Prüfbericht-Nr.: *Test report no.:*	**CN22PQ0G 004**	**Auftrags-Nr.:** *Order no.:*	**168490719**	Seite 1 von 25 *Page 1 of 25*
Kunden-Referenz-Nr.: *Client reference no.:*	**N/A**	**Auftragsdatum:** *Order date:*	2024-06-24	
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:*	WisGate			
Bezeichnung / Typ-Nr.: *Identification / Type no.:*	RAK7268, RAK7268V2 (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:*	2024-07-01	Refer to photos documents
Prüfmuster-Nr.: *Test sample no:*	A003755951-001	
Prüfzeitraum: *Testing period:*	2024-07-01 - 2024-08-06	
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:* 2024-08-20		**Ausstellungsdatum:** *Issue date:* 2024-08-20	
Stellung / Position	Sachverständige(r)/Expert	**Stellung** / Position	Sachverständige(r)/Expert

Sonstiges */ Other:*

FCC ID: 2AF6B-RAK2287X, IC ID: 25908-RAK2287X
HMN: RAK7268V2
*The Wi-Fi module and Lora module are combination in a new host, the co-located radiated spurious emission is arrange re-assessment.
* * This product contains transmitter modules; refer to clause 3.2 for details.

This report based on previous report CN22PQ0G 002 (issued by TÜV Rheinland (Shenzhen) Co., Ltd.) for adding an alternative Lora Module (MN: RAK2287X), refer to section 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.*
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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. *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.

Modification record	
CN22PQ0G 002	First release
CN22PQ0G 004	Adds an alternative Lora Module (MN: RAK2287X)

Test Summary

5.1 Co-Located Radiated Spurious Emissions
RESULT: Pass
5.2 Conducted 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 Set-up Photos

2 Test Sites

2.1 Test Facilities

TÜV Rheinland (Shenzhen) Co., Ltd.

No. 362 Huanguan Road Middle, Longhua District, Shenzhen 518110, People's Republic of China

FCC Registration No.: 694916

IC Registration No.: 25069, CAB identifier: CN0078

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

Remark: Conducted Emissions was performed at Shenzhen UnionTrust Quality and Technology Co., Ltd.

2.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment (TÜV Rheinland (Shenzhen) Co., Ltd.)

Unwanted Emission Testing (TS8996)						
Equip. No.	**Description**	**Manufacturer**	**Model**	**Serial No.**	**Calibrated Date (DD.MM.YYYY)**	**Calibrated until (DD.MM.YYYY)**
G1825844	Signal Generator	R&S	SMB100A	180840	26.07.2023	25.07.2024
G1825846	Signal Analyzer	R&S	FSV 40	101440	06.08.2023	05.08.2024
G1825847	System Controller Interface	R&S	SCI-100	S1001003 6	N/A	N/A
G1825850	OSP	R&S	OSP 120	102041	N/A	N/A
G1825851	OSP	R&S	OSP 150	101385	14.11.2023	13.11.2024
G1825852	Pre-amplifier	R&S	SCU08F1	08320030	26.07.2023	25.07.2024
G1825853	Amplifier	R&S	SCU-18F	180079	26.07.2023	25.07.2024
G1825854	Amplifier	R&S	SCU40A	100450	26.07.2023	25.07.2024
G1825855	Trilog Broadband Antenna (30 MHz - 7 GHz)	Schwarzbeck	VULB 9162	192	07.08.2022	06.08.2024
G1825856	Double-Ridged Antenna (1 -18 GHz)	ETS-LINDGREN	3117	00218719	07.08.2022	06.08.2024
G1825857	Wideband Ridged Horn Antenna (12-18 GHz)	Steatite	QMS-00208	18312	07.08.2022	06.08.2024
G1825858	Wideband Ridged Horn Antenna (18-40 GHz)	Steatite	QMS-00880	19066	28.08.2022	27.08.2024
G1825859	Biconical Broadband Antenna (30 MHz - 1 GHz)	Schwarzbeck	VUBA 9117	357	02.08.2021	02.08.2024
G1825860	Double Ridged Broadband Horn Antenna (1 – 18 GHz)	Schwarzbeck	BBHA 9120 D	01760	30.07.2021	30.07.2024
G1825861	Broadband Horn Antenna (15 – 40 GHz)	Schwarzbeck	BBHA 9170	00862	02.08.2021	02.08.2024
G1825862	Test software	R&S	EMC32 (V10.50.40)	N/A	N/A	N/A
G1825863	Control PC	Dell	OptiPlex 7050	36NW9P2	N/A	N/A
G1826433	3m Semi-Anechoic Chamber	Albatross	SAC-3m	APC1715 1-SAC	21.06.2024	20.06.2025

Table 2: List of Test and Measurement Equipment (Shenzhen UnionTrust Quality and Technology Co., Ltd.)

Kind of Equipment	**Manufacturer**	**Type**	**S/N**	**Calibrated until**
Conducted Emission				
LISN	R&S	ESH2-Z5	860014/024	26-Oct-2024
Receiver	R&S	ESR7	101181	26-Oct-2024
Pulse Limiter	R&S	ESH3-Z2	0357.8810.54	26-Oct-2024
Shielding room	ETS-Lindgren	843	Euroshiedpn-CT001270-1246	4-Nov-2024
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

Test	Parameters	uncertainty
Conducted Emission	Conducted emission 150kHz-30MHz (AMN)	± 3.70 dB ± 3.30 dB
Radiated Emission	Radiated emission 30MHz-1GHz	± 4.52 dB
	Radiated emission 1GHz-18GHz	± 4.37 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. 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 WisGate which supports Lora, 2.4GHz Wi-Fi wireless technologies.

Contains FCC ID: 2AF6B-RAK634, 2AF6B-RAK2287X.

Contains IC: 25908-RAK634, 25908-RAK2287X.

The model RAK7268 is identical with model RAK7268V2 except non-radio related Flash chip U2 (on the wifi module): 16MB and 32MB, and this two Flash chip are pin to pin only the storage space is different.

This report based on previous CN22PQ0G 002 (issued by TÜV Rheinland (Shenzhen) Co., Ltd.) for adding an alternative Lora module (MN: RAK2287X), additional EMC tests were re-performed on model RAK7268V2 with new Lora module (MN: RAK2287X). Refer to report previous CN22PQ0G 002 for original test data with Lora module (MN: RAK5146).

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	**Description**
Kind of Equipment:	WisGate
Type Designation:	RAK7268, RAK7268V2
HMN:	RAK7268, RAK7268V2
Operating Voltage:	DC 12V via AC/DC Adapter or DC 37 ~ 57V via POE adapter
Testing Voltage:	AC 120V, 60Hz (Power supply to AC/DC Adapter or POE adapter)
Operating Temperature Range:	-30 °C ~ +45 °C
Remark: This product assemblies multi-transmitter modules: - Wi-Fi Module (FCC ID: 2AF6B-RAK634, IC ID: 25908-RAK634) - LoRa Concentrator Module (FCC ID: 2AF6B-RAK2287X, IC ID: 25908-RAK2287X)	
Technical Specification of Wi-Fi Module	
Characteristic	**Description**
Operating Frequency	2412 - 2462 MHz for 802.11b/g/n(HT20) 2422 - 2452 MHz for 802.11n(HT40)
Type of Modulation	DSSS(DBPSK/DQPSK/CCK) OFDM(BPSK/QPSK/16QAM/64QAM)
Data Rate:	1/2/5.5/11 Mbps for 802.11b 6/9/12/18/24/36/48/54 Mbps for 802.11g MCS0 ~ MCS7 for 802.11n

Channel Number:	11 channels for 802.11b/g/n(HT20) 7 channels for 802.11n(HT40)
Antenna Number:	2412 - 2462 MHz for 802.11b/g/n(HT20) 2422 - 2452 MHz for 802.11n(HT40)
Antenna Gain:	3.0dBi for Ant0 (declared by client) 3.0dBi for Ant1 (declared by client)
Model of contained Wi-Fi Module:	RAK634
FCC ID	2AF6B-RAK634
IC ID	25908-RAK634
Technical Specification of LoRa Concentrator Module	
Characteristic	**Description**
Operating Frequency	904.6MHz, 923.3 - 927.5MHz for DTS LoRa 903.9MHz - 905.3MHz for Hybrid LoRa
Type of Modulation	FSK/Lora
Data Rate:	Lora: SF7 – SF12 / DR8 – DR13, SF7 – SF10 / DR0 –DR3
Antenna Number:	1
Antenna Gain:	2.3dBi (declared by client)
Model of contained Lora Module:	RAK2287X
FCC ID	2AF6B-RAK2287X
IC ID	25908-RAK2287X

3.3 Independent Operation Modes

The basic operation modes are:

A. On, 2.4G WIFI + LoRa

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 4: List of Accessories and Auxiliary Equipment

Description	Manufacturer	Model No.	Serial Number or Rating
Portable Laptop	Lenovo	ThinkPad T480	10Q67059
POE Adapter	RAK	GRT-POE20-480050	Input: AC 100V~240V, 50/60Hz, 0.5A Max Output: DC 48V, 0.5A, 24W

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)

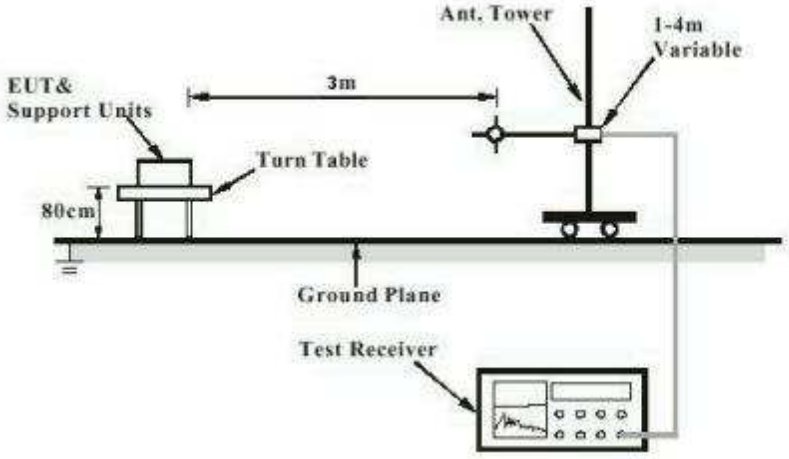


Diagram of Measurement Configuration for Radiation Test (Above 1GHz)

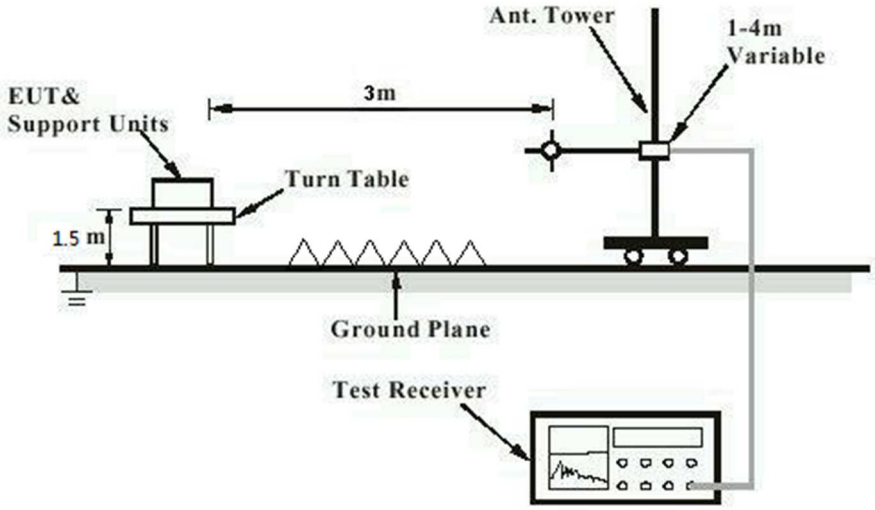
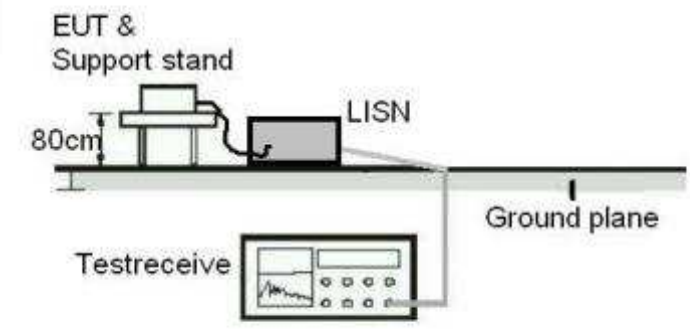


Diagram of Measurement Configuration for Mains Conduction Measurement



5 Test Results

5.1 Co-Located 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	:	KDB 996369 D04 The emissions not exceed the highest limit.
Kind of test site	:	3m Semi-anechoic Chamber

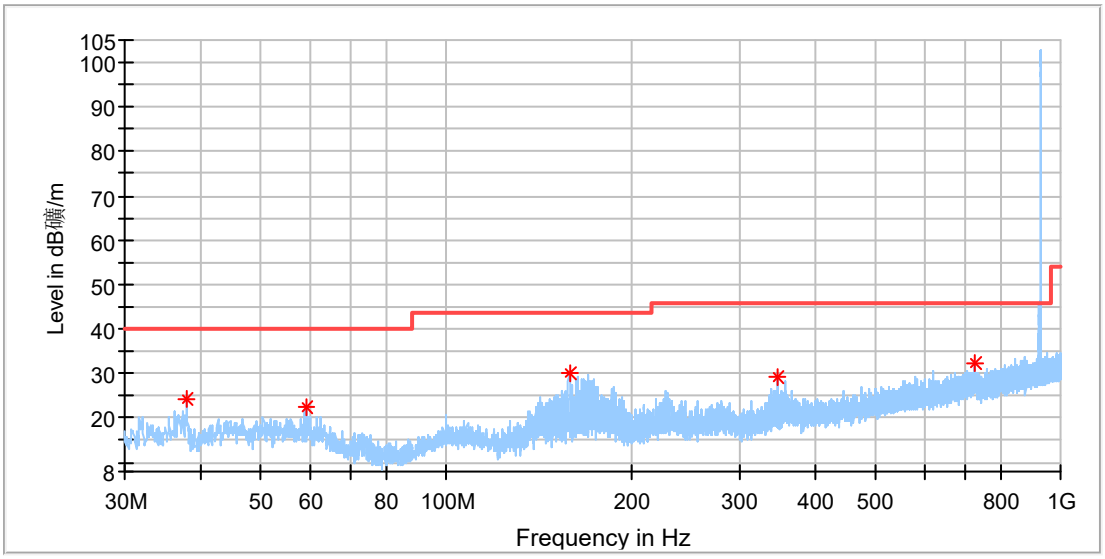
Test Setup

Date of testing	:	2024-07-01 - 2024-07-17
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

Note: The test plots of Co-located radiated spurious emissions beyond the limit are the fundamental radio frequency of Lora, Wi-Fi.
For the measurement records, refer to the following plots, only the worst case mode are shown in this report.

EUT Information

EUT Name:	WisGate
Model:	RAK7268V2
Test Mode:	Lora+WIFI 2.4G
Order No/Sample No:	168490719/A003755951-005
Test Voltage::	Adapter
Remark:	Temp 22 Humi:52%
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)
37.871923	24.15	40.00	15.85	100.0	H	0.0	-21.1
59.398462	22.25	40.00	17.75	100.0	H	79.0	-19.2
158.375769	30.24	43.50	13.26	100.0	H	274.0	-22.1
346.145385	29.25	46.00	16.75	100.0	H	55.0	-15.3
725.975000	32.23	46.00	13.77	100.0	H	290.0	-8.0

Final_Result

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

EUT Information

EUT Name:	WisGate
Model:	RAK7268V2
Test Mode:	Lora+WIFI 2.4G
Order No/Sample No:	168490719/A003755951-005
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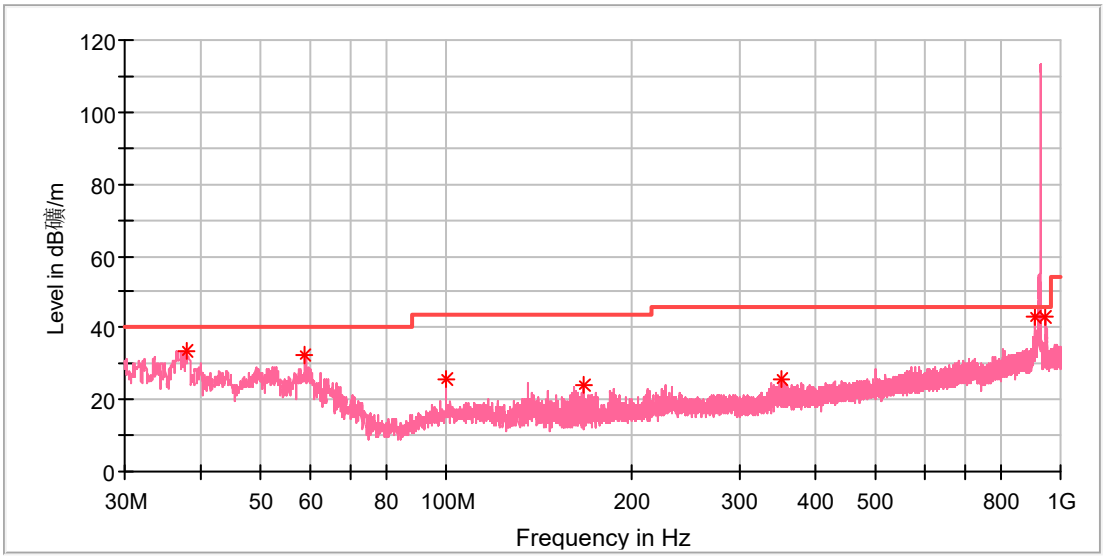

Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
37.871923	33.60	40.00	6.40	100.0	V	17.0	-21.1
58.988077	32.56	40.00	7.44	100.0	V	68.0	-19.2
99.989231	25.91	43.50	17.59	100.0	V	68.0	-19.3
167.292308	24.15	43.50	19.35	100.0	V	356.0	-21.7
349.876154	25.64	46.00	20.36	100.0	V	114.0	-15.2
905.238462	42.83	46.00	3.17	100.0	V	0.0	-5.4
944.747308	43.24	46.00	2.76	100.0	V	122.0	-4.9

Final_Result

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

EUT Information

EUT Name:	WisGate
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Test Mode:	Lora+WIFI 2.4G
Order No/Sample No:	168490719/A003755951-005
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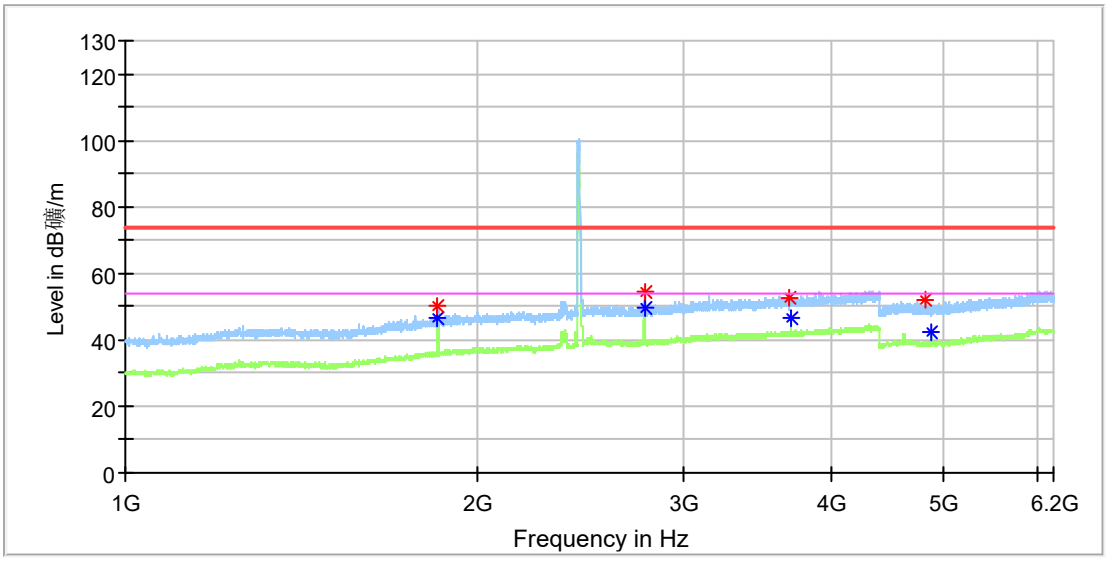

Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1849.500000	---	46.69	54.00	7.31	150.0	H	155.0	5.0
1850.000000	50.09	---	74.00	23.91	150.0	H	155.0	5.0
2775.000000	54.26	---	74.00	19.74	150.0	H	40.0	7.9
2776.000000	---	49.83	54.00	4.17	150.0	H	187.0	7.9
3687.500000	52.77	---	74.00	21.23	150.0	H	147.0	9.5
3701.000000	---	46.29	54.00	7.71	150.0	H	3.0	9.6
4829.000000	51.73	---	74.00	22.27	150.0	H	236.0	11.8
4874.000000	---	42.38	54.00	11.62	150.0	H	318.0	11.8

Final_Result

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

EUT Information

EUT Name:	WisGate
Model:	RAK7268V2
Test Mode:	Lora+WIFI 2.4G
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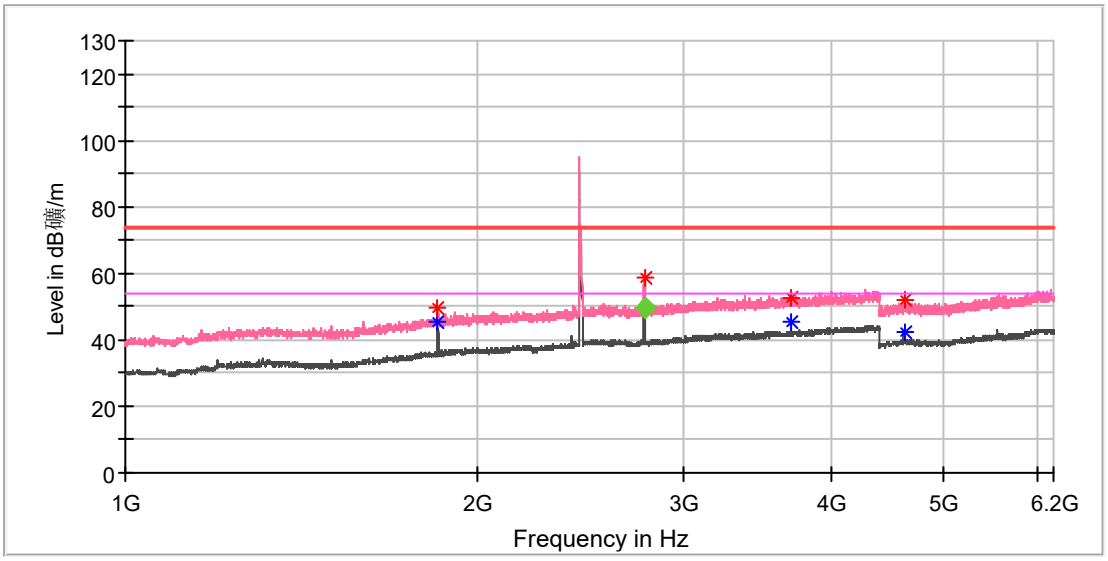


Critical_Freqs

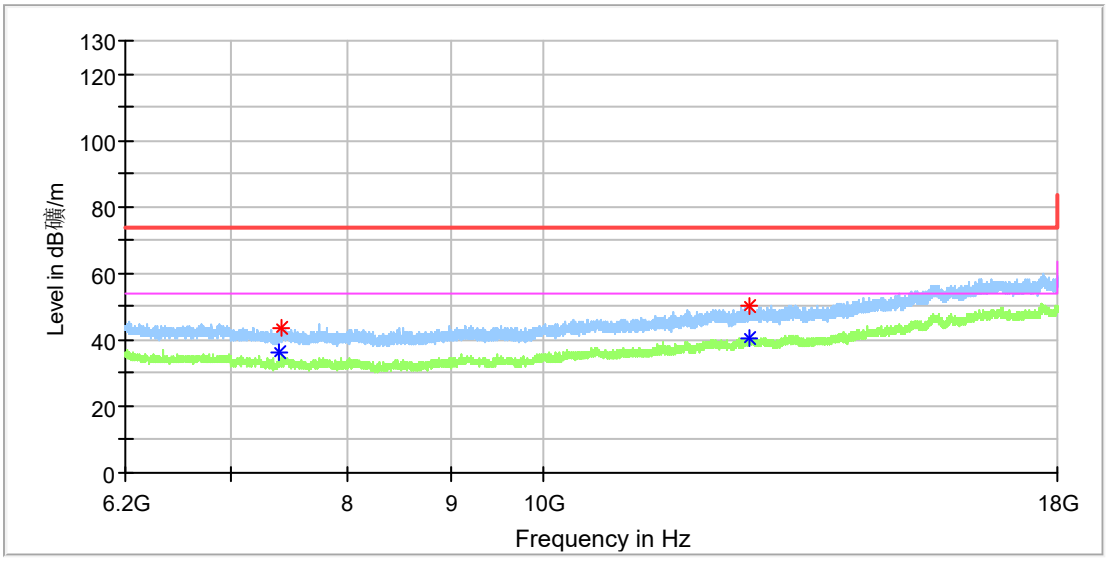
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1849.500000	---	45.56	54.00	8.44	150.0	V	48.0	5.0
1849.500000	49.56	---	74.00	24.44	150.0	V	48.0	5.0
2774.500000	58.62	---	74.00	15.38	150.0	V	305.0	7.9
3700.000000	52.71	---	74.00	21.29	150.0	V	291.0	9.6
3700.000000	---	45.29	54.00	8.71	150.0	V	291.0	9.6
4626.000000	---	42.30	54.00	11.70	150.0	V	31.0	12.0
4626.500000	51.72	---	74.00	22.28	150.0	V	31.0	12.0

Final_Result

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2775.650000	49.82	54.00	4.18	145.0	V	300.0	7.9

EUT Information

EUT Name:	WisGate
Model:	RAK7268V2
Test Mode:	Lora+WIFI 2.4G
Order No/Sample No:	168490719/A003755951-005
Test Voltage::	Adapter
Remark:	Temp 22 Humi:52%
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)
7402.125000	---	36.31	54.00	17.69	150.0	H	18.0	8.3
7402.616667	43.33	---	74.00	30.67	150.0	H	18.0	8.3
12647.716667	50.29	---	74.00	23.71	150.0	H	30.0	15.0
12650.666667	---	40.27	54.00	13.73	150.0	H	92.0	15.0

Final_Result

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

EUT Information

EUT Name:	WisGate
Model:	RAK7268V2
Test Mode:	Lora+WIFI 2.4G
Order No/Sample No:	168490719/A003755951-005
Test Voltage::	Adapter
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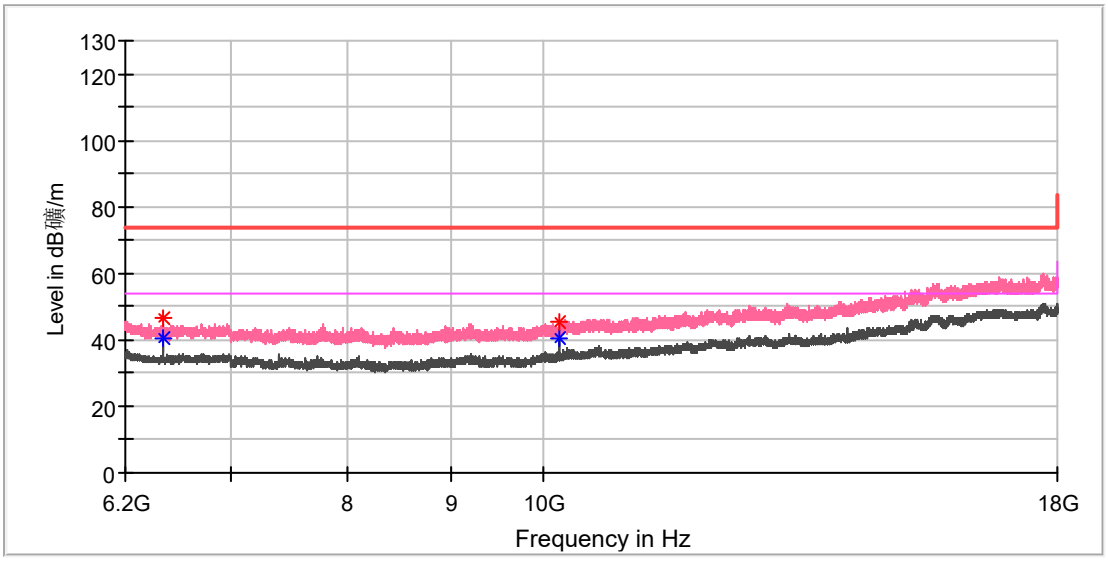


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
6476.808333	46.67	---	74.00	27.33	150.0	V	47.0	8.7
6476.808333	---	40.65	54.00	13.35	150.0	V	47.0	8.7
10178.075000	45.16	---	74.00	28.84	150.0	V	352.0	11.2
10178.075000	---	40.46	54.00	13.54	150.0	V	352.0	11.2

Final_Result

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

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	:	2024-07-01 - 2024-08-06
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 the following plots, only the worst case mode are shown in this report.

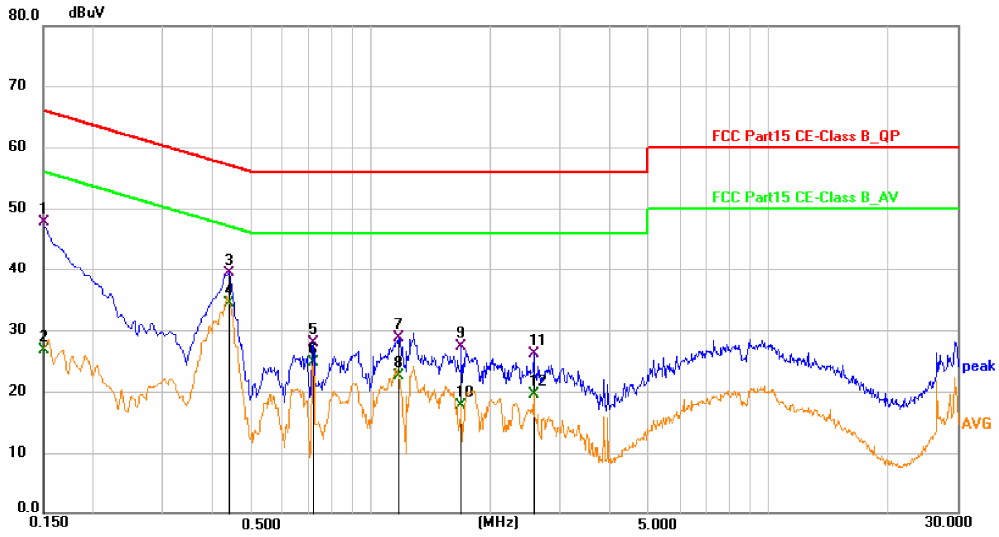
Site LAB
Limit: FCC Part15 CE-Class B_QP
EUT: WisGate
M/N: RAK7268V2
Mode: Test Mode 1:On,2.4G WIFI link_Lora kink,powered by AC/DC Adapter
Note:

Phase: *L1*
Power: AC120/60Hz

Temperature: 24.4 ℃
Humidity: 53.6 %RH
Air Pressure: 99.6 kpa

Conducted Emission Measurement

24072912929_RAK7268V2 Data :#1 Date: 2024/8/3 Time: 17:30:09



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.1500	37.41	10.20	47.61	66.00	-18.39	QP	P	
2	0.1500	16.52	10.20	26.72	56.00	-29.28	AVG	P	
3	0.4380	29.09	10.15	39.24	57.10	-17.86	QP	P	
4 *	0.4380	24.11	10.15	34.26	47.10	-12.84	AVG	P	
5	0.7170	17.69	10.21	27.90	56.00	-28.10	QP	P	
6	0.7170	14.56	10.21	24.77	46.00	-21.23	AVG	P	
7	1.1760	18.34	10.33	28.67	56.00	-27.33	QP	P	
8	1.1760	12.25	10.33	22.58	46.00	-23.42	AVG	P	
9	1.6980	17.03	10.25	27.28	56.00	-28.72	QP	P	
10	1.6980	7.47	10.25	17.72	46.00	-28.28	AVG	P	
11	2.5710	15.80	10.24	26.04	56.00	-29.96	QP	P	
12	2.5710	9.21	10.24	19.45	46.00	-26.55	AVG	P	

*:Maximum data x:Over limit !:over margin

Engineer Signature: linson

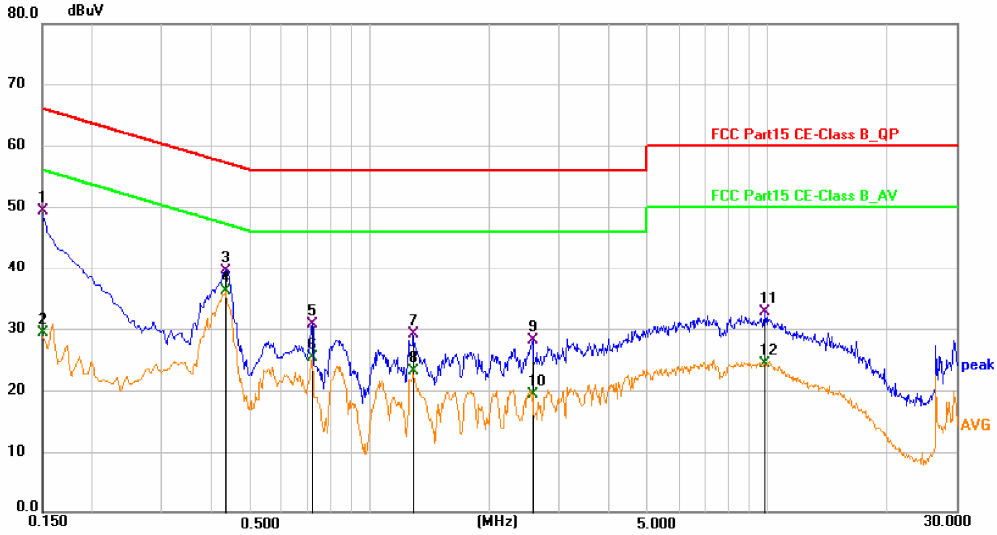
Site LAB
Limit: FCC Part15 CE-Class B_QP
EUT: WisGate
M/N: RAK7268V2
Mode: Test Mode 1:On,2.4G WIFI link_Lora kink,powered by AC/DC Adapter
Note:

Phase: *N*
Power: AC120/60Hz

Temperature: 24.4 ℃
Humidity: 53.6 %RH
Air Pressure: 99.6 kpa

Conducted Emission Measurement

24072912929_RAK7268V2 Data :#2 Date: 2024/8/3 Time: 17:31:51



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.1500	39.02	10.19	49.21	66.00	-16.79	QP	P	
2	0.1500	19.02	10.19	29.21	56.00	-26.79	AVG	P	
3	0.4334	29.23	10.22	39.45	57.19	-17.74	QP	P	
4 *	0.4334	25.88	10.22	36.10	47.19	-11.09	AVG	P	
5	0.7170	20.49	10.25	30.74	56.00	-25.26	QP	P	
6	0.7170	15.08	10.25	25.33	46.00	-20.67	AVG	P	
7	1.2839	18.82	10.20	29.02	56.00	-26.98	QP	P	
8	1.2839	12.92	10.20	23.12	46.00	-22.88	AVG	P	
9	2.5754	17.84	10.28	28.12	56.00	-27.88	QP	P	
10	2.5754	9.06	10.28	19.34	46.00	-26.66	AVG	P	
11	9.8925	22.24	10.39	32.63	60.00	-27.37	QP	P	
12	9.8925	13.99	10.39	24.38	50.00	-25.62	AVG	P	

*:Maximum data x:Over limit !:over margin

Engineer Signature: linson

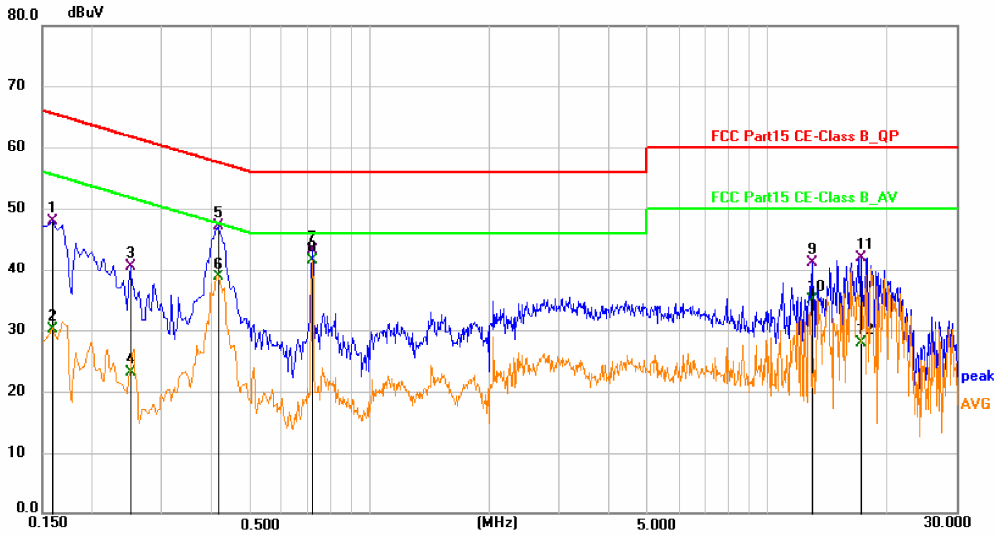
Site LAB
Limit: FCC Part15 CE-Class B_QP
EUT: WisGate
M/N: RAK7268V2
Mode: Test Mode 2:On,2.4G WIFI link_Lora kink,powered by POE Adapter
Note:

Phase: *N*
Power: AC120/60Hz

Temperature: 24.4 ℃
Humidity: 53.6 %RH
Air Pressure: 99.6 kpa

Conducted Emission Measurement

24072912929_RAK7268V2 Data :#3 Date: 2024/8/3 Time: 17:39:39



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.1590	37.72	10.17	47.89	65.52	-17.63	QP	P	
2	0.1590	19.92	10.17	30.09	55.52	-25.43	AVG	P	
3	0.2490	30.45	10.08	40.53	61.79	-21.26	QP	P	
4	0.2490	13.00	10.08	23.08	51.79	-28.71	AVG	P	
5	0.4153	36.98	10.20	47.18	57.54	-10.36	QP	P	
6	0.4153	28.43	10.20	38.63	47.54	-8.91	AVG	P	
7	0.7170	32.92	10.25	43.17	56.00	-12.83	QP	P	
8 *	0.7170	31.24	10.25	41.49	46.00	-4.51	AVG	P	
9	13.0515	30.57	10.54	41.11	60.00	-18.89	QP	P	
10	13.0515	24.46	10.54	35.00	50.00	-15.00	AVG	P	
11	17.2050	31.25	10.69	41.94	60.00	-18.06	QP	P	
12	17.2050	17.19	10.69	27.88	50.00	-22.12	AVG	P	

*:Maximum data x:Over limit !:over margin

Engineer Signature: linson

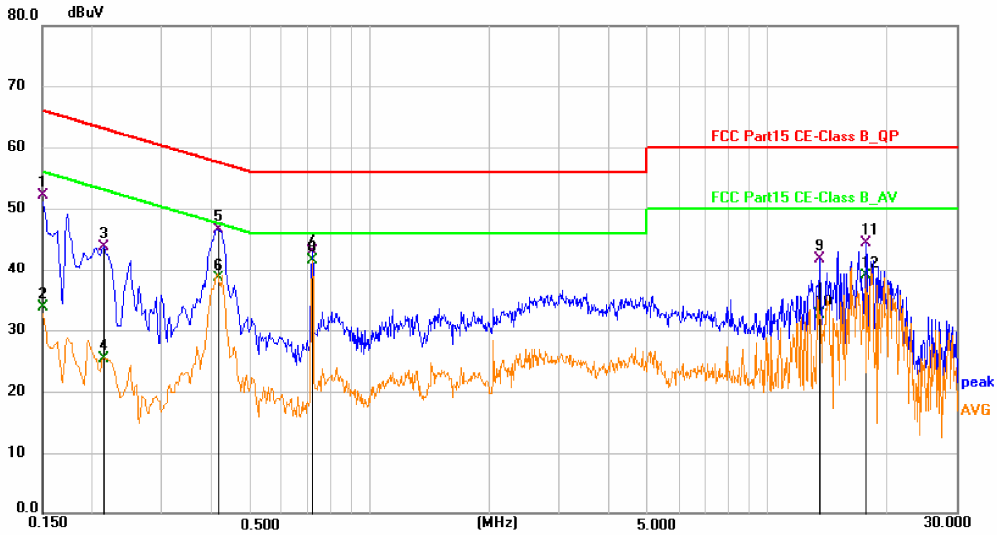
Site LAB
Limit: FCC Part15 CE-Class B_QP
EUT: WisGate
M/N: RAK7268V2
Mode: Test Mode 2:On,2.4G WIFI link_Lora kink,powered by POE Adapter
Note:

Phase: *L1*
Power: AC120/60Hz

Temperature: 24.4 ℃
Humidity: 53.6 %RH
Air Pressure: 99.6 kpa

Conducted Emission Measurement

24072912929_RAK7268V2 Data :#4 Date: 2024/8/3 Time: 17:41:46



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.1500	41.92	10.20	52.12	66.00	-13.88	QP	P	
2	0.1500	23.60	10.20	33.80	56.00	-22.20	AVG	P	
3	0.2130	33.46	10.17	43.63	63.09	-19.46	QP	P	
4	0.2130	15.16	10.17	25.33	53.09	-27.76	AVG	P	
5	0.4155	36.34	10.13	46.47	57.54	-11.07	QP	P	
6	0.4155	28.40	10.13	38.53	47.54	-9.01	AVG	P	
7	0.7170	32.74	10.21	42.95	56.00	-13.05	QP	P	
8 *	0.7170	31.28	10.21	41.49	46.00	-4.51	AVG	P	
9	13.6005	31.17	10.50	41.67	60.00	-18.33	QP	P	
10	13.6005	21.92	10.50	32.42	50.00	-17.58	AVG	P	
11	17.7585	33.72	10.67	44.39	60.00	-15.61	QP	P	
12	17.7585	28.26	10.67	38.93	50.00	-11.07	AVG	P	

*:Maximum data x:Over limit !:over margin

Engineer Signature: linson

6 List of Tables

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