

# FCC RF Test Report

## (DTS)

**Applicant:** Hangzhou Roombanker Technology Co., Ltd.  
**Address of Applicant:** A#801 Wantong center, Hangzhou, China  
**Equipment Under Test (EUT)**  
Product Name: Multi Protocol Host Gateway  
Model No.: DSGW-291, DSGW-291-X (X:1~18)  
**FCC ID:** 2AUXBDSGW-291  
**Applicable Standards:** FCC CFR Title 47 Part 15C (§15.247)  
**Date of Sample Receipt:** 27 Feb., 2023  
**Date of Test:** 28 Feb., to 26 May, 2023  
**Date of Report Issued:** 29 May, 2023  
**Test Result:** PASS

**Tested by:** \_\_\_\_\_

*June Li*

**Date:** \_\_\_\_\_

*29 May, 2023*

**Reviewed by:** \_\_\_\_\_

*Janet*  
**Project Engineer**

**Date:** \_\_\_\_\_

*29 May, 2023*

**Approved by:** \_\_\_\_\_

**Manager**

**Date:** \_\_\_\_\_

*29 May, 2023*

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in above the application standard version. Test results reported herein relate only to the item(s) tested.

This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

## 1 Version

Version No.	Date	Description
00	29 May, 2023	Original

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### 3 General Information

#### 3.1 Client Information

Applicant:	Hangzhou Roombanker Technology Co., Ltd.
Address:	A#801 Wantong center, Hangzhou, China
Manufacturer:	Hangzhou Roombanker Technology Co., Ltd.
Address:	A#801 Wantong center, Hangzhou, China

#### 3.2 General Description of E.U.T.

Product Name:	Multi Protocol Host Gateway
Model No.:	DSGW-291, DSGW-291-X (X:1~18)
Operation Frequency:	923 MHz - 928 MHz
Channel Numbers:	8
Channel Separation:	500KHz
Modulation Technology:	LORA
Antenna Type:	External Antenna
Antenna Gain:	1.23 dBi (declare by applicant)
Power Supply:	DC 12V, 3A
Test Sample Condition:	The test samples were provided in good working order with no visible defects.
Remark:	DSGW-291, DSGW-291-X (X:1~18) were identical inside, the electrical circuit design, layout, components used and internal wiring, with only difference being model name.

### 3.3 Test Mode and Test Environment

<b>Test Mode:</b>	
Transmitting mode	Keep the EUT in continuous transmitting with modulation
<b>Operating Environment:</b>	
Temperature:	15°C ~ 35°C
Humidity:	20 % ~ 75 % RH
Atmospheric Pressure:	1008 mbar

### 3.4 Description of Test Auxiliary Equipment

The EUT has been tested as an independent unit.

### 3.5 Measurement Uncertainty

Parameter	Expanded Uncertainty (Confidence of 95%(U = 2Uc(y)))
Radiated Emission (30MHz ~ 1GHz) (3m SAC)	3.8 dB
Radiated Emission (1GHz ~ 18GHz) (3m SAC)	3.6 dB
Radiated Emission (18GHz ~ 40GHz) (3m SAC)	5.34 dB

*Note: All the measurement uncertainty value were shown with a coverage k=2 to indicate 95% level of confidence. The measurement data show herein meets or exceeds the CISPR measurement uncertainty values specified in CISPR 16-4-2 and can be compared directly to specified limit to determine compliance.*

### 3.6 Additions to, Deviations, or Exclusions from the Method

No

### 3.7 Laboratory Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **FCC - Designation No.: CN1211**

JianYan Testing Group Shenzhen Co., Ltd. has been accredited as a testing laboratory by FCC(Federal Communications Commission). The test firm Registration No. is 727551.

- **ISED – CAB identifier.: CN0021**

The 3m Semi-anechoic chamber and 10m Semi-anechoic chamber of JianYan Testing Group Shenzhen Co., Ltd. has been Registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 10106A-1.

- **CNAS - Registration No.: CNAS L15527**

JianYan Testing Group Shenzhen Co., Ltd. is accredited to ISO/IEC 17025:2017 General Requirements for the Competence of Testing and Calibration laboratories for the competence of testing. The Registration No. is CNAS L15527.

- **A2LA - Registration No.: 4346.01**

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories. The test scope can be found as below link: <https://portal.a2la.org/scopepdf/4346-01.pdf>

### 3.8 Laboratory Location

JianYan Testing Group Shenzhen Co., Ltd.  
 Address: No.101, Building 8, Innovation Wisdom Port, No.155 Hongtian Road, Huangpu Community, Xinqiao Street, Bao'an District, Shenzhen, Guangdong, People's Republic of China.  
 Tel: +86-755-23118282, Fax: +86-755-23116366  
 Email: info-JYTee@lets.com, Website: <http://jyt.lets.com>

### 3.9 Test Instruments List

Radiated Emission(3m SAC):					
Test Equipment	Manufacturer	Model No.	Manage No.	Cal. Date (mm-dd-yy)	Cal. Due date (mm-dd-yy)
3m SAC	ETS	9m*6m*6m	WXJ001-1	04-14-2021	04-13-2024
Loop Antenna	Schwarzbeck	FMZB 1519 B	WXJ002-4	02-09-2023	02-08-2024
BiConiLog Antenna	Schwarzbeck	VULB9163	WXJ002	02-09-2023	02-08-2024
Horn Antenna	Schwarzbeck	BBHA9120D	WXJ002-2	02-09-2023	02-08-2024
Horn Antenna	Schwarzbeck	BBHA9170	WXJ002-5	01-09-2023	01-08-2024
Pre-amplifier (30MHz ~ 1GHz)	Schwarzbeck	BBV9743B	WXJ001-2	01-10-2023	01-09-2024
Pre-amplifier (1GHz ~ 18GHz)	SKET	LNPA_0118G-50	WXJ001-3	01-10-2023	01-09-2024
Pre-amplifier (18GHz ~ 40GHz)	RF System	TRLA-180400G45B	WXJ002-7	01-11-2023	01-10-2024
EMI Test Receiver	Rohde & Schwarz	ESRP7	WXJ003-1	01-11-2023	01-10-2024
Spectrum Analyzer	Rohde & Schwarz	FSP 30	WXJ004	01-10-2023	01-09-2024
Spectrum Analyzer	KEYSIGHT	N9010B	WXJ004-2	10-17-2022	10-16-2023
Coaxial Cable (30MHz ~ 1GHz)	JYTSZ	JYT3M-1G-NN-8M	WXG001-4	01-18-2023	01-17-2024
Coaxial Cable (1GHz ~ 18GHz)	JYTSZ	JYT3M-18G-NN-8M	WXG001-5	01-18-2023	01-17-2024
Coaxial Cable (18GHz ~ 40GHz)	JYTSZ	JYT3M-40G-SS-8M	WXG001-7	01-18-2023	01-17-2024
Band Reject Filter Group	Tonscend	JS0806-F	WXJ089	N/A	
Test Software	Tonscend	TS+	Version: 3.0.0.1		
EMI Test Software	AUDIX	E3	Version: 6.110919b		

Conducted Method:					
Test Equipment	Manufacturer	Model No.	Manage No.	Cal. Date (mm-dd-yy)	Cal. Due date (mm-dd-yy)
EMI Test Receiver	Rohde & Schwarz	ESCI3	WXJ003	01-10-2023	01-09-2024
Spectrum Analyzer	Keysight	N9010B	WXJ004-3	10-17-2022	10-16-2023
DC Power Supply	Keysight	E3642A	WXJ025-2	10-27-2021	10-26-2022

## 4 Measurement Setup and Procedure

### 4.1 Test Channel

According to ANSI C63.10-2013 chapter 5.6.1 Table 4 requirement, select lowest channel, middle channel, and highest channel in the frequency range in which device operates for testing. The detailed frequency points are as follows:

#### Operation Frequency each of channel

Channel	Frequency	Channel	Frequency	Channel	Frequency
1	923.3MHz	4	925.1MHz	7	926.9MHz
2	923.9MHz	5	925.7MHz	8	927.5MHz
3	924.5MHz	6	926.3MHz		

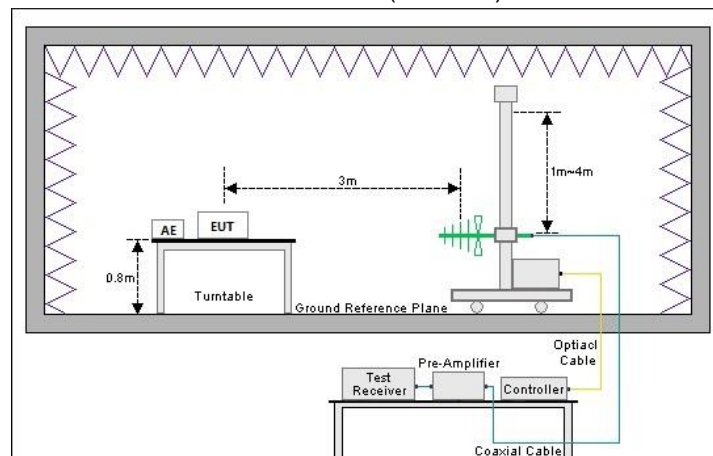
Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test. Channel No. 1, 5 & 8 were selected as Lowest, Middle and Highest channel..

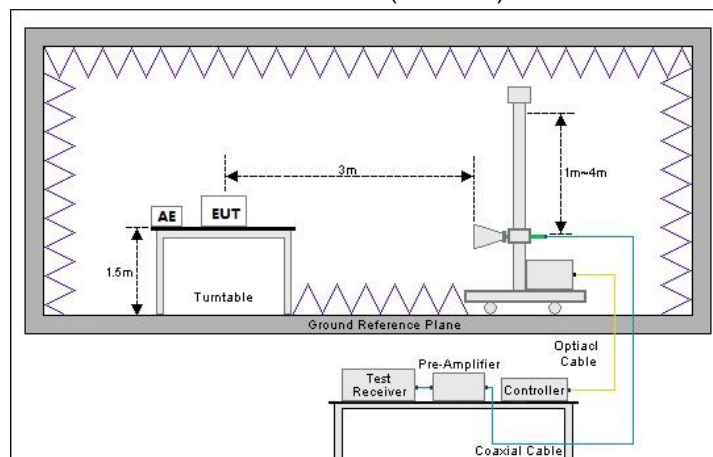
### 4.2 Test Setup

#### 1) Radiated emission measurement:

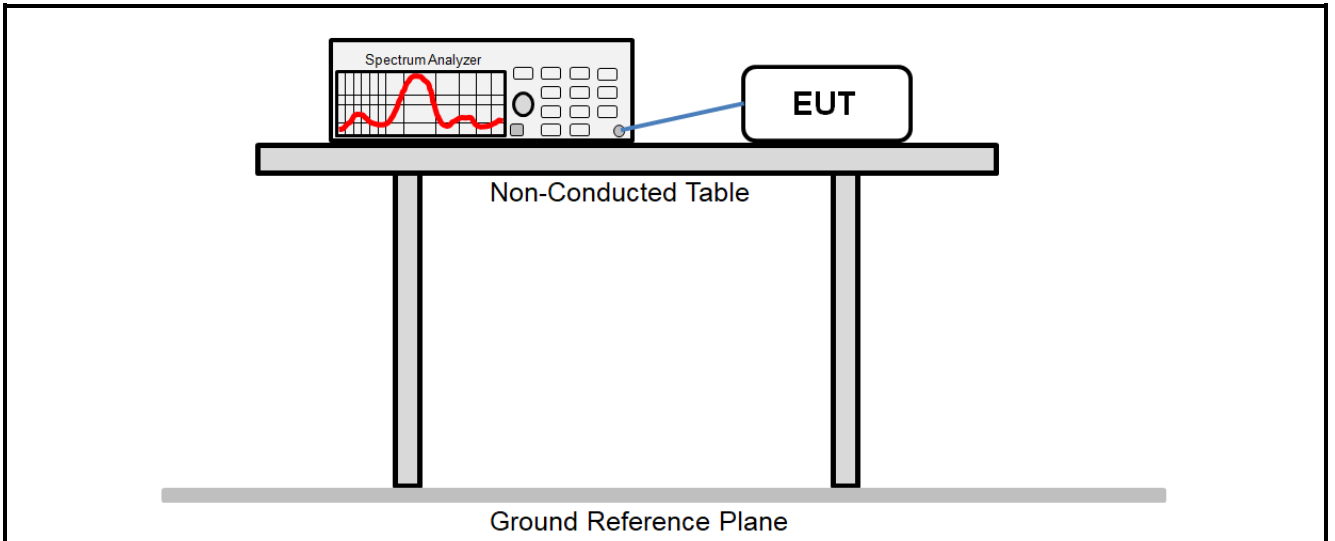
Below 1GHz (3m SAC)



Above 1GHz (3m SAC)



#### 2) Conducted test method





### 4.3 Test Procedure

Test method	Test step
Radiated emission	<p><b>For below 1GHz:</b></p> <ol style="list-style-type: none"> <li>The EUT was placed on the tabletop of a rotating table 0.8 m the ground at a 3 m semi anechoic chamber. The measurement distance from the EUT to the receiving antenna is 3 m.</li> <li>EUT works in each mode of operation that needs to be tested , and having the EUT continuously working, respectively on 3 axis (X, Y &amp; Z) and considered typical configuration to obtain worst position. The highest signal levels relative to the limit shall be determined by rotating the EUT from 0° to 360° and with varying the measurement antenna height between 1 m and 4 m in vertical and horizontal polarizations.</li> <li>Open the test software to control the test antenna and test turntable. Perform the test, save the test results, and export the test data.</li> </ol> <p><b>For above 1GHz:</b></p> <ol style="list-style-type: none"> <li>The EUT was placed on the tabletop of a rotating table 1.5 m the ground at a 3 m fully anechoic room. The measurement distance from the EUT to the receiving antenna is 3 m.</li> <li>EUT works in each mode of operation that needs to be tested , and having the EUT continuously working, respectively on 3 axis (X, Y &amp; Z) and considered typical configuration to obtain worst position. The highest signal levels relative to the limit shall be determined by rotating the EUT from 0° to 360° and with varying the measurement antenna height between 1 m and 4 m in vertical and horizontal polarizations.</li> <li>Open the test software to control the test antenna and test turntable. Perform the test, save the test results, and export the test data.</li> </ol>
Conducted test method	<ol style="list-style-type: none"> <li>The antenna port of EUT was connected to the test port of the test system through an RF cable.</li> <li>The EUT is keeping in continuous transmission mode and tested in all modulation modes.</li> <li>Open the test software, prepare a test plan, and control the system through the software. After the test is completed, the test report is exported through the test software.</li> </ol>

## 5 Test Results

### 5.1 Summary

#### 5.1.1 Clause and Data Summary

Test items	Standard clause	Test data	Result
Antenna Requirement	15.203 15.247 (b)(4)	See Section 5.2	Pass
AC Power Line Conducted Emission	15.207	N/A	N/A
Conducted Output Power	15.247 (b)(3)	See Section 5.3	Pass
6dB Emission Bandwidth 99% Occupied Bandwidth	15.247 (a)(2)	See Section 5.4	Pass
Power Spectral Density	15.247 (e)	See Section 5.5	Pass
Spurious Emission	15.205 15.209 15.247 (d)	See Section 5.6	Pass
<b>Remark:</b> 1. Pass: The EUT complies with the essential requirements in the standard. 2. N/A: Not Applicable. 3. The cable insertion loss used by "RF Output Power" and other conduction measurement items is 0.5dB (provided by the customer).			
<b>Test Method:</b>	ANSI C63.10-2013 KDB 558074 D01 15.247 Meas Guidance v05r02		

**5.1.2 Test Limit**

Test items	Limit																														
Conducted Output Power	For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt.																														
6dB Emission Bandwidth	The minimum 6 dB bandwidth shall be at least 500 kHz.																														
99% Occupied Bandwidth	N/A																														
Power Spectral Density	For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.																														
Spurious Emission	<p>In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)):</p> <table border="1"> <thead> <tr> <th rowspan="2">Frequency (MHz)</th> <th colspan="2">Limit (dBµV/m)</th> <th rowspan="2">Detector</th> </tr> <tr> <th>@ 3m</th> <th>@ 10m</th> </tr> </thead> <tbody> <tr> <td>30 – 88</td> <td>40.0</td> <td>30.0</td> <td>Quasi-peak</td> </tr> <tr> <td>88 – 216</td> <td>43.5</td> <td>33.5</td> <td>Quasi-peak</td> </tr> <tr> <td>216 – 960</td> <td>46.0</td> <td>36.0</td> <td>Quasi-peak</td> </tr> <tr> <td>960 – 1000</td> <td>54.0</td> <td>44.0</td> <td>Quasi-peak</td> </tr> </tbody> </table> <p><b>Note:</b> The more stringent limit applies at transition frequencies.</p> <table border="1"> <thead> <tr> <th rowspan="2">Frequency</th> <th colspan="2">Limit (dBµV/m) @ 3m</th> </tr> <tr> <th>Average</th> <th>Peake</th> </tr> </thead> <tbody> <tr> <td>Above 1 GHz</td> <td>54.0</td> <td>74.0</td> </tr> </tbody> </table> <p><b>Note:</b> The measurement bandwidth shall be 1 MHz or greater.</p>	Frequency (MHz)	Limit (dBµV/m)		Detector	@ 3m	@ 10m	30 – 88	40.0	30.0	Quasi-peak	88 – 216	43.5	33.5	Quasi-peak	216 – 960	46.0	36.0	Quasi-peak	960 – 1000	54.0	44.0	Quasi-peak	Frequency	Limit (dBµV/m) @ 3m		Average	Peake	Above 1 GHz	54.0	74.0
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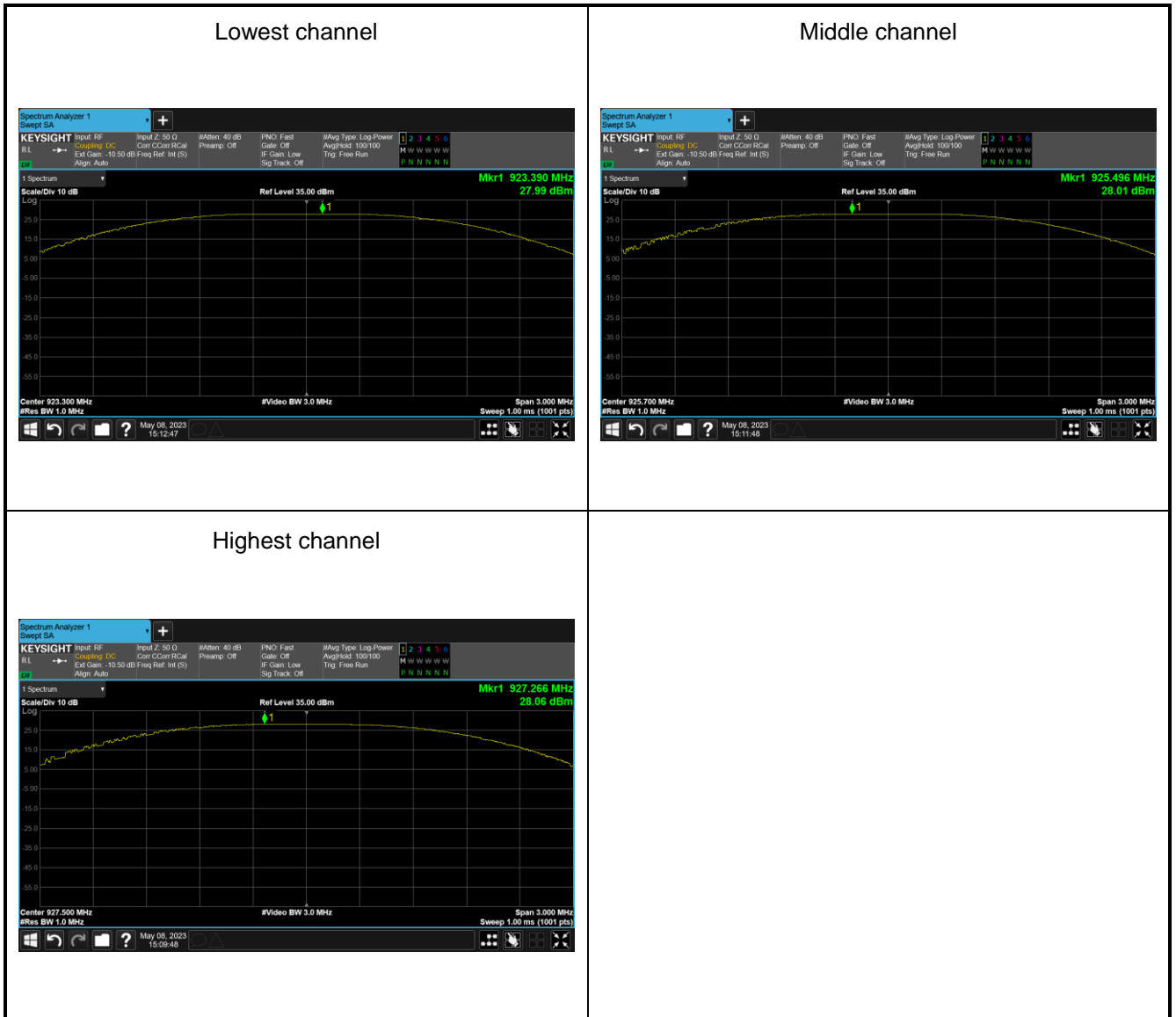
## 5.2 Antenna requirement

<b>Standard requirement:</b>	FCC Part 15 C Section 15.203 /247(b)(4)
<p>15.203 requirement: An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.</p> <p>15.247(b) (4) requirement: (4) The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.</p>	
<b>E.U.T Antenna:</b>	
<p>The EUT antenna is an External Antenna which cannot replace by end-user, the best case gain of the antenna is 1.23 dBi. See product internal photos for details.</p>	

### 5.3 Conducted Output Power

Test Channel	Maximum Output Power (dBm)	Limit(dBm)	Result
Lowest channel	27.99	30.00	Pass
Middle channel	28.01		
Highest channel	28.06		

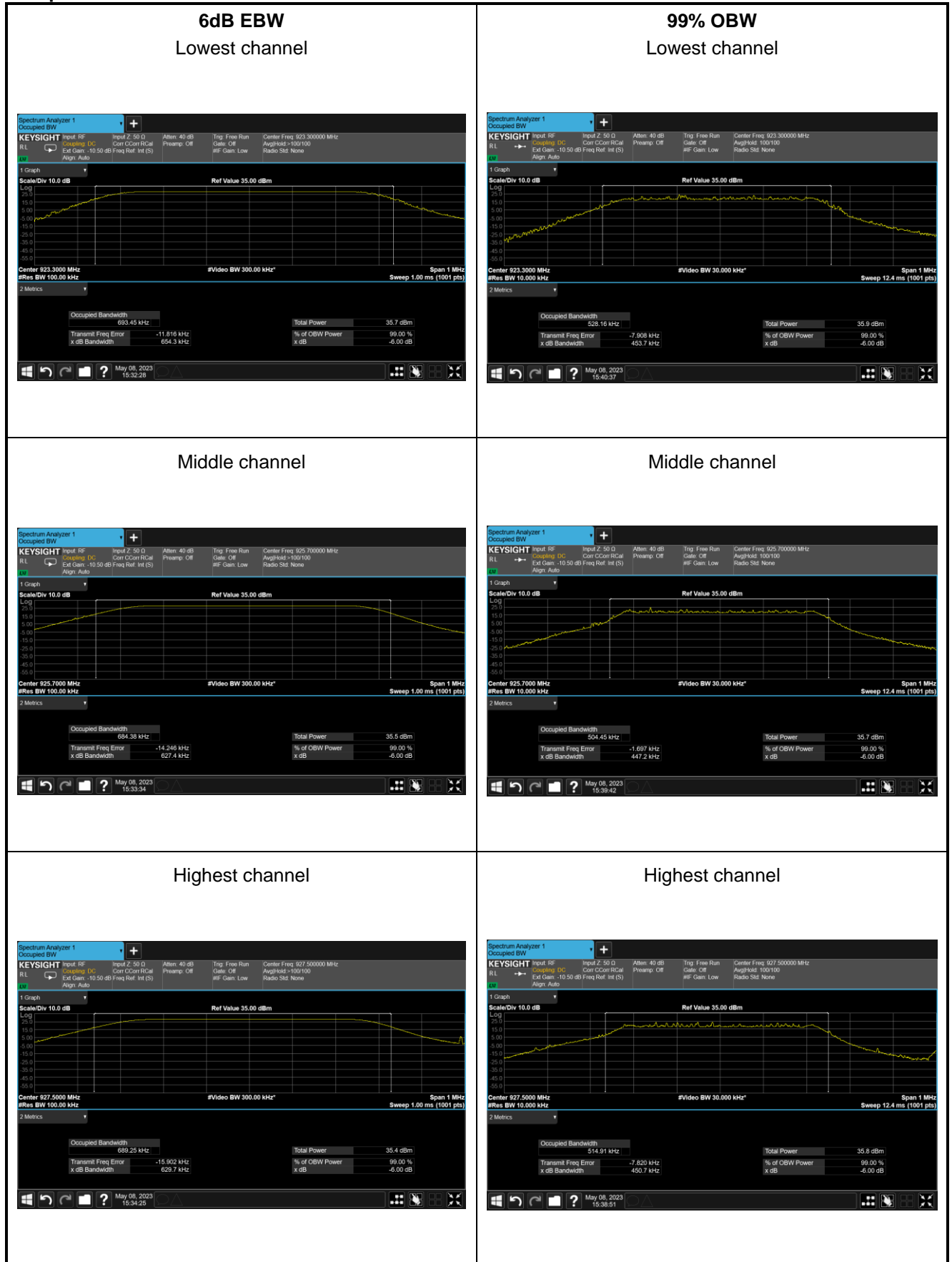
Test plot as follows:



### 5.4 Emission Bandwidth

Test Channel	6dB Emission Bandwidth (MHz)	Limit (kHz)	Result
Lowest channel	654.3	>500	Pass
Middle channel	627.4		
Highest channel	629.7		
Test Channel	99% Occupy Bandwidth (MHz)	Limit (kHz)	Result
Lowest channel	528.16	N/A	N/A
Middle channel	504.45		
Highest channel	514.91		

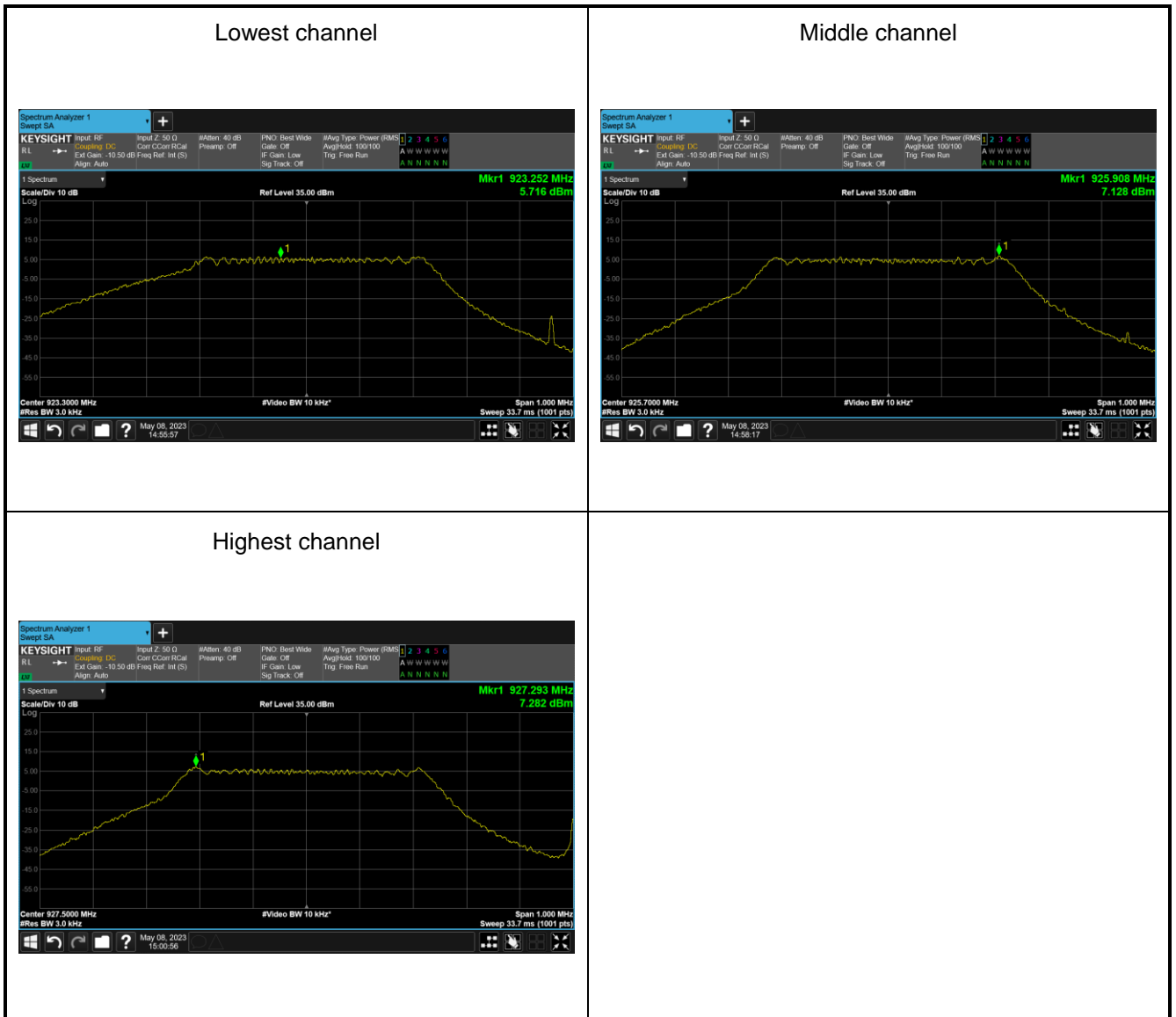
Test plot as follows:



### 5.5 Power Spectral Density

Test Channel	Power Spectral Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
Lowest channel	5.716	8.00	Pass
Middle channel	7.128		
Highest channel	7.282		

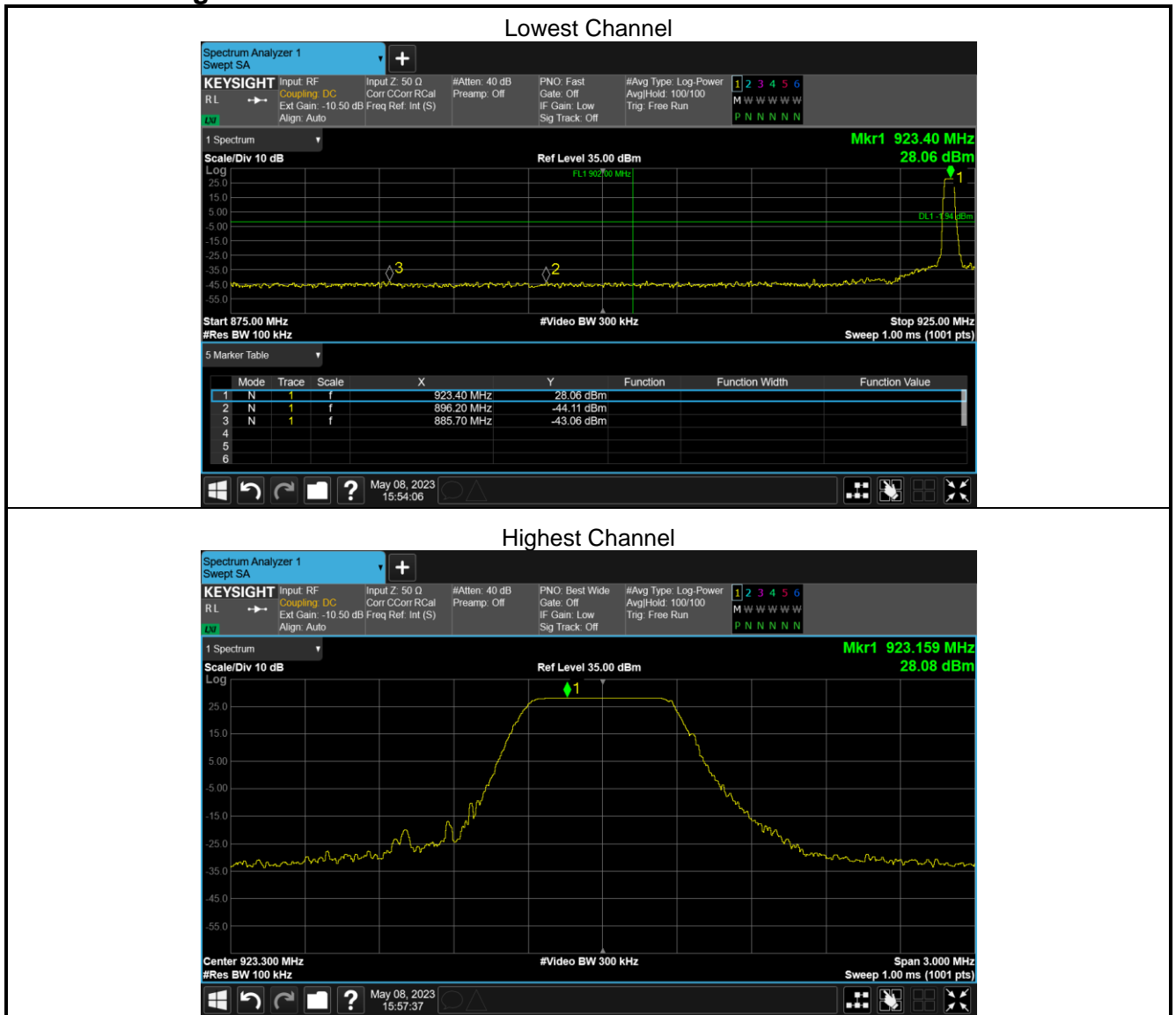
Test plot as follows:



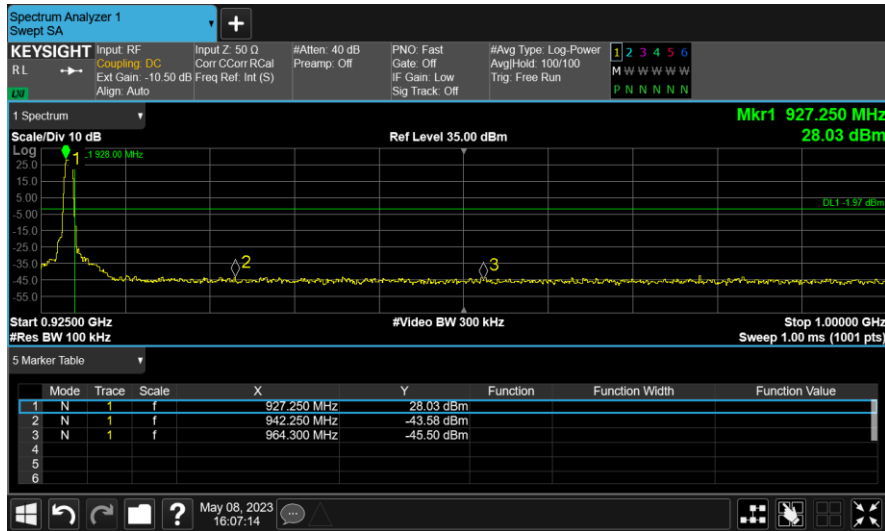


## 5.6 Spurious Emission

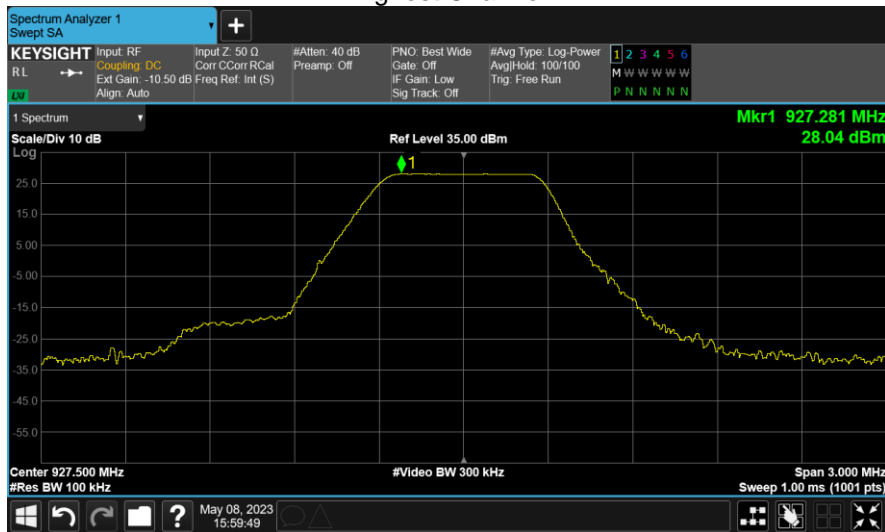
### 5.6.1 Band-edge Emission



### Lowest Channel

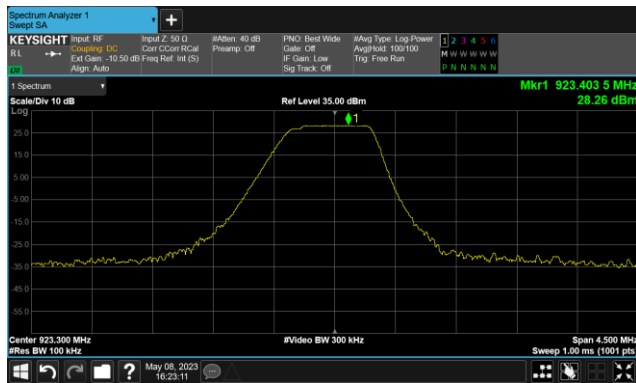


### Highest Channel

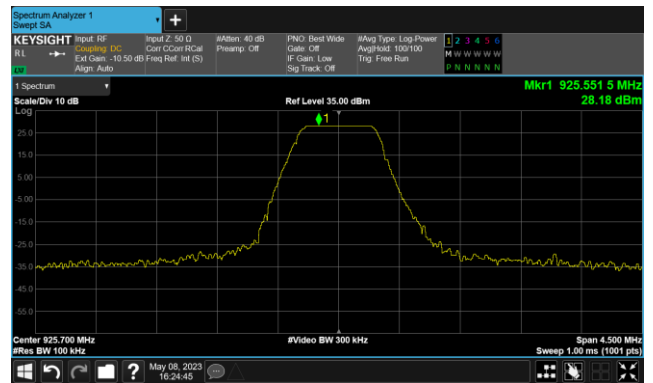


### 5.6.2 Conducted Spurious Emission

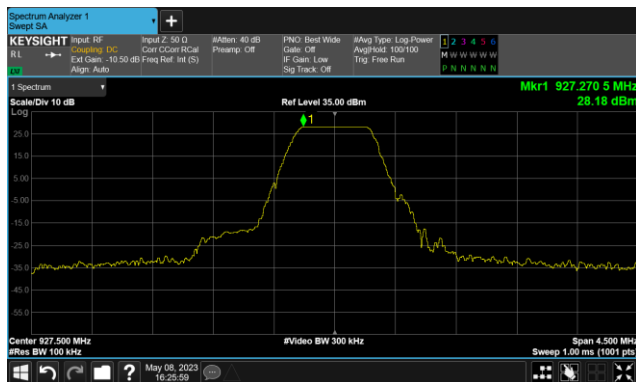
Lowest channel



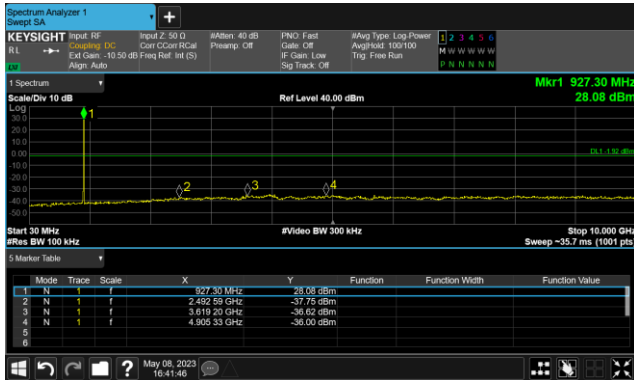
Middle channel



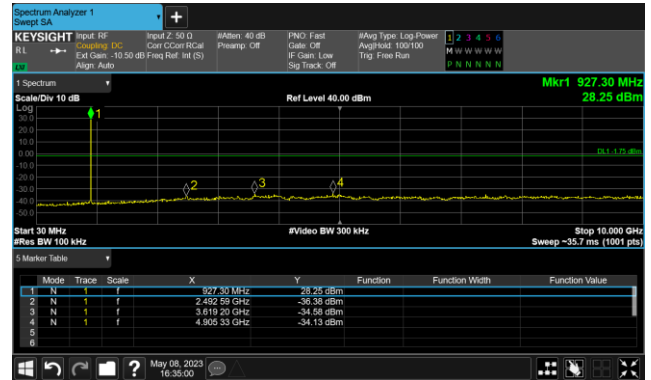
Highest channel



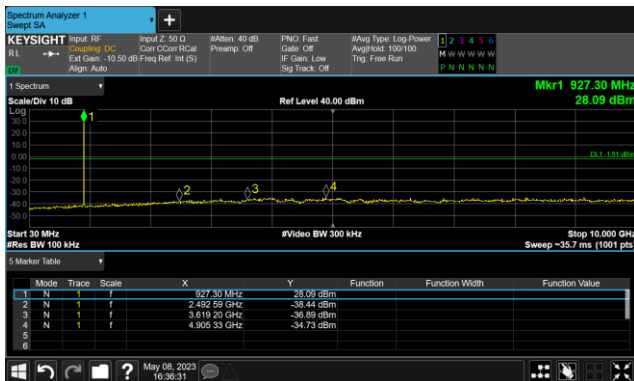
Lowest channel



Middle channel

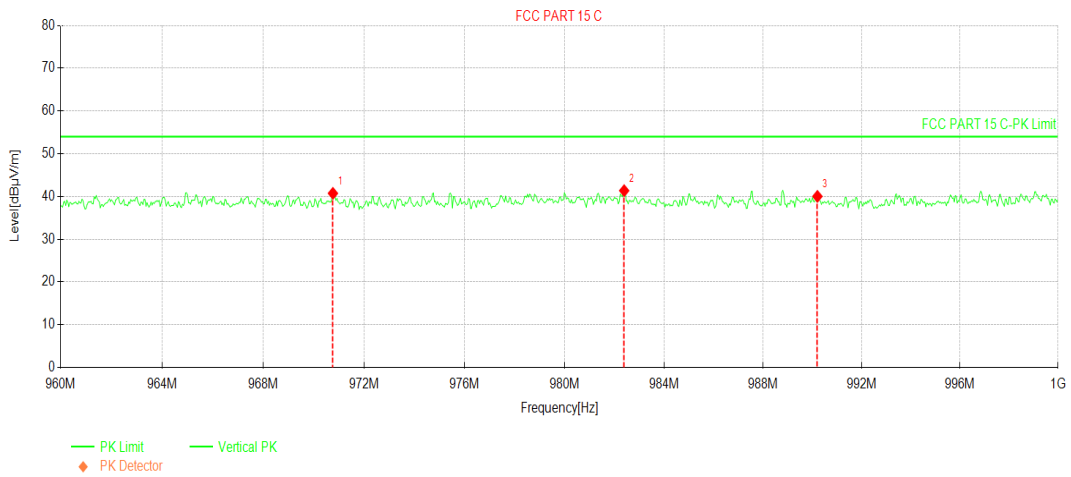


Highest channel



### 5.6.3 Emissions in Restricted Frequency Bands

<b>Product Name:</b>	Multi Protocol Host Gateway	<b>Product Model:</b>	DSGW-291-X (X:1~18)
<b>Test By:</b>	June	<b>Test mode:</b>	Tx mode
<b>Test Channel:</b>	Lowest channel	<b>Polarization:</b>	Vertical
<b>Test Voltage:</b>	DC 12V		

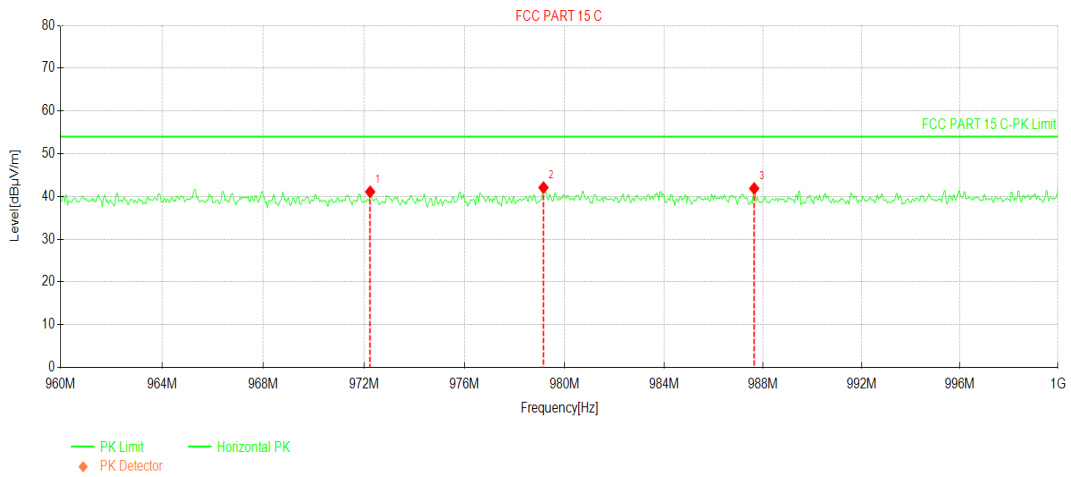


Suspected Data List								
NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Trace	Polarity
1	970.760	14.93	40.72	25.79	54.00	13.28	PK	Vertical
2	982.400	15.35	41.35	26.00	54.00	12.65	PK	Vertical
3	990.200	13.80	40.01	26.21	54.00	13.99	PK	Vertical

**Remark:**

1. Level = Reading + Factor(Antenna Factor + Cable Loss – Pre-amplifier Factor).

<b>Product Name:</b>	Multi Protocol Host Gateway	<b>Product Model:</b>	DSGW-291-X (X:1~18)
<b>Test By:</b>	June	<b>Test mode:</b>	Tx mode
<b>Test Channel:</b>	Lowest channel	<b>Polarization:</b>	Horizontal
<b>Test Voltage:</b>	DC 12V		

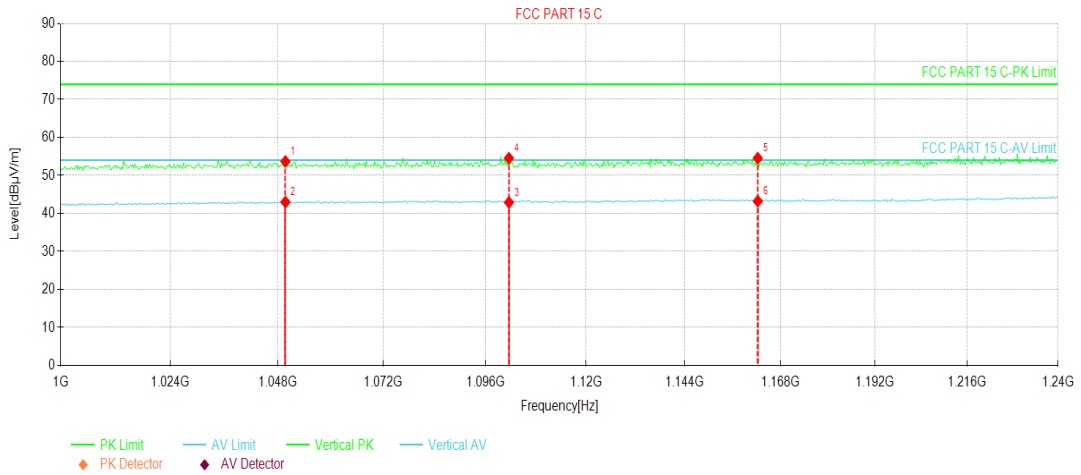


Suspected Data List								
NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Trace	Polarity
1	972.240	15.26	41.08	25.82	54.00	12.92	PK	Horizontal
2	979.160	16.14	42.07	25.93	54.00	11.93	PK	Horizontal
3	987.640	15.72	41.87	26.15	54.00	12.13	PK	Horizontal

**Remark:**

1. Level = Reading + Factor(Antenna Factor + Cable Loss – Pre-amplifier Factor).

<b>Product Name:</b>	Multi Protocol Host Gateway	<b>Product Model:</b>	DSGW-291-X (X:1~18)
<b>Test By:</b>	June	<b>Test mode:</b>	Tx mode
<b>Test Channel:</b>	Highest channel	<b>Polarization:</b>	Vertical
<b>Test Voltage:</b>	DC 12V		

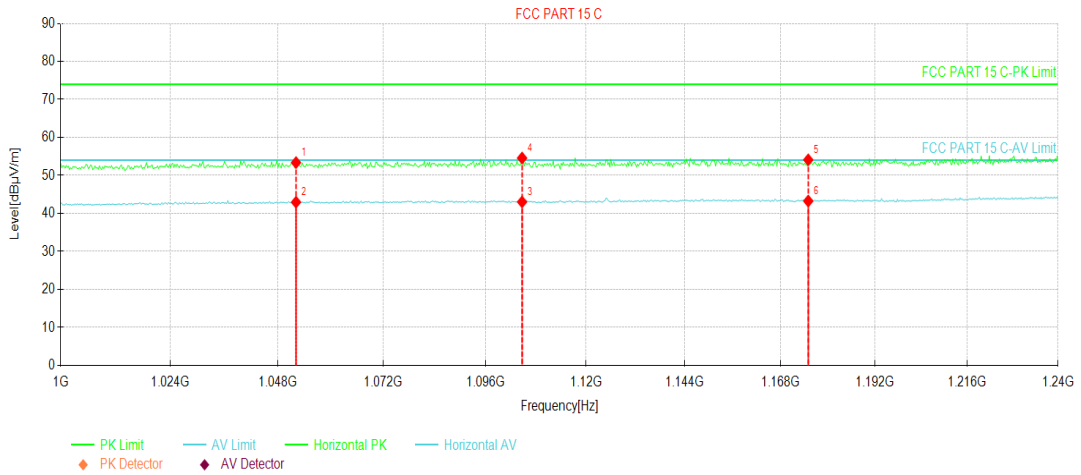


Suspected Data List								
NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Trace	Polarity
1	1049.68	24.03	53.68	29.65	74.00	20.32	PK	Vertical
2	1049.68	13.35	43.00	29.65	54.00	11.00	AV	Vertical
3	1101.52	12.91	42.90	29.99	54.00	11.10	AV	Vertical
4	1101.52	24.55	54.54	29.99	74.00	19.46	PK	Vertical
5	1162.24	24.16	54.54	30.38	74.00	19.46	PK	Vertical
6	1162.24	12.85	43.23	30.38	54.00	10.77	AV	Vertical

**Remark:**

1. Level = Reading + Factor(Antenna Factor + Cable Loss – Pre-amplifier Factor).

<b>Product Name:</b>	Multi Protocol Host Gateway	<b>Product Model:</b>	DSGW-291-X (X:1~18)
<b>Test By:</b>	June	<b>Test mode:</b>	Tx mode
<b>Test Channel:</b>	Highest channel	<b>Polarization:</b>	Horizontal
<b>Test Voltage:</b>	DC 12V		



Suspected Data List								
NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Trace	Polarity
1	1052.08	23.71	53.38	29.67	74.00	20.62	PK	Horizontal
2	1052.08	13.29	42.96	29.67	54.00	11.04	AV	Horizontal
3	1104.64	13.00	43.02	30.02	54.00	10.98	AV	Horizontal
4	1104.64	24.55	54.57	30.02	74.00	19.43	PK	Horizontal
5	1174.96	23.83	54.11	30.28	74.00	19.89	PK	Horizontal
6	1174.96	12.98	43.26	30.28	54.00	10.74	AV	Horizontal

**Remark:**

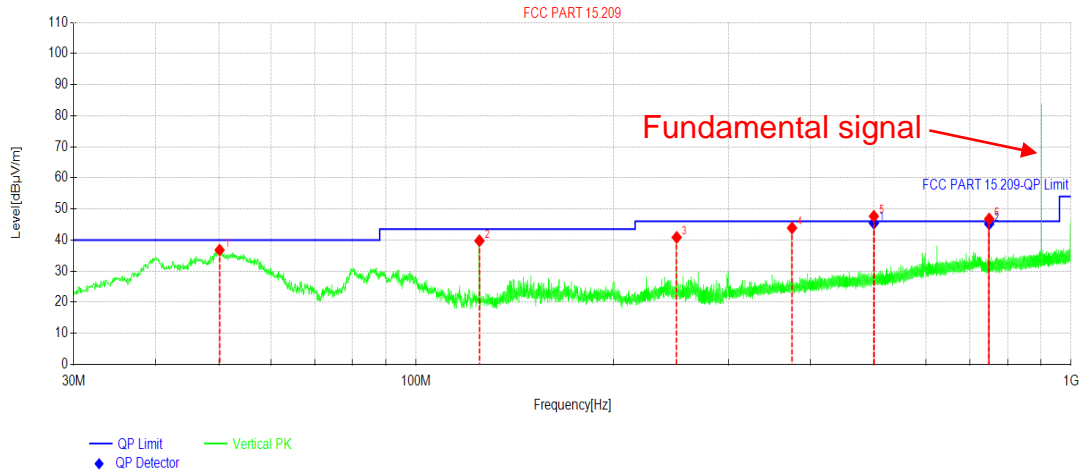
1. Level = Reading + Factor(Antenna Factor + Cable Loss – Preamplifier Factor).



### 5.6.4 Emissions in Non-restricted Frequency Bands

Below 1GHz:

<b>Product Name:</b>	Multi Protocol Host Gateway	<b>Product Model:</b>	DSGW-291-X (X:1~18)
<b>Test By:</b>	June	<b>Test mode:</b>	Tx mode
<b>Test Frequency:</b>	30 MHz ~ 1 GHz	<b>Polarization:</b>	Vertical
<b>Test Voltage:</b>	DC 12V		



Suspected Data List								
NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Trace	Polarity
1	50.1275	49.41	36.79	-12.62	40.00	3.21	PK	Vertical
2	124.963	57.32	39.77	-17.55	43.50	3.73	PK	Vertical
3	249.996	54.35	40.86	-13.49	46.00	5.14	PK	Vertical
4	374.980	54.67	43.89	-10.78	46.00	2.11	PK	Vertical
5	499.965	56.62	47.66	-8.96	46.00	-1.66	PK	Vertical
6	749.982	50.74	46.80	-3.94	46.00	-0.80	PK	Vertical

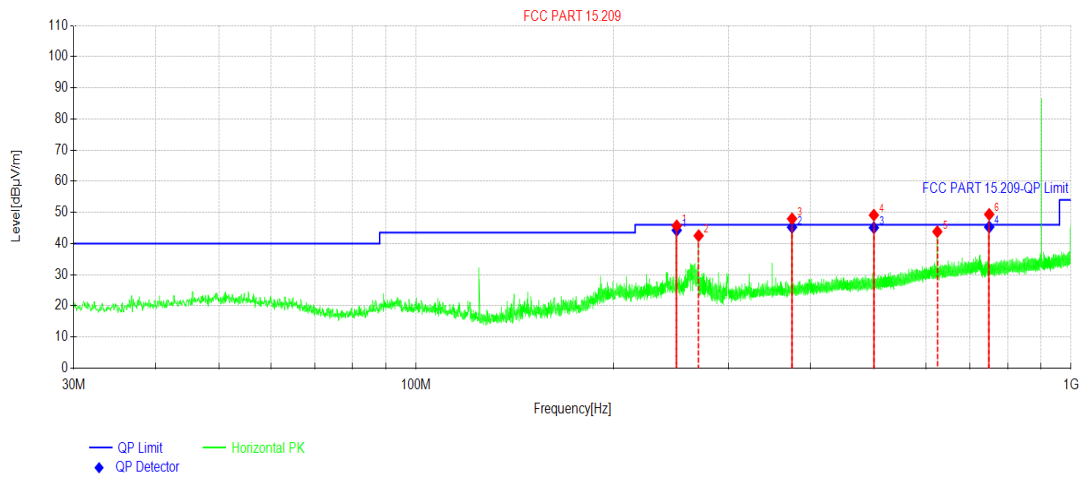
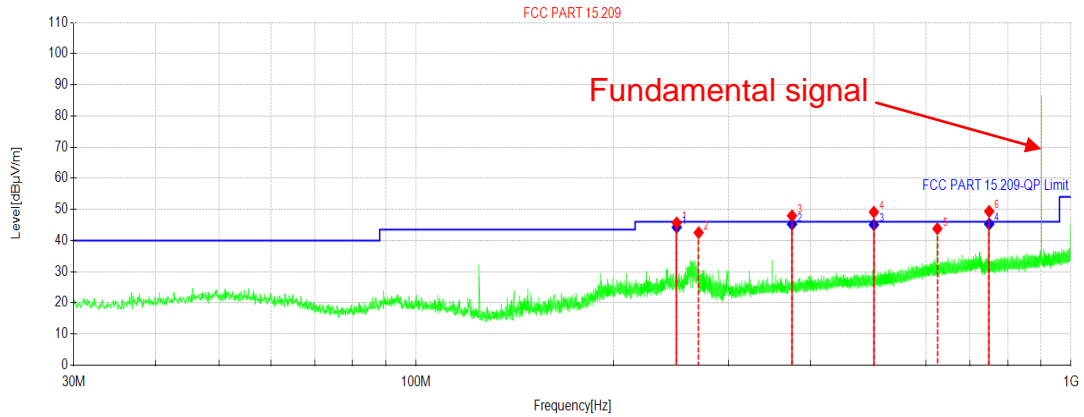
  

Final Data List								
NO.	Freq. [MHz]	Factor [dB]	QP Value [dBµV/m]	QP Limit [dBµV/m]	QP Margin [dB]	QP Reading [dBµV/m]	Angle [°]	Verdict
1	499.965	-8.96	45.45	46.00	0.55	54.41	204	PASS
2	749.982	-3.94	45.22	46.00	0.78	49.16	204	PASS

**Remark:**

1. Level = Reading + Factor(Antenna Factor + Cable Loss – Preamplifier Factor).

<b>Product Name:</b>	Multi Protocol Host Gateway	<b>Product Model:</b>	DSGW-291-X (X:1~18)
<b>Test By:</b>	June	<b>Test mode:</b>	Tx mode
<b>Test Frequency:</b>	30 MHz ~ 1 GHz	<b>Polarization:</b>	Horizontal
<b>Test Voltage:</b>	AC 120/60Hz		



**Suspected Data List**

NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Trace	Polarity
1	249.996	59.20	45.71	-13.49	46.00	0.29	PK	Horizontal
2	270.026	55.91	42.53	-13.38	46.00	3.47	PK	Horizontal
3	374.980	58.73	47.95	-10.78	46.00	-1.95	PK	Horizontal
4	499.965	58.09	49.13	-8.96	46.00	-3.13	PK	Horizontal
5	624.998	50.03	43.81	-6.22	46.00	2.19	PK	Horizontal
6	749.934	53.31	49.37	-3.94	46.00	-3.37	PK	Horizontal

**Final Data List**

NO.	Freq. [MHz]	Factor [dB]	QP Value [dBµV/m]	QP Limit [dBµV/m]	QP Margin [dB]	QP Reading [dBµV/m]	Angle [°]	Verdict
1	249.996	-13.49	44.27	46.00	1.73	57.76	166	PASS
2	374.980	-10.78	45.23	46.00	0.77	56.01	217	PASS
3	499.965	-8.96	45.08	46.00	0.92	54.04	23	PASS

4	749.934	-3.94	45.31	46.00	0.69	49.25	125	PASS
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**Remark:**

1. Level = Reading + Factor(Antenna Factor + Cable Loss – Preamplifier Factor).

**Above 1GHz:**

Lowest channel						
Peak Value						
Frequency (MHz)	Read Level (dB $\mu$ V)	Factor (dB)	Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Polarization
1846.60	62.80	-9.60	53.20	74.00	20.80	Vertical
1846.60	56.92	-9.60	47.32	74.00	26.68	Horizontal
Average Value						
Frequency (MHz)	Read Level (dB $\mu$ V)	Factor (dB)	Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Polarization
1846.60	55.74	-9.60	46.14	54.00	7.86	Vertical
1846.60	50.61	-9.60	41.01	54.00	12.99	Horizontal
Middle channel						
Peak Value						
Frequency (MHz)	Read Level (dB $\mu$ V)	Factor (dB)	Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Polarization
1851.40	62.40	-9.04	53.36	74.00	20.64	Vertical
1851.40	57.35	-9.04	48.31	74.00	25.69	Horizontal
Average Value						
Frequency (MHz)	Read Level (dB $\mu$ V)	Factor (dB)	Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Polarization
1851.40	56.16	-9.04	47.12	54.00	6.88	Vertical
1851.40	50.97	-9.04	41.93	54.00	12.07	Horizontal
Highest channel						
Peak Value						
Frequency (MHz)	Read Level (dB $\mu$ V)	Factor (dB)	Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Polarization
1855.00	62.10	-8.45	53.65	74.00	20.35	Vertical
1855.00	56.96	-8.45	48.51	74.00	25.49	Horizontal
Average Value						
Frequency (MHz)	Read Level (dB $\mu$ V)	Factor (dB)	Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Polarization
1855.00	56.37	-8.45	47.92	54.00	6.08	Vertical
1855.00	50.56	-8.45	42.11	54.00	11.89	Horizontal
<b>Remark:</b>						
1. Level = Reading + Factor.						

-----End of report-----