

FCC Test Report

Applicant : Shenzhen Kaadas Intelligent Technology Co., Ltd.

Address : Floor 11, Building B2, Phase 2, Creative City,
Xiandong Road, Xili Community, Xili Street,
Nanshan District, Shenzhen, Guangdong,
518000, China

Product Name : Z-Wave Module

Report Date : 2025-05-12

Shenzhen Anbotek Compliance Laboratory Limited



Contents

1. General Information	5
1.1. Client Information	5
1.2. Description of Device (EUT)	5
1.3. Auxiliary Equipment Used During Test	6
1.4. Description of Test Configuration	6
1.5. Description of Test Setup	7
1.6. Test Equipment List	8
1.7. Measurement Uncertainty	9
1.8. Description of Test Facility	9
1.9. Disclaimer	10
2. Summary of Test Results	11
3. Conducted Emission Test	12
3.1. Test Standard and Limit	12
3.2. Test Setup	12
3.3. Test Procedure	12
3.4. Test Data	12
4. Radiated Emission and Band Edge	15
4.1. Test Standard and Limit	15
4.2. Test Setup	16
4.3. Test Procedure	17
4.4. Test Data	18
5. 20dB Bandwidth Test	25
5.1. Test Standard and Limit	25
5.2. Test Setup	25
5.3. Test Procedure	25
5.4. Test Data	25
6. Antenna Requirement	28
6.1. Test Standard and Requirement	28
6.2. Antenna Connected Construction	28
APPENDIX I -- TEST SETUP PHOTOGRAPH	29
APPENDIX II -- EXTERNAL PHOTOGRAPH	29
APPENDIX III -- INTERNAL PHOTOGRAPH	29



TEST REPORT

Applicant : Shenzhen Kaadas Intelligent Technology Co., Ltd.
Manufacturer : Shenzhen Kaadas Intelligent Technology Co., Ltd.
Product Name : Z-Wave Module
Model No. : ZWLR800
Trade Mark : Kaadas
Rating(s) : Input: DC 3.3V

Test Standard(s) : 47 CFR Part 15.249

Test Method(s) : ANSI C63.10: 2020

The device described above is tested by Shenzhen Anbotek Compliance Laboratory Limited to determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. The measurement results are contained in this test report and Shenzhen Anbotek Compliance Laboratory Limited is assumed full of responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT (Equipment Under Test) is technically compliant with the 47 CFR Part 15.249 requirements.

This report applies to above tested sample only and shall not be reproduced in part without written approval of Shenzhen Anbotek Compliance Laboratory Limited.

Date of Receipt 2024-07-29

Date of Test 2024-07-29 to 2025-05-09

Prepared by



(Lene Chen)

Approved & Authorized Signer



(Kingkong Jin)



Revision History

Report Version	Description	Issued Date
R00	Original Issue.	2025-05-12



1. General Information

1.1. Client Information

Applicant	:	Shenzhen Kaadas Intelligent Technology Co., Ltd.
Address	:	Floor 11, Building B2, Phase 2, Creative City, Xiandong Road, Xili Community, Xili Street, Nanshan District, Shenzhen, Guangdong, 518000, China
Manufacturer	:	Shenzhen Kaadas Intelligent Technology Co., Ltd.
Address	:	Floor 11, Building B2, Phase 2, Creative City, Xiandong Road, Xili Community, Xili Street, Nanshan District, Shenzhen, Guangdong, 518000, China

1.2. Description of Device (EUT)

Product Name	:	Z-Wave Module
Model No.	:	ZWLR800
Trade Mark	:	Kaadas
Test Power Supply	:	DC 5V via PC from adapter input AC 120V/60Hz; DC 5V via PC
Test Sample No.	:	1-2-1(Normal Sample), 1-2-2(Engineering Sample)
Adapter	:	N/A
RF Specification		
Operation Frequency	:	908.4MHz~916MHz
Number of Channel	:	3 Channels
Modulation Type	:	GFSK
Antenna Type	:	FPC Antenna
Antenna Gain(Peak)	:	-2.13dBi
Remark: 1) All of the RF specification are provided by customer. 2) For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.		



1.3. Auxiliary Equipment Used During Test

Title	Manufacturer	Model No.	Serial No.
Lenovo Computer	Lenovo	R7-7730U	/
AC/DC ADAPTER	Delta Electronics, Inc.	ADLX65YDC3D	/

1.4. Description of Test Configuration

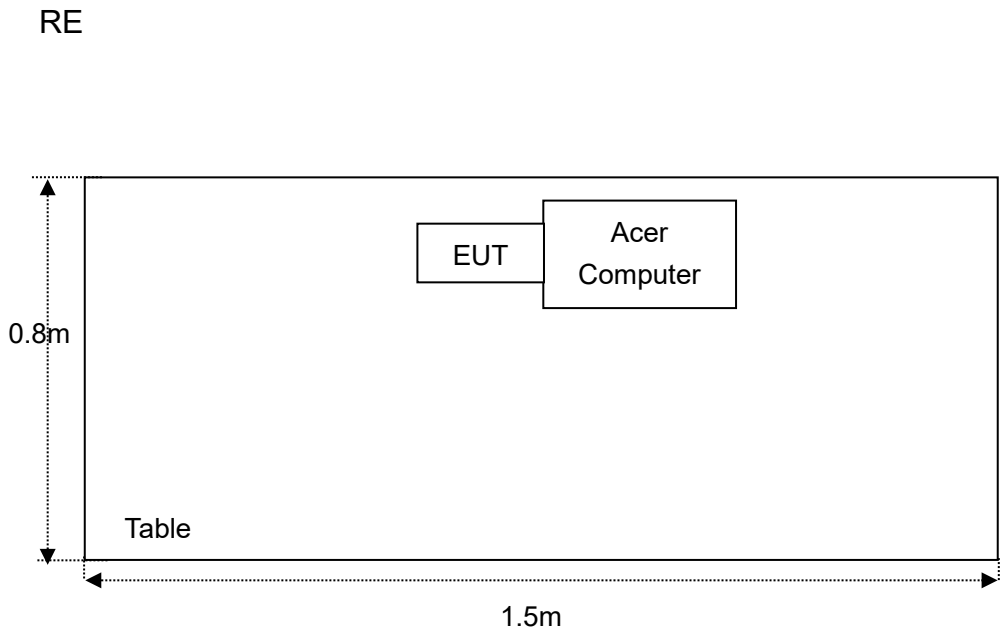
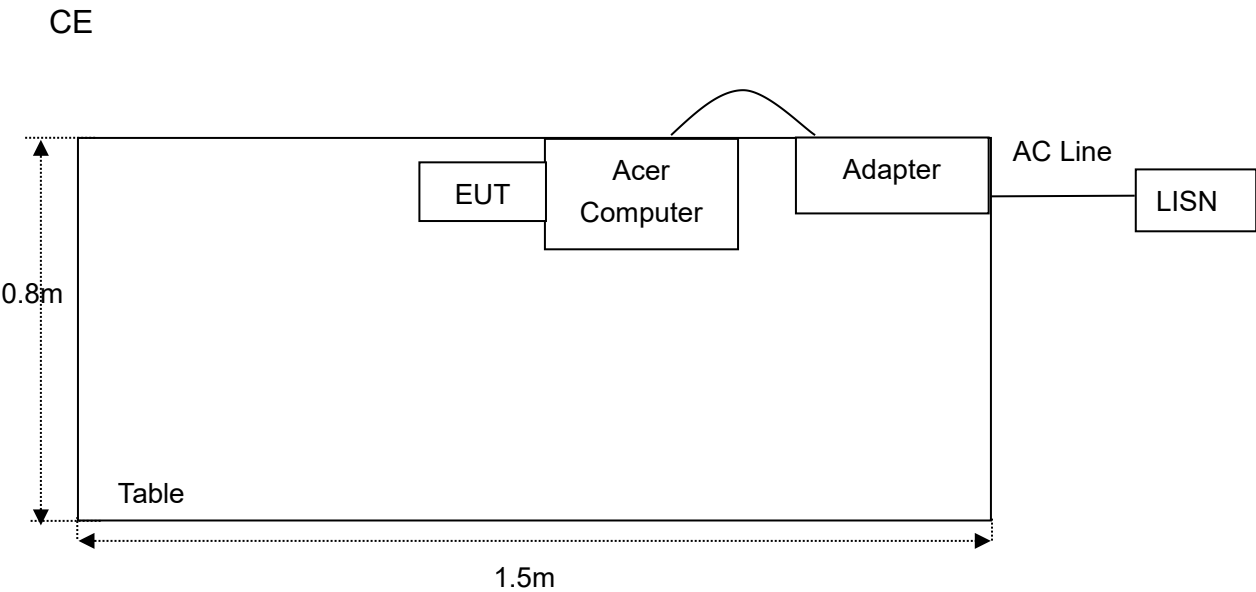
Channel	Freq. (MHz)	Channel	Freq. (MHz)	Channel	Freq. (MHz)	Channel	Freq. (MHz)
0	908.4						
1	908.42						
2	916						

Note:

1. The engineering test program was provided and the EUT was programmed to be in continuously transmitting mode.
2. EUT was tested with Channel 0, 1 and 2.



1.5. Description of Test Setup



1.6. Test Equipment List

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	L.I.S.N. Artificial Mains Network	Rohde & Schwarz	ENV216	100055	2024-01-18	1 Year
					2024-09-09	1 Year
2.	Three Phase V-type Artificial Power Network	CYBERTEK	EM5040DT	E215040DT00 1	2024-01-17	1 Year
					2025-01-13	1 Year
3.	EMI Test Receiver	Rohde & Schwarz	ESCI	100627	2024-01-17	1 Year
					2025-01-13	1 Year
4.	EMI Test Receiver	Rohde & Schwarz	ESR26	101481	2024-01-23	1 Year
					2025-01-13	1 Year
5.	MXA Spectrum Analysis	Agilent	N9020A	MY51170037	2023-10-23	1 Year
					2024-09-09	1 Year
6.	EMI Preamplifier	SKET Electronic	LNPA-0118G- 45	SKET-PA-002	2024-01-17	1 Year
					2025-01-13	1 Year
7.	Double Ridged Horn Antenna	SCHWARZBECK	BBHA 9120D	02555	2022-10-16	3 Year
8.	Bilog Broadband Antenna	Schwarzbeck	VULB9163	345	2022-10-23	3 Year
9.	Loop Antenna	Schwarzbeck	FMZB1519B	00053	2023-10-12	1 Year
					2024-09-12	1 Year
10.	Horn Antenna	A-INFO	LB-180400-KF	J211060628	2024-01-22	3 Year
11.	Pre-amplifier	SONOMA	310N	186860	2024-01-17	1 Year
					2025-01-14	1 Year
12.	EMI Test Software EZ-EMC	SHURPLE	N/A	N/A	N/A	N/A
13.	MXA Spectrum Analysis	KEYSIGHT	N9020A	MY53280032	2023-10-12	1 Year
					2024-09-09	1 Year
14.	MXG RF Vector Signal Generator	Agilent	N5182A	MY48180656	2024-02-04	1 Year
					2025-02-21	1 Year
15.	Signal Generator	Agilent	E4421B	MY41000743	2023-10-12	1 Year
					2024-10-10	1 Year
16.	DC Power Supply	IVYTECH	IV3605	1804D360510	2023-10-20	1 Year
					2024-09-09	1 Year
17.	Constant Temperature Humidity Chamber	ZHONGJIAN	ZJ-KHWS80B	N/A	2023-10-16	1 Year
					2024-10-14	1 Year
18.	Spectrum Analyzer	Rohde & Schwarz	FSV40-N	102150	2024-05-06	1 Year
					2025-04-25	1 Year



1.7. Measurement Uncertainty

Parameter	Uncertainty
Conducted emissions (AMN 150kHz~30MHz)	3.8dB
Occupied Bandwidth	925Hz
Radiated spurious emissions (Below 30MHz)	3.53dB
Radiated spurious emissions (30MHz~1GHz)	Horizontal: 3.92dB; Vertical: 4.52dB
Radiated spurious emissions (above 1GHz)	1G-6GHz: 4.78dB; 6G-18GHz: 4.88dB 18G-40GHz: 5.68dB
The measurement uncertainty and decision risk evaluated according to AB/WI-RF-F-032. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.	

1.8. Description of Test Facility

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

FCC-Registration No.: 434132

Shenzhen Anbotek Compliance Laboratory Limited, EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration No. 434132.

ISED-Registration No.: 8058A

Shenzhen Anbotek Compliance Laboratory Limited, EMC Laboratory has been registered and fully described in a report filed with the (ISED) Innovation, Science and Economic Development Canada. The acceptance letter from the ISED is maintained in our files. Registration 8058A.

Test Location

Shenzhen Anbotek Compliance Laboratory Limited.

Sogood Industrial Zone Laboratory & 1/F. of Building D, Sogood Science and Technology Park, Sanwei Community, Hangcheng Subdistrict, Bao'an District, Shenzhen, Guangdong, China.



1.9. Disclaimer

1. The test report is invalid if not marked with the signatures of the persons responsible for preparing and approving the test report.
2. The test report is invalid if there is any evidence and/or falsification.
3. The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein.
4. This document may not be altered or revised in any way unless done so by Anbotek and all revisions are duly noted in the revisions section.
5. Content of the test report, in part or in full, cannot be used for publicity and/or promotional purposes without prior written approval from the laboratory.
6. The authenticity of the information provided by the customer is the responsibility of the customer and the laboratory is not responsible for its authenticity.
7. The data in this report will be synchronized with the corresponding national market supervision and management departments and cross-border e-commerce platforms as required by regulatory agencies.

The laboratory is only responsible for the data released by the laboratory, except for the part provided by the applicant.



2. Summary of Test Results

Standard Section	Test Item	Result
15.203	Antenna Requirement	PASS
15.207	Conducted Emission	N/A
15.205/15.209/15.249	Radiated Emission	PASS
15.249(d)	Band Edge	N/A
15.215(c)	20dB Bandwidth	PASS
Remark: "N/A" is an abbreviation for Not Applicable.		



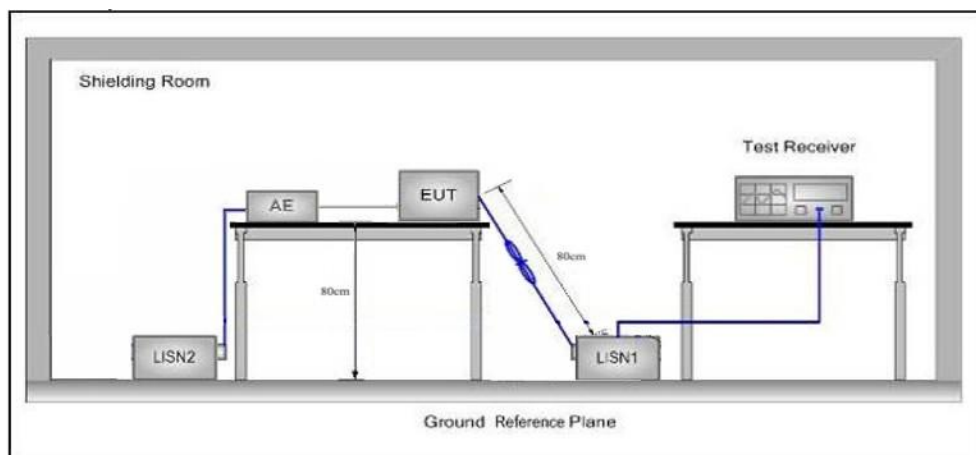
3. Conducted Emission Test

3.1. Test Standard and Limit

Test Standard	FCC Part15 Section 15.207		
Test Limit	Frequency	Maximum RF Line Voltage (dBuV)	
		Quasi-peak Level	Average Level
	150kHz~500kHz	66 ~ 56 *	56 ~ 46 *
	500kHz~5MHz	56	46
	5MHz~30MHz	60	50

Remark: (1) *Decreasing linearly with logarithm of the frequency.
(2) The lower limit shall apply at the transition frequency.

3.2. Test Setup



3.3. Test Procedure

The EUT system is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm coupling impedance for the EUT system. Please refer the block diagram of the test setup and photographs. Both sides of AC line are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to FCC ANSI C63.10-2020 on Conducted Emission Measurement.

The bandwidth of test receiver (ESCI) set at 9kHz.

The frequency range from 150kHz to 30MHz is checked.

3.4. Test Data

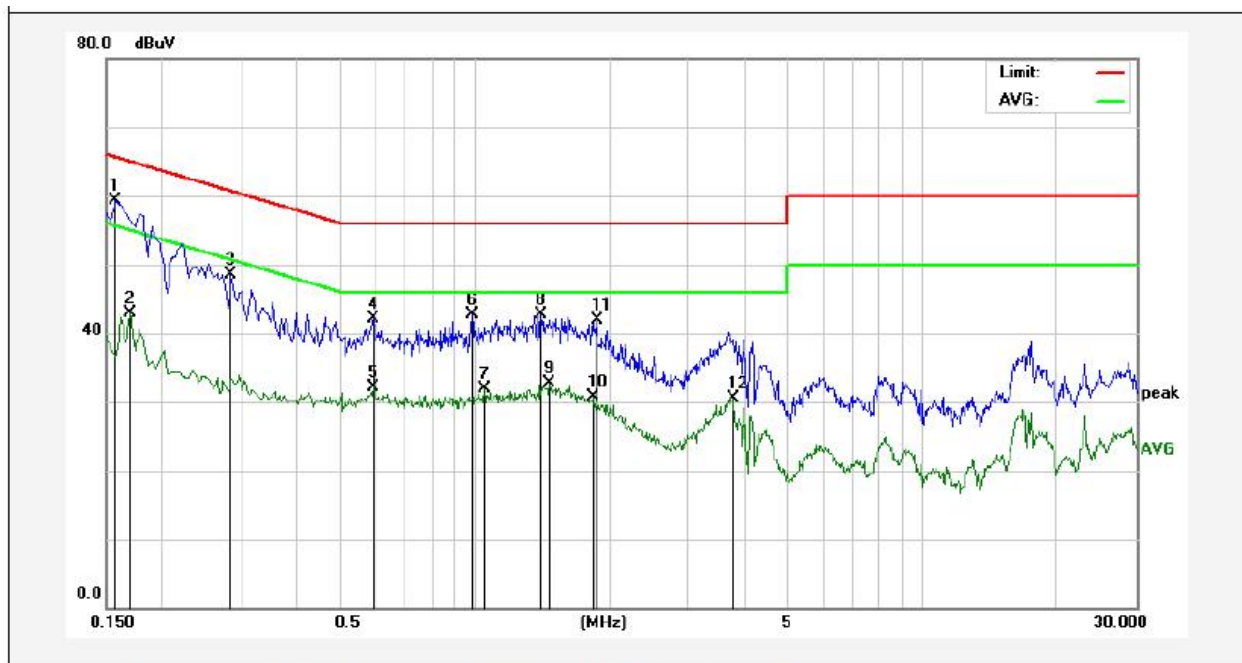
During the test, pre-scan all modes, only the worst case is recorded in the report.

Please to see the following pages.



Conducted Emission Test Data

Test Site: 1# Shielded Room
Operating Condition: 908.4MHz
Test Specification: DC 5V via PC from adapter input AC 120V/60Hz
Comment: Live Line
Temp.(°C)/Hum.(%RH): 22.1°C/50%RH



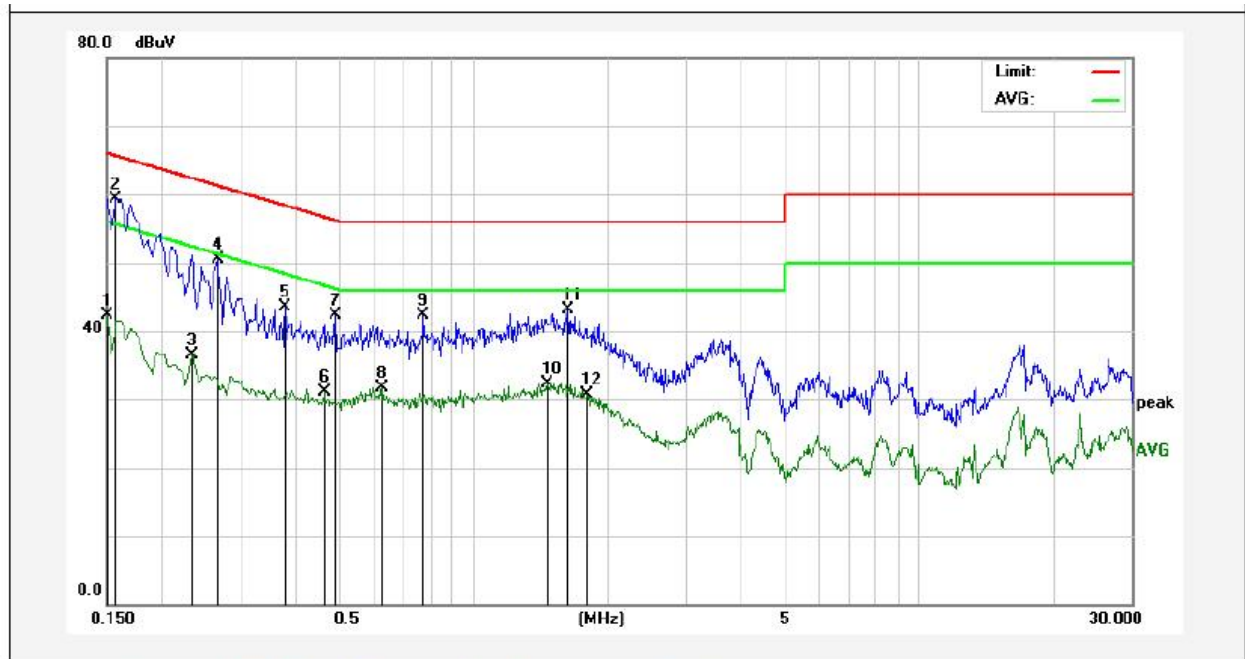
No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit (dBuV)	Over Limit (dB)	Detector	Remark
1	0.1580	41.38	17.83	59.21	65.56	-6.35	QP	
2	0.1700	25.05	17.83	42.88	54.96	-12.08	AVG	
3	0.2860	30.76	17.83	48.59	60.64	-12.05	QP	
4	0.5940	24.17	17.86	42.03	56.00	-13.97	QP	
5	0.5940	14.29	17.86	32.15	46.00	-13.85	AVG	
6	0.9860	24.85	17.85	42.70	56.00	-13.30	QP	
7	1.0540	14.04	17.85	31.89	46.00	-14.11	AVG	
8	1.4100	24.91	17.84	42.75	56.00	-13.25	QP	
9	1.4700	14.80	17.84	32.64	46.00	-13.36	AVG	
10	1.8300	12.94	17.84	30.78	46.00	-15.22	AVG	
11	1.8740	24.00	17.83	41.83	56.00	-14.17	QP	
12	3.7940	12.60	17.85	30.45	46.00	-15.55	AVG	

Note: Result = Reading + Factor Over Limit = Result - Limit



Conducted Emission Test Data

Test Site: 1# Shielded Room
Operating Condition: 908.4MHz
Test Specification: DC 5V via PC from adapter input AC 120V/60Hz
Comment: Neutral Line
Temp.(°C)/Hum.(%RH): 22.1°C/50%RH



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit (dBuV)	Over Limit (dB)	Detector	Remark
1	0.1500	24.46	17.82	42.28	55.99	-13.71	AVG	
2	0.1580	41.46	17.83	59.29	65.56	-6.27	QP	
3	0.2340	18.66	17.83	36.49	52.30	-15.81	AVG	
4	0.2660	32.61	17.83	50.44	61.24	-10.80	QP	
5	0.3780	25.67	17.81	43.48	58.32	-14.84	QP	
6	0.4620	13.33	17.83	31.16	46.66	-15.50	AVG	
7	0.4900	24.45	17.85	42.30	56.17	-13.87	QP	
8	0.6260	13.76	17.86	31.62	46.00	-14.38	AVG	
9	0.7740	24.44	17.87	42.31	56.00	-13.69	QP	
10	1.4660	14.56	17.84	32.40	46.00	-13.60	AVG	
11	1.6300	25.28	17.84	43.12	56.00	-12.88	QP	
12	1.8020	12.79	17.84	30.63	46.00	-15.37	AVG	

Note:1. Result = Reading + Factor Over Limit = Result - Limit

Remark: The EUT received input Voltage DC 3V from Debug board, and the Debug board received input Voltage DC 5V via PC.



4. Radiated Emission and Band Edge

4.1. Test Standard and Limit

Test Standard	FCC Part15 C Section 15.209 and 15.205				
Test Limit	Frequency (MHz)	Field strength (microvolt/meter)	Limit (dBuV/m)	Remark	Measurement distance (m)
	0.009MHz~0.490MHz	2400/F(kHz)	-	-	300
	0.490MHz-1.705MHz	24000/F(kHz)	-	-	30
	1.705MHz-30MHz	30	-	-	30
	30MHz~88MHz	100	40.0	Quasi-peak	3
	88MHz~216MHz	150	43.5	Quasi-peak	3
	216MHz~960MHz	200	46.0	Quasi-peak	3
	Above 960MHz	500	54.0	Quasi-peak	3

Remark:

(1)The lower limit shall apply at the transition frequency.

(2) 15.35(b), Unless otherwise specified, the limit on peak radio frequency emissions is 20dB above the maximum permitted average emission limit applicable to the equipment under test. This peak limit applies to the total peak emission level radiated by the device.

Test Standard	FCC Part15 C Section 15.249					
Test Limit	Frequency (MHz)	Field Strength of fundamental (millivolts /meter)	Field Strength of Harmonics (microvolts/meter)	Limit (dBuV/m)	Remark	Measurement distance (m)
	902~928	50	-	94.0	QP	3
	902~928	-	500	54.0	QP	3
	2400~2483.5	50	-	114.0	Peak	3
	2400~2483.5	50	-	94.0	Average	3
	2400~2483.5	-	500	74.0	Peak	3
	2400~2483.5	-	500	54.0	Average	3

Remark:

(1) 15.35(b), Unless otherwise specified, the limit on peak radio frequency emissions is 20dB above the maximum permitted average emission limit applicable to the equipment under test. This peak limit applies to the total peak emission level radiated by the device.



4.2. Test Setup

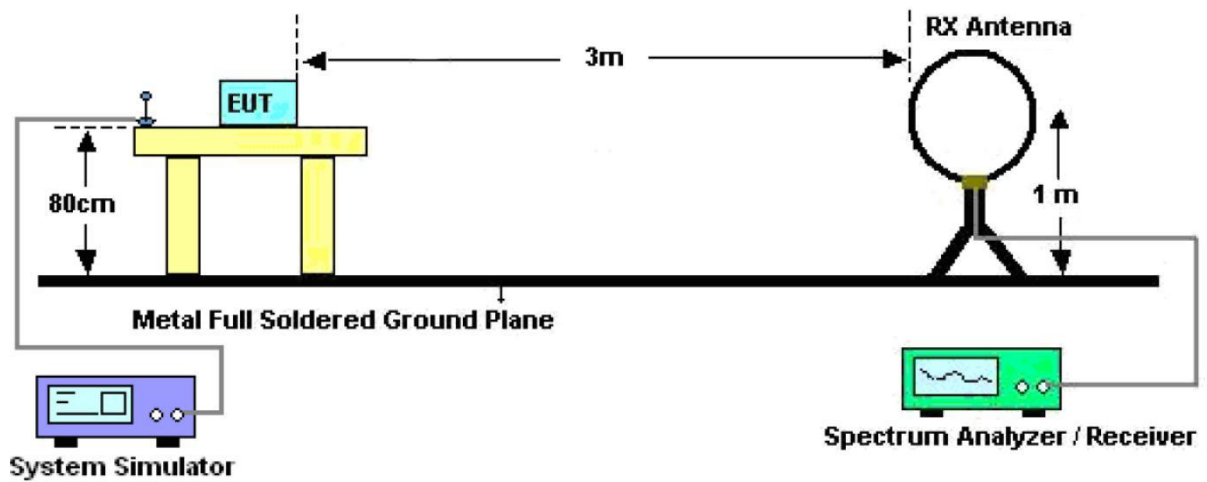


Figure 1. Below 30MHz

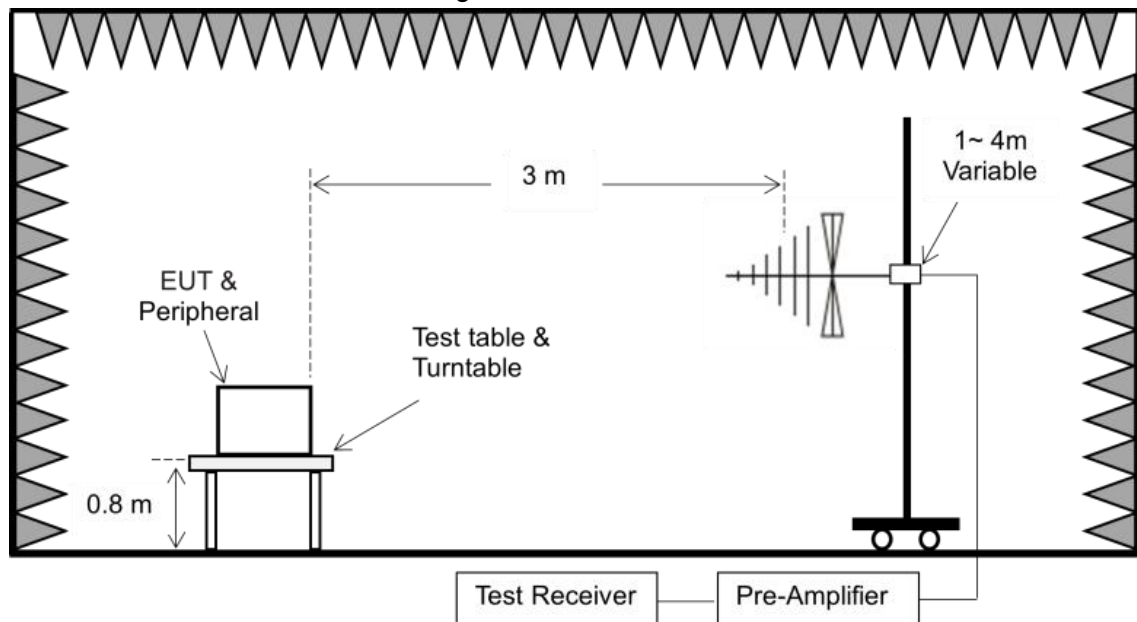


Figure 2. 30MHz to 1GHz



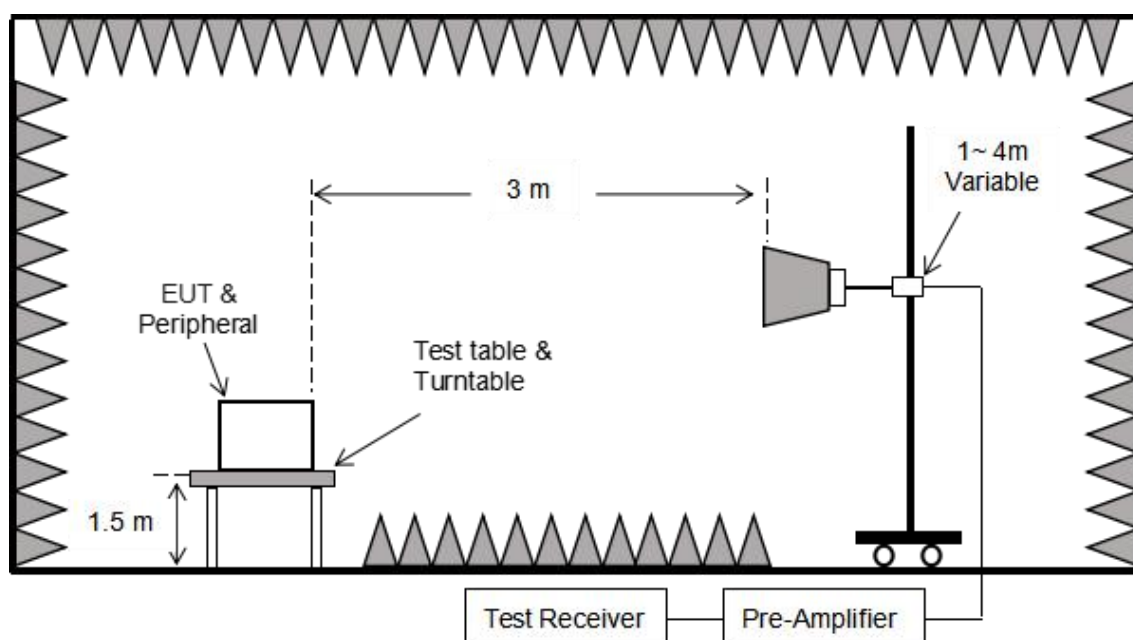


Figure 3. Above 1 GHz

4.3. Test Procedure

For below 1GHz: The EUT is placed on a turntable, which is 0.8m above the ground plane.

For above 1GHz: The EUT is placed on a turntable, which is 1.5m above the ground plane.

The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 3 meters away from the receiving antenna which is mounted on a antenna tower. The antenna can be moved up and down from 1 to 4 meters to find out the maximum emission level. Rotated the EUT through three orthogonal axes to determine the maximum emissions, both horizontal and vertical polarization of the antenna are set on test. The EUT is tested in 9*6*6 Chamber. The device is evaluated in xyz orientation.

For the radiated emission test above 1GHz:

Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.

For 9kHz to 150kHz, Set the spectrum analyzer as:

RBW = 200Hz, VBW =1kHz, Detector= Quasi-Peak, Trace mode= Max hold, Sweep- auto couple.

For 150kHz to 30MHz, Set the spectrum analyzer as:

RBW = 9KHz, VBW =30kHz, Detector= Quasi-Peak, Trace mode= Max hold, Sweep- auto couple.



For 30MHz to 1000MHz, Set the spectrum analyzer as:

RBW = 100kHz, VBW = 300kHz, Detector= Quasi-Peak, Trace mode= Max hold, Sweep- auto couple.

For above 1GHz, Set the spectrum analyzer as:

RBW = 1MHz, VBW = 1MHz, Detector= Peak, Trace mode= Max hold, Sweep- auto couple.

RBW = 1MHz, VBW = 10Hz, Detector= Average, Trace mode= Max hold, Sweep- auto couple.

4.4. Test Data

PASS

During the test, Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the X-axis is the worst case.

The test results of 9kHz-30MHz was attenuated more than 20dB below the permissible limits, so the results don't record in the report.

During the test, pre-scan all the modes, only the worst case is recorded in the report.



Test Results (30~1000MHz)

Test Mode:

908.4MHz

Power Source:

DC 5V via PC

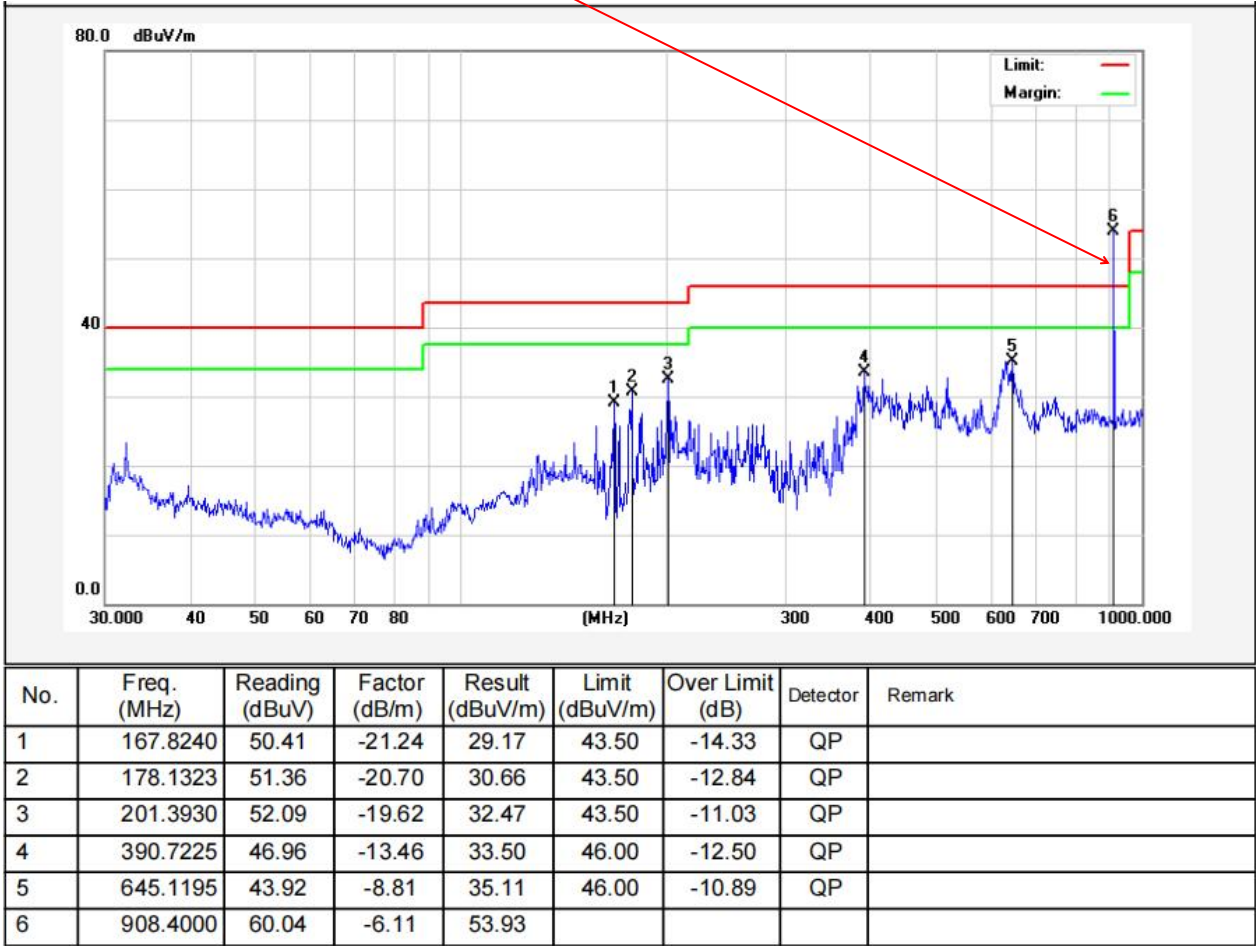
Polarization:

Vertical

Temp.(°C)/Hum.(%RH):

25.1°C/54%RH

Fundamental

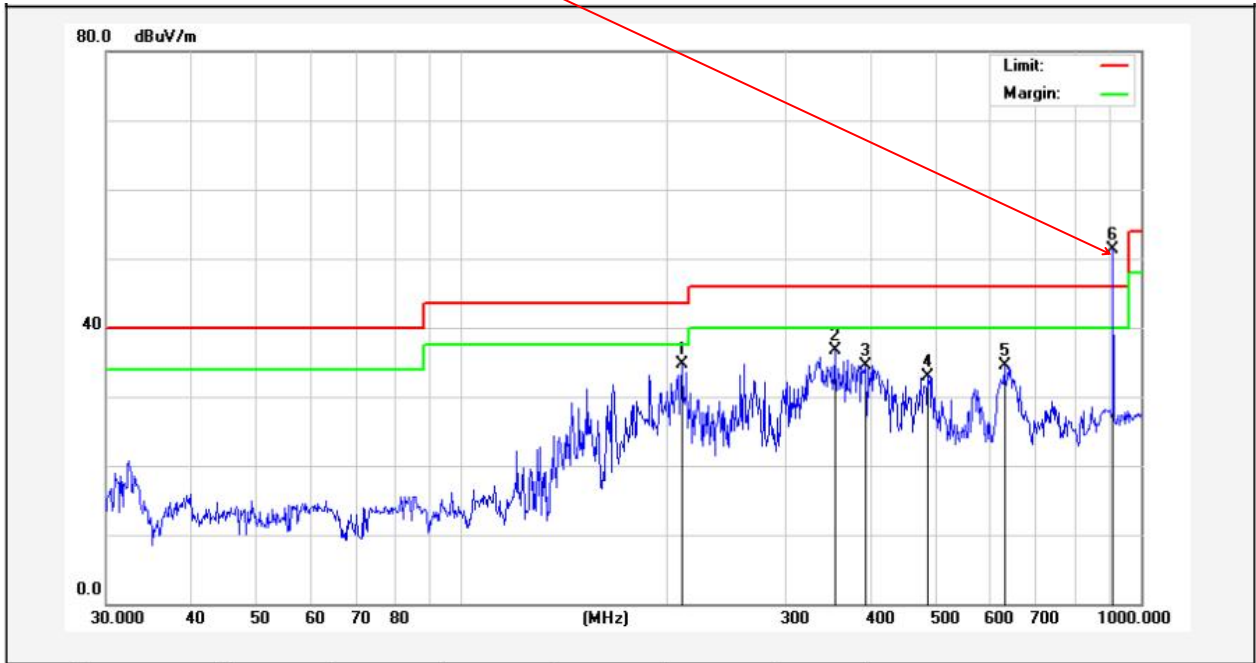


Note: Result = Reading + Factor Over Limit = Result - Limit



Test Results (30~1000MHz)

Test Mode: 908.4MHz
Power Source: DC 5V via PC
Polarization: Horizontal
Temp.(°C)/Hum.(%RH): 25.1°C/54%RH
Fundamental



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	Remark
1	210.7860	54.10	-19.34	34.76	43.50	-8.74	QP	
2	354.1831	51.50	-14.85	36.65	46.00	-9.35	QP	
3	393.4723	48.12	-13.55	34.57	46.00	-11.43	QP	
4	485.6093	45.20	-12.20	33.00	46.00	-13.00	QP	
5	629.4772	43.38	-8.95	34.43	46.00	-11.57	QP	
6	908.4000	57.35	-6.11	51.24				

Note: Result = Reading + Factor Over Limit = Result - Limit

Remark: The EUT received input Voltage DC 3V from Debug board, and the Debug board received input Voltage DC 5V via PC.



Fundamental

Frequency (MHz)	Antenna Pol.	Reading (dBuV/m)	Factor (dB)	Results (dBuV/m)	Limits (dBuV/m)	Det. Mode
908.4	H	57.35	-6.11	51.24	94	QP
908.4	V	60.04	-6.11	53.93	94	QP



Test Results (1GHz-25GHz)

Test channel: Lowest						
Peak value:						
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	polarization
1816.80	28.02	15.27	43.29	74.00	-30.71	Vertical
2725.20	28.16	18.09	46.25	74.00	-27.75	Vertical
3633.60	28.86	23.76	52.62	74.00	-21.38	Vertical
4542.00	*			74.00		Vertical
5450.40	*			74.00		Vertical
6358.80	*			74.00		Vertical
1816.80	27.72	15.27	42.99	74.00	-31.01	Horizontal
2725.20	28.52	18.09	46.61	74.00	-27.39	Horizontal
3633.60	27.92	23.76	51.68	74.00	-22.32	Horizontal
4542.00	*			74.00		Horizontal
5450.40	*			74.00		Horizontal
6358.80	*			74.00		Horizontal
Average value:						
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	polarization
1816.80	16.29	15.27	31.56	54.00	-22.44	Vertical
2725.20	17.21	18.09	35.30	54.00	-18.70	Vertical
3633.60	18.33	23.76	42.09	54.00	-11.91	Vertical
4542.00	*			54.00		Vertical
5450.40	*			54.00		Vertical
6358.80	*			54.00		Vertical
1816.80	16.05	15.27	31.32	54.00	-22.68	Horizontal
2725.20	17.55	18.09	35.64	54.00	-18.36	Horizontal
3633.60	17.43	23.76	41.19	54.00	-12.81	Horizontal
4542.00	*			54.00		Horizontal
5450.40	*			54.00		Horizontal
6358.80	*			54.00		Horizontal



Test Results (1GHz-25GHz)

Test channel: Middle						
Peak value:						
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	polarization
1816.84	26.63	15.27	41.90	74.00	-32.10	Vertical
2725.26	32.03	18.09	50.12	74.00	-23.88	Vertical
3633.68	29.13	23.76	52.89	74.00	-21.11	Vertical
4542.10	*			74.00		Vertical
5450.52	*			74.00		Vertical
6358.94	*			74.00		Vertical
1816.84	26.08	15.27	41.35	74.00	-32.65	Horizontal
2725.26	32.46	18.09	50.55	74.00	-23.45	Horizontal
3633.68	31.33	23.76	55.09	74.00	-18.91	Horizontal
4542.10	*			74.00		Horizontal
5450.52	*			74.00		Horizontal
6358.94	*			74.00		Horizontal
Average value:						
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	polarization
1816.84	17.79	15.27	33.06	54.00	-20.94	Vertical
2725.26	15.80	18.09	33.89	54.00	-20.11	Vertical
3633.68	17.70	23.76	41.46	54.00	-12.54	Vertical
4542.10	*			54.00		Vertical
5450.52	*			54.00		Vertical
6358.94	*			54.00		Vertical
1816.84	13.60	15.27	28.87	54.00	-25.13	Horizontal
2725.26	16.83	18.09	34.92	54.00	-19.08	Horizontal
3633.68	17.63	23.76	41.39	54.00	-12.61	Horizontal
4542.10	*			54.00		Horizontal
5450.52	*			54.00		Horizontal
6358.94	*			54.00		Horizontal



Test Results (1GHz-25GHz)

Test channel: Highest						
Peak value:						
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	polarization
1832.00	30.86	15.27	46.13	74.00	-27.87	Vertical
2748.00	27.97	18.09	46.06	74.00	-27.94	Vertical
3664.00	31.99	23.76	55.75	74.00	-18.25	Vertical
4580.00	*			74.00		Vertical
5496.00	*			74.00		Vertical
6412.00	*			74.00		Vertical
1832.00	26.46	15.27	41.73	74.00	-32.27	Horizontal
2748.00	31.95	18.09	50.04	74.00	-23.96	Horizontal
3664.00	27.63	23.76	51.39	74.00	-22.61	Horizontal
4580.00	*			74.00		Horizontal
5496.00	*			74.00		Horizontal
6412.00	*			74.00		Horizontal
Average value:						
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	polarization
1832.00	15.29	15.27	30.56	54.00	-23.44	Vertical
2748.00	18.41	18.09	36.50	54.00	-17.50	Vertical
3664.00	16.20	23.76	39.96	54.00	-14.04	Vertical
4580.00	*			54.00		Vertical
5496.00	*			54.00		Vertical
6412.00	*			54.00		Vertical
1832.00	13.89	15.27	29.16	54.00	-24.84	Horizontal
2748.00	21.27	18.09	39.36	54.00	-14.64	Horizontal
3664.00	19.13	23.76	42.89	54.00	-11.11	Horizontal
4580.00	*			54.00		Horizontal
5496.00	*			54.00		Horizontal
6412.00	*			54.00		Horizontal

Remark:

1.Result =Reading + Factor

2. “*” means the test results were attenuated more than 20dB below the permissible limits, so the results don't record in the report.

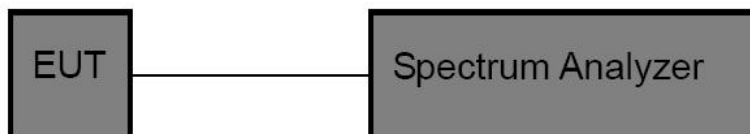


5. 20dB Bandwidth Test

5.1. Test Standard and Limit

Test Standard	FCC Part15 C Section 15.215(c)
Test Limit	N/A

5.2. Test Setup



5.3. Test Procedure

1. Place the EUT on the table and set it in the transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
3. Set the spectrum analyzer as:
RBW = 30kHz, VBW $\geq$ 3*RBW =100kHz,
Detector= Average
Trace mode= Max hold.
Sweep- auto couple.
4. Mark the peak frequency and -20dB (upper and lower) frequency.
5. Repeat until all the rest channels are investigated.

5.4. Test Data

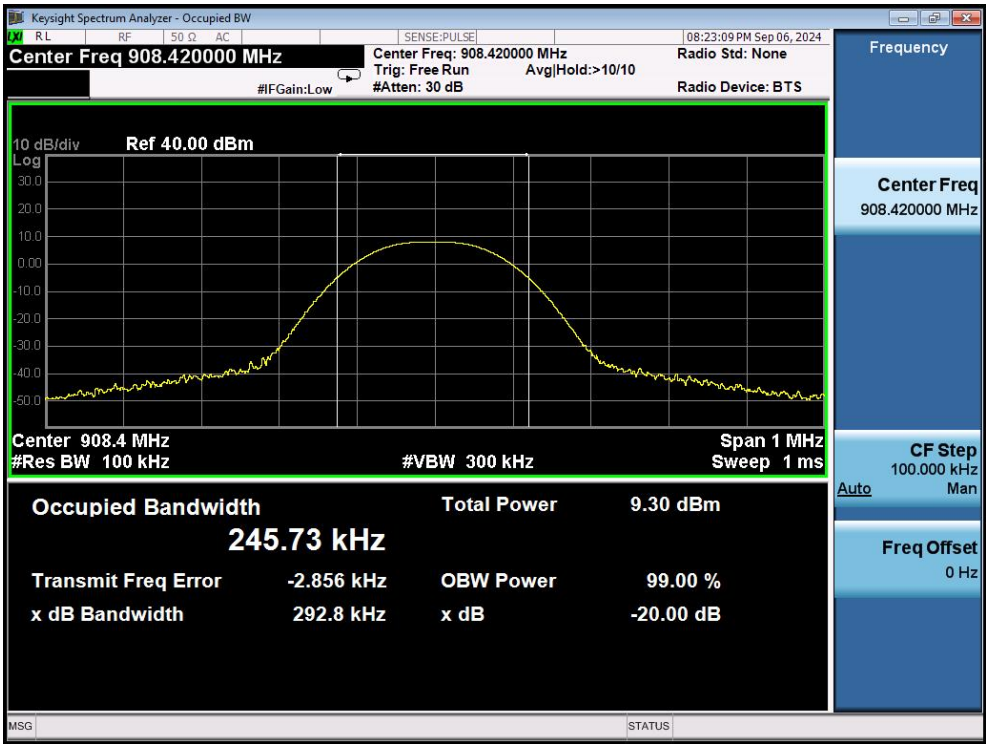
Test Item	: 20dB Bandwidth	Test Mode	: CH Low ~ CH High
Test Voltage	: DC 3V	Temperature	: 24℃
Test Result	: PASS	Humidity	: 52 %

Channel	Bandwidth (kHz)	Result
Low	299.5	PASS
Middle	292.8	PASS
High	296.2	PASS





Low Channel



Mid Channel





High Channel



6. Antenna Requirement

6.1. Test Standard and Requirement

Test Standard	FCC Part15 Section 15.203
Requirement	1) 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.

6.2. Antenna Connected Construction

The antenna is a FPC Antenna which permanently attached, and the best case gain of the antenna is -2.13dBi. It complies with the standard requirement.



APPENDIX I -- TEST SETUP PHOTOGRAPH

Please refer to separated files Appendix I -- Test Setup Photograph_RF

APPENDIX II -- EXTERNAL PHOTOGRAPH

Please refer to separated files Appendix II -- External Photograph

APPENDIX III -- INTERNAL PHOTOGRAPH

Please refer to separated files Appendix III -- Internal Photograph

----- End of Report -----

