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Report Template Version: V03 Report Template Revision Date: Mar.1st, 2017

Test Report

Report No. :	CQASZ20211001752E-01				
Applicant:	Dongguan Hele Electronics Co.,Ltd				
Address of Applicant:	Dalingya Industrial Zone,Daojiao Town,Dongguan City,Guangdong,China				
Equipment Under Test (E	UT):				
Product:	QCY-T17S				
All Model No.:	BH21Q17B				
Test Model No.:	BH21Q17B				
Brand Name:	N/A				
FCC ID:	RDR-BH21Q17BR				
Standards:	47 CFR Part 15, Subpart C				
Date of Receipt:	2021-10-12				
Date of Test:	2021-10-12 to 2021-10-27				
Date of Issue:	2021-11-03				
Test Result :	PASS*				

lewis zhou Tested By: (Lewis Zhou) Rook Huang **Reviewed By:** (Rock Huang) Approved By: (Jack ai)

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

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
CQASZ20211001752E-01	Rev.01	Initial report	2021-11-03



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)&TCB Exclusion List (7 July 2002)	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:	Dongguan Hele Electronics Co.,Ltd
Address of Applicant:	Dalingya Industrial Zone,Daojiao Town,Dongguan City,Guangdong,China
Manufacturer:	Dongguan Hele Electronics Co.,Ltd
Address of Manufacturer:	Dalingya Industrial Zone,Daojiao Town,Dongguan City,Guangdong,China
Factory:	Dongguan Hele Electronics Co.,Ltd
Address of Factory:	Dalingya Industrial Zone, Daojiao Town, Dongguan City, Guangdong, China

4.2 General Description of EUT

Product Name:	QCY-T17S
All Model No.:	BH21Q17B
Test Model No.:	BH21Q17B
Trade Mark:	N/A
Hardware Version:	V5.2
Software Version:	V5.2
Operation Frequency:	2402MHz~2480MHz
Bluetooth Version:	BT5.2
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:	Signaling fixed frequency
Antenna Type:	FPC antenna
Antenna Gain:	-1.33 dBi
Power Supply:	Li-ion battery: DC 3.7V, Charge by DC 5V

Note:

BT does not work when EUT is charging



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:	 Special software is used. Through engineering command into the engineering mode. engineering command: *#*#3646633#*#* 				
EUT Power level:	Class2 (Power level is built-in set parameters and cannot be changed and selected)				
Use test software to set the low	vest frequency, the middle frequency and	the highest frequency keep			
transmitting of the EUT.	1				
Mode	Channel	Frequency(MHz)			
	СН0	2402			
DH1/DH3/DH5	СН39	2441			
	CH78	2480			
	СН0	2402			
2DH1/2DH3/2DH5	СН39	2441			
	CH78	2480			
	СНО	2402			
3DH1/3DH3/3DH5	СН39	2441			
CH78 2480					

Run Software:

Test Connands —	-	Test Arguments -			
CV IX CONTINUOUS IX	^	Channel 1 (0-78)	39	-	Close
PACEET TX PACEET BX	-	Channel 2 (0-78)	39		Help
QHS RF TEST STOP		Channel 3 (0-78)	39		Execute
POWER TABLE GET		Channel 4 (0-78)	39		Execute
POWER TABLE SET		Channel 5 (0-78)	39		Reset
ENABLE DUT MODE	~	Payload	Pseudo-randon -	· ·	
C:\Vsers\Administr		for f Bata\Local\QTIL\Blu	Display : 🕫 Stands eTest3\testapplog.t		BER
Care to face 7	rator\App	Bata\local\QTIL\Blu			C BER



4.4 Test Environment

Operating Environment	
Temperature:	26 °C
Humidity:	57 % RH
Atmospheric Pressure:	100.9mbar
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	/	/



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	Notes
1	Radiated Emission (Below 1GHz)	±5.12dB	(1)
2	Radiated Emission (Above 1GHz)	±4.60dB	(1)
3	Conducted Disturbance (0.15~30MHz)	±3.34dB	(1)
4	Radio Frequency	3×10 ⁻⁸	(1)
5	Duty cycle	0.6 %.	(1)
6	Occupied Bandwidth	1.1%	(1)
7	RF conducted power	0.86dB	(1)
8	RF power density	0.74	(1)
9	Conducted Spurious emissions	0.86dB	(1)
10	Temperature test	0.8°C	(1)
11	Humidity test	2.0%	(1)
12	Supply voltages	0.5 %.	(1)
13	time	0.6 %.	(1)
14	Frequency Error	5.5 Hz	(1)

Hereafter the best measurement capability for CQA laboratory is reported:

(1)This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.



4.7 Test Location

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

• 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.

4.10Other Information Requested by the Customer

None.



4.11 Equipment List

Test Equipment	Manufacturer	Model No.	Instrument No.	Calibration Date	Calibration Due Date
EMI Test Receiver	R&S	ESR7	CQA-005	2021/9/10	2022/9/9
Spectrum analyzer	R&S	FSU26	CQA-038	2021/9/10	2022/9/9
Preamplifier	MITEQ	AFS4-00010300-18-10P- 4	CQA-035	2021/9/10	2022/9/9
Preamplifier	MITEQ	AMF-6D-02001800-29- 20P	CQA-036	2021/9/10	2022/9/9
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	2021/9/10	2022/9/9
Coaxial Cable (Below 1GHz)	CQA	N/A	C020	2021/9/10	2022/9/9
Antenna Connector	CQA	RFC-01	CQA-080	2021/9/10	2022/9/9
RF cable(9KHz~40GHz)	CQA	RF-01	CQA-079	2021/9/10	2022/9/9
Power divider	MIDWEST	PWD-2533-02-SMA-79	CQA-067	2021/9/10	2022/9/9
EMI Test Receiver	R&S	ESPI3	CQA-013	2021/9/11	2022/9/10
LISN	R&S	ENV216	CQA-003	2021/9/10	2022/9/9
Coaxial cable	CQA	N/A	CQA-C009	2021/9/10	2022/9/9



5 Test results and Measurement Data

5.1 Antenna Requirement

Standard requirement:	47 CFR Part 15C Section 15.203 /247(c)

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 FPC antenna. The best case gain of the antenna is -1.33dBi.





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 logarithm	n of the frequency.		
	Test Procedure:	 The mains terminal disturbution. The EUT was connected to Impedance Stabilization Netimpedance. The power calls connected to a second LIS reference plane in the same measured. A multiple sock power cables to a single LI exceeded. The tabletop EUT was place ground reference plane. An placed on the horizontal ground reference plane. An of the EUT shall be 0.4 m for vertical ground reference plane. The LISN unit under test and bonded mounted on top of the grout between the closest points the EUT and associated exceeds In order to find the maximute equipment and all of the im ANSI C63.10: 2013 on compared to the constant of the constend of the constant of the constant of the constant of the co	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 ar round reference plane, th a vertical ground ref from the vertical ground ref from the vertical ground olane was bonded to the 1 was placed 0.8 m fr d to a ground reference und reference plane. The of the LISN 1 and the quipment was at least of the mission, the relative terface cables must be	bugh a LISN 1 (Line a $50\Omega/50\mu$ H + 5Ω line f the EUT were d to the ground or the unit being d to connect multiple g of the LISN was not c table 0.8m above the rangement, the EUT ference plane. The read d reference plane. The read d reference plane. The read d reference plane. The read d reference 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 he of 2.
	Test Setup:	Shielding Room	AE IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	Test Receiver	

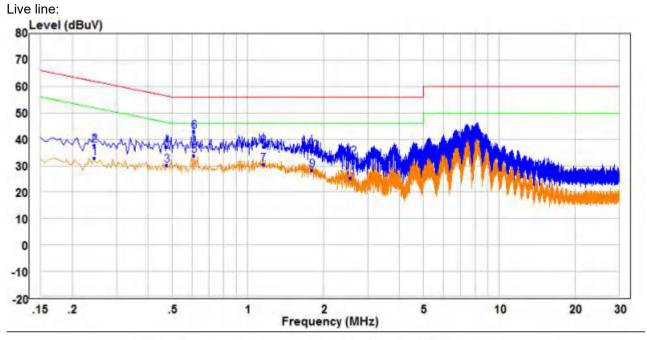


Test Mode:	Charging mode
Test Voltage:	AC 120V/60Hz
Test Results:	Pass



1#

Measurement Data



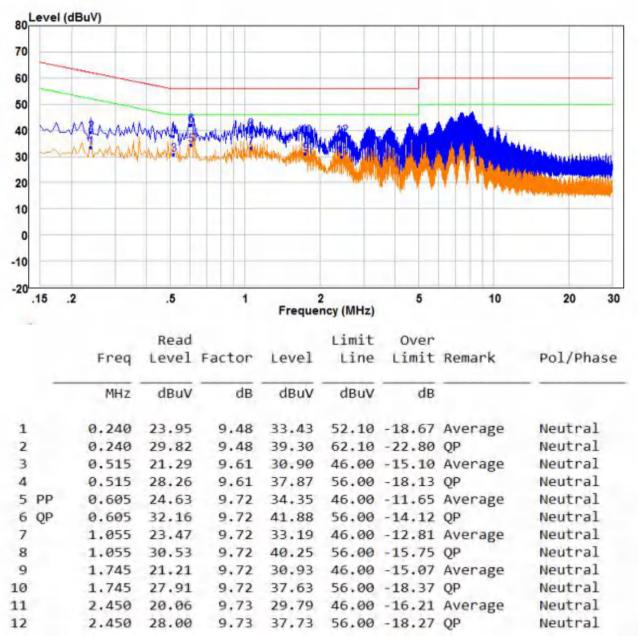
	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark	Pol/Phase
-	MHz	dBuV	dB	dBuV	dBuV	dB		
1	0.245	23.34	9.49	32.83	51.92	-19.09	Average	Line
1 2 3 4	0.245	28.22	9.49	37.71	61.92	-24.21	QP	Line
3	0.475	20.72	9.52	30.24	46.43	-16.19	Average	Line
4	0.475	27.75	9.52	37.27	56.43	-19.16	QP	Line
5 PP	0.610	24.00	9.72	33.72	46.00	-12.28	Average	Line
6 QP	0.610	33.36	9.72	43.08	56.00	-12.92	QP	Line
7	1.155	20.80	9.53	30.33	46.00	-15.67	Average	Line
8	1.155	27.78	9.53	37.31	56.00	-18,69	QP	Line
9	1.800	18.80	9.53	28.33	46.00	-17.67	Average	Line
10	1.800	25.90	9.53	35.43	56,00	-20,57	QP	Line
11	2.555	15.57	9.58	25.15	46.00	-20.85	Average	Line
12	2.555	23.47	9.58	33.05	56.00	-22.95	QP	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.



Neutral 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.



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 π /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

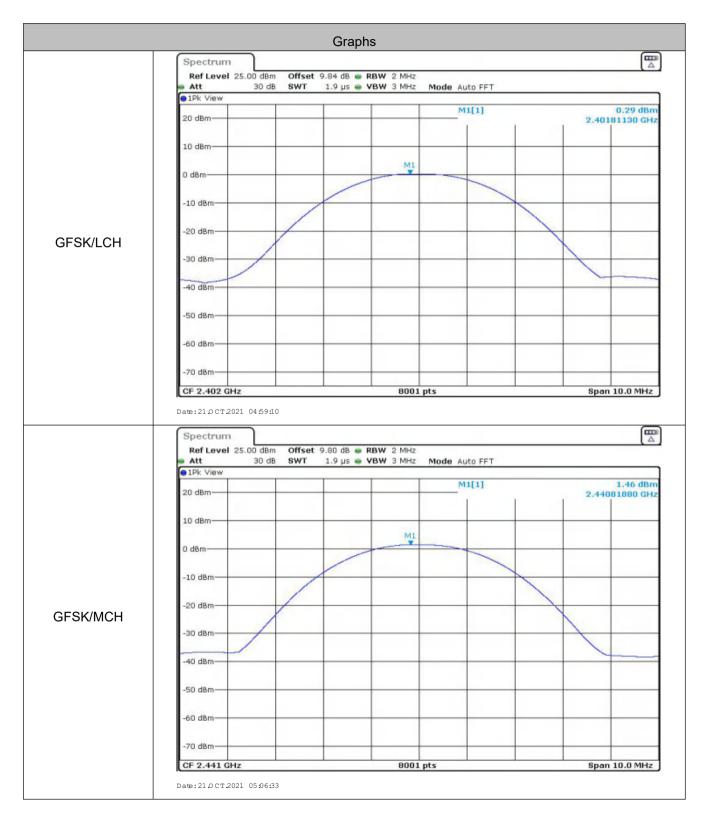


Measurement Data

GFSK mode							
Test channel	Peak Output Power (dBm)	Limit (dBm)	Result				
Lowest	0.290	21.00	Pass				
Middle	1.460	21.00	Pass				
Highest	2.360	21.00	Pass				
	π/4DQPSK m	ode					
Test channel	Peak Output Power (dBm)	Limit (dBm)	Result				
Lowest	-0.400	21.00	Pass				
Middle	0.730	21.00	Pass				
Highest	-0.780	21.00	Pass				
	8DPSK mode						
Test channel	Peak Output Power (dBm)	Limit (dBm)	Result				
Lowest	-0.040	21.00	Pass				
Middle	1.060	21.00	Pass				
Highest	2.080	21.00	Pass				



Test plot as follows:





	Spectrum							
	Ref Level 25.00 dB Att 30 d		dB 🖷 RBW 2 MHz µs 🖷 VBW 3 MHz		to FFT			
	1Pk View 20 dBm			M	1[1]		2.479	2.36 dBm 79380 GHz
	10 dBm							
	0 dBm		MI					
	-10 dBm							
	-20 dBm					1		
GFSK/HCH	-30 dBm	1						
	-40 dBm							
	-50 dBm							
	-60 dBm							
	-70 dBm							
	CF 2.48 GHz Date: 21.0 CT 2021 05:10 Spectrum Ref Level 25.00 dB		800: dB e RBW 2 MHz	L pts			Span	10.0 MHz
	CF 2.48 GHz Date:21.0 CT 2021 05:10 Spectrum Ref Level 25.00 dB Att 30 d	offset 9.84			ito FFT		Span	
	CF 2.48 GHz Date:21.0CT 2021 05:10 Spectrum Ref Level 25.00 dB	offset 9.84	dB 😑 RBW 2 MHz	Mode Au	ito FFT			-0.40 dBm
	CF 2.48 GHz Date:21.0CT 2021 05:10 Spectrum Ref Level 25.00 dB Att 30 d 1Pk View	offset 9.84	dB 😑 RBW 2 MHz	Mode Au				-0.40 dBm
	CF 2.48 GHz Date: 21.0 CT 2021 05:10 Spectrum Ref Level 25.00 dB Att 30 d 1Pk View 20 dBm	offset 9.84	dB 😑 RBW 2 MHz	Mode Au				-0.40 dBm
	CF 2.48 GHz Date: 21.0 CT 2021 05:10 Spectrum Ref Level 25.00 dB Att 30 d 1Pk View 20 dBm 10 dBm	offset 9.84	dB 😑 RBW 2 MHz	Mode Au				-0.40 dBm
	CF 2.48 GHz Date: 21.0 CT 2021 05:10 Spectrum Ref Level 25:00 dB Att 30 d 1Pk View 20 dBm 10 dBm 0 dBm	offset 9.84	dB 😑 RBW 2 MHz	Mode Au				-0.40 dBm
τ/4DQPSK/LCH	CF 2.48 GHz Date: 21.0 CT 2021 05:10 Spectrum Ref Level 25:00 dB Att 30 d 10k 10 dBm 0 dBm -10 dBm -10 dBm	offset 9.84	dB 😑 RBW 2 MHz	Mode Au				-0.40 dBm
τ/4DQPSK/LCH	CF 2.48 GHz Date: 21.0 CT 2021 05:10 Spectrum Ref Level 25:00 dB Att 30 0 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm	offset 9.84	dB 😑 RBW 2 MHz	Mode Au				-0.40 dBm
τ/4DQPSK/LCH	CF 2.48 GHz Date: 21.0 CT 2021 05:10 Spectrum Ref Level 25.00 dB Att 30 0 10k View 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm	offset 9.84	dB 😑 RBW 2 MHz	Mode Au				-0.40 dBm
π/4DQPSK/LCH	CF 2.48 GHz Date: 21.0 CT 2021 05:10 Spectrum Ref Level 25:00 dB Att 30 0 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm	offset 9.84	dB 😑 RBW 2 MHz	Mode Au				
π/4DQPSK/LCH	CF 2.48 GHz Date: 21.0 CT 2021 05:10 Spectrum Ref Level 25:00 dB Att 30 0 1Pk View 20 dBm 10 dBm 10 dBm -10 dBm -20 dBm -30 dBm -30 dBm -30 dBm -30 dBm	offset 9.84	dB 😑 RBW 2 MHz	Mode Au				-0.40 dBm



	Spectrum						
	Ref Level 25.00 dB			Mode Auto FFT			
	1Pk View 20 dBm			M1[1]			0.73 dBm 9380 GHz
	10 dBm						
	0 dBm		M1		_		
	-10 dBm						
	-20 dBm		_				
T/4DQPSK/MCH	-30 dBm	1					
	-40 dBm						
	-50 dBm						
	-60 dBm		_				
	-70 dBm						_
		1					
	CF 2.441 GHz Date: 21.0 CT 2021 07:08: Spectrum Ref Level 25.00 dB		8001 p	ts		Span 1	LO.O MHZ
	Date: 21.0 CT 2021 07.08: Spectrum Ref Level 25.00 dB Att 30 d	m Offset 9.80 dB	BRBW 2 MHz	Mode Auto FFT		Span 1	
	Date: 21 OCT 2021 07:08: Spectrum Ref Level 25.00 dB	m Offset 9.80 dB	BRBW 2 MHz				0.78 dBm
	Date: 21.0 CT.2021 07:08: Spectrum Ref Level 25:00 dB Att 30 d 1Pk View 20 dBm	m Offset 9.80 dB	BRBW 2 MHz	Mode Auto FFT			0.78 dBm
	Date: 21.0 CT.2021 07:08: Spectrum Ref Level 25:00 dB Att 30 d 10 dBm 10 dBm	m Offset 9.80 dB	BRBW 2 MHz	Mode Auto FFT			0.78 dBm
	Date: 21.0 CT.2021 07:08: Spectrum Ref Level 25:00 dB Att 30 d 1Pk View 20 dBm	m Offset 9.80 dB	RBW 2 MHz VBW 3 MHz	Mode Auto FFT			0.78 dBm
	Date: 21.0 CT.2021 07:08: Spectrum Ref Level 25:00 dB Att 30 d 1Pk View 20 dBm 10 dBm 0 dBm	m Offset 9.80 dB	RBW 2 MHz VBW 3 MHz	Mode Auto FFT			0.78 dBm
t/4DQPSK/HCH	Date: 21 0 CT 2021 07:08: Spectrum Ref Level 25:00 dB Att 30 d 1Pk View 20 dBm 10 dBm -10 dBm	m Offset 9.80 dB	RBW 2 MHz VBW 3 MHz	Mode Auto FFT			0.78 dBm
1/4DQPSK/HCH	Date: 21 0 CT 2021 07:08: Spectrum Ref Level 25:00 dB Att 30 d 10 dBm 10 dBm -10 dBm -20 dBm	m Offset 9.80 dB	RBW 2 MHz VBW 3 MHz	Mode Auto FFT			0.78 dBm
t/4DQPSK/HCH	Date: 21 0 CT 2021 07:08: Spectrum Ref Level 25:00 dB Att 30 d 10 dBm 10 dBm -10 dBm -20 dBm -30 dBm	m Offset 9.80 dB	RBW 2 MHz VBW 3 MHz	Mode Auto FFT			0.78 dBm
τ/4DQPSK/HCH	Date: 21 0 CT 2021 07:08: Spectrum Ref Level 25:00 dB Att 30 d 10 dBm 10 dBm -10 dBm -20 dBm -30 dBm -40 dBm	m Offset 9.80 dB	RBW 2 MHz VBW 3 MHz	Mode Auto FFT			0.78 dBm
τ/4DQPSK/HCH	Date: 21 0 CT 2021 07:08: Spectrum Ref Level 25:00 dB Att 30 d 10 dBm 10 dBm -10 dBm -20 dBm -30 dBm -30 dBm -50 dBm	m Offset 9.80 dB	RBW 2 MHz VBW 3 MHz	Mode Auto FFT			0.78 dBm 2760 GHz



	Spectrum		
	Ref Level 25.00 dBm Offset 9.84 dB		
	IPk View	M1[1]	-0.04 dBr
	20 dBm-		2.40176500 GH
	10 dBm		
	0 dBm	M1	
	-10 dBm		
8DPSK/LCH	-20 dBm		
	-30 dBm		
	-40 dBm		
	-50 dBm		
	-60 dBm		
	-70 dBm		
	CF 2.402 GHz Date: 21.0 CT 2021 07:24:53 Spectrum Ref Level 25.00 dBm Offset 9.80 dB • RBN	8001 pts	
	Date: 21.0 CT 2021 07 24:53 Spectrum Ref Level 25.00 dBm Offset 9.80 dB • RBV Att 30 dB SWT 1.9 µs • VBV	W 2 MHz	
	Date: 21.0 CT.2021 07:24:53 Spectrum Ref Level 25.00 dBm Offset 9.80 dB • RBV Att 30 dB SWT 1.9 µs • VBV 1Pk View	W 2 MHz	1.06 dBr
	Date: 21.0 CT 2021 07 24:53 Spectrum Ref Level 25.00 dBm Offset 9.80 dB • RBV Att 30 dB SWT 1.9 µs • VBV	W 2 MHz W 3 MHz Mode Auto FFT	1.06 dBr
	Date: 21.0 CT.2021 07:24:53 Spectrum Ref Level 25.00 dBm Offset 9.80 dB • RBV Att 30 dB SWT 1.9 µs • VBV 1Pk View	W 2 MHz W 3 MHz Mode Auto FFT M1[1]	1.06 dBr
	Date: 21 0 CT 2021 07 24:53 Spectrum Ref Level 25.00 dBm Offset 9.80 dB Att 30 dB SWT 1.9 µs VBV 1Pk View 20 dBm	W 2 MHz W 3 MHz Mode Auto FFT	1.06 dBr
	Date: 21 O CT 2021 07 24:53	W 2 MHz W 3 MHz Mode Auto FFT M1[1]	1.06 dBr
	Date: 21 O CT 2021 07 24:53 Spectrum Ref Level 25.00 dBm Offset 9.80 dB Att 30 dB SWT 1.9 µs VBV 10 dBm 10 dBm	W 2 MHz W 3 MHz Mode Auto FFT M1[1]	Span 10.0 MHz
8DPSK/MCH	Date: 21 O CT 2021 07 24:53	W 2 MHz W 3 MHz Mode Auto FFT M1[1]	1.06 dBr
8DPSK/MCH	Date: 21.0 CT.2021 07:24:53	W 2 MHz W 3 MHz Mode Auto FFT M1[1]	1.06 dBr
8DPSK/MCH	Date: 21.0 CT.2021 07.24:53	W 2 MHz W 3 MHz Mode Auto FFT M1[1]	1.06 dBr
8DPSK/MCH	Date: 21.0 CT.2021 07 24:53	W 2 MHz W 3 MHz Mode Auto FFT M1[1]	1.06 dBr
8DPSK/MCH	Date: 21.0 CT.2021 07.24:53	W 2 MHz W 3 MHz Mode Auto FFT M1[1]	1.06 dBr
8DPSK/MCH	Date: 21.0 CT.2021 07 24:53	W 2 MHz W 3 MHz Mode Auto FFT M1[1]	1.06 dBr
8DPSK/MCH	Date: 21.0 CT.2021 07 24:53	W 2 MHz W 3 MHz Mode Auto FFT M1[1]	1.06 dBr



	Ref Level 25.00 dBm Att 30 dB			de Auto FFT	
	1Pk View	3 3 4 1 1.9 µ3 - 4	014 3 14112 1410	de Auto FFT	
	20 dBm			M1[1]	2.08 dBr 2.47974130 GH
	10 dBm				
	0 dBm		MI	-	
	-10 dBm				
8DPSK/HCH	-20 dBm-				
	-30 dBm				
	-40 dBm				
	-50 dBm				
	-60 dBm				
	-70 dBm CF 2.48 GHz		8001 pts		Span 10.0 MHz



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 π /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 channel	20dB Occupy Bandwidth (MHz)						
rest channel	GFSK	π/4DQPSK	8DPSK				
Lowest	0.962	1.366	1.354				
Middle	0.962	1.366	1.354				
Highest	0.962	1.150	1.354				



Test plot as follows:





	Att 31	dBm Offset 9.80 dB 0 dB SWT 63.3 µs		Mode Auto FF	r		
	• 1Pk View						
	20 dBm			M1[1]			0.94 dBm 2600 GHz
	10 dBm			M2[1]			0.58 dBm 5400 GHz
	0.40-		M	2			
	0 dBm		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	5			
	-10 dBm			m	10		
	-20 d8m D1 -20.	580 dBm			- Mag		_
	-30 dBm	A	-		1	2	
GFSK/HCH	0.00					7	
	-90 dBm					2	500
	-50 dBm-						
	-60 dBm				-		_
	-70 dBm	_					
	CF 2.48 GHz		1001 pt:	5		Span 2	2.0 MHz
	Marker	a sector of the	Maria I	river 1		the number	
	Type Ref Trc M1 1	2.479526 GHz	-20.94 dBm	Function	Fund	tion Result	_
	M2 1	2.480054 GHz	-0.58 dBm				
	M2 1 D3 M1 1 Date: 21.0 CT 2021 05: Spectrum Ref Level 25.00	962.0 kHz	0.15 dB				
	D3 M1 1 Date: 21.0 CT 2021 05: Spectrum Ref Level 25.00 Att 30	962.0 kHz 10:31 dBm Offset 9.84 dB =	0.15 dB	Mode Auto FF	r		
	D3 M1 1 Date: 21.0 CT 2021 05: Spectrum Ref Level 25.00 Att 30 0 1Pk View	962.0 kHz 10:31 dBm Offset 9.84 dB =	0.15 dB RBW 30 kHz	Mode Auto FF	r	-29	
	D3 M1 1 Date: 21.0 CT 2021 05: Spectrum Ref Level 25.00 Att 30	962.0 kHz 10:31 dBm Offset 9.84 dB =	0.15 dB RBW 30 kHz	M1[1]	r	2.40131	9.25 dBn 1600 GH;
	D3 M1 1 Date: 21.0 CT 2021 05: Spectrum Ref Level 25.00 Att 30 0 1Pk View	962.0 kHz 10:31 dBm Offset 9.84 dB =	0.15 dB RBW 30 kHz		r	2.40131).25 dBn 1600 GH; 3.79 dBn
	D3 M1 1 Date: 21.0 CT 2021 05: Spectrum Ref Level 25.00 Att 30 1Pk View 20 dBm	962.0 kHz 10:31 dBm Offset 9.84 dB =	0.15 dB RBW 30 kHz VBW 100 kHz	M1[1]	r	2.40131	9.25 dBm 1600 GHz 3.79 dBm
	D3 M1 1 Date:21.0 CT.2021 05: Spectrum Ref Level 25.00 Att 3: 0 1Pk View 20 dBm 10 dBm	962.0 kHz 10:31 dBm Offset 9.84 dB =	0.15 dB RBW 30 kHz	M1[1]		2.40131	9.25 dBm 1600 GHz 3.79 dBm
	D3 M1 1 Date: 21.0 CT 2021 05: Spectrum Ref Level 25.00 Att 3i 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -10 dBm	962.0 kHz 10:31 dBm Offset 9.84 dB =	0.15 dB RBW 30 kHz VBW 100 kHz	M1[1]	r	2.40131).25 dBm 1600 GHz 3.79 dBm
	D3 M1 1 Date: 21.0 CT 2021 05: Spectrum Ref Level 25.00 Att 30 • 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm	962.0 kHz 10:31 dBm Offset 9.84 dB 0 dB SWT 63.3 µs 0 dB SWT	0.15 dB RBW 30 kHz VBW 100 kHz	M1[1]	-	2.40131).25 dBm 1600 GHz 3.79 dBm
	D3 M1 1 Date: 21.0 CT 2021 05: Spectrum Ref Level 25.00 Att 30 • 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm	962.0 kHz :10:31 dBm Offset 9.84 dB 0 dB SWT 63.3 µs	0.15 dB RBW 30 kHz VBW 100 kHz	M1[1]	·	2.40131	9.25 dBm 1600 GHz 3.79 dBm
r/4DQPSK/LCH	D3 M1 1 Date: 21.0 CT.2021 05: Spectrum Ref Level 25.00 Att 3i 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm	962.0 kHz 10:31 dBm Offset 9.84 dB 0 dB SWT 63.3 µs 0 dB SWT	0.15 dB RBW 30 kHz VBW 100 kHz	M1[1]		2.40131	9.25 dBm 1600 GHz 3.79 dBm
1/4DQPSK/LCH	D3 M1 1 Date: 21.0 CT 2021 05: Spectrum Ref Level 25.00 Att 30 IPk View 20 20 dBm 10 10 dBm -0 -10 dBm -20 -30 dBm D1	962.0 kHz 10:31 dBm Offset 9.84 dB 0 dB SWT 63.3 µs 0 dB SWT	0.15 dB RBW 30 kHz VBW 100 kHz	M1[1]		2.40131).25 dBm 1600 GHz 3.79 dBm
r/4DQPSK/LCH	D3 M1 1 Date: 21.0 CT.2021 05: Spectrum Ref Level 25.00 Att 31 • 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm D1 -20 dBm -28 -40 dBm -50 dBm	962.0 kHz 10:31 dBm Offset 9.84 dB 0 dB SWT 63.3 µs 0 dB SWT	0.15 dB RBW 30 kHz VBW 100 kHz	M1[1]		2.40131	(25 dBm 1600 GHz 3.79 dBm 1800 GHz
1/4DQPSK/LCH	D3 M1 1 Date: 21.0 CT.2021 05: Spectrum Ref Level 25.00 Att 30 ● 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -10 dBm -20 dBm -10 dBm -50 dBm -23 -60 dBm -60 dBm	962.0 kHz 10:31 dBm Offset 9.84 dB 0 dB SWT 63.3 µs 0 dB SWT	0.15 dB RBW 30 kHz VBW 100 kHz	M1[1]		2.40131	9.25 dBm 1600 GHz 3.79 dBm
1/4DQPSK/LCH	D3 M1 1 Date: 21.0 CT.2021 05: Spectrum Ref Level 25.00 Att 31 • 1Pk View 20 20 dBm 10 0 dBm -10 -10 dBm -20 -30 dBm 1 -20 dBm -28 -40 dBm -60 dBm -70 dBm -70 dBm	962.0 kHz 10:31 dBm Offset 9.84 dB 0 dB SWT 63.3 µs 0 dB SWT	0.15 dB	M1[1] M2[1]		2.40131 -8 2.40191	9.25 dBm 600 GHz 3.79 dBm 800 GHz
1/4DQPSK/LCH	D3 M1 1 Date: 21.0 CT.2021 05: Spectrum Ref Level 25.00 Att 30 ● 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -10 dBm -20 dBm -11 -28 -40 dBm -20 -40 -50 dBm -60 dBm -70 dBm -60 dBm	962.0 kHz 10:31 dBm Offset 9.84 dB 0 dB SWT 63.3 µs 0 dB SWT	0.15 dB RBW 30 kHz VBW 100 kHz	M1[1] M2[1]		2.40131 -8 2.40191	9.25 dBm 1600 GHz 3.79 dBm
t/4DQPSK/LCH	D3 M1 1 Date: 21.0 CT 2021 05: Spectrum Ref Level 25.00 Att 31 1Pk View 20 20 dBm 31 10 dBm 0 -10 dBm -10 dBm -20 dBm -30 dBm -30 dBm -28 -40 dBm -60 dBm -50 dBm -60 dBm -70 dBm CF 2.402 GHz Marker Type Ref	962.0 kHz :10:31 dBm Offset 9.84 dB = 0 dB SWT 63.3 µs = 790 dBm	0.15 dB	M1[1] M2[1]		2.40131 -8 2.40191	9.25 dBm 600 GHz 3.79 dBm 800 GHz
τ/4DQPSK/LCH	D3 M1 1 Date: 21.0 CT 2021 05: Spectrum Ref Level 25.00 Att 30 1Pk View 20 20 dBm 30 10 dBm 0 -10 dBm -10 -20 dBm -40 -30 dBm -27 -40 dBm -60 -50 dBm -60 -70 dBm -70 dBm GF 2.402 GHz Marker	962.0 kHz i10:31 dBm Offset 9.84 dB 0 dB SWT 63.3 µs 790 dBm 790 dBm X-value 2.401316 GHz	0.15 dB	M1[1]		2.40131 -8 2.40181	9.25 dBm 600 GHz 3.79 dBm 800 GHz

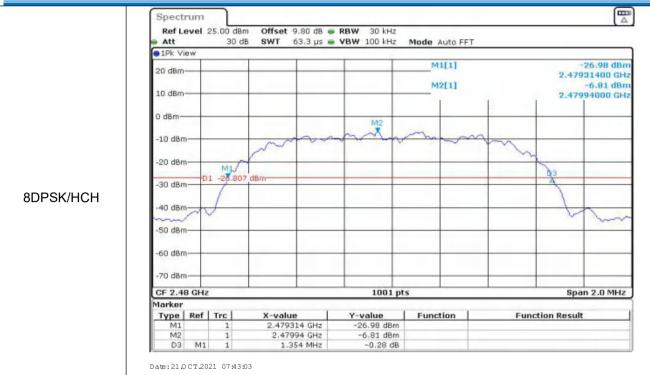


	Spectrum					
	Ref Level 25.00 dBm	Offset 9.80 dB	PRW 20 142			
	Att 30 dB			Mode Auto FF	т	
	• 1Pk View		-			
	20 dBm			M1[1]		-27.85 dBn 2.44031400 GH
				M2[1]		-7.72 dBr
	10 dBm				1	2.44081600 GH
	0 dBm					
	o ubin		M2			
	-10 dBm	mon	ma	now	ma	
		~		~	And	
	-20 dBm					2
	-30 dBm D1 -27.721	dBm				Q3
/4DQPSK/MCH						
,	-40 dBm					h
	~~					
	-50 dBm-		-			
	-60 d8m					
	-70 dBm				_	
	CF 2.441 GHz		1001 pt:	5	1	Span 2.0 MHz
	Marker					
	Type Ref Trc M1 1	2.440314 GHz	-27.85 dBm	Function	Fun	ction Result
		2.440314 GHz	-27.05 UDIII			
	M2 1	2.440816 GHz	-7.72 dBm			
	M2 1 D3 M1 1 Date: 21.0 CT 2021 07:08:1 Spectrum	1.366 MHz	-0.31 dB			(m
	M2 1 D3 M1 1 Date: 21.0 CT 2021 07:08:1 Spectrum Ref Level 25.00 dBm Att 30 dB	1.366 MHz 7 Offset 9.80 dB •	-0.31 dB	Mode Auto FF	т	(mag)
	M2 1 D3 M1 1 Date:21.0CT.2021 07:08:1 Spectrum Ref Level 25.00 dBm	1.366 MHz 7 Offset 9.80 dB •	-0.31 dB		T	
	M2 1 D3 M1 1 Date: 21.0 CT 2021 07:08:1 Spectrum Ref Level 25.00 dBm Att 30 dB	1.366 MHz 7 Offset 9.80 dB •	-0.31 dB	Mode Auto FF	T	-25.90 dBr 2.47941000 GH
	M2 1 D3 M1 1 Date: 21.0 CT 2021 07:08:1 Spectrum Ref Level 25.00 dBm Att 30 dB 1Pk View 20 dBm	1.366 MHz 7 Offset 9.80 dB •	-0.31 dB		T	-25.90 dBr 2.47941000 GH -5.57 dBr
	M2 1 D3 M1 1 Date: 21.0 CT 2021 07:08:1 Spectrum Ref Level 25.00 dBm Att 30 dB	1.366 MHz 7 Offset 9.80 dB •	-0.31 dB	M1[1]	T	-25.90 dBr 2.47941000 GH
	M2 1 D3 M1 1 Date: 21.0 CT 2021 07:08:1 Spectrum Ref Level 25.00 dBm Att 30 dB 1Pk View 20 dBm	1.366 MHz 7 Offset 9.80 dB •	-0.31 dB	M1[1]	т	-25.90 dBr 2.47941000 GH -5.57 dBr
	M2 1 D3 M1 1 Date: 21.0 CT.2021 07:08:1 Spectrum Ref Level 25.00 dBm Att 30 dB 1Pk View 20 dBm 10 dBm 0 dBm	1.366 MHz 7 Offset 9.80 dB •	-0.31 dB	M1[1]	т	-25.90 dBr 2.47941000 GH -5.57 dBr
	M2 1 D3 M1 1 Date: 21.0 CT.2021 07:08:1 Spectrum Ref Level 25.00 dBm Att 30 dB 1Pk View 20 dBm 10 dBm 10 dBm	1.366 MHz 7 Offset 9.80 dB •	-0.31 dB	M1[1]	т	-25.90 dBr 2.47941000 GH -5.57 dBr
	M2 1 D3 M1 1 Date: 21.0 CT.2021 07:08:1 Spectrum Ref Level 25.00 dBm Att 30 dB 1Pk View 20 dBm 10 dBm -10 dBm -10 dBm -20 dBm	1.366 MHz	-0.31 dB	M1[1]	T	-25.90 dBr 2.47941000 GH -5.57 dBr
	M2 1 D3 M1 1 Date: 21.0 CT 2021 07.08:1 Spectrum Ref Level 25.00 dBm Att 30 dB 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm 0.000 -20 dBm 0.000	1.366 MHz 7 9 Offset 9.80 dB 8WT 63.3 µs	-0.31 dB	M1[1]	T	-25.90 dBr 2.47941000 GH -5.57 dBr
	M2 1 D3 M1 1 Date: 21.0 CT 2021 07:08:1 Spectrum Ref Level 25.00 dBm Att 30 dB 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm	1.366 MHz 7 9 Offset 9.80 dB 8WT 63.3 µs	-0.31 dB	M1[1]	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	-25.90 dBr 2.47941000 GH -5.57 dBr
1/4DQPSK/HCH	M2 1 D3 M1 1 Date: 21.0 CT.2021 07:08:1 Spectrum Ref Level 25.00 dBm Att 30 dB 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm 0 dBm -30 dBm 01 -25.566	1.366 MHz 7 9 Offset 9.80 dB 8WT 63.3 µs	-0.31 dB	M1[1]	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	-25.90 dBr 2.47941000 GH -5.57 dBr
1/4DQPSK/HCH	M2 1 D3 M1 1 Date: 21.0 CT 2021 07.08:1 Spectrum Ref Level 25.00 dBm Att 30 dB 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm 0.000 -20 dBm 0.000	1.366 MHz 7 9 Offset 9.80 dB 8WT 63.3 µs	-0.31 dB	M1[1]	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	-25.90 dBr 2.47941000 GH -5.57 dBr 2.48000800 GH
1/4DQPSK/HCH	M2 1 D3 M1 1 Date: 21.0 CT.2021 07:08:1 Spectrum Ref Level 25.00 dBm Att 30 dB 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm 0 dBm -30 dBm 01 -25.566	1.366 MHz 7 9 Offset 9.80 dB 8WT 63.3 µs	-0.31 dB	M1[1]	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	-25.90 dBr 2.47941000 GH -5.57 dBr
1/4DQPSK/HCH	M2 1 D3 M1 1 Date: 21.0 CT 2021 07.08:1 Ref Level 25.00 dBm Att 30 dB 1Pk View 20 dBm 20 dBm 10 dBm 0 dBm -10 dBm -10 dBm -30 dBm -30 dBm -50 dBm	1.366 MHz 7 9 Offset 9.80 dB 8WT 63.3 µs	-0.31 dB	M1[1]	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	-25.90 dBr 2.47941000 GH -5.57 dBr 2.48000800 GH
1/4DQPSK/HCH	M2 1 D3 M1 1 Date: 21.0CT 2021 07:08:1 Spectrum Ref Level 25.00 dBm Att 30 dB 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -10 dBm -20 dBm -125.566 -30 dBm -40 dBm	1.366 MHz 7 9 Offset 9.80 dB 8WT 63.3 µs	-0.31 dB	M1[1]	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	-25.90 dBr 2.47941000 GH -5.57 dBr 2.48000800 GH
1/4DQPSK/HCH	M2 1 D3 M1 1 Date: 21.0 CT 2021 07.08:1 Ref Level 25.00 dBm Att 30 dB 1Pk View 20 dBm 20 dBm 10 dBm 0 dBm -10 dBm -10 dBm -30 dBm -30 dBm -50 dBm	1.366 MHz 7 9 Offset 9.80 dB 8WT 63.3 µs	-0.31 dB	M1[1]	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	-25.90 dBr 2.47941000 GH -5.57 dBr 2.48000800 GH
r/4DQPSK/HCH	M2 1 D3 M1 1 Date: 21.0CT.2021 07:08:1 Ref Level 25:00 dBm Att 30 dB • 1Pk View 20 dBm 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -25.566 -30 dBm -50 dBm -50 dBm -70 dBm	1.366 MHz 7 9 Offset 9.80 dB 8WT 63.3 µs	-0.31 dB	M1[1] M2[1]	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	-25.90 dBr 2.47941000 GH -5.57 dBr 2.48000800 GH
r/4DQPSK/HCH	M2 1 D3 M1 1 Date: 21.0 CT.2021 07:08:1 Ref Level 25:00 dBm Att 30 dB ● 1Pk View 20 dBm 20 dBm 10 dBm 0 dBm 0 dBm -10 dBm 0 dBm -20 dBm 0 1 -25.566 -30 dBm -50 dBm -50 dBm -60 dBm -70 dBm CF 2.48 GHz	1.366 MHz 7 9 Offset 9.80 dB 8WT 63.3 µs	-0.31 dB	M1[1] M2[1]	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	-25.90 dBr 2.47941000 GH -5.57 dBr 2.48000800 GH
τ/4DQPSK/HCH	M2 1 D3 M1 1 Date: 21.0 CT 2021 07:08:1 Ref Level 25.00 dBm Att 30 dB IPk View 20 dBm 10 dBm 0 0 dBm -10 dBm -20 dBm 01 -25.566 -30 dBm -60 dBm -60 dBm -60 dBm -70 dBm CF 2.48 GHz Marker Type Type Ref Trc	1.366 MHz 7 9 0 Offset 9.80 dB SWT 63.3 µs	-0.31 dB	M1[1] M2[1]		-25.90 dBr 2.47941000 GH -5.57 dBr 2.48000800 GH
τ/4DQPSK/HCH	M2 1 D3 M1 1 Date: 21.0 CT.2021 07:08:1 Ref Level 25:00 dBm Att 30 dB ● 1Pk View 20 dBm 20 dBm 10 dBm 0 dBm 0 -10 dBm -20 dBm -20 dBm -10 dBm -50 dBm -50 dBm -60 dBm -70 dBm CF 2.48 GHz Marker Type Ref Trc M1 1	1.366 MHz 7 7 9 0 Offset 9.80 dB 9 SWT 63.3 µs 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	-0.31 dB	M1[1] M2[1]		-25.90 dBr 2.47941000 GH -5.57 dBr 2.48000800 GH
τ/4DQPSK/HCH	M2 1 D3 M1 1 Date: 21.0 CT 2021 07:08:1 Ref Level 25.00 dBm Att 30 dB IPk View 20 dBm 10 dBm 0 0 dBm -10 dBm -20 dBm 01 -25.566 -30 dBm -60 dBm -60 dBm -60 dBm -70 dBm CF 2.48 GHz Marker Type Type Ref Trc	1.366 MHz 7 9 0 Offset 9.80 dB SWT 63.3 µs	-0.31 dB	M1[1] M2[1]		-25.90 dBr 2.47941000 GH -5.57 dBr 2.48000800 GH



	Ref Level 25.00 dB Att 30 d			Mode Auto FF	r	
	1Pk View			Hour Hate H		
	20 dBm-			M1[1]		-29.30 dB
				M2[1]		2.40131600 GF -9.13 dB
	10 dBm		-			2.40194200 GH
	0 dBm					
	0 dBm		M2			
	-10 dBm		- mark	man	~	
		m			m	
	-20 dBm					
		3 dBm				03
8DPSK/LCH						
	-40 dBm					the
	-50 dBm					
	-60 dBm				_	
	-70 dBm-					
	CF 2.402 GHz		1001 pt:	5		Span 2.0 MHz
	Marker Type Ref Trc	X-value	Y-value	Function	Euro	ction Result
	M1 1	2.401316 GHz	-29.30 dBm	Punction	Fun	ction Result
	M2 1 D3 M1 1	2.401942 GHz 1.354 MHz	-9.13 dBm -0.30 dB			
	Date:21.0CT.2021 07:24	:25				
		:25				ſ
	Spectrum		PRW 30 kHz			
		m Offset 9.80 dB 🕳	RBW 30 kHz VBW 100 kHz	Mode Auto FF	r	
	Spectrum Ref Level 25.00 dB	m Offset 9.80 dB 🕳			r	
	Spectrum Ref Level 25.00 dB Att 30 d	m Offset 9.80 dB 🕳		Mode Auto FF	r	-28.44 dB
	Spectrum Ref Level 25.00 dB Att 30 d 1Pk View 20 dBm	m Offset 9.80 dB 🕳			r	-28,44 dB/ 2,44031400 GF -7,90 dB/
	Spectrum Ref Level 25.00 dB Att 30 d 1Pk View	m Offset 9.80 dB 🕳		M1[1]	r	-28,44 dB/ 2,44031400 GF
	Spectrum Ref Level 25.00 dB Att 30 d 1Pk View 20 dBm 10 dBm	m Offset 9.80 dB 🕳		M1[1]	r	-28,44 dB/ 2,44031400 GF -7,90 dB/
	Spectrum Ref Level 25.00 dB Att 30 d 1Pk View 20 dBm	m Offset 9.80 dB 🕳		M1[1] M2[1]	F	-28,44 dB/ 2,44031400 GF -7,90 dB/
	Spectrum Ref Level 25.00 dB Att 30 d 1Pk View 20 dBm 10 dBm	m Offset 9.80 dB 🕳		M1[1] M2[1]		-28,44 dB/ 2,44031400 GF -7,90 dB/
	Spectrum Ref Level 25.00 dB Att 30 d 1Pk View 20 dBm 10 dBm -10 dBm	m Offset 9.80 dB 🕳		M1[1] M2[1]	r	-28,44 dB/ 2,44031400 GF -7,90 dB/
	Spectrum Ref Level 25.00 dB Att 30 dB 10 dBm 0 dBm -10 dBm -20 dBm	m Offset 9.80 dB dB swr 63.3 µs e		M1[1] M2[1]	-	-28,44 dB/ 2,44031400 GF -7,90 dB/
	Spectrum Ref Level 25.00 dB Att 30 d 1Pk View 20 dBm 10 dBm -10 dBm	m Offset 9.80 dB dB swr 63.3 µs e		M1[1] M2[1]	r	-28,44 dB/ 2,44031400 GF -7,90 dB/
8DPSK/MCH	Spectrum Ref Level 25.00 dB Att 30 d 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm	m Offset 9.80 dB dB swr 63.3 µs e		M1[1] M2[1]	r	-28,44 dB/ 2,44031400 GF -7,90 dB/
8DPSK/MCH	Spectrum Ref Level 25.00 dB Att 30 d 1Pk View 20 dBm 10 dBm -10 dBm -20 dBm	m Offset 9.80 dB dB swr 63.3 µs e		M1[1] M2[1]	r	-28,44 dB/ 2,44031400 GF -7,90 dB/
8DPSK/MCH	Spectrum Ref Level 25.00 dB Att 30 d 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm 0 dBm	m Offset 9.80 dB dB swr 63.3 µs e		M1[1] M2[1]		-28,44 dB/ 2,44031400 GF -7,90 dB/
8DPSK/MCH	Spectrum Ref Level 25.00 dB Att 30 d 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm	m Offset 9.80 dB dB swr 63.3 µs e		M1[1] M2[1]		-28,44 dB/ 2,44031400 GF -7,90 dB/
8DPSK/MCH	Spectrum Ref Level 25.00 dB Att 30 d 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm 0 dBm	m Offset 9.80 dB dB swr 63.3 µs e		M1[1] M2[1]		-28,44 dB/ 2,44031400 GF -7,90 dB/
8DPSK/MCH	Spectrum Ref Level 25.00 dB Att 30 d 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -30 dBm -30 dBm -50 dBm -60 dBm	m Offset 9.80 dB dB swr 63.3 µs e		M1[1] M2[1]		-28,44 dB/ 2,44031400 GF -7,90 dB/
8DPSK/MCH	Spectrum Ref Level 25.00 dB Att 30 d 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -30 dBm -30 dBm -30 dBm -70 dBm	m Offset 9.80 dB dB swr 63.3 µs e	VBW 100 kHz	M1[1] M2[1]		-28.44 dB 2.44031400 GF -7.90 dB 2.44112400 GF
8DPSK/MCH	Spectrum Ref Level 25.00 dB Att 30 d 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -30 dBm -30 dBm -50 dBm -60 dBm -70 dBm CF 2.441 GHz	m Offset 9.80 dB dB swr 63.3 µs e		M1[1] M2[1]		-28,44 dB/ 2,44031400 GF -7,90 dB/
8DPSK/MCH	Spectrum Ref Level 25.00 dB Att 30 d 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -30 dBm -50 dBm -60 dBm -70 dBm CF 2.441 GHz Marker	m Offset 9.80 dB B SWT 63.3 µs •	VBW 100 kHz	M1[1] M2[1]		-28.44 dB 2.44031400 GF -7.90 dB 2.44112400 GF
8DPSK/MCH	Spectrum Ref Level 25.00 dB Att 30 d 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -30 dBm -30 dBm -50 dBm -60 dBm -70 dBm CF 2.441 GHz Marker Type Ref M1 1	m Offset 9.80 dB B SWT 63.3 µs =	VBW 100 kHz	M1[1] M2[1]		-28.44 dB 2.44031400 GF -7.90 dB 2.44112400 GF
8DPSK/MCH	Spectrum Ref Level 25.00 dB Att 30 d 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -20 dBm -30 dBm -50 dBm -60 dBm -70 dBm CF 2.441 GHz Marker Type Ref	m Offset 9.80 d8 B SWT 63.3 µs •	VBW 100 kHz	M1[1] M2[1]		-28.44 dB 2.44031400 GF -7.90 dB 2.44112400 GF







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 π /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 mod	le	
Test channel	Carrier Frequencies Separation (MHz)	Limit (MHz)	Result
Lowest	1.000	≥0.641	Pass
Middle	1.005	≥0.641	Pass
Highest	1.005	≥0.641	Pass
	π/4DQPSK m	node	
Test channel	Carrier Frequencies Separation (MHz)	Limit (MHz)	Result
Lowest	1.000	≥0.911	Pass
Middle	1.005	≥0.911	Pass
Highest	hest 1.000 ≥0.911		Pass
	8DPSK mo	de	
Test channel	Carrier Frequencies Separation (MHz)	Limit (MHz)	Result
Lowest	1.005	≥ 0. 903	Pass
Middle	1.005	≥0 . 903	Pass
Highest	1.005	≥0 . 903	Pass

Mode	20dB bandwidth (MHz) (worse case)	Limit (MHz) (Carrier Frequencies Separation)
GFSK	0.962	0.641
π/4DQPSK	1.366	0.911
8DPSK	1.354	0.903



Test plot as follows:





		80 dB 👄 RBW 100 3.9 µs 👄 VBW 300		Auto FFT			
1Pk View 20 dBm							1.90 dBm 15865 GHz 0.17 dB 00481 MHz
10 dBm-		MI					50101 1112
0 dBm		~~~~	-	~~~~	A		
-10 dBm		1			-		
-20 dBm			Y			1	
						1	
-30 dBm							h
-40 dBm							
-50 dBm					-		
-60 dBm	_		_				
-70 dBm							
			525 nts			Stop	2 481 CHz
	0 dB SWT 10	3.9 µs 🖷 VBW 300) kHz Mode	Auto FFT			_
20 dBm-						2.402	-3.25 dBm 15865 GHz -0.01 dB
10 dBm			-	1	1	1.	00000 MHz
0 dBm	_	M1	_		01		
-10 dBm		\sim		m	A		~
-20 dBm							
-30 dBm			-				
-40 dBm			-		-		
-50 dBm	_						
-60 dBm	_		_				
-70 dBm				_			
	1Pk View 20 dBm 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -60 dBm -70 dBm 5tort 2.478 GHz Date: 21.0 CT 2021 12: Spectrum Ref Level 25.00 Att 30 1Pk View 20 dBm 10 dBm -10 dBm -20 dBm -30 dBm -30 dBm -50 dBm	1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -20 dBm -20 dBm -30 dBm -40 dBm -50 dBm -50 dBm -70 dBm Stort 2.478 GHz Date: 21.0 CT 2021 12:42:03 Spectrum Ref Level 25.00 dBm Offset 9. Att 30 dB SWT 16 Offset 9. Att 30 dB SWT 16 Offset 9. Att 30 dB SWT 16 OdBm OdBm OdBm OdBm OdBm OdBm -10 dBm -20 dBm -30 dBm -50 dBm -50 dBm	1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -20 dBm -30 dBm -30 dBm -40 dBm -50 dBm -50 dBm -50 dBm -70	1Pk View 20 dBm 10 dBm 10 dBm 10 dBm 10 dBm 20	1Pk View 20 dBm 20 dBm 30 dBm 40 dBm 40 dBm 40 dBm 40 dBm 40 dBm 50	 IDK View O dBm Offset 9.84 dB @ RBW 100 kHz M1[1] O dBm <lio dbm<="" li=""> <lio dbm<="" li=""></lio></lio>	• 19k View M1[1] 2.479 10 dBm 01[1] 1.1 0 dBm 01[1] 1.1 0 dBm 01[1] 1.1 0 dBm 01[1] 1.1 -10 dBm 02 02 -20 dBm -20 dBm -30 dBm -50 dBm -70 dBm -70 dBm -70 dBm



	Spectrum							
	Ref Level 25.00 dB Att 30 d 1Pk View		.80 dB 🖷 RBW 8.9 µs 🖶 VBW		e Auto FFT			
	20 dBm				M1[1]			-1.94 dBm 15865 GHz -0.01 dB
	10 dBm						1.	00481 MHz
	0 dBm	-	MI			01		
	-10 dBm			~~~~	~~	The		~~~
/4DQPSK/MCH	-20 d8m				_			
	-30 dBm			_				
	-40 dBm							
	-50 dBm							
	-60 dBm							
	-70 dBm							
							Stop 5	2.443 GHz
	Stort 2.44 GHz Date: 21.0 CT 2021 12:54: Spectrum Ref Level 25.00 dB:		.80 dB 🖷 RBW	625 pts				
	Date:21.0CT.2021 12:54:	m Offset 9	.80 dB 👄 RBW 8.9 µs 👄 VBW	100 kHz	e Auto FFT			
	Date: 21.0 CT 2021 12:54: Spectrum Ref Level 25.00 dBi Att 30 d	m Offset 9		100 kHz	e Auto FFT M1[1] D1[1]		2.479	-0.89 dBm 15865 GHz -0.06 dB
	Date: 21.0 CT.2021 12:54: Spectrum Ref Level 25.00 dBu Att 30 d 1Pk View	m Offset 9	8.9 µs 👄 VBW	100 kHz	M1[1]		2.479	-0.89 dBm 15865 GHz -0.06 dB
	Date: 21 0 CT 2021 12:54: Spectrum Ref Level 25:00 dBu Att 30 d 10 dBm 0 dBm 0 dBm	m Offset 9		100 kHz	M1[1]	-	2.479	-0.89 dBm 15865 GHz -0.06 dB
	Date: 21 0 CT 2021 12:54: Spectrum Ref Level 25:00 dBu Att 30 d 10 dBm 10 dBm -10 dBm	m Offset 9	8.9 µs 👄 VBW	100 kHz	M1[1]		2.479	-0.89 dBm 15865 GHz -0.06 dB
/4DQPSK/HCH	Date: 21 0 CT 2021 12:54: Spectrum Ref Level 25:00 dBu Att 30 d 10 dBm 10 dBm -10 dBm -20 dBm	m Offset 9	8.9 µs 👄 VBW	100 kHz	M1[1]		2.479	-0.89 dBm 15865 GHz -0.06 dB
1/4DQPSK/HCH	Date: 21 0 CT 2021 12:54: Spectrum Ref Level 25:00 dBu Att 30 d 10 dBm 10 dBm -10 dBm -20 dBm -30 dBm	m Offset 9	8.9 µs 👄 VBW	100 kHz	M1[1]		2.479	-0.89 dBm 15865 GHz -0.06 dB
/4DQPSK/HCH	Date: 21 0 CT 2021 12:54: Spectrum Ref Level 25:00 dBu Att 30 d 10 dBm 10 dBm -10 dBm -20 dBm -30 dBm -40 dBm	m Offset 9	8.9 µs 👄 VBW	100 kHz	M1[1]		2.479	-0.89 dBm 15865 GHz -0.06 dB
1/4DQPSK/HCH	Date: 21 0 CT 2021 12:54: Spectrum Ref Level 25:00 dBu Att 30 d 10 dBm 10 dBm -10 dBm -20 dBm -30 dBm	m Offset 9	8.9 µs 👄 VBW	100 kHz	M1[1]		2.479	-0.89 dBm 15865 GHz -0.06 dB
r/4DQPSK/HCH	Date: 21 0 CT 2021 12:54: Spectrum Ref Level 25:00 dBu Att 30 d 10 dBm 10 dBm -10 dBm -20 dBm -30 dBm -30 dBm -50 dBm	m Offset 9	8.9 µs 👄 VBW	100 kHz	M1[1]		2.479	



	Spectrum Ref Level 25.00 Att 3	dBm Offset 0 dB SWT	9.84 dB 🖷 RB 18.9 µs 🖷 VB		Mode Auto FF	т		
	1Pk View	0 06 3 101	10'à h? 🖷 AB	W JUUKHZ	Mode Auto FF			
	20 dBm				M1[1]		0.400	-3.14 dBm 15865 GHz
	Lo dbin				D1[1]			0.01 dB
	10 dBm				1	-	1.	00481 MHz
	0 dBm	~	MI X		~			~~~
	-10 dBm	~~~			~	The has	~~~	_
8DPSK/LCH	-20 dBm		+ +				-	
ODPSK/LCH	-30 dBm							
	-30 0811							
	-40 dBm		++					
	-50 dBm-		+ +					
	-60 dBm							
	-70 dBm	_					-	
	Start 2.401 GHz			625 pt	s		Stop 2	2.404 GHz
	Date: 21.0 CT 2021 13: Spectrum Ref Level 25.00		9.80 dB 🕳 RB	W 100 kHz				
	Spectrum Ref Level 25.00 Att 3		9.80 dB 👄 RB 18.9 µs 👄 VB		Mode Auto FF	т		
	Spectrum Ref Level 25.00 Att 3 1Pk View	dBm Offset				т		(Δ
	Spectrum Ref Level 25.00 Att 3	dBm Offset			M1[1]	T	2.441	-1.91 dBm 15865 GHz
	Spectrum Ref Level 25.00 Att 3 1Pk View	dBm Offset				т		-1.91 dBm 15865 GHz
	Spectrum Ref Level 25.00 Att 3 1Pk View 20 dBm	dBm Offset	18.9 µs 👄 VB		M1[1]	т		-1.91 dBm 15865 GHz 0.03 dB
	Spectrum Ref Level 25.00 Att 3 1Pk View 20 dBm	dBm Offset			M1[1]			-1.91 dBm 15865 GHz 0.03 dB
	Spectrum Ref Level 25.00 Att 3 1Pk View 20 dBm 10 dBm 0 dBm	dBm Offset	18.9 µs • VB		M1[1]	01		-1.91 dBm 15865 GHz 0.03 dB
	Spectrum Ref Level 25.00 Att 3 1Pk View 20 dBm 10 dBm	dBm Offset	18.9 µs • VB		M1[1]	01		-1.91 dBm 15865 GHz 0.03 dB
	Spectrum Ref Level 25.00 Att 3 1Pk View 20 dBm 10 dBm 0 dBm	dBm Offset	18.9 µs • VB		M1[1]	01		-1.91 dBm 15865 GHz 0.03 dB
8DPSK/MCH	Spectrum Ref Level 25.00 Att 3 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm	dBm Offset	18.9 µs • VB		M1[1]	01		-1.91 dBm 15865 GHz 0.03 dB
8DPSK/MCH	Spectrum Ref Level 25.00 Att 3 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm	dBm Offset	18.9 µs • VB		M1[1]	01		-1.91 dBm 15865 GHz 0.03 dB
8DPSK/MCH	Spectrum Ref Level 25.00 Att 3 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm	dBm Offset	18.9 µs • VB		M1[1]	01		-1.91 dBm 15865 GHz 0.03 dB
8DPSK/MCH	Spectrum Ref Level 25.00 Att 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm	dBm Offset	18.9 µs • VB		M1[1]	01		-1.91 dBm 15865 GHz 0.03 dB
8DPSK/MCH	Spectrum Ref Level 25.00 Att 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm	dBm Offset	18.9 µs • VB		M1[1]	01		-1.91 dBm 15865 GHz 0.03 dB
8DPSK/MCH	Spectrum Ref Level 25.00 Att 30 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm	dBm Offset	18.9 µs • VB		M1[1]	01		-1.91 dBm 15865 GHz 0.03 dB
8DPSK/MCH	Spectrum Ref Level 25.00 Att 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm	dBm Offset	18.9 µs • VB		M1[1]	01		-1.91 dBm 15865 GHz 0.03 dB
8DPSK/MCH	Spectrum Ref Level 25.00 Att 30 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm	dBm Offset	18.9 µs • VB		M1[1]	01		-1.91 dBm 15865 GHz 0.03 dB
8DPSK/MCH	Spectrum Ref Level 25.00 Att 1 Pk View 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -50 dBm -60 dBm	dBm Offset	18.9 µs • VB		M1[1]	01		-1.91 dBm 15865 GHz 0.03 dB



	Att 30 dB SW	set 9.80 dB 👄 RBW 100 Τ 18.9 μs 👄 VBW 300		
	1Pk View		-	
	20 dBm		M1[1] D1[1]	-0.76 dBn 2.47915865 GH 0.00 dl
	10 dBm			1.00481 MH
	0 dBm	MI		_
	-10 dBm			
8DPSK/HCH	-20 dBm-			
	-30 dBm			
	-40 dBm			
	-50 dBm			
	-60 dBm			
	-70 dBm Start 2.478 GHz		25 pts	Stop 2.481 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 π /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:

	Graphs	
	Spectrum Ref Level 25.00 dBm Offset 9.80 dB ● RBW 100 kHz ● Att 30 dB SWT 94.8 µs ● VBW 300 kHz Mode Auto FFT	
	10 dBm 10 dBm	-0.47 dBm 2.401812 GHz 1.85 dB 78.203 MHz
GFSK/Hop	Maber -10 #8m -10 #8m	
	-30 dBm	has
	-60 dBm -70 dBm -70 dBm 600 pts Start 2.4 GHz 600 pts Date: 21.0 CT 2021 12:43:39	p 2.4835 GHz
	Spectrum Ref Level 25.00 dBm Offset 9.80 dB RBW 100 kHz Att 30 dB SWT 94.8 µs VBW 300 kHz Mode Auto FFT	
	1Pk View 20 dBm	-3.23 dBm 2.402091 GHz
	01[1] 10 dBm	1.36 dB 78.063 MHz
	DUBR -10 dBm	www
π/4DQPSK/Hop	-20 d8m	NWWW MA
π/4DQPSK/Hop	-20 dBm	10441HA
π/4DQPSK/Hop	-20 d8m	WWW WA
π/4DQPSK/Hop	-20 dBm -30 dBm N40 dBm	WWW MA
π/4DQPSK/Hop	-20 dBm -a0 dBm N40 dBm -50 dBm	WWW MA



	Att 1Pk View	30 dB SWT	5 HO PS	VBW 300 kHz	Mode Auto FFT		
	20 dBm				M1[1] D1[1]		-3.57 dBr 2.401812 GH 2.61 d 78.342 MH
	9/dBm -10 dBm -20 dBm	mmundur	ununun	humun	utunana	www.	Muning
DPSK/Hop	-30 dBm						
	-50 dBm						
	-70 dBm-			600			Stop 2.4835 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

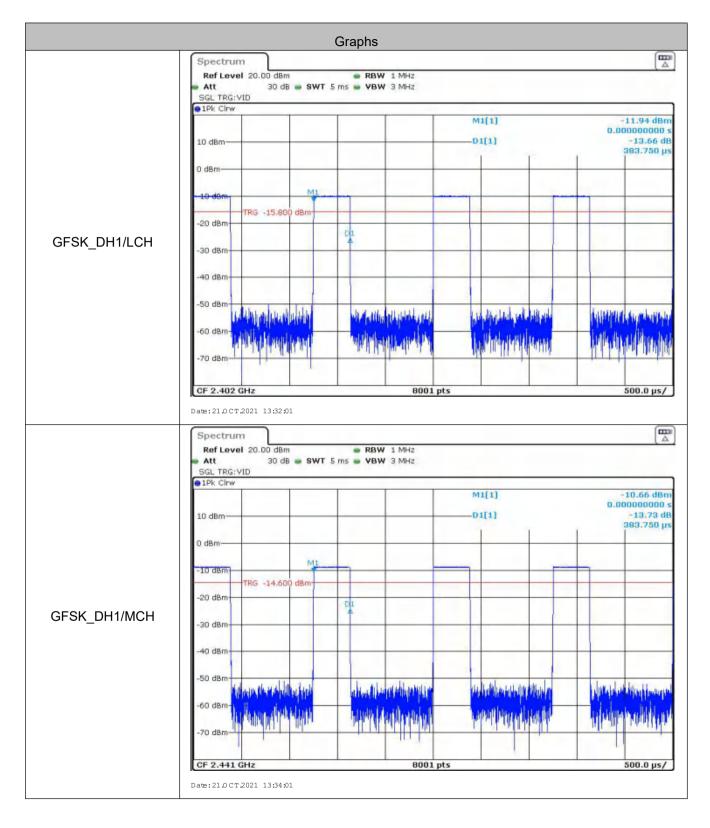
Mode	Packet	Channel	Burst Width [ms/hop/ch]	Dwell Time[s]	Limit (second)
GFSK	DH1	LCH	0.38	0.122	≤0.4
GFSK	DH1	МСН	0.38	0.122	≤0.4
GFSK	DH1	НСН	0.38	0.122	≤0.4
π/4DQPSK	2DH1	LCH	0.39	0.125	≤0.4
π/4DQPSK	2DH1	МСН	0.39	0.125	≤0.4
π/4DQPSK	2DH1	НСН	0.39	0.125	≤0.4
8DPSK	3DH1	LCH	0.39	0.125	≤0.4
8DPSK	3DH1	МСН	0.39	0.125	≤0.4
8DPSK	3DH1	НСН	0.39	0.125	≤0.4
GFSK	DH3	LCH	1.64	0.262	≤0.4
GFSK	DH3	МСН	1.64	0.262	≤0.4
GFSK	DH3	НСН	1.64	0.262	≤0.4
π/4DQPSK	2DH3	LCH	1.64	0.262	≤0.4
π/4DQPSK	2DH3	МСН	1.64	0.262	≤0.4
π/4DQPSK	2DH3	НСН	1.64	0.262	≤0.4
8DPSK	3DH3	LCH	1.64	0.262	≤0.4
8DPSK	3DH3	МСН	1.64	0.262	≤0.4
8DPSK	3DH3	НСН	1.64	0.262	≤0.4
GFSK	DH5	LCH	2.89	0.308	≤0.4
GFSK	DH5	МСН	2.89	0.308	≤0.4
GFSK	DH5	НСН	2.89	0.308	≤0.4
π/4DQPSK	2DH5	LCH	2.88	0.307	≤0.4
π/4DQPSK	2DH5	МСН	2.88	0.307	≤0.4
π/4DQPSK	2DH5	НСН	2.88	0.307	≤0.4
8DPSK	3DH5	LCH	2.89	0.308	≤0.4
8DPSK	3DH5	МСН	2.89	0.308	≤0.4
8DPSK	3DH5	НСН	2.89	0.308	≤0.4

Remark:

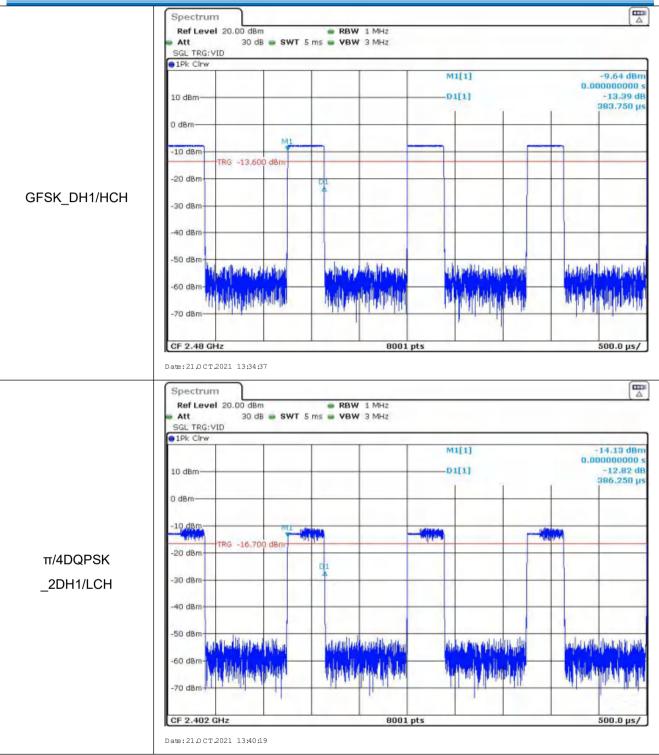
The test period: T= 0.4 Second/Channel x 79 Channel = 31.6 s DH1/2DH1/3DH1 Dwell time = Burst Width(ms)*(1600/ (2*79))*31.6 DH3/2DH3/3DH3 Dwell time = Burst Width (ms)*(1600/ (4*79))*31.6 DH5/2DH5/3DH5 Dwell time = Burst Width (ms)*(1600/ (6*79))*31.6



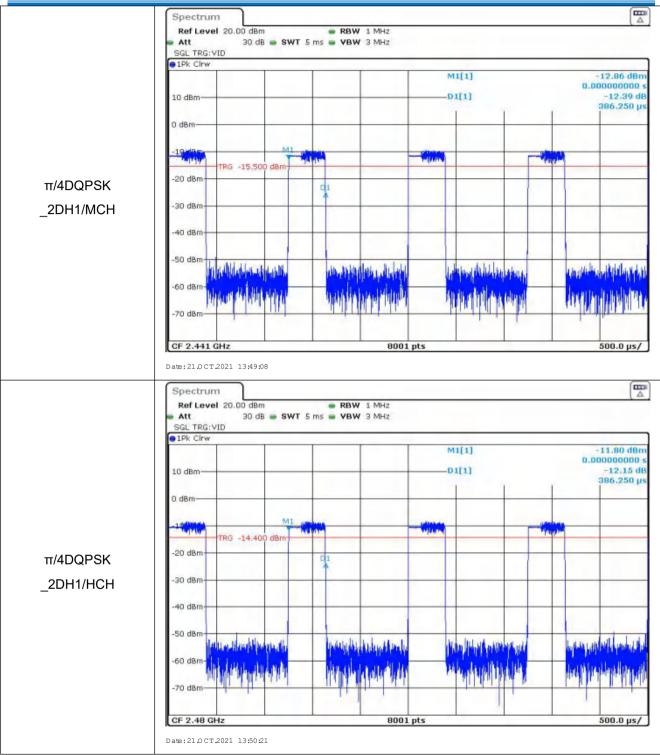
Test plot as follows:



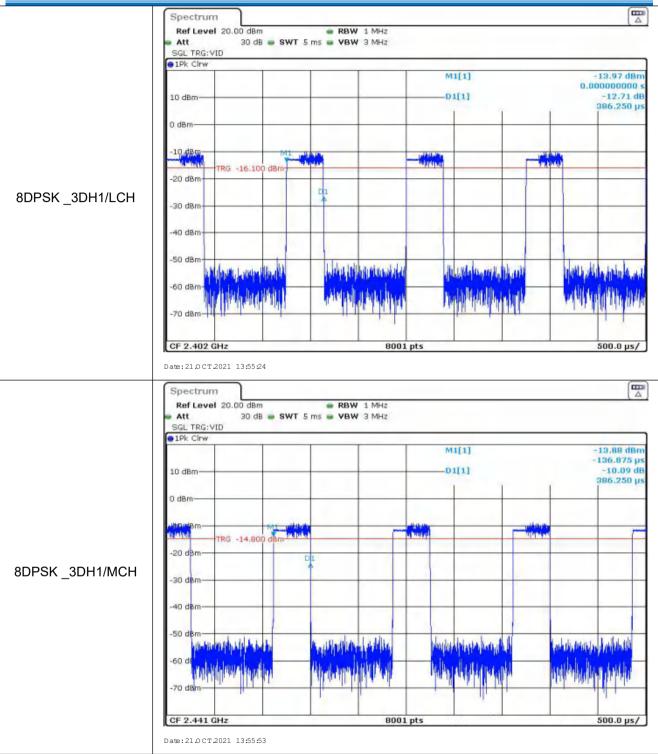




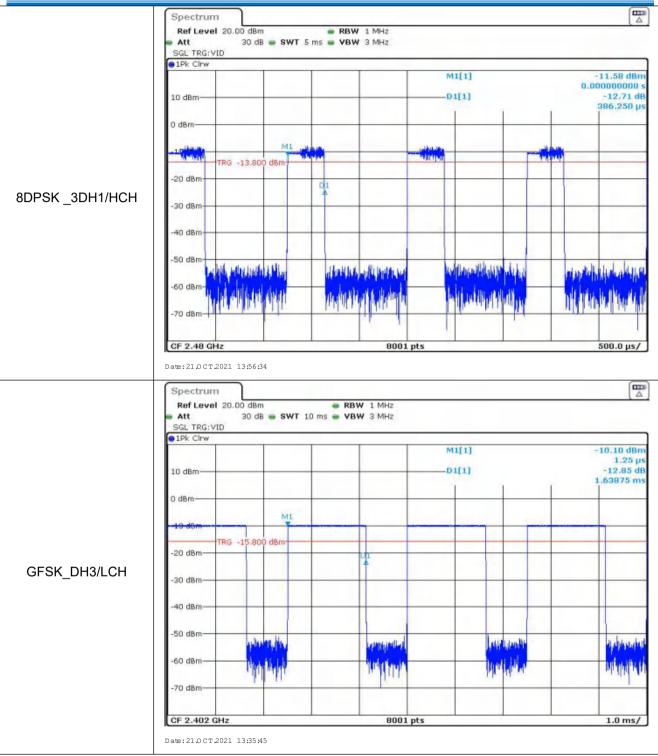








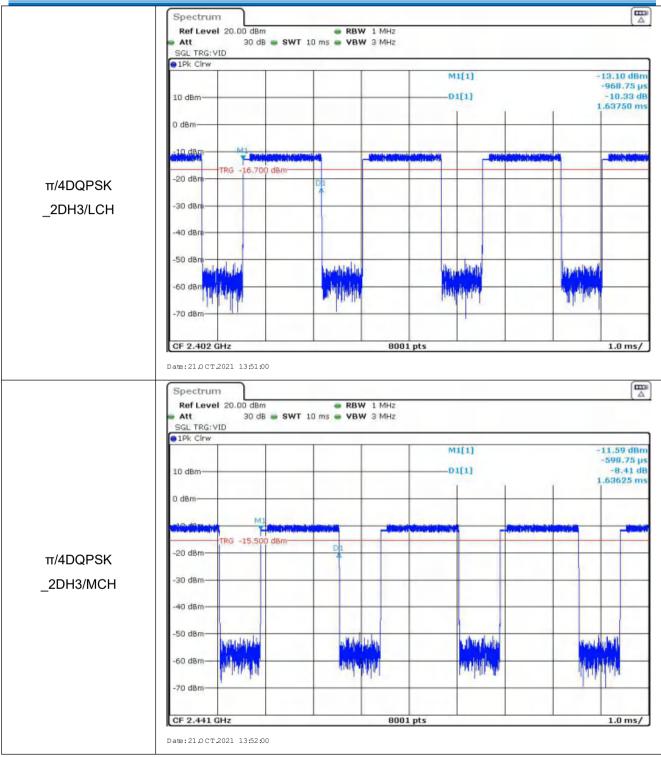




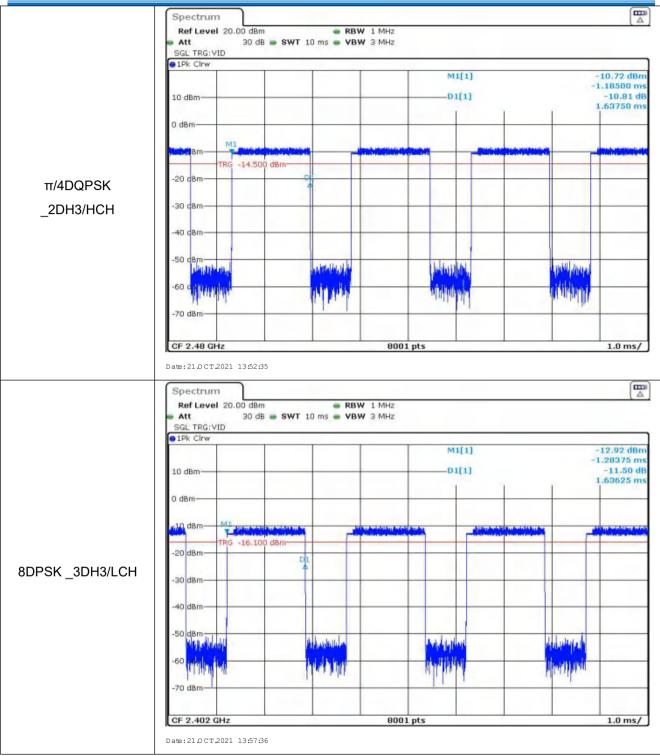


	Spectrum				
	Ref Level 2	20.00 dBm	RBW 1 MHz		(A
	SGL TRG:VID	30 dB 👄 SWT 10 ms	. VBW 3 MHz		
	1Pk Cirw				
				M1[1]	-8.93 dBm
	10 dBm			D1[1]	1.25 µs -12.18 dB
					1.63875 ms
	0 dBm				
		M1			
	-10 dBm-	G -14.600 dBm			
	-20 dBm	G -14.000 00m	00		
			1		
GFSK_DH3/MCH	-30 dBm				
	-40 dBm				
	-50 dBm-				
		A Star Starte	Alebragart	the fight fill	und the dis
	-60 dBm	dai, a. la	di Johni w. b	hite artist	min thinks
		Tanka ita	414.64	L. M. M.	ta chelo his
	-70 dBm				
	CF 2.441 GHz	z	8001 pts		1.0 ms/
	Date:21.0CT.202	21 13:36:48			
	6				Ē
	Ref Level 2	20.00.d8m	BBW 1 MHz		
	Att	30 dB - SWT 10 ms			
	SGL TRG: VID				
	• 1Pk Clrw			M1[1]	-7.88 dBm
	• 1Pk Clrw			M1[1]	1.25 µs
				M1[1] —D1[1]	1.25 µs -12.44 dB
	• 1Pk Clrw				1.25 µs -12.44 dB
	10 dBm	MI			1.25 µs -12.44 dB
	1Pk Cirw 10 dBm 0 dBm -10 dBm				1.25 µs -12.44 dB
	1Pk Cirw 10 dBm 0 dBm -10 dBm TR				1.25 µs -12.44 dB
	1Pk Cirw 10 dBm 0 dBm -10 dBm				1.25 µs -12.44 dB
GFSK_DH3/HCH	1Pk Clrw 10 dBm 0 dBm -10 dBm TR -20 dBm		D1		1.25 µs -12.44 dB
GFSK_DH3/HCH	1Pk Cirw 10 dBm 0 dBm -10 dBm TR				1.25 µs -12.44 dB
GFSK_DH3/HCH	1Pk Clrw 10 dBm 0 dBm -10 dBm TR -20 dBm		D1		1.25 µs -12.44 dB
GFSK_DH3/HCH	1Pk Clrw 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm		Di		
GFSK_DH3/HCH	1Pk Clrw 10 dBm 0 dBm -10 dBm TR -20 dBm -30 dBm	M1 KG -13.600 d8m			1.25 µs -12.44 dB
GFSK_DH3/HCH	1Pk Clrw 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm				1.25 µs -12.44 dB
GFSK_DH3/HCH	1Pk Clrw 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm	M1 KG -13.600 d8m			1.25 µs -12.44 dB
GFSK_DH3/HCH	1Pk Clrw 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm	M1 KG -13.600 d8m	in drawn in		1.25 µs -12.44 dB
GFSK_DH3/HCH	1Pk Clrw 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm	M1 KG -13.600 d8m	in drawn in		1.25 µs -12.44 dB
GFSK_DH3/HCH	1Pk Clrw 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm	M1 M1 M3 -13.600 dBm	in drawn in		1.25 µs -12.44 dB

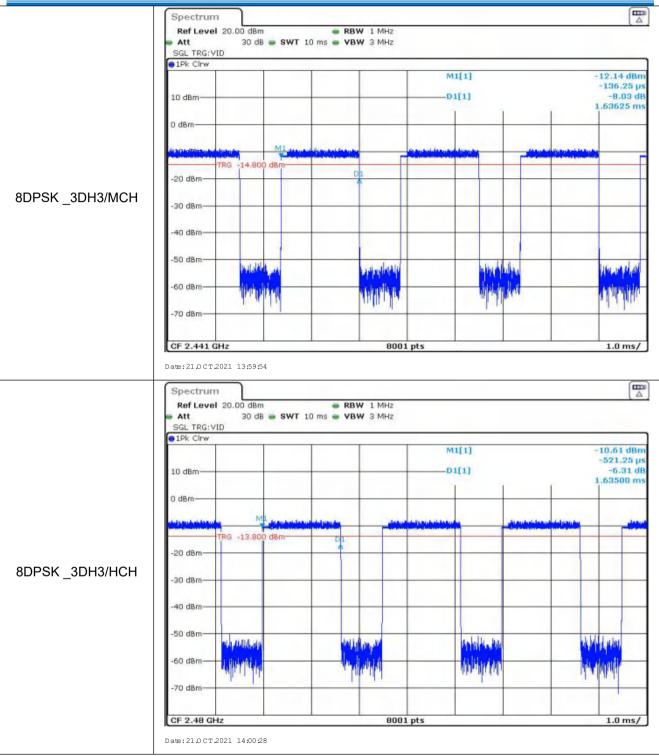












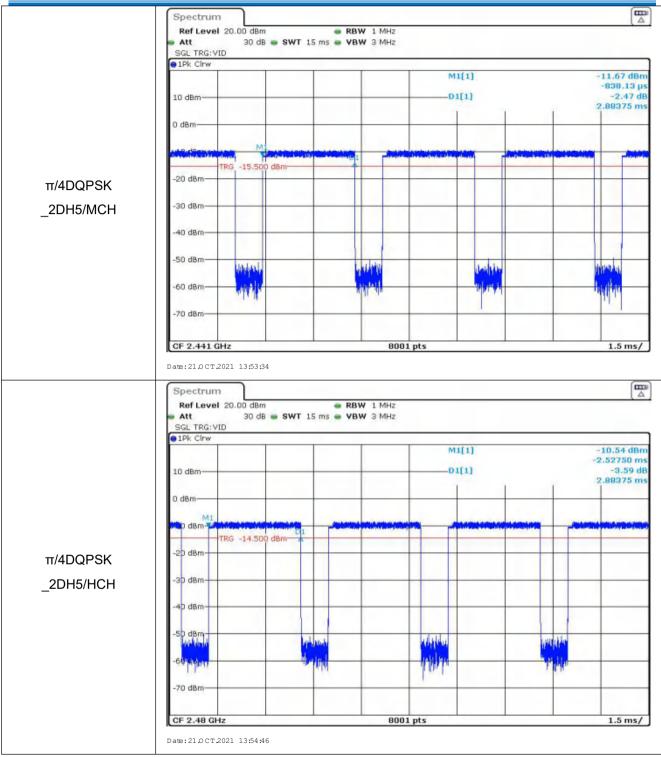


	Spectrum	7			
	Ref Level 20.	00 dBm	RBW 1 MHz		
	Att SGL TRG:VID	30 dB 👄 SWT 15 ms	SMHz		
	1Pk Clrw				
				M1[1]	-9.91 dBm
	10 dBm			D1[1]	1.88 µs -10.90 dB
					2.88563 ms
	0 dBm				
		M1			
	-10 d8m				
	-20 dBm	-15.800 dBm	D1		
	-20 0011		4		
GFSK_DH5/LCH	-30 dBm				
	-40 dBm-				
	-50 dBm-				
	-50 dbin	- Anthony	PHU IN	a state of the second	dia. Li
	-60 dBm-	di shil	at the		aidh
		T	~ 11	1.34	Leafe
	-70 dBm				
	CF 2.402 GHz		8001 pts		1.5 ms/
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	Spectrum Ref Level 20.	00 dBm	RBW 1 MHz		(m) A
	Spectrum Ref Level 20.	1			
	Spectrum Ref Level 20.	00 dBm			
	Spectrum Ref Level 20. Att SGL TRG:VID	00 dBm		M1[1]	-8.69 dBn
	Spectrum Ref Level 20. Att SGL TRG:VID	00 dBm		M1[1] 	-8.69 dBn 1.88 µ -8.64 dB
	Spectrum Ref Level 20. Att SGL TRG:VID 1Pk Clrw 10 dBm	00 dBm			-8.69 dBn 1.88 µ -8.64 dB
	Spectrum Ref Level 20. Att SGL TRG:VID 1Pk Clrw	00 dBm 30 dB - SWT 15 ms			-8.69 dBn 1.88 µ -8.64 df
	Spectrum Ref Level 20. Att SGL TRG:VID 1Pk Clrw 10 dBm 0 dBm	00 dBm			-8.69 dBn 1.88 µ -8.64 df
	Spectrum Ref Level 20. Att SGL TRG:VID 1Pk Cirw 10 dBm 0 dBm	00 dBm 30 dB - SWT 15 ms			-8.69 dBn 1.88 µ -8.64 df
	Spectrum Ref Level 20. Att SGL TRG:VID 1Pk Cirw 10 dBm 0 dBm	00 dBm 30 dB SWT 15 ms	• VBW 3 MHz		-8.69 dBn 1.88 µ -8.64 df
GFSK DH5/MCH	Spectrum Ref Level 20. Att SGL TRG:VID 1Pk Clrw 10 dBm 0 dBm -10 dBm TRG -20 dBm	00 dBm 30 dB SWT 15 ms	• VBW 3 MHz		-8.69 dBn 1.88 µ -8.64 dB
GFSK_DH5/MCH	Spectrum Ref Level 20. Att SGL TRG:VID 1Pk Clrw 10 dBm 0 dBm -10 dBm	00 dBm 30 dB SWT 15 ms	• VBW 3 MHz		-8.69 dBn 1.88 µ -8.64 dB
GFSK_DH5/MCH	Spectrum Ref Level 20. Att SGL TRG:VID 1Pk Cirw 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm	00 dBm 30 dB SWT 15 ms	• VBW 3 MHz		-8.69 dBn 1.88 µ -8.64 dB
GFSK_DH5/MCH	Spectrum Ref Level 20. Att SGL TRG:VID 1Pk Clrw 10 dBm 0 dBm -10 dBm TRG -20 dBm	00 dBm 30 dB SWT 15 ms	• VBW 3 MHz		-8.69 dBn 1.88 µ -8.64 dB
GFSK_DH5/MCH	Spectrum Ref Level 20. Att SGL TRG:VID 1Pk Cirw 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm	00 dBm 30 dB • SWT 15 ms	• VBW 3 MHz	D1[1]	8.69 dBn 1.88 µ 8.64 dt 2.88563 m
GFSK_DH5/MCH	Spectrum Ref Level 20. Att SGL TRG:VID 1Pk Clrw 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -50 dBm	00 dBm 30 dB SWT 15 ms M1 -14.600 dBm	• VBW 3 MHz		8.69 dBn 1.88 µ 8.64 dE 2.88563 m
GFSK_DH5/MCH	Spectrum Ref Level 20. Att SGL TRG:VID 1Pk Clrw 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm	00 dBm 30 dB • SWT 15 ms	• VBW 3 MHz	D1[1]	8.69 dBn 1.88 µ 8.64 dt 2.88563 m
GFSK_DH5/MCH	Spectrum Ref Level 20. Att SGL TRG:VID 1Pk Clrw 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -60 dBm	00 dBm 30 dB SWT 15 ms M1 -14.600 dBm	• VBW 3 MHz	D1[1]	8.69 dBn 1.88 µ 8.64 dt 2.88563 m
GFSK_DH5/MCH	Spectrum Ref Level 20. Att SGL TRG:VID 1Pk Clrw 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -50 dBm	00 dBm 30 dB SWT 15 ms M1 -14.600 dBm	• VBW 3 MHz	D1[1]	8.69 dBn 1.88 µ 8.64 dE 2.88563 m
GFSK_DH5/MCH	Spectrum Ref Level 20. Att SGL TRG:VID 1Pk Clrw 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -60 dBm	00 dBm 30 dB SWT 15 ms M1 -14.600 dBm	• VBW 3 MHz		-8.69 dBn 1.88 µs -8.64 dB 2.88563 ms

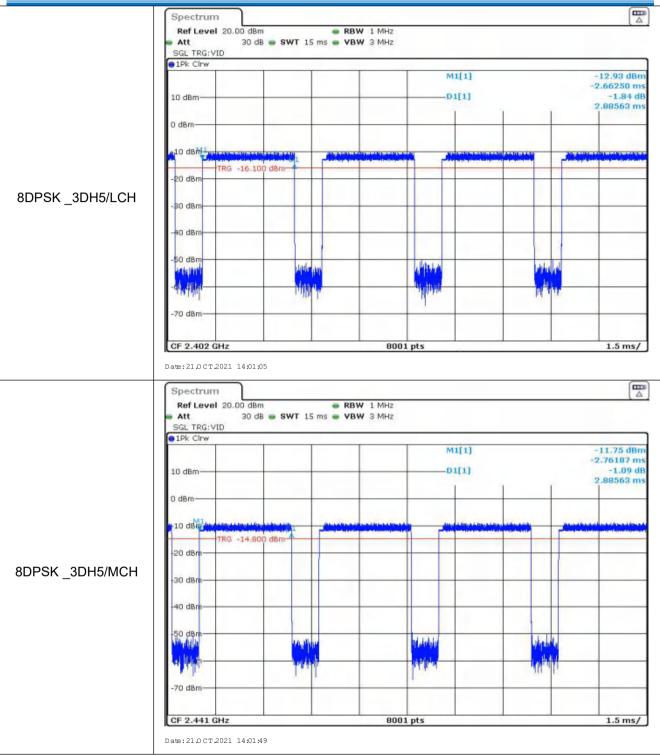


	Spectrum				
	Ref Level 20.	00 dBm 30 dB = SWT 15 ms	RBW 1 MHz		(5
	SGL TRG: VID	30 GB - 3WI 15 MS	WBW 3 MHZ		
	1Pk Clrw	_		M1[1]	-7.70 dBm
	10.0			D1[1]	1.88 µs -7.55 dB
	10 dBm				2.88563 ms
	0 dBm				
		MI			
	-10 dBm-TRG	-13.600 d8m	01		
	-20 dBm-				
GFSK_DH5/HCH	-30 dBm				
	-30 dBm				
	-40 dBm				
	-50 dBm-				
	So dom	di-p-th-	Mark (A)	appendig	ne that i
	-60 dBm	entry		a first a	
	-70 dBm			1 11	
	CF 2.48 GHz		8001 pts	· · · · · · · · · · · · · · · · · · ·	1.5 ms/
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	<u>(</u>	2			m
	Spectrum				
	Reflevel 20.	OD dBm	RBW 1 MHz		
	Ref Level 20.	00 dBm 30 dB 👄 SWT 15 ms	 RBW 1 MHz VBW 3 MHz 		
	SGL TRG:VID			M1[1]	-12.95 dBm
	SGL TRG:VID			M1[1] —01[1]	-12.95 dBm -416.25 μs -2.30 dB
	Att SGL TRG:VID IPk Clrw I0 dBm				-12.95 dBm -416.25 μs -2.30 dB
	Att SGL TRG: VID 1Pk Clrw				-12.95 dBm -416.25 µs -2.30 dB 2.88375 ms
	Att SGL TRG:VID IPk Clrw I0 dBm		• VBW 3 MHz		-12.95 dBm -416.25 µs -2.30 dB 2.88375 ms
	Att SGL TRG:VID IPk Clrw I0 dBm 0 dBm TRG	30 dB • SWT 15 ms	• VBW 3 MHz		-12.95 dBm -416.25 µs -2.30 dB 2.88375 ms
π/4DQPSK	Att SGL TRG:VID IPk Clrw I0 dBm 0 dBm	30 dB • SWT 15 ms	• VBW 3 MHz		-12.95 dBm -416.25 µs -2.30 dB 2.88375 ms
π/4DQPSK _2DH5/LCH	Att SGL TRG:VID IPk Clrw I0 dBm 0 dBm TRG	30 dB • SWT 15 ms	• VBW 3 MHz		-12.95 dBm -416.25 µs -2.30 dB 2.88375 ms
	Att SGL TRG:VID IPk Cirw 10 dBm 0 dBm c10,dBm -20 dBm -30 dBm	30 dB • SWT 15 ms	• VBW 3 MHz		-12.95 dBm -416.25 µs -2.30 dB 2.88375 ms
	Att SGL TRG:VID 1Pk Clrw 10 dBm 0 dBm -10 dBm -20 dBm	30 dB • SWT 15 ms	• VBW 3 MHz		-12.95 dBm -416.25 µs -2.30 dB 2.88375 ms
	Att SGL TRG:VID IPk Cirw 10 dBm 0 dBm c10,dBm -20 dBm -30 dBm	30 dB • SWT 15 ms	• VBW 3 MHz		-12.95 dBm -416.25 µs -2.30 dB 2.88375 ms
	Att SGL TRG:VID IPk Cirw 10 dBm 0 dBm c10.dBm -20 dBm -30 dBm -40 dBm	30 dB SWT 15 ms	• VBW 3 MHz		-12.95 dBm -416.25 µs -2.30 dB 2.88375 ms
	Att SGL TRG:VID IPk Cirw 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm	30 dB • SWT 15 ms	• VBW 3 MHz		- 12.95 dBm -416.25 µs -2.30 dB 2.88375 ms
	Att SGL TRG:VID IPk Cirw 10 dBm 0 dBm c10.dBm -20 dBm -30 dBm -40 dBm	30 dB SWT 15 ms	• VBW 3 MHz		- 12.95 dBm -416.25 µs -2.30 dB 2.88375 ms
	Att SGL TRG:VID IPk Cirw 10 dBm 0 dBm -20 dBm -30 dBm -40 dBm -50 dBm	30 dB SWT 15 ms	• VBW 3 MHz		-12.95 dBm -416.25 µs -2.30 dB 2.88375 ms

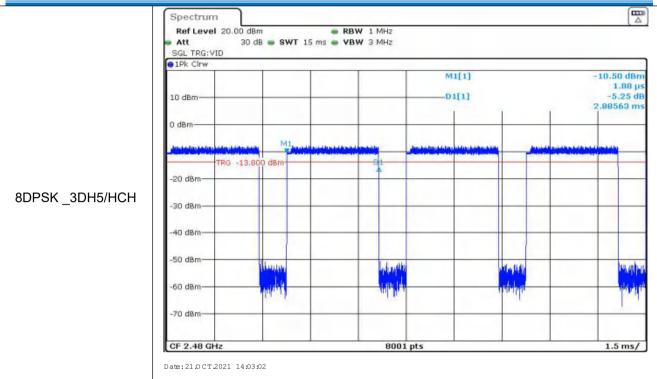














5.8 Band-edge for RF Conducted Emissions

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 π /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



Mode	Test Channel	Frequency [MHz]	Frequency Hopping	Emission Level [dBm]	Limit [dBm]	Result
			Off	-50.090	-20.42	PASS
GFSK	LCH	2400	On	-49.170	-18.9	PASS
			Off	-53.100	-18.31	PASS
GFSK	НСН	2483.5	On	-51.040	-18.03	PASS
			Off	-51.010	-24.55	PASS
π/4DQPSK	LCH	2400	On	-49.600	-22.41	PASS
			Off	-53.090	-20.62	PASS
π/4DQPSK	НСН	2483.5	On	-51.080	-20.97	PASS
			Off	-51.660	-24.89	PASS
8DPSK	LCH	2400	On	-42.990	-21.7	PASS
			Off	-52.400	-22.6	PASS
8DPSK	НСН	2483.5	On	-51.860	-20.86	PASS



Test plot as follows:

				Graph	S						
	Spectru	m									
	Ref Lev	el 25.00 dB 30 d			RBW 100 ki VBW 300 ki		Auto F	FT			
	• 1Pk View										
	20 dBm-	-		-	-	P	41[1]			2.40	-0.42 dBm 20410 GHz
	10 dBm-	-	-	_	-	7	42[1]			-	50.09 dBm 00000 GHz
	0 dBm	-	-		-		-	M	1		
	-10 dBm—		-		-			_	-		
	-20 d8m-	D1 -20.42	0 dBm		-	_	-	_			-
	-30 d8m-										
	-40 dBm-								1		
GFSK/LCH/No Hop			MS	to the state of the		a constant	ИЗ	M2			
	ASD dBm	town where the	Strand Providence	and an and a second	Ween Amount on April	And international state	Contraction of the second	14/10	"Many philippe	the second second	and the second stands
	-60 dBm-						-	-			
	-70 dBm-				-		-	-	-		
	Start 2.3	1 GHz			8001	pts	-			Stop 2	2.441 GHz
	Marker Type R	ef Trc	X-value	1	Y-value	Fun	ction	-	Fund	tion Result	
	M1	1	2.40204	1 GHz	-0.42 dB	m		_			
	M2 M3	1		.4 GHz 39 GHz	-50.09 dB			1			_
	M4	1		B1 GHz	-51.10 dB						
	M5	1	2.347236	57 GHz	-47.76 dB	m					
	Spectru										
	Spectru		m Offset		RBW 100 ki VBW 300 ki		auto F	FT			
	Spectru Ref Lev	m el 25.00 dB/ 30 d	m Offset			Hz Mode		FT			
	Spectru Ref Lev Att	m el 25.00 dB/ 30 d	m Offset			Hz Mode	41[1]	FT			1.10 dBm 31070 GHz
	Spectru Ref Lev Att	m el 25.00 dB/ 30 d	m Offset			Hz Mode		FT		-	1.10 dBm 31070 GHz 49.17 dBm
	Spectru Ref Lev Att 1Pk View 20 dBm-	m el 25.00 dB/ 30 d	m Offset			Hz Mode	41[1]	FT	1 that s an a set	-	1.10 dBm
	Spectru Ref Lev Att 1Pk View 20 dBm- 10 dBm-	m el 25.00 dB/ 30 d	m Offset			Hz Mode	41[1]	FT		-	1.10 dBm 31070 GHz 49.17 dBm
	Spectru Ref Lev Att 1Pk View 20 dBm- 10 dBm- 0 dBm- -10 dBm-	m el 25.00 dBi 30 d	m Offset IB SWT 1			Hz Mode	41[1]	FT		-	1.10 dBm 31070 GHz 49.17 dBm
	Spectru Ref Lev Att 1Pk View 20 dBm- 10 dBm- -10 dBm- -20 dBm-	m el 25.00 dB/ 30 d	m Offset IB SWT 1			Hz Mode	41[1]	FT		-	1.10 dBm 31070 GHz 49.17 dBm
	Spectru Ref Lev Att 1Pk View 20 dBm- 10 dBm- 0 dBm- -10 dBm-	m el 25.00 dBi 30 d	m Offset IB SWT 1			Hz Mode	41[1]	FT		-	1.10 dBm 31070 GHz 49.17 dBm
GFSK/LCH/Hop	Spectru Ref Lev Att 1Pk View 20 dBm- 10 dBm- -10 dBm- -20 dBm-	m el 25.00 dBi 30 d	m Offset IB SWT 1			Hz Mode	41[1]			-	1.10 dBm 31070 GHz 49.17 dBm
GFSK/LCH/Hop	Spectru Ref Lev Att 1Pk View 20 dBm- 10 dBm- -10 dBm- -20 dBm- -30 dBm-	m el 25.00 dB 30 d	m Offset IB SWT 1	51.7 µs 🖷		Hz Mode	41[1]	FT M2		-	1.10 dBm 31070 GHz 49.17 dBm
GFSK/LCH/Hop	Spectru Ref Lev Att 1Pk View 20 dBm- 10 dBm- -10 dBm- -20 dBm- -30 dBm- -40 dBm-	m el 25.00 dB 30 d	m Offset IB SWT 1	51.7 µs 🖷	• VBW 300 kH	Hz Mode	41[1]			-	1.10 dBm 31070 GHz 49.17 dBm
GFSK/LCH/Hop	Spectru Ref Lev Att 1Pk View 20 dBm— 10 dBm— -10 dBm— -20 dBm— -30 dBm— -40 dBm—	m el 25.00 dB 30 d	m Offset IB SWT 1	51.7 µs 🖷	• VBW 300 kH	Hz Mode	41[1]			-	1.10 dBm 31070 GHz 49.17 dBm
GFSK/LCH/Hop	Spectru Ref Lev Att 1Pk View 20 dBm- 10 dBm- -10 dBm- -20 dBm- -30 dBm- -40 dBm- -60 dBm- -70 dBm- Stort 2.3	m el 25.00 dB 30 d	m Offset IB SWT 1	51.7 µs 🖷	• VBW 300 kH	radophin p.co.	41[1]			2.4	1.10 dBm 31070 GHz 49.17 dBm
GFSK/LCH/Hop	Spectru Ref Lev Att 1Pk View 20 dBm- 10 dBm- -10 dBm- -20 dBm- -20 dBm- -40 dBm- -40 dBm- -60 dBm- -70 dBm- Start 2.3 Marker	m el 25.00 dB 30 d 01 -18.90	m Offset B SWT 1 0 dBm 0 dBm M5	51.7 µs	600	narpshalaa	M3		Func	2.4	1.10 dBm 31070 GHz 49.17 dBm 00000 GHz
GFSK/LCH/Hop	Spectru Ref Lev Att 1Pk View 20 dBm 10 dBm -10 dBm -20 dBm -30 dBm -30 dBm -40 dBm -40 dBm -70 dBm -70 dBm Start 2.3 Marker Type R M1	m el 25.00 dB 30 d = D1 -18.90 = D1 -18.90 = 1 GHz ef Trc 1	m Offset B SWT 1 0 dBm M5 X-value 2.4310	51.7 µs =	• VBW 300 ki	tz Mode	41[1]		Func	2.4	1.10 dBm 31070 GHz 49.17 dBm 00000 GHz
GFSK/LCH/Hop	Spectru Ref Lev Att 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -20 dBm -30 dBm -40 dBm -60 dBm -60 dBm -70 dBm Type R Marker Type R M1 M2	m el 25.00 dB 30 d 0 D1 -18.90 D1 -18.90 1 GHz 1 GHz	m Offset B SWT 1 0 dBm 0 dBm X-value 2.4310 2	51.7 μs	VBW 300 ki	pts	M3		Func	2.4	31070 GHz 49.17 dBm 00000 GHz
GFSK/LCH/Hop	Spectru Ref Lev Att 1Pk View 20 dBm 10 dBm -10 dBm -20 dBm -30 dBm -30 dBm -40 dBm -40 dBm -70 dBm -70 dBm Start 2.3 Marker Type R M1	m el 25.00 dB 30 d = D1 -18.90 = D1 -18.90 = 1 GHz ef Trc 1	m Offset 15 SWT 1 0 d8m M5 0 value 2.4310 2.31 2.3	51.7 µs =	• VBW 300 ki	pts	M3		Func	2.4	1.10 dBm 31070 GHz 49.17 dBm 00000 GHz



	Spectrum						
	Ref Level Att	25.00 dBn 30 dB		RBW 100 kHz VBW 300 kHz	Mode Auto FF1		
	1Pk View		1	1 1	M1[1]		1.69 dBm
	20 dBm-						2.47999790 GHz
	10 dBm				M2[1]		-53.10 dBm 2.48350000 GHz
	0 dBm			MI			
	0 ubiii						
	-10 dBm	_		A			
	-20 dBm	01 -18.310	dBm			-	
	-30 d8m-						
	-30 0011				· · · · · · · · · · · · · · · · · · ·		
GFSK/HCH/No Hop	-40 dBm-			111		-	SA A
	Handlanen	Marine Strate	hours man white	man A hall Ba	and and and a subscription	MB MB	the second show which
	-60 dBm						
	-70 dBm			-			
	CF 2.4835	GHz		8001 p	ts		Span 60.0 MHz
	Marker Type Ref	Trc	X-value	Y-value	Function	Fund	tion Result
	M1	1	2.4799979 GHz	1.69 dBm			
	M2 M3	1	2.4835 GHz 2.5 GHz	-53.10 dBm -50.87 dBm			
	M4	1	2.5079275 GHz	-48.57 dBm			
	Date:21.0CT.2	021 05:11:					
	Spectrum						
	Ref Level Att 1Pk View		n Offset 9.80 dB	RBW 100 kHz VBW 300 kHz	Mode Auto FF1		1.97 dBn
	Ref Level Att	25.00 dBn	n Offset 9.80 dB 8 SWT 75.8 µs				1.97 dBn 2.4761500 GH: -51.04 dBn
	Ref Level Att 1Pk View 20 dBm	25.00 dBn	n Offset 9.80 dB 8 SWT 75.8 µs	VBW 300 kHz	M1[1]		1.97 dBn 2.4761500 GH: -51.04 dBn
	Ref Level Att 1Pk View 20 dBm 10 dBm	25.00 dBn	n Offset 9.80 dB 8 SWT 75.8 µs	VBW 300 kHz	M1[1]		1.97 dBm 2.4761500 GH; -51.04 dBn
	Ref Level Att PIPk View 20 dBm 10 dBm p dBm 10 dBm	25.00 dBn 30 dl	n Offset 9.80 dB 8 SWT 75.8 µs	VBW 300 kHz	M1[1]		1.97 dBn 2.4761500 GH: -51.04 dBn
	Ref Level Att 1Pk View 20 dBm 10 dBm JdBm -10 dBm -20 dBm	25.00 dBn 30 dt	n Offset 9.80 dB 8 SWT 75.8 µs	VBW 300 kHz	M1[1]		1.97 dBn 2.4761500 GH: -51.04 dBn
	Ref Level Att 1Pk View 20 dBm 10 dBm 7 dBm -10 dBm	25.00 dBn 30 dt	n Offset 9.80 dB 8 SWT 75.8 µs	VBW 300 kHz	M1[1]		1.97 dBn 2.4761500 GH: -51.04 dBn
GFSK/HCH/Hop	Ref Level Att 1Pk View 20 dBm 10 dBm JdBm -10 dBm -20 dBm	25.00 dBn 30 dt	n Offset 9.80 dB 8 SWT 75.8 µs	VBW 300 kHz	M1[1]		1.97 dBn 2.4761500 GH: -51.04 dBn
GFSK/HCH/Hop	Ref Level Att 1Pk View 20 dBm 10 dBm ABm -11 dBm -20 dBm -30 dBm	25.00 dBn 30 dt	n Offset 9.80 dB 8 SWT 75.8 µs	VBW 300 kHz	M1[1]	M3	1.97 dBn 2.4761500 GH -51.04 dBn
GFSK/HCH/Hop	Ref Level Att 1Pk View 20 dBm 10 dBm A dBm -10 dBm -20 dBm -30 dBm -40 dBm	25.00 dBn 30 dt	n Offset 9.80 dB 8 SWT 75.8 µs	VBW 300 kHz	M1[1]		
GFSK/HCH/Hop	Ref Level Att 1Pk View 20 dBm 10 dBm 10 dBm -20 dBm -30 dBm -40 dBm -50 dBm	25.00 dBn 30 dt	n Offset 9.80 dB 8 SWT 75.8 µs	VBW 300 kHz	M1[1]		1.97 dBm 2.4761500 GH; -51.04 dBn
GFSK/HCH/Hop	Ref Level Att 1Pk View 20 dBm 10 dBm -10 dBm -20 dBm -30 dBm -30 dBm -50 dBm -60 dBm	25.00 dBn 30 df	n Offset 9.80 dB 8 SWT 75.8 µs	VBW 300 kHz	M1[1] M2[1]		1.97 dBn 2.4761500 GH: -51.04 dBn
GFSK/HCH/Hop	Ref Level Att 1Pk View 20 dBm 10 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm CF 2.4835 0 Marker	25.00 dBn 30 df	n Offset 9.80 dB	600 pt	M1[1] M2[1] M4 M4 M4 M4	M3	1.97 dBn 2.4761500 GH; -51.04 dBn 2.4835000 GH;
GFSK/HCH/Hop	Ref Level Att 1Pk View 20 dBm 10 dBm pdgm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm CF 2.4835 0 Marker Type	25.00 dBn 30 df 01 -18.030 GHz	A Offset 9.80 dB SWT 75.8 µs C	VBW 300 kHz	M1[1] M2[1]	M3	1.97 dBn 2.4761500 GH2 -51.04 dBn 2.4835000 GH2
GFSK/HCH/Hop	Ref Level Att 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -30 dBm -50 dBm -60 dBm -70 dBm CF 2.4835 0 Marker Type M2	25.00 dBn 30 dl 01 -18.030 3Hz Trc 1 1	а Offset 9.80 dB а SWT 75.8 µs dBm dBm	VBW 300 kHz	M1[1] M2[1] M4 M4 M4 M4	M3	1.97 dBm 2.4761500 GHz -51.04 dBm 2.4835000 GHz
GFSK/HCH/Hop	Ref Level Att • 1Pk View 20 dBm 10 dBm • 1Pk View 20 dBm -10 dBm • 40 dBm -40 dBm -50 dBm -60 dBm -70 dBm CF 2.4835 0 Marker Type Ref M1	25.00 dBn 30 df 01 -18.030 01 -18.030 03Hz 1 Trc 1	а Offset 9.80 dB 3 SWT 75.8 µs dBm dBm x-value 2,47615 GHz	VBW 300 kHz	M1[1] M2[1] M4 M4 M4 M4	M3	1.97 dBn 2.4761500 GH; -51.04 dBn 2.4835000 GH;



	Spectrur	11									
	Ref Leve	el 25.00 dBn 30 dB			RBW 100 kH: VBW 300 kH:		e Auto	FFT			
	1Pk View				-						
	20 dBm-	-		-	+ +		M1[1]			2.40	-4.55 dBm 20240 GHz
	10 dBm					_	M2[1]			-	51.01 dBm
	0 dBm						1			2.11	GIUGUUU GH2
									K.		
	-10 dBm-										
	-20 dBm-	D1 -24.550	dBm-	-			_	_			
π/4DQPSK/LCH/No	-30 dBm				+ +			_			
	-40 dBm		M5				_	-	1		
Нор	ASA deguno	ANT, MAINING AND		wine with	-	hallbrack	M3	MP	Stand allera	-	Company de mar de
	-60 dBm-										
	-70 dBm-										
	Start 2.31	GHz			8001	ts				Ston	2.441 GHz
	Marker				0001					otop	LITTI GIL
	Type Re		X-value		Y-value		nction		Fun	ction Result	
	M1 M2	1	2.4020	24 GHZ 2.4 GHZ	-4.55 dBm -51.01 dBm			-			
	M3	1	2.	39 GHz	-51.35 dBm			1			
								1			
	M4 M5	1	2.34545	31 GHz 19 GHz	-51.81 dBm -47.62 dBm						
	M4 M5 Date:21.0CT Spectrum Ref Leve	1 2.2021 05:16:1	2.34545	9.84 dB	-47.62 dBm						(magaza)
	M4 M5 Date: 21.0CT	1 2021 05:16:1	2.34545	9.84 dB	-47.62 dBm		e Auto	FFT			(m A
	M4 M5 Date:21.0CT Spectrum Ref Leve	1 2.2021 05:16:1	2.34545	9.84 dB	-47.62 dBm	Mod	e Auto	FFT			-2.41 dBn
	M4 M5 Date: 21.0CT Spectrur Ref Leve Att 1Pk View 20 dBm	1 2.2021 05:16:1	2.34545	9.84 dB	-47.62 dBm	Mod		FFT			-2.41 dBn 29760 GH
	M4 M5 Date: 21.0CT Spectrur Ref Leve Att 1Pk View	1 2.2021 05:16:1	2.34545	9.84 dB	-47.62 dBm	Mod	M1[1]	FFT			-2:41 dBn 129760 GH 149.60 dBn 100000 GH
	M4 M5 Date: 21.0CT Spectrur Ref Leve Att 1Pk View 20 dBm	1 2.2021 05:16:1	2.34545	9.84 dB	-47.62 dBm	Mod	M1[1]			2.4	-2:41 dBn 29760 GH 49.60 dBn 00000 GH M1
	M4 M5 Date:21.0CT Spectrum Ref Leve Att 1Pk View 20 dBm- 10 dBm-	1 2.2021 05:16:1	2.34545	9.84 dB	-47.62 dBm	Mod	M1[1]		Madenana		-2:41 dBn 29760 GH 49.60 dBn 00000 GH M1
	M4 M5 Date:21.0CT Spectrum Ref Leve Att 1Pk View 20 dBm 10 dBm -10 dBm	1 2021 05:16:1 1 25.00 dBn 30 df	2.34545	9.84 dB	-47.62 dBm	Mod	M1[1]		Maderia	2.4	-2:41 dBn 29760 GH 49.60 dBn 00000 GH M1
	M4 M5 Date: 21.0 CT Spectrum Ref Leve Att 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm	1 2.2021 05:16:1	2.34545	9.84 dB	-47.62 dBm	Mod	M1[1]		Madenna	2.4	-2:41 dBm 29760 GHz 49.60 dBm 00000 GHz M1
	M4 M5 Date:21.0CT Spectrum Ref Leve Att 1Pk View 20 dBm 10 dBm -10 dBm	1 2021 05:16:1 1 25.00 dBn 30 df	2.34545	9.84 dB	-47.62 dBm	Mod	M1[1]		Madama	2.4	-2:41 dBm 29760 GHz 49.60 dBm 00000 GHz M1
r/4DQPSK/I.CH/Hop	M4 M5 Date: 21.0 CT Spectrum Ref Leve Att 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm	1 2021 05:16:1 1 25.00 dBn 30 df	2.34545	9.84 dB 151.7 µs	-47.62 dBm	Mod	M1[1] M2[1]		Madama	2.4	-2:41 dBm 29760 GHz 49.60 dBm 00000 GHz M1
1/4DQPSK/LCH/Hop	M4 M5 Date: 21.0 CT Spectrum Ref Leve Att 10 dBm 10 dBm -10 dBm -20 dBm -30 dBm	1 2021 05:16:1 1 25.00 dBn 30 df	2.34545	9.84 dB 151.7 µs 1	-47.62 dBm	Mod	M1[1]		Madquara	2.4	-2:41 dBm 29760 GHz 49.60 dBm 00000 GHz M1
r/4DQPSK/LCH/Hop	M4 M5 Date: 21.0 CT Spectrum Ref Leve Att 10 dBm 10 dBm 10 dBm -10 dBm -20 dBm -30 dBm -30 dBm	1 2021 05:16:1 1 25.00 dBn 30 df	2.34545	9.84 dB 151.7 µs 1	-47.62 dBm	Mod	M1[1] M2[1]		Mademan	2.4	-2:41 dBm 29760 GHz 49.60 dBm 00000 GHz M1
r/4DQPSK/LCH/Hop	M4 M5 Date: 21.0 CT Spectrur Ref Leve Att 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -60 dBm	1 2021 05:16:1 1 25.00 dBn 30 df	2.34545	9.84 dB 151.7 µs 1	-47.62 dBm	Mod	M1[1] M2[1]		Madama	2.4	29760 GHz 49.60 dBm 00000 GHz M1
r/4DQPSK/LCH/Hop	M4 M5 Date: 21.0 CT Spectrur Ref Leve Att 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -60 dBm -70 dBm	1 2021 05:16:1 1 25.00 dBn 30 dt	2.34545	9.84 dB 151.7 µs 1	-47.62 dBm	Mod	M1[1] M2[1]		Madama	2.4	-2.41 dBm 129760 GHz 49.60 dBm 00000 GHz M1 WWWWWW
r/4DQPSK/LCH/Hop	M4 M5 Date: 21.0 CT Spectrur Ref Leve Att 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -30 dBm -40 dBm -60 dBm -70 dBm Stort 2.31	1 2021 05:16:1 1 25.00 dBn 30 dt	2.34545	9.84 dB 151.7 µs 1	-47.62 dBm	Mod	M1[1] M2[1]		Mademan	2.4	-2:41 dBm 29760 GHz 49.60 dBm 00000 GHz M1
1/4DQPSK/LCH/Hop	M4 M5 Date: 21.0 CT Spectrur Ref Leve Att 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -60 dBm -70 dBm	1 2021 05:16:1 1 25.00 dBm 30 df	2.34545	9.84 dB 151.7 µs	-47.62 dBm	ts	M1[1] M2[1]			2.4	-2.41 dBm 129760 GH2 49.60 dBm M1 WWWWWWW
r/4DQPSK/LCH/Hop	M4 M5 Date: 21.0 CT Spectrur Ref Leve Att 10 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -40 dBm -50 dBm -70 dBm Start 2.31 Marker Type Re M1	1 2021 05:16:1 1 25.00 dBn 30 df	2.34545	9.84 dB 9.84 dB 151.7 µs 	-47.62 dBm	ts	M1[1] M2[1]			2.4 MMMM Stop	-2.41 dBm 129760 GHz 49.60 dBm M1 WWWWWW
τ/4DQPSK/LCH/Hop	M4 M5 Date: 21.0 CT Spectrum Ref Leve Att 10 dBm 10 dBm 10 dBm -10 dBm -10 dBm -30 dBm -30 dBm -30 dBm -30 dBm -30 dBm -30 dBm -70 dBm	1 2021 05:16:1 30 df 01 -22:410 01 -22:410 01 -22:410 01 -22:410 01 -22:410 01 -22:410	2.34545	9.84 dB 151.7 µs	-47.62 dBm	ts	M1[1] M2[1]			2.4 MMMM Stop	-2.41 dBm 129760 GHz 49.60 dBm M1 WWWWWW
τ/4DQPSK/LCH/Hop	M4 M5 Date: 21.0 CT Spectrur Ref Leve Att 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -60 dBm -70 dBm Stort 2.31 Marker Type M1	1 2021 05:16:1 1 25.00 dBn 30 df	2.34545	9.84 dB 4 151.7 µs 4 1	-47.62 dBm	ts	M1[1] M2[1]			2.4 MMMM Stop	-2.41 dBm 129760 GH2 49.60 dBm M1 WWWWWW



	Spectru	um						
	Ref Lev	vel 25.00 dB 30 d		• RBW 100 kHz • VBW 300 kHz	Mode Auto FFT			
	1Pk View	w	1	1 1				o co dom
	20 dBm-	-			M1[1]			-0.62 dBm /4300 GHz
	10 dBm-				M2[1]			i3.09 dBm i0000 GHz
	0 dBm			MI				
	-10 dBm-							
	-20 dBm-	D1 -20.62	0 dBm					
π/4DQPSK/HCH/No	-30 dBm-					-	-	_
	-40 dBm-			11		_		
Нор				and have		MB	M4	
	4-50VERCE	and a state of the state	nation and the second	terstore "hereigne	and the second	and the second second	and Construction	anika shika a
	-60 dBm-						-	
	-70 dBm-					_		
	CF 2.48	35 GHz		8001 pt	5		Span (60.0 MHz
	Marker Type	Ref Trc	X-value	Y-value	Function	Fund	tion Result	
	M1 M2	1	2.479743 GHz 2.4835 GHz	-0.62 dBm -53.09 dBm				
	M3	1	2.5 GHz	-50.82 dBm				
	M4	1	2.5038475 GHz	-48.45 dBm				
	Spectru			RBW 100 kHz				
	Spectru Ref Lev Att	um vel 25.00 dB 30 d	m Offset 9.80 dB	• RBW 100 kHz • VBW 300 kHz	Mode Auto FFT			
	Spectru Ref Lev	um vel 25.00 dB 30 d	m Offset 9.80 dB		Mode Auto FFT			-0.97 dBm
	Spectru Ref Lev Att 1Pk View 20 dBm-	um vel 25.00 dB 30 d	m Offset 9.80 dB				2.476	0.97 dBm 1500 GHz 1.08 dBm
	Spectru Ref Lev Att 1Pk View 20 dBm- 10 dBm-	um vel 25.00 dB 30 d	m Offset 9.80 dB B SWT 75.8 µs		M1[1]	1	2.476	0.97 dBm 1500 GHz 1.08 dBm
	Spectru Ref Lev Att 1Pk Viev 20 dBm- 10 dBm-	wel 25.00 dB 30 d	m Offset 9.80 dB dB SWT 75.8 µs	VBW 300 kHz	M1[1]		2.476	-0.97 dBm
	Spectru Ref Lev Att 1Pk Viev 20 dBm- 10 dBm- 0 dBm- -10 dBm-	um vel 25.00 dB 30 c	m Offset 9.80 dB B SWT 75.8 µs	VBW 300 kHz	M1[1]		2.476	0.97 dBm 1500 GHz 1.08 dBm
	Spectru Ref Lev Att 1Pk Viev 20 dBm- 10 dBm-	um vel 25.00 dB 30 c	m Offset 9.80 dB B SWT 75.8 µs	VBW 300 kHz	M1[1]		2.476	0.97 dBm 1500 GHz 1.08 dBm
	Spectru Ref Lev Att 1Pk Viev 20 dBm- 10 dBm- 0 dBm- -10 dBm-	um vel 25.00 dB 30 c	m Offset 9.80 dB B SWT 75.8 µs	VBW 300 kHz	M1[1]		2.476	0.97 dBm 1500 GHz 1.08 dBm
т/4DQPSK/HCH/Hop	Spectru Ref Lev Att 1Pk Viev 20 dBm- 10 dBm- 0 dBm- -10 dBm- -20. dBm-	um vel 25.00 dB 30 c	m Offset 9.80 dB B SWT 75.8 µs	VBW 300 kHz	M1[1]		2.476	0.97 dBm 1500 GHz 1.08 dBm
т/4DQPSK/HCH/Hop	Spectru Ref Lev Att 1Pk Viev 20 dBm- 10 dBm- 0 dBm- -10 dBm- -20 dBm- -30 dBm-	um vel 25.00 dB 30 c	m Offset 9.80 dB B SWT 75.8 µs	VBW 300 kHz	M1[1]	M4 M3	2.476	0.97 dBm 1500 GHz 1.08 dBm
т/4DQPSK/HCH/Hop	Spectru Ref Lev Att 1Pk Viev 20 dBm- 10 dBm- 0 dBm- -20 dBm- -30 dBm- -40 dBm-	um vel 25.00 dB 30 c	m Offset 9.80 dB B SWT 75.8 µs	• VBW 300 kHz	M1[1]		2.476	0.97 dBm 1500 GHz 1.08 dBm
т/4DQPSK/HCH/Hop	Spectru Ref Lev Att 19k Viev 20 dBm- 10 dBm- 0 dBm- -10 dBm- -20 dBm- -30 dBm- -50 dBm-	um vel 25.00 dB 30 c **	m Offset 9.80 dB B SWT 75.8 µs	• VBW 300 kHz	M1[1]		2.476	0.97 dBm 1500 GHz 1.08 dBm
т/4DQPSK/HCH/Hop	Spectru Ref Lev Att 19k Viev 20 dBm- 10 dBm- 0 dBm- -20 dBm- -30 dBm- -40 dBm- -50 dBm- -70 dBm-	um vel 25.00 dB 30 c ** • • • • • •	m Offset 9.80 dB B SWT 75.8 µs	VBW 300 kHz	M1[1] M2[1]		2.476 -5 2.483	-0.97 dBm 1500 GHz 1.08 dBm 55000 GHz
т/4DQPSK/HCH/Hop	Spectru Ref Lev Att 19k Viev 20 dBm- 10 dBm- 0 dBm- -10 dBm- -20 dBm- -30 dBm- -50 dBm-	um vel 25.00 dB 30 c ** • • • • • •	m Offset 9.80 dB B SWT 75.8 µs	• VBW 300 kHz	M1[1] M2[1]		2.476 -5 2.483	0.97 dBm 1500 GHz 1.08 dBm
π/4DQPSK/HCH/Hop	Spectru Ref Lev Att 1Pk Viev 20 dBm- 10 dBm- 0 dBm- -10 dBm- -20 dBm- -20 dBm- -30 dBm- -50 dBm- -50 dBm- -70 dBm- CF 2.483 Marker Type 1	um vel 25.00 dB 30 c w D1 -20.97 D1 -20.97 GHz Ref Trc	m Offset 9.80 dB B SWT 75.8 µs 0 dBm	• VBW 300 kHz	M1[1] M2[1]	M4 M3	2.476 -5 2.483	-0.97 dBm 1500 GHz 1.08 dBm 55000 GHz
π/4DQPSK/HCH/Hop	Spectru Ref Lev Att 1Pk Viev 20 dBm- 10 dBm- 0 dBm- -10 dBm- -20 dBm- -30 dBm- -40 dBm- -50 dBm- -60 dBm- -70 dBm- CF 2.48: Marker Type I M1 M2	um vel 25.00 dB 30 d w v v v v v v v v v v v v v v v v v v	m Offset 9.80 dB B SWT 75.8 µs 0 dBm 0 dBm 2.476.15 GHz 2.4835 GHz	• VBW 300 kHz	M1[1] M2[1]	M4 M3	2.476 -5 2.483	1500 GHz
π/4DQPSK/HCH/Hop	Spectru Ref Lev Att 10 dBm- 10 dBm- 0 dBm- -10 dBm- -20 dBm- -30 dBm- -30 dBm- -50 dBm- -60 dBm- -70 dBm- -70 dBm- -70 dBm- -70 dBm- -70 dBm-	um vel 25.00 dB 30 c w v 01 -20.97 01 -20.97 01 -30.97 01 -30.97 01 -30.97 01 -20.97	m Offset 9.80 dB B SWT 75.8 µs 0 dBm 0 dBm 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	• VBW 300 kHz	M1[1] M2[1]	M4 M3	2.476 -5 2.483	-0.97 dBm 1500 GHz 1.08 dBm 55000 GHz



	Spectrum	n									
	Ref Leve	1 25.00 dBn 30 dB			RBW 100 kH		e Auto	FFT			
	• 1Pk View										1.00.40
	20 dBm	-		-	-		M1[1]			2.40	-4.89 dBm 20900 GHz
	10 dBm			-		_	M2[1]				51.66 dBm 00000 GHz
	0 dBm-							TV	1		
	-10 dBm								·		
			_								
	-20 dBm-	D1 -24.890	dBm-				_				
	-30 dBm-										
BDPSK/LCH/No Hop	-40 dBm		MS				-	- 1	-		
•	4 50.d8m	and and a deal	and	A distant	Den and all a heat	a three a the	M3	MP	ALL MARKED	www.ite.	the short distant
	-60 dBm-										
	-70 dBm										
	Start 2.31 Marker	GHZ	_	_	8001	pts		_		Stop 2	2.441 GHz
	Type Re	f Trc	X-value		Y-value		nction	-	Fund	tion Result	
	M1 M2	1		09 GHz 2.4 GHz	-4.89 dBn -51.66 dBn		-	-			_
		1		39 GHz	-51.54 dBn	1		1			
	M3										
	M4 M5 Date:21.0CT	1 1 2021 07:25:	2. 2.34402 23	31 GHz 73 GHz	-50.70 dBn -47.20 dBn	1					
	M4 M5 Date:21.0CT Spectrum Ref Leve	1 2021 07:25:2	2.34402 23 n Offset	31 GHz 73 GHz 9.84 dB		2	le Auto	FFT			(m A
	M4 M5 Date: 21.0CT Spectrum Ref Leve Att 1Pk View	1 2021 07:25:2 11 25.00 dBn	2.34402 23 n Offset	31 GHz 73 GHz 9.84 dB	-47.20 dBn	z z Mod	e Auto	FFT			-1.70 dBm
	M4 M5 Date: 21.0 CT Spectrum Ref Leve Att 1Pk View 20 dBm	1 2021 07:25:2 11 25.00 dBn	2. 2.34402 23 m Offset	31 GHz 73 GHz 9.84 dB	-47.20 dBn	z z Mod	M1[1]	FFT			-1.70 dBm 37180 GHz
	M4 M5 Date: 21.0CT Spectrum Ref Leve Att 1Pk View	1 2021 07:25:2 11 25.00 dBn	2. 2.34402 23 m Offset	31 GHz 73 GHz 9.84 dB	-47.20 dBn	z z Mod		FFT		-	-1.70 dBm 37180 GHz 42.99 dBm 00000 GHz
	M4 M5 Date: 21.0 CT Spectrum Ref Leve Att 1Pk View 20 dBm	1 2021 07:25:2 11 25.00 dBn	2. 2.34402 23 m Offset	31 GHz 73 GHz 9.84 dB	-47.20 dBn	z z Mod	M1[1]			2.4	-1.70 dBm 37180 GHz 42,99 dBm 00000 GHz M1
	M4 M5 Date:21.0CT Spectrum Ref Leve Att 1Pk View 20 dBm 10 dBm	1 2021 07:25:2 11 25.00 dBn	2. 2.34402 23 m Offset	31 GHz 73 GHz 9.84 dB	-47.20 dBn	z z Mod	M1[1]		Willingtheast	2.4	-1.70 dBm 37180 GHz 42,99 dBm 00000 GHz M1
	M4 M5 Date:21.0CT Spectrum Ref Leve Att 10 dBm 10 dBm -10 dBm	1 2021 07:25:2 1 25:00 dBn 30 dl	2:34402 23 m Offset B SWT 1	31 GHz 73 GHz 9.84 dB	-47.20 dBn	z z Mod	M1[1]		meinginen	2.4	-1.70 dBm 37180 GHz 42,99 dBm 00000 GHz M1
	M4 M5 Date: 21.0 CT Spectrum Ref Leve Att 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm	1 2021 07:25:2 11 25.00 dBn	2:34402 23 m Offset B SWT 1	31 GHz 73 GHz 9.84 dB	-47.20 dBn	z z Mod	M1[1]		Wathrytham	2.4	-1.70 dBm 37180 GHz 42,99 dBm 00000 GHz M1
	M4 M5 Date:21.0CT Spectrum Ref Leve Att 10 dBm 10 dBm -10 dBm	1 2021 07:25:2 1 25:00 dBn 30 dl	2:34402 23 m Offset B SWT 1	31 GHz 73 GHz 9.84 dB	-47.20 dBn	z z Mod	M1[1]		menyina	2.4	-1.70 dBm 37180 GHz 42,99 dBm 00000 GHz M1
8DPSK/LCH/Hop	M4 M5 Date: 21.0 CT Spectrum Ref Leve Att 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm	1 2021 07:25:2 1 25:00 dBn 30 dl	2:34402 23 m Offset B SWT 1	31 GHz 73 GHz 9.84 dB	-47.20 dBn	z z Mod	M1[1]		mannyana	2.4	-1.70 dBm 37180 GHz 42,99 dBm 00000 GHz M1
8DPSK/LCH/Hop	M4 M5 Date:21.0CT Spectrum Ref Leve Att 10 dBm 10 dBm -10 dBm -20 dBm -30 dBm	1 2021 07:25:2 1 25:00 dBn 30 dl	2:34402 23 m Offset B SWT 1	31 GHz 73 GHz 9.84 dB	-47.20 dBn	z z Mod	M1[1]		Wingtrat	2.4	-1.70 dBm 37180 GHz 42,99 dBm 00000 GHz M1
8DPSK/LCH/Hop	M4 M5 Date: 21.0 CT Spectrum Ref Leve Att 10 dBm 10 dBm -10 dBm -20 dBm -30 dBm -40 dBm	1 2021 07:25:2 1 25:00 dBn 30 dl	2:34402 23 m Offset B SWT 1	31 GHz 73 GHz 9.84 dB	-47.20 dBn	z z Mod	M1[1] M2[1]		mengener	2.4	-1.70 dBm 37180 GHz 42,99 dBm 00000 GHz M1
8DPSK/LCH/Hop	M4 M5 Date: 21.0 CT Spectrum Ref Leve Att 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -30 dBm -40 dBm -60 dBm	1 2021 07:25:2 1 25:00 dBn 30 dl	2:34402 23 m Offset B SWT 1	31 GHz 73 GHz 9.84 dB	-47.20 dBn	z z Mod	M1[1] M2[1]		mennytada	2.4	37180 GHz 42.99 dBm 00000 GHz M1
8DPSK/LCH/Hop	M4 M5 Date: 21.0 CT Spectrum Ref Leve Att 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -30 dBm -40 dBm -60 dBm -70 dBm	1 2021 07:25:2 n 25.00 dBn 30 di	2:34402 23 m Offset B SWT 1	31 GHz 73 GHz 9.84 dB	-47.20 dBn	2 Z Mod	M1[1] M2[1]		Walk of the second	2.4 wanny 11	-1.70 dBm 37180 GHz 42.99 dBm 00000 GHz M1 WWw.lwWw
8DPSK/LCH/Hop	M4 M5 Date: 21.0 CT Spectrum Ref Leve Att 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -30 dBm -40 dBm -60 dBm	1 2021 07:25:2 n 25.00 dBn 30 di	2:34402 23 m Offset B SWT 1	31 GHz 73 GHz 9.84 dB	-47.20 dBn	2 Z Mod	M1[1] M2[1]		Julia yinak	2.4 wanny 11	-1.70 dBm 37180 GHz 42,99 dBm 00000 GHz M1
8DPSK/LCH/Hop	M4 M5 Date: 21.0 CT Spectrum Ref Leve Att 10 dBm 10 dBm 10 dBm -10 dBm -10 dBm -20 dBm -30 dBm -30 dBm -30 dBm -30 dBm -70 dBm -70 dBm -70 dBm -70 dBm -70 dBm -70 dBm -70 dBm	1 2021 07:25:2 n 25:00 dBn 30 db 30 db 	2: 2:34402 2:3 n Offset B SWT :: dBm dBm	9.84 dB	-47.20 dBn	z Mod	M1[1] M2[1]			2.4 wanny 11	-1.70 dBm 37180 GHz 42.99 dBm 00000 GHz M1 WWwwwwwww 2.441 GHz
8DPSK/LCH/Hop	M4 M5 Date: 21.0 CT Spectrum Ref Leve Att 10 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm 4 -50 dBm -70 dBm Start 2.31 Marker Type Re M1	1 2021 07:25:2 n 25:00 dBn 30 db 1 25:00 dBn 30 db 	2: 34402 23 n Offset 8 SWT 2 dBm dBm	9.84 dB	-47.20 dBn	2 z Mod	M1[1] M2[1]			2.4 wiawayay M	-1.70 dBm 37180 GHz 42.99 dBm 00000 GHz M1 WWwwwwwww 2.441 GHz
8DPSK/LCH/Hop	M4 M5 Date: 21.0 CT Ref Leve Att Date: 21.0 CT Ref Leve Date: 21.0 CT Ref Leve Att Date: 20 dBm -10 dBm -30 dBm -30 dBm -60 dBm -70 dBm Ref Leve Att Date: 20 dBm -70 dBm Ref Leve Ref Leve Att Date: 20 dBm -80 dBm -80 dBm -70 dBm Ref Leve Ref Leve Att Date: 20 dBm -60 dBm -70 dBm Ref Leve Att Date: 20 dBm -70 dB	1 2021 07:25:2 n el 25:00 dBn 30 dl D1 -21.700 c gHz f Trc 1 1 1	2: 2:34402 23 n Offset B SWT 1 2:3 dBm dBm dBm	9.84 dB 9.84 dB 151.7 µs 151.7 µs 16 GHz 18 GHz 24 GHz 39 GHz	-47.20 dBn	z Mod	M1[1] M2[1]			2.4 wiawayay M	-1.70 dBm 37180 GHz 42.99 dBm 00000 GHz M1 WWwwwwww W
8DPSK/LCH/Hop	M4 M5 Date: 21.0 CT Spectrum Ref Leve Att 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -30 dBm -40 dBm -40 dBm -50 dBm -60 dBm -70 dBm Stort 2.31 Marker Type M2	1 2021 07:25:2 1 25:00 dBn 30 di 1 25:00 dBn 30 di 1 1 1 1 1 1 1 1 1 1 1 1 1	2: 2:34402 23 n Offset 8 SWT 2 0 dBm dBm X-value 2:437 2: 2: 2: 2: 2:	9.84 dB	-47.20 dBn	z Mod	M1[1] M2[1]			2.4 wiawayay M	-1.70 dBm 37180 GHz 42.99 dBm 00000 GHz M1 WWwwwwww W



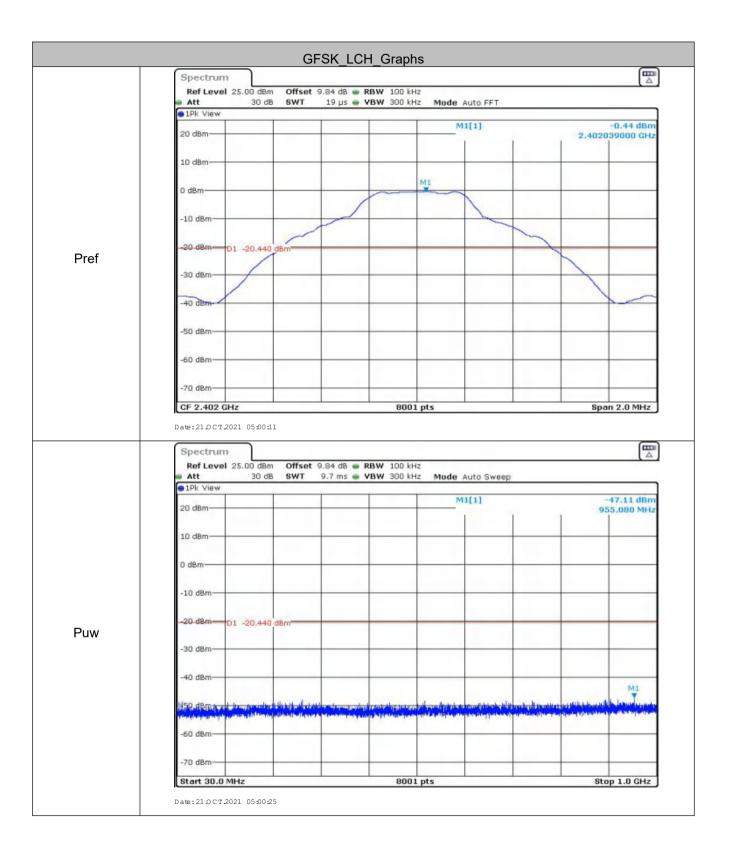
	Spectrum	n							
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	Att 1Pk View	30 di	B SWT 75.8 μs	VBW 300 kH;	z Mode .	Auto FFT			
					M	1[1]			-2.60 dBm
	20 dBm				M	2[1]			96040 GHz 52,40 dBm
	10 dBm					2[1]	<i>i</i>		50000 GHz
	0 dBm			M1					
	0.00			A					
	-10 dBm-								
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		D1 -22.600	dBm						
	-30 dBm								
8DPSK/HCH/No Hop	-40 dBm			1					
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	a second and a second	A MANA ANDA	man printer strand	Amon was	President and a state	uter Baranter	Antoinal Concerne	AC-Manual Analysis in	Stran ben a stand
	-60 dBm						-		
	-70 dBm								
	CF 2.4835	CH2		8001	nts			Snan	60.0 MHz
	Marker	GHZ		8001	pts	-		əpan	00.0 MHz
		f Trc	X-value	Y-value	Func	tion	Func	tion Result	
	M1 M2	1	2.4799604 GHz 2.4835 GHz	-2.60 dB -52.40 dB					
	M3	1	2.5 GHz	-49.50 dB					
	M4	1	2.4876925 GHz	-48.33 dB					
	M4 Date:21.0CT.	2021 07:44:	01						
	M4 Date:21.0CT.	2021 07:44:	01 m Offset 9.80 dB		z z Mode	Auto FFT			
	M4 Date: 21.0CT. Spectrum Ref Level Att	2021 07:44:0	01 m Offset 9.80 dB	RBW 100 kH;	z z Mode	Auto FFT			-0.86 dBm 71500 GHz
	M4 Date: 21.0 CT. Spectrum Ref Level Att 1Pk View 20 dBm	2021 07:44:0	01 m Offset 9.80 dB	RBW 100 kH;	z z Mode M			2.47	-0.86 dBm 71500 GHz 51.86 dBm
	M4 Date: 21.0 CT. Spectrum Ref Leve Att 1Pk View	2021 07:44:0	01 m Offset 9.80 dB	RBW 100 kH;	z z Mode M	1[1]	1 1	2.47	-0.86 dBm 71500 GHz
	M4 Date: 21.0 CT. Spectrum Ref Leve Att 1Pk View 20 dBm 10 dBm 0 dBm	2021 07:44: n l 25.00 dBn 30 dl	01 n Offset 9.80 dB 8 SWT 75.8 µs	RBW 100 kH VBW 300 kH	z z Mode M	1[1]		2.47	-0.86 dBm 71500 GHz 51.86 dBm
	M4 Date: 21.0 CT. Spectrum Ref Level Att 1Pk View 20 dBm 10 dBm	2021 07:44: n l 25.00 dBn 30 dl	01 m Offset 9.80 dB	RBW 100 kH VBW 300 kH	z z Mode M	1[1]		2.47	-0.86 dBm 71500 GHz 51.86 dBm
	M4 Date: 21.0 CT. Spectrum Ref Level Att 10 dBm 10 dBm 0 dBm -10 dBm	2021 07:44: n l 25.00 dBn 30 dl	01 n Offset 9.80 dB 8 SWT 75.8 µs	RBW 100 kH VBW 300 kH	z z Mode M	1[1]		2.47	-0.86 dBm 71500 GHz 51.86 dBm
	M4 Date: 21.0 CT. Spectrum Ref Level Att 10 dBm 10 dBm 0 dBm -10 dBm	2021 07:44: n l 25.00 dBn 30 dl	n Offset 9.80 dB SWT 75.8 µs	RBW 100 kH VBW 300 kH	z z Mode M	1[1]		2.47	-0.86 dBm 71500 GHz 51.86 dBm
	M4 Date: 21.0 CT. Spectrum Ref Level Att 10 dBm 10 dBm 0 dBm -10 dBm	2021 07;44 ±	n Offset 9.80 dB SWT 75.8 µs	RBW 100 kH VBW 300 kH	z z Mode M	1[1]		2.47	-0.86 dBm 71500 GHz 51.86 dBm
8DPSK/HCH/Hop	M4 Date: 21.0 CT. Spectrum Ref Level Att 10 dBm 10 dBm 0 dBm -20 dBm -30 dBm	2021 07;44 ±	n Offset 9.80 dB SWT 75.8 µs	RBW 100 kH VBW 300 kH	z z Mode M	1[1]		2.47	-0.86 dBm 71500 GHz 51.86 dBm
8DPSK/HCH/Hop	M4 Date: 21.0 CT. Spectrum Ref Level Att 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm	2021 07;44 ±	n Offset 9.80 dB SWT 75.8 µs	• RBW 100 kH	2 Mode . M	1[1]	M3	2.47	-0.86 dBm 71500 GHz 51.86 dBm
8DPSK/HCH/Hop	M4 Date: 21.0 CT. Spectrum Ref Level Att 10 dBm 10 dBm 0 dBm -20 dBm -30 dBm	2021 07;44 ±	n Offset 9.80 dB SWT 75.8 µs	RBW 100 kH VBW 300 kH	2 Mode . M	1[1]	MB	2.47	-0.86 dBm 71500 GHz 51.86 dBm 35000 GHz
8DPSK/HCH/Hop	M4 Date: 21.0 CT. Spectrum Ref Level Att 10 dBm 10 dBm 0 dBm -20 dBm -20 dBm -30 dBm -40 dBm	2021 07;44 ±	n Offset 9.80 dB SWT 75.8 µs	• RBW 100 kH	2 Mode . M	1[1]	MB	2.47	-0.86 dBm 71500 GHz 51.86 dBm 35000 GHz
8DPSK/HCH/Hop	M4 Date: 21.0 CT. Spectrum Ref Level Att 10 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm	2021 07;44 ±	n Offset 9.80 dB SWT 75.8 µs	• RBW 100 kH	2 Mode . M	1[1]	MB	2.47	-0.86 dBm 71500 GHz 51.86 dBm 35000 GHz
8DPSK/HCH/Hop	M4 Date: 21.0 CT. Spectrum Ref Level Att 10 dBm 10 dBm 0 dBm -20 dBm -20 dBm -30 dBm -40 dBm	2021 07;44 ±	n Offset 9.80 dB SWT 75.8 µs	• RBW 100 kH	2 Mode . M	1[1]	MB	2.47	-0.86 dBm 71500 GHz 51.86 dBm 35000 GHz
8DPSK/HCH/Hop	M4 Date : 21.0 CT. Spectrum Ref Level Att 10 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -30 dBm -50 dBm -60 dBm	2021 07:44:	n Offset 9.80 dB SWT 75.8 µs	• RBW 100 kH	Z Mode M	1[1]	M3	2.47	-0.86 dBm 71500 GHz 51.86 dBm 35000 GHz
8DPSK/HCH/Hop	M4 Date: 21.0 CT. Spectrum Ref Leve Att 10 dBm 10 dBm 0 dBm -20 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm CF 2.4835 Marker	2021 07:44:4 1 25.00 dBn 30 dB 30 dB 1 25.00 dBn 30 dBn 1 25.00 dBn 1	D1 n Offset 9.80 dB 8 SWT 75.8 µs 0 dBm	RBW 100 kH VBW 300 kH	2 2 Mode M 2 2 2 2 2 2 2 2 2 2 2 2 2	1[1] 2[1]	con the good on	2.47 2.48	-0.86 dBm 71500 GHz 51.86 dBm 35000 GHz
8DPSK/HCH/Hop	M4 Date: 21.0 CT. Spectrum Ref Level Att PIR View 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -30 dBm -50 dBm -70 dBm CF 2.4835	2021 07:44:4 1 25.00 dBn 30 dB 30 dB 1 25.00 dBn 30 dBn 1 25.00 dBn 1	n Offset 9.80 dB SWT 75.8 µs	RBW 100 kH	Z Mode M M M Zah Armo pts	1[1] 2[1]	con the good on	2.47	-0.86 dBm 71500 GHz 51.86 dBm 35000 GHz M4 ab-maxTax 60.0 MHz
8DPSK/HCH/Hop	M4 Date: 21.0 CT. Spectrum Ref Level Att IPk View 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -30 dBm -50 dBm -60 dBm -70 dBm CF 2.4835 Marker Type M1 M2	2021 07:44: 1 25.00 dBn 30 dl 30 dl 01 -20.860 GHz f Trc 1 1	D1 n Offset 9.80 dB 8 SWT 75.8 µs 0 dBm 0 dBm 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	RBW 100 kH: VBW 300 kH: VBW 300 kH: M	2 2 Mode M 2 M M P 1 1 1 1 1 1 1 1 1 1 1 1 1	1[1] 2[1]	con the good on	2.47 2.48	71500 GHz 51.86 dBm 35000 GHz M4 ab-bac 50.0 MHz
8DPSK/HCH/Hop	M4 Date: 21.0 CT. Spectrum Ref Level Att 10 dBm 10 dBm 0 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm CF 2.4835 Marker Type Re M1	2021 07:44: 1 25.00 dBn 30 dH 201 -20.860 GHz f Trc 1	D1 n Offset 9.80 dB SWT 75.8 µs 0 dBm 0 dBm 1 0 dBm 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	RBW 100 kH VBW 300 kH M	2 2 Mode M 2 2 2 2 2 2 2 2 2 3 3 4 4 4 4 4 4 4 4 4 4 4 4 4	1[1] 2[1]	con the good on	2.47 2.48	-0.86 dBm 71500 GHz 51.86 dBm 35000 GHz M4 ab-maxTax 60.0 MHz



5.9 Spurious RF Conducted Emissions

T (D)	
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 π /4DQPSK modulation type, 3-DH5 of data type is the worst case of 8DPSK modulation type.
Test Results:	Pass







1Pk View		110 ms 🖷 Vi		e hate sweep	
20 dBm				M1[1]	-0.4 2.401
10 dBm				M2[1]	-43.6 6.351
	M1				
0 dBm	The second secon				
-10 d8m-					
-20 d8m-(01 -20.440 dBm				
-30 dBm		_			
-40 dBm			MI2		
-50 demirant	the set of the participant	and the distant bushing the	A Statistics	int salit to a star later.	the strength with a state
	abilities with a straight			and a substant control of the	change of the other participation of the sec
-60 dBm					
-70 dBm					
Start 1.0 Gi			8001 pts		Stop 12.
Spectrum Ref Level		et 9.84 dB 👄 RE	3W 100 kHz		
Spectrum		et 9.84 dB 👄 RE 130 ms 🖷 VB		e Auto Sweep	
Spectrum Ref Level	25.00 dBm Offs				
Spectrum Ref Level Att	25.00 dBm Offs			e Auto Sweep	-43.8 16.441
Spectrum Ref Level Att 1Pk View 20 dBm	25.00 dBm Offs				
Spectrum Ref Level Att 1Pk View	25.00 dBm Offs				
Spectrum Ref Level Att 1Pk View 20 dBm	25.00 dBm Offs				
Spectrum Ref Level Att 1Pk View 20 dBm 10 dBm	25.00 dBm Offs				
Spectrum Ref Level Att 1Pk View 20 dBm 10 dBm	25.00 dBm Offs				
Spectrum Ref Level Att 1Pk View 20 dBm 10 dBm -10 dBm	25.00 dBm Offs 30 dB SWT				
Spectrum Ref Level Att 1Pk View 20 dBm 10 dBm -10 dBm	25.00 dBm Offs				
Spectrum Ref Level Att 1Pk View 20 dBm 10 dBm -10 dBm	25.00 dBm Offs 30 dB SWT				
Spectrum Ref Level Att 1Pk View 20 dBm 10 dBm -10 dBm -20 dBm -30 dBm	25.00 dBm Offs 30 dB SWT	130 ms • VI			
Spectrum Ref Level Att 1Pk View 20 dBm 10 dBm -10 dBm -20 dBm	25.00 dBm Offs 30 dB SWT				
Spectrum Ref Level Att 1Pk View 20 dBm 10 dBm -10 dBm -20 dBm -30 dBm	25.00 dBm Offs 30 dB SWT	130 ms • VI		M1[1]	
Spectrum Ref Level Att 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm	25.00 dBm Offs 30 dB SWT	130 ms • VI			
Spectrum Ref Level Att 1Pk View 20 dBm 10 dBm -10 dBm -20 dBm -30 dBm	25.00 dBm Offs 30 dB SWT	130 ms • VI		M1[1]	
Spectrum Ref Level Att 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm	25.00 dBm Offs 30 dB SWT	130 ms • VI		M1[1]	





			GESK_MC	H_Graphs				
	Spectrum Ref Level 2		fset 9.80 dB 🕳 I	RBW 100 kHz				
	Att	30 dB SV	VT 19 µs 🖷 '	BW 300 kHz M	ode Auto FFT			
	1Pk View				M1[1]			0.74 dBm
	20 dBm						2.4409	97000 GHz
	10 dBm					-		
				MI				
	0 dBm		/		-			
	10.10							
	-10 dBm							
	-20 dBm-01	-19.260 dBm=						
Pref	20 0011	1						
	-30 dBm	/						
								-
	-40 dBm					-		
	-50 dBm					-		
	-60 dBm							
	-70 dBm							
	CF 2.441 GHz	7		0001			Snat	n 2.0 MHz
	Date: 21.0 CT.202			8001 pts			opu	
		21 05:07:03	fset 9.80 dB		ode Auto Swe	ер	opo.	
	Date: 21.0CT.202 Spectrum Ref Level 2	21 05:07:03		RBW 100 kHz		ер		
	Date: 21.0 CT.202 Spectrum Ref Level 2 Att	21 05:07:03		RBW 100 kHz	ode Auto Swe	ep		(Ⅲ) △
	Date: 21.0CT.202 Spectrum Ref Level 2 Att 1Pk View	21 05:07:03		RBW 100 kHz		ep		
	Date: 21.0CT.202 Spectrum Ref Level 2 Att 1Pk View	21 05:07:03		RBW 100 kHz		ep		(Ⅲ) △
	Date: 21.0CT.202 Spectrum Ref Level 2 Att 1Pk View 20 dBm	21 05:07:03		RBW 100 kHz		ep		(Ⅲ) △
	Date: 21.0CT.202 Spectrum Ref Level 2 Att 1Pk View 20 dBm	21 05:07:03		RBW 100 kHz		ep		(Ⅲ) △
	Date: 21.0 CT.202 Spectrum Ref Level 2 Att Drk View 20 dBm 0 dBm 0 dBm	21 05:07:03		RBW 100 kHz		ep		(Ⅲ) △
	Date: 21.0 CT.202 Spectrum Ref Level 2 Att 1Pk View 20 dBm 10 dBm	21 05:07:03		RBW 100 kHz		ep		(Ⅲ) △
	Date: 21.0 CT.202 Spectrum Ref Level 2 Att DPk View 20 dBm 10 dBm -10 dBm	21 05:07:03		RBW 100 kHz		ep		(Ⅲ) △
Puw	Date: 21.0 CT.202 Spectrum Ref Level 2 Att Drk View 20 dBm 0 dBm 0 dBm	21 05:07:03		RBW 100 kHz		ep		(Ⅲ) △
Puw	Date: 21.0 CT.202 Spectrum Ref Level 2 Att DPk View 20 dBm 10 dBm -10 dBm	21 05:07:03		RBW 100 kHz		ep		(Ⅲ) △
Puw	Date: 21.0 CT.202 Spectrum Ref Level 2 Att D1Pk View 20 dBm 10 dBm -10 dBm -20 dBm 01	21 05:07:03		RBW 100 kHz		ep		(Ⅲ) △
Puw	Date: 21.0 CT.202 Spectrum Ref Level 2 Att D1Pk View 20 dBm 10 dBm -10 dBm -20 dBm 01	21 05:07:03		RBW 100 kHz		ep	88	(Ⅲ) △
Puw	Date: 21.0 CT.202 Spectrum Ref Level 2 Att 10 dBm 10 dBm -10 dBm -20 dBm -30 dBm -40 dBm	21 05:07:03	VT 9.7 ms • 1	RBW 100 kHz M	M1[1]	ep	88	(Ⅲ) △
Puw	Date: 21.0 CT.202 Spectrum Ref Level 2 Att 10 dBm 10 dBm -10 dBm -20 dBm -30 dBm -40 dBm	21 05:07:03	VT 9.7 ms • 1	RBW 100 kHz M	M1[1]			(Ⅲ) △
Puw	Date: 21.0 CT.202 Spectrum Ref Level 2 Att D1Pk View 20 dBm 10 dBm 10 dBm -10 dBm -20 dBm -10 dBm -30 dBm -40	21 05:07:03	VT 9.7 ms • 1	RBW 100 kHz	M1[1]		88	(Ⅲ) △
Puw	Date: 21.0 CT.202 Spectrum Ref Level 2 Att 10 dBm 10 dBm -10 dBm -20 dBm -30 dBm -40 dBm	21 05:07:03	VT 9.7 ms • 1	RBW 100 kHz M VBW 300 kHz M	M1[1]		88	(Ⅲ) △
Puw	Date: 21.0 CT.202 Spectrum Ref Level 2 Att 10 dBm 10 dBm 10 dBm -10 dBm -20 dBm -10 dBm -20 dBm -40 dBm -40 dBm -40 dBm -40 dBm	21 05:07:03	VT 9.7 ms • 1	RBW 100 kHz M VBW 300 kHz M	M1[1]		88	(Ⅲ) △
Puw	Date: 21.0 CT.202 Spectrum Ref Level 2 Att D1Pk View 20 dBm 10 dBm 10 dBm -10 dBm -20 dBm -10 dBm -30 dBm -40	21 05:07:03	VT 9.7 ms • 1	RBW 100 kHz M VBW 300 kHz M	M1[1]		BB M1	(Ⅲ) △



●1Pk Yiew	30 d£	B SWT		DIT COO MIL	Mode Auto Swe	10K		
20 dBm-					M1[1]		2.	1.00 44150
an star					M2[1]		-	42,65
10 dBm-			-			-	6.	40925
	M1							
0 dBm-								
10.10								
-10 dBm—								
-20 dBm-	D1 -19-260	dBm		-				
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-40 dBm-				T				
-50 dament	N North Party Laure	and tolking	AL Jun altin at	the state of the state of the state	and the second second	and an instantion of the	L. COLLEGE L.	La L
	a succession of the second second	and have a state of the state	The seal of the seal	10	Segurity survey being	His an an inconstant of	her stilles side as	the state of
-60 dBm-			-					
-70 dBm-						_		
Start 1.0	GHz			8001 pt	5	_	Ston	12.0 0
	m el 25.00 dBm	n Offset		RBW 100 kHz	Made Auto Swe	100		
Spectru Ref Lev Att	m el 25.00 dBn 30 dE	n Offset		RBW 100 kHz /BW 300 kHz	Mode Auto Swe	зер		
Spectru Ref Lev Att	m el 25.00 dBn 30 dE	n Offset			Mode Auto Swe	зер		44.00 (
Spectru Ref Lev Att	m el 25.00 dBn 30 dE	n Offset				eep		44.00 (96230
Spectru Ref Lev Att 1Pk View 20 dBm—	m el 25.00 dBn 30 dE	n Offset				eep		
Spectru Ref Lev Att	m el 25.00 dBn 30 dE	n Offset				eep		
Spectru Ref Lev Att 1Pk View 20 dBm—	m el 25.00 dBn 30 dE	n Offset				eep		
Spectru Ref Lev Att 1Pk View 20 dBm— 10 dBm—	m el 25.00 dBn 30 dE	n Offset				зер		
Spectru Ref Lev Att 1Pk View 20 dBm— 10 dBm—	m el 25.00 dBn 30 dE	n Offset						
Spectru Ref Lev Att 1Pk View 20 dBm- 10 dBm- 0 dBm- -10 dBm-	n dei 25.00 den30 de	n Offset (B SWT						
Spectru Ref Lev Att 1Pk View 20 dBm- 10 dBm- 0 dBm- -10 dBm-	m el 25.00 dBn 30 dE	n Offset (B SWT						
Spectru Ref Lev Att 1Pk View 20 dBm- 10 dBm- -10 dBm- -20 dBm-	n dei 25.00 den30 de	n Offset (B SWT						
Spectru Ref Lev Att 1Pk View 20 dBm- 10 dBm- 0 dBm- -10 dBm-	n dei 25.00 den30 de	n Offset (B SWT						
Spectru Ref Lev Att 1Pk View 20 dBm- 10 dBm- -10 dBm- -20 dBm-	n dei 25.00 den30 de	n Offset (B SWT						
Spectru Ref Lev Att 1Pk View 20 dBm- 10 dBm- -10 dBm- -20 dBm- -30 dBm-	n dei 25.00 den30 de	n Offset (B SWT						
Spectru Ref Lev Att 1Pk View 20 dBm- 10 dBm- -10 dBm- -20 dBm- -30 dBm-	n dei 25.00 den30 de	n Offset (B SWT						
Spectru Ref Lev Att 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm	n dei 25.00 den30 de	n Offset (B SWT						
Spectru Ref Lev Att 1Pk View 20 dBm- 10 dBm- -10 dBm- -20 dBm- -30 dBm-	n el 25.00 dBn 30 dE	n Offset (B SWT						
Spectru Ref Lev Att 1Pk View 20 dBm 10 dBm -10 dBm -20 dBm -30 dBm -40 dBm -60 dBm	n el 25.00 dBn 30 dE	n Offset (B SWT						
Spectru Ref Lev Att 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm	D1 -19.260	n Offset (B SWT			M1[1]		19.	





	GFS	SK_HCH_Graphs	
	Spectrum Ref Level 25.00 dBm Offset 9.	80 dB 🖷 RBW 100 kHz	
		19 µs 🖶 VBW 300 kHz Mode Auto FFT	
	• 1Pk View		
	20 dBm	M1[1]	1.65 dBm 2.480001500 GHz
	10 dBm	MI	
	0 dBm		
	-10 dBm		
	-20 dBm D1 -18.350 dBm		
Pref	-Lo doni		
	-30 dBm		
	10.00		
	-40 dBm		
	-50 dBm		
	-60 dBm		
	-70 dBm		
	CF 2.48 GHz	8001 pts	Span 2.0 MHz
	Date:21.0CT.2021 05:11:58	6001 pts	apan 2.0 Minz
	Date: 21.0 CT.2021 05:11:58		
	Date: 21.0 CT.2021 05:11:58 Spectrum Ref Level 25.00 dBm Offset 9. Att 30 dB SWT 9	80 dB • RBW 100 kHz 7 ms • VBW 300 kHz Mode Auto Sweep	
	Date: 21.0 CT.2021 05:11:58 Spectrum Ref Level 25.00 dBm Offset 9. Att 30 dB SWT 9 10/100/10	S0 dB ⊜ RBW 100 kHz	-47.96 dBm
	Date: 21.0 CT.2021 05:11:58 Spectrum Ref Level 25.00 dBm Offset 9. Att 30 dB SWT 9	80 dB e RBW 100 kHz .7 ms e VBW 300 kHz Mode Auto Sweep	
	Date: 21.0 CT.2021 05:11:58 Spectrum Ref Level 25.00 dBm Offset 9. Att 30 dB SWT 9 10/100/10	80 dB e RBW 100 kHz .7 ms e VBW 300 kHz Mode Auto Sweep	-47.96 dBm
	Date: 21.0 CT.2021 05:11:58 Spectrum Ref Level 25.00 dBm Offset 9. Att 30 dB SWT 9 10 dBm 10 dBm	80 dB e RBW 100 kHz .7 ms e VBW 300 kHz Mode Auto Sweep	-47.96 dBm
	Date: 21.0 CT.2021 05:11:58 Spectrum Ref Level 25.00 dBm Offset 9. Att 30 dB SWT 9 1Pk View 20 dBm	80 dB e RBW 100 kHz .7 ms e VBW 300 kHz Mode Auto Sweep	-47.96 dBm
	Date: 21.0 CT.2021 05:11:58 Spectrum Ref Level 25.00 dBm Offset 9. Att 30 dB SWT 9 10 dBm 10 dBm	80 dB e RBW 100 kHz .7 ms e VBW 300 kHz Mode Auto Sweep	-47.96 dBm
	Date: 21.0 CT.2021 05:11:58	80 dB e RBW 100 kHz .7 ms e VBW 300 kHz Mode Auto Sweep	-47.96 dBm
Piny	Date: 21.0 CT.2021 05:11:58	80 dB e RBW 100 kHz .7 ms e VBW 300 kHz Mode Auto Sweep	-47.96 dBm
Puw	Date: 21.0 CT.2021 05:11:58	80 dB e RBW 100 kHz .7 ms e VBW 300 kHz Mode Auto Sweep	-47.96 dBm
Puw	Date: 21.0 CT.2021 05:11:58	80 dB e RBW 100 kHz .7 ms e VBW 300 kHz Mode Auto Sweep	-47.96 dBm
Puw	Date: 21.0 CT.2021 05:11:58	80 dB • RBW 100 kHz .7 ms • VBW 300 kHz Mode Auto Sweep 	-47.96 dBm 769.840 MHz
Puw	Date: 21.0 CT.2021 05:11:58	S0 dB • RBW 100 kHz .7 ms • VBW 300 kHz Mode Auto Sweep	-47.96 dBm 769.840 MHz
Puw	Date: 21.0 CT.2021 05:11:58	S0 dB • RBW 100 kHz .7 ms • VBW 300 kHz Mode Auto Sweep M1[1]	-47.96 dBm 769.840 MHz
Puw	Date: 21.0 CT.2021 05:11:58	S0 dB • RBW 100 kHz .7 ms • VBW 300 kHz Mode Auto Sweep M1[1]	-47.96 dBm 769.840 MHz
Puw	Date: 21.0 CT.2021 05:11:58	S0 dB • RBW 100 kHz .7 ms • VBW 300 kHz Mode Auto Sweep M1[1]	-47.96 dBm 769.840 MHz
Puw	Date: 21.0 CT.2021 05:11:58	S0 dB • RBW 100 kHz .7 ms • VBW 300 kHz Mode Auto Sweep M1[1]	-47.96 dBm 769.840 MHz



1Pk View	1				Mode A	are encep			
20 dBm—					_	[1] (1]			1.29 48000 43.49
10 dBm-									68425
	MI								
0 dBm									
-10 dBm—									
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-30 dBm—					-	-			
-40 dBm-	_			M	2				
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-70 dBm-									
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	r.2021 05:12:2	25							
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Spectru Ref Lev Att	m el 25.00 dBn 30 dB	Offset 9			Mode A	uto Sweep			
Spectru Ref Lev Att	m el 25.00 dBn 30 dB	Offset 9		BW 100 kHz		uto Sweep			
Spectru Ref Lev Att	m el 25.00 dBn 30 dB	Offset 9		BW 100 kHz					
Spectru Ref Lev Att	m el 25.00 dBn 30 dB	Offset 9		BW 100 kHz					
Spectru Ref Lev Att 1Pk View 20 dBm— 10 dBm—	m el 25.00 dBn 30 dB	Offset 9		BW 100 kHz					
Spectru Ref Lev Att 1Pk View 20 dBm—	m el 25.00 dBn 30 dB	Offset 9		BW 100 kHz					
Spectru Ref Lev Att 1Pk View 20 dBm— 10 dBm—	m el 25.00 dBn 30 dB	Offset 9		BW 100 kHz					
Spectru Ref Lev 1Pk View 20 dBm- 10 dBm- 0 dBm-	m el 25.00 dBn 30 dB	SWT 1		BW 100 kHz					44.44 d 76710 (
Spectru Ref Lev Att 1Pk View 20 dBm- 10 dBm- -10 dBm- -20 dBm-	m	SWT 1		BW 100 kHz					
Spectru Ref Lev Att 1Pk View 20 dBm- 10 dBm- -10 dBm-	m	SWT 1		BW 100 kHz					
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Spectru Ref Lev Att 1Pk View 20 dBm- 10 dBm- -10 dBm- -20 dBm- -30 dBm-	m	SWT 1		BW 100 kHz					
Spectru Ref Lev Att 1Pk View 20 dBm- 10 dBm- -10 dBm- -20 dBm- -30 dBm- -40 dBm-	m	SWT 1		BW 100 kHz					





		π/4DQPSK	LCH_Graphs		
	Spectrum Ref Level 25.00 (dBm Offset 9.84 dB (PRW 100 kus		
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	o dom		M1		
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	-40 dBm				~
	50 JB-				
	-50 dBm				
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	-70 dBm				
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	Date:21.0CT.2021 05:	16:44	·		
	Spectrum Ref Level 25.00	dBm Offset 9.84 dB (RBW 100 kHz	e Auto Sween	
	Spectrum Ref Level 25.00	dBm Offset 9.84 dB (
	Spectrum Ref Level 25.00 (Att 30	dBm Offset 9.84 dB (RBW 100 kHz	e Auto Sweep	-47.88 dBm
	Spectrum Ref Level 25.00 Att 30	dBm Offset 9.84 dB (RBW 100 kHz		
	Spectrum Ref Level 25.00 Att 30	dBm Offset 9.84 dB (RBW 100 kHz		-47.88 dBm
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	Spectrum Ref Level 25.00 (Att 30 1Pk View 20 dBm	dBm Offset 9.84 dB (RBW 100 kHz		-47.88 dBm
	Spectrum Ref Level 25.00 (Att 30 1Pk View 20 dBm 10 dBm	dBm Offset 9.84 dB (RBW 100 kHz		-47.88 dBm
	Spectrum Ref Level 25.00 (Att 30 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm	dBm Offset 9.84 dB (RBW 100 kHz		-47.88 dBm
Puw	Spectrum Ref Level 25.00 (Att 30 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm	dBm Offset 9.84 dB e 0 dB SWT 9.7 ms e	RBW 100 kHz		-47.88 dBm
Puw	Spectrum Ref Level 25.00 (Att 30 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm	dBm Offset 9.84 dB e 0 dB SWT 9.7 ms e	RBW 100 kHz		-47.88 dBm
Puw	Spectrum Ref Level 25.00 (Att 30 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm	dBm Offset 9.84 dB e 0 dB SWT 9.7 ms e	RBW 100 kHz		-47.88 dBm
Puw	Spectrum Ref Level 25.00 (Att 30 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm	dBm Offset 9.84 dB e 0 dB SWT 9.7 ms e	RBW 100 kHz VBW 300 kHz Mod	M1[1]	-47.88 dBm
Puw	Spectrum Ref Level 25.00 (Att 30 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm	dBm Offset 9.84 dB e 0 dB SWT 9.7 ms e	RBW 100 kHz VBW 300 kHz Mod	M1[1]	-47.88 dBm
Puw	Spectrum Ref Level 25.00 (Att 30 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm	dBm Offset 9.84 dB e 0 dB SWT 9.7 ms e	RBW 100 kHz VBW 300 kHz Mod	M1[1]	-47.88 dBm
Puw	Spectrum Ref Level 25.00 (Att 30 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm	dBm Offset 9.84 dB e 0 dB SWT 9.7 ms e	RBW 100 kHz VBW 300 kHz Mod	M1[1]	-47.88 dBm 626.290 MHz
Puw	Spectrum Ref Level 25.00 (Att 30 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -30 dBm -40 dBm -60 dBm	dBm Offset 9.84 dB e 0 dB SWT 9.7 ms e	RBW 100 kHz VBW 300 kHz Mod	M1[1]	-47.88 dBm 626.290 MHz
Puw	Spectrum Ref Level 25.00 (Att 30 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -40 dBm	dBm Offset 9.84 dB e 0 dB SWT 9.7 ms e	RBW 100 kHz VBW 300 kHz Mod	M1[1]	-47.88 dBm 626.290 MHz



●1Pk View	30 de	SWT		VBW 300 kHz		uto Sweep		
20 dBm-					M1	[1]	2	-6.37
					M2	[1]	-	43,33
10 dBm-	_						6	.98813
0 dBm	-						-	
	MI							
-10 dBm-			-				_	-
-20 dBm-							_	-
-	D1 -24.550	dBm	-					-
-30 dBm-				+ +				-
-40 dBm-					M2			-
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59 dBhitter	-	all the second states		A Contractor Ale	diameter Harrison	الادر الرار وترا والملاحة أأه	and the second states in the	-inder
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-70 dBm-				+ +			_	-
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Spectrue Ref Leve	m el 25.00 dBm 30 dB	Offset						-43.46 d
Spectrum Ref Leve Att 1Pk View	m el 25.00 dBm 30 dB	Offset			Mode At			
Spectrum Ref Leve Att 1Pk View	m el 25.00 dBm 30 dB	Offset			Mode At			
Spectrum Ref Leve Att 1Pk View 20 dBm-	m el 25.00 dBm 30 dB	Offset			Mode At			
Spectrum Ref Leve Att 1Pk View 20 dBm-	m el 25.00 dBm 30 dB	Offset			Mode At			
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Spectrum Ref Levi Att 1Pk View 20 dBm- 10 dBm-	m el 25.00 dBm 30 dB	Offset			Mode At			
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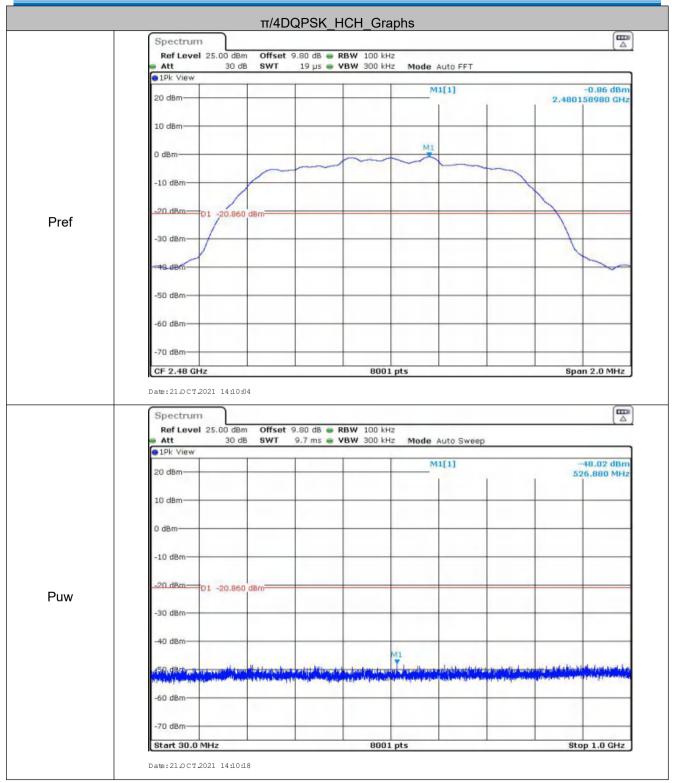
	π/4DQPSK	_MCH_Graphs	
	Spectrum		
	Ref Level 25.00 dBm Offset 9.80 dB Att 30 dB SWT 19 μs	BBW 100 kHz VBW 300 kHz Mode Auto FFT	
	• 1Pk View		
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	Date: 21.0 CT.2021 07:09:14 Spectrum Ref Level 25.00 dBm Offset 9.80 dB	RBW 100 kHz	
	Date: 21.0 CT.2021 07:09:14 Spectrum Ref Level 25.00 dBm Offset 9.80 dB	RBW 100 kHz VBW 300 kHz Mode Auto Sweep	
	Date: 21.0 CT.2021 07:09:14 Spectrum Ref Level 25.00 dBm Offset 9.80 dB Att 30 dB SWT 9.7 ms	RBW 100 kHz	-47.87 dBm
	Date: 21.0 CT.2021 07:09:14 Spectrum Ref Level 25.00 dBm Offset 9.80 dB Att 30 dB SWT 9.7 ms 1Pk View	RBW 100 kHz VBW 300 kHz Mode Auto Sweep	
	Date: 21.0 CT.2021 07:09:14 Spectrum Ref Level 25.00 dBm Offset 9.80 dB Att 30 dB SWT 9.7 ms 1Pk View	RBW 100 kHz VBW 300 kHz Mode Auto Sweep	-47.87 dBm
	Date: 21.0 CT.2021 07:09:14	RBW 100 kHz VBW 300 kHz Mode Auto Sweep	-47.87 dBm
	Date: 21.0 CT.2021 07:09:14 Spectrum Ref Level 25.00 dBm Offset 9.80 dB Att 30 dB SWT 9.7 ms 1Pk View 20 dBm	RBW 100 kHz VBW 300 kHz Mode Auto Sweep	-47.87 dBm
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	Date: 21.0 CT.2021 07:09:14	RBW 100 kHz VBW 300 kHz Mode Auto Sweep	-47.87 dBm
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Puw	Date: 21.0 CT.2021 07:09:14	RBW 100 kHz VBW 300 kHz Mode Auto Sweep	-47.87 dBm
Puw	Date: 21.0 CT.2021 07:09:14	RBW 100 kHz VBW 300 kHz Mode Auto Sweep	-47.87 dBm
Puw	Date: 21.0 CT.2021 07:09:14	RBW 100 kHz Mode Auto Sweep VBW 300 kHz Mode Auto Sweep	-47.87 dBm
Puw	Date: 21.0 CT.2021 07:09:14 Spectrum Ref Level 25:00 dBm Offset 9:80 dB Att 30 dB SWT 9.7 ms 10 dBm 0 dBm -10 dBm 0 -30 dBm 0 -30 dBm	RBW 100 kHz Mode Auto Sweep VBW 300 kHz Mode Auto Sweep	-47.87 dBm 620.230 MHz
Puw	Date: 21.0 CT.2021 07:09:14	RBW 100 kHz Mode Auto Sweep VBW 300 kHz Mode Auto Sweep	-47.87 dBm 620.230 MHz
Puw	Date: 21.0 CT.2021 07:09:14 Spectrum Ref Level 25:00 dBm Offset 9:80 dB Att 30 dB SWT 9.7 ms 10 dBm 0 dBm -10 dBm 0 -30 dBm 0 -30 dBm	RBW 100 kHz Mode Auto Sweep VBW 300 kHz Mode Auto Sweep	-47.87 dBm 620.230 MHz
Puw	Date: 21.0 CT.2021 07:09:14 Spectrum Ref Level 25:00 dBm Att 30 dB SWT 9.7 ms 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -60 dBm	RBW 100 kHz Mode Auto Sweep VBW 300 kHz Mode Auto Sweep	-47.87 dBm 620.230 MHz
Puw	Date: 21.0 CT.2021 07:09:14 Spectrum Ref Level 25:00 dBm Att 30 dB SWT 9.80 dB Att 30 dB SWT 9.7 ms IPk View 20 dBm 10 dBm 10 dBm -10 dBm 10 dBm -20 dBm 11 -23.460 dBm -30 dBm -40 dBm -40 dBm -40 dBm	RBW 100 kHz Mode Auto Sweep VBW 300 kHz Mode Auto Sweep	-47.87 dBm 620.230 MHz



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10 dBm					1 1	6.934	50
0 dBm							
	MI						
-10 dBm							
-20 dBm-		_		_			_
-30 dBm	1 -23.460 dBm						
-30 0811							
-40 dBm			M2				-
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-70 dBm							_
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Spectrum Ref Level 2	25.00 dBm Offs	et 9.80 dB 🖷 1		de Auto Swee			0
Spectrum Ref Level 3				de Auto Swee	p		
Spectrum Ref Level 2 Att 1Pk View	25.00 dBm Offs			de Auto Swee	p	-44.0	
Spectrum Ref Level 3	25.00 dBm Offs				P	-44.0 19.923	
Spectrum Ref Level 2 Att 1Pk View	25.00 dBm Offs				P		
Spectrum Ref Level 2 Att 1Pk View 20 dBm	25.00 dBm Offs				P		
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Spectrum Ref Level 2 Att 1Pk View 20 dBm 10 dBm	25.00 dBm Offs				P		
Spectrum Ref Level 2 Att 1Pk View 20 dBm 10 dBm -10 dBm -20 dBm	25.00 dBm Offs 30 dB SW1						
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Spectrum Ref Level 2 Att 1Pk View 20 dBm 10 dBm -10 dBm -20 dBm	25.00 dBm Offs 30 dB SW1				P		
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Spectrum Ref Level 2 Att 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm D -30 dBm	25.00 dBm Offs 30 dB SW1				P	19.923	
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Spectrum Ref Level 2 Att 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm D -30 dBm	25.00 dBm Offs 30 dB SW1					19.923	
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0 dBm	MI							
-10 dBm—						-		
00 40-								
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-60 dBm								
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Spectru	m el 25.00 dBn 30 dE	n Offset (BW 100 kHz BW 300 kHz	Mode Auto Swe	ep		
Spectru Ref Lev Att	m el 25.00 dBn 30 dE	n Offset (Mode Auto Swe	ep		14.64 d
Spectru Ref Lev	m el 25.00 dBn 30 dE	n Offset (ep		
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Spectru Ref Lev Att 1Pk View 20 dBm- 10 dBm- -10 dBm- -20 dBm-	m	n Offset 9 8 SWT			M1[1]	ep		
Spectru Ref Lev 110 dBm 10 dBm 10 dBm -10 dBm -20 dBm -30 dBm	m	n Offset 9 8 SWT						
Spectru Ref Lev 1Pk View 20 dBm- 10 dBm- -10 dBm- -20 dBm- -30 dBm- -40 dBm-	m	n Offset 9 8 SWT			M1[1]			
Spectru Ref Lev 110 dBm 10 dBm 10 dBm -10 dBm -20 dBm -30 dBm	m	n Offset 9 8 SWT			M1[1]			
Spectru Ref Lev 1Pk View 20 dBm- 10 dBm- -10 dBm- -20 dBm- -30 dBm- -40 dBm-	m	n Offset 9 8 SWT			M1[1]			





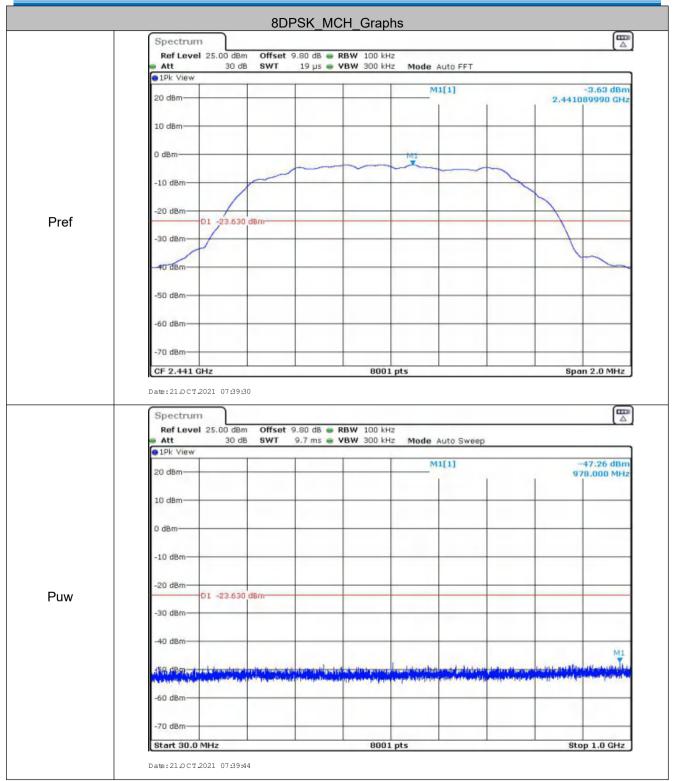
	Ref Level 25.1		B 🖷 RBW 100 kHz Is 🖷 VBW 300 kHz	Mode Auto FFT	
	1Pk View				
	20 d8m-			M1[1]	-4.92 dBm 2.402089990 GHz
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	0 d8m				
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	-10 dBm-				
	-20 d8m	/			
Pref		24.920 dBm			
	-30 dBm				
	-+0 dBm				
	-50 dBm				
	-60 dBm				
	-70 dBm				
	CF 2.402 GHz		8001 p	ots	Span 2.0 MHz
	Date: 21.0 CT.2021	1			
		OD dBm Offset 9.84 o	18 • RBW 100 kHz is • VBW 300 kHz	Mode Auto Sweep	
	Spectrum Ref Level 25.	OD dBm Offset 9.84 o	B ● RBW 100 kHz Is ● VBW 300 kHz	Mode Auto Sweep	
	Spectrum Ref Level 25.	OD dBm Offset 9.84 o	B ● RBW 100 kHz Is ● VBW 300 kHz	Mode Auto Sweep	
	Spectrum Ref Level 25. Att 1Pk View 20 dBm	OD dBm Offset 9.84 o	B ● RBW 100 kHz s ● VBW 300 kHz		-47.75 dBm
	Spectrum Ref Level 25. Att 1Pk View	OD dBm Offset 9.84 o	B ● RBW 100 kHz s ● VBW 300 kHz		-47.75 dBm
	Spectrum Ref Level 25. Att 1Pk View 20 dBm	OD dBm Offset 9.84 o	B • RBW 100 kHz • VBW 300 kHz		-47.75 dBm
	Spectrum Ref Level 25.1 Att 1Pk View 20 dBm 10 dBm 0 dBm	OD dBm Offset 9.84 o	B • RBW 100 kHz		-47.75 dBm
	Spectrum Ref Level 25.1 Att 1Pk View 20 dBm 10 dBm	OD dBm Offset 9.84 o	B ● RBW 100 kHz ■ VBW 300 kHz		-47.75 dBm
	Spectrum Ref Level 25.1 Att 1Pk View 20 dBm 10 dBm 0 dBm	OD dBm Offset 9.84 o	B RBW 100 kHz s VBW 300 kHz		-47.75 dBm
Puw	Spectrum Ref Level 25.1 Att 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm D1 -	OD dBm Offset 9.84 o	B RBW 100 kHz		-47.75 dBm
Puw	Spectrum Ref Level 25.1 Att 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm	00 dBm Offset 9.84 d 30 dB SWT 9.7 m	B RBW 100 kHz		-47.75 dBm
Puw	Spectrum Ref Level 25.1 Att 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm D1 -	00 dBm Offset 9.84 d 30 dB SWT 9.7 m	B RBW 100 kHz		-47.75 dBm 906.950 MHz
Puw	Spectrum Ref Level 25.1 Att 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm	24.920 dBm	IS • VBW 300 kHz	M1[1]	-47,75 dBm 906,950 MHz
Puw	Spectrum Ref Level 25.1 Att 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm	00 dBm Offset 9.84 d 30 dB SWT 9.7 m	IS • VBW 300 kHz	M1[1]	-47,75 dBm 906,950 MHz
Puw	Spectrum Ref Level 25.1 Att 1Pk View 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm	24.920 dBm	IS • VBW 300 kHz		-47,75 dBm 906,950 MHz
Puw	Spectrum Ref Level 25.1 Att IPk View 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm	24.920 dBm	IS • VBW 300 kHz		-47.75 dBn 906,950 MH



1Pk View	v .	1	-		Mode Auto Swee			6.00
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10 dBm—	-						6.	55775
0.40-								
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-10 dBm-		-				-		
-20 d8m-								
	D1 -24.920	dBm				_		
-30 dBm-								
-40 dBm-				162		_		
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-60 dBm-			-		_		_	
-70 dBm-								
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Spectru Ref Lev	im vel 25.00 dBn 30 dB	Offset 9			Mode Auto Swee	ep		
Spectru Ref Lev Att	im vel 25.00 dBn 30 dB	Offset 9			Mode Auto Swee	8p		
Spectru Ref Lev	im vel 25.00 dBn 30 dB	Offset 9				9p		
Spectru Ref Lev Att	im vel 25.00 dBn 30 dB	Offset 9				9p		
Spectru Ref Lev Att 1Pk View 20 dBm-	im vel 25.00 dBn 30 dB	Offset 9				P		
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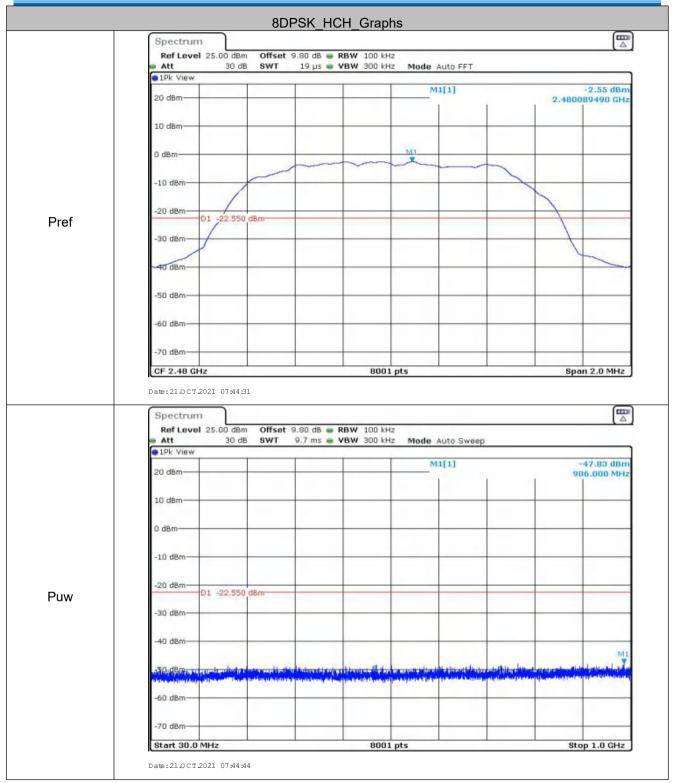




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-70 dBm	Spectru Ref Lev 1Pk View 20 dBm- 10 dBm- -10 dBm- -20 dBm- -30 dBm-	m	o Offset		VBW 300 kH	z Mode				
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The second se

Remark:

Pre test 9kHz to 25GHz, find the highest point when testing, so only the worst data were shown in the test report. Per FCC Part 15.33 (a) and 15.31 (o) ,The amplitude of spurious emissions from intentional radiators which are attenuated more than 20 dB below the permissible value need not be reported unless specifically required elsewhere in this part.



5.10Other requirements Frequency Hopping Spread Spectrum System

Test Requirement:	47 CFR Part 15C Section 15.247 (a)(1), (h) requirement:
rate from a Pseudorandom o on the average by each trans	nnel frequencies that are selected at the system hopping ordered list of hopping frequencies. Each frequency must be used equally smitter. The system receivers shall have input bandwidths that match the of their corresponding transmitters and shall shift frequencies in smitted signals.
channels during each transn receiver, must be designed t transmitter be presented with employing short transmission	spectrum systems are not required to employ all available hopping hission. However, the system, consisting of both the transmitter and the to comply with all of the regulations in this section should the in a continuous data (or information) stream. In addition, a system in bursts must comply with the definition of a frequency hopping system missions over the minimum number of hopping channels specified in
the system to recognize othe independently chooses and The coordination of frequence	nce within a frequency hopping spread spectrum system that permits er users within the spectrum band so that it individually and adapts its hopsets to avoid hopping on occupied channels is permitted. by hopping systems in any other manner for the express purpose of ccupancy of individual hopping frequencies by multiple transmitters is
Compliance for section 15.	247(a)(1)
stage shift register whose 5tl outputs are added in a modu	lo-two addition stage. And the result is fed back to the input of the first with the first ONE of 9 consecutive ONEs; i.e. the shift register is initialized ges: 9 sequence: 2 ⁹ -1 = 511 bits
Linear Foodback S	hift Register for Generation of the PRBS sequence
	m Frequency Hopping Sequence as follow:
According to Bluetooth Cord bandwidths that match the	y on the average by each transmitter. e Specification, Bluetooth receivers are designed to have input and IF hopping channel bandwidths of any Bluetooth transmitters and shift on with the transmitted signals.
Compliance for section 15.	247(g)
pseudorandom hopping freq	re Specification, the Bluetooth system transmits the packet with the uency with a continuous data and the short burst transmission from the ansmitted under the frequency hopping system with the pseudorandom



Compliance for section 15.247(h)

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

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

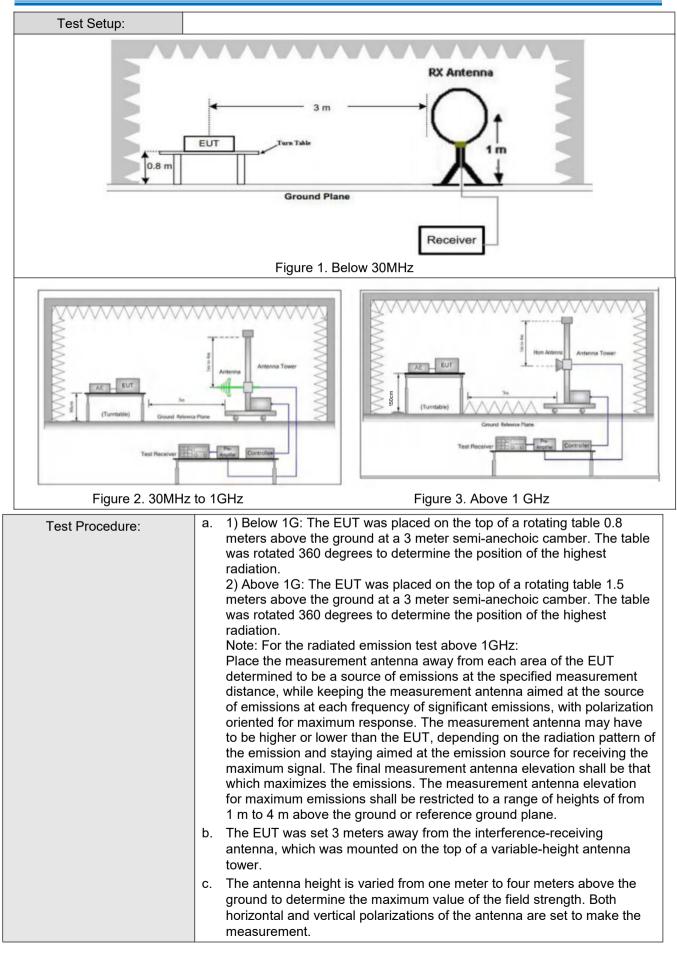


5.11 Radiated Spurious Emission & Restricted bands

Test Requirement:	47 CFR Part 15C Section 15.209 and 15.205								
Test Method:	ANSI C63.10: 2013								
Test Site:	Measurement Distance: 3m (Semi-Anechoic Chamber)								
Receiver Setup:	Frequency	Remark]						
	0.009MHz-0.090MH	z	Peak	10kHz	z 30kHz	Peak]		
	0.009MHz-0.090MH	z	Average	10kHz	z 30kHz	Average			
	0.090MHz-0.110MH	z	Quasi-peak	10kHz	z 30kHz	Quasi-peak			
	0.110MHz-0.490MH	z	Peak	10kHz	z 30kHz	Peak			
	0.110MHz-0.490MH	z	Average	10kHz	z 30kHz	Average			
	0.490MHz -30MHz		Quasi-peak	10kHz	z 30kHz	Quasi-peak			
	30MHz-1GHz		Peak	100 k⊦	lz 300kHz	Peak			
	Above 1GHz		Peak	1MHz	: 3MHz	Peak			
	Above TGHZ		Peak	1MHz	: 10Hz	Average			
Limit:	Frequency		eld strength crovolt/meter)	Limit (dBuV/m)	Remark	Measureme distance (n			
	0.009MHz-0.490MHz	2	400/F(kHz)	-	-	300			
	0.490MHz-1.705MHz	24	4000/F(kHz)	-	-	30			
	1.705MHz-30MHz		30	-	-	30			
	30MHz-88MHz		100	40.0	Quasi-peak	3			
	88MHz-216MHz	Quasi-peak	3						
	216MHz-960MHz		200	46.0	Quasi-peak	3			
	960MHz-1GHz		500	54.0	Quasi-peak	3			
	Above 1GHz		500	54.0	Average	3			
	Note: 15.35(b), Unless emissions is 20dE applicable to the e peak emission lev	3 ab equi	ove the maxim pment under te	um perm est. This p	itted average	emission limit			







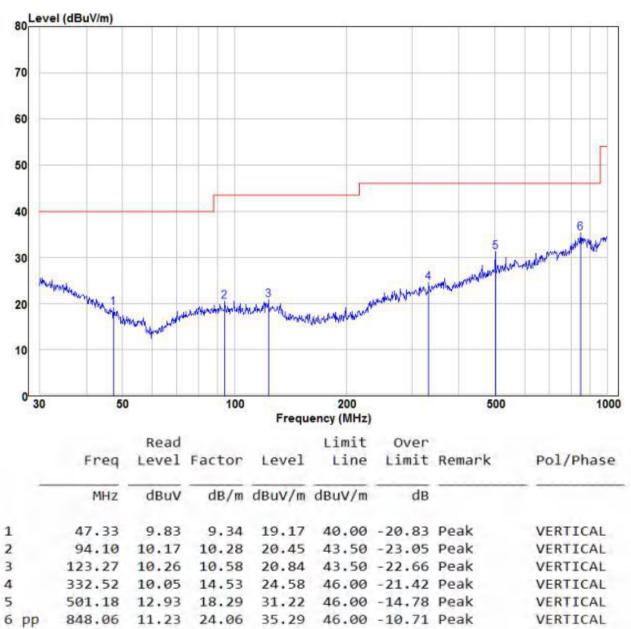


	 d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading. e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet. g. Test the EUT in the lowest channel (2402MHz),the middle channel (2441MHz),the Highest channel (2480MHz) h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case. i. Repeat above procedures until all frequencies measured was complete.
Exploratory Test Mode:	Non-hopping transmitting mode with all kind of modulation and all kind of data type Transmitting mode, Charging mode.
Final Test Mode:	Through Pre-scan, find the DH5 of data type and GFSK modulation is the worst case. Pretest the EUT at Transmitting mode and Charging mode, found the Transmitting mode which it is worse case For below 1GHz part, through pre-scan, the worst case is the lowest channel. Only the worst case is recorded in the report.
Test Results:	Pass



5.11.1 Radiated Emission below 1GHz





Remark:

The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

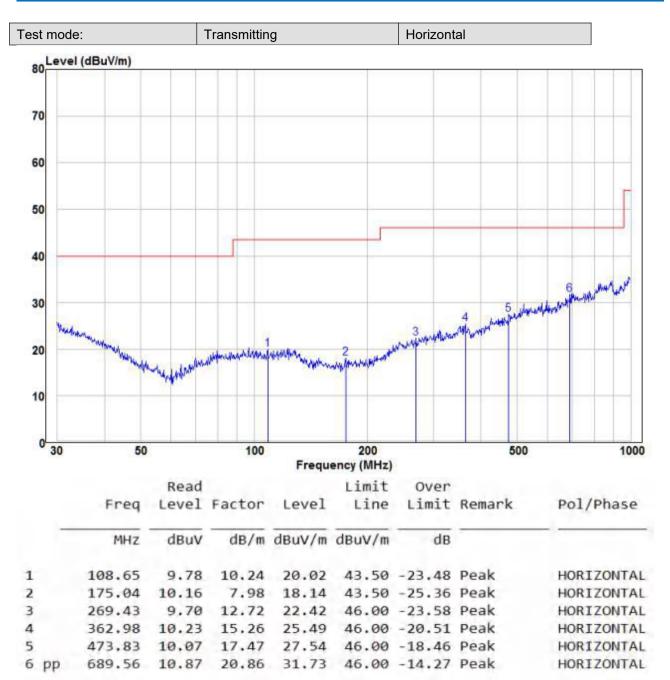
Factor= Antenna Factor + Cable Factor - Preamplifier Factor,

Level = Read Level + Factor,

Over Limit=Level-Limit Line.



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Remark:

The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Factor= Antenna Factor + Cable Factor - Preamplifier Factor,

Level = Read Level + Factor,

Over Limit=Level-Limit Line.



5.11.2 Transmitter Emission above 1GHz

Worse case	mode:	GFSK(DH	5)	Test chann	el:	Lowest	
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detector Type	Ant. Pol.
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)		H/V
2390	53.65	-9.2	44.45	74	-29.55	Peak	н
2400	55.67	-9.39	46.28	74	-27.72	Peak	Н
4804	52.01	-4.33	47.68	74	-26.32	Peak	Н
7206	49.44	1.01	50.45	74	-23.55	Peak	Н
2390	54.94	-9.2	45.74	74	-28.26	Peak	V
2400	54.61	-9.39	45.22	74	-28.78	Peak	V
4804	53.04	-4.33	48.71	74	-25.29	Peak	V
7206	49.38	1.01	50.39	74	-23.61	Peak	V

Worse case	mode:	GFSK(DH	5)	Test chann	el:	Middle	
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detector Type	Ant. Pol.
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)		H/V
4882	50.92	-4.11	46.81	74	-27.19	peak	Н
7323	50.62	1.51	52.13	74	-21.87	peak	Н
4882	52.59	-4.11	48.48	74	-25.52	peak	V
7323	50.84	1.51	52.35	74	-21.65	peak	V

Worse case mode:		GFSK(DH5)		Test channel:		Highest	
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detector Type	Ant. Pol.
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)		H/V
2483.5	56.94	-9.29	47.65	74	-26.35	Peak	н
4960	52.51	-4.04	48.47	74	-25.53	Peak	Н
7440	50.93	1.57	52.50	74	-21.50	Peak	Н
2483.5	53.68	-9.29	44.39	74	-29.61	Peak	v
4960	49.51	-4.04	45.47	74	-28.53	Peak	V
7440	49.78	1.57	51.35	74	-22.65	Peak	V

Remark:

1) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

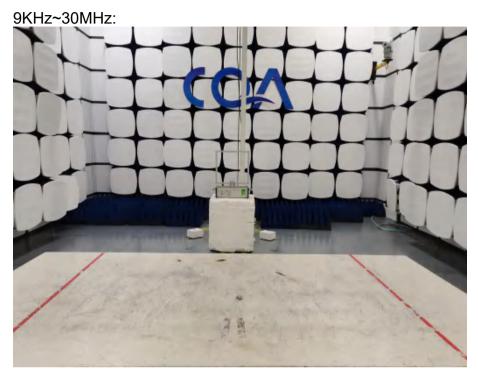
Final Test Level =Receiver Reading + Antenna Factor + Cable Factor – Preamplifier Factor

2) Scan from 9kHz to 25GHz, the disturbance above 10GHz and below 30MHz was very low. As shown in this section, for frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. So, only the peak measurements were shown in the report.



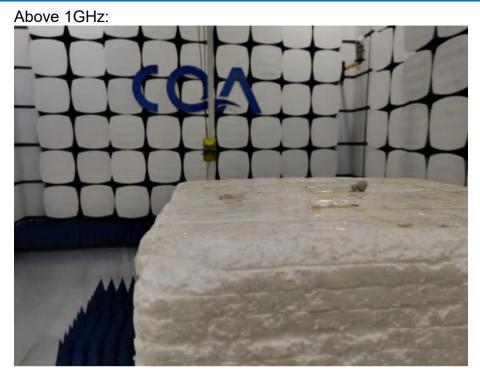
6 Photographs - EUT Test Setup

6.1 Radiated Emission







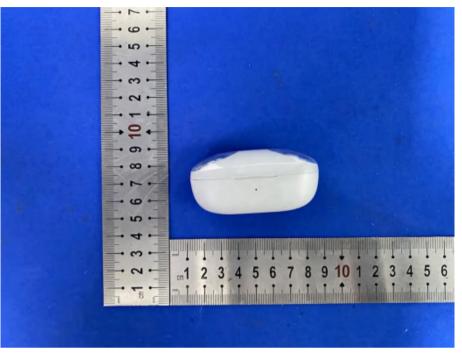


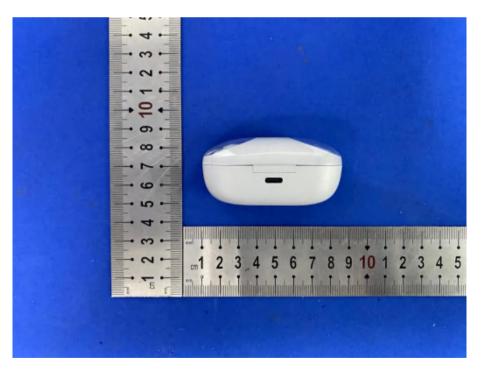
6.2 Conducted Emission





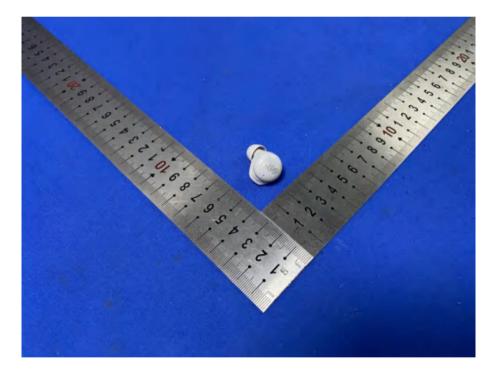
7 Photographs - EUT Constructional Details



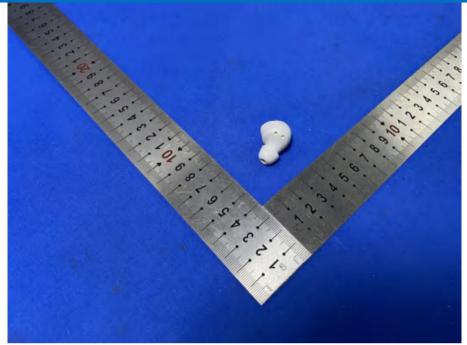


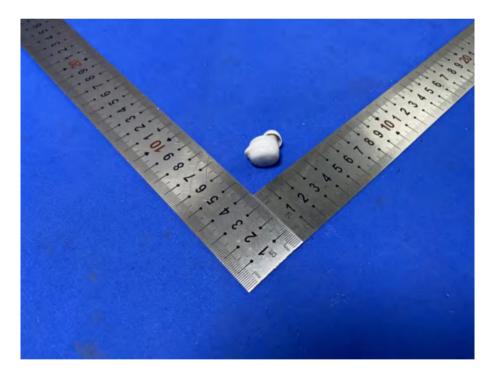




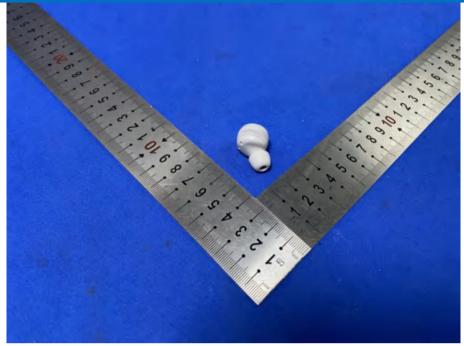






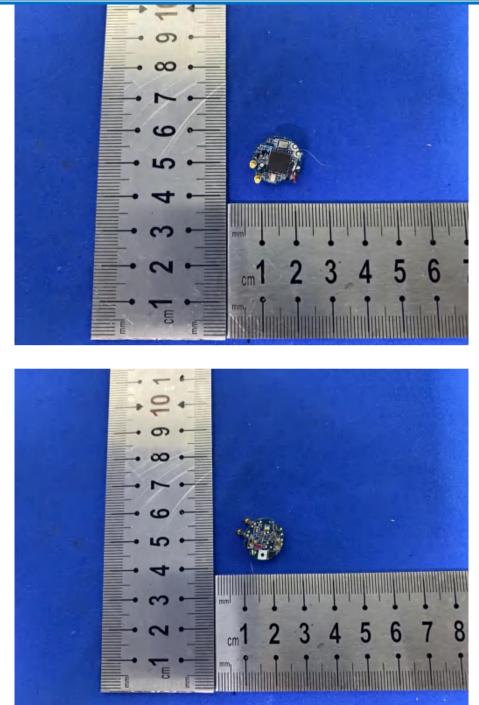




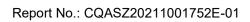




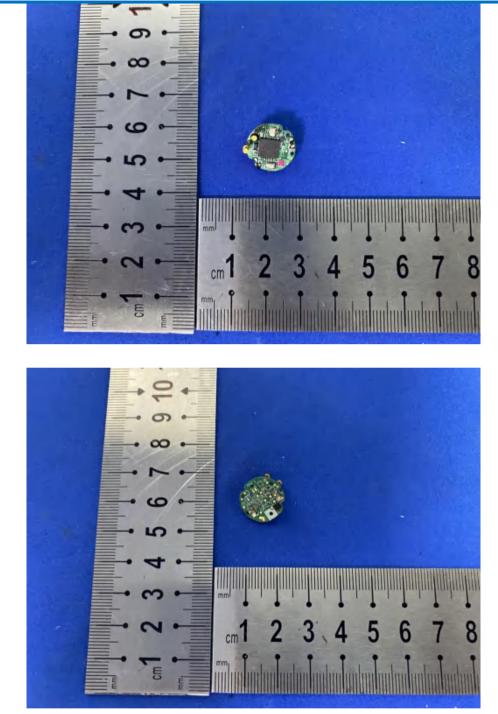






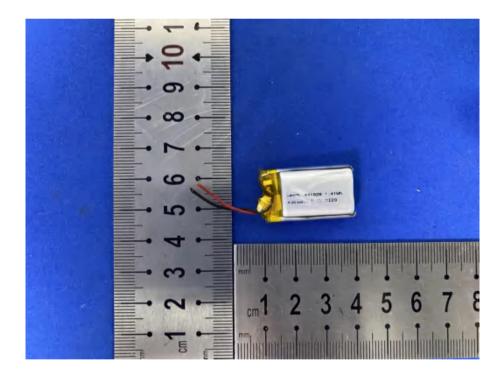






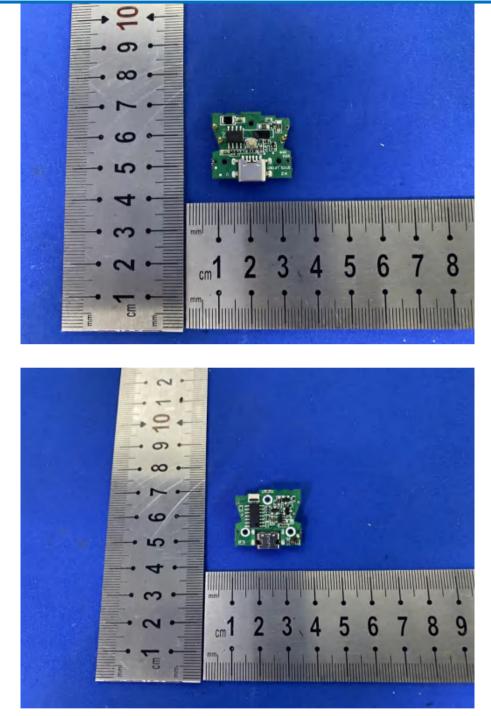












The End