Prüfbericht-Nr.: *Test report no.:*	**CN24DMBD 002**	**Auftrags-Nr.:** *Order no.:*	**168498516** (P01599877)	Seite 1 von 27 *Page 1 of 27*
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, China			
Prüfgegenstand: *Test item:*	WisGate Soho Pro			
Bezeichnung / Typ-Nr.: *Identification / Type no.:*	RAK7267 (Trademark: RAK)			
Auftrags-Inhalt: *Order content:*	Test report			
Prüfgrundlage: *Test specification:*	CFR47 FCC Part 15: Subpart C Section 15.247 CFR47 FCC Part 22 CFR47 FCC Part 24 CFR47 FCC Part 27 CFR47 FCC Part 90		RSS-247 Issue 3 RSS-Gen Issue 5 RSS-130 Issue 2 RSS-132 Issue 4 RSS-133 Issue 6 RSS-139 Issue 4	

Wareneingangsdatum: *Date of sample receipt:*	2024-08-12	Please refer to photo documents
Prüfmuster-Nr.: *Test sample no.:*	A003790302-001, 002, 003	
Prüfzeitraum: *Testing period:*	2024-08-12 – 2024-09-30	
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:*	X Hardy Suo	**genehmigt von:** *authorized by:*	X Lin Lin
Datum: *Date:* 2024-10-18		**Ausstellungsdatum:** *Issue date:* 2024-10-18	
Stellung / Position	Sachverständige(r)/Expert	**Stellung** / Position	Sachverständige(r)/Expert

Sonstiges / *Other:*

FCC ID: 2AF6B-RAK7267
IC: 25908-RAK7267, HVIN: RAK7267

*The LTE module and Wi-Fi module are contained in a new host, the co-located radiated spurious emission was performed.

* * This product contains transmitter modules, refer to clause 3.2 for details.

Zustand des Prüfgegenstandes bei Anlieferung: Prüfmuster vollständig und unbeschädigt
Condition of the test item at delivery: *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

5.1.1 ANTENNA REQUIREMENT
RESULT: Pass

5.1.2 MAXIMUM CONDUCTED OUTPUT POWER
RESULT: Pass

5.1.3 CONDUCTED POWER SPECTRAL DENSITY
RESULT: Pass

5.1.4 6DB BANDWIDTH
RESULT: Pass

5.1.5 20DB BANDWIDTH
RESULT: Pass

5.1.6 99% BANDWIDTH
RESULT: Pass

5.1.7 CONDUCTED SPURIOUS EMISSIONS MEASURED IN 100 KHZ BANDWIDTH
RESULT: Pass

5.1.8 RADIATED SPURIOUS EMISSION
RESULT: Pass

5.1.9 CARRIER FREQUENCY SEPARATION
RESULT: Pass

5.1.10 NUMBER OF HOPPING FREQUENCY
RESULT: Pass

5.1.11 TIME OF OCCUPANCY
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 Results.

Appendix B: Photographs of the Test Set-up.

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

2.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment

Radiated Emission Test - 3M Chamber						
Used	**Equipment**	**Manufacturer**	**Model No.**	**Serial Number**	**Cal. date**	**Cal. Due date**
☒	3m Chamber & Accessory Equipment	ETS-Lindgren	3m	Euroshiedpn -CT001270-1317	11-Nov-2023	10-Nov-2026
☒	Broadband Antenna	ETS-Lindgren	3142E	00201566	30-Oct-2023	29-Oct-2024
☒	6dB Attenuator	Talent	RA6A5-N-18	18103001	30-Oct-2023	29-Oct-2024
☒	Pre-amplifier	HP	8447F	2805A02960	31-Oct-2023	30-Oct-2024
☒	Receiver	ROHDE & SCHWARZ	ESIB26	100114	27-Oct-2023	26-Oct-2024
☒	Double-Ridged Waveguide Horn Antenna (Pre-amplifier)	ETS-LINDGREN	3117-PA	00201541	1- Apr-2024	31-Mar-2025
☒	Pre-amplifier	ETS-Lindgren	00118385	00201874	31-Oct-2023	30-Oct-2024
☒	Band Reject Filter(2400MHz~2500 MHz)	Micro-tronics	BRM50702	G248	17- Jan-2024	16- Jan-2025
☒	Band Reject Filter (5150MHz~5880MHz)	Micro-tronics	BRM50716	G186	27-Oct-2023	26-Oct-2024
☒	Multi device Controller	ETS-Lindgren	7006-001	00160105	N/A	N/A
☒	Test Software	Audix	e3	Software Version: 9.160323		

RF test					
Used	**Equipment**	**Manufacturer**	**Type**	**Internal no.**	**Due date**
☒	EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY51440197	2025-03-28
☒	USB Wideband Power Sensor	KEYSIGHT	U2021XA	MY55430035	2024-10-26
☒	EXG-B RF Analog Signal Generator	KEYSIGHT	N5171B	MY53051777	2024-10-26
☒	MXG X-Series RF Vector Signal Generator	KEYSIGHT	N5182B	MY51350267	2024-10-26
☒	Temp & Humidity chamber	Votisch	VT4002	58566133290020	2025-03-28

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
2	Conducted emission 150kHz-30MHz	±2.7 dB
3	Radiated emission 9kHz-30MHz	± 4.7 dB
4	Radiated emission 30MHz-1GHz	± 4.6 dB
5	Radiated emission 1GHz-18GHz	± 4.4 dB
6	Radiated emission 18GHz-26GHz	± 4.6 dB
7	Radiated emission 26GHz-40GHz	± 4.6 dB
8	Conducted spurious emissions	± 2.7 dB
9	RF Power, Conducted	± 0.68 dB
10	Occupied Bandwidth	± 1.86 %
11	Radio Frequency	2.4 GHz: ± 6.5 x 10^{-8}
12	Transmission Time	± 0.19 %

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 Shenzhen UnionTrust Quality and Technology Co., Ltd. Test facility located at Unit D/E of 9/F and 16/F, Block A, Building 6, Baoneng science and technology park, Longhua district, Shenzhen, China is listed on the US Federal Communications Commission list of facilities approved to perform measurements.

The TÜV Rheinland (Shenzhen) Co., Ltd. Test 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 WisGate Soho Pro which supports Lora, 2.4GHz Wi-Fi and LTE technology.

Contains FCC ID: 2AF6B-RAK634, XMR2023EG915QNA.
Contains IC: 25908-RAK634, 10224A-023EG915QNA.

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>Value</th></tr>
<tr><td>Kind of Equipment</td><td>WisGate Soho Pro</td></tr>
<tr><td>Type Designation</td><td>RAK7267</td></tr>
<tr><td>FCC ID</td><td>2AF6B-RAK7267</td></tr>
<tr><td>IC</td><td>25908-RAK7267</td></tr>
<tr><td>HVIN</td><td>RAK7267</td></tr>
<tr><td>Operating Voltage</td><td>DC 9-36V</td></tr>
<tr><td colspan="2">Technical Specification of Lora DTS</td></tr>
<tr><td>Operating Frequency</td><td>923.3 - 927.5MHz</td></tr>
<tr><td>Type of Modulation</td><td>Lora</td></tr>
<tr><td>Data Rate</td><td>SF7 – SF12
<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>
<tr><td>8</td><td>LoRa Modulation: SF12 / Bandwidth 500 kHz</td><td>980</td></tr>
<tr><td>9</td><td>LoRa Modulation: SF11 / Bandwidth 500 kHz</td><td>1760</td></tr>
<tr><td>10</td><td>LoRa Modulation: SF10 / Bandwidth 500 kHz</td><td>3900</td></tr>
<tr><td>11</td><td>LoRa Modulation: SF9 / Bandwidth 500 kHz</td><td>7000</td></tr>
<tr><td>12</td><td>LoRa Modulation: SF8 / Bandwidth 500 kHz</td><td>12500</td></tr>
<tr><td>13</td><td>LoRa Modulation: SF7 / Bandwidth 500 kHz</td><td>21900</td></tr>
</table></td></tr>
<tr><td>Channel Number</td><td>8 channels</td></tr>
<tr><td>Channel Separation</td><td>600 KHz</td></tr>
<tr><td>Occupied Bandwidth</td><td>500 KHz</td></tr>
<tr><td>Antenna Number:</td><td>1</td></tr>
</table>

<table>
<tr><td>Antenna Gain and Type:</td><td>Integral PCB ANT with 2.5dBi</td></tr>
<tr><td colspan="2">Technical Specification of Lora Hybrid</td></tr>
<tr><td>Frequency Range</td><td>903.9MHz - 905.3MHz</td></tr>
<tr><td>Type of Modulation</td><td>Lora</td></tr>
<tr><td>Data Rate</td><td>SF7 – SF10
<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>
<tr><td>8</td><td>LoRa Modulation: SF12 / Bandwidth 500 kHz</td><td>980</td></tr>
<tr><td>9</td><td>LoRa Modulation: SF11 / Bandwidth 500 kHz</td><td>1760</td></tr>
<tr><td>10</td><td>LoRa Modulation: SF10 / Bandwidth 500 kHz</td><td>3900</td></tr>
<tr><td>11</td><td>LoRa Modulation: SF9 / Bandwidth 500 kHz</td><td>7000</td></tr>
<tr><td>12</td><td>LoRa Modulation: SF8 / Bandwidth 500 kHz</td><td>12500</td></tr>
<tr><td>13</td><td>LoRa Modulation: SF7 / Bandwidth 500 kHz</td><td>21900</td></tr>
</table></td></tr>
<tr><td>Channel Number</td><td>8 channels (DSS & DTS)</td></tr>
<tr><td>Channel Separation</td><td>200 KHz</td></tr>
<tr><td>Occupied Bandwidth</td><td>125 KHz</td></tr>
<tr><td>Antenna Number:</td><td>1</td></tr>
<tr><td>Antenna Gain and Type:</td><td>Integral PCB ANT with 2.5dBi</td></tr>
<tr><td colspan="2">Technical Specification of Contained LTE Module</td></tr>
<tr><td>Characteristic</td><td>Description</td></tr>
<tr><td>Operating Frequency</td><td>LTE Band: 2, 4, 5, 12, 13, 14, 66, 71
(LTE Band 14, 71 is not support for Canada)</td></tr>
<tr><td>Type of Modulation</td><td>QPSK, 16QAM</td></tr>
<tr><td>Antenna Gain:</td><td>3dBi@700MHz~960MHz, 1710~21700MHz (declared by client)</td></tr>
<tr><td>Model of contained LTE module:</td><td>EG915Q-NA</td></tr>
<tr><td>FCC ID</td><td>XMR2023EG915QNA</td></tr>
<tr><td>IC ID</td><td>10224A-023EG915QNA</td></tr>
<tr><td colspan="2">Technical Specification of Contained Wi-Fi Module</td></tr>
<tr><td>Characteristic</td><td>Description</td></tr>
<tr><td>Operating Frequency</td><td>2412 - 2462 MHz for 802.11b/g/n(HT20)
2422 - 2452 MHz for 802.11n(HT40)</td></tr>
<tr><td>Type of Modulation</td><td>DSSS(DBPSK/DQPSK/CCK)
OFDM(BPSK/QPSK/16QAM/64QAM)</td></tr>
<tr><td>Data Rate:</td><td>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</td></tr>
<tr><td>Channel Number:</td><td>11 channels for 802.11b/g/n(HT20)
7 channels for 802.11n(HT40)</td></tr>
<tr><td>Antenna Number:</td><td>2412 - 2462 MHz for 802.11b/g/n(HT20)
2422 - 2452 MHz for 802.11n(HT40)</td></tr>
<tr><td>Antenna Gain:</td><td>2.0dBi for Ant0 (declared by client)
2.0dBi for Ant1 (declared by client)</td></tr>
</table>

Model of contained Wi-Fi Module:	RAK634
FCC ID	2AF6B-RAK634
IC ID	25908-RAK634

Table 3: RF Channel and Frequency of Lora DTS

RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)
0	**923.3**	2	924.5	4	925.7	6	926.9
1	923.9	**3**	**925.1**	5	926.3	**7**	**927.5**

Table 4: RF Channel and Frequency of Lora Hybrid

RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)
0	**903.9**	**0**	904.3	**0**	904.7	**0**	905.1
1	904.1	1	**904.5**	1	904.9	1	**905.3**

3.3 Independent Operation Modes

The basic operation modes are:

A. On, Lora transmitting mode (DTS & Hybrid)
   1) Low Channel
   2) Middle Channel
   3) High Channel

B. On, Transmitting on Hopping channel (Hybrid)

C. On, Co-Located transmitting mode (Wi-Fi + Lora + LTE)

3.4 Noise Generating and Noise Suppressing Parts

Refer to Circuit Diagram for further details.

3.5 Submitted Documents

- ID Label and Location Info
- 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: 2013 and ANSI C63.4: 2014.

According to clause 3.1, all tests were performed on model RAK7267 in this report.

This product is powered by DC 9-36V via Solar Battery Kits.

4.3 Special Accessories and Auxiliary Equipment

Table 5: Auxiliary Equipment Used during Test

Description	Manufacturer	Model	S/N
Notebook	DELL	Latitude 3400	N/A
Mouse	DELL	MS11-T	N/A
Storage Battery	Camel	L2400 6-QW-60	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 30MHz)

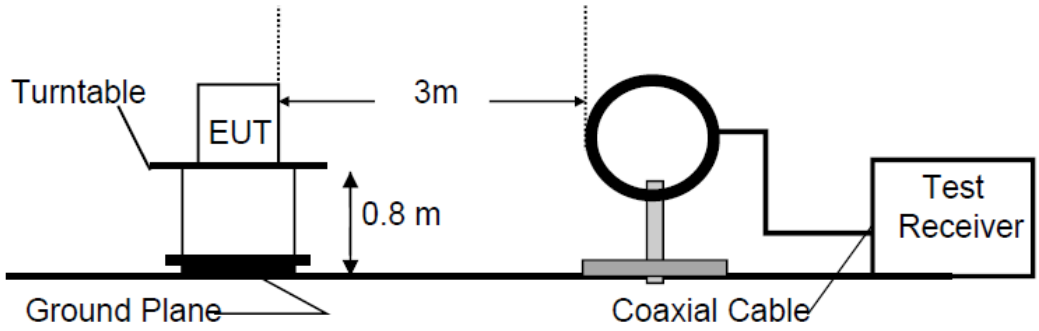


Diagram of Measurement Configuration for Radiation Test (Below 1GHz)

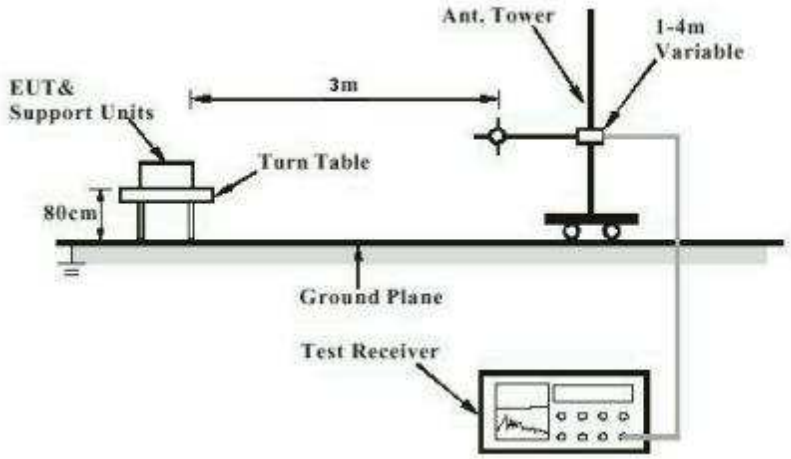


Diagram of Measurement Configuration for Radiation Test (Above 1GHz)

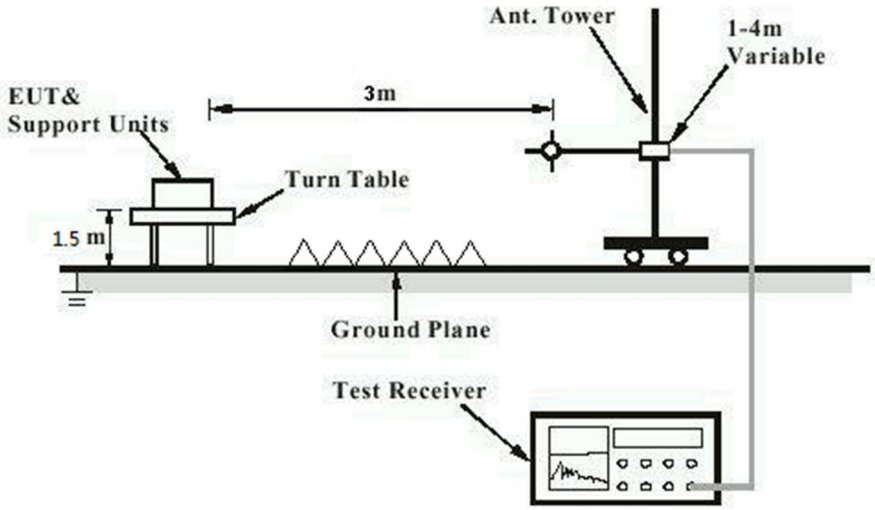
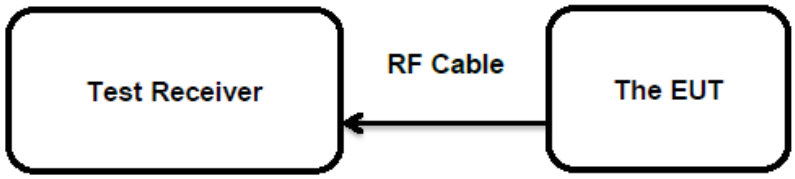


Diagram of Measurement Configuration for Conducted Transmitter Measurement



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 external antenna, the maximum directional gain of antenna is 2dBi, and the antenna connector is designed with permanent attachment and no consideration of replacement. Therefore the EUT is considered sufficient to comply with the provision.

Refer to EUT Photo for further details.

5.1.2 Maximum Conducted Output Power

RESULT: **Pass**

Test Specification

Test standard	:	FCC Part 15.247(b)(2)&(3) RSS-247 Clause 5.4(a)&(d)
Basic standard	:	ANSI C63.10: 2013
Limits	:	< 1.0 W (30 dBm) for antenna gain less than 6dBi < 0.631 W (28 dBm) for antenna gain more than 6dBi
Kind of test site	:	Shielded Room

Test Setup

Date of testing	:	2024-08-12 – 2024-09-30
Input voltage	:	DC 12V
Operation mode	:	A, B
Test channel	:	Low / Middle / High
Ambient temperature	:	25 ℃
Relative humidity	:	56 %
Atmospheric pressure	:	101 kPa

Table 6: Test Result of Maximum Conducted Output Power, Lora DTS

Test Mode	Test Channel (MHz)	Measured Conducted Power		Limit
		(dBm)	(W)	
Lora DTS SF7	923.3	23.35	0.2163	< 1.0 W (30 dBm)
	925.1	23.31	0.2143	
	927.5	23.01	0.2000	
Lora DTS SF12	923.3	23.66	0.2323	
	925.1	22.24	0.1675	
	927.5	21.60	0.1445	
Max. Measured Value		23.66	0.2323	

Table 7: Test Result of Maximum Conducted Output Power, Lora Hybrid

Test Mode	Test Channel (MHz)	Measured Conducted Power		Limit (W)
		(dBm)	(W)	
Lora Hybrid SF7	903.9	19.88	0.0973	< 1.0 W (30 dBm)
	904.5	19.92	0.0982	
	905.1	19.89	0.0975	
Lora Hybrid SF9	903.9	19.78	0.0951	
	904.5	19.84	0.0964	
	905.1	19.81	0.0957	
Lora Hybrid SF10	903.9	20.08	0.1019	
	904.5	20.06	0.1014	
	905.1	20.11	0.1026	
Max. Measured Value		20.11	0.1026	

Note:

1) The cable loss is taken into account in results.
2) Maximum Antenna gain(G) : 2.5 dBi,

Maximum e.i.r.p.=26.16dBm = 0.413W, which is far below the 4 W

5.1.3 Conducted Power Spectral Density

RESULT: **Pass**

Test Specification

Test standard	:	FCC Part 15.247(e), FCC Part 15.247(f) RSS-247 Clause 5.2(b), RSS-247 Clause 5.3
Basic standard	:	ANSI C63.10: 2013
Limits	:	< 8 dBm / 3kHz for antenna gain less than 6dBi < 6 dBm / 3kHz for antenna gain 8dBi
Kind of test site	:	Shielded Room

Test Setup

Date of testing	:	2024-08-12 – 2024-09-30
Input voltage	:	DC 12V
Operation mode	:	B
Test channel	:	Low / Middle / High
Ambient temperature	:	25 ℃
Relative humidity	:	56 %
Atmospheric pressure	:	101 kPa

Only the worst case configuration of the each mode were reported. For the measurement records, refer to the appendix B.

Table 8: Test Result of Maximum Peak Power Spectral Density, Lora DTS

Test Mode	Test Channel (MHz)	Measured Peak Power Spectral Density (dBm/3KHz)
Lora DTS SF12	923.3	6.89
	925.1	5.53
	927.5	4.80
Maximum Measured Value		6.89

Table 9: Test Result of Maximum Peak Power Spectral Density, Lora Hybrid

Test Mode	Test Channel (MHz)	Measured Peak Power Spectral Density (dBm/3KHz)
Lora Hybrid SF10	903.9	7.96
	904.5	7.92
	905.1	7.87
Maximum Measured Value		7.96

5.1.4 6dB Bandwidth

RESULT: **Pass**

Test Specification

Test standard	:	FCC Part 15.247(a)(2) RSS-247 Clause 5.2(a)
Basic standard	:	ANSI C63.10: 2013
Limits	:	At least 500kHz for bandwidth(DTS)
Kind of test site	:	Shielded Room

Test Setup

Date of testing	:	2024-08-12 – 2024-09-30
Input voltage	:	DC 12V
Operation mode	:	A
Test channel	:	Low / Middle / High
Ambient temperature	:	25 ℃
Relative humidity	:	56 %
Atmospheric pressure	:	101 kPa

Only the worst case configuration of the each mode were reported. For the measurement records, refer to the appendix B.

Table 10: Test Result of 6dB Bandwidth, Lora DTS

Test Mode	Test Channel (MHz)	6dB Bandwidth (MHz)	Limit (MHz)
Lora DTS SF7	923.3	612.2	>500KHz
	925.1	614.3	
	927.5	625.2	
Minimum Measured Value		612.2	

5.1.5 20dB Bandwidth

RESULT: **Pass**

Test Specification

Test standard	:	FCC Part 15.247(a)(1) (i) RSS-247 Clause 5.1(a)
Basic standard	:	ANSI C63.10: 2013
Limits	:	Not more than 500kHz and < 250KHz for at least 50 hopping frequencies >=250KHz for at least 25 hooping frequencies
Kind of test site	:	Shielded Room

Test Setup

Date of testing	:	2024-08-12 – 2024-09-30
Input voltage	:	DC 12V
Operation mode	:	A
Test channel	:	Low / Middle / High
Ambient temperature	:	25 ℃
Relative humidity	:	56 %
Atmospheric pressure	:	101 kPa

Only the worst case configuration of the each mode were reported. For the measurement records, refer to the appendix B.

Table 11: Test Result of 20dB Bandwidth, Lora Hybrid

Test Mode	Channel Frequency (MHz)	20dB Bandwidth (kHz)	Limit (MHz)
Lora Hybrid SF7	903.9	136.11	<500KHz
	904.5	136.11	
	905.1	136.11	

5.1.6 99% Bandwidth

RESULT: **Pass**

Test Specification

Test standard	:	RSS-Gen Clause 6.7
Basic standard	:	ANSI C63.10: 2013
Kind of test site	:	Shielded Room

Test Setup

Date of testing	:	2024-08-12 – 2024-09-30
Input voltage	:	DC 12V
Operation mode	:	A, B
Test channel	:	Low / Middle / High
Ambient temperature	:	25 ℃
Relative humidity	:	56 %
Atmospheric pressure	:	101 kPa

Only the worst case configuration of the each mode were reported. For the measurement records, refer to the appendix B.

Table 12: Test Result of 99% Bandwidth, Lora DTS

Test Mode	Test Channel (MHz)	99% Bandwidth (kHz)	Limit (MHz)
Lora DTS SF7	923.3	497.928	/
	925.1	499.276	
	927.5	497.928	
Minimum Measured Value		497.928	

Table 13: Test Result of 99% Bandwidth, Lora Hybrid

Test Mode	Test Channel (MHz)	99% Bandwidth (kHz)	Limit (MHz)
Lora Hybrid SF7	903.9	123.010	/
	904.5	122.648	
	905.1	121.925	
Minimum Measured Value		121.925	

5.1.7 Conducted Spurious Emissions Measured in 100 kHz Bandwidth

RESULT: **Pass**

Test Specification

Test standard	:	FCC Part 15.247(d) RSS-247 Clause 5.5
Basic standard	:	ANSI C63.10: 2013
Limits	:	20dB (below that in the 100kHz bandwidth within the band that contains the highest level of the desired power); In addition, radiated emissions which fall in the restricted bands, must also comply with the radiated emission limits specified in 15.209(a)
Kind of test site	:	Shielded Room

Test Setup

Date of testing	:	Refer to test result
Input voltage	:	DC 12V
Operation mode	:	A, B
Test channel	:	Low / Middle / High
Ambient temperature	:	25 ℃
Relative humidity	:	56 %
Atmospheric pressure	:	101 kPa

Test results of 100kHz Bandwidth of Frequency Band Edge by Conducted method refer to test plots, and compliance is achieved as well.

Only the worst case configuration of the each mode were reported. For the measurement records, refer to the appendix B.

5.1.8 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: 2013
Limits	:	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 – 2024-09-30
Input voltage	:	DC 12V
Operation mode	:	A, B, C
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 B.

5.1.9 Carrier Frequency Separation

RESULT: **Pass**

Test Specification

Test standard	:	FCC Part 15.247(a)(1) RSS-247 Clause 5.1(b)
Basic standard	:	ANSI C63.10: 2013
Limits	:	≥ 20dB bandwidth
Kind of test site	:	Shielded Room

Test Setup

Date of testing	:	2024-08-12 – 2024-09-30
Input voltage	:	DC 12V
Operation mode	:	C
Test channel	:	Low / Middle / High
Ambient temperature	:	25 ℃
Relative humidity	:	56 %
Atmospheric pressure	:	101 kPa

Table 14: Test Result of Carrier Frequency Separation

Test Mode	Channel	Channel Frequency (MHz)	Measured Channel Separation (KHz)	Limit (kHz)	Result
Lora Hybrid (FHSS SF7)	Low Channel	903.90010	198.26	≥ 20dB bandwidth	Pass
	Adjacency Channel	904.09836			
	Middle Channel	904.49870	201.16		Pass
	Adjacency Channel	904.69986			
	High Channel	905.10010	201.20		Pass
	Adjacency Channel	905.30130			
Lora Hybrid (FHSS SF9)	Low Channel	903.90010	198.26	≥ 20dB bandwidth	Pass
	Adjacency Channel	904.09836			
	Middle Channel	904.49870	201.16		Pass
	Adjacency Channel	904.69986			
	High Channel	905.10010	201.20		Pass
	Adjacency Channel	905.30130			
Lora Hybrid (FHSS SF10)	Low Channel	903.89870	201.20	≥ 20dB bandwidth	Pass
	Adjacency Channel	904.09990			
	Middle Channel	904.50010	199.71		Pass
	Adjacency Channel	904.69981			
	High Channel	905.10010	201.20		Pass
	Adjacency Channel	905.30130			

Note:

The limit is maximum 20 dB bandwidth: 136.03KHz.

5.1.10 Number of Hopping Frequency

RESULT: **Pass**

Test Specification

Test standard	:	FCC part 15.247(a)(1)(iii) RSS-247 Clause 5.1(d)
Basic standard	:	ANSI C63.10: 2013
Limits	:	≥ 15 non-overlapping channels
Kind of test site	:	Shielded Room

Test Setup

Date of testing	:	2024-08-12 – 2024-09-30
Input voltage	:	DC 12V
Operation mode	:	C
Ambient temperature	:	25 ℃
Relative humidity	:	56 %
Atmospheric pressure	:	101 kPa

Table 15: Test result of hopping channel number

Test Mode	Hopping frequencies	Limit
Lora Hybrid (FHSS SF7)	8	/
Lora Hybrid (FHSS SF9)	8	/
Lora Hybrid (FHSS SF10)	8	/

5.1.11 Time of Occupancy

RESULT: **Pass**

Test Specification

Test standard	:	FCC part 15.247(f) RSS-247 Clause 5.3
Basic standard	:	ANSI C63.10: 2013
Limits	:	< 0.4s
Kind of test site	:	Shielded Room

Test Setup

Date of testing	:	2024-08-12 – 2024-09-30
Input voltage	:	DC 12V
Operation mode	:	C
Test channel	:	Low / Middle / High
Ambient temperature	:	25 ℃
Relative humidity	:	56 %
Atmospheric pressure	:	101 kPa

Table 16: Test result of Channel Occupancy

Test Mode	Period (s)	Channel Occupancy Time (ms)	Limit (ms)
Lora Hybrid (FHSS SF7)	20	29	400
Lora Hybrid (FHSS SF9)	20	115.9	400
Lora Hybrid (FHSS SF10)	20	202.9	400

6 Photographs of the Test Set-Up

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

7 List of Tables

Appendix A: Test Results

Appendix A.1: 6dB Bandwidth

Lora DTS 7
Low Channel

Date: 6.SEP.2024 22:17:48

Middle Channel

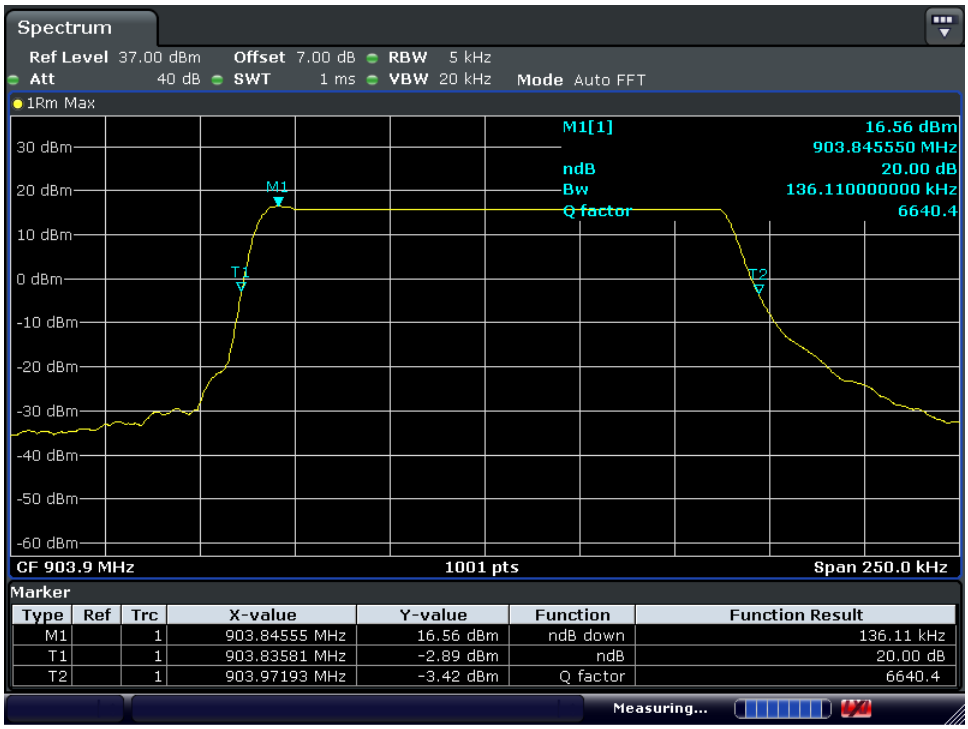
Date: 6.SEP.2024 22:16:03

High Channel

Appendix A.2: 20dB Bandwidth

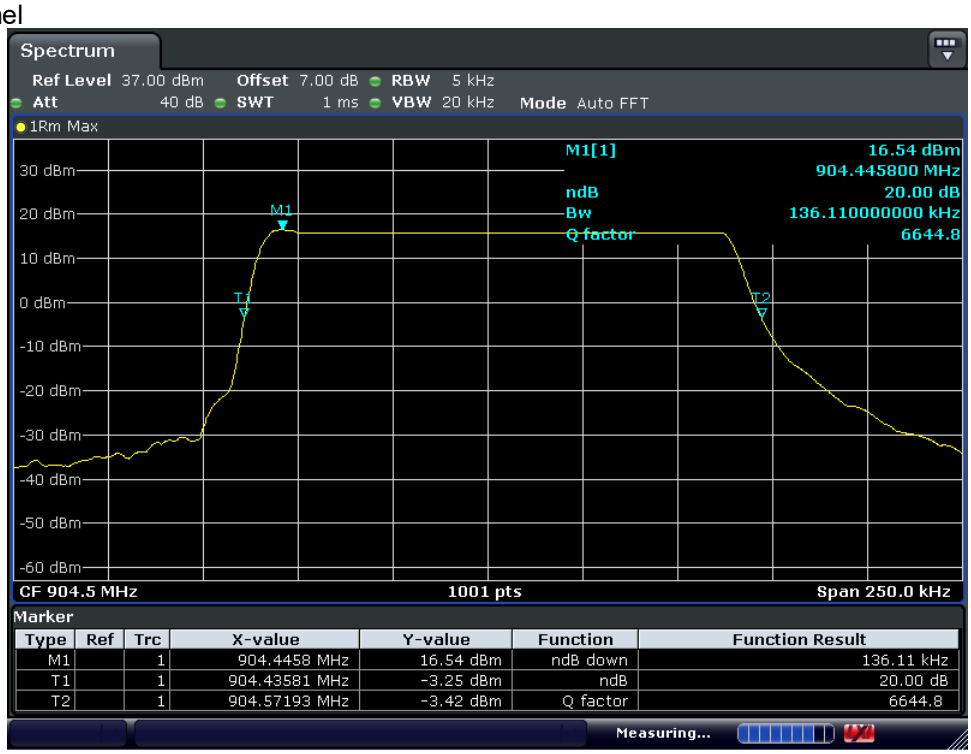
Lora Hybrid SF7

Low Channel



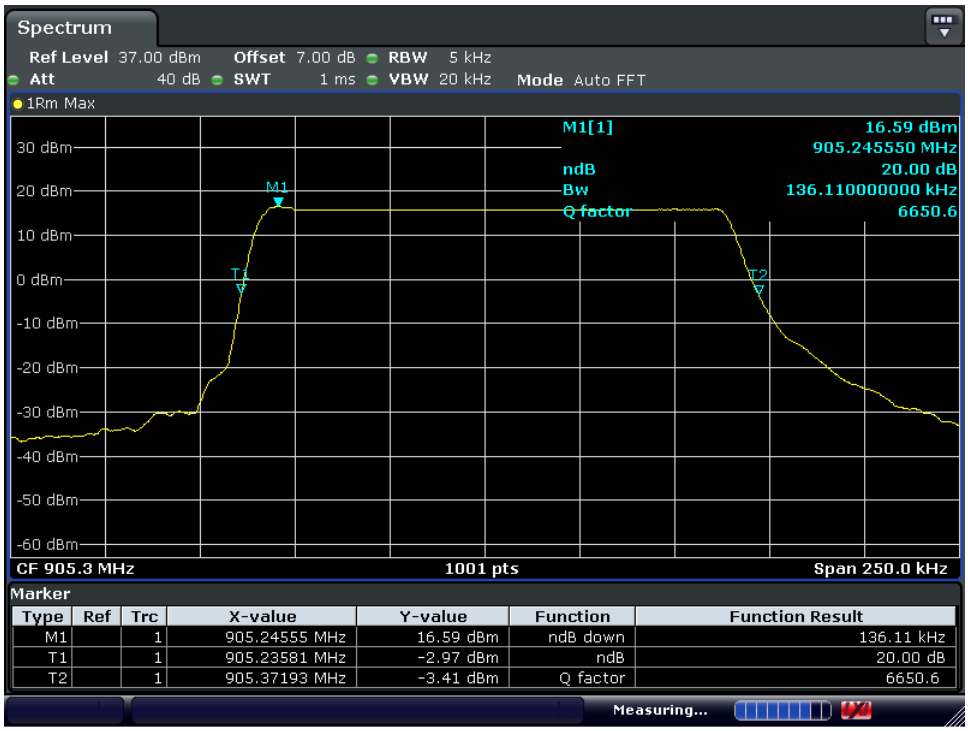
Date: 20.SEP.2024 15:59:42

Middle Channel



Date: 20.SEP.2024 16:02:13

High Channel



Date: 20.SEP.2024 16:03:50

Appendix A.3: 99% Bandwidth

Lora DTS SF7

Low Channel

Date: 6.SEP.2024 21:42:16

Middle Channel

Date: 6.SEP.2024 21:41:36

High Channel

Date: 6.SEP.2024 21:44:52

Lora Hybrid SF7

Low Channel

Date: 6.SEP.2024 22:00:02

Middle Channel

Date: 6.SEP.2024 21:59:00

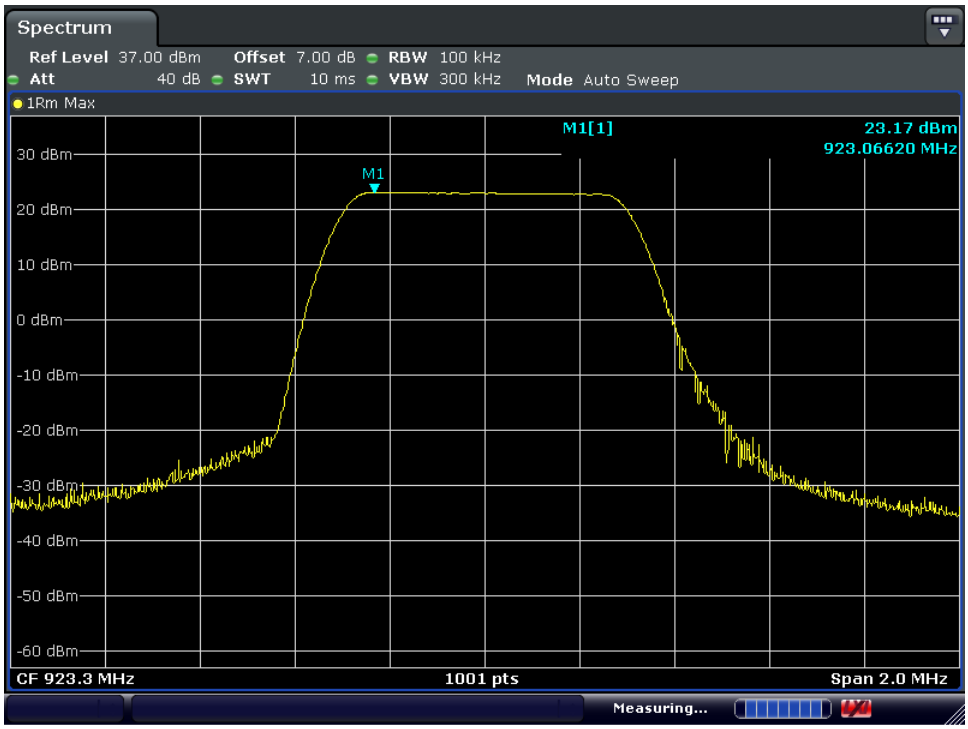
High Channel

Date: 6.SEP.2024 21:49:53

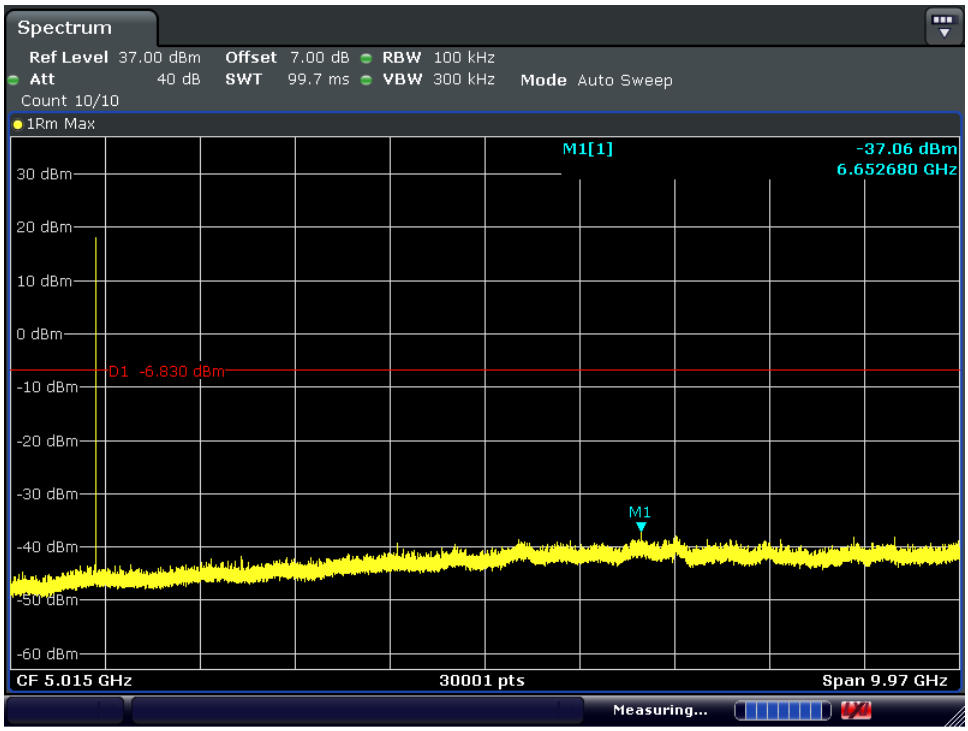
Appendix A.4: Conducted Spurious Emissions Measured in 100 kHz Bandwidth

Lora DTS SF7

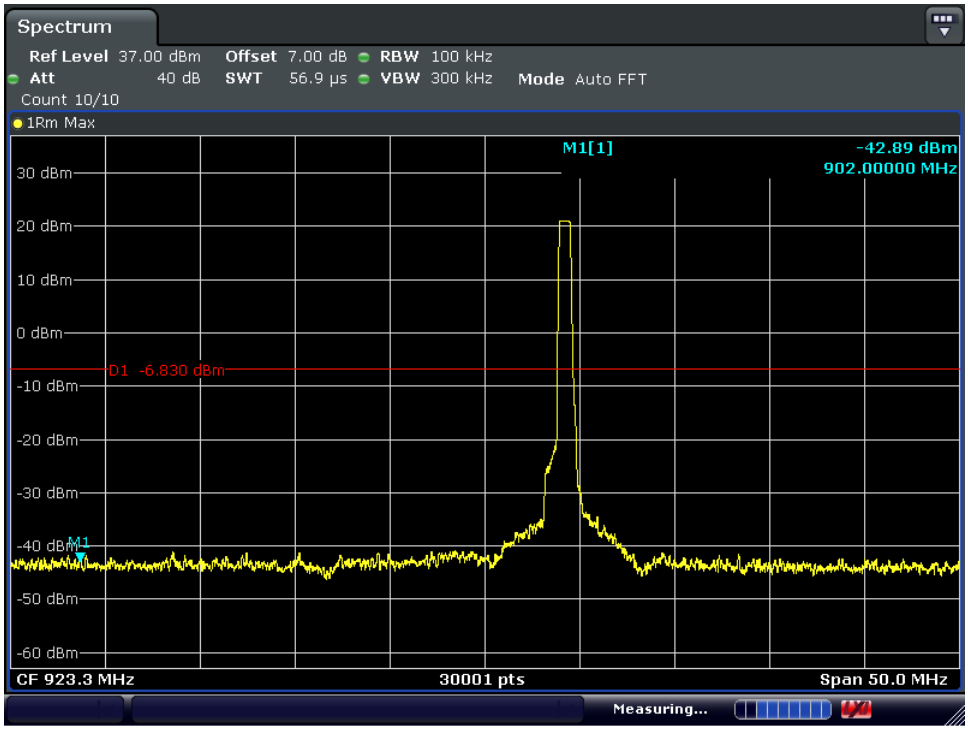
Low Channel



Date: 14.SEP.2024 14:11:44

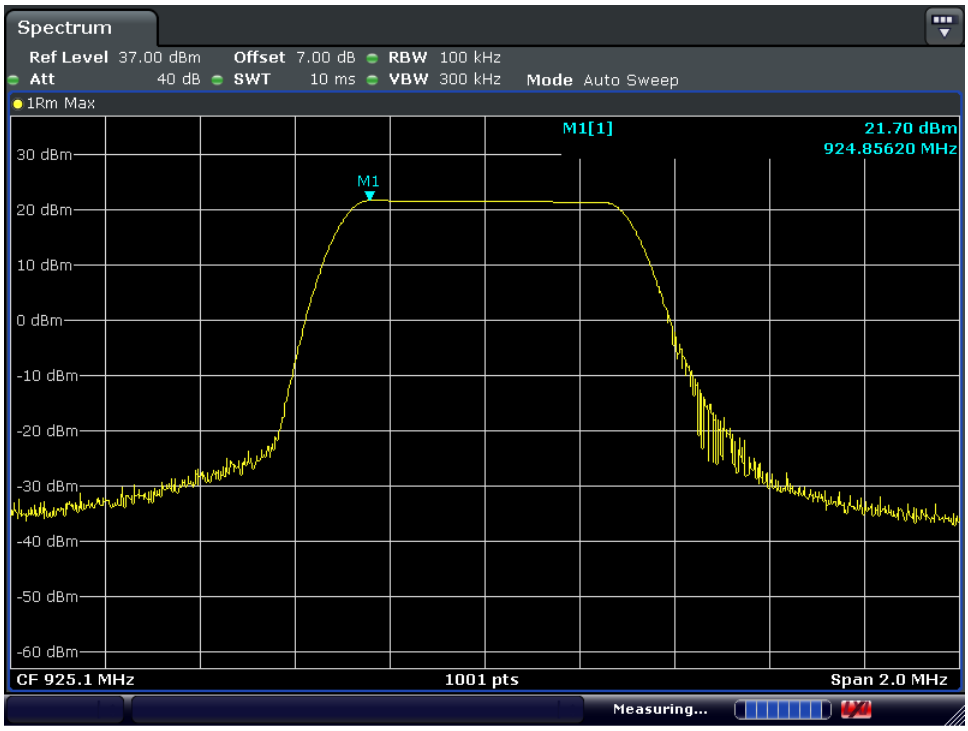


Date: 14.SEP.2024 14:25:54

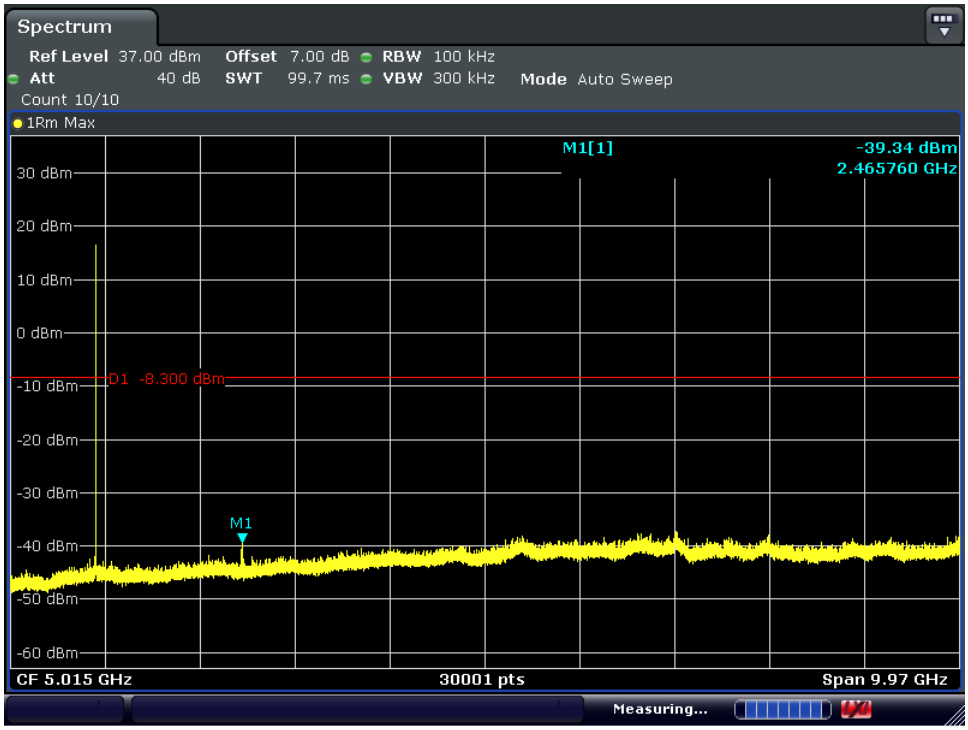


Date: 14.SEP.2024 14:44:02

Middle Channel

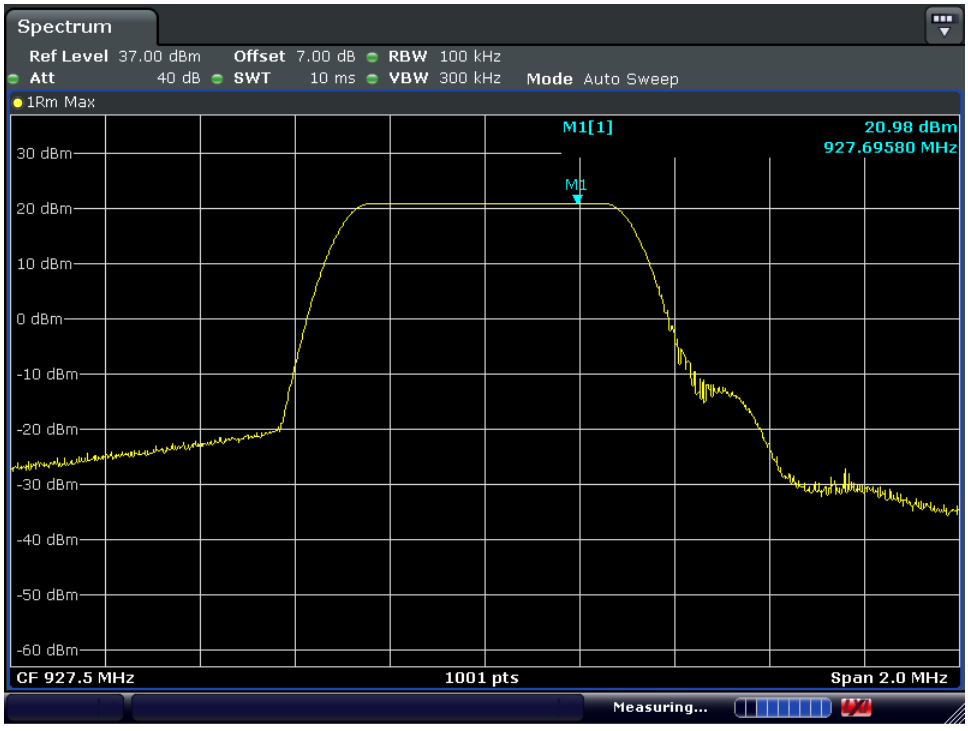


Date: 14.SEP.2024 14:07:50

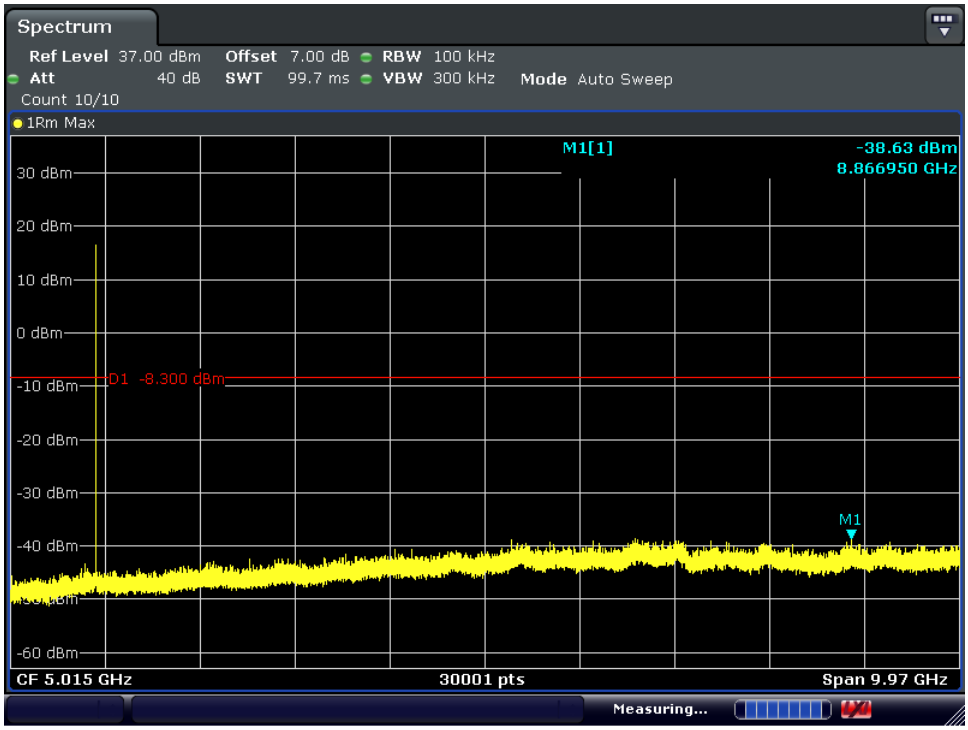


Date: 14.SEP.2024 14:38:55

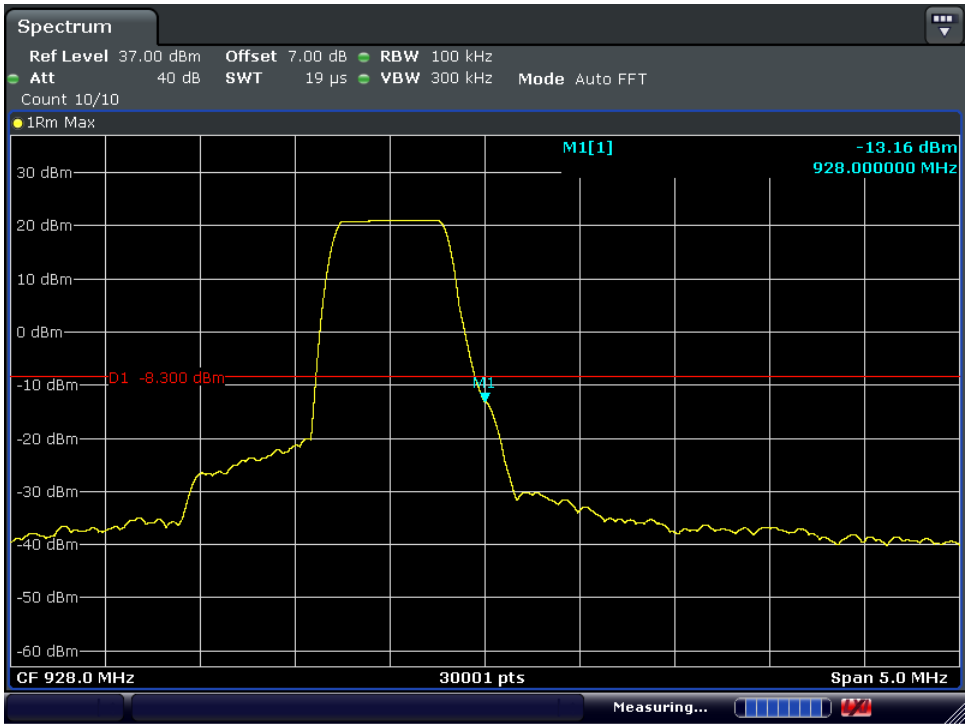
High Channel



Date: 14.SEP.2024 14:09:47



Date: 14.SEP.2024 14:40:47

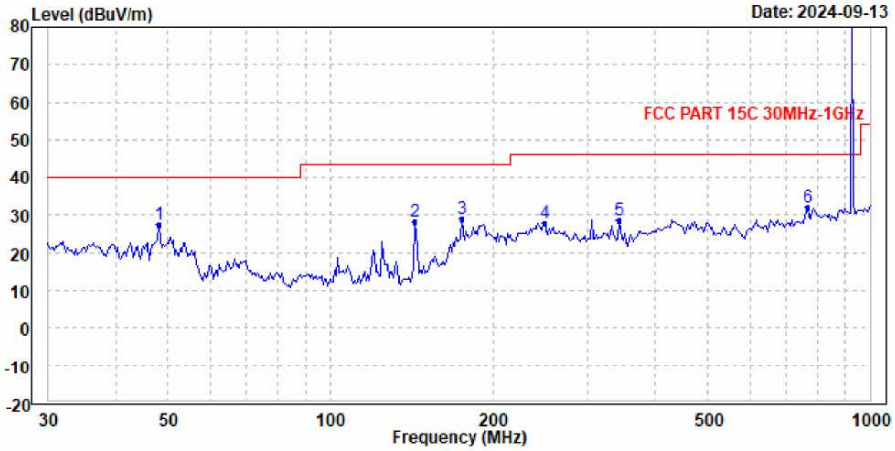


Date: 14.SEP.2024 14:42:17

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

Appendix A.5: Test Results of Radiated Spurious Emissions

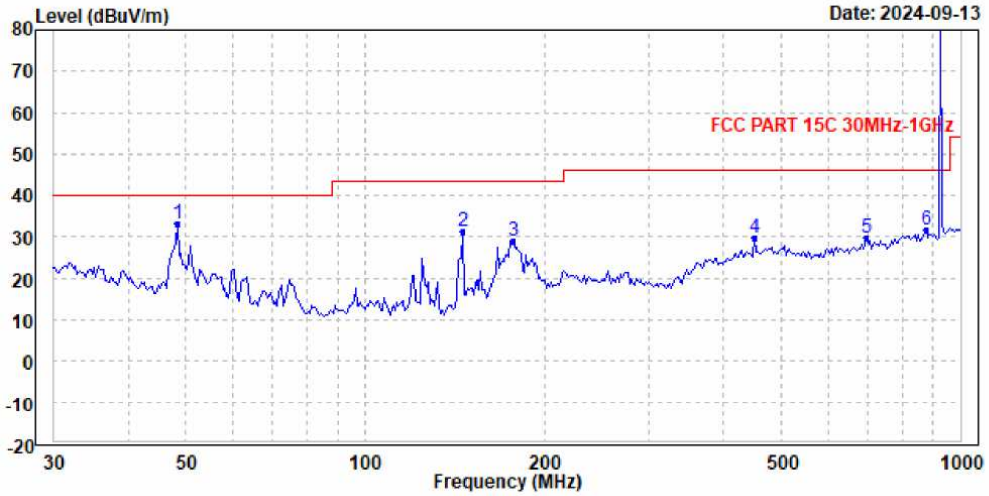
UnionTrust Shenzhen UnionTrust Quality and Technology Co., Ltd.



Condition : 3m Horizontal
Temp.(C)/Hum.(%): 24.4(C)/59.6(%)
Press : 100.0kpa
Product : WisGate Soho Pro
Model No. : RAK7267
Power Rating : DC_12V
Test Engineer : Bowie
Test Mode : loar Link
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	48.039	27.46	40.65	14.90	0.00	0.81	28.90	40.00	-12.54	Peak
2	143.776	28.16	43.10	12.78	0.00	1.22	28.94	43.50	-15.34	Peak
3	175.041	29.00	40.44	16.20	0.00	1.34	28.98	43.50	-14.50	Peak
4	250.486	27.95	38.56	16.90	0.00	1.54	29.05	46.00	-18.05	Peak
5	343.651	28.79	35.88	20.29	0.00	1.76	29.14	46.00	-17.21	Peak
6	765.648	31.91	29.65	29.01	0.00	2.50	29.25	46.00	-14.09	Peak

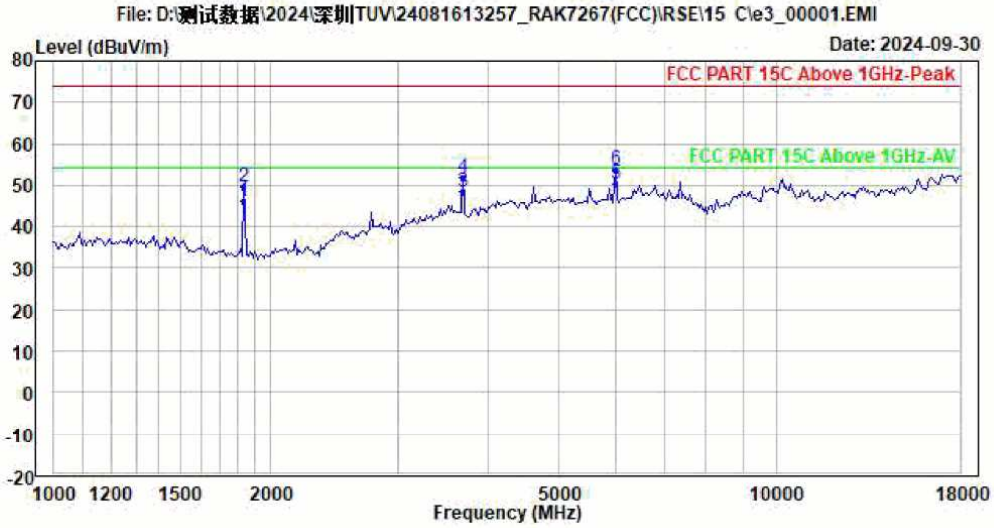
UnionTrust Shenzhen UnionTrust Quality and Technology Co., Ltd.




```
Condition       : 3m Vertical
Temp.(C)/Hum.(%): 24.4(C)/59.6(%)
Press           : 100.0kpa
Product         : WisGate Soho Pro
Model No.       : RAK7267
Power Rating    : DC_12V
Test Engineer   : Bowie
Test Mode       : loar Link
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	48.378	33.22	46.46	14.86	0.00	0.80	28.90	40.00	-6.78	Peak
2	145.811	31.25	46.10	12.88	0.00	1.22	28.95	43.50	-12.25	Peak
3	177.518	28.97	40.61	16.00	0.00	1.34	28.98	43.50	-14.53	Peak
4	452.001	29.69	33.79	23.20	0.00	1.98	29.28	46.00	-16.31	Peak
5	693.910	29.83	28.25	28.58	0.00	2.36	29.36	46.00	-16.17	Peak
6	875.013	31.87	27.53	30.70	0.00	2.73	29.09	46.00	-14.13	Peak

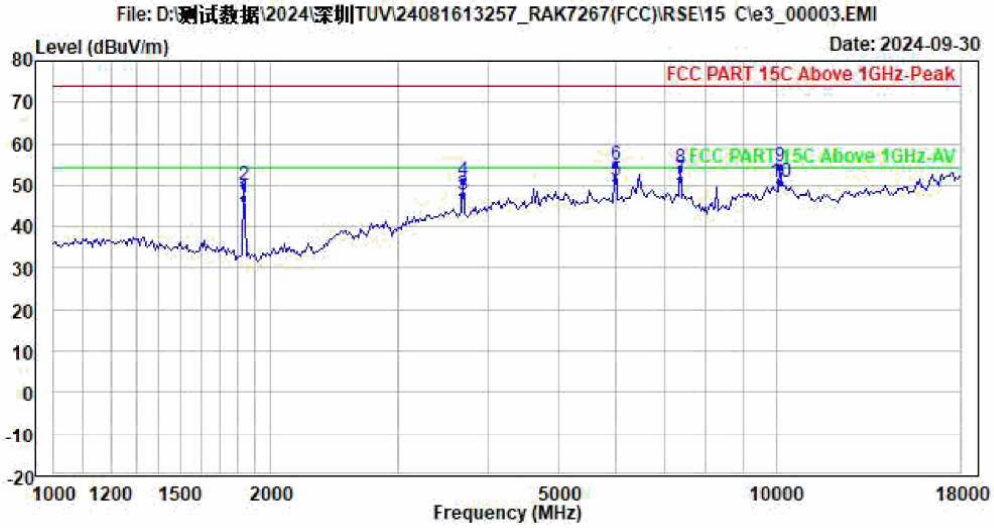
UnionTrust Shenzhen UnionTrust Quality and Technology Co., Ltd.




```
Condition       : 3m Horizontal
Temp.(C)/Hum.(%): 24.3 (C)/54.6(%)
Press           : 100.2kpa
Product         : WisGate Soho Pro
Model No.       : RAK7267
Power Rating    : AC_120V/60Hz
Test Engineer   : Bowie
Test Mode       : 923.1Mhz
Remark          :
```

		Freq	Level	Read Level	Ant Factor	Cable Loss	Aux Factor	Preamp Factor	Limit Line	Over Limit	Remark
		MHz	dBuV/m	dBuV	dB/m	dB	dB	dB	dBuV/m	dB	
1		1837.111	46.17	56.48	30.51	6.42	0.00	47.24	54.00	-7.83	Average
2		1837.111	49.70	60.01	30.51	6.42	0.00	47.24	74.00	-24.30	Peak
3		3681.329	48.53	51.23	34.78	8.73	0.00	46.21	54.00	-5.47	Average
4		3681.329	51.78	54.48	34.78	8.73	0.00	46.21	74.00	-22.22	Peak
5	PP	5988.431	50.33	49.54	35.99	9.81	0.00	45.01	54.00	-3.67	Average
6	PK	5988.431	53.58	52.79	35.99	9.81	0.00	45.01	74.00	-20.42	Peak

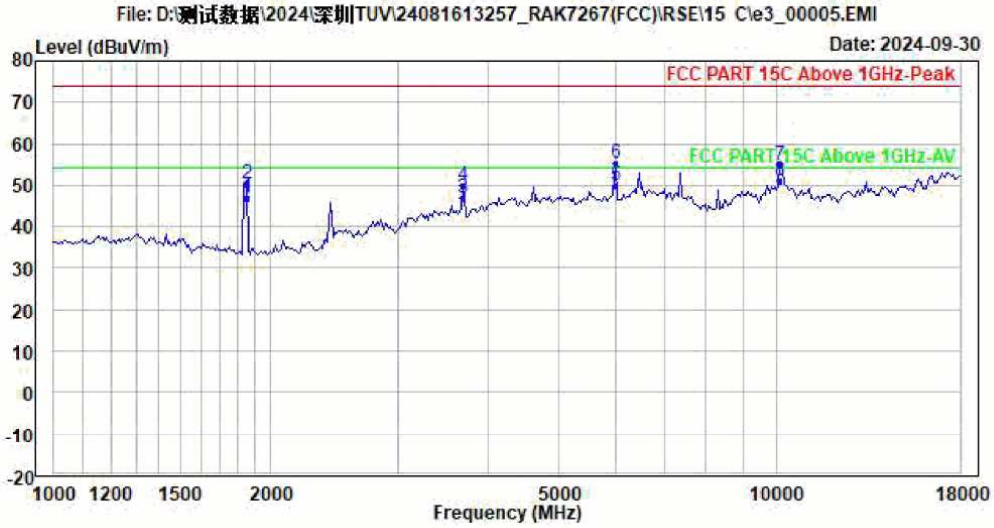
UnionTrust Shenzhen UnionTrust Quality and Technology Co., Ltd.



Condition : 3m Vertical
Temp.(C)/Hum.(%): 24.3 (C)/54.6(%)
Press : 100.2kpa
Product : WisGate Soho Pro
Model No. : RAK7267
Power Rating : AC_120V/60Hz
Test Engineer : Bowie
Test Mode : 923.1Mhz
Remark :

	Freq	Level	Read Level	Ant Factor	Cable Loss	Aux Factor	Preamp Factor	Limit Line	Over Limit	Remark
	MHz	dBuV/m	dBuV	dB/m	dB	dB	dB	dBuV/m	dB	
1	1837.111	46.94	57.25	30.51	6.42	0.00	47.24	54.00	-7.06	Average
2	1837.111	49.90	60.21	30.51	6.42	0.00	47.24	74.00	-24.10	Peak
3	3681.329	47.78	50.48	34.78	8.73	0.00	46.21	54.00	-6.22	Average
4	3681.329	51.08	53.78	34.78	8.73	0.00	46.21	74.00	-22.92	Peak
5	5988.431	51.27	50.48	35.99	9.81	0.00	45.01	54.00	-2.73	Average
6 PK	5988.431	54.82	54.03	35.99	9.81	0.00	45.01	74.00	-19.18	Peak
7 PP	7376.898	51.40	49.61	36.98	10.39	0.00	45.58	54.00	-2.60	Average
8	7376.898	54.19	52.40	36.98	10.39	0.00	45.58	74.00	-19.81	Peak
9	10144.500	54.35	50.03	39.03	11.99	0.00	46.70	74.00	-19.65	Peak
10	10144.500	50.80	46.48	39.03	11.99	0.00	46.70	54.00	-3.20	Average

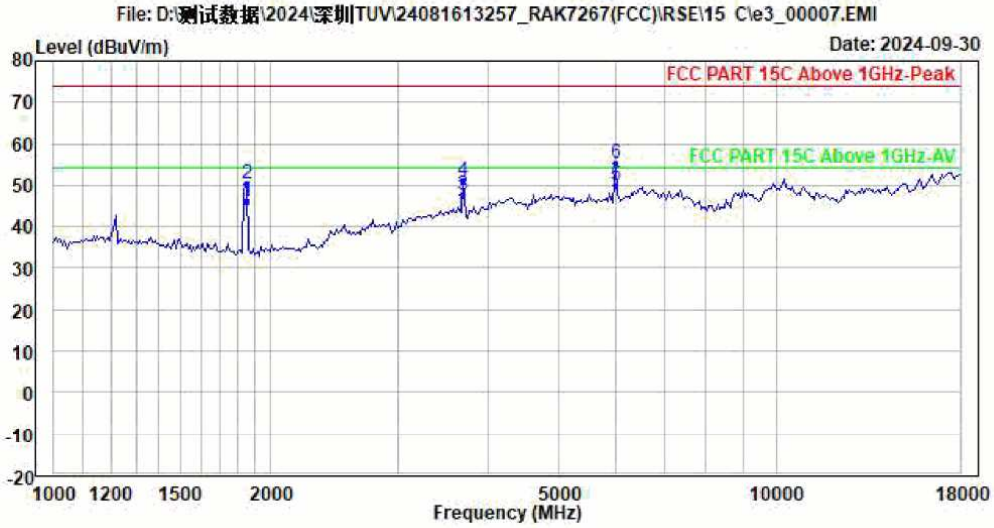
UnionTrust Shenzhen UnionTrust Quality and Technology Co., Ltd.



Condition : 3m Vertical
Temp.(C)/Hum.(%): 24.3 (C)/54.6(%)
Press : 100.2kpa
Product : WisGate Soho Pro
Model No. : RAK7267
Power Rating : AC_120V/60Hz
Test Engineer : Bowie
Test Mode : 925.1Mhz
Remark :

	Freq	Level	Read Level	Ant Factor	Cable Loss	Aux Factor	Preamp Factor	Limit Line	Over Limit	Remark
	MHz	dBuV/m	dBuV	dB/m	dB	dB	dB	dBuV/m	dB	
1	1847.783	46.89	57.17	30.53	6.44	0.00	47.25	54.00	-7.11	Average
2	1847.783	50.24	60.52	30.53	6.44	0.00	47.25	74.00	-23.76	Peak
3	3681.329	46.78	49.48	34.78	8.73	0.00	46.21	54.00	-7.22	Average
4	3681.329	50.04	52.74	34.78	8.73	0.00	46.21	74.00	-23.96	Peak
5	5988.431	49.95	49.16	35.99	9.81	0.00	45.01	54.00	-4.05	Average
6	PK 5988.431	55.20	54.41	35.99	9.81	0.00	45.01	74.00	-18.80	Peak
7	10144.500	54.97	50.65	39.03	11.99	0.00	46.70	74.00	-19.03	Peak
8	PP10144.500	51.17	46.85	39.03	11.99	0.00	46.70	54.00	-2.83	Average

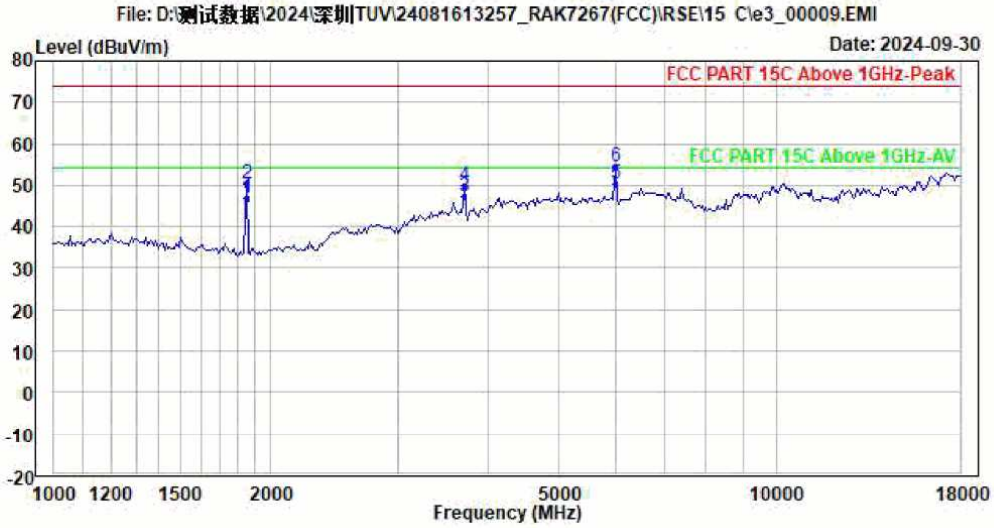
UnionTrust Shenzhen UnionTrust Quality and Technology Co., Ltd.



Condition : 3m Horizontal
Temp.(C)/Hum.(%): 24.3 (C)/54.6(%)
Press : 100.2kpa
Product : WisGate Soho Pro
Model No. : RAK7267
Power Rating : AC_120V/60Hz
Test Engineer : Bowie
Test Mode : 925.1Mhz
Remark :

	Freq	Level	Read Level	Ant Factor	Cable Loss	Aux Factor	Preamp Factor	Limit Line	Over Limit	Remark
	MHz	dBuV/m	dBuV	dB/m	dB	dB	dB	dBuV/m	dB	
1	1847.783	46.20	56.48	30.53	6.44	0.00	47.25	54.00	-7.80	Average
2	1847.783	50.18	60.46	30.53	6.44	0.00	47.25	74.00	-23.82	Peak
3	3681.329	47.57	50.27	34.78	8.73	0.00	46.21	54.00	-6.43	Average
4	3681.329	50.95	53.65	34.78	8.73	0.00	46.21	74.00	-23.05	Peak
5 PP	5988.431	50.08	49.29	35.99	9.81	0.00	45.01	54.00	-3.92	Average
6 PK	5988.431	55.41	54.62	35.99	9.81	0.00	45.01	74.00	-18.59	Peak

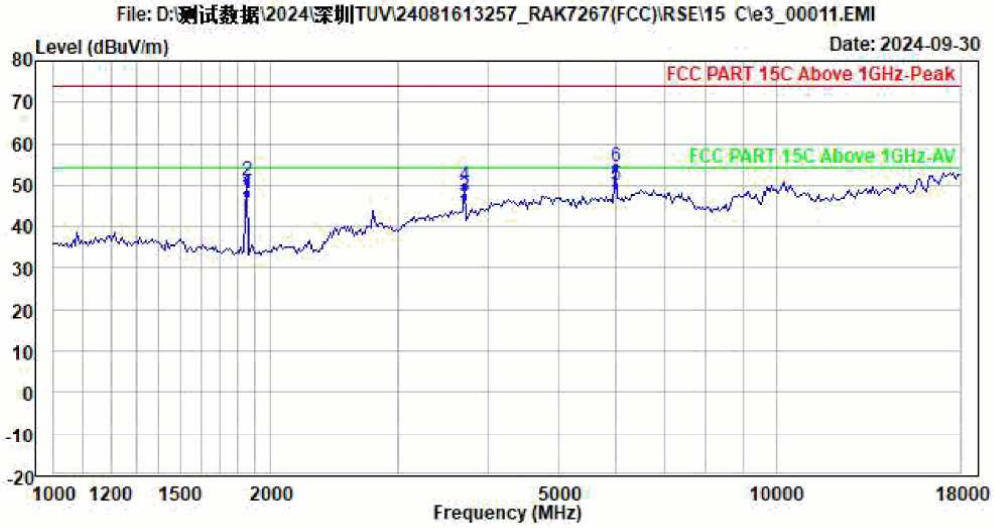
UnionTrust Shenzhen UnionTrust Quality and Technology Co., Ltd.



Condition : 3m Vertical
Temp.(C)/Hum.(%): 24.3 (C)/54.6(%)
Press : 100.2kpa
Product : WisGate Soho Pro
Model No. : RAK7267
Power Rating : AC_120V/60Hz
Test Engineer : Bowie
Test Mode : 927.5Mhz
Remark :

	Freq	Level	Read Level	Ant Factor	Cable Loss	Aux Factor	Preamp Factor	Limit Line	Over Limit	Remark
	MHz	dBuV/m	dBuV	dB/m	dB	dB	dB	dBuV/m	dB	
1	1847.783	47.05	57.33	30.53	6.44	0.00	47.25	54.00	-6.95	Average
2	1847.783	50.16	60.44	30.53	6.44	0.00	47.25	74.00	-23.84	Peak
3	3702.714	47.31	49.94	34.80	8.75	0.00	46.18	54.00	-6.69	Average
4	3702.714	50.10	52.73	34.80	8.75	0.00	46.18	74.00	-23.90	Peak
5 PP	5988.431	50.38	49.59	35.99	9.81	0.00	45.01	54.00	-3.62	Average
6 PK	5988.431	54.44	53.65	35.99	9.81	0.00	45.01	74.00	-19.56	Peak

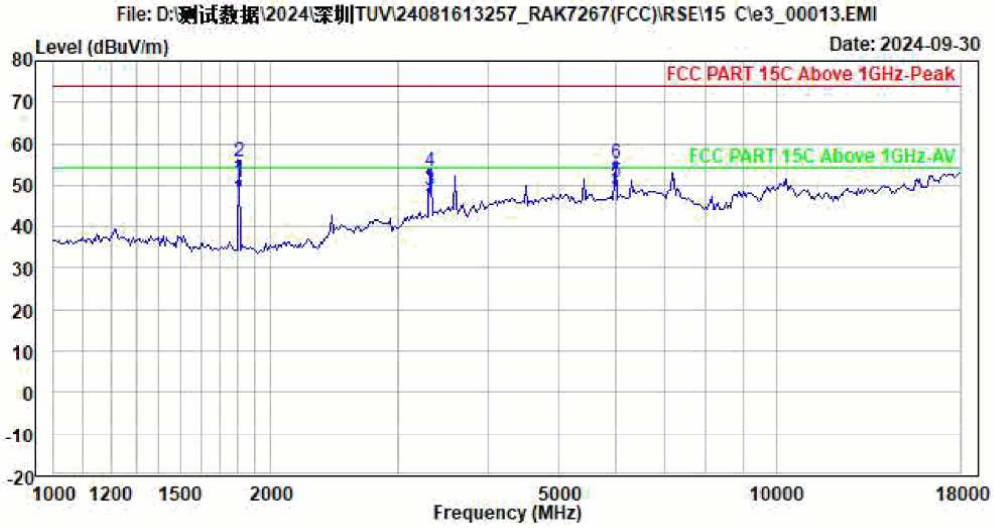
UnionTrust Shenzhen UnionTrust Quality and Technology Co., Ltd.



Condition : 3m Horizontal
Temp.(C)/Hum.(%): 24.3 (C)/54.6(%)
Press : 100.2kpa
Product : WisGate Soho Pro
Model No. : RAK7267
Power Rating : AC_120V/60Hz
Test Engineer : Bowie
Test Mode : 927.5Mhz
Remark :

	Freq	Level	Read Level	Ant Factor	Cable Loss	Aux Factor	Preamp Factor	Limit Line	Over Limit	Remark
	MHz	dBuV/m	dBuV	dB/m	dB	dB	dB	dBuV/m	dB	
1	1847.783	47.95	58.23	30.53	6.44	0.00	47.25	54.00	-6.05	Average
2	1847.783	51.29	61.57	30.53	6.44	0.00	47.25	74.00	-22.71	Peak
3	3702.714	47.16	49.79	34.80	8.75	0.00	46.18	54.00	-6.84	Average
4	3702.714	50.09	52.72	34.80	8.75	0.00	46.18	74.00	-23.91	Peak
5 PP	5988.431	50.02	49.23	35.99	9.81	0.00	45.01	54.00	-3.98	Average
6 PK	5988.431	54.42	53.63	35.99	9.81	0.00	45.01	74.00	-19.58	Peak

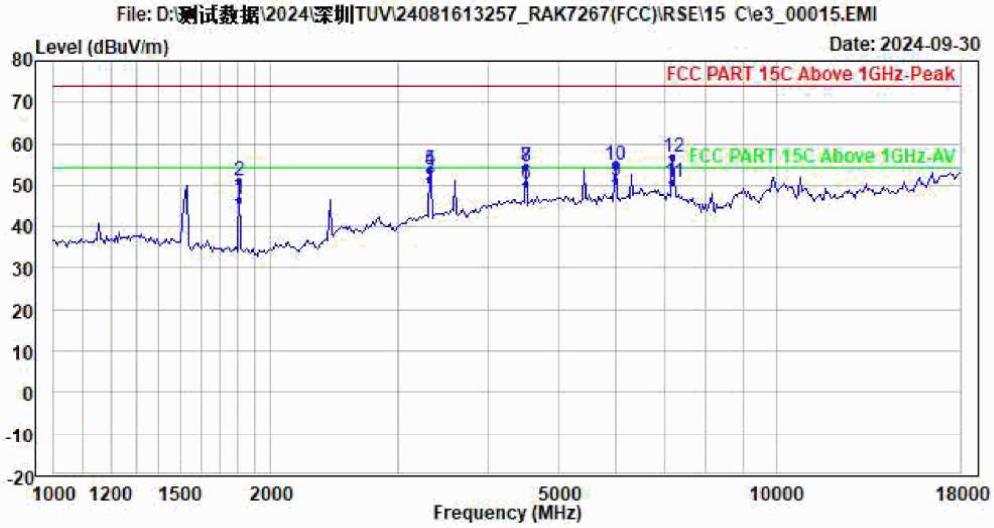
UnionTrust Shenzhen UnionTrust Quality and Technology Co., Ltd.



Condition : 3m Horizontal
Temp.(C)/Hum.(%): 24.3 (C)/54.6(%)
Press : 100.2kpa
Product : WisGate Soho Pro
Model No. : RAK7267
Power Rating : AC_120V/60Hz
Test Engineer : Bowie
Test Mode : 903.9Mhz
Remark :

		Freq	Level	Read Level	Ant Factor	Cable Loss	Aux Factor	Preamp Factor	Limit Line	Over Limit	Remark
		MHz	dBuV/m	dBuV	dB/m	dB	dB	dB	dBuV/m	dB	
1		1805.464	50.75	61.18	30.45	6.33	0.00	47.21	54.00	-3.25	Average
2	PK	1805.464	55.83	66.26	30.45	6.33	0.00	47.21	74.00	-18.17	Peak
3		3316.838	48.86	53.04	34.23	8.42	0.00	46.83	54.00	-5.14	Average
4		3316.838	53.41	57.59	34.23	8.42	0.00	46.83	74.00	-20.59	Peak
5	PP	5988.431	50.84	50.05	35.99	9.81	0.00	45.01	54.00	-3.16	Average
6		5988.431	55.12	54.33	35.99	9.81	0.00	45.01	74.00	-18.88	Peak

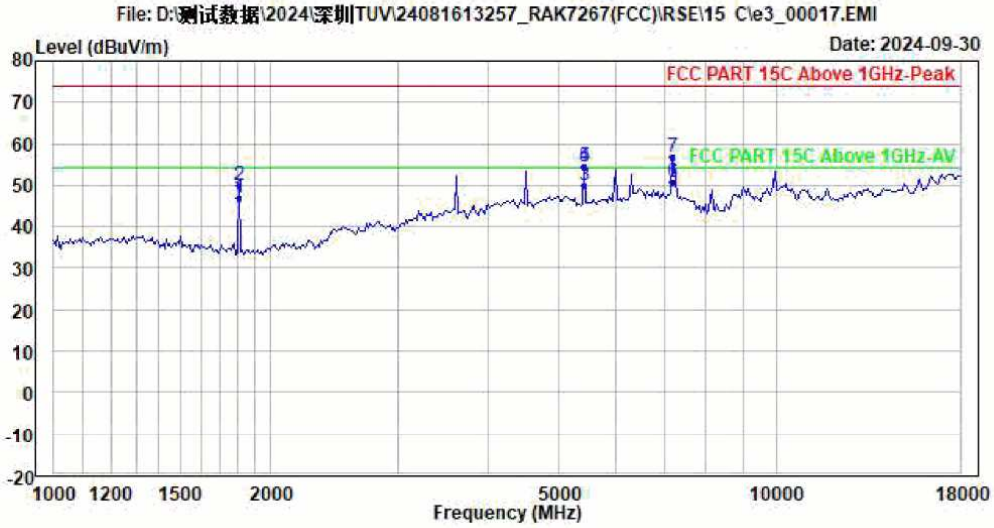
UnionTrust Shenzhen UnionTrust Quality and Technology Co., Ltd.



Condition : 3m Vertical
Temp.(C)/Hum.(%): 24.3 (C)/54.6(%)
Press : 100.2kpa
Product : WisGate Soho Pro
Model No. : RAK7267
Power Rating : AC_120V/60Hz
Test Engineer : Bowie
Test Mode : 903.9Mhz
Remark :

		Freq	Level	Read Level	Ant Factor	Cable Loss	Aux Factor	Preamp Factor	Limit Line	Over Limit	Remark
		MHz	dBuV/m	dBuV	dB/m	dB	dB	dB	dBuV/m	dB	
1		1805.464	46.40	56.83	30.45	6.33	0.00	47.21	54.00	-7.60	Average
2		1805.464	51.20	61.63	30.45	6.33	0.00	47.21	74.00	-22.80	Peak
3	PP	3316.838	51.44	55.62	34.23	8.42	0.00	46.83	54.00	-2.56	Average
4		3316.838	53.90	58.08	34.23	8.42	0.00	46.83	74.00	-20.10	Peak
5		3316.838	53.90	58.08	34.23	8.42	0.00	46.83	74.00	-20.10	Peak
6		4508.684	50.39	51.67	35.31	9.21	0.00	45.80	54.00	-3.61	Average
7		4508.684	54.57	55.85	35.31	9.21	0.00	45.80	74.00	-19.43	Peak
8		4508.684	54.57	55.85	35.31	9.21	0.00	45.80	74.00	-19.43	Peak
9		5988.431	51.04	50.25	35.99	9.81	0.00	45.01	54.00	-2.96	Average
10		5988.431	54.97	54.18	35.99	9.81	0.00	45.01	74.00	-19.03	Peak
11		7207.945	50.91	49.17	36.94	10.34	0.00	45.54	54.00	-3.09	Average
12	PK	7207.945	56.67	54.93	36.94	10.34	0.00	45.54	74.00	-17.33	Peak

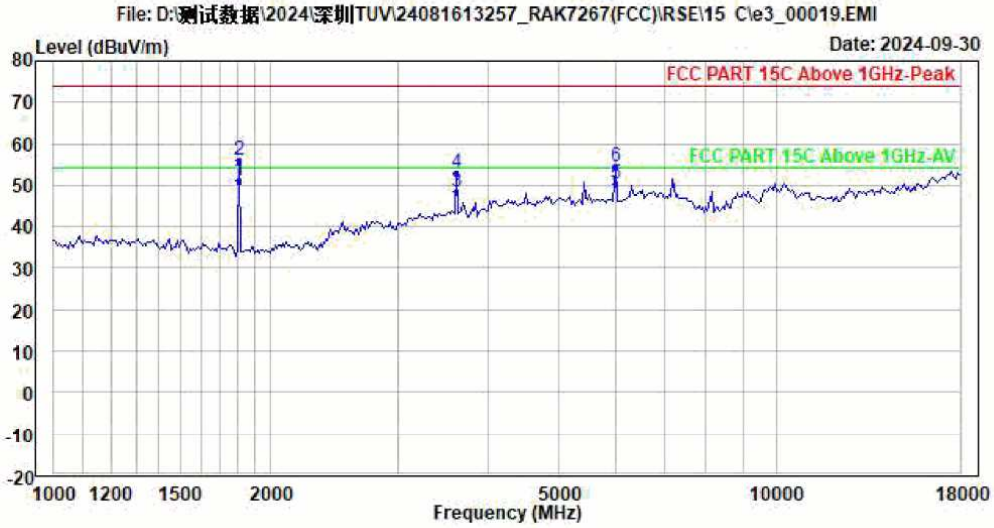
UnionTrust Shenzhen UnionTrust Quality and Technology Co., Ltd.



Condition : 3m Vertical
Temp.(C)/Hum.(%): 24.3 (C)/54.6(%)
Press : 100.2kpa
Product : WisGate Soho Pro
Model No. : RAK7267
Power Rating : AC_120V/60Hz
Test Engineer : Bowie
Test Mode : 904.5Mhz
Remark :

	Freq	Level	Read Level	Ant Factor	Cable Loss	Aux Factor	Preamp Factor	Limit Line	Over Limit	Remark
	MHz	dBuV/m	dBuV	dB/m	dB	dB	dB	dBuV/m	dB	
1	1805.464	46.80	57.23	30.45	6.33	0.00	47.21	54.00	-7.20	Average
2	1805.464	50.14	60.57	30.45	6.33	0.00	47.21	74.00	-23.86	Peak
3	5426.855	50.04	50.33	35.60	9.58	0.00	45.47	54.00	-3.96	Average
4	5426.855	54.37	54.66	35.60	9.58	0.00	45.47	74.00	-19.63	Peak
5	5426.855	54.37	54.66	35.60	9.58	0.00	45.47	74.00	-19.63	Peak
6 PP	7207.945	50.88	49.14	36.94	10.34	0.00	45.54	54.00	-3.12	Average
7 PK	7207.945	56.69	54.95	36.94	10.34	0.00	45.54	74.00	-17.31	Peak

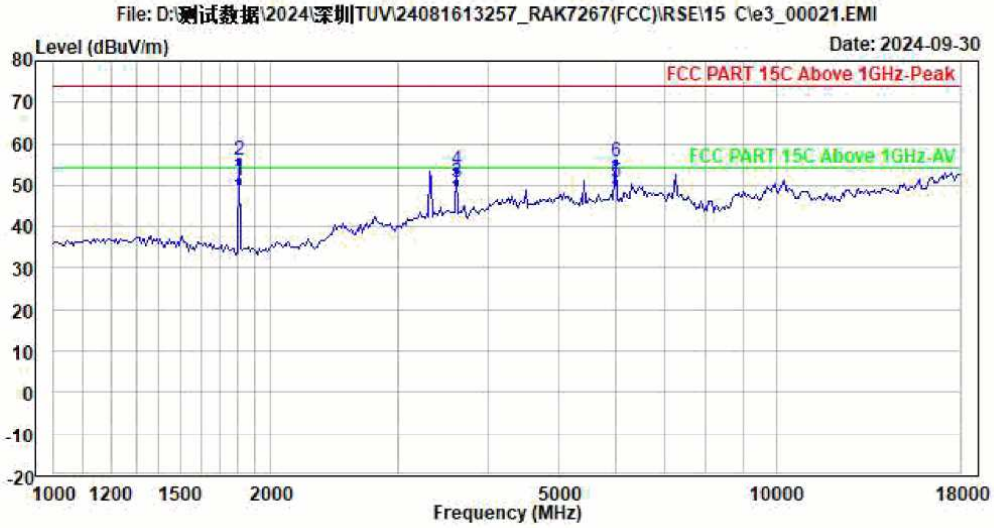
UnionTrust Shenzhen UnionTrust Quality and Technology Co., Ltd.



Condition : 3m Horizontal
Temp.(C)/Hum.(%): 24.3 (C)/54.6(%)
Press : 100.2kpa
Product : WisGate Soho Pro
Model No. : RAK7267
Power Rating : AC_120V/60Hz
Test Engineer : Bowie
Test Mode : 904.5Mhz
Remark :

		Freq	Level	Read Level	Ant Factor	Cable Loss	Aux Factor	Preamp Factor	Limit Line	Over Limit	Remark
		MHz	dBuV/m	dBuV	dB/m	dB	dB	dB	dBuV/m	dB	
1	PP	1805.464	51.21	61.64	30.45	6.33	0.00	47.21	54.00	-2.79	Average
2	PK	1805.464	56.12	66.55	30.45	6.33	0.00	47.21	74.00	-17.88	Peak
3		3617.911	48.60	51.51	34.72	8.68	0.00	46.31	54.00	-5.40	Average
4		3617.911	52.82	55.73	34.72	8.68	0.00	46.31	74.00	-21.18	Peak
5		5988.431	50.26	49.47	35.99	9.81	0.00	45.01	54.00	-3.74	Average
6		5988.431	54.61	53.82	35.99	9.81	0.00	45.01	74.00	-19.39	Peak

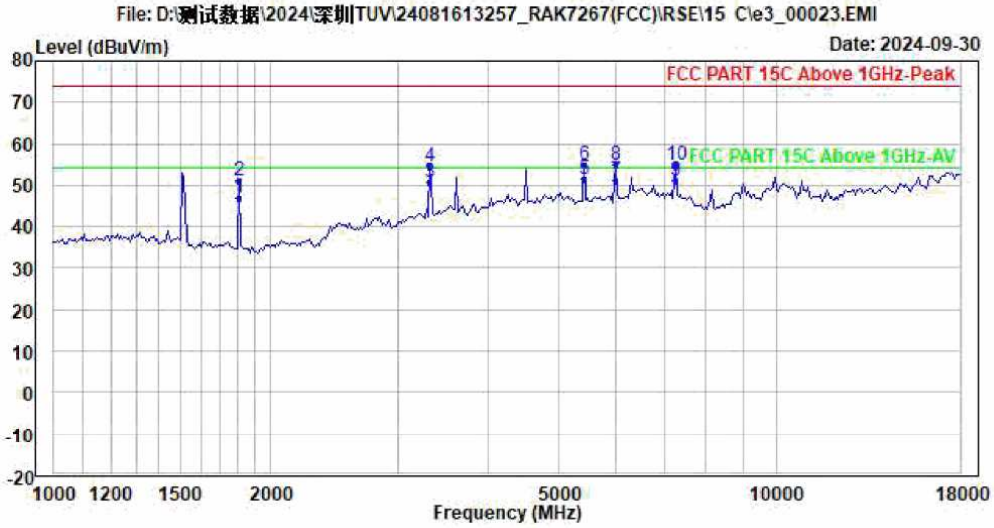
UnionTrust Shenzhen UnionTrust Quality and Technology Co., Ltd.



Condition : 3m Horizontal
Temp.(C)/Hum.(%): 24.3 (C)/54.6(%)
Press : 100.2kpa
Product : WisGate Soho Pro
Model No. : RAK7267
Power Rating : AC_120V/60Hz
Test Engineer : Bowie
Test Mode : 905.3Mhz
Remark :

		Freq	Level	Read Level	Ant Factor	Cable Loss	Aux Factor	Preamp Factor	Limit Line	Over Limit	Remark
		MHz	dBuV/m	dBuV	dB/m	dB	dB	dB	dBuV/m	dB	
1	PP	1805.464	50.93	61.36	30.45	6.33	0.00	47.21	54.00	-3.07	Average
2	PK	1805.464	56.05	66.48	30.45	6.33	0.00	47.21	74.00	-17.95	Peak
3		3617.911	50.53	53.44	34.72	8.68	0.00	46.31	54.00	-3.47	Average
4		3617.911	53.90	56.81	34.72	8.68	0.00	46.31	74.00	-20.10	Peak
5		5988.431	50.87	50.08	35.99	9.81	0.00	45.01	54.00	-3.13	Average
6		5988.431	55.81	55.02	35.99	9.81	0.00	45.01	74.00	-18.19	Peak

UnionTrust Shenzhen UnionTrust Quality and Technology Co., Ltd.

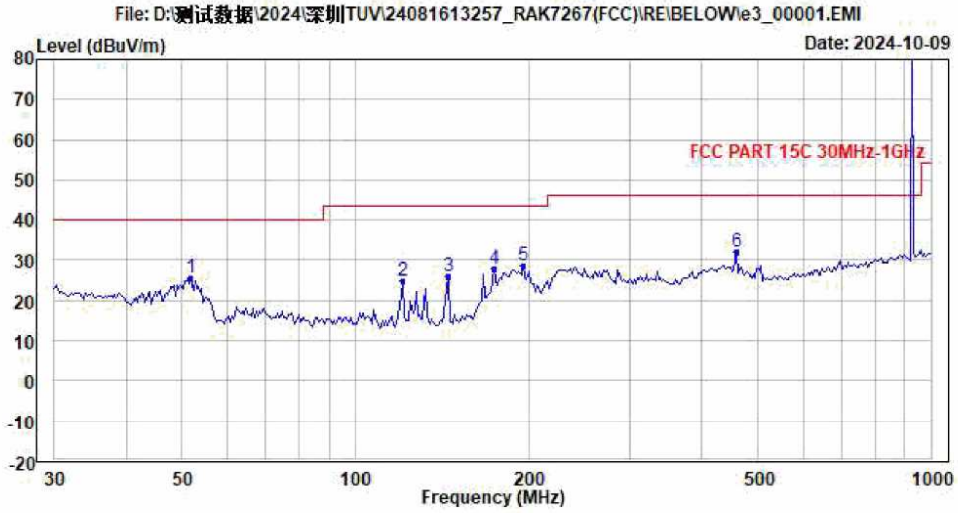


Condition : 3m Vertical
Temp.(C)/Hum.(%): 24.3 (C)/54.6(%)
Press : 100.2kpa
Product : WisGate Soho Pro
Model No. : RAK7267
Power Rating : AC_120V/60Hz
Test Engineer : Bowie
Test Mode : 905.3Mhz
Remark :

		Freq	Level	Read Level	Ant Factor	Cable Loss	Aux Factor	Preamp Factor	Limit Line	Over Limit	Remark
		MHz	dBuV/m	dBuV	dB/m	dB	dB	dB	dBuV/m	dB	
1		1805.464	46.78	57.21	30.45	6.33	0.00	47.21	54.00	-7.22	Average
2		1805.464	50.94	61.37	30.45	6.33	0.00	47.21	74.00	-23.06	Peak
3		3316.838	50.69	54.87	34.23	8.42	0.00	46.83	54.00	-3.31	Average
4		3316.838	54.54	58.72	34.23	8.42	0.00	46.83	74.00	-19.46	Peak
5	PP	5426.855	51.36	51.65	35.60	9.58	0.00	45.47	54.00	-2.64	Average
6		5426.855	54.76	55.05	35.60	9.58	0.00	45.47	74.00	-19.24	Peak
7		5988.431	51.22	50.43	35.99	9.81	0.00	45.01	54.00	-2.78	Average
8	PK	5988.431	55.03	54.24	35.99	9.81	0.00	45.01	74.00	-18.97	Peak
9		7249.817	50.93	49.18	36.95	10.35	0.00	45.55	54.00	-3.07	Average
10		7249.817	54.99	53.24	36.95	10.35	0.00	45.55	74.00	-19.01	Peak

Appendix A.6: Test Results of Radiated Spurious Emissions of Co-Located transmitting mode

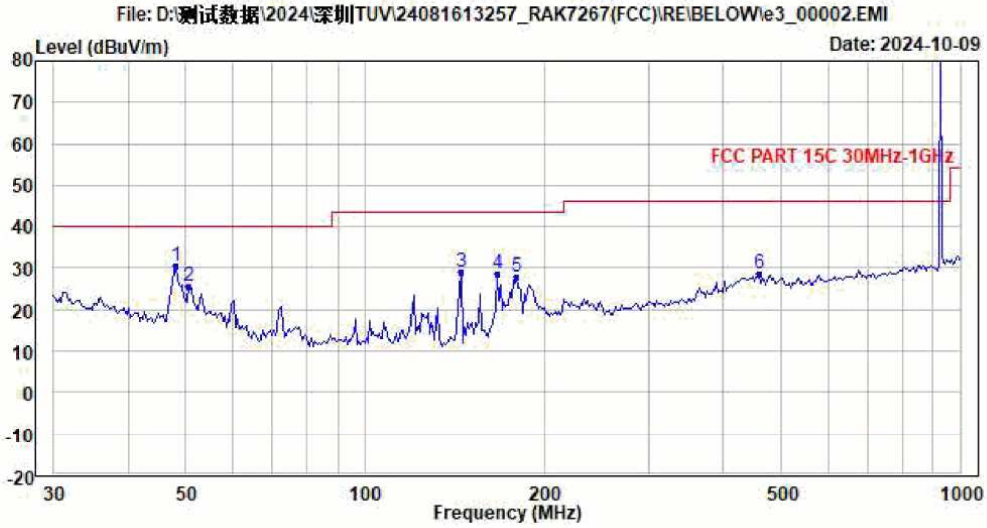
UnionTrust Shenzhen UnionTrust Quality and Technology Co., Ltd.




```
Condition       : 3m Horizontal
Temp.(C)/Hum.(%): 24.4(C)/59.6(%)
Press           : 100.0kpa
Product         : WisGate Soho Pro
Model No.       : RAK7267
Power Rating    : DC_12V
Test Engineer   : Bowie
Test Mode       : Test Mode1: Lora_925.1MHz+WiFi+Band2_1880MHz
Remark          :
```

	Freq	Level	Read Level	Ant Factor	Cable Loss	Aux Factor	Preamp Factor	Limit Line	Over Limit	Remark
	MHz	dBuV/m	dBuV	dB/m	dB	dB	dB	dBuV/m	dB	
1	51.900	25.74	40.18	13.66	0.80	0.00	28.90	40.00	-14.26	Peak
2	120.612	24.93	40.34	12.38	1.13	0.00	28.92	43.50	-18.57	Peak
3	144.790	26.13	41.05	12.80	1.22	0.00	28.94	43.50	-17.37	Peak
4	173.815	27.89	39.25	16.28	1.33	0.00	28.97	43.50	-15.61	Peak
5	195.870	28.58	39.76	16.41	1.41	0.00	29.00	43.50	-14.92	Peak
6 PP	458.399	31.93	35.83	23.40	1.99	0.00	29.29	46.00	-14.07	Peak

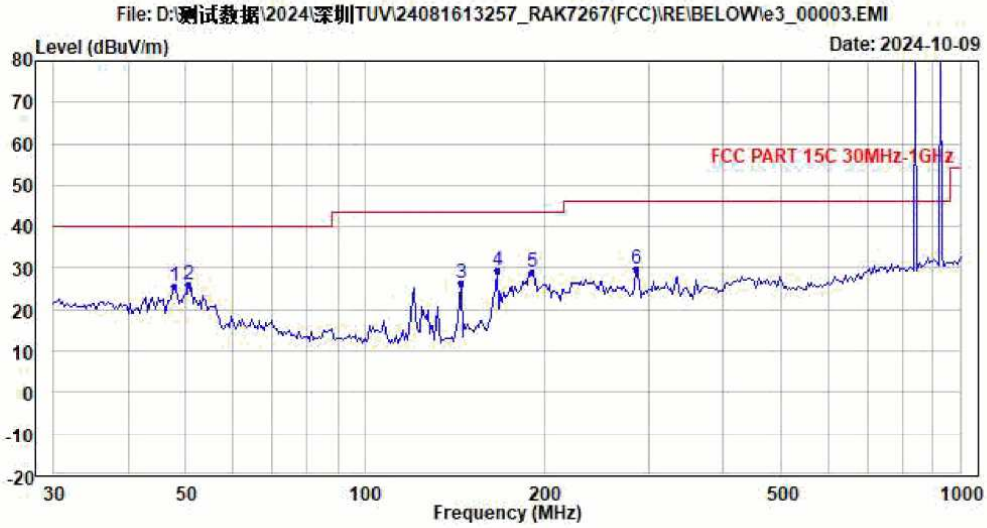
UnionTrust Shenzhen UnionTrust Quality and Technology Co., Ltd.



Condition : 3m Vertical
Temp.(C)/Hum.(%): 24.4(C)/59.6(%)
Press : 100.0kpa
Product : WisGate Soho Pro
Model No. : RAK7267
Power Rating : DC_12V
Test Engineer : Bowie
Test Mode : Test Mode1: Lora_925.1MHz+WiFi+Band2_1880MHz
Remark :

	Freq	Level	Read Level	Ant Factor	Cable Loss	Aux Factor	Preamp Factor	Limit Line	Over Limit	Remark
	MHz	dBuV/m	dBuV	dB/m	dB	dB	dB	dBuV/m	dB	
1 PP	48.039	30.58	43.77	14.90	0.81	0.00	28.90	40.00	-9.42	Peak
2	50.461	25.71	39.46	14.36	0.79	0.00	28.90	40.00	-14.29	Peak
3	144.790	29.17	44.09	12.80	1.22	0.00	28.94	43.50	-14.33	Peak
4	166.639	28.81	41.39	15.09	1.30	0.00	28.97	43.50	-14.69	Peak
5	180.030	27.74	39.57	15.80	1.35	0.00	28.98	43.50	-15.76	Peak
6	458.399	28.76	32.66	23.40	1.99	0.00	29.29	46.00	-17.24	Peak

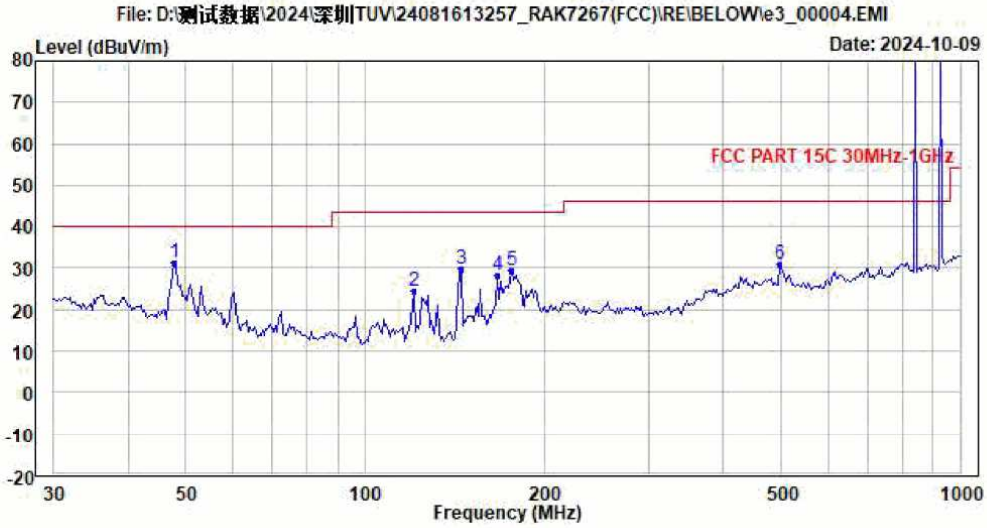
UnionTrust Shenzhen UnionTrust Quality and Technology Co., Ltd.



Condition : 3m Horizontal
Temp.(C)/Hum.(%): 24.4(C)/59.6(%)
Press : 100.0kpa
Product : WisGate Soho Pro
Model No. : RAK7267
Power Rating : DC_12V
Test Engineer : Bowie
Test Mode : Test Mode2: Lora_925.1MHz+WiFi+Band5_836.5MHz
Remark :

	Freq	Level	Read Level	Ant Factor	Cable Loss	Aux Factor	Preamp Factor	Limit Line	Over Limit	Remark
	MHz	dBuV/m	dBuV	dB/m	dB	dB	dB	dBuV/m	dB	
1	47.703	25.48	38.58	14.99	0.81	0.00	28.90	40.00	-14.52	Peak
2 PP	50.461	25.97	39.72	14.36	0.79	0.00	28.90	40.00	-14.03	Peak
3	144.790	26.38	41.30	12.80	1.22	0.00	28.94	43.50	-17.12	Peak
4	166.639	29.33	41.91	15.09	1.30	0.00	28.97	43.50	-14.17	Peak
5	190.441	29.18	40.94	15.84	1.39	0.00	28.99	43.50	-14.32	Peak
6	286.265	29.77	39.19	18.05	1.62	0.00	29.09	46.00	-16.23	Peak

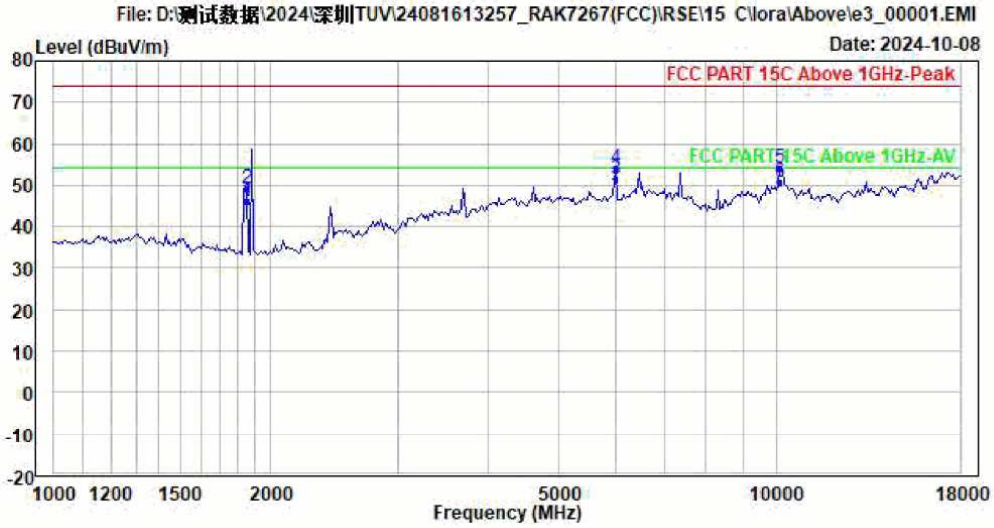
UnionTrust Shenzhen UnionTrust Quality and Technology Co., Ltd.



Condition : 3m Vertical
Temp.(C)/Hum.(%): 24.4(C)/59.6(%)
Press : 100.0kpa
Product : WisGate Soho Pro
Model No. : RAK7267
Power Rating : DC_12V
Test Engineer : Bowie
Test Mode : Test Mode2: Lora_925.1MHz+WiFi+Band5_836.5MHz
Remark :

	Freq	Level	Read Level	Ant Factor	Cable Loss	Aux Factor	Preamp Factor	Limit Line	Over Limit	Remark
	MHz	dBuV/m	dBuV	dB/m	dB	dB	dB	dBuV/m	dB	
1 PP	47.703	31.20	44.30	14.99	0.81	0.00	28.90	40.00	-8.80	Peak
2	120.612	24.64	40.05	12.38	1.13	0.00	28.92	43.50	-18.86	Peak
3	144.790	29.69	44.61	12.80	1.22	0.00	28.94	43.50	-13.81	Peak
4	166.639	28.41	40.99	15.09	1.30	0.00	28.97	43.50	-15.09	Peak
5	176.275	29.52	41.06	16.10	1.34	0.00	28.98	43.50	-13.98	Peak
6	498.730	30.76	33.30	24.75	2.06	0.00	29.35	46.00	-15.24	Peak

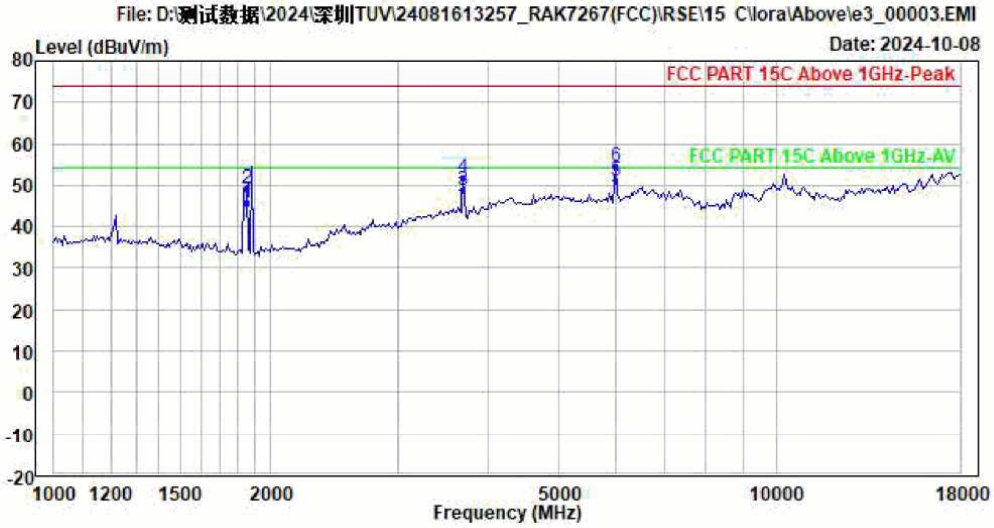
UnionTrust Shenzhen UnionTrust Quality and Technology Co., Ltd.



Condition : 3m Vertical
Temp.(C)/Hum.(%): 24.3 (C)/54.6(%)
Press : 100.2kpa
Product : WisGate Soho Pro
Model No. : RAK7267
Power Rating : AC_120V/60Hz
Test Engineer : Bowie
Test Mode : TM1: Lora_925.1Mhz+WiFi+LTE_B2
Remark :

	Freq	Level	Read Level	Ant Factor	Cable Loss	Aux Factor	Preamp Factor	Limit Line	Over Limit	Remark
	MHz	dBuV/m	dBuV	dB/m	dB	dB	dB	dBuV/m	dB	
1	1847.783	46.10	56.38	30.53	6.44	0.00	47.25	54.00	-7.90	Average
2	1847.783	49.24	59.52	30.53	6.44	0.00	47.25	74.00	-24.76	Peak
3 PP	5988.431	51.31	50.52	35.99	9.81	0.00	45.01	54.00	-2.69	Average
4 PK	5988.431	54.20	53.41	35.99	9.81	0.00	45.01	74.00	-19.80	Peak
5	10144.500	53.97	49.65	39.03	11.99	0.00	46.70	74.00	-20.03	Peak
6	10144.500	50.79	46.47	39.03	11.99	0.00	46.70	54.00	-3.21	Average

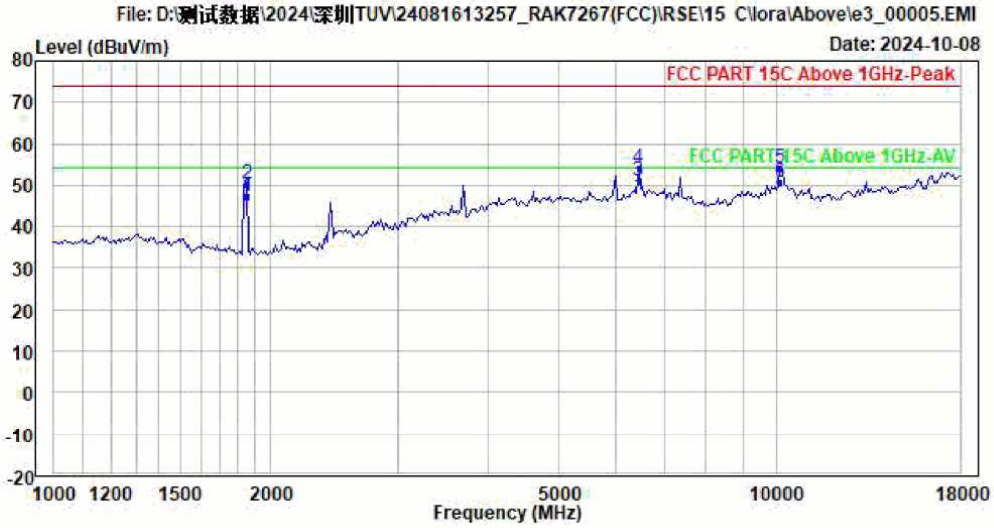
UnionTrust Shenzhen UnionTrust Quality and Technology Co., Ltd.




```
Condition       : 3m Horizontal
Temp.(C)/Hum.(%): 24.3 (C)/54.6(%)
Press           : 100.2kpa
Product         : WisGate Soho Pro
Model No.       : RAK7267
Power Rating    : AC_120V/60Hz
Test Engineer   : Bowie
Test Mode       : TM1: Lora_925.1Mhz+WiFi+LTE_B2
Remark          :
```

		Freq	Level	Read Level	Ant Factor	Cable Loss	Aux Factor	Preamp Factor	Limit Line	Over Limit	Remark
		MHz	dBuV/m	dBuV	dB/m	dB	dB	dB	dBuV/m	dB	
1		1847.783	45.88	56.16	30.53	6.44	0.00	47.25	54.00	-8.12	Average
2		1847.783	49.17	59.45	30.53	6.44	0.00	47.25	74.00	-24.83	Peak
3		3681.329	48.68	51.38	34.78	8.73	0.00	46.21	54.00	-5.32	Average
4		3681.329	51.95	54.65	34.78	8.73	0.00	46.21	74.00	-22.05	Peak
5	PP	5988.431	51.24	50.45	35.99	9.81	0.00	45.01	54.00	-2.76	Average
6	PK	5988.431	54.41	53.62	35.99	9.81	0.00	45.01	74.00	-19.59	Peak

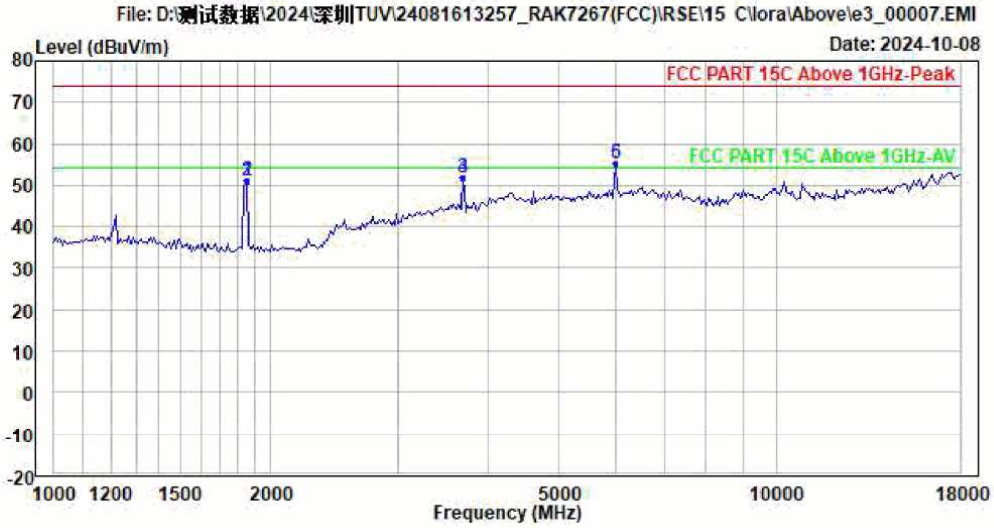
UnionTrust Shenzhen UnionTrust Quality and Technology Co., Ltd.



Condition : 3m Vertical
Temp.(C)/Hum.(%): 24.3 (C)/54.6(%)
Press : 100.2kpa
Product : WisGate Soho Pro
Model No. : RAK7267
Power Rating : AC_120V/60Hz
Test Engineer : Bowie
Test Mode : TM2: Lora_925.1Mhz+WiFi+LTE_B5
Remark :

	Freq	Level	Read Level	Ant Factor	Cable Loss	Aux Factor	Preamp Factor	Limit Line	Over Limit	Remark
	MHz	dBuV/m	dBuV	dB/m	dB	dB	dB	dBuV/m	dB	
1	1847.783	47.34	57.62	30.53	6.44	0.00	47.25	54.00	-6.66	Average
2	1847.783	50.24	60.52	30.53	6.44	0.00	47.25	74.00	-23.76	Peak
3 PP	6456.773	51.16	49.68	36.64	10.02	0.00	45.18	54.00	-2.84	Average
4 PK	6456.773	54.19	52.71	36.64	10.02	0.00	45.18	74.00	-19.81	Peak
5	10144.500	53.97	49.65	39.03	11.99	0.00	46.70	74.00	-20.03	Peak
6	10144.500	50.77	46.45	39.03	11.99	0.00	46.70	54.00	-3.23	Average

UnionTrust Shenzhen UnionTrust Quality and Technology Co., Ltd.



Condition : 3m Horizontal
Temp.(C)/Hum.(%): 24.3 (C)/54.6(%)
Press : 100.2kpa
Product : WisGate Soho Pro
Model No. : RAK7267
Power Rating : AC_120V/60Hz
Test Engineer : Bowie
Test Mode : TM2: Lora_925.1Mhz+WiFi+LTE_B5
Remark :

		Freq	Level	Read Level	Ant Factor	Cable Loss	Aux Factor	Preamp Factor	Limit Line	Over Limit	Remark
		MHz	dBuV/m	dBuV	dB/m	dB	dB	dB	dBuV/m	dB	
1		1847.783	51.18	61.46	30.53	6.44	0.00	47.25	74.00	-22.82	Peak
2		1847.783	51.18	61.46	30.53	6.44	0.00	47.25	74.00	-22.82	Peak
3		3681.329	51.95	54.65	34.78	8.73	0.00	46.21	74.00	-22.05	Peak
4		3681.329	51.95	54.65	34.78	8.73	0.00	46.21	74.00	-22.05	Peak
5	PP	5988.431	55.41	54.62	35.99	9.81	0.00	45.01	74.00	-18.59	Peak
6		5988.431	55.41	54.62	35.99	9.81	0.00	45.01	74.00	-18.59	Peak