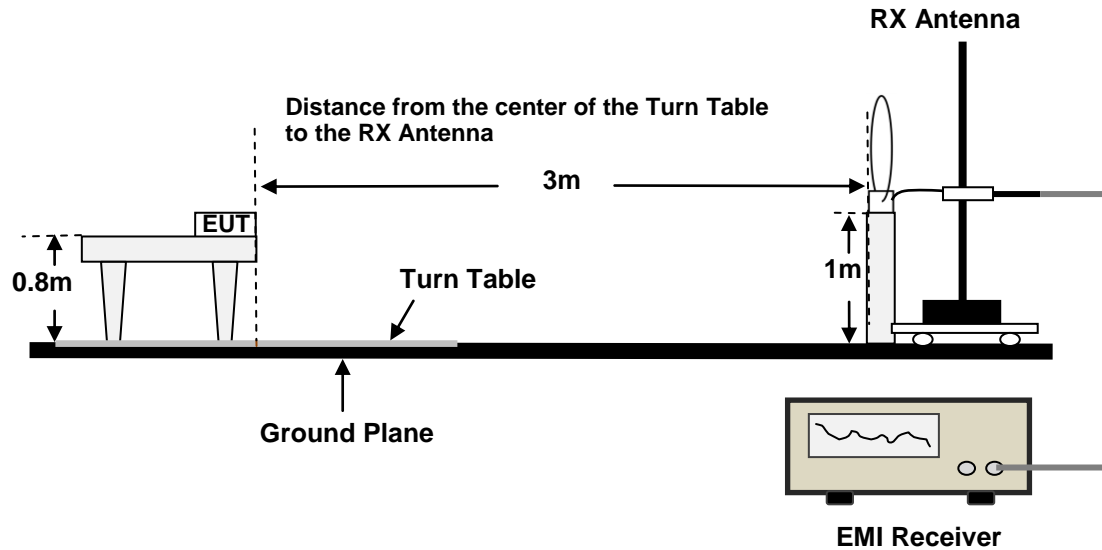
Please refer to the Annex of “2504T31635E-RF-Appendix B.1(BLE-CE&RSE Test Result)”.

**FCC §15.205, §15.209 & §15.247(d)-RADIATED EMISSIONS****Applicable Standard**

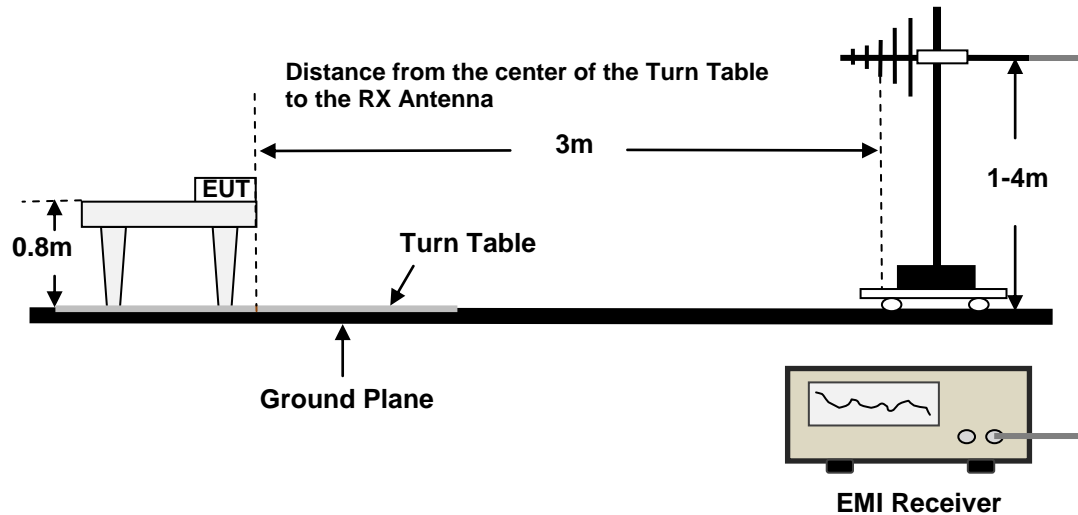
FCC §15.205; §15.209; §15.247(d)

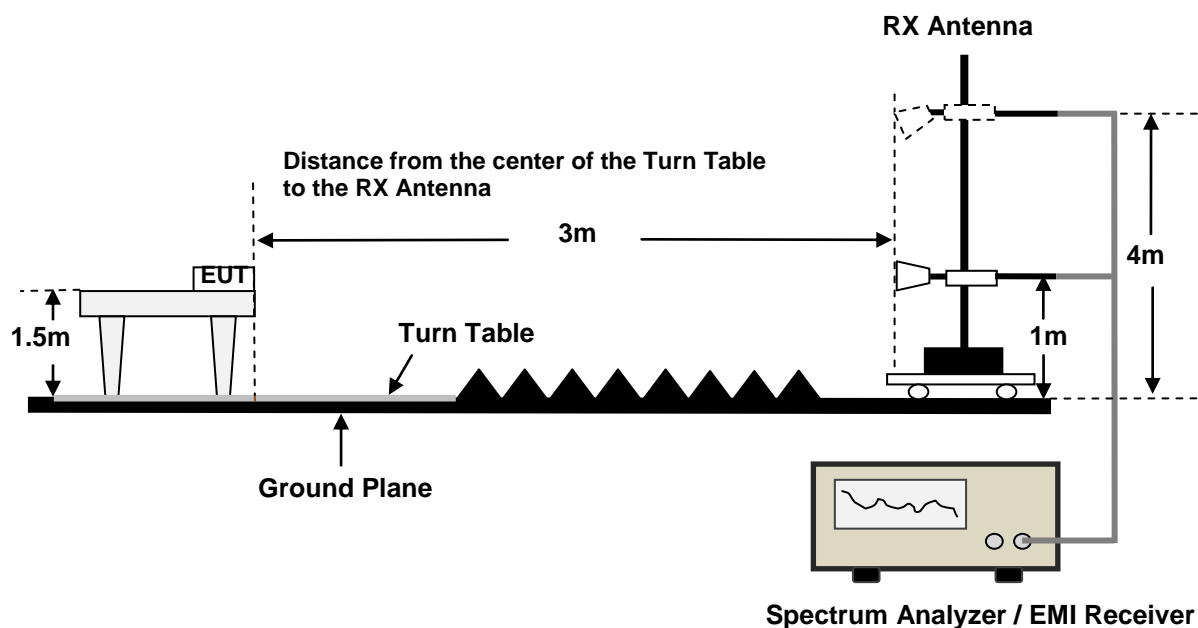
**EUT Setup**

9kHz - 30MHz:



30MHz - 1GHz:



**Above 1GHz:**

Boundary of the EUT, local AE and associated cabling and measurement distance for radiated emissions measurements:

The central point of the arrangement shall be positioned at the centre of the turntable. The measurement distance is the shortest horizontal distance between an imaginary circular periphery just encompassing this arrangement and the calibration point of the antenna. See as below Figure C.1 and C.2.

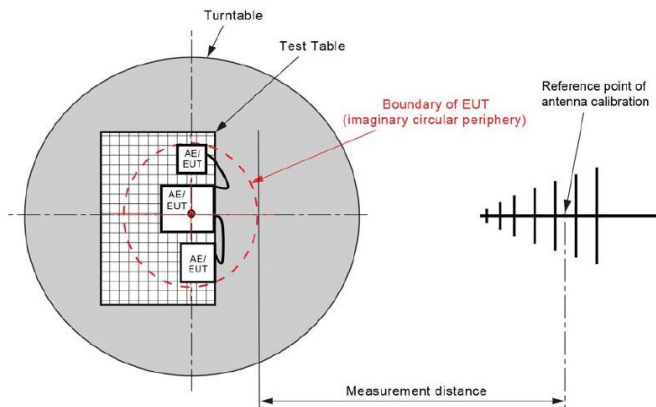


Figure C.1 – Measurement distance

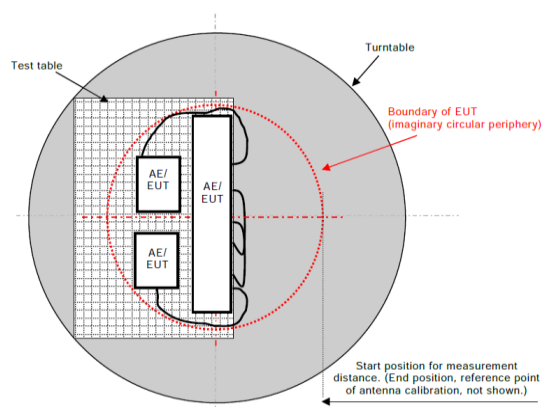


Figure C.2 – Boundary of EUT, Local AE and associated cabling

The radiated emission performed in the 3 meters, using the setup accordance with the ANSI C63.10-2020. The specification used was the FCC 15.209, FCC 15.247 limits.

## EMI Test Receiver & Spectrum Analyzer Setup

The system was investigated from 9 kHz to 25 GHz.

During the radiated emission test, the EMI test receiver & Spectrum Analyzer Setup were set with the following configurations:

9kHz - 1000MHz:

| Frequency Range | Measurement | RBW    | Video B/W | IF B/W | Detector |
|-----------------|-------------|--------|-----------|--------|----------|
| 9kHz - 150kHz   | PK          | 0.3kHz | 1kHz      | /      | PK       |
|                 | QP/AV       | /      | /         | 200Hz  | QP/AV    |
| 150kHz - 30MHz  | PK          | 10kHz  | 30kHz     | /      | PK       |
|                 | QP/AV       | /      | /         | 9kHz   | QP/AV    |
| 30MHz - 1000MHz | PK          | 100kHz | 300kHz    | /      | PK       |
|                 | QP          | /      | /         | 120kHz | QP       |

1GHz - 25GHz:

Pre-scan:

| Measurement | Detector | Duty cycle | RBW  | Video B/W               |
|-------------|----------|------------|------|-------------------------|
| PK          | Peak     | Any        | 1MHz | 3MHz                    |
| Ave.        | Peak     | >98%       | 1MHz | 5kHz                    |
|             |          | <98%       | 1MHz | ≥1/T, no less than 5kHz |

Final measurement for emission identified during the pre-scan:

| Measurement | Detector | Duty cycle | RBW  | Video B/W |
|-------------|----------|------------|------|-----------|
| PK          | Peak     | Any        | 1MHz | 3MHz      |
| Ave.        | Peak     | >98%       | 1MHz | 10Hz      |
|             |          | <98%       | 1MHz | ≥1/T      |

Note 1: T is minimum transmission duration

Note 2: The 1GHz-4GHz testing use the notch filter and the 4GHz-18GHz testing use high-pass filter.

Note 3: The band edge testing use 10dB attenuator.

Note 4: The filters and attenuators are all integrated within the filter switch unit.

## Test Procedure

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.

According to ANSI C63.10-2020, 9.2: For field strength measurements made at other than the distance specified by the limit, extrapolate the measured field strength to the field strength at the distance specified by the limit using an inverse distance correction factor (20 dB/decade of distance).

$$E_{SpecLimit} = E_{Meas} + 20 \log \left( \frac{D_{Meas}}{D_{SpecLimit}} \right)$$

where

|                 |   |
|-----------------|---|
| $E_{SpecLimit}$ | is the field strength of the emission at the distance specified by the limit, in dBuV/m |
| $E_{Meas}$      | is the field strength of the emission at the measurement distance, in dBuV/m            |
| $D_{Meas}$      | is the measurement distance, in m   |
| $D_{SpecLimit}$ | is the distance specified by the limit, in m  |

Note 1: If the maximized peak measured value is under the QP/Average limit by more than 6dB, then it is unnecessary to perform an QP/Average measurement.

Note 2: For above 1GHz, the test result of peak was 20dB below to the limit of peak, which can be compliant to the average limit, so just peak value was recorded.

## Calculation

The Factor is calculated by adding the Antenna Factor and Cable Loss, and subtracting the Amplifier Gain. The basic equation is as follows:

$$\text{Factor} = \text{Antenna Factor} + \text{Cable Loss} - \text{Amplifier Gain}$$

The “**Over Limit/Margin**” column of the following data tables indicates the degree of compliance with the applicable limit. For example, an over limit/margin of -7dB means the emission is 7dB below the limit. The equation for calculation is as follows:

$$\text{Over Limit/Margin} = \text{Level} / \text{Corrected Amplitude} - \text{Limit}$$

$$\text{Level} / \text{Corrected Amplitude} = \text{Read Level} + \text{Factor}$$

## Test Data

Please refer to the Annex of “2504T31635E-RF-Appendix B.1(BLE-CE&RSE Test Result)”.

## FCC §15.247(a) (2)-6 dB EMISSION BANDWIDTH & OCCUPIED BANDWIDTH

### Applicable Standard

Systems using digital modulation techniques may operate in the 902–928MHz, 2400–2483.5MHz, and 5725–5850MHz bands. The minimum 6 dB bandwidth shall be at least 500kHz.

### Test Procedure

According to ANSI C63.10-2020, section 11.8 and section 6.9

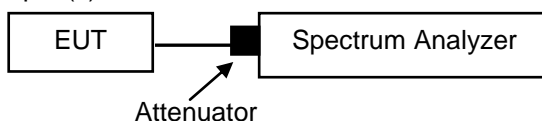
The steps for the first option are as follows:

- Set RBW = shall be in the range of 1% to 5% of the OBW but not less than 100 kHz.
- Set the VBW  $\geq [3 \times \text{RBW}]$ .
- Detector = peak.
- Trace mode = max-hold.
- Sweep = No faster than coupled (auto) time.
- Allow the trace to stabilize.
- Measure the maximum width of the emission by placing two markers, one at the lowest frequency and the other at the highest frequency of the envelope of the spectral display, such that each marker is at or slightly below the “–6 dB down amplitude”. If a marker is below this “–6 dB down amplitude” value, then it shall be as close as possible to this value.

According to ANSI C63.10-2020, section 7.8.6 and section 6.9.3

The occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers are each equal to 0.5% of the total mean power of the given emission. The following procedure shall be used for measuring 99% power bandwidth:

- The instrument center frequency is set to the nominal EUT channel center frequency. The frequency span for the spectrum analyzer shall be between 1.5 times and 5.0 times the OBW.
- The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW, and VBW shall be at least three times the RBW, unless otherwise specified by the applicable requirement.
- Set the reference level of the instrument as required, keeping the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope shall be more than  $[10 \log (\text{OBW}/\text{RBW})]$  below the reference level. Specific guidance is given in 4.1.6.2.
- Step a) through step c) might require iteration to adjust within the specified range.
- Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max-hold mode (until the trace stabilizes) shall be used.
- Use the 99% power bandwidth function of the instrument (if available) and report the measured bandwidth.
- If the instrument does not have a 99% power bandwidth function, then the trace data points are recovered and directly summed in linear power terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5% of the total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5% of the total is reached; that frequency is recorded as the upper frequency. The 99% power bandwidth is the difference between these two frequencies.
- The occupied bandwidth shall be reported by providing spectral plot(s) of the measuring instrument display; the plot axes and the scale units per division shall be clearly labeled. Tabular data may be reported in addition to the plot(s).



### Test Data

Please refer to the Annex of “2504T31635E-RF-Appendix B.2(BLE-RF Conducted Test Result)”.

## FCC §15.247(b) (3)-MAXIMUM CONDUCTED OUTPUT POWER

### Applicable Standard

According to FCC §15.247(b) (3), for systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.

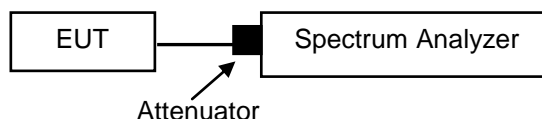
### Test Procedure

According to ANSI C63.10-2020, section 11.9.1.1

- Measurement using a spectrum analyzer (SA)

The following procedure shall be used when an instrument with a resolution bandwidth that is greater than the DTS bandwidth is available to perform the measurement:

- Set the RBW  $\geq$  DTS bandwidth.
- Set VBW  $\geq$   $[3 \times \text{RBW}]$ .
- Set span  $\geq$   $[3 \times \text{RBW}]$ .
- Sweep time = No faster than coupled (auto) time.
- Detector = peak.
- Trace mode = max-hold.
- Allow trace to fully stabilize.
- Use peak marker function to determine the peak amplitude level.



### Test Data

Please refer to the Annex of “2504T31635E-RF-Appendix B.2(BLE-RF Conducted Test Result)”.

## FCC §15.247(d)-100 KHZ BANDWIDTH OF FREQUENCY BAND EDGE

### Applicable Standard

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, 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, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

### Test Procedure

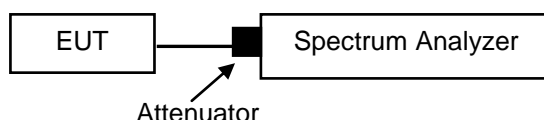
According to ANSI C63.10-2020, section 11.11

- a) Set the center frequency and span to encompass frequency range to be measured. Note that the frequency range might need to be divided into multiple frequency ranges to retain frequency resolution.

NOTE—the number of points can also be increased for large spans to retain frequency resolution

- b) Set the RBW = 100 kHz.  
c) Set the VBW  $\geq [3 \times \text{RBW}]$ .  
d) Detector = peak.  
e) Sweep time = No faster than coupled (auto) time.  
f) Trace mode = max-hold.  
g) Allow trace to fully stabilize.  
h) Use the peak marker function to determine the maximum amplitude level.

Ensure that the amplitude of all unwanted emissions outside of the authorized frequency band (excluding restricted frequency bands) is attenuated by at least the minimum requirements specified in 11.11. Report the three highest emissions relative to the limit.



### Test Data

Please refer to the Annex of “2504T31635E-RF-Appendix B.2(BLE-RF Conducted Test Result)”.

## FCC §15.247(e)-POWER SPECTRAL DENSITY

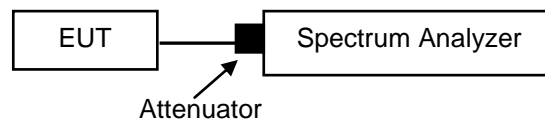
### Applicable Standard

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

### Test Procedure

According to ANSI C63.10-2020, section 11.10.2

- Set analyzer center frequency to DTS channel center frequency.
- Set the span >1.5 times the DTS bandwidth.
- Set the RBW to  $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$ .
- Set the VBW  $\geq [3 \times \text{RBW}]$ .
- Detector = peak.
- Sweep time = No faster than coupled (auto) time.
- Trace mode = max-hold.
- Allow trace to fully stabilize.
- Use the peak marker function to determine the maximum amplitude level within the RBW.
- If measured value exceeds requirement, then reduce RBW (but no less than 3 kHz) and repeat.



### Test Data

Please refer to the Annex of “2504T31635E-RF-Appendix B.2(BLE-RF Conducted Test Result)”.

## EXHIBIT A-EUT PHOTOGRAPHS

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Please refer to the Annex: 2504T31635E-RF EUT EXTERNAL PHOTOGRAPHS and 2504T31635E-RF EUT INTERNAL PHOTOGRAPHS.

## **EXHIBIT B-TEST SETUP PHOTOGRAPHS**

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Please refer to the Attachment: 2504T31635E-RF-00B TEST SETUP PHOTOGRAPHS.

**\*\*\*\*\* END OF REPORT \*\*\*\*\***