TEST REPORT
FCC ID:ZHZHP0C

Report Number.....:	ZKT-2203011240E-1
Date of Test	Mar. 01, 2022 to May. 18, 2022
Date of issue.....:	May 18, 2022
Total number of pages.....	31
Test Result.....:	PASS
Testing Laboratory. .....:	**Shenzhen ZKT Technology Co., Ltd.**
Address .....:	1/F, No. 101, Building B, No. 6, Tangwei Community Industrial Avenue, Fuhai Street, Bao'an District, Shenzhen, China
Applicant's name ..... :	**Dragino Technology Co., Limited**
Address .....:	Room 202, Block B, BCT Incubation Bases, No.8 CaiYunRoad LongCheng Street, LongGang District ; Shenzhen 518116,China
Manufacturer's name ..... :	**Dragino Technology Co., Limited.**
Address .....:	Room 202, Block B, BCT Incubation Bases, No.8 CaiYunRoad LongCheng Street, LongGang District ; Shenzhen 518116,China
Test specification:	
Standard .....:	FCC CFR Title 47 Part 15 Subpart C Section 15.247
Test procedure .....:	/
Non-standard test method .....:	N/A
Test Report Form No. ..... :	TRF-EL-110_V0
Test Report Form(s) Originator.... :	ZKT Testing
Master TRF ..... :	Dated: 2020-01-06

This device described above has been tested by ZKT, and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.
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Product name..... :	**LoRaWAN Indoor Gateway**
Trademark .....:	DRAGINO
Model/Type reference.....:	HP0C , LPS8v2
Ratings.....:	Input: DC 5V From AC Adapter

Testing procedure and testing location:

Testing Laboratory.....:	**Shenzhen ZKT Technology Co., Ltd.**
Address .....:	1/F, No. 101, Building B, No. 6, Tangwei Community Industrial Avenue, Fuhai Street, Bao'an District, Shenzhen, China
Tested by (name + signature) .....:	Jim Liu
Reviewer (name + signature) .....:	Tom Zou
Approved (name + signature).....:	Lake Xie

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1.Version

Report No.	Version	Description	Approved
ZKT-2203011240E-1	Rev.01	Initial issue of report	May. 18, 2022

2. Test Summary

Test Item	Section in CFR 47	Result
Antenna Requirement	15.203/15.247 (c)	Pass
AC Power Line Conducted Emission	15.207	Pass
Conducted Peak Output Power	15.247 (b)(1)	Pass
-6dB Occupied Bandwidth	15.247 (a)(1)	Pass
Radiated Emission	15.205/15.209	Pass
Band Edge	15.247(d)	Pass
Power Spectral Density	15.247 (e)	Pass

NOTE:

(1)" N/A" denotes test is not applicable in this Test Report

2.1 TEST FACILITY

Shenzhen ZKT Technology Co., Ltd.

Add. : 1/F, No. 101, Building B, No. 6, Tangwei Community Industrial Avenue, Fuhai Street, Bao'an District, Shenzhen, China

FCC Test Firm Registration Number: 692225

Designation Number: CN1299

IC Registered No.: 27033

2.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement y ± U，where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2，providing a level of confidence of approximately 95 %。

No.	Item	Uncertainty
1	3m camber Radiated spurious emission(9KHz-30MHz)	U=4.5dB
2	3m chamber Radiated spurious emission(30MHz-1GHz)	U=4.8dB
3	3m chamber Radiated spurious emission(1GHz-6GHz)	U=4.9dB
4	3m chamber Radiated spurious emission(6GHz-40GHz)	U=5.0dB
5	Conducted disturbance	U=3.2dB
6	RF Band Edge	U=1.68dB
7	RF power conducted	U=1.86dB
8	RF conducted Spurious Emission	U=2.2dB
9	RF Occupied Bandwidth	U=1.8dB
10	RF Power Spectral Density	U=1.75dB
11	humidity uncertainty	U=5.3%
12	Temperature uncertainty	U=0.59℃

3. General Information

3.1 General Description of EUT

Product Name:	LoRaWAN Indoor Gateway
Model No.:	HP0C , LPS8v2
Test sample(s) ID:	ZKT-2203011240-1
Sample(s) Status:	Engineer sample
Serial No.:	N/A
Hardware Version:	N/A
Software Version:	N/A
Operation Frequency:	902MHz~928MHz
Channel numbers:	9 for 500KHz bandwidth
Channel separation:	500KHz for 500KHz bandwidth
Modulation type:	LoRa
Antenna Type:	External antenna
Antenna gain:	5dBi
Power supply:	DC 5V From AC Adapter

Operation Frequency each of channel					
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	923.50	4	925.00	7	926.50
2	924.00	5	925.50	8	927.00
3	924.50	6	926.00	9	927.50

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, and the selected channel see below:

Channel	Frequency(500KHz)
The lowest channel	923.50MHz
The middle channel	925.50 MHz
The Highest channel	927.50MHz

3.2 Test mode

Transmitting mode	Keep the EUT in continuously transmitting mode.
Remark: During the test, the test voltage was tuned from 85% to 115% of the nominal rated supply voltage, and found that the worst case was under the nominal rated supply condition. So the report just shows that condition's data.	

3.3 Test Setup Configuration

Conducted Emission

AC Line — EUT

Radiated Emission

EUT

Conducted Spurious

EUT

3.4 Support Equipment

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Mfr/Brand	Model/Type No.	Series No.	Note
E-1	LoRaWAN Indoor Gateway	DRAGINO	HP0C , LPS8v2	N/A	EUT

Item	Shielded Type	Ferrite Core	Length	Note

Note:
(1) The support equipment was authorized by Declaration of Confirmation.
(2) For detachable type I/O cable should be specified the length in cm in『Length』column.

3.5 Test Instruments list

Radiation Test equipment

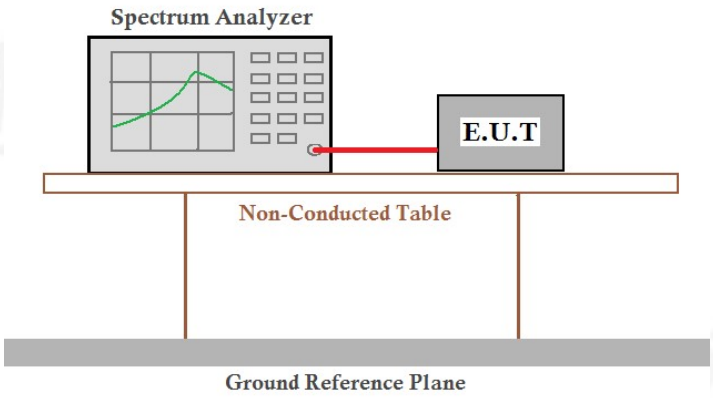
Item	Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
1	Spectrum Analyzer (9kHz-26.5GHz)	KEYSIGHT	9020A	MY45109572	Sep. 22, 2021	Sep. 21, 2022
2	Spectrum Analyzer (1GHz-40GHz)	Agilent	E4446A	100363	Sep. 22, 2021	Sep. 21, 2022
3	Test Receiver (9kHz-7GHz)	R&S	ESCI7	101169	Sep. 22, 2021	Sep. 21, 2022
4	Bilog Antenna (30MHz-1400MHz)	Schwarzbeck	VULB9168	00877	Sep. 22, 2021	Sep. 21, 2022
5	Horn Antenna (1GHz-18GHz)	SCHWARZBECK	BBHA9120D	1541	Sep. 22, 2021	Sep. 21, 2022
6	Horn Antenna (18GHz-40GHz)	A.H. System	SAS-574	588	Sep. 22, 2021	Sep. 21, 2022
7	Amplifier (30-1000MHz)	EM Electronics	EM330 Amplifier	N/A	Sep. 22, 2021	Sep. 21, 2022
8	Amplifier (1GHz-40GHz)	全聚达	DLE-161	097	Sep. 22, 2021	Sep. 21, 2022
9	Loop Antenna (9KHz-30MHz)	SCHWARZBECK	FMZB1519B	014	Sep. 22, 2021	Sep. 21, 2022
10	RF cables1 (9kHz-30MHz)	N/A	9kHz-30MHz	N/A	Sep. 22, 2021	Sep. 21, 2022
11	RF cables2 (30MHz-1GHz)	N/A	30MHz-1GHz	N/A	Sep. 22, 2021	Sep. 21, 2022
12	RF cables3 (1GHz-40GHz)	N/A	1GHz-40GHz	N/A	Sep. 22, 2021	Sep. 21, 2022
13	CMW500 Test	R&S	CMW500	106504	Sep. 22, 2021	Sep. 21, 2022
14	ESG Signal Generator	Agilent	E4421B	GB40051203	Sep. 22, 2021	Sep. 21, 2022
15	Signal Generator	Agilent	N5182A	MY47420215	Sep. 22, 2021	Sep. 21, 2022
16	D.C. Power Supply	LongWei	TPR-6405D	\	\	\
17	Software	Frad	EZ-EMC	FA-03A2 RE	\	\

Conduction Test equipment

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
1	LISN	R&S	ENV216	101471	Sep. 22, 2021	Sep. 21, 2022
2	LISN	CYBERTEK	EM5040A	E1850400149	Sep. 22, 2021	Sep. 21, 2022
3	Test Cable	N/A	C01	N/A	Sep. 22, 2021	Sep. 21, 2022
4	Test Cable	N/A	C02	N/A	Sep. 22, 2021	Sep. 21, 2022
5	EMI Test Receiver	R&S	ESRP3	101946	Sep. 22, 2021	Sep. 21, 2022
6	Absorbing Clamp	DZ	ZN23201	N/A	Sep. 22, 2021	Sep. 21, 2022

4 Test Items for DTS

4.1 Conducted Peak Output Power

Test Requirement:	FCC Part15 C Section 15.247 (b)(3)
Test Method:	ANSI C63.10:2013 and KDB558074 D01 DTS Meas Guidance v05r02
Limit:	30dBm
Test setup:	
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

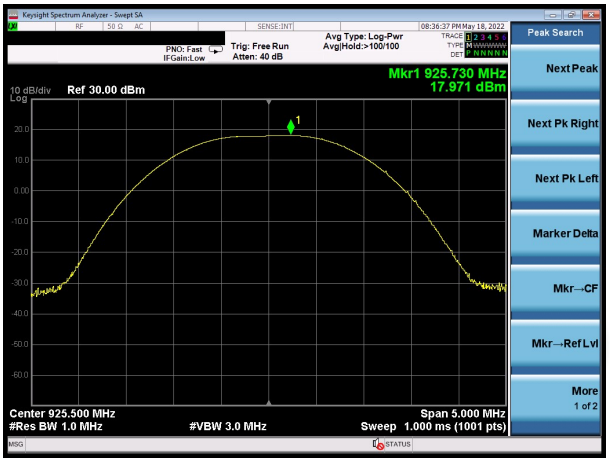
Measurement Data

500KHz Bandwidth:

Test channel	Peak Output Power (dBm)	Limit(dBm)	Result
Lowest	18.080	30.00	Pass
Middle	17.971		
Highest	18.782		

Test plot as follows:

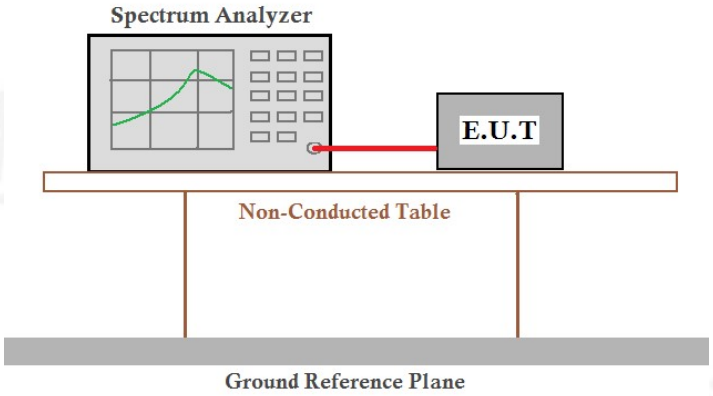
Lowest channel



Middle channel

Highest channel

4.2 Channel Bandwidth

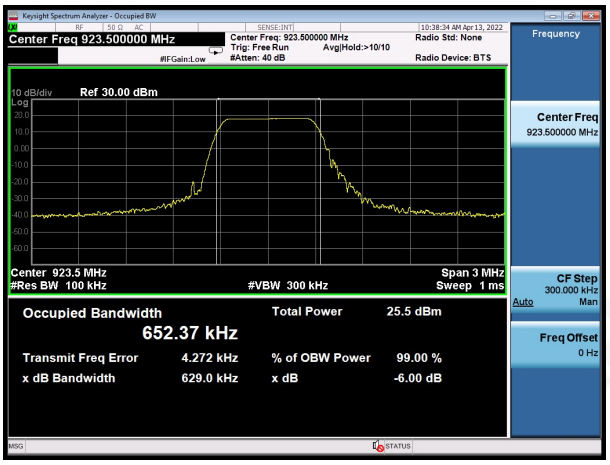
Test Requirement:	FCC Part15 C Section 15.247 (a)(2)
Test Method:	ANSI C63.10:2013 and KDB558074 D01 DTS Meas Guidance v05r02
Limit:	>500KHz
Test setup:	
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

Measurement Data

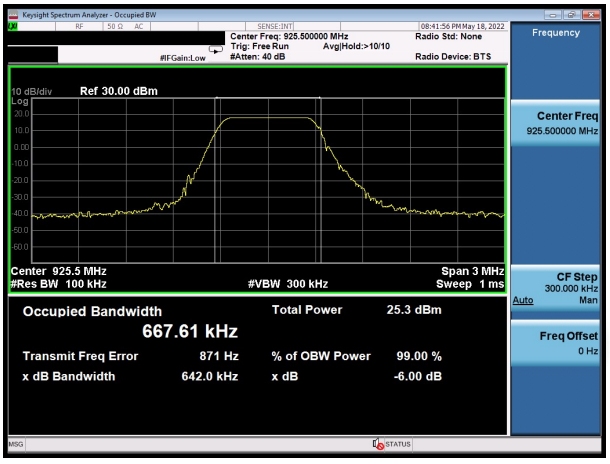
500KHz Bandwidth:

Test channel	Channel Bandwidth (KHz)	Limit(KHz)	Result
Lowest	629.0	>500	Pass
Middle	642.0		
Highest	626.0		

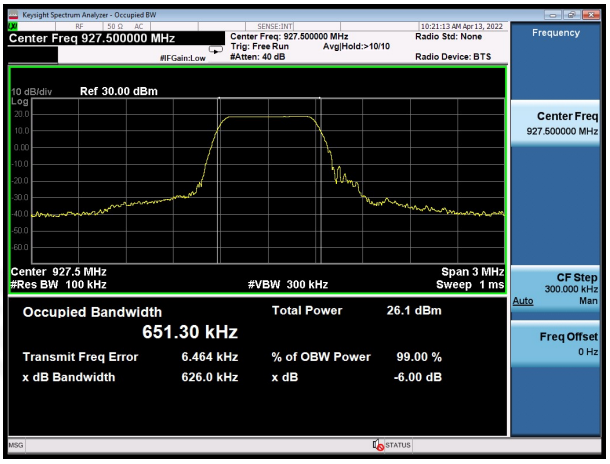
Test plot as follows:



Lowest channel

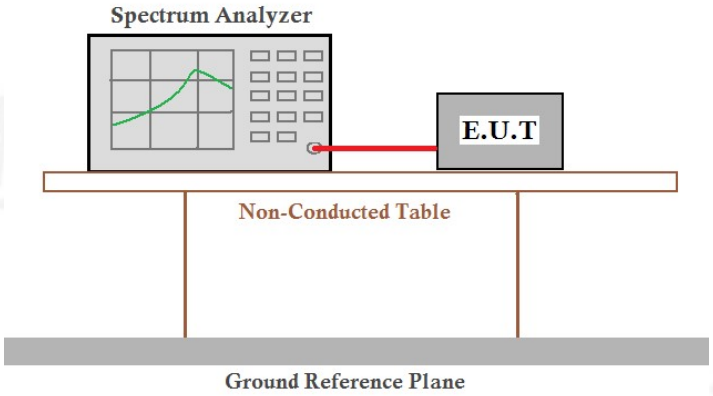


Middle channel



Highest channel

4.3 Power Spectral Density

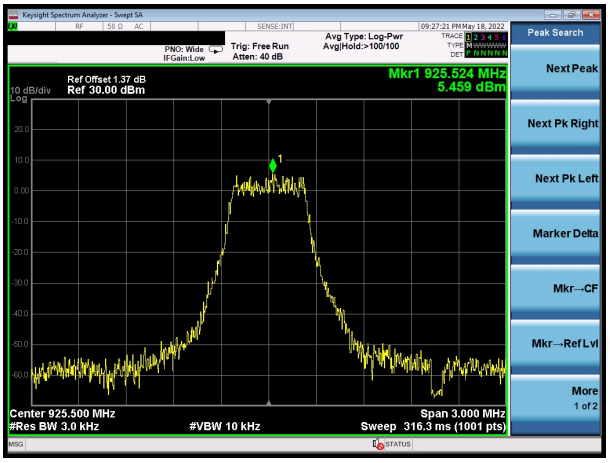
Test Requirement:	FCC Part15 C Section 15.247 (e)
Test Method:	ANSI C63.10:2013 and KDB558074 D01 DTS Meas Guidance v05r02
Limit:	8dBm/3kHz
Test setup:	
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

Measurement Data

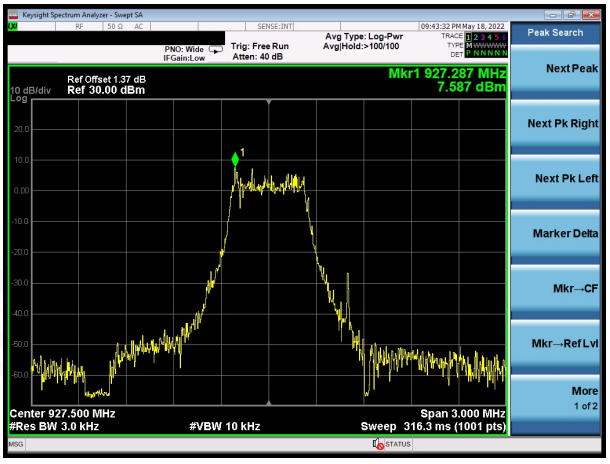
Test channel	Power Spectral Density (dBm/3kHz)	Limit(dBm/3kHz)	Result
Lowest	5.359	8.00	Pass
Middle	5.459		
Highest	7.587		

Test plot as follows:

Lowest channel

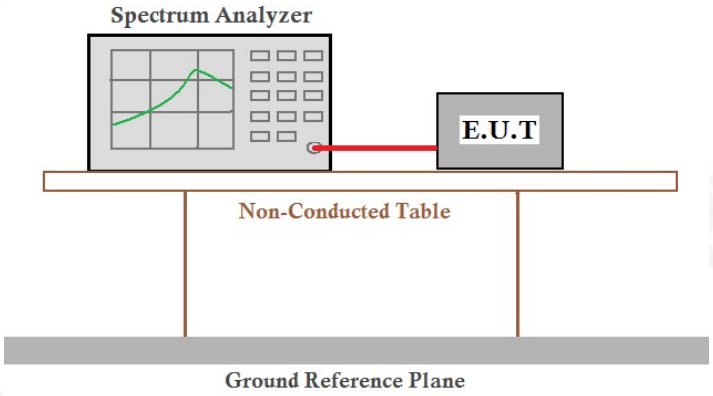


Middle channel

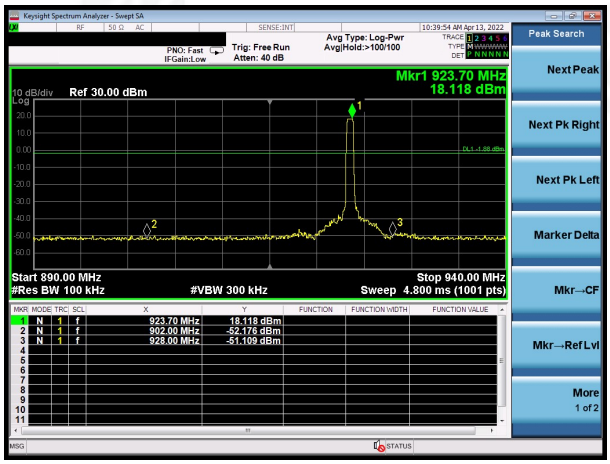


Highest channel

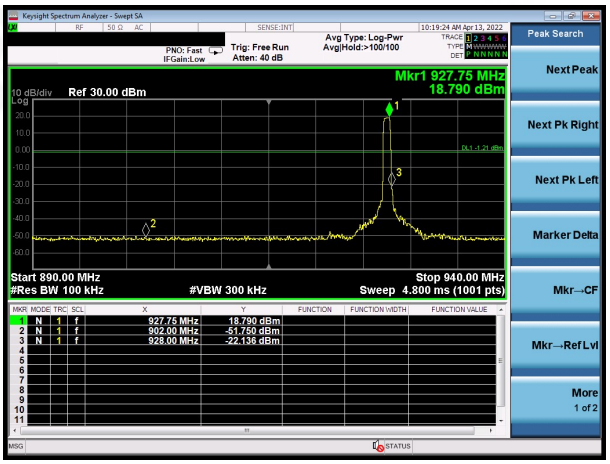
4.4 Band edges

Test Requirement:	FCC Part15 C Section 15.247 (d)
Test Method:	ANSI C63.10:2013 and KDB558074 D01 DTS Meas Guidance v05r02
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum 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.
Test setup:	
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

Test plot as follows:



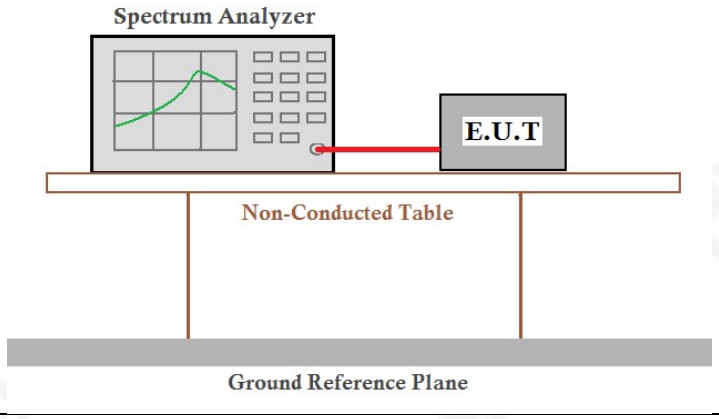
Lowest Channel



Highest Channel

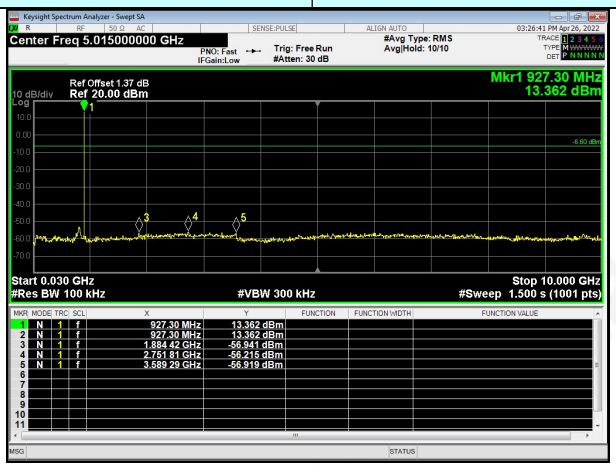
4.5 Spurious Emission

Conducted Emission Method

Test Requirement:	FCC Part15 C Section 15.247 (d)
Test Method:	ANSI C63.10:2013 and KDB558074 D01 DTS Meas Guidance v05r02
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum 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.
Test setup:	
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

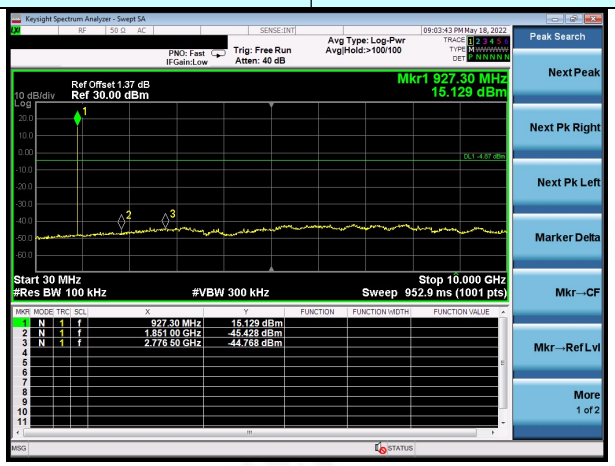
Test plot as follows:

Test channel:	Lowest channel



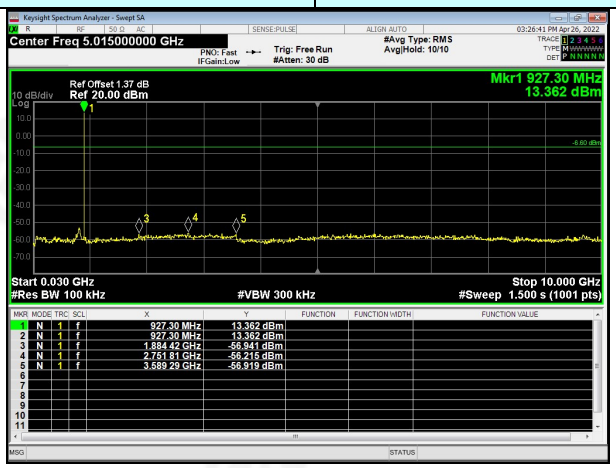
30MHz~10GHz

Test channel:	Middle channel

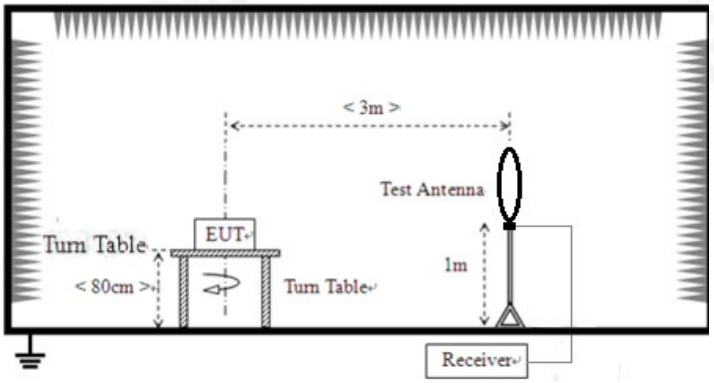


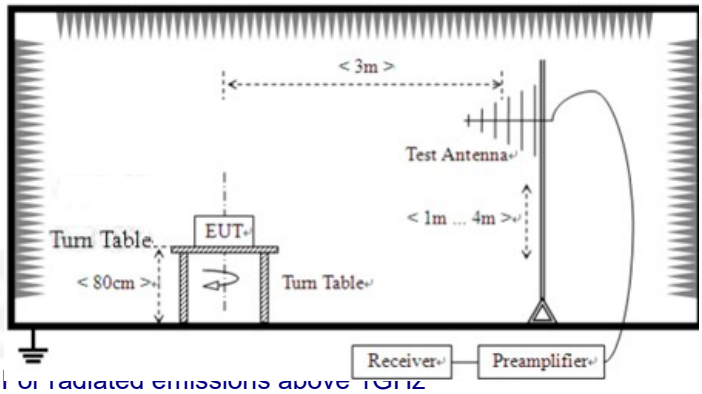
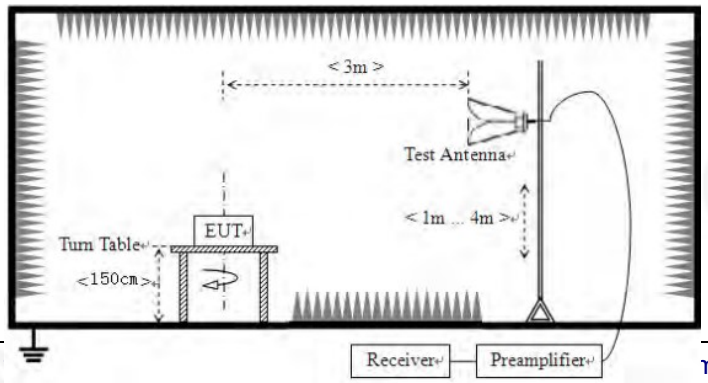
30MHz~10GHz

Test channel:	Highest channel



4.6 Radiated Emission Method

<table>
<tr><td>Test Requirement:</td><td>FCC Part15 C Section 15.209</td></tr>
<tr><td>Test Method:</td><td>ANSI C63.10:2013</td></tr>
<tr><td>Test Frequency Range:</td><td>9kHz to 25GHz</td></tr>
<tr><td>Test site:</td><td>Measurement Distance: 3m</td></tr>
<tr><td>Receiver setup:</td><td>
<table>
<tr><th>Frequency</th><th>Detector</th><th>RBW</th><th>VBW</th><th>Value</th></tr>
<tr><td>9KHz-150KHz</td><td>Quasi-peak</td><td>200Hz</td><td>600Hz</td><td>Quasi-peak</td></tr>
<tr><td>150KHz-30MHz</td><td>Quasi-peak</td><td>9KHz</td><td>30KHz</td><td>Quasi-peak</td></tr>
<tr><td>30MHz-1GHz</td><td>Quasi-peak</td><td>120KHz</td><td>300KHz</td><td>Quasi-peak</td></tr>
<tr><td rowspan="2">Above 1GHz</td><td>Peak</td><td>1MHz</td><td>3MHz</td><td>Peak</td></tr>
<tr><td>Peak</td><td>1MHz</td><td>10Hz</td><td>Average</td></tr>
</table>
</td></tr>
<tr><td>Limit:</td><td>
<table>
<tr><th>Frequency</th><th>Limit (uV/m)</th><th>Value</th><th>Measurement Distance</th></tr>
<tr><td>0.009MHz-0.490MHz</td><td>2400/F(KHz)</td><td>QP</td><td>300m</td></tr>
<tr><td>0.490MHz-1.705MHz</td><td>24000/F(KHz)</td><td>QP</td><td>30m</td></tr>
<tr><td>1.705MHz-30MHz</td><td>30</td><td>QP</td><td>30m</td></tr>
<tr><td>30MHz-88MHz</td><td>100</td><td>QP</td><td rowspan="6">3m</td></tr>
<tr><td>88MHz-216MHz</td><td>150</td><td>QP</td></tr>
<tr><td>216MHz-960MHz</td><td>200</td><td>QP</td></tr>
<tr><td>960MHz-1GHz</td><td>500</td><td>QP</td></tr>
<tr><td rowspan="2">Above 1GHz</td><td>500</td><td>Average</td></tr>
<tr><td>5000</td><td>Peak</td></tr>
</table>
</td></tr>
<tr><td>Test setup:</td><td>For radiated emissions from 9kHz to 30MHz
 
</td></tr>
</table>

	For radiated emissions from 30MHz to1GHz  For radiated emissions above 1GHz 
Test Procedure:	n for below 1G and 1.5m for above 1G) above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation. 2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. 1. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. 2. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading. 3. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. 4. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test environment:	Temp.: 25 °C Humid.: 52% Press.: 1012mbar
Test voltage:	AC 120V, 60Hz
Test results:	Pass

Measurement data:

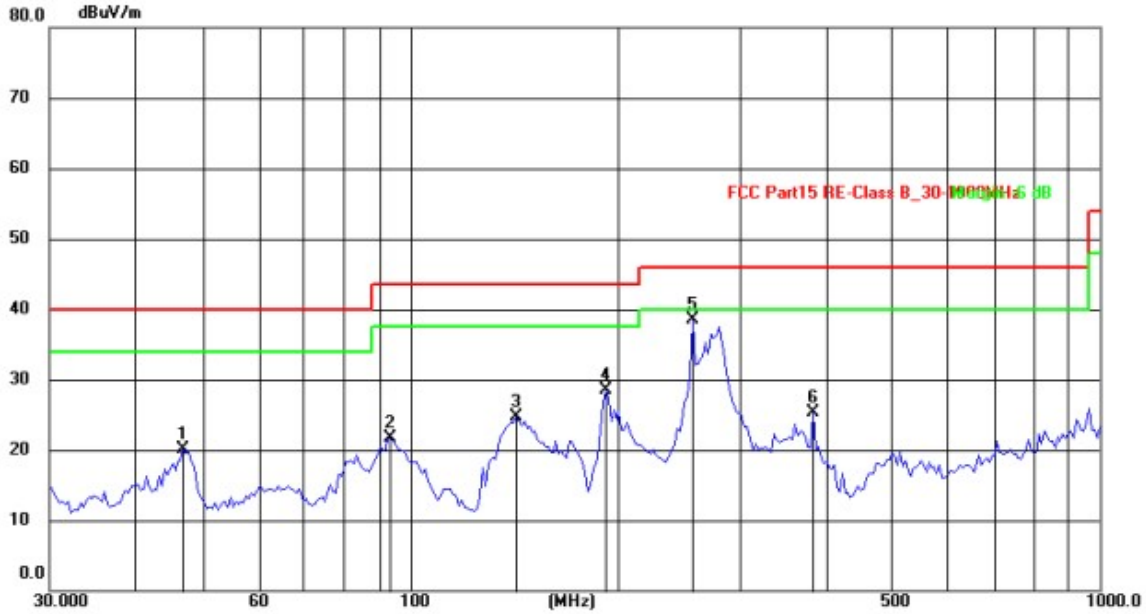
Remark:
Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the Y-axis which it is worse case.

■ **9kHz~30MHz**

The low frequency, which started from 9 kHz to 30 MHz, was pre-scanned and the result which was 20 dB lower than the limit line per 15.31(o) was not reported.

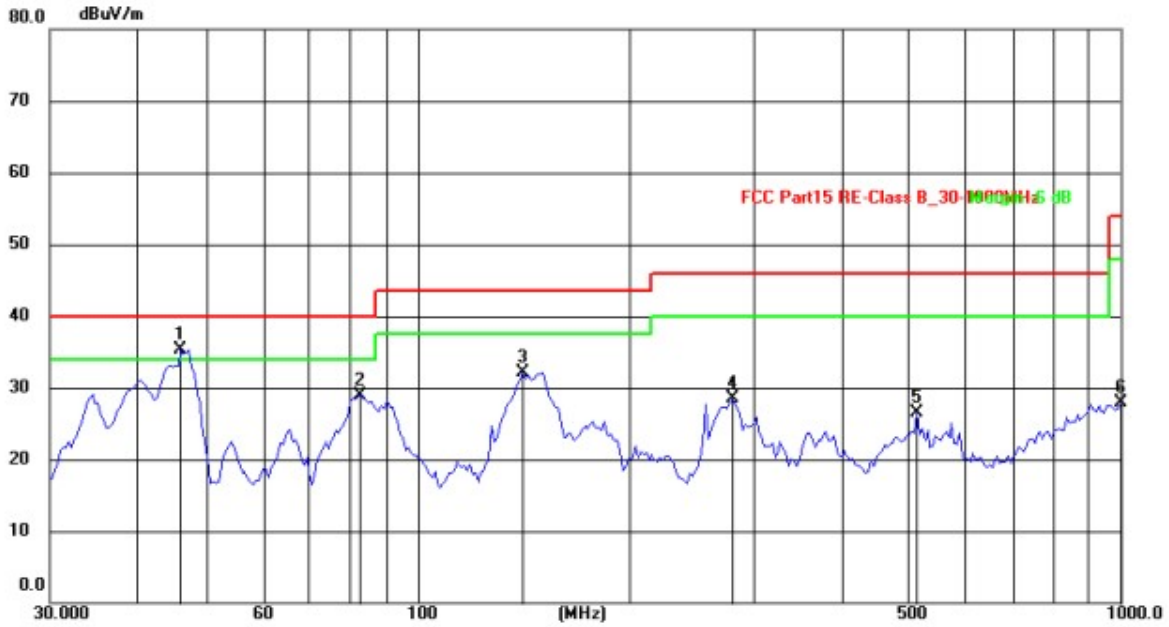
■ **Below 1GHz**

Horizontal:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	46.9123	34.11	-14.08	20.03	40.00	-19.97	QP
2	93.7682	41.86	-20.06	21.80	43.50	-21.70	QP
3	142.8241	41.86	-17.25	24.61	43.50	-18.89	QP
4	192.4183	47.85	-19.37	28.48	43.50	-15.02	QP
5	256.9712	55.66	-17.24	38.42	46.00	-7.58	QP
6	384.6055	43.97	-18.63	25.34	46.00	-20.66	QP

Vertical:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	46.0970	52.49	-17.12	35.37	40.00	-4.63	QP
2	82.9384	50.72	-21.76	28.96	40.00	-11.04	QP
3	141.5774	53.40	-21.29	32.11	43.50	-11.39	QP
4	280.5151	49.28	-20.73	28.55	46.00	-17.45	QP
5	513.6331	39.64	-13.06	26.58	46.00	-19.42	QP
6	1000.0000	30.06	-2.22	27.84	54.00	-26.16	QP

■ **Above 1GHz**

Test channel:	Lowest channel

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
1806.00	42.35	25.25	4.85	34.08	38.37	74.00	-35.63	Vertical
2709.00	35.77	28.12	5.66	33.68	35.87	74.00	-38.13	Vertical
3612.00	33.79	29.19	7.25	37.37	32.86	74.00	-41.14	Vertical
4515.00	*					74.00		Vertical
5418.00	*					74.00		Vertical
6321.00	*					74.00		Vertical
1806.00	39.89	25.25	4.85	34.08	35.91	74.00	-38.09	Horizontal
2709.00	34.96	28.12	5.66	33.68	35.06	74.00	-38.94	Horizontal
3612.00	32.54	29.19	7.25	37.37	31.61	74.00	-42.39	Horizontal
4515.00	*					74.00		Horizontal
5418.00	*					74.00		Horizontal
6321.00	*					74.00		Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
1806.00	30.42	25.25	4.85	34.08	26.44	54.00	-27.56	Vertical
2709.00	23.83	28.12	5.66	33.68	23.93	54.00	-30.07	Vertical
3612.00	23.58	29.19	7.25	37.37	22.65	54.00	-31.35	Vertical
4515.00	*					54.00		Vertical
5418.00	*					54.00		Vertical
6321.00	*					54.00		Vertical
1806.00	29.43	25.25	4.85	34.08	25.45	54.00	-28.55	Horizontal
2709.00	23.55	28.12	5.66	33.68	23.65	54.00	-30.35	Horizontal
3612.00	22.49	29.19	7.25	37.37	21.56	54.00	-32.44	Horizontal
4515.00	*					54.00		Horizontal
5418.00	*					54.00		Horizontal
6321.00	*					54.00		Horizontal

Remarks:

1. *Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor*
2. *The emission levels of other frequencies are very lower than the limit and not show in test report.*
3. *"*", means this data is the too weak instrument of signal is unable to test.*

Test channel:	Middle channel

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
1828.21	38.68	25.25	4.85	34.08	34.70	74.00	-39.30	Vertical
2741.24	34.28	28.12	5.66	33.68	34.38	74.00	-39.62	Vertical
3658.21	33.31	29.19	7.25	37.37	32.38	74.00	-41.62	Vertical
4565.32	*					74.00		Vertical
4579.37	*					74.00		Vertical
6308.67	*					74.00		Vertical
1828.21	40.57	25.25	4.85	34.08	36.59	74.00	-37.41	Horizontal
2741.24	33.86	28.12	5.66	33.68	33.96	74.00	-40.04	Horizontal
3658.21	33.62	29.19	7.25	37.37	32.69	74.00	-41.31	Horizontal
4565.32	*					74.00		Horizontal
4579.37	*					74.00		Horizontal
6308.67	*					74.00		Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
1828.21	30.42	25.25	4.85	34.08	26.23	54.00	-47.77	Vertical
2741.24	23.83	28.12	5.66	33.68	23.77	54.00	-50.23	Vertical
3658.21	23.58	29.19	7.25	37.37	22.69	54.00	-51.31	Vertical
4565.32	*					54.00		Vertical
4579.37	*					54.00		Vertical
6308.67	*					54.00		Vertical
1828.21	29.43	25.25	4.85	34.08	25.14	54.00	-48.86	Horizontal
2741.24	23.55	28.12	5.66	33.68	23.67	54.00	-50.33	Horizontal
3658.21	22.49	29.19	7.25	37.37	21.38	54.00	-52.62	Horizontal
4565.32	*					54.00		Horizontal
4579.37	*					54.00		Horizontal
6308.67	*					54.00		Horizontal

Test channel:	Highest

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
1831.60	40.31	25.43	4.89	34.12	36.51	74.00	-37.49	Vertical
2747.40	35.93	28.34	5.68	33.57	36.38	74.00	-37.62	Vertical
3663.20	34.12	29.42	7.29	37.66	33.17	74.00	-40.83	Vertical
4579.00	*					74.00		Vertical
5494.80	*					74.00		Vertical
6410.60	*					74.00		Vertical
1831.60	40.77	25.43	4.89	34.12	36.97	74.00	-37.03	Horizontal
2747.40	36.87	28.34	5.68	33.57	37.32	74.00	-36.68	Horizontal
3663.20	34.54	29.42	7.29	37.66	33.59	74.00	-40.41	Horizontal
4579.00	*					74.00		Horizontal
5494.80	*					74.00		Horizontal
6410.60	*					74.00		Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
1831.60	31.16	25.43	4.89	34.12	27.36	54.00	-26.64	Vertical
2747.40	23.32	28.34	5.68	33.57	23.77	54.00	-30.23	Vertical
3663.20	23.57	29.42	7.29	37.66	22.62	54.00	-31.38	Vertical
4579.00	*					54.00		Vertical
5494.80	*					54.00		Vertical
6410.60	*					54.00		Vertical
1831.60	30.81	25.43	4.89	34.12	27.01	54.00	-26.99	Horizontal
2747.40	22.93	28.34	5.68	33.57	23.38	54.00	-30.62	Horizontal
3663.20	23.73	29.42	7.29	37.66	22.78	54.00	-31.22	Horizontal
4579.00	*					54.00		Horizontal
5494.80	*					54.00		Horizontal
6410.60	*					54.00		Horizontal

Remarks:

1. *Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor*
2. *The emission levels of other frequencies are very lower than the limit and not show in test report.*
3. *"*", means this data is the too weak instrument of signal is unable to test.*

5. Antenna Requirement

Standard requirement:	FCC Part15 C Section 15.203 /247(c)
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. 15.247(c) (1)(i) requirement: (i) Systems operating in the 2400-2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi.	
EUT Antenna:	
The antenna is External antenna, the best case gain of the antennas is 5dBi, reference to the appendix II for details	

6. Test Setup Photo

Reference to the appendix I for details.

7. EUT Constructional Details

Reference to the appendix II for details.

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