

TEST REPORT

EUT Description	Roku TV Smart Projector
Brand Name	N/A
Model Name	KJM-K201
Additional Model No	C7,C8,C9,M7,M8,M9
FCC ID	2BU2U-K201
Date of Test Start/End	2026-08-15 / 2026-09-15

Applicant	Shenzhen Kejinming Electronic Co.,Ltd.
Address	1F-6F, Building B7, Yintian Industrial Zone, Yantian Community, Xixiang Street, Bao'an District, Shenzhen, China.
Manufacturers	Same as Application
Address	Same as Application
Factory	Huizhou Kejinming Electronics Co.,Ltd
Address	Building 1, Kejinming Industrial Park, No. 4, Yingshan Second Road, Shanbei Village, Lilin Town,Zhongkai Hi tech Zone,Huizhou

Reference Standards	47 CFR Part 15, Subpart C 15.247 (see section 1)
---------------------	---

Test Report identification	RL20260807004EF Rev. 00
Revision Control	This test report revision replaces any previous test report revision. (see Document Changes)

Test Result:	Pass*
*The EUT complied with the test item(s) of the above standard (s), refer to the test summary for details.	

Authorized for issue by:

 Jim Chen / Project Engineer	 Jason Li / Reviewer
--	--

Radiolink Testing (Shenzhen) Co., Ltd.
Room 103, Building B, Jinghang Industrial Park, Area 71, Xingdong Community, Xin'an Subdistrict, Bao'an District,
Shenzhen, Guangdong Province, China
Tel: +86 0755 23080694

Document Changes

Status	Date of issue	Revision	Description of the performed changes
Active	2026-09-18	Rev. 00	None (original version).



2 Test Summary

Radio Spectrum Technical Requirement				
Item	Standard	Method	Requirement	Result
Antenna Requirement	47 CFR Part 15, Subpart C 15.247	N/A	47 CFR Part 15, Subpart C 15.203 & 15.247(b)(4)	Pass
Other requirements Frequency Hopping Spread Spectrum System Hopping Sequence		N/A	47 CFR Part 15, Subpart C 15.247(a)(1),(g),(h)	Pass

Radio Spectrum Matter Part				
Item	Standard	Method	Requirement	Result
Conducted Emissions at AC Power Line (150kHz-30MHz)	47 CFR Part 15, Subpart C 15.247	ANSI C63.10-2020 + Cor.1-2023 + C63.10a-2024 + Errata to C63.10a-2024 Section 6.2	47 CFR Part 15, Subpart C 15.207	Pass
Radiated Emissions which fall in the restricted bands		ANSI C63.10-2020 + Cor.1-2023 + C63.10a-2024 + Errata to C63.10a-2024Section 6.10.5	47 CFR Part 15, Subpart C 15.205 & 15.209	Pass
Radiated Spurious Emissions Below 1GHz		ANSI C63.10-2020 + Cor.1-2023 + C63.10a-2024 + Errata to C63.10a-2024Section 6.4,6.5	47 CFR Part 15, Subpart C 15.205 & 15.209	Pass
Radiated Spurious Emissions Above 1GHz		ANSI C63.10-2020 + Cor.1-2023 + C63.10a-2024 + Errata to C63.10a-2024Section 6.6	47 CFR Part 15, Subpart C 15.205 & 15.209	Pass
Conducted Peak Output Power		ANSI C63.10-2020 + Cor.1-2023 + C63.10a-2024 + Errata to C63.10a-2024Section 7.8.5	47 CFR Part 15, Subpart C 15.247(b)(1)	Pass
20dB Bandwidth		ANSI C63.10-2020 + Cor.1-2023 + C63.10a-2024 + Errata to C63.10a-2024Section 6.9.2	47 CFR Part 15, Subpart C 15.247(a)(1)	Pass
Carrier Frequencies Separation		ANSI C63.10-2020 + Cor.1-2023 + C63.10a-2024 + Errata to C63.10a-2024Section 7.8.2	47 CFR Part 15, Subpart C 15.247a(1)	Pass



Radiolink Testing (Shenzhen) Co., Ltd.

Room 103, Building B, Jinghang Industrial Park, Area 71, Xingdong Community, Xin'an Subdistrict, Bao'an District, Shenzhen, Guangdong Province, China
Tel: +86 0755 23080694

Radio Spectrum Matter Part				
Item	Standard	Method	Requirement	Result
Hopping Channel Number		ANSI C63.10-2020 + Cor.1-2023 + C63.10a-2024 + Errata to C63.10a-2024Section 7.8.3	47 CFR Part 15, Subpart C 15.247a(1)(iii) RSS-247 Section 6.2.3.1(b)	Pass
Dwell Time		ANSI C63.10-2020 + Cor.1-2023 + C63.10a-2024 + Errata to C63.10a-2024Section 7.8.4	47 CFR Part 15, Subpart C 15.247a(1)(iii)	Pass
Conducted Band Edges Measurement		ANSI C63.10-2020 + Cor.1-2023 + C63.10a-2024 + Errata to C63.10a-2024Section 7.8.7.2	47 CFR Part 15, Subpart C 15.247(d)	Pass
Conducted Spurious Emissions		ANSI C63.10-2020 + Cor.1-2023 + C63.10a-2024 + Errata to C63.10a-2024Section 7.8.7	47 CFR Part 15, Subpart C 15.247(d)	Pass



Radiolink Testing (Shenzhen) Co., Ltd.

Room 103, Building B, Jinghang Industrial Park, Area 71, Xingdong Community, Xin'an Subdistrict, Bao'an District,
Shenzhen, Guangdong Province, China
Tel: +86 0755 23080694

3 Contents

	Page
1 Cover Page.....	1
2 Test Summary	3
3 Contents	5
4 General Information	7
4.1 Details of E.U.T.	7
4.2 Power Setting of Test Software	8
4.3 Test Channel	8
4.4 Environment Parameter	9
4.5 Description of Support Units	9
4.6 Measurement Uncertainty	9
4.7 Test Location	9
4.8 Test Facility	10
4.9 Deviation from Standards	10
4.10 Abnormalities from Standard Conditions	10
5 Equipment List	11
6 Emission Test Results	13
6.1 Antenna Requirement	13
6.1.1 Test Requirement:	13
6.2 Other requirements Frequency Hopping Spread Spectrum System Hopping Sequence	14
6.2.1 Test Requirement:	14
6.2.2 Conclusion	14
7 Radio Spectrum Matter Test Results	16
7.1 Conducted Emissions at AC Power Line (150kHz-30MHz)	16
7.1.1 E.U.T. Operation	16
7.1.2 Test Mode Description	16
7.1.3 Test Setup Diagram	16
7.1.4 Measurement Procedure and Data	17
7.2 Radiated Emissions which fall in the restricted bands	20
7.2.1 E.U.T. Operation	20
7.2.2 Test Mode Description	20
7.2.3 Test Setup Diagram	21
7.2.4 Measurement Procedure and Data	22
7.3 Radiated Spurious Emissions Below 1GHz	24
7.3.1 E.U.T. Operation	24
7.3.2 Test Mode Description	24
7.3.3 Test Setup Diagram	24
7.3.4 Measurement Procedure and Data	25
7.4 Radiated Spurious Emissions Above 1GHz	28
7.4.1 E.U.T. Operation	28
7.4.2 Test Mode Description	28
7.4.3 Test Setup Diagram	28
7.4.4 Measurement Procedure and Data	29
7.5 Conducted Peak Output Power	35
7.5.1 E.U.T. Operation	35
7.5.2 Test Mode Description	35
7.5.3 Test Setup Diagram	35

Radiolink Testing (Shenzhen) Co., Ltd.

Room 103, Building B, Jinghang Industrial Park, Area 71, Xingdong Community, Xin'an Subdistrict, Bao'an District,
Shenzhen, Guangdong Province, China
Tel: +86 0755 23080694

7.5.4 Measurement Procedure and Data	35
7.6 20dB Bandwidth	37
7.6.1 E.U.T. Operation	37
7.6.2 Test Mode Description	37
7.6.3 Test Setup Diagram	37
7.6.4 Measurement Procedure and Data	37
7.7 Carrier Frequencies Separation	38
7.7.1 E.U.T. Operation	38
7.7.2 Test Mode Description	38
7.7.3 Test Setup Diagram	38
7.7.4 Measurement Procedure and Data	38
7.8 Hopping Channel Number	39
7.8.1 E.U.T. Operation	39
7.8.2 Test Mode Description	39
7.8.3 Test Setup Diagram	39
7.8.4 Measurement Procedure and Data	39
7.9 Dwell Time	40
7.9.1 E.U.T. Operation	40
7.9.2 Test Mode Description	40
7.9.3 Test Setup Diagram	40
7.9.4 Measurement Procedure and Data	40
7.10 Conducted Band Edges Measurement	41
7.10.1 E.U.T. Operation	41
7.10.2 Test Mode Description	41
7.10.3 Test Setup Diagram	41
7.10.4 Measurement Procedure and Data	41
7.11 Conducted Spurious Emissions	42
7.11.1 E.U.T. Operation	42
7.11.2 Test Mode Description	42
7.11.3 Test Setup Diagram	42
7.11.4 Measurement Procedure and Data	42
8 Test Setup Photo	43
9 Appendix	44



4 General Information

4.1 Details of E.U.T.

EUT Description:	Roku TV Smart Projector
Model No.:	KJM-K201
Trade Mark:	N/A
Hardware Version:	V1.0
Software Version:	V1.0
EUT Serial Number	SN260915001
Power Supply:	Input:AC 100-240V 50/60Hz 40W USB Output: 5V 1.5A
Operation Frequency:	2402MHz to 2480MHz
Channel	Frequency
BT:	
The Lowest channel(CH0)	2402MHz
The Middle channel(CH39)	2441MHz
The Highest channel(CH78)	2480MHz
Bluetooth Version:	V5.2
Modulation Technique:	Frequency Hopping Spread Spectrum(FHSS)
Modulation Type:	GFSK, Pi/4DQPSK, 8DPSK
Number of Channels:	79
Antenna Type:	PIFA Antenna
Antenna Gain*:	☒ Provided by client
	1.93dBi
Receiver Category:	☐ Category 1, ☒ Category 2, ☐ Category 3
RF Cable:	2000MHz ~ 3000MHz (1.0dB)
Note: *Since the above data and/or information is provided by the client relevant results or conclusions of this report are only made for these data and/or information , Radiolink test lab is not responsible for the authenticity, integrity and results of the data and information and/or the validity of the conclusion. Remark:As above information is provided and confirmed by the applicant. Radiolink test lab is not liable to the accuracy, suitability, reliability or/and integrity of the information. Remark2: The EUT does not have a factory-assigned serial number. A unique sample identifier(SN260915001) was assigned by the applicant for identification of the tested sample and recorded in the test records.	

4.2 Power Setting of Test Software

Software Name	Putty		
Frequency(MHz)	2402	2441	2480
GFSK DH5 Setting	Default	Default	Default
Frequency(MHz)	2402	2441	2480
DQPSK 2DH5 Setting	Default	Default	Default
Frequency(MHz)	2402	2441	2480
8DPSK 3DH5 Setting	Default	Default	Default

4.3 Test Channel

Frequency Channels for BLE 4.0 / 5.0 (2.4GHz Band)							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
0	2402MHz	20	2422MHz	40	2442MHz	60	2462MHz
1	2403MHz	21	2423MHz	41	2443MHz	61	2463MHz
2	2404MHz	22	2424MHz	42	2444MHz	62	2464MHz
3	2405MHz	23	2425MHz	43	2445MHz	63	2465MHz
4	2406MHz	24	2426MHz	44	2446MHz	64	2466MHz
5	2407MHz	25	2427MHz	45	2447MHz	65	2467MHz
6	2408MHz	26	2428MHz	46	2448MHz	66	2468MHz
7	2409MHz	27	2429MHz	47	2449MHz	67	2469MHz
8	2410MHz	28	2430MHz	48	2450MHz	68	2470MHz
9	2411MHz	29	2431MHz	49	2451MHz	69	2471MHz
10	2412MHz	30	2432MHz	50	2452MHz	70	2472MHz
11	2413MHz	31	2433MHz	51	2453MHz	71	2473MHz
12	2414MHz	32	2434MHz	52	2454MHz	72	2474MHz
13	2415MHz	33	2435MHz	53	2455MHz	73	2475MHz
14	2416MHz	34	2436MHz	54	2456MHz	74	2476MHz
15	2417MHz	35	2437MHz	55	2457MHz	75	2477MHz
16	2418MHz	36	2438MHz	56	2458MHz	76	2478MHz
17	2419MHz	37	2439MHz	57	2459MHz	77	2479MHz
18	2420MHz	38	2440MHz	58	2460MHz	78	2480MHz
19	2421MHz	39	2441MHz	59	2461MHz	/	/

Radiolink Testing (Shenzhen) Co., Ltd.

Room 103, Building B, Jinghang Industrial Park, Area 71, Xingdong Community, Xin'an Subdistrict, Bao'an District,
Shenzhen, Guangdong Province, China
Tel: +86 0755 23080694

4.4 Environment Parameter

Environment Parameter	1020 mbar Selected Values During Tests	
Relative Humidity	38.8-50.8 % RH Ambient	
Value	Temperature(°C)	Voltage(V)
NT/NV	20	3.83
LT/LV	-30	3.4
HT/HV	50	4.3
Note:		
NV:Normal Voltage	LV:Low Extreme Test Voltage	HV:High Extreme Test Voltage
NT:Normal Temperature	LT:Low Extreme Test Temperature	HT:High Extreme Test Temperature

4.5 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
--	--	--	--
The EUT has been tested as an independent unit.			

4.6 Measurement Uncertainty

Test Item	Measurement Uncertainty
Conducted Emissions at AC Power Line (150kHz-30MHz)	$\pm 3.2\text{dB}$
Radiated Emissions which fall in the restricted bands	$\pm 3.7\text{dB}$ (Below 1GHz), $\pm 4.7\text{dB}$ (Above 1GHz)
Radiated Spurious Emissions Below 1GHz	$\pm 3.7\text{dB}$
Radiated Spurious Emissions Above 1GHz	$\pm 4.7\text{dB}$
Conducted Peak Output Power	$\pm 0.8\text{dB}$
20dB Bandwidth	$\pm 3\%$
Carrier Frequencies Separation	$\pm 7.25 \times 10^{-8}$
Hopping Channel Number	$\pm 7.25 \times 10^{-8}$
Dwell Time	$\pm 0.37\%$
Power Spectrum Density	$\pm 0.35\text{dB}$
Conducted Band Edges Measurement	$\pm 2.7\text{dB}$
Conducted Spurious Emissions	$\pm 2.7\text{dB}$
Remark:	
The U_{lab} (lab Uncertainty) is less than $U_{\text{CISPR/ETSI}}$ (CISPR/ETSI Uncertainty), so the test results	
– compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;	
– non-compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.	

4.7 Test Location

All tests were performed at:

Radiolink Testing (Shenzhen) Co., Ltd.

Room 103, Building B, Jinghang Industrial Park, Area 71, Xingdong Community, Xin'an Subdistrict, Bao'an District, Shenzhen, Guangdong Province, China

Radiolink Testing (Shenzhen) Co., Ltd.

Room 103, Building B, Jinghang Industrial Park, Area 71, Xingdong Community, Xin'an Subdistrict, Bao'an District, Shenzhen, Guangdong Province, China
Tel: +86 0755 23080694

Tel: +86 0755 23080694
No tests were sub-contracted.

4.8 Test Facility

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

. A2LA (Certificate No. 7572.01)

Radiolink Testing (Shenzhen) Co., Ltd, Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 7572.01.

4.9 Deviation from Standards

None

4.10 Abnormalities from Standard Conditions

None



5 Equipment List

Transmitter unwanted emissions in the spurious domain/ Receiver spurious emissions					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
3m Anechoic Chamber	TDK	966	RL01-01	2024/11/22	2027/11/21
Horn Antenna(1GHz-18GHz)	Schwarzbeck	BBHA 9120D	RL03-01	2025/3/28	2028/3/27
BiConiLog Antenna(30MHz-3GHz)	Schwarzbeck	VULB9163	RL03-02	2025/4/7	2028/4/6
Active Loop Antenna(9kHz-30MHz)	Schwarzbeck	FMZB 1519B	RL03-03	2025/3/28	2028/3/27
Horn Antenna(15GHz-40GHz)	Schwarzbeck	BBHA 9170	RL03-04	2025/3/28	2028/3/27
Horn Antenna(15GHz-40GHz)	Schwarzbeck	BBHA 9170	RL03-05	2025/3/28	2028/3/27
MXE EMI Receiver(3Hz-8.4GHz)	KEYSIGHT	N9038A	RL04-01	2026/4/03	2027/4/02
EXA Signal Analyzer(10Hz-44GHz)	KEYSIGHT	N9010B	RL04-03	2026/4/3	2027/4/2
Pre-Amplifier(500MHz-18GHz)	Tonscend	TPA-011845	RL06-02	2026/4/3	2027/4/2
Pre-Amplifier(18GHz-26GHz)	Tonscend	TPA-182645	RL06-03	2026/4/3	2027/4/2
Pre-Amplifier(26GHz-40GHz)	Tonscend	TPA-184045	RL06-04	2026/4/3	2027/4/2
Pre-Amplifier(0.4GHz-8GHz)	TST PASS	LNA04080G30	RL06-05	2026/4/3	2027/4/2
Attenuation Clamp(150kHz-1000MHz)	Teseq	KEMA 801A	RL07-09	2026/4/13	2027/4/12
AC Power Source	Preen	KDF-11002G	RL08-03	2026/4/3	2027/4/2
Intelligent Line Power Conditioner	Preen	APS-11040GG	RL08-04	2026/4/3	2027/4/2
Coaxial Cable(9kHz-30MHz)	Radiolink	N/A	RL20-01	N/A	N/A
Coaxial Cable(30MHz-1000MHz)	Radiolink	N/A	RL20-02	N/A	N/A
Coaxial Cable(1GHz-18GHz)	Radiolink	N/A	RL20-03	N/A	N/A
Coaxial Cable(18GHz-40GHz)	Radiolink	N/A	RL20-04	N/A	N/A
Coaxial Cable(9kHz-30MHz)	Radiolink	N/A	RL20-05	N/A	N/A
Measurement Software	AUDIX	e3 V9	N/A	N/A	N/A



Radiolink Testing (Shenzhen) Co., Ltd.

Room 103, Building B, Jinghang Industrial Park, Area 71, Xingdong Community, Xin'an Subdistrict, Bao'an District, Shenzhen, Guangdong Province, China
Tel: +86 0755 23080694

Conducted Emissions at Mains Terminals (150kHz-30MHz)					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
Shielding Room	TDK	643	RL01-01	2025/03/31	2028/03/30
EMI Test Receiver	Rohde & Schwarz	ESPI-3	RL04-02	2026/04/03	2027/04/02
V-LISN(9kHz-30MHz)	Rohde & Schwarz	NSLK 8127 RC	RL07-01	2026/04/03	2027/04/02
Measurement Software	AUDIX	e3 V9	N/A	N/A	N/A

RF Conducted Test					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
EXA Signal Analyzer(10Hz-44GHz)	KEYSIGHT	N9010B	RL04-03	2026/4/3	2027/4/2
DC Regulated Power Supply	Radiolink	N/A	RL13-01	2026/04/03	2027/04/02
Humidity Chamber	Votsch Industrietechnik GmbH	VT 4002	RL14-01	2026/04/03	2027/04/02
MXG Vector Signal Generator(100kHz-6GHz)	N5182A	N5182A	RL05-05	2026/4/3	2027/4/2
SIGNAL GENERATOR(10MHz-20GHz)	SMP22	SMP22	RL05-06	2026/4/3	2027/4/2
Wideband Radio Communication Tester	CMW 500	CMW 500	RL05-07	2026/4/3	2027/4/2
Measurement Software	TST	TSTPASS V2.0	N/A	N/A	N/A

General used equipment					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
Electronic Hygrothermograph	deli	8838	RL02-02	2026/5/7	2027/5/6
Electronic Hygrothermograph	deli	8838	RL02-03	2026/4/23	2027/4/22
Electronic Hygrothermograph	deli	8838	RL02-04	2026/4/23	2027/4/22
Electronic Hygrothermograph	deli	8838	RL02-05	2026/4/8	2027/4/07
Barometer	Shanghai Mengte Instrument	DYM3	RL02-01	2026/4/8	2027/4/7

Radiolink Testing (Shenzhen) Co., Ltd.

Room 103, Building B, Jinghang Industrial Park, Area 71, Xingdong Community, Xin'an Subdistrict, Bao'an District, Shenzhen, Guangdong Province, China
Tel: +86 0755 23080694

6 Emission Test Results

6.1 Antenna Requirement

6.1.1 Test Requirement:

47 CFR Part 15, Subpart C 15.203 & 15.247(b)(4)

FCC requirement:

15.203:

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(b) (4) requirement:

The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 1.93 dBi.

The antenna is PIFA Antenna and no consideration of replacement. The best case gain of the antenna is 1.93 dBi.

Note:

The antenna gain are derived from the gain information report provided by the manufacturer.

Remark:

As above information is provided and confirmed by the applicant. Radiolink test lab is not liable to the accuracy, suitability, reliability or/and integrity of the information.

Radiolink Testing (Shenzhen) Co., Ltd.

Room 103, Building B, Jinghang Industrial Park, Area 71, Xingdong Community, Xin'an Subdistrict, Bao'an District,
Shenzhen, Guangdong Province, China
Tel: +86 0755 23080694

6.2 Other requirements Frequency Hopping Spread Spectrum System Hopping Sequence

6.2.1 Test Requirement:

47 CFR Part 15, Subpart C 15.247(a)(1),(g),(h)

6.2.2 Conclusion

Standard Requirement:

The system shall hop to channel frequencies that are selected at the system hopping rate from a Pseudorandom ordered list of hopping frequencies. Each frequency must be used equally on the average by each transmitter. The system receivers shall have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shall shift frequencies in synchronization with the transmitted signals.

Frequency hopping spread spectrum systems are not required to employ all available hopping channels during each transmission. However, the system, consisting of both the transmitter and the receiver, must be designed to comply with all of the regulations in this section should the transmitter be presented with a continuous data (or information) stream. In addition, a system employing short transmission bursts must comply with the definition of a frequency hopping system and must distribute its transmissions over the minimum number of hopping channels specified in this section.

The incorporation of intelligence within a frequency hopping spread spectrum system that permits the system to recognize other users within the spectrum band so that it individually and independently chooses and adapts its hopsets to avoid hopping on occupied channels is permitted. The coordination of frequency hopping systems in any other manner for the express purpose of avoiding the simultaneous occupancy of individual hopping frequencies by multiple transmitters is not permitted.

Compliance for section 15.247(a)(1):

According to Technical Specification, the pseudorandom sequence may be generated in a nine-stage shift register whose 5th and 9th stage outputs are added in a modulo-two addition stage. And the result is fed back to the input of the first stage. The sequence begins with the first ONE of 9 consecutive ONES; i.e. the shift register is initialized with nine ones.

> Number of shift register stages: 9

> Length of pseudo-random sequence: $2^9 - 1 = 511$ bits

> Longest sequence of zeros: 8 (non-inverted signal)

Linear Feedback Shift Register for Generation of the PRBS sequence

An example of Pseudorandom Frequency Hopping Sequence as follow:

Each frequency used equally on the average by each transmitter.

According to Technical Specification, the receivers are designed to have input and IF bandwidths that match the hopping channel bandwidths of any transmitters and shift frequencies in synchronization with the transmitted signals.

Compliance for section 15.247(g):

According to Technical Specification, the system transmits the packet with the pseudorandom hopping frequency with a continuous data and the short burst transmission from the Bluetooth system is also transmitted under the frequency hopping system with the pseudorandom hopping frequency system.

Compliance for section 15.247(h):

Radiolink Testing (Shenzhen) Co., Ltd.

Room 103, Building B, Jinghang Industrial Park, Area 71, Xingdong Community, Xin'an Subdistrict, Bao'an District,
Shenzhen, Guangdong Province, China
Tel: +86 0755 23080694

According to Technical specification, the system incorporates with an adaptive system to detect other user within the spectrum band so that it individually and independently to avoid hopping on the occupied channels.

The system is designed not have the ability to coordinated with other FHSS System in an effort to avoid the simultaneous occupancy of individual hopping frequencies by multiple transmitter.



7 Radio Spectrum Matter Test Results

7.1 Conducted Emissions at AC Power Line (150kHz-30MHz)

Test Requirement 47 CFR Part 15, Subpart C 15.207

Test Method: ANSI C63.10-2020 + Cor.1-2023 + C63.10a-2024 + Errata to C63.10a-2024Section 6.2

Limit:

Frequency of emission(MHz)	Conducted limit(dBμV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

Detector: Peak for pre-scan (9kHz resolution bandwidth) 0.15M to 30MHz

7.1.1 E.U.T. Operation

Operating Environment:

Temperature: 22.3 °C

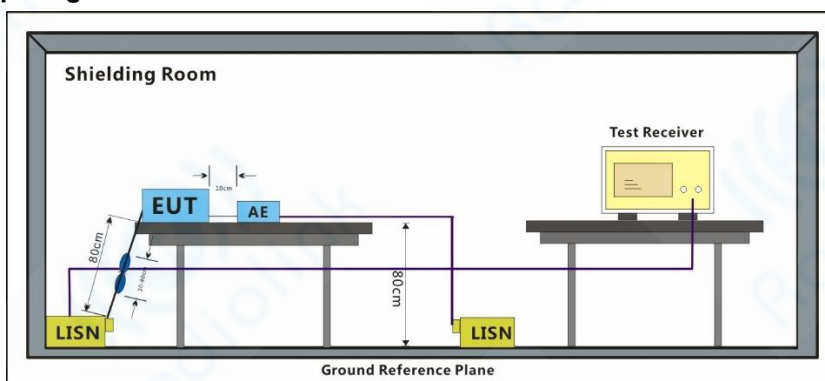
Humidity: 48 % RH

Atmospheric Pressure: 1020 mbar

7.1.2 Test Mode Description

Mode Code	Description
1	TX_non-Hop mode_Keep the EUT in continuously transmitting mode with GFSK modulation, Pi/4DQPSK modulation, 8DPSK modulation. All modes have been tested and only the data of worst case is recorded in the report.

7.1.3 Test Setup Diagram



Radiolink Testing (Shenzhen) Co., Ltd.

Room 103, Building B, Jinghang Industrial Park, Area 71, Xingdong Community, Xin'an Subdistrict, Bao'an District, Shenzhen, Guangdong Province, China
Tel: +86 0755 23080694

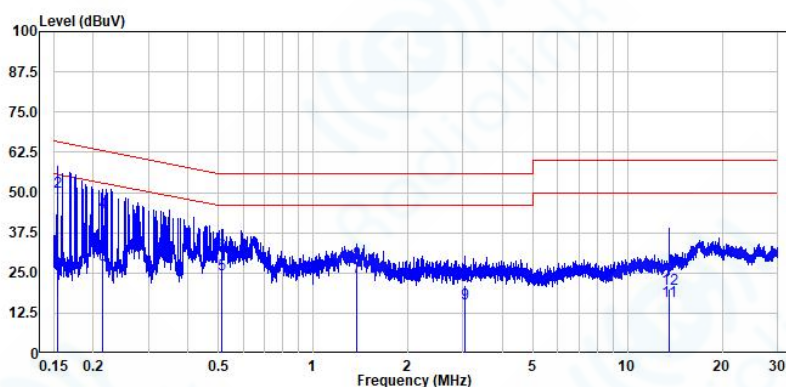
7.1.4 Measurement Procedure and Data

- 1) The mains terminal disturbance voltage test was conducted in a shielded room.
- 2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50ohm/50μH + 5ohm linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.
- 3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane.
- 4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2.
- 5) In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10 on conducted measurement.

Remark : Level=Read Level+ Cable Loss+ LISN Factor



Line: Live line



Site : chamber
Condition: Line
EUT : KJM-K201
Mode : BT2.0
Note :

Result	Freq	Level	Limit	LISN	Cable	Read	Over	Pol/Phase
	MHz	dBuV	dBuV	dB	dB	dBuV	dB	
1 Pass	0.154	25.16	55.79	0.25	10.09 Average	14.82	-30.63	Line
2 PP	0.154	50.22	65.79	0.25	10.09 QP	39.88	-15.57	Line
3 Pass	0.214	27.49	53.04	0.23	10.10 Average	17.16	-25.55	Line
4 Pass	0.214	43.71	63.04	0.23	10.10 QP	33.38	-19.33	Line
5 AV	0.515	24.53	46.00	0.23	10.10 Average	14.20	-21.47	Line
6 Pass	0.515	30.83	56.00	0.23	10.10 QP	20.50	-25.17	Line
7 Pass	1.383	23.73	46.00	0.28	10.08 Average	13.37	-22.27	Line
8 Pass	1.383	28.47	56.00	0.28	10.08 QP	18.11	-27.53	Line
9 Pass	3.041	15.54	46.00	0.43	10.11 Average	5.00	-30.46	Line
10 Pass	3.041	21.11	56.00	0.43	10.11 QP	10.57	-34.89	Line
11 Pass	13.569	16.36	50.00	2.28	10.16 Average	3.92	-33.64	Line
12 Pass	13.569	19.87	60.00	2.28	10.16 QP	7.43	-40.13	Line

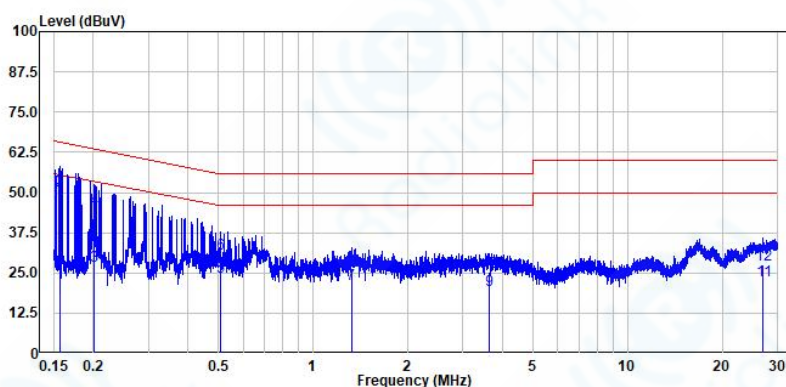


Radiolink Testing (Shenzhen) Co., Ltd.

Room 103, Building B, Jinghang Industrial Park, Area 71, Xingdong Community, Xin'an Subdistrict, Bao'an District, Shenzhen, Guangdong Province, China

Tel: +86 0755 23080694

Line: Neutral Line



Site : chamber
Condition: Neutral
EUT : KJM-K201
Mode : BT2.0
Note :

Result	Freq	Level	Limit	LISN	Cable	Read	Over	Pol/Phase
	MHz	dBuV	dBuV	dB	dB	dBuV	dB	
1 Pass	0.156	24.92	55.66	0.24	10.09 Average	14.59	-30.74	Neutral
2 PP	0.156	50.69	65.66	0.24	10.09 QP	40.36	-14.97	Neutral
3 Pass	0.202	27.23	53.52	0.19	10.10 Average	16.94	-26.29	Neutral
4 Pass	0.202	45.01	63.52	0.19	10.10 QP	34.72	-18.51	Neutral
5 AV	0.507	23.83	46.00	0.23	10.10 Average	13.50	-22.17	Neutral
6 Pass	0.507	30.98	56.00	0.23	10.10 QP	20.65	-25.02	Neutral
7 Pass	1.324	21.70	46.00	0.34	10.08 Average	11.28	-24.30	Neutral
8 Pass	1.324	26.32	56.00	0.34	10.08 QP	15.90	-29.68	Neutral
9 Pass	3.635	19.78	46.00	0.55	10.12 Average	9.11	-26.22	Neutral
10 Pass	3.635	25.46	56.00	0.55	10.12 QP	14.79	-30.54	Neutral
11 Pass	27.037	22.59	50.00	4.81	10.19 Average	7.59	-27.41	Neutral
12 Pass	27.037	27.70	60.00	4.81	10.19 QP	12.70	-32.30	Neutral



Radiolink Testing (Shenzhen) Co., Ltd.

Room 103, Building B, Jinghang Industrial Park, Area 71, Xingdong Community, Xin'an Subdistrict, Bao'an District, Shenzhen, Guangdong Province, China

Tel: +86 0755 23080694

7.2 Radiated Emissions which fall in the restricted bands

Test Requirement: 47 CFR Part 15, Subpart C 15.205 & 15.209
Test Method: ANSI C63.10-2020 + Cor.1-2023 + C63.10a-2024 + Errata to C63.10a-2024 Section 6.10.5
Measurement Distance: 3m

Limit:

Frequency(MHz)	Field strength(microvolts/meter)	Measurement distance(meters)
Above 1000	500(AV)	3
	5000(PK)	3

Remark: 1 The EUT operates under FCC Part 15 Subpart C (15.247) as a Frequency Hopping Spread Spectrum (FHSS) device.

2 For frequencies above 1000 MHz (and specific low frequency bands), limits are based on average (Avg) peak (PK) detection. The field strength limit is 500 $\mu\text{V/m}$ (54 dB $\mu\text{V/m}$) and 5000 $\mu\text{V/m}$ (74 dB $\mu\text{V/m}$, PK) at 3m.,

3 Per FCC 15.35(b), the peak field strength shall not exceed the maximum permitted average limit by more than 20 dB (i.e., 74 dB $\mu\text{V/m}$ Peak @3m).

4 In-band conducted emissions (power, bandwidth, bandedge) are evaluated per 15.247. Radiated spurious emissions falling in restricted bands (per 15.205) are evaluated per 15.209 with Peak and Average detectors.

5 Bluetooth 2.0 + EDR supports GFSK (1 Mbps), $\pi/4$ -DQPSK (2 Mbps), and 8-DPSK (3 Mbps). Worst-case modulation (1 Mbps) was selected for radiated testing.

7.2.1 E.U.T. Operation

Operating Environment:

Temperature: 24.5 °C Humidity: 50.8 % RH Atmospheric Pressure: 1020 mbar

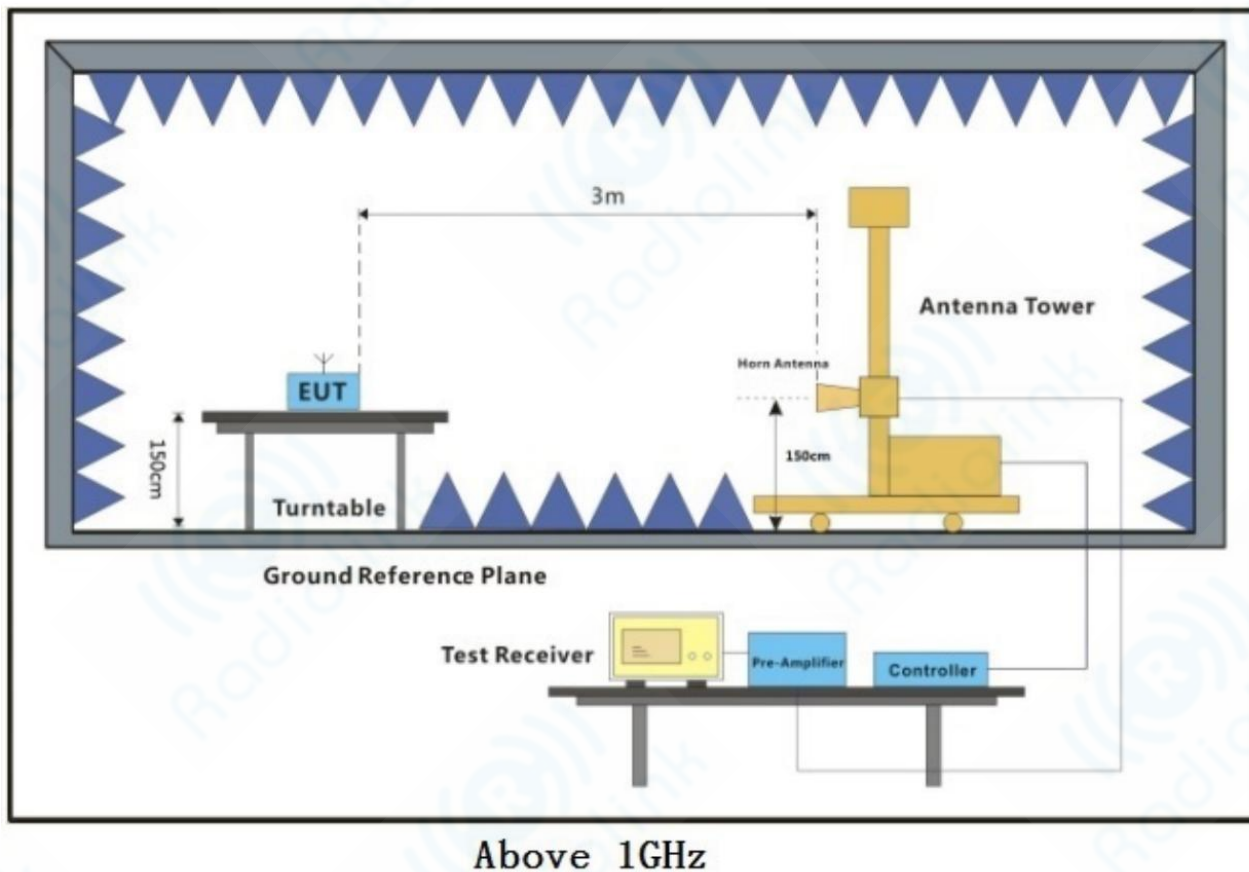
7.2.2 Test Mode Description

Mode Code	Description
1	TX_non-Hop mode_Keep the EUT in continuously transmitting mode with GFSK modulation, Pi/4DQPSK modulation, 8DPSK modulation. All modes have been tested and only the data of worst case is recorded in the report.

Radiolink Testing (Shenzhen) Co., Ltd.

Room 103, Building B, Jinghang Industrial Park, Area 71, Xingdong Community, Xin'an Subdistrict, Bao'an District, Shenzhen, Guangdong Province, China
Tel: +86 0755 23080694

7.2.3 Test Setup Diagram



7.2.4 Measurement Procedure and Data

- b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- d. 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.
- f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- g. 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.
- h. Test the EUT in the lowest channel, the middle channel, the Highest channel.
- i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
- j. Repeat above procedures until all frequencies measured was complete.

Remark 1: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor

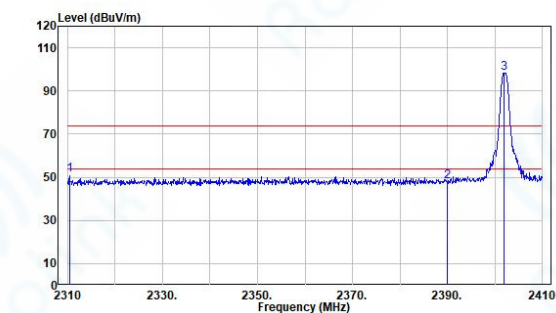
Remark 2: For frequencies above 1 GHz, limits are based on Average detection ($500 \mu\text{V/m}$ @ 3m = 54 dB $\mu\text{V/m}$). Per FCC 15.35(b), the Peak field strength shall not exceed the max permitted Average limit by more than 20 dB (74 dB $\mu\text{V/m}$ Peak @3m). Both Peak and Avg plots are provided for >1GHz restricted bands.

Remark 3: The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for Peak detection (PK) and Average detection (AV) at frequency above 1GHz.

Remark 4: In-band conducted parameters (99% OBW, Power, PSD) evaluated per FCC 15.247 (FHSS). Radiated testing performed under fixed-channel continuous TX, worst-case EDR (GFSK) modulation selected.



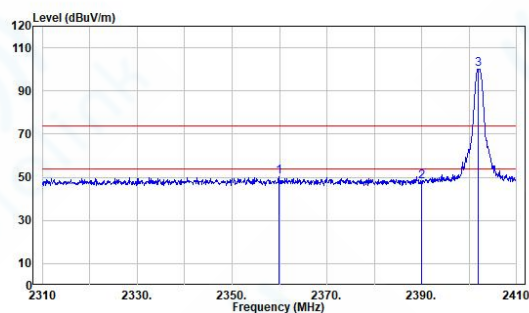
BT_GFSK_TX_CH_00_Horizontal-Peak



Site : chamber
Condition: 3m HORIZONTAL
EUT : KJM-K201
Mode : BT 2.0_TX_CH 00
Power : Default
Rate : DHS
Note :

	Freq	Read Level	Level	Limit	Over	Remark
	MHz	dBuV	dBuV/m	dBuV/m	dB	
1	2310.400	38.56	51.09	74.00	-22.91	Peak
2	2390.000	35.16	47.84	74.00	-26.16	Peak
3	2402.000	85.62	98.26	74.00	24.26	Peak

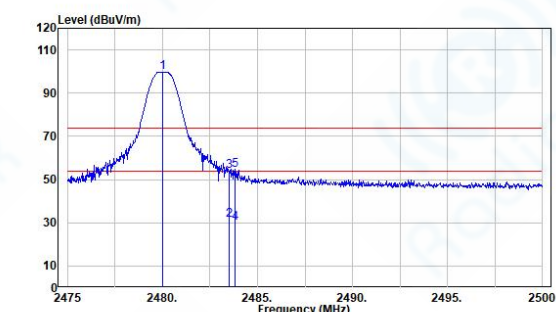
BT_GFSK_TX_CH_00_Vertical-Peak



Site : chamber
Condition: 3m VERTICAL
EUT : KJM-K201
Mode : BT 2.0_TX_CH 00
Power : Default
Rate : DHS
Note :

	Freq	Read Level	Level	Limit	Over	Remark
	MHz	dBuV	dBuV/m	dBuV/m	dB	
1	2359.900	37.49	50.35	74.00	-23.65	Peak
2	2390.000	35.12	47.80	74.00	-26.20	Peak
3	2402.000	87.41	100.05	74.00	26.05	Peak

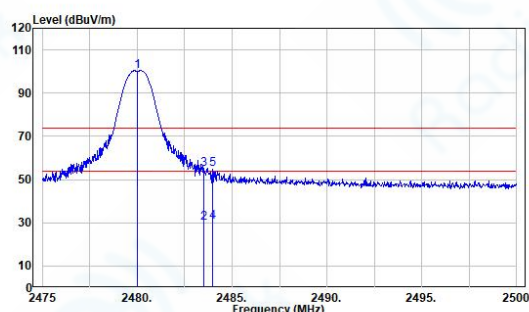
BT_GFSK_TX_CH_78_Horizontal-Peak



Site : chamber
Condition: 3m HORIZONTAL
EUT : KJM-K201
Mode : BT 2.0_TX_CH 78
Power : Default
Rate : DHS
Note :

	Freq	Read Level	Level	Limit	Over	Remark
	MHz	dBuV	dBuV/m	dBuV/m	dB	
1	2480.000	87.01	99.53	74.00	25.53	Peak
2	2483.500	18.69	31.14	54.00	-22.86	Average
3	2483.500	41.32	53.77	74.00	-20.23	Peak
4	2483.825	17.40	29.85	54.00	-24.15	Average
5	2483.825	42.10	54.55	74.00	-19.45	Peak

BT_GFSK_TX_CH_78_Vertical-Peak



Site : chamber
Condition: 3m VERTICAL
EUT : KJM-K201
Mode : BT 2.0_TX_CH 78
Power : Default
Rate : DHS
Note :

	Freq	Read Level	Level	Limit	Over	Remark
	MHz	dBuV	dBuV/m	dBuV/m	dB	
1	2480.000	87.48	100.00	74.00	26.00	Peak
2	2483.500	17.45	29.90	54.00	-24.10	Average
3	2483.500	42.15	54.60	74.00	-19.40	Peak
4	2483.975	17.84	30.28	54.00	-23.72	Average
5	2483.975	42.57	55.01	74.00	-18.99	Peak

7.3 Radiated Spurious Emissions Below 1GHz

Test Requirement 47 CFR Part 15, Subpart C 15.205 & 15.209
Test Method: ANSI C63.10-2020 + Cor.1-2023 + C63.10a-2024 + Errata to C63.10a-2024Section 6.4,6.5
Measurement Distance: 3m

Limit:

Frequency(MHz)	Field strength(microvolts/meter)	Measurement distance(meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
960-1000	500	3

7.3.1 E.U.T. Operation

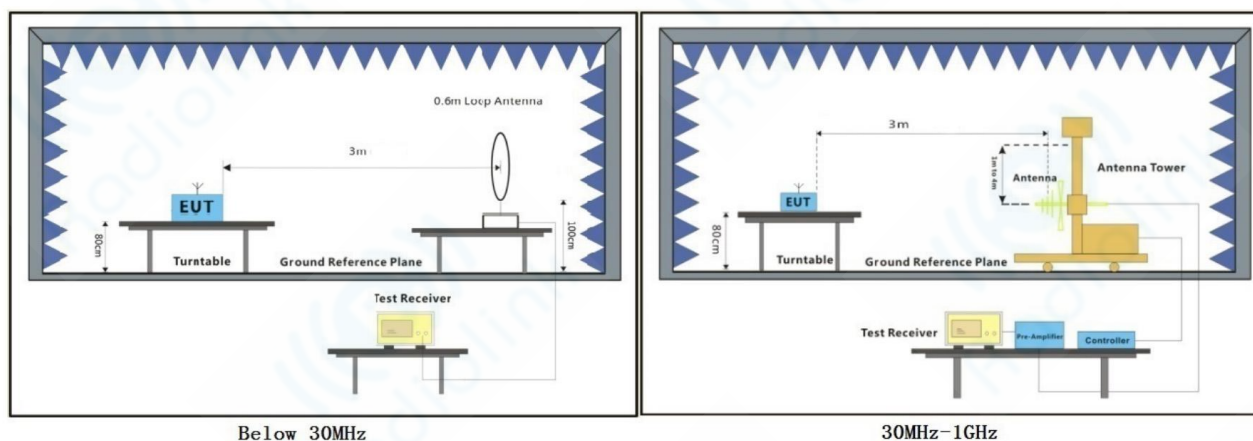
Operating Environment:

Temperature: 23.5 °C Humidity: 46.8 % RH Atmospheric Pressure: 1020 mbar

7.3.2 Test Mode Description

Mode Code	Description
1	TX_non-Hop mode_Keep the EUT in continuously transmitting mode with GFSK modulation, Pi/4DQPSK modulation, 8DPSK modulation. All modes have been tested and only the data of worst case is recorded in the report.

7.3.3 Test Setup Diagram



Radiolink Testing (Shenzhen) Co., Ltd.

Room 103, Building B, Jinghang Industrial Park, Area 71, Xingdong Community, Xin'an Subdistrict, Bao'an District, Shenzhen, Guangdong Province, China
Tel: +86 0755 23080694

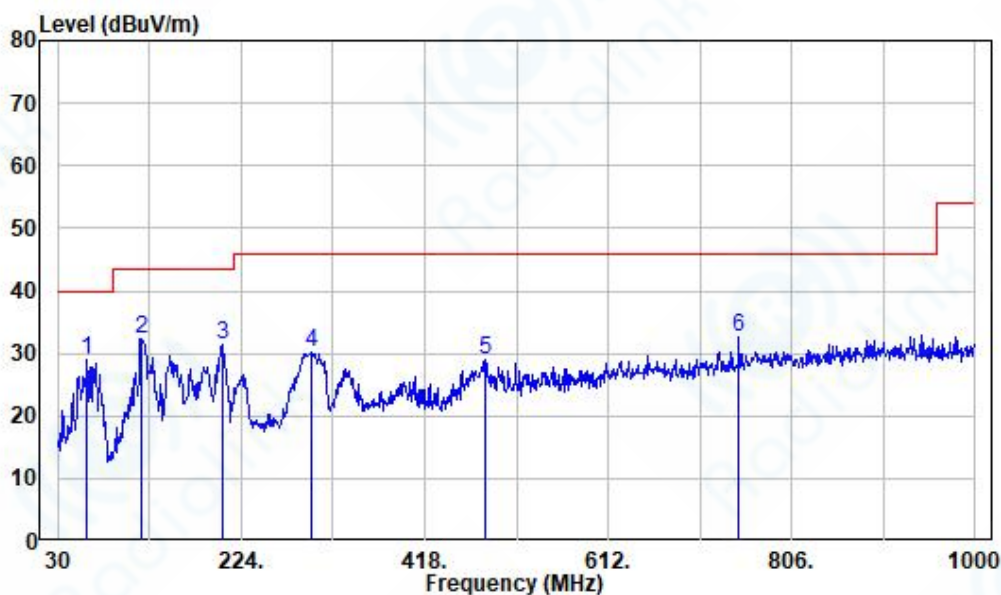
7.3.4 Measurement Procedure and Data

- a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. 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.
- d. 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 (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. 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 quasi-peak method as specified and then reported in a data sheet.
- g. Test the EUT in the lowest channel, the middle channel, the Highest channel.
- h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
- i. Repeat above procedures until all frequencies measured was complete.

Remark:

1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor
2. Scan from 9kHz to 30MHz, the disturbance below 30MHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.

Polarity: Horizontal



Site : chamber
Condition: 3m HORIZONTAL
EUT : K201
Mode : BT2.0

	Freq	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dBuV/m	dBuV/m	dB	
1	61.040	43.24	28.85	40.00	-11.15	Peak
2	118.270	40.02	32.28	43.50	-11.22	Peak
3	203.630	44.16	31.33	43.50	-12.17	Peak
4	297.720	42.52	30.10	46.00	-15.90	Peak
5	482.020	37.00	28.92	46.00	-17.08	Peak
6	750.710	36.65	32.74	46.00	-13.26	Peak

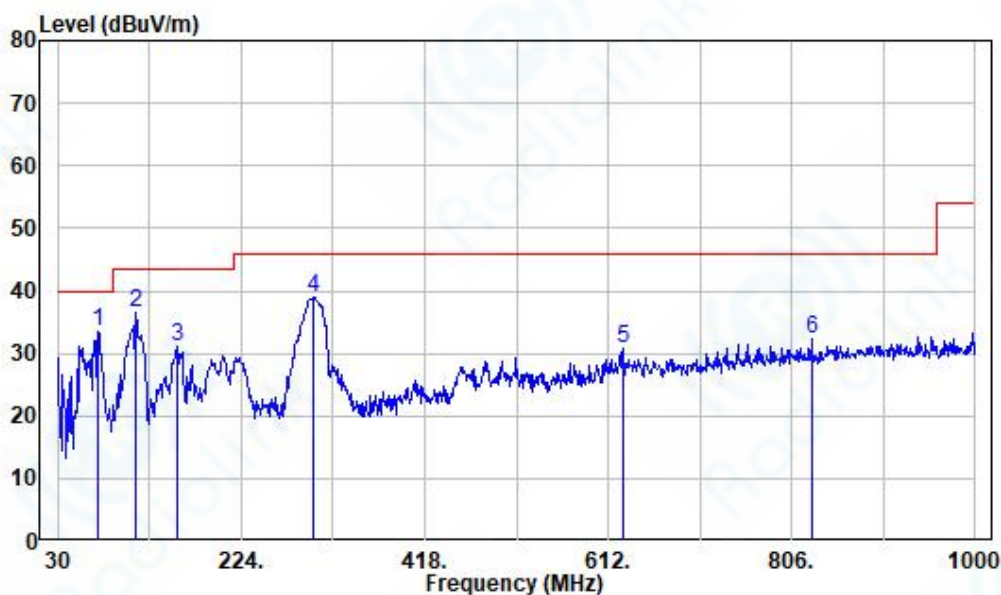


Radiolink Testing (Shenzhen) Co., Ltd.

Room 103, Building B, Jinghang Industrial Park, Area 71, Xingdong Community, Xin'an Subdistrict, Bao'an District, Shenzhen, Guangdong Province, China

Tel: +86 0755 23080694

Polarity: Vertical



Site : chamber
Condition: 3m VERTICAL
EUT : K201
Mode : BT2.0

	Freq	Read Level	Limit Level	Over Limit	Remark
	MHz	dBuV	dBuV/m	dBuV/m	dB
1	72.680	51.21	33.37	40.00	-6.63 Peak
2	112.450	44.38	36.51	43.50	-6.99 Peak
3	156.100	43.74	31.03	43.50	-12.47 Peak
4	300.630	51.37	39.00	46.00	-7.00 Peak
5	628.490	35.98	30.67	46.00	-15.33 Peak
6	827.340	34.96	32.23	46.00	-13.77 Peak



Radiolink Testing (Shenzhen) Co., Ltd.

Room 103, Building B, Jinghang Industrial Park, Area 71, Xingdong Community, Xin'an Subdistrict, Bao'an District,
Shenzhen, Guangdong Province, China
Tel: +86 0755 23080694

7.4 Radiated Spurious Emissions Above 1GHz

Test Requirement: 47 CFR Part 15, Subpart C 15.205 & 15.209
Test Method: ANSI C63.10-2020 + Cor.1-2023 + C63.10a-2024 + Errata to C63.10a-2024 Section 6.6
Measurement Distance: 3m

Limit:

Frequency(MHz)	Field strength(microvolts/meter)	Measurement distance(meters)
Above 1000	500(AV)	3
	5000(PK)	3

Remark1: Field strength limits '500 (AV) / 5000 (PK) $\mu\text{V/m}$ @ 3 m' are derived from FCC § 15.209(a) (applicable to emissions falling in restricted bands per FCC § 15.205). For frequencies above 1000 MHz, this corresponds to $20 \cdot \log_{10}(500) \approx 53.98 \rightarrow 54 \text{ dB}\mu\text{V/m}$ (AV) and $20 \cdot \log_{10}(5000) \approx 73.98 \rightarrow 74 \text{ dB}\mu\text{V/m}$ (PK). These limits apply to radiated emissions falling in restricted bands.

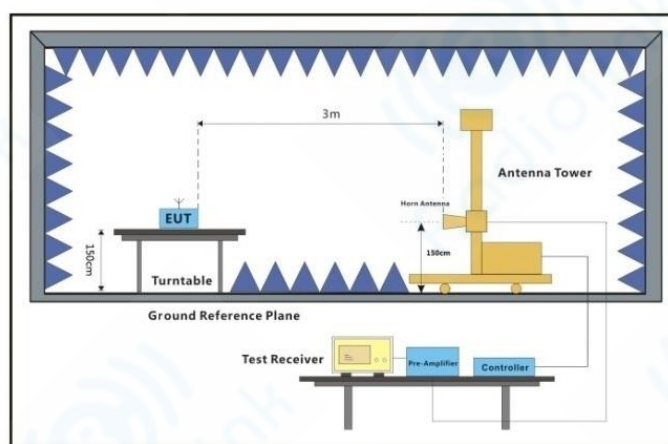
7.4.1 E.U.T. Operation

Operating Environment:
Temperature: 24.5 °C Humidity: 50.8 % RH Atmospheric Pressure: 1020 mbar

7.4.2 Test Mode Description

Mode Code	Description
1	TX_non-Hop mode_Keep the EUT in continuously transmitting mode with GFSK modulation, Pi/4DQPSK modulation, 8DPSK modulation. All modes have been tested and only the data of worst case is recorded in the report.

7.4.3 Test Setup Diagram



Above 1GHz

Radiolink Testing (Shenzhen) Co., Ltd.

Room 103, Building B, Jinghang Industrial Park, Area 71, Xingdong Community, Xin'an Subdistrict, Bao'an District, Shenzhen, Guangdong Province, China
Tel: +86 0755 23080694

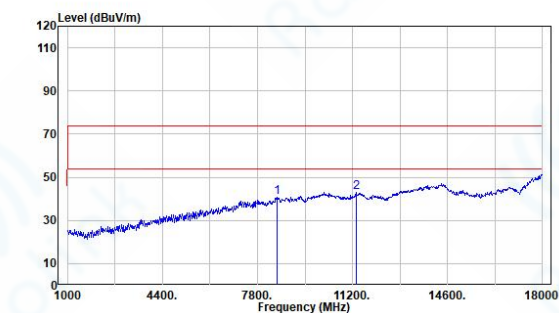
7.4.4 Measurement Procedure and Data

- a. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. 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.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. 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 or average method as specified and then reported in a data sheet.
- g. Test the EUT in the lowest channel, the middle channel, the Highest channel.
- h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
- i. Repeat above procedures until all frequencies measured was complete.

Remark:

1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor
2. Scan from 1GHz to 25GHz, the disturbance above 18GHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.
3. As shown in this section, for frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.
- 4: Peak detection: RBW=1MHz, VBW=1MHz (or 3MHz for rapid sweep). Average detection: RBW=1MHz, VBW sufficiently narrow (10Hz~1MHz) for stable avg trace. EUT tested in continuous TX mode (hopping disabled, fixed-channel, 8-DPSK/EDR 3Mbps worst-case) per FCC § 15.247.
- 5: Fundamental and harmonic measurements conducted with RBW=1MHz. EUT configured for continuous modulated TX (8-DPSK, fixed-channel). Standard C63.10 continuous wave averaging methods ($VBW \geq 1/T$ or narrowed for AVG) applied per FCC § 15.247(d), replacing burst-duty-cycle formulas.

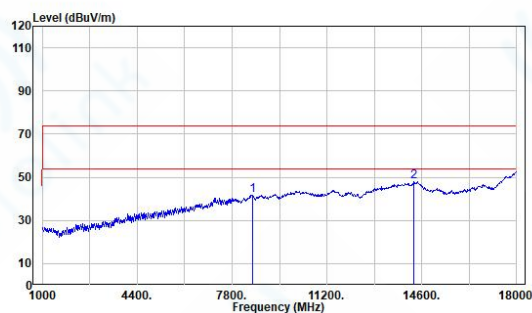
BT_GFSK_TX_CH_00_Horizontal



Site : chamber
Condition: 3m HORIZONTAL
EUT : KJM-K201
Mode : BT 2.0_GFSK_TX_CH 00
Power : Default
Rate : DHS
Note :

	Freq	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dBuV/m	dBuV/m	dB	
1	8514.000	50.23	40.63	74.00	-33.37	Peak
2	11336.000	48.64	42.95	74.00	-31.05	Peak

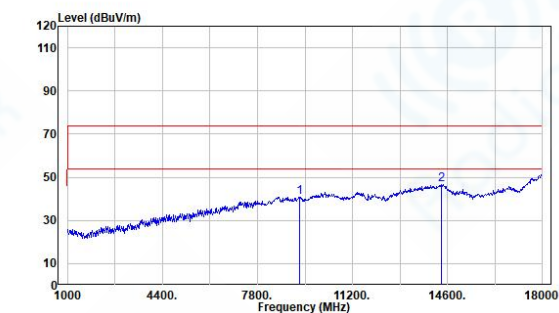
BT_GFSK_TX_CH_00_Vertical



Site : chamber
Condition: 3m VERTICAL
EUT : KJM-K201
Mode : BT 2.0_GFSK_TX_CH 00
Power : Default
Rate : DHS
Note :

	Freq	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dBuV/m	dBuV/m	dB	
1	8531.000	51.35	41.79	74.00	-32.21	Peak
2	14328.000	48.32	48.21	74.00	-25.79	Peak

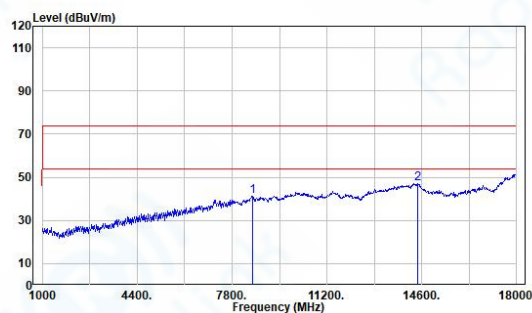
BT_GFSK_TX_CH_39_Horizontal



Site : chamber
Condition: 3m HORIZONTAL
EUT : KJM-K201
Mode : BT 2.0_GFSK_TX_CH 39
Power : Default
Rate : DHS
Note :

	Freq	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dBuV/m	dBuV/m	dB	
1	9313.000	49.19	40.87	74.00	-33.13	Peak
2	14379.000	46.74	46.49	74.00	-27.51	Peak

BT_GFSK_TX_CH_39_Vertical

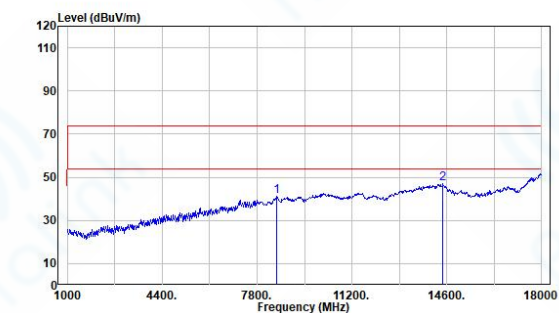


Site : chamber
Condition: 3m VERTICAL
EUT : KJM-K201
Mode : BT 2.0_GFSK_TX_CH 39
Power : Default
Rate : DHS
Note :

	Freq	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dBuV/m	dBuV/m	dB	
1	8531.000	50.93	41.37	74.00	-32.63	Peak
2	14447.000	47.67	47.27	74.00	-26.73	Peak



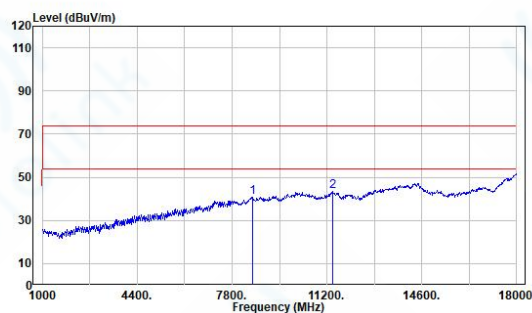
BT_GFSK_TX_CH_78_Horizontal



Site : chamber
Condition: 3m HORIZONTAL
EUT : KJM-K201
Mode : BT 2.0_GFSK_TX_CH 78
Power : Default
Rate : DHS
Note :

	Read	Read	Limit	Over	
Freq	Level	Level	Line	Limit	Remark
MHz	dBuV	dBuV/m	dBuV/m	dB	
1 8531.000	50.90	41.30	74.00	-32.70	Peak
2 14464.000	47.53	47.10	74.00	-26.90	Peak

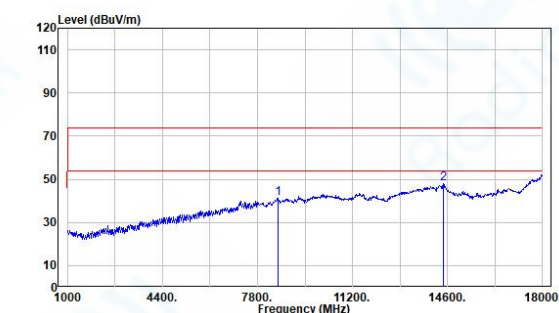
BT_GFSK_TX_CH_78_Vertical



Site : chamber
Condition: 3m VERTICAL
EUT : KJM-K201
Mode : BT 2.0_GFSK_TX_CH 78
Power : Default
Rate : DHS
Note :

	Read	Read	Limit	Over	
Freq	Level	Level	Line	Limit	Remark
MHz	dBuV	dBuV/m	dBuV/m	dB	
1 8531.000	50.52	40.96	74.00	-33.04	Peak
2 11404.000	48.41	43.43	74.00	-30.57	Peak

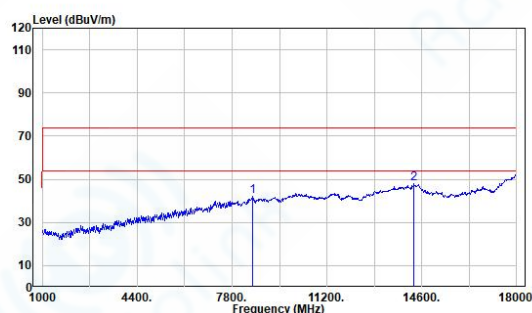
BT_8DQPSK_TX_CH_00_Horizontal



Site : chamber
Condition: 3m HORIZONTAL
EUT : KJM-K201
Mode : BT 2.0_DQPSK_TX_CH 00
Power : Default
Rate : 2DHS
Note :

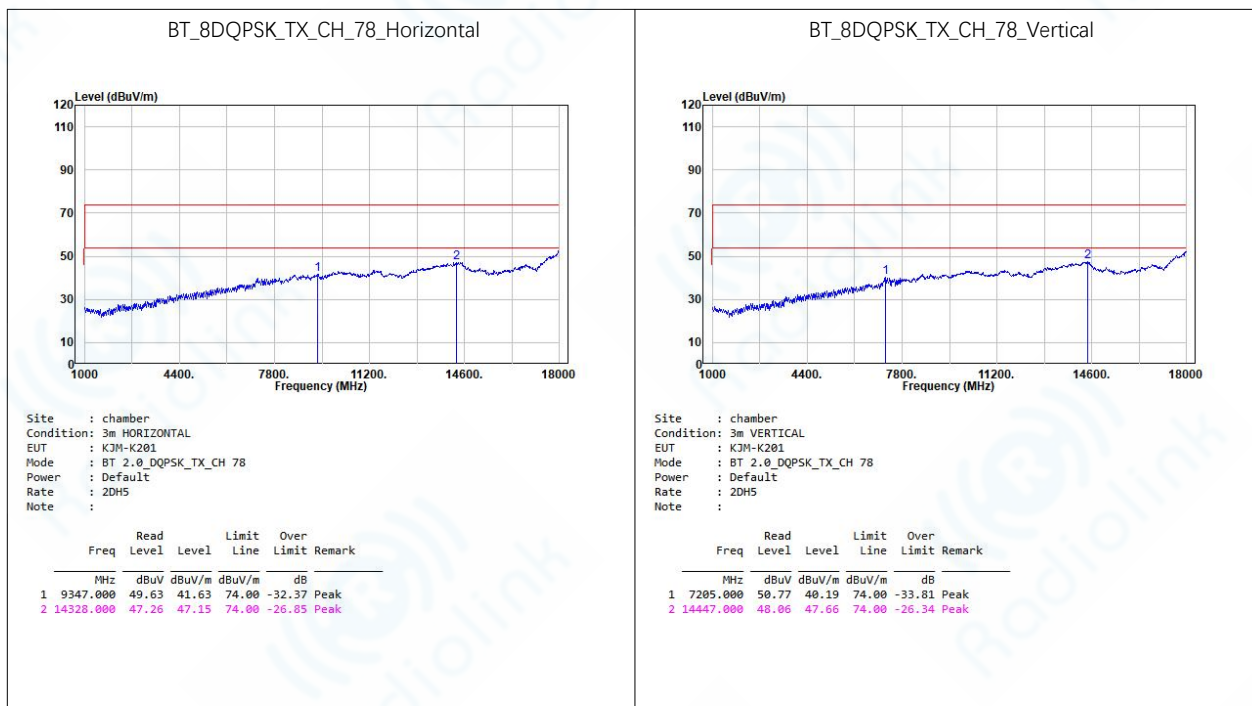
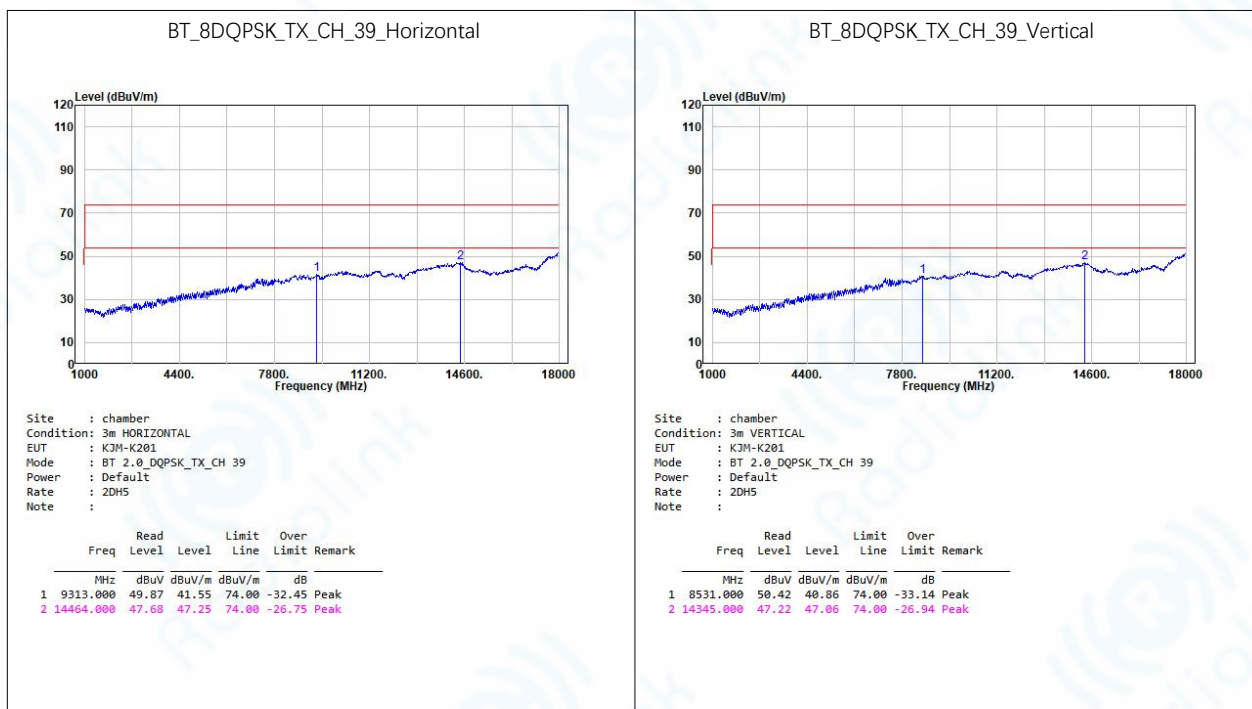
	Read	Read	Limit	Over	
Freq	Level	Level	Line	Limit	Remark
MHz	dBuV	dBuV/m	dBuV/m	dB	
1 8531.000	50.71	41.15	74.00	-32.85	Peak
2 14447.000	48.36	47.96	74.00	-26.04	Peak

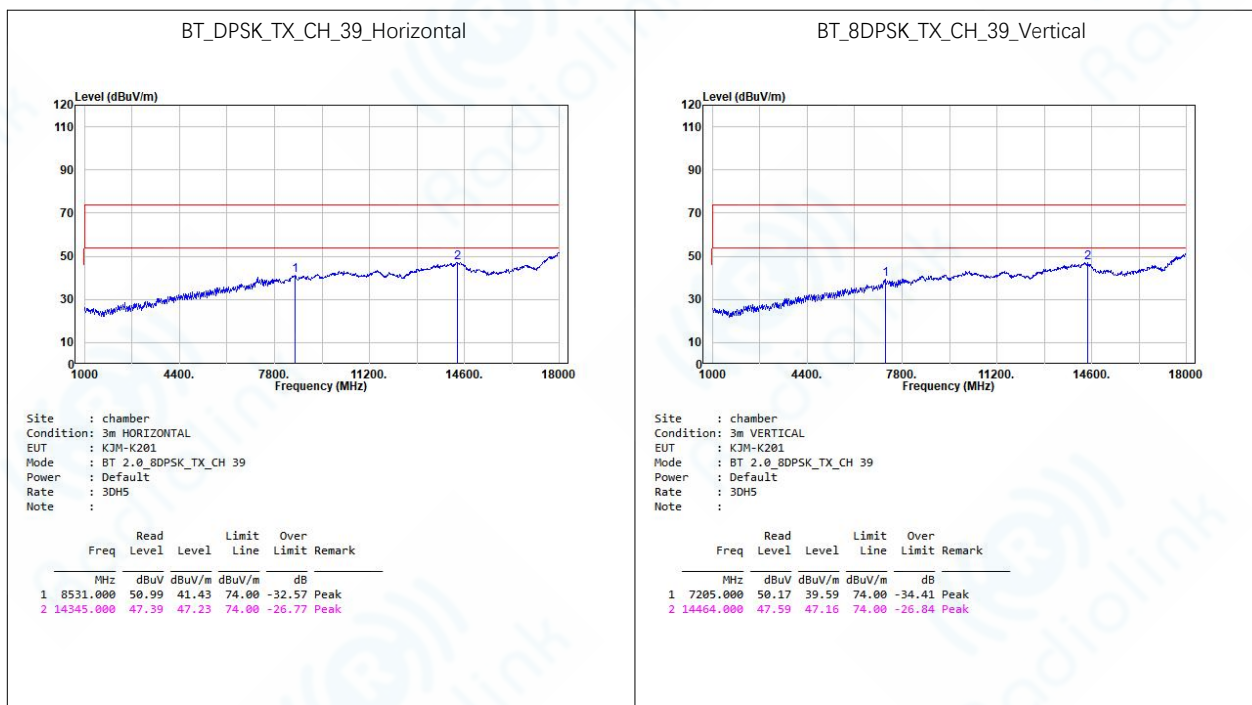
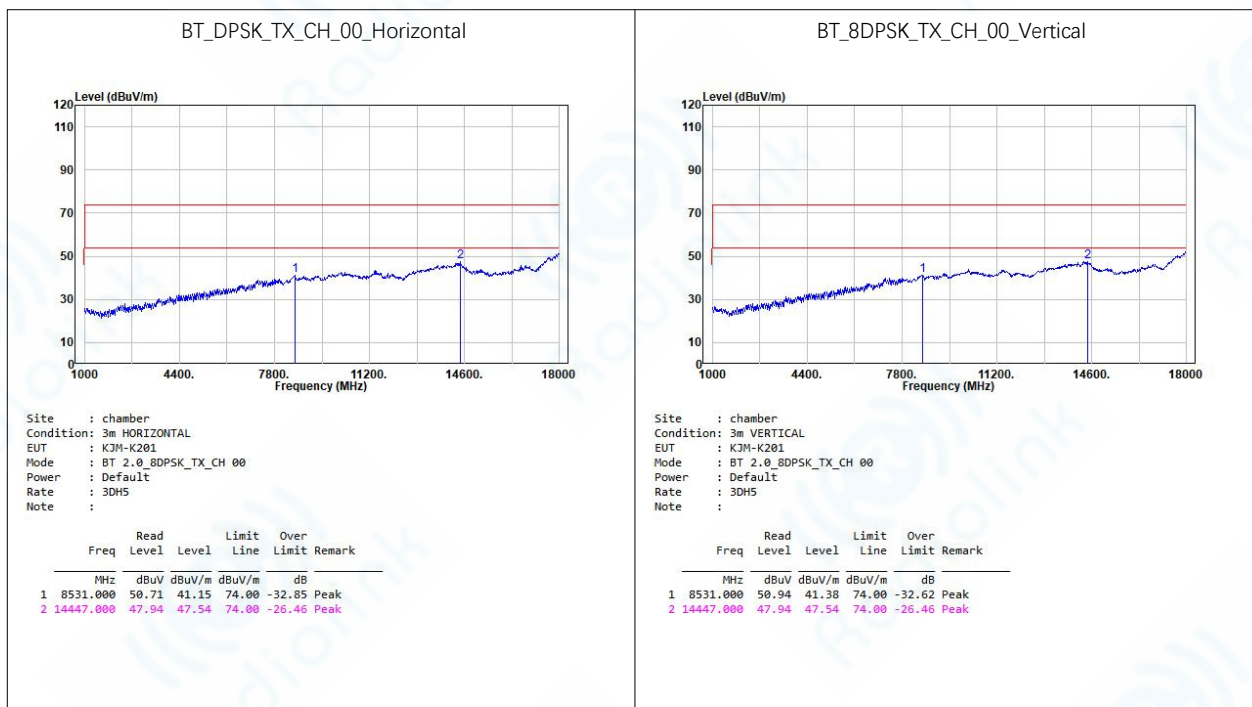
BT_8DQPSK_TX_CH_00_Vertical



Site : chamber
Condition: 3m VERTICAL
EUT : KJM-K201
Mode : BT 2.0_DQPSK_TX_CH 00
Power : Default
Rate : 2DHS
Note :

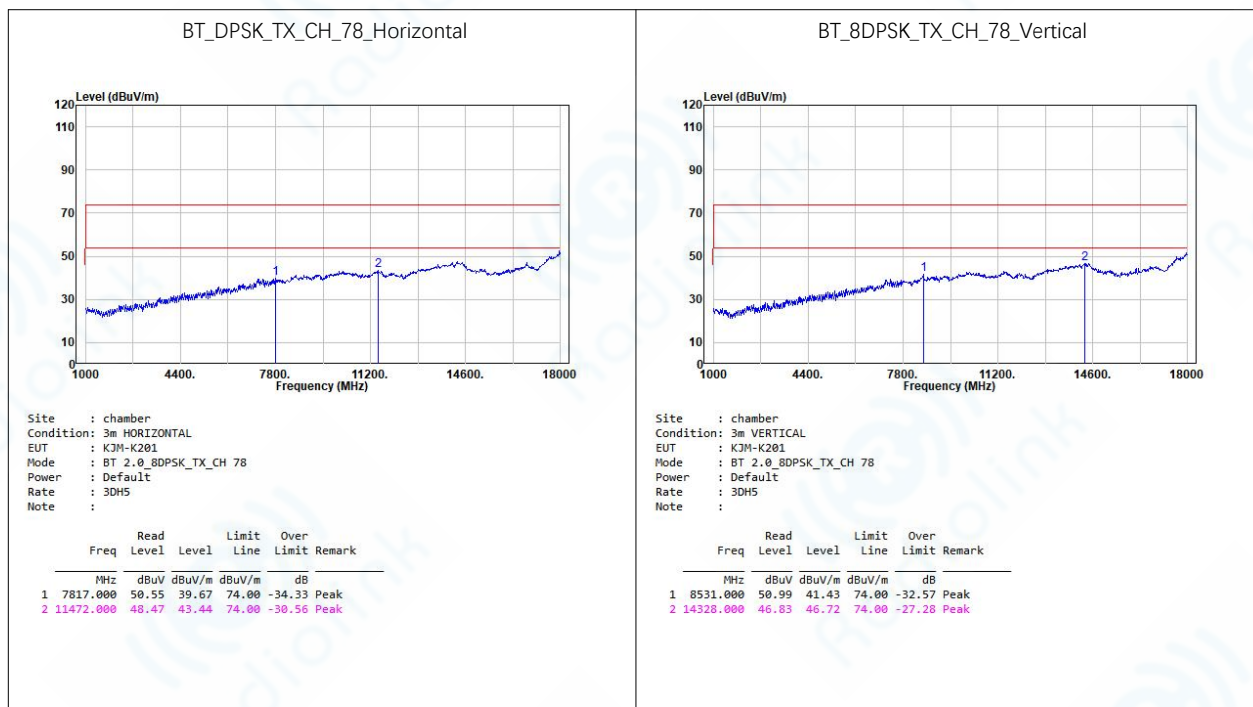
	Read	Read	Limit	Over	
Freq	Level	Level	Line	Limit	Remark
MHz	dBuV	dBuV/m	dBuV/m	dB	
1 8548.000	51.42	41.92	74.00	-32.08	Peak
2 14328.000	48.17	48.06	74.00	-25.94	Peak



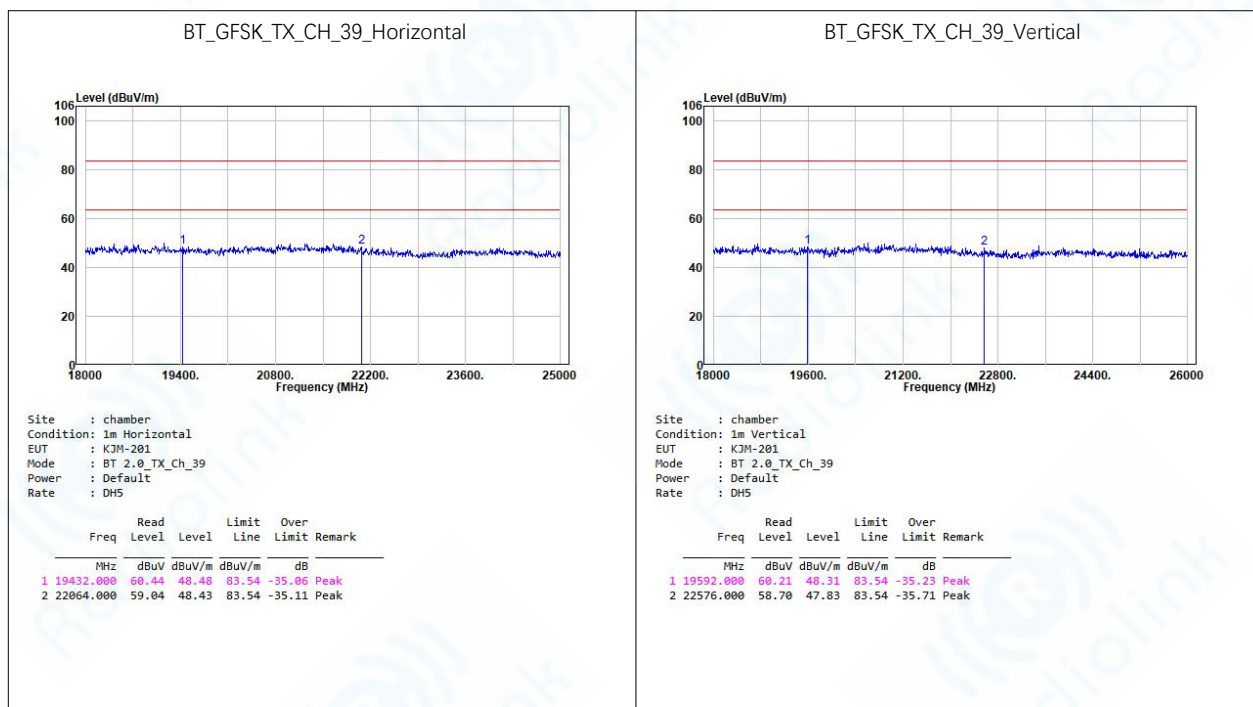


Radiolink Testing (Shenzhen) Co., Ltd.

Room 103, Building B, Jinghang Industrial Park, Area 71, Xingdong Community, Xin'an Subdistrict, Bao'an District,
Shenzhen, Guangdong Province, China
Tel: +86 0755 23080694



18-25G



Note:

1. The Measurement (Result Level) is calculated by Reading Level adding the Correct Factor(maybe including Ant.Factor and the Cable Factor etc.). The basic equation is as follows:

Result Level= Reading Level + Correct Factor(including Ant.Factor, Cable Factor etc.)

2: Radiated spurious emissions at 18-25 GHz were measured at 1 m distance inside the chamber due to test configuration. The regulatory limit (74/54 dBuV/m @ 3 m) was extrapolated to 1 m using $20\log_{10}(3/1) = +9.54$ dB, resulting in 83.54 dBuV/m (Peak) and 63.54 dBuV/m (Avg) at 1 m. Background noise was sufficiently low at this 1 m setup.

Radiolink Testing (Shenzhen) Co., Ltd.

Room 103, Building B, Jinghang Industrial Park, Area 71, Xingdong Community, Xin'an Subdistrict, Bao'an District,
Shenzhen, Guangdong Province, China
Tel: +86 0755 23080694

7.5 Conducted Peak Output Power

Test Requirement 47 CFR Part 15, Subpart C 15.247(b)(3)
Test Method: ANSI C63.10-2020 + Cor.1-2023 + C63.10a-2024 + Errata to C63.10a-2024
Section 11.9.1

Limit:

Frequency range(MHz)	Output power of the intentional radiator(watt)
902-928	1 for ≥ 50 hopping channels
	0.25 for $25 \leq$ hopping channels < 50
	1 for digital modulation
2400-2483.5	1 for ≥ 75 non-overlapping hopping channels
	0.125 for all other frequency hopping systems
	1 for digital modulation
5725-5850	1 for frequency hopping systems and digital modulation

7.5.1 E.U.T. Operation

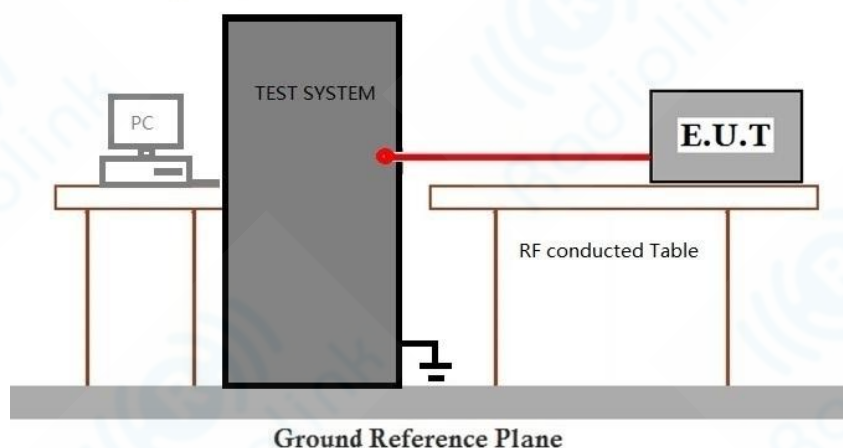
Operating Environment:

Temperature: 22.2 °C Humidity: 40.0 % RH Atmospheric Pressure: 1020 mbar

7.5.2 Test Mode Description

Mode Code	Description
1	TX_non-Hop mode Keep the EUT in continuously transmitting mode with GFSK modulation, Pi/4DQPSK modulation, 8DPSK modulation. All modes have been tested and only the data of worst case is recorded in the report.

7.5.3 Test Setup Diagram



7.5.4 Measurement Procedure and Data

Note: Since the verify power the same operating range bandwidth and smaller power can be covered by the higher power.

Please Refer to Appendix for Details



7.6 20dB Bandwidth

Test Requirement

47 CFR Part 15, Subpart C 15.247(a)(1)

Test Method:

ANSI C63.10-2020 + Cor.1-2023 + C63.10a-2024 + Errata to C63.10a-2024 Section 6.9.2

Limit:

20 dB bandwidth of the hopping channel	Hopping frequencies	Average time of occupancy
less than 250 kHz	least 50 hopping frequencies	shall not be greater than 0.4 seconds within a 20 second period
250 kHz to 500kHz	least 25 hopping frequencies	shall not be greater than 0.4 seconds within a 10 second period.

7.6.1 E.U.T. Operation

Operating Environment:

Temperature: 20.2 °C

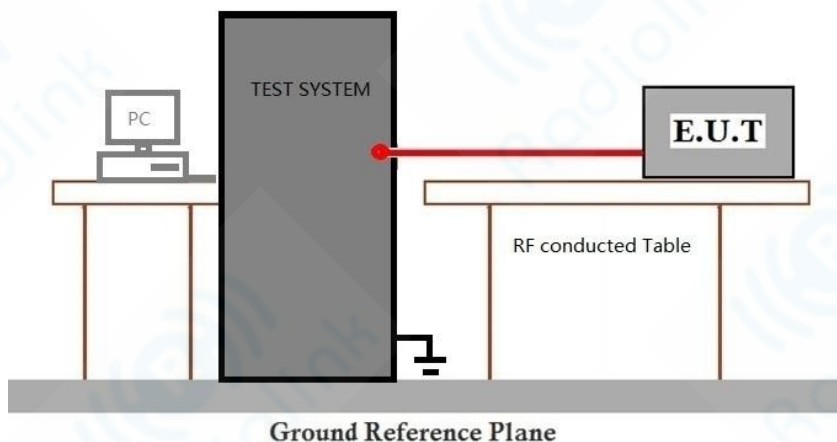
Humidity: 52.0 % RH

Atmospheric Pressure: 1020 mbar

7.6.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	TX_non-Hop mode_Keep the EUT in continuously transmitting mode with GFSK modulation, Pi/4DQPSK modulation, 8DPSK modulation. All modes have been tested and only the data of worst case is recorded in the report.

7.6.3 Test Setup Diagram



7.6.4 Measurement Procedure and Data

Please Refer to Appendix for Details

Radiolink Testing (Shenzhen) Co., Ltd.

Room 103, Building B, Jinghang Industrial Park, Area 71, Xingdong Community, Xin'an Subdistrict, Bao'an District, Shenzhen, Guangdong Province, China

Tel: +86 0755 23080694

7.7 Carrier Frequencies Separation

Test Requirement 47 CFR Part 15, Subpart C 15.247a(1)
Test Method: ANSI C63.10-2020 + Cor.1-2023 + C63.10a-2024 + Errata to C63.10a-2024Section 7.8.2

Limit:

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW.

7.7.1 E.U.T. Operation

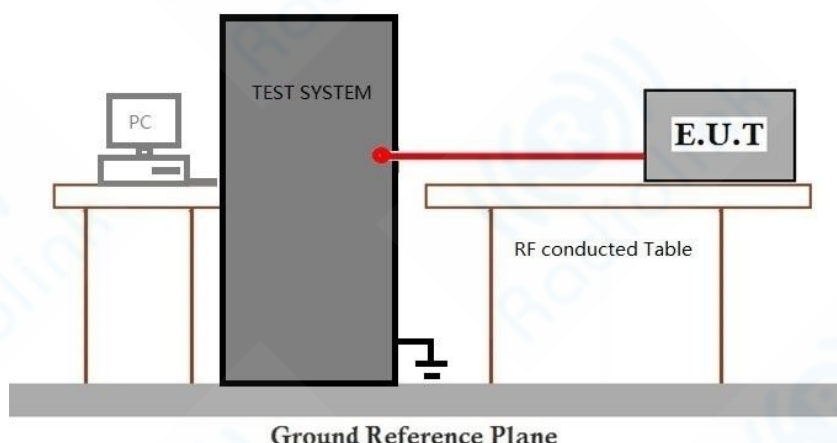
Operating Environment:

Temperature: 20.2 °C Humidity: 52.0 % RH Atmospheric Pressure: 1020 mbar

7.7.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	01	TX_Hop mode_Keep the EUT in frequency hopping mode with GFSK modulation, Pi/4DQPSK modulation, 8DPSK modulation. All modes have been tested and only the data of worst case is recorded in the report.

7.7.3 Test Setup Diagram



7.7.4 Measurement Procedure and Data

Please Refer to Appendix for Details

7.8 Hopping Channel Number

Test Requirement 47 CFR Part 15, Subpart C 15.247a(1)(iii)
Test Method: ANSI C63.10-2020 + Cor.1-2023 + C63.10a-2024 + Errata to C63.10a-2024Section 7.8.3

Limit:

Frequency range(MHz)	Number of hopping channels (minimum)
902-928	50 for 20dB bandwidth <250kHz
	25 for 20dB bandwidth ≥250kHz
2400-2483.5	15
5725-5850	75

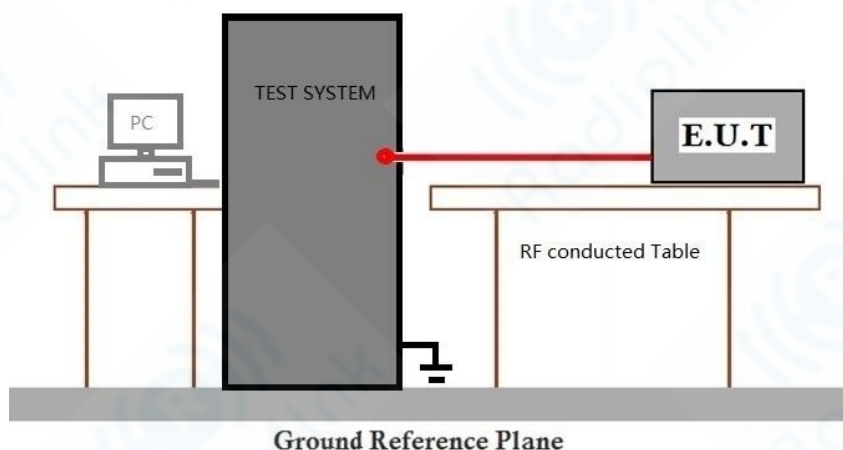
7.8.1 E.U.T. Operation

Operating Environment:
Temperature: 20.2 °C Humidity: 52.0 % RH Atmospheric Pressure: 1020 mbar

7.8.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	01	TX_Hop mode_Keep the EUT in frequency hopping mode with GFSK modulation, Pi/4DQPSK modulation, 8DPSK modulation. All modes have been tested and only the data of worst case is recorded in the report.

7.8.3 Test Setup Diagram



7.8.4 Measurement Procedure and Data

Please Refer to Appendix for Details

7.9 Dwell Time

Test Requirement 47 CFR Part 15, Subpart C 15.247a(1)(iii)
Test Method: ANSI C63.10-2020 + Cor.1-2023 + C63.10a-2024 + Errata to C63.10a-2024Section 7.8.4

Limit:

Frequency(MHz)	Limit
902-928	0.4S within a 20S period(20dB bandwidth<250kHz)
	0.4S within a 10S period(20dB bandwidth≥250kHz)
2400-2483.5	0.4S within a period of 0.4S multiplied by the number of hopping channels
5725-5850	0.4S within a 30S period

7.9.1 E.U.T. Operation

Operating Environment:

Temperature: 20.2 °C

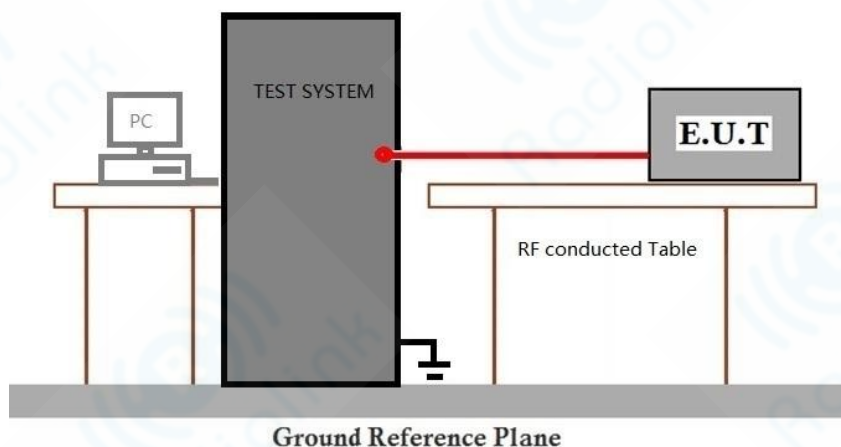
Humidity: 52.0 % RH

Atmospheric Pressure: 1020 mbar

7.9.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	01	TX_Hop mode_Keep the EUT in frequency hopping mode with GFSK modulation, Pi/4DQPSK modulation, 8DPSK modulation. All modes have been tested and only the data of worst case is recorded in the report.

7.9.3 Test Setup Diagram



7.9.4 Measurement Procedure and Data

Please Refer to Appendix for Details

Radiolink Testing (Shenzhen) Co., Ltd.
Room 103, Building B, Jinghang Industrial Park, Area 71, Xingdong Community, Xin'an Subdistrict, Bao'an District, Shenzhen, Guangdong Province, China
Tel: +86 0755 23080694

7.10 Conducted Band Edges Measurement

Test Requirement 47 CFR Part 15, Subpart C 15.247(d)
Test Method: ANSI C63.10-2020 + Cor.1-2023 + C63.10a-2024 + Errata to C63.10a-2024Section 6.10.4

Limit:

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

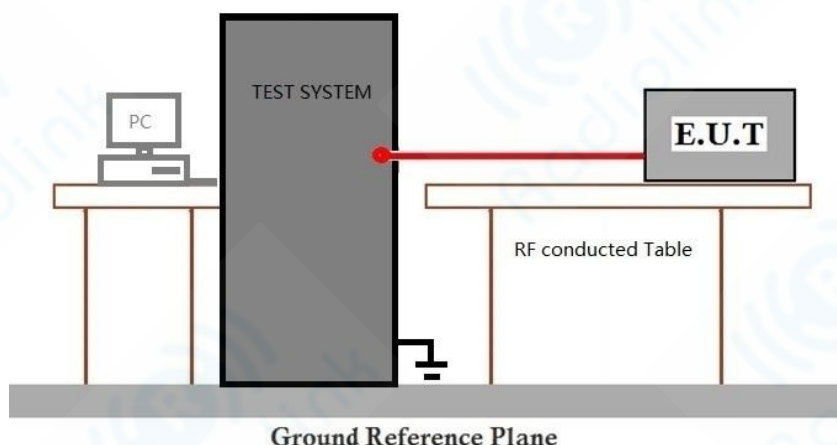
7.10.1 E.U.T. Operation

Operating Environment:
Temperature: 22.2 °C Humidity: 40.0 % RH Atmospheric Pressure: 1020 mbar

7.10.2 Test Mode Description

Mode Code	Description
1	TX_non-Hop mode_Keep the EUT in continuously transmitting mode with GFSK modulation, Pi/4DQPSK modulation, 8DPSK modulation. All modes have been tested and only the data of worst case is recorded in the report.

7.10.3 Test Setup Diagram



7.10.4 Measurement Procedure and Data

Please Refer to Appendix for Details

7.11 Conducted Spurious Emissions

Test Requirement	47 CFR Part 15, Subpart C 15.247(d)
Test Method:	ANSI C63.10-2020 + Cor.1-2023 + C63.10a-2024 + Errata to C63.10a-2024Section 11.11

Limit:

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

7.11.1 E.U.T. Operation

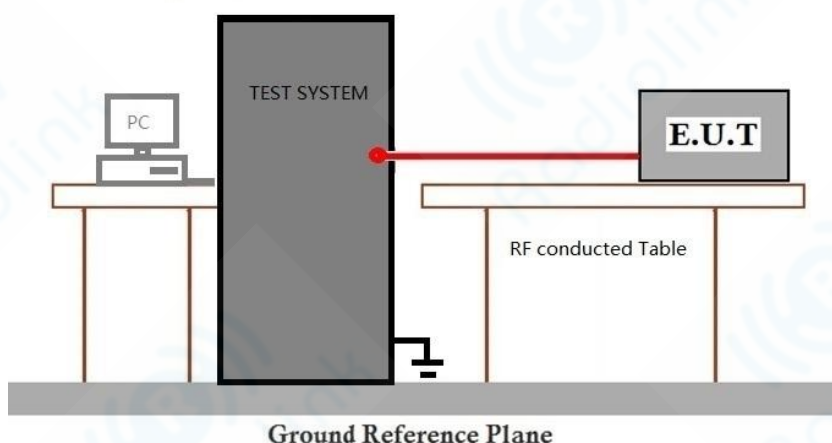
Operating Environment:

Temperature: 22.2 °C Humidity: 40.0 % RH Atmospheric Pressure: 1020 mbar

7.11.2 Test Mode Description

Mode Code	Description
1	TX_non-Hop mode_Keep the EUT in continuously transmitting mode with GFSK modulation, Pi/4DQPSK modulation, 8DPSK modulation. All modes have been tested and only the data of worst case is recorded in the report.

7.11.3 Test Setup Diagram



7.11.4 Measurement Procedure and Data

Please Refer to Appendix for Details

8 Test Setup Photo

Refer to Appendix A_Setup Photo (1.4)



9 Appendix

1. Bandwidth

1.1 Test Result

1.1.1 OBW

Mode	TX Type	Frequency (MHz)	Packet Type	ANT	99% Occupied Bandwidth (MHz)		Verdict
					Result	Limit	
GFSK	SISO	2402	DH5	1	0.756	/	Pass
		2441	DH5	1	0.859	/	Pass
		2480	DH5	1	0.854	/	Pass
Pi/4DQPSK	SISO	2402	2DH5	1	1.244	/	Pass
		2441	2DH5	1	1.239	/	Pass
		2480	2DH5	1	1.233	/	Pass
8DPSK	SISO	2402	3DH5	1	1.115	/	Pass
		2441	3DH5	1	1.113	/	Pass
		2480	3DH5	1	1.115	/	Pass

1.1.2 20dB BW

Mode	TX Type	Frequency (MHz)	Packet Type	ANT	20dB Bandwidth (MHz)		Verdict
					Result	Limit	
GFSK	SISO	2402	DH5	1	0.686	/	Pass
		2441	DH5	1	0.935	/	Pass
		2480	DH5	1	0.918	/	Pass
Pi/4DQPSK	SISO	2402	2DH5	1	1.291	/	Pass
		2441	2DH5	1	1.291	/	Pass
		2480	2DH5	1	1.291	/	Pass
8DPSK	SISO	2402	3DH5	1	1.272	/	Pass
		2441	3DH5	1	1.274	/	Pass
		2480	3DH5	1	1.274	/	Pass



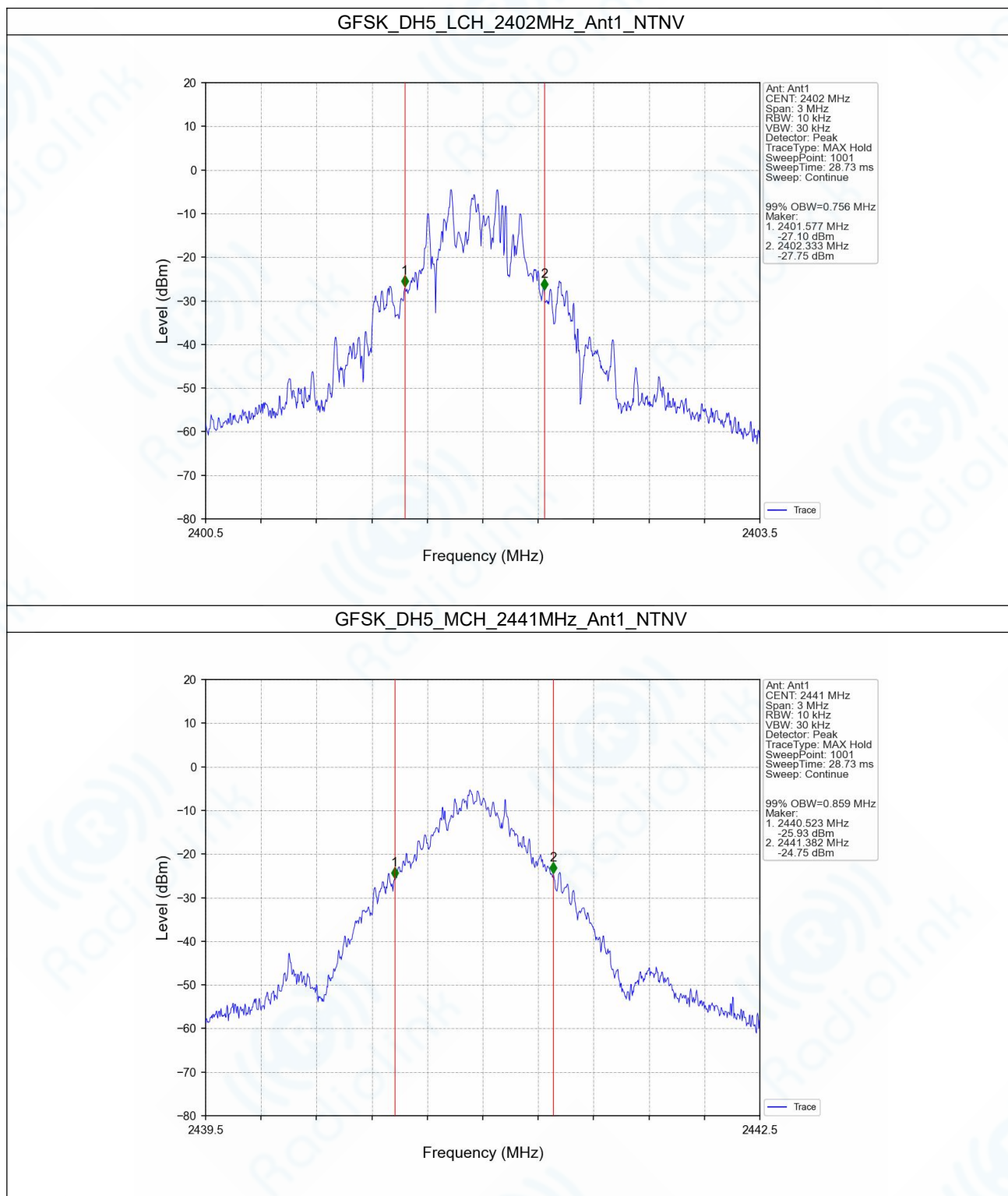
Radiolink Testing (Shenzhen) Co., Ltd.

Room 103, Building B, Jinghang Industrial Park, Area 71, Xingdong Community, Xin'an Subdistrict, Bao'an District, Shenzhen, Guangdong Province, China

Tel: +86 0755 23080694

1.2 Test Graph

1.2.1 OBW



Radiolink Testing (Shenzhen) Co., Ltd.

Room 103, Building B, Jinghang Industrial Park, Area 71, Xingdong Community, Xin'an Subdistrict, Bao'an District,
Shenzhen, Guangdong Province, China
Tel: +86 0755 23080694

