

1F., Block A of Tongsheng Technology Building, Huahui Road, Dalang Street, Longhua District, Shenzhen, China

 Telephone:
 +86-755-26648640

 Fax:
 +86-755-26648637

 Website:
 www.cqa-cert.com

Report Template Version: V05 Report Template Revision Date: 2021-11-03

# **Test Report**

Demont No. :	
Report No. :	CQASZ20220901586E-01
Applicant:	DP Audio Video LLC
Address of Applicant:	920 Malcolm Ave Los Angeles 90024 California United States
Equipment Under Test (E	UT):
Product:	43" 4K SMART LED TV
Model No.:	DRPTV430SM
Test Model No.:	DRPTV430SM
Brand Name:	DuraPro
FCC ID:	2AVRVDRPTV430SM
Standards:	47 CFR Part 15, Subpart C
Date of Receipt:	2022-09-13
Date of Test:	2022-09-13 to 2022-09-28
Date of Issue:	2022-10-12
Test Result :	PASS*

\*In the configuration tested, the EUT complied with the standards specified above.

Tested By:	lewis zhou
_	( Lewis Zhou)
Reviewed By: _	Timo Loj
	( Timo Lei )
Approved By: _	Janos
	( Jack Ai )



The test report is effective only with both signature and specialized stamp, The result(s) shown in this report refer only to the sample(s) tested. Without written approval of CQA, this report can't be reproduced except in full.



# 1 Version

## **Revision History Of Report**

Report No.	Version	Description	Issue Date
CQASZ20220901586E-01	Rev.01	Initial report	2022-10-12



# 2 Test Summary

Test Item	Test Requirement	Test method	Result
Antenna Requirement	47 CFR Part 15, Subpart C Section 15.203/15.247 (c)	ANSI C63.10 (2013)	PASS
AC Power Line Conducted Emission	47 CFR Part 15, Subpart C Section 15.207	ANSI C63.10 (2013)	PASS
Conducted Peak Output Power	47 CFR Part 15, Subpart C Section 15.247 (b)(1)	ANSI C63.10 (2013)	PASS
20dB Occupied Bandwidth	47 CFR Part 15, Subpart C Section 15.247 (a)(1)	ANSI C63.10 (2013)	PASS
Carrier Frequencies Separation	47 CFR Part 15, Subpart C Section 15.247 (a)(1)	ANSI C63.10 (2013)	PASS
Hopping Channel Number	47 CFR Part 15, Subpart C Section 15.247 (a)(1)	ANSI C63.10 (2013)	PASS
Dwell Time	47 CFR Part 15, Subpart C Section 15.247 (a)(1)	ANSI C63.10 (2013)	PASS
Pseudorandom Frequency Hopping Sequence	47 CFR Part 15, Subpart C Section 15.247(b)(4)	ANSI C63.10 (2013)	PASS
Band-edge for RF Conducted Emissions	47 CFR Part 15, Subpart C Section 15.247(d)	ANSI C63.10 (2013)	PASS
RF Conducted Spurious Emissions	47 CFR Part 15, Subpart C Section 15.247(d)	ANSI C63.10 (2013)	PASS
Radiated Spurious emissions	47 CFR Part 15, Subpart C Section 15.205/15.209	ANSI C63.10 (2013)	PASS
Restricted bands around fundamental frequency (Radiated Emission)	47 CFR Part 15, Subpart C Section 15.205/15.209	ANSI C63.10 (2013)	PASS



# 3 Contents

1 VERSION	2
2 TEST SUMMARY	3
3 CONTENTS	4
4 GENERAL INFORMATION	5
<ul> <li>4.1 CLIENT INFORMATION</li></ul>	
5 TEST RESULTS AND MEASUREMENT DATA	
<ul> <li>5.1 ANTENNA REQUIREMENT</li></ul>	13 17 24 30 34 37 48 56 71 73 76
6 PHOTOGRAPHS - EUT TEST SETUP	
6.1 RADIATED EMISSION	
7 PHOTOGRAPHS - EUT CONSTRUCTIONAL DETAILS	



# 4 General Information

### 4.1 Client Information

Applicant:	DP Audio Video LLC
Address of Applicant:	920 Malcolm Ave Los Angeles 90024 California United States
Manufacturer:	DP Audio Video LLC
Address of Manufacturer:	920 Malcolm Ave Los Angeles 90024 California United States
Factory:	Ganzhou City Mosws Electronics Ltd
Address of Factory:	SOUTH OF JINLINGXI ROAD, EAST OF QIFENGSHAN ROAD, GANZHOU DEVELOPMENT AREA GANZHOU CITY, JIANGXI PROVINCE, CHINA

### 4.2 General Description of EUT

Product Name:	43" 4K SMART LED TV
Model No.:	DRPTV430SM
Test Model No.:	DRPTV430SM
Trade Mark:	DuraPro
Software Version:	23-03.10.23
Hardware Version:	LT-2874WV6.2
Operation Frequency:	2402MHz~2480MHz
Bluetooth Version:	V5.0
Modulation Technique:	Frequency Hopping Spread Spectrum(FHSS)
Modulation Type:	GFSK, π/4DQPSK, 8DPSK
Transfer Rate:	1Mbps/2Mbps/3Mbps
Number of Channel:	79
Hopping Channel Type:	Adaptive Frequency Hopping systems
Product Type:	☐ Mobile ☐ Portable ☐ Fix Location
Test Software of EUT:	WCN Combo Tool
Antenna Type:	Metal antenna
Antenna Gain:	2dBi
Power Supply:	Power by AC 110V



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

#### Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

Channel	Frequency
The Lowest channel	2402MHz
The Middle channel	2441MHz
The Highest channel	2480MHz



## 4.3 Additional Instructions

EUT Test Software Settings:				
Mode:	<ul> <li>Special software is used.</li> <li>Through engineering command into the engineering mode.</li> <li>engineering command: *#*#3646633#*#*</li> </ul>			
EUT Power level:	Class2 (Power level is built-in set para selected)	meters and cannot be changed and		
Use test software to set the lo	owest frequency, the middle frequency and	I the highest frequency keep		
transmitting of the EUT.		1		
Mode	Channel	Frequency(MHz)		
	СНО	2402		
DH1/DH3/DH5	СН39	2441		
	CH78	2480		
	СНО	2402		
2DH1/2DH3/2DH5	СН39	2441		
	CH78	2480		
	СНО	2402		
3DH1/3DH3/3DH5	СН39	2441		
	CH78	2480		

#### Run Software:

Config Advance Help	-	and subscription that the state of the state	Scripter   BLE	Test Mode   Non-Signaling Rx Test	Tx Tone Test	About   LE Enh •   •	1
921600 •		Start Total Relayer Start Relay	-	MediaTel	ĸ		
B1 COM11 . V WMI COM27 .		RESET TX Send	Repeat Tim	Test Items	-	Reload	
P% COM15 . F GPS COM17 .		Stop Relay Report Result	1	Start Total Relayer	Item1.txt	E	
WIFICOM19 . W ANT COM21 .			Hooked:	<ul> <li>MT6572 SLT Golden Init</li> <li>MT6572 SLT DUT Tests</li> </ul>	Item3.txt	E	
STF Ethernet				C USB RESUME AND SUSPEND	Item4.txt	E	
SIF Ethernet • CM4 + N9			Run	Golden Reset MT6630 SLT	Item5.txt	E	
etwork adapter 'VMware Virtual 🔹				C Test Power Tx	Item6.txt	E	
Filter: 0 7623			Simplify	Le	lea	r ld lave lo	
P option			Logging Wit	sdow		~	
<ul> <li>SIP mandatory mode</li> <li>SIP full-set mode</li> </ul>							
Start Relay Stop Relay Log							
elect patch bin file Browse							
Download Stop						v	
elect BT patch bin file Browse			<			>	
Download Stop			- Check COM	11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21,	22, 23, 24, 25, 26	0, 21, 28, 29, 30,	
HCI wrap patch for							
Vis PDA							-



### 4.4 Test Environment

Operating Environment	
Temperature:	25 °C
Humidity:	54% RH
Atmospheric Pressure:	1009mbar
Test Mode:	Use test software to set the lowest frequency, the middle frequency and the highest frequency keep transmitting of the EUT.

### 4.5 Description of Support Units

The EUT has been tested with associated equipment below.

Description	Manufacturer	Model No.	Remark	FCC certification
/	1	1	1	1



### 4.6 Statement of the 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 CISPR 16 - 4 "Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements" and is documented in the **Shenzhen Huaxia Testing Technology Co., Ltd.** quality 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.

No.	Item	Uncertainty
1	Radiated Emission (Below 1GHz)	5.12dB
2	Radiated Emission (Above 1GHz)	4.60dB
3	Conducted Disturbance (0.15~30MHz)	3.34dB
4	Radio Frequency	3×10 <sup>-8</sup>
5	Duty cycle	0.6 %
6	Occupied Bandwidth	1.1%
7	RF conducted power	0.86dB
8	RF power density	0.74
9	Conducted Spurious emissions	0.86dB
10	Temperature test	0.8°C
11	Humidity test	2.0%
12	Supply voltages	0.5 %
13	Frequency Error	5.5 Hz

Hereafter the best measurement capability for CQA laboratory is reported:



### 4.7 Test Location

All tests were performed at:

Shenzhen Huaxia Testing Technology Co., Ltd.

1F., Block A of Tongsheng Technology Building, Huahui Road, Dalang Street, Longhua District, Shenzhen, China

### 4.8 Test Facility

The test facility is recognized, certified, or accredited by the following organizations: **IC Registration No.: 22984-1** 

The 3m Semi-anechoic chamber of Shenzhen Huaxia Testing Technology Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing

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

#### CNAS (No. CNAS L5785)

CNAS has accredited Shenzhen Huaxia Testing Technology Co., Ltd. Shenzhen Branch EMC Lab to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

#### • A2LA (Certificate No. 4742.01)

Shenzhen Huaxia Testing Technology Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 4742.01.

#### • FCC Registration No.: 522263

Shenzhen Huaxia Testing Technology Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration No.:522263

#### 4.9 Abnormalities from Standard Conditions

None.

#### 4.10 Other Information Requested by the Customer

None.



# 4.11 Equipment List

			Instrument	Calibration	Calibration
Test Equipment	Manufacturer	Model No.	No.	Date	Due Date
EMI Test Receiver	R&S	ESR7	CQA-005	2022/9/9	2023/9/8
Spectrum analyzer	R&S	FSU26	CQA-038	2022/9/9	2023/9/8
		AFS4-00010300-18-10P-			
Preamplifier	MITEQ	4	CQA-035	2022/9/9	2023/9/8
		AMF-6D-02001800-29-			
Preamplifier	MITEQ	20P	CQA-036	2022/9/9	2023/9/8
Loop antenna	Schwarzbeck	FMZB1516	CQA-087	2021/9/16	2024/9/15
Bilog Antenna	R&S	HL562	CQA-011	2021/9/16	2024/9/15
Horn Antenna	R&S	HF906	CQA-012	2021/9/16	2024/9/15
Horn Antenna	Schwarzbeck	BBHA 9170	CQA-088	2021/9/16	2024/9/15
Coaxial Cable					
(Above 1GHz)	CQA	N/A	C019	2022/9/9	2023/9/8
Coaxial Cable					
(Below 1GHz)	CQA	N/A	C020	2022/9/9	2023/9/8
Antenna Connector	CQA	RFC-01	CQA-080	2022/9/9	2023/9/8
RF					
cable(9KHz~40GHz)	CQA	RF-01	CQA-079	2022/9/9	2023/9/8
Power divider	MIDWEST	PWD-2533-02-SMA-79	CQA-067	2022/9/9	2023/9/8
EMI Test Receiver	R&S	ESPI3	CQA-013	2022/9/9	2023/9/8
LISN	R&S	ENV216	CQA-003	2022/9/9	2023/9/8
Coaxial cable	CQA	N/A	CQA-C009	2022/9/9	2023/9/8

Note:

The temporary antenna connector is soldered on the PCB board in order to perform conducted tests and this temporary antenna connector is listed in the equipment list.



# 5 Test results and Measurement Data

### 5.1 Antenna Requirement

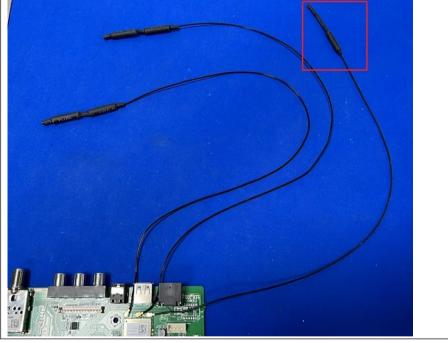
#### 15.203 requirement:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

#### 15.247(b) (4) requirement:

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

#### EUT Antenna:



The antenna is Metal antenna. The best case gain of the antenna is 2 dBi.





# 5.2 Conducted Emissions

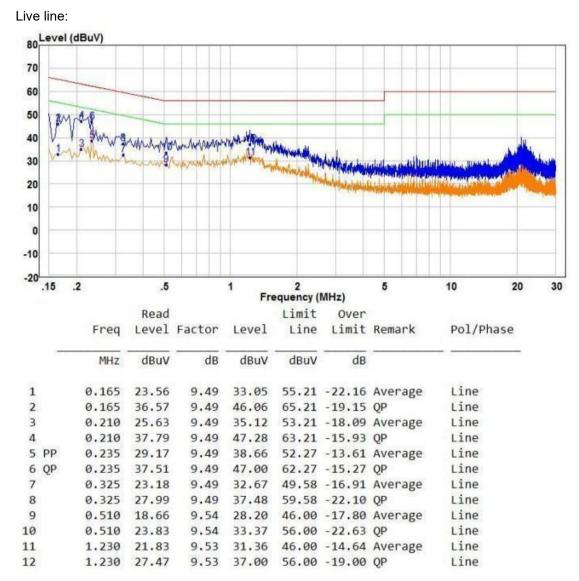
 Conducted Emissio				
Test Requirement:	47 CFR Part 15C Section 15.2	207		
Test Method:	ANSI C63.10: 2013			
Test Frequency Range:	150kHz to 30MHz			
Limit:		Limit (c	lBuV)	
	Frequency range (MHz)	Quasi-peak	Average	
	0.15-0.5	66 to 56*	56 to 46*	
	0.5-5	56	46	
	5-30	60	50	
	* Decreases with the logarithn	n of the frequency.		
Test Setup:	<ol> <li>The mains terminal disturbation of the EUT was connected to a second LIS reference plane in the same measured. A multiple sock power cables to a single Liexceeded.</li> <li>The tabletop EUT was place ground reference plane. An placed on the horizontal grade on the tell shall be 0.4 m for the EUT shall be 0.4 m for the EUT shall be 0.4 m for the EUT and associated explored between the closest points the EUT and associated explored between the closest points the EUT and associated explored between the closest points the EUT and all of the in ANSI C63.10: 2013 on control of the grade on the top of the grade on the top of the grade on the top of the grade between the closest points the EUT and associated explored between the closest points the EUT and associated explored between the closest points the EUT and associated explored between the closest points the EUT and associated explored between the closest points the EUT and associated explored between the closest points the EUT and associated explored between the closest points the EUT and associated explored between the closest points the EUT and associated explored between the closest points the EUT and associated explored between the closest points the EUT and associated explored between the closest points the EUT and associated explored between the closest points the EUT and associated explored between the closest points the EUT and associated explored between the closest points the EUT and associated explored between the closest points the EUT and associated explored between the close to find the maximum equipment and all of the in the tell t</li></ol>	b AC power source thro etwork) which provides oles of all other units of SN 2, which was bonde in way as the LISN 1 for et outlet strip was used ISN provided the rating ced upon a non-metalling of floor-standing an round reference plane, th a vertical ground ref from the vertical ground ref from the vertical ground ref from the vertical ground olane was bonded to the 1 was placed 0.8 m fro to a ground reference and reference plane. The of the LISN 1 and the quipment was at least 0 in emission, the relativi- terface cables must be	bugh a LISN 1 (Line a $50\Omega/50\mu$ H + $5\Omega$ line f the EUT were d to the ground or the unit being d to connect multiple of the LISN was not c table 0.8m above the rangement, the EUT was d reference plane. The read d reference plane. The read d reference plane. The read d reference plane the EUT was end the boundary of the plane for LISNs his distance was EUT. All other units of 0.8 m from the LISN 2 we positions of	near ne was ar e ne
Test Setup:	AC Mains	AE B B B B B C B C C C C C C C C C C C C C	Test Receiver	



Exploratory Test Mode:	Non-hopping transmitting mode with all kind of modulation and all kind of
	data type at the lowest, middle, high channel.
Final Test Mode:	Through Pre-scan, find the DH5 of data type and GFSK modulation at the lowest channel is the worst case. Only the worst case is recorded in the report.
Test Voltage:	AC 120V/60Hz
Test Results:	Pass



#### **Measurement Data**



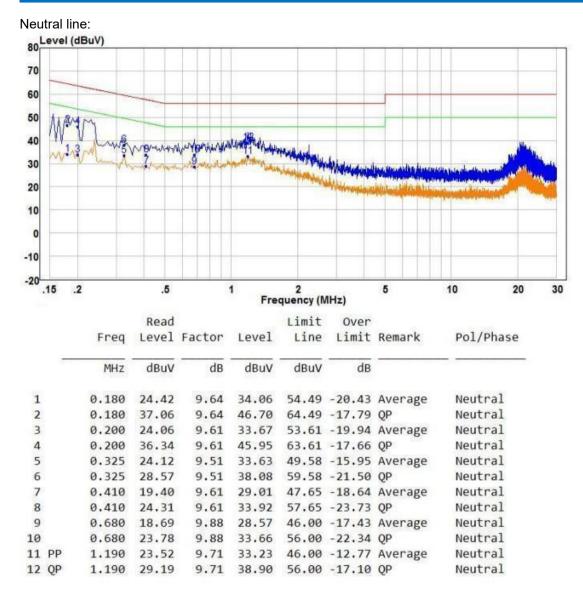
#### Remark:

1. The following Quasi-Peak and Average measurements were performed on the EUT:

2. Final Test Level =Receiver Reading + LISN Factor + Cable Loss.

3. If the Peak value under Average limit, the Average value is not recorded in the report.





#### Remark:

1. The following Quasi-Peak and Average measurements were performed on the EUT:

2. Final Test Level =Receiver Reading + LISN Factor + Cable Loss.

3. If the Peak value under Average limit, the Average value is not recorded in the report.



# 5.3 Conducted Peak Output Power

Test Requirement:	47 CFR Part 15C Section 15.247 (b)(1)
· ·	
Test Method:	ANSI C63.10:2013
Test Setup:	Spectrum Analyzer E.U.T Non-Conducted Table Ground Reference Plane Remark: Offset=Cable loss+ attenuation factor.
Limit:	21dBm
Exploratory Test Mode:	Non-hopping transmitting with all kind of modulation and all kind of data type
Final Test Mode:	Through Pre-scan, find the DH5 of data type is the worst case of GFSK modulation type, 2-DH5 of data type is the worst case of $\pi$ /4DQPSK modulation type, 3-DH5 of data type is the worst case of 8DPSK modulation type. Only the worst case is recorded in the report.
Test Results:	Pass

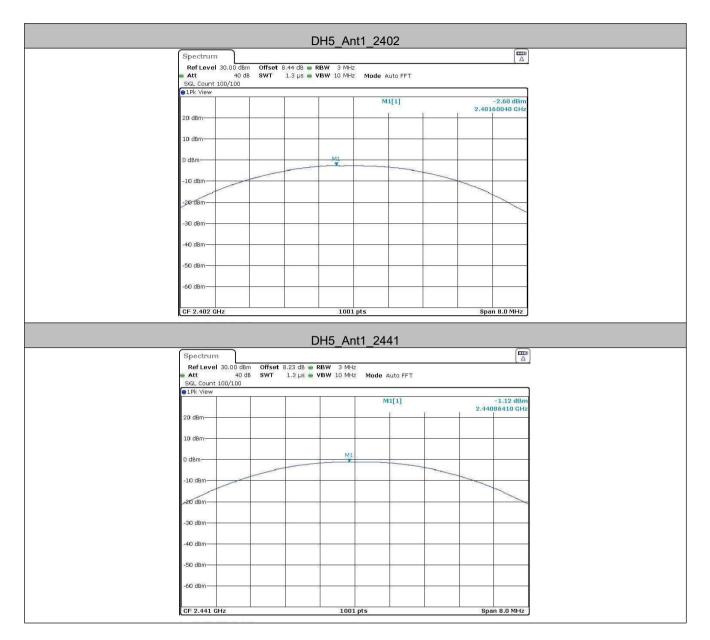


### Measurement Data

	GFSK mode		
Test channel	Peak Output Power (dBm)	Limit (dBm)	Result
Lowest	-2.6	21.00	Pass
Middle	-1.12	21.00	Pass
Highest	-1.6	21.00	Pass
	π/4DQPSK m	ode	
Test channel	Peak Output Power (dBm)	Limit (dBm)	Result
Lowest	-0.74	21.00	Pass
Middle	1.04	21.00	Pass
Highest	0.21	21.00	Pass
	8DPSK mod	le	
Test channel	Peak Output Power (dBm)	Limit (dBm)	Result
Lowest	-0.84	21.00	Pass
Middle	1.3	21.00	Pass
Highest	-0.01	21.00	Pass



#### Test plot as follows:





Report No.: CQASZ20220901586E-01

DH5_Ant1_2480
Spectrum         □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□
● Att 40 dB SWT 1.3 µs ● VBW 10 MHz Mode Auto FFT SGL Count 100/100 ● JPk View
20 dBm 1.60 dBm 2.47975220 GHz
10 dBm
D dBm M1
-10 dBm
-30 dbm-
-40' dBm
-50 dBm
OD UBIN         Image: CF 2.48 GHz         1001 pts         Span 8.0 MHz
2DH5_Ant1_2402
Spectrum Ref Level 30.00 dBm Offset 8.44 dB  RBW 3 MHz
All ESTER SHOULD HE SWT 1.3 µS • VBW 10 MHz Mode Auto FFT SGL Count 100/100 • IPk view
20 dBm
10 dBm-
0 dBm
-10 dBm
-30 dBm
-40 dBm
-50 dBm-
-60 dBm
CF 2.402 GHz 1001 pts Span 8.0 MHz

2DH5\_Ant1\_2441



Report No.: CQASZ20220901586E-01

Spectrum		
Ref Level 30.00 dBm Offset 8.23 dB 🖷		A series of the
<ul> <li>Att 40 dB SWT 1.3 μs</li> <li>SGL Count 100/100</li> </ul>	VBW 10 MHz Mode Auto FFT	
● 1Pk View		
	M1[1]	1.04 dBm
	2	44060040 GHz
20 dBm-		
10 dBm		
10 dBm-	100001	
0 dBm	M1	
o dom		
-10 dBm		-
-20 dBm		
-30 dBm		
-40 dBm		
-50 dBm		
-60 dBm		
CF 2.441 GHz	1001 pts	Span 8.0 MHz
2	DH5_Ant1_2480	
	Dilo_/	
Spectrum		
Ref Level 30.00 dBm Offset 8.23 dB 🖷		
Ref Level 30.00 dBm Offset 8.23 dB ● Att 40 dB SWT 1.3 µs ● SGL Count 100/100	RBW 3 MHz VBW 10 MHz Mode Auto FFT	
RefLevel 30.00 dBm Offset 8.23 dB Att 40 dB SWT 1.3 µs	VBW 10 MHz Mode Auto FFT	
Ref Level 30.00 dBm Offset 8.23 dB ● Att 40 dB SWT 1.3 µs ● SGL Count 100/100	VBW 10 MHz Mode Auto FFT	0.21 dBm
Ref Level 30.00 dBm Offset 8.23 dB ● Att 40 dB SWT 1.3 µs ● SGL Count 100/100	VBW 10 MHz Mode Auto FFT	
RefLevel 30.00 dBm Offset 8.23 dB ■ Att 40 dB SWT 1.3 µs ■ SGL Count 100/100 ●1Pk View	VBW 10 MHz Mode Auto FFT	0.21 dBm
RefLevel 30.00 dBm Offset 8.23 dB ■ Att 40 dB SWT 1.3 µs ■ SGL Count 100/100 ●1Pk View	VBW 10 MHz Mode Auto FFT	0.21 dBm
Ref Level 30.00         dBm         Offset         8.23         dB         Att         40         dB         SWT         1.3         µs         SGL Count 100/100         Image: SGL Count 100/10	VBW 10 MHz Mode Auto FFT  M1[1] 2	0.21 dBm
Ref Level 30.00         dBm         Offset         8.23         dB         Att         40         dB         SWT         1.3         µs         SGL Count 100/100         Image: SGL Count 100/10	VBW 10 MHz Mode Auto FFT	0.21 dBm
Ref Level 30.00 dBm         Offset 8.23 dB           Att         40 dB         SWT         1.3 µs           SGL Count 100/100         91Pk View         10 dBm         10 dBm	VBW 10 MHz Mode Auto FFT	0.21 dBm
Ref Level 30.00 dBm         Offset 8.23 dB           Att         40 dB         SWT         1.3 µs           SGL Count 100/100         91Pk View         10 dBm         10 dBm	VBW 10 MHz Mode Auto FFT	0.21 dBm
Ref Level 30.00 dBm         Offset 8.23 dB           Att         40 dB         SWT         1.3 µs           SGL count 100/100         91Pk View         91Pk View         91Pk View           20 dBm         10 dBm         90 dBm         90 dBm         91Pk View	VBW 10 MHz Mode Auto FFT	0.21 dBm
Ref Level 30.00 dBm         Offset 8.23 dB           Att         40 dB         SWT         1.3 µs           SGL count 100/100         91Pk View         91Pk View         91Pk View           20 dBm         10 dBm         90 dBm         90 dBm         91Pk View	VBW 10 MHz Mode Auto FFT	0.21 dBm
Ref Level 30.00 dBm         Offset 8.23 dB           Att         40 dB         SWT         1.3 µs           SGL Count 100/100         10 km         0         10 km           10 dBm         0         0 dBm         0         10 km           -10 dBm         -20 dBm         -10 dBm         -10 dBm         -10 dBm	VBW 10 MHz Mode Auto FFT	0.21 dBm
Ref Level 30.00 dBm         Offset 8.23 dB           Att         40 dB         SWT         1.3 µs           SGL Count 100/100         Image: Count 100/100         Image: Count 100/100         Image: Count 100/100           Image: Image: Count 100/100         Image: Count 100/100         Image: Count 100/100         Image: Count 100/100           Image: Count 100/100         Image: Count 100/100         Image: Count 100/100         Image: Count 100/100           Image: Count 100/100         Image: Count 100/100         Image: Count 100/100         Image: Count 100/100           Image: Count 100/100         Image: Count 100/100         Image: Count 100/100         Image: Count 100/100           Image: Count 100/100         Image: Count 100/100         Image: Count 100/100         Image: Count 100/100           Image: Count 100/100         Image: Count 100/100         Image: Count 100/100         Image: Count 100/100           Image: Count 100/100         Image: Count 100/100         Image: Count 100/100         Image: Count 100/100           Image: Count 100/100         Image: Count 100/100         Image: Count 100/100         Image: Count 100/100           Image: Count 100/100         Image: Count 100/100         Image: Count 100/100         Image: Count 100/100           Image: Count 100/100         Image: Count 100/100         Image: Count 100/100 <td< td=""><td>VBW 10 MHz Mode Auto FFT</td><td>0.21 dBm</td></td<>	VBW 10 MHz Mode Auto FFT	0.21 dBm
Ref Level 30.00 dBm         Offset 8.23 dB           Att         40 dB         SWT         1.3 µs           SGL Count 100/100         Image: second	VBW 10 MHz Mode Auto FFT	0.21 dBm
Ref Level 30.00 dBm         Offset 8.23 dB           Att         40 dB         SWT         1.3 µs           SGL Count 100/100         10 km         0         10 km           10 dBm         0         0 dBm         0         10 km           -10 dBm         -20 dBm         -10 dBm         -10 dBm         -10 dBm	VBW 10 MHz Mode Auto FFT	0.21 dBm
Ref Level 30.00 dBm         Offset 8.23 dB           Att         40 dB         SWT         1.3 µs           SGL Count 100/100         91Pk View         91Pk View         91Pk View           20 dBm         0 dBm         91Pk View         91Pk View           10 dBm         91Pk View         91Pk View         91Pk View           20 dBm         91Pk View         91Pk View         91Pk View           10 dBm         91Pk View         91Pk View         91Pk View           -10 dBm         91Pk View         91Pk View         91Pk View           -40 dBm         91Pk View         91Pk View         91Pk View	VBW 10 MHz Mode Auto FFT	0.21 dBm
Ref Level 30.00 dBm         Offset 8.23 dB           Att         40 dB         SWT         1.3 µs           SGL Count 100/100         Image: second	VBW 10 MHz Mode Auto FFT	0.21 dBm
Ref Level 30.00 dBm         Offset 8.23 dB           Att         40 dB         SWT         1.3 µs           SGL Count 100/100         91Pk View         10 dBm         10 dBm           20 dBm         0 dBm         10 dBm         10 dBm           10 dBm         0 dBm         10 dBm         10 dBm           -10 dBm         -30 dBm         -30 dBm         -50 dBm	VBW 10 MHz Mode Auto FFT	0.21 dBm
Ref Level 30.00 dBm         Offset 8.23 dB           Att         40 dB         SWT         1.3 µs           SGL Count 100/100         91Pk View         91Pk View         91Pk View           20 dBm         0 dBm         91Pk View         91Pk View           10 dBm         91Pk View         91Pk View         91Pk View           20 dBm         91Pk View         91Pk View         91Pk View           10 dBm         91Pk View         91Pk View         91Pk View           -10 dBm         91Pk View         91Pk View         91Pk View           -40 dBm         91Pk View         91Pk View         91Pk View	VBW 10 MHz Mode Auto FFT	0.21 dBm
Ref Level 30.00 dBm         Offset 8.23 dB           Att         40 dB         SWT         1.3 µs           SGL Count 100/100         91Pk View         10         10 dBm         10 dBm           10 dBm         0 dBm         10 dBm         10 dBm         10 dBm           -10 dBm         -30 dBm         -50 dBm         -50 dBm         -60 dBm	VBW 10 MHz Mode Auto FFT	0.21 dBm 47960840 GHz
Ref Level 30.00 dBm         Offset 8.23 dB           Att         40 dB         SWT         1.3 µs           SGL Count 100/100         91Pk View         10 dBm         10 dBm           20 dBm         0 dBm         10 dBm         10 dBm           10 dBm         0 dBm         10 dBm         10 dBm           -10 dBm         -30 dBm         -30 dBm         -50 dBm	VBW 10 MHz Mode Auto FFT	0.21 dBm

3DH5\_Ant1\_2402



Report No.: CQASZ20220901586E-01

	Spectrum			
	Ref Level 30.00 dBm Offset 8.44 dB @ R	BW 3 MHz		
	Att 40 dB SWT 1.3 µs • V	/BW 10 MHz Mode Auto FFT		
	SGL Count 100/100			
	●1Pk View		]	
		M1[1]	-0.84 dBm	
		T T	2.40160840 GHz	
	20 dBm-			
	10 dBm			
		M1		
	0 dBm			
	-10 dBm			
	-20 dBm			
	a wolli			
	-30 dBm			
	-40 dBm			
	-50 dBm			
	-60 dBm			
	CF 2.402 GHz	1001 pts	Span 8.0 MHz	
	30	DH5_Ant1_2441		
	Spectrum		(m) A	
	Spectrum           Ref Level 30,00 dBm         Offset 8.23 dB           Att         40 dB         SWT         1.3 µs			
_	Spectrum           Ref Level 30.00 dBm         Offset 8.23 dB         F           Att         40 dB         SWT         1.3 µs         V           SGL Count 100/100	RBW 3 MHz		
	Spectrum           Ref Level 30,00 dBm         Offset 8.23 dB           Att         40 dB         SWT         1.3 µs	XBW 3 MHz YBW 10 MHz Mode Auto FFT		
	Spectrum           Ref Level 30.00 dBm         Offset 8.23 dB         F           Att         40 dB         SWT         1.3 µs         V           SGL Count 100/100	RBW 3 MHz	1.30 dBm	
	Spectrum Ref Level 30.00 dBm Offset 8.23 dB K Att 40 dB SWT 1.3 µs V SGL Count 100/100 PIR View	XBW 3 MHz YBW 10 MHz Mode Auto FFT		
	Spectrum           Ref Level 30.00 dBm         Offset 8.23 dB         F           Att         40 dB         SWT         1.3 µs         V           SGL Count 100/100	XBW 3 MHz YBW 10 MHz Mode Auto FFT	1.30 dBm	
	Spectrum           Ref Level 30.00 dBm         Offset 8.23 dB           Att         40 dB           SGL Count 100/100           IPk View           20 dBm	XBW 3 MHz YBW 10 MHz Mode Auto FFT	1.30 dBm	
	Spectrum Ref Level 30.00 dBm Offset 8.23 dB K Att 40 dB SWT 1.3 µs V SGL Count 100/100 PIR View	XBW 3 MHz XBW 10 MHz Mode Auto FFT M1[1]	1.30 dBm	
	Spectrum         Offset         8.23 dB         F           Att         40 dB         SWT         1.3 µs         V           SGL Count 100/100         Image: SWT         1.3 µs         V           Image: SWT         20 dBm         Image: SWT         1.0 dBm           10 dBm         Image: SWT         1.0 dBm         Image: SWT	XBW 3 MHz YBW 10 MHz Mode Auto FFT	1.30 dBm	
	Spectrum           Ref Level 30.00 dBm         Offset 8.23 dB           Att         40 dB           SGL Count 100/100           IPk View           20 dBm	XBW 3 MHz XBW 10 MHz Mode Auto FFT M1[1]	1.30 dBm	
	Spectrum           Ref Level 30.00 dBm         Offset 8.23 dB         F           Att         40 dB         SWT         1.3 µs         V           SGL Count 100/100         Image: second s	XBW 3 MHz XBW 10 MHz Mode Auto FFT M1[1]	1.30 dBm	
	Spectrum         Offset         8.23 dB         F           Att         40 dB         SWT         1.3 µs         V           SGL Count 100/100         Image: SWT         1.3 µs         V           Image: SWT         20 dBm         Image: SWT         1.0 dBm           10 dBm         Image: SWT         1.0 dBm         Image: SWT	XBW 3 MHz XBW 10 MHz Mode Auto FFT M1[1]	1.30 dBm	
	Spectrum         Offset         8.23 dB         F           Att         40 dB         SWT         1.3 µs         V           SGL Count 100/100         9 IPk View         10 dBm         10 dBm         10 dBm	XBW 3 MHz XBW 10 MHz Mode Auto FFT M1[1]	1.30 dBm	
	Spectrum           Ref Level 30.00 dBm         Offset 8.23 dB         F           Att         40 dB         SWT         1.3 µs         V           SGL Count 100/100         Image: second s	XBW 3 MHz XBW 10 MHz Mode Auto FFT M1[1]	1.30 dBm	
	Spectrum         Offset         8.23 dB         F           Att         40 dB         SWT         1.3 µs         V           SGL Count 100/100         9 IPk View         10 dBm         10 dBm         10 dBm	XBW 3 MHz XBW 10 MHz Mode Auto FFT M1[1]	1.30 dBm	
	Spectrum         Offset         8.23 dB         F           Att         40 dB         SWT         1.3 µs         V           SGL Count 100/100         9 IPk View         10 dBm         10 dBm         10 dBm	XBW 3 MHz /BW 10 MHz Mode Auto FFT M1[1]	1.30 dBm	
	Spectrum           Ref Level 30.00 dBm         Offset 8.23 dB         F           Att         40 dB         SWT         1.3 µs         V           SGL Count 100/100         91Pk View         9         1.9 µs         V           20 dBm         10 dBm         9         1.0 dBm         1.0 dBm         1.0 dBm           10 dBm         26 dBm         1.0 dBm	XBW 3 MHz /BW 10 MHz Mode Auto FFT M1[1]	1.30 dBm	
	Spectrum         Offset         8.23 dB         F           Att         40 dB         SWT         1.3 µs         V           SGL Count 100/100         91Pk View         10 dBm         10 dBm         10 dBm           10 dBm         0 dBm         10 dBm         10 dBm         10 dBm           20 dBm         10 dBm         10 dBm         10 dBm         10 dBm	XBW 3 MHz /BW 10 MHz Mode Auto FFT M1[1]	1.30 dBm	
	Spectrum           Ref Level 30.00 dBm         Offset 8.23 dB         F           Att         40 dB         SWT         1.3 µs         V           SGL Count 100/100         91Pk View         9         1.9 µs         V           20 dBm         10 dBm         9         1.0 dBm         1.0 dBm         1.0 dBm           10 dBm         26 dBm         1.0 dBm	XBW 3 MHz /BW 10 MHz Mode Auto FFT M1[1]	1.30 dBm	
	Spectrum         Offset         8.23 dB         F           Att         40 dB         SWT         1.3 µs         V           SGL Count 100/100         Intervention         Intervention         V           Intervention         Intervention         Intervention         Intervention           Intervention         Intervention         Intervention         Intervention         Intervention           Intervention         Intervention         Intervention         Intervention         Intervention           Intervention         Intervention         Intervention         Intervention         Intervention           Intervention         I	XBW 3 MHz /BW 10 MHz Mode Auto FFT M1[1]	1.30 dBm	
	Spectrum         Offset         8.23 dB         F           Att         40 dB         SWT         1.3 µs         V           SGL Count 100/100         91Pk View         10 dBm         10 dBm         10 dBm           10 dBm         0 dBm         10 dBm         10 dBm         10 dBm           20 dBm         10 dBm         10 dBm         10 dBm         10 dBm	XBW 3 MHz /BW 10 MHz Mode Auto FFT M1[1]	1.30 dBm	
	Spectrum         Offset         9.23 dB         F           Att         40 dB         SWT         1.3 µs         V           SGL Count 100/100         91Pk View         10         10 dBm         10 dBm           10 dBm         0 dBm         10 dBm         10 dBm         10 dBm           20 dBm         10 dBm         10 dBm         10 dBm         10 dBm           26 dBm         90 dBm         90 dBm         10 dBm         10 dBm           26 dBm         90 dBm         90 dBm         90 dBm         10 dBm           20 dBm         90 dBm         90 dBm         90 dBm         10 dBm           20 dBm         90 dBm         90 dBm         90 dBm         90 dBm           90 dBm         90 dBm         90 dBm         90 dBm         90 dBm	XBW 3 MHz /BW 10 MHz Mode Auto FFT M1[1]	1.30 dBm	
	Spectrum         Offset         8.23 dB         F           Att         40 dB         SWT         1.3 µs         V           SGL Count 100/100         Interview         Interview         Interview         Interview           20 dBm         Interview         Inte	XBW 3 MHz /BW 10 MHz Mode Auto FFT M1[1]	1.30 dBm	
	Spectrum         Offset         9.23 dB         F           Att         40 dB         SWT         1.3 µs         V           SGL Count 100/100         91Pk View         10         10 dBm         10 dBm           10 dBm         0 dBm         10 dBm         10 dBm         10 dBm           20 dBm         10 dBm         10 dBm         10 dBm         10 dBm           26 dBm         90 dBm         10 dBm         10 dBm         10 dBm           26 dBm         90 dBm         90 dBm         10 dBm         10 dBm           26 dBm         90 dBm         90 dBm         10 dBm         10 dBm           20 dBm         90 dBm         90 dBm         10 dBm         10 dBm           26 dBm         90 dBm         90 dBm         10 dBm         10 dBm	XBW 3 MHz /BW 10 MHz Mode Auto FFT M1[1]	1.30 dBm	
	Spectrum         Offset         9.23 dB         F           Att         40 dB         SWT         1.3 µs         V           SGL Count 100/100         91Pk View         10         10 dBm         10 dBm           10 dBm         0 dBm         10 dBm         10 dBm         10 dBm           20 dBm         10 dBm         10 dBm         10 dBm         10 dBm           26 dBm         90 dBm         10 dBm         10 dBm         10 dBm           26 dBm         90 dBm         90 dBm         10 dBm         10 dBm           26 dBm         90 dBm         90 dBm         10 dBm         10 dBm           20 dBm         90 dBm         90 dBm         10 dBm         10 dBm           26 dBm         90 dBm         90 dBm         10 dBm         10 dBm	XBW 3 MHz /BW 10 MHz Mode Auto FFT M1[1]	1.30 dBm	

3DH5\_Ant1\_2480





Att 40 dB SWT SGL Count 100/100	1.3 µs 👄 VBW 10 MHz	Mode Auto FFT		
91Pk View				
		M1[1]	-0.01 dBm 2.48039160 GHz	Bm
20 dBm			2.10009100 0112	
10 dBm				
0 dBm-		M1		
-10 dBm				
-20 dBm	8	6		~
-30 dBm		e		-
-40 dBm				_
-50 dBm				_
-60 dBm	8 8			_



# 5.4 20dB Occupy Bandwidth

Test Requirement:	47 CFR Part 15C Section 15.247 (a)(1)
Test Method:	ANSI C63.10:2013
Test Setup:	Spectrum Analyzer E.U.T Non-Conducted Table Ground Reference Plane
	Remark: Offset=Cable loss+ attenuation factor.
Limit:	NA
Exploratory Test Mode:	Non-hopping transmitting with all kind of modulation and all kind of data type
Final Test Mode:	Through Pre-scan, find the DH5 of data type is the worst case of GFSK modulation type, 2-DH5 of data type is the worst case of $\pi$ /4DQPSK modulation type, 3-DH5 of data type is the worst case of 8DPSK modulation type. Only the worst case is recorded in the report.
Test Results:	Pass

#### **Measurement Data**

Test shannel	20dB Occupy Bandwidth (MHz)					
Test channel	GFSK	π/4DQPSK	8DPSK			
Lowest	0.933	1.347	1.329			
Middle	1.029	1.344	1.344			
Highest	0.948	1.284	1.338			



#### Test plot as follows:





























# 5.5 Carrier Frequencies Separation

Test Requirement:	47 CFR Part 15C Section 15.247 (a)(1)
Test Method:	ANSI C63.10:2013
Test Setup:	Spectrum Analyzer E.U.T Non-Conducted Table Ground Reference Plane
	Remark: Offset=Cable loss+ attenuation factor.
Limit:	2/3 of the 20dB bandwidth
	Remark: the transmission power is less than 0.125W.
Exploratory Test Mode:	Hopping transmitting with all kind of modulation and all kind of data type
Final Test Mode:	Through Pre-scan, find the DH5 of data type is the worst case of GFSK modulation type, 2-DH5 of data type is the worst case of $\pi$ /4DQPSK modulation type, 3-DH5 of data type is the worst case of 8DPSK modulation type. Only the worst case is recorded in the report.
Test Results:	Pass



#### **Measurement Data**

TestMode	Antenna	Channel	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Нор	0.849	≥0.686	PASS
2DH5	Ant1	Нор	1.003	≥0.898	PASS
3DH5	Ant1	Нор	1.003	≥0.896	PASS

Mode	20dB bandwidth (MHz) (worse case)	Limit (MHz) (Carrier Frequencies Separation)
GFSK	1.029	0.686
π/4DQPSK	1.347	0.898
8DPSK	1.344	0.896



#### Test plot as follows:





Report No.: CQASZ20220901586E-01

pectrum 🔆		
Ref Level 30.00 dBm Offset 8.23 dB 🖷		(-)
Att 40 dB SWT 18.9 µs •	VBW 300 kHz Mode Auto FFT	
SGL Count 100/100 1Pk View		
LFK VIGW	M1[1]	-1.31 dBm
		2.44116087 GHz
20 dBm-	D2[1]	0.03 dB 1.00290 MHz
		1.00230 MILS
10 dBm		
M1		
0 dBm		22
-10 dBm		
-20 dBm	8	
-30 dBm		
-40 dBm		
+0 UBII		
-50 dBm		
So dan		
-60 dBm		



# 5.6 Hopping Channel Number

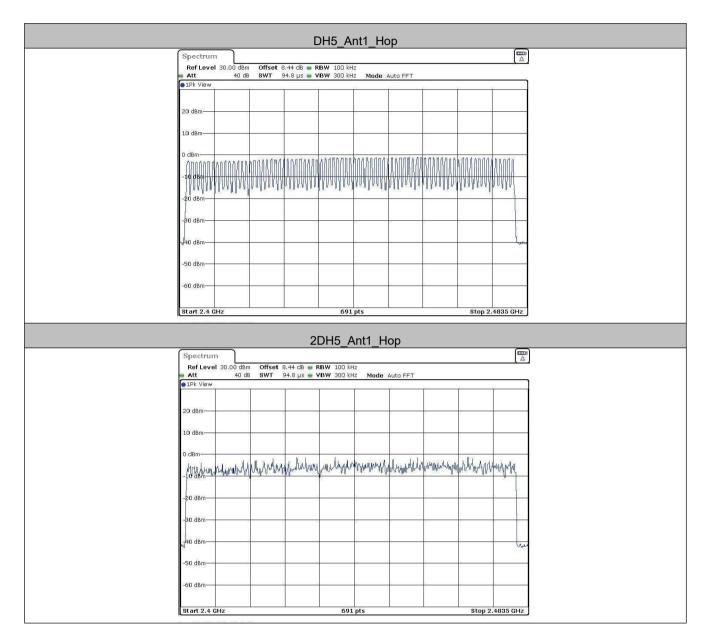
Test Requirement:	47 CFR Part 15C Section 15.247 (a)(1)
Test Method:	ANSI C63.10:2013
Test Setup:	Spectrum Analyzer E.U.T Non-Conducted Table Ground Reference Plane Remark: Offset=Cable loss+ attenuation factor.
Limit:	At least 15 channels
Exploratory Test Mode:	hopping transmitting with all kind of modulation and all kind of data type
Final Test Mode:	Through Pre-scan, find the DH5 of data type is the worst case of GFSK modulation type, 2-DH5 of data type is the worst case of $\pi/4DQPSK$ modulation type, 3-DH5 of data type is the worst case of 8DPSK modulation type. Only the worst case is recorded in the report.
Test Results:	Pass

#### Measurement Data

Mode	Hopping channel numbers	Limit
GFSK	79	≥15
π/4DQPSK	79	≥15
8DPSK	79	≥15



#### Test plot as follows:





Report No.: CQASZ20220901586E-01

pectrum								
Ref Level 30.00 dBm								• ]
Att 40 dB	<b>SWT</b> 94.8 µs	VBW 300 kH	lz Mode	Auto FFT				
LPK VIBW		1	1				Ī	
20 dBm		6		e	e			
10 dBm								
O dBm	monorally	MUMUM	Windung	MILIAN	nimphiviph	MMANAN	Walking	
-10 @Bm			2					
-30 dBm			8	8	•	8		_
,440 dBm								5
-50 dBm	-		-					
-60 dBm		-	-	-	-			-
Start 2.4 GHz		691	pts			Stop 2	.4835 GH	



## 5.7 Dwell Time

Test Requirement:	47 CFR Part 15C Section 15.247 (a)(1)						
Test Method:	ANSI C63.10:2013						
Test Setup:	Spectrum Analyzer E.U.T Non-Conducted Table						
	Ground Reference Plane						
	Remark: Offset=Cable loss+ attenuation factor.						
Test Mode:	Hopping transmitting with all kind of modulation and all kind of data type.						
Limit:	0.4 Second						
Test Results:	Pass						



#### **Measurement Data**

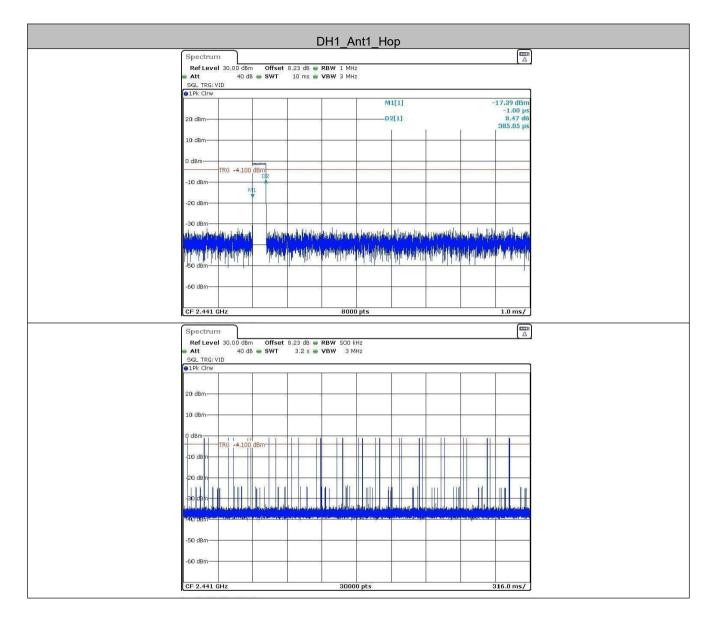
TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH1	Ant1	Нор	0.39	320	0.123	≤0.4	PASS
DH3	Ant1	Нор	1.63	160	0.261	≤0.4	PASS
DH5	Ant1	Нор	2.87	120	0.345	≤0.4	PASS
2DH1	Ant1	Нор	0.39	330	0.128	≤0.4	PASS
2DH3	Ant1	Нор	1.63	180	0.294	≤0.4	PASS
2DH5	Ant1	Нор	2.87	130	0.373	≤0.4	PASS
3DH1	Ant1	Нор	0.39	330	0.128	≤0.4	PASS
3DH3	Ant1	Нор	1.63	200	0.326	<u>_0.4</u>	PASS
3DH5	Ant1	Нор	2.87	110	0.316	<u>≤</u> 0.4	PASS

#### Remark:

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



#### Test plot as follows:







			E	DH3_A	nt1_Ho	р			
Spectrur									
👄 Att			8.23 dB 👄 10 ms 👄						
SGL TRG: \ IPk Clrw	/ID								
					M	1[1]			-3.41 dBm 250 ns
20 dBm					D	2[1]			-5.93 dB
						1	r i	1	1.63270 ms
10 dBm		8						1	
0 dBm	M	<u>.</u>		-		-	-	1	
10 10	TRG -4.100	dBm	D2						
-10 dBm			24		6.				
-20 dBm					5	-		1	
-30 dBm									
	La d thing a sub		al sin a	all at his su	and to be the states	all she adde a betterbe	hujelladiantes	A supplicite the	
JL, Markell	a thán liait sia	-	Pul	codi stale	and a draw	a attait de Naha	<mark>Manananan</mark> Trajan	WHITE HE WE	المنالة المنا
-50 dBm	a dir. Badilla		. uk	Lik helitilları.	ad de la de la de	<b>i di di</b> n di dina,	en la la	. It is due	d d wat k law
-50 0511		33							
-60 dBm		5		-		8	-		
CF 2.441	GHz			800	0 pts				1.0 ms/
Spectrur	n								
Ref Leve Set t	el 30.00 dBm 40 dB	Offset		RBW 500 VBW 31					480 2
SGL TRG: 1		- oni	0.2 5	ion of					
● 1Pk Clrw						1			
20 dBm									
20 0811		2			25		3		
10 dBm	-				~				
0 dBm									
o dom	TRG -4.100	dBm	-						
-10 dBm									
-20 dBm									
T I	11	T T	n	hr Lr	In h		T In	11	IT T
-30 dBm					a an arte				
****0***Bm	alexana serengi linanga anta manala	and the second	Ellissis and stores	and an array of the	adportententanijer Standalske dange	1 - 18 14 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	and survey and a state	electronic addition	of Winnerson and an
-50 dBm		33			0	11			
						1	1		1
-60 dBm					16	8	4		
-60 dBm		0			10-	12	8	2	3





	DH5_Ant1_Hop		
Spectrum 🖌			
Ref Level 30.00 dBm Offset 8.23 dB 🖷	RBW 1 MHz	(4)	
Att 40 dB SWT 10 ms	VBW 3 MHz		
SGL TRG: VID		ī	
	D2[1]	-3.80 dB	
20 dBm-	M1[1]	2.87411 ms -8.11 dBm	
20 0011		-1.00 µs	
10 dBm			
0 dBm			
TRG -4.2001dBm			
-10 dBm			
-20 dBm			
-30 dBm			
and a state ball of the state of the state of the state of the state	Lalifield, and in its the real section is the section of the secti	e Aritaba parada meta per antipatri de la terra para ca	
a property of the second se		anali amin' ka ki biata a	
All and the main a set of the set	A. I. A. M. M. D. Data M. M. M.	and have been been able to take the	
-50 dBm			
-60 dBm			
-60 0Bm	0		
CF 2.441 GHz	8000 pts	1.0 ms/	
Spectrum			
Ref Level 30.00 dBm Offset 8.23 dB 🖷	RBW 500 kHz	()	
Att 40 dB SWT 3.2 s	VBW 3 MHz		
	VBW 3 MHz	]	
Att 40 dB SWT 3.2 s SGL TRG: VID	VBW 3 MHz		
• Att 40 db • SWT 3.2 s • SGL TRG: VID • 1Pk Clrw	VBW 3 MHz		
Att 40 dB SWT 3.2 s SGL TRG: VID	9 YBW 3 MHz		
• Att 40 db • SWT 3.2 s • SGL TRG: VID • 1Pk Clrw	VBW         3 MHz		
Att         40 db         SWT         3.2 s           SGL TRG: VID         Image: second sec	VBW         3 MHz		
Att 40 dB ● SWT 3.2 s ● SGL TRG; VID ● IPk Clrw 20 dBm 10 dBm 0,dBm	VBW         3 MHz		
Att         40 dB ● SWT         3.2 s           SGL TRG; VID         ● IPk Clrw           20 dBm	WW         3 MHz		
Att 40 dB ● SWT 3.2 s ● SGL TRG; VID ● IPk Clrw 20 dBm 10 dBm 0,dBm			
Att         40 dB ● SWT         3.2 s           SGL TRG; VID         ● IPk Clrw           20 dBm	WBW         3 MHz		
Att         40 dB         SWT         3.2 s           SGL TRG: VID         9 IPk Cirw         9 IPk Cirw           20 dBm         10 dBm         10 dBm           10 dBm         7RG         -4.200 dBm			
Att         40 dB         SWT         3.2 s           SGL TRG: VID         9 IPk Cirw         9 IPk Cirw           20 dBm         10 dBm         10 dBm           10 dBm         7RG         -4.200 dBm			
Att         40 dB         SWT         3.2 s           SGL TRG: VID         IPK CIrw         IPK CIrw           20 dBm         IO dBm         IO dBm           10 dBm         IO dBm         IO dBm           -10 dBm         INFG         -4.200 dBm           -30 dBm         INFG         -4.200 dBm			
Att         40 dB         SWT         3.2 s           SGL TRG: VID         9 IPk Cirw         9 IPk Cirw           20 dBm         10 dBm         10 dBm           10 dBm         7RG         -4.200 dBm			
Att         40 db         SWT         3.2 s           SGL TRG; VID         IPK CIrw         IPK CIrw         IPK CIrw           20 dBm         ID dBm         ID dBm         ID dBm           10 dBm         ID dBm         ID dBm         ID dBm           -30 dBm         -30 dBm         ID dBm         ID dBm           -30 dBm         -30 dBm         ID dBm         ID dBm           -30 dBm         ID dBm         ID dBm         ID dBm			
Att         40 dB         SWT         3.2 s           SGL TRG: VID         IPK CIrw         IPK CIrw           20 dBm         IO dBm         IO dBm           10 dBm         IO dBm         IO dBm           -10 dBm         INFG         -4.200 dBm           -30 dBm         INFG         -4.200 dBm			
Att         40 dB         SWT         3.2 s           SGL TRG: VID         IPK CIrw         IPK CIrw         IPK CIrw           20 dBm         ID         IPK CIrw         IPK CIrw           20 dBm         ID         IPK CIrw         IPK CIrw           20 dBm         ID         IPK CIrw         IPK CIrw           20 dBm         IPK CIrw         IPK CIrw         IPK CIrw           10 dBm         IPK CIrw         IPK CIrw         IPK CIrw           -10 dBm         IPK CIrw         IPK CIrw         IPK CIrw           -30 dBm         IPK CIrw         IPK CIrw         IPK CIrw           -30 dBm         IPK CIrw         IPK CIrw         IPK CIrw           -30 dBm         IPK CIrw         IPK CIrw         IPK CIrw           -50 dBm         IPK CIrw         IPK CIrw         IPK CIrw			
Att         40 db         SWT         3.2 s           SGL TRG; VID         IPK CIrw         IPK CIrw         IPK CIrw           20 dBm         ID dBm         ID dBm         ID dBm           10 dBm         ID dBm         ID dBm         ID dBm           -30 dBm         -30 dBm         ID dBm         ID dBm           -30 dBm         -30 dBm         ID dBm         ID dBm           -30 dBm         ID dBm         ID dBm         ID dBm           -30 dBm         ID dBm         ID dBm         ID dBm           -30 dBm         ID dBm         ID dBm         ID dBm			





	44 . L I.a	
2DH1_Ant	П_ПОР	
RefLevel 30.00 dBm Offset 8.23 dB . RBW 1 MHz		
Att 40 dB SWT 10 ms VBW 3 MHz SGL TRG: VID		
●1Pk Cirw	xx+1+1	0.01.40
	M1[1]	-2.91 dBm -1.00 μs
20 dBm	D2[1]	-8.03 dB 387.55 μs
10 dBm		
0 dBm- M1		
-10 dBm		+
-20 dBm		
-20 000		
-30 dBm		
	dipation and bradelying and site had the head for the	
		r en fan de la fan fan fan fan fan fan fan fan fan fa
-50 dBm		
-60 dBm		
CF 2.441 GHz 8000 pt:	s	1.0 ms/
	s	21
Spectrum Ref Level 30.00 dBm Offset 8.23 dB  RBW 500 kHz	s	1.0 ms/
 Spectrum           Ref Level 30.00 dBm         Offset 8.23 dB         RBW 500 kHz           Att         40 dB         SWT         3.2 s         YBW         3 MHz	s	21
Spectrum Ref Level 30.00 dBm Offset 8.23 dB  RBW 500 kHz	s	21
Spectrum           Ref Level 30.00 dBm         Offset 5.23 dB         RBW 500 kHz           Att         40 dB         SWT         3.2 s         VBW         3 MHz           SGL TRG: VID         Image: Superstand sector sec	s	21
Spectrum           RefLevel 30.00 dBm         Offset 5.23 dB         RBW 500 kHz           Att         40 dB         SWT         3.2 s         VBW         3 MHz           sGL TRG:VID         SWT         3.2 s         VBW         3 MHz	s	21
Spectrum           Ref Level 30.00 dBm         Offset 5.23 dB         RBW 500 kHz           Att         40 dB         SWT         3.2 s         VBW         3 MHz           SGL TRG: VID         Image: Superstand sector sec	\$	21
Spectrum           Ref Level 30.00 dBm         Offset 8.23 dB         RBW 500 kHz           Att         40 dB         SWT         3.2 s         VBW         3 MHz           SGL TRG: VID         IPk Cirw         IPk Cirw         IPk Cirw         IPk Cirw         IPk Cirw           10 dBm         ID	s	21
Spectrum           Ref Level 30,00 dBm         Offset 3,23 dB         RBW 500 kHz           Att         40 dB         SWT         3.2 s         VBW         3 MHz           SGL TRG: VID         1Pk CIrw         10 dBm         10 dBm         10 dBm         10 dBm           20 dBm         10 dBm         10 dBm         10 dBm         10 dBm         10 dBm         10 dBm	s	21
Spectrum           Ref Level 30,00 dbm         Offset 8,23 db         RBW 500 kHz           Att         40 db         SWT         3.2 s         VBW         3 MHz           SGL TRG: VID         IPk Chw         IPk C	s	21
Spectrum           Ref Level 30.00 dBm         Offset 8.23 dB         RBW 500 kHz           Att         40 dB         SWT         3.2 s         VBW         3 MHz           SGL TRG: VID         12k cIrw         3.2 s         VBW         3 MHz           1Pk CIrw         10 dBm	s	21
Spectrum           Ref Level 30,00 dBm         Offset 3,23 dB         RBW 500 kHz           Alt         40 dB         SWT         3.2 s         VBW         3 MHz           SGL TRG: VID         IPk CIrw	S	21
Spectrum           Ref Level 30.00 dBm         Offset 8.23 dB         RBW 500 kHz           Att         40 dB         SWT         3.2 s         VBW         3 MHz           SGL TRG: VID         12k cIrw         3.2 s         VBW         3 MHz           1Pk CIrw         10 dBm	S	21
Spectrum           Ref Level 30.00 dbm         Offset 8.23 db         RBW 500 kHz           Att         40 db         SWT         3.2 s         VBW         3 MHz           SGL TRG: VID         IPk Chw         IPk C	S	21
Spectrum           Ref Level 30.00 dBm         Offset 8.23 dB         RBW 500 kHz           Att         40 dB         SWT         3.2 s         VBW         3 MHz           SGL TRG: VID         IPk CIrw	S	21
Spectrum           Ref Level 30.00 dbm         Offset 8.23 db         RBW 500 kHz           Att         40 db         SWT         3.2 s         VBW         3 MHz           SGL TRG: VID         IPk Chw         IPk C	S	21
Spectrum           Ref Level 30.00 dbm         Offset 8.23 db         RBW 500 kHz           Att         40 db         SWT         3.2 s         VBW         3 MHz           SGL TRG: VID         1Pk Chw         1Pk Ch         1Pk Ch         1Pk Ch<	S	21
Spectrum           Ref Level 30.00 dBm         Offset 3.23 dB         RBW 500 kHz           Att         40 dB         SWT         3.2 s         VBW         3 MHz           SGL TRG: VID         IPk CIrw	S	21
Spectrum           Ref Level 30.00 dbm         Offset 8.23 db         RBW 500 kHz           Att         40 db         SWT         3.2 s         VBW         3 MHz           SGL TRG: VID         1Pk Chw         1Pk Ch         1Pk Ch         1Pk Ch<		21





		_				20	)H3	_Ar	nt1_	Ho	р					
R A	tt	30.00 di 40	am O dB <mark>e S</mark>		3.23 dE 10 ms											
	L TRG: V k Clrw	ID														
20	dBm		-			2				M1 D2	[1] [1]				-9.49 d -2.23 -2.03 1.63270	5 µs 3 dB
10	dBm		-			2		-		-		-				
<u>o d</u>	Bm	TRG -2.20	0 dBm	Jacobia	andara kant Ali na satu	H		-		_		_				_
	I dBm <u> </u>					4									1	
	dBm	3. 55						6 6	155		23/	1 Julie	de la	dilitat al		
	intern Value pri	opel to the state of the state			_		k <mark>ter<sup>ik</sup>ler</mark> Milliter	na buji na Kin	latetek midade	dopt. AUI.a	pelitikupan pelitikupan		<u>liki f</u> a		edus septem Traditional de la constante de la c	grafiet 19. Ann.
	dBm	ուրեւներ	r.	31		40.181	. <b>1</b> 41.1		old i	I M	IL discussion of	r]		- III	la bit	1
-60	I dBm		2			8		3				~		2		,
CF	2.441 0	Hz					8	000	ots						1.0 m	ns/
F		1 30.00 d														
S	<mark>stt</mark> GL TRG: V Pk Clrw	40 /ID	dB 👄 S	WT	3.2 :	5 👄 6	/BW	з мн	Z							
20	dBm					2										
10	dBm		-			2				_		13			-	_
0 c	lBm	TRG -2.2	00 dBm-	1	1	1	1	-1	1				1			
							_	_							1 3	_
	) dBm	m	1	1			n		nl	T	11	1	11	Ť	11	
-20	) dBm															
-24	dBm				111 - 11 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	All of the				- ( - ) ( -						ly e still be symmetric
-2e -30 ***	dBm	(line the billing				and the state	L			-11+11+1+1		kolasza ak	territori pro			tyr of television
-24 -34 -50	dBm dBm u teu kite u teu kite	(line the billing					1							ii		typ of the





2DH5_Ant1_Hop
Ref Level 30.00 dBm Offset 8.23 dB RBW 1 MHz Att 40 dB SWT 10 ms VBW 3 MHz
SGL TRG: VID  IPk Clnw
M1[1] -8.03 dBm -1.00 μs
20 dBm 02[1] -2.45 dB 2.87286 ms
10 dBm
0 dBm TRG -2.200 dBm to set of the set of th
-10 dBm-
-20 d8m
-30 dem
-20 qem gunu haya haya haya haya haya haya haya hay
-60 d8m
CF 2.441 GHz B000 pts 1.0 ms/
Spectrum         Image: Constraint of the sector of th
20 dBm
10 dBm
0 dBm
-10 dBm
and (1) Of the standard of the
-50 dBm
-60 dBm
GF 2.441 GHz 30000 pts 316.0 ms/

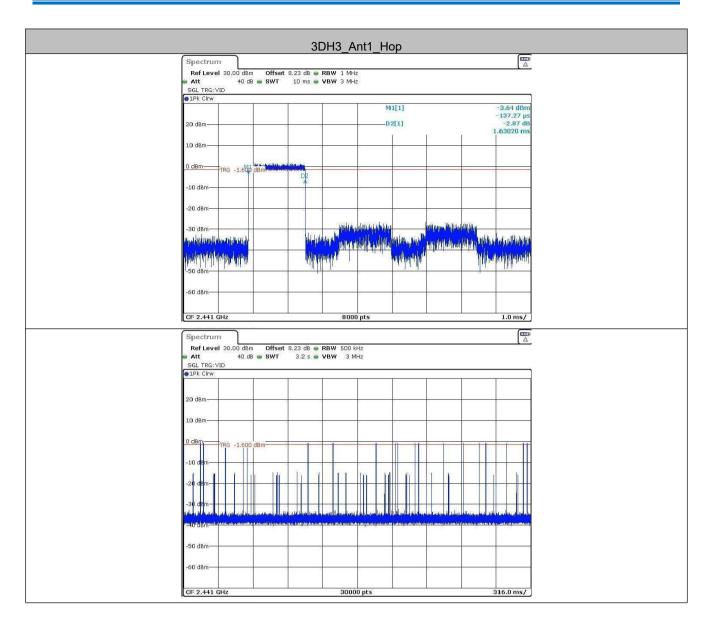




<u> </u>			3DH	1_Ant1_	Нор			
Ref Att SGL	TRG: VID		23 dB 🖷 RBW .0 ms 🖷 VBW					
•1Pk			2		M1[1] D2[1]			13.48 dBm - 138.52 μs 6.70 dB
10 dt	im		*					387.55 µs
<u>o der</u> -10 d	180 -1.00	) dBm D2 ↓	8	5.				
-20 d								
-30 d  A	en Luthigesteatettag plipertiter half	orthinaid cont Trailettealty an	halatalath-aile marailteachailte	Harri Halanan Harri Mana dara	aling have a second	rast Autobal () have be Autobal () autobal	in and the start of the second start of the second start is the second start in the second start is the second	adao da patant <sub>a</sub> Alta di patanan
-50 d		ahluda aa <mark>h</mark> la		atrice addition	alla kar	ական քինվ	talete he II a h	hulle af her i
	.441 GHz		6	8000 pts	6			1.0 ms/
	ctrum Level 30.00 dB	n Offset 8.2 B <b>e SWT</b>						
	TRG: VID				-	-		
20 di 10 di		2	ž	2	8	8		
0 dBr		) dBm						
-10 c -20 c	BM							
-30 k 								
-50 c -60 c			8	7. 7.	1			











	3DH5_Ant1_Hop	
Spectrum		
Ref Level 30.00 dBm Offset 8.23 ( Att 40 dB SWT 10 r		
SGL TRG: VID		
●1Pk Clrw	5.04 F 4 T	~3.30 dBm
	M1[1]	-138.52 µs
20 dBm	D2[1]	-5.98 dB 2.87411 ms
		2.07411105
10 dBm		
0 dBm	Alla Bill Burg Anna Sa Bill Burg Barger	
O dBm TRG -1.560 dBm		
-10 dBm		
-20 dBm		
-30 dBm		
Jaan store attibution taxaan la	enter and the present of the second second second	a survey, and a light field of a location
and dedicated the b		iii aa uu ah
150 dBm	Ter II	1
-60 dBm		
CF 2.441 GHz	8000 pts	1.0 ms/
Spectrum		
Ref Level 30.00 dBm Offset 8.23 d	dB 🖷 RBW 500 kHz	
	s 😐 VBW 3 MHz	
SGL TRG: VID PIPK Clrw		ī
20 dBm		
20 0011	2	
10 dBm		
10 dBm		
10 dBm		
0 dBm		
0 dBm TRG -1.500 dBm		
0 dBm		
0 dBm TRG -1.500 dBm		
0 dBmTRG -1.500 dBm		
0 dBmTRG -1.500 dBm		
0 dBm TRG -1.500 dBm		
0 dBm TRG -1.500 dBm		
0 dBm TRG -1.500 dBm 10 dBm 10 dBm 20 dBm 10 dBm 30 dBm 10 dBm 510 dBm 10 dBm 10 dBm 10 dBm 10 dBm 10 dBm 510 dBm 10		
0 dBm TRG -1.500 dBm		



# 5.8 Band-edge for RF Conducted Emissions

Test Requirement:	47 CFR Part 15C Section 15.247 (d)
Test Method:	ANSI C63.10:2013
Test Setup:	Spectrum Analyzer E.U.T Non-Conducted Table Ground Reference Plane
	Remark: Offset=cable loss+ attenuation factor.
Limit:	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.
Exploratory Test Mode:	Hopping and Non-hopping transmitting with all kind of modulation and all kind of data type
Final Test Mode:	Through Pre-scan, find the DH5 of data type is the worst case of GFSK modulation type, 2-DH5 of data type is the worst case of $\pi/4DQPSK$ modulation type, 3-DH5 of data type is the worst case of 8DPSK modulation type. Only the worst case is recorded in the report.
Test Results:	Pass



# Shenzhen Huaxia Testing Technology Co., Ltd.

Report No.: CQASZ20220901586E-01

### Measurement Data

TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict		
		Low	2402	-3.30	-50.35	≤-23.3	PASS		
		High	2480	-2.40	-48.48	≤-22.4	PASS		
DH5	Ant1	Low	Hop_2402	-3.65	-50.56	≤-23.65	PASS		
		High	Hop_2480	-2.10	-49.06	≤-22.1	PASS		
		Low	2402	-3.34	-50.57	≤-23.34	PASS		
	Ant1			High	2480	-3.31	-49.49	≤-23.31	PASS
2DH5		Low	Hop 2402	-5.13	-50.13	≤-25.13	PASS		
		High	Hop 2480	-3.45	-50.21	≤-23.45	PASS		
		Low	2402	-5.78	-50.18	≤-25.78	PASS		
		High	2480	-3.92	-49.56	≤-23.92	PASS		
3DH5	Ant1	Low	Hop_2402	-5.49	-50.36	≤-25.49	PASS		
		High	Hop_2480	-3.64	-49.7	≤-23.64	PASS		



### Test plot as follows:

DH5_Ant1_Low_2402
Spectrum         □           Ref Level 20.00 dBm         Offset 8.44 dB ● RBW 100 kHz           Att         30 dB         SWT         75.8 µs         ● VBW 300 kHz         Mode Auto FFT           SGL Count 300/300         SGL         SGL         SGL         SGL         SGL
Image: https://www.image: htttps://www.image: htttps://www.image: htttps://www.image: htttps://www.image: htttps://www.image: htttps://www.image: htttps://www.image: htttps://www.image: httttps://www.image: htttps://www.image: httttps://www.image: httttps://www.image: httttps://www.image: httttttttttttt//www.image: httttt//www.image: htttttttttttttt
-10 dBm
-30 dBm
-50 dBm
Start 2:35 GHz         691 pts         Stop 2:405 GHz           Marker         Your Best         Your Best         Your Best           M1         1         2:402174 GHz         -3:30 dBm
M2         1         2.4 GHz         -53.41 dBm           M3         1         2.39 GHz         -52.19 dBm           M4         1         2.3649058 GHz         -50.35 dBm
DH5_Ant1_High_2480           Spectrum           Ref Level 20.00 dBm         Offset 8.23 dB         RBW 100 kHz           Att         30 dB         SGL Count 300/300
M1         M2[1]         -53.61 dBm           0 dBm         1         2.483500 GHz           -10 dBm         1         1
-20 dBm 01 -22.400 dBm
-50 dBm
Start 2.47 GHz         691 pts         Stop 2.55 GHz           Marker
M2         1         2.4835 GHz         -53.61 dBm           M3         1         2.5 GHz         -53.94 dBm           M4         1         2.505362 GHz         -48.48 dBm



		DH5	Ant1 Low	Hop 2402		
(	Spectrum	/			(m)	
	Ref Level 20.00 dBn	n Offset 8.44 dB 🖷	RBW 100 kHz			
	Att 30 di			Mode Auto FFT		
	SGL Count 300/300 91Pk View					
				M1[1]	-3.65 dBm 2.4021740 GHz	
	10 dBm			M2[1]	-52.80 dBm	
	0 dBm		-	1	2.4000000 GHz	
	-10 dBm				684.	
	APPELA VINCED MININE				AAA	
	-20 dBm D1 -23.650	) dBm	8			
	-30 dBm	2 21		61. B		
	-40 dBm					
	-50 dBm	M4		N	13 112	
	LEAST CONCOLUENCE INCOLUENCE	hum multimise	Marthannewgene	winnerwinderhand	Jon un and the	
	-60 dBm		2			
	-70 dBm		-			
	Start 2.35 GHz		691 pts	6	Stop 2.405 GHz	
	Marker		091 bts		3top 2.403 GH2	
	Type Ref Trc	X-value	Y-value	Function	Function Result	
	M1 1 M2 1	2.402174 GHz 2.4 GHz	-3.65 dBm -52.80 dBm			
	M3 1 M4 1	2.39 GHz 2.3665797 GHz	-52.70 dBm -50.56 dBm			
		DH5_A	Ant1_High	_Hop_2480		
	Spectrum		Ant1_High	_Hop_2480	(m) A	
	Ref Level 20.00 dB	m Offset 8.23 dB 🖷	RBW 100 kHz		(m A	
	Ref Level 20.00 dB Att 30 c SGL Count 300/300		RBW 100 kHz		(m)	
	RefLevel 20.00 dB	m Offset 8.23 dB 🖷	RBW 100 kHz	Mode Auto FFT		
	Ref Level         20.00 dB           Att         30 d           SGL Count         300/300           IPk View         100/300	m Offset 8.23 dB 🖷	RBW 100 kHz	Mode Auto FFT M1[1]	-2.10 dBm 2.473990 GHz	
	Ref Level 20.00 dB Att 30 c SGL Count 300/300 P1Pk View 10 dBm	m Offset 8.23 dB 🖷	RBW 100 kHz	Mode Auto FFT	-2.10 dBm 2.473990 GHz -53.44 dBm	
	Ref Level         20.00 dB           Att         30 d           SGL         Count         300/300           IPk View         10 dBm         10 dBm           0 dBm         0 dBm         10 dBm	m Offset 8.23 dB 🖷	RBW 100 kHz	Mode Auto FFT M1[1]	-2.10 dBm 2.473990 GHz	
	Ref Level 20.00 dB Att 30 c SGL Count 300/300 P1Pk View 10 dBm	m Offset 8.23 dB 🖷	RBW 100 kHz	Mode Auto FFT M1[1]	-2.10 dBm 2.473990 GHz -53.44 dBm	
	Ref Level 20.00 dB           Att         30 c           SGL Count 300/300           IPk View           10 dBm           0 dBm           11 https://doi.org/10.00/000	m Offset 8.23 dB ● 18 SWT 94.8 µs ●	RBW 100 kHz	Mode Auto FFT M1[1]	-2.10 dBm 2.473990 GHz -53.44 dBm	
	Ref Level 20.00 dB           Att 30 c           SGL Count 300/300           IPk View           0 dBm           0 dBm           0 dBm           10 dBm           0 dBm           10 dBm	m Offset 8.23 dB ● 18 SWT 94.8 µs ●	RBW 100 kHz	Mode Auto FFT M1[1]	-2.10 dBm 2.473990 GHz -53.44 dBm	
	Ref Level 20.00 dB           Att         30 c           SGL Count 300/300           IPk View           0 dBm           0 dBm           0 dBm           -30 dBm           -30 dBm	m Offset 8.23 dB ● 18 SWT 94.8 µs ●	RBW 100 kHz	Mode Auto FFT M1[1]	-2.10 dBm 2.473990 GHz -53.44 dBm	
	Ref Level 20.00 dB           Att 30 c           SGL Count 300/300           IPk View           0 dBm           0 dBm           0 dBm           10 dBm           0 dBm           10 dBm	m Offset 8.23 dB ● B SWT 94.8 µs ● 0 dBm	RBW 100 kHz VBW 300 kHz	Mode Auto FFT M1[1]	-2.10 dBm 2.473990 GHz -53.44 dBm	
	Ref Level 20.00 dB           Att         30 c           SGL Count Solution           IPk View           0 dBm           0 dBm           0 dBm           -30 dBm           -40 dBm	m Offset 8.23 dB ● B SWT 94.8 µs ● 0 dBm	RBW 100 kHz VBW 300 kHz	Mode Auto FFT M1[1] M2[1] M2[1]	-2.10 dBm 2.473990 GHz -53.44 dBm 2.483500 GHz	
	Ref Level 20.00 dB           Att 30 c           SGL Court 300 (300)           ●IPk View           10 dBm           0 dd@1           -10 dBm           -30 dBm           -40 dBm	m Offset 8.23 dB ● B SWT 94.8 µs ● 0 dBm	RBW 100 kHz VBW 300 kHz	Mode Auto FFT M1[1] M2[1] M2[1]	-2.10 dBm 2.473990 GHz -53.44 dBm	
	Ref Level 20.00 dB           Att 30 c           SGL Count 300/300           ●IPk View           10 dBm           0 dBm           +0 dBm           -50 dBm	m Offset 8.23 dB ● B SWT 94.8 µs ● 0 dBm	RBW 100 kHz VBW 300 kHz	Mode Auto FFT M1[1] M2[1] M2[1]	-2.10 dBm 2.473990 GHz -53.44 dBm 2.483500 GHz	
	Ref Level 20.00 dB           Att 30 c           SGL Court 300 (300)           ●IPk View           10 dBm           0 dd@1           -10 dBm           -30 dBm           -40 dBm	m Offset 8.23 dB ● B SWT 94.8 µs ● 0 dBm	RBW 100 kHz VBW 300 kHz	Mode Auto FFT M1[1] M2[1] M2[1]	-2.10 dBm 2.473990 GHz -53.44 dBm 2.483500 GHz	
	Ref Level 20.00 dB           Att         30 c           SGL Count Sol (300)           • IPk View           10 dBm           0 dbg <sup>1</sup> -0 dbg <sup>1</sup> -30 dBm           -50 dBm           -70 dBm	m Offset 8.23 dB ● B SWT 94.8 µs ● 0 dBm	RBW 100 kHz VBW 300 kHz	Mode Auto FFT	-2.10 dBm 2.473990 GHz -53.44 dBm 2.483500 GHz 	
	Ref Level 20.00 dB           Att 30 c           SGL Count Sol 2000           ●IPk View           10 dBm           0 dbm           0 dbm           +00 dBm           -50 dBm           -70 dBm           -70 dBm           -80 dBm           -70 dBm           -70 dBm           -70 dBm	т Offset 8.23 dB ● B SWT 94.8 μs ● 0 dBm 0 dBm 4 yr/byw/w*/кслузаной/	RBW 100 kHz VBW 300 kHz	Mode Auto FFT M1[1] M2[1] +	-2.10 dBm 2.473990 GHz -53,44 dBm 2.483500 GHz 	
	Ref Level 20.00 dB           Att         30 c           SGL Count 300/300           ●IPk View           10 dBm           0 dBm           -0 dBm           -50 dBm           -70 dBm           -70 dBm           Start 2.47 GHz           Marker           Type [ Ref   Trc ]	т Offset 8.23 d8 β SWT 94.8 µS ● 0 dBm 0 dBm 1 0 dBm 1	RBW 100 kHz           VBW 300 kHz           3           4           4           691 pts	Mode Auto FFT	-2.10 dBm 2.473990 GHz -53.44 dBm 2.483500 GHz 	
	Ref Level 20.00 dB           Att         30 d           SGL Count 30 d         50 dBm           0 dBm         0           10 dBm         0           0 dBm         0           40 dBm         0           -50 dBm         0.00           -70 dBm         0.00           Start 2.47 GHz         Marker           Type         Ref         Trc           M1         1         1	т Offset 8.23 d8 (8 SWT 94.8 µ5 ) 0 d8m 0 d8m	RBW 100 kHz           VBW 300 kHz           3           M4           3           691 pts           -2.10 dBm           -53.44 dBm	Mode Auto FFT M1[1] M2[1] +	-2.10 dBm 2.473990 GHz -53,44 dBm 2.483500 GHz 	
	Ref Level 20.00 dB           Att 30 c           SGL Court 300           ●IPk View           10 dBm           0 dBa1	т Offset 8.23 dB SWT 94.8 µs В SWT 94.8 µs 0 dBm 0 dBm 0 dBm 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	RBW 100 kHz VBW 300 kHz	Mode Auto FFT M1[1] M2[1] +	-2.10 dBm 2.473990 GHz -53,44 dBm 2.483500 GHz 	



	2DH5 Ant1 Low 2402		
	ZDDD_AIILI_LOW_2402           Spectrum         []]           Ref Level 20.00 dBm         Offset 8.44 dB ● RBW 100 kHz		
	Att 30 dB SWT 75.8 µs ● VBW 300 kHz Mode Auto FFT SGL Count 300/300 ● JFK View		
	M1[1] -3.34 dBm 2.4018560 GHz M2[1] -52.26 dBm 2.4000000 GHz		
	-10 dBm		
	-20 dBm 01 -23.340 dBm 01 -23.3400 dBm		
	-40 dBm		
	-50 dBm		
	Start 2.35 GHz 691 pts Stop 2.405 GHz Marker		
	Type Ref Trc X-value Y-value Function Function Result		
	M1         1         2.401856         GHz         -3.34         dBm           M2         1         2.4         GHz         -52.26         dBm           M3         1         2.39         GHz         -53.30         dBm           M4         1         2.3726377         GHz         -50.57         dBm		
	M2         1         2:4 GHz         -52:26 dBm           M3         1         2:39 GHz         -53:30 dBm           M4         1         2:3726377 GHz         -50:57 dBm           2DH5_Ant1_High_2480		
	M2         1         2.4 GHz         -52.26 dbm           M3         1         2.39 GHz         -53.30 dbm           M4         1         2.3726377 GHz         -50.57 dbm <b>2DH5_Ant1_High_2480</b> Ref Level 20.00 dbm         Offset 8.23 db         RBW 100 kHz           Ref Level 20.00 dbm         Offset 8.23 db         RBW 100 kHz           Att         30 db         SWT         94.8 µs         VBW 300 kHz		
-	M2     1     2.4 GHz     -52.26 dbm       M3     1     2.39 GHz     -53.30 dbm       M4     1     2.3726377 GHz     -50.57 dbm <b>2DH5_Ant1_High_2480</b> Ref Level 20.00 dbm       Offset 8.23 db @ RBW 100 kHz       Att     30 db     SWT       94.8 µs     VBW 300 kHz     Mode Auto FFT       SGL Count 300/300     ● FFt View		
	M2         1         2.4 GHz         -58.26 dbm           M3         1         2.39 GHz         -53.30 dbm           M4         1         2.3726377 GHz         -50.57 dbm <b>2DH5_Ant1_High_2480 Continue Ref Level</b> 20.00 dbm <b>Offset</b> 8.23 db <b>RBW</b> 100 kHz <b>Att</b> 30 db         SWT         94.8 µs         WBW 300 kHz         Mode Auto FFT         SGL Count 300/300		
	M2         1         2.4 GHz         -52.26 dbm           M3         1         2.39 GHz         -53.30 dbm           M4         1         2.3726377 GHz         -50.57 dbm           2DH5_Ant1_High_2480           Contraction           Ref Level 20.00 dbm         Offset 8.23 dB         RBW 100 kHz           Att         30 db         SWT         94.8 µs         * VBW 300 kHz         Mode Auto FFT           SGL Count 300/300           ● 1Pk View		
	M2         1         2.4 GHz         -52.26 dbm           M3         1         2.39 GHz         -53.30 dbm           M4         1         2.3726377 GHz         -50.57 dbm           DDH5_Ant1_High_2480           Colspan="2">Colspan="2"           Colspan="2"         Colspan="2"           Colspan="2"         Colspan="2"           Colspan="2"         Colspan="2"           Colspan="2"          Colspan="2"           Colspan="2"		
	M2       1       2.3 GHz       -52.36 dBm         M4       1       2.3726377 GHz       -50.57 dBm         CDH5_Ant1_High_2480         Colspan="2">Colspan="2"         Offset 8.23 dB @ RBW 100 kHz         Att 30 dB WT 94.8 µs @ VBW 300 kHz         MI[1]       Colspan="2"         Offset 8.23 dB @ RBW 100 kHz         Att 30 dB WT 94.8 µs @ VBW 300 kHz         MI[1]       Colspan="2"         Offset 8.23 dB @ RBW 100 kHz         MI[1]       Colspan="2"         Offset 8.23 dB @ RBW 100 kHz         MI[1]       Colspan="2"         Offset 8.23 dB @ MI       MI[1]       Colspan="2"         Offset 8.23 dB @ MI <td colspa<="" td=""><td></td></td>	<td></td>	
	M2       1       2.3 GHz       -52.26 dbm         M4       1       2.3726377 GHz       -50.57 dbm         MB Sectors         CDH5_Ant1_High_2480         Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2"         Spectrum       Colspan="2"         Ref Level 20.00 dbm       Offset 8.23 db @ RBW 100 kHz         SGL Count 300/300         @ IPk View       MI[1]       -3.31 dbm         MI[1]       -3.31 dbm         IPk View       MI[1]       -3.31 dbm         IPk View       MI[1]       -3.31 dbm         10 dbm       MI[1]       -3.93 dbm         -3.0 dbm       MI[1]       -3.93 dbm         -3.0 dbm       MI[1]       -3.93 dbm         0 dbm       -3.0 dbm       -3.0 dbm         -3.0 dbm       -3.0 dbm       -3.0 dbm       -3.0 dbm         -3.0 dbm       -3.0 dbm       -3.0 dbm <td c<="" td=""><td></td></td>	<td></td>	
	M2       1       2.3 GHz       -52.36 dBm         M4       1       2.3726377 GHz       -50.37 dBm         M4       1       2.3726377 GHz       -50.57 dBm         CDH5_Ant1_High_2480         Colspan="2">Colspan="2"         Colspan="2">Colspan="2"         Colspan="2"         M1[1]       Colspan="2"         Colspan="2"       Colspan="2"         Colspan="2"       Colspan="2"         M1[1]       Colspan="2"         M1[1]       Colspan="2"         OBM       Colspan="2"         OBM       Colspan="2"		







•			
	DH5_Ant1_Low_2402	m	
	18 🖷 RBW 100 kHz		
Att 30 dB SWT 75.8 µ			
● 1Pk View			
10 dBm		2.4016970 GHz	
	M2[1]	-54.05 dBm 2.4000000 GHz	
	2	MI	
-10 dBm		<u> </u>	
-20 dBm			
-30 dBm			
-40 dBm			
-50 dBm	M4	12 14	
	and a hour and a second of the property of	arman manufacture and	
-70 0811			
Start 2.35 GHz	691 pts	Stop 2.405 GHz	
Type   Ref   Trc   X-value	Y-value   Function	Function Result	
31	DH5 Ant1 High 2480		
U. U.			
Spectrum		<b>H</b>	
Spectrum Ref Level 20.00 dBm Offset 8.23	dB 🕳 RBW 100 kHz	<b>E</b>	
Spectrum           Ref Level 20.00 dBm         Offset 8.23           Att         30 dB         SWT 94.8           SGL Count 300/300         SWT		(Eff	
Spectrum Ref Level 20,00 dBm Offset 8,23 Att 30 dB SWT 94.8	dB 🕳 RBW 100 kHz	-3.92 dBn	
Spectrum           Ref Level 20.00 dBm         Offset 8.23           Att         30 dB         SWT 94.8           SGL Count 300/300         SWT	dB       RBW 100 kHz µs       VBW 300 kHz Mode Auto FFT M1[1]	-3,92 dBn 2.480130 GH	
Spectrum           Ref Level         20.00 dBm         Offset         8.23           Att         30 dB         SWT         94.8           SGL Count         300/300             ●IPk View	dB <b>© RBW</b> 100 kHz µs <b>© VBW</b> 300 kHz <b>Mode</b> Auto FFT	-3.92 dBn	
Spectrum           Ref Level 20.00 dBm         Offset 8.23           Att         30 db         SWT         94.8           SGL Count 300/300         IV View         IV         IV           10 dBm         IV         IV         IV	dB       RBW 100 kHz µs       VBW 300 kHz Mode Auto FFT M1[1]	-3.92 dBn 2.480130 GH -50.76 dBn	
Spectrum           Ref Level 20.00 dBm         Offset 8.23           Att         30 dB         SGL Count 300/300           ●1Pk View         0         0 dBm           10 dBm         0         10 dBm           -10 dBm         0         M1	dB       RBW 100 kHz µs       VBW 300 kHz Mode Auto FFT M1[1]	-3.92 dBn 2.480130 GH -50.76 dBn	
Spectrum         Offset 8.23           Att         30 dB         SWT         94.8           SGL Count 300/300         Image: SGL SWT         94.8           ID dBm         Image: SGL SWT         94.8           10 dBm         Image: SGL SWT         94.8           -10 dBm         Image: SGL SWT         94.8           -20 dBm         Image: SGL SWT         94.8	dB       RBW 100 kHz     µs       VBW 300 kHz     Mode Auto FFT     M1[1]	-3.92 dBn 2.480130 GH -50.76 dBn	
Spectrum           Ref Level 20.00 dBm         Offset 8.23           Att         30 dB         SGL Count 300/300           I2 Level 20.00 dBm         0 dBm           10 dBm         0 dBm           -10 dBm         -10 dBm           -20 dBm         01 -23.920 dBm	dB       RBW 100 kHz     µs       VBW 300 kHz     Mode Auto FFT     M1[1]	-3.92 dBn 2.480130 GH -50.76 dBn	
Spectrum         Offset 8.23           Att         30 dB         SWT         94.8           SGL Count 300/300         IPk View         IO dBm         IO dBm         IO dBm           10 dBm         IO dBm         IO dBm         IO dBm         IO dBm         IO dBm           -10 dBm         IO dBm	dB	-3.92 dBn 2.480130 GH -50,76 dBn 2.483500 GH	
Spectrum           Ref Level 20.00 dBm         Offset 8.23           Att         30 dB         SGL Count 300/300           I2 Level 20.00 dBm         0 dBm           10 dBm         0 dBm           -10 dBm         -10 dBm           -20 dBm         01 -23.920 dBm	dB	-3.92 dBn 2.480130 GH -50,76 dBn 2.483500 GH	
Spectrum           Ref Level 20.00 dBm         Offset 8.23           Att         30 db         SWT         94.8           SGL Count 300/300         IPk View         ID         dBm         ID           10 dBm         ID         dBm         ID         dBm         ID           -10 dBm         ID	dB      RBW 100 kHz     µs     VBW 300 kHz     Mode Auto FFT      M1[1]     M2[1]     M2[1]	-3.92 dBn 2.480130 GH -50,76 dBn 2.483500 GH	
Spectrum           Ref Level 20.00 dBm         Offset 8.23           Att         30 db         SWT         94.8           SGL Count 300/300         IPk View         ID         dBm         ID           10 dBm         ID         dBm         ID         ID         ID         ID           -10 dBm         ID         <	dB	-3.92 dBn 2.480130 GH -50,76 dBn 2.483500 GH	
Spectrum           Ref Level 20.00 dBm         Offset 8.23           Att         30 dB         SWT 94.8           SGL Count 300/300         IV View           10 dBm         10 dBm           -10 dBm         -10 dBm           -20 dBm         -123.920 dBm           -30 dBm         -10 dBm           -40 dBm         -40 dBm           -70 dBm         -70 dBm	dB         RBW 100 kHz           µs         VBW 300 kHz           M1[1]           M2[1]           M2[1]           M3           M4           Jun M4           Jun M4	-3.92 dBn 2.480130 GH -50.76 dBn 2.483500 GH	
Spectrum         Offset 8.23           att         30 db         SWT         94.8           SGL Count 300/300         IPk View         10 dbm         10 dbm           10 dbm         10 dbm         10 dbm         10 dbm           -10 dbm         10 dbm         10 dbm         10 dbm           -20 dbm         123.920 dbm         10 dbm         10 dbm           -30 dbm         123.920 dbm         10 dbm         10 dbm           -20 dbm         1.23.920 dbm         10 dbm         10 dbm           -30 dbm         1.23.920 dbm         1.23.920 dbm         1.23.920 dbm           -50 dbm         1.23.920 dbm         1.23.920 dbm         1.23.920 dbm           -30 dbm         1.23.920 dbm         1.23.920 dbm         1.23.920 dbm           -50 dbm         1.23.920 dbm         1.23.920 dbm         1.23.920 dbm           -70 dbm         1.23.920 dbm         1.23.920 dbm         1.23.920 db	dB	-3.92 dBn 2.480130 GH -50,76 dBn 2.483500 GH	
Spectrum         Ref Level 20.00 dBm         Offset 8.23           Att         30 dB         SWT         94.8           SGL Count 300/300         ● IPk View         0         0 dBm         0           10 dBm         0         0 dBm         0         0         0           -10 dBm         0         -20 dBm         0         -20 dBm         0         -20 dBm         -30 dBm         -40 dBm         -30 dBm         -40 dBm         -40 dBm         -40 dBm         -40 dBm         -50 dBm         -70 dBm	dB     RBW     100 kHz       µs     VBW     300 kHz     Mode Auto FFT         M1[1]     M2[1]         M2     M4         M2     M4         M3     M4         M3     M4         M3     M4         M3     M4         M3     M4         M4     M4         M3     M4         Y-value     Function	-3.92 dBn 2.480130 GH -50.76 dBn 2.483500 GH	
Spectrum           Ref Level 20.00 dBm         Offset 8.23           Att         30 db         SWT         94.8           SGL Count 300/300         91Pk View         10 dBm         10 dBm         10 dBm           10 dBm         11         0         10 dBm         10 dBm	db @ RBW 100 kHz           µs @ VBW 300 kHz           M1[1]           M2[1]           M2[1]           M2[1]           M3           M4           Junt Surger	-3.92 dBn 2.480130 GH -50.76 dBn 2.483500 GH 	
	Spectrum           Ref Level 20.00 dBm         Offset 8.44 c           Att         30 dB           SGL Count 300/300           ● IPk. View           10 dBm           -0 dBm           -10 dBm           -20 dBm           -30 dBm           -40 dBm           -50 dBm           -70 dBm           -11 1           2.401697 GF           Marker           Type           Ref           Trc         X-value           M1         1           2.33 GF           M3         1           93 dB         1	Spectrum           Ref Level 20.00 dBm         Offset 8.44 dB = RBW 100 kHz           Att         30 dB           SQL Count 300/300           IPk View           ID dBm           ID dBm           -10 dBm           -20 dBm           -30 dBm           -30 dBm           -30 dBm           -10 dBm           -20 dBm           -30 dBm           -30 dBm           -30 dBm           -30 dBm           -10 dBm           -20 dBm           -10 dBm           -20 dBm           -30 dBm           -10 dBm	Spectrum         Image: Control and Contrelead and Contrel and Control and Contrelad and Control and Contr



3DH5_Ant1_Low_Hop_2402	,
Spectrum         []]           Ref Level 20.00 dBm         Offset 8.44 dB ● RBW 100 kHz	
Att 30 dB SWT 75.8 µs SVBW 300 kHz Mode Auto FFT	
SGL Count 300/300    P1Pk View	1
M1[1] -5.49 dBm 2.4040850 GHz	
10 dBm M2[1] -52.50 dBm	
0 dBm	
-10 dBm	
-20 dBm	
01 -25.490 dBm	
-30 dBm	
-40 dBm-	
Jan 1991 - Han manufacture and the stand of	
-60 dBm-	
-70 dBm-	
Start 2.35 GHz 691 pts Stop 2.405 GHz Marker	
Type   Ref   Trc   X-value   Y-value   Function   Function Result	
M1         1         2.404085 GHz         -5.49 dBm           M2         1         2.4 GHz         -52.50 dBm	
M3         1         2.39 GHz         -53.93 dBm           M4         1         2.3718406 GHz         -50.36 dBm	
3DH5_Ant1_High_Hop_2480	
Spectrum         □           Ref Level 20.00 dBm         Offset 8.23 dB ● RBW 100 kHz	
Spectrum         Image: Control of the second	
Spectrum         Image: Constraint of the second seco	]
Spectrum         Image: Constraint of the second seco	
Spectrum         Image: Constraint of the second secon	
Spectrum         Image: Construction of the second sec	
Spectrum         Image: Control of the second s	
Spectrum         Image: Construction of the second sec	
Spectrum         Image: Constraint of the second secon	
Spectrum         Image: Control of the second s	
Spectrum         Image: Constraint of the second secon	
Spectrum         Image: Constraint of the second secon	
Spectrum         Image: Constraint of the second secon	
Spectrum         Image: Constraint of the second secon	
Spectrum         Image: Constraint of the second secon	
Spectrum         Image: Construction of the second data o	
Spectrum         Image: Control and Contrelation and Control and Control and Contrel and Control and Contr	
Spectrum         Image: Control of the second s	



# 5.9 Spurious RF Conducted Emissions

Test Requirement:	47 CFR Part 15C Section 15.247 (d)	
Test Method:	ANSI C63.10:2013	
Test Setup:	Spectrum Analyzer E.U.T Non-Conducted Table Ground Reference Plane	
	Remark: Offset=cable loss+ attenuation factor.	
Limit:	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.	
Exploratory Test Mode:	Non-hopping transmitting with all kind of modulation and all kind of data type	
Final Test Mode:	Through Pre-scan, find the DH5 of data type is the worst case of GFSK modulation type, 2-DH5 of data type is the worst case of $\pi$ /4DQPSK modulation type, 3-DH5 of data type is the worst case of 8DPSK modulation type.	
Test Results:	Pass	



