



MEASUREMENT REPORT

FCC PART 15.247 BLE

Report No.: S2025021260650103

Issue Date: 08-07-2025

Applicant: Neusoft Group (Dalian) Co., Ltd
Address: No.901-7 Huangpu Road. Ganjingzi District, Dalian City, Liaoning Province, China
FCC ID: 2AZAXCUSP000D00
Product: Cockpit domain controller
Model No.: CUSP000D00
FCC Classification: Digital Transmission System (DTS)
FCC Rule Part(s): Part 15 Subpart C (15.247)
Test Procedure(s): ANSI C63.10-2013, KDB 558074 D01v05r02
Result: Pass
Item Receipt Date: Feb.12, 2025
Test Date: Mar.19, 2025 ~ Mar.21, 2025

Compiled By

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Senior Test Engineer

Approved By

Line Chen

(Line Chen)
Engineer Manager



The test results relate only to the samples tested.

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in ANSI C63.10-2013. Test results reported herein relate only to the item(s) The test report shall not be reproduced except in full without the written approval of Fangguang Inspection & Testing Co., Ltd. Wuxi Branch
The test report must not be used by the client to claim product certifications, approval, or endorsement by NVLAP, NIST or any agency of U.S. Government.

Revision History

| Report No. | Version | Description | Issue Date |
|-------------------|---------|-------------|------------|
| S2025021260650103 | Rev. 01 | / | 08-07-2025 |

Note 1: Except for radiated spurious emissions, the test results of all conducted test items please refer to the module FCC test report (Report No.: JCF241024031-002,FCC ID:2BMJZ-P13A01H4) which issued on 2025/3/7 by Guangzhou Jingce Testing Technology Co., Ltd..

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§2.1033 General Information

| | |
|--------------------------------|---|
| Applicant: | Neusoft Group (Dalian) Co., Ltd |
| Applicant Address: | No.901-7 Huangpu Road. Ganjingzi District, Dalian City, Liaoning Province, China |
| Manufacturer: | Neusoft Group (Dalian) Co., Ltd |
| Manufacturer Address: | No.901-7 Huangpu Road. Ganjingzi District, Dalian City, Liaoning Province, China |
| Factory: | Qingdao Daesung Electronic Co., Ltd |
| Factory's Address: | No.37,Mengshahe 1 Road,Jimo Zone Qingdao,Shandong,266200 China |
| Test Site: | Fanguang Inspection & Testing Co., Ltd. |
| LAB ID: | CN5037 |
| Test Site Address: | No.8 Ningyun Rd., Xinwu District Wuxi, Jiangsu 214000 China |
| FCC Rule Part(s): | Part 15 Subpart C (15.247) |
| FCC ID: | 2AZAXCUSP000D00 |
| Test Device Serial No.: | S/N.:/ <input type="checkbox"/> Production <input checked="" type="checkbox"/> Pre-Production <input type="checkbox"/> Engineering |
| FCC Classification: | Digital Transmission System (DTS) |

1. Introduction

1.1. Scope

Measurement and determination of electromagnetic emissions (EMC) of radio frequency devices including intentional and/or unintentional radiators for compliance with the technical rules and regulations of the Federal Communications Commission and the Innovation, Science and Economic Development Canada.

1.2. FangguangTest Location

These measurement tests were performed at the Fangguang Inspection and testing Co.,LTD located at No.8 Ningyun Rd., Xinwu District Wuxi, Jiangsu 214000 China. The detailed description of the measurement facility was found to be in compliance with the requirements of ANSI C63.10-2013.

2. Product Information

2.1. Equipment Description

| | |
|----------------------|-------------------------------|
| Product Name: | Cockpit domain controller |
| Test Model: | CUSP000D00 |
| Trade Mark: | / |
| Input Voltage Range: | DC 12V |
| Hardware Version: | HWA.0.3 |
| Software Version: | SWA.0.20241226a |
| EUT sample number: | S20250212606501-1-1(Radiated) |

Note: This information is provided by the Customer and its authenticity is the responsibility of the Customer.

2.2. Product Specification Subjective to this Report

| | |
|---------------------|---|
| Bluetooth Frequency | BLE: 2402~2480MHz |
| Number of Channels | BLE: 40 |
| Channel Spacing | 2MHz |
| Type of modulation | GFSK |
| Data Rate | 1Mbps & 2Mbps |
| Antenna Type: | Internal antenna with 4.86dBi (Max.) |
| Note: | The EUT antenna gain is provided by the applicant. This report is made solely on the basis of such data and/or information. We accept no responsibility for the authenticity and completeness of the above data and information and the validity of the results and/or conclusions. |

2.3. Operation Frequency / Channel List

| Channel | Frequency | Channel | Frequency | Channel | Frequency |
|---------|-----------|---------|-----------|---------|-----------|
| 00 | 2402 MHz | 01 | 2404 MHz | 02 | 2406 MHz |
| 03 | 2408 MHz | 04 | 2410 MHz | 05 | 2412 MHz |
| 06 | 2414 MHz | 07 | 2416 MHz | 08 | 2418 MHz |
| 09 | 2420 MHz | 10 | 2422 MHz | 11 | 2424 MHz |
| 12 | 2426 MHz | 13 | 2428 MHz | 14 | 2430 MHz |
| 15 | 2432 MHz | 16 | 2434 MHz | 17 | 2436 MHz |
| 18 | 2438 MHz | 19 | 2440 MHz | 20 | 2442 MHz |
| 21 | 2444 MHz | 22 | 2446 MHz | 23 | 2448 MHz |
| 24 | 2450 MHz | 25 | 2452 MHz | 26 | 2454 MHz |
| 27 | 2456 MHz | 28 | 2458 MHz | 29 | 2460 MHz |
| 30 | 2462 MHz | 31 | 2464 MHz | 32 | 2466 MHz |
| 33 | 2468 MHz | 34 | 2470 MHz | 35 | 2472 MHz |
| 36 | 2474 MHz | 37 | 2476 MHz | 38 | 2478 MHz |
| 39 | 2480 MHz | -- | -- | -- | -- |

EUT was tested with Channel 0, 19 and 39.

2.4. Device Capabilities

This device contains the following capabilities: BLE.

Note: The duty cycles are refer to the module FCC test report (Report No.: JCF241024031-002,FCC ID:2BMJZ-P13A01H4) which issued on 2025/3/7 by Guangzhou Jingce Testing Technology Co., Ltd..

2.5. Description of Test Software

Test software:

| Software version | Test level |
|------------------|------------|
| Scrcpy | default |

2.6. Test Mode

| | |
|-----------|-------------------------|
| Test Mode | Mode 1: Transmit by BLE |
|-----------|-------------------------|

2.7. Test Configuration

The EUT was tested per the guidance of KDB 558074 D01 v05r02. ANSI C63.10-2013 was used to reference the appropriate EUT setup for radiated spurious emissions testing.

2.8. EMI Suppression Device(s)/Modifications

No EMI suppression device(s) were added and/or no modifications were made during testing.

2.9. EUT Photo

The EUT external photo, internal photo and test setup photo, please refer to the plots in the S20250212606501-A1/A2/A3.

2.10. Labeling Requirements

Per 2.1074 & 15.19; Docket 95-19

The label shall be permanently affixed at a conspicuous location on the device; instruction manual or pamphlet supplied to the user and be readily visible to the purchaser at the time of purchase.

However, when the device is so small wherein placement of the label with specified statement is not practical, only the FCC ID must be displayed on the device per Section 15.19(a)(5). Please see attachment for FCC ID label and label location.

2.11. Calculation with all conversion and correction factors used

For Radiated Emissions Below 1GHz Test:

Measure Level (dB μ V/m) = Reading Level (dB μ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).

For Radiated Emissions Above 1GHz Test:

Measure Level (dB μ V/m) = Reading Level (dB μ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

3. Description of Test

3.1. Evaluation Procedure

The measurement procedures described in the American National Standard for Testing Unlicensed Wireless Devices (ANSI C63.10-2013), and the guidance provided in KDB 558074 D01 v05r02 were used in the measurement of the EUT.

Deviation from measurement procedure.....None

3.2. AC Line Conducted Emissions

The line-conducted facility is located inside an 8'x4'x4' shielded enclosure. A 1m x 2m wooden table 80cm high is placed 40cm away from the vertical wall and 80cm away from the sidewall of the shielded room. Two 10kHz-30MHz, 50Ω/50uH Line-Impedance Stabilization Networks (LISNs) are bonded to the shielded room floor. Power to the LISNs is filtered by external high-current high-insertion loss power line filters. These filters attenuate ambient signal noise from entering the measurement lines. These filters are also bonded to the shielded enclosure.

The EUT is powered from one LISN and the support equipment is powered from the second LISN. All interconnecting cables more than 1 meter were shortened to a 1 meter length by non-inductive bundling (serpentine fashion) and draped over the back edge of the test table. All cables were at least 40cm above the horizontal reference ground-plane. Power cables for support equipment were routed down to the second LISN while ensuring that that cables were not draped over the second LISN.

Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. The RF output of the LISN was connected to the receiver and exploratory measurements were made to determine the frequencies producing the maximum emission from the EUT. The receiver was scanned from 150kHz to 30MHz. The detector function was set to peak mode for exploratory measurements while the bandwidth of the analyzer was set to 9kHz. The EUT, support equipment, and interconnecting cables were arranged and manipulated to maximize each emission. Each emission was also maximized by varying: power lines, the mode of operation or data exchange speed, or support equipment whichever determined the worst-case emission. Once the worst case emissions have been identified, the one EUT cable configuration/arrangement and mode of operation that produced these emissions are used for final measurements on the same test site. The analyzer is set to CISPR quasi-peak and average detectors with a 9kHz resolution bandwidth for final measurements.

An extension cord was used to connect to a single LISN which powered by EUT. The extension cord was calibrated with LISN, the impedance and insertion loss are compliance with the requirements as stated in ANSI C63.10-2013.

3.3. Radiated Emissions

The radiated test facilities consisted of an indoor 3 meter semi-anechoic chamber used for final measurements and exploratory measurements, when necessary. The measurement area is contained within the semi-anechoic chamber which is shielded from any ambient interference. For measurements above 1GHz absorbers are arranged on the floor between the turn table and the antenna mast in such a way so as to maximize the reduction of reflections. For measurements below 1GHz, the absorbers are removed. The turntable is used for radiated measurement. It is a continuously rotatable, remote controlled, metallic turntable and 2 meters (6.56 ft.) in diameter. The turn table is flush with the raised floor of the chamber in order to maintain its function as a ground plane. An 80cm high PVC support structure is placed on top of the turntable.

For all measurements, the spectrum was scanned through all EUT azimuths and from 1 to 4 meter receive antenna height using a broadband antenna from 30MHz up to the upper frequency shown in 15.33(b)(1) depending on the highest frequency generated or used in the device or on which the device operates or tunes. For frequencies above 1GHz, linearly polarized double ridge horn antennas were used. For frequencies below 30MHz, a calibrated loop antenna was used. When exploratory measurements were necessary, they were performed at 1 meter test distance inside the semi-anechoic chamber using broadband antennas, broadband amplifiers, and spectrum analyzers to determine the frequencies and modes producing the maximum emissions. Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. The test set-up for frequencies below 1GHz was placed on top of the 0.8 meter high, 1 x 1.5 meter table; and test set-up for frequencies 1-25GHz was placed on top of the 1.5 meter high, 1 x 1.5 meter table. The EUT, support equipment, and interconnecting cables were arranged and manipulated to maximize each emission. Appropriate precaution was taken to ensure that all emissions from the EUT were maximized and investigated. The system configuration, clock speed, mode of operation or video resolution, if applicable, turntable azimuth, and receive antenna height was noted for each frequency found.

Final measurements were made in the semi-anechoic chamber using calibrated, linearly polarized broadband and horn antennas. The test setup was configured to the setup that produced the worst case emissions. The spectrum analyzer was set to investigate all frequencies required for testing to compare the highest radiated disturbances with respect to the specified limits. The turntable containing the EUT was rotated through 360 degrees and the height of the receive antenna was varied 1 to 4 meters and stopped at the azimuth and height producing the maximum emission. Each emission was maximized by changing the orientation of the EUT through three orthogonal planes and changing the polarity of the receive antenna, whichever produced the worst-case emissions. According to 3dB Beam-Width of horn antenna, the horn antenna should be always directed to the EUT when rising height.

4. Antenna Requirements

Excerpt from §15.203 of the FCC Rules/Regulations:

“An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can 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.”

- Use a unique coupling to the intentional radiator.

5. Test Equipment Calibration Date

Conducted Emissions

| Instrument | Manufacturer | Type No. | Asset No. | Cali. Interval | Cali. Due Date |
|--------------------|--------------|----------|-----------------|----------------|----------------|
| EMI Test Receiver | R&S | ESR3 | FWXGJC-2016-181 | 1 year | 2026/07/08 |
| Two-Line V-Network | R&S | ENV 216 | FWXGJC-2016-182 | 1 year | 2026/07/09 |
| Thermohygrometer | Yuhuaze | HTC-1 | FWXDA-2016-387 | 1 year | 2025/09/03 |

Radiated Emission

| Instrument | Manufacturer | Type No. | Asset No. | Cali. Interval | Cali. Due Date |
|------------------------|--------------|-------------|--------------------|----------------|----------------|
| Loop Antenna | Schwarzbeck | FMZB 1519B | FWXGJC-2018-015 | 1 year | 2026/06/21 |
| Bi-Log Antenna | R&S | HL562E | FWXGJC-2016-267-06 | 1 year | 2026/01/17 |
| Broadband Horn Antenna | R&S | HF907 | FWXGJC-2016-267-07 | 1 year | 2026/06/21 |
| Broadband Horn Antenna | Schwarzbeck | BBHA 9170 | FWXGJC-2018-016 | 1 year | 2026/06/21 |
| EMI Receiver | R&S | ESCI3 | FGZZ-2024-033 | 1 year | 2026/07/17 |
| EXA Signal Analyzer | Keysight | N9010B | FWXGJC-2018-010 | 1 year | 2026/07/16 |
| Pre-Amplifier | Tonscend | TAP0118048 | FWXGJC-2024-037 | 1 year | 2026/06/21 |
| Pre-Amplifier | Chengyi | EMC184055SE | FWXGJC-2018-018 | 1 year | 2026/06/21 |
| Thermohygrometer | Yuhuaze | HTC-1 | FWXDA-2016-385 | 1 year | 2025/09/03 |
| Anechoic Chamber | SAEMC | FSAC318 | FWXGJC-2024-035 | 3 year | 2027/06/02 |

Conducted Test Equipment

| Instrument | Manufacturer | Type No. | Asset No. | Cali. Interval | Cali. Due Date |
|---------------------|--------------|----------|-----------------|----------------|----------------|
| EXA Signal Analyzer | Keysight | N9010B | FWXGJC-2018-010 | 1 year | 2026/07/16 |
| RF Control Unit | Tonscend | JS0806-2 | FWXGJC-2018-013 | 1 year | 2026/07/25 |
| Thermohygrometer | Yuhuaze | HTC-1 | FWXDA-2016-386 | 1 year | 2025/09/03 |

| Test Software | Manufacturer | Version | Asset No. | Function |
|----------------------|--------------|---------|-----------|--------------------|
| JS1120-3 Test System | tonscend | V3.3.10 | / | Conducted Test |
| JS32 | tonscend | V5.0.0 | / | Radiated Emission |
| EMI Test Software | R&S | 9.26.00 | / | Conducted Emission |

Auxiliary Equipment

| Instrument | Manufacturer | Type No. | Asset No. | Cali. Interval | Cali. Due Date |
|------------|--------------|----------|-----------|----------------|----------------|
| Filter | Tonscend | ZBSF6 | 07247867 | 1 year | 2026/07/25 |
| Filter | Tonscend | ZHPF6 | 07233297 | 1 year | 2026/07/25 |
| Attenuator | Tonscend | 10dB | / | 1 year | 2026/07/25 |
| RF Cable | Tonscend | T-1 | / | 1 year | 2026/07/25 |

6. Measurement Uncertainty

Where relevant, the following test uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k = 2$.

| |
|---|
| AC Conducted Emission Measurement |
| Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 2.68dB |
| Radiated Emission Measurement (9kHz - 30MHz) |
| Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 3.06dB |
| Radiated Emission Measurement (30MHz -1GHz) |
| Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 4.01dB |
| Radiated Emission Measurement (1-18GHz) |
| Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 4.97dB |
| Radiated Emission Measurement (18-40GHz) |
| Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 5.32dB |
| Spurious Emissions, Conducted |
| Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 30MHz-1GHz: 1.00 dB 1GHz-12.75GHz: 1.30 dB |
| Output Power |
| Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 0.60dB |
| Power Spectrum Density |
| Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 0.80dB |
| Occupied Bandwidth |
| Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 0.20MHz |
| Frequency Stability |
| Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 0.1×10^{-6} MHz |

7. Test Result

7.1. Summary

| FCC Part Section(s) | Test Description | Test Limit | Test Condition | Test Result |
|---------------------|---|---|----------------|-------------|
| 15.247(a)(2) | 6dB Bandwidth | $\geq 500\text{kHz}$ | Conducted | Pass |
| 15.247(b)(3) | Output Power | $\leq 30\text{dBm}$ | | Pass |
| 15.247(e) | Power Spectral Density | $\leq 8\text{dBm}/3\text{kHz}$ | | Pass |
| 15.247(d) | Band Edge | $\geq 20\text{dBc}$ | | Pass |
| 15.247(d) | Out-of-Band Emissions | $\geq 20\text{dBc}$ | | Pass |
| 15.205 15.209 | General Field Strength Limits(Restricted Bands andRadiated Emission Limits) | Emissions in restrictedbands must meet theradiated limits detailed in15.209 | Radiated | Pass |
| 15.207 | AC Conducted Emissions 150kHz - 30MHz | < FCC 15.207 limits | Line Conducted | N/A |

Notes:

- 1) All modes of operation and data rates were investigated. For radiated emission test, every axis (X, Y, Z) was also verified. The test results shown in the following sections represent the worst case emissions.
- 2) The analyzer plots shown in this section were all taken with a correction table loaded into the analyzer. The correction table was used to account for the losses of the cables and attenuators used as part of the system to connect the EUT to the analyzer at all frequencies of interest.
- 3) All antenna port conducted emissions testing was performed on a test bench with the antenna port of the EUT connected to the spectrum analyzer through calibrated cables and attenuators.
- 4) The test results of all conducted test items please refer to the module FCC test report (Report No.: JCF241024031-002,FCC ID:2BMJZ-P13A01H4) which issued on 2025/3/7 by Guangzhou Jingce Testing Technology Co., Ltd..
- 5) The EUT is DC supply, this item only for the EUT is designed to be connected to the public utility (AC) power line.

7.2. Radiated Spurious Emission Measurement

7.2.1. Test Limit

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR must not exceed the limits shown in Table per Section 15.209.

| FCC Part 15 Subpart C Paragraph 15.209 | | |
|--|-----------------------|----------------------------|
| Frequency [MHz] | Field Strength [uV/m] | Measured Distance [Meters] |
| 0.009 – 0.490 | 2400/F (kHz) | 300 |
| 0.490 – 1.705 | 24000/F (kHz) | 30 |
| 1.705 - 30 | 30 | 30 |
| 30 - 88 | 100 | 3 |
| 88 - 216 | 150 | 3 |
| 216 - 960 | 200 | 3 |
| Above 960 | 500 | 3 |

7.2.2. Test Procedure Used

ANSI C63.10-2013 – Section 6.6.4.3

7.2.3. Test Setting

Peak Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = as specified in Table 1
3. VBW = 3MHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold

- Trace was allowed to stabilize

Table 1 - RBW as a function of frequency

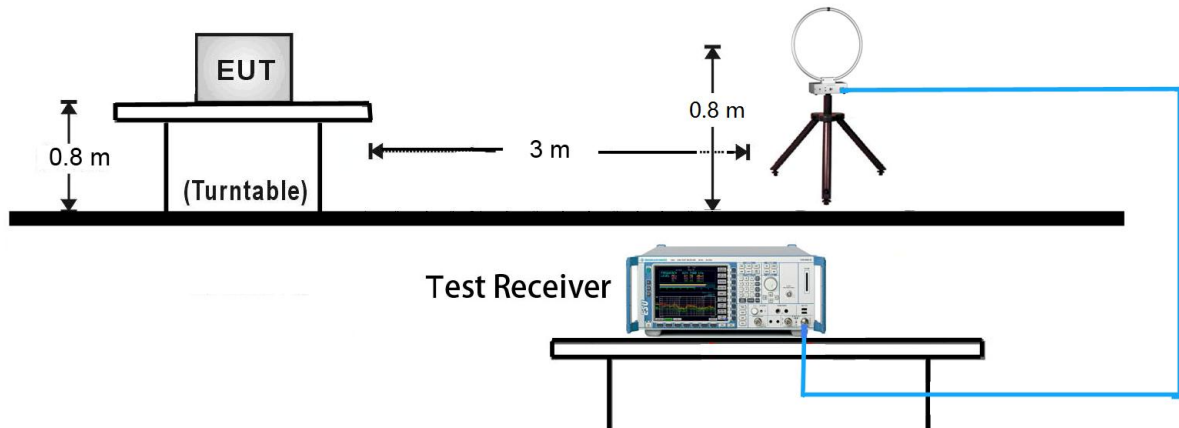
| Frequency | RBW |
|---------------|---------------|
| 9 ~ 150 kHz | 200 ~ 300 Hz |
| 0.15 ~ 30 MHz | 9 ~ 10 kHz |
| 30 ~ 1000 MHz | 100 ~ 120 kHz |
| > 1000 MHz | 1 MHz |

Average Field Strength Measurements

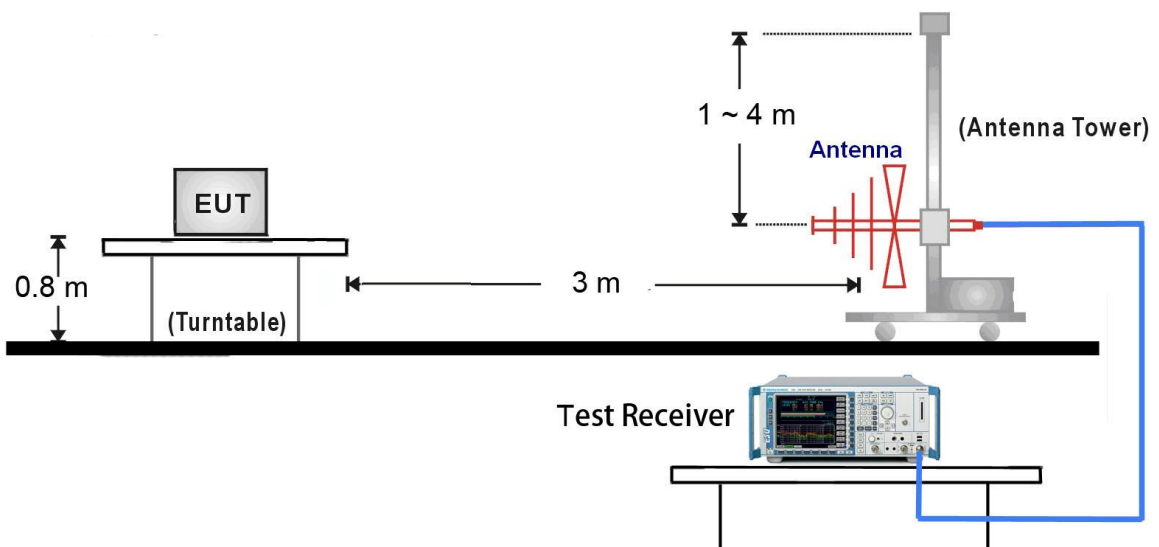
- Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
- RBW = 1MHz
- VBW = 3MHz
- Detector = Power Average (RMS)
- Number of sweep point = 2001 (Number of sweep points must be $\geq 2 \times \text{span} / \text{RBW}$)
- Sweep time = auto
- Trace (RMS) averaging was performed over at least 100 traces.

7.2.4. Test Setup

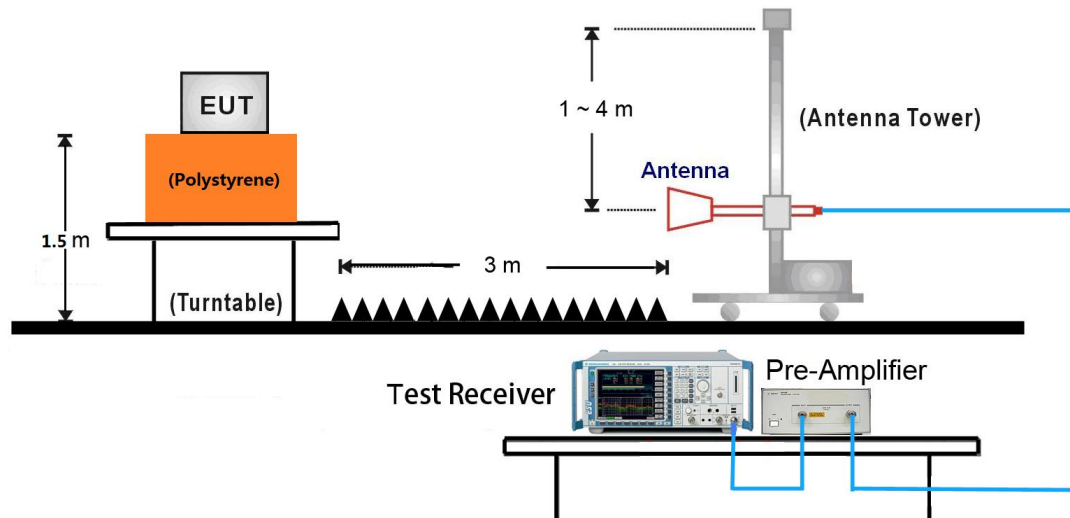
9kHz ~30MHz Test Setup:



30MHz ~ 1GHz Test Setup:



1GHz ~ 26.5GHz Test Setup:

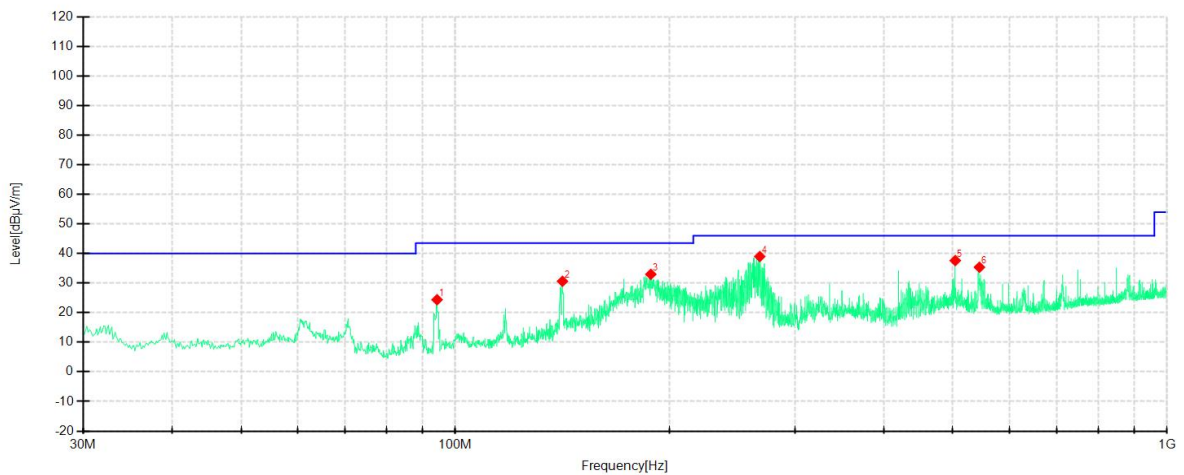


7.2.5. Test Result

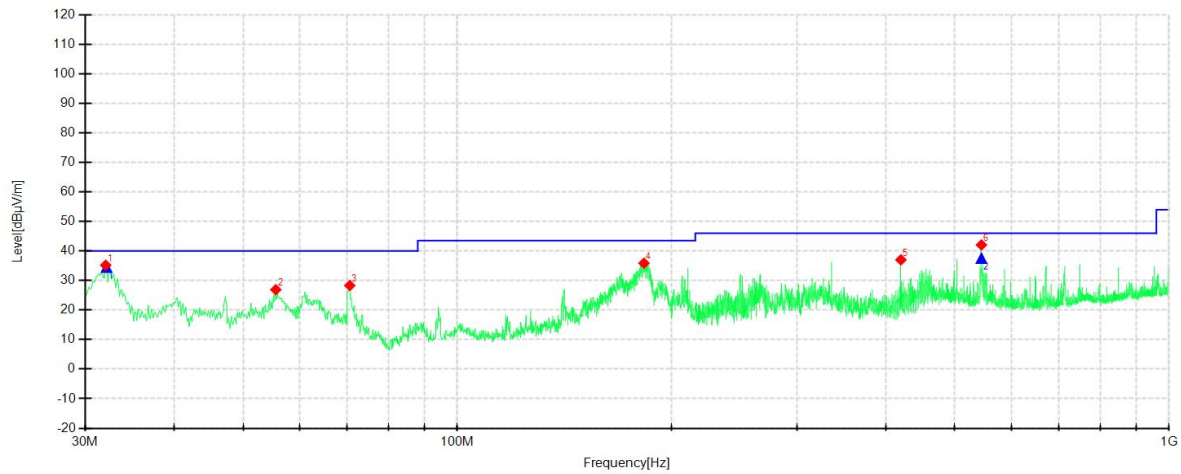
Note: Pre-scan all modes, only the worst case (TX_BLE_1M_2440MHz) is recorded, in this report.

Below 1GHz

| | | | |
|----------------|-------------|---------------------------|-----------------------|
| Power supply: | DC 12V | Environmental Conditions: | 18.3°C/33%RH/102.3kPa |
| Test Engineer: | Stone Zhang | Test Date: | 2025-03-20 |



| NO. | Freq. [MHz] | Reading [dBμV/m] | Level [dBμV/m] | Factor [dB] | Limit [dBμV/m] | Margin [dB] | Trace | Height [cm] | Angle [°] | Polarity | Verdict |
|-----|-------------|------------------|----------------|-------------|----------------|-------------|-------|-------------|-----------|------------|---------|
| 1 | 94.2705 | 57.47 | 24.39 | -33.08 | 43.50 | 19.11 | QP | 200 | 282 | Horizontal | PASS |
| 2 | 141.4427 | 59.12 | 30.64 | -28.48 | 43.50 | 12.86 | QP | 200 | 282 | Horizontal | PASS |
| 3 | 188.2510 | 63.65 | 32.99 | -30.66 | 43.50 | 10.51 | QP | 200 | 255 | Horizontal | PASS |
| 4 | 267.8010 | 67.82 | 39.01 | -28.81 | 46.00 | 6.99 | QP | 100 | 66 | Horizontal | PASS |
| 5 | 504.0255 | 59.20 | 37.63 | -21.57 | 46.00 | 8.37 | QP | 200 | 334 | Horizontal | PASS |
| 6 | 545.0131 | 55.96 | 35.37 | -20.59 | 46.00 | 10.63 | QP | 200 | 32 | Horizontal | PASS |



| NO. | Freq. [MHz] | Reading [dBμV/m] | Level [dBμV/m] | Factor [dB] | Limit [dBμV/m] | Margin [dB] | Trace | Height [cm] | Angle [°] | Polarity | Verdict |
|-----|-------------|------------------|----------------|-------------|----------------|-------------|-------|-------------|-----------|----------|---------|
| 1 | 32.0615 | 64.54 | 35.20 | -29.34 | 40.00 | 4.80 | QP | 100 | 242 | Vertical | PASS |
| 2 | 55.5869 | 56.11 | 26.90 | -29.21 | 40.00 | 13.10 | QP | 100 | 138 | Vertical | PASS |
| 3 | 70.6238 | 59.81 | 28.32 | -31.49 | 40.00 | 11.68 | QP | 100 | 126 | Vertical | PASS |
| 4 | 182.9154 | 65.98 | 35.88 | -30.10 | 43.50 | 7.62 | QP | 100 | 322 | Vertical | PASS |
| 5 | 419.9887 | 60.36 | 37.03 | -23.33 | 46.00 | 8.97 | QP | 100 | 218 | Vertical | PASS |
| 6 | 545.0131 | 62.66 | 42.07 | -20.59 | 46.00 | 3.93 | QP | 200 | 263 | Vertical | PASS |

| Final Data List | | | | | | | | | | |
|-----------------|-------------|-------------|---------------------|----------------|-------------------|----------------|-------------|-----------|----------|---------|
| NO. | Freq. [MHz] | Factor [dB] | QP Reading [dBμV/m] | Level [dBμV/m] | QP Limit [dBμV/m] | QP Margin [dB] | Height [cm] | Angle [°] | Polarity | Verdict |
| 1 | 32.7122 | -29.96 | 67.12 | 37.16 | 40.00 | 2.84 | 199 | 337.6 | Vertical | PASS |
| 2 | 545.2482 | -20.46 | 56.05 | 35.59 | 40.00 | 4.41 | 173 | 103.4 | Vertical | PASS |

Remark:

- No emission found between lowest internal used/generated frequency to 30MHz.
- Radiated emissions measured in frequency range from 9kHz to 1GHz were made with an instrument using Quasi-peak detector mode.
- The IF bandwidth of Receiver between 30MHz to 1GHz was 120kHz.
- If the margin of the pre-test results is greater than 6dB, it meets the requirements of quasi peak or average values, and final testing is no longer required.

1GHz-18GHz:

According to C63.10, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement, so AV emission value did not show in below table if the peak value complies with average limit.

Mode: TX/ BLE_1M

Lowest Frequency (2440MHz)

Environment: 15.6°C/32%RH/103.0kPa

Tested By: Stone Zhang

Voltage:DC 12V

Date: 2025-03-19

Suspected Data List

| NO. | Freq. [MHz] | Reading [dBμV/m] | Level [dBμV/m] | Factor [dB] | Limit [dBμV/m] | Margin [dB] | Height [cm] | Angle [°] | Polarity |
|-----|----------------|---------------------|-------------------|----------------|-------------------|----------------|----------------|--------------|------------|
| 1 | 1908.6000 | 50.41 | 46.24 | -4.17 | 74.00 | 27.76 | 100 | 20 | Horizontal |
| 2 | 3340.0000 | 55.23 | 42.18 | -13.05 | 74.00 | 31.82 | 100 | 27 | Horizontal |
| 3 | 4820.0000 | 52.33 | 44.81 | -7.52 | 74.00 | 29.19 | 100 | 0 | Horizontal |
| 4 | 7641.0000 | 52.46 | 53.97 | 1.51 | 74.00 | 20.03 | 200 | 338 | Horizontal |
| 5 | 13265.0000 | 52.13 | 66.23 | 14.10 | 74.00 | 7.77 | 100 | 175 | Horizontal |
| 6 | 15118.0000 | 54.05 | 67.05 | 13.00 | 74.00 | 6.95 | 100 | 161 | Horizontal |

AV Final Data List

| NO. | Freq. [MHz] | Factor [dB] | AV Reading [dBμV/m] | AV Value [dBμV/m] | AV Limit [dBμV/m] | AV Margin [dB] | Height [cm] | Angle [°] | Polarity |
|-----|----------------|----------------|---------------------------|----------------------|----------------------|----------------------|----------------|--------------|------------|
| 1 | 7607.4950 | 1.51 | 30.44 | 31.95 | 54.00 | 22.05 | 150 | 197.8 | Horizontal |
| 2 | 13275.5550 | 14.10 | 23.50 | 37.60 | 54.00 | 16.40 | 101 | 130.9 | Horizontal |
| 3 | 15107.9400 | 13.00 | 23.79 | 36.79 | 54.00 | 17.21 | 192 | 169.1 | Horizontal |

Suspected Data List

| NO. | Freq. [MHz] | Reading [dBμV/m] | Level [dBμV/m] | Factor [dB] | Limit [dBμV/m] | Margin [dB] | Height [cm] | Angle [°] | Polarity |
|-----|----------------|---------------------|-------------------|----------------|-------------------|----------------|----------------|--------------|----------|
| 1 | 1133.4000 | 52.78 | 42.09 | -10.69 | 74.00 | 31.91 | 200 | 101 | Vertical |
| 2 | 1908.6000 | 51.97 | 47.32 | -4.65 | 74.00 | 26.68 | 100 | 115 | Vertical |
| 3 | 2863.2000 | 50.70 | 49.45 | -1.25 | 74.00 | 24.55 | 100 | 48 | Vertical |
| 4 | 3339.0000 | 57.74 | 44.44 | -13.30 | 74.00 | 29.56 | 200 | 56 | Vertical |
| 5 | 4635.0000 | 53.71 | 45.06 | -8.65 | 74.00 | 28.94 | 200 | 340 | Vertical |
| 6 | 14987.0000 | 54.39 | 68.18 | 13.79 | 74.00 | 5.82 | 100 | 278 | Vertical |

| AV Final Data List | | | | | | | | | |
|--------------------|----------------|----------------|---------------------------|----------------------|----------------------|----------------------|----------------|--------------|----------|
| NO. | Freq. [MHz] | Factor [dB] | AV Reading [dBμV/m] | AV Value [dBμV/m] | AV Limit [dBμV/m] | AV Margin [dB] | Height [cm] | Angle [°] | Polarity |
| 1 | 2863.0340 | -1.25 | 36.20 | 34.95 | 54.00 | 19.05 | 101 | 24.1 | Vertical |
| 2 | 15015.8450 | 13.79 | 23.31 | 37.10 | 54.00 | 16.90 | 200 | 286.5 | Vertical |

Remark:

- 1 Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency.
- 2 Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
- 3 Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
- 4 Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.

18GHz to 26.5GHz

According to C63.10, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement, so AV emission value did not show in below table if the peak value complies with average limit.

Note: Pre-scan all modes, only the worst case(TX/BLE_2M_2402MHz) in the worst power supply is recorded in this report.

Environment: 23.0°C/35%RH/102.2kPa

Voltage: DC 12V

Tested By: Stone Zhang

Date: 2025-03-21

Suspected Data List

| NO | Freq. [MHz] | Reading [dBμV/m] | Level for 1m [dBμV/m] | Level for 3m [dBμV/m] | Factor [dB] | Limit [dBμV/m] | Margin [dB] | Height [cm] | Angle [°] | Polarity |
|----|----------------|---------------------|-----------------------------|-----------------------------|----------------|-------------------|----------------|----------------|--------------|------------|
| 1 | 18932.875 | 46.70 | 49.70 | 40.16 | 3.00 | 74 | 33.84 | 100 | 254 | Horizontal |
| 2 | 20249.525 | 45.27 | 49.13 | 39.59 | 3.86 | 74 | 34.41 | 100 | 296 | Horizontal |
| 3 | 21810.975 | 44.58 | 48.37 | 38.83 | 3.79 | 74 | 35.17 | 100 | 316 | Horizontal |
| 4 | 23190.950 | 42.49 | 47.15 | 37.61 | 4.66 | 74 | 36.39 | 100 | 6 | Horizontal |
| 5 | 24779.175 | 41.56 | 47.09 | 37.55 | 5.53 | 74 | 36.45 | 100 | 340 | Horizontal |
| 6 | 26006.150 | 41.07 | 46.25 | 36.71 | 5.18 | 74 | 37.29 | 100 | 340 | Horizontal |

Suspected Data List

| NO | Freq. [MHz] | Reading [dBμV/m] | Level for 1m [dBμV/m] | Level for 3m [dBμV/m] | Factor [dB] | Limit [dBμV/m] | Margin [dB] | Height [cm] | Angle [°] | Polarity |
|----|----------------|---------------------|-----------------------------|-----------------------------|----------------|-------------------|----------------|----------------|--------------|----------|
| 1 | 18532.950 | 46.62 | 49.43 | 39.89 | 2.81 | 74 | 34.11 | 100 | 102 | Vertical |
| 2 | 19385.075 | 46.17 | 49.86 | 40.32 | 3.69 | 74 | 33.68 | 100 | 351 | Vertical |
| 3 | 19930.350 | 45.92 | 50.11 | 40.57 | 4.19 | 74 | 33.43 | 100 | 165 | Vertical |
| 4 | 21314.575 | 44.95 | 49.30 | 39.76 | 4.35 | 74 | 34.24 | 100 | 19 | Vertical |
| 5 | 23285.725 | 42.44 | 47.44 | 37.90 | 5.00 | 74 | 36.10 | 100 | 60 | Vertical |
| 6 | 23885.825 | 42.28 | 47.59 | 38.05 | 5.31 | 74 | 35.95 | 100 | 351 | Vertical |

Remark:

- Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.

- 3 Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
- 4 Above 18G test distance is 1m, so the Level for 3m= Level for 1m + $20 \cdot \log(1/3)$

8. Conclusion

The data collected relate only the item(s) tested and show that the **Cockpit domain controller** is in compliance with Part 15C of the FCC Rules.

Statement

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