

MEASUREMENT REPORT

FCC Part 2, Part 22 Subpart H, Part 24 Subpart E, Part 27 Subpart C

Report No.: S2025021260650107

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 Rule Part(s): FCC CFR Title 47 Part 2,
FCC CFR Title 47 Part 22 Subpart H,
FCC CFR Title 47 Part 24 Subpart E,
FCC CFR Title 47 Part 27 Subpart C
Test Procedure(s): ANSI C63.26
Result: Pass
Item Receipt Date: Feb.12, 2025
Test Date: Mar.18,2025 ~ Mar.21,2025

Compiled By

Stone Zhang.

(Stone Zhang)
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 C63.26-2015. 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
S2025021260650107	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.: BL-SZ2520378-501,FCC ID:2BMJZ-P13A01H4) which issued on 2025/3/20 by Shenzhen BALUN Technology Co., Ltd..

CONTENTS

Description	Page
§2.1033 General Information	4
1. Introduction	5
1.1. Scope	5
1.2. Fangguang Test Location	5
2. Product Information	6
2.1. Equipment Description	6
2.2. Test Configuration	7
2.3. EMI Suppression Device(s)/Modifications	7
2.4. EUT Photo	7
2.5. Labeling Requirements	7
2.6. Calculation with all conversion and correction factors used	7
3. Description of Test	8
3.1. Evaluation Procedure	8
3.2. AC Line Conducted Emissions	8
3.3. Radiated Emissions	9
4. Test Result Summary	10
4.1. Test Standards	10
4.2. Test Result	10
5. Test Equipment Calibration Date	15
6. Measurement Uncertainty	17
7. Field Strength of Spurious Radiation	18
7.1. Limit	18
7.2. Test Procedures	18
7.3. Test Setup	19
7.4. Test Results	21
8. Conclusion	25

§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):	FCC CFR Title 47Part 2, FCC CFR Title 47Part 22 Subpart H, FCC CFRTitle 47 Part 24 Subpart E, FCC CFR Title 47Part 27 Subpart C
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:	/

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 C63.26-2015.

2. Product Information

2.1. Equipment Description

Product Name:	Cockpit domain controller
Model Name:	CUSP000D00
Additional Model:	/
Model Description:	/
Trade Mark:	/
Input Voltage Range:	DC 12V
Hardware Version:	HWA.0.3
Software Version:	SWA.0.20241226a
Antenna Type:	Internal antenna
Antenna Gain:	LTE Band 2: 3.33 dBi LTE Band 4: 4.07 dBi LTE Band 5: 1.66 dBi LTE Band 7: 3.01 dBi LTE Band 38: 3.01 dBi LTE Band 41: 3.97 dBi
Power Class:	3
Frequency range:	Band 2: Tx 1850MHz~1910MHz, Rx 1930MHz ~ 1990MHz Band 4: Tx 1710MHz~1755MHz, Rx 2110MHz ~ 2155MHz Band 5: Tx 824MHz~849MHz, Rx 869MHz ~ 894MHz Band 7: Tx 2500 MHz ~ 2570 MHz, Rx 2620 MHz ~ 2690 MHz Band 38: 2570 MHz ~ 2620 MHz, Rx 2570 MHz ~ 2620 MHz Band 41: Tx 2496 MHz ~ 2690 MHz, Rx 2496 MHz ~ 2690 MHz
Bandwidth:	Band 2: 1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz Band 4: 1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz Band 5: 1.4MHz, 3MHz, 5MHz, 10MHz Band 7: 5MHz, 10MHz, 15MHz, 20MHz Band 38: 5MHz, 10MHz, 15MHz, 20MHz Band 41: 5MHz, 10MHz, 15MHz, 20MHz
Modulation:	QPSK, 16QAM
Temperature Range:	-40°C~75°C
EUT sample number:	S20250212606501-1-1(Radiated)

2.2. Test Configuration

The EUT was tested per the guidance of ANSI C63.26 was used to reference the appropriate EUT setup for radiated spurious emissions testing.

2.3. EMI Suppression Device(s)/Modifications

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

2.4. EUT Photo

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

2.5. 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.

2.6. 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 Licensed Radio Services(ANSI C63.26-2015), and the guidance provided in KDB 971168 D01 V03r01 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 C63.26-2015.

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. Test Result Summary

4.1. Test Standards

No.	Identity	Document Title
1	FCC CFRTitle 47Part 2 Section 2.1047,21049	Frequency Allocations And Radio Treaty Mattres; General Rules And Regulations
2	FCC CFRTitle 47Part 22 Subpart H	Cellular Radiotelephone Service
3	FCC CFRTitle 47Part 24 Subpart E	Broadband PCS
4	FCC CFR Title 47Part 27 Subpart C	Technical Standards

4.2. Test Result

LTE Band2			
Item	FCC Rule No.	Requirements	Result
Effective (Isotropic) Radiated Power Output Data	§2.1046, §24.232(c)	EIRP \leq 2 W	PASS ¹
Peak-Average Ratio	§24.232(d)	Limits \leq 13 dB	PASS ¹
Modulation Characteristics	§2.1047	Digital modulation	PASS ¹
Bandwidth	§2.1049	OBW: No limit. EBW: No limit.	PASS ¹
Band Edges Compliance	§2.1051, §24.238(a)(b)	\leq -13 dBm/1%*EBW, in 1 MHz bands immediately outside and adjacent to the frequency block.	PASS ¹
Spurious Emission at Antenna Terminals	§2.1051, §24.238(a)(b)	\leq -13 dBm/1MHz	PASS ¹
Field Strength of Spurious Radiation	§2.1053, §24.238(a)	\leq -13 dBm/1MHz.	PASS
Frequency Stability	§2.1055, §24.235	Stay within the authorized bands of operation	PASS ¹

Note: 1. The test results of all conducted test items please refer to the module FCC test report (Report No.: BL-SZ2520378-501,FCC ID:2BMJZ-P13A01H4) which issued on 2025/3/20 by Shenzhen BALUN Technology Co., Ltd..

LTE Band4			
Item	FCC Rule No.	Requirements	Result
Effective (Isotropic) Radiated Power Output Data	§2.1046, §27.50(d)(4)	EIRP ≤1 W	PASS ¹
Peak-Average Ratio	§27.50(d)(5)	Limit≤13 dB	PASS ¹
Modulation Characteristics	§2.1047	Digital modulation	PASS ¹
Bandwidth	§2.1049	OBW: No limit. EBW: No limit.	PASS ¹
Band Edges Compliance	§2.1051, §27.53(h)(1) §27.53(h)(3)(i)	≤ -13 dBm/1%*EBW, in 1 MHz bands immediately outside and adjacent to the frequency block.	PASS ¹
Spurious Emission at Antenna Terminals	§2.1051, §27.53(h)(1)	≤ -13 dBm/1MHz	PASS ¹
Field Strength of Spurious Radiation	§2.1053, §27.53(h)(1)	≤ -13 dBm/1MHz.	PASS
Frequency Stability	§2.1055, §27.54	Stay within the authorized bands of operation	PASS ¹

Note: 1. The test results of all conducted test items please refer to the module FCC test report (Report No.: BL-SZ2520378-501,FCC ID:2BMJZ-P13A01H4) which issued on 2025/3/20 by Shenzhen BALUN Technology Co., Ltd..

LTE Band 5			
Item	FCC Rule No.	Requirements	Result
Effective (Isotropic) Radiated Power Output Data	§2.1046, §22.913(a)(5)	ERP ≤ 7W	PASS ¹
Peak-Average Ratio	§22.913(d)	≤ 13 dB	PASS ¹
Modulation Characteristics	§2.1047	Digital modulation	PASS ¹
Bandwidth	§2.1049	OBW: No limit. EBW: No limit.	PASS ¹
Band Edges Compliance	§2.1051, §22.917(b)(1)	≤ -13 dBm/1%*EBW, in 1 MHz bands immediately outside and adjacent to the frequency block.	PASS ¹
Spurious Emission at Antenna Terminals	§2.1051, §22.917(a)	≤ -13 dBm/100kHz	PASS ¹
Field Strength of Spurious Radiation	§2.1053, §22.917(a)	≤ -13 dBm/100kHz	PASS
Frequency Stability	§2.1055, §22.355	±2.5ppm.	PASS ¹

Note: 1. The test results of all conducted test items please refer to the module FCC test report (Report No.: BL-SZ2520378-501,FCC ID:2BMJZ-P13A01H4) which issued on 2025/3/20 by Shenzhen BALUN Technology Co., Ltd..

LTE Band 7/38/41			
Item	FCC Rule No.	Requirements	Result
Effective (Isotropic) Radiated Power Output Data	§2.1046, §27.50(h)(2)	EIRP ≤2W	PASS ¹
Peak-Average Ratio	§27.50(a)	Limit≤13 dB	PASS ¹
Modulation Characteristics	§2.1047	Digital modulation	PASS ¹
Bandwidth	§2.1049	OBW: No limit. EBW: No limit.	PASS ¹
Band Edges Compliance	§2.1051, §27.53(m)(4)	<p>For mobile digital stations (BRS and EBS stations), the attenuation factor shall be not less than:</p> <ul style="list-style-type: none"> • 40+10logP dB (−10 dBm, 100 nW) on all frequencies between the channel edge and 5 MHz from the channel edge. • 43+10logP dB (−13 dBm, 50 nW) on all frequencies between 5 MHz and X MHz from the channel edge, • 55+10logP dB (−25 dBm, 3 nW) on all frequencies more than X MHz from the channel edge, where X is the greater of 6 MHz or the actual emission bandwidth (26 dB). <p>In addition, the attenuation factor shall not be less that 43 + 10 log (P) dB on all frequencies between 2490.5 MHz and 2496 MHz and 55 + 10 log (P) dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS</p>	PASS ¹

		or EBS licensees.	
Spurious Emission at Antenna Terminals	§2.1051, §27.53(m)(4)	≤ -25 dBm/1MHz	PASS ¹
Field Strength of Spurious Radiation	§2.1053, §27.53(m)(4)	≤ -25 dBm/1MHz.	PASS ²
Frequency Stability	§2.1055, §27.54	$\leq \pm 2.5$ ppm.	PASS ¹

Note 1: Except for Field Strength of Spurious Radiation, The test results of all conducted test items please refer to the module FCC test report (Report No.: BL-SZ2520378-501,FCC ID:2BMJZ-P13A01H4) which issued on 2025/3/20 by Shenzhen BALUN Technology Co., Ltd..

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	Toncend	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. Field Strength of Spurious Radiation

7.1. Limit

According to FCC section 22.917(a), the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43+10\log(P)$ dB.

7.2. Test Procedures

Measurement Procedure: FCC KDB 971168 D01 V03r01 Section 7

Below 1GHz test procedure as below:

- 1). The EUT was powered ON and placed on a 80cm high table in the chamber. The antenna of the transmitter was extended to its maximum length.
- 2). The disturbance of the transmitter was maximized on the test receiver display by raising and lowering from 1m to 4m (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) the receive antenna and by rotating through 360° the turntable. After the fundamental emission was maximized, a field strength measurement was made.
- 3). Steps 1) and 2) were performed with the EUT and the receive antenna in both vertical and horizontal polarization.
- 4). The transmitter was then removed and replaced with another antenna. The center of the antenna was approximately at the same location as the center of the transmitter.
- 5). A signal at the disturbance was fed to the substitution antenna by means of a non-radiating cable. With both the substitution and the receive antennas horizontally polarized, the receive antenna was raised and lowered to obtain a maximum reading at the test receiver. The level of the signal generator was adjusted until the measured field strength level in step 2) is obtained for this set of conditions.
- 6). The output power into the substitution antenna was then measured.
- 7). Steps 5) and 6) were repeated with both antennas polarized.
- 8) Calculate power in dBm by the following formula:

$$\text{ERP(dBm)} = \text{Pg(dBm)} - \text{cable loss (dB)} + \text{antenna gain (dBd)}$$

Where:

P_d is the dipole equivalent power, P_g is the generator output into the substitution antenna, and the antenna gain is the gain of the substitute antenna used relative to either a half-wave dipole (dBd) or an isotropic source (dBi). The substitute level is equal to P_g [dBm] – cable loss [dB]. The calculated P_d levels are then compared to the absolute spurious emission limit of -13dBm which is equivalent to the required minimum attenuation of $43 + 10\log_{10}(\text{Power [Watts]})$.

Above 1GHz test procedure as below:

1. Different between above is the test site, change from Semi- Anechoic

Chamber to fully Anechoic Chamber

2. Calculate power in dBm by the following formula:

$$\text{EIRP(dBm)} = \text{Pg(dBm)} - \text{cable loss (dB)} + \text{antenna gain (dBi)}$$

$$\text{EIRP} = \text{ERP} + 2.15\text{dB}$$

Where:

Pg is the generator output power into the substitution antenna.

3. Test the EUT in the lowest channel, the middle channel the Highest channel

4. The radiation measurements are performed in X, Y, Z axis positioning. And found the X axis positioning which it is worse case, Only the test worst case mode is recorded in the report.

5. Repeat above procedures until all frequencies measured was complete

Test Settings

1. Start frequency was set to 30MHz and stop frequency was set to at least 10*the fundamental frequency (separated into at least two plots per channel)

2. RBW=100kHz for emission below 1GHz and 1MHz for emission above 1GHz.

3. Number of sweep point $\geq 2 * \text{span} / \text{RBW}$

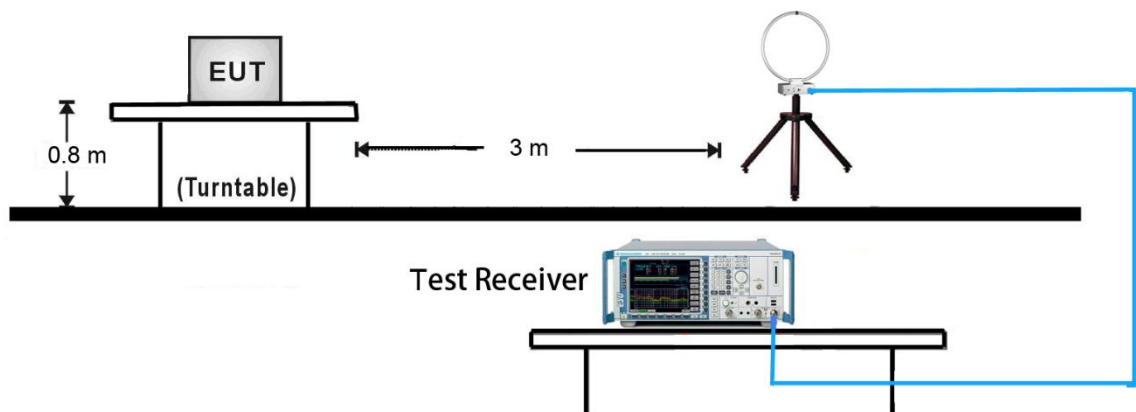
4. Detector=RMS

5. Trace mode = trace average for continuous emissions, max hold for pulse emissions

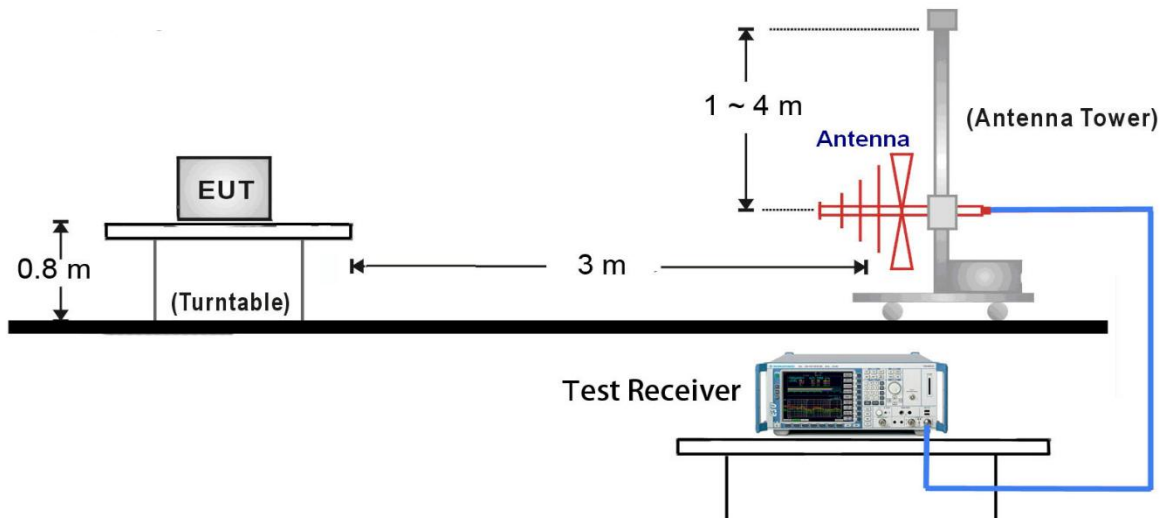
6. The trace was allowed to stabilize

7.3. Test Setup

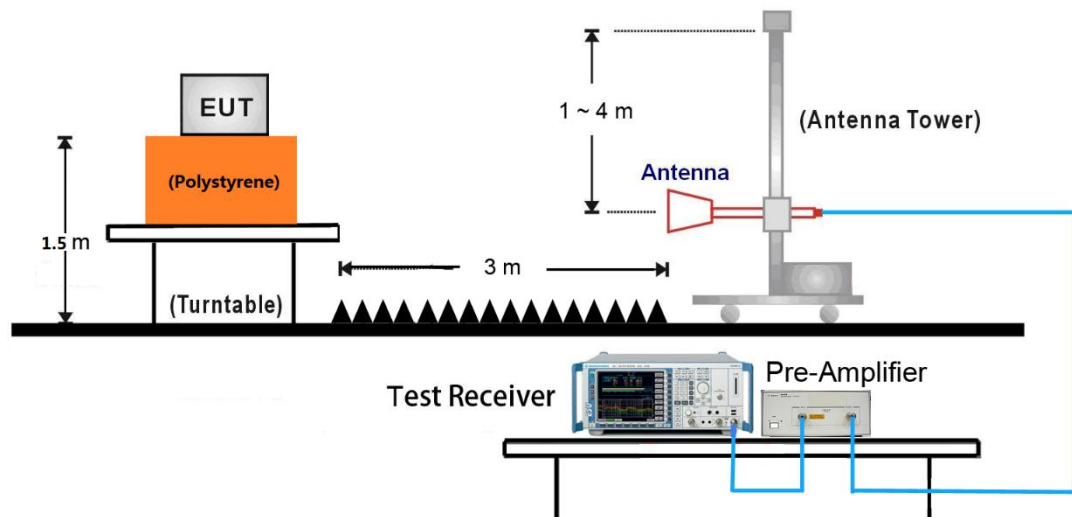
9kHz ~ 30MHz Test Setup:



30MHz ~ 1GHz Test Setup:



1GHz ~18GHz Test Setup:



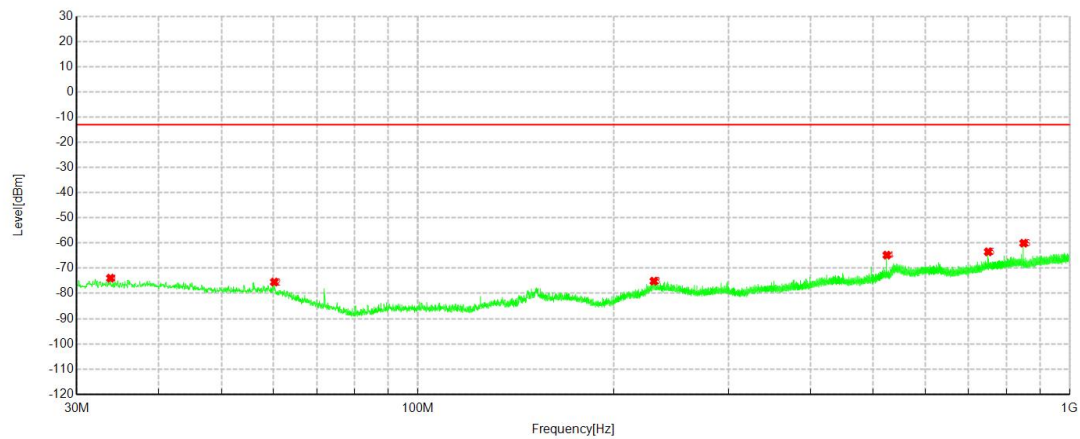
7.4. Test Results

Note: Pre-scan all modes, only the worst case (LTE Band41 Channel 40620) is recorded in this report.

Below 1GHz

Project Information			
Model	CUSP000D00	Remark	/
Channel	40620	Band:	Band=41 BW=20MHz
Mode:	LTE	Voltage:	DC 12V
Environment:	Temp:15.4°C;Humi: 32%RH	Engineer:	Stone Zhang
Date:	2025-03-18		

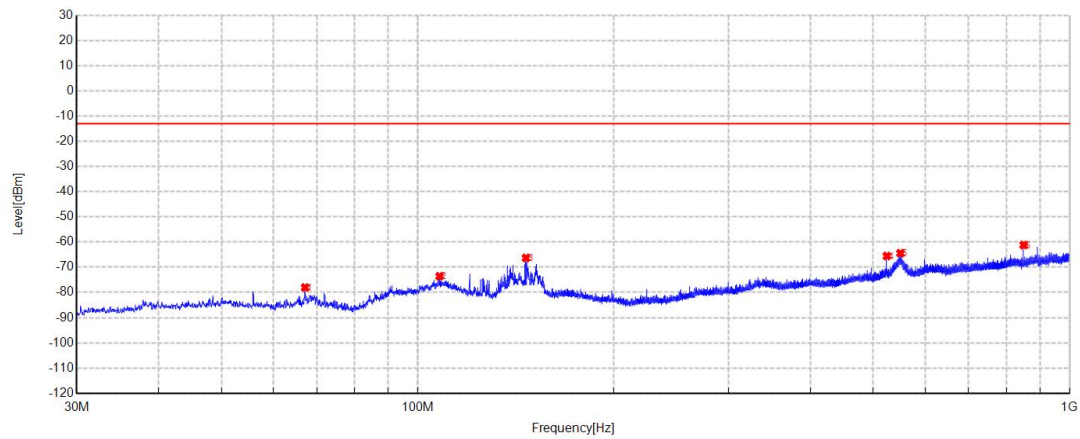
Test Graph



Suspected Data List								
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Detector	Polarity
1	33.783	-59.95	-73.94	-13.00	60.94	-13.99	RMS	Horizontal
2	60.264	-58.98	-75.48	-13.00	62.48	-16.50	RMS	Horizontal
3	230.305	-58.82	-75.12	-13.00	62.12	-16.30	RMS	Horizontal
4	524.3605	-52.66	-64.80	-13.00	51.80	-12.14	RMS	Horizontal
5	750.031	-54.94	-63.50	-13.00	50.50	-8.56	RMS	Horizontal
6	850.038	-51.85	-60.06	-13.00	47.06	-8.21	RMS	Horizontal

Project Information			
Model	CUSP000D00	Remark	/
Channel	40620	Band:	Band=41 BW=20MHz
Mode:	LTE	Voltage:	DC 12V
Environment:	Temp:15.4°C;Humi: 32%RH	Engineer:	Stone Zhang
Date:	2025-03-18		

Test Graph



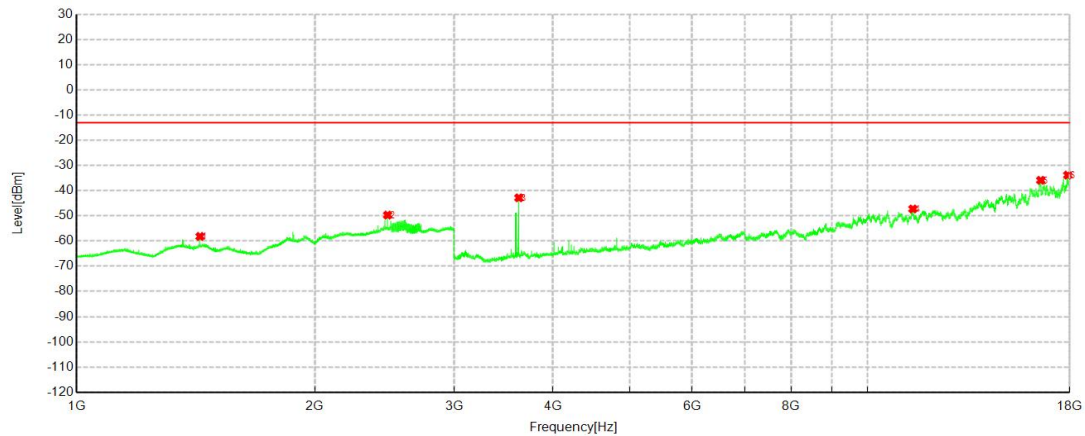
Suspected Data List								
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Detector	Polarity
1	67.1995	-55.20	-78.04	-13.00	65.04	-22.84	RMS	Vertical
2	108.0365	-58.64	-73.59	-13.00	60.59	-14.95	RMS	Vertical
3	146.594	-49.28	-66.32	-13.00	53.32	-17.04	RMS	Vertical
4	524.409	-53.42	-65.54	-13.00	52.54	-12.12	RMS	Vertical
5	550.017	-53.53	-64.44	-13.00	51.44	-10.91	RMS	Vertical
6	850.038	-52.97	-61.20	-13.00	48.20	-8.23	RMS	Vertical

Above 1GHz

Note: Pre-scan all modes, only the worst case (LTE Band41 Channel 40620) is recorded in this report. Noise signal margin above 18GHz is sufficient, do not put the data on the report

Project Information			
Model	CUSP000D00	Remark	/
Channel	40620	Band:	Band=41 BW=20MHz
Mode:	LTE	Voltage:	DC 12V
Environment:	Temp:15.4°C;Humi: 32%RH	Engineer:	Stone Zhang
Date:	2025-03-18		

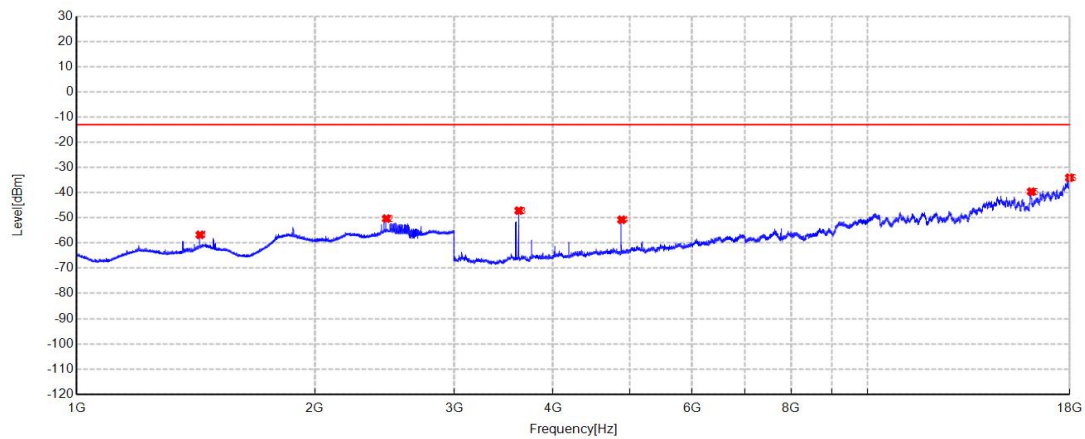
Test Graph



Suspected Data List								
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Detector	Polarity
1	1431.4	-61.23	-58.18	-13.00	45.18	3.05	RMS	Horizontal
2	2471.2	-59.76	-49.70	-13.00	36.70	10.06	RMS	Horizontal
3	3621.75	-41.68	-42.85	-13.00	29.85	-1.17	RMS	Horizontal
4	11403.75	-71.61	-47.27	-13.00	34.27	24.34	RMS	Horizontal
5	16548	-67.57	-35.89	-13.00	22.89	31.68	RMS	Horizontal
6	17901	-68.77	-33.84	-13.00	20.84	34.93	RMS	Horizontal

Project Information			
Model	CUSP000D00	Remark	/
Channel	40620	Band:	Band=41 BW=20MHz
Mode:	LTE	Voltage:	DC 12V
Environment:	Temp:15.4°C;Humi: 32%RH	Engineer:	Stone Zhang
Date:	2025-03-18		

Test Graph



Suspected Data List								
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Detector	Polarity
1	1431.4	-59.69	-56.75	-13.00	43.75	2.94	RMS	Vertical
2	2462.8	-60.20	-50.31	-13.00	37.31	9.89	RMS	Vertical
3	3621.75	-45.60	-47.14	-13.00	34.14	-1.54	RMS	Vertical
4	4885.5	-53.51	-50.77	-13.00	37.77	2.74	RMS	Vertical
5	16100.25	-65.52	-39.62	-13.00	26.62	25.90	RMS	Vertical
6	17994.75	-67.42	-34.08	-13.00	21.08	33.34	RMS	Vertical

Note: Noise signal margin above 18GHz is sufficient, do not put the data on the report.

8. Conclusion

The data collected relate only the item(s) tested and show that the **Cockpit domain controller** is compliance with Part 2, Part 22 Subpart H, Part 24 Subpart E, Part 27 Subpart C requirements.

Statement

1. This report is invalid for the following states: without the special inspection and testing stamp or the official stamp of our institution; without the signature of the report authorized officer; if the report is altered.
2. It is forbidden to copy partial contents of the report except in full without the approval of our institution.
3. The client shall provide the test sample(s) and commission information and be responsible for their authenticity.
4. The report content is only applicable to the tested sample(s) this time.
5. If there are any objections to the report content, please submit them to our company in writing within 15 days from the date of receiving the report.
6. If the reports include both Chinese and English versions, when there are any inconsistencies caused by language, the Chinese version shall prevail.
7. This report is issued by the following laboratory premises:
3/F., Comprehensive Laboratory Building, No.8, Ningyun Road, Xinwu District, Wuxi, Jiangsu, China (Ningyun Road Laboratory)

——This page is blank below this line ——