

RF TEST REPORT

FCC ID: 2BTLC- LOCKHOO100

Test Report No.....: RF251226035-01-002

Product(s) Name.....: Smart Lock

Model(s).....: Lockhoo 100

Trade Mark.....: BICEEK

Applicant.....: Costarfish(Shenzhen) Technology Co., Limited

Address.....: Room 1812, Yishang Creative Technology Building, No 22 Jiaan
South Road, Haibin Community, Xinan Street, Baoan District,
Shenzhen City

Receipt Date.....: 2025.12.30

Test Date.....: 2025.12.31 ~ 2026.01.08

Issued Date.....: 2026.01.09

Standards.....: 47 CFR FCC Part 15, Subpart C(Section 15.249)
ANSI C63.10:2020

Testing Laboratory.....: Shenzhen Haiyun Standard Technical Co., Ltd.

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History of the test report

Original Report Issue Date: 2026.01.09

- No additional attachment
- Additional attachments were issued following record

Attachment No.	Issue Date	Description

1. General information

1.1. Basic information of EUT

Sample No.	POC251226035-S001
Product name	Smart Lock
Model name	Lockhoo 100
Trade mark	BICEEK
Power supply	DC 5V from adapter or DC 3.6V from battery
Operation Frequency	902-928 MHz
Modulation	LoRa
Antenna Designation	FPC antenna
Antenna gain	-2.8dBi
Field Strength	89.45dBuV/m@3m
Applicant	Costarfish(Shenzhen) Technology Co., Limited Room 1812, Yishang Creative Technology Building, No 22 Jiaan South Road, Haibin Community, Xinan Street, Baoan District, Shenzhen City

Note: For more detailed features description, please refer to the User manual.

Channel List:

125kHz

Channel	Frequency (MHz)	Channel	Frequency (MHz)
00	903.9	04	904.7
01	904.1	05	904.9
02	904.3	06	905.1
03	904.5	07	905.3

500kHz

Channel	Frequency (MHz)	Channel	Frequency (MHz)
00	904.6	/	/

2. Measured equipment list

2.1. Test facility

Company:	Shenzhen Haiyun Standard Technical Co., Ltd.
Address:	No. 110, 111, 112, 113, 115, 116, Block B, Jinyuan business Building, No. 302, Xixiang Avenue, Laodong Community, Xixiang Street, Bao'an District, Shenzhen P.R.C.
CNAS Registration Number:	CNAS L18252
CAB identifier:	CN0145
Company Number	30427
A2LA Certificate Number:	6823.01

2.2. Test instruments list

Radiated Emissions							
No.	Equipment	Manufacturer	Type No.	Serial No.	Inventory No.	Cal. date (yyyy/mm/dd)	Cal. Due date (yyyy/mm/dd)
1	Test receiver	Rohde&Schwarz	ESU	100184	JLE011	2025/3/1	2026/2/28
2	Log periodic antenna	Schwarzbeck	VULB 9168	1151	JLE012	2025/4/12	2026/4/11
3	Low frequency amplifier	/	LNA 0920N	2014	JLE023	2025/3/1	2026/2/28
4	High frequency amplifier	Schwarzbeck	BBV 9718	9718-284	JLE024	2025/3/1	2026/2/28
5	Horn Antenna	SCHWARZBECK	BBHA 9120 D	02670	JLE028	2025/4/12	2026/4/11
6	Temp&Humidity Recorder	Meideshi	JR900	/	JLE021	2025/4/15	2026/4/14
7	Horn Antenna	SCHWARZBECK	BBHA 9170	9170#685	JLE029	2024/7/15	2027/7/14
8	Loop Antenna	SCHWARZBECK	FMZB151 9B	00029	JLE030	2024/7/15	2027/7/14
9	Broadband preamplifier	Schwarzbeck	BBV9721	9721-019	JLE025	2025/3/1	2026/2/28
10	Test software	Farad Technology Co., Ltd	EZ-EMC Ver.TW-03A2				
RF Conducted Emission							
1	MXA Signal Analyzer	Keysight	N9010A	MY514401 58	JLE087	2025/9/15	2026/9/14

2.3. Measurement uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.

Uncertainty	
Parameter	Uncertainty
Occupied Channel Bandwidth	$\pm 102\text{kHz}$
Power Spectral Density	$\pm 0.243\text{dB}$
Conducted Spurious Emission	$\pm 0.743\text{dB}$
RF power conducted	$\pm 1.328\text{dB}$
Conducted emission(9kHz~30MHz) AC main	$\pm 2.68\text{dB}$
Radiated emission(9kHz~30MHz)	$\pm 3.50\text{dB}$
Radiated emission (30MHz~1GHz)	$\pm 4.20\text{dB}$
Radiated emission (1GHz~18GHz)	$\pm 5.10\text{dB}$
Radiated emission (18GHz~40GHz)	$\pm 5.26\text{dB}$

3. Test system information

3.1. Test result summary

47 CFR FCC Part 15, Subpart C(Section 15.249)			
Test item	Standard(s) Section	Results	Remarks
AC Power Conducted Emission	15.207(a)	Pass	Meet the requirement of the limit
Radiated Emissions	15.205; 15.209; 15.249	Pass	Meet the requirement of the limit
Bandwidth	15.215(c)	Pass	Meet the requirement of the limit
Antenna requirement	15.203	Compliance	Note2
Note: 1. "N/A" denotes test is not applicable in this test report. 2. According to the manufacturer declared, the EUT has one FPC antenna arrangement which was permanently attached.			

3.2. Description of test mode

Operating mode	
Test mode 1	125kHz_903.9MHz Transmitting
Test mode 2	125kHz_905.3MHz Transmitting
Test mode 3	500kHz_904.6MHz Transmitting

3.3. Power setting and test software

Power setting	0
Test software	SSCOM5.13.1

3.4. Description of support units

No.	Equipment	Model	Manufacturer	Series No
1	Adapter	SA67-050100C	Xianling	/

4. Summary of Test Projects

4.1. Conducted emission test

4.1.1. Limit

FREQUENCY (MHz)	Limits (dB μ V)	
	Quasi-peak	Average
0.15 - 0.5	66 - 56	59 - 46
0.50 - 5.0	56	46
5.0 - 30.0	60	50

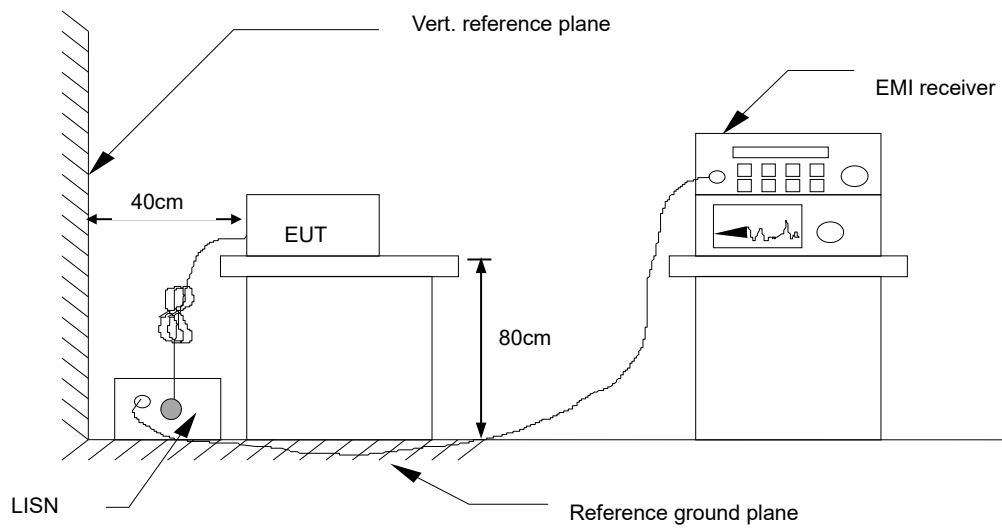
Note:

1. The lower limit shall apply at the transition frequencies.
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50 MHz.

4.1.2. Test procedures

1. Test limits and test methods reference ANSI C63.10:2020.
2. The EUT was placed 0.8 m from the horizontal ground plane and 0.4 m from the vertical ground plane with EUT being connected to the power mains through a line impedance stabilization network (AMN). All other support equipment powered from additional AMN. The AMN provide 50 Ohm/ 50 μ H of coupling impedance for the measuring instrument.
3. Interconnecting cables that hang closer than 0.4 m to the ground plane shall be folded back and forth in the center forming a bundle 0.3 m to 0.4 m long.
4. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance.
5. The frequency range from 150 kHz to 30 MHz was searched.
6. Actual test configuration, please refer to the related Item – EUT Test Photos.
7. AAN, CP or CVP at least 0.8 m from nearest part of EUT chassis.
8. The thickness of the insulation shall not be more than 150 mm.

4.1.3. Test set-up



For the actual test configuration, please refer to the related item – Photographs of the test configuration

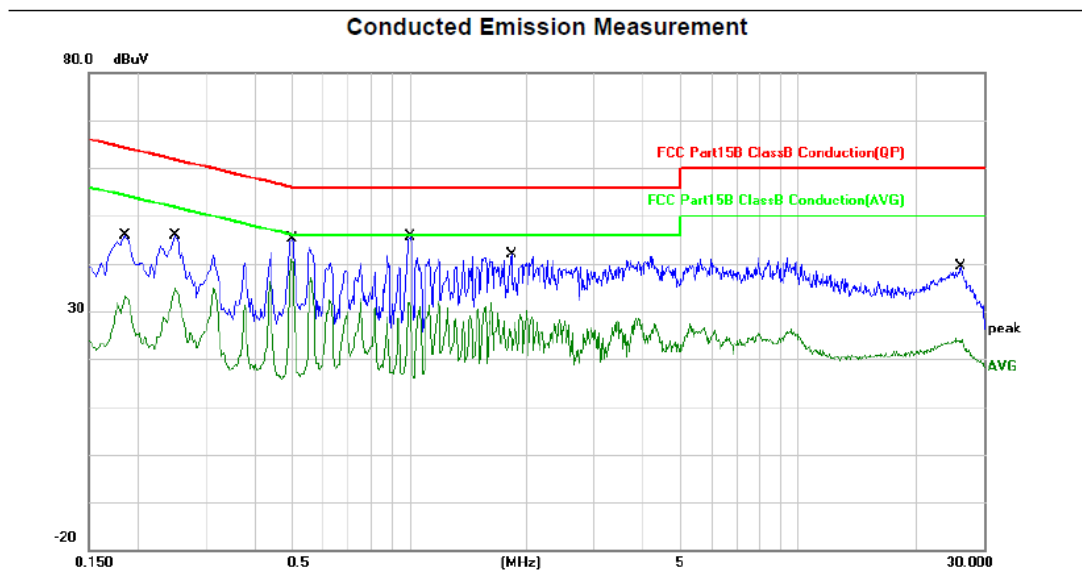
4.1.4. Test results

Note: Pre-scan all test modes, worst case for test mode1 was recorded.

Product Model	Lockhoo 100	Test Mode	Mode 1
Environmental Conditions	23.4℃, 48% RH	Test voltage	AC 120V/60Hz
Tested by	Keith Huang	Test Results	Pass
Test Date	2026-01-06		

Note:

Line



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over		
		MHz	Level	Factor	ment			Detector	Comment
			dBuV	dB	dBuV	dBuV	dB		
1		0.1860	23.39	19.50	42.89	64.21	-21.32	QP	
2		0.1860	12.88	19.50	32.38	54.21	-21.83	AVG	
3		0.2500	23.26	19.53	42.79	61.76	-18.97	QP	
4		0.2500	14.81	19.53	34.34	51.76	-17.42	AVG	
5		0.5020	24.03	19.51	43.54	56.00	-12.46	QP	
6	*	0.5020	20.23	19.51	39.74	46.00	-6.26	AVG	
7		1.0060	19.70	19.56	39.26	56.00	-16.74	QP	
8		1.0060	8.52	19.56	28.08	46.00	-17.92	AVG	
9		1.8300	11.63	19.64	31.27	56.00	-24.73	QP	
10		1.8300	1.57	19.64	21.21	46.00	-24.79	AVG	
11		26.2020	9.41	21.12	30.53	60.00	-29.47	QP	
12		26.2020	0.77	21.12	21.89	50.00	-28.11	AVG	

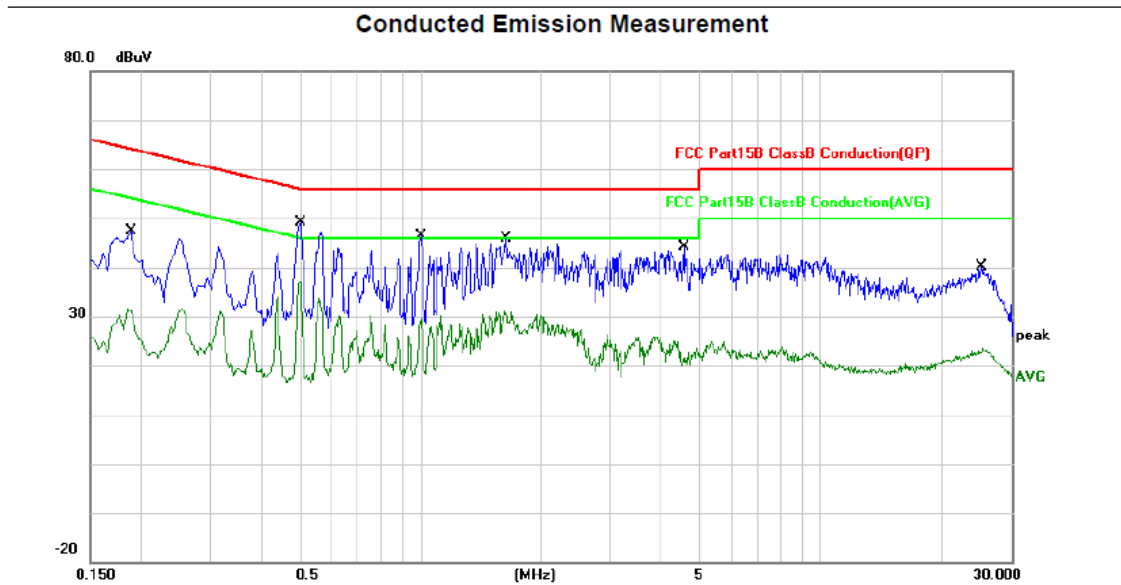
Note:

1. Correct Factor = LISN Factor + Cable Loss + Pulse Limiter Factor
2. Measurement= Reading + Correct Factor.
3. Over = Result – Limit

Product Model	Lockhoo 100	Test Mode	Mode 1
Environmental Conditions	23.4℃, 48% RH	Test voltage	AC 120V/60Hz
Tested by	Keith Huang	Test Results	Pass
Test Date	2026-01-06		

Note:

Neutral



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1900	23.77	19.53	43.30	64.04	-20.74	QP	
2		0.1900	9.25	19.53	28.78	54.04	-25.26	AVG	
3		0.5060	23.54	19.56	43.10	56.00	-12.90	QP	
4 *		0.5060	13.95	19.56	33.51	46.00	-12.49	AVG	
5		1.0060	19.25	19.53	38.78	56.00	-17.22	QP	
6		1.0060	8.16	19.53	27.69	46.00	-18.31	AVG	
7		1.6420	18.81	19.61	38.42	56.00	-17.58	QP	
8		1.6420	9.03	19.61	28.64	46.00	-17.36	AVG	
9		4.5540	12.15	19.93	32.08	56.00	-23.92	QP	
10		4.5540	-1.48	19.93	18.45	46.00	-27.55	AVG	
11		25.2900	9.48	21.05	30.53	60.00	-29.47	QP	
12		25.2900	-0.04	21.05	21.01	50.00	-28.99	AVG	

Note:

1. Correct Factor = LISN Factor + Cable Loss + Pulse Limiter Factor,
2. Measurement= Reading + Correct Factor.
3. Over = Result – Limit

4.2. Radiated emission test

4.2.1. Limit

In addition to the provisions of § 15.205, the field strength of emissions from intentional radiators operated under this section shall not exceed the following:

Fundamental frequency	Field strength of fundamental (millivolts/meter)	Field strength of harmonics (microvolts/meter)
902-928 MHz	50	500
2400-2483.5 MHz	50	500
5725-5875 MHz	50	500
24.0-24.25 GHz	250	2500

Note: (1) Emission level $\text{dB}\mu\text{V} = 20 \log \text{Emission level } \mu\text{V/m}$

(2) The smaller limit shall apply at the cross point between two frequency bands.

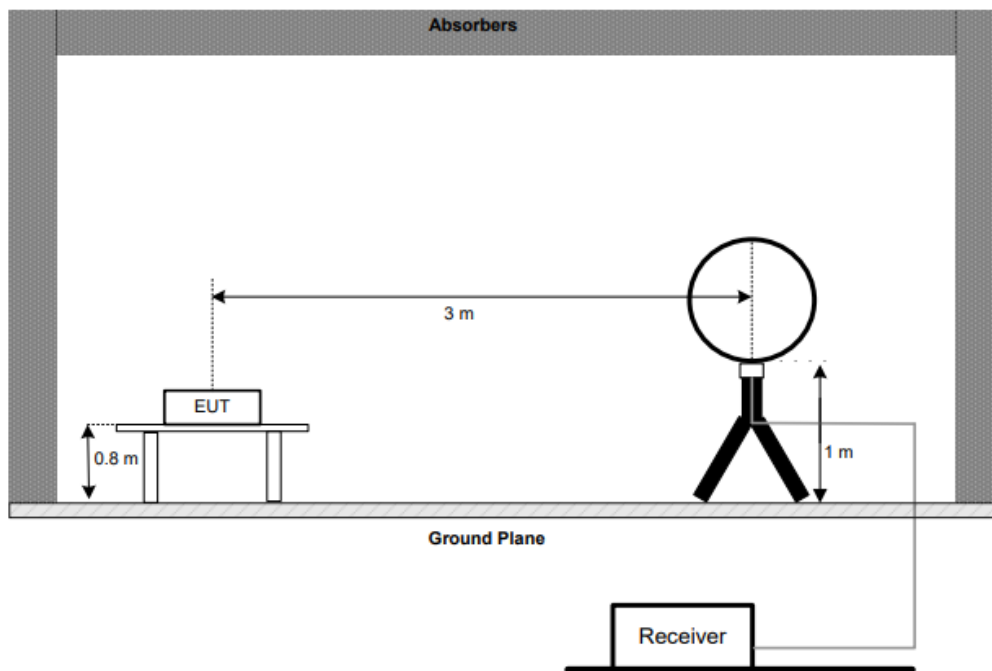
(3) The above field strength limits are specified at a distance of 3 meters. The tighter limits apply at the band edges

4.2.2. Test procedures

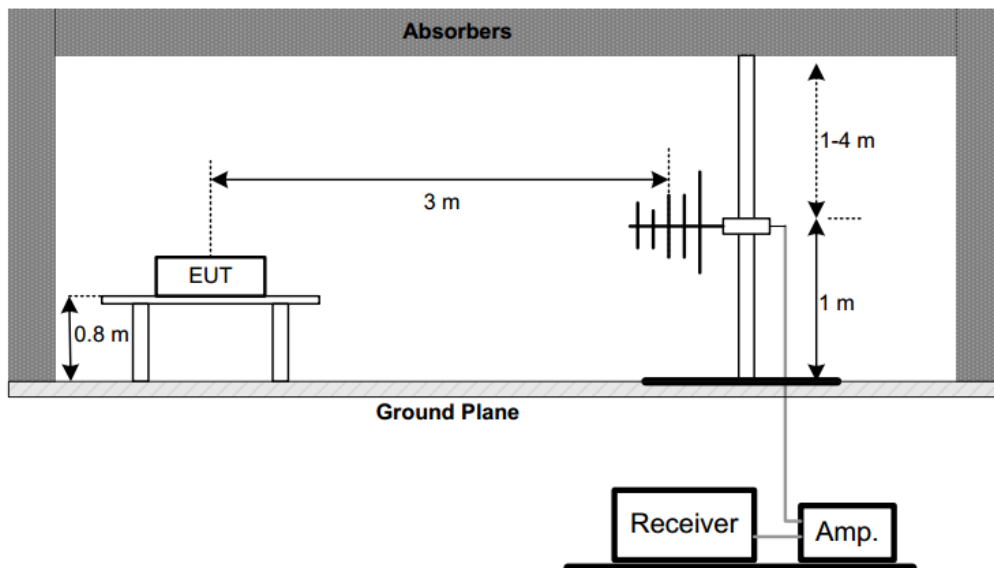
1. Test limits and test methods reference ANSI C63.10:2020.
2. Below 1GHz, the measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 m above the ground at a 3 m semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
3. Above 1GHz, the measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 1.5 m above the ground at a 3 m semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
4. The height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
5. The initial step in collecting radiated emission data is a receiver peak detector mode.
6. Pre - scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
7. For above 1GHz, If the emission level of the EUT In "Peak Detection" mode is 20 dB lower than the "Average" limit (means that the emission level in "Peak Detection" mode also complies with the limit in "Average Mode"), testing will be stopped and "Peak" values of the EUT will be reported, otherwise, the emissions of the EUT will be measured in "Average Mode" again and then reported.
8. All readings are Peak unless otherwise stated QP in column of Note. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform. (below 1GHz).
9. All readings are Peak Mode value unless otherwise stated AVG in column of Note. If the Peak Mode Measured value compliance with the Peak Limits and lower than AVG Limits, the EUT shall be deemed to meet both Peak & AVG Limits and then only Peak Mode was measured, but AVG Mode didn't perform.(above 1GHz)

4.2.3. Test set-up

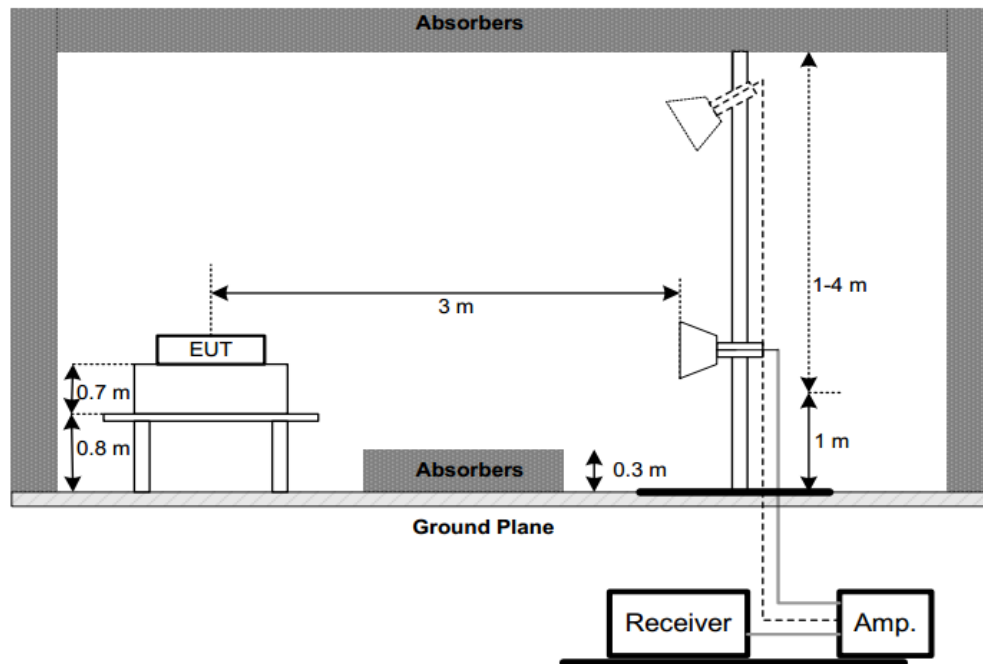
1) Radiated Emission Test Set-Up Frequency 9 kHz-30 MHz



2) Radiated Emission Test Set-Up Frequency 30 MHz-1000 MHz



3) Radiated Emission Test Set-Up Frequency Above 1 GHz



4.2.4. Test results

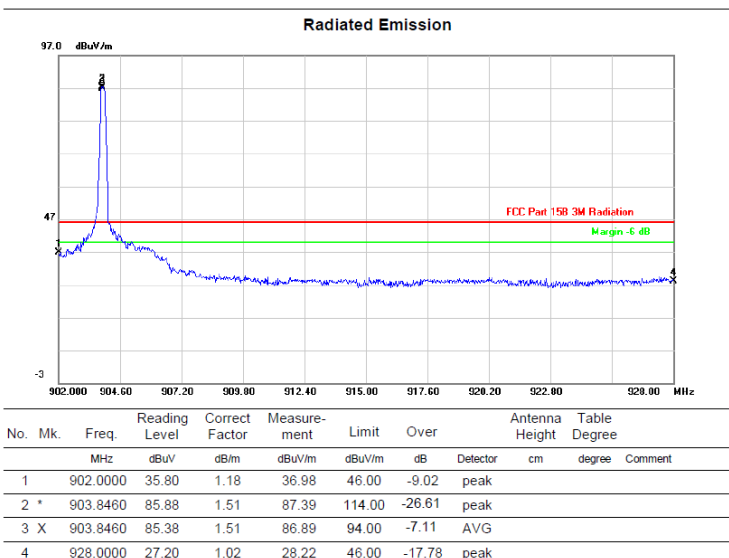
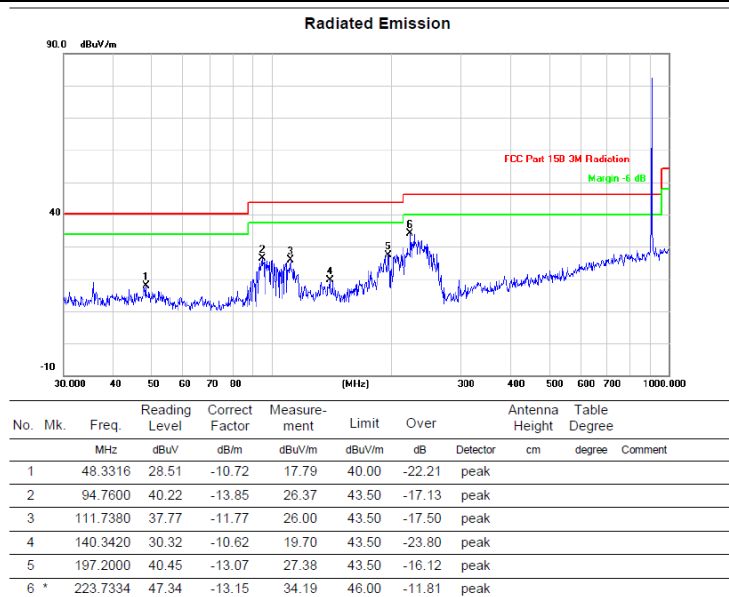
1) Radiated emission: 9kHz-30MHz

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

2) Radiated emission: 30MHz-1GHz

Product Model	Lockhoo 100	Location	3m chamber
Environmental Conditions	23.4 °C, 51% RH	Test Mode	Mode 1
Antenna Pole	Vertical	RBW	120 kHz
Tested by	Keith Huang	Test Results	PASS
Test Date	2026-01-08		

Note: AC 120V/60Hz



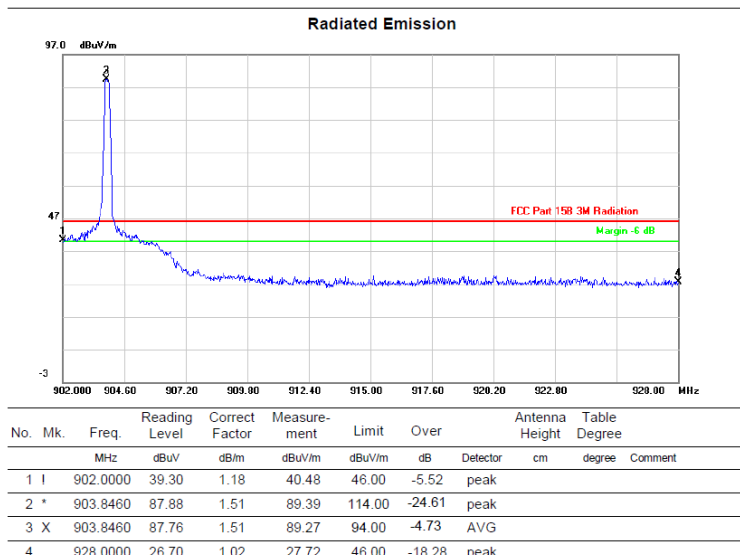
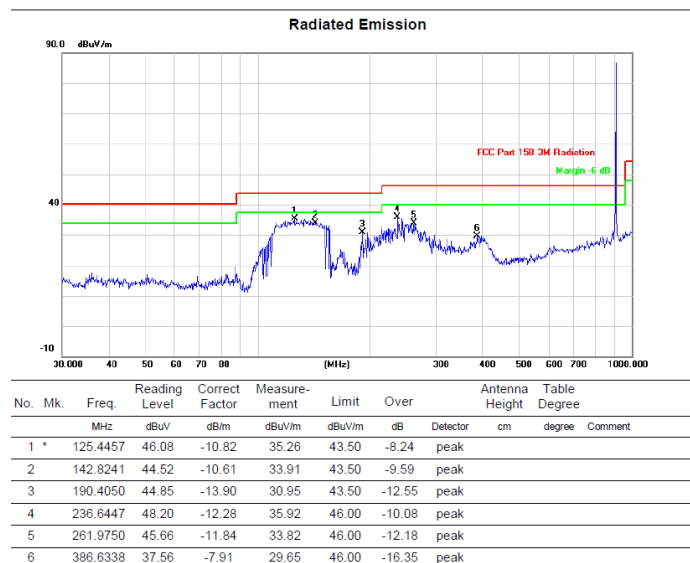
Note: 1.QP= Quasi-peak Reading.

2.The other emission levels were very low against the limit.

3. Measurement = Reading Level+Correct Factor, Over = Measurement- Limit

Product Model	Lockhoo 100	Location	3m chamber
Environmental Conditions	23.4℃, 51% RH	Test Mode	Mode 1
Antenna Pole	Horizontal	RBW	120 kHz
Tested by	Keith Huang	Test Results	PASS
Test Date	2026-01-08		

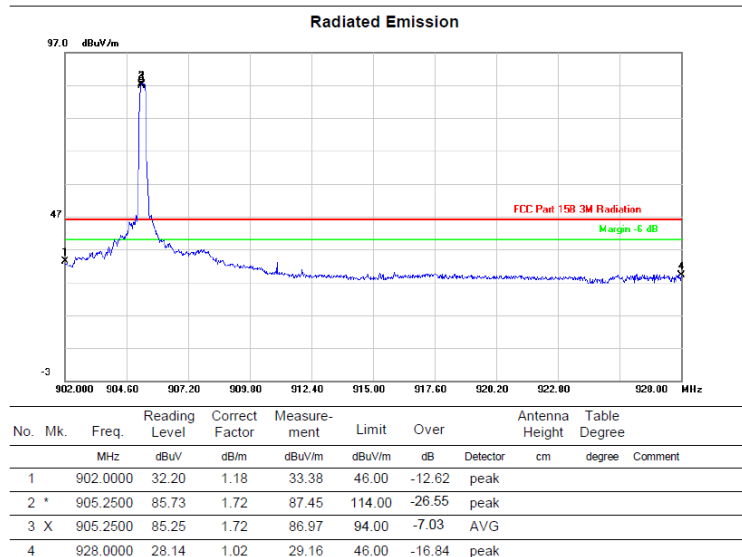
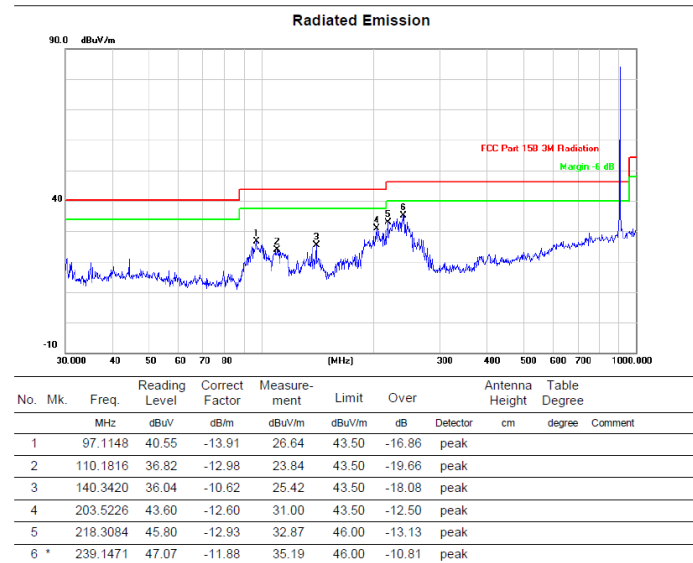
Note: AC 120V/60Hz



Note: 1.QP= Quasi-peak Reading.
2.The other emission levels were very low against the limit.
3. Measurement = Reading Level+ Correct Factor, Over = Measurement- Limit

Product Model	Lockhoo 100	Location	3m chamber
Environmental Conditions	23.4°C, 51% RH	Test Mode	Mode 2
Antenna Pole	Vertical	RBW	120 kHz
Tested by	Keith Huang	Test Results	PASS
Test Date	2026-01-08		

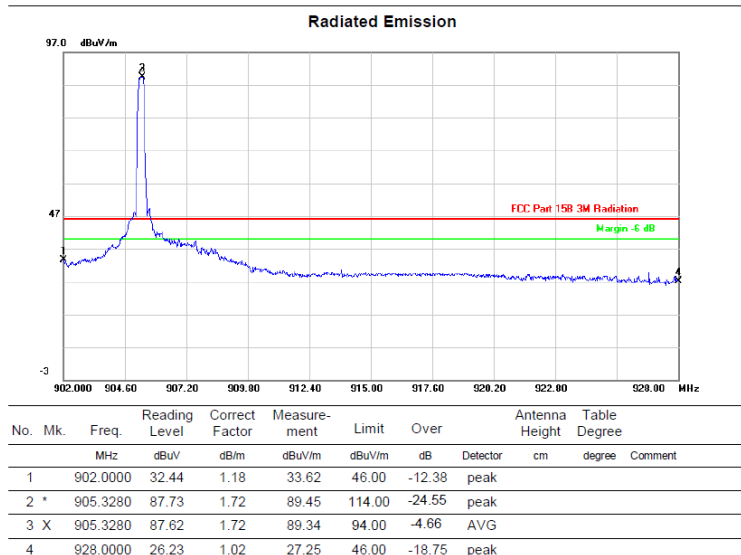
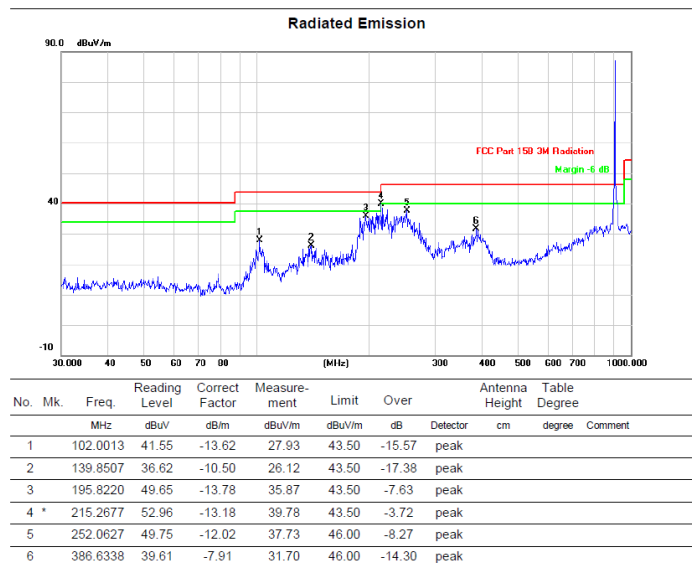
Note: AC 120V/60Hz



Note: 1.QP= Quasi-peak Reading.
2.The other emission levels were very low against the limit.
3. Measurement = Reading Level+Correct Factor, Over = Measurement- Limit

Product Model	Lockhoo 100	Location	3m chamber
Environmental Conditions	23.4℃, 51% RH	Test Mode	Mode 2
Antenna Pole	Horizontal	RBW	120 kHz
Tested by	Keith Huang	Test Results	PASS
Test Date	2026-01-08		

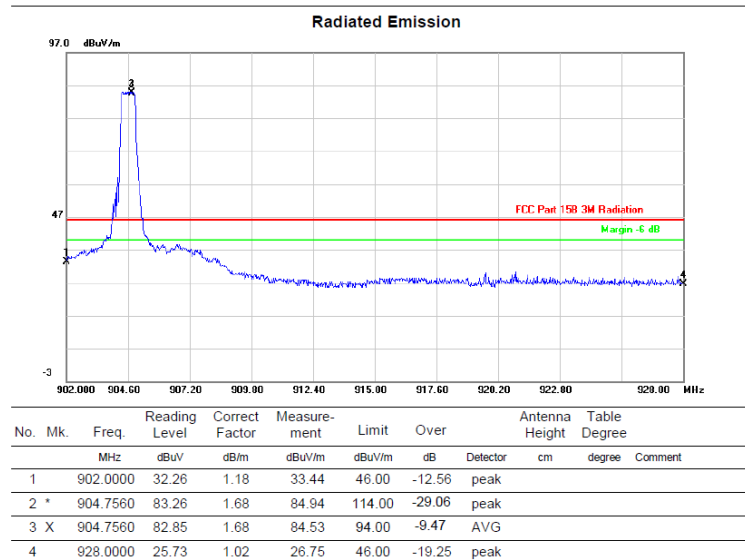
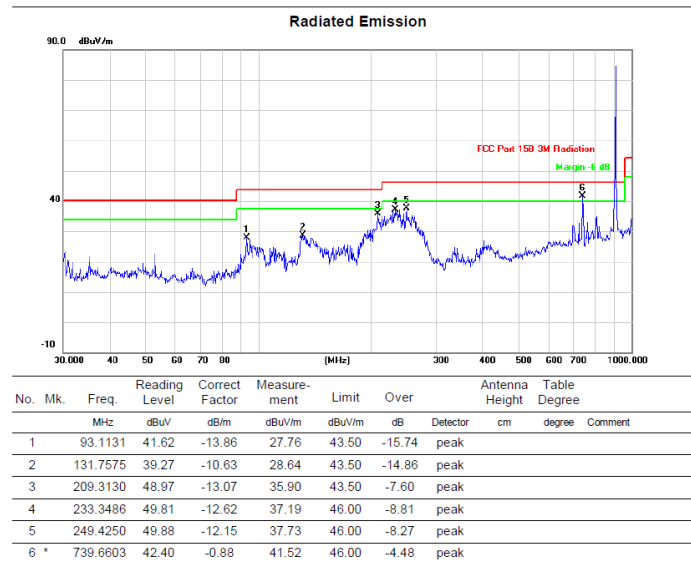
Note: AC 120V/60Hz



Note: 1.QP= Quasi-peak Reading.
2.The other emission levels were very low against the limit.
3. Measurement = Reading Level+ Correct Factor, Over = Measurement- Limit

Product Model	Lockhoo 100	Location	3m chamber
Environmental Conditions	23.4°C, 51% RH	Test Mode	Mode 3
Antenna Pole	Vertical	RBW	120 kHz
Tested by	Keith Huang	Test Results	PASS
Test Date	2026-01-08		

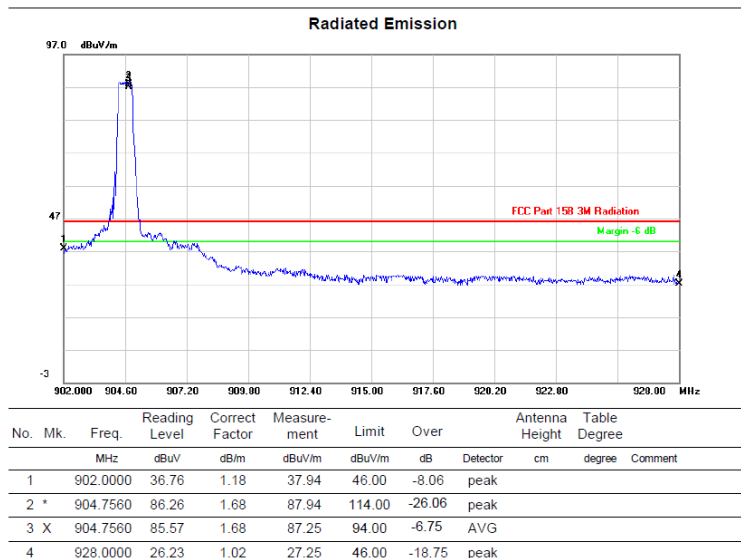
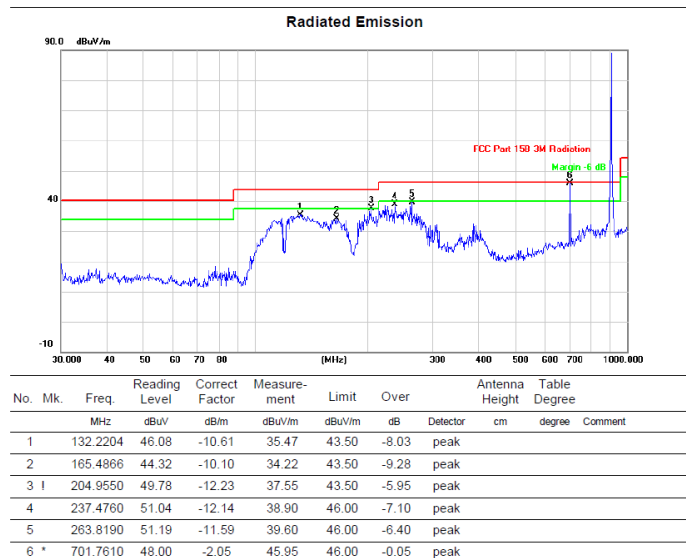
Note: AC 120V/60Hz



Note: 1.QP= Quasi-peak Reading.
2.The other emission levels were very low against the limit.
3. Measurement = Reading Level+Correct Factor, Over = Measurement- Limit

Product Model	Lockhoo 100	Location	3m chamber
Environmental Conditions	23.4℃, 51% RH	Test Mode	Mode 3
Antenna Pole	Horizontal	RBW	120 kHz
Tested by	Keith Huang	Test Results	PASS
Test Date	2026-01-08		

Note: AC 120V/60Hz



- Note:** 1.QP= Quasi-peak Reading.
2.The other emission levels were very low against the limit.
3. Measurement = Reading Level+ Correct Factor, Over = Measurement- Limit

3) Radiated emission: Above 1GHz

Frequency (MHz)	Read Level (dBμV)	Polarization	Factor (dB/m)	Measurement (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
Mode1							
1807.80	64.39	H	-13.18	51.21	74	22.79	peak
2711.70	54.41	H	-10.13	44.28	74	29.72	peak
3615.60	49.91	H	-7.03	42.88	74	31.12	peak
4519.50	49.03	H	-5.18	43.85	74	30.15	peak
5423.40	51.97	H	-4.76	47.21	74	26.79	peak
6327.30	54.97	H	-2.68	52.29	74	21.71	peak
1807.80	57.17	V	-13.18	43.99	74	30.01	peak
2711.70	54.94	V	-10.13	44.81	74	29.19	peak
3615.60	52.05	V	-7.03	45.02	74	28.98	peak
4519.50	50.85	V	-5.18	45.67	74	28.33	peak
5423.40	50.48	V	-4.76	45.72	74	28.28	peak
6327.30	47.98	V	-2.68	45.30	74	28.70	peak
Mode2							
1810.60	64.31	H	-13.24	51.07	74	22.93	peak
2715.90	55.35	H	-10.14	45.21	74	28.79	peak
3621.20	50.49	H	-6.94	43.55	74	30.45	peak
4526.50	50.04	H	-5.20	44.84	74	29.16	peak
5431.80	54.37	H	-4.70	49.67	74	24.33	peak
6337.10	51.93	H	-2.56	49.37	74	24.63	peak
1810.60	58.45	V	-13.24	45.21	74	28.79	peak
2715.90	54.90	V	-10.14	44.76	74	29.24	peak
3621.20	51.12	V	-6.94	44.18	74	29.82	peak
4526.50	51.33	V	-5.20	46.13	74	27.87	peak
5431.80	51.85	V	-4.70	47.15	74	26.85	peak
6337.10	51.83	V	-2.56	49.27	74	24.73	peak

Mode3							
1809.20	64.77	H	-13.21	51.56	74	22.44	peak
2713.80	53.99	H	-10.13	43.86	74	30.14	peak
3618.40	48.88	H	-6.99	41.89	74	32.11	peak
4523.00	49.24	H	-5.20	44.04	74	29.96	peak
5427.60	52.39	H	-4.72	47.67	74	26.33	peak
6332.20	54.11	H	-2.63	51.48	74	22.52	peak
1809.20	56.95	V	-13.21	43.74	74	30.26	peak
2713.80	54.30	V	-10.13	44.17	74	29.83	peak
3618.40	51.98	V	-6.99	44.99	74	29.01	peak
4523.00	50.61	V	-5.20	45.41	74	28.59	peak
5427.60	50.71	V	-4.72	45.99	74	28.01	peak
6332.20	53.31	V	-2.63	50.68	74	23.32	peak

Note: 1. The other emission levels were very low against the limit.
2. Measurement = Reading Level+ Correct Factor, Margin = Limit- Measurement

4.3. 20dB Bandwidth & 99% Bandwidth

4.3.1. Applicable Standard

FCC Part15 C Section 15.215

4.3.2. Test Procedure

Test Method	
☒ Conducted Measurement	☐ Radiated Measurement
Test Channels	
☒ Lowest and Highest Channel	☐ Lowest and Highest Channel
Environmental conditions	
☒ Normal	☐ Normal and Extreme
Note: ☒ : Test ☐ : No Test	

a) The EUT shall be connected to the spectrum analyser, and the spectrum analyser is set as follow:

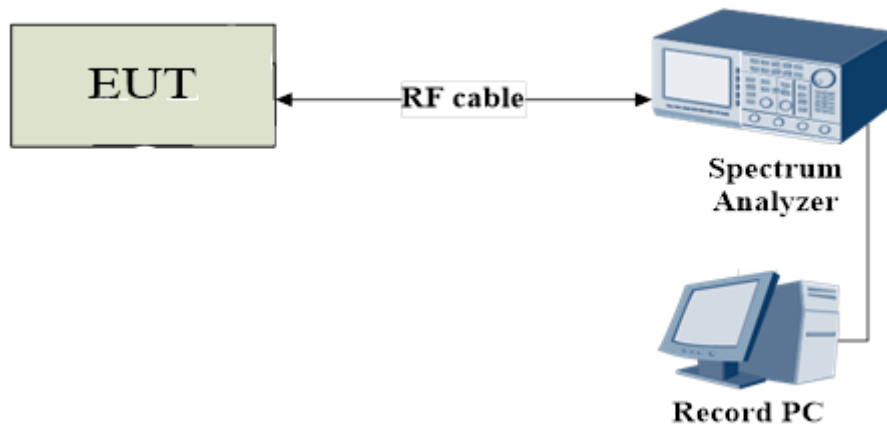
Centre Frequency	The centre frequency of the channel under test
RBW	1%-5% OCB
VBW	> 3*RBW
Frequency span	2x Nominal Channel Bandwidth
Detector Mode	Peak
Trace Mode	Max Hold
Sweep Time	Auto Couple

b) The EUT was programmed to be in continuously transmitting mode, Wait for the trace to stabilize then find the peak value of the trace and place the analyser marker on this peak.

c) Use the -20dB bandwidth function of the spectrum analyser to measure the 20dB Bandwidth of the EUT. This value shall be recorded.

d) Make sure that the power envelope is sufficiently above the noise floor of the analyser to avoid the noise signals left and right from the power envelope being taken into account by this measurement.

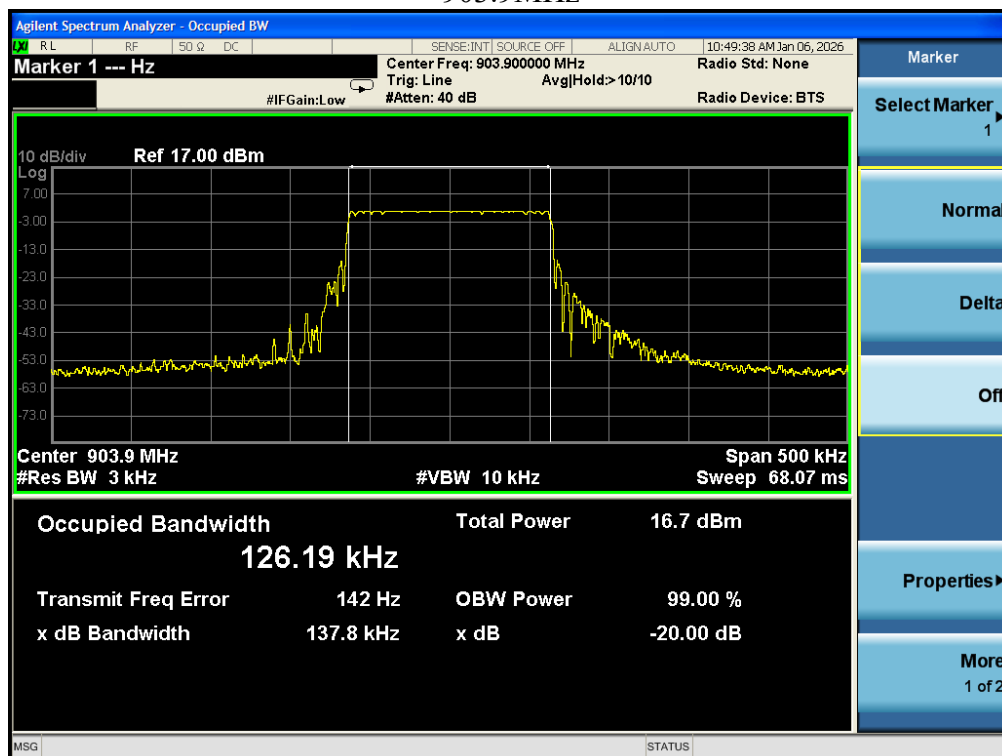
4.3.3. Test set-up



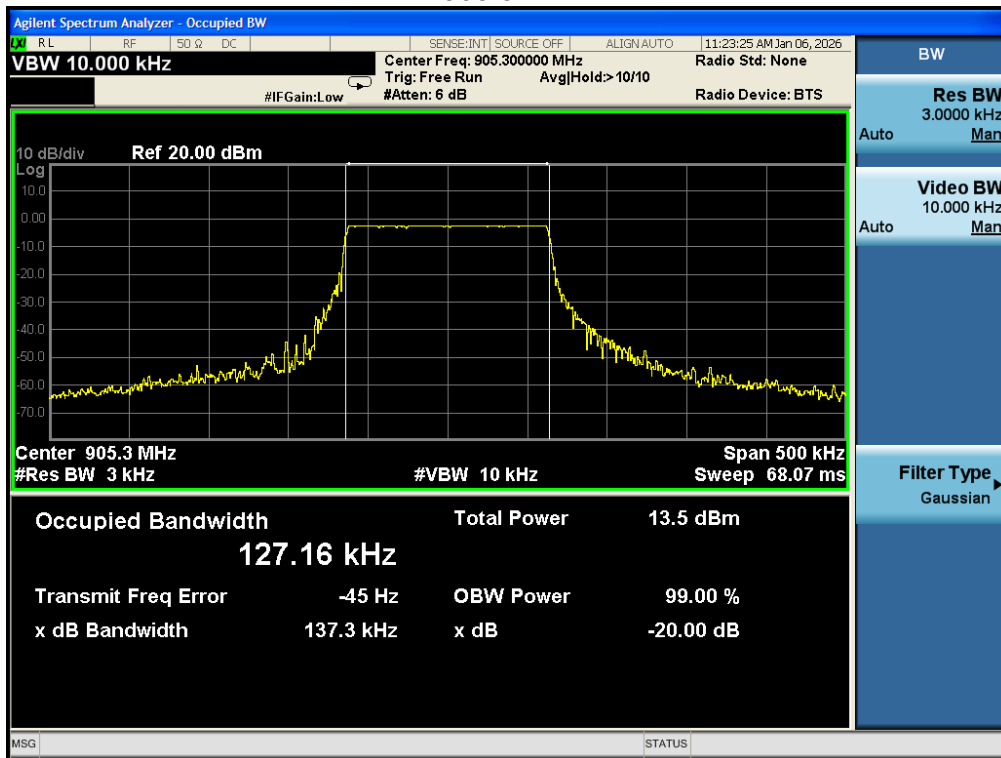
4.3.4. Test Result

Frequency(MHz)	20dB Bandwidth(kHz)	99% Occupied BW(kHz)
903.9	137.8	126.19
905.3	137.3	127.16
904.6	544.0	504.94

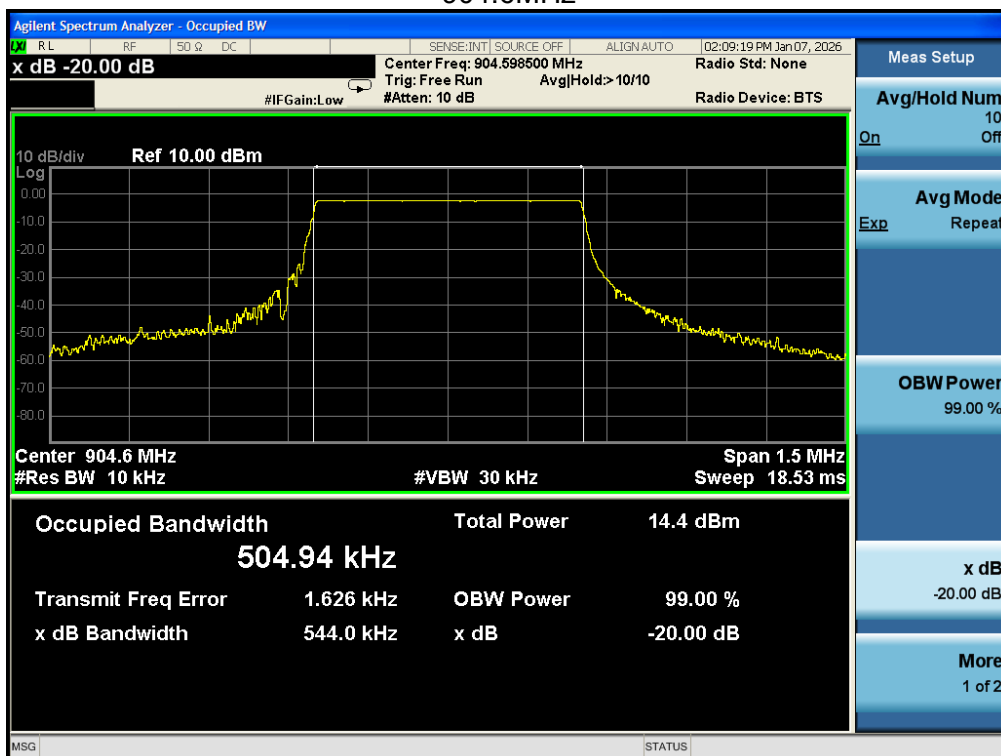
Test plot
903.9MHz



905.3MHz



904.6MHz



Statement

1. The report is invalid without the official seal or special seal of Shenzhen Haiyun Standard Technical Co., Ltd. (hereinafter referred to as the unit).
2. The report is invalid without the signature of the approver.
3. The report is invalid if altered arbitrarily.
4. The report shall not be partially copied without the written approval of the unit.
5. The reported test results are only valid for the tested samples.
6. If there is any objection to the test report, it shall be submitted to the test unit within 15 days from the date of receiving the report, and the overdue shall not be accepted.

Shenzhen Haiyun Standard Technical Co., Ltd.

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(END OF REPORT)