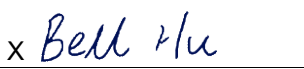


Prüfbericht-Nr.: Test report no.:	CN255D84 001	Auftrags-Nr.: Order no.:	168581316	Seite 1 von 16 Page 1 of 16
Kunden-Referenz-Nr.: Client reference no.:	N/A	Auftragsdatum: Order date:	2025-10-29	
Auftraggeber: Client:	Greenworks North America, LLC 500 South Main Street, Suite 450, Mooresville North Carolina United States 28115			
Prüfgegenstand: Test item:	RTK Reference Antenna			
Bezeichnung / Typ-Nr.: Identification / Type no.:	RA56			
Auftrags-Inhalt: Order content:	Test Report			
Prüfgrundlage: Test specification:	CFR Title 47 FCC Part 15: Subpart C Section 15.247 RSS-247 Issue 4 July 24, 2025 RSS-Gen Issue 5 February 2021			
Wareneingangsdatum: Date of sample receipt:	2025-08-07	Please refer to Photo Document		
Prüfmuster-Nr.: Test sample no:	A004131142-001~009 A004121834-001 253560059			
Prüfzeitraum: Testing period:	2025-11-20 - 2025-11-30			
Ort der Prüfung: Place of testing:	Refer to section 2.1			
Prüflaboratorium: Testing laboratory:	TÜV Rheinland (Shenzhen) Co., Ltd.			
Prüfergebnis*: Test result*:	Pass			
geprüft von: tested by:	 Signed by: Jonathan Li		genehmigt von: authorized by:	 Signed by: Bell Hu
Datum: Date:	2026-03-20		Ausstellungsdatum: Issue date:	2026-03-20
Stellung / Position:	Sachverständige(r)/Expert		Stellung / Position:	Sachverständige(r)/Expert
Sonstiges / Other:	FCC ID: 2BB85-GWREA0506 IC: 33161-GWREA0506 HVIN: RA56			
Zustand des Prüfgegenstandes bei Anlieferung: Condition of the test item at delivery:	Prüfmuster vollständig und unbeschädigt Test item complete and undamaged			
* Legende:	P(ass) = entspricht o.g. Prüfgrundlage(n) F(ail) = entspricht nicht o.g. Prüfgrundlage(n) N/A = nicht anwendbar N/T = nicht getestet * Legend: P(ass) = passed a.m. test specification(s) F(ail) = failed a.m. test specification(s) N/A = not applicable N/T = not tested			
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. <i>This test report only relates to the above mentioned test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.</i>				

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Test report no.:

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Anmerkungen
Remarks

1	Alle eingesetzten Prüfmittel waren zum angegebenen Prüfzeitraum gemäß eines festgelegten Kalibrierungsprogramms unseres Prüfhauses kalibriert. Sie entsprechen den in den Prüfprogrammen hinterlegten Anforderungen. Die Rückverfolgbarkeit der eingesetzten Prüfmittel ist durch die Einhaltung der Regelungen unseres Managementsystems gegeben. Detaillierte Informationen bezüglich Prüfkonditionen, Prüfequipment und Messunsicherheiten sind im Prüflabor vorhanden und können auf Wunsch bereitgestellt werden. <i>The equipment used during the specified testing period was calibrated according to our test laboratory calibration program. The equipment fulfils the requirements included in the relevant standards. The traceability of the test equipment used is ensured by compliance with the regulations of our management system. Detailed information regarding test conditions, equipment and measurement uncertainty is available in the test laboratory and could be provided on request.</i>
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3	Prüfklausel mit der Note * wurden an qualifizierte Unterauftragnehmer vergeben und sind unter der jeweiligen Prüfklausel des Berichts beschrieben. Abweichungen von Prüfspezifikation(en) oder Kundenanforderungen sind in der jeweiligen Prüfklausel im Bericht aufgeführt. <i>Test clauses with remark of * are subcontracted to qualified subcontractors and described under the respective test clause in the report.</i> <i>Deviations of testing specification(s) or customer requirements are listed in specific test clause in the report.</i>
4	Die Entscheidungsregel für Konformitätserklärungen basierend auf numerischen Messergebnissen in diesem Prüfbericht basiert auf der "Null-Grenzwert-Regel" und der "Einfachen Akzeptanz" gemäß ILAC G8:2019 und IEC Guide 115:2023, es sei denn, in der auf Seite 1 dieses Berichts genannten angewandten Norm ist etwas anderes festgelegt oder vom Kunden gewünscht. Dies bedeutet, dass die Messunsicherheit nicht berücksichtigt wird und daher auch nicht im Prüfbericht angegeben wird. Zu weiteren Informationen bezüglich des Risikos durch diese Entscheidungsregel siehe ILAC G8:2019. <i>The decision rule for statements of conformity, based on numerical measurement results, in this test report is based on the "Zero Guard Band Rule" and "Simple Acceptance" in accordance with ILAC G8:2019 and IEC Guide 115:2023, unless otherwise specified in the applied standard mentioned on Page 1 of this report or requested by the customer. This means that measurement uncertainty is not taken in account and hence also not declared in the test report. For additional information to the resulting risk based of this decision rule please refer to ILAC G8:2019.</i>

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Test Summary

5.1.1 ANTENNA REQUIREMENT

RESULT: Pass

5.1.2 RADIATED SPURIOUS EMISSION

RESULT: Pass

5.1.3 CONDUCTED EMISSION ON AC MAINS

RESULT: Pass

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1 General Remarks

1.1 Complementary Materials

All attachments are integral parts of this test report. This applies especially to the following appendix:

Appendix A: Test Results

Appendix B: Photographs of the Test Set-up

2 Test Sites

2.1 Test Facilities

1. TÜV Rheinland (Shenzhen) Co., Ltd.

2-3F, 101 & 102, No.2, Nuclear Power Industrial Park, Fuming Community, Fucheng Street, Longhua District, Shenzhen 518000, China

FCC Accreditation Designation No.: 694916

ISED wireless device testing laboratory: 25069

2. Shenzhen PSI Testing Co., Ltd.

1-2F, Building 5, Yudafu Industrial Park, No.10, Xingye West Road, Shajing Street, Bao'an District, Shenzhen, Guangdong, China 518104

Registration number: CNAS L19010

A2LA CAB identifier: CN0158

TÜV Rheinland (Guangdong) Co., Ltd. Performed radiated emission test and subcontract Conducted emission test to **Shenzhen PSI Testing Co., Ltd.** And this test at this site have been conducted under the supervision of a TÜV Rheinland engineer.

2.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment

Unwanted Emission Testing (TS9975)					
Equipment	Manufacturer	Model	Serial No.	Cal. Date	Cal. until
EMI Test Receiver	R&S	ESR 7	102021	2025-09-22	2026-09-21
Signal Analyzer	R&S	FSV 40	101439	2025-09-22	2026-09-21
System Controller Interface	R&S	SCI-100	S10010038	N/A	N/A
Filterbank	R&S	Wlan	100759	2025-09-22	2026-09-21
OSP	R&S	OSP 120	102040	N/A	N/A
Pre-amplifier	R&S	SCU08F1	08320031	2025-09-22	2026-09-21
Amplifier	R&S	SCU-18F	180070	2025-09-22	2026-09-21
Amplifier	R&S	SCU40A	100475	2025-09-22	2026-09-21
Trilog Broadband Antenna (30 MHz - 7 GHz)	Schwarzbeck	VULB 9162	193	2024-09-28	2026-09-27
Double-Ridged Antenna(1 -18 GHz)	ETS-LINDGREN	3117	00218717	2024-09-28	2026-09-27
Wideband Ridged Horn Antenna(18-40 GHz)	Steatite	QMS-00880	19067	2024-09-28	2026-09-27
Active Loop Antenna	Schwarzbeck	FMZB 1513	302	2024-09-28	2026-09-27
Test software	R&S	EMC32 (V10.60.10)	N/A	N/A	N/A
Control PC	Dell	OptiPlex 7050	36NV9P2	N/A	N/A

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3m Semi-Anechoic Chamber	Albatross	SAC-3m	APC17151-SAC	2024-09-14	2027-09-13
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For Power Line Conducted Emission Test Equipment:

Item	Equipment	Manufacturer	Model No.	Serial No.	Firmware Version	Last Cal.	Cal. Interval
1.	Test Receiver	Rohde&Schwarz	ESCI 7	101032/003	4.42 SP3	2024.12.18	1 Year
2.	L.I.S.N.	Rohde&Schwarz	ENV 216	102282	/	2024.12.18	1 Year
3.	L.I.S.N.	RFT	NNB111	13835240	/	2024.12.18	1 Year

2.3 Traceability

All measurement equipment calibrations are traceable to NIM (National Institute of Metrology) or where calibration is performed in other countries, to equivalent nationally recognized standards organizations.

2.4 Calibration

Equipment requiring calibration is calibrated periodically by the manufacturer or according to manufacturer's specifications. Additionally all equipment is verified for proper performance on a regular basis using in house standards or comparisons.

2.5 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the Product 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.

Table 2: Measurement Uncertainty

Parameter	Uncertainty (k=2)
All emissions, radiated	± 4.17 dB
Power Line Conducted Emissions Test	2.13dB

2.6 Location of Original Data

The original copies of all test data taken during actual testing were attached at Appendix A & B of this report and delivered to the applicant. A copy has been retained in the TÜV Rheinland (Shenzhen) Co., Ltd. file for certification follow-up purposes.

2.7 Status of Facility Used for Testing

The TÜV Rheinland (Shenzhen) Co., Ltd. Test facility located at 2-3F, 101 & 102, No.2, Nuclear Power Industrial Park, Fuming Community, Fucheng Street, Longhua District, Shenzhen 518000, China is listed on the US Federal Communications Commission list of facilities approved to perform measurements.

The Shenzhen PSI Testing Co., Ltd. Test facility located at 1-2F, Building 5, Yudafu Industrial Park, No.10, Xingye West Road, Shajing Street, Bao'an District, Shenzhen, Guangdong, China 518104 is listed on the US Federal Communications Commission list of facilities approved to perform measurements.

3 General Product Information

3.1 Product Function and Intended Use

The Product is a RTK Reference Antenna which supports Lora function.

This product contains a Lora Module "M4" (FCC ID: 2BM2K-M4; IC: 33426-M4). According to KDB 996369 D02 (b), the test data for conducted antenna port in original reports can be re-used as justification below.

- 1. Applicant has built in the radio module according to the specific radio module integration guides.
- 2. The applicant has not modified hardware and software provided by the module manufacturer.
- 3. The wireless module (FCC ID: 2BM2K-M4, IC: 33426-M4) adding a new host and additional type of antenna, since these changed, Radiated Spurious Emissions(RF output power spot check before RSE testing), Conducted Emissions are arranged re-testing, and the other conducted measurement test data can be refer to test report HX250516R001 issued by Shenzhen Huaxin Information Technology Service Co.,Ltd.

Wireless Module	FCC ID: 2BM2K-M4	IC: 33426-M4
Items		
RF output power		
Power Spectral density	Refer to wireless module test report HX250516R001 as issued by henzhen Huaxin Information Technology Service Co.,Ltd	Refer to wireless module test report HX250516R001 as issued by henzhen Huaxin Information Technology Service Co.,Ltd Compared with standard version RSS 247 issue 3 and issue 4 difference, it does not affect the rule compliance.
6dB bandwidth		
99% bandwidth		
Conducted Spurious Emissions		

For details refer to the User Manual, Technical Description and Circuit Diagram.

3.2 Ratings and System Details

Table 3: Technical Specification of EUT

General Information of EUT	Value
Kind of Equipment:	RTK Reference Antenna
Type Designation:	RA56
FCC ID:	2BB85-GWREA0506
IC:	33161-GWREA0506
HVIN:	RA56
Operating Voltage:	DC 12V from Charging Station
Technical Specification of Lora	
Operating Frequency:	902.5 – 927.49 MHz
Type of Modulation:	CSS
Channel Number:	50 channels
Channel Separation:	510kHz

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Antenna Type:	External Antenna
Antenna Gain:	1.38 dBi (Provided by the Client)

Note: The correctness of all data provided by customer in the test report is ensured and responsible of the customer. Any misjudgment of the test results caused by the use of incorrect data provided by customer shall be borne by the customer.

3.3 Independent Operation Modes

The basic operation modes are:

- A. On, Lora wireless transmitting mode
 - 1) Low Channel
 - 2) Middle Channel
 - 3) High Channel
- B. On, Charging + Wireless link
- C. Off

3.4 Noise Generating and Noise Suppressing Parts

Refer to Circuit Diagram for further details.

3.5 Submitted Documents

- Application Form
- User Manual
- Operation Description
- FCC/IC Label and Location Info

4 Test Set-up and Operation Modes

4.1 Principle of Configuration Selection

Radio Spectrum: The equipment under test (EUT) was configured at its highest power output in order to measure its highest possible radiation and conducted level. The test modes were adapted accordingly in reference to the instructions for use.

Emission: The equipment under test (EUT) was configured to measure its highest possible radiation level. The test modes were adapted accordingly in reference to the instructions for use.

4.2 Test Operation and Test Software

Test operation refers to test setup in chapter 5. All tests were performed according to the procedures in ANSI C63.10:2020 and ANSI C63.10:2020+Cor. 1:2023+ C63.10a:2024.

According to clause 3.1, all tests were performed on model RA56 in this report.

4.3 Special Accessories and Auxiliary Equipment

Table 4: List of Accessories and Auxiliary Equipment

Description	Manufacturer	Model	S/N
Cellphone	xiaomi	Redmi note 10	N/A
Laptop	Lenovo	T480	PF-16A6N8
Charging Station	Greenworks (Jiangsu) Co.,Ltd.	PSCS5M	N/A

4.4 Countermeasures to Achieve EMC Compliance

The test sample which has been tested contained the noise suppression parts as described in the Technical Construction File (TCF).

No additional measures were employed to achieve compliance.

4.5 Test Setup Diagram

Diagram of Measurement Configuration for Radiation Test (Below 1GHz)

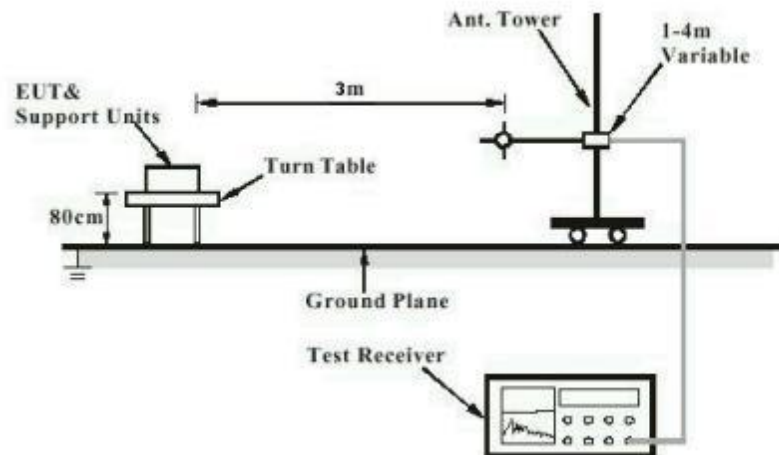


Diagram of Measurement Configuration for Radiation Test (Above 1GHz)

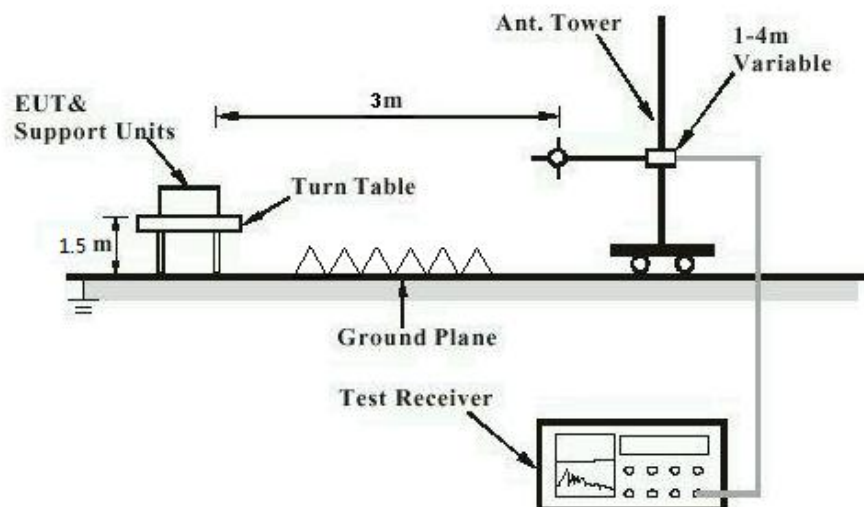


Diagram of Measurement Configuration for Mains Conduction Measurement

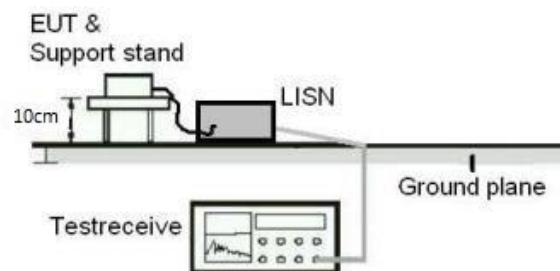
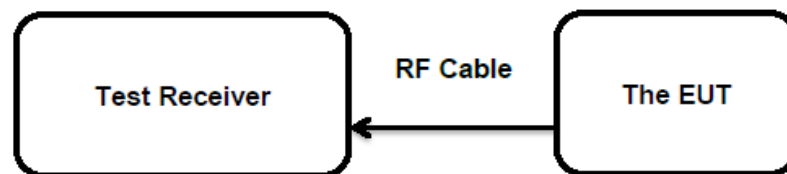


Diagram of Measurement Configuration for Conducted Transmitter Measurement



5 Test Results

5.1 Transmitter Requirement & Test Suites

5.1.1 Antenna Requirement

RESULT:

Pass

Test Specification

Test standard : FCC Part 15.247(b)(4) and Part 15.203
RSS-Gen Clause 6.8

According to the manufacturer declared, the EUT has an internal Antenna, permanent attachment and no consideration of replacement, refer to section 3.2 for details.

Therefore the EUT is considered sufficient to comply with the provision.

Refer to EUT Photo for further details.

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5.1.2 Radiated Spurious Emission

RESULT:**Pass****Test Specification**

Test standard	: FCC Part 15.247(d) & FCC Part 15.205 RSS-247 Clause 3.3
Basic standard	: ANSI C63.10:2020 and ANSI C63.10:2020+Cor. 1:2023+ C63.10a:2024
Limits	: Refer to 15.209(a) of FCC part 15.247(d) RSS-Gen Table 5
Kind of test site	: 3m Semi-anechoic Chamber

Test Setup

Date of testing	: 2025-11-26 to 2025-11-30
Input voltage	: AC 120V, 60Hz
Operation mode	: A
Test channel	: Low / Middle / High
Ambient temperature	: Refer to test result
Relative humidity	: Refer to test result
Atmospheric pressure	: 101 kPa

Remark:

Testing was carried out within frequency range 9kHz to the tenth harmonics. Only the worst case spurious emissions configuration of the each mode were reported.

For the measurement records, refer to the appendix A.

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5.1.3 Conducted Emission on AC Mains

RESULT:**Pass****Test Specification**

Test standard	: FCC Part 15.207(a) RSS-Gen Section 8.8
Basic standard	: ANSI C63.10:2020 and ANSI C63.10:2020+Cor. 1:2023+ C63.10a:2024
Frequency range	: 0.15 – 30MHz
Classification	: Class B
Limits	: FCC Part 15.207(a) RSS-Gen Table 4
Kind of test site	: Shielded Room

Test Setup

Date of testing	: 2025-11-20
Input voltage	: AC 120V, 60Hz
Operation mode	: B
Earthing	: Not connected
Ambient temperature	: Refer to test result
Relative humidity	: Refer to test result
Atmospheric pressure	: 101.3 kPa

For the measurement records, refer to the appendix A.

6 Photographs of the Test Set-Up

For photographs of the test set-up, refer to the appendix B.

7 List of Tables

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Table 3: Technical Specification of EUT	8
Table 4: List of Accessories and Auxiliary Equipment.....	10

Appendix A: Test Results

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1GHz - 18GHz	8
APPENDIX A.2: TEST RESULTS OF CONDUCTED EMISSION ON AC MAINS	20

Appendix A.1: Test Results of Radiated Spurious Emissions

Note:

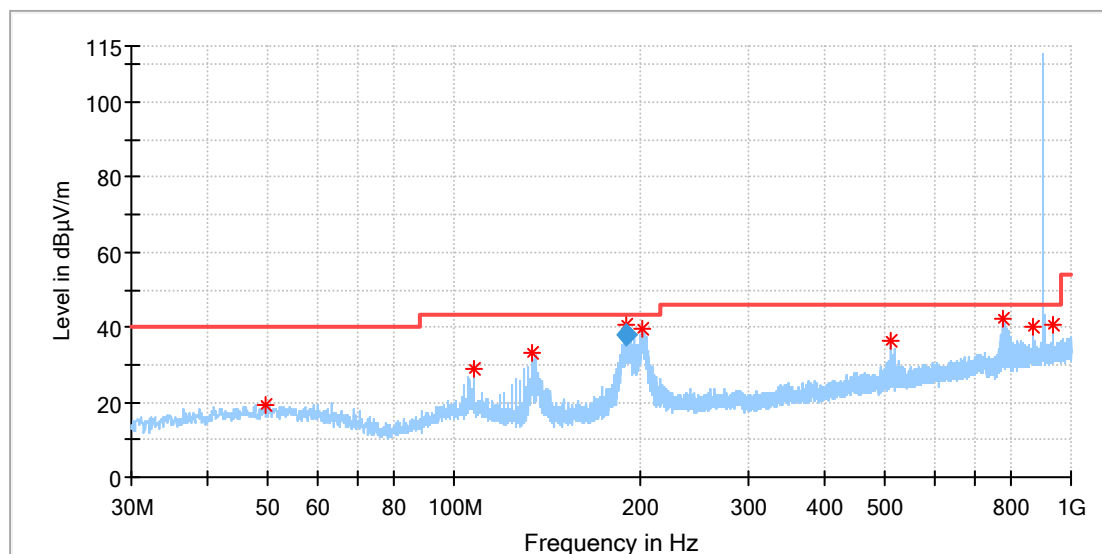
- 1) Testing was carried out within frequency range 9kHz to the tenth harmonics. The measurement results below 30MHz and 18GHz - 26.5GHz were greater than 20dB below the limit, so only the radiated spurious emissions from 30MHz to 18GHz were reported.

30 MHz - 1GHz

Note: The highest waveform in the figure is Lora Fundamental.

EUT Information

EUT Name:	RTK Reference Antenna
Model:	RA56
Test Mode:	Lora_902.5MHz
Order No/Sample No:	168581316/A004131142-004
Test Voltage:	AC 120V, 60Hz
Remark:	Temp 24 Humi:50%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical Freqs

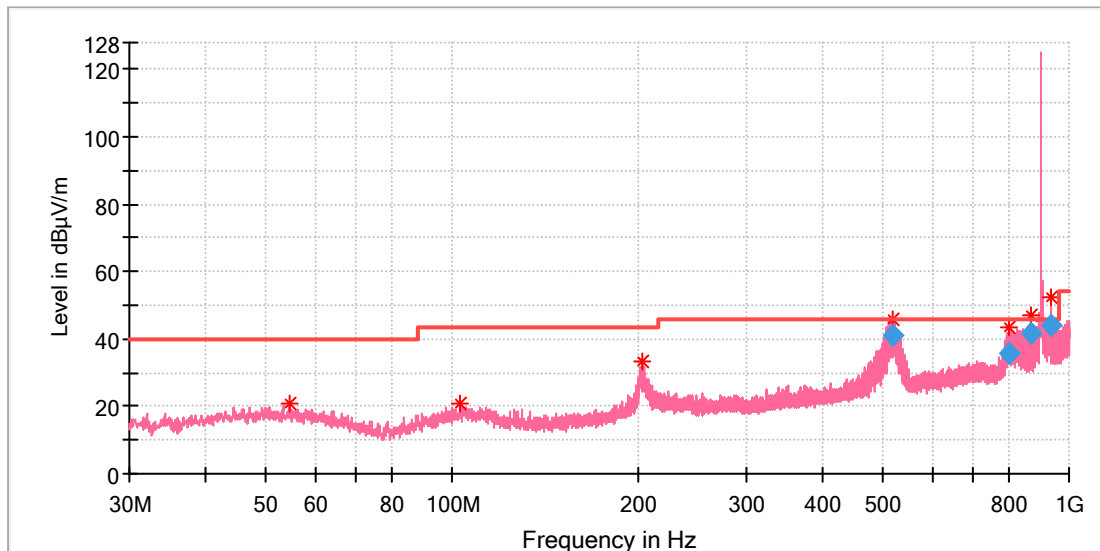
Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
49.507778	19.38	40.00	20.62	100.0	H	199.0	-18.4
107.546111	28.81	43.50	14.69	100.0	H	168.0	-19.1
133.520556	33.31	43.50	10.19	100.0	H	347.0	-22.1
189.834444	40.86	43.50	2.64	100.0	H	357.0	-19.7
201.582222	39.42	43.50	4.08	100.0	H	0.0	-19.0
510.742778	36.47	46.00	9.53	100.0	H	213.0	-11.7
776.846111	42.42	46.00	3.58	100.0	H	105.0	-6.6
870.612778	40.10	46.00	5.90	100.0	H	105.0	-5.2
934.632778	40.51	46.00	5.49	100.0	H	188.0	-4.4

Final Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
189.891000	37.72	43.50	5.78	100.0	H	352.0	-19.7

EUT Information

EUT Name: RTK Reference Antenna
Model: RA56
Test Mode: Lora_902.5MHz
Order No/Sample No: 168581316/A004131142-004
Test Voltage: AC 120V, 60Hz
Remark: Temp 24 Humi:50%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin



Critical_Freqs

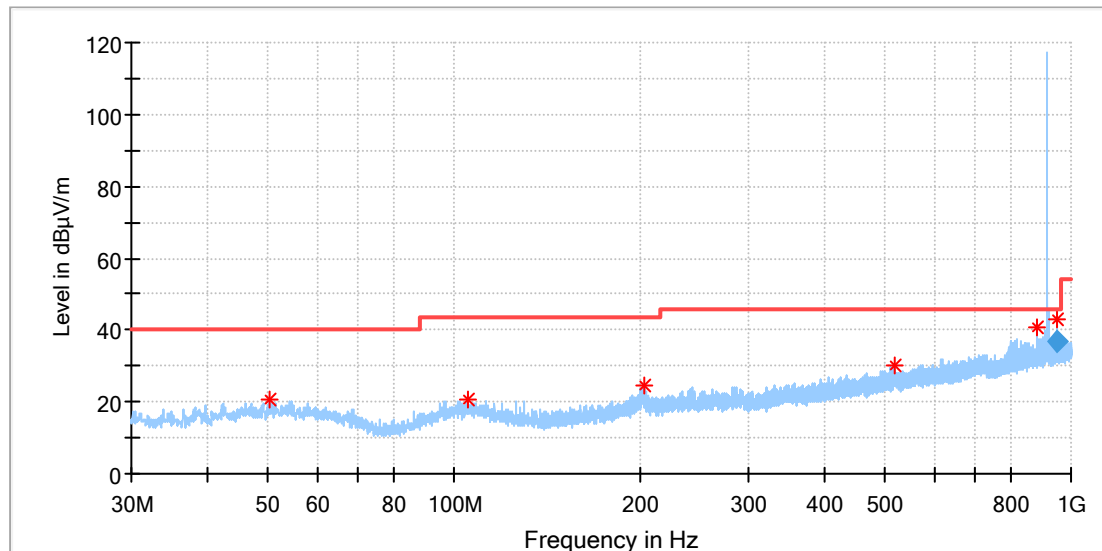
Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
54.465556	20.75	40.00	19.25	100.0	V	142.0	-18.5
103.396667	21.12	43.50	22.38	100.0	V	241.0	-19.0
202.929444	33.36	43.50	10.14	100.0	V	230.0	-19.0
518.987778	46.02	46.00	-0.02	100.0	V	275.0	-11.5
800.018333	43.55	46.00	2.45	100.0	V	253.0	-6.2
870.558889	47.21	46.00	-1.21	100.0	V	253.0	-5.2
934.632778	52.64	46.00	-6.64	100.0	V	123.0	-4.4

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
518.998834	40.91	46.00	5.09	100.0	V	273.0	-11.5
800.034472	35.59	46.00	10.41	100.0	V	252.0	-6.2
870.601678	41.63	46.00	4.37	100.0	V	252.0	-5.2
934.670789	43.76	46.00	2.24	100.0	V	121.0	-4.4

EUT Information

EUT Name: RTK Reference Antenna
Model: RA56
Test Mode: Lora_915.25MHz
Order No/Sample No: 168581316/A004131142-004
Test Voltage: AC 120V, 60Hz
Remark: Temp 24 Humi:50%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin



Critical_Freqs

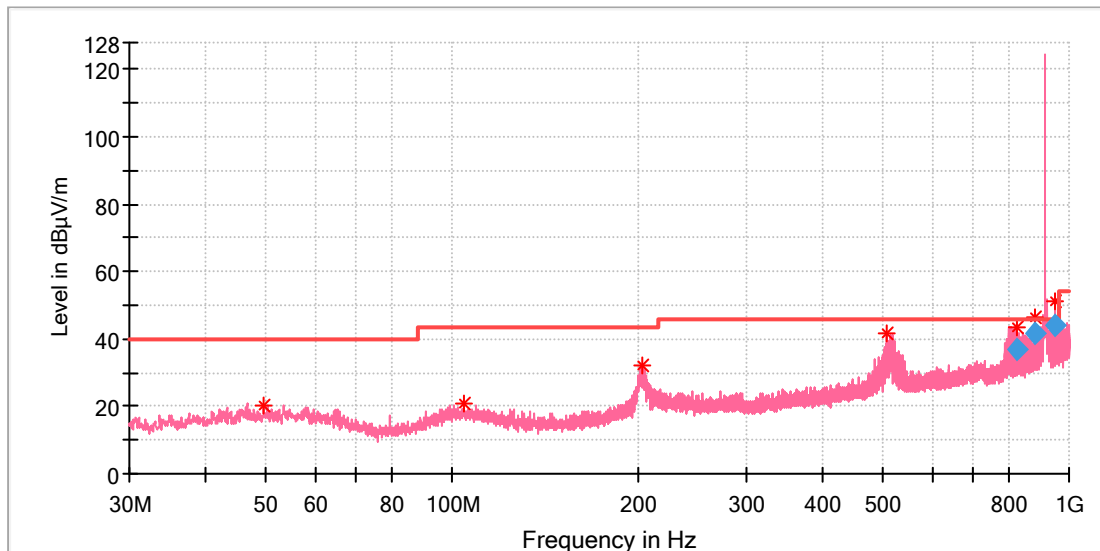
Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
50.208333	20.46	40.00	19.54	100.0	H	94.0	-18.4
105.282778	20.82	43.50	22.68	100.0	H	118.0	-18.9
202.821667	24.74	43.50	18.76	100.0	H	130.0	-19.0
517.317222	30.25	46.00	15.75	100.0	H	261.0	-11.5
883.384444	40.64	46.00	5.36	100.0	H	100.0	-5.0
947.242778	43.13	46.00	2.87	100.0	H	100.0	-4.3

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
947.372889	36.69	46.00	9.31	100.0	H	99.0	-4.3

EUT Information

EUT Name: RTK Reference Antenna
Model: RA56
Test Mode: Lora_915.25MHz
Order No/Sample No: 168581316/A004131142-004
Test Voltage: AC 120V, 60Hz
Remark: Temp 24 Humi:50%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin



Critical_Freqs

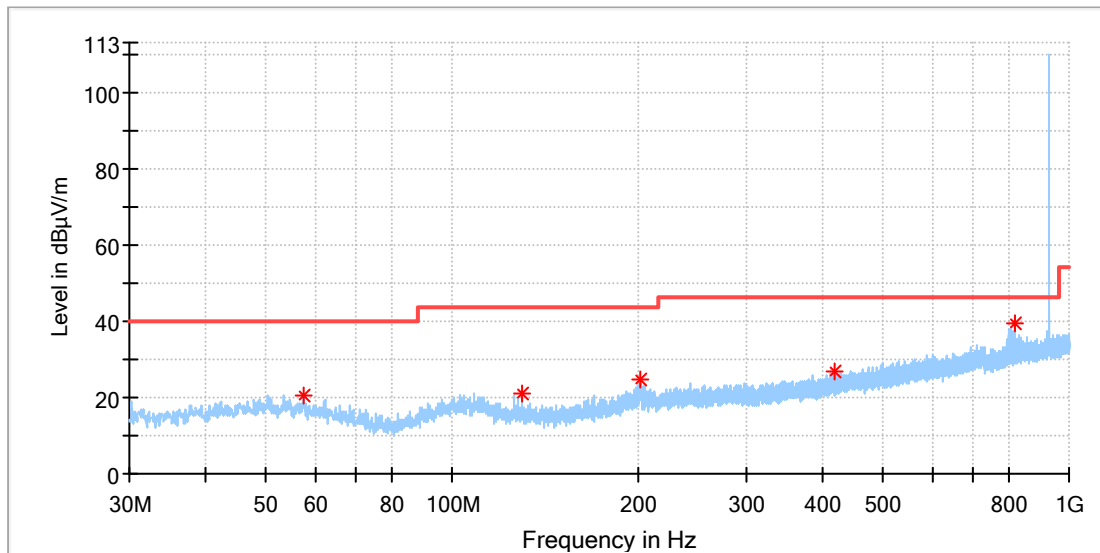
Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
49.400000	20.24	40.00	19.76	100.0	V	269.0	-18.4
104.797778	20.78	43.50	22.72	100.0	V	227.0	-18.9
203.091111	31.90	43.50	11.60	100.0	V	233.0	-19.0
508.263889	41.48	46.00	4.52	100.0	V	43.0	-11.8
824.591667	43.73	46.00	2.27	100.0	V	353.0	-5.7
883.330556	46.28	46.00	-0.28	100.0	V	19.0	-5.0
947.350556	51.08	46.00	-5.08	100.0	V	131.0	-4.3

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
824.623445	36.69	46.00	9.31	100.0	V	348.0	-5.7
883.289762	41.85	46.00	4.15	100.0	V	14.0	-5.0
947.350289	43.88	46.00	2.12	100.0	V	136.0	-4.3

EUT Information

EUT Name:	RTK Reference Antenna
Model:	RA56
Test Mode:	Lora_927.49MHz
Order No/Sample No:	168581316/A004131142-004
Test Voltage:	AC 120V, 60Hz
Remark:	Temp 24 Humi:50%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical_Freqs

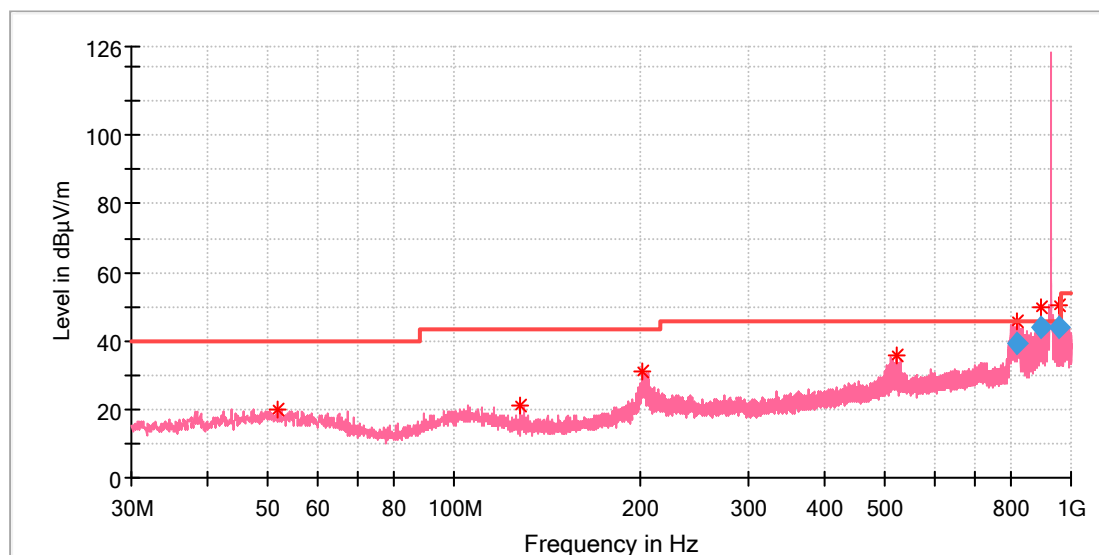
Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
57.429444	20.52	40.00	19.48	100.0	H	187.0	-18.8
129.694444	20.94	43.50	22.56	100.0	H	73.0	-21.9
202.228889	24.81	43.50	18.69	100.0	H	187.0	-19.0
415.413333	26.55	46.00	19.45	100.0	H	222.0	-13.4
820.118889	39.46	46.00	6.54	100.0	H	47.0	-5.8

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
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EUT Information

EUT Name: RTK Reference Antenna
 Model: RA56
 Test Mode: Lora_927.49MHz
 Order No/Sample No: 168581316/A004131142-004
 Test Voltage: AC 120V, 60Hz
 Remark: Temp 24 Humi:50%
 Test Standard: FCC 15.247
 Tested By: Kei Zhang
 Reviewed By: Terry Yin



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
51.609444	19.84	40.00	20.16	100.0	V	237.0	-18.4
128.077778	21.20	43.50	22.30	100.0	V	165.0	-21.7
202.175000	31.21	43.50	12.29	100.0	V	323.0	-19.0
520.227222	35.55	46.00	10.45	100.0	V	159.0	-11.5
818.933333	45.66	46.00	0.34	100.0	V	302.0	-5.8
895.455556	50.11	46.00	-4.11	100.0	V	143.0	-4.9
959.637222	50.30	46.00	-4.30	100.0	V	143.0	-4.1

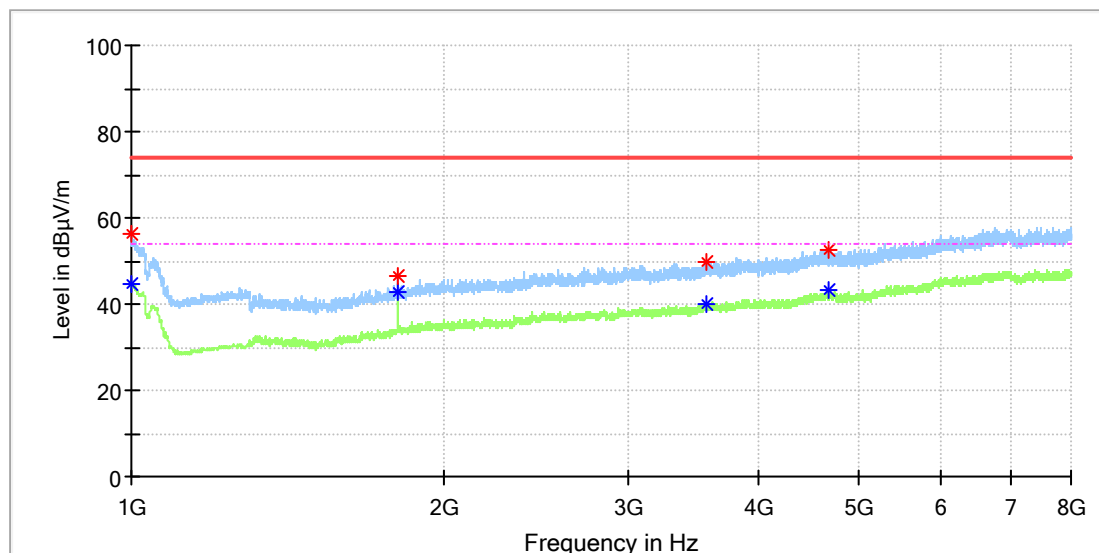
Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
818.958383	39.45	46.00	6.55	100.0	V	301.0	-5.8
895.420362	43.92	46.00	2.08	100.0	V	145.0	-4.9
959.469067	43.84	46.00	2.16	100.0	V	101.0	-4.1

1GHz - 18GHz

EUT Information

EUT Name:	RTK Reference Antenna
Model:	RA56
Test Mode:	Lora_902.5MHz
Order No/Sample No:	168581316/A004131142-004
Test Voltage:	AC 120V, 60Hz
Remark:	Temp 24 Humi:50%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1000.500000	56.40	---	74.00	17.60	150.0	H	162.0	0.4
1001.500000	---	44.73	54.00	9.27	150.0	H	162.0	0.4
1804.733333	46.37	---	92.58	46.21	150.0	H	35.0	6.3
1804.733333	---	42.59	82.58	39.99	150.0	H	35.0	6.3
3570.183333	---	40.11	54.00	13.89	150.0	H	223.0	10.7
3572.975000	49.87	---	74.00	24.13	150.0	H	305.0	10.7
4682.941667	---	43.18	54.00	10.82	150.0	H	49.0	13.5
4687.966667	52.49	---	74.00	21.51	150.0	H	334.0	13.5

Final Result

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr (dB/m)
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Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
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Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
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Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
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Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
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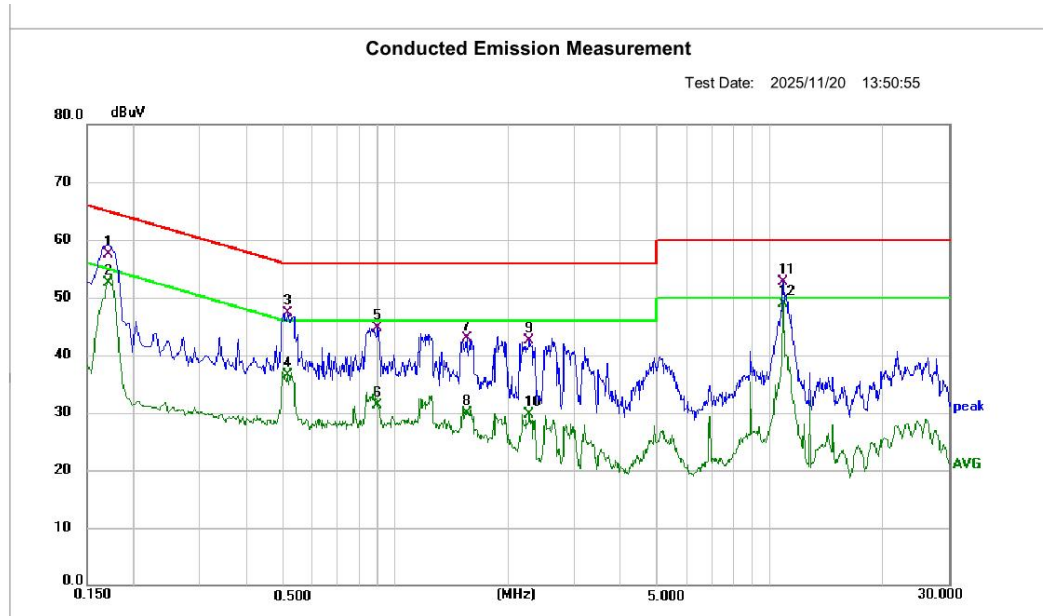
Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---	---		---	---

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---	---		---	---

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---	---		---	---

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
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Appendix A.2: Test Results of Conducted Emission on AC Mains



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.1700	47.66	9.94	57.60	64.96	-7.36	QP	P	
2	0.1700	42.47	9.94	52.41	54.96	-2.55	AVG	P	
3	0.5140	37.42	9.88	47.30	56.00	-8.70	QP	P	
4	0.5140	26.57	9.88	36.45	46.00	-9.55	AVG	P	
5	0.8980	35.37	9.42	44.79	56.00	-11.21	QP	P	
6	0.8980	21.92	9.42	31.34	46.00	-14.66	AVG	P	
7	1.5500	33.55	9.40	42.95	56.00	-13.05	QP	P	
8	1.5500	20.41	9.40	29.81	46.00	-16.19	AVG	P	
9	2.2820	33.19	9.39	42.58	56.00	-13.42	QP	P	
10	2.2820	20.26	9.39	29.65	46.00	-16.35	AVG	P	
11	10.8060	43.26	9.54	52.80	60.00	-7.20	QP	P	
12 *	10.8060	39.36	9.54	48.90	50.00	-1.10	AVG	P	

Note: *:Maximum data x:Over limit !:over margin Level = Reading + Factor Margin = Level - Limit

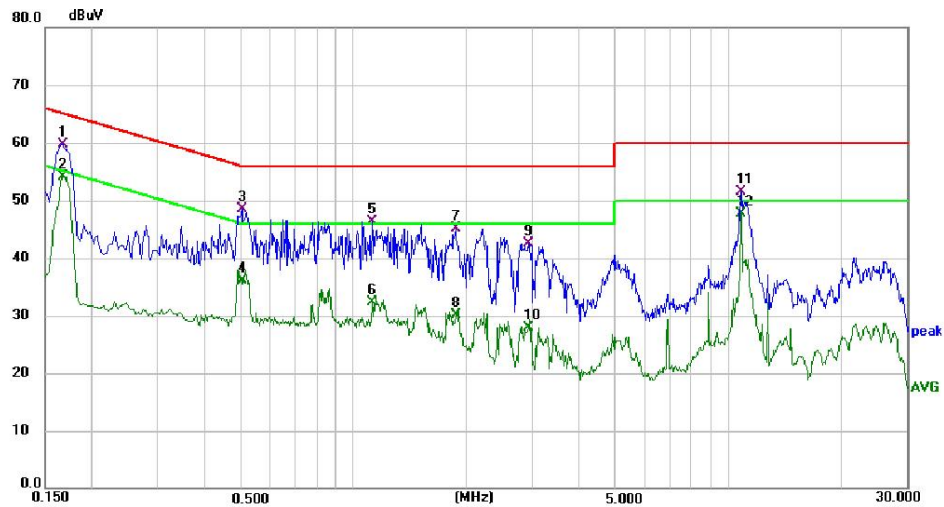
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Page: 1

Engineer Signature:

Conducted Emission Measurement

Test Date: 2025/11/20 13:56:46



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.1660	49.71	9.94	59.65	65.16	-5.51	QP	P	
2 *	0.1660	44.08	9.94	54.02	55.16	-1.14	AVG	P	
3	0.5020	38.53	9.91	48.44	56.00	-7.56	QP	P	
4	0.5020	26.25	9.91	36.16	46.00	-9.84	AVG	P	
5	1.1220	36.83	9.41	46.24	56.00	-9.76	QP	P	
6	1.1220	22.89	9.41	32.30	46.00	-13.70	AVG	P	
7	1.8740	35.72	9.39	45.11	56.00	-10.89	QP	P	
8	1.8740	20.77	9.39	30.16	46.00	-15.84	AVG	P	
9	2.9180	33.14	9.38	42.52	56.00	-13.48	QP	P	
10	2.9180	18.44	9.38	27.82	46.00	-18.18	AVG	P	
11	10.8060	41.87	9.54	51.41	60.00	-8.59	QP	P	
12	10.8060	38.25	9.54	47.79	50.00	-2.21	AVG	P	

Note: *:Maximum data x:Over limit !:over margin Level = Reading + Factor Margin = Level - Limit

File: FCC\Data :#2

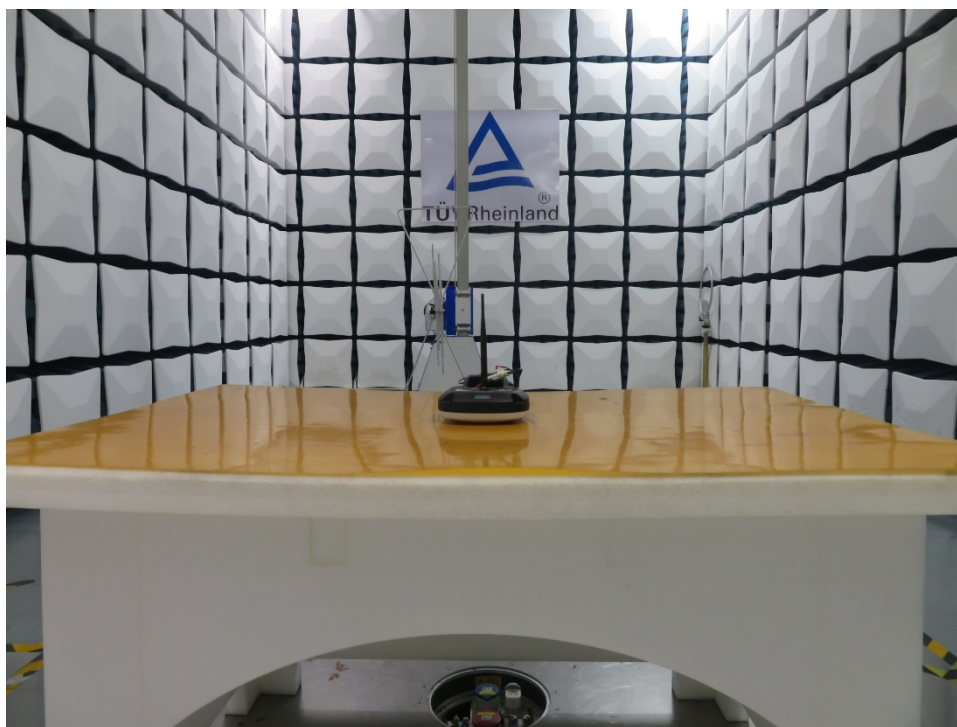
Page: 1

Engineer Signature:

Appendix B: Photographs of the Test Set-Up

APPENDIX B: PHOTOGRAPHS OF THE TEST SET-UP	1
PHOTOGRAPH 1: SET-UP PHOTO FOR RADIATED SPURIOUS EMISSION, 30MHz - 1GHz	2
PHOTOGRAPH 2: SET-UP PHOTO FOR RADIATED SPURIOUS EMISSION, 1GHz - 18GHz	2
PHOTOGRAPH 3: SET-UP PHOTO FOR CONDUCTED EMISSION ON AC MAINS	3

Photograph 1: Set-up photo for Radiated Spurious Emission, 30MHz - 1GHz



Photograph 2: Set-up photo for Radiated Spurious Emission, 1GHz - 18GHz



Photograph 3: Set-up photo for Conducted Emission on AC Mains

