

# Test Report

Verified code: 890741

Report No.: E202409184352-4

Customer: Huizhou Foryou General Electronics Co., Ltd.  
Address: No.2 District A, Foryou Industry Park, No. 1 North Shangxia Road,  
Dongjiang Hi tech Industry Park, 516005 Huizhou city, Guangdong  
Province, China(PROC)  
Sample Name: Intelligent cabin controller  
Sample Model: HS7024  
Receive Sample Date: Sep.18,2024  
Test Date: Sep.26,2024 ~ Oct.02,2024  
Reference Document: 47 CFR, FCC Part 15 Subpart C  
RADIO FREQUENCY DEVICES:Subpart C—Intentional Radiators  
Test Result: Pass

Prepared by: Wen Wenwen  
Wen Wenwen

Reviewed by: Peng Huarui  
Peng Huarui

Approved by: Zhao Zetian  
Zhao Zetian



GRG METROLOGY & TEST GROUP CO., LTD.

Issued Date: 2024-10-21

GRG METROLOGY & TEST GROUP CO., LTD.

Address: No.163, Pingyun Road, West of Huangpu Avenue, Guangzhou, Guangdong, China  
Tel: (+86) 400-602-0999 FAX: (+86) 020-38698685 Web: <http://www.grgtest.com>



## Statement

1. The report is invalid without "special seal for inspection and testing"; some copies are invalid; The report is invalid if it is altered or missing; The report is invalid without the signature of the person who prepared, reviewed and approved it.
2. The sample information is provided by the client and responsible for its authenticity; The content of the report is only valid for the samples sent this time.
3. When there are reports in both Chinese and English, the Chinese version will prevail when the language problems are inconsistent.
4. If there is any objection concerning the report, please inform us within 15 days from the date of receiving the report.
5. This testing report is only for scientific research, teaching, internal quality control, etc.

——Blank space below this page——

## TABLE OF CONTENTS

1.	TEST RESULT SUMMARY.....	6
2.	GENERAL DESCRIPTION OF EUT.....	7
2.1	APPLICANT.....	7
2.2	MANUFACTURER.....	7
2.3	FACTORY.....	7
2.4	BASIC DESCRIPTION OF EQUIPMENT UNDER TEST.....	7
2.5	TEST OPERATION MODE.....	8
2.6	LOCAL SUPPORTIVE.....	8
2.8	CONFIGURATION OF SYSTEM UNDER TEST.....	9
2.9	DUTY CYCLE.....	10
3.	LABORATORY AND ACCREDITATIONS.....	11
3.1	LABORATORY.....	11
3.2	ACCREDITATIONS.....	11
3.3	MEASUREMENT UNCERTAINTY.....	12
4.	LIST OF USED TEST EQUIPMENT AT GRGT.....	13
5.	TEST RESULTS.....	14
5.1	E.U.T. TEST CONDITIONS.....	14
6.	20dB BANDWIDTH.....	16
6.1	LIMITS.....	16
6.2	TEST PROCEDURES.....	16
6.3	TEST SETUP.....	16
6.4	TEST RESULTS.....	16
7.	CARRIER FREQUENCIES SEPARATED.....	22
7.1	LIMITS.....	22
7.2	TEST PROCEDURES.....	22
7.3	TEST SETUP.....	22
7.4	TEST RESULTS.....	22
8.	HOPPING CHANNEL NUMBER.....	25
8.1	LIMITS.....	25
8.2	TEST PROCEDURES.....	25
8.3	TEST SETUP.....	25
8.4	TEST RESULTS.....	25
9.	DWELL TIME.....	28
9.1	LIMITS.....	28
9.2	TEST PROCEDURES.....	28
9.3	TEST SETUP.....	28
9.4	TEST RESULTS.....	29
10.	MAXIMUM PEAK OUTPUT POWER.....	35
10.1	LIMITS.....	35
10.2	TEST PROCEDURES.....	35
10.3	TEST SETUP.....	35
10.4	TEST RESULTS.....	36

- 11. CONDUCTED BAND EDGES AND SPURIOUS EMISSIONS ..... 37
  - 11.1 LIMITS..... 37
  - 11.2 TEST PROCEDURES ..... 37
  - 11.3 TEST SETUP ..... 37
  - 11.4 TEST RESULTS ..... 38
- 12. RADIATED SPURIOUS EMISSIONS ..... 60
  - 12.1 LIMITS..... 60
  - 12.2 TEST PROCEDURES ..... 60
  - 12.3 TEST SETUP ..... 63
  - 12.4 DATA SAMPLE ..... 64
  - 12.5 TEST RESULTS ..... 66
- 13. RESTRICTED BANDS OF OPERATION..... 73
  - 13.1 LIMITS..... 73
  - 13.2 TEST PROCEDURES ..... 74
  - 13.3 TEST SETUP ..... 74
  - 13.4 TEST RESULTS ..... 75
- APPENDIX A. PHOTOGRAPH OF THE TEST CONNECTION DIAGRAM ..... 83
- APPENDIX B. PHOTOGRAPH OF THE EUT ..... 83

—Blank space below this page—

**REPORT ISSUED HISTORY**

Report Version	Report No.	Description	Compile Date
1.0	E202409184352-4	Original Issue	2024-10-15

—Blank space below this page—

**1. TEST RESULT SUMMARY**

<b>47 CFR, FCC Part 15 Subpart C 15.247, ANSI C63.10-2020 KDB 558074 D01 15.247 measurement guidance v05r02</b>			
<b>Standard</b>	<b>Item</b>	<b>Limit / Severity</b>	<b>Result</b>
47 CFR, FCC Part 15 Subpart C (15.247)	Antenna Requirement	Section 15.203	PASS <sup>1)</sup>
	20dB Bandwidth	Section 15.247(a)(1)	PASS
	Carrier Frequencies Separated	Section 15.247(a)(1)	PASS
	Hopping Channel Number	Section 15.247(a)(1)(iii)	PASS
	Dwell Time	Section 15.247(a)(1)(iii)	PASS
	Maximum Peak Output Power	Section 15.247(b)(1)	PASS
	Conducted Emission	Section 15.207	N/A <sup>2)</sup>
	Conducted band edges and Spurious Emission	Section 15.209 &15.247(d)	PASS
	Radiated Spurious Emission	Section 15.209 &15.247(d)	PASS
	Restricted bands of operation	Section 15.247 (d) &15.205	PASS

Note:

- 1) The antenna is Internal antenna. The max gain of antenna is 4.98dBi.which accordance 15.203.is considered sufficient to comply with the provisions of this section.
- 2) Test is not applicable to this Equipment. This EUT is no AC mains power ports.

—Blank space below this page—

## 2. GENERAL DESCRIPTION OF EUT

### 2.1 APPLICANT

Name: Huizhou Foryou General Electronics Co., Ltd.  
Address: No.2 District A, Foryou Industry Park, No. 1 North Shangxia Road, Dongjiang Hi tech Industry Park, 516005 Huizhou city, Guangdong Province, China(PROC)

### 2.2 MANUFACTURER

Name: Huizhou Foryou General Electronics Co., Ltd.  
Address: No.2 District A, Foryou Industry Park, No. 1 North Shangxia Road, Dongjiang Hi tech Industry Park, 516005 Huizhou city, Guangdong Province, China(PROC)

### 2.3 FACTORY

Name: Huizhou Foryou General Electronics Co., Ltd.  
Address: No.2 District A, Foryou Industry Park, No. 1 North Shangxia Road, Dongjiang Hi tech Industry Park, 516005 Huizhou city, Guangdong Province, China(PROC)

### 2.4 BASIC DESCRIPTION OF EQUIPMENT UNDER TEST

Equipment: Intelligent cabin controller  
Model No.: HS7024  
Trade Mark: ADAYO  
FCC ID: 2AEIN-HS7024  
Power Supply: DC 12V  
Battery: Ni-MH BATTERY AA1000mAh, LTT-HS7012A, LTT-AAP1000X3 3.6V  
Frequency Range: 2402MHz~2480MHz  
Maximum Transmit Power: 2.28dBm  
Type of Modulation: FHSS (GFSK for 1Mbps,  $\pi/4$ -DQPSK for 2Mbps, 8DPSK for 3Mbps)  
Antenna Specification: Internal Antenna with 4.98dBi gain (Max)  
Temperature Range: -40°C~75°C  
Voltage Range: 9V~16V  
Hardware Version: B.0.1  
Software Version: SWC.0007  
Sample submitting way:  Provided by customer  Sampling  
Sample No: E202409184352-0001, E202409184352-0002

1. The EUT antenna gain is provided by the applicant. This report is made solely on the basis of such data and/or information. We accept no responsibility for the authenticity and completeness of the above data and information and the validity of the results and/or conclusions.

2. This EUT (Intelligent cabin controller) the model name HS7024 with High, Low two configuration. The two configuration have the same technical construction including circuit diagram, PCB LAYOUT, hardware version, software, except the High configuration with full function but the Low configuration without some functions as below table. These difference which are not affect the RF performance.

Note:

So only tested the high configuration of HS7024.

HS7024 Function	Configuration	
	High	Low
4MIC port	Y	N
DMS port	Y	N
Ethernet port	Y	N
Support PTZ camera port	Y	N
Integrated projection headlights port	Y	N

## 2.5 TEST OPERATION MODE

Mode No.	Description of the modes
1	Bluetooth(BT) fixed frequency transmitting

## 2.6 LOCAL SUPPORTIVE

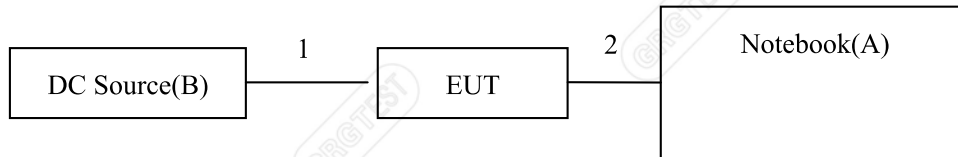
No.	Name of Equipment	Manufacturer	Model	Serial Number
A	Notebook	DELL	Latitude3400	8RZFJW2
B	DC source	KEYSIGHT	E36131A	MY59001135

## 2.7

No.	Cable Type	Qty.	Shielded Type	Ferrite Core(Qty.)	Length
1	DC cable	1	No	0	0.8m
2	Serial cable	1	No	0	2.0m



**2.8 CONFIGURATION OF SYSTEM UNDER TEST**



**Test software:**

Software version	Test level
adb	7

—Blank space below this page—

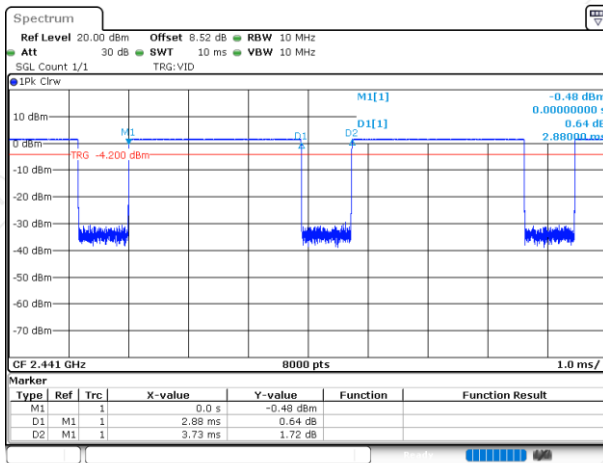
### 2.9 DUTY CYCLE

Environment: 25.6°C/65%RH/101.0kPa  
 Tested By:Zhu rongting

Voltage: DC 12V  
 Date: 2024-09-26

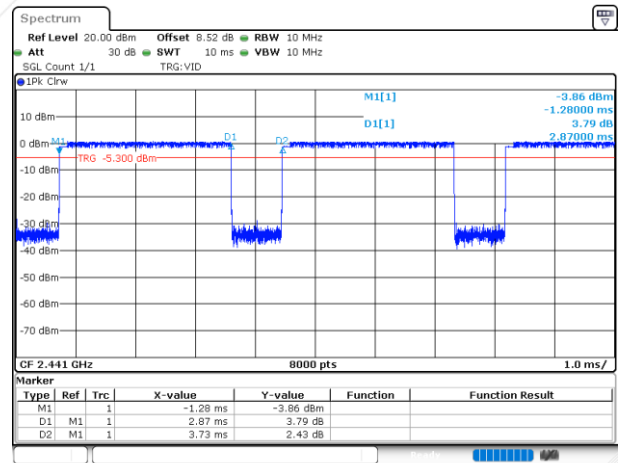
TestMode	Antenna	Frequency [MHz]	ON Time [ms]	Period [ms]	DC [%]	T [s]
DH5	Ant1	2441	2.88	3.73	77.21	0.00288
2DH5	Ant1	2441	2.87	3.73	76.94	0.00287
3DH5	Ant1	2441	2.87	3.73	76.94	0.00287

DH5\_2441MHz



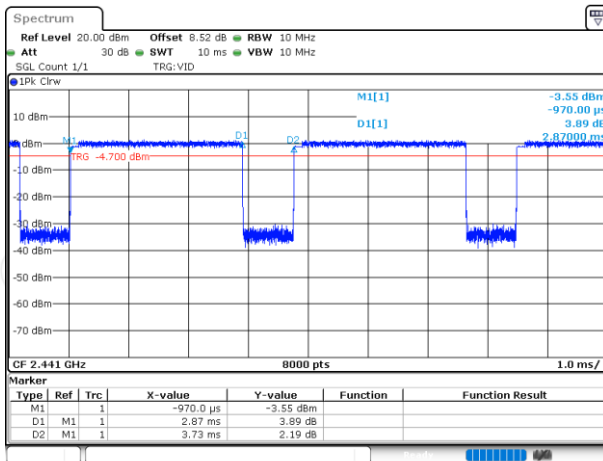
Date: 26\_SEP.2024 15:46:48

2DH5\_2441MHz



Date: 26\_SEP.2024 15:52:08

3DH5\_2441MHz



Date: 26\_SEP.2024 15:57:45

### 3. LABORATORY AND ACCREDITATIONS

#### 3.1 LABORATORY

The tests & measurements refer to this report were performed by Shenzhen EMC Laboratory of GRG METROLOGY & TEST GROUP CO., LTD.

Add : No.1301 Guangang Road Xinlan Community, Guanlan Street, Longhua District  
Shenzhen, 518110, People's Republic of China

P.C. : 518110

Tel : 0755-61180008

Fax : 0755-61180008

#### 3.2 ACCREDITATIONS

Our laboratories are accredited and approved by the following approval agencies according to GB/T 27025(ISO/IEC 17025:2017)

**USA** A2LA(Certificate #2861.01)

The measuring facility of laboratories has been authorized or registered by the following approval agencies.

**Canada** ISED (Company Number: 24897, CAB identifier:CN0069)

**USA** FCC (Registration Number: 759402, Designation Number:CN1198)

Copies of granted accreditation certificates are available for downloading from our web site, <http://www.grgtest.com>

—Blank space below this page—

### 3.3 MEASUREMENT UNCERTAINTY

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

Measurement		Frequency	Uncertainty	
Radiated Emission	X	9kHz~30MHz	4.4dB <sup>1)</sup>	
	Y	9kHz~30MHz	4.4dB <sup>1)</sup>	
	Z	9kHz~30MHz	4.4dB <sup>1)</sup>	
	Horizontal		30MHz~200MHz	4.6dB <sup>1)</sup>
			200MHz~1000MHz	4.8dB <sup>1)</sup>
			1GHz~18GHz	5.0dB <sup>1)</sup>
			18GHz~26.5GHz	5.2dB <sup>1)</sup>
	Vertical		30MHz~200MHz	4.7dB <sup>1)</sup>
			200MHz~1000MHz	4.7dB <sup>1)</sup>
			1GHz~18GHz	5.1dB <sup>1)</sup>
		18GHz~26.5GHz	5.4dB <sup>1)</sup>	

Measurement	Uncertainty
RF frequency	$6.0 \times 10^{-6}$
RF power conducted	0.78 dB
Occupied channel bandwidth	0.40 dB
Unwanted emission, conducted	0.68 dB
Humidity	6.00 %
Temperature	2.0°C

This uncertainty represents an expanded uncertainty factor of  $k=2$ .

**4. LIST OF USED TEST EQUIPMENT AT GRGT**

Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
<b>Hopping Channel Number &amp; Dwell Time &amp; 20 dB Bandwidth &amp; Conducted band edges and Spurious Emission &amp; Carrier Frequencies Separated</b>				
Spectrum Analyzer	R&S	FSV30	1321.3008K30 -104381-rH	2025-09-22
Automatic power test unit	TONSCEND	JS0806-2	21B8060365	2024-12-28
BT/WIFI System	Tonscend	JS1120-3		
<b>Radiated Spurious Emission&amp;Restricted bands of operation</b>				
Loop Antenna	Schwarzbeck	FMZB 1513-60	1513-60-56	2025-05-07
Preamplifier	SHIRONG ELECTRONIC	DLNA-30M1G- G40	20200928001	2025-01-30
Bi-log Antenna	Schwarzbeck	VULB9160	VULB9160-3402	2025-09-24
Horn Antenna	Schwarzbeck	BBHA 9120D	02143	2025-06-15
Test Receiver	R&S	ESR26	101758	2025-09-10
Spectrum Analyzer	Agilent	N9010A	MY52221469	2025-04-19
Board-Band Horn Antenna	Schwarzbeck	BBHA 9170	BBHA 9170-497	2025-08-24
Amplifier	Tonscend	TAP01018048	AP20E8060075	2025-03-01
Amplifier	Tonscend	TAP184050	AP20E806071	2025-03-01
Amplifier	SHIRONG ELECTRONIC	DLNA-1G18G- G40	20200928005	2025-07-19
Test S/W	Tonscend	JS36-RE/2.5.1.5		
<b>Maximum Peak Output Power</b>				
Pulse power sensor	Anristu	MA2411B	1126150	2025-01-11
Power meter	Anristu	ML2495A	1204003	2025-01-11

Note: The calibration interval of the above test instruments is 12 months.

## 5. TEST RESULTS

### 5.1 E.U.T. TEST CONDITIONS

Test frequencies:

According to the 15.31(m) Measurements on intentional radiators or receivers, other than TV broadcast receivers, shall be performed and, if required, reported for each band in which the device can be operated with the device operating at the number of frequencies in each band specified in the following table:

Frequency range over which device operates	Number of frequencies	Location in the range of operation
1 MHz or less	1	Middle
1 to 10 MHz	2	1 near top and 1 near bottom
More than 10 MHz	3	1 near top 1 near middle and 1 near bottom

EUT channels and frequencies list:

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
<b>0</b>	<b>2402</b>	14	2416	28	2430
1	2403	15	2417	29	2431
2	2404	16	2418	30	2432
3	2405	17	2419	31	2433
4	2406	18	2420	32	2434
5	2407	19	2421	33	2435
6	2408	20	2422	34	2436
7	2409	21	2423	35	2437
8	2410	22	2424	36	2438
9	2411	23	2425	37	2439
10	2412	24	2426	38	2440
11	2413	25	2427	<b>39</b>	<b>2441</b>
12	2414	26	2428	40	2442
13	2415	27	2429	41	2443

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
42	2444	55	2457	68	2470
43	2445	56	2458	69	2471
44	2446	57	2459	70	2472
45	2447	58	2460	71	2473
46	2448	59	2461	72	2474
47	2449	60	2462	73	2475
48	2450	61	2463	74	2476
49	2451	62	2464	75	2477
50	2452	63	2465	76	2478
51	2453	64	2466	77	2479
52	2454	65	2467	<b>78</b>	<b>2480</b>
53	2455	66	2468		
54	2456	67	2469		

Test frequency is the lowest channel: 0 frequency(2402MHz), middle channel: 39 frequency (2441MHz) and highest channel: 78 frequency(2480MHz)

—Blank space below this page—

## 6. 20dB BANDWIDTH

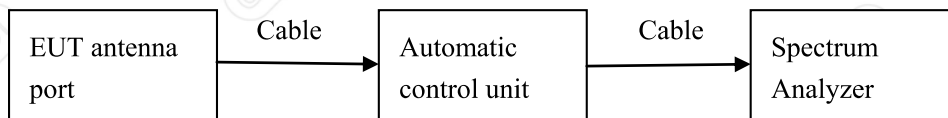
### 6.1 LIMITS

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.

### 6.2 TEST PROCEDURES

- 1) Remove the antenna from the EUT, and then connect a low loss RF cable from antenna port to the spectrum analyzer.
- 2) Set the spectrum analyzer as RBW=20kHz, VBW=50kHz, Span=3MHz, Sweep = auto. Allow the trace to stabilize, record 20dB bandwidth value
- 3) Repeat until all the test channels are investigated.

### 6.3 TEST SETUP



### 6.4 TEST RESULTS

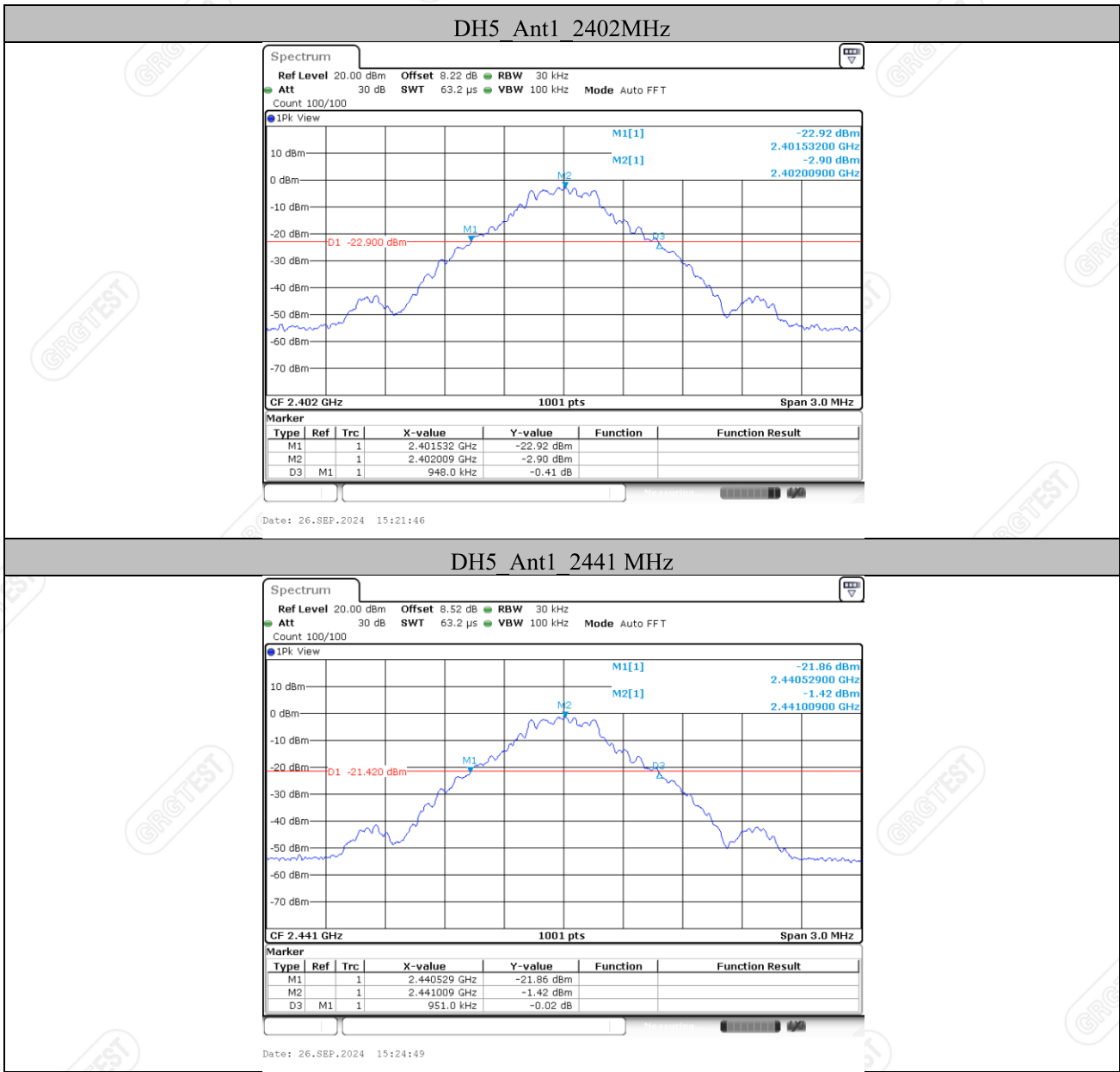
Environment: 25.6°C/65%RH/101.0kPa  
 Tested By:Zhu rongting

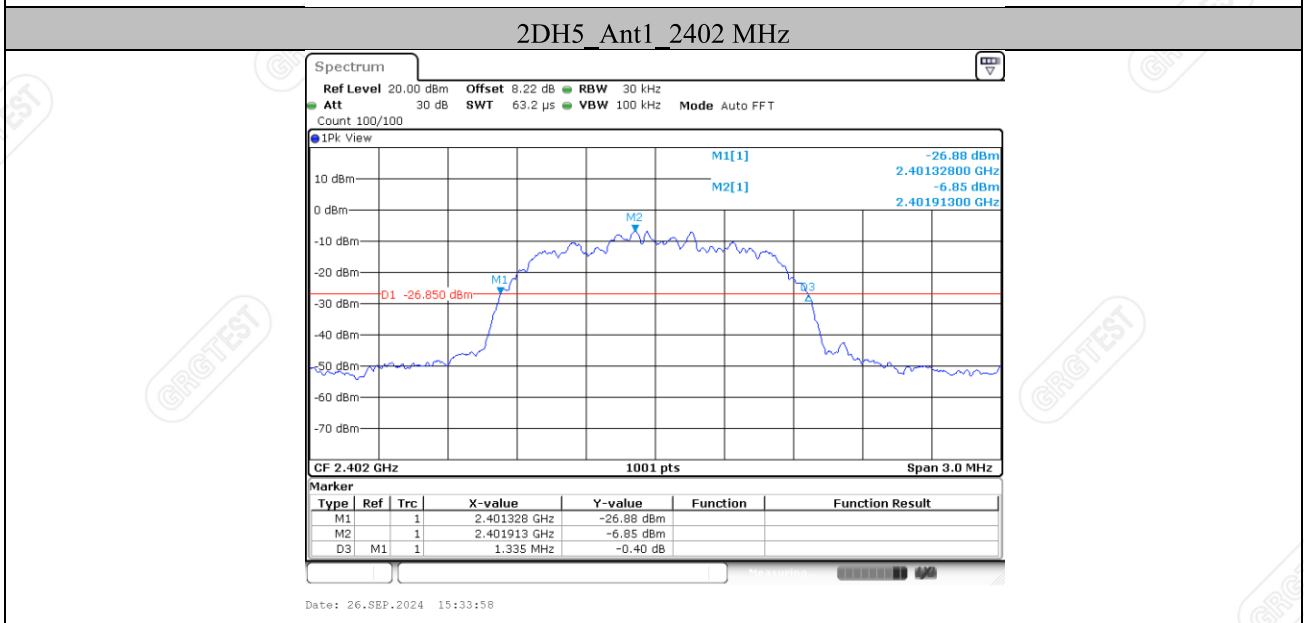
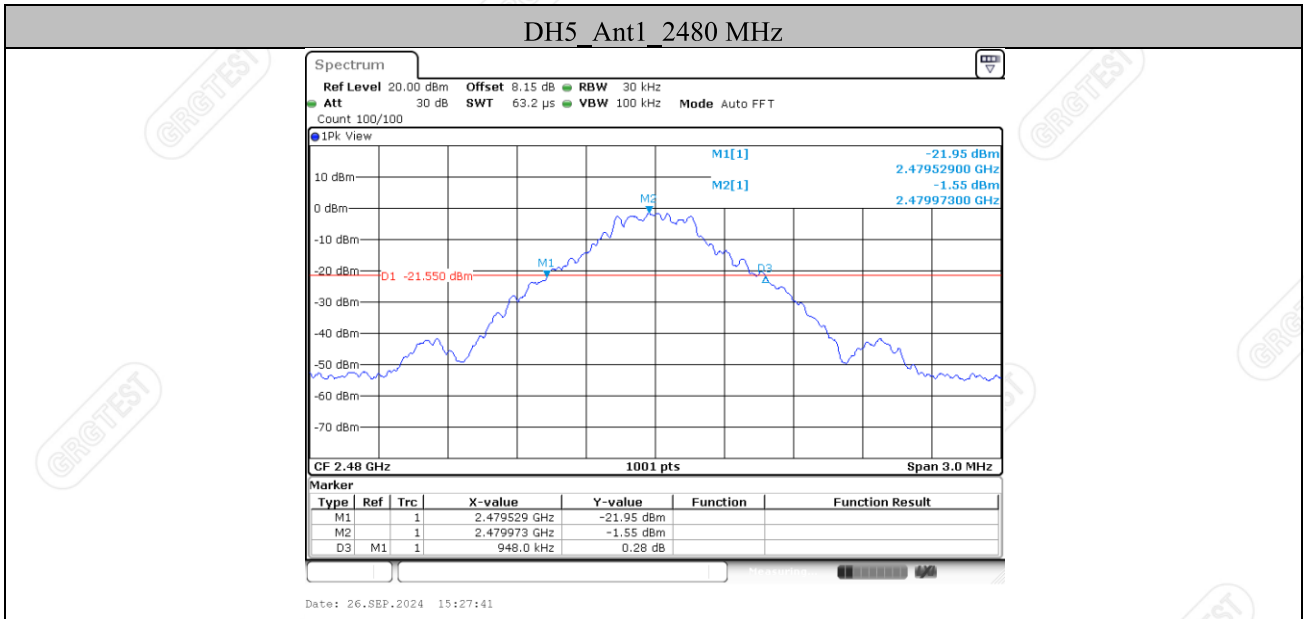
Voltage:DC 12V  
 Date: 2024-09-26

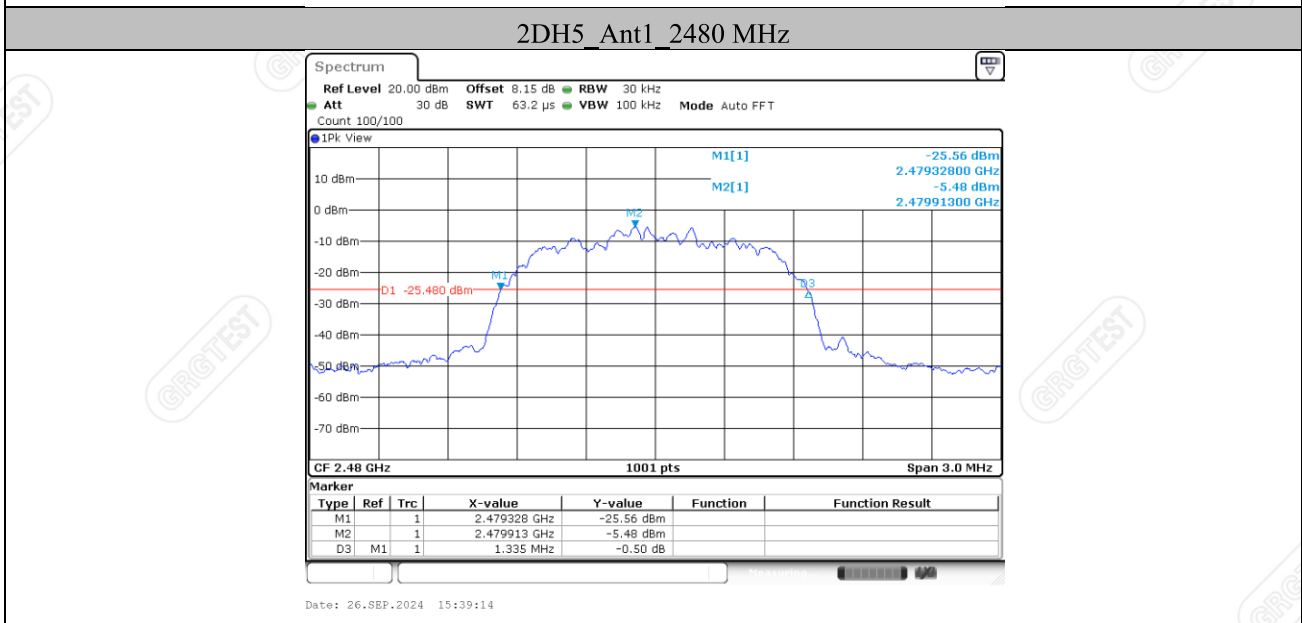
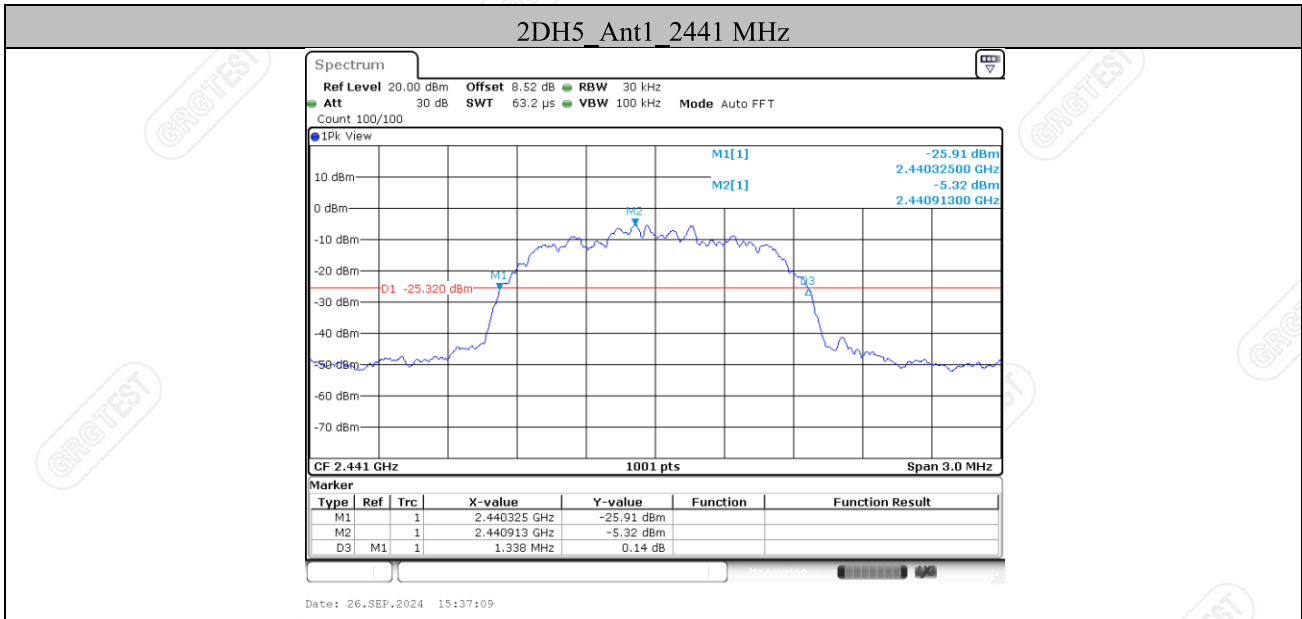
Test mode	Channel	Frequency (MHz)	20 dB Bandwidth (kHz)
DH5	Lowest	2402	948
	Middle	2441	951
	Highest	2480	948
Test mode	Channel	Frequency (MHz)	20 dB Bandwidth (kHz)
2DH5	Lowest	2402	1335
	Middle	2441	1338
	Highest	2480	1335
Test mode	Channel	Frequency (MHz)	20 dB Bandwidth (kHz)
3DH5	Lowest	2402	1326
	Middle	2441	1326
	Highest	2480	1323

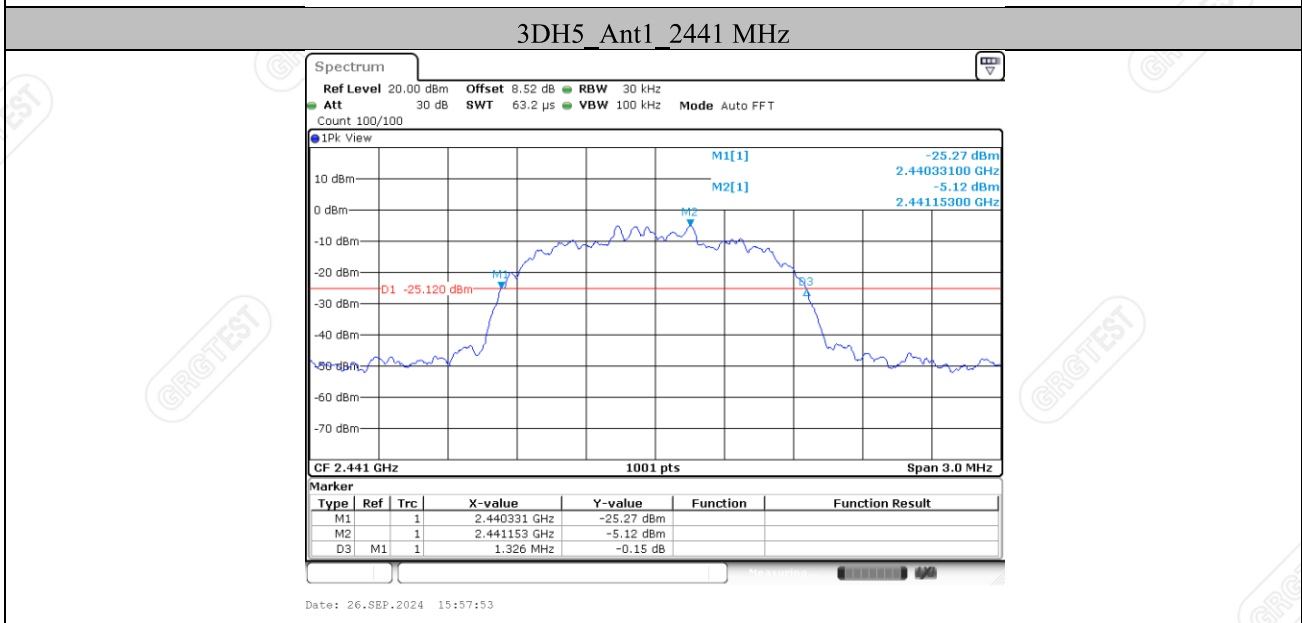
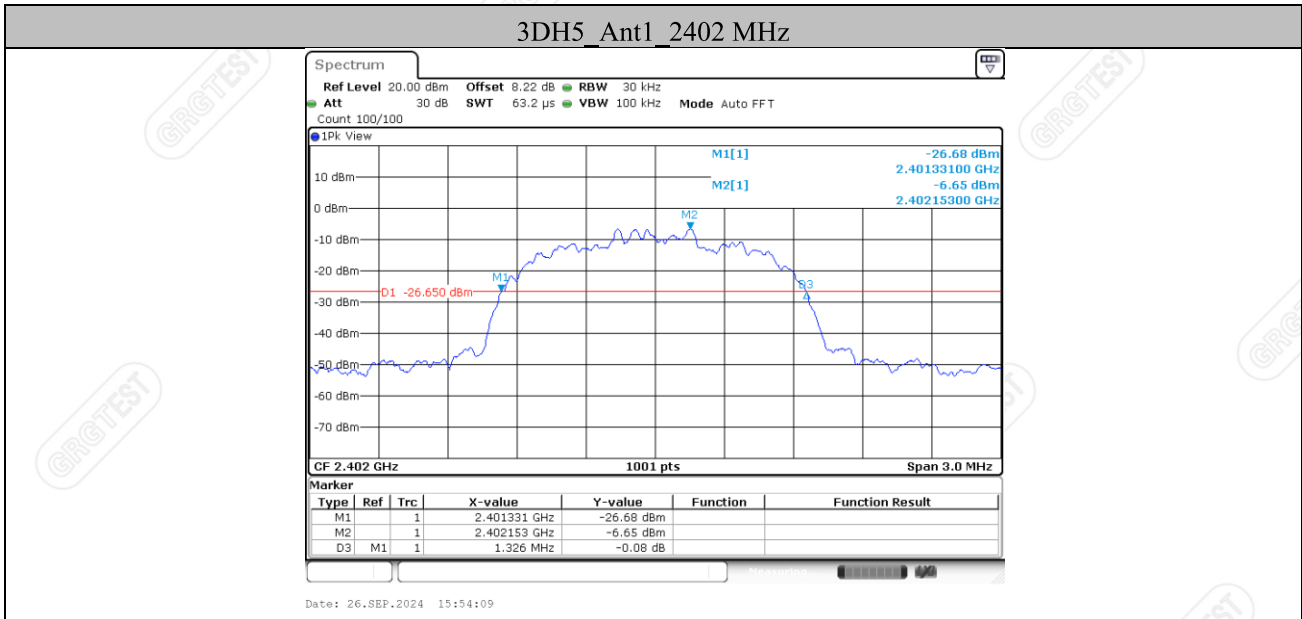


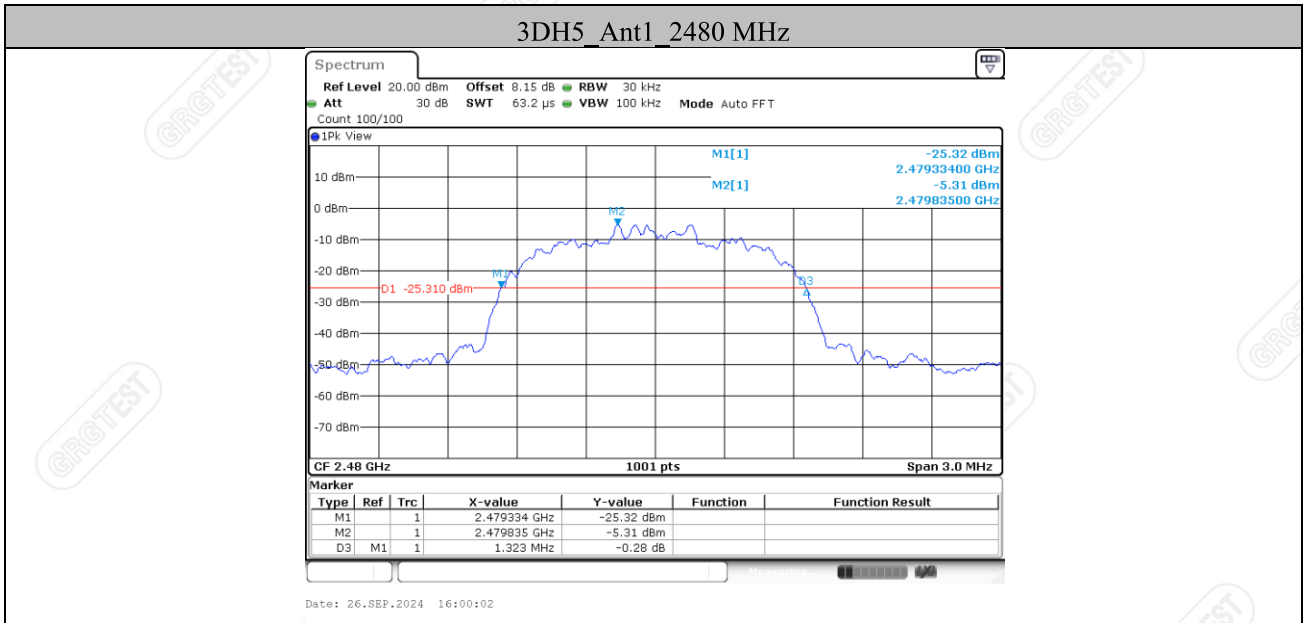
Result plot as follows:











—Blank space below this page—

## 7. CARRIER FREQUENCIES SEPARATED

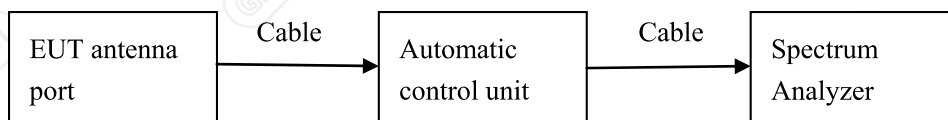
### 7.1 LIMITS

1) 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.

### 7.2 TEST PROCEDURES

- 1) Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
- 2) Set center frequency of spectrum analyzer = middle of hopping channel.
- 3) Set the spectrum analyzer as RBW=100kHz, VBW=300kHz, Adjust Span to 2MHz, Sweep = auto
- 4) Use the marker-delta function to mark hopping channel carrier frequencies and record the channel separation.

### 7.3 TEST SETUP



### 7.4 TEST RESULTS

Environment: 25.6°C/65%RH/101.0kPa  
 Tested By:Zhu rongting

Voltage:DC 12V  
 Date: 2024-09-26

#### DH5

Channel Separation (MHz)	Two-thirds of the 20 dB Bandwidth (kHz)	Channel Separation Limit	Result
1.000	634	> Two-thirds of the 20 dB Bandwidth	Pass

#### 2DH5

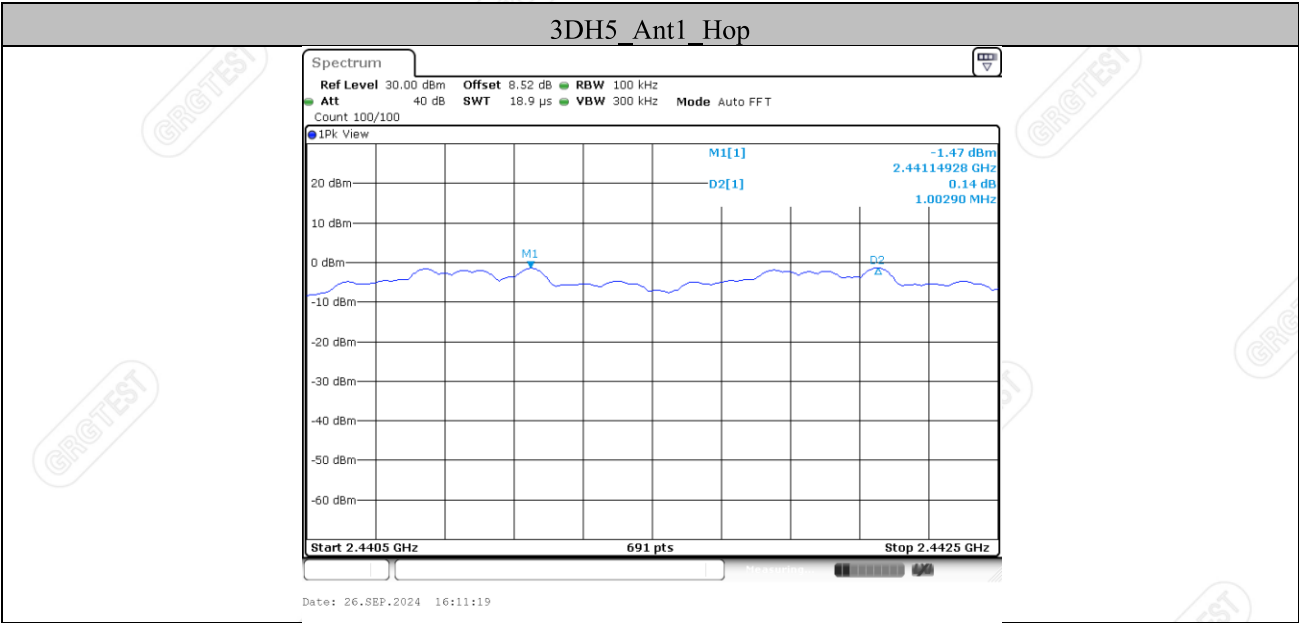
Channel Separation (MHz)	Two-thirds of the 20 dB Bandwidth (kHz)	Channel Separation Limit	Result
1.000	892	> Two-thirds of the 20 dB Bandwidth	Pass

#### 3DH5

Channel Separation (MHz)	Two-thirds of the 20 dB Bandwidth (kHz)	Channel Separation Limit	Result
1.003	884	> Two-thirds of the 20 dB Bandwidth	Pass

Result plot as follows:





**Test result: The unit does meet the FCC requirements.**

—Blank space below this page—



## 8. HOPPING CHANNEL NUMBER

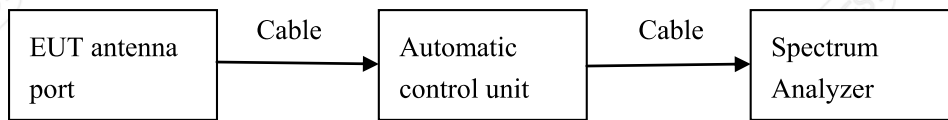
### 8.1 LIMITS

Regulation 15.247 (a) (1)(iii) Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 channels.

### 8.2 TEST PROCEDURES

- 1) Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
- 2) Set the spectrum analyzer as RBW=100kHz, VBW=300kHz.
- 3) Set the spectrum analyzer: start frequency = 2400MHz. stop frequency = 2483.5MHz. Submit the test result graph.

### 8.3 TEST SETUP



### 8.4 TEST RESULTS

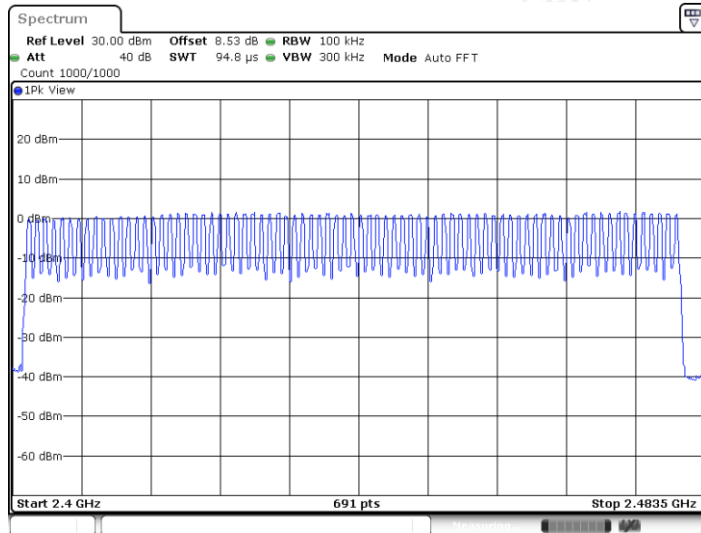
Environment: 25.6°C/65%RH/101.0kPa  
 Tested By:Zhu rongting

Voltage:DC 12V  
 Date: 2024-09-26

Test mode	Result (No. of CH)	Limit (No. of CH)	Result
DH5	79	≥15	PASS
2DH5	79	≥15	PASS
3DH5	79	≥15	PASS

### GFSK

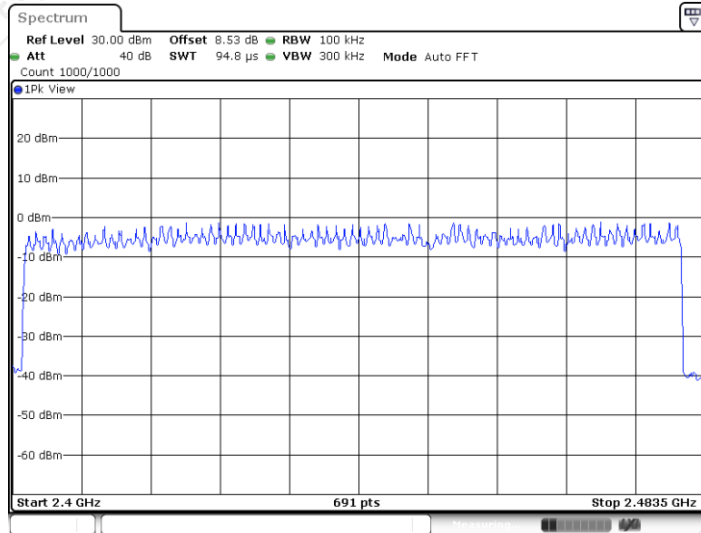
2.400 GHz – 2.4835 GHz



Date: 26.SEP.2024 16:04:43

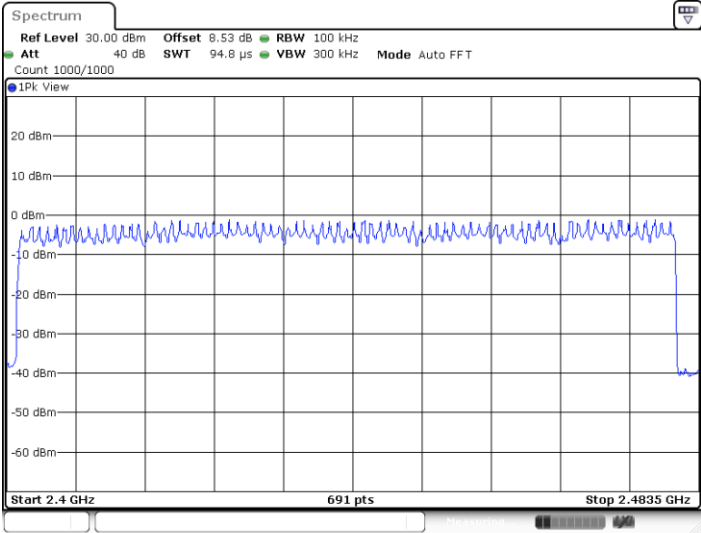
### $\pi/4$ -DQPSK

2.400 GHz – 2.4835 GHz



Date: 26.SEP.2024 16:09:04

8DPSK  
2.400 GHz – 2.4835 GHz



Date: 26.SEP.2024 16:12:23

**Test result: The unit does meet the FCC requirements.**

—Blank space below this page—

## 9. DWELL TIME

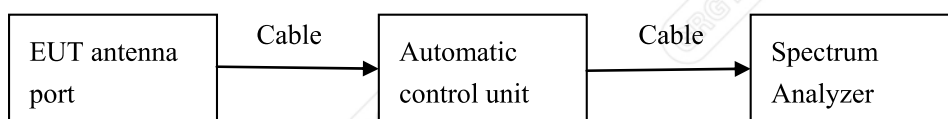
### 9.1 LIMITS

Regulation 15.247(a)(1)(iii) Frequency hopping systems in the 2400-2483.5MHz band shall use at least 15 channels. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 channels are used.

### 9.2 TEST PROCEDURES

- 1) Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum.
- 2) Set spectrum analyzer span = 0. centered on a hopping channel;
- 3) Set RBW = 1MHz and VBW = 3MHz. Sweep = as necessary to capture the entire dwell time per hopping channel. Detector Function = Peak. Trace = Max hold;
- 4) Use the marker-delta function to determine the dwell time. If this value varies with different modes of operation (e.g., data rate, modulation format, etc.). Repeat this test for each variation.
- 5) DH1 Packet permit maximum  $1600 / 79 / 2 = 10.12$  hops per second in each channel (1 time slot TX, 1 time slot RX). So, the dwell time is the time duration of the pulse times  $10.12 \times 31.6 = 320$  within 31.6 seconds
- 6) DH3 Packet permit maximum  $1600 / 79 / 4 = 5.06$  hops per second in each channel (3 time slots TX, 1 time slot RX). So, the dwell time is the time duration of the pulse times  $5.06 \times 31.6 = 160$  within 31.6 seconds
- 7) DH5 Packet permit maximum  $1600 / 79 / 6 = 3.37$  hops per second in each channel (5 time slots TX, 1 time slot RX). So, the dwell time is the time duration of the pulse times  $3.37 \times 31.6 = 106.6$  within 31.6 seconds

### 9.3 TEST SETUP



### 9.4 TEST RESULTS

Environment: 25.6°C/65%RH/101.0kPa  
 Tested By:Zhu rongting

Voltage:DC 12V  
 Date: 2024-09-26

The test period: T= 0.4 Second/Channel x 79 Channel = 31.6 s

**GFSK:** Middle Channel (2.441GHz)

DH1	time slot=	0.199	(ms)*	(1600/(2*79))	*	31.6	=	64	ms
DH3	time slot=	1.641	(ms)*	(1600/(4*79))	*	31.6	=	263	ms
DH5	time slot=	2.882	(ms)*	(1600/(6*79))	*	31.6	=	307	ms

**π/4-DQPSK:** Middle Channel (2.441GHz)

2DH1	time slot=	0.390	(ms)*	(1600/(2*79))	*	31.6	=	125	ms
2DH3	time slot=	1.634	(ms)*	(1600/(4*79))	*	31.6	=	261	ms
2DH5	time slot=	2.874	(ms)*	(1600/(6*79))	*	31.6	=	307	ms

**8DPSK:** Middle Channel (2.441GHz)

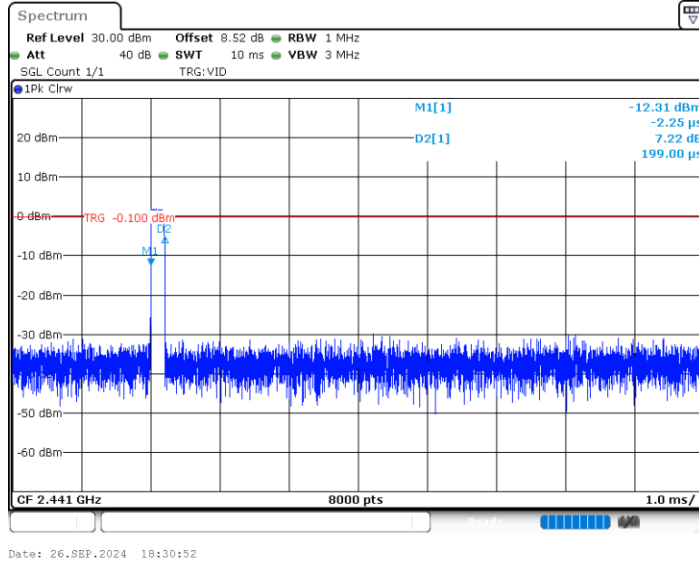
3DH1	time slot=	0.388	(ms)*	(1600/(2*79))	*	31.6	=	124	ms
3DH3	time slot=	1.630	(ms)*	(1600/(4*79))	*	31.6	=	261	ms
3DH5	time slot=	2.873	(ms)*	(1600/(6*79))	*	31.6	=	306	ms

**The results are not greater than 0.4 seconds.  
 The unit does meet the requirements.**

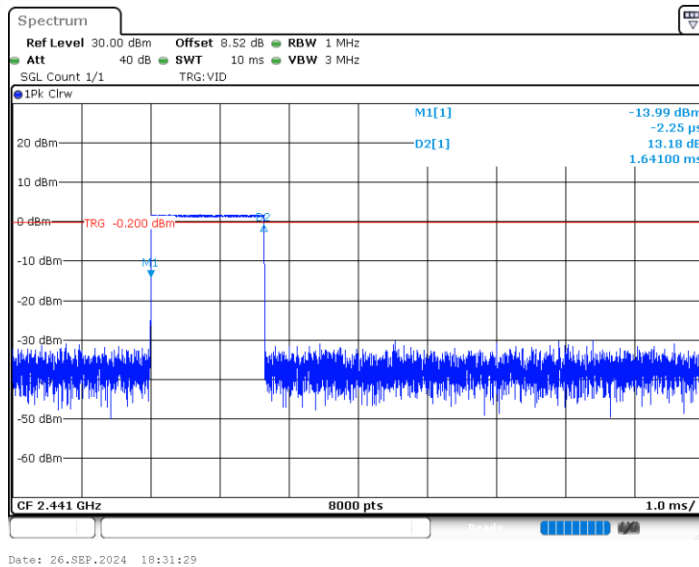
—Blank space below this page—

Please refer the graph as below:

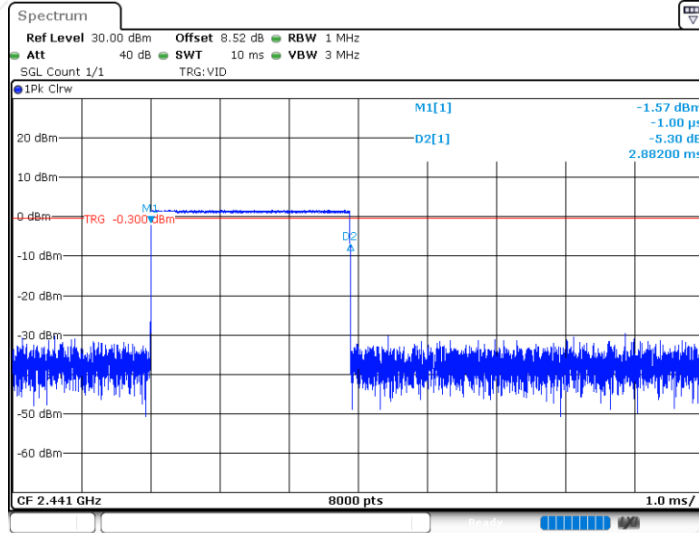
GFSK  
MiddleFrequency (2.441GHz)  
DH1



DH3

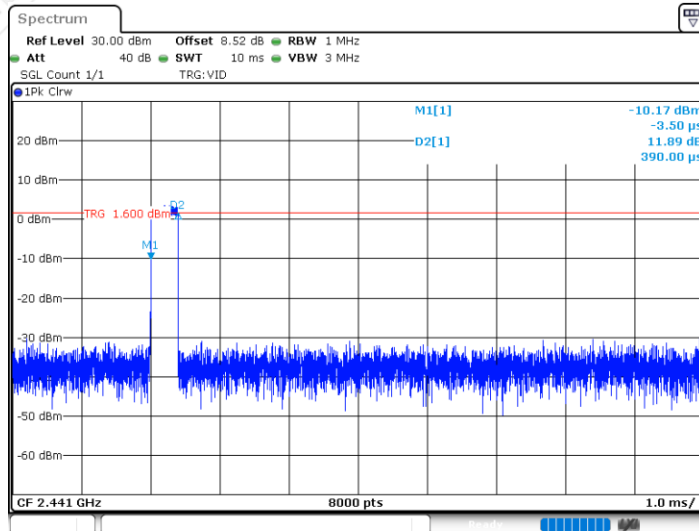


### DH5



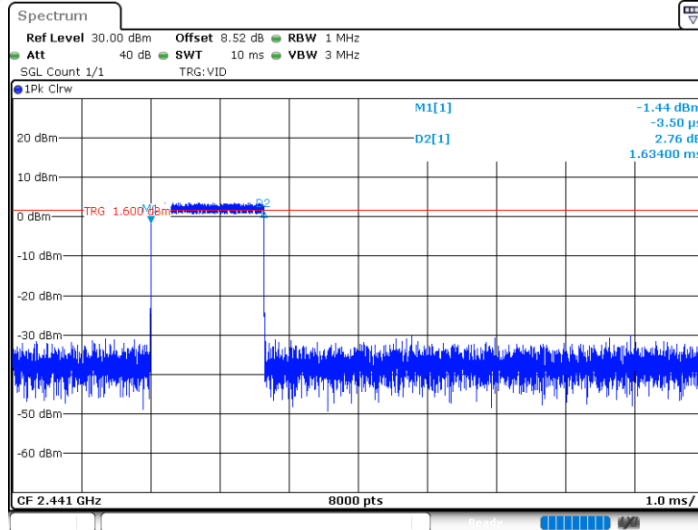
Date: 26.SEP.2024 16:04:58

### $\pi/4$ -DQPSK MiddleFrequency (2.441GHz) 2DH1



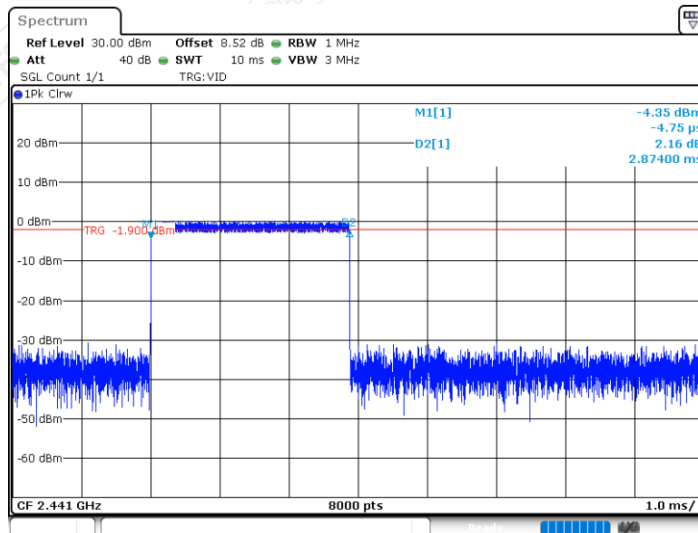
Date: 26.SEP.2024 18:32:06

### Mid Frequency (2.441GHz) 2DH3



Date: 26.SEP.2024 18:35:35

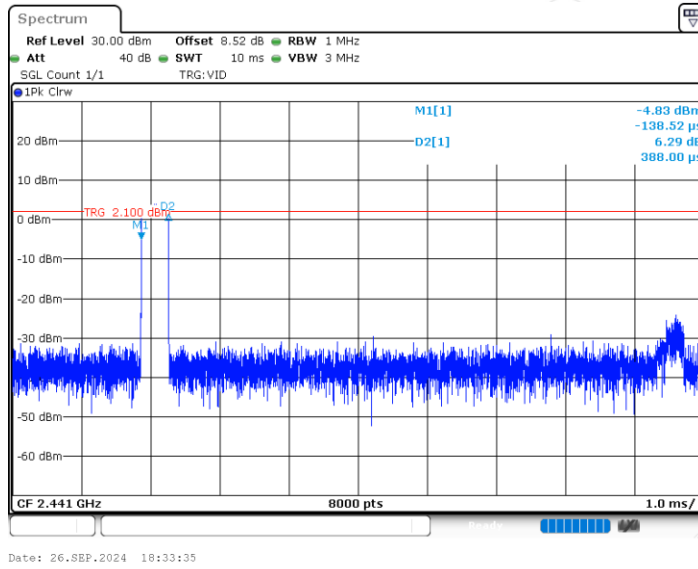
### 2DH5



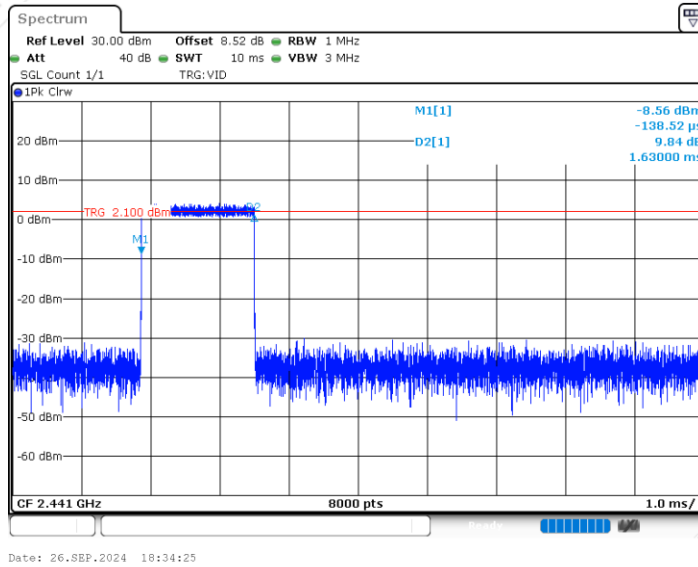
Date: 26.SEP.2024 16:09:19



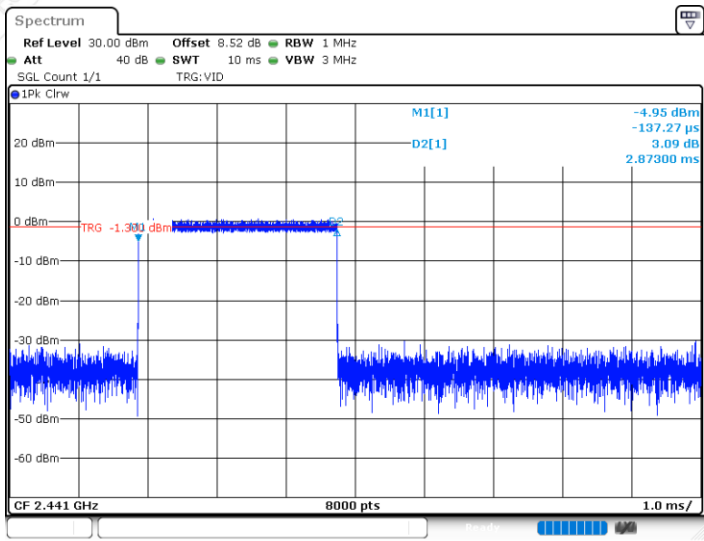
8DPSK  
MiddleFrequency (2.441GHz)  
3DH1



3DH3



3DH5



Date: 26.SEP.2024 16:16:12

—Blank space below this page—

## 10. MAXIMUM PEAK OUTPUT POWER

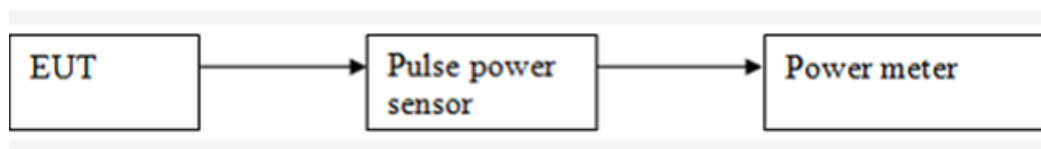
### 10.1 LIMITS

Regulation 15.247 (b)(1) For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watts.

### 10.2 TEST PROCEDURES

- 1) Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the power meter and enable the EUT transmit continuously.
- 2) Keep the EUT in transmitting at lowest, middle and highest channel individually. Record the max value.

### 10.3 TEST SETUP



—Blank space below this page—

**10.4 TEST RESULTS**

Environment: 25.6°C/65%RH/101.0kPa  
 Tested By:Zhu rongting

Voltage:DC 12V  
 Date: 2024-09-26

**DH5**

Test Channel	Fundamental Frequency (GHz)	Max Output Power(dBm)	Limit (dBm)	Peak/Average	Pass/Fail
Lowest	2.402	1.20	20.97	Peak	Pass
Middle	2.441	2.27			Pass
Highest	2.480	2.17			Pass

**2DH5**

Test Channel	Fundamental Frequency (GHz)	Max Output Power(dBm)	Limit (dBm)	Peak/Average	Pass/Fail
Lowest	2.402	0.08	20.97	Peak	Pass
Middle	2.441	1.20			Pass
Highest	2.480	1.06			Pass

**3DH5**

Test Channel	Fundamental Frequency (GHz)	Max Output Power(dBm)	Limit (dBm)	Peak/Average	Pass/Fail
Lowest	2.402	0.62	20.97	Peak	Pass
Middle	2.441	2.28			Pass
Highest	2.480	1.56			Pass

Test result: The unit does meet the FCC requirements.

## 11. CONDUCTED BAND EDGES AND SPURIOUS EMISSIONS

### 11.1 LIMITS

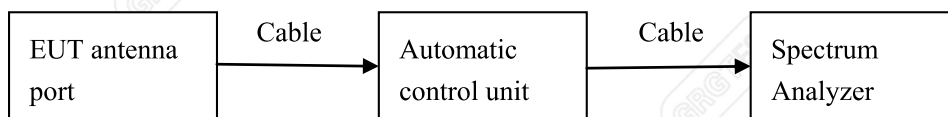
In any 100kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the 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 30dB instead of 20dB.

### 11.2 TEST PROCEDURES

Test procedures follow KDB 558074 D01 DTS Measurement Guidance v05r02.

- 1) Remove the antenna from the EUT and then connect a low attenuation cable from the antenna port to the spectrum.
- 2) Set the spectrum analyzer: RBW =100kHz; VBW =300kHz, Frequency range = 30MHz to 26.5GHz; Sweep = auto; Detector Function = Peak. Trace = Max, hold.
- 3) Measure and record the results in the test report.
- 4) The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

### 11.3 TEST SETUP



—Blank space below this page—

**11.4 TEST RESULTS**

Environment: 25.6°C/65%RH/101.0kPa  
 Tested By:Zhu rongting

Voltage:DC 12V  
 Date: 2024-09-26

**Band edge measurements**

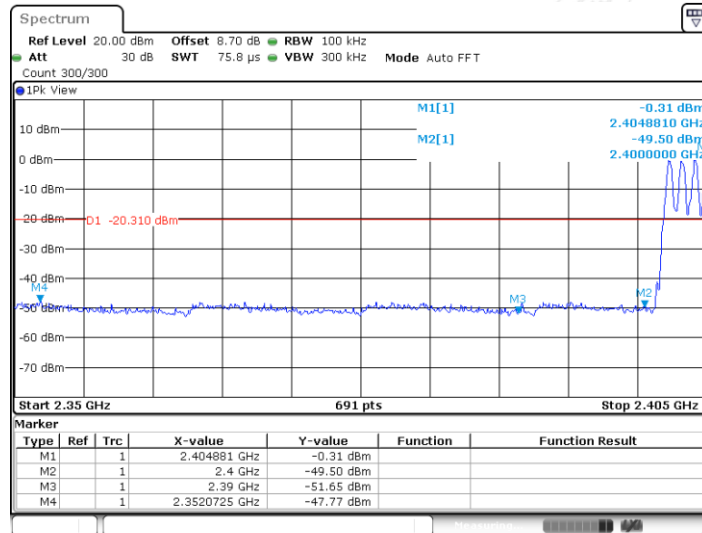
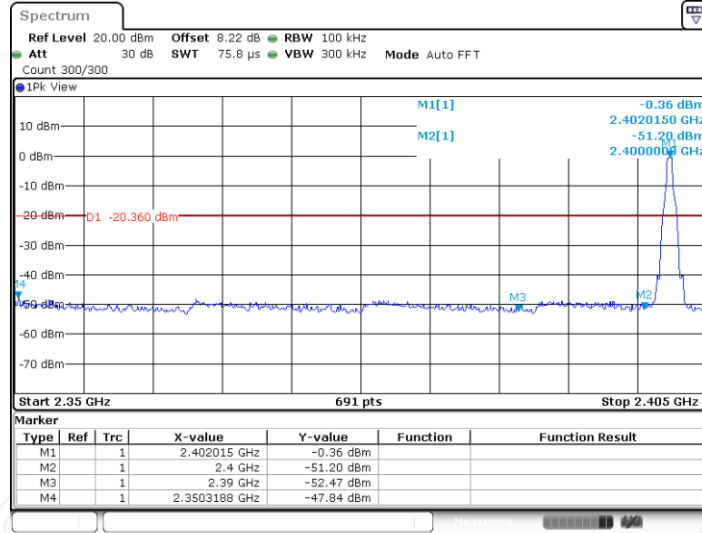
TestMode	Antenna	ChName	Freq(MHz)	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	Low	2402	-0.36	-47.84	≤-20.36	PASS
		High	2480	1.18	-47.47	≤-18.82	PASS
		Low	Hop_2402	-0.31	-47.77	≤-20.31	PASS
		High	Hop_2480	0.63	-47.96	≤-19.37	PASS
2DH5	Ant1	Low	2402	-3.22	-47.94	≤-23.22	PASS
		High	2480	-1.70	-46.57	≤-21.7	PASS
		Low	Hop_2402	-5.66	-47.71	≤-25.66	PASS
		High	Hop_2480	-2.62	-48.09	≤-22.62	PASS
3DH5	Ant1	Low	2402	-3.07	-46.39	≤-23.07	PASS
		High	2480	-1.58	-47.62	≤-21.58	PASS
		Low	Hop_2402	-4.19	-47.06	≤-24.19	PASS
		High	Hop_2480	-1.89	-47.45	≤-21.89	PASS

—Blank space below this page—

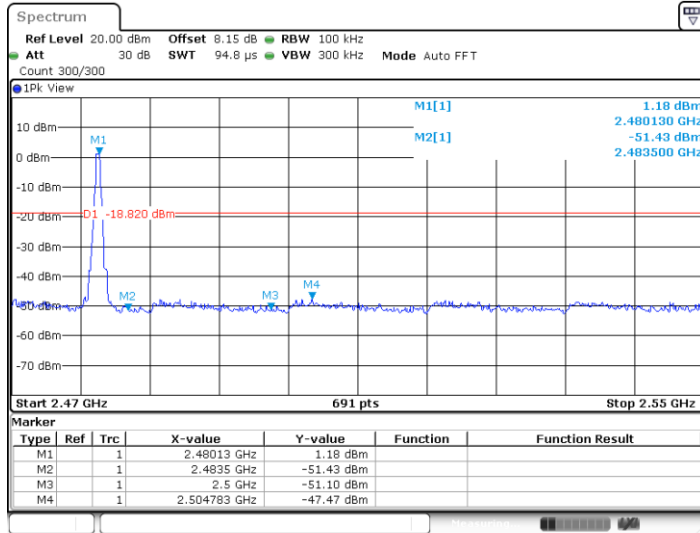
Test result plot as follows:

DH5

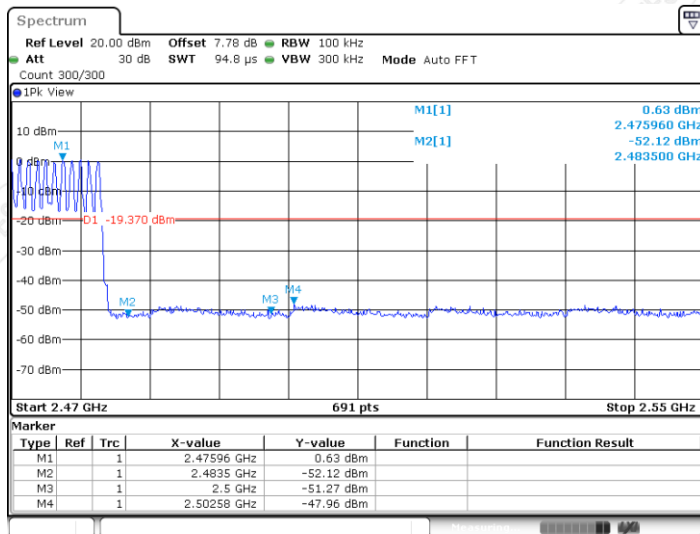
CH Low (2.35GHz ~2.405GHz)



CH High (2.47GHz ~ 2.55GHz)



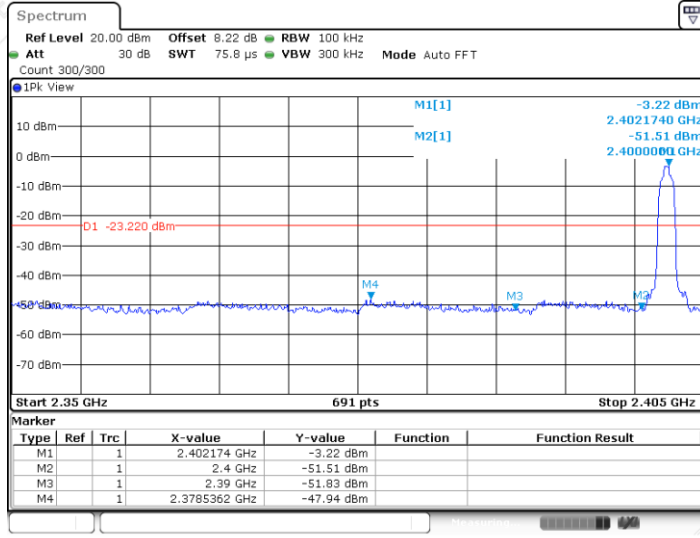
Date: 26.SEP.2024 15:27:55



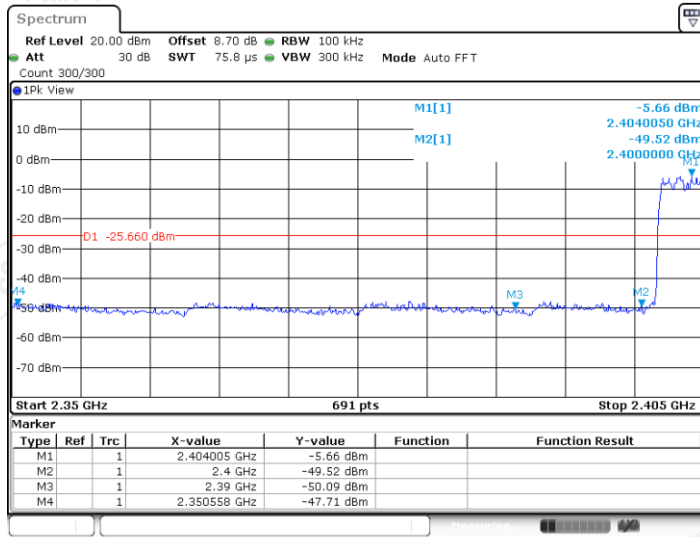
Date: 26.SEP.2024 16:05:57



2DH5  
CH Low (2.35GHz ~2.405GHz)

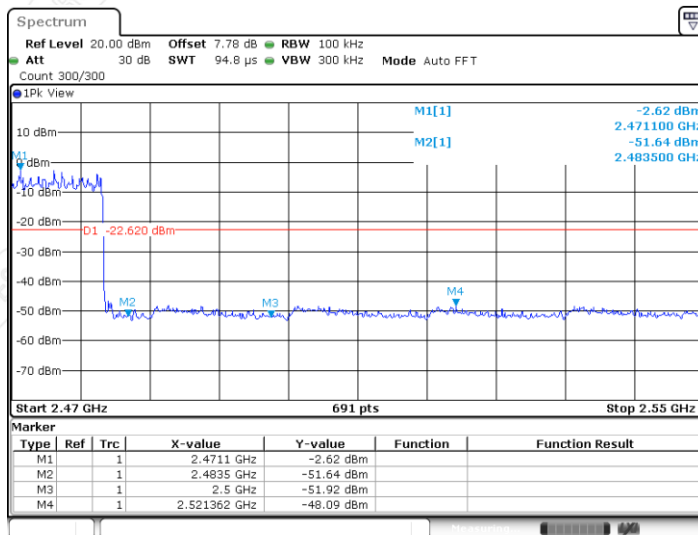
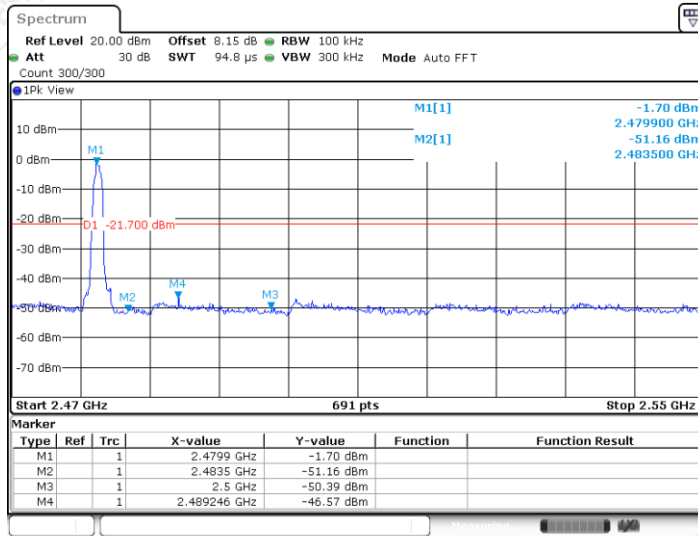


Date: 26.SEP.2024 15:34:12

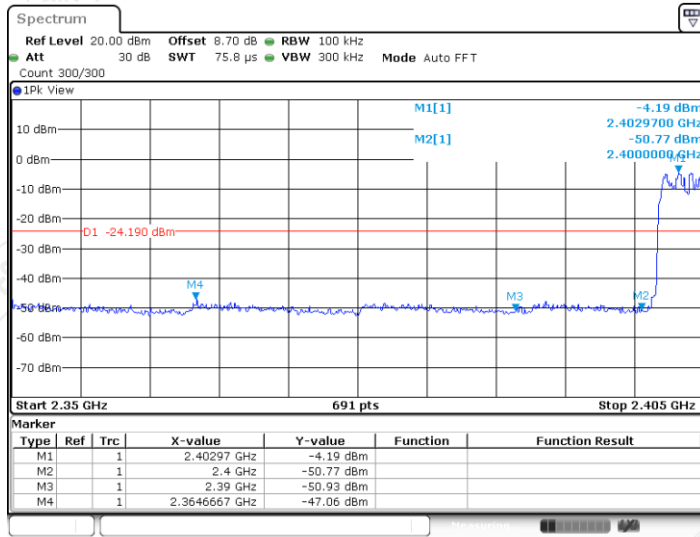
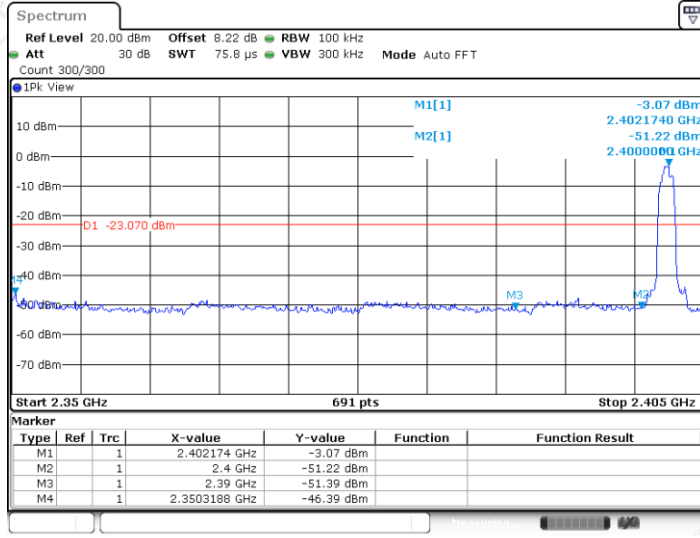


Date: 26.SEP.2024 16:08:05

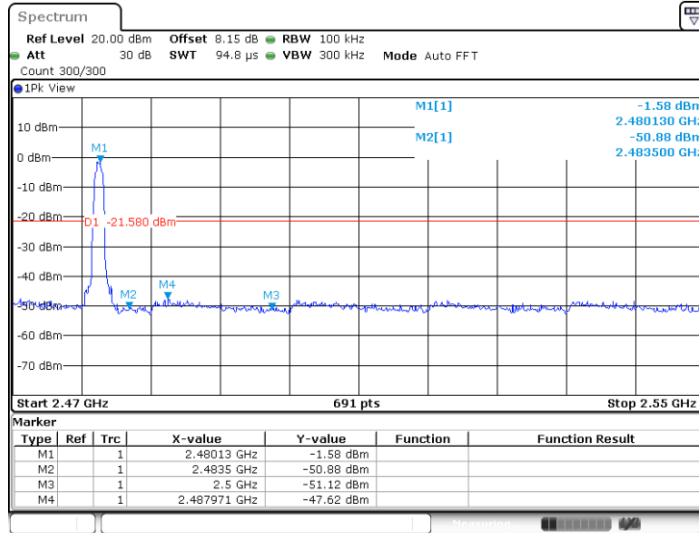
CH High (2.47GHz ~ 2.55GHz)



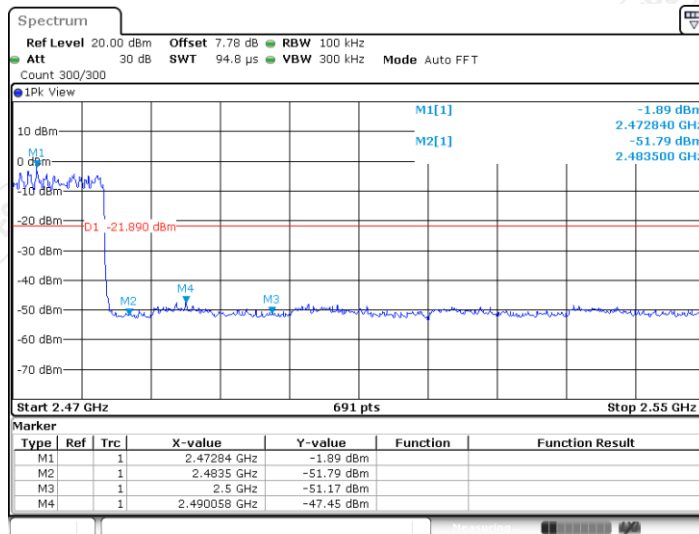
3DH5  
CH Low (2.35GHz ~2.405GHz)



CH High (2.47GHz ~ 2.55GHz)



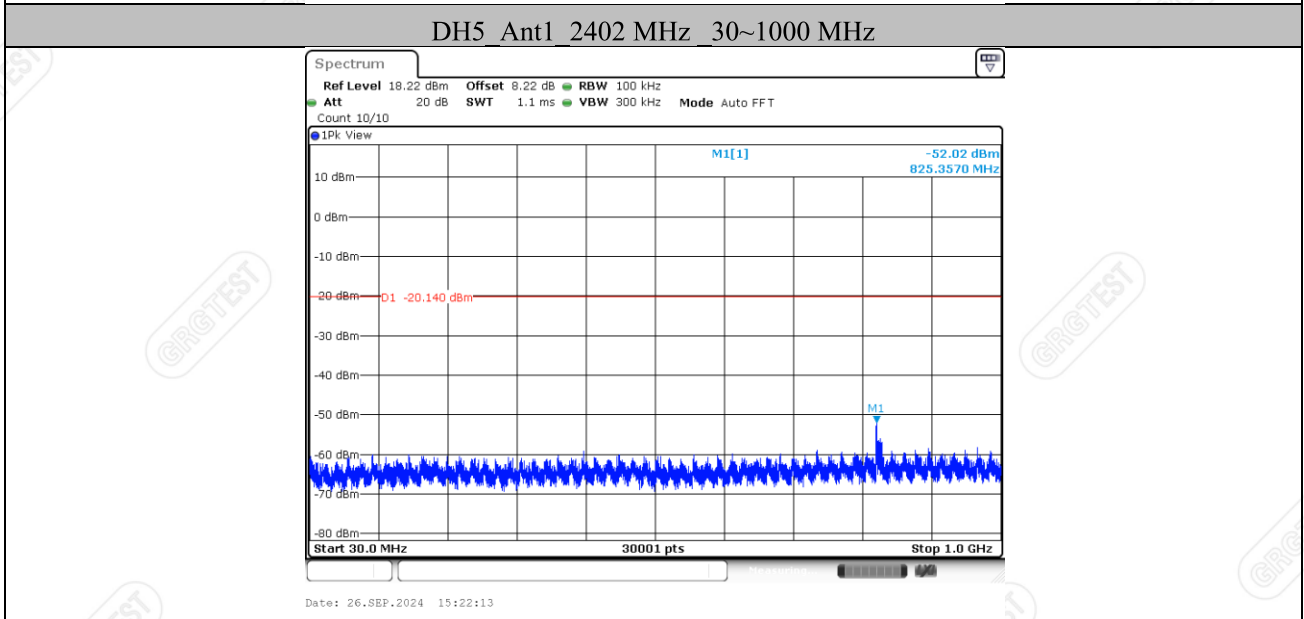
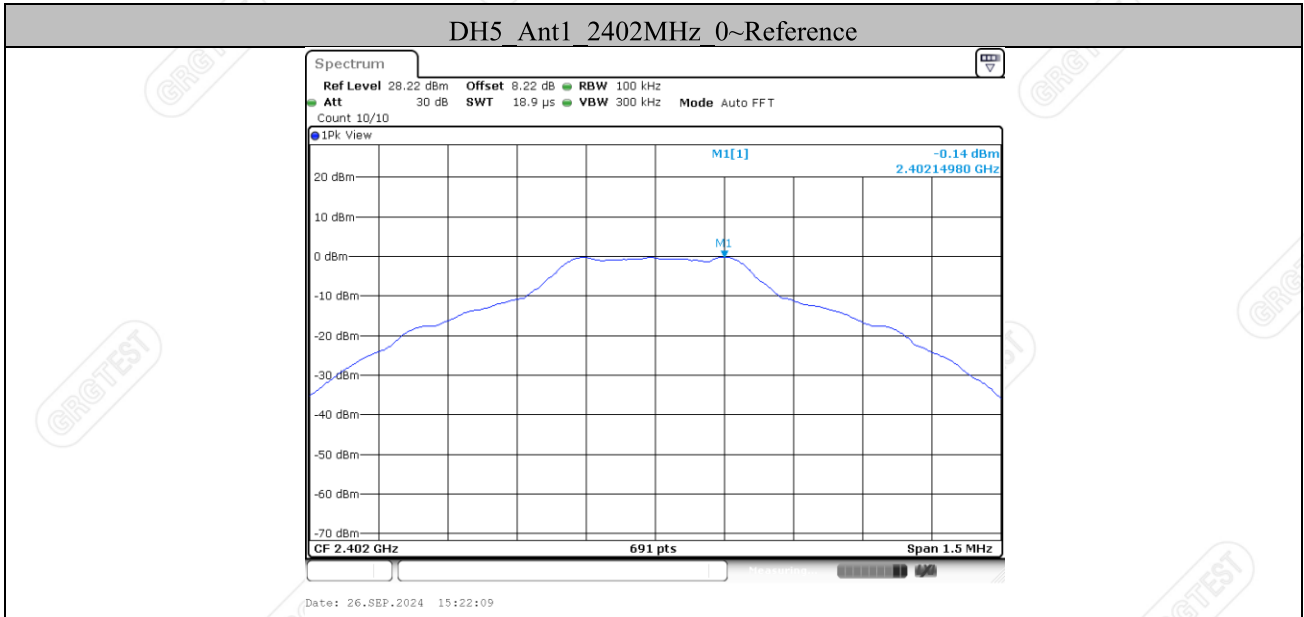
Date: 26.SEP.2024 16:00:16

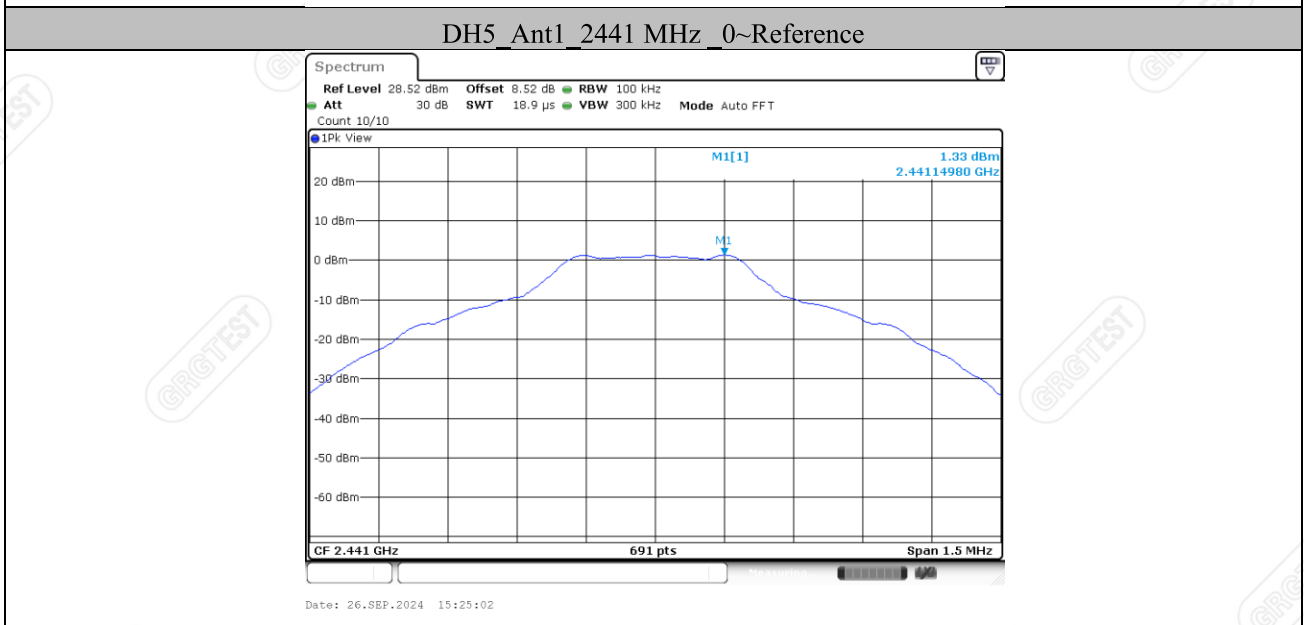
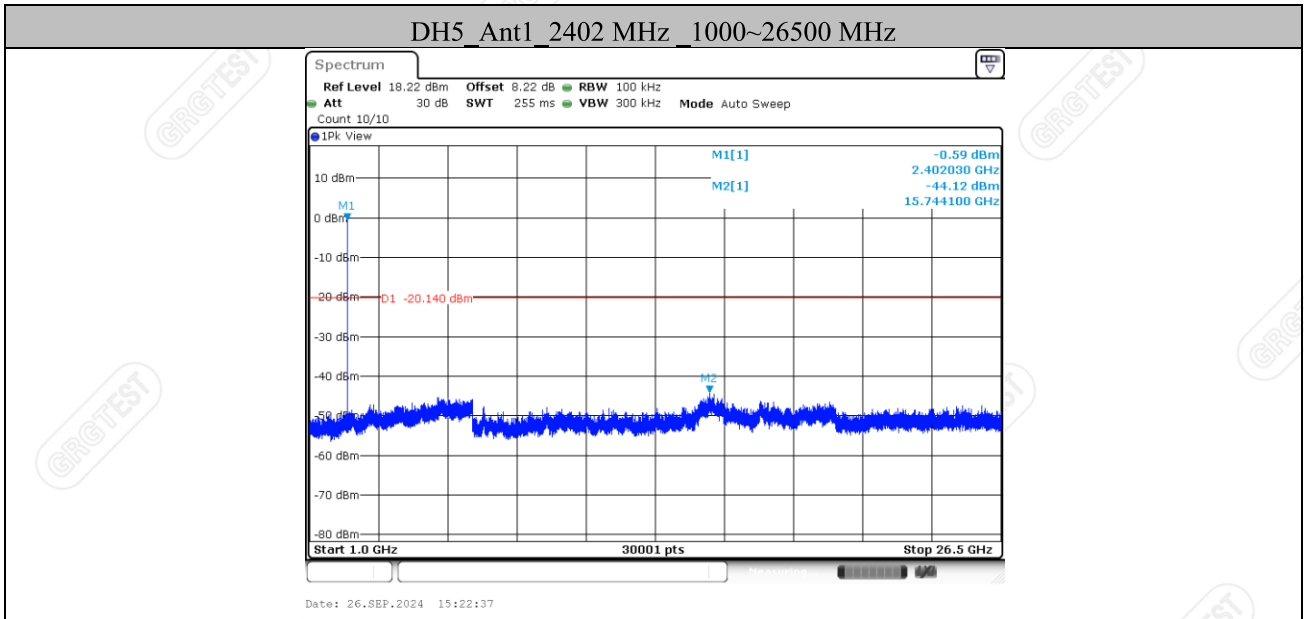


Date: 26.SEP.2024 16:13:03

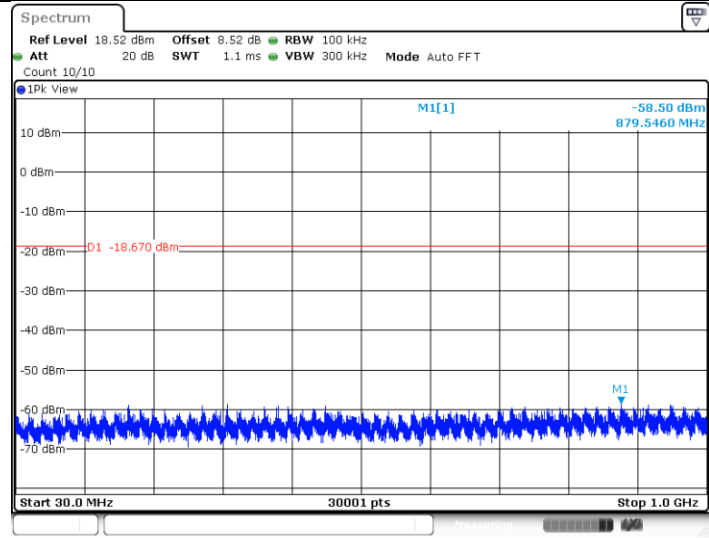
**Conducted Spurious Emission**

TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	2402	Reference	-0.14	-0.14	---	PASS
			30~1000	-0.14	-52.02	≤-20.14	PASS
			1000~26500	-0.14	-44.12	≤-20.14	PASS
		2441	Reference	1.33	1.33	---	PASS
			30~1000	1.33	-58.5	≤-18.67	PASS
			1000~26500	1.33	-43.01	≤-18.67	PASS
		2480	Reference	1.15	1.15	---	PASS
			30~1000	1.15	-44.85	≤-18.85	PASS
			1000~26500	1.15	-44.04	≤-18.85	PASS
2DH5	Ant1	2402	Reference	-3.08	-3.08	---	PASS
			30~1000	-3.08	-55.66	≤-23.08	PASS
			1000~26500	-3.08	-44.4	≤-23.08	PASS
		2441	Reference	-1.55	-1.55	---	PASS
			30~1000	-1.55	-58.48	≤-21.55	PASS
			1000~26500	-1.55	-43.86	≤-21.55	PASS
		2480	Reference	-1.75	-1.75	---	PASS
			30~1000	-1.75	-57.86	≤-21.75	PASS
			1000~26500	-1.75	-44.44	≤-21.75	PASS
3DH5	Ant1	2402	Reference	-2.91	-2.91	---	PASS
			30~1000	-2.91	-58.48	≤-22.91	PASS
			1000~26500	-2.91	-44.48	≤-22.91	PASS
		2441	Reference	-1.37	-1.37	---	PASS
			30~1000	-1.37	-57.52	≤-21.37	PASS
			1000~26500	-1.37	-43.69	≤-21.37	PASS
		2480	Reference	-1.63	-1.63	---	PASS
			30~1000	-1.63	-59.2	≤-21.63	PASS
			1000~26500	-1.63	-44.78	≤-21.63	PASS



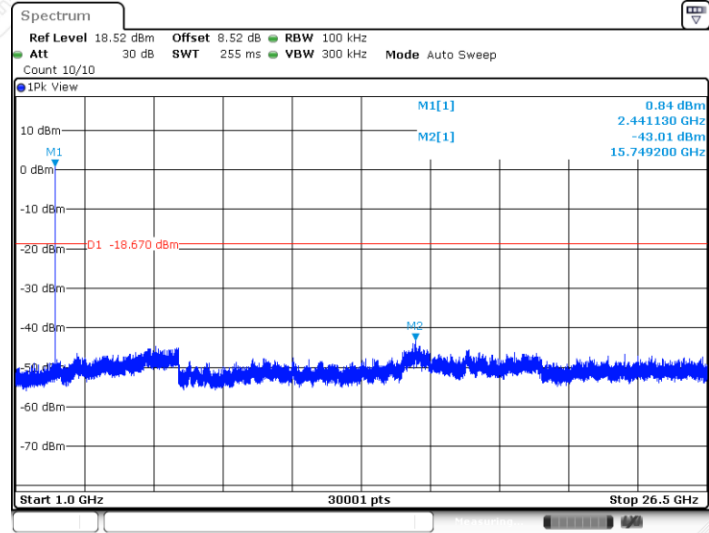


DH5\_Ant1\_2441 MHz\_30~1000 MHz



Date: 26.SEP.2024 15:25:07

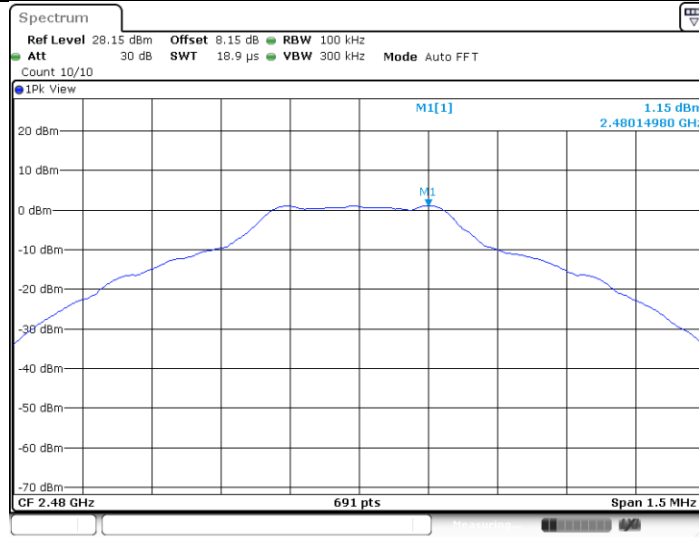
DH5\_Ant1\_2441 MHz\_1000~26500 MHz



Date: 26.SEP.2024 15:25:30

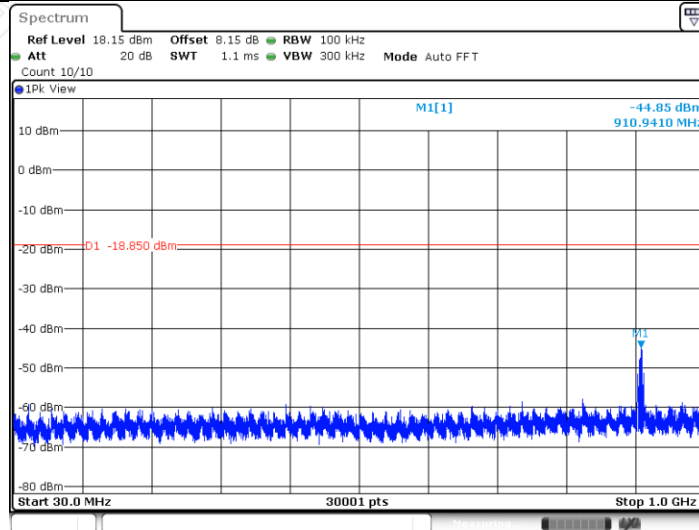


### DH5\_Ant1\_2480 MHz\_0~Reference



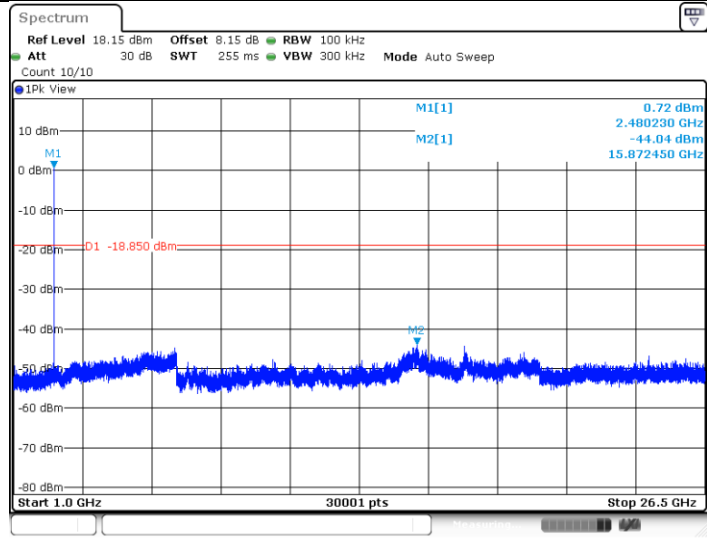
Date: 26.SEP.2024 15:28:03

### DH5\_Ant1\_2480 MHz\_30~1000 MHz



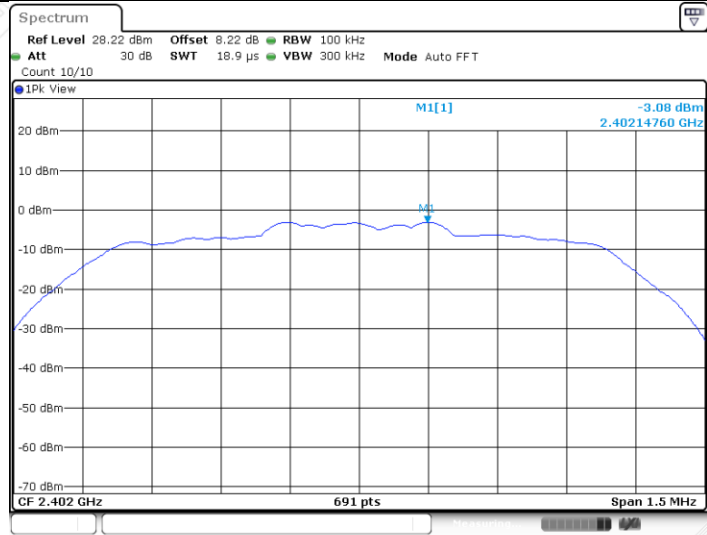
Date: 26.SEP.2024 15:28:08

### DH5 Ant1 2480 MHz 1000~26500 MHz



Date: 26.SEP.2024 15:28:31

### 2DH5 Ant1 2402 MHz 0~Reference



Date: 26.SEP.2024 15:34:20