

MEASUREMENT REPORT

FCC PART 15 Subpart E WLAN 802.11a/n/ac

Report No.: S2025032149590105

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: 2AZAXC4SP000D00
Product: Cockpit domain controller
Model No.: C4SP000D00
FCC Classification: Unlicensed National Information Infrastructure (UNII)
FCC Rule Part(s): Part 15 Subpart E (Section 15.407)
Test Procedure(s): ANSI C63.10-2013, KDB 789033 D02v02r01, KDB 662911 D01v02r01
Item Receipt date: Mar. 21, 2025
Test Date: May. 28 ~ May. 30, 2025

Compiled By

Stone Zhang.

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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 KDB 789033 D02v02r01. Test results reported herein relate only to the item(s) tested.

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
S2025032149590105	Rev. 01	/	08-07-2025

Note: This report is based on original report S2025021260650105 for below changes:

No.	descriptions	Model: CUSP000D00	Model: C4SP000D00
1	Screen	Triple Screen	Double Screen
2	DVR USB	no	yes
3	Independent GNSS Module	yes	no
4	4G Module with GNSS function	yes	yes
5	Ethernet	yes	no
6	Hardware version	HWB.0.1	HWC.0.1
7	Software version	SWA.0.20250219a	SWC.1.20250515A

After evaluated, the radiated spurious emissions in the worst case test frequency had been tested and the results was recorded in the report. All other test data refer to original report S20250212606505.

Except for radiated spurious emissions, The test results of all conducted test items please refer to the module FCC test report (Report No.: JCF241024031-004,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 E (15.407)
FCC ID:	2AZAXC4SP000D00
Test Device Serial No.:	S/N.: / <input type="checkbox"/> Production <input checked="" type="checkbox"/> Pre-Production <input type="checkbox"/> Engineering
FCC Classification:	Unlicensed National Information Infrastructure (UNII)

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. Fangguang Test 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
Model Name:	C4SP000D00
Additional Model:	/
Model Description:	/
Trade Mark:	/
Input Voltage Range:	DC 12V
Hardware Version:	HWC.0.1
Software Version:	SWC.1.20250515A
EUT sample number:	S20250321495901-1-1(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

Frequency Band:	5G WiFi 802.11a/n HT20/n HT40/ac VHT20/ac VHT40/ac VHT80: 5180-5825MHz
Modulation Type:	IEEE 802.11a: OFDM IEEE 802.11n: OFDM IEEE 802.11ac: OFDM
Antenna Specification:	PCB antenna1 with 5.29dBi antenna gain(max) PCB antenna2 with 5.37dBi antenna gain(max)
Channels Spacing:	IEEE 802.11a: 20MHz IEEE 802.11n HT20: 20MHz IEEE 802.11n HT40: 40MHz IEEE 802.11acVHT20: 20MHz IEEE 802.11acVHT40: 40MHz IEEE 802.11acVHT80: 80MHz
Temperature Range:	-40°C ~ +85°C
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 Frequencies and Channel List

802.11a/n-HT20/ac-VHT20

Channel	Frequency	Channel	Frequency	Channel	Frequency
36	5180 MHz	40	5200 MHz	44	5220 MHz
48	5240 MHz	52	5260 MHz	56	5280 MHz
60	5300 MHz	64	5320 MHz	100	5500 MHz
104	5520 MHz	108	5540 MHz	112	5560 MHz
116	5580 MHz	120	5600 MHz	124	5620 MHz
128	5640 MHz	132	5660 MHz	136	5680 MHz
140	5700 MHz	144	5720 MHz	149	5745 MHz
153	5765 MHz	157	5785 MHz	161	5805 MHz
165	5825 MHz	--	--	--	--

802.11n-HT40/ac-VHT40

Channel	Frequency	Channel	Frequency	Channel	Frequency
38	5190 MHz	46	5230 MHz	54	5260 MHz
62	5310 MHz	102	5510 MHz	110	5550 MHz
118	5590 MHz	126	5630 MHz	134	5670 MHz
142	5710 MHz	151	5755 MHz	159	5795 MHz

802.11ac-VHT80

Channel	Frequency	Channel	Frequency	Channel	Frequency
42	5210 MHz	58	5290 MHz	106	5530 MHz
122	5610 MHz	138	5690 MHz	155	5775 MHz

2.4. Device Capabilities

This device contains the following capabilities:

2.4GHz WLAN (DTS)&5GHz WLAN (UNII)

Note: 5GHz (NII) operation is possible in 20MHz, 40MHz and 80MHz channel bandwidths.

The duty cycles are refer to the module FCC test report (Report No.: JCF241024031-004,FCC ID:2BMJZ-P13A01H4) which issued on 2025/3/7 by Guangzhou Jingce Testing Technology Co., Ltd..

2.5. Test Software

Mode	Data Rate	Frequency (MHz)	Power Setting	
			ANT1	ANT2
802.11a	6M	5180	Default	Default
		5200	Default	Default
		5240	Default	Default
		5260	Default	Default
		5300	Default	Default
		5320	Default	Default
		5500	17	Default
		5580	17	Default
		5700	17	Default
		5720	17	Default
		5745	17	Default
		5785	17	Default
		5825	17	Default
802.11n HT20	MCS8	5180	Default	Default
		5200	Default	Default
		5240	Default	Default
		5260	Default	Default
		5300	Default	Default
		5320	Default	Default
		5500	Default	Default
		5580	Default	Default
		5700	Default	Default
		5720	Default	Default
		5745	Default	Default
		5785	Default	Default
		5825	Default	Default
802.11n HT40	MCS8	5190	Default	Default
		5230	Default	Default
		5270	Default	Default
		5310	Default	Default
		5510	Default	Default
		5550	Default	Default
		5670	Default	Default

		5710	Default	Default
		5755	Default	Default
		5795	Default	Default
802.11ac VHT20	MCS0	5180	Default	Default
		5200	Default	Default
		5240	Default	Default
		5260	Default	Default
		5300	Default	Default
		5320	Default	Default
		5500	14	14
		5580	14	14
		5700	14	14
		5720	14	14
		5745	14	14
		5785	14	14
		5825	14	14
802.11ac VHT40	MCS0	5190	Default	Default
		5230	Default	Default
		5270	Default	Default
		5310	Default	Default
		5510	Default	Default
		5550	Default	Default
		5670	Default	Default
		5710	Default	Default
		5755	Default	Default
		5795	Default	Default
802.11ac VHT80	MCS0	5210	11	11
		5290	11	11
		5530	11	11
		5610	11	11
		5690	11	11
		5775	11	11

Test software:

Software version
Scrcpy

2.6. Test Mode

Mode No.	Description of the modes
1	5GHz Wi-Fi fixed frequency transmitting

2.7. Test Configuration

The EUT was tested per the guidance of KDB 789033 D02v02r01. ANSI C63.10-2013 was used to reference the appropriate EUT setup for radiated spurious emissions testing.

2.8. EUT Photo

The EUT external photo, internal photo and test setup photo, please refer to the plots in the S20250321495901-A1/A2/A3.

2.9. EMI Suppression Device(s)/Modifications

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

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.

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 789033 D02v02r01 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 a 9'x4'x3' 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.

Line conducted emissions test results are shown in Section 7.11.

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. An MF Model 210SS 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 1-40GHz 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

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 Section(s)	Test Description	Test Limit	Test Condition	Test Result
15.407(a)	26dB Bandwidth	N/A	Conducted	Pass
15.407(e)	6dB Bandwidth	$\geq 500\text{kHz}$		Pass
15.407(a)(1)(iv), (2), (3)	Maximum Conducted Output Power	$\leq 16.2\text{ dBm U-NII-1}$ $\leq 16.2\text{ dBm U-NII-3}$		Pass
15.407(h)(1)	Transmit Power Control	$\leq 24\text{ dBm}$		Pass
15.407(a)(1)(iv), (2), (3), (5)	Peak Power Spectral Density	$\leq -2.8\text{ dBm/MHz U-NII-1}$ $\leq 16.2\text{ dBm/500kHz U-NII-3}$		Pass
15.407(g)	Frequency Stability	N/A		Pass
15.407(b)(1), (2), (3), (4)(i)	Undesirable Emissions	$\leq -27\text{dBm/MHz EIRP}$ Detail see section 7.9	Radiated	Pass
15.205, 15.209 15.407(b)(5), (6), (7)	General Field Strength Limits (Restricted Bands and Radiated Emission Limits)	Emissions in restricted bands must meet the radiated limits detailed in 15.209		Pass
15.207	AC Conducted Emissions 150kHz - 30MHz	< FCC 15.207 limits	Line Conducted	Not Applicable

Notes:

- 1) All channels, modes, and modulations/data rates were investigated among all UNII bands. 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) The test results of all conducted test items please refer to the module FCC test report (Report No.: JCF241024031-004,FCC ID:2BMJZ-P13A01H4) which issued on 2025/3/7 by Guangzhou Jingce Testing Technology Co., Ltd..
- 4) 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

- (1) For transmitters operating in the 5.15–5.25 GHz band: All emissions outside of the 5.15–5.35 GHz band shall not exceed an e.i.r.p. of –27 dBm/MHz.
- (2) For transmitters operating in the 5.25–5.35 GHz band: All emissions outside of the 5.15–5.35 GHz band shall not exceed an e.i.r.p. of –27 dBm/MHz.
- (3) For transmitters operating in the 5.47–5.725 GHz band: All emissions outside of the 5.47–5.725 GHz band shall not exceed an e.i.r.p. of –27 dBm/MHz.
- (4) For transmitters operating solely in the 5.725–5.850 GHz band:
 - (i) All emissions shall be limited to a level of –27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.
 - (ii) Devices certified before March 2, 2017 with antenna gain greater than 10 dBi may demonstrate compliance with the emission limits in § 15.247(d), but manufacturing, marketing and importing of devices certified under this alternative must cease by March 2, 2018. Devices certified before March 2, 2018 with antenna gain of 10 dBi or less may demonstrate compliance with the emission limits in § 15.247(d), but manufacturing, marketing and importing of devices certified under this alternative must cease before March 2, 2020.

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

KDB 789033 D02v02r01 – Section G

ANSI C63.10-2013 – Section 12.7.7.2, 12.7.7.6, 12.7.5

7.2.3. Test Setting

Peak Measurements above 1GHz

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

Quasi-Peak Measurements below 1GHz

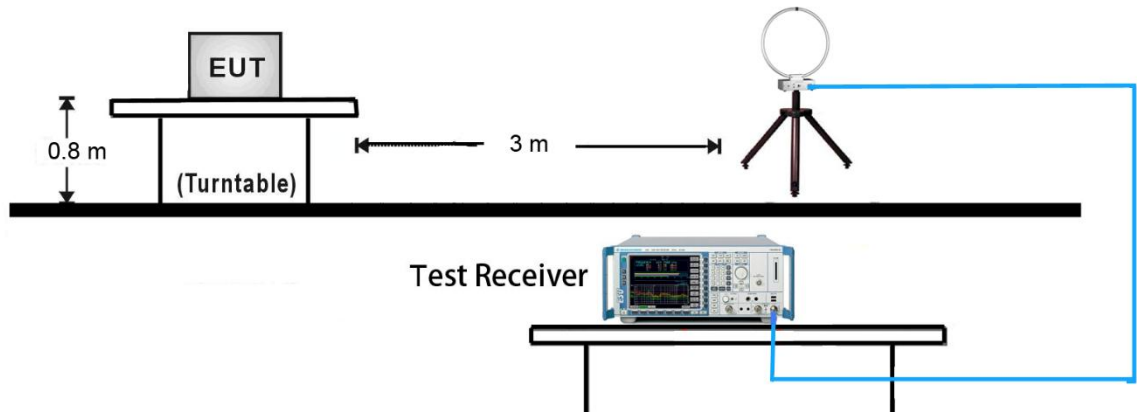
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. Span was set greater than 1MHz
3. RBW = 120 kHz
4. Detector = CISPR quasi-peak
5. Sweep time = auto couple
6. Trace was allowed to stabilize

Average Measurements above 1GHz (Method AD)

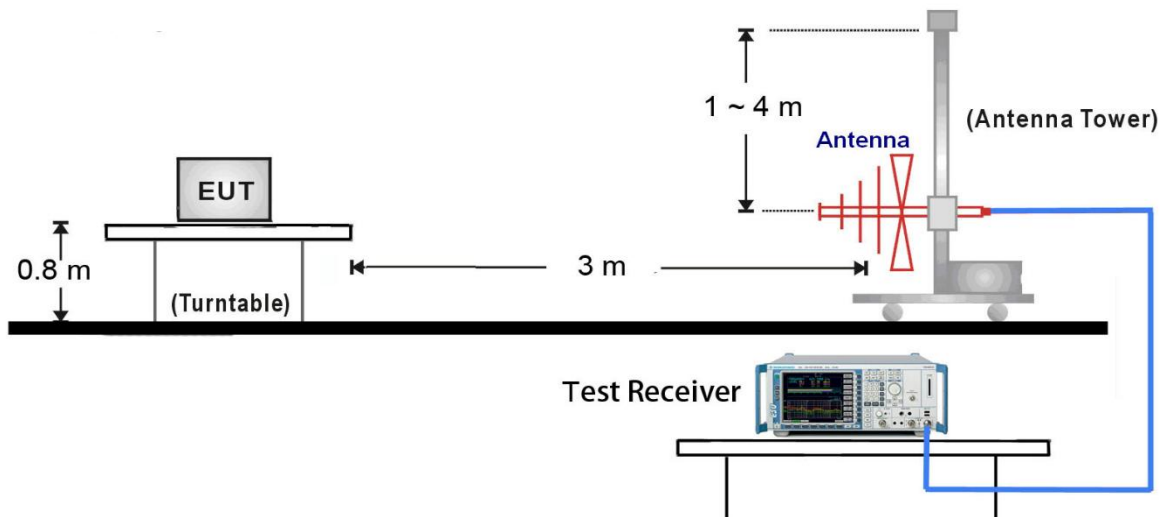
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = power average (Average)
5. Number of measurement points = 1001 (Number of points must be $> 2 \times \text{span/RBW}$)
6. Sweep time = auto
7. Trace was averaged over at 100 sweeps

7.2.4. Test Setup

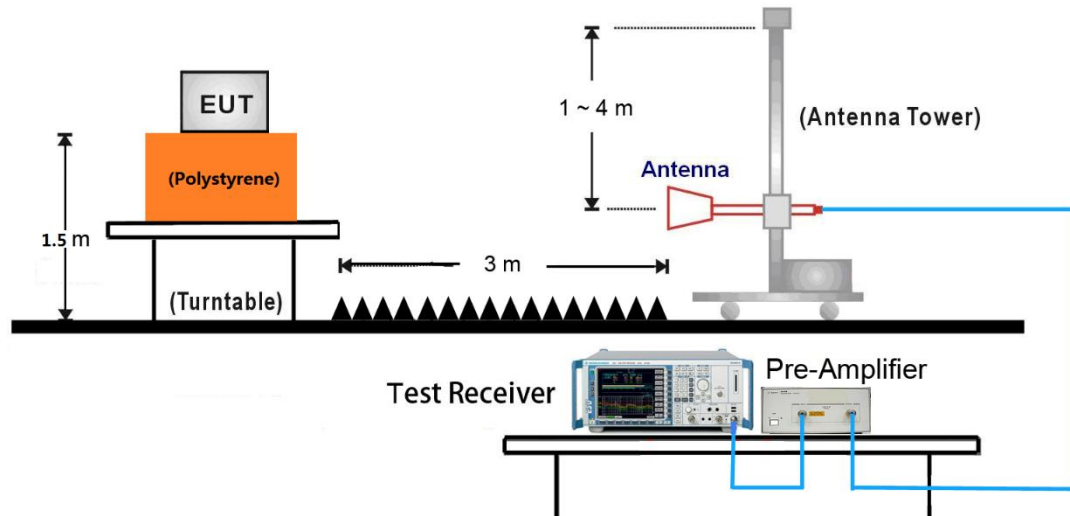
9kHz ~ 30MHz Test Setup:



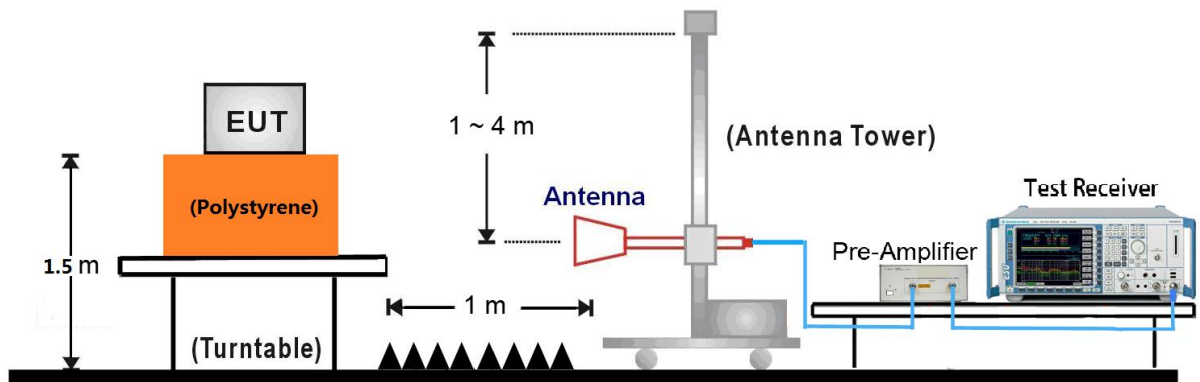
30MHz ~ 1GHz Test Setup:



1GHz ~18GHz Test Setup:



18GHz ~40GHz Test Setup:



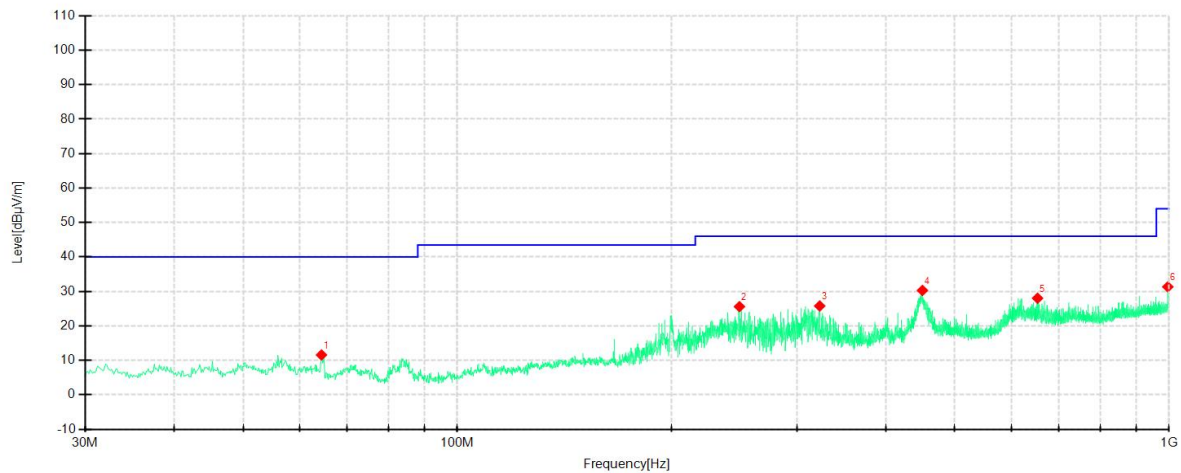
7.2.5. Test Result

Note: Pre-scan all modes, only the worst case(IEEE 802.11n HT40 5795MHz) is recorded in this report.

Note: Only the worst case 30MHz to 18GHz test results was recorded in the report.

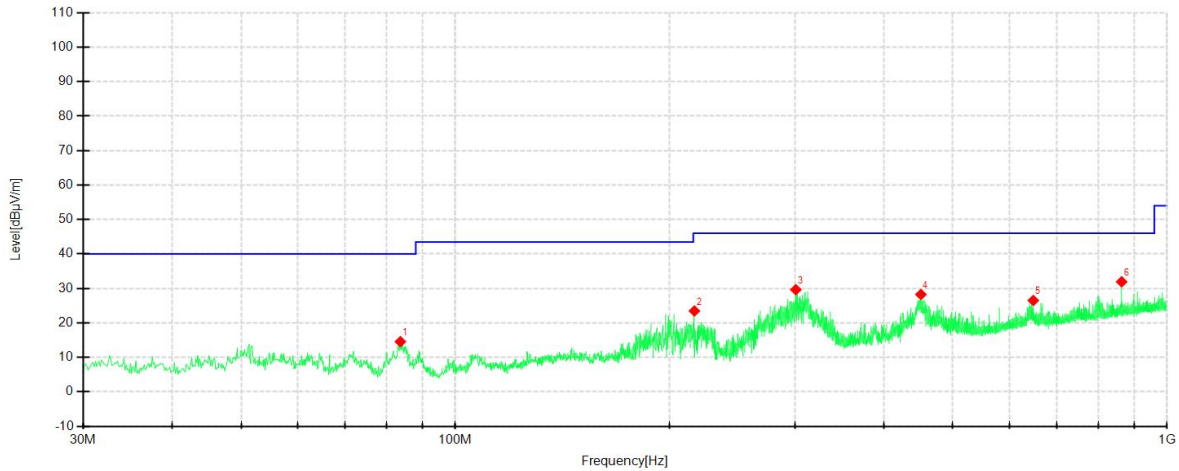
Below 1GHz

Power supply:	DC 12V	Environmental Conditions:	25.4°C/49%RH/101.6kPa
Test Engineer:	Stone Zhang	Test Date:	2025-05-28



Suspected Data List

NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Trace	Height [cm]	Angle [°]	Polarity	Verdict
1	64.4393	41.88	11.56	-30.32	40.00	28.44	QP	200	190	Horizontal	PASS
2	249.1261	55.02	25.59	-29.43	46.00	20.41	QP	100	105	Horizontal	PASS
3	322.9766	52.58	25.78	-26.80	46.00	20.22	QP	100	118	Horizontal	PASS
4	450.3050	52.74	30.29	-22.45	46.00	15.71	QP	200	177	Horizontal	PASS
5	653.5454	46.83	28.03	-18.80	46.00	17.97	QP	100	158	Horizontal	PASS
6	996.1195	45.71	31.34	-14.37	54.00	22.66	QP	100	144	Horizontal	PASS



Suspected Data List

NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Trace	Height [cm]	Angle [°]	Polarity	Verdict
1	83.7205	48.40	14.54	-33.86	40.00	25.46	QP	100	216	Vertical	PASS
2	216.7483	54.45	23.46	-30.99	46.00	22.54	QP	100	139	Vertical	PASS
3	300.9064	57.21	29.64	-27.57	46.00	16.36	QP	100	126	Vertical	PASS
4	451.0326	50.67	28.24	-22.43	46.00	17.76	QP	200	212	Vertical	PASS
5	648.8161	45.37	26.50	-18.87	46.00	19.50	QP	200	108	Vertical	PASS
6	863.4554	47.90	31.93	-15.97	46.00	14.07	QP	100	87	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.
- Data of measurement within this frequency range shown "---" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 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 quasipeak 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: IEEE 802.11n HT40 5795MHz

Date: 2025-05-30

Environment: 23.2°C/49%RH/101.2kPa

Voltage:DC 12V

Tested By: Stone Zhang

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2452.5500	47.72	43.78	-3.94	68.30	24.52	100	314	Horizontal
2	4441.3500	45.40	50.82	5.42	68.30	17.48	100	149	Horizontal
3	6200.8000	45.01	55.01	10.00	68.30	13.29	100	175	Horizontal
4	6462.6000	45.30	56.69	11.39	68.30	11.61	100	108	Horizontal
5	13079.1500	35.54	52.28	16.74	68.30	16.02	200	358	Horizontal
6	16534.9000	41.67	55.70	14.03	68.30	12.60	200	279	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	4449.0500	45.53	51.12	5.59	68.30	17.18	200	77	Vertical
2	6020.9500	44.81	54.81	10.00	68.30	13.49	200	64	Vertical
3	6483.5000	44.66	56.60	11.94	68.30	11.70	100	215	Vertical
4	10603.2000	38.37	49.61	11.24	74.00	24.39	100	267	Vertical
5	13096.4000	34.50	51.33	16.83	68.30	16.97	200	156	Vertical
6	14899.6000	36.17	54.53	18.36	68.30	13.77	100	22	Vertical

Remark:

- 1 Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2 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 15E of the FCC Rules.

Statement

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