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

# **Test Report**

Report No. : Applicant: Address of Applicant:	CQASZ20230100008E-01 Shenzhen Baseus Technology Co., Ltd. 2nd Floor, Building B, Baseus Intelligence Park, No.2008, Xuegang Rd, Gangtou Community, Bantian Street, Longgang District, Shenzhen.			
Equipment Under Test (E	:UT):			
Product:	Baseus Wireless Headphones			
Model No.:	Baseus Bowie D03			
Test Model No.:	Baseus Bowie D03			
Brand Name:	Baseus			
FCC ID:	2A482-D03			
Standards:	47 CFR Part 15, Subpart C			
Date of Receipt:	2023-01-04			
Date of Test:	2023-01-04 to 2023-01-12			
Date of Issue:	2023-01-29			
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:	James
	( 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
CQASZ20230100008E-01	Rev.01	Initial report	2023-01-29



## 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



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## 4 General Information

## 4.1 Client Information

Applicant:	Shenzhen Baseus Technology Co., Ltd.			
Address of Applicant:	2nd Floor, Building B, Baseus Intelligence Park, No.2008, Xuegang R Gangtou Community, Bantian Street, Longgang District, Shenzhen.			
Manufacturer:	Shenzhen Baseus Technology Co., Ltd.			
Address of Manufacturer:	anufacturer: 2nd Floor, Building B, Baseus Intelligence Park, No.2008, Xuegang F Gangtou Community, Bantian Street, Longgang District, Shenzhen.			
Factory:	HUIZHOU JONETECH ELECTRONIC CO., LTD			
Address of Factory:	dress of Factory: C building, Hushan Technology Park, Shiwan Twon, Boluo City, Guang 516127, China			

### 4.2 General Description of EUT

Product Name:	Baseus Wireless Headphones		
Model No.:	Baseus Bowie D03		
Test Model No.:	Baseus Bowie D03		
Trade Mark:	Baseus		
Software Version:	V1.0		
Hardware Version:	V1.0		
Operation Frequency:	2402MHz~2480MHz		
Bluetooth Version:	V5.3		
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		
Test Software of EUT:	BT_Tool		
Antenna Type:	PCB antenna		
Antenna Gain:	2.91dBi		
Power Supply:	Li-ion battery: DC 3.7V 300mAh, Charge by DC 5V 170mA for adapter		



Operation F	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 parameters and cannot be changed and selected)			
Use test software to set the lo	west frequency, the middle frequency and	the highest frequency keep		
transmitting of the EUT.				
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	СНЗ9	2441		
	CH78	2480		



### 4.4 Test Environment

Operating 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	Supplied
Adapter	MI	1	1	CQA



### 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	2022/09/09	2023/09/08
Spectrum analyzer	R&S	FSU26	CQA-038	2022/09/09	2023/09/08
Spectrum analyzer	R&S	FSU40	CQA-075	2022/09/09	2023/09/08
Preamplifier	MITEQ	AFS4-00010300-18- 10P-4	CQA-035	2022/09/09	2023/09/08
Preamplifier	MITEQ	AMF-6D-02001800- 29-20P	CQA-036	2022/09/09	2023/09/08
Preamplifier	EMCI	EMC184055SE	CQA-089	2022/09/09	2023/09/08
Loop antenna	Schwarzbeck	FMZB1516	CQA-060	2021/09/16	2024/09/15
Bilog Antenna	R&S	HL562	CQA-011	2021/09/16	2024/09/15
Horn Antenna	R&S	HF906	CQA-012	2021/09/16	2024/09/15
Horn Antenna	Schwarzbeck	BBHA 9170	CQA-088	2021/09/16	2024/09/15
Coaxial Cable (Above 1GHz)	CQA	N/A	C007	2022/09/09	2023/09/08
Coaxial Cable (Below 1GHz)	CQA	N/A	C013	2022/09/09	2023/09/08
RF cable(9KHz~40GHz)	CQA	RF-01	CQA-079	2022/09/09	2023/09/08
Antenna Connector	CQA	RFC-01	CQA-080	2022/09/09	2023/09/08
Power Sensor	KEYSIGHT	U2021XA	CQA-30	2022/09/09	2023/09/08
N1918A Power Analysis Manager Power Panel	Agilent	N1918A	CQA-074	2022/09/09	2023/09/08
Power meter	R&S	NRVD	CQA-029	2022/09/09	2023/09/08
Power divider	MIDWEST	PWD-2533-02-SMA- 79	CQA-067	2022/09/09	2023/09/08
EMI Test Receiver	R&S	ESR7	CQA-005	2022/09/09	2023/09/08
LISN	R&S	ENV216	CQA-003	2022/09/09	2023/09/08
Coaxial cable	CQA	N/A	CQA-C009	2022/09/09	2023/09/08
DC power	KEYSIGHT	E3631A	CQA-028	2022/09/09	2023/09/08

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

Antenna Requirement	47 CEP Dort 15C Soction 15 202 (247(a)				
Standard requirement:	47 CFR Part 15C Section 15.203 /247(c)				
15.203 requirement:					
	be designed to ensure that no antenna other than that furnished by the				
responsible party shall be us	sed 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 ca	an be replaced by the user, but the use of a standard antenna jack or				
electrical connector is prohil	bited.				
15.247(b) (4) requirement:					
The conducted output powe	r limit specified in paragraph (b) of this section is based on the use of				
antennas with directional ga	ins 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 power from the intentional radiator shall be reduced below the stated values in paragraphs (b)					
antenna exceeds 6 dBi.					
EUT Antenna:					

The antenna is PCB antenna. The best case gain of the antenna is 2.91 dBi.





## 5.2 Conducted Emissions

 Conducted Emissio							
Test Requirement:	47 CFR Part 15C Section 15.207						
Test Method:	ANSI C63.10: 2013						
Test Frequency Range:	150kHz to 30MHz						
Limit:		Limit (dBuV)					
	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 logarithm	n of the frequency.					
Test Setup:	<ol> <li>The mains terminal disturbution.</li> <li>The EUT was connected to Impedance Stabilization Netion impedance. The power call connected to a second LIS reference plane in the same measured. A multiple sock power cables to a single LI exceeded.</li> <li>The tabletop EUT was place ground reference plane. An placed on the horizontal grade on the closest points the EUT shall be 0.4 m for the grade on the closest points the EUT and associated exception of the grade on the closest points the EUT and associated exceptions the EUT and associated exceptions the EUT and all of the implication of the grade on the formation of the grade on the formation of the grade on the formation of the EUT and associated exceptions the EUT and associated exceptions the EUT and all of the implication of the grade on the formation of the grade on the formation of the EUT and associated exceptions the EUT and associated exc</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 was ar ne of 2.			
Test Setup:	AC Mains	AE uby UISN2 + AC Ma Ground Reference Plane	Test Receiver				

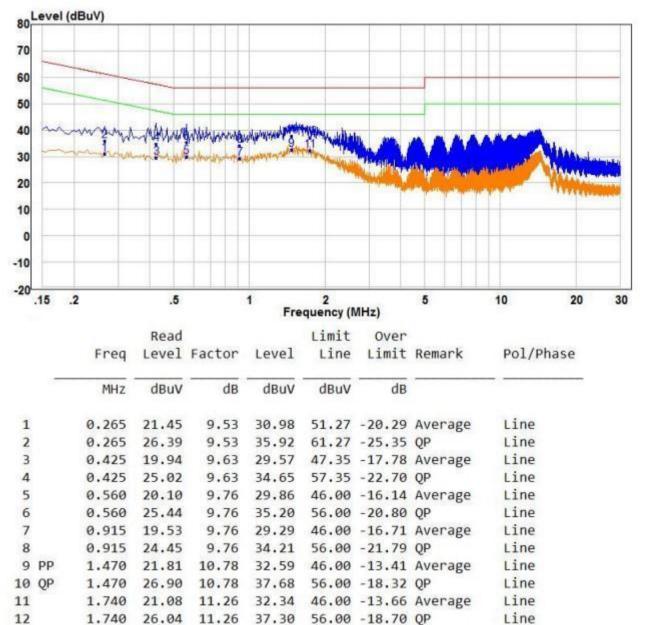


Exploratory Test Mode:	Non-hopping transmitting mode with all kind of modulation and all kind of
	data type at the lowest, middle, high channel.
Final Test Mode:	Through Pre-scan, find the DH5 of data type and GFSK modulation at the lowest channel is the worst case. Only the worst case is recorded in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



#### **Measurement Data**

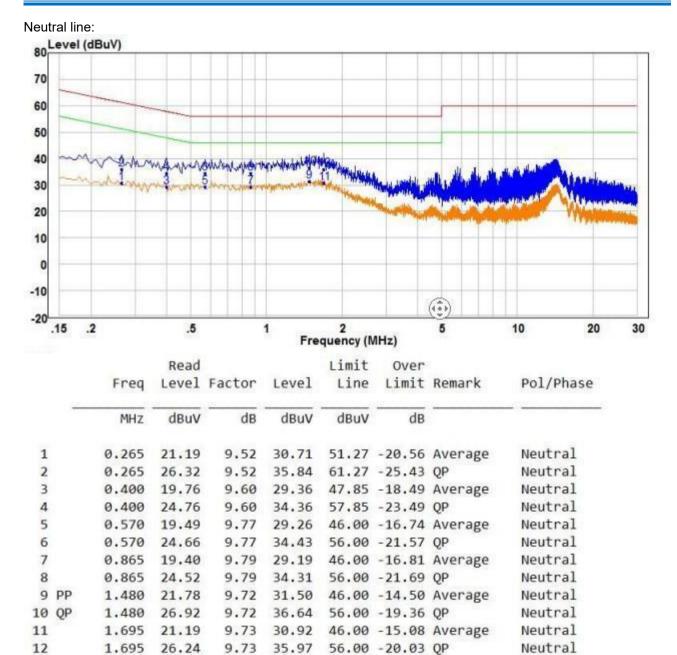
Live line:



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

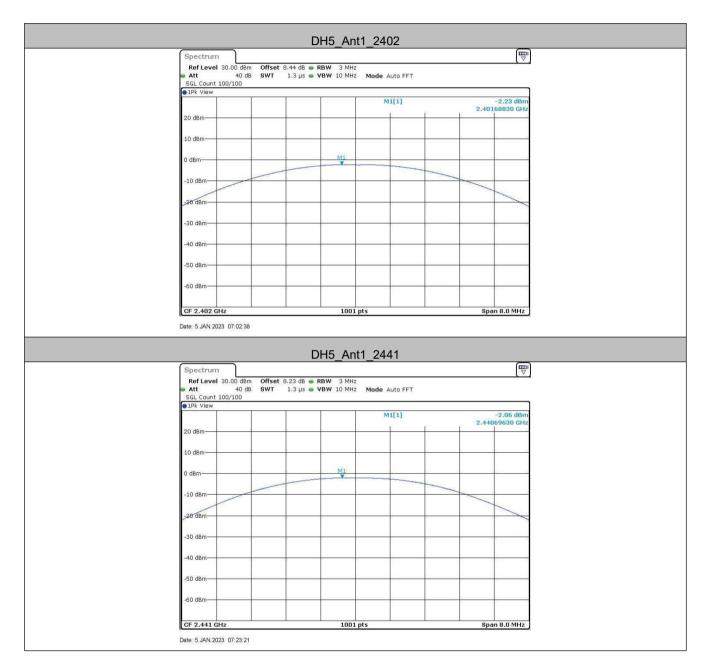


### Measurement Data

GFSK mode							
Test channel	Peak Output Power (dBm)	Limit (dBm)	Result				
Lowest	-2.23	21.00	Pass				
Middle	-2.06	21.00	Pass				
Highest	-3.64	21.00	Pass				
	π/4DQPSK m	ode					
Test channel	Peak Output Power (dBm)	Limit (dBm)	Result				
Lowest	-0.46	21.00	Pass				
Middle	-0.24	21.00	Pass				
Highest	-1.86	21.00	Pass				
	8DPSK mod	le					
Test channel	Peak Output Power (dBm)	Limit (dBm)	Result				
Lowest	-0.13	21.00	Pass				
Middle	-0.1	21.00	Pass				
Highest	-1.52	21.00	Pass				



#### Test plot as follows:



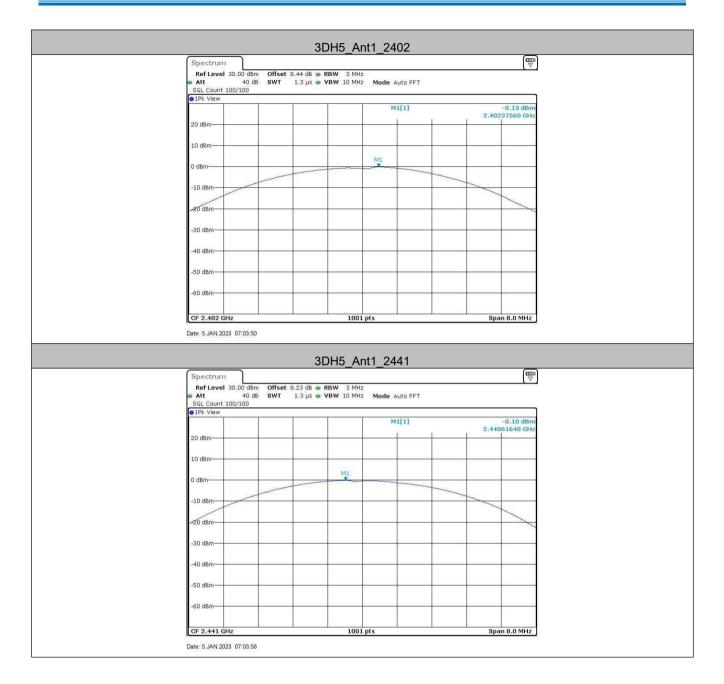






	:	2DH5_Ant1	2441			
Spectrum						
Ref Level 30.00 dBr						
Att 40 d SGL Count 100/100	IB <b>SWT</b> 1.3 μs	VBW 10 MHz N	lode Auto FFT			
●1Pk View						
			M1[1]	2,4406	3.24 dBm 3840 GHz	
20 dBm		-			-	
10 dBm-						
0 dBm		M1			6	
-10 dBm			5 5			
-20 dBm-						
-20 UBIT					1	
-30 dBm					0	
-40 dBm					e:	
-50 dBm		_				
-60 dBm				10		
CF 2.441 GHz		1001 pts		Span	8.0 MHz	
8	8.1	1001 pt3		25		
Date: 5.JAN.2023 07:03:22	2	1001 pt3				 _
8	***	2DH5_Ant1		·	_	
Date: 5.JAN 2023 07:03:22		2DH5_Ant1				
Date: 5.JAN 2023 07:03:22 Spectrum RefLevel 30.00 d8	m Offset 8.23 dB	2DH5_Ant1	_2480		(IIII)	
Date: 5.JAN 2023 07:03:22 Spectrum Ref Level 30.00 dB Att 40 d SGL Count 100/100	m Offset 8.23 dB	2DH5_Ant1	_2480			
Date: 5.JAN 2023 07:03:22 Spectrum RefLevel 30.00 dB Att 40 d	m Offset 8.23 dB	2DH5_Ant1	_2480 Iode Auto FFT			
Date: 5. JAN 2023 07:03:22           Spectrum           Ref Level 30.00 dB/           Att 40 d           SGL Count 100/100           91Pk View	m Offset 8.23 dB	2DH5_Ant1	_2480		(₩) 1.86 dBm 1040 GHz	
Date: 5.JAN 2023 07:03:22 Spectrum Ref Level 30.00 dB Att 40 d SGL Count 100/100	m Offset 8.23 dB	2DH5_Ant1	_2480 Iode Auto FFT		1.86 dBm	
Date: 5. JAN 2023 07:03:22           Spectrum           Ref Level 30.00 dB/           Att 40 d           SGL Count 100/100           91Pk View	m Offset 8.23 dB	2DH5_Ant1	_2480 Iode Auto FFT		1.86 dBm	
Date: 5.JAN 2023 07:03:22 Spectrum RefLevel 30.00 dB Att 40 d SGL Count 100/100 1Pk View 20 dBm 10 dBm	m Offset 8.23 dB	2DH5_Ant1 RBW 3 MH2 VBW 10 MH2 N	_2480 Iode Auto FFT		1.86 dBm	
Date: 5 JAN 2023 07:03-22 Spectrum Ref Level 30:00 dBi Att 40 d SGL Count 100/100 P1Pk View 20 dBm	m Offset 8.23 dB	2DH5_Ant1	_2480 Iode Auto FFT		1.86 dBm	
Date: 5.JAN 2023 07:03:22 Spectrum RefLevel 30.00 dB Att 40 d SGL Count 100/100 1Pk View 20 dBm 10 dBm	m Offset 8.23 dB	2DH5_Ant1 RBW 3 MH2 VBW 10 MH2 N	_2480 Iode Auto FFT		1.86 dBm	
Date: 5 JAN 2023 07:03:22 Ref Level 30:00 dB Att 40 d SGL Count 100/100 PIPk View 20 dBm 10 dBm -10 dBm	m Offset 8.23 dB	2DH5_Ant1 RBW 3 MH2 VBW 10 MH2 N	_2480 Iode Auto FFT		1.86 dBm	
Date: 5.JAN 2023 07:03:22  Spectrum Ref Level 30:00 dB  Att 40 d  SGL Count 100/100  PIPk View 20 dBm 10 dBm 0 dBm 0 dBm	m Offset 8.23 dB	2DH5_Ant1 RBW 3 MH2 VBW 10 MH2 N	_2480 Iode Auto FFT		1.86 dBm	
Date: 5. JAN 2023 07:03:22  Spectrum Ref Level 30.00 dBr Att 40 d SGL Count 100/100  IV View 20 dBm 10 dBm 10 dBm -10 dBm -20	m Offset 8.23 dB	2DH5_Ant1 RBW 3 MH2 VBW 10 MH2 N	_2480 Iode Auto FFT		1.86 dBm	
Date: 5 JAN 2023 07:03:22 Ref Level 30:00 dB Att 40 d SGL Count 100/100 PIPk View 20 dBm 10 dBm -10 dBm	m Offset 8.23 dB	2DH5_Ant1 RBW 3 MH2 VBW 10 MH2 N	_2480 Iode Auto FFT		1.86 dBm	
Date: 5. JAN 2023 07:03:22  Spectrum Ref Level 30.00 dBr Att 40 d SGL Count 100/100  IV View 20 dBm 10 dBm 10 dBm -10 dBm -20	m Offset 8.23 dB	2DH5_Ant1 RBW 3 MH2 VBW 10 MH2 N	_2480 Iode Auto FFT		1.86 dBm	
Date: 5.JAN 2023 07:03:22  Spectrum Ref Level 30.00 dBr Att 40 d SGL Count 100/100  PIPk View 20 dBm 10 dBm 10 dBm -10 dBm -20 dBm -30 dBm -40	m Offset 8.23 dB	2DH5_Ant1 RBW 3 MH2 VBW 10 MH2 N	_2480 Iode Auto FFT		1.86 dBm	
Date: 5 JAN 2023 07:03:22 Spectrum Ref Level 30:00 dBi Att 40 d SGL Count 100/100 PIPk View 20 dBm 10 dBm -10 dBm -20 dBm -30 dBm	m Offset 8.23 dB	2DH5_Ant1 RBW 3 MH2 VBW 10 MH2 N	_2480 Iode Auto FFT		1.86 dBm	
Date: 5.JAN 2023 07:03:22  Spectrum Ref Level 30.00 dBr Att 40 d SGL Count 100/100  PIPk View 20 dBm 10 dBm 10 dBm -10 dBm -20 dBm -30 dBm -40 dBm -40 dBm	m Offset 8.23 dB	2DH5_Ant1 RBW 3 MH2 VBW 10 MH2 N	_2480 Iode Auto FFT		1.86 dBm	
Date: 5 JAN 2023 07:03:22 Spectrum Ref Level 30:00 dB Att 40 d SGL Count 100/100 PIPk View 20 dBm 10 dBm -10 dBm -30 dBm -30 dBm -50 dBm	m Offset 8.23 dB	2DH5_Ant1 RBW 3 MH2 VBW 10 MH2 N	_2480 Iode Auto FFT		1.86 dBm	







Sp	ectrum						F	
- A SG	. Count 100/100		.23 dB 👄 RB 1.3 µs 👄 VB	W 3 MHz W 10 MHz N	ode Auto FFT			_
●1F	k View				M1[1]		-1.52 dB	Bm
20	IBm		x			<u> </u>	2.48035160 G	
10	IBm	-						-
0 di	8m			N	1			-
-10	dBm							
-20	dBm	-			2			
-30	dBm							8
-40	dBm							
-50	dBm			-		-		
-60	dBm							-
GE	2.48 GHz			1001 pts			Span 8.0 MH	1



## 5.4 20dB Occupy Bandwidth

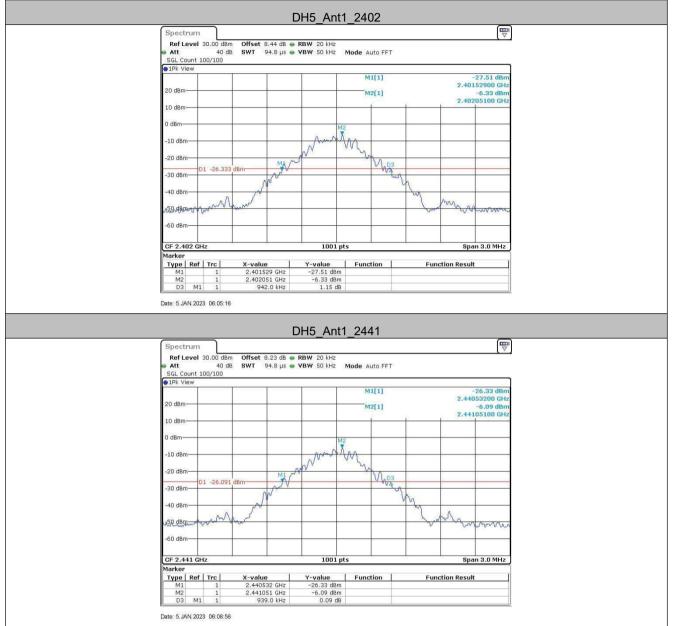
Test Requirement:	47 CFR Part 15C Section 15.247 (a)(1)		
Test Method:	ANSI C63.10:2013		
Test Setup:	Spectrum Analyzer E.U.T Non-Conducted Table Ground Reference Plane		
	Remark: Offset=Cable loss+ attenuation factor.		
Limit:	NA		
Exploratory Test Mode:	Non-hopping transmitting with all kind of modulation and all kind of data type		
Final Test Mode:       Through Pre-scan, find the DH5 of data type is the worst case modulation type, 2-DH5 of data type is the worst case of modulation type, 3-DH5 of data type is the worst case of 8DPSK n 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	0.942	1.329	1.296				
Middle	0.939	1.329	1.323				
Highest	0.945	1.329	1.314				

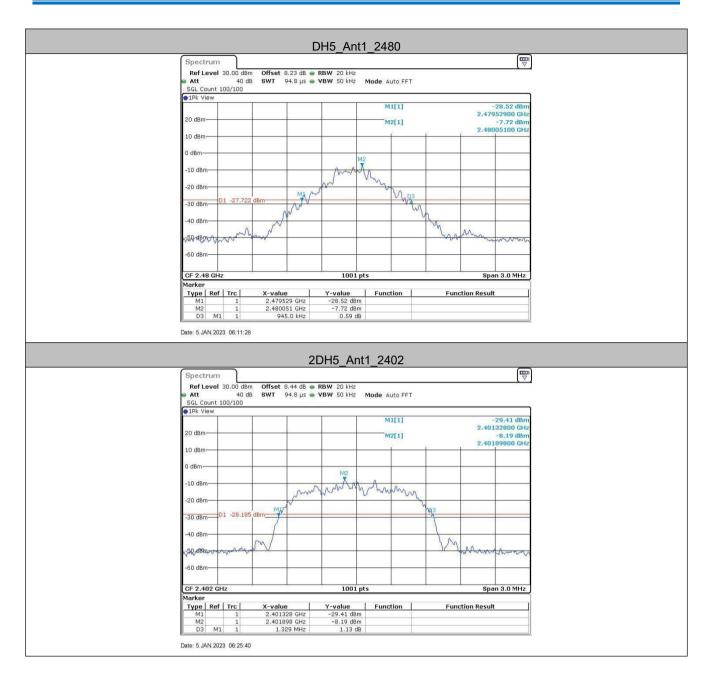


#### Test plot as follows:



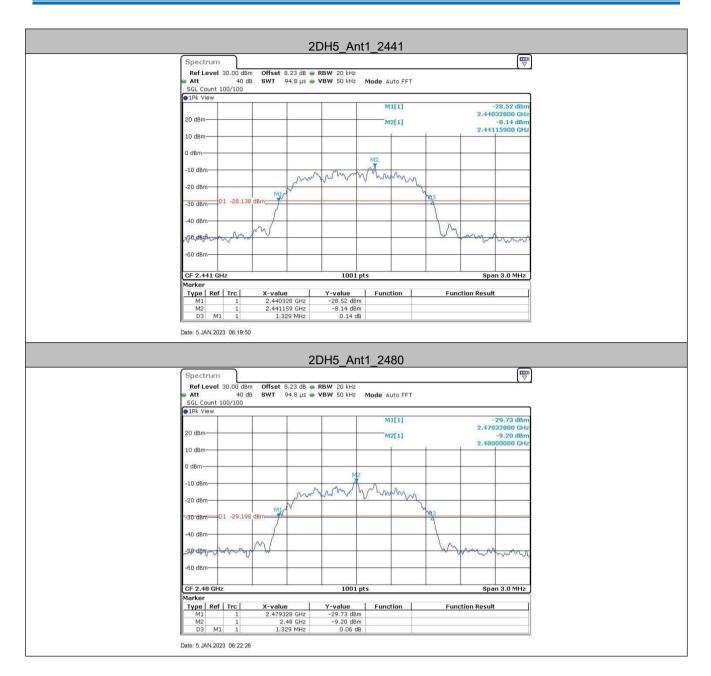






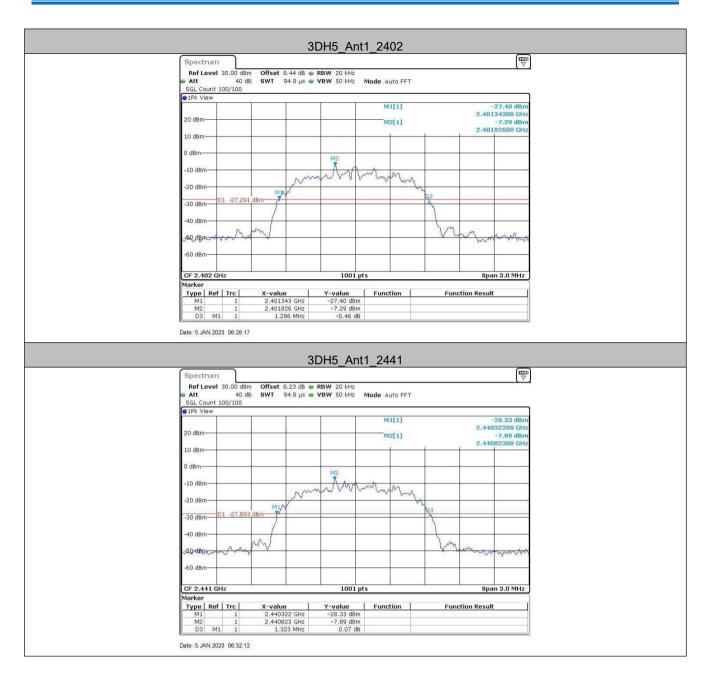






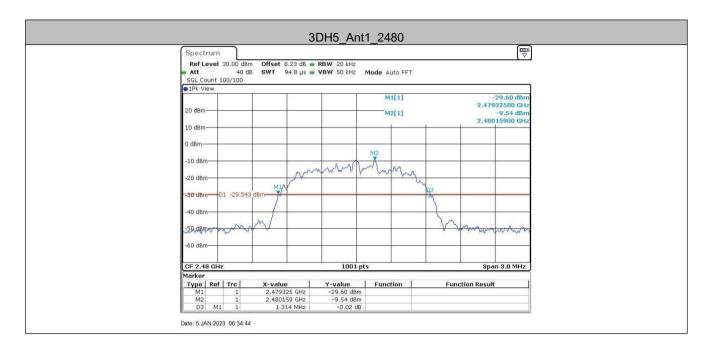














## 5.5 Carrier Frequencies Separation

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:						
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	0.838	≥0.630	PASS
2DH5	Ant1	Нор	1.165	≥0.886	PASS
3DH5	Ant1	Нор	1	≥0.882	PASS

Mode	20dB bandwidth (MHz) (worse case)	Limit (MHz) (Carrier Frequencies Separation)
GFSK	0.945	≥0.630
π/4DQPSK	1.329	≥0.886
8DPSK	1.323	≥0.882



#### Test plot as follows:





Spectrun	1 ¥							
👄 Att	RefLevel 30.00 dbm Offset 8.23 db ■ RBW 300 kHz ■ Att 40 dB SWT 6.2 µs ■ VBW 300 kHz Mode Auto FFT SGL Count 100/100							
20 dBm				M1[1 D2[1		-2.23 dBm 2.44098986 GHz 0.11 dB 1.00000 MHz		
10 dBm			-	-	~			
0 dBm		M1	-		<u>D2</u>			
-10 dBm			0					
-20 dBm								
-30 dBm				-				
-40 dBm				2 8		11		
-50 dBm						-	-	
-60 dBm								
Start 2.44	05 GHz		69	1 pts		Ston	2.4425 GHz	



## 5.6 Hopping Channel Number

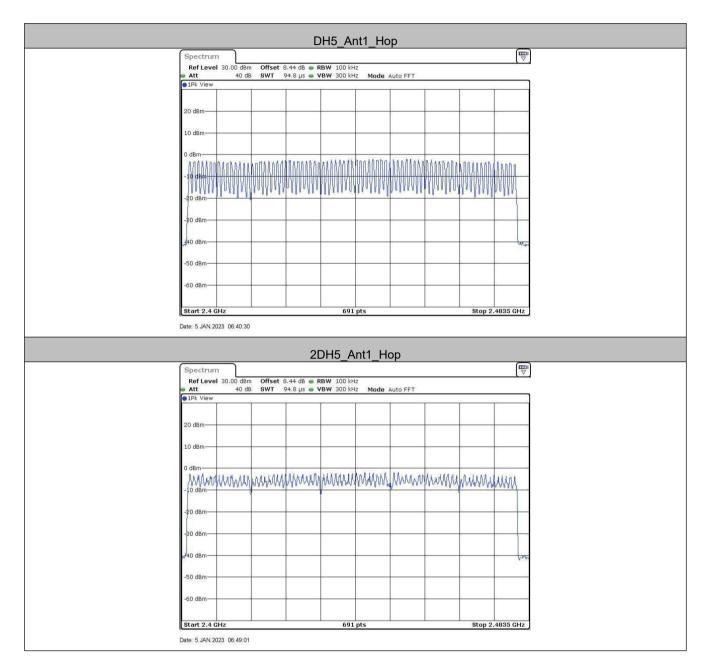
Test Requirement:	47 CFR Part 15C Section 15.247 (a)(1)
Test Method:	ANSI C63.10:2013
Test Setup:	Spectrum Analyzer E.U.T Non-Conducted Table Ground Reference Plane Remark: Offset=Cable loss+ attenuation factor.
Limit:	At least 15 channels
Exploratory Test Mode:	hopping transmitting with all kind of 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:





Spectrum	)								
	Ref Level 30.00 dBm Offset 8.44 dB . RBW 100 kHz								
	e Att 40 dB SWT 94.8 μs e VBW 300 kHz Mode Auto FFT 1Pk View								
O Thk Alem	1	Î		-		Î.	T		
20 dBm				i.	8				
10 dBm									
0 dBm-									
-fo dem	And physical	MMM	MAMM	man	nymyn	MMMM	Muth	ww	
-20 dBm							k		
-30 dBm				-	9	1. 		-	
40 dBm									
N-10 dbin								how	
-50 dBm									
-60 dBm									
Start 2.4 GHz			691	pts			Stop 2.4	1835 GHz	



### 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

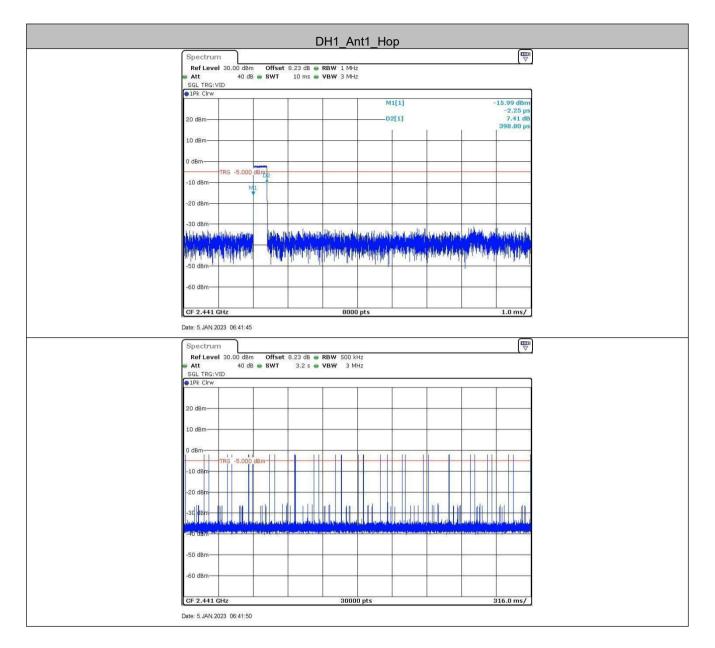
TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH1	Ant1	Нор	0.40	330	0.132	≤0.4	PASS
DH3	Ant1	Нор	1.65	150	0.247	≤0.4	PASS
DH5	Ant1	Нор	2.89	40	0.116	≤0.4	PASS
2DH1	Ant1	Нор	0.41	330	0.135	≤0.4	PASS
2DH3	Ant1	Нор	1.65	160	0.264	≤0.4	PASS
2DH5	Ant1	Нор	2.89	70	0.203	≤0.4	PASS
3DH1	Ant1	Нор	0.41	320	0.131	≤0.4	PASS
3DH3	Ant1	Нор	1.65	130	0.215	≤0.4	PASS
3DH5	Ant1	Нор	2.89	110	0.318	≤0.4	PASS

#### Remark:

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



#### Test plot as follows:





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			L	H3_Ar	iti_⊓0	μ			(m)
Spect	and the second se	Offerst	- 14 50 5	DDW 1 M					∎⊳
e Att	vel 30.00 dBm 40 dB	SWT							
SGL TR	G: VID				0				
●1Pk Cl	w								
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20 dBm-	-				D	2[1]			0.32 dB
						6	r i	в 🤰	1.64771 ms
10 dBm-					8	8			
0 dBm-	-					0			
	TRG -5.000								
-10 dBm	Ŋ	1	02			0			o
			Ť						
-20 dBm	-				-	0		9	o
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-50 dBm							1	8	
-60 dBm									
-60 UBI						¢		S	2
CF 2.44	1 GHz			8000	pts				1.0 ms/
		2 2		8000	pts				1.0 ms/
Date: 5.JA	1.2023 06:42:18	8		8000	pts				
Date: 5.JA	4.2023 06:42:18 um								1.0 ms/
Date: 5.JA Spect Ref Li	N.2023 06:42:18	n Offset 8		<b>RBW</b> 500 ki	Чz				
Spect RefLi ● Att	v.2023 06:42:18 um vel 30.00 dBm 40 dE			<b>RBW</b> 500 ki	Чz				
Date: 5.JA Spect Ref Li	V.2023 06:42:18 um vel 30.00 dBm 40 dE 5: VID	n Offset 8		<b>RBW</b> 500 ki	Hz				
Spech Ref L Strong	V.2023 06:42:18 um vel 30.00 dBm 40 dE 5: VID	n Offset 8		<b>RBW</b> 500 ki	Hz				
Date: 5 JA Spectu Ref L SGL TR ● 1Pk Cl	V.2023 06:42:18 um vel 30.00 dBm 40 dE 5: VID	n Offset 8		<b>RBW</b> 500 ki	Hz				
Spech Ref L Strong	V.2023 06:42:18 um vel 30.00 dBm 40 dE 5: VID	n Offset 8		<b>RBW</b> 500 ki	Hz				
Spect Raf Li Sd. TR 91Pk Cl 20 dBm	V.2023 06:42:18 um vel 30.00 dBm 40 dE 5: VID	n Offset 8		<b>RBW</b> 500 ki	Hz				
Date: 5 JA Spectu Ref L SGL TR ● 1Pk Cl	V.2023 06:42:18 um vel 30.00 dBm 40 dE 5: VID	n Offset 8		<b>RBW</b> 500 ki	Hz				
Date: 5.JA Spectu Ref LL ▲ Att SGL TF ● 1Pk Cl 20 dBm 10 dBm	V.2023 06:42:18 um vel 30.00 dBm 40 dE 5: VID	n Offset 8		<b>RBW</b> 500 ki	Hz				
Spect Raf Li Sd. TR 91Pk Cl 20 dBm	N 2023 06:42:18	Offset 8	3.2 s •	<b>RBW</b> 500 ki	Hz				
Date: 5.JA Spect Ref Li Att SGL TF @1Pk Cl 20 dBm 10 dBm 0 dBm	V.2023 06:42:18 um vel 30.00 dBm 40 dE 5: VID	Offset 8		<b>RBW</b> 500 ki	Hz				
Date: 5.JA Spectu Ref LL ▲ Att SGL TF ● 1Pk Cl 20 dBm 10 dBm	N 2023 06:42:18	Offset 8	3.2 s •	<b>RBW</b> 500 ki	Hz				
Date: 5.JA Spect Ref Li Att SGL TF @1Pk Cl 20 dBm 10 dBm 0 dBm	N 2023 06:42:18	Offset 8	3.2 s •	<b>RBW</b> 500 ki	Hz				
Date: 5.JA Spect Ref LL SGL TF 9 IPk Cl 20 dBm- 10 dBm -10 dBm	N 2023 06:42:18	Offset 8	3.2 s •	<b>RBW</b> 500 ki	Hz				
Date: 5.JA Spect Ref LL SGL TF 9 IPk Cl 20 dBm- 10 dBm -10 dBm	N 2023 06:42:18	Offset 8	3.2 s •	<b>RBW</b> 500 ki	Hz				
Date: 5.JA Spect Ref Li Att SGL TP 1Pk Cl 20 dBm 10 dBm -10 dBm -20 dBm	N 2023 06:42:18	Offset 8	3.2 s •	<b>RBW</b> 500 ki	Hz				
Date: 5.JA Spect Ref Li Att SGL TP 1Pk Cl 20 dBm 10 dBm -10 dBm -20 dBm	N 2023 06-42-18 um vel 30.00 dBm 40 dB 3:VID w TRG -5.000	Offset 8	3.2 s •	<b>RBW</b> 500 ki	Hz				
Date: 5 JA Spect Ref LI SGL TF 91Pk Cl 20 dBm- 10 dBm- -10 dBm -20 dBm -20 dBm -10 dBm	N 2023 06-42-18 um vel 30.00 dBm 40 dB 3:VID w TRG -5.000	Offset 8	3.2 s •	<b>RBW</b> 500 ki	Hz				
Date: 5 JA Spect Ref LI SGL TF 91Pk Cl 20 dBm- 10 dBm- -10 dBm -20 dBm -20 dBm -10 dBm	N 2023 06-42-18 um vel 30.00 dBm 40 dB 3:VID w TRG -5.000	Offset 8	3.2 s •	<b>RBW</b> 500 ki	Hz				
Date: 5 JA Spect Ref Li SLI TF 0 1Pk Cl 20 dBm 10 dBm -10 dBm -20 dBm -30 dBm -30 dBm	N 2023 06-42-18 um vel 30.00 dBm 40 dB 3:VID w TRG -5.000	Offset 8	3.2 s •	<b>RBW</b> 500 ki	Hz				
Date: 5 JA Spect Ref Li SLI TF 0 1Pk Cl 20 dBm 10 dBm -10 dBm -20 dBm -30 dBm -30 dBm	N 2023 06-42-18	Offset 8	3.2 s •	<b>RBW</b> 500 ki	Hz				
Date: 5 JA Spect Ref Ll Att SGL TF 9 TPk Cl 20 dBm- 10 dBm- -10 dBm -20 dBm -20 dBm -30 dBm -30 dBm -30 dBm	N 2023 06-42-18	Offset 8	3.2 s •	<b>RBW</b> 500 ki	Hz				
Date: 5 JA Spect Ref Ll Att SGL TF 9 TPk Cl 20 dBm- 10 dBm- -10 dBm -20 dBm -20 dBm -30 dBm -30 dBm -30 dBm	N 2023 06-42-18	Offset 8	3.2 s •	<b>RBW</b> 500 ki					

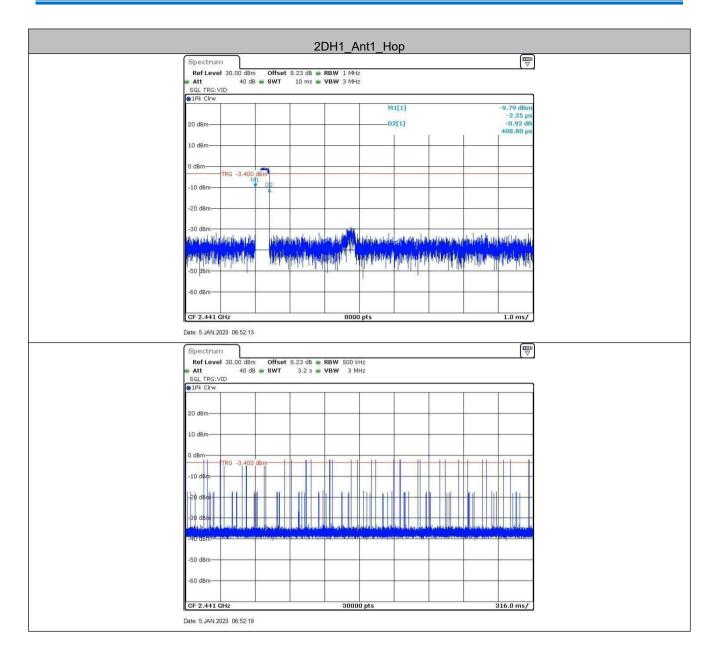




		DH5_Ant1_H	р		(m-)
Spectrum Reflevel 30.00 c	Bm Offset 8.23 dB =	RBW 1 MHz			
		VBW 3 MHz			
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10 dBm					
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TRG -5.0	M1	np			
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-50 0511					38 8
CF 2.441 GHz		8000 pts			1.0 ms/
Date: 5.JAN.2023 06:41	16				
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		VBW 3 MHz			
IPk Clrw					
20 dBm					
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		autou prs			310.0 ms/
Date: 5.JAN.2023 06:41	22				











	2DH3_Ant1_Hop		
Spectrum		V	λ 1
Ref Level 30.00 dBm Offse	et 8.23 dB 🖷 RBW 1 MHz		1
👄 Att 🛛 40 dB 👄 SWT	10 ms 👄 VBW 3 MHz		
SGL TRG:VID PIPK CIrw			1
	M1[1]	-10.22 dBm	1
20 dBm	D2[1]	-2.25 μs 1.09 dB	1
20 0011		1.65271 ms	
10 dBm	+ + + +		
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	et 8.23 dB 👄 RBW 500 kHz 3.2 s 👄 VBW 3 MHz		-
SGL TRG: VID	5.2.3 <b>• • • •</b> • • • • • • •		
●1Pk Clrw		T T T	
20 dBm			
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10 0011			1
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TRG -3.400 dBm			
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-20 dBm			
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Spectrur Ref Leve	n 1 30.00 dBm Offset 8.	23 dB 👄 RBW 1 MHz			
👄 Att	40 dB 👄 SWT	10 ms 🖷 VBW 3 MHz			
SGL TRG:\ 1Pk Clrw	/ID				1
			M1[1]		-14.33 dBm -2.25 µs
20 dBm			D2[1]		7.55 dB
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		23 dB 🖷 RBW 500 kHz			
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			31	DH1_A	nt1 H	n				
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Ref Lev	el 30.00 dB								(∀)	
SGL TRG		B 👄 SWT	10 ms 👄	VBW 3 MH;	2					
●1Pk Cirv									1	
					M	l[1]		-	18.09 dBm	
20 dBm-		-			D	[1]			-3.50 µs 9.55 dB	
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CF 2.441				8000	l pts				1.0 ms/	
Date: 5. JAN	2023 06:59:4	2								
Spectru	m								₽	
	el 30.00 dB									
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1Pk Cirv									]	
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10 dBm—					8 		e		x - 0	
	TRG -2.800	) dBm								
10 dBm—		) dBm								
10 dBm	-TRG -2.80	0 d8m								
10 dBm	TRG -2.80									
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10 dBm	TRG -2.80									
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10 dBm- 0 dBm -10 dBm -20 dBm -30 dBm -30 dBm -50 dBm -60 dBm										
10 dBm- 0 dBm -10 dBm -20 dBm -30 dBm -50 dBm -50 dBm -60 dBm-				3000	0 pts				116.0 ms/	

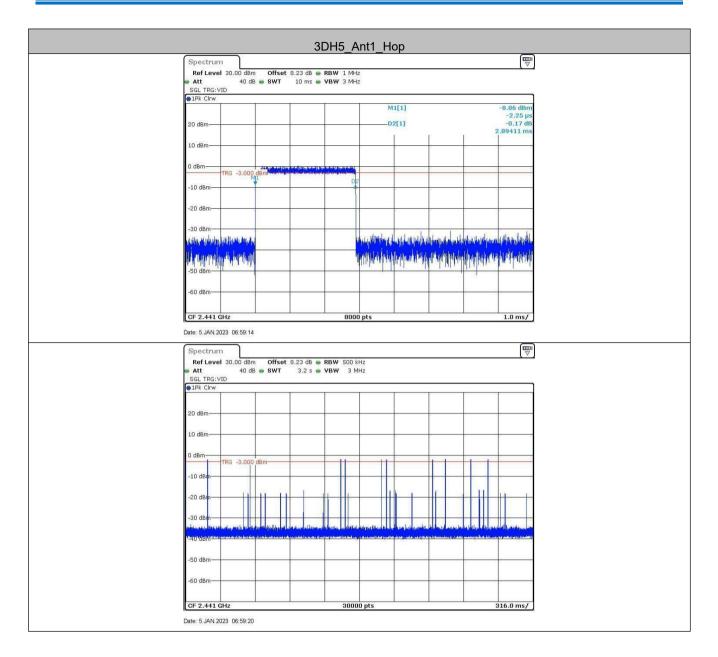




3DH3_Ant1_Hop	
Spectrum	
Ref Level 30.00 dBm Offset 8.23 dB 🖷 RBW 1 MHz	
Att 40 dB SWT 10 ms VBW 3 MHz SGL TRG:VID	
●1Pk Clrw	
M1[1] -9.21 dBm -2.25 µs	
20 dBm D2[1] 1.65 dB 1.65021 ms	
10 dBm	
0 dBm	
-10 dBm	
-20 dBm-	
-30 d8m	
Landel Lander Many Second	
za, stati hule, shu ik kul	
-20 Age 1. Hald is a Look fitted at Luffeld for and is the half are being a find and and is the half for the half down in	
-60 dBm	
CF 2.441 GHz 8000 pts 1.0 ms/	
Date: 5.JAN 2023 07:00:11	
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	
Phy Cirw	
20 dBm-	
10 dBm	
0 dBm	
-10 dbm	
*10 doini	
-20 d8m + 11 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	
-50 dBm	
-60 dBm	
CF 2.441 GHz 30000 pts 316.0 ms/	









# 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.

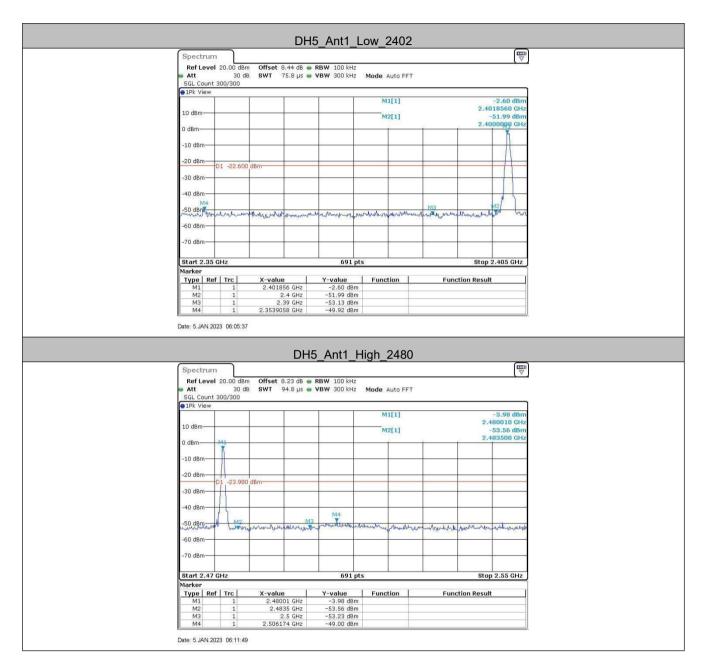
Report No.: CQASZ20230100008E-01

### Measurement Data

TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
		Low	2402	-2.60	-49.92	≤-22.6	PASS
		High	2480	-3.98	-49	≤-23.98	PASS
DH5	Ant1	Low	Hop_2402	-3.52	-50.24	≤-23.52	PASS
		High	Hop_2480	-4.34	-47.16	≤-24.34	PASS
		Low	2402	-2.62	-50.76	≤-22.62	PASS
		High	2480	-4.30	-49.36	≤-24.3	PASS
2DH5	Ant1	Low	Hop 2402	-4.84	-50.48	≤-24.84	PASS
		High	Hop 2480	-3.42	-46.66	≤-23.42	PASS
		Low	2402	-2.63	-49.93	≤-22.63	PASS
		High	2480	-4.52	-49.84	≤-24.52	PASS
3DH5	Ant1	Low	Hop_2402	-7.01	-50.84	≤-27.01	PASS
		High	Hop_2480	-3.29	-48.37	≤-23.29	PASS



### Test plot as follows:





DH5_Ant1_Low_Hop_2402	
Spectrum 🕎	
RefLevel 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  Ptk View	
10 dBm M1[1]3.52 dBm 10 dBm 2.4049600 GHz	
0 dBm M2[1] -53.59 dBm 2.4000000 GHz	
-10 dBm	
-20 dBm	
D1 -23.520 dBm	
-30 dBm	
-40 dBm M4 M3	
50 dbg warman and a marked and a second a second and a second and the second and the	
-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         2.40496         GHz         -3.52         dBm           M2         1         2.4         GHz         -53.59         dBm	
M3         1         2.39 GHz         -52.64 dBm           M4         1         2.3754275 GHz         -50.24 dBm	
Date: 5.JAN 2023 06:37:36	
DH5_Ant1_High_Hop_2480	
Spectrum         (1)           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  Ptk View	
M1[1] -4.34 dBm 2.471100 GHz	
10 dBm M2[1] -53.66 dBm	
10 dBm M2[1] -53.68 dBm 2.483500 GHz	
10 dBm M2[1] -53.68 dBm 10 dBm 2.483500 GHz 10 dBm 4 10 dBm 4	
10 dBm M2[1]53.68 dBm 00:Bm 2.483500 GHz 10 JBm 4 10 JBm 4	
10 dBm	
10 dBm	
10 dBm         M2[1]         -53.68 dBm           10 dBm         2.483500 GHz           10 dBm         2.483500 GHz           10 dBm         1.00 dBm           -30 dBm         1.00 dBm           -50 dBm         1.00 dBm           -50 dBm         1.00 dBm	
10 dBm     M2[1]    53.68 dBm       dblam     2.483500 GHz       -10 lBm	
10 dBm         M2[1]         -53.68 dBm           10 dBm         2.483500 GHz           10 dBm         2.483500 GHz           10 dBm         1.00 dBm           -30 dBm         1.00 dBm           -50 dBm         1.00 dBm           -50 dBm         1.00 dBm	
10 dbm     M2[1]    53.68 dbm       dddbm     2.483500 GHz       40 dbm	
10 dBm     M2[1]    53.68 dBm       10 dBm     2.483500 GHz       10 dBm     2.483500 GHz       10 dBm     1       10 dBm     1       10 dBm     1       -30 dBm     1       -40 dBm     1       -50 dBm     1       -70 dBm     1       -70 dBm     691 pts       Start 2.47 GHz     691 pts       Start 2.47 GHz     691 pts	
10 dBm     M2[1]    53.68 dBm       0 dBm     2.483500 GHz       10 dBm     2.483500 GHz       10 dBm     1       -30 dBm     1       -40 dBm     1       -50 dBm     1       -60 dBm     1       -70 dBm     1       -70 dBm     50 g1 pts       Start 2.47 GHz     691 pts       Start 2.47 GHz     691 pts       Start 2.47 GHz     691 pts       Start 2.47 GHz     51.67 GBm	
10 dBm     M2[1]    53.68 dBm       10 dBm     2.483500 GHz       10 dBm     2.483500 GHz       10 dBm     1.24.340 dBm       -30 dBm	



			2DH	5 Ant1	Low 2	202				
Spectrur				<u></u>		- 102			ſ	₩)
2012 2012 2012 2012 2012	1 20.00 dBm	Offset 8	.44 dB 🖷 I	RBW 100 kHz						$\bigtriangledown$
SGL Count	30 dB			VBW 300 kHz		ito FFT				
91Pk View	300/300									
					M1[	[1]		0.40	-2.62 d	Bm
10 dBm				1	M2[	1]			-52.57 d	Bm
0 dBm							1	2.40	000000	GHZ
-10 dBm									A	
-10 dBm—										
-20 dBm-	D1 -22.620	dBm					5	<u>s</u>		
-30 dBm										65
-40 dBm										h
0.000					N	M4	MB		Mal 1	
-50 dBm	www.low.m	and where	humana	unnum	Million Mar	Inno	Manufingurund	wanter	18	an
-60 dBm					-				-	
-70 dBm									-	
Start 2.35	GHz			691 p	ots			Stop	2.405 GI	Hz
Marker Type Re	f   Trc	X-value	1	Y-value	Functio	on	Fund	tion Result	t	1
M1	1	2.40201	L5 GHz	-2.62 dBn -52.57 dBn	n					
M2 M3	1	2.3	4 GHz 39 GHz	-52.62 dBn	n					
		2.384195	7 GHz	-50.76 dBn	n					
M4	1	2.304150								
		2.304193		5 Ant1	High 2	2480				
M4 Date: 5.JAN 2 Spectrur Ref Leve Att	023 06:26:01	Offset 8	2DH	5_Ant1_ RBW 100 kHz VBW 300 kHz					(	
M4 Date: 5 JAN 2 Spectrur Ref Leve Att SGL Count	023 06:26:01	Offset 8	2DH	RBW 100 kHz					(	
M4 Date: 5.JAN 2 Spectrur Ref Leve Att	023 06:26:01	Offset 8	2DH	RBW 100 kHz		ito FFT			-4.30 d	Bm
M4 Date: 5 JAN 2 Spectrur Ref Leve Att SGL Count	023 06:26:01	Offset 8	2DH	RBW 100 kHz	Mode Au	ito FFT			-4.30 d 180130 ( -52.20 d	Bm GHz Bm
M4 Date: 5 JAN 2 Date: 5 JAN 2 Ref Leve Att SGL Count PIPk View 10 dBm-	023 06:26:01	Offset 8	2DH	RBW 100 kHz	Mode Au	ito FFT			-4.30 d	Bm GHz Bm
M4 Date: 5.JAN 2 Spectrur Ref Leve Att SGL Count 10 dBm	023 06:26:01	Offset 8	2DH	RBW 100 kHz	Mode Au	ito FFT			-4.30 d 180130 ( -52.20 d	Bm GHz Bm
M4 Date: 5 JAN 2 Date: 5 JAN 2 Ref Leve Att SGL Count PIPk View 10 dBm-	023 06:26:01	Offset 8	2DH	RBW 100 kHz	Mode Au	ito FFT			-4.30 d 180130 ( -52.20 d	Bm GHz Bm
M4 Date: 5.JAN 2 Spectrur Ref Leve Att SGL Count 10 dBm	023 06:26:01	Offset 8 SWT 9	2DH	RBW 100 kHz	Mode Au	ito FFT			-4.30 d 180130 ( -52.20 d	Bm GHz Bm
M4 Date: 5 JAN 2 Spectrur Ref Leve Att SGL Count 9 JPk View 10 dBm- 0 dBm- -10 dBm-	023 06:26:01	Offset 8 SWT 9	2DH	RBW 100 kHz	Mode Au	ito FFT			-4.30 d 180130 ( -52.20 d	Bm GHz Bm
M4 Date: 5 JAN 2 Spectrur Ref Leve ▲ Att SGL Count ● 1PK View 10 dBm	023 06:26:01	Offset 8 SWT 9	2DH	RBW 100 kHz	Mode Au	ito FFT			-4.30 d 180130 ( -52.20 d	Bm GHz Bm
M4 Date: 5 JAN 2 Ref Leve Att SGL Count 10 dBm- -10 dBm- -20 dBm- -30 dBm- -40 dBm-	D23 06:26:01	Offset 8 SWT 9	2DH{ .23 dB • Ι 4.8 μs • \	RBW 100 kHz VBW 300 kHz	Mode Au	11]		2.4	-4.30 d #80130 ( 52.20 d #83500 (	Bm SHz Bm SHz
M4 Date: 5 JAN 2 Spectrur Ref Leve ▲ Att SGL Count ● 1PK View 10 dBm	D23 06:26:01	Offset 8 SWT 9	2DH{ .23 dB • Ι 4.8 μs • \	RBW 100 kHz	Mode Au	11]		2.4	-4.30 d #80130 ( 52.20 d #83500 (	Bm SHz Bm SHz
M4 Date: 5 JAN 2 Ref Leve Att SGL Count 10 dBm- -10 dBm- -20 dBm- -30 dBm- -40 dBm-	D23 06:26:01	Offset 8 SWT 9	2DH{ .23 dB • Ι 4.8 μs • \	RBW 100 kHz VBW 300 kHz	Mode Au	11]	a Marine Marine	2.4	-4.30 d #80130 ( 52.20 d #83500 (	Bm SHz Bm SHz
M4 Date: 5.JAN 2 Spectrur Ref Leve ■ Att SGL Count ■ 1Pk View 10 dBm -10 dBm -20 dBm -30 dBm -40 dBm -40 dBm -60 dBm	D23 06:26:01	Offset 8 SWT 9	2DH{ .23 dB • Ι 4.8 μs • \	RBW 100 kHz VBW 300 kHz	Mode Au	11]	d Mc Kumbr way	2.4	-4.30 d #80130 ( 52.20 d #83500 (	Bm SHz Bm SHz
M4 Date: 5.JAN 2 Ref Leve Att SGL Count 10 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm	D23 06:26:01	Offset 8 SWT 9	2DH{ .23 dB • Ι 4.8 μs • \	RBW 100 kHz VBW 300 kHz	Mode Au	11]	Land M. S. March	2.4	-4.30 d #80130 ( 52.20 d #83500 (	Bm SHz Bm SHz
M4 Date: 5.JAN 2 Spectrur Ref Leve ■ Att SGL Count ■ 1Pk View 10 dBm -10 dBm -20 dBm -30 dBm -40 dBm -40 dBm -60 dBm	D23 06:26:01	Offset 8 SWT 9	2DH{ .23 dB • Ι 4.8 μs • \	RBW 100 kHz VBW 300 kHz	Mode Au M1[ M2[	11]	p M. S., Marries	2.4	-4.30 d #80130 ( 52.20 d #83500 (	Bm SHz Bm SHz
M4 Date: 5.JAN 2 Ref Leve Att SGL Count 10 dBm- -10 dBm- -20 dBm- -20 dBm- -30 dBm- -40 dBm- -70 dBm- -70 dBm- -70 dBm-	D23 06:26:01	dßm	2DH:	RBW 100 kHz VBW 300 kHz M4 WM4 WM7 Pudven 691 p	Mode Au MI[ M2[ M2[ M2[ M2]	Ito FFT		2.4 Awythan Stop	-4.30 d He0130 ( 52.20 d He3500 (	Bm SHz Bm SHz
M4           Date: 5 JAN 2           Date: 5 JAN 2           Date: 5 JAN 2           Stat           SGL Count           ● IPk View           10 dBm           0 dBm           -10 dBm           -20 dBm           -30 dBm           -40 dBm           -50 dBm           -70 dBm           Start 2.47           Marker           Type R	023 06:26:01	Offset 8 SwT 9 dBm	2DH:	RBW 100 kHz VBW 300 kHz	Mode Au MI[ M2[ M	Ito FFT		2.4	-4.30 d He0130 ( 52.20 d He3500 (	Bm SHz Bm SHz
M4           Date: 5 JAN 2           Date: 5 JAN 2           Date: 5 JAN 2           State           SGL Count           ● 1Pk View           10 dBm           0 dBm           -10 dBm           -20 dBm           -30 dBm           -40 dBm           -50 dBm           -70 dBm           -70 dBm           Start 2.47           Marker           Type Re           M2	023 06:26:01	Offset 8 SWT 9 dBm dBm X-volue 2.4801 2.4801	2DH:	RBW 100 kHz VBW 300 kHz M4 VBW 500 kHz M4 VBW 500 kHz M5 V-value -4.30 dBn -52.20 dBn -52.20 dBn	Mode Au M1[ M2[ Num(h, k Num(h, k) Num(h, k) Num(h, k)	Ito FFT		2.4 Awythan Stop	-4.30 d He0130 ( 52.20 d He3500 (	Bm SHz Bm SHz
M4           Date: 5.JAN 2           Date: 5.JAN 2           Ref Leve           Att           SGL Count           10 dBm           0 dBm           -10 dBm           -20 dBm           -30 dBm           -40 dBm           -50 dBm           -50 dBm           -50 dBm           -70 dBm           Start 2.47           Marker           Type I R	023 06:26:01	Offset 8 SWT 9 dBm dBm X-volue 2.4801 2.4801	2DH5 .23 dB = 1 4.8 μs = 1	RBW 100 kHz VBW 300 kHz M4 mm 691 p Y-value -4.30 dbn	Mode Au MI[ M2[ M2] Marchardow, J Marchardow, J Marchardow	Ito FFT		2.4 Awythan Stop	-4.30 d He0130 ( 52.20 d He3500 (	Bm SHz Bm SHz



		2D	H5 An	t1 Low	v_Hop_2	402			
Spectru	m							(	<u>ا</u>
Ref Lev	el 20.00 dBm	Offset 8.4	4 dB 🖷 RBW	/ 100 kHz				(*	4
Att	30 dB nt 300/300	SWT 75.	8 µs 👄 VBW	V 300 kHz	Mode Auto FF1				
91Pk Viet									ו
					M1[1]			-4.84 dBm	1
10 dBm—	+				M2[1]			41640 GHz 52.12 dBm	
0 dBm						-		DOODO GHZ	
								X	
-10 dBm-								Marti	
-20 dBm-						67		- V	
-30 dBm-	D1 -24.840	dBm							
				1					
-40 dBm-	-			-					
-50 dBm-	1000 - 1100- 10	Mar to all 1		M4	mondamon	M3	monthal	12	-
-60 dBm-	un un un un un	an march	man	s verman		and all all all all all all all all all al	man	3	
-70 dBm-	-					-		· · · · ·	
Start 2.3	5 CH2			691 pts			Stor	.405 GHz	4
Marker	5 GHZ			091 bts			stop 2	+03 GHZ	ſ
Type	tef Trc	X-value	Y-	-value	Function	Fund	ction Result		
M1 M2	1	2.404164 2.4	GHz -	-4.84 dBm 52.12 dBm					
	1	2.39	GHz -	53.92 dBm 50.48 dBm					
M3	1								
M3 M4	1	2.3738333							
M4	2023 06:44:37	2.3738333	anz   -	oor to doin 1					]
M4		2.3/38333	anz -						<u>]</u>
M4					h Hop 2	480			]
Date: 5.JAN	2023 06:44:37				h_Hop_2	480		œ	
	2023 06:44:37	2D		t1_High	h_Hop_2	480		Ţ.	]
Date: 5.JAN Spectru Ref Let Att	2023 06:44:37	2D	H5_Ant	t1_High	h_Hop_2			[ <del>Ⅲ</del>	]
Spectru Ref Let SGL Cou	2023 06:44:37 rel 20.00 dBm 30 dB	2D	H5_Ant	t1_High				Ţ	]
Date: 5.JAN Spectru Ref Let Att	2023 06:44:37 rel 20.00 dBm 30 dB	2D	H5_Ant	t1_High				-3.42 dBm	]
Spectru Ref Let SGL Cou	2023 06:44:37 rel 20.00 dBm 30 dB	2D	H5_Ant	t1_High	Mode Auto FF1 M1[1]		2.4	-3.42 dBm 70060 GHz	]
Spectru Ref Let Att SGL cou 10 dBm-	2023 06:44:37 rel 20.00 dBm 30 dB	2D	H5_Ant	t1_High	Mode Auto FF1		2.4	-3.42 dBm	
Spectru Ref Lev Att SGL Cou 10 dBm- b dBm-	2023 06:44:37 rel 20.00 dBm 30 dB	2D	H5_Ant	t1_High	Mode Auto FF1 M1[1]		2.4	-3.42 dBm 70060 GHz 53.55 dBm	
Spectru Ref Let Att SGL cou 10 dBm-	2023 06:44:37 rel 20.00 dBm 30 dB	2D	H5_Ant	t1_High	Mode Auto FF1 M1[1]		2.4	-3.42 dBm 70060 GHz 53.55 dBm	
Spectru Ref Lev Att SGL Cou 10 dBm- b dBm-	2023 06:44:37	2D	H5_Ant	t1_High	Mode Auto FF1 M1[1]		2.4	-3.42 dBm 70060 GHz 53.55 dBm	
M4 Date: 5 JAN Spectrr Ref Let SGL Cou ● 1Pk Viet 10 dBm- 0 dBm- Vigter -20 dBm-	2023 06:44:37 rel 20.00 dBm 30 dB	2D	H5_Ant	t1_High	Mode Auto FF1 M1[1]		2.4	-3.42 dBm 70060 GHz 53.55 dBm	
Spectru Ref Lev Att SGL Cou 10 dBm- b dBm-	2023 06:44:37	2D	H5_Ant	t1_High	Mode Auto FF1 M1[1]		2.4	-3.42 dBm 70060 GHz 53.55 dBm	
M4 Date: 5 JAN Spectrr Ref Let SGL Cou ● 1Pk Viet 10 dBm- 0 dBm- Vigter -20 dBm-	2023 06:44:37	2D	H5_Ant	t1_High	Mode Auto FF1 M1[1]		2.4	-3.42 dBm 70060 GHz 53.55 dBm	
M4 Date: 5.JAN Spectru Ref Let Att SGL Cou 10 dBm- 10 dBm- -20 dBm- -30 dBm- -40 dBm-	2023 06.44.37	2D Offset 8.2: SWT 94.3	H5_Ani	t1_High	Mode Auto FF1		2.4	-3.42 dBm 70060 GHz 83.55 dBm 83500 GHz M4	
M4 Date: 5.JAN Spectru Ref Let Att SGL Cou 10 dBm- 0 dBm- -20 dBm- -30 dBm- -50 dBm-	2023 06.44.37	2D Offset 8.2: SWT 94.3	H5_Ani	t1_High	Mode Auto FF1 M1[1]		2.4	-3.42 dBm 70060 GHz 83.55 dBm 83500 GHz M4	
M4 Date: 5.JAN Spectru Ref Let Att SGL Cou 10 dBm- 10 dBm- -20 dBm- -30 dBm- -40 dBm-	2023 06.44.37	2D Offset 8.2: SWT 94.3	H5_Ani	t1_High	Mode Auto FF1		2.4	-3.42 dBm 70060 GHz 83.55 dBm 83500 GHz M4	
M4 Date: 5.JAN Spectru Ref Let Att SGL Cou 10 dBm- 0 dBm- -20 dBm- -30 dBm- -50 dBm-	2023 06.44.37	2D Offset 8.2: SWT 94.3	H5_Ani	t1_High	Mode Auto FF1		2.4	-3.42 dBm 70060 GHz 83.55 dBm 83500 GHz M4	
Spectri Ref Let Att SGL Cou 10 dBm- b dBm- -20 dBm- -30 dBm- -40 dBm- -50 dBm-	2023 06.44.37	2D Offset 8.2: SWT 94.3	H5_Ani	t1_High	Mode Auto FF1		2.4	-3.42 dBm 70060 GHz 83.55 dBm 83500 GHz M4	
M4 Date: 5.JAN Spectru Ref Let SGL Cou 10 dBm- b dBm- -20 dBm- -20 dBm- -30 dBm- -50 dBm- -50 dBm- -70 dBm-	2023 06.44:37	2D Offset 8.2: SWT 94.3	H5_Ani	t1_High	Mode Auto FF1		2.4 -: 2.4	-3.42 dBm 70060 GHz 83.55 dBm 83500 GHz M4	
M4 Date: 5.JAN Spectru Ref Let Att SGL Cou 10 dBm- b dBm- -20 dBm- -30 dBm- -30 dBm- -50 dBm- -60 dBm- -70 dBm-	2023 06.44.37	2D Offset 8.2 swr 94.	H5_Ani	t1_High	Mode Auto FFT	r 	2.4 2.4 2.4	-3.42 dBm 70060 GHz 53.55 dBm 83500 GHz 83500 GHz	
M4 Date: 5.JAN Spectri Ref Let Att SGL Cou 10 dBm- b dBm- b dBm- -20 dBm- -40 dBm- -50 dBm- -	2023 06.44.37 rm	2D Offset 8.2: SWT 94.3 dBm dBm r.J.Mult.wardy x-value 2.47006	H5_Ani	t1_High	Mode Auto FF1	r Malan Marin	2.4 -: 2.4	-3.42 dBm 70060 GHz 53.55 dBm 83500 GHz 83500 GHz	
M4           Date: 5.JAN           Spectrr           Ref Let           Att           SGL Cou           ● 1Pk Viet           10 dBm           0 dBm           -20 dBm           -30 dBm           -40 dBm           -50 dBm           -60 dBm           -70 dBm           Start 2.*           Marker           Type 1           M1	2023 06.44.37	2D Offset 8.2: swr 94.1 dBm ریاسالدسیمار x-value 2.47006 2.4835	H5_Ant	t1_High	Mode Auto FFT	r Malan Marin	2.4 2.4 2.4	-3.42 dBm 70060 GHz 53.55 dBm 83500 GHz 83500 GHz	
M4 Date: 5.JAN Spectri Ref Let Att SGL Cou 10 dBm- b dBm- b dBm- -20 dBm- -40 dBm- -50 dBm- -	2023 06.44.37 rm	2D Offset 8.2: SWT 94.3 dBm dBm r.J.Mult.wardy x-value 2.47006	H5_Ani 3 db = RBW 8 µs = VBW	t1_High	Mode Auto FFT	r Malan Marin	2.4 2.4 2.4	-3.42 dBm 70060 GHz 53.55 dBm 83500 GHz 83500 GHz	



			3DH5 Ant	llow 24	402		
Spect	um						(The second seco
Ref L	vel 20.00 dBr		4 dB 🖷 RBW 100 k				
SGL Co	30 di unt 300/300	B SWT 75.8	3 µs 🖷 <b>VBW</b> 300 k	Hz Mode Auto	o FFT		
●1Pk Vi							
				M1[1	]		2.63 dBm 150 GHz
10 dBm				M2[1	.]	-5	.38 dBm
0 dBm-	-				1	2.400	IODA GHZ
-10 dBm							A
-20 dBr							
-20 081	D1 -22.630	) dBm			<u></u>		
-30 dBn	-					1 10 2	0.00
-40 dBn				-			
-50 dBm					M4 M3	M	14
		mountering	nabellanewer	menum	montheaters	monument	~~
-60 dBn							
-70 dBn	-						
Otaut 2	.35 GHz		60	L pts		Stor 2	105 GHz
Marker	00 UTZ		69	- pro			ob unz
Type	Ref Trc 1	2.402015	GHz -2.63 c	Function	n   Fi	unction Result	
M1 M2	1	2.4	GHz -51.38 c	Bm			
	1	2.39	GHz -52.87 d	Bm			
M3			GHz -49,93 c	Bm			
M3 M4	N.2023 06:28:38	2.387942	GHz -49.93 c 3DH5_Ant1		480		
M3 M4 Date: 5.J4 Spect	1 N.2023 06:26:38	2.387942	3DH5_Ant1	_High_2	480		
M3 M4 Date: 5.4 Spect Ref L Att	1 N 2023 06:28:38 rum evel 20.00 dBr 30 dB	2.387942		_High_2			
M3 M4 Date: 5.4 Spect Ref L Att	1 N.2023 06:28:38 rum evel 20.00 dBr 30 di unt 300/300	2.387942	3DH5_Ant1	_High_2			
M3 M4 Date: 5.J4 Spect Ref L SGL Cc ● 1Pk Vi	1 N.2023 06:28:38 rum evel 20.00 dBr 30 di unt 300/300	2.387942	3DH5_Ant1	_High_2	o FFT		+.52 dBm
M3 M4 Date: 5.J <sup>2</sup> Spect Ref L SGL C	1 N.2023 06:28:38 rum evel 20.00 dBr 30 di unt 300/300	2.387942	3DH5_Ant1	_High_2	o FFT	2.480	4.52 dBm 0010 GHz 2.45 dBm
M3 M4 Date: 5.J4 Spect Ref L SGL Cc ● 1Pk Vi	1 N.2023 06:28:38 rum evel 20.00 dBr 30 di unt 300/300	2.387942	3DH5_Ant1	High_2	o FFT	2.480	4.52 dBm 1010 GHz
M3 M4 Date: 5.4 <sup>2</sup> Spect Ref L Att SGL Cc ● 1Pk Vi 10 dBm 0 dBm	1 N.2023 06:28:38 evel 20.00 dBr 30 dl unt 300/300 ewel M1	2.387942	3DH5_Ant1	High_2	o FFT	2.480	4.52 dBm 0010 GHz 2.45 dBm
M3 M4 Date: 5.4 Spect Ref L • Att SGL Cc • 1Pk Vi 10 dBm - 10 dBm	1 N 2023 06:28:38 evel 20:00 dBn 30 dl unt 300/300	2.387942	3DH5_Ant1	High_2	o FFT	2.480	4.52 dBm 0010 GHz 2.45 dBm
M3 M4 Date: 5.4 <sup>2</sup> Spect Ref L Att SGL Cc ● 1Pk Vi 10 dBm 0 dBm	1 N 2023 06:28:38 vvel 20.00 dBr 30 dl unt 300/300 sw	2.387942 / 3 m Offset 8.23 B SWT 94.8	3DH5_Ant1	High_2	o FFT	2.480	4.52 dBm 0010 GHz 2.45 dBm
M3 M4 Date: 5.4 Spect Ref L • Att SGL Cc • 1Pk Vi 10 dBm - 10 dBm	1 N 2023 06:28:38 veel 20:00 dBr weel 20:00 dBr 30 dl unt 300/300 w	2.387942 / 3 m Offset 8.23 B SWT 94.8	3DH5_Ant1	High_2	o FFT	2.480	4.52 dBm 0010 GHz 2.45 dBm
M3 M4 Date: 5.4 Spect Ref L • Att SGL CC • 1Pk Vi 10 dBm -10 dBm -20 dBm	1 N 2023 06:26:38 vvel 20.00 dBr 30 dl unt 300/300 w M1 1 1 -24:520	2.387942 / 3 m Offset 8.23 B SWT 94.8	3DH5_Ant1	High_2	o FFT	2.480	4.52 dBm 0010 GHz 2.45 dBm
M3 M4 Date: 5.J4 Ref L Att SGL Cc • 1Pk Vi 10 dBm -10 dBm -20 dBm -30 dBm -40 dBm	1 N.2023 06:26:38 vvel 20.00 dBr 30 dl unt 300/300 sw M1 01 -24:520	2.387942 / 3 m Offset 8.23 B SWT 94.6	3DH5_Ant1	_High_2	0 FFT	2.48(	4.52 dBm 1010 GHz 4-55 dBm 1500 GHz
M3 M4 Date: 5.J4 Spect Ref L Att SGL Cc • 1Pk Vi 10 dBm -10 dBm -20 dBm -20 dBm -20 dBm -20 dBm -20 dBm	1 N 2023 06:28:38 evel 20.00 dBr 30 dl unt 300/300 3W 01 -24.520 01 -24.520	2.387942 / 3 m Offset 8.23 B SWT 94.6	3DH5_Ant1	_High_2	0 FFT	2.48(	4.52 dBm 1010 GHz 4-55 dBm 1500 GHz
M3 M4 Date: 5.J4 Ref L Att SGL Cc • 1Pk Vi 10 dBm -10 dBm -20 dBm -30 dBm -40 dBm	1 N 2023 06:28:38 evel 20.00 dBr 30 dl unt 300/300 3W 01 -24.520 01 -24.520	2.387942 / 3 m Offset 8.23 B SWT 94.6	3DH5_Ant1	_High_2	0 FFT	2.48(	4.52 dBm 1010 GHz 4-55 dBm 1500 GHz
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M3 M4 Date: 5.4 Ref L1 Att SGL CC • 1Pk V1 10 dBm -10 dBm -20 dBm -20 dBm -30 dBm -40 dBm -40 dBm -40 dBm	1 N 2023 06:28:38 evel 20.00 dBn 30 dl unt 300/300 9W D1 -24:520	2.387942 / 3 m Offset 8.23 B SWT 94.6	3DH5_Ant1	_High_2	0 FFT	2.48(	4.52 dBm 1010 GHz 4-55 dBm 1500 GHz
M3 M4 Date: 5.4 Spect Ref L • Att SGL CC • 1Pk Vi 10 dBm - 10 dBm - 10 dBm - 20 dBm - 30 dBm - 40 dBm - 50 dBm - 50 dBm - 70 dBm - 70 dBm	1 N 2023 06:28:38 evel 20.00 dBn 30 dl unt 300/300 9W D1 -24:520	2.387942 / 3 m Offset 8.23 B SWT 94.6	3DH5_Ant1	_High_2	0 FFT	2.481	4.52 dBm 1010 GHz 4-55 dBm 1500 GHz
M3 M4 Date: 5.4 Spect Ref L SGL Cc 9 1Pk Vi 10 dBm 0 dBm -10 dBm -20 dBm -20 dBm -30 dBm -20 d	1 N 2023 06:28:38 evel 20:00 dBr 30 dl unt 300/300 3W 01 -24.520 01 -24.520 M2 W2 W3 47 GHz	2.387942 / 3 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	3DH5_Ant1	High 2.	0 FFT	2.48 -55 -2.48 	9.52 dBm 1010 GHz 45 dBm 1500 GHz
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		30	DH5 A	Ant1 Lov	w_Hop_24	402		
Spectr	um )			_				
Ref Le	/el 20.00 dBm	Offset 8.4	44 dB 📦 🖡	RBW 100 kHz				
👄 Att	30 dB nt 300/300	8 <b>SWT</b> 75	5.8 µs 👄	/BW 300 kHz	Mode Auto FFT	6		
● 1Pk Vie	W 300/300							
					M1[1]			-7.01 dBm
10 dBm-	-			+	M2[1]		-5	21740 GHz 3.68 dBm
0 dBm						1	2.400	00000 GHz
								M1
-10 dBm-								Phyony
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-40 dBm-								
	. Jan Maker	A he is a h	No. A. A. Cart	and defined on the	repairmente	M3	a allow a local	12
-60 dBm-	A. A. P. B. B. B. B. P. P. P.	" and marked			-hardente arange	an anna Maran		
-70 dBm-								
Start 2.	E CH2			601-11	-		Ptor 0	.405 GHz
Start 2. Marker	o GHZ			691 pt	5		stop 2	.+UD GHZ
Туре	Ref Trc	X-value		Y-value	Function	Func	tion Result	
M1 M2	1	2.402174	4 GHz 4 GHz	-7.01 dBm -53.68 dBm				
M3	1	2.39	9 GHz	-53.15 dBm				
M4	1	2.3521522	2 GHz	-50.84 dBm				
	2023 06:54:05		DH5_A	Ant1_Hig	h_Hop_2	480		
Date: 5 JAN		30		Ant1_Hig	Jh_Hop_2	480		
Date: 5 JAN Spectr Ref Le	/m /el 20.00 dBm 30 dB	3D	23 dB 🖷 F	RBW 100 kHz	Ih_Hop_2			
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Date: 5.JAN Spectra RefLe Att SGL Cou	Jm vel 20.00 dBm 30 dB nt 300/300	3D	23 dB 🖷 F	RBW 100 kHz	Mode Auto FFT		2.47	
Date: 5 JAN Spectra Ref Le Att SGL Cou D IPk Vie 10 dBm-	Jm vel 20.00 dBm 30 dB nt 300/300	3D	23 dB 🖷 F	RBW 100 kHz	Mode Auto FFT		2.47	-3.29 dBm /2840 GHz
Date: 5 JAN Spectrr RefLe Att SGL Cou PIPk Vie 10 dBm- 0 dbm-	um vel 20.00 dBm 30 dB nt 300/300	3D	23 dB 🖷 F	RBW 100 kHz	Mode Auto FFT		2.47	-3.29 dBm /2840 GHz i3.07 dBm
Date: 5 JAN Spectrr Ref Le Att SGL Cou D IPk Vie 10 dBm-	um vel 20.00 dBm 30 dB nt 300/300	3D	23 dB 🖷 F	RBW 100 kHz	Mode Auto FFT		2.47	-3.29 dBm /2840 GHz i3.07 dBm
Date: 5 JAN Spectrr RefLe Att SGL Cou PIPk Vie 10 dBm- 0 dbm-	100 dBm 30 dB nt 300/300	3D Offset 8.3 SWT 94	23 dB 🖷 F	RBW 100 kHz	Mode Auto FFT		2.47	-3.29 dBm /2840 GHz i3.07 dBm
Date: 5 JAN Spectr Ref Le Att SGL Cou 10 dBm- 0 dBm- VMp VAM -20 dBm-	um vel 20.00 dBm 30 dB nt 300/300	3D Offset 8.3 SWT 94	23 dB 🖷 F	RBW 100 kHz	Mode Auto FFT		2.47	-3.29 dBm /2840 GHz i3.07 dBm
Date: 5 JAN Spectra Ref te Att SGL Co. 1Pk Vie 10 dBm- 0 dBm- Vielow	100 dBm 30 dB nt 300/300	3D Offset 8.3 SWT 94	23 dB 🖷 F	RBW 100 kHz	Mode Auto FFT		2.47	-3.29 dBm /2840 GHz i3.07 dBm
Date: 5 JAN Spectr Ref Le Att SGL Cou 10 dBm- 0 dBm- VMp VAM -20 dBm-	100 dBm 30 dB nt 300/300	3D Offset 8.3 SWT 94	23 dB 🖷 F	RBW         100 kHz           //BW         300 kHz	Mode Auto FFT		2.47	-3.29 dBm /2840 GHz i3.07 dBm
Date: 5 JAN Spectra Ref Le Att SGL Cou ID / MBM- 0 / dBM- 0 / dBM- -20 / dBm- -30 / dBm- -40 / dBm-	Im 30 dBm 30 dB mt 300/300 w	3D	23 dB • F 4.8 µs • \	RBW 100 kHz rBW 300 kHz	Mode Auto FFT M1[1] M2[1]		2.47	-3.29 dBm /2840 GHz /3.07 dBm /3500 GHz
Date: 5 JAN Spectri Ref Le Att SGL Cou 10 dBm- 0 dBm- 0 dBm- Vitt Visit -20 dBm- -30 dBm-	Im 30 dBm 30 dB mt 300/300 w	3D Offset 8.3 SWT 94	23 dB • F 4.8 µs • \	RBW 100 kHz rBW 300 kHz	Mode Auto FFT		2.47	-3.29 dBm /2840 GHz /3.07 dBm /3500 GHz
Date: 5 JAN Spectra Ref Le Att SGL Cou ID / MBM- 0 / dBM- 0 / dBM- -20 / dBm- -30 / dBm- -40 / dBm-	Im 30 dBm 30 dB mt 300/300 w	3D	23 dB • F 4.8 µs • \	RBW 100 kHz rBW 300 kHz	Mode Auto FFT M1[1] M2[1]		2.47	-3.29 dBm /2840 GHz /3.07 dBm /3500 GHz
Date: 5 JAN Ref Le Att SGL Con 10 dBm- 0 dBm- -30 dBm- -50 dBm- -60 dBm-	Im 30 dBm 30 dB mt 300/300 w	3D	23 dB • F 4.8 µs • \	RBW 100 kHz rBW 300 kHz	Mode Auto FFT M1[1] M2[1]		2.47	-3.29 dBm /2840 GHz /3.07 dBm /3500 GHz
Date: 5 JAN Spectr Ref Le Att SGL COU PIPK Vie 10 dBm- 0 dBm- 0 dBm- -20 dBm- -30 dBm- -30 dBm- -50 dBm-	Im 30 dBm 30 dB mt 300/300 w	3D	23 dB • F 4.8 µs • \	RBW 100 kHz rBW 300 kHz	Mode Auto FFT M1[1] M2[1]		2.47	-3.29 dBm /2840 GHz /3.07 dBm /3500 GHz
Date: 5 JAN Ref Le Att SGL Con 10 dBm- 0 dBm- -30 dBm- -50 dBm- -60 dBm-	IIII 300/300 dBm 30 dB nt 300/300 w w 01 -23.290 1 -23.2	3D	23 dB • F 4.8 µs • \	RBW 100 kHz rBW 300 kHz	Mode Auto FFT		2.43 -5 2.46	-3.29 dBm /2840 GHz /3.07 dBm /3500 GHz
Date: 5 JAN Spectr Ref Le Att SGL Cou P IPk Vie 10 dBm- 0 dBm- 0 dBm- -20 dBm- -30 dBm- -40 dBm- -50 dBm- -50 dBm- -70 dBm-	ITT 30 dB nt 300/300 W	3D	23 dB • F +.8 µs • V M3	88W         100 kHz           78W         300 kHz           900 kHz         100 k	Mode Auto FFT M1[1] M2[1] m2[1] manual manual manual manual s		2.43 	3.29 dBm 2840 GHz 33.07 dBm 13500 GHz
Date: 5 JAN Spectr Ref Le Att SGL Cou P IPk Vie 10 dBm- 0 dBm- 0 dBm- -20 dBm- -30 dBm- -40 dBm- -50 dBm- -50 dBm- -70 dBm-	IIII 300/300 dBm 30 dB nt 300/300 w w 01 -23.290 1 -23.2	3D	23 dB = F +.8 µs = V M3 M3	KBW 100 kHz           //BW 300 kHz           //BW 30 kHz           //BW 30 kHz           //BW 30 kHz           //BW 30 kHz	Mode Auto FFT M1[1] M2[1] m2[1] m3 m3 m3 m3 m3 m3 m3 m3 m3 m3		2.43 -5 2.46	3.29 dBm 2840 GHz 33.07 dBm 13500 GHz
Date: 5.JAN Spectri Ref Le Att SGL Cou Pirk Vie 10 dBm- 0 dBm- -20 dBm- -30 dBm- -40 dBm- -50 dBm- -50 dBm- -70 dBm- Type Marker Type	IIII 300 dBm 30 dB mt 300/300 W 01 -23.290 1 -23.290 M2 M2 M2 M2 M2 M2 M2 M	3C	23 dB  F F F F F F F F F F F F F F F F F F F	M4           Joseph Line           M4           Joseph Line           691 pt           Y-value           -3.29 dBm           -53.07 dBm	Mode Auto FFT M1[1] M2[1] m2[1] m3 m3 m3 m3 m3 m3 m3 m3 m3 m3		2.43 	3.29 dBm 2840 GHz 33.07 dBm 13500 GHz
Date: 5 JAN Spectr Ref Le Att SGL COU PIPK V/F 10 dBm- 0 dBm- 0 dBm- -20 dBm- -30 dBm- -40 dBm- -50 dBm- -50 dBm- -70 dBm-	Imp         30 dBm           30 db nt         300/300           W	3C	23 dB F F +.8 µs V M3 4 GHz 5 GHz 5 GHz	KBW 100 kHz           KBW 300 kHz           KBW 300 kHz           M4           M4           particular           691 pt           Y-value           -3.29 dBm	Mode Auto FFT M1[1] M2[1] m2[1] m3 m3 m3 m3 m3 m3 m3 m3 m3 m3		2.43 	3.29 dBm 2840 GHz 33.07 dBm 13500 GHz



# 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



