

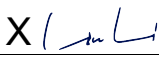


| | | | | |
|--|--|---|--|--------------------------------|
| Prüfbericht-Nr.: <i>Test report no.:</i> | CN24RTIB 001 | Auftrags-Nr.: <i>Order no.:</i> | 168502657 | Seite 1 von 11 Page 1 of 11 |
| Kunden-Referenz-Nr.: <i>Client reference no.:</i> | N/A | Auftragsdatum: <i>Order date:</i> | 2024-09-03 | |
| Auftraggeber: <i>Client:</i> | WiseConn IP GmbH Schochenmühlestrasse 4 6340, Baar, Switzerland | | | |
| Prüfgegenstand: <i>Test item:</i> | LoRa control and monitoring node | | | |
| Bezeichnung / Typ-Nr.: <i>Identification / Type no.:</i> | RF-V1-900-2LATCH-BATT, RF-V1-900-2LATCH-SOLAR RF-V1-900-4LATCH-BATT, RF-V1-900-4LATCH-SOLAR (Trademark: WiseConn) | | | |
| Auftrags-Inhalt: <i>Order content:</i> | Test Report | | | |
| Prüfgrundlage: <i>Test specification:</i> | CFR Title 47 FCC, Part 15, Subpart B ICES-003 Issue 7 October 2020 | | | |
| Wareneingangsdatum: <i>Date of sample receipt:</i> | 2024-10-17 |  | | |
| Prüfmuster-Nr.: <i>Test sample no.:</i> | A003836239-004 | | | |
| Prüfzeitraum: <i>Testing period:</i> | 2024-10-17 - 2024-12-10 | | | |
| Ort der Prüfung: <i>Place of testing:</i> | TÜV Rheinland (Shenzhen) Co., Ltd. | | | |
| Prüflaboratorium: <i>Testing laboratory:</i> | TÜV Rheinland (Shenzhen) Co., Ltd. | | | |
| Prüfergebnis*: <i>Test result*:</i> | Pass | | | |
| geprüft von: <i>tested by:</i> |  Hardy Suo | genehmigt von: <i>authorized by:</i> |  Lin Lin | |
| Datum: <i>Date:</i> | 2025-02-10 | Ausstellungsdatum: <i>Issue date:</i> | 2025-02-10 | |
| Stellung / Position | Sachverständige(r)/Expert | Stellung / Position | Sachverständige(r)/Expert | |
| Sonstiges / <i>Other:</i> | | | | |
| Zustand des Prüfgegenstandes bei Anlieferung: <i>Condition of the test item at delivery:</i> | Prüfmuster vollständig und unbeschädigt <i>Test item complete and undamaged</i> | | | |
| * 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 a. m. 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 | <p>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.</p> <p><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.</i></p> <p><i>Detailed information regarding test conditions, equipment and measurement uncertainty is available in the test laboratory and could be provided on request.</i></p> |
| 2 | <p>Wie vertraglich vereinbart, wurde dieses Dokument nur digital unterzeichnet. Der TÜV Rheinland hat nicht überprüft, welche rechtlichen oder sonstigen diesbezüglichen Anforderungen für dieses Dokument gelten. Diese Überprüfung liegt in der Verantwortung des Benutzers dieses Dokuments. Auf Verlangen des Kunden kann der TÜV Rheinland die Gültigkeit der digitalen Signatur durch ein gesondertes Dokument bestätigen. Diese Anfrage ist an unseren Vertrieb zu richten. Eine Umweltgebühr für einen solchen zusätzlichen Service wird erhoben.</p> <p><i>As contractually agreed, this document has been signed digitally only. TÜV Rheinland has not verified and unable to verify which legal or other pertaining requirements are applicable for this document. Such verification is within the responsibility of the user of this document. Upon request by its client, TÜV Rheinland can confirm the validity of the digital signature by a separate document. Such request shall be addressed to our Sales department. An environmental fee for such additional service will be charged.</i></p> |
| 3 | <p>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.</p> <p><i>Test clauses with remark of * are subcontracted to qualified subcontractors and described under the respective test clause in the report.</i></p> <p><i>Deviations of testing specification(s) or customer requirements are listed in specific test clause in the report.</i></p> |
| 4 | <p>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 115:2021, 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.</p> <p><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 115:2021, 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></p> |

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Test report no.

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Test Summary

5.1 Radiated emissions
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 Result.
- Appendix B: Test Setup Photos.

2 Test Sites

2.1 Test Facilities

TÜV Rheinland (Shenzhen) Co., Ltd.

No. 362 Huanguan Road Middle, Longhua District, 518110, Shenzhen, P. R. China.

2.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment

| Radiated Emission (3m chamber) | | | | |
|--------------------------------|--------------|---------------------|----------------|------------|
| Equipment | Manufacturer | Model No. | Serial No. | Cal. Until |
| 3m SAC | ETS-Lindgren | SAC3 | CT001632-Q1362 | 2025-07-22 |
| EMI Test Receiver | R&S | ESR7 | 102111 | 2025-08-18 |
| Horn Antenna | R&S | HF907 | 102706 | 2025-09-01 |
| Preamplifier (1-18GHz) | R&S | SCU-18F | 180076 | 2025-10-11 |
| Active magnetic loop antenna | SCHWARZBECK | FMZB1519B | 00080 | 2025-09-01 |
| Trilog-Broadband antenna | SCHWARZBECK | VULB9168 | 0945 | 2025-07-17 |
| EMC32 test software | R&S | EMC32(Ver.10.60.20) | N/A | N/A |

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

The estimated combined standard uncertainty for radiated emissions and conducted emissions measurements as below table

| Parameter | Uncertainty |
|--|-----------------------|
| Mains Harmonic | ± 4.60 % |
| Voltage Fluctuations & Flicker | ± 0.64 % |
| Radiated Emission (3m SAC), 30MHz to 1000MHz | ± 4.52 dB |
| Radiated Emission (3m SAC), above 1000MHz | ± 4.37 dB |
| Conducted Emission, (9kHz to 150kHz)/(150kHz to 30MHz) | ± 3.70 dB / ± 3.30 dB |

2.6 Location of Original Data

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

2.7 Status of Facility Used for Testing

The TÜV Rheinland (Shenzhen) Co., Ltd. facility located at No. 362 Huanguan Road Middle, Longhua District, 518110, Shenzhen, P. R. China. 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 EUT is a LoRa control and monitoring node which supports Lora, Bluetooth LE and NFC wireless technologies.

Model List:

| Model No. | Power Supply | Digital Inputs | Latching Outputs |
|------------------------|----------------------------------|---|---|
| RF-V1-900-2LATCH-BATT | 31200mAh Battery | 4 Digital Inputs: V1 IN V2 IN V3 IN V4 IN | 2 Latching Outputs: V1 V2 |
| RF-V1-900-2LATCH-SOLAR | 13000mAh Battery and Solar Panel | 4 Digital Inputs: V1 IN V2 IN V3 IN V4 IN | 2 Latching Outputs: V1 V2 |
| RF-V1-900-4LATCH-BATT | 31200mAh Battery | 4 Digital Inputs: V1 IN V2 IN V3 IN V4 IN | 4 Latching Outputs: V1 V2 V3 V4 |
| RF-V1-900-4LATCH-SOLAR | 13000mAh Battery and Solar Panel | 4 Digital Inputs: V1 IN V2 IN V3 IN V4 IN | 4 Latching Outputs: V1 V2 V3 V4 |

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

3.2 Ratings and System Details

Table 2: Technical Specification of EUT

| General Information of EUT | Value |
|------------------------------|--|
| Kind of Equipment: | LoRa control and monitoring node |
| Type Designation: | RF-V1-900-2LATCH-BATT, RF-V1-900-2LATCH-SOLAR RF-V1-900-4LATCH-BATT, RF-V1-900-4LATCH-SOLAR |
| Operating Voltage: | DC 5V (31200mAh Battery, or 13000mAh Battery and Solar Panel) |
| Testing Voltage: | DC 5V |
| Operating Temperature Range: | -10 °C ~ +55 °C |

3.3 Independent Operation Modes

The basic operation modes are:

- A. On, Normal operation

3.4 Noise Generating and Noise Suppressing Parts

Refer to Circuit Diagram for further details.

3.5 Submitted Documents

- Block Diagram
- Photo Document
- Schematics
- User Manual

4 Test Set-up and Operation Modes

4.1 Principle of Configuration Selection

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 testing were performed according to the procedures in ANSI C63.4: 2014.

According to clause 3.1, all test were applied on model RF-V1-900-4LATCH-BATT.

4.3 Special Accessories and Auxiliary Equipment

Table 3: List of Accessories and Auxiliary Equipment

| Description | Manufacturer | Model | S/N |
|-----------------------------------|--------------|----------|-----|
| Cement resistance dummy load (5W) | / | / | / |
| Metal resistance dummy load (5W) | / | / | / |
| Sensor | Rika Sensors | RK200-03 | / |

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)

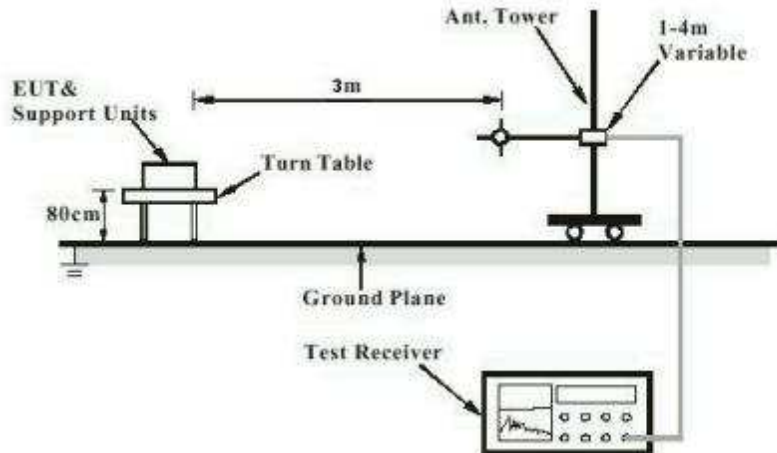
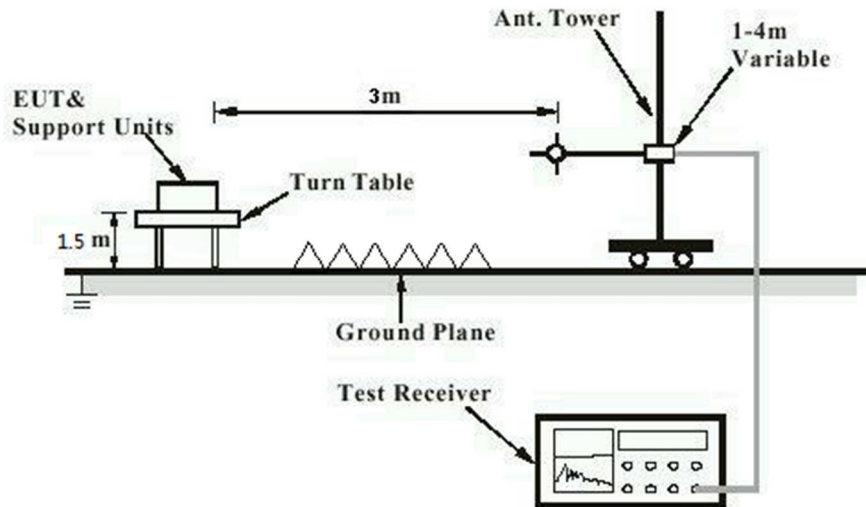


Diagram of Measurement Configuration for Radiation Test (Above 1GHz)



5 Test Results

5.1 Radiated Emission

RESULT:

Pass

Test Specification

| | |
|-------------------|--|
| Test standard | : FCC Part 15.109(a) ICES-003 Issue 7, Clause 3.2.2 |
| Basic standard | : ANSI C63.4: 2014 |
| Frequency range | : 30MHz to 5 th highest fundamental frequency |
| Classification | : Class B |
| Limit | : FCC Part 15.109(a) ICES-003 Table 2 & Table 4 |
| Kind of test site | : 3m Semi-anechoic Chamber & 3m Full-anechoic Chamber |

Test Setup

| | |
|----------------------|---------------------------|
| Date of testing | : 2024-10-17 - 2024-12-10 |
| Input voltage | : DC 5V |
| Operation mode | : A |
| Earthing | : Not Connected |
| Ambient temperature | : Refer to test data |
| Relative humidity | : Refer to test data |
| Atmospheric pressure | : Refer to test data |

For the measurement records, refer to appendix A.

Remark 1: The limit of below radiated emission test data is from FCC part 15.109, it also meet the limit of ICES-003 issue 7.

6 List of Tables

| | |
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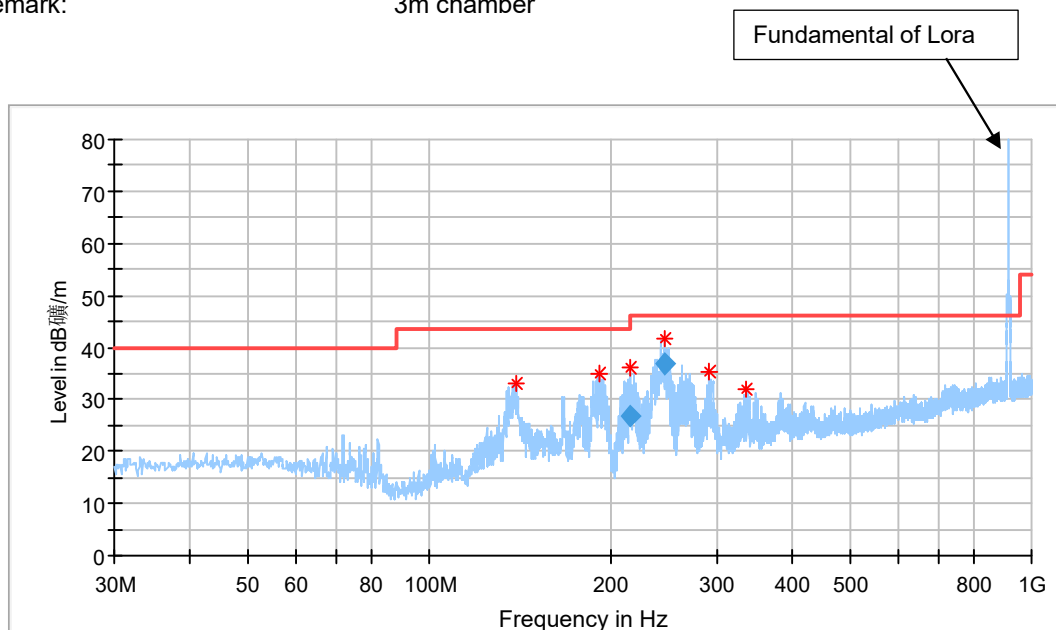
Appendix A: Test Results of EMC Requirements

| | |
|---|----------|
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Appendix A.1: Test Results of Radiated Emission, Below 1GHz

EUT Information

| | |
|---------------------|---|
| EUT Name: | LoRa control and monitoring node |
| Order Number: | 168502657(P01591027) |
| Model: | RF-V1-900-4LATCH-BATT |
| Test Mode: | On, Normal operation (MN: RF-V1-900-4LATCH-BATT) with terminal node devices and with integral ANT |
| Test Voltage: | DC 5V |
| Test Standard: | FCC Part15B |
| Test By:/Review By: | Simon Feng/ Shower Dai |
| Tem./Hum./Pressure: | 24.1°C /52.3%/101kPa |
| Remark: | 3m chamber |



Critical Freqs

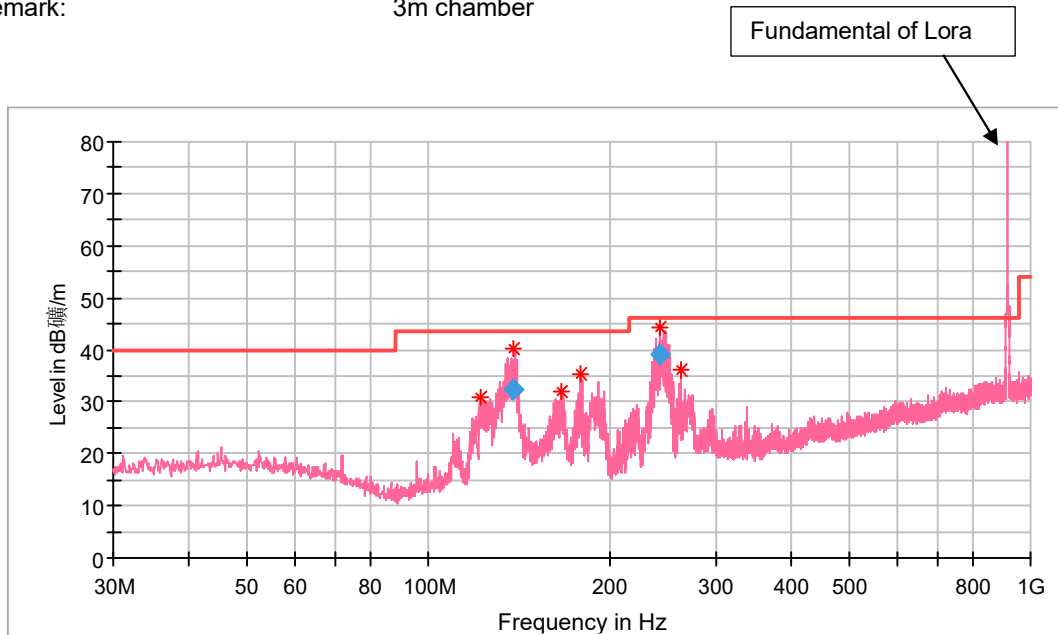
| Frequency (MHz) | MaxPeak (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|-----------------|------------------|----------------|-------------|-------------|-----|---------------|--------------|
| 139.125000 | 33.16 | 43.50 | 10.34 | 300.0 | H | 107.0 | 20.0 |
| 190.923000 | 35.06 | 43.50 | 8.44 | 100.0 | H | 94.0 | 17.7 |
| 215.145000 | 36.11 | 43.50 | 7.39 | 200.0 | H | 16.0 | 17.4 |
| 246.561000 | 41.59 | 46.00 | 4.41 | 100.0 | H | 250.0 | 19.2 |
| 291.027000 | 35.43 | 46.00 | 10.57 | 100.0 | H | 225.0 | 20.9 |
| 334.289000 | 32.12 | 46.00 | 13.88 | 100.0 | H | 36.0 | 22.2 |

Final Result

| Frequency (MHz) | QuasiPeak (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|-----------------|--------------------|----------------|-------------|-----------------|-----------------|-------------|-----|---------------|--------------|
| 215.145000 | 26.94 | 43.50 | 16.56 | 1000.0 | 120.000 | 200.0 | H | 16.0 | 17.4 |
| 246.561000 | 36.81 | 46.00 | 9.19 | 1000.0 | 120.000 | 100.0 | H | 250.0 | 19.2 |

EUT Information

EUT Name: LoRa control and monitoring node
 Order Number: 168502657(P01591027)
 Model: RF-V1-900-4LATCH-BATT
 Test Mode: On, Normal operation (MN: RF-V1-900-4LATCH-BATT) with terminal node devices and with integral ANT
 Test Voltage: DC 5V
 Test Standard: FCC Part15B
 Test By:/Review By: Simon Feng/ Shower Dai
 Tem./Hum./Pressure: 24.1°C /52.3%/101kPa
 Remark: 3m chamber



Critical_Freqs

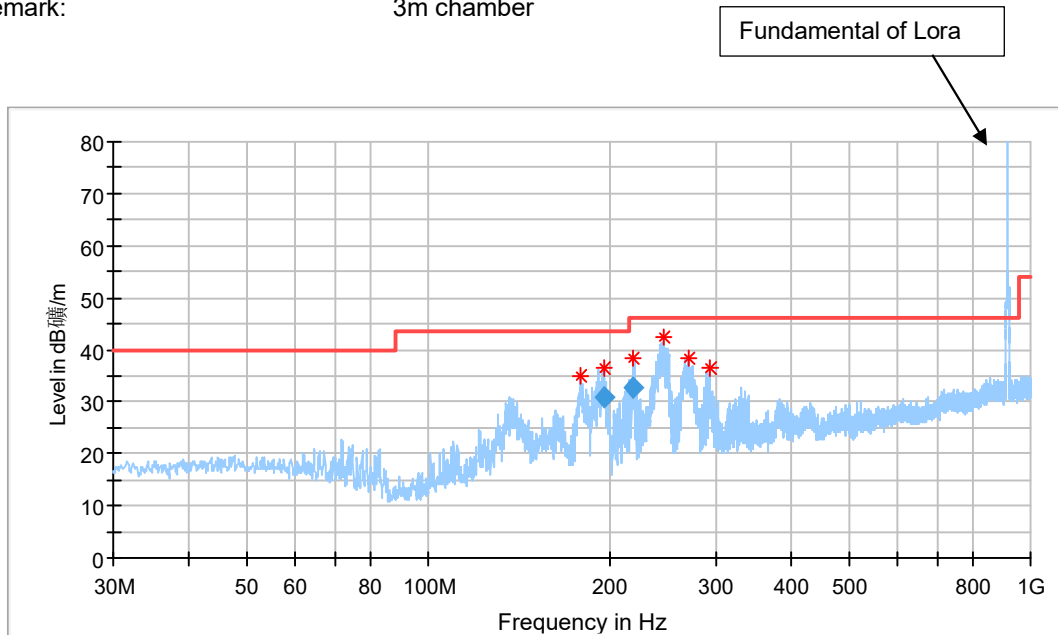
| Frequency (MHz) | MaxPeak (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|-----------------|------------------|----------------|-------------|-------------|-----|---------------|--------------|
| 121.568000 | 30.72 | 43.50 | 12.78 | 100.0 | V | 255.0 | 18.3 |
| 138.468000 | 40.21 | 43.50 | 3.29 | 100.0 | V | 181.0 | 20.0 |
| 166.673000 | 32.05 | 43.50 | 11.45 | 100.0 | V | 177.0 | 20.4 |
| 178.701000 | 35.45 | 43.50 | 8.05 | 100.0 | V | 177.0 | 19.2 |
| 242.692000 | 44.27 | 46.00 | 1.73 | 100.0 | V | 0.0 | 19.1 |
| 262.218000 | 36.07 | 46.00 | 9.93 | 100.0 | V | 353.0 | 19.7 |

Final_Result

| Frequency (MHz) | QuasiPeak (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|-----------------|--------------------|----------------|-------------|-----------------|-----------------|-------------|-----|---------------|--------------|
| 138.468000 | 32.27 | 43.50 | 11.23 | 1000.0 | 120.000 | 100.0 | V | 181.0 | 20.0 |
| 242.692000 | 39.07 | 46.00 | 6.93 | 1000.0 | 120.000 | 100.0 | V | 0.0 | 19.1 |

EUT Information

EUT Name: LoRa control and monitoring node
 Order Number: 168502657(P01591027)
 Model: RF-V1-900-4LATCH-BATT
 Test Mode: On, Normal operation (MN: RF-V1-900-4LATCH-BATT) with terminal node devices and with external ANT
 Test Voltage: DC 5V
 Test Standard: FCC Part15B
 Test By:/Review By: Simon Feng/ Shower Dai
 Tem./Hum./Pressure: 24.1°C /52.3%/101kPa
 Remark: 3m chamber



Critical_Freqs

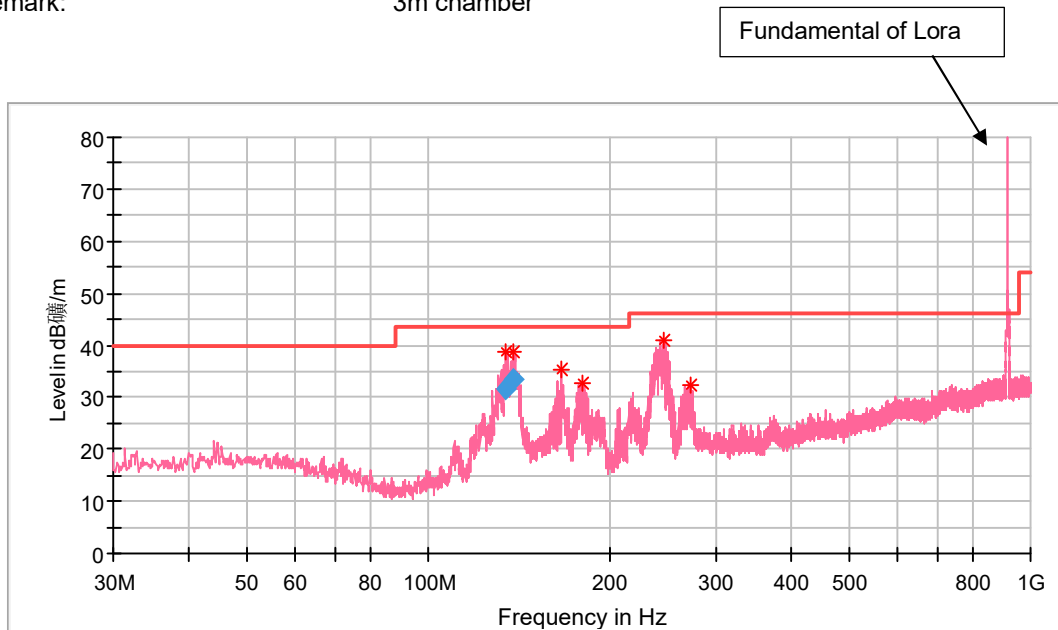
| Frequency (MHz) | MaxPeak (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|-----------------|------------------|----------------|-------------|-------------|-----|---------------|--------------|
| 178.895000 | 34.80 | 43.50 | 8.70 | 100.0 | H | 211.0 | 19.2 |
| 194.928000 | 36.54 | 43.50 | 6.96 | 200.0 | H | 236.0 | 17.4 |
| 219.230000 | 38.50 | 46.00 | 7.50 | 200.0 | H | 89.0 | 17.4 |
| 246.601000 | 42.60 | 46.00 | 3.40 | 100.0 | H | 17.0 | 19.2 |
| 270.075000 | 38.14 | 46.00 | 7.86 | 100.0 | H | 264.0 | 20.1 |
| 294.228000 | 36.35 | 46.00 | 9.65 | 100.0 | H | 42.0 | 21.0 |

Final_Result

| Frequency (MHz) | QuasiPeak (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|-----------------|--------------------|----------------|-------------|-----------------|-----------------|-------------|-----|---------------|--------------|
| 194.928000 | 30.78 | 43.50 | 12.72 | 1000.0 | 120.000 | 200.0 | H | 236.0 | 17.4 |
| 219.230000 | 32.86 | 46.00 | 13.14 | 1000.0 | 120.000 | 200.0 | H | 89.0 | 17.4 |

EUT Information

EUT Name: LoRa control and monitoring node
 Order Number: 168502657(P01591027)
 Model: RF-V1-900-4LATCH-BATT
 Test Mode: On, Normal operation (MN: RF-V1-900-4LATCH-BATT) with terminal node devices and with external ANT
 Test Voltage: DC 5V
 Test Standard: FCC Part15B
 Test By./Review By: Simon Feng/ Shower Dai
 Tem./Hum./Pressure: 24.1°C 52.3%/101kPa
 Remark: 3m chamber



Critical_Freqs

| Frequency (MHz) | MaxPeak (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|-----------------|------------------|----------------|-------------|-------------|-----|---------------|--------------|
| 134.669000 | 38.61 | 43.50 | 4.89 | 100.0 | V | 344.0 | 19.6 |
| 138.372000 | 38.83 | 43.50 | 4.67 | 100.0 | V | 212.0 | 20.0 |
| 166.673000 | 35.53 | 43.50 | 7.97 | 100.0 | V | 329.0 | 20.4 |
| 179.768000 | 32.60 | 43.50 | 10.90 | 100.0 | V | 329.0 | 19.1 |
| 246.795000 | 40.79 | 46.00 | 5.21 | 200.0 | V | 336.0 | 19.2 |
| 273.082000 | 32.31 | 46.00 | 13.69 | 100.0 | V | 289.0 | 20.3 |

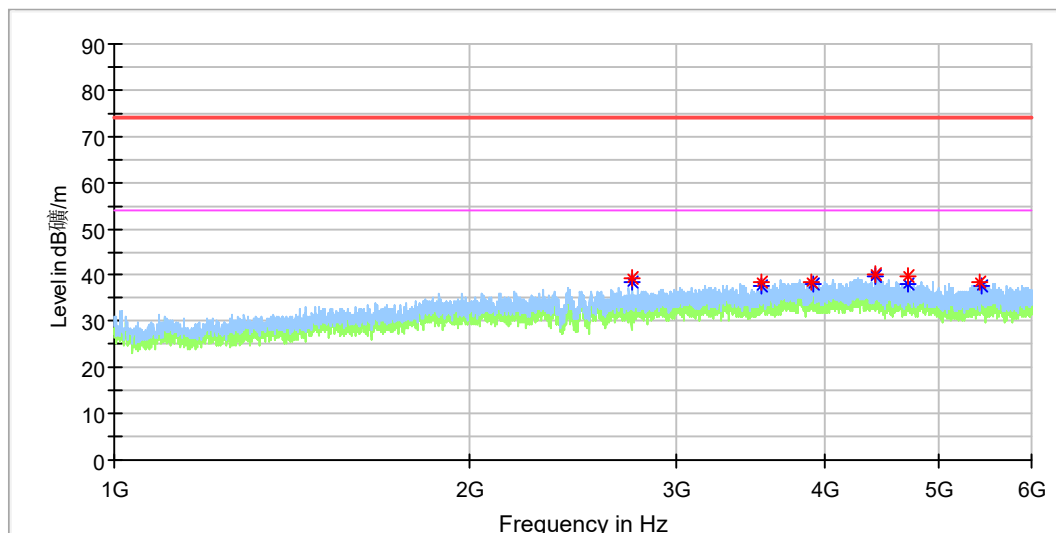
Final_Result

| Frequency (MHz) | QuasiPeak (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|-----------------|--------------------|----------------|-------------|-----------------|-----------------|-------------|-----|---------------|--------------|
| 134.669000 | 31.76 | 43.50 | 11.74 | 1000.0 | 120.000 | 100.0 | V | 344.0 | 19.6 |
| 138.372000 | 33.36 | 43.50 | 10.14 | 1000.0 | 120.000 | 100.0 | V | 212.0 | 20.0 |

Appendix A.2: Test Results of Radiated Emission, Above 1GHz

EUT Information

| | |
|---------------------|---|
| EUT Name: | LoRa control and monitoring node |
| Order Number: | 168502657(P01591027) |
| Model: | RF-V1-900-4LATCH-BATT |
| Test Mode: | On, Normal operation (MN: RF-V1-900-4LATCH-BATT) with terminal node devices and with integral ANT |
| Test Voltage: | DC 5V |
| Test Standard: | FCC Part 15B |
| Test By./Review By: | Junhua/ Shower Dai |
| Tem./Hum./Pressure: | 24.1°C/52.3%/101kPa |
| Remark: | 3m chamber |



Critical Freqs

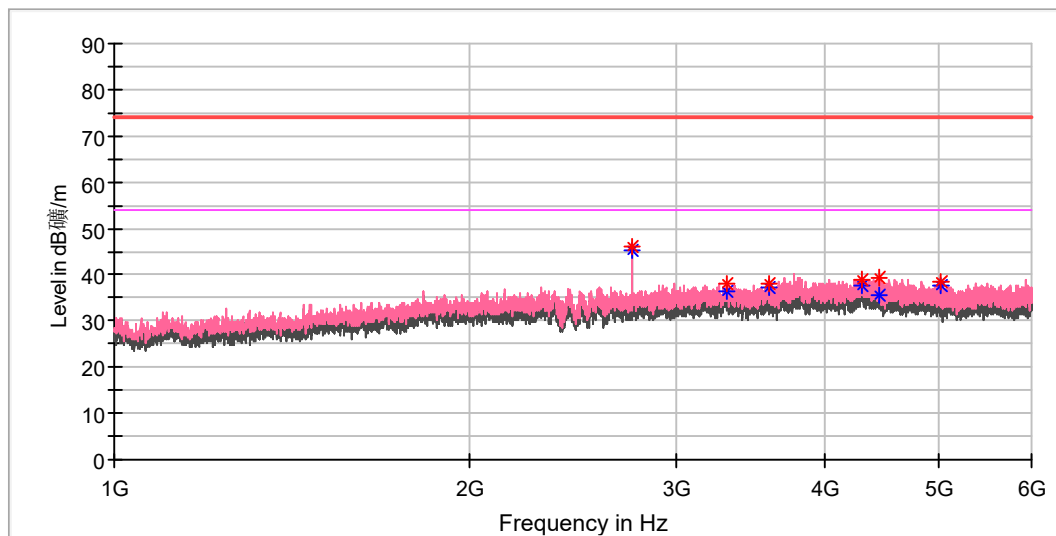
| Frequency (MHz) | MaxPeak (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|-----------------|------------------|----------------|-------------|-------------|-----|---------------|--------------|
| 2746.500000 | --- | 54.00 | 15.60 | 100.0 | H | 0.0 | -4.0 |
| 2746.500000 | 39.34 | 74.00 | 34.66 | 100.0 | H | 0.0 | -4.0 |
| 3542.000000 | 38.56 | 74.00 | 35.44 | 100.0 | H | 178.0 | -1.6 |
| 3542.000000 | --- | 54.00 | 16.27 | 100.0 | H | 178.0 | -1.6 |
| 3907.000000 | 38.66 | 74.00 | 35.34 | 100.0 | H | 22.0 | -0.4 |
| 3913.500000 | --- | 54.00 | 16.09 | 100.0 | H | 336.0 | -0.4 |
| 4428.500000 | --- | 54.00 | 14.43 | 100.0 | H | 107.0 | 0.4 |
| 4428.500000 | 40.04 | 74.00 | 33.96 | 100.0 | H | 107.0 | 0.4 |
| 4718.000000 | 39.58 | 74.00 | 34.42 | 100.0 | H | 149.0 | 0.0 |
| 4718.000000 | --- | 54.00 | 15.92 | 100.0 | H | 149.0 | 0.0 |
| 5419.500000 | 38.69 | 74.00 | 35.31 | 100.0 | H | 186.0 | 1.1 |
| 5439.000000 | --- | 54.00 | 16.32 | 100.0 | H | 60.0 | 1.0 |

Final Result

| Frequency (MHz) | MaxPeak (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|-----------------|------------------|----------------|-------------|-----------------|-----------------|-------------|-----|---------------|--------------|
| --- | --- | --- | --- | --- | --- | --- | | --- | --- |

EUT Information

| | |
|---------------------|---|
| EUT Name: | LoRa control and monitoring node |
| Order Number: | 168502657(P01591027) |
| Model: | RF-V1-900-4LATCH-BATT |
| Test Mode: | On, Normal operation (MN: RF-V1-900-4LATCH-BATT) with terminal node devices and with integral ANT |
| Test Voltage: | DC 5V |
| Test Standard: | FCC Part 15B |
| Test By./Review By: | Junhua/ Shower Dai |
| Tem./Hum./Pressure: | 24.1°C/52.3%/101kPa |
| Remark: | 3m chamber |



Critical Freqs

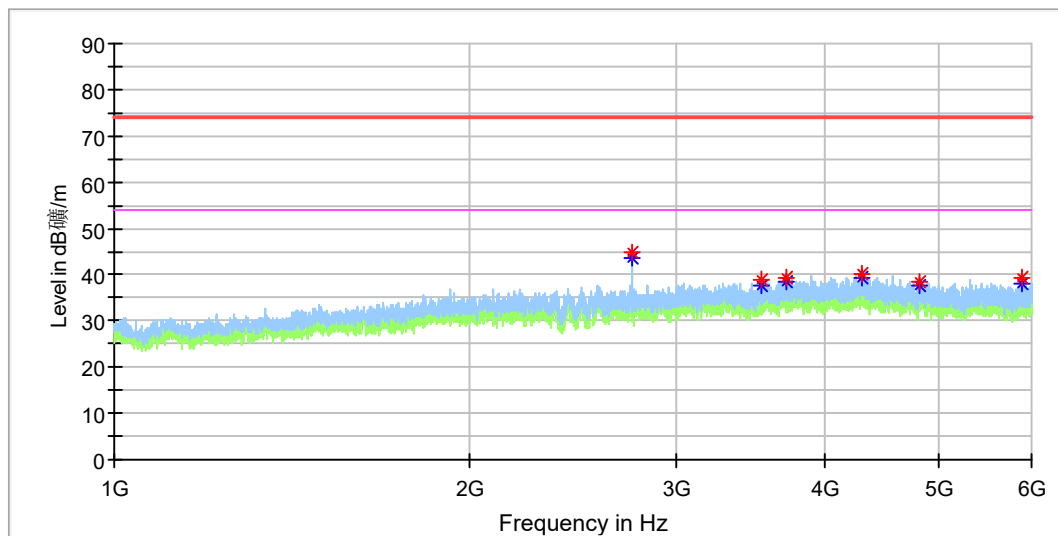
| Frequency (MHz) | MaxPeak (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|-----------------|------------------|----------------|-------------|-------------|-----|---------------|--------------|
| 2746.500000 | --- | 54.00 | 8.93 | 100.0 | V | 131.0 | -4.0 |
| 2746.500000 | 46.01 | 74.00 | 27.99 | 100.0 | V | 131.0 | -4.0 |
| 3301.500000 | --- | 54.00 | 17.78 | 100.0 | V | 266.0 | -1.7 |
| 3301.500000 | 38.26 | 74.00 | 35.74 | 100.0 | V | 266.0 | -1.7 |
| 3594.500000 | --- | 54.00 | 16.71 | 100.0 | V | 46.0 | -1.3 |
| 3594.500000 | 38.26 | 74.00 | 35.74 | 100.0 | V | 46.0 | -1.3 |
| 4298.000000 | 38.78 | 74.00 | 35.22 | 100.0 | V | 229.0 | 0.8 |
| 4309.000000 | --- | 54.00 | 16.19 | 100.0 | V | 46.0 | 0.8 |
| 4454.500000 | --- | 54.00 | 18.31 | 100.0 | V | 101.0 | 0.7 |
| 4454.500000 | 39.53 | 74.00 | 34.47 | 100.0 | V | 101.0 | 0.7 |
| 5021.000000 | --- | 54.00 | 16.51 | 100.0 | V | 157.0 | 0.5 |
| 5021.000000 | 38.71 | 74.00 | 35.29 | 100.0 | V | 157.0 | 0.5 |

Final Result

| Frequency (MHz) | MaxPeak (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|-----------------|------------------|----------------|-------------|-----------------|-----------------|-------------|-----|---------------|--------------|
| --- | --- | --- | --- | --- | --- | --- | | --- | --- |

EUT Information

| | |
|---------------------|---|
| EUT Name: | LoRa control and monitoring node |
| Order Number: | 168502657(P01591027) |
| Model: | RF-V1-900-4LATCH-BATT |
| Test Mode: | On, Normal operation (MN: RF-V1-900-4LATCH-BATT) with terminal node devices and with external ANT |
| Test Voltage: | DC 5V |
| Test Standard: | FCC Part 15B |
| Test By./Review By: | Junhua/ Shower Dai |
| Tem./Hum./Pressure: | 24.1°C/52.3%/101kPa |
| Remark: | 3m chamber |



Critical Freqs

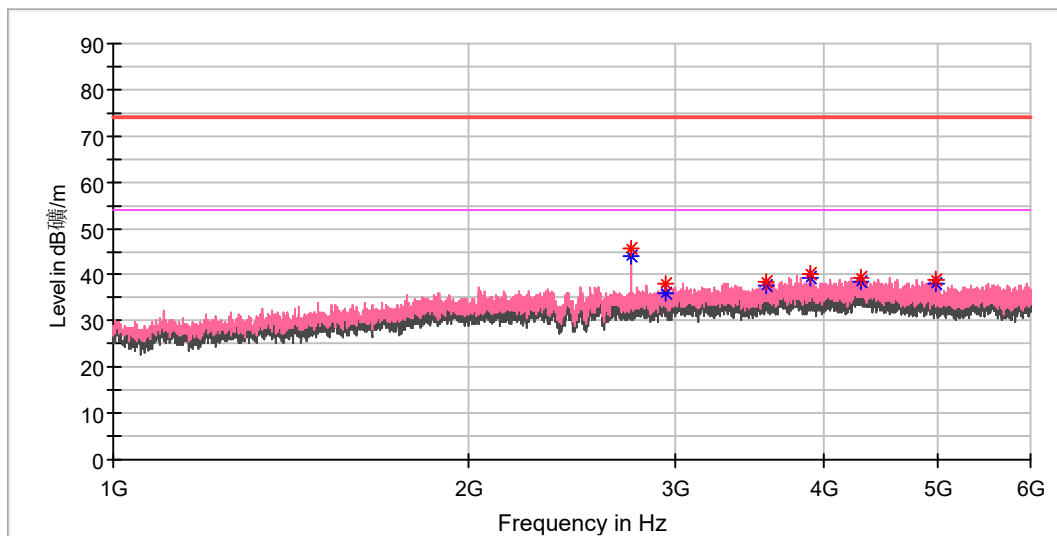
| Frequency (MHz) | MaxPeak (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|-----------------|------------------|----------------|-------------|-------------|-----|---------------|--------------|
| 2746.500000 | 44.71 | 74.00 | 29.29 | 100.0 | H | 221.0 | -4.0 |
| 2746.500000 | --- | 54.00 | 10.57 | 100.0 | H | 221.0 | -4.0 |
| 3532.500000 | 39.00 | 74.00 | 35.00 | 100.0 | H | 243.0 | -1.7 |
| 3532.500000 | --- | 54.00 | 16.14 | 100.0 | H | 243.0 | -1.7 |
| 3713.500000 | --- | 54.00 | 15.30 | 100.0 | H | 146.0 | -0.5 |
| 3713.500000 | 39.33 | 74.00 | 34.67 | 100.0 | H | 146.0 | -0.5 |
| 4309.500000 | 40.29 | 74.00 | 33.71 | 100.0 | H | 221.0 | 0.8 |
| 4309.500000 | --- | 54.00 | 14.67 | 100.0 | H | 221.0 | 0.8 |
| 4830.000000 | 38.50 | 74.00 | 35.50 | 100.0 | H | 55.0 | 0.6 |
| 4830.000000 | --- | 54.00 | 16.49 | 100.0 | H | 55.0 | 0.6 |
| 5880.000000 | 39.24 | 74.00 | 34.76 | 100.0 | H | 281.0 | 1.4 |
| 5880.000000 | --- | 54.00 | 15.91 | 100.0 | H | 281.0 | 1.4 |

Final Result

| Frequency (MHz) | MaxPeak (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|-----------------|------------------|----------------|-------------|-----------------|-----------------|-------------|-----|---------------|--------------|
| --- | --- | --- | --- | --- | --- | --- | | --- | --- |

EUT Information

EUT Name: LoRa control and monitoring node
 Order Number: 168502657(P01591027)
 Model: RF-V1-900-4LATCH-BATT
 Test Mode: On, Normal operation (MN: RF-V1-900-4LATCH-BATT) with terminal node devices and with external ANT
 Test Voltage: DC 5V
 Test Standard: FCC Part 15B
 Test By./Review By: Junhua/ Shower Dai
 Tem./Hum./Pressure: 24.1°C/52.3%/101kPa
 Remark: 3m chamber



Critical Freqs

| Frequency (MHz) | MaxPeak (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|-----------------|------------------|----------------|-------------|-------------|-----|---------------|--------------|
| 2747.000000 | 45.55 | 74.00 | 28.45 | 100.0 | V | 65.0 | -3.9 |
| 2747.000000 | --- | 54.00 | 9.96 | 100.0 | V | 65.0 | -3.9 |
| 2936.000000 | 38.11 | 74.00 | 35.89 | 100.0 | V | 42.0 | -3.2 |
| 2936.000000 | --- | 54.00 | 17.99 | 100.0 | V | 42.0 | -3.2 |
| 3580.500000 | 38.45 | 74.00 | 35.55 | 100.0 | V | 330.0 | -1.4 |
| 3580.500000 | --- | 54.00 | 16.35 | 100.0 | V | 330.0 | -1.4 |
| 3896.500000 | 40.20 | 74.00 | 33.80 | 100.0 | V | 243.0 | -0.4 |
| 3896.500000 | --- | 54.00 | 14.60 | 100.0 | V | 243.0 | -0.4 |
| 4307.500000 | 39.29 | 74.00 | 34.71 | 100.0 | V | 198.0 | 0.8 |
| 4307.500000 | --- | 54.00 | 15.68 | 100.0 | V | 198.0 | 0.8 |
| 4988.500000 | 38.95 | 74.00 | 35.05 | 100.0 | V | 54.0 | 0.6 |
| 4988.500000 | --- | 54.00 | 15.97 | 100.0 | V | 54.0 | 0.6 |

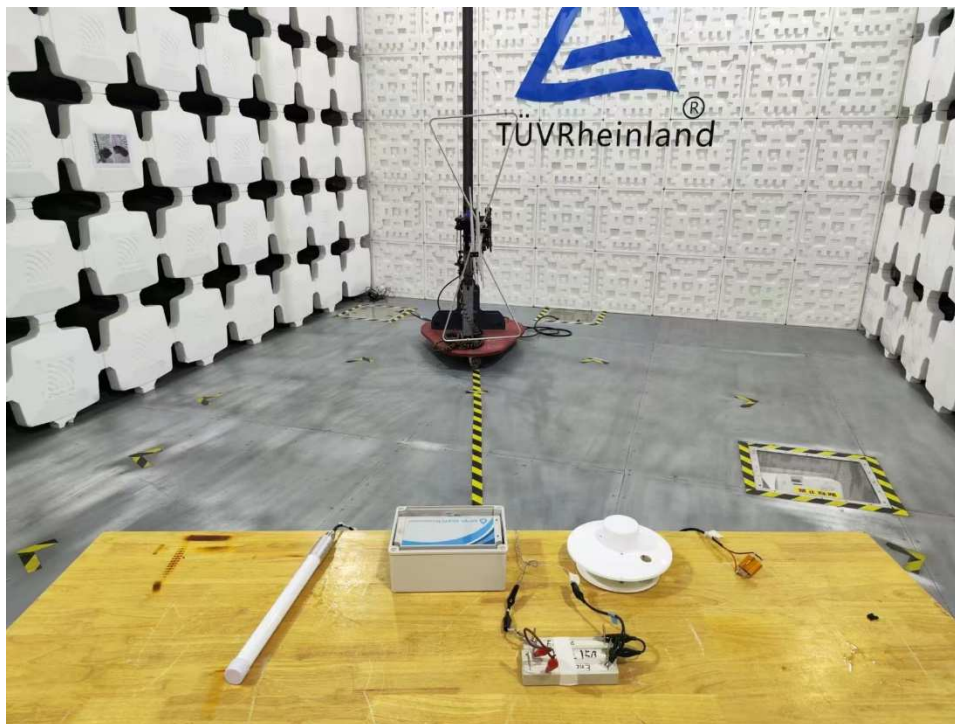
Final Result

| Frequency (MHz) | MaxPeak (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|-----------------|------------------|----------------|-------------|-----------------|-----------------|-------------|-----|---------------|--------------|
| --- | --- | --- | --- | --- | --- | --- | | --- | --- |

Appendix B: Photographs of the Test Set-Up Photos

| | |
|--|----------|
| Appendix B: Photographs of the Test Set-Up Photos | 1 |
| Photograph 1: Set-up for Radiated Emissions, below 1GHz..... | 2 |
| Photograph 2: Set-up for Radiated Emissions, above 1GHz | 2 |

Photograph 1: Set-up for Radiated Emissions, below 1GHz



Photograph 2: Set-up for Radiated Emissions, above 1GHz

