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TEST REPORT

Report No. ····:: KS2206S2706E02

FCC ID-----: 2A54U-DTNOI7MAX

Applicant·····: Shenzhen Xinkeying Technology Co.,Ltd

8/F,Block C, Han's Innovation Building,Xili Road, Nanshan Address.....

District, Shenzhen, China

Manufacturer····: Shenzhen Xinkeying Technology Co.,Ltd

8/F,Block C, Han's Innovation Building,Xili Road, Nanshan Address....:

District, Shenzhen, China

Factory: Shenzhen Xinkeying Technology Co.,Ltd

8/F,Block C, Han's Innovation Building,Xili Road, Nanshan Address·····:

District, Shenzhen, China

Product Name····: **Smart Watches**

Trade Mark·····: DTNO.I

Model/Type reference·····: DTNO.I7 Max

Listed Model(s) ·····: DTNO.I 7 Pro, DTNO.I 7 Mini, DTNO.I 7 Max+, DTNO.I 7 ProMax

Standard: FCC 15.247

Date of receipt of test sample...: June 22, 2022

Date of testing....: June 22, 2022~July 09, 2022

Date of issue....: July 09, 2022

Test Result....: Pass

Prepared by:

(Printed name+ signature)

Sky Dong

Approved by:

(Printed name + Signature) Neil Wan

Testing Laboratory Name·····: KSIGN(Guangdong) Testing Co., Ltd.

West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Address....:

Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen,

Smy own

Guangdong, China

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1. TEST SUMMARY

1.1. Test Standards

The tests were performed according to following standards:

FCC Rules Part 15.247: Operation within the bands of 902-928MHz, 2400-2483.5MHz, and 5725-5850MHz.

KDB 558074 D01: The measurement guidance provided herein is applicable only to Digital Transmission System (DTS) devices operating in the 902-928 MHz. 2400-2483.5 MHz and/or 5725-5850 MHz bands under §15.247 of the FCC rules (Title 47 of the Code of Federal Regulations).

ANSI C63.10-2020: American National Standard for Testing Unlicensed Wireless Devices.

1.2. Report version

Revised No.	Date of issue	Description
01	July 09, 2022	Original

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1.3. Test Description

FCC Part 15 Subpart C(15.247)			
T	Standard Section	D 16	T(F
Test Item	FCC	Result	Test Engineer
Antenna Requirement	15.203	Pass	Tom Chen
Conducted Emission	15.207	Pass	Tom Chen
Restricted Bands	15.205	Pass	Tom Chen
Hopping Channel Separation	15.247(a)(1)	Pass	Tom Chen
Dwell Time	15.247(a)(1)	Pass	Tom Chen
Peak Output Power	15.247(b)(1)	Pass	Tom Chen
Number of Hopping Frequency	15.247 (a)(1)	Pass	Tom Chen
Band Edge Emissions	15.247(d)	Pass	Tom Chen
Radiated Spurious Emission	15.247(c)&15.209	Pass	Tom Chen
99% Occupied Bandwidth & 20dB Bandwidth	15.247(a)(1)	Pass	Tom Chen
Pseudorandom Frequency Hopping Sequence	15.247 (a)(1)	Pass	Tom Chen

Note:

The measurement uncertainty is not included in the test result.

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1.4. Test Facility

Address of the report laboratory

KSIGN(Guangdong) Testing Co., Ltd.

West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, People's Republic of China

Laboratory accreditation

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

CNAS-Lab Code: L13261

KSIGN(Guangdong) Testing Co., Ltd. has been assessed and proved to be in Compliance with CNAS-CL01 Accreditation Criteria for Testing and Calibration Laboratories (identical to ISO/IEC17025: 2017 General Requirements) for the Competence of Testing and Calibration Laboratories.

A2LA-Lab Cert. No.: 5457.01

KSIGN(Guangdong) Testing Co., Ltd. EMC Laboratory has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025:2017 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

ISED#: 25693 CAB identifier.: CN0096

KSIGN(Guangdong) Testing Co., Ltd. has been listed by Innovation, Science and Economic Development Canada to perform electromagnetic emission measurement.

KSIGN(Guangdong) Testing Co., Ltd. EMC Laboratory has been listed on the US Federal Communications Commission list of test facilities recognized to perform electromagnetic emissions measurements.

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1.5. Measurement Uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to TR-100028-01" Electromagnetic compatibility and Radio spectrum Matters (ERM);Uncertainties in the measurement of mobile radio equipment characteristics; Part 1" and TR-100028-02 "Electromagnetic compatibility and Radio spectrum Matters (ERM);Uncertainties in the measurement of mobile radio equipment characteristics; Part 2 " and is documented in the KSIGN(Guangdong) Testing Co., Ltd. system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device. Below is the best measurement capability for KSIGN(Guangdong) Testing Co., Ltd.

Test Items	Measurement Uncertainty	Notes
Transmitter power conducted	0.42 dB	(1)
Transmitter power Radiated	2.14 dB	(1)
Conducted spurious emissions 9kHz~40GHz	1.60 dB	(1)
Radiated spurious emissions 9kHz~40GHz	2.20 dB	(1)
Conducted Emissions 9kHz~30MHz	3.20 dB	(1)
Radiated Emissions 30~1000MHz	4.70 dB	(1)
Radiated Emissions 1~18GHz	5.00 dB	(1)
Radiated Emissions 18~40GHz	5.54 dB	(1)
Occupied Bandwidth	2.80 dB	(1)

Note (1): This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=1.96.

1.6. Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature:	15~35°C
Relative Humidity:	30~60 %
Air Pressure:	950~1050mba

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2. GENERAL INFORMATION

2.1. General Description of EUT

Test Sample Number:	1-1-1(Normal Sample),1-1-2(Engineering Sample)
Product Name:	Smart Watch
Trademark:	DTNO.I
Model/Type reference:	DTNO.I 7max
Listed Model(s):	DTNO.I 7Pro,DTNO.I 7Mini,DTNO.I 7+max,DTNO.I 7ProMax
Model Difference:	The difference between product models is only that the appearance color is not the same, and the different model names are tailored to the market demand. Other power supply methods, internal structures, circuits and key components are the same, without affecting safety and electromagnetic compatibility performance.
Power supply:	DC 5.0V
Power supply(Battery):	DC 3.7V
Hardware version:	V1.0
Software version:	V1.0.0
Bluetooth	
Modulation:	GFSK, π/4-DQPSK, 8DPSK
Operation frequency:	2402MHz~2480MHz
Max Peak Output Power:	DH5: 4.03dBm 2DH5: 4.59dBm 3DH5: 4.66dBm
Channel number:	79
Channel separation:	1MHz
Antenna type:	Internal Antenna
Antenna gain:	-0.7dBi

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2.2. Operation state

Operation Frequency List: The EUT has been tested under typical operating condition. The Applicant provides communication tools software to control the EUT for staying in continuous transmitting and receiving mode for testing. BT EDR, 79 channels are provided to the EUT. Channels 00/39/78 were selected for testing. Operation Frequency List:

Channel	Frequency (MHz)
00	2402
01	2403
i:	:
38	2440
39	2441
40	2442
:	i i
77	2479
78	2480

Note: The display in gray were the channel selected for testing.

Test mode

NO.	TEST MODE DESCRIPTION	
1	Low channel GFSK	
2	Middle channel GFSK	
3	High channel GFSK	
4	Low channel π/4-DQPSK	
5	Middle channel π/4-DQPSK	
6	High channel π/4-DQPSK	
7	Low channel 8DPSK	
8	Middle channel 8DPSK	
9	High channel 8DPSK	
10	Hopping mode GFSK	
11	Hopping mode π/4-DQPSK	
12	Hopping mode 8DPSK	

Note:

- 1. Only the result of the worst case was recorded in the report, if no other cases.
- 2. The test software is the Blue Test 3 which can set the EUT into the individual test modes.

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2.3. Measurement Instruments List

	Tonscend JS0806-2 Test system				
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Cal. Until
1	Spectrum Analyzer	R&S	FSV40-N	101798	03/04/2023
2	Vector Signal Generator	Agilent	N5182A	MY50142520	03/04/2023
3	Analog Signal Generator	HP	83752A	3344A00337	03/04/2023
4	Power Sensor	Agilent	E9304A	MY50390009	03/04/2023
5	Power Sensor	Agilent	E9300A	MY41498315	03/04/2023
6	Wideband Radio Communication Tester	R&S	CMW500	157282	03/04/2023
7	Climate Chamber	Angul	AGNH80L	1903042120	03/04/2023
8	Dual Output DC Power Supply	Agilent	E3646A	MY40009992	03/04/2023
9	RF Control Unit	Tonscend	JS0806-2	/	03/04/2023

	Transmitter spurious emissions & Receiver spurious emissions				
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Cal. Until
1	EMI Test Receiver	R&S	ESR	102525	03/04/2023
2	High Pass Filter	Chengdu E-Microwave	OHF-3-18-S	0E01901038	03/04/2023
3	High Pass Filter	Chengdu E-Microwave	OHF-6.5-18-S	0E01901039	03/04/2023
4	Spectrum Analyzer	HP	8593E	3831U02087	03/04/2023
5	Ultra-Broadband logarithmic period Antenna	Schwarzbeck	VULB 9163	01230	12/04/2023
6	Loop Antenna	Beijin ZHINAN	ZN30900C	18050	03/04/2023
7	Spectrum Analyzer	R&S	FSV40-N	101798	03/04/2023
8	Horn Antenna	Schwarzbeck	BBHA 9120 D	2023	03/29/2023
9	Pre-Amplifier	Schwarzbeck	BBV 9745	9745#129	03/04/2023
10	Pre-Amplifier	EMCI	EMC051835SE	980662	03/04/2023
11	Pre-Amplifier	Schwarzbeck	BBV-9721	57	03/04/2023
12	Horn Antenna	Schwarzbeck	BBHA 9170	00939	03/04/2023

Item	Test Equipment	Manufacturer	Model No.	Serial No.	Calibrated until
1	LISN	R&S	ENV432	1326.6105.02	03/04/2023
2	EMI Test Receiver	R&S	ESR	102524	03/04/2023
3	Manual RF Switch	JS TOYO	1	MSW-01/002	03/04/2023

Note:

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¹⁾The Cal. Interval was one year.

²⁾The cable loss has calculated in test result which connection between each test instruments.





2.4. Test Software

Software name	Model	Version
Conducted emission Measurement Software	EZ-EMC	EMC-Con 3A1.1
Radiated emission Measurement Software	EZ-EMC	FA-03A.2.RE
Bluetooth and WIFI Test System	JS1120-3	2.5.77.0418

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3. TEST ITEM AND RESULTS

3.1. Antenna requirement

Requirement

FCC CFR Title 47 Part 15 Subpart C Section 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.

FCC CFR Title 47 Part 15 Subpart C Section 15.247(c) (1)(i):

(i) Systems operating in the 2400~2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi.

Test Result

The directional gain of the antenna less than 6dBi, please refer to the EUT internal photographs antenna photo.

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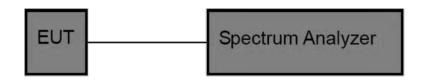


3.2. Peak Output Power

<u>Limit</u>

Test Item	Limit	Frequency Range(MHz)
Peak Output Power	Hopping Channels>75 Power<1W(30dBm) Other <125mW(21dBm)	2400~2483.5

Test Configuration



Test Procedure

- 1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator.
- 2. Spectrum Setting:

Peak Detector: RBW=1 MHz, VBW=3 MHz for bandwidth less than 1MHz. RBW=3 MHz, VBW=10 MHz for bandwidth more than 1MHz.

Test Mode

Please refer to the clause 2.2

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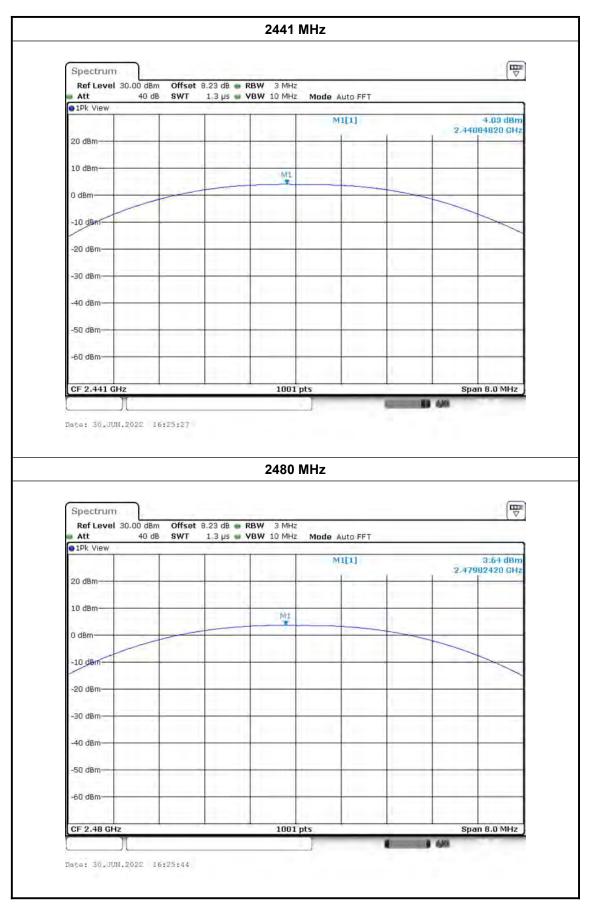


Test Mode:	DH5			
Channel frequency (MHz)	Test Result (dBm)	Limit (dBm)		
2402	3.42			
2441	4.03	30		
2480	3.64			









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 Test Mode:
 2DH5

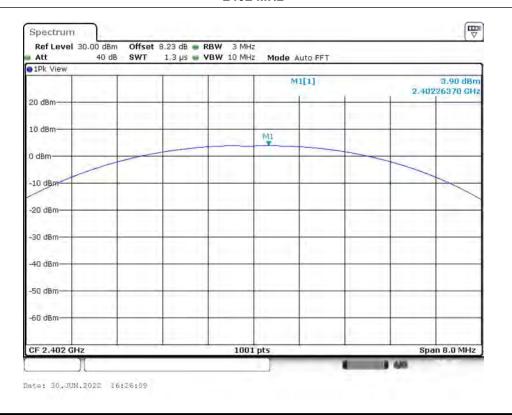
 Channel frequency (MHz)
 Test Result (dBm)
 Limit (dBm)

 2402
 3.90

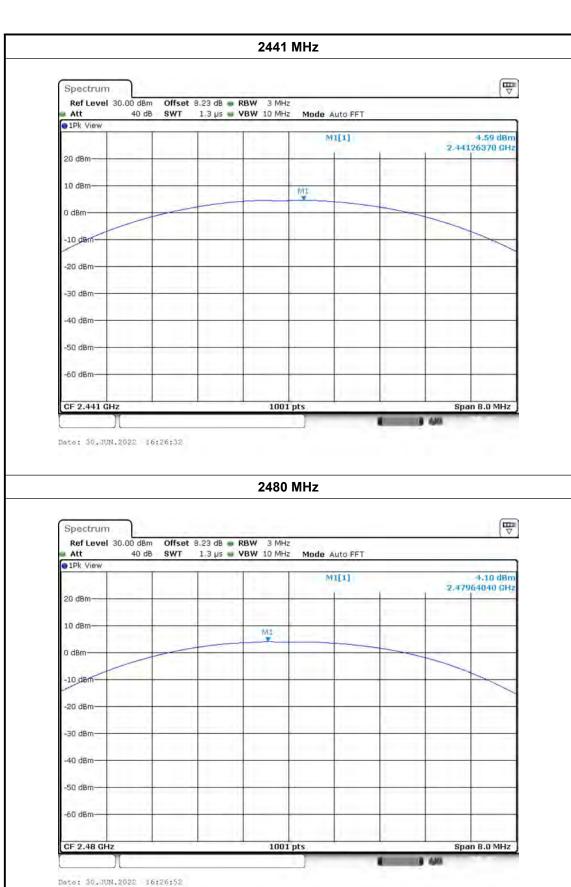
 2441
 4.59
 30

 2480
 4.10
 30

2402 MHz









 Test Mode:
 3DH5

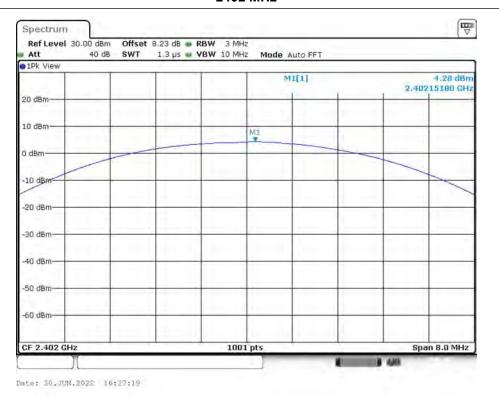
 Channel frequency (MHz)
 Test Result (dBm)
 Limit (dBm)

 2402
 4.28

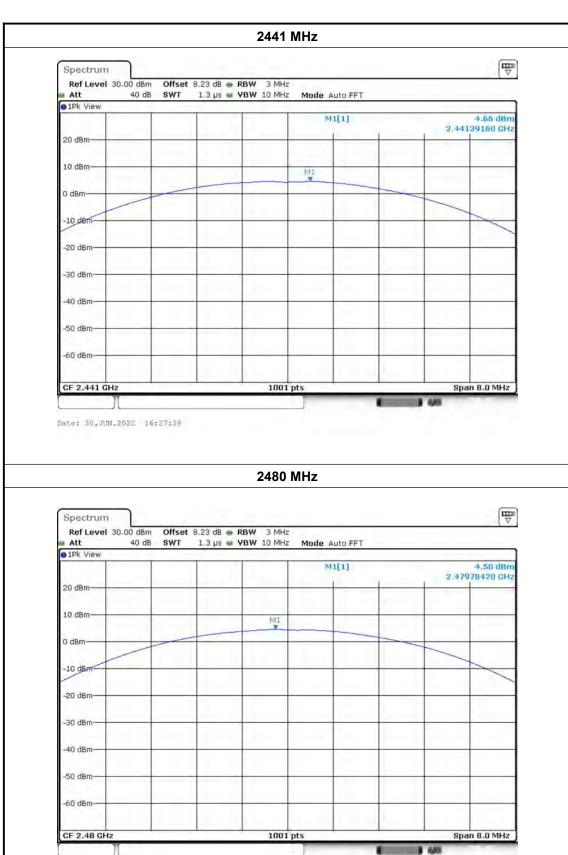
 2441
 4.66
 30

 2480
 4.50

2402 MHz







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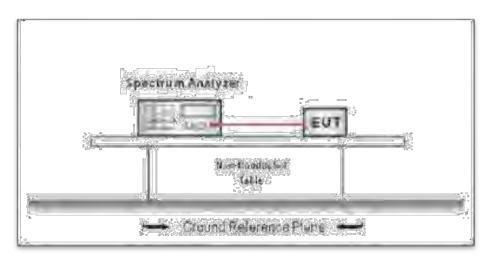


3.3. 20dB Bandwidth

Limit

Test Item	Limit	Frequency Range(MHz)
Bandwidth	N/A	2400~2483.5

Test Configuration



Test Procedure

- 1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator.
- 2. Spectrum Setting:
 - (1) Set RBW = 30 kHz.
 - (2) Set the video bandwidth (VBW) ≥ 3*RBW.
 - (3) Detector = Peak.
 - (4) Trace mode = Max hold.
 - (5) Sweep = Auto couple.

NOTE: The EUT was set to continuously transmitting in each mode and low, Middle and high channel for the test.

Test Mode

Please refer to the clause 2.2.

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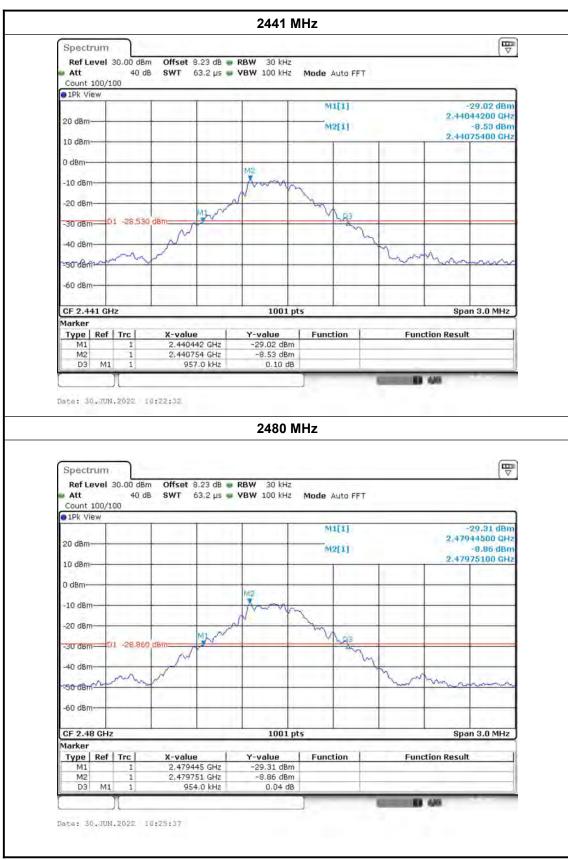
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Test Results

Test Mod	le:		DH5										
annel freq (MHz)			requency Hz)		20dB	Band [MHz]	width		FL[MHz]		FH[MHz]		Verdic
2402				0.957			2401	.45	2402.40		PASS		
2441				0.957			2440	.44	24	41.40	PASS		
2480				0.954			2479	.45	24	80.40	PASS		
					240	2 M	Hz		'				
Att Count 1	vel 30	0.00 dB 40 d		CASS LVE	RBW 30 VBW 100		Mode A	uto FFT			(₩)		
• 1Pk Vie	T.		1	1	1	1	MI	[1]			28.16 dBm		
20 dBm-	+		1		+	+	M2				44500 GHz -7.77 dBm		
10 dBm-	+		1	-	+	+-				2,401	75400 GHz		
0 dBm-	-		+		M2:	+-	-			-			
-10 d8m	4		-	-	Ann	1							
-20 dBm	_			N 0/	M	11.11	Jon						
-30 d8m	D1	-27.77	0 dBm	Mycr			V	D3					
-40 dBm			2					Jul.					
0.00	1	may	No.		illi —				you war	m	2.24		
-50 den								1111		1			
-60 d8m	+		1			+				1			
CF 2.40	2 GHz				10	01 pts				Spa	n 3.0 MHz		
Marker													
Type M1	Ref	Trc 1	X-valu	e 145 GHz	Y-value -28.16		Functi	on	Fun	ction Result			
M2		1		754 GHz	-7.77								
D3	M1	1		7.0 kHz	-0.1								
	7								0	1 446			

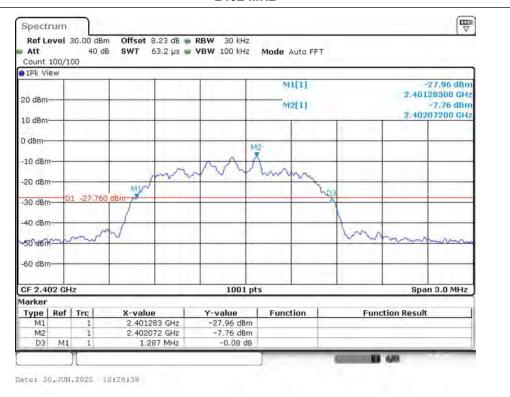




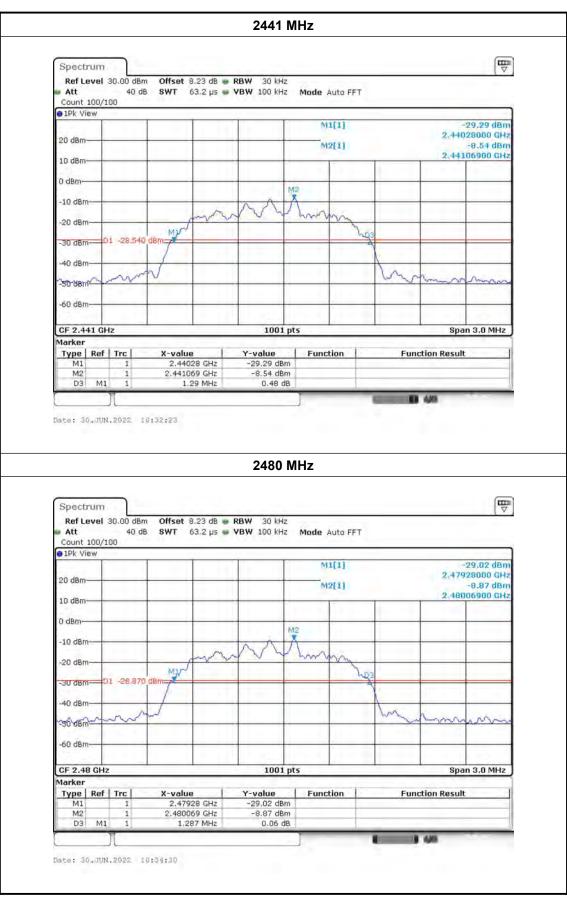


2DH5 **Test Mode: Channel frequency** 20dB Bandwidth FL[MHz] FH[MHz] Verdict (MHz) [MHz] 2402 1.287 2401.28 2402.57 **PASS** 2441 1.290 **PASS** 2440.28 2441.57 2480 1.287 2479.28 2480.57 **PASS**

2402 MHz







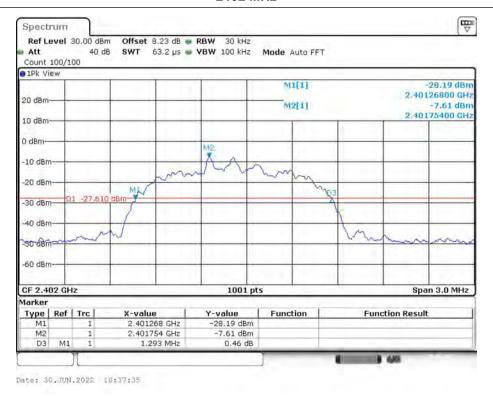
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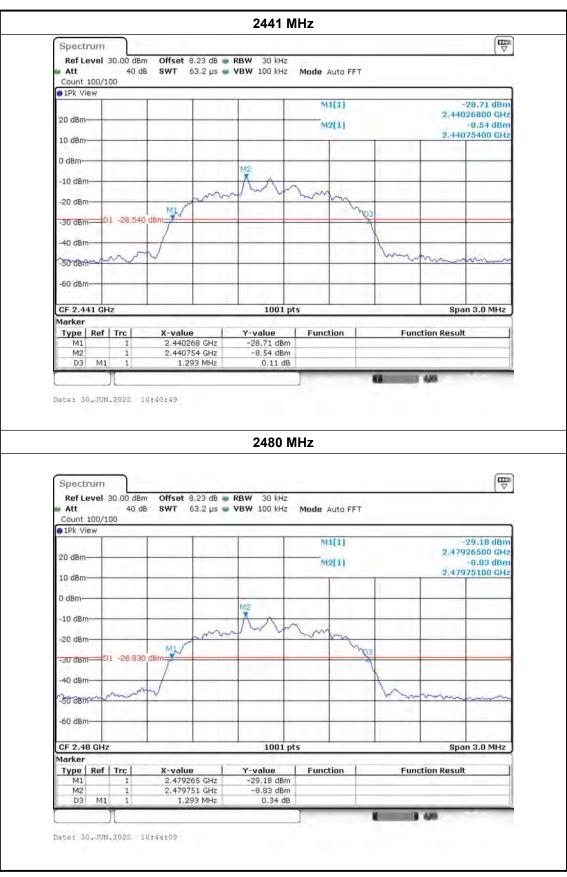


3DH5 **Test Mode: Channel frequency** 20dB Bandwidth FL[MHz] FH[MHz] Verdict (MHz) [MHz] 2402 1.293 2401.27 2402.56 **PASS** 2441 1.293 2441.56 **PASS** 2440.27 2480 1.293 2479.27 2480.56 **PASS**

2402 MHz



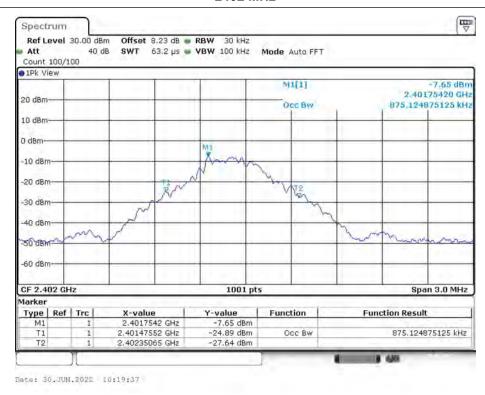




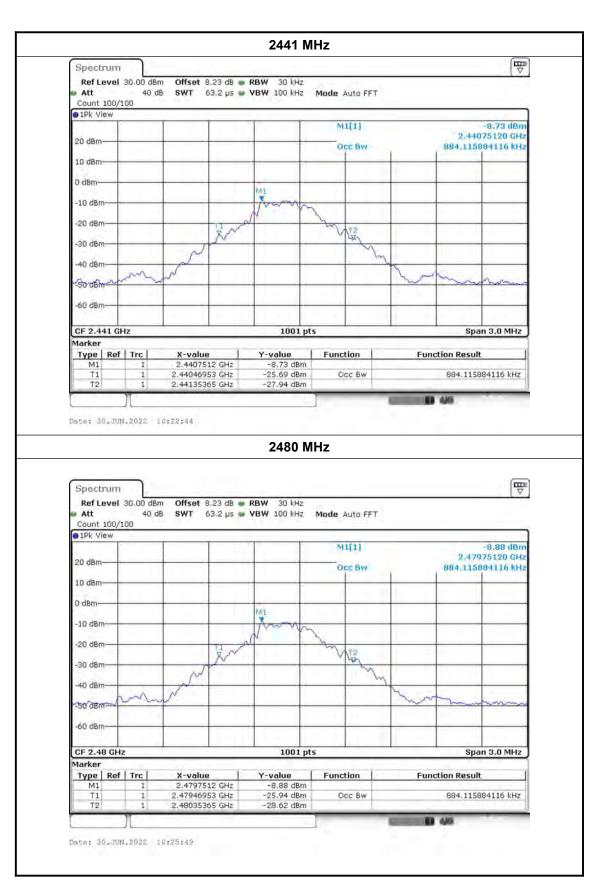


Test Mode: DH₅ **Channel frequency** 99% OCB FL[MHz] FH[MHz] Verdict (MHz) [MHz] 2402 0.875 2401.476 2402.351 **PASS** 2441 0.884 2440.470 2441.354 **PASS** 2480 **PASS** 0.884 2479.470 2480.354

2402 MHz



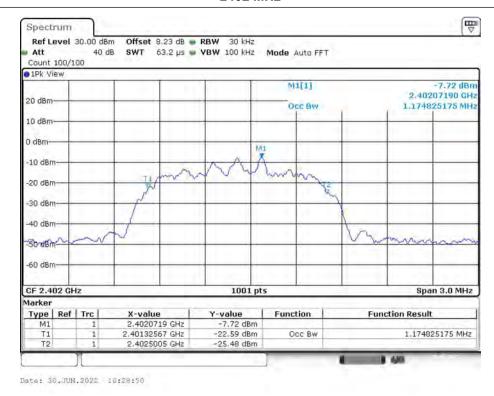




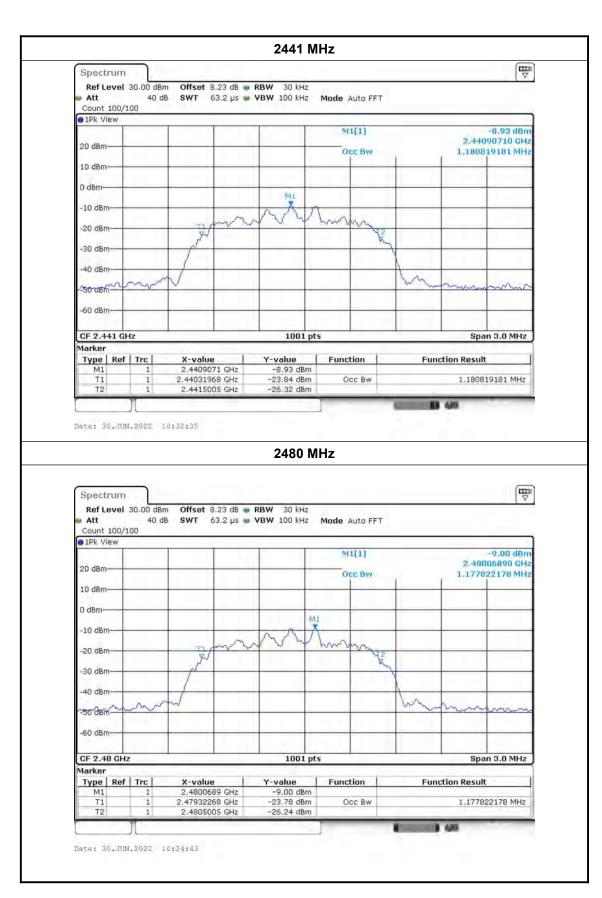


Test Mode: 2DH5 Channel frequency 99% OCB FL[MHz] FH[MHz] Verdict (MHz) [MHz] 2402 1.175 2401.326 2402.500 **PASS** 2441 1.181 2440.320 2441.500 **PASS** 2480 1.178 2479.323 2480.500 **PASS**

2402 MHz



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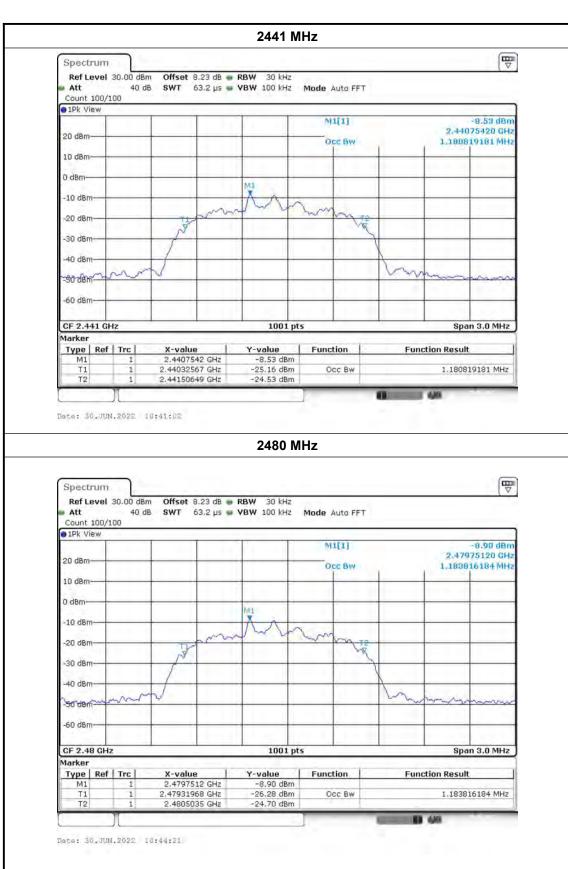


Test Mode: 3DH5 Channel frequency 99% OCB FL[MHz] FH[MHz] Verdict (MHz) [MHz] 2402 1.181 2401.326 2402.506 **PASS** 2441 1.181 2440.326 2441.506 **PASS** 2480 1.184 2479.320 2480.503 **PASS**

2402 MHz







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3.4. Carrier Frequencies Separation

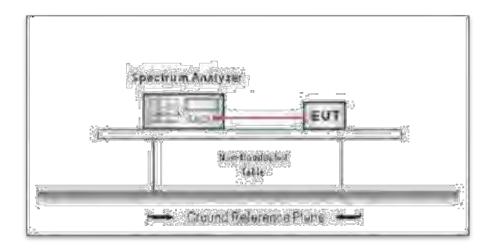
LIMIT

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (a)(1):

frequency hopping systems shall have hopping channel carrier frequencies separated by minimum of 25kHz or the 2/3*20dB bandwidth of the hopping channel, whichever is greater.

Test Item	Limit	Frequency Range(MHz)
Channel Separation	>25KHz or >two-thirds of the 20 dB bandwidth Which is greater	2400~2483.5

Test Configuration



Test Procedure

- 1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator.
- 2.Spectrum Setting:
 - (1) Set RBW = 100 kHz.
 - (2) Set the video bandwidth (VBW) ≥ 3 RBW.
 - (3) Detector = Peak.
 - (4) Trace mode = Max hold.
 - (5) Sweep = Auto couple.

NOTE: The EUT was set to continuously transmitting in each mode and low, Middle and high channel for the test.

Test Mode

Please refer to the clause 2.2.

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Test Results

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Test Mode:	DH5 Hopping Mode					
Channel	Result[MHz]		Lir	Limit[MHz]		Verdict
DH5	1.003 ≥0.957				PASS	
		DH5 Hopp	ing Mode		<u>.</u>	
Ref Att Cour © 19k 20 d8 10 d8	t 100/100 View m m M1 Sm Sm Sm Sm Sm	6.23 db ** RBW 100 HHz 18.9 µs ** VBW 300 HHz	Mu[a] DZ[1]	2.440	-6.07 dBm/75217 GHz -0.07 dB 10290 MHz	

Test Mode:		2DH5 Hopping Mode						
Test Mode	Result[MHz]		Li	mit[MHz	Verdict			
2DH5	1.006			≥0.860		PASS		
	2	2DH5 Hopp	ing Mode					
Re Att Course of 19 de 1	40 db SWT 11 nt 100/100 View	23 dB := RBW 100 lst2 9.9 µs := VBW 300 kHz	Mode Auto FFT M1[1] D2[1]		-6.13 dBn 9.44075507 GHz -0.46 dB 1.00580 MHz			
-30 (-40 (-50 (iem-							

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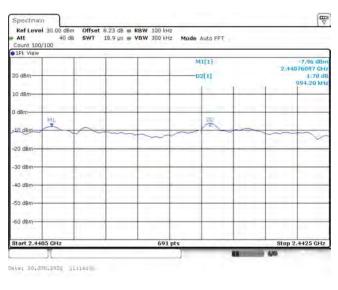


 Test Mode:
 3DH5 Hopping Mode

 Test Mode
 Result[MHz]
 Limit[MHz]
 Verdict

 3DH5
 0.994
 ≥0.867
 PASS

 3DH5 Hopping Mode



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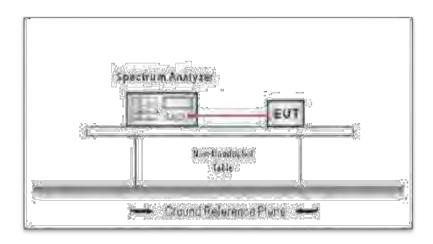


3.5. Number of Hopping Channel

Limit

Section	Test Item	Limit
15.247	Number of Hopping Channel	>15

Test Configuration



Test Procedure

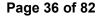
- 1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator.
- 2. Spectrum Setting:
 - (1) Peak Detector: RBW=100 kHz, VBW≥RBW, Sweep time= Auto.

Test Mode

Please refer to the clause 2.2.

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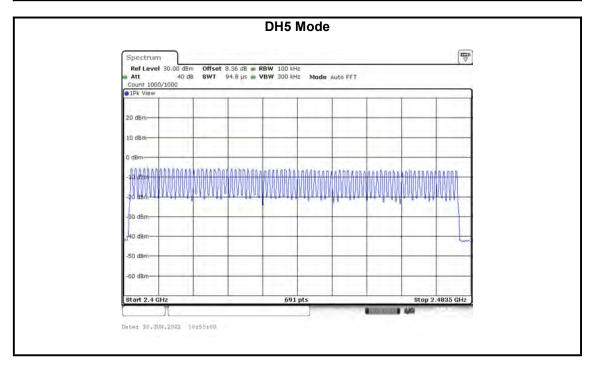
Add:West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

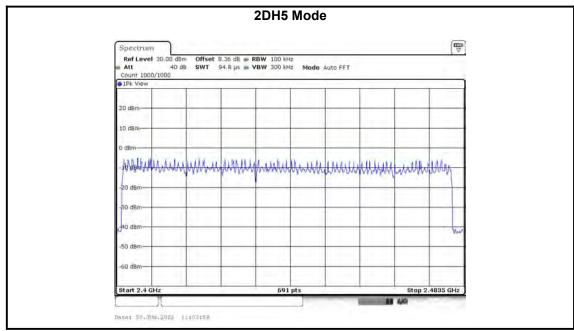


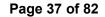


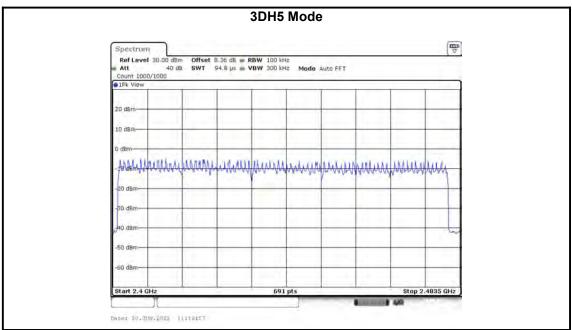
Test Result

Test Mode:	Hopping Mode	
Frequency Range	Quantity of Hopping Channel	Limit
2402MHz~2480MHz	79	>15
I		









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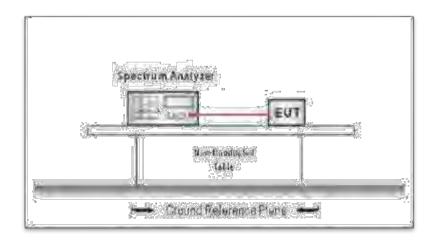


3.6. Dwell Time

<u>Limit</u>

Section	Test Item	Limit
15.247(a)(1)	Average Time of Occupancy	0.4 sec

Test Configuration



Test Procedure

- 1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator.
- 2. Spectrum Setting:
 - (1) Spectrum Setting: RBW=1MHz, VBW≥RBW.
 - (2) Use video trigger with the trigger level set to enable triggering only on full pulses.
 - (3) Sweep Time is more than once pulse time.
 - (4) Set the center frequency on any frequency would be measure and set the frequency span to zero.
 - (5) Measure the maximum time duration of one single pulse.
 - (6) Set the EUT for packet transmitting.

Test Mode

Please refer to the clause 2.2

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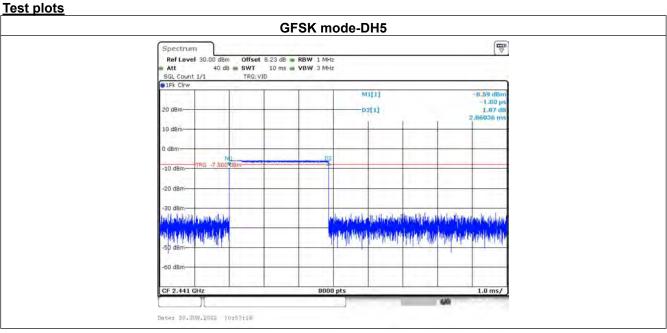
Test Result

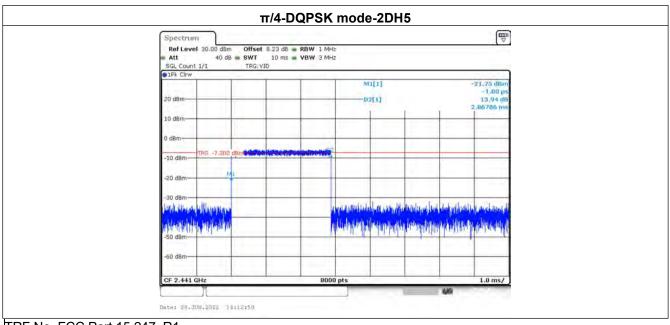
Mode	Data Packet	Frequency (MHz)	Pulse Duration (ms)	Dwell Time (ms)	Limit(s)	Conclusion
GFSK	DH5	2441	2.86	306.13	<0.4	Pass
π/4 DQPSK	2DH5	2441	2.87	306.13	<0.4	Pass
8DPSK	3DH5	2441	2.87	306.13	<0.4	Pass

Note:

- 1. A period time = 0.4 (s) * 79 = 31.6(s)
- DH1 time slot = Pulse Duration * (1600/(2*79)) * A period time DH3 time slot = Pulse Duration * (1600/(4*79)) * A period time DH5 time slot = Pulse Duration * (1600/(6*79)) * A period time
- For GFSK, $\pi/4$ -DQPSK and 8DPSK: The test period: T= 0.4 Second/Channel x 79 Channel = 31.6 s



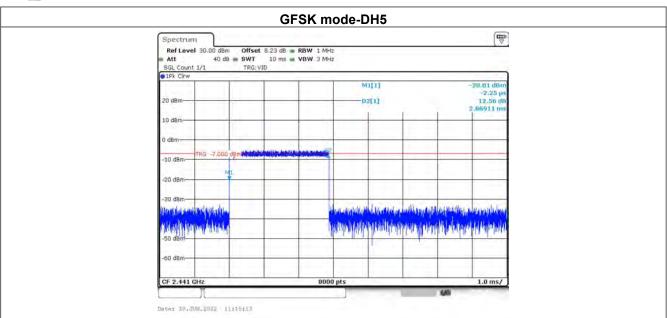




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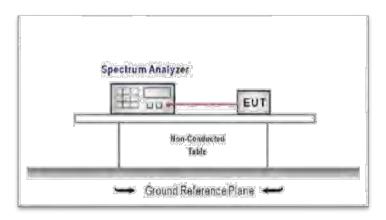
3.7. Band Edge and Spurious Emission (conducted)

LIMIT

FCC CFR Title 47 Part 15 Subpart C Section15.247 (d):

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.

TEST CONFIGURATION



TEST PROCEDURE

- 1. Connect EUT RF Output port to the Spectrum Analyzer through an RF attenuator.
- 2. Spectrum Setting:

RBW=100KHz

VBW=3*RBW.

Detector function: Peak.

Trace: Max hold. Sweep = Auto couple.

Allow the trace to stabilize.

TEST MODE:

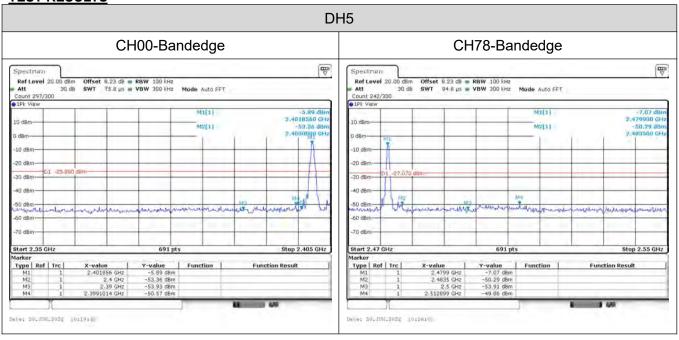
Please refer to the clause 2.2.

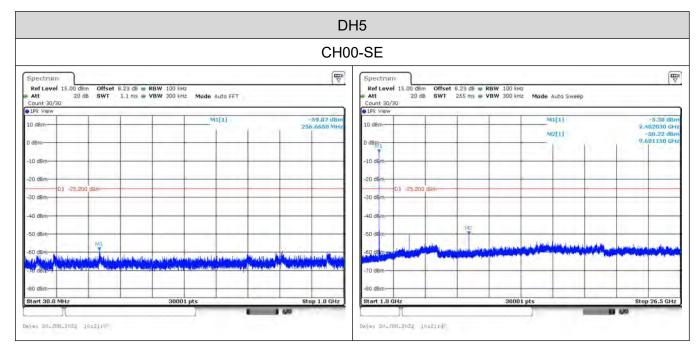
TRF No. FCC Part 15.247_R1

Add:West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

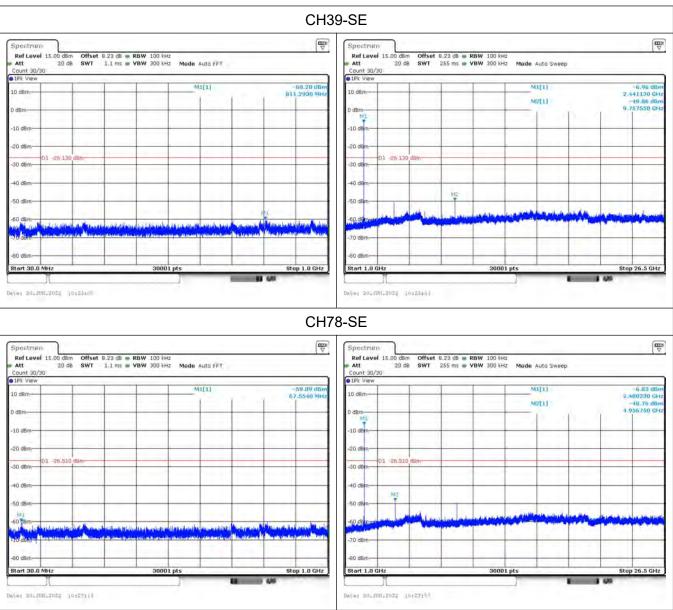


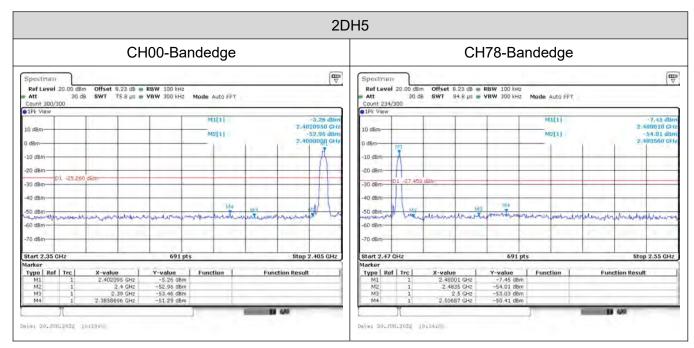
TEST RESULTS







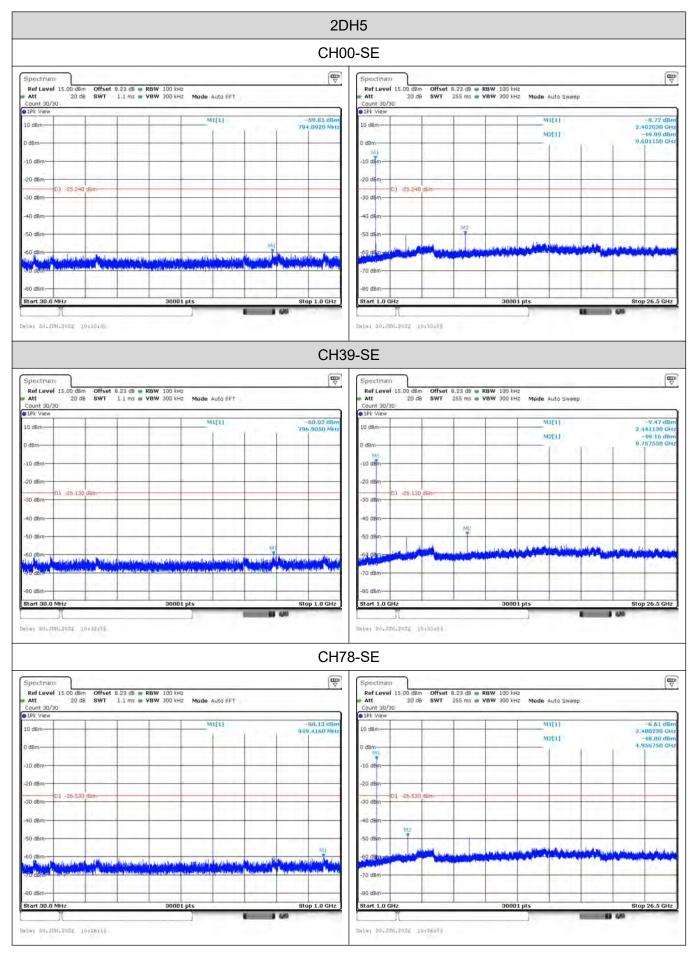




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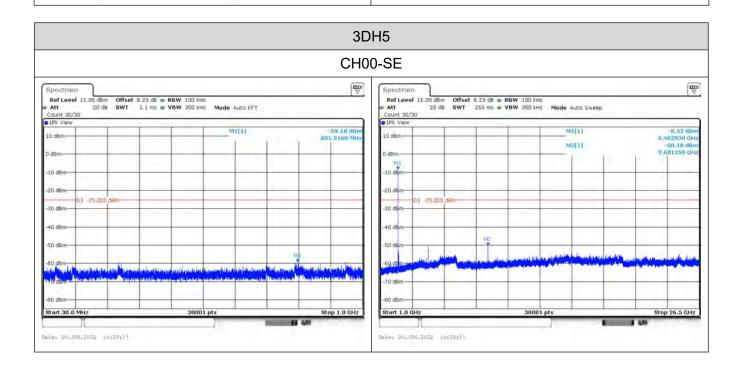
Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China



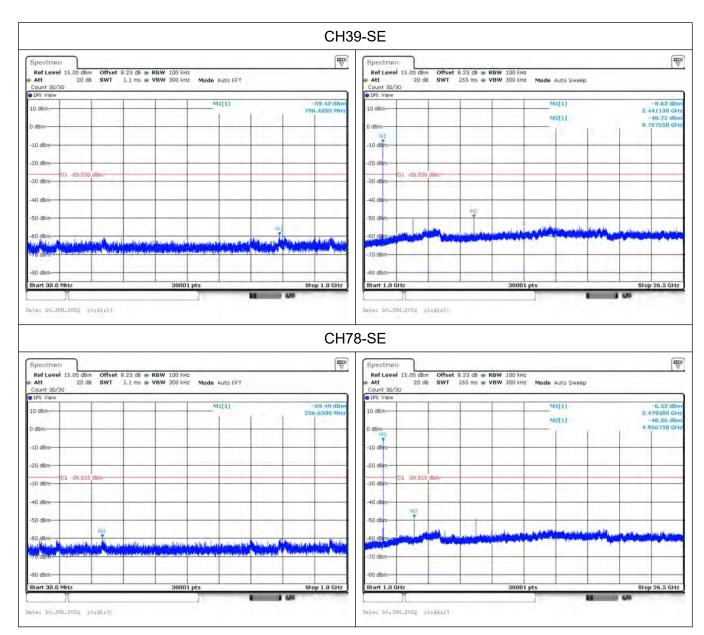
Date: BOLUMINOSE 10:27:00

3DH5 CH00-Bandedge CH78-Bandedge THE V œ ∇ M1[1] M1[1] -20 dBm -30 dBn 30 dBm -60 d&m 691 pt 691 pt Marker Type | Ref | Trc Type | Ref | Trc Function Function **Function Result Function Result**

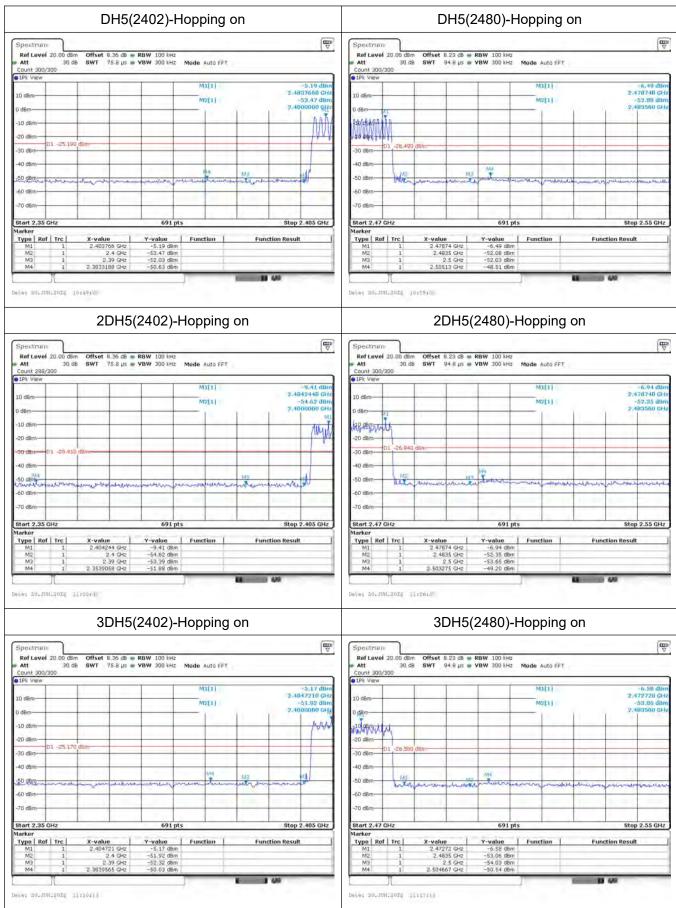
Date: 30.JUN.2022 10:44:00











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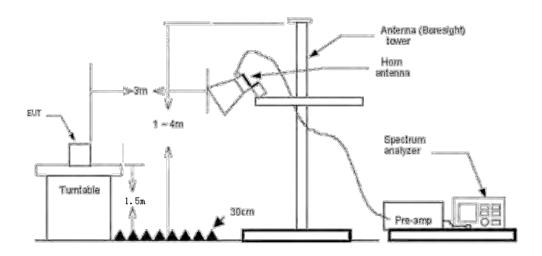


3.8. Band Edge Emissions(Radiated)

Limit

Postrioted Eraquency Band (MHT)	(dBuV/	m)(at 3m)
Restricted Frequency Band (MHz)	Peak	Average
2310 ~2390	74	54
2483.5 ~2500	74	54
Note: All restriction hands have bee	en tested, only the worst ca	se is reported

Test Configuration



Test Procedure

- 1. The EUT was setup and tested according to ANSI C63.10:2020 requirements.
- 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.
- 3. 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 C63.10:2020on radiated measurement.
- 5. The receiver set as follow:

RBW=1MHz, VBW=3MHz PEAK detector for Peak value.

RBW=1MHz, VBW=10Hz with PEAK Detector for Average Value.

Test Mode

Please refer to the clause 2.2.

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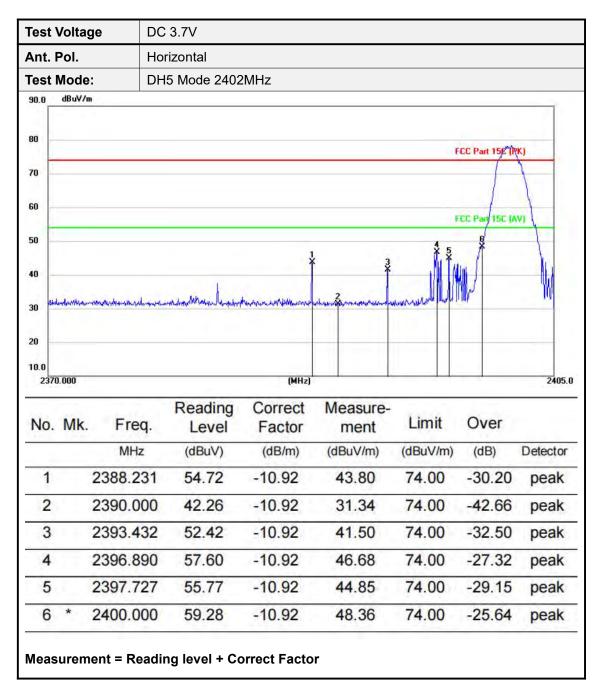




Test Results

Note:

- 1. Measurement = Reading level + Correct Factor
- 2.Correct Factor=Antenna Factor + Cable Loss -Preamplifier Factor
- 3.Pre-scan DH5, 2DH5 and 3DH5 modulation, and found the DH5 modulation which it is worse case, so only show the test data for worse case.



TRF No. FCC Part 15.247_R1

Add:West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China



Test Voltage DC 3.7V Ant. Pol. Vertical Test Mode: DH5 Mode 2402 MHz dBuV/m 90.0 80 FCC Part 15C (PK) 70 60 FCC Part 15C (AV) 50 40 30 20 10.0 2370.000 (MHz) 2405.0 Reading Correct Measure-Limit Over No. Mk. Freq. Level Factor ment MHz (dBuV) (dB/m) (dBuV/m) (dBuV/m) (dB) Detector 2386.852 47.13 -10.9236.21 74.00 -37.791 peak 2 -10.92-40.872390.000 44.05 33.13 74.00 peak 3 2392.669 52.12 -10.9241.20 -32.8074.00 peak 4 2396.047 54.49 -10.9143.58 74.00 -30.42peak 5 2398.126 55.74 -10.9244.82 74.00 -29.18peak

Measurement = Reading level + Correct Factor

2400.000

61.77

-10.92

50.85

74.00

-23.15

peak

6



Test Voltage DC 3.7V Ant. Pol. Horizontal Test Mode: DH5 Mode 2480MHz dBuV/m 90.0 80 FCC Part 15C (PK) 60 FCC Part 15C (AV) 50 40 20 10.0 2475.000 (MHz) 2500.0 Reading Correct Measure-Limit Over No. Mk. Freq. Level Factor ment MHz (dBuV) (dBuV/m) (dB/m) (dBuV/m) (dB) Detector 2482.563 55.87 -10.8944.98 74.00 -29.02peak 2 2483.500 43.10 -10.8832.22 74.00 -41.78peak 3 2484.265 50.58 -10.8839.70 74.00 -34.30peak 47.37 -37.514 2486.150 -10.8836.49 74.00 peak

Measurement = Reading level + Correct Factor

52.02

41.82

-10.89

-10.88

74.00

74.00

41.13

30.94

-32.87

-43.06

peak

peak

2489.948

2500.000

5

6



Test Voltage DC 3.7V Ant. Pol. Vertical Test Mode: DH5 Mode 2480 MHz dBuV/m 90.0 80 FCC Part 15C (PK) 70 60 FCC Part 15C (AV) 50 40 30 20 10.0 2475.000 (MHz) 2500.0 Reading Correct Measure-Limit No. Mk. Freq. Over Level Factor ment MHz (dBuV) (dB/m) (dBuV/m) (dBuV/m) (dB) Detector 1 2483.500 44.39 -10.8833.51 74.00 -40.49peak 2 2483.847 52.20 -10.8841.32 74.00 -32.68peak 3 2485.195 50.22 -10.8839.34 74.00 -34.66peak 4 2488.787 53.68 -10.8942.79 74.00 -31.21peak

Measurement = Reading level + Correct Factor

48.31

42.29

-10.89

-10.88

37.42

31.41

74.00

74.00

-36.58

-42.59

peak

peak

2490.850

2500.000

5

6

Test Voltage DC 3.7V Ant. Pol. Horizontal **Test Mode:** DH5-Hop Mode 2402MHz dBuV/m 80 FCC Part 15C (PK) 70 60 FCC Part SC (AV) 50 40 30 20 10.0 2370.000 (MHz) 2405.0 Reading Correct Measure-No. Mk. Limit Over Freq. Level Factor ment MHz (dBuV) (dB/m) (dBuV/m) (dBuV/m) (dB) Detector 1 2380.360 46.15 -10.9235.23 74.00 -38.77peak 2 2390.000 41.65 -10.9230.73 74.00 -43.27peak 3 2395.715 47.40 -10.9136.49 74.00 -37.51peak 4 2397.615 53.72 -10.9242.80 74.00 -31.20peak 5 2399.421 52.79 -10.9241.87 74.00 -32.13peak 6 2400.000 48.37 -10.9237.45 -36.5574.00 peak

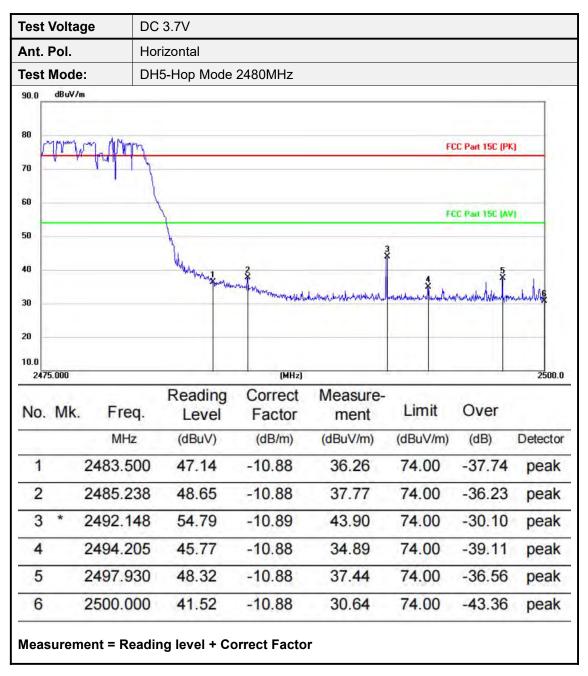
Measurement = Reading level + Correct Factor



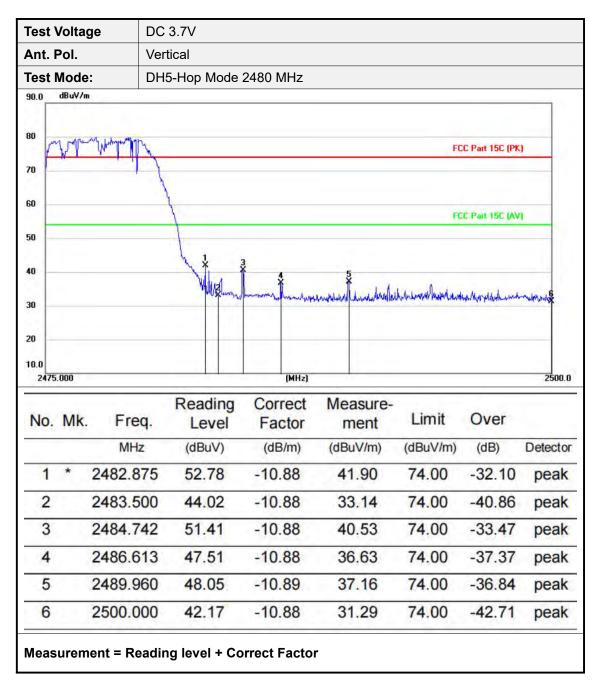
DC 3.7V **Test Voltage** Ant. Pol. Vertical Test Mode: DH5-Hop Mode 2402 MHz dBuV/m 80 FCC Part 15 70 60 FCC Part ISC JAVI 50 40 30 20 10.0 2370.000 (MHz) 2405.0 Reading Correct Measure-Limit Over No. Mk. Freq. Level Factor ment (dBuV/m) MHz (dBuV) (dB/m) (dBuV/m) (dB) Detector 1 2379.940 46.86 -10.9235.94 74.00 -38.06peak 2 2390.000 42.63 -10.9231.71 74.00 -42.29peak 3 2392.862 49.47 -10.9274.00 -35.4538.55 peak 4 2395.414 48.38 -10.9137.47 74.00 -36.53 peak 5 2396.842 56.24 -10.9245.32 74.00 -28.68peak 6 2400.000 44.47 74.00 -29.5355.39 -10.92peak

Measurement = Reading level + Correct Factor









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3.9. Radiated Spurious Emissions

Limit

Radiated Emission Limits (9 kHz~1000 MHz)

Frequency (MHz)	Field Strength (microvolt/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
Above 960	500	3

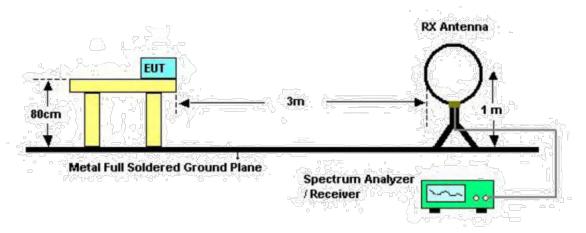
Radiated Emission Limit (Above 1000MHz)

Frequency	Distance Me	eters(at 3m)
(MHz)	Peak	Average
Above 1000	74	54

Note:

- (1) The tighter limit applies at the band edges.
- (2) Emission Level (dBuV/m)=20log Emission Level (uV/m).

Test Configuration

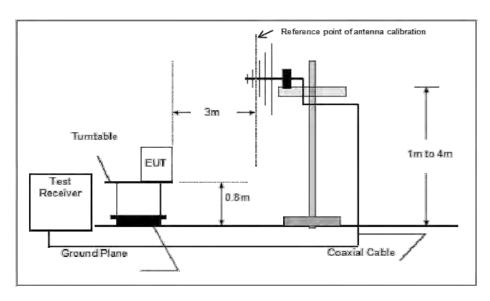


Below 30MHz Test Setup

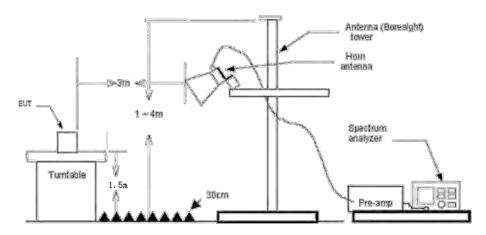
TRF No. FCC Part 15.247_R1

Add:West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China





Below 1000MHz Test Setup



Above 1GHz Test Setup

Test Procedure

- 1. The EUT was setup and tested according to ANSI C63.10:2020
- 2. The EUT is placed on a turn table which is 0.8 meter above ground for below 1 GHz, and 1.5 m for above 1 GHz. The turn table is rotated 360 degrees to determine the position of the maximum emission level.
- 3. The EUT was set 3 meters from the receiving antenna, which was mounted on the top of a variable height antenna tower.
- 4. For each suspected emission, the EUT was arranged to its worst case and then tune the Antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level to comply with the guidelines.
- 5. Set to the maximum power setting and enable the EUT transmit continuously.
- Use the following spectrum analyzer settings
 - (1) Span shall wide enough to fully capture the emission being measured;
 - (2) Below 1 GHz:

RBW=120 kHz, VBW=300 kHz, Sweep=auto, Detector function=peak, Trace=max hold;

If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.

(3) From 1 GHz to 10th harmonic:

RBW=1MHz, VBW=3MHz Peak detector for Peak value.

RBW=1MHz, VBW=10Hz Peak detector for Peak value.

TRF No. FCC Part 15.247_R1

Add:West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China



Test Mode

Please refer to the clause 2.2.

Test Result

9 KHz~30 MHz and 18GHz~25GHz

From 9 KHz~30 MHz and 18GHz~25GHz: Conclusion: PASS

Note:

- Measurement = Reading level + Correct Factor
 Correct Factor=Antenna Factor + Cable Loss -Preamplifier Factor
- The peak level is lower than average limit(54 dBuV/m), this data is the too weak instrument of signal is unable to test.
- 3) The emission levels of other frequencies are very lower than the limit and not show in test report.
- 4) The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.
- 5) Pre-scan DH5, 2DH5 and 3DH5 modulation, found the DH5-CH00 Channel Below 1GHz and found the DH5 modulation which it is worse case for above 1GHz, so only show the test data for worse case.

RADIATED EMISSION BELOW 30MHZ

No emission found between lowest internal used/generated frequencies to 30MHz.

TRF No. FCC Part 15.247_R1

Add:West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

Test \	/olta	ge	DC 3.7V									
Ant. F	Pol.		Horizontal									
Test N	Vlode):		DH5 Mode 2402 MHz								
80.0	dBuV/	m										
70												
60									FC	C Part 150	C (30MHz-16Hz	
50											Margin - 6	
40				-					4 5			
30								3 ,,	white .			6 X
							2	Ť D	W	d of the	100	Mariado
20							2	halphat and a late		Aldalah	halaman da karan da k	Walter Leader
20	languagh but	respondent	HMALMA	*	Prophysika	a North an	Jarahan Lauharah	lladalka kapakapa ha		Youldhan	hipa phi personal behinde	who ready
		respektively	4Mulml 60			100	CMH	1 3 1 May 1 M		500		1000.0
0.0 30.0	000				Rea	100 ding	Correc	t Measi	ure-	500		
0.0 30.0	000	F	60		Read	ding	Correc	t Measu mer	ure- nt L	500	Over	
0.0 30.0	000	F	req.		Rea	ding evel uV)	Correc	t Measu mer	ure- nt L	imit	Over	1000.0
0.0 30.0 No.	000	F	req	2	Read Le	ding evel uV)	Correc Facto	t Measu mer	ure- nt L m) (dE	imit BuV/m)	Over (dB)	1000.0
0.0 30.0 No.	000	234.	req MHz .004	2	Read Le (dB)	ding evel uV) 41	Correc Facto (dB/m)	t Measumer (dBuV/)	ure- nt L m) (dE	imit BuV/m)	Over (dB) -10.01	Detecto peak
10 0.0 30.0 No.	000	234. 269.	req MHz .004 .995	2 8	Read Le (dB) 52.	ding evel uV) 41 93	Correc Facto (dB/m) -16.42 -15.36	Measumer (dBuV/) 35.9	ure- nt L m) (dE 9 40	imit 3uV/m) 6.00	Over (dB) -10.01 -9.43	Detecto peak peak
No.	Mk.	234. 269. 432.	req. MHz .004 .995 .090	2 8 9 4	Read Le (dB) 52. 51.	ding evel uV) 41 93 97 82	Correc Facto (dB/m) -16.42 -15.36 -10.53	Measumer (dBuV/iiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiii	ure- nt L m) (dE 9 40 67 40 67 40	imit 3uV/m) 6.00 6.00	Over (dB) -10.01 -9.43 -6.56	Detecto peak peak peak

Test Volta	ge	DC 3.7V						
Ant. Pol.	t. Pol . Vertical							
Test Mode:		DH5 Mode	e 2402	MHz				
80.0 dBuV/	m							
70								
60						FCC Part 15C (30M	(Hz-1GHz)	
50							Margin -6 dB	A
40					1 2	3.4 5	\$	Ц
30								le.
20			palard	hrymmyd !			HANDAMIN DEFENSE.	
10	100		4		300			
0.0	And the state of t	mandles Western	r.d.cochoquit					
Mangeryteighe	Additional to the second	100	100	(MHz)		500		1000.0
30.000		Rea	25.5	(MHz) Correct Factor	Measure- ment		Over	1000.0
30.000		Rea Le	ding	Correct	and the second s		Over	
30.000	. Fred	Rea Le (dB	ding evel uV)	Correct Factor	ment	Limit	Or LCV	Detecto
30.000 No. Mk.	. Fred	Rea 1. Le (dB	ding evel uV)	Correct Factor (dB/m)	ment (dBuV/m)	Limit (dBuV/m)	(dB)	Detecto
0.0 30.000 No. Mk.	Fred MHz 234.004	Rea (dB 42 52 58 51	ding evel uV)	Correct Factor (dB/m) -16.42	ment (dBuV/m) 35.99	Limit (dBuV/m) 46.00	(dB) -10.01	Detector peak
0.0 30.000 No. Mk.	Fred MHz 234.004 269.995	Rea (dB (dB 52 52 58 51 59 49 49 50 60 60 60 60 60 60 60 60 60 60 60 60 60	ding evel uV) .41	Correct Factor (dB/m) -16.42 -15.36	ment (dBuV/m) 35.99 36.57	Limit (dBuV/m) 46.00 46.00	(dB) -10.01 -9.43	Detector peak peak
0.0 Mk. 1 2	234.004 269.995 432.090	Rea (dB (dB 51. 58 51. 59 49. 34 49.	ding evel uV) .41 .93 .97	Correct Factor (dB/m) -16.42 -15.36 -10.53	ment (dBuV/m) 35.99 36.57 39.44	Limit (dBuV/m) 46.00 46.00 46.00	(dB) -10.01 -9.43 -6.56	Detector peak peak peak peak



Test	Volta	age	DC:	3.7V					
Ant.	Pol.		Hori	zontal					
Test	Mod	e:	TX	DH5 Mode 2	402MHz				
80.) di	BuV/m							
70	-						FC	CC Part 15C (PK)	
70									
60	-						ře	C Part 15C (AV)	Y
50							4	\$ whatehou	and they
40	-					mand the graph of the	Lineday market the poor	WAR WALLE	
30			Total 1	1 1	Mary Thomas Charles	mandy benefit			
	rapped	thy who confidency the soul of	1984 Sugar State of the	and the same of the same of the same					
20									
10	-								
0.0	71								
	000.00	00			(MHz) 6.5		8000		18000.
No.	Mk	. Fre	eq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
									-
		MH	Iz	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	Detector
1		2176.4	77.	(dBuV) 40.31	(dB/m) -11.00	(dBuV/m) 29.31	(dBuV/m) 74.00	(dB) -44.69	N. CHONAG
1 2			400	ACC STATE	Die Series	Order Service	274-308-2004	Cara,	peak peak
		2176.4	400 100	40.31	-11.00	29.31	74.00	-44.69	peak
2		2176.4 3368.1	400 100 300	40.31 42.82	-11.00 -9.93	29.31 32.89	74.00 74.00	-44.69 -41.11	peak peak peak
2		2176.4 3368.1 4959.3	400 100 300 600	40.31 42.82 46.23	-11.00 -9.93 -5.51	29.31 32.89 40.72	74.00 74.00 74.00	-44.69 -41.11 -33.28	peak peak



Test Voltage DC 3.7V Ant. Pol. Vertical Test Mode: TX DH5 Mode 2402MHz dBuV/m 80 FCC Part 15C [PK] 70 60 FCC Part 15C (AV) 50 40 30 20 10.0 1000.000 (MHz) 18000. Reading Correct Measure-Over Limit No. Mk. Freq. Factor Level ment MHz (dBuV) (dB/m) (dBuV/m) (dBuV/m) (dB) Detector 3721.700 47.78 1 -9.1238.66 74.00 -35.34peak 2 4801.200 49.19 -5.9343.26 74.00 -30.74peak 3 5981.000 50.23 -3.8446.39 74.00 -27.61peak 4 9602.000 43.52 3.19 46.71 74.00 -27.29peak 5 13887.700 36.54 11.09 47.63 74.00 -26.37peak 16364.600 -24.856 35.66 13.49 49.15 74.00 peak

Measurement = Reading level + Correct Factor



Test Voltage DC 3.7V Ant. Pol. Horizontal **Test Mode:** TX DH5 Mode 2441MHz dBuV/m 90.0 80 FCC Part 15C (PK) 70 60 FCC Part 15C (AV) 50 40 30 20 1000.000 (MHz) 8000 18000.

No.	Mk.	Freq.	Reading Level	Correct	Measure- ment	Limit	Over	
		MHz	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	Detector
1		3063.800	46.01	-10.47	35.54	74.00	-38.46	peak
2		4879.400	48.01	-5.72	42.29	74.00	-31.71	peak
3	7	8061.800	40.71	2.06	42.77	74.00	-31.23	peak
4		9758.400	41.41	3.54	44.95	74.00	-29.05	peak
5	1	13115.900	38.46	10.08	48.54	74.00	-25.46	peak
6	*	17624.300	36.45	13.45	49.90	74.00	-24.10	peak

Measurement = Reading level + Correct Factor



Test Voltage DC 3.7V Ant. Pol. Vertical Test Mode: TX DH5 Mode 2441MHz dBuV/m 90.0 80 FCC Part 15C (PK) 70 60 50 40 30 20 10.0 1000.000 (MHz) 8000 18000. Correct Reading Measure-Limit Over Freq. No. Mk. Level Factor ment MHz (dBuV) (dB/m) (dBuV/m) (dBuV/m) (dB) Detector 47.45 1 3726.800 -9.1238.33 74.00 -35.67peak 2 4879.400 48.23 -5.7242.51 74.00 -31.49peak 3 74.00 -27.385986.100 50.46 -3.8446.62 peak 4 8075.400 41.08 2.05 43.13 74.00 -30.87peak 5 14022.000 36.61 11.21 47.82 74.00 -26.18peak 16704.600 6 36.79 13.49 50.28 74.00 -23.72peak

Measurement = Reading level + Correct Factor



Test Voltage DC 3.7V Ant. Pol. Horizontal Test Mode: TX DH5 Mode 2480MHz dBuV/m 80 FCC Part 15C (PK) 70 60 FCC Part 15C (AV) 50 40 30 20 10.0 1000.000 (MHz) 8000 18000. Reading Correct Measure-Limit Over Freq. No. Mk. Level Factor ment MHz (dBuV) (dB/m) (dBuV/m) (dBuV/m) (dB) Detector 4957.600 1 48.32 -5.5142.81 74.00 -31.19peak 2 43.03 -3.8239.21 74.00 -34.795989.500 peak 3 8046.500 41.33 2.06 43.39 74.00 -30.61peak 4 11351.300 38.10 6.52 44.62 74.00 -29.38peak 5 14593.200 37.28 10.75 74.00 -25.9748.03 peak 16595.800 74.00 6 35.91 13.66 49.57 -24.43peak

Measurement = Reading level + Correct Factor



Test Voltage DC 3.7V Ant. Pol. Vertical Test Mode: TX DH5 Mode 2480MHz dBuV/m 90.0 80 FCC Part 15C (PK) 70 60 FCC Part 15C (AV) 50 40 30 20 10.0 1000.000 (MHz) 8000 18000. Reading Correct Measure-Limit Over No. Mk. Freq. Level Factor ment MHz (dBuV/m) (dBuV) (dB/m) (dBuV/m) (dB) Detector 1 3731.900 50.97 -9.09 41.88 74.00 -32.12peak 2 4957.600 46.81 -5.5141.30 74.00 -32.70peak 3 5977.600 49.99 -3.8546.14 74.00 -27.86peak 9913.100 45.74 74.00 -28.264 41.86 3.88 peak 5 13748.300 37.21 10.92 48.13 74.00 -25.87peak 17240.100 36.91 6 13.21 50.12 74.00 -23.88peak Measurement = Reading level + Correct Factor

Note:

- 1.All test modes had been tested. The GFSK(DH5) modulation is the worst case and recorded in the report.
- 2. 18GHz-26.5GHz is the background of the site, there is no radiated spurious.

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3.10. Conducted Emission

Limit

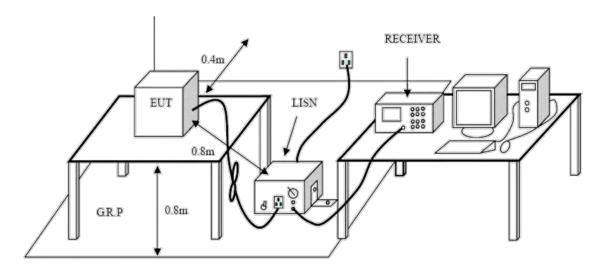
Conducted Emission Test Limit

Fraguency	Maximum RF Line Voltage (dBμV)			
Frequency	Quasi-peak Level	Average Level		
150kHz~500kHz	66 ~ 56 *	56 ~ 46 *		
500kHz~5MHz	56	46		
5MHz~30MHz	60	50		

Notes:

- (1) *Decreasing linearly with logarithm of the frequency.
- (2) The lower limit shall apply at the transition frequencies.
- (3) The limit decrease in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

Test Configuration



Test Procedure

- 1. The EUT was setup according to ANSI C63.10:2020 requirements.
- 2. 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.
- 3. The EUT and simulators are connected to the main power through a line impedances stabilization network (LISN). The LISN provides a 50ohm /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)
- 4. 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.
- 5. 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.
- 6. Conducted Emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9 kHz.
- 7. During the above scans, the emissions were maximized by cable manipulation.

Test Mode:

Please refer to the clause 2.2

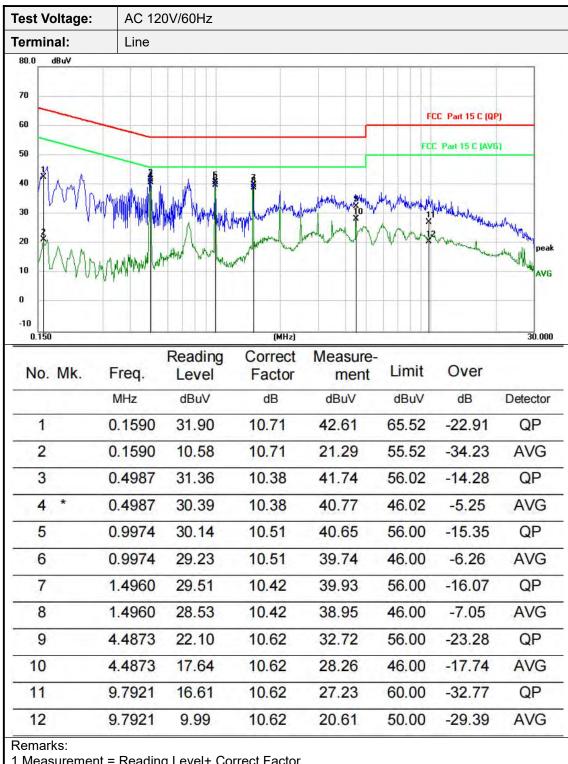
TRF No. FCC Part 15.247_R1

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Test Results

Pre-scan DH5, 2DH5,3DH5 modulation, and found the DH5 modulation 2402MHz which it is worse case, so only show the test data for worse case.



^{1.}Measurement = Reading Level+ Correct Factor

^{2.}Over = Measurement -Limit



Test Voltage: AC 120V/60Hz Neutral Terminal: 80.0 dBuV 70 FCC Part 15 C (QP) 60 FCC Part 15 C (AVG) 50 30 20 10 -10 (MHz) 30.000 Reading Correct Measure-Over Limit No. Mk. Freq. Level Factor ment MHz dBuV dBuV dBuV dB dB Detector 1 0.2386 27.71 10.72 38.43 62.14 -23.71QP 2 0.23869.40 10.72 20.12 52.14 -32.02**AVG** 27.75 3 0.7522 10.42 38.17 56.00 -17.83QP 4 0.7522 19.56 10.42 29.98 46.00 -16.02**AVG** 30.00 10.50 40.50 56.00 QP 5 0.9981 -15.5010.50 0.9981 29.34 39.84 46.00 -6.16**AVG** 6 7 1.4974 29.46 10.50 39.96 56.00 -16.04QP 1.4974 28.43 10.50 38.93 46.00 -7.07**AVG** 8 9 5.9372 21.16 10.59 31.75 60.00 -28.25QP 10 5.9372 15.76 10.59 26.35 50.00 **AVG** -23.6511.2518 10.64 11 17.93 28.57 60.00 -31.43QP 12 AVG 11.2518 12.41 10.64 23.05 50.00 -26.95

Remarks:

^{1.}Measurement = Reading Level+ Correct Factor

^{2.}Over = Measurement -Limit

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3.11. Pseudorandom Frequency Hopping Sequence

LIMIT

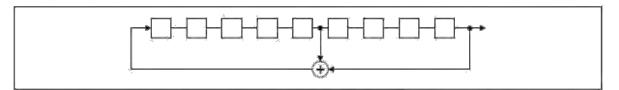
FCC CFR Title 47 Part 15 Subpart C Section 15.247 (a)(1):

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hop-ping channel, whichever is greater. Al-ternatively, 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. The system shall hop to channel frequencies that are selected at the system hopping rate from a pseudo randomly 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 hop-ping channel bandwidths of their cor-responding transmitters and shall shift frequencies in synchronization with the transmitted signals.

TEST RESULTS

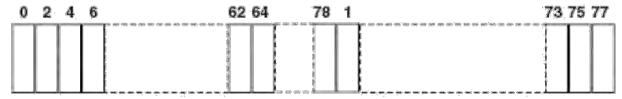
The pseudorandom frequency hopping sequence may be generated in a nice-stage shift register whose 5^{th} and 9^{th} stage outputs are added in a modulo-two addition stage. And the result is fed back to the input of the friststage. The sequence begins with the frist one of 9 consecutive ones, for example: the shift register is initialized with nine ones.

- Number of shift register stages: 9
- Length of pseudo-random sequence:29-1=511 bits
- Longest sequence of zeros:8(non-inverted signal)



Linear Feedback Shift Register for Generation of the PRBS sequence

An explame of pseudorandom frequency hopping sequence as follows:

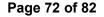


Each frequency used equally one the average by each transmitter.

The system receiver have input bandwidths that match the hopping channel bandwidths of their corresponding transmitter and shift frequencies in synchronization with the transmitted signals.

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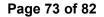
4.EUT TEST PHOTOS

Radiated Measurement (Below 1GHz)

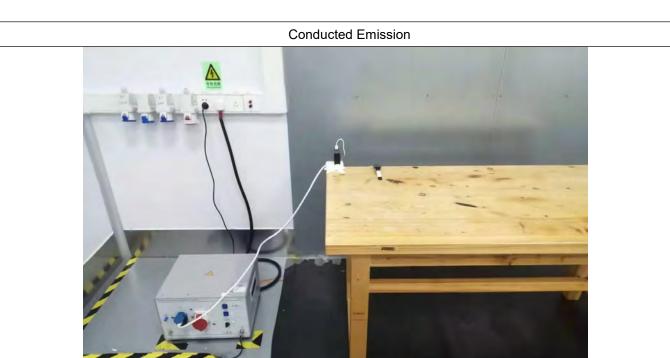
Radiated Measurement (Above 1GHz)



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5.PHOTOGRAPHS OF EUT CONSTRUCTIONAL

External Photographs



Photo 2



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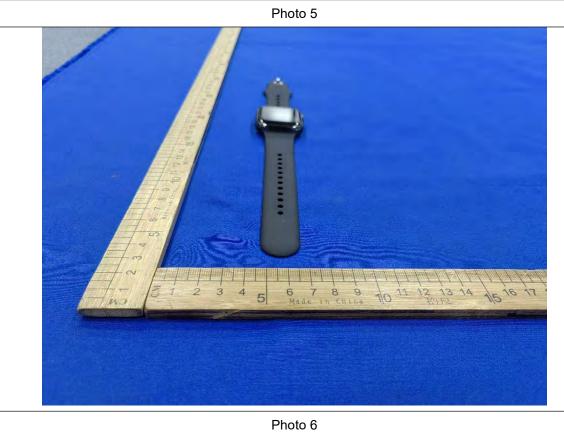








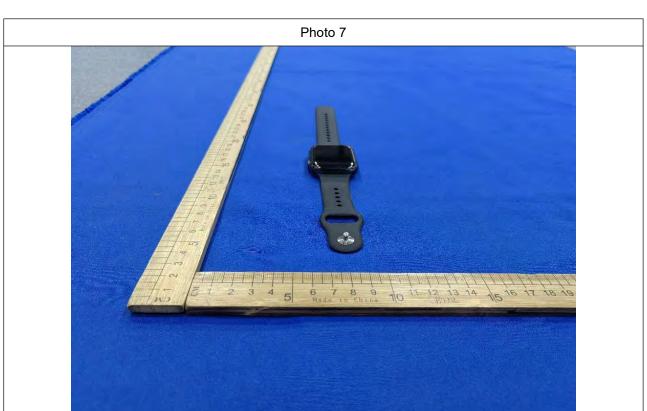














Internal Photographs









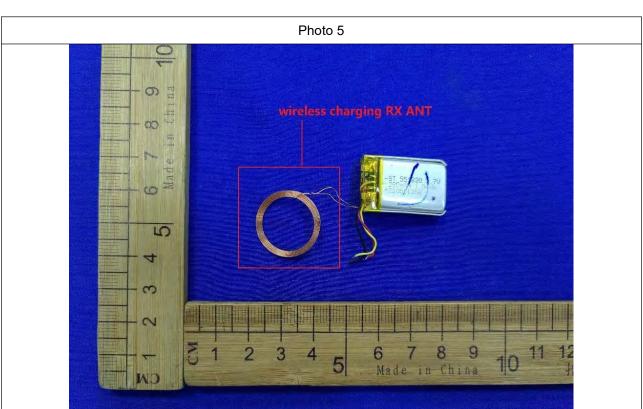




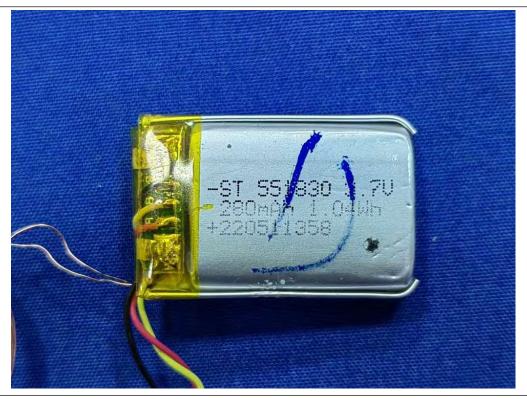




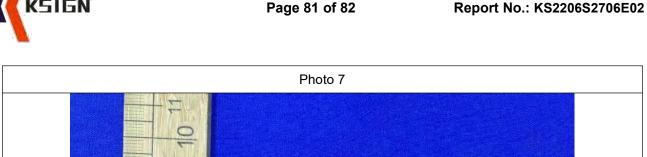






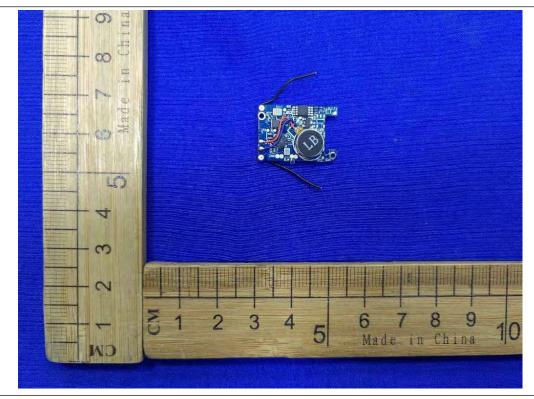






10 4 3 N 10 Made in China MO

Photo 8









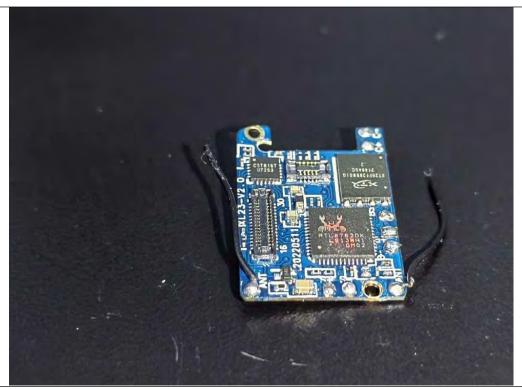
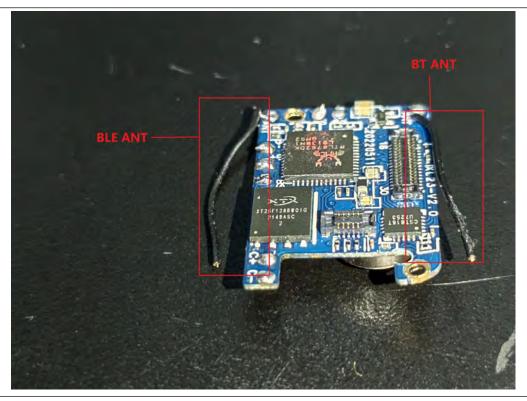


Photo 10



--THE END--