Prüfbericht-Nr.: *Test report no.:*	**CN24KIJQ 002**	**Auftrags-Nr.:** *Order no.:*	**168498513**	Seite 1 von 22 *Page 1 of 22*
Kunden-Referenz-Nr.: *Client reference no.:*	**N/A**	**Auftragsdatum:** *Order date:*	2024-08-12	
Auftraggeber: *Client:*	**Shenzhen RAKwireless Technology Co.,Ltd.** Room 506, Building B, New Compark, Pingshan First Road, Taoyuan Street, Nanshan District, Shenzhen, Guangdong, P.R. China			
Prüfgegenstand: *Test item:*	WisNode Bridge Serial Prime			
Bezeichnung / Typ-Nr.: *Identification / Type no.:*	RAK2470 (Trademark: RAK)			
Auftrags-Inhalt: *Order content:*	CIIPC and C4PC			
Prüfgrundlage: *Test specification:*	CFR47 FCC Part 15: Subpart C Section 15.247 RSS-247 Issue 3			

Wareneingangsdatum: *Date of sample receipt:*	2024-08-12	Refer to photos documents
Prüfmuster-Nr.: *Test sample no:*	A003794500-006	
Prüfzeitraum: *Testing period:*	2024-08-12 - 2024-11-07	
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:*	X Hardy Suo	**genehmigt von:** *authorized by:*	X Lin Lin
Datum: *Date:* 2024-11-15		**Ausstellungsdatum:** *Issue date:* 2024-11-15	
Stellung / Position	Sachverständige(r)/Expert	**Stellung** / Position	Sachverständige(r)/Expert

Sonstiges / *Other:*	FCC ID: 2AF6B-RAK3172, IC ID: 25908-RAK3172, HVIN: RAK3172 HMN: RAK2470 This product contains an approved transmitter module, refer to clause 3.1 for details.
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*

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. *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.*
2	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. *As contractually agreed, this document has been signed digitally only. TUV 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, TUV 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.*
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. *Test clauses with remark of * are subcontracted to qualified subcontractors and descripted under the respective test clause in the report.* *Deviations of testing specification(s) or customer requirements are listed in specific test clause in the report.*
4	Die Entscheidungsregel für Konformitätserklärungen basierend auf numerischen Messergebnisen 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 bezueglich des Risikos durch diese Entscheidungsregel siehe ILAC G8:2019. 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.

Test Summary

5.1 Radiated Spurious Emissions
RESULT: Pass
5.2 Conducted emissions
RESULT: Pass

Contents

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 Set-up Photos

2 Test Sites

2.1 Test Facilities

Shenzhen UnionTrust Quality and Technology Co., Ltd.

16/F, Block A, Building 6, Baoneng Science and Technology Park, Qingxiang Road No.1, Longhua New District, Shenzhen, China

A2LA Certificate Number: 4312.01

IC Registration No.: 21600, CAB identifier: CN0032

TÜV Rheinland (Shenzhen) Co., Ltd. Subcontracts Conducted Emissions to Shenzhen UnionTrust Quality and Technology Co., Ltd. The tests at the test sites have been conducted under the supervision of a TÜV engineer.

2.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment

RF Conducted Test Equipment List						
Used	**Equipment**	**Manufacturer**	**Model No.**	**Serial Number**	**Cal. date**	**Cal. Due date**
☒	Spectrum Analyzer	KEYSIGHT	N9020A	MY51286807	25-Oct-2024	24-Oct-2025
☒	USB Wideband Power Sensor	KEYSIGHT	U2021XA	MY55430035	25-Oct-2024	24-Oct-2025
Radiated Spurious Emission Test – 3m SAC						
Used	**Equipment**	**Manufacturer**	**Model No.**	**Serial Number**	**Cal. date**	**Cal. Due date**
☒	3m SAC	ETS-LINDGREN	3m	Euroshiedpn-CT001270-1317	11-Nov-2023	10-Nov-2026
☒	Receiver	ROHDE & SCHWARZ	ESIB26	100114	25-Oct-2024	24-Oct-2025
☒	Broadband Antenna	ETS-LINDGREN	3142E	00201566	29-Oct-2024	28-Oct-2025
☒	6dB Attenuator	Talent	RA6A5-N-18	18103001	29-Oct-2024	28-Oct-2025
☒	Preamplifier	HP	8447F	2805A02960	25-Oct-2024	24-Oct-2025
☒	Double-Ridged Waveguide Horn Antenna (Pre-amplifier)	ETS-LINDGREN	3117-PA	00201541	1-Apr-2024	31-Mar-2025
☒	Pre-amplifier	ETS-Lindgren	00118385	00201874	1-Apr-2024	31-Mar-2025
☒	Multi device Controller	ETS-LINDGREN	7006-001	00160105	N/A	N/A
☒	Test Software	Audix	e3	Software Version: 9.160323		
Conducted Emission Test						
Used	**Equipment**	**Manufacturer**	**Model No.**	**Serial Number**	**Cal. date**	**Cal. Due date**
☒	LISN	ETS-Lindgren	3816/2SH	00201088	25-Oct-2024	24-Oct-2025
☒	Receiver	R&S	ESCI3	1166.5950.03	25-Oct-2024	24-Oct-2025
☒	Pulse Limiter	R&S	ESH3-Z2	0357.8810.54	25-Oct-2024	24-Oct-2025
☒	Shielding room	ETS-Lindgren	843	Euroshiedpn-CT001270-1246	N/A	N/A
☒	Test Software	EZ-EMC	EZ-CON	Software Version: EMC-CON 3A1.1		

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 basics 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

No.	Item	Measurement Uncertainty
1	Conducted emission 9kHz-150kHz	±3.2 dB
	Conducted emission 150kHz-30MHz	±2.7 dB
2	Radiated Spurious emissions 30MHz-1GHz	± 4.9 dB
	Radiated Spurious emissions 1GHz-18GHz	± 4.8 dB
3	Temperature	± 0.62 °C
4	Humidity	± 3.9 %
5	Supply voltages	± 0.68 %
6	Time	± 0.19 %
Remark: 95% Confidence Levels, k=2.		

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. Test facility located at No. 362 Huanguan Road Middle, Longhua District, Shenzhen 518110, People's Republic of 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 WisNode Bridge Serial Prime which supports Lora wireless technology.

Contains FCC ID: 2AF6B-RAK3172

Contains IC: 25908-RAK3172

The EUT contains a Lora module WisDuo LPWAN Module (M/N: RAK3172) that is without change than it was approved except new antenna (PCB antenna with lower ant gain), additional spurious emissions was performed.

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

3.2 Ratings and System Details

Table 2: Technical Specification of EUT

<table>
<tr><th>General Information of EUT</th><th>Description</th></tr>
<tr><td>Kind of Equipment:</td><td>WisNode Bridge Serial Prime</td></tr>
<tr><td>Type Designation:</td><td>RAK2470</td></tr>
<tr><td>HMN:</td><td>RAK2470</td></tr>
<tr><td>Operating Voltage:</td><td>DC 5-12V</td></tr>
<tr><td>Testing Voltage:</td><td>DC 12V and AC 120V, 60Hz (Power supply to AC/DC Adapter)</td></tr>
<tr><td>AC/DC Adapter information:</td><td>Model: AD-0241200200US-3
Input: AC 100-240V, 50/60Hz
Output: DC 12V
Factory: AMC Technology Company Ltd.</td></tr>
<tr><th colspan="2">Technical Specification of WisDuo LPWAN Module</th></tr>
<tr><th>Characteristic</th><th>Description</th></tr>
<tr><td>Operating Frequency</td><td>902.3 – 914.9MHz for LoRa FHSS
903 – 914.2MHz for LoRa DTS</td></tr>
<tr><td>Type of Modulation</td><td>Lora</td></tr>
<tr><td>Data Rate:</td><td>
<table>
<tr><th>Data Rate</th><th>Configuration</th><th>Indicative physical bit rate [bit/sec]</th></tr>
<tr><td>0</td><td>LoRa Modulation: SF10 / Bandwidth 125 kHz</td><td>980</td></tr>
<tr><td>1</td><td>LoRa Modulation: SF9 / Bandwidth 125 kHz</td><td>1760</td></tr>
<tr><td>2</td><td>LoRa Modulation: SF8 / Bandwidth 125 kHz</td><td>3125</td></tr>
<tr><td>3</td><td>LoRa Modulation: SF7 / Bandwidth 125 kHz</td><td>5470</td></tr>
<tr><td>4</td><td>LoRa Modulation: SF8 / Bandwidth 500 kHz</td><td>12500</td></tr>
</table>
</td></tr>
<tr><td>Antenna Number:</td><td>1</td></tr>
<tr><td>Antenna Gain:</td><td>2dBi (PCB Layout antenna) (declared by client)</td></tr>
<tr><td>Model of contained Lora Module:</td><td>RAK3172</td></tr>
</table>

FCC ID	2AF6B-RAK3172
IC ID	25908-RAK3172

3.3 Independent Operation Modes

The basic operation modes are:

A. On, Lora transmitting mode

3.4 Noise Generating and Noise Suppressing Parts

Refer to Circuit Diagram for further details.

3.5 Submitted Documents

- Block Diagram
- Schematics
- Photo Document
- User Manual

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.

4.3 Special Accessories and Auxiliary Equipment

Table 3: List of Accessories and Auxiliary Equipment

Description	Manufacturer	Model	S/N
Notebook	DELL	Latitude 3400	16238087894
Mouse	LENOVO	E450	SL10G10780
Battery	Camel	CCA580	L2 400 6-QW-60(580)

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)

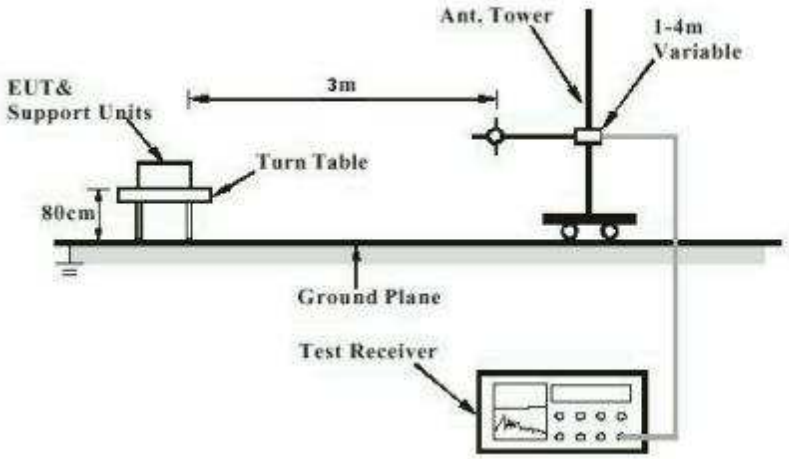


Diagram of Measurement Configuration for Radiation Test (Above 1GHz)

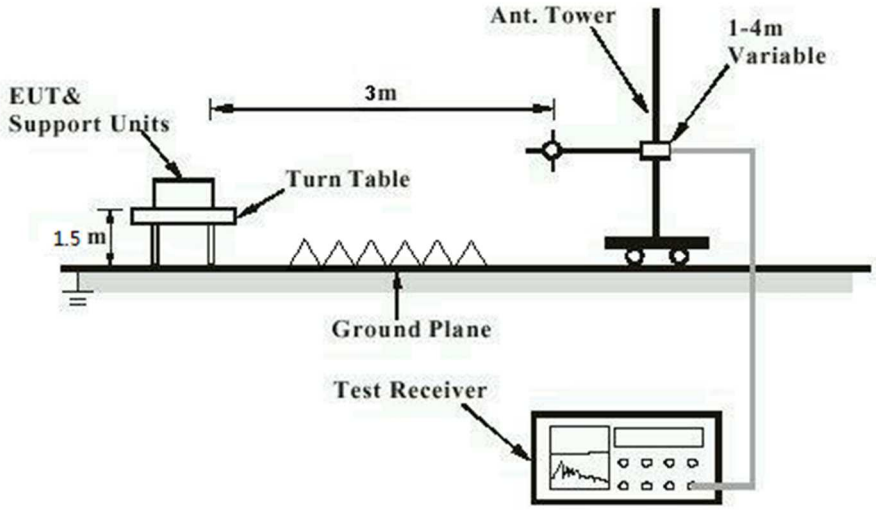
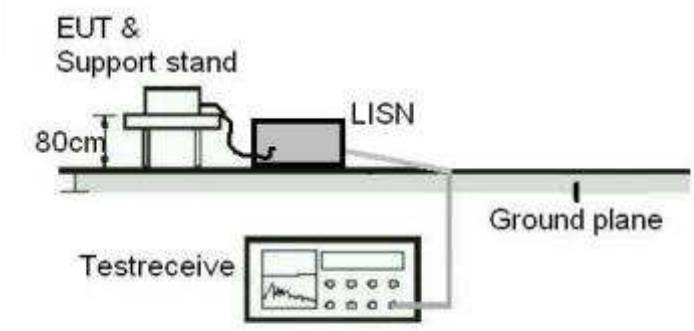


Diagram of Measurement Configuration for Mains Conduction Measurement



5 Test Results

5.1 Radiated Spurious Emissions

RESULT: **Pass**

Test Specification

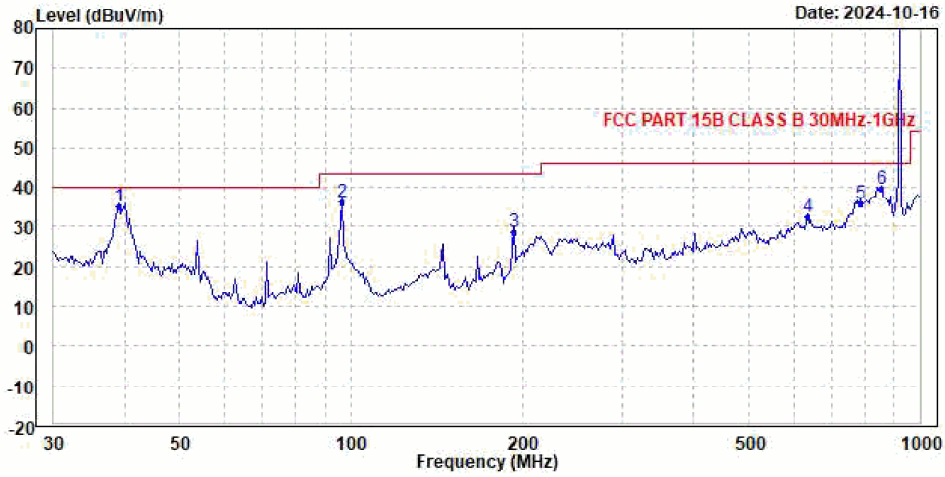
Test standard	:	CFR47 FCC Part 15: Subpart C Section 15.247 RSS-247 Issue 3
Basic standard	:	ANSI C63.10
Limit	:	Refer to 15.209(a) of FCC part 15.247(d)
Kind of test site	:	3m Semi-anechoic Chamber

Test Setup

Date of testing	:	2024-08-12 - 2024-11-07
Input voltage	:	DC 12V
Operation mode	:	A
Earthing	:	Not Connected
Ambient temperature	:	Refer to test data
Relative humidity	:	Refer to test data
Atmospheric pressure	:	101 kPa

For the measurement records, refer to below test results.

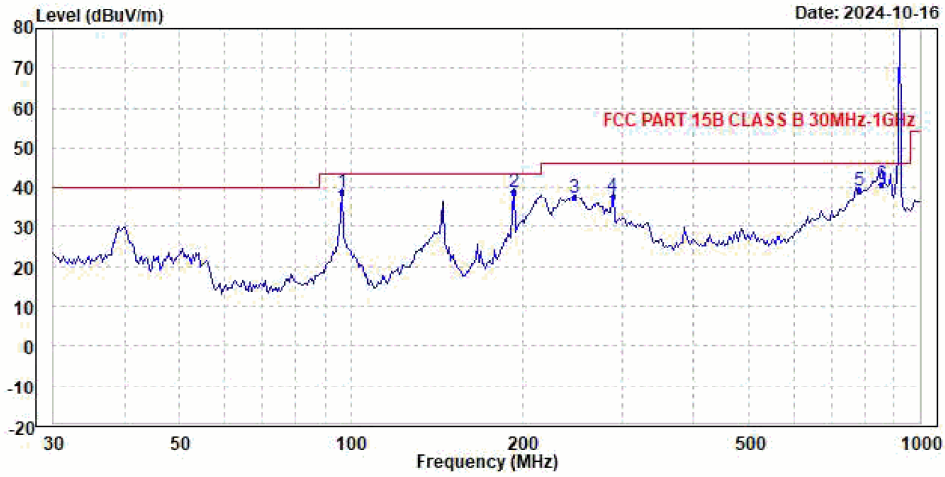
UnionTrust Shenzhen UnionTrust Quality and Technology Co., Ltd.



Condition : 3m Vertical
Temp.(C)/Hum.(%): 24.7(C)/60.8(%)
Press : 100.2kpa
Product : WisNode Bridge Serial Prime
Model No. : RAK2470
Power Rating : DC_12V
Test Engineer : Jackson
Test Mode : Test Mode1: DC12V + Normal working
Remark :

	Freq	Level	Read Level	Ant Factor	Aux Factor	Cable Loss	Preamp Factor	Limit Line	Over Limit	Remark
	MHz	dBuV/m	dBuV	dB/m	dB	dB	dB	dBuV/m	dB	
1 PP	39.182	35.08	43.20	19.92	0.00	0.86	28.90	40.00	-4.92	QP
2	96.323	36.46	52.46	11.87	0.00	1.03	28.90	43.50	-7.04	QP
3	193.137	28.69	40.07	16.21	0.00	1.40	28.99	43.50	-14.81	QP
4	633.329	32.38	32.40	27.13	0.00	2.30	29.45	46.00	-13.62	QP
5	787.475	35.96	33.24	29.40	0.00	2.54	29.22	46.00	-10.04	QP
6	856.760	39.52	35.44	30.50	0.00	2.69	29.11	46.00	-6.48	QP

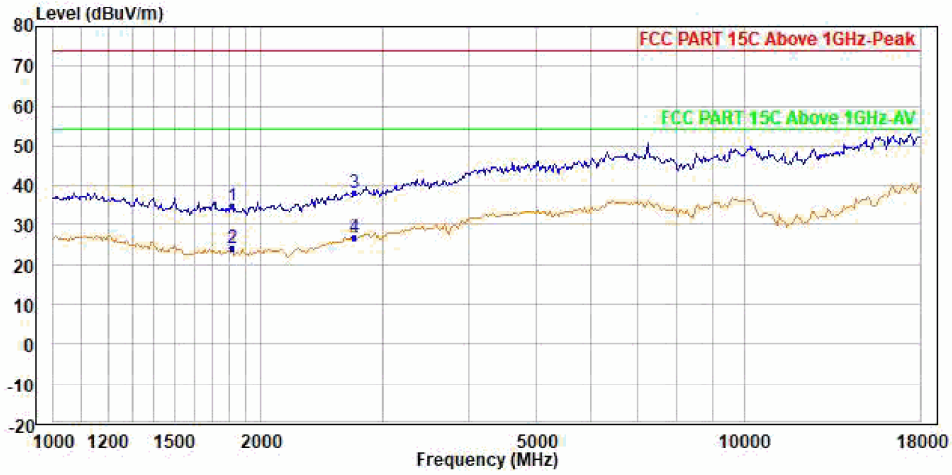
UnionTrust Shenzhen UnionTrust Quality and Technology Co., Ltd.



Condition : 3m Horizontal
Temp.(C)/Hum.(%): 24.7(C)/60.8(%)
Press : 100.2kpa
Product : WisNode Bridge Serial Prime
Model No. : RAK2470
Power Rating : DC_12V
Test Engineer : Jackson
Test Mode : Test Mode1: DC12V + Normal working
Remark :

	Freq	Level	Read Level	Ant Factor	Aux Factor	Cable Loss	Preamp Factor	Limit Line	Over Limit	Remark
	MHz	dBuV/m	dBuV	dB/m	dB	dB	dB	dBuV/m	dB	
1	96.323	38.81	54.81	11.87	0.00	1.03	28.90	43.50	-4.69	QP
2 PP	193.137	38.84	50.22	16.21	0.00	1.40	28.99	43.50	-4.66	QP
3	246.990	37.30	47.92	16.90	0.00	1.53	29.05	46.00	-8.70	QP
4	288.284	37.80	47.14	18.13	0.00	1.62	29.09	46.00	-8.20	QP
5	781.961	39.19	36.71	29.18	0.00	2.53	29.23	46.00	-6.81	QP
6	856.760	40.66	36.58	30.50	0.00	2.69	29.11	46.00	-5.34	QP

UnionTrust Shenzhen UnionTrust Quality and Technology Co., Ltd.



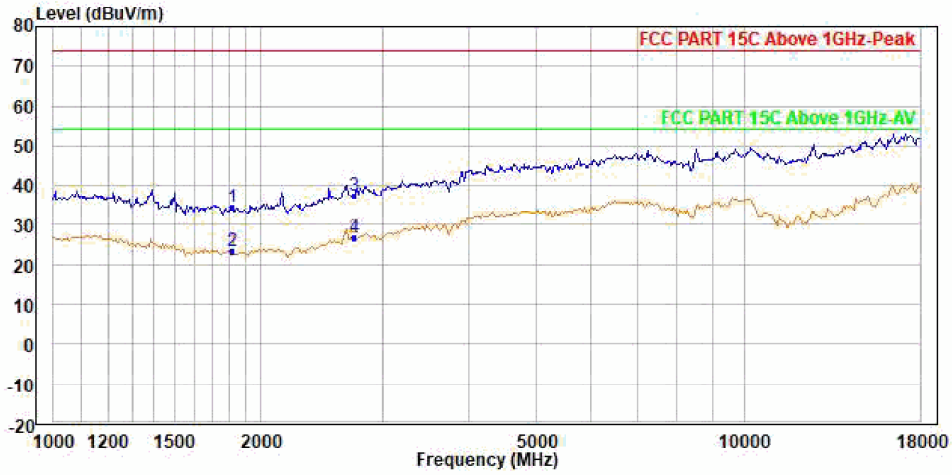
Condition : 3m Horizontal
Temp.(C)/Hum.(%): 24.4(C)/59.6(%)
Press : 100.0kpa
Product : WisNode Bridge Serial Prime
Model No. : RAK2470
Power Rating : DC_12V
Test Engineer : Jackson
Test Mode : TX-908.5
Remark :

	Freq	Level	Read Level	Ant Factor	Aux Factor	Cable Loss	Preamp Factor	Limit Line	Over Limit	Remark
	MHz	dBuV/m	dBuV	dB/m	dB	dB	dB	dBuV/m	dB	
1	1817.000	34.94	45.79	30.01	0.00	6.36	47.22	74.00	-39.06	Peak
2	1817.000	24.21	35.06	30.01	0.00	6.36	47.22	74.00	-49.79	Peak
3 PP	2725.500	38.00	45.23	32.38	0.00	7.79	47.40	74.00	-36.00	Peak
4	2725.500	26.82	34.05	32.38	0.00	7.79	47.40	74.00	-47.18	Peak

Condition: 3m
EUT :
Mode :
Note :

	Freq	Level	Read Level	Ant Factor	Aux Factor	Cable Loss	Preamp Factor	Limit Line	Over Limit	Remark
	MHz	dbuv/m	dbuv	dB/m	dB	dB	dB	dbuv/m	dB	
1	1817.000	34.94	45.79	30.01	0.00	6.36	47.22	74.00	-39.06	Peak
2	1817.000	24.21	35.06	30.01	0.00	6.36	47.22	74.00	-49.79	Peak
3 PP	2725.500	38.00	45.23	32.38	0.00	7.79	47.40	74.00	-36.00	Peak
4	2725.500	26.82	34.05	32.38	0.00	7.79	47.40	74.00	-47.18	Peak

UnionTrust Shenzhen UnionTrust Quality and Technology Co., Ltd.



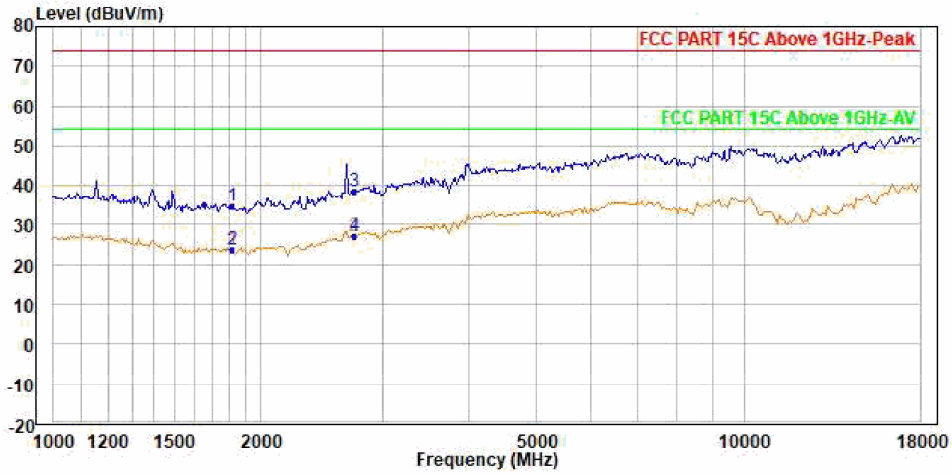
Condition : 3m Vertical
Temp.(C)/Hum.(%): 24.4(C)/59.6(%)
Press : 100.0kpa
Product : WisNode Bridge Serial Prime
Model No. : RAK2470
Power Rating : DC_12V
Test Engineer : Jackson
Test Mode : TX-908.5
Remark :

	Freq	Level	Read Level	Ant Factor	Aux Factor	Cable Loss	Preamp Factor	Limit Line	Over Limit	Remark
	MHz	dBuV/m	dBuV	dB/m	dB	dB	dB	dBuV/m	dB	
1	1817.000	34.51	45.36	30.01	0.00	6.36	47.22	74.00	-39.49	Peak
2	1817.000	23.52	34.37	30.01	0.00	6.36	47.22	74.00	-50.48	Peak
3 PP	2725.500	37.46	44.69	32.38	0.00	7.79	47.40	74.00	-36.54	Peak
4	2725.500	26.70	33.93	32.38	0.00	7.79	47.40	74.00	-47.30	Peak

Condition: 3m
EUT :
Mode :
Note :

	Freq	Level	Read Level	Ant Factor	Aux Factor	Cable Loss	Preamp Factor	Limit Line	Over Limit	Remark
	MHz	dbuv/m	dbuv	dB/m	dB	dB	dB	dbuv/m	dB	
1	1817.000	34.51	45.36	30.01	0.00	6.36	47.22	74.00	-39.49	Peak
2	1817.000	23.52	34.37	30.01	0.00	6.36	47.22	74.00	-50.48	Peak
3 PP	2725.500	37.46	44.69	32.38	0.00	7.79	47.40	74.00	-36.54	Peak
4	2725.500	26.70	33.93	32.38	0.00	7.79	47.40	74.00	-47.30	Peak

UnionTrust Shenzhen UnionTrust Quality and Technology Co., Ltd.



Condition : 3m Vertical
Temp.(C)/Hum.(%): 24.4(C)/59.6(%)
Press : 100.0kpa
Product : WisNode Bridge Serial Prime
Model No. : RAK2470
Power Rating : DC_12V
Test Engineer : Jackson
Test Mode : TX-907.8
Remark :

	Freq	Level	Read Level	Ant Factor	Aux Factor	Cable Loss	Preamp Factor	Limit Line	Over Limit	Remark
	MHz	dBuV/m	dBuV	dB/m	dB	dB	dB	dBuV/m	dB	
1	1815.600	34.72	45.58	30.00	0.00	6.36	47.22	74.00	-39.28	Peak
2	1815.600	23.58	34.44	30.00	0.00	6.36	47.22	74.00	-50.42	Peak
3 PP	2723.400	38.41	45.66	32.37	0.00	7.78	47.40	74.00	-35.59	Peak
4	2723.400	27.10	34.35	32.37	0.00	7.78	47.40	74.00	-46.90	Peak

Condition: 3m
EUT :
Mode :
Note :

	Freq	Level	Read Level	Ant Factor	Aux Factor	Cable Loss	Preamp Factor	Limit Line	Over Limit	Remark
	MHz	dbuv/m	dbuv	dB/m	dB	dB	dB	dbuv/m	dB	
1	1815.600	34.72	45.58	30.00	0.00	6.36	47.22	74.00	-39.28	Peak
2	1815.600	23.58	34.44	30.00	0.00	6.36	47.22	74.00	-50.42	Peak
3 PP	2723.400	38.41	45.66	32.37	0.00	7.78	47.40	74.00	-35.59	Peak
4	2723.400	27.10	34.35	32.37	0.00	7.78	47.40	74.00	-46.90	Peak

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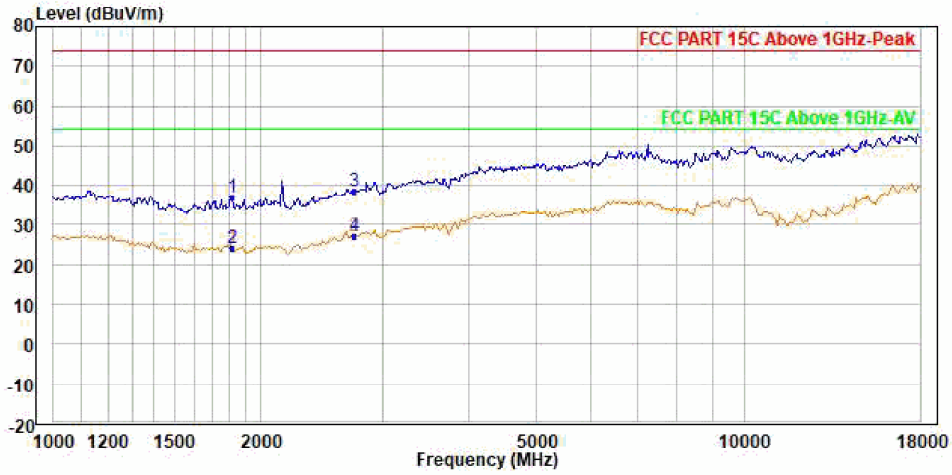


Condition : 3m Horizontal
Temp.(C)/Hum.(%): 24.4(C)/59.6(%)
Press : 100.0kpa
Product : WisNode Bridge Serial Prime
Model No. : RAK2470
Power Rating : DC_12V
Test Engineer : Jackson
Test Mode : TX-907.8
Remark :

	Freq	Level	Read Level	Ant Factor	Aux Factor	Cable Loss	Preamp Factor	Limit Line	Over Limit	Remark
	MHz	dBuV/m	dBuV	dB/m	dB	dB	dB	dBuV/m	dB	
1	1815.600	36.91	47.77	30.00	0.00	6.36	47.22	74.00	-37.09	Peak
2	1815.600	24.11	34.97	30.00	0.00	6.36	47.22	74.00	-49.89	Peak
3 PP	2723.400	38.43	45.68	32.37	0.00	7.78	47.40	74.00	-35.57	Peak
4	2723.400	27.13	34.38	32.37	0.00	7.78	47.40	74.00	-46.87	Peak

Condition: 3m
EUT :
Mode :
Note :

	Freq	Level	Read Level	Ant Factor	Aux Factor	Cable Loss	Preamp Factor	Limit Line	Over Limit	Remark
	MHz	dbuv/m	dbuv	dB/m	dB	dB	dB	dbuv/m	dB	
1	1815.600	36.91	47.77	30.00	0.00	6.36	47.22	74.00	-37.09	Peak
2	1815.600	24.11	34.97	30.00	0.00	6.36	47.22	74.00	-49.89	Peak
3 PP	2723.400	38.43	45.68	32.37	0.00	7.78	47.40	74.00	-35.57	Peak
4	2723.400	27.13	34.38	32.37	0.00	7.78	47.40	74.00	-46.87	Peak

5.2 Conducted emissions

RESULT: **Pass**

Test Specification

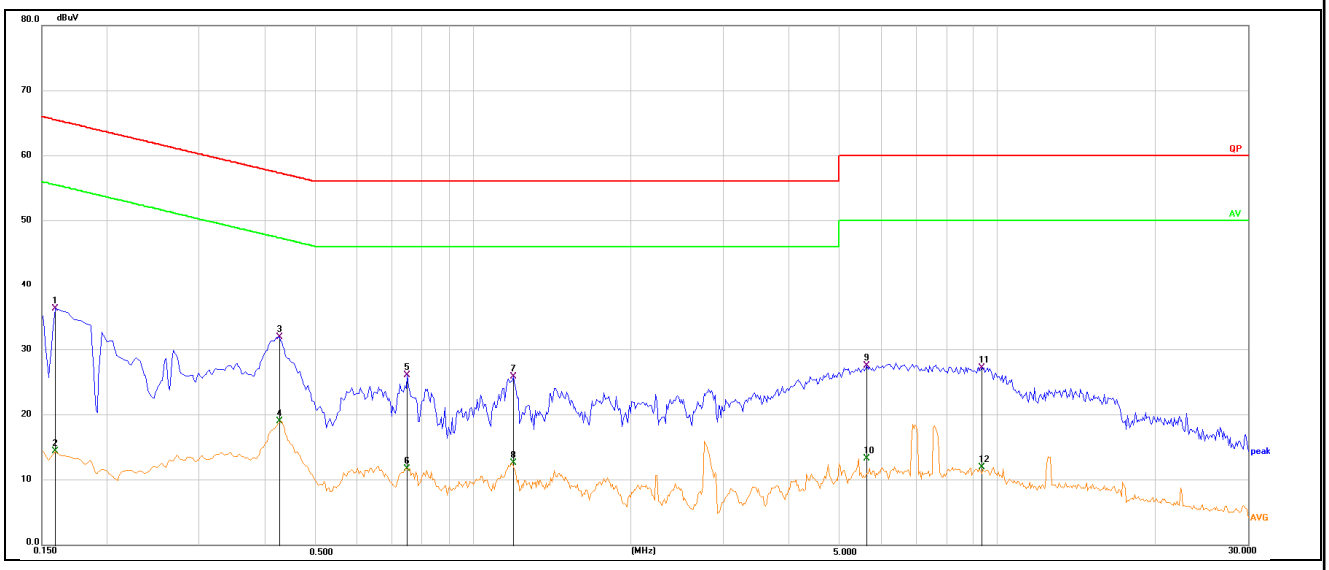
Test standard	:	FCC Part 15.207(a) RSS-Gen Clause 8.8
Basic standard	:	ANSI C63.10: 2013
Frequency range	:	150KHz - 30MHz
Classification	:	Class B
Limit	:	FCC Part 15.207(a) RSS-Gen Table 4
Kind of test site	:	Shielded Room

Test Setup

Date of testing	:	2024-08-12 - 2024-11-07
Input voltage	:	AC 120V, 60Hz
Operation mode	:	A
Earthing	:	Not Connected
Ambient temperature	:	Refer to test data
Relative humidity	:	Refer to test data
Atmospheric pressure	:	101 kPa

For the measurement records, refer to below test results.

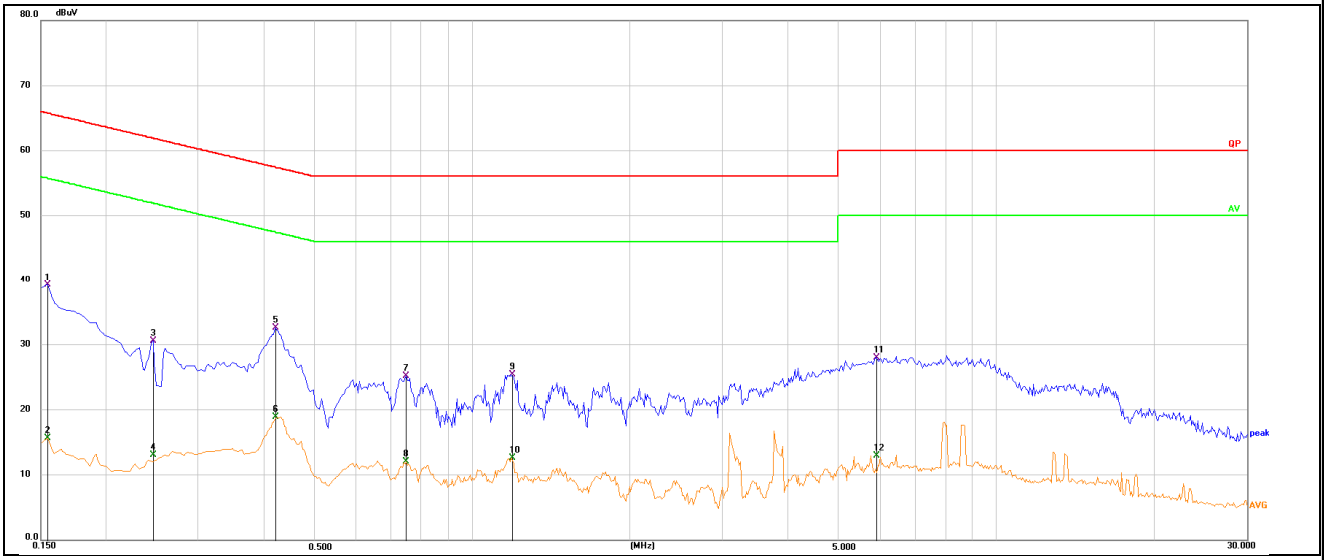
Site:	LAB	Phase: L1	Temperature(℃):23.0(℃)
Limit:	FCC Part 15C	atm.press.: 100.3 kpa	Humidity(%): 61%RH
EUT:	WisNode Bridge Serial Prime	Test Time:	2024/11/4 15:09:16
M/N.:	RAK2470	Power Rating:	AC120/60Hz
Mode:	TEST MODE1: AC120V/60Hz (via adapter)+normal working	Test Engineer:	david
Note:			



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1590	26.45	9.88	36.33	65.52	-29.19	QP
2	0.1590	4.49	9.88	14.37	55.52	-41.15	AVG
3	0.4244	22.12	9.84	31.96	57.36	-25.40	QP
4	0.4244	9.14	9.84	18.98	47.36	-28.38	AVG
5	0.7485	16.25	9.80	26.05	56.00	-29.95	QP
6	0.7485	1.95	9.80	11.75	46.00	-34.25	AVG
7	1.1940	16.03	9.83	25.86	56.00	-30.14	QP
8	1.1940	2.84	9.83	12.67	46.00	-33.33	AVG
9	5.6400	17.71	9.87	27.58	60.00	-32.42	QP
10	5.6400	3.39	9.87	13.26	50.00	-36.74	AVG
11	9.3030	17.40	9.86	27.26	60.00	-32.74	QP
12	9.3030	2.09	9.86	11.95	50.00	-38.05	AVG

Prüfbericht - Nr.: CN24KIJQ 002
Test report no.

Site:	LAB	Phase: N	Temperature(℃):23.0(℃)
Limit:	FCC Part 15C	atm.press.: 100.3 kpa	Humidity(%): 61%RH
EUT:	WisNode Bridge Serial Prime	Test Time:	2024/11/4 15:12:02
M/N.:	RAK2470	Power Rating:	AC120/60Hz
Mode:	TEST MODE1: AC120V/60Hz (via adapter)+normal working	Test Engineer:	david
Note:			



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1545	29.33	9.92	39.25	65.75	-26.50	QP
2	0.1545	5.73	9.92	15.65	55.75	-40.10	AVG
3	0.2445	20.75	9.86	30.61	61.94	-31.33	QP
4	0.2445	3.17	9.86	13.03	51.94	-38.91	AVG
5	0.4200	22.78	9.81	32.59	57.45	-24.86	QP
6	0.4200	9.04	9.81	18.85	47.45	-28.60	AVG
7	0.7485	15.37	9.82	25.19	56.00	-30.81	QP
8	0.7485	2.19	9.82	12.01	46.00	-33.99	AVG
9	1.1849	15.57	9.89	25.46	56.00	-30.54	QP
10	1.1849	2.70	9.89	12.59	46.00	-33.41	AVG
11	5.9055	18.07	9.94	28.01	60.00	-31.99	QP
12	5.9055	2.98	9.94	12.92	50.00	-37.08	AVG

6 List of Tables