



Test Report No.:
FCC2025-0057-RF

TEST REPORT

FCC ID : 2AK23RC304AC

Applicant : Keeson Technology Corporation Limited

Product Name : REMOTE CONTROL

Mode No. : RC304C,RC304A,RC304B

CVC Testing Technology Co., Ltd.

Product Name	REMOTE CONTROL	Trade Mark	KEESON			
Type/Model	RC304C,RC304A,RC304B	Sample Status	—			
Applicant	Keeson Technology Corporation Limited					
Applicant Address	158 Qiumao Road, Wangjiangjing Town, Xiuzhou District, Jiaxing, Zhejiang Province, China					
Manufacturer	Ergo Intelligent Technology (Jiaxing) Co., Ltd.					
Manufacturer Address	No.1508, Xiushui Road, Xiuzhou District, Jiaxing City, Zhejiang Province,China					
Factory	Ergo Intelligent Technology (Jiaxing) Co., Ltd.					
Factory Address	No.1508, Xiushui Road, Xiuzhou District, Jiaxing City, Zhejiang Province,China					
Sample Identification	1-1	Test Item	See page 8			
Tested According To	FCC CFR47 Part 15C Radio Frequency Devices ANSI C63.10-2020 KDB 558074 D01 15.247 Meas Guidance v05r02					
Receiving Date	2025.08.24	Completing Date	2025.08.25-2025.09.16			
Test conclusion	The equipment under test was found to comply with the requirements of the standards applied. Final Verdict: Pass. Seal of CVC Date of issue: 2025-09-26					
Abbreviations: / Pass= passed Fail = failed N/A= not applicable						
This test report relates only to the EUT, and shall not be reproduced except in full, without written approval of CVC.						

Approved by:

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Tested by:

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TABLE OF CONTENTS

RELEASE CONTROL RECORD.....	4
1. GENERAL PRODUCT INFORMATION.....	5
1.1 GENERAL INFORMATION	5
1.2 FOR 2.4GHz BAND	6
2. TEST SITES	7
2.1 TEST FACILITIES	7
2.2 DESCRIPTION OF NON-STANDARD METHOD AND DEVIATIONS.....	7
2.3 LIST OF TEST AND MEASUREMENT INSTRUMENTS	7
3. TEST CONFIGURATION	8
3.1 TEST MODE	8
3.2 DUTY CYCLE	10
4. SUMMARY OF MEASUREMENT RESULTS.....	11
5. MEASUREMENT PROCEDURE	12
5.1 CONDUCTED EMISSION	12
5.2 RADIATED EMISSION	15
5.3 MAXIMUM CONDUCTED OUTPUT POWER	28
5.4 MINIMUM 6 DB BANDWIDTH.....	30
5.5 OCCUPIED CHANNEL BANDWIDTH	32
5.6 BAND EDGE MEASUREMENT	34
5.7 MAXIMUM POWER SPECTRAL DENSITY	36
5.8 SPURIOUS RF CONDUCTED EMISSIONS.....	38
6. APPENDIX X	40

RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
FCC2025-0057-RF	Original release	2025-09-26

1. General Product Information

1.1 General information

Product Name	REMOTE CONTROL
Model No.	RC304C
Additional model	RC304A,RC304B
Power Supply	DC 4.5V
Serial Number(SN)	—
Hardware Version	V1.1
Software Version	V1.0
Specific power settings	2.4G Custom Technology: Default
Antenna Type	PCB antenna
Antenna Gain	2.4G Custom Technology: 0 dBi (provided by client)
Beamforming gain	Unsupported (provided by client)
Frequency Range	2.4G Custom Technology: 2403MHz~2480MHz
Channel Number	2.4G Custom Technology:78 Channels
Type of Modulation	2.4G Custom Technology:GFSK
Max. Conducted Power	2.4G Custom Technology: -3.85 dBm
Operate Temp.Range	-10°C~40°C
Note: 1. The information of the EUT is declared by the manufacturer. 2. The laboratory is not responsible for the product technical specification provided by the client. 3. EUT photo refer to report (Report NO.: FCC2025-0057-EUT). 4. The EUT have SISO function, provides 1 completed transmitter and 1 receiver. 5. All tests were conducted on the EUT model RC304C. The additional covered models, RC304A and RC304B, differ from the tested EUT only in appearance, color, and the number of buttons. It has been assessed that these differences do not affect RF and EMC performance.	

1.2 For 2.4GHz Band

2.4G Custom Technology							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2403	21	2423	41	2443MHz	61	2463
2	2404	22	2424	42	2444MHz	62	2464
3	2405	23	2425	43	2445MHz	63	2465
4	2406	24	2426	44	2446MHz	64	2466
5	2407	25	2427	45	2447MHz	65	2467
6	2408	26	2428	46	2448MHz	66	2468
7	2409	27	2429	47	2449MHz	67	2469
8	2410	28	2430	48	2450MHz	68	2470
9	2411	29	2431	49	2451MHz	69	2471
10	2412	30	2432	50	2452MHz	70	2472
11	2413	31	2433	51	2453MHz	71	2473
12	2414	32	2434	52	2454MHz	72	2474
13	2415	33	2435	53	2455MHz	73	2475
14	2416	34	2436	54	2456MHz	74	2476
15	2417	35	2437	55	2457MHz	75	2477
16	2418	36	2438	56	2458MHz	76	2478
17	2419	37	2439	57	2459MHz	77	2479
18	2420	38	2440	58	2460MHz	78	2480
19	2421	39	2441	59	2461MHz		
20	2422	40	2442	60	2462MHz		

2. Test Sites

2.1 Test Facilities

The tests and measurements refer to this report were performed by RF testing Lab. of CVC Testing Technology Co., Ltd.

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FCC(Test firm designation number: CN1282)

IC(Test firm CAB identifier number: CN0103)

CNAS(Test firm designation number: L0095)

2.2 Description of Non-standard Method and Deviations

The testing and measurement methods used in this report are applied by all standard methods. Not any non-standard method or deviation from the used standards was used.

2.3 List of Test and Measurement Instruments

Refer to **Appendix X**.

3. Test Configuration

3.1 Test Mode

The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application.

Test Mode	Antenna Delivery	Test Channel
2.4G Custom Technology	1TX / 1RX	1,40,78

The radiated emission was measured in the following position: EUT stand-up position (Z axis), lie-down position (X, Y axis). The worst emission was found in lie-down position (X axis) and the worst case was recorded.

In order to find the worst case condition, Pre-tests are needed at the presence of different data rate and different channels. Preliminary tests have been done on all the configurations for confirming worst case. Data rate below means worst-case rate of each test item.

Worst-case data rates and channels are shown as following table.

Test Mode	Data Rate		
	Antenna 1	Antenna 2	MIMO
2.4G Custom Technology	1	/	/

Test Items	Test Antennas	Test Modes	Test Channels
Conducted Emissions	Antenna 1	N/A	N/A
Radiated Emissions	Antenna 1	2.4G Custom Technology	1,40,78
Radiated Emissions (Band Edge)	Antenna 1	2.4G Custom Technology	1,78
Maximum conducted output power	Antenna 1	2.4G Custom Technology	1,40,78
Minimum 6 dB bandwidth	Antenna 1	2.4G Custom Technology	1,40,78
Occupied Channel Bandwidth	Antenna 1	2.4G Custom Technology	1,40,78
Band Edge Measurement	Antenna 1	2.4G Custom Technology	1,78
Maximum Power spectral density	Antenna 1	2.4G Custom Technology	1,40,78
Spurious RF Conducted Emissions	Antenna 1	2.4G Custom Technology	1,40,78

3.2 Duty cycle

TestMode	Antenna	Freq(MHz)	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	Limit	Verdict
2.4G Custom Technology	Ant1	2403	1.06	1.18	89.83	---	---
		2442	1.06	1.18	89.83	---	---
		2480	0.09	0.21	42.86	---	---

4. Summary of measurement results

Summary of measurements of results	Clause in FCC rules	Verdict	Note
Conducted Emissions	15.207	N/A	See note 2
Radiated spurious emission and band edge radiated	15.247(d),15.205,15.209	PASS	/
Maximum conducted output power	15.247(b)(3)	PASS	Appendix C of 2.4G Custom Technology _ diagram
Minimum 6 dB bandwidth	15.247(a)(2)	PASS	Appendix A of 2.4G Custom Technology _ diagram
Occupied Channel Bandwidth	15.247(a)(2)	PASS	Appendix B of 2.4G Custom Technology _ diagram
Conducted band edge	15.247(d)	PASS	Appendix E of 2.4G Custom Technology _ diagram
Maximum Power spectral density	15.247(e)	PASS	Appendix D of 2.4G Custom Technology _ diagram
Spurious RF Conducted Emissions	15.247(d)	PASS	Appendix F of 2.4G Custom Technology _ diagram
Antenna Requirement	15.203	PASS	See note 1

Note 1: According to 15.203, it is considered sufficient to comply with the provisions of this section.

Note 2: Not applicable to battery powered devices.

5. Measurement procedure

5.1 Conducted Emission

Ambient condition:

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.3kPa

Method of Measurement:

The EUT was setup according to ANSI C63.10-2020/Cor1-2023 for compliance to FCC 47CFR 15.247 requirements. The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 80 cm from any other grounded conducting surface. The EUT and simulators are connected to the main power through a line impedance stabilization network (LISN). The LISN provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN. (Please refer to the block diagram of the test setup and photographs) Each current-carrying conductor of the EUT power cord, except the ground (safety) conductor, was individually connected through a LISN to the input power source.

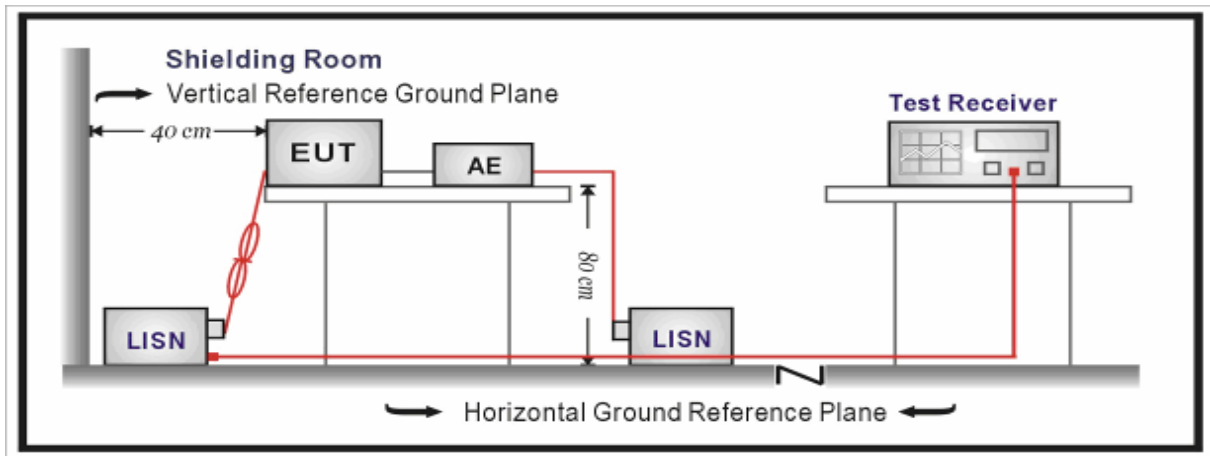
The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length.

Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9 kHz.

Limits:

Frequency (MHz)	Conducted Limits(dBμV)	
	Quasi-peak	Average
0.15 - 0.5	66 to 56 *	56 to 46*
0.5 - 5	56	46
5 - 30	60	50
Note 1: The lower limit shall apply at the transition frequencies.		
Note 2: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.		

Test Setup:



Measurement Data

An initial pre-scan was performed on the live and neutral lines with peak detector.

Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission were detected.

Notes:

1. The following Quasi-Peak and Average measurements were performed on the EUT:
2. Final Level = Reading + Factor.

Measurement Uncertainty:

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 1.96$. $U = 3.12$ dB.

Test Results:

Conducted Emission applies to an intentional radiator that is designed to be connected to the public utility (AC) power line. Measurements to demonstrate compliance with the conducted limits are not required for devices which only employ battery power for operation and which do not operate from the AC power lines or contain provisions for operation while connected to the AC power lines.

5.2 Radiated Emission

Ambient condition:

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.3kPa

Method of Measurement:

The EUT was setup and tested according to ANSI C63.10-2020/Cor1-2023.

The EUT is placed on a turn table which is 1.5 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from Antenna to the EUT was 3 meters.

The Antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the Antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10-2020/Cor1-2023 on radiated measurement.

The resolution bandwidth below 1GHz setting on the field strength meter is 120 kHz and above 1GHz is 1MHz.

The frequency range from 30MHz to 10th harmonic is checked.

Note: When doing emission measurement above 1GHz, the horn Antenna will be bended down a little (as horn Antenna has the narrow beamwidth) in order to keeping the Antenna in the “cone of radiation” of EUT. The 3dB beamwidth is 10~60 degrees for H-plane and 10~90 degrees for E-plane.

Limits:

Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a) of FCC part 15, must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

Frequency	Limit ($\mu\text{V/m}$)	Limit ($\text{dB}\mu\text{V/m @3m}$)	Remark
0.009MHz-0.490MHz	$2400/F(\text{kHz})@300\text{m}$	$20\lg(24000000/F(\text{kHz}))$	Quasi-peak Level
0.490MHz~1.705MHz	$24000/F(\text{kHz})@30\text{m}$	$20\lg(2400000/F(\text{kHz}))$	Quasi-peak Level
1.705MHz~30.0MHz	30@30m	69.54	Quasi-peak Level
30MHz-88MHz	100@3m	40.0	Quasi-peak Level
88MHz-216MHz	150@3m	43.5	Quasi-peak Level
216MHz-960MHz	200@3m	46.0	Quasi-peak Level
960MHz-1GHz	500@3m	54.0	Quasi-peak Level

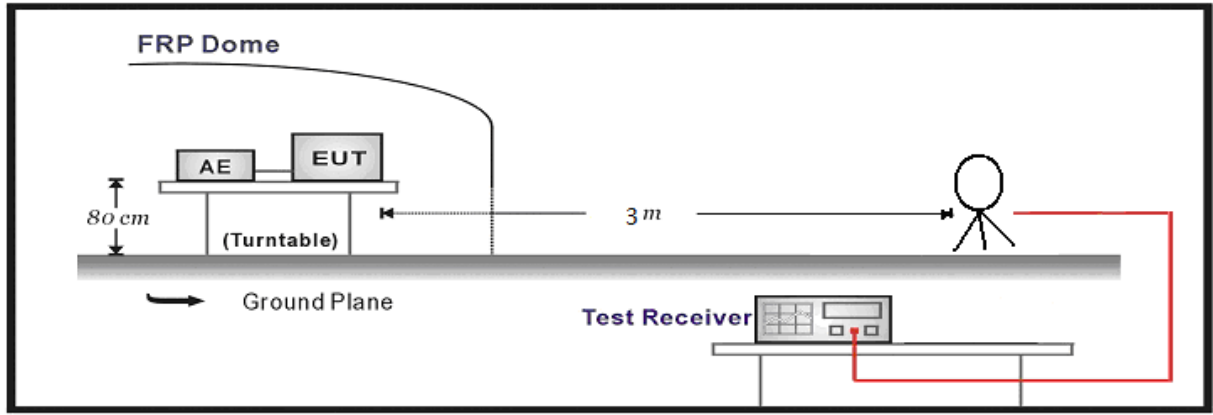
Above 1GHz	500@3m	54.0	Average Level
	5000@3m	74.0	Peak Level

Spurious Radiated Emissions are permitted in any of the frequency bands listed below:

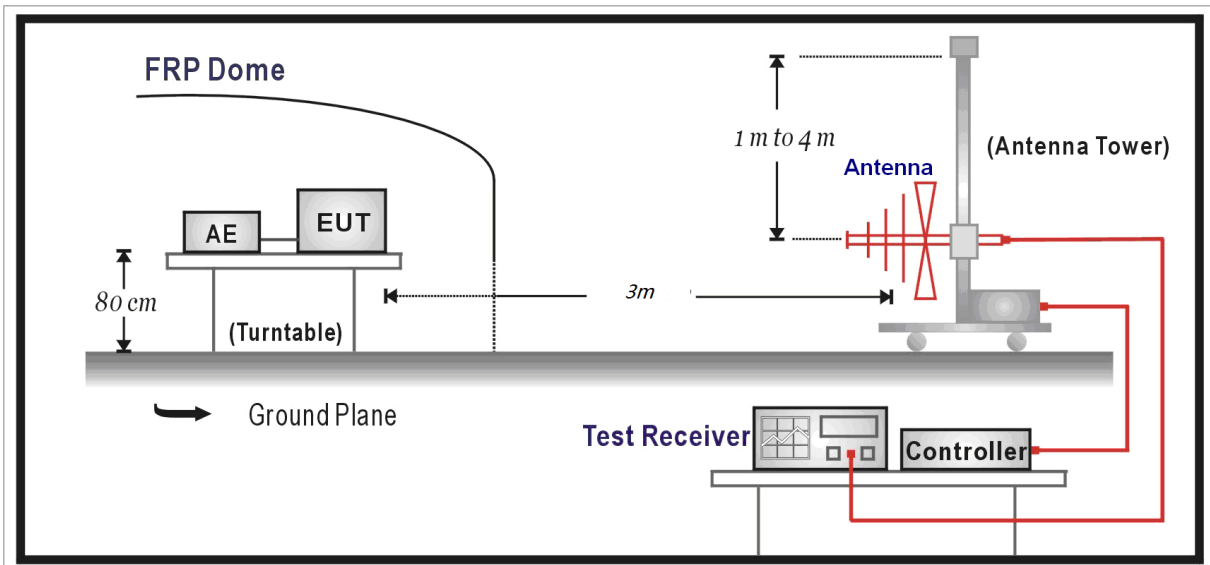
MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.
12.57675-12.57725	322-335.4	3600-4400	/
13.36-13.41	/	/	/

Test Setup:

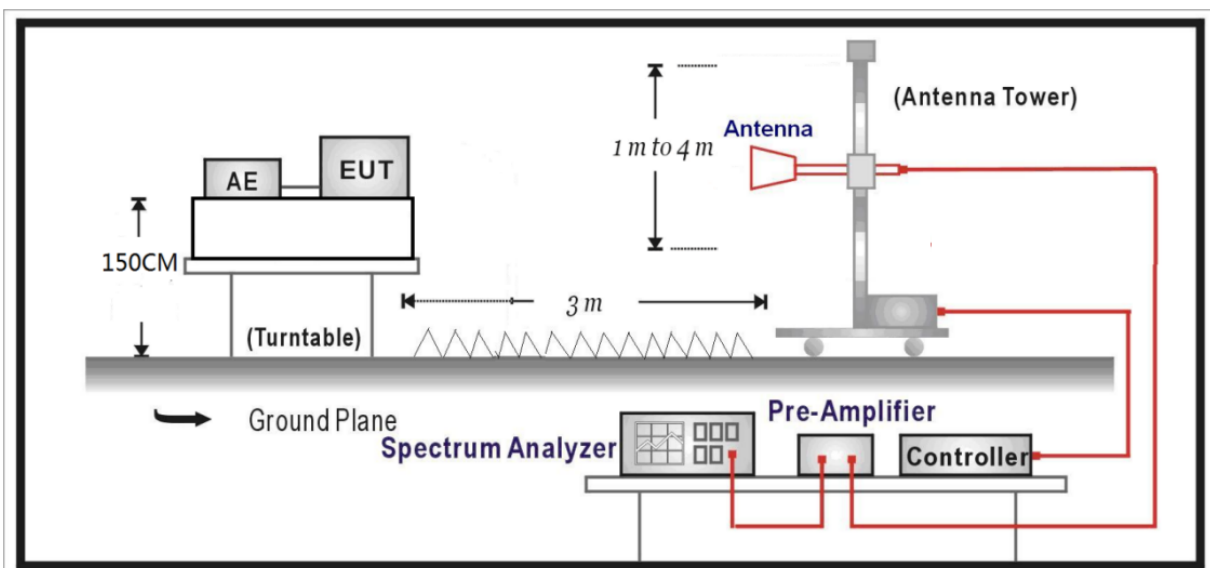
Below 30MHz Test Setup:



Below 1GHz Test Setup:



Above 1GHz Test Setup:



Measurement Data:

The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Level = Reading - Factor

Factor = Preamplifier Factor – Antenna Factor–Cable Loss

Measurement Uncertainty:

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 1.96$.

Frequency	Uncertainty
9KHz-30MHz	3.55 dB
30MHz-200MHz	4.19 dB
200MHz-1GHz	3.63 dB
Above 1GHz	3.68 dB

Test Results:

SPURIOUS EMISSIONS:

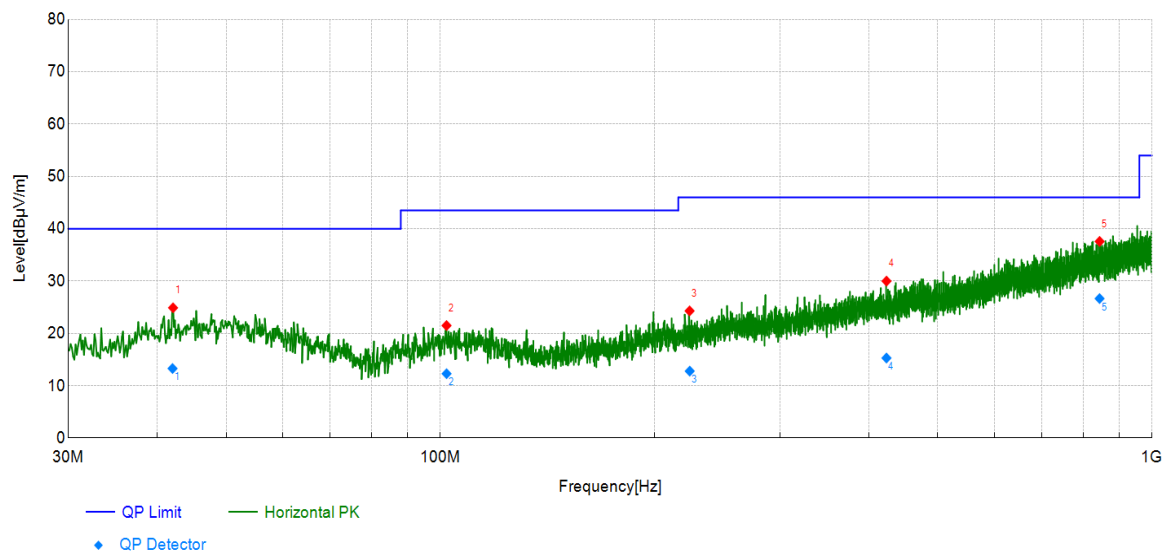
2.4G Custom Technology:

During the test, the Radiates Emission from 9kHz to 1GHz was performed in 2.4G Custom Technology all modes with all channels and all antennas. 2.4G Custom Technology, channel 0, antenna 1 are selected as the worst condition. The test data of the worst-case condition was recorded in this report.

Radiates Emission			9k~1G							
Test channel			Worst-Case							
Suspected List										
Frequency [MHz]	Polarity	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detect or	Height [cm]	Angle deg	Pass/ Fail
42.13	Horizontal	-17.74	42.64	24.90	40.00	15.10	PK	100	40	PASS
102.02	Horizontal	-19.04	40.55	21.51	43.50	21.99	PK	100	86	PASS
224.00	Horizontal	-18.44	42.74	24.30	46.00	21.70	PK	100	86	PASS
423.58	Horizontal	-13.12	43.12	30.00	46.00	16.00	PK	100	179	PASS
843.95	Horizontal	-5.82	43.40	37.58	46.00	8.42	PK	100	349	PASS

Note: 9kHz~30MHz have been test and test data more than 20dB margin.

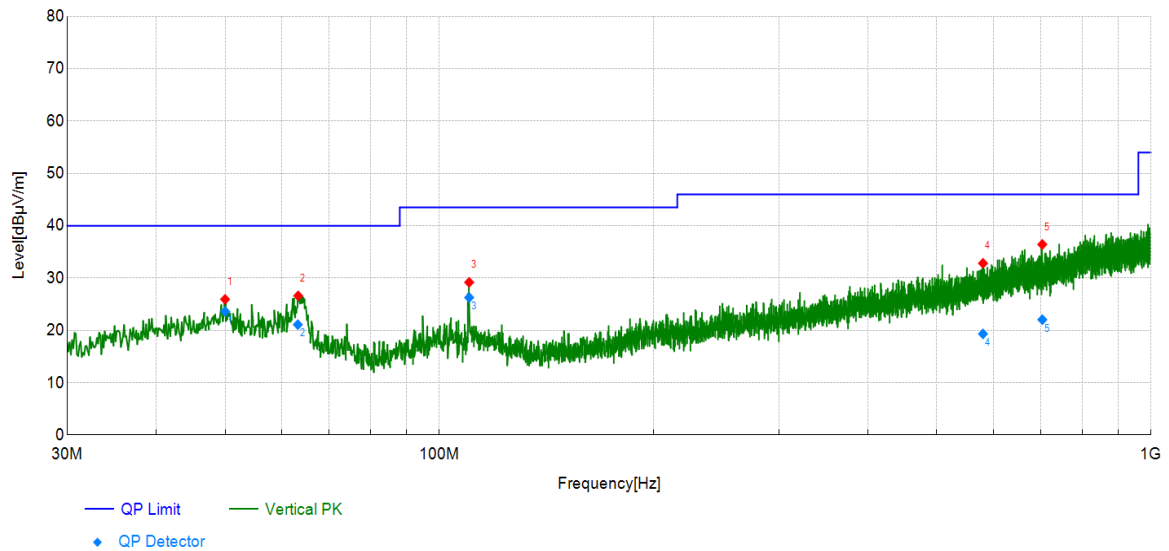
Final Data List								
Frequency [MHz]	Polarity	Factor [dB]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Pass/Fail
42.05	Horizontal	-17.74	13.30	40.00	26.70	148.7	40	PASS
102.05	Horizontal	-19.04	12.31	43.50	31.19	393.1	86	PASS
224.12	Horizontal	-18.44	12.81	46.00	33.19	263.1	86	PASS
423.50	Horizontal	-13.12	15.31	46.00	30.69	217.4	179	PASS
843.89	Horizontal	-5.82	26.67	46.00	19.33	124.8	349	PASS



Radiates Emission			9k~1G							
Test channel			Worst-Case							
Suspected List										
Frequency [MHz]	Polarity	Factor [dB]	Reading [dBμV/ m]	Level [dBμV/ m]	Limit [dBμV/ m]	Margin [dB]	Detect or	Height [cm]	Angle deg	Pass/ Fail
50.01	Vertical	-16.98	42.93	25.95	40.00	14.05	PK	100	227	PASS
63.34	Vertical	-19.57	46.18	26.61	40.00	13.39	PK	300	118	PASS
110.15	Vertical	-19.44	48.63	29.19	43.50	14.31	PK	300	312	PASS
580.60	Vertical	-9.89	42.72	32.83	46.00	13.17	PK	300	65	PASS
703.54	Vertical	-8.21	44.64	36.43	46.00	9.57	PK	100	79	PASS

Note: 9kHz~30MHz have been test and test data more than 20dB margin.

Final Data List								
Frequency [MHz]	Polarity	Factor [dB]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Pass/Fail
50.03	Vertical	-16.98	23.63	40.00	16.37	109.2	227	PASS
63.27	Vertical	-19.57	21.11	40.00	18.89	148.7	118	PASS
110.16	Vertical	-19.44	26.29	43.50	17.21	109.2	312	PASS
580.53	Vertical	-9.89	19.34	46.00	26.66	256.3	65	PASS
703.53	Vertical	-8.21	22.06	46.00	23.94	125.6	79	PASS



During the test, the Radiates Emission from Above 1G was performed in 2.4G Custom Technology all modes with all channels and all antennas. 2.4G Custom Technology Highest, medium, lowest channels, antenna 1 are selected as the worst condition. The test data of the worst-case condition was recorded in this report.

Radiates Emission		Above 1G							
Test channel		Lowest							
polarization		Horizontal							
Suspected List									
Frequency [MHz]	Factor [dB]	Reading [dBμV/ m]	Level [dBμV/ m]	Limit [dBμV/ m]	Margin [dB]	Detect or	Height [cm]	Angle deg	Pass/ Fail
1083.00	-6.17	41.44	35.27	74.00	38.73	PK	150	84	PASS
1590.00	-5.61	38.82	33.21	74.00	40.79	PK	150	174	PASS
2973.00	-4.50	39.53	35.03	74.00	38.97	PK	150	350	PASS
4127.00	-1.53	37.97	36.44	74.00	37.56	PK	150	100	PASS
5244.00	0.70	38.40	39.10	74.00	34.90	PK	150	4	PASS
1082.00	-6.17	29.08	22.91	54.00	31.09	AV	150	359	PASS
1589.00	-5.61	27.00	21.39	54.00	32.61	AV	150	296	PASS
2973.00	-4.50	26.76	22.26	54.00	31.74	AV	150	141	PASS
4127.00	-1.53	25.01	23.48	54.00	30.52	AV	150	246	PASS
5244.00	0.70	23.51	24.21	54.00	29.79	AV	150	288	PASS

Note: The emission levels of other frequencies were greater than 20dB margin.

Radiates Emission		Above 1G							
Test channel		Lowest							
polarization		Vertical							
Suspected List									
Frequency [MHz]	Factor [dB]	Reading [dBμV/ m]	Level [dBμV/ m]	Limit [dBμV/ m]	Margin [dB]	Detect or	Height [cm]	Angle deg	Pass/ Fail
1242.00	-6.09	40.59	34.50	74.00	39.50	PK	150	90	PASS
1592.00	-5.61	39.51	33.90	74.00	40.10	PK	150	98	PASS
1923.00	-4.97	38.17	33.20	74.00	40.80	PK	150	180	PASS
3013.00	-4.49	40.82	36.33	74.00	37.67	PK	150	341	PASS
3901.00	-2.23	38.40	36.17	74.00	37.83	PK	150	130	PASS
1241.00	-6.09	28.53	22.44	54.00	31.56	AV	150	224	PASS
1591.00	-5.61	27.16	21.55	54.00	32.45	AV	150	349	PASS
1922.00	-4.97	26.58	21.61	54.00	32.39	AV	150	39	PASS
3013.00	-4.49	27.60	23.11	54.00	30.89	AV	150	0	PASS
3901.00	-2.23	25.04	22.81	54.00	31.19	AV	150	278	PASS

Note: The emission levels of other frequencies were greater than 20dB margin.

Radiates Emission		Above 1G							
Test channel		medium							
polarization		Horizontal							
Suspected List									
Frequency [MHz]	Factor [dB]	Reading [dBμV/ m]	Level [dBμV/ m]	Limit [dBμV/ m]	Margin [dB]	Detect or	Height [cm]	Angle deg	Pass/ Fail
1248.00	-6.09	39.88	33.79	74.00	40.21	PK	150	299	PASS
1560.00	-5.67	38.76	33.09	74.00	40.91	PK	150	225	PASS
1938.00	-4.94	39.58	34.64	74.00	39.36	PK	150	323	PASS
3024.00	-4.47	40.66	36.19	74.00	37.81	PK	150	282	PASS
4030.00	-1.70	38.34	36.64	74.00	37.36	PK	150	292	PASS
1248.00	-6.09	28.36	22.27	54.00	31.73	AV	150	184	PASS
1559.00	-5.67	26.99	21.32	54.00	32.68	AV	150	323	PASS
1938.00	-4.94	26.90	21.96	54.00	32.04	AV	150	266	PASS
3023.00	-4.47	28.20	23.73	54.00	30.27	AV	150	27	PASS
4029.00	-1.70	25.18	23.48	54.00	30.52	AV	150	209	PASS

Note: The emission levels of other frequencies were greater than 20dB margin.

Radiates Emission		Above 1G							
Test channel		medium							
polarization		Vertical							
Suspected List									
Frequency [MHz]	Factor [dB]	Reading [dBμV/ m]	Level [dBμV/ m]	Limit [dBμV/ m]	Margin [dB]	Detect or	Height [cm]	Angle deg	Pass/ Fail
1232.00	-6.09	40.21	34.12	74.00	39.88	PK	150	208	PASS
1397.00	-5.91	40.26	34.35	74.00	39.65	PK	150	291	PASS
1920.00	-4.97	39.79	34.82	74.00	39.18	PK	150	86	PASS
3016.00	-4.48	40.78	36.30	74.00	37.70	PK	150	224	PASS
4114.00	-1.55	38.97	37.42	74.00	36.58	PK	150	283	PASS
1231.00	-6.09	28.35	22.26	54.00	31.74	AV	150	1	PASS
1396.00	-5.92	28.00	22.08	54.00	31.92	AV	150	208	PASS
1919.00	-4.97	26.27	21.30	54.00	32.70	AV	150	349	PASS
3016.00	-4.48	27.94	23.46	54.00	30.54	AV	150	356	PASS
4114.00	-1.55	25.15	23.60	54.00	30.40	AV	150	5	PASS

Note: The emission levels of other frequencies were greater than 20dB margin.

Radiates Emission		Above 1G							
Test channel		Highest							
polarization		Horizontal							
Suspected List									
Frequency [MHz]	Factor [dB]	Reading [dBμV/ m]	Level [dBμV/ m]	Limit [dBμV/ m]	Margin [dB]	Detect or	Height [cm]	Angle deg	Pass/ Fail
1245.00	-6.09	40.52	34.43	74.00	39.57	PK	150	285	PASS
1415.00	-5.90	40.33	34.43	74.00	39.57	PK	150	245	PASS
1959.00	-4.90	38.56	33.66	74.00	40.34	PK	150	59	PASS
3034.00	-4.47	39.96	35.49	74.00	38.51	PK	150	76	PASS
4111.00	-1.55	37.95	36.40	74.00	37.60	PK	150	303	PASS
1245.00	-6.09	28.39	22.30	54.00	31.70	AV	150	326	PASS
1415.00	-5.90	27.81	21.91	54.00	32.09	AV	150	326	PASS
1958.00	-4.90	25.94	21.04	54.00	32.96	AV	150	285	PASS
3033.00	-4.47	27.11	22.64	54.00	31.36	AV	150	132	PASS
4111.00	-1.55	25.28	23.73	54.00	30.27	AV	150	285	PASS

Note: The emission levels of other frequencies were greater than 20dB margin.

Radiates Emission		Above 1G							
Test channel		Highest							
polarization		Vertical							
Suspected List									
Frequency [MHz]	Factor [dB]	Reading [dBμV/ m]	Level [dBμV/ m]	Limit [dBμV/ m]	Margin [dB]	Detect or	Height [cm]	Angle deg	Pass/ Fail
1235.00	-6.09	39.95	33.86	74.00	40.14	PK	150	219	PASS
1576.00	-5.64	39.09	33.45	74.00	40.55	PK	150	123	PASS
2102.00	-4.68	38.17	33.49	74.00	40.51	PK	150	2	PASS
3035.00	-4.46	40.21	35.75	74.00	38.25	PK	150	317	PASS
3975.00	-1.86	38.50	36.64	74.00	37.36	PK	150	228	PASS
1235.00	-6.09	28.60	22.51	54.00	31.49	AV	150	164	PASS
1575.00	-5.64	27.68	22.04	54.00	31.96	AV	150	219	PASS
2102.00	-4.68	25.74	21.06	54.00	32.94	AV	150	105	PASS
3035.00	-4.46	26.73	22.27	54.00	31.73	AV	150	276	PASS
3974.00	-1.88	25.05	23.17	54.00	30.83	AV	150	317	PASS

Note: The emission levels of other frequencies were greater than 20dB margin.

Band Edge:

During the test, the Band Edge was performed in 2.4G Custom Technology all modes with all channels and all antennas. 2.4G Custom Technology Highest and lowest channels, Antenna 1 are selected as the worst condition. The test data of the worst-case condition was recorded in this report.

Test mode			2.4G Custom Technology						
Test channel			Lowest channel						
polarization			Horizontal						
Suspected List									
Frequency [MHz]	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detect or	Height [cm]	Angle deg	Pass/ Fail
2387.00	-4.33	42.60	38.27	74.00	35.73	PK	150	125	PASS
2391.00	-4.33	45.67	41.34	74.00	32.66	PK	150	133	PASS
2483.50	-4.25	44.72	40.47	74.00	33.53	PK	150	125	PASS
2388.00	-4.34	26.24	21.90	54.00	32.10	AV	150	125	PASS
2390.00	-4.33	24.96	20.63	54.00	33.37	AV	150	125	PASS
2483.50	-4.25	30.26	26.01	54.00	27.99	AV	150	141	PASS
Test mode			2.4G Custom Technology						
Test channel			Lowest channel						
polarization			Vertical						
Suspected List									
Frequency [MHz]	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detect or	Height [cm]	Angle deg	Pass/ Fail
2390.00	-4.33	36.20	31.87	74.00	42.13	PK	150	163	PASS
2393.00	-4.33	37.83	33.50	74.00	40.50	PK	150	317	PASS
2483.50	-4.25	35.77	31.52	74.00	42.48	PK	150	72	PASS
2389.00	-4.34	23.77	19.43	54.00	34.57	AV	150	180	PASS
2393.00	-4.33	24.40	20.07	54.00	33.93	AV	150	0	PASS
2483.50	-4.25	25.30	21.05	54.00	32.95	AV	150	268	PASS

The signal beyond the limit is carrier.

Test mode			2.4G Custom Technology						
Test channel			Highest channel						
polarization			Horizontal						
Suspected List									
Frequency [MHz]	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detect or	Height [cm]	Angle deg	Pass/ Fail
2391.00	-4.33	35.60	31.27	74.00	42.73	PK	150	92	PASS
2483.50	-4.25	64.20	59.95	74.00	14.05	PK	150	124	PASS
2486.00	-4.24	50.59	46.35	74.00	27.65	PK	150	124	PASS
2391.00	-4.33	28.86	24.53	54.00	29.47	AV	150	124	PASS
2483.50	-4.25	38.88	34.63	54.00	19.37	AV	150	124	PASS
2486.00	-4.24	50.59	45.39	74.00	28.61	AV	150	124	PASS
Test mode			2.4G Custom Technology						
Test channel			Highest channel						
polarization			Vertical						
Suspected List									
Frequency [MHz]	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detect or	Height [cm]	Angle deg	Pass/ Fail
2388.00	-4.34	35.28	30.94	74.00	43.06	PK	150	146	PASS
2483.50	-4.25	44.04	39.79	74.00	34.21	PK	150	66	PASS
2488.00	-4.24	37.10	32.86	74.00	41.14	PK	150	269	PASS
2387.00	-4.33	24.44	20.11	54.00	33.89	AV	150	196	PASS
2483.50	-4.25	25.39	21.14	54.00	32.86	AV	150	73	PASS
2487.00	-4.24	24.90	20.66	54.00	33.34	AV	150	350	PASS

The signal beyond the limit is carrier.

5.3 Maximum conducted output power

Ambient condition:

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.3kPa

Method of Measurement:

a. A peak power sensor was used on the output port of the EUT. A power meter was used to read the response of the peak power sensor and set the detector to PEAK. Record the power level.

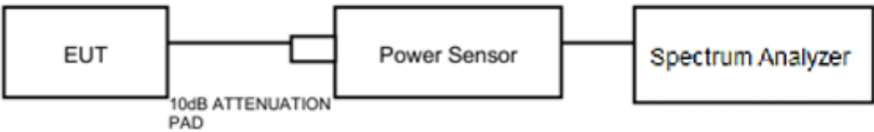
Limits:

Average Output Power	$\leq 1\text{W}$ (30dBm)
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Note: the conducted output power limit specified above is based on the use the antennas with directional gains that do not exceed 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated Levels above, as appropriate, by the amount in dB that the directional gain of antenna exceeds 6 dBi.

Systems operating in the 2400-2483.5 MHz band that are used exclusively for fixed, point-to-point operations may employ transmitting antennas with directional gain greater than 6 dBi 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 6 dBi.

Test Setup:



Measurement Uncertainty:

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 2$, $U = 0.44$ dB.

Test Results:

TestMode	Antenna	Freq(MHz)	Result[dBm]	Limit[dBm]	Verdict
2.4G Custom Technology	Ant1	2403	-3.85	≤30.00	PASS
		2442	-5.18	≤30.00	PASS
		2480	-6.05	≤30.00	PASS

5.4 Minimum 6 dB Bandwidth

Ambient condition:

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.3kPa

Method of Measurement:

The EUT was connected to the spectrum analyzer through an external attenuator (20dB) and a known loss cable. Set RBW = shall be in the range of 1% to 5% of the OBW but not less than 100 kHz; VBW is set to greater than 3 times RBW on spectrum analyzer.

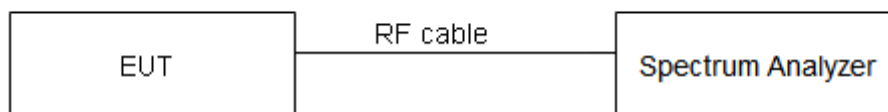
Detector=Peak, Trace mode=Max hold.

Limits:

Rule Part 15.247 (a) (2) specifies that “Systems using digital modulation techniques may operate in the 902–928 MHz, 2400–2483.5 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.”

Minimum 6dB Bandwidth	≥ 500 kHz
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Test Setup:



Measurement Uncertainty:

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 2$, $U = 936$ Hz.

Test Results:

TestMode	Antenna	Freq(MHz)	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
2.4G Custom Technology	Ant1	2403	0.81	2402.59	2403.40	0.5	PASS
		2442	0.86	2441.56	2442.42	0.5	PASS
		2480	0.84	2479.58	2480.42	0.5	PASS

5.5 Occupied Channel Bandwidth

Ambient condition:

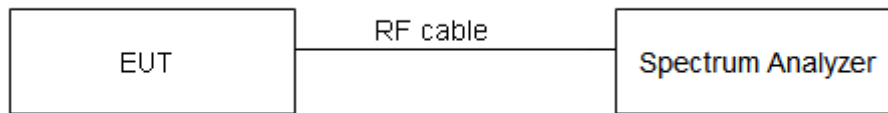
Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.3kPa

Method of Measurement:

The EUT was connected to the spectrum analyzer through an external attenuator (20dB) and a known loss cable. RBW is set to 1% to 5% of the OBW; video bandwidth (VBW) shall be at least three times RBW on spectrum analyzer.

Detector=Peak, Trace mode=Max hold.

Test Setup:



Measurement Uncertainty:

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 2$, $U = 936$ Hz.

Test Results:

TestMode	Antenna	Freq(MHz)	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
2.4G Custom Technology	Ant1	2403	1.826	2402.0769	2403.9031	---	---
		2442	1.854	2441.0569	2442.9111	---	---
		2480	1.922	2479.0210	2480.9431	---	---

5.6 Band Edge Measurement

Ambient condition:

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.3kPa

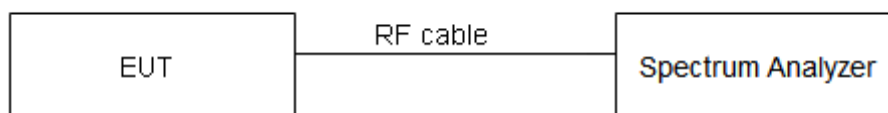
Method of Measurement:

The EUT was connected to the spectrum analyzer through an external attenuator (20dB) and a known loss cable the band edge of the lowest and highest channels were measured. The peak detector is used and RBW is set to 100 kHz and VBW is set to 300 kHz on spectrum analyzer.

Limits:

Rule Part 15.247(d) specifies that “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.

Test Setup:



Measurement Uncertainty:

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 1.96$, $U = 936 \text{ Hz}$, $2 \text{ GHz}-3 \text{ GHz} = 1.407 \text{ dB}$.

Test Results:

TestMode	Antenna	ChName	Freq(MHz)	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
2.4G Custom Technology	Ant1	Low	2403	-2.64	-47.02	≤ -22.64	PASS
		High	2480	-2.47	-49.35	≤ -22.47	PASS

5.7 Maximum Power Spectral Density

Ambient condition:

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.3kPa

Method of Measurement:

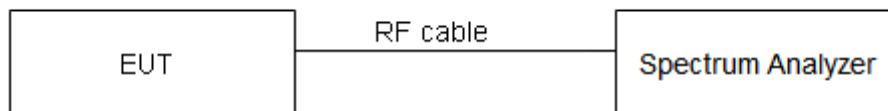
During the process of the testing, The EUT was connected to Spectrum Analyzer with a known loss. The EUT is max power transmission with proper modulation. The Average detector is used. We use Method AVGPSD-2 in KDB 558074 D01 for this test.

Limits:

Rule Part 15.247(e) specifies that" 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.

Maximum Power Spectral Density	$\leq 8 \text{ dBm/3kHz}$
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Test Setup:



Measurement Uncertainty:

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 2$, $U = 0.75\text{dB}$.

Test Results:

TestMode	Antenna	Freq(MHz)	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
2.4G Custom Technology	Ant1	2403	-16.90	≤8.00	PASS
		2442	-18.61	≤8.00	PASS
		2480	-20.67	≤8.00	PASS

5.8 Spurious RF Conducted Emissions

Ambient condition:

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.3kPa

Method of Measurement:

The EUT was connected to the spectrum analyzer with a known loss. The spectrum analyzer scans from 30MHz to the 10th harmonic of the carrier. The peak detector is used. Set RBW to 100kHz and VBW to 300 kHz, Sweep is set to AUTO .The test is in transmitting mode.

Limits:

Rule Part 15.247(d) pacifies that “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.

Test Setup:



Measurement Uncertainty:

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 1.96$.

Frequency	Uncertainty
100kHz-2GHz	0.684 dB
2GHz-26GHz	1.407 dB

Test Results:

TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
2.4G Custom Technology	Ant1	2403	Reference	-3.65	-3.65	---	PASS
			30~1000	-3.65	-58.29	≤ -23.65	PASS
			1000~26500	-3.65	-39.81	≤ -23.65	PASS
		2442	Reference	-4.12	-4.12	---	PASS
			30~1000	-4.12	-56.86	≤ -24.12	PASS
			1000~26500	-4.12	-39.22	≤ -24.12	PASS
		2480	Reference	-6.84	-6.84	---	PASS
			30~1000	-6.84	-58.89	≤ -26.84	PASS
			1000~26500	-6.84	-38.52	≤ -26.84	PASS

6. Appendix X

Test Equipment	Type/Mode	SERIAL NO.	Equipment No.	Manufacturer	Cal. Due
Communication Shielded Room 2	4m*3m*3m	CRTDSWKS44301	/	CRT	2027/04/22
Spectrum Analyzer	FSV40	101580	DZ-000238-3	R&S	2026/03/27
Power Meter	JS0806-2	19H9080187	DZ-000241	Tonscend	2026/03/27
Programmable DC Power Supply	E3644A	MY58036222	DZ-000178	KEYSIGHT	2026/04/10
5m Semi-Anechoic Chamber	SAC-5	SAC-5-2.0	EM-000557	COMTEST	2027/02/01
Spectrum Analyzer	N9010B	MY57470323	DZ-000174	KEYSIGHT	2026/01/01
EMI Test Receiver	N9038A-508	MY532290079	EM-000397	Agilent	2025/12/26
EMI Test Receiver	ESR7	102235	EM-000574	R&S	2026/01/05
loop antenna	HLA 6121	540046	EM-000546	TESEQ	2026/06/02
Broadband Antenna	VULB 9163	530	EM-000342	SCHWARZBECK	2026/06/02
Waveguide Horn Antenna	HF906	360306/008	EM-000093	R&S	2025/12/26
Waveguide Horn Antenna	BBHA9170	00949	DZ-000209-2	SCHWARZBECK	2026/08/02
Preamplifier	BBV 9721	9721-050	DZ-000209-1	SCHWARZBECK	2026/06/02
2.4GHz band stop	ZBSF6-C2400-2483.5-543	1232723	DZ-000399-1	Tonscend	2026/06/10
5.8GHz band resistance	ZBSF6-C5725-5850-1627	1232740	DZ-000399-2	Tonscend	2026/06/10
Preamplifier	BBV 9721	9721-050	DZ-000209-1	SCHWARZBECK	2026/06/02
Temperature and humidity meter	UT330THC	C231446122	DZ-000249-2	UNI-T	2026/07/24
Temperature and humidity meter	UT330THC	C231446087	DZ-000249-5	UNI-T	2026/07/24

Dynacomm	Software Release	Software Developer
TS1120-3 Test System(Conduction test)	3.3.38	Tonscend
TS+ (5m,Radiation test)	JS32-RE 5.0.0	Tonscend

————— No Body Text Below —————

Important

1. The test report is invalid without the official stamp of CVC;
2. Any part photocopies of the test report are forbidden without the written permission from CVC;
3. The test report is invalid without the signatures of Author and Reviewer;
4. The test report is invalid if altered;
5. Objections to the test report must be submitted to CVC within 15 days;
6. Generally, commission test is responsible for the tested samples only;
7. As for the test result, “—” or “N/A” means “not applicable”, “/” means “not testing”, “P” means “pass” and “F” means “fail”.

Address: No.3,Tiantaiyi Road, Kaitai Avenue, Science City, Guangzhou, China (Test location)

Post Code: 510663 Tel: 020-32293888

FAX: 020 32293889 E-mail: office@cvc.org.cn