

TEST REPORT

Product : Bluetooth Headset
Trade mark : Aoni, Ausdom, Mixcder
B021, B023, 869, 897, 872, 877,
861, 850, 862, 863, 894, 895, 883,
Model/Type reference : 304, 806, 860, 881, 853, B031,
B032, B033, B025, B040, B043,
B030, B037
Serial Number : N/A
Report Number : EED32J00076101
FCC ID : Z63-A7B021
Date of Issue : May 15, 2017
Test Standards : 47 CFR Part 15 Subpart C (2015)
Test result : PASS

Prepared for:

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No.5 Bldg, Honghui Industrial park, 2nd liuxian Road,
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Prepared by:

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Sheek Luo (Lab supervisor)

Date:

May 15, 2017

Check No.:2447610256



2 Version

Version No.	Date	Description
00	May 15, 2017	Original

3 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 (b)	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
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

Remark:

Test according to ANSI C63.4-2014 & ANSI C63.10-2013.

The tested samples and the sample information are provided by the client.

Model No.: B021, B023, 869, 897, 872, 877, 861, 850, 862, 863, 894, 895, 883, 304, 806, 860, 881, 853, B031, B032, B033, B025, B040, B043, B030, B037.

Only the model B021 was tested, since the electrical circuit design, layout, components used and internal wiring were identical with difference being outer Decoration and model Number.

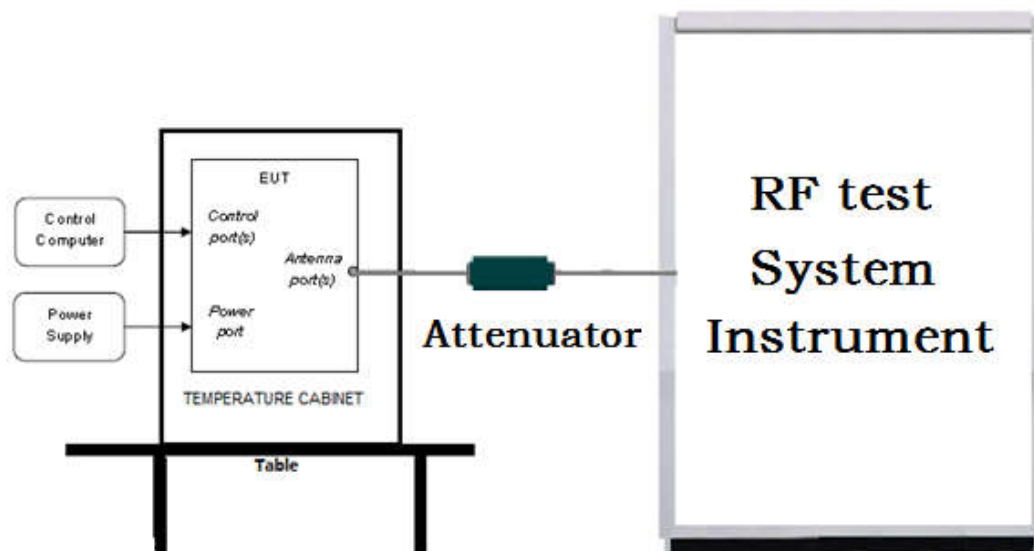
4 Content

1 COVER PAGE	1
2 VERSION	2
3 TEST SUMMARY	3
4 CONTENT	4
5 TEST REQUIREMENT	5
5.1 TEST SETUP	5
5.1.1 For Conducted test setup	5
5.1.2 For Radiated Emissions test setup	5
5.1.3 For Conducted Emissions test setup	6
5.2 TEST ENVIRONMENT	6
5.3 TEST CONDITION	6
6 GENERAL INFORMATION	7
6.1 CLIENT INFORMATION	7
6.2 GENERAL DESCRIPTION OF EUT	7
6.3 PRODUCT SPECIFICATION SUBJECTIVE TO THIS STANDARD	7
6.4 DESCRIPTION OF SUPPORT UNITS	8
6.5 TEST LOCATION	8
6.6 TEST FACILITY	8
6.7 DEVIATION FROM STANDARDS	9
6.8 ABNORMALITIES FROM STANDARD CONDITIONS	9
6.9 OTHER INFORMATION REQUESTED BY THE CUSTOMER	9
6.10 MEASUREMENT UNCERTAINTY (95% CONFIDENCE LEVELS, K=2)	10
7 EQUIPMENT LIST	11
8 RADIO TECHNICAL REQUIREMENTS SPECIFICATION	13
Appendix A): 20dB Occupied Bandwidth	14
Appendix B): Carrier Frequency Separation	18
Appendix C): Dwell Time	22
Appendix D): Hopping Channel Number	26
Appendix E): Conducted Peak Output Power	28
Appendix F): Band-edge for RF Conducted Emissions	32
Appendix G): RF Conducted Spurious Emissions	37
Appendix H): Pseudorandom Frequency Hopping Sequence	44
Appendix I): Antenna Requirement	45
Appendix J): AC Power Line Conducted Emission	46
Appendix K): Restricted bands around fundamental frequency (Radiated)	49
Appendix L): Radiated Spurious Emissions	57
PHOTOGRAPHS OF TEST SETUP	65
APPENDIX 2 PHOTOGRAPHS OF EUT	67

5 Test Requirement

5.1 Test setup

5.1.1 For Conducted test setup



5.1.2 For Radiated Emissions test setup

Radiated Emissions setup:

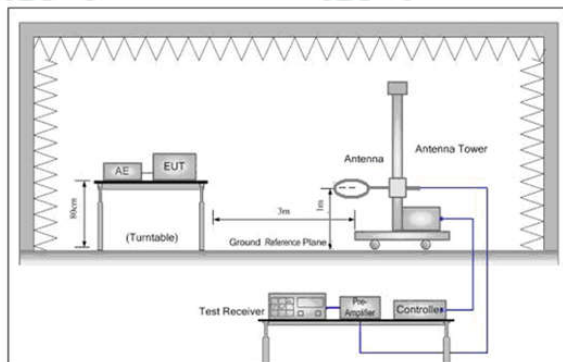


Figure 1. Below 30MHz

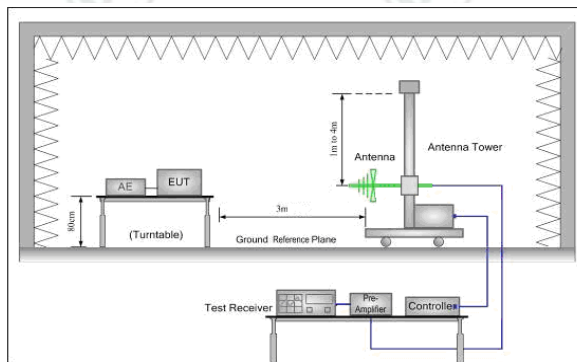


Figure 2. 30MHz to 1GHz

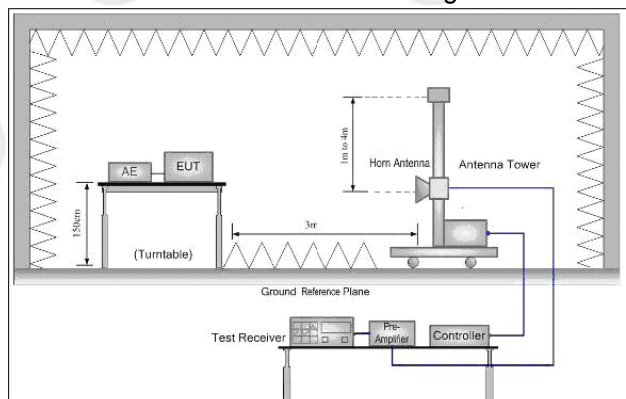
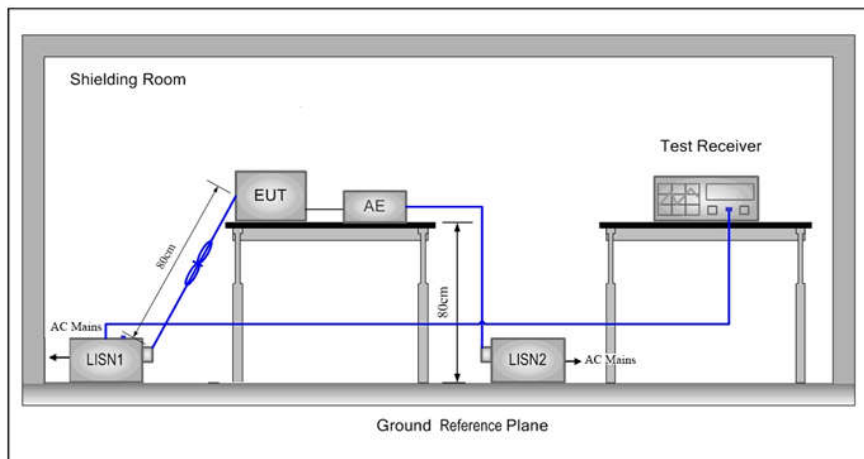


Figure 3. Above 1GHz

5.1.3 For Conducted Emissions test setup

Conducted Emissions setup



5.2 Test Environment

Operating Environment:	
Temperature:	24°C
Humidity:	51% RH
Atmospheric Pressure:	1010mbar

5.3 Test Condition

Test Mode	Tx	RF Channel		
		Low(L)	Middle(M)	High(H)
GFSK/ π /4DQPSK/ 8DPSK(DH1,DH3,DH5)	2402MHz ~2480 MHz	Channel 1	Channel 40	Channel79
		2402MHz	2441MHz	2480MHz

TX mode: The EUT transmitted the continuous modulation test signal at the specific channel(s).

Test mode:

Pre-scan under all rate at Highest channel 79

Mode	GFSK		
packets	1-DH1	1-DH3	1-DH5
Power(dBm)	1.285	1.288	1.291

Mode	π /4DQPSK		
packets	2-DH1	2-DH3	2-DH5
Power(dBm)	1.369	1.370	1.372
Mode	8DPSK		
packets	3-DH1	3-DH3	3-DH5
Power(dBm)	1.718	1.717	1.720

Through Pre-scan, 1-DH5 packet the power is the worst case of GFSK, 2-DH5 packet the power is the worst case of π /4DQPSK, 3-DH5 packet the power is the worst case of 8DPSK.

6 General Information

6.1 Client Information

Applicant:	SHENZHEN AONI ELECTRONIC CO,LTD
Address of Applicant:	No.5 Bldg, Honghui Industrial park, 2 nd liuxian Road, Xinan street, Baoan District, Shenzhen
Manufacturer:	SHENZHEN AONI ELECTRONIC CO,LTD
Address of Manufacturer:	No.5 Bldg, Honghui Industrial park, 2 nd liuxian Road, Xinan street, Baoan District, Shenzhen
Factory:	SHENZHEN AONI ELECTRONIC CO,LTD
Address of Factory:	No.5 Bldg, Honghui Industrial park, 2 nd liuxian Road, Xinan street, Baoan District, Shenzhen

6.2 General Description of EUT

Product Name:	Bluetooth Headset
Test Model No.(EUT):	B021
Trade mark:	Aoni, Ausdom, Mixcder
EUT Supports Radios application:	BT4.1 Single mode
Power Supply:	3.7V,400mAh
USB cable:	88cm(Unshielded)
AUX cable	150cm(Unshielded)
Sample Received Date:	Apr. 24, 2017
Sample tested Date:	Apr. 24, 2017 to May 12, 2017

6.3 Product Specification subjective to this standard

Operation Frequency:	2402MHz~2480MHz						
Bluetooth Version:	BT4.1 Single mode						
Modulation Technique:	Frequency Hopping Spread Spectrum(FHSS)						
Modulation Type:	GFSK, $\pi/4$ DQPSK, 8DPSK						
Number of Channel:	79						
Hopping Channel Type:	Adaptive Frequency Hopping systems						
Test Power Grade:	Power(Ext, Int): 255, 25(manufacturer declare)						
Test Software of EUT:	CSR Blue Test3 2.5.8 (manufacturer declare)						
Antenna Type:	Integral Antenna						
Antenna Gain:	1dBi						
Test Voltage:	AC 120V, 60Hz and DC 3.7V						
Operation Frequency each of channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
1	2402MHz	21	2422MHz	41	2442MHz	61	2462MHz
2	2403MHz	22	2423MHz	42	2443MHz	62	2463MHz
3	2404MHz	23	2424MHz	43	2444MHz	63	2464MHz
4	2405MHz	24	2425MHz	44	2445MHz	64	2465MHz
5	2406MHz	25	2426MHz	45	2446MHz	65	2466MHz

6	2407MHz	26	2427MHz	46	2447MHz	66	2467MHz
7	2408MHz	27	2428MHz	47	2448MHz	67	2468MHz
8	2409MHz	28	2429MHz	48	2449MHz	68	2469MHz
9	2410MHz	29	2430MHz	49	2450MHz	69	2470MHz
10	2411MHz	30	2431MHz	50	2451MHz	70	2471MHz
11	2412MHz	31	2432MHz	51	2452MHz	71	2472MHz
12	2413MHz	32	2433MHz	52	2453MHz	72	2473MHz
13	2414MHz	33	2434MHz	53	2454MHz	73	2474MHz
14	2415MHz	34	2435MHz	54	2455MHz	74	2475MHz
15	2416MHz	35	2436MHz	55	2456MHz	75	2476MHz
16	2417MHz	36	2437MHz	56	2457MHz	76	2477MHz
17	2418MHz	37	2438MHz	57	2458MHz	77	2478MHz
18	2419MHz	38	2439MHz	58	2459MHz	78	2479MHz
19	2420MHz	39	2440MHz	59	2460MHz	79	2480MHz
20	2421MHz	40	2441MHz	60	2461MHz		

6.4 Description of Support Units

The EUT has been tested with associated equipment below.

Associated equipment name		Manufacture	model	Serial number	Supplied by
AE1	Mouse	L.Selectron	OP-308	F0729003225KOSG	CTI
AE2	Laptop	Lenovo	E46L	EB22995690	CTI
AE3	Keyboard	L.Selectron	KB-101A	C0503005704BTZJ	CTI

6.5 Test Location

All tests were performed at:

Centre Testing International Group Co., Ltd.

Hongwei Industrial Zone, Bao'an 70 District, Shenzhen, Guangdong, China 518101

Telephone: +86 (0) 755 33683668 Fax: +86 (0) 755 33683385

No tests were sub-contracted.

6.6 Test Facility

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

CNAS-Lab Code: L1910

Centre Testing International Group Co., Ltd. has been assessed and proved to be in compliance with CNAS-CL01 Accreditation Criteria for Testing and Calibration Laboratories (identical to ISO/IEC 17025: 2005 General Requirements) for the Competence of Testing and Calibration Laboratories..

A2LA-Lab Cert. No. 3061.01

Centre Testing International Group Co., Ltd. EMC Laboratory has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

FCC-Registration No.: 886427

Centre Testing International Group Co., Ltd. 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 886427.

IC-Registration No.: 7408A-2

The 3m Alternate Test Site of Centre Testing International Group Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for the performance of radiated measurements with Registration No. 7408A-2 .

IC-Registration No.: 7408B-1

The 10m Alternate Test Site of Centre Testing International Group Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for the performance of radiated measurements with Registration No. 7408B-1.

NEMKO-Aut. No.: ELA503

Centre Testing International Group Co., Ltd. has been assessed the quality assurance system, the testing facilities, qualifications and testing practices of the relevant parts of the organization. The quality assurance system of the Laboratory has been validated against ISO/IEC 17025 or equivalent. The laboratory also fulfils the conditions described in Nemko Document NLA-10.

VCCI

The Radiation 3 &10 meters site of Centre Testing International Group Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-4096.

Main Ports Conducted Interference Measurement of Centre Testing International Group Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: C-4563.

Telecommunication Ports Conducted Disturbance Measurement of Centre Testing International Group Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: T-2146.

The Radiation 3 meters site of Centre Testing International Group Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-758

6.7 Deviation from Standards

None.

6.8 Abnormalities from Standard Conditions

None.

6.9 Other Information Requested by the Customer

None.

6.10 Measurement Uncertainty (95% confidence levels, k=2)

No.	Item	Measurement Uncertainty
1	Radio Frequency	7.9×10^{-8}
2	RF power, conducted	0.31dB (30MHz-1GHz)
		0.57dB (1GHz-18GHz)
3	Radiated Spurious emission test	4.5dB (30MHz-1GHz)
		4.8dB (1GHz-12.75GHz)
4	Conduction emission	3.6dB (9kHz to 150kHz)
		3.2dB (150kHz to 30MHz)
5	Temperature test	0.64°C
6	Humidity test	2.8%
7	DC power voltages	0.025%

7 Equipment List

RF test system					
Equipment	Manufacturer	Model No.	Serial Number	Cal. Date (mm-dd-yyyy)	Cal. Due date (mm-dd-yyyy)
Signal Generator	Keysight	E8257D	MY53401106	03-14-2017	03-13-2018
Spectrum Analyzer	Keysight	N9010A	MY54510339	03-14-2017	03-13-2018
Signal Generator	Keysight	N5182B	MY53051549	03-14-2017	03-13-2018
High-pass filter	Sinoscite	FL3CX03WG18 NM12-0398-002	TTF20120439	01-11-2017	01-10-2018
High-pass filter	MICRO-TRONICS	SPA-F-63029-4	003	01-11-2017	01-10-2018
DC Power	Keysight	E3642A	MY54436035	03-14-2017	03-13-2018
BT&WI-FI Automatic control	R&S	OSP120	101374	03-14-2017	03-13-2018
RF control unit	JS Tonscend	JS0806-2	158060006	03-14-2017	03-13-2018

Conducted disturbance Test					
Equipment	Manufacturer	Model No.	Serial Number	Cal. date (mm-dd-yyyy)	Cal. Due date (mm-dd-yyyy)
Receiver	R&S	ESCI	100009	06-16-2016	06-15-2017
Temperature/ Humidity Indicator	TAYLOR	1451	1905	04-20-2017	04-19-2018
LISN	R&S	ENV216	100098	06-16-2016	06-15-2017
LISN	schwarzbeck	NNLK8121	8121-529	06-16-2016	06-15-2017
Current Probe	R&S	EZ17	100106	06-16-2016	06-15-2017
ISN	TESEQ GmbH	ISN T800	30297	01-27-2017	01-25-2018

3M Semi/full-anechoic Chamber					
Equipment	Manufacturer	Model No.	Serial Number	Cal. date (mm-dd-yyyy)	Cal. Due date (mm-dd-yyyy)
3M Chamber & Accessory Equipment	TDK	SAC-3	TTE20130797	06-05-2016	06-05-2019
TRILOG Broadband Antenna	SCHWARZBEC K	VULB9163	9163-484	05-23-2016	05-22-2017
Microwave Preamplifier	Agilent	8449B	3008A02425	02-16-2017	02-15-2018
Horn Antenna	ETS-LINDGREN	3117	00057407	07-20-2015	07-18-2018
Loop Antenna	ETS	6502	00071730	07-30-2015	07-28-2017
Microwave Preamplifier	A.H.SYSTEMS	PAP-1840-60	6041.6042	06-30-2015	06-28-2018
Horn Antenna	A.H.SYSTEMS	SAS-574 374	374	06-30-2015	06-28-2018
Spectrum Analyzer	R&S	FSP40	100416	06-16-2016	06-15-2017
Receiver	R&S	ESCI	100435	06-16-2016	06-15-2017
LISN	schwarzbeck	NNBM8125	81251547	06-16-2016	06-15-2017
LISN	schwarzbeck	NNBM8125	81251548	06-16-2016	06-15-2017
Signal Generator	Agilent	E4438C	MY45095744	03-14-2017	03-13-2018
Signal Generator	Keysight	E8257D	MY53401106	03-14-2017	03-13-2018
Temperature/ Humidity Indicator	TAYLOR	1451	1905	04-20-2017	04-19-2018
Cable line	Fulai(7M)	SF106	5219/6A	01-11-2017	01-10-2018
Cable line	Fulai(6M)	SF106	5220/6A	01-11-2017	01-10-2018
Cable line	Fulai(3M)	SF106	5216/6A	01-11-2017	01-10-2018
Cable line	Fulai(3M)	SF106	5217/6A	01-11-2017	01-10-2018
High-pass filter	Sinoscite	FL3CX03WG18 NM12-0398-002	TTF20120439	01-11-2017	01-10-2018
High-pass filter	MICRO-TRONICS	SPA-F-63029-4	003	01-11-2017	01-10-2018
band rejection filter	Sinoscite	FL5CX01CA09 CL12-0395-001	TTF20120434	01-11-2017	01-10-2018
band rejection filter	Sinoscite	FL5CX01CA08 CL12-0393-001	TTF20120435	01-11-2017	01-10-2018
band rejection filter	Sinoscite	FL5CX02CA04 CL12-0396-002	TTF20120436	01-11-2017	01-10-2018
band rejection filter	Sinoscite	FL5CX02CA03 CL12-0394-001	TTF20120437	01-11-2017	01-10-2018

8 Radio Technical Requirements Specification

Reference documents for testing:

No.	Identity	Document Title
1	FCC Part15C (2015)	Subpart C-Intentional Radiators
2	ANSI C63.10-2013	American National Standard for Testing Unlicensed Wireless Devices

Test Results List:

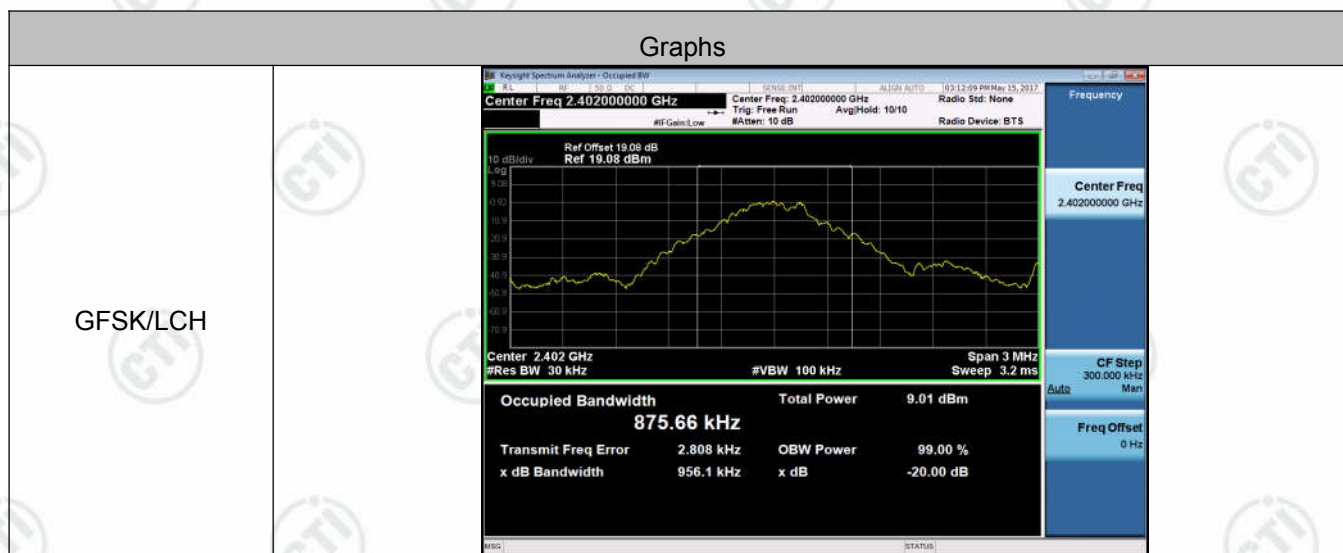
Test requirement	Test method	Test item	Verdict	Note
Part15C Section 15.247 (a)(1)	ANSI 63.10	20dB Occupied Bandwidth	PASS	Appendix A)
Part15C Section 15.247 (a)(1)	ANSI 63.10	Carrier Frequencies Separation	PASS	Appendix B)
Part15C Section 15.247 (a)(1)	ANSI 63.10	Dwell Time	PASS	Appendix C)
Part15C Section 15.247 (b)	ANSI 63.10	Hopping Channel Number	PASS	Appendix D)
Part15C Section 15.247 (b)(1)	ANSI 63.10	Conducted Peak Output Power	PASS	Appendix E)
Part15C Section 15.247(d)	ANSI 63.10	Band-edge for RF Conducted Emissions	PASS	Appendix F)
Part15C Section 15.247(d)	ANSI 63.10	RF Conducted Spurious Emissions	PASS	Appendix G)
Part15C Section 15.247 (a)(1)	ANSI 63.10	Pseudorandom Frequency Hopping Sequence	PASS	Appendix H)
Part15C Section 15.203/15.247 (c)	ANSI 63.10	Antenna Requirement	PASS	Appendix I)
Part15C Section 15.207	ANSI 63.10	AC Power Line Conducted Emission	PASS	Appendix J)
Part15C Section 15.205/15.209	ANSI 63.10	Restricted bands around fundamental frequency (Radiated) Emission)	PASS	Appendix K)
Part15C Section 15.205/15.209	ANSI 63.10	Radiated Spurious Emissions	PASS	Appendix L)

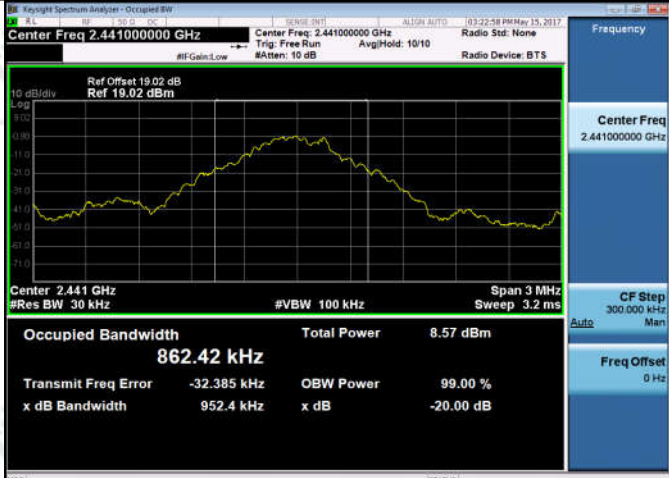
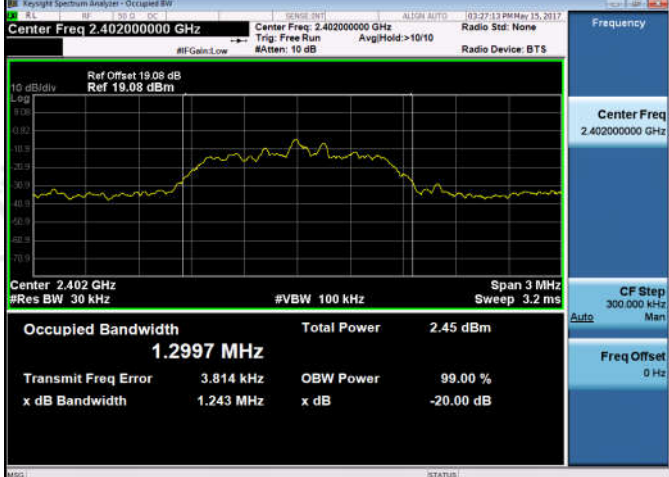
Appendix A): 20dB Occupied Bandwidth

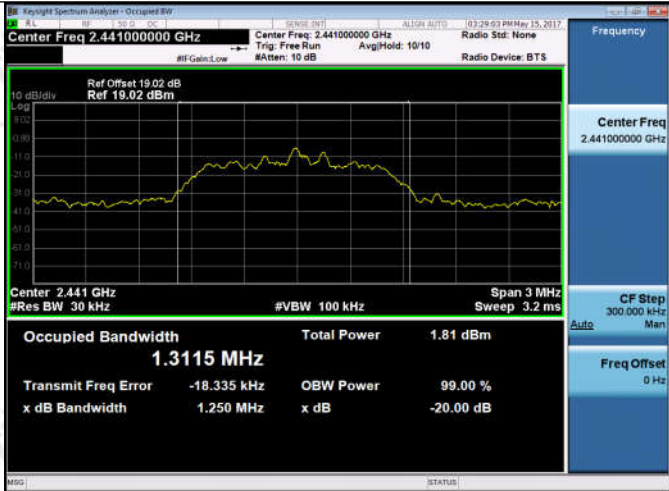
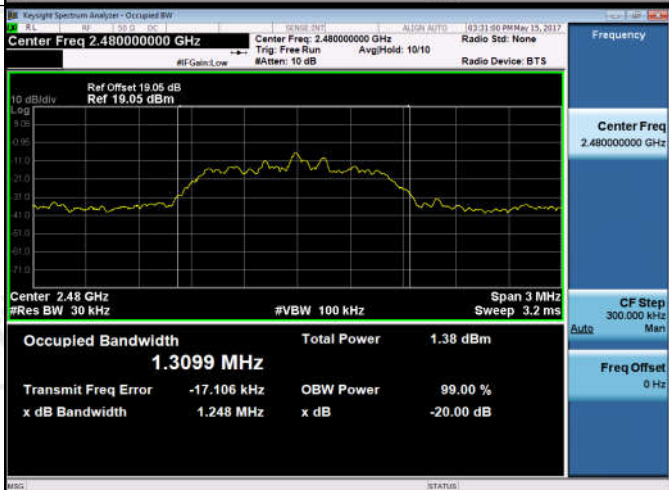
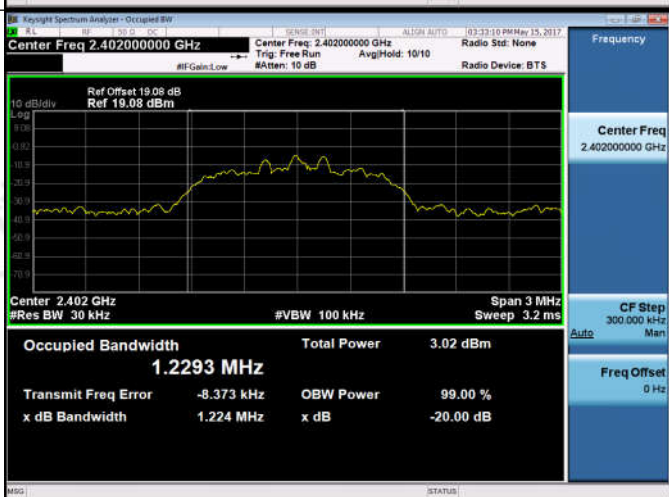
Test Result

Mode	Channel.	20dB Bandwidth [MHz]	99% OBW [MHz]	Verdict	Remark
GFSK	LCH	0.9561	0.87566	PASS	Peak detector
GFSK	MCH	0.9524	0.86242	PASS	
GFSK	HCH	1.0090	0.86537	PASS	
$\pi/4$ DQPSK	LCH	1.2430	1.29970	PASS	
$\pi/4$ DQPSK	MCH	1.2500	1.31150	PASS	
$\pi/4$ DQPSK	HCH	1.2480	1.30990	PASS	
8DPSK	LCH	1.2240	1.22930	PASS	
8DPSK	MCH	1.2270	1.23280	PASS	
8DPSK	HCH	1.2290	1.23360	PASS	

Test Graph



GFSK/MCH	 Keyight Spectrum Analyzer - Occupied BW Center Freq 2.441000000 GHz Ref Offset 19.02 dB Ref 19.02 dBm Center 2.441 GHz #Res BW 30 kHz #VBW 100 kHz Span 3 MHz Sweep 3.2 ms Occupied Bandwidth 862.42 kHz Total Power 8.57 dBm Transmit Freq Error -32.385 kHz OBW Power 99.00 % x dB Bandwidth 952.4 kHz x dB -20.00 dB
GFSK/HCH	 Keyight Spectrum Analyzer - Occupied BW Center Freq 2.480000000 GHz Ref Offset 19.05 dB Ref 19.05 dBm Center 2.48 GHz #Res BW 30 kHz #VBW 100 kHz Span 3 MHz Sweep 3.2 ms Occupied Bandwidth 865.37 kHz Total Power 8.18 dBm Transmit Freq Error -32.519 kHz OBW Power 99.00 % x dB Bandwidth 1.009 MHz x dB -20.00 dB
$\pi/4$ DQPSK/LCH	 Keyight Spectrum Analyzer - Occupied BW Center Freq 2.402000000 GHz Ref Offset 19.08 dB Ref 19.08 dBm Center 2.402 GHz #Res BW 30 kHz #VBW 100 kHz Span 3 MHz Sweep 3.2 ms Occupied Bandwidth 1.2997 MHz Total Power 2.45 dBm Transmit Freq Error 3.814 kHz OBW Power 99.00 % x dB Bandwidth 1.243 MHz x dB -20.00 dB

$\pi/4$DQPSK/MCH	
$\pi/4$DQPSK/HCH	
8DPSK/LCH	

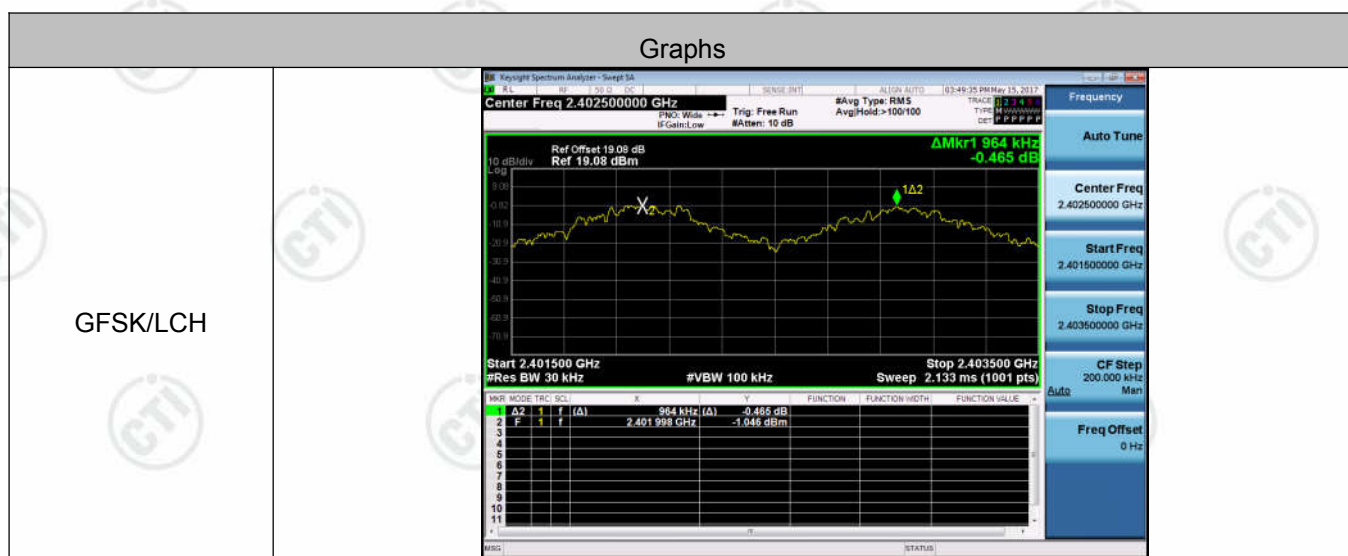


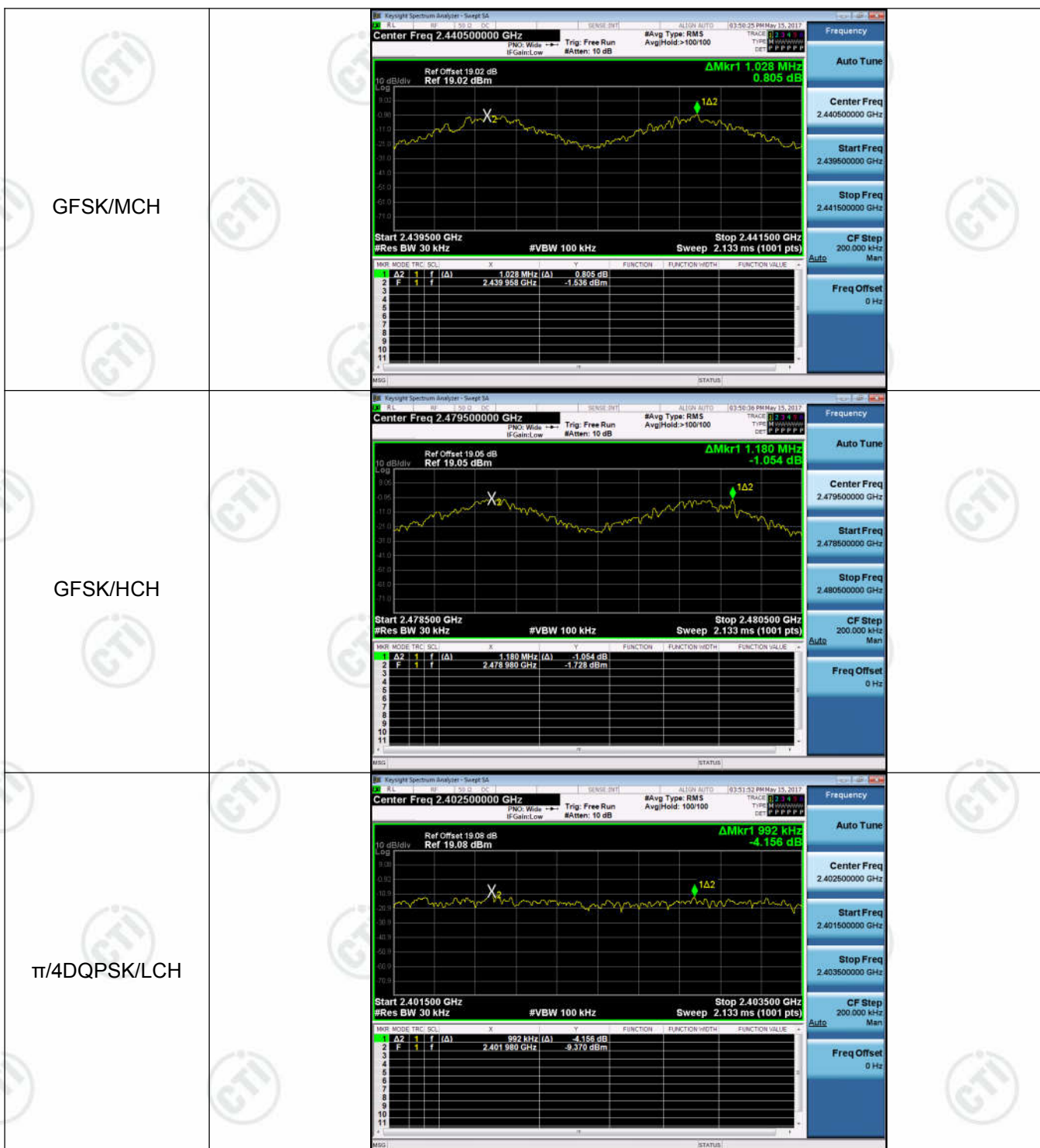
Appendix B): Carrier Frequency Separation

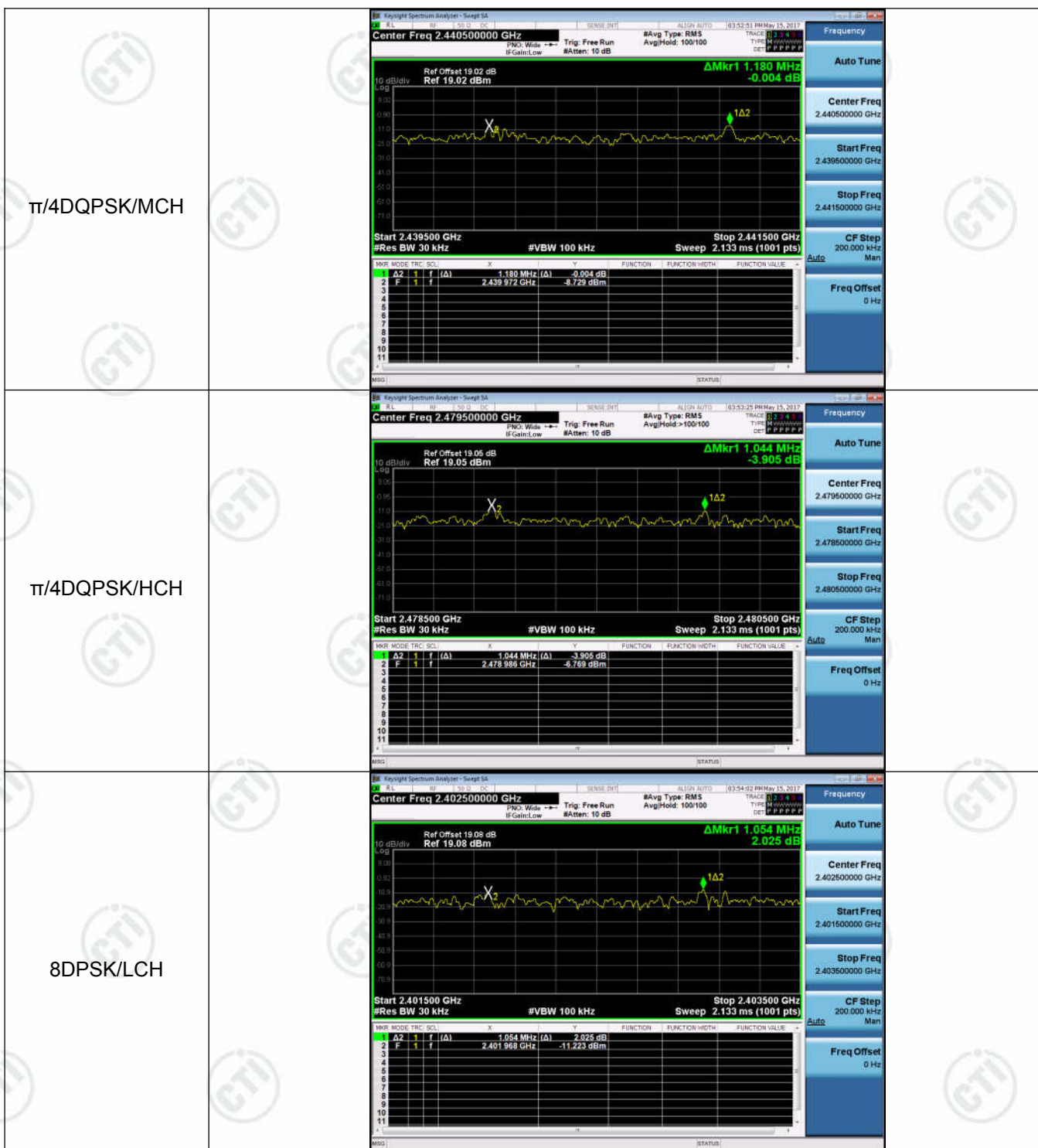
Result Table

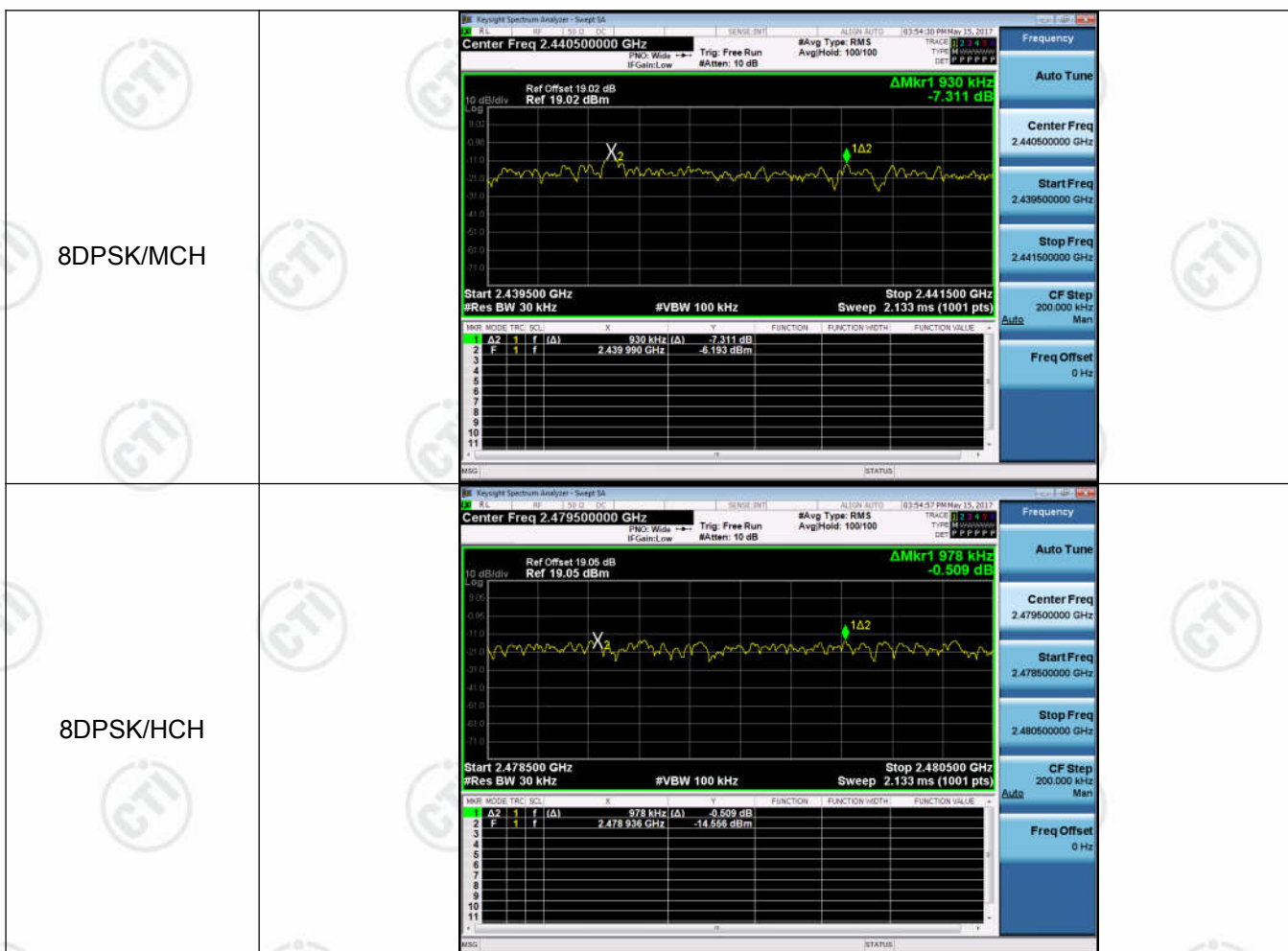
Mode	Channel.	Carrier Frequency Separation [MHz]	Verdict
GFSK	LCH	0.964	PASS
GFSK	MCH	1.028	PASS
GFSK	HCH	1.180	PASS
$\pi/4$ DQPSK	LCH	0.992	PASS
$\pi/4$ DQPSK	MCH	1.180	PASS
$\pi/4$ DQPSK	HCH	1.044	PASS
8DPSK	LCH	1.054	PASS
8DPSK	MCH	0.930	PASS
8DPSK	HCH	0.978	PASS

Test Graph







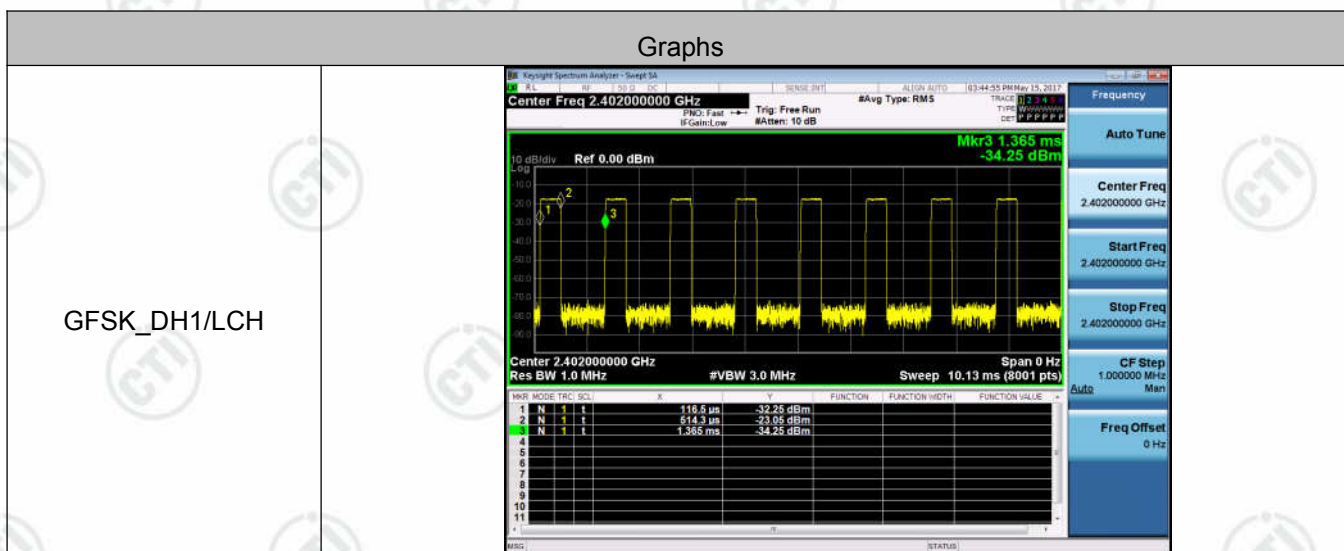


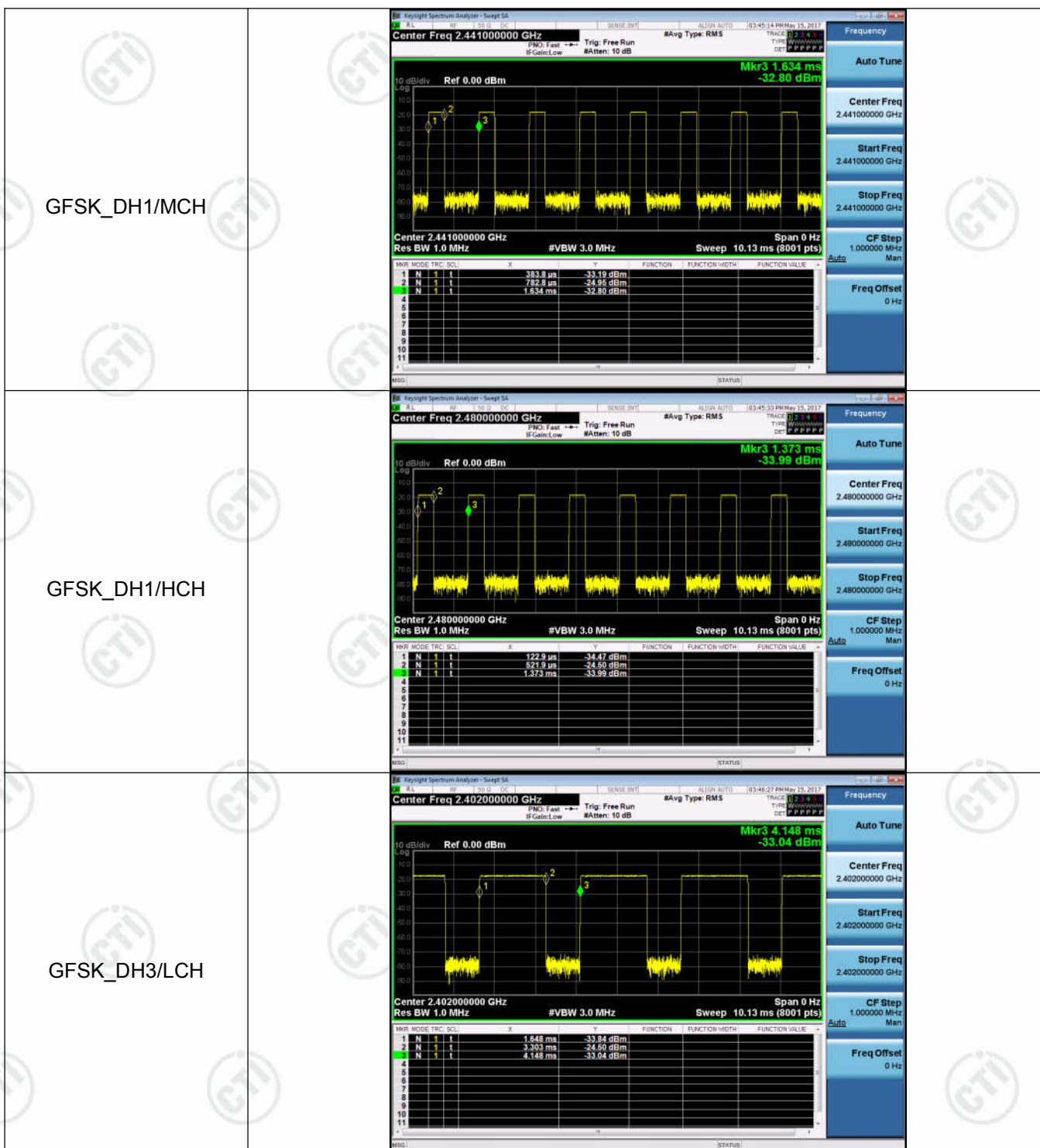
Appendix C): Dwell Time

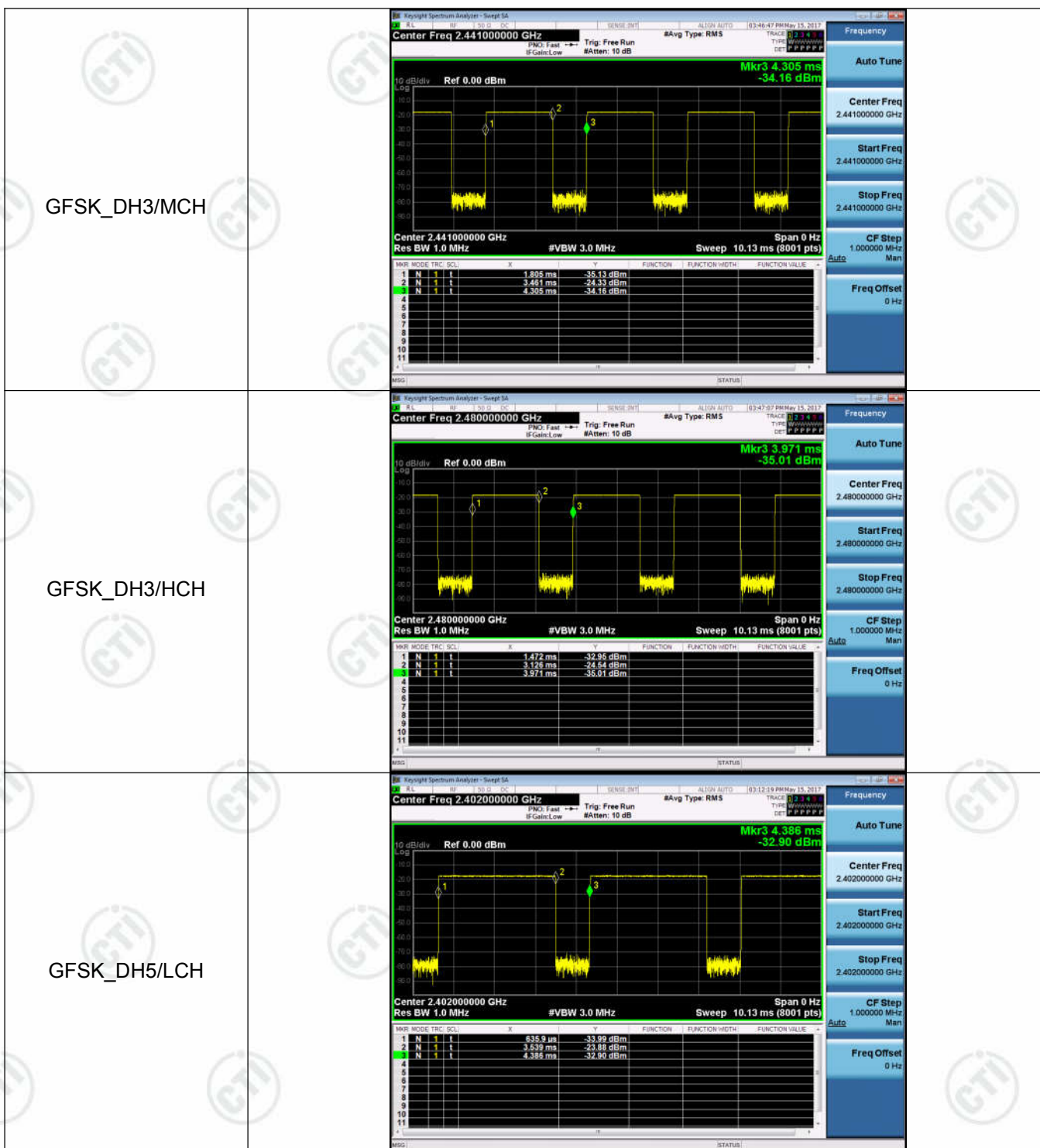
Result Table

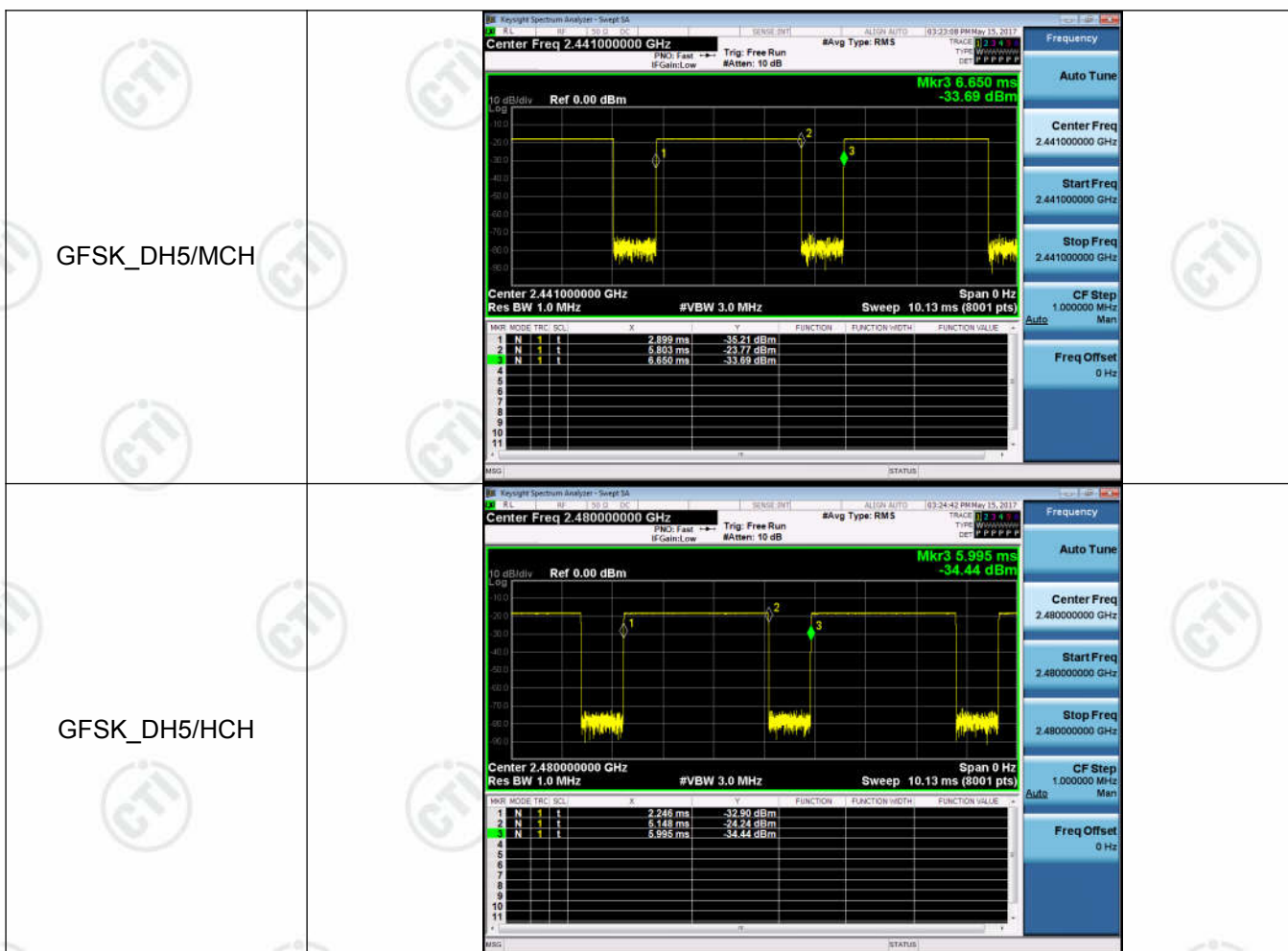
Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Verdict
GFSK	DH1	LCH	0.397734	320.0	0.127	PASS
GFSK	DH1	MCH	0.399000	320.0	0.128	PASS
GFSK	DH1	HCH	0.399000	320.0	0.128	PASS
GFSK	DH3	LCH	1.655540	160.0	0.265	PASS
GFSK	DH3	MCH	1.655530	160.0	0.265	PASS
GFSK	DH3	HCH	1.654260	160.0	0.265	PASS
GFSK	DH5	LCH	2.903203	106.7	0.310	PASS
GFSK	DH5	MCH	2.903200	106.7	0.310	PASS
GFSK	DH5	HCH	2.901930	106.7	0.310	PASS

Test Graph







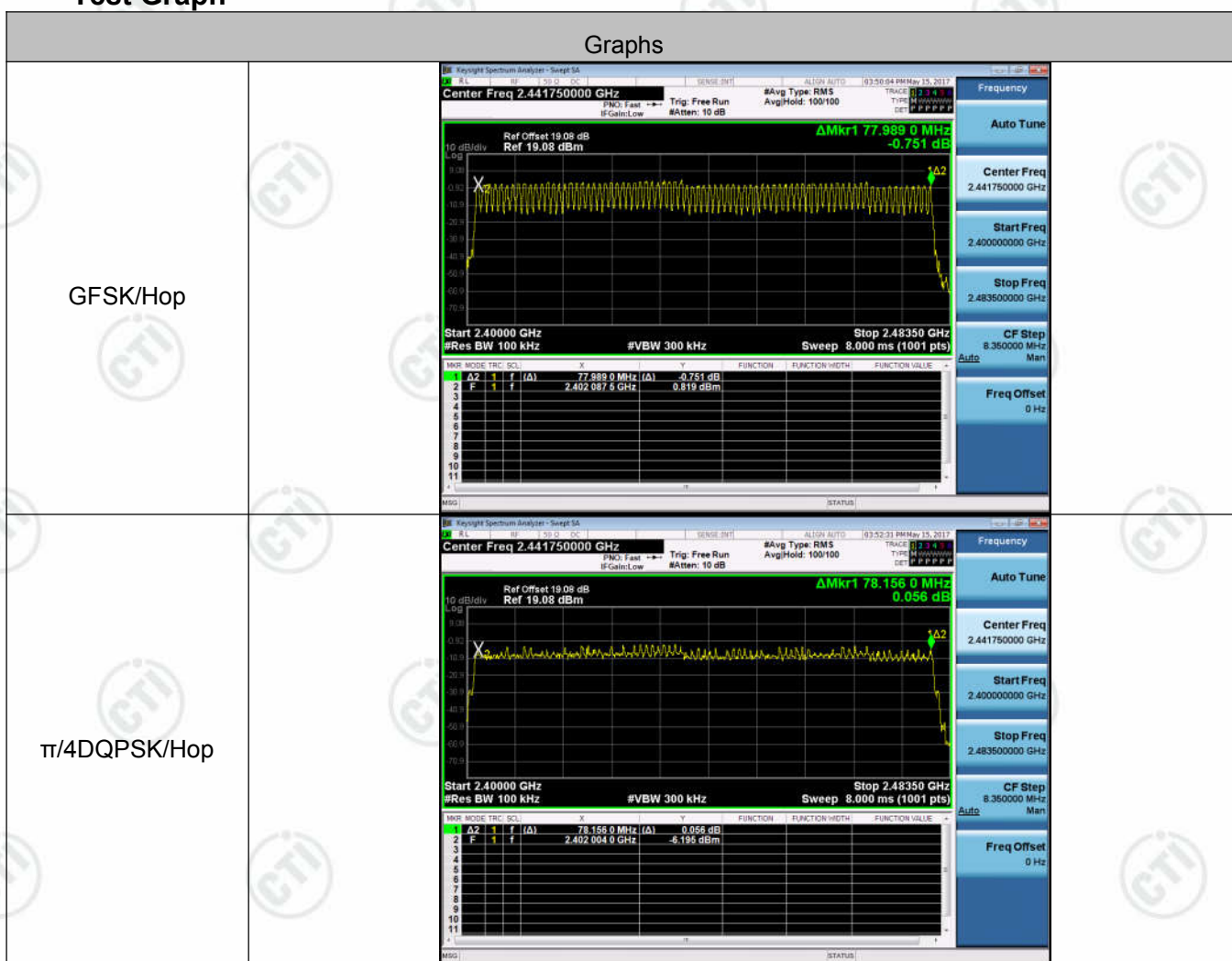


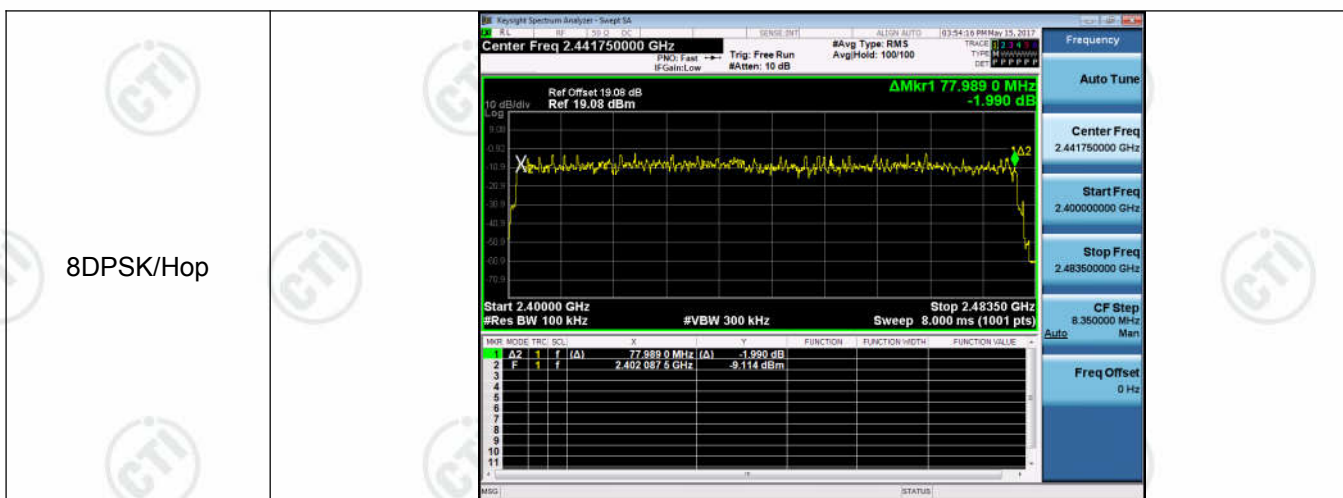
Appendix D): Hopping Channel Number

Result Table

Mode	Channel.	Number of Hopping Channel	Verdict
GFSK	Hop	79	PASS
$\pi/4$ DQPSK	Hop	79	PASS
8DPSK	Hop	79	PASS

Test Graph



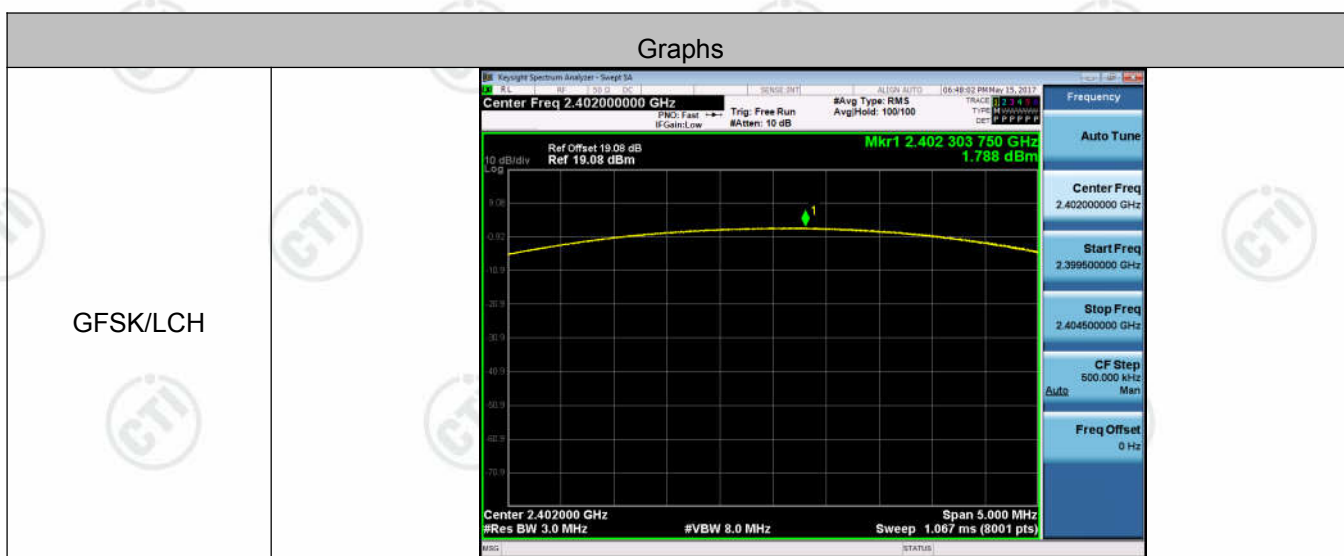


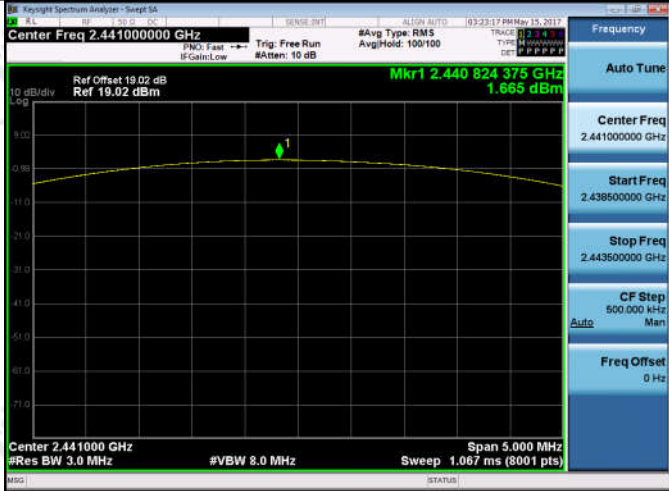
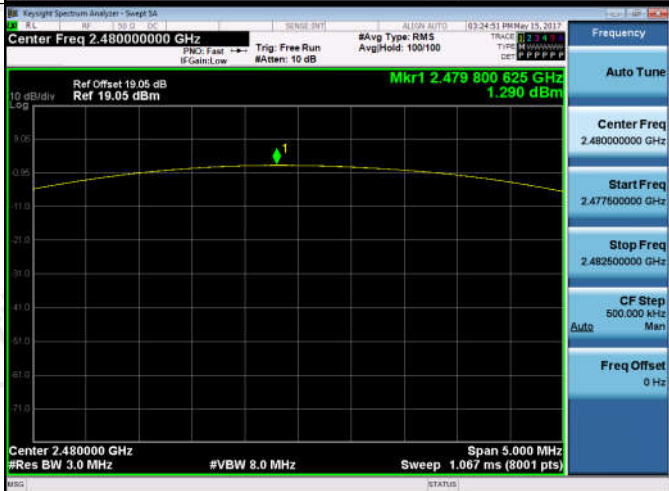
Appendix E): Conducted Peak Output Power

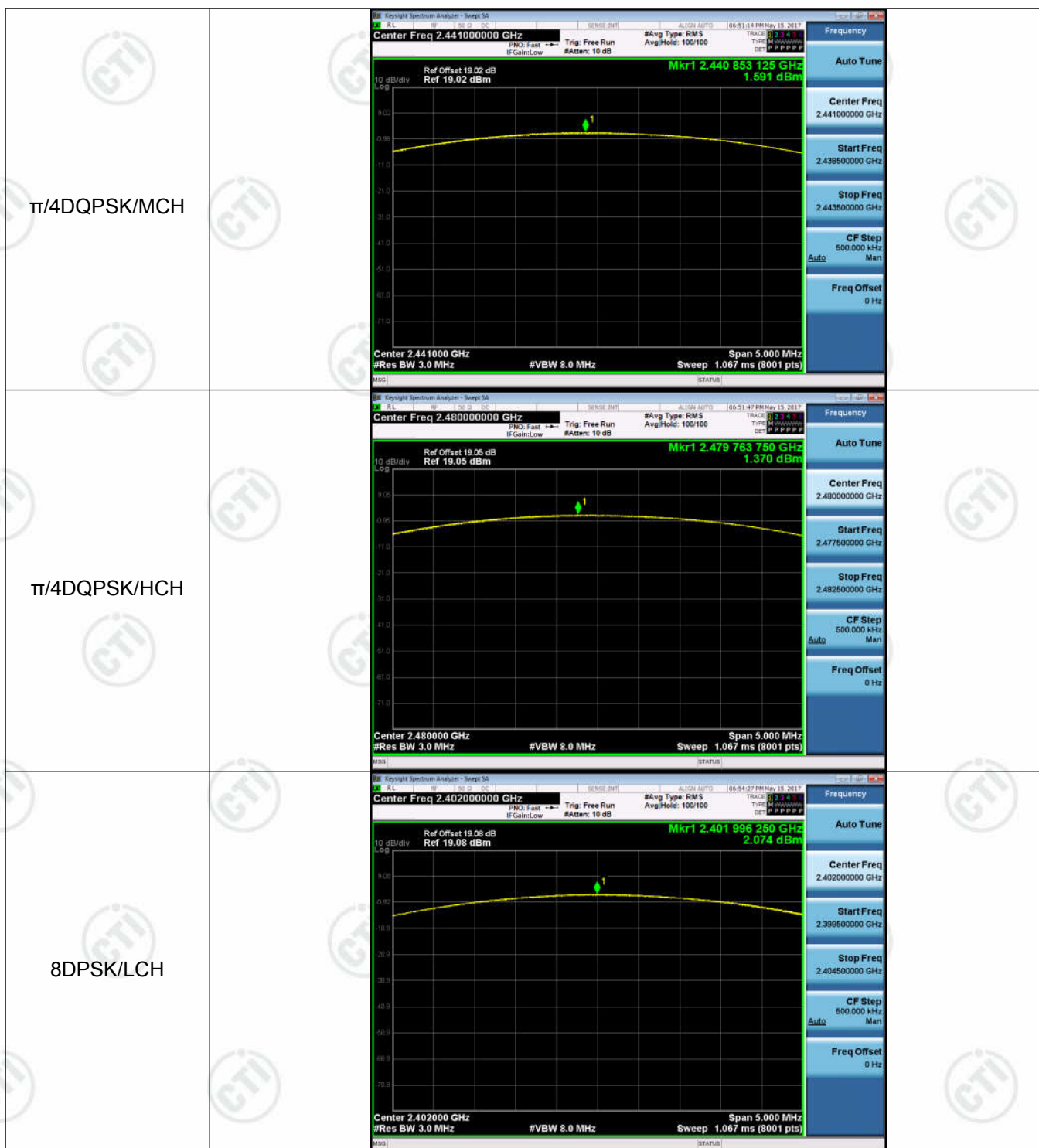
Result Table

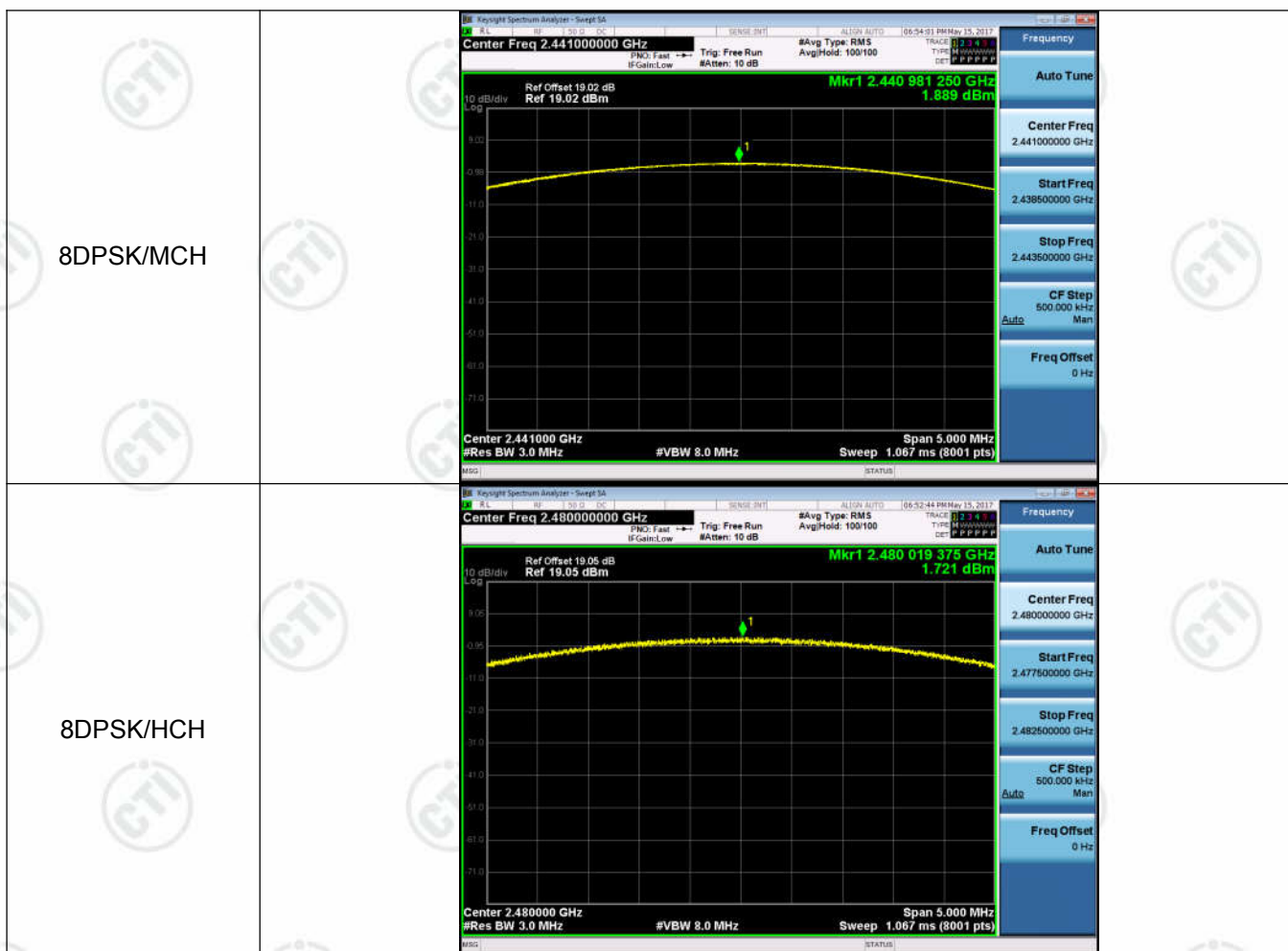
Mode	Channel.	Maximum Peak Output Power [dBm]	Verdict
GFSK	LCH	1.788	PASS
GFSK	MCH	1.665	PASS
GFSK	HCH	1.290	PASS
$\pi/4$ DQPSK	LCH	1.756	PASS
$\pi/4$ DQPSK	MCH	1.591	PASS
$\pi/4$ DQPSK	HCH	1.370	PASS
8DPSK	LCH	2.074	PASS
8DPSK	MCH	1.889	PASS
8DPSK	HCH	1.721	PASS

Test Graph



GFSK/MCH	
GFSK/HCH	
π/4DQPSK/LCH	



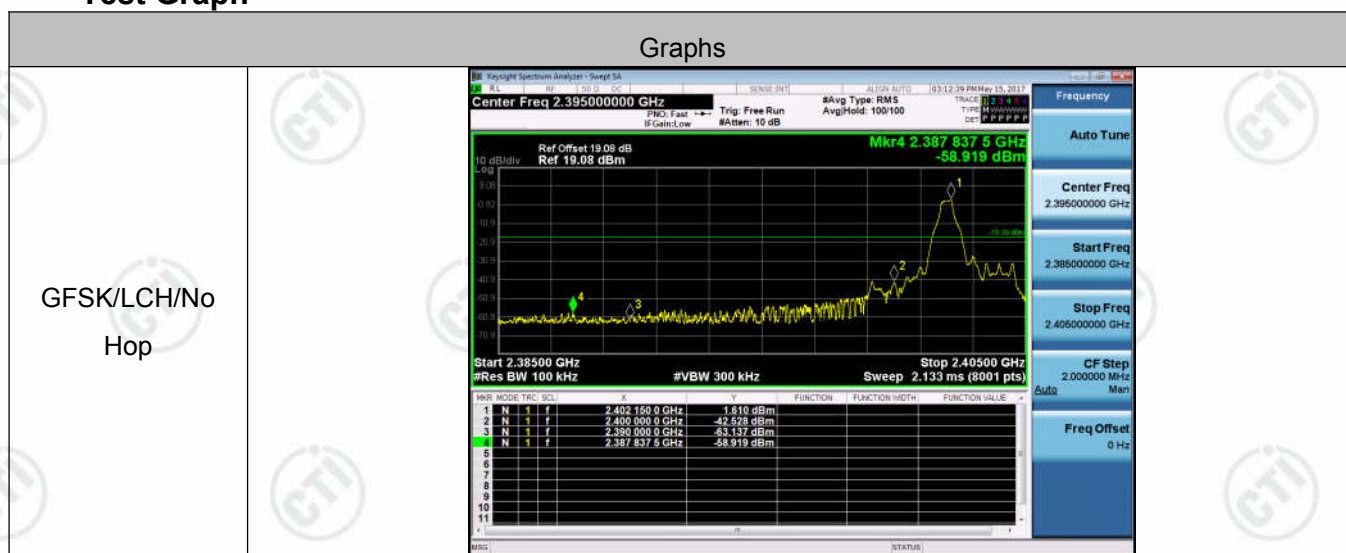


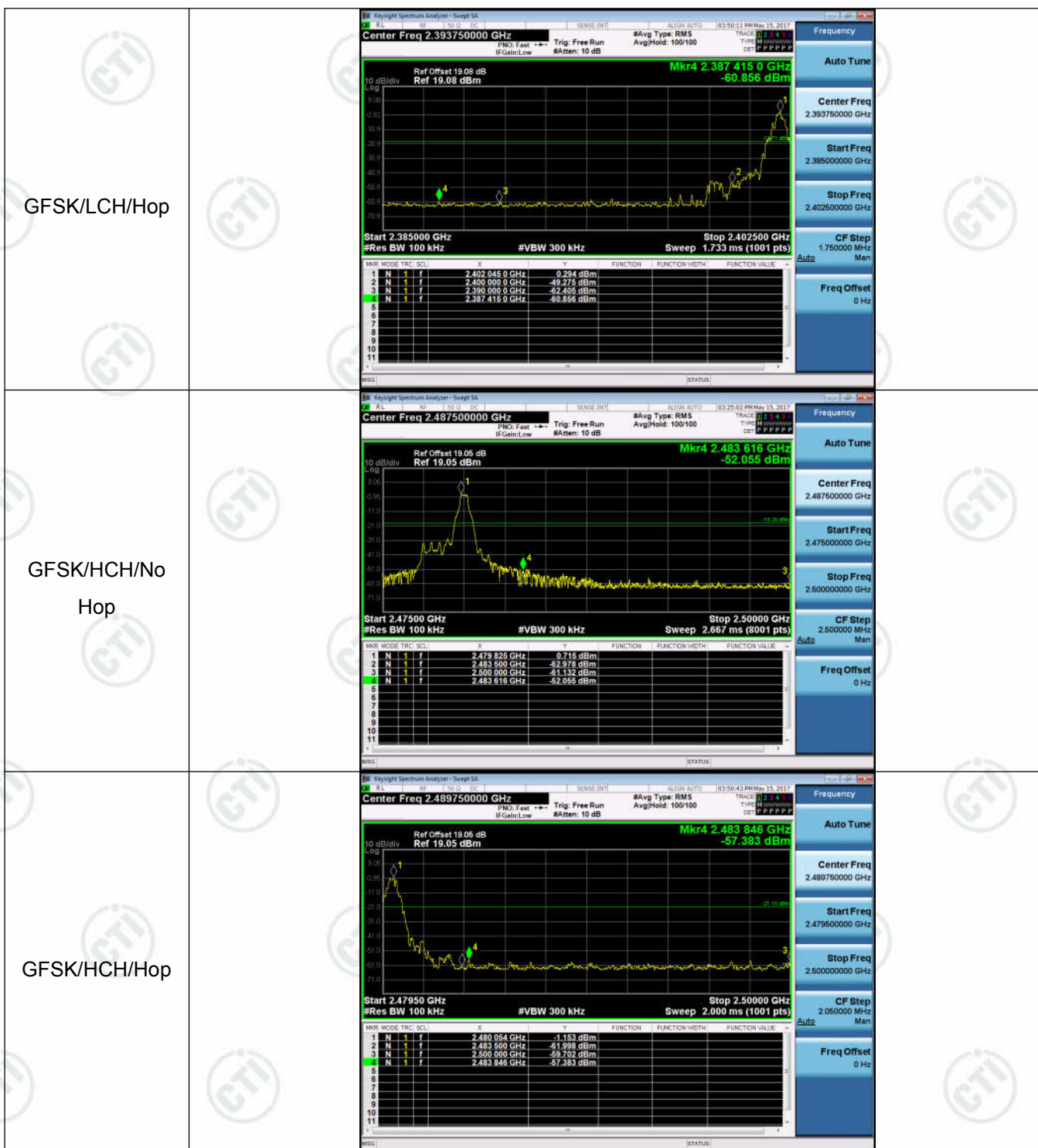
Appendix F): Band-edge for RF Conducted Emissions

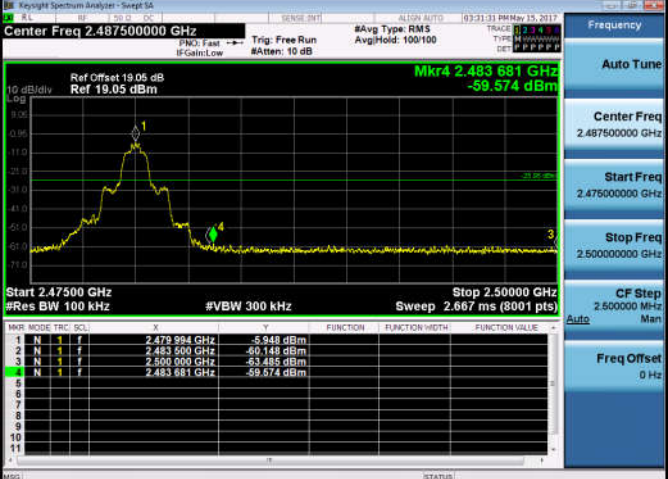
Result Table

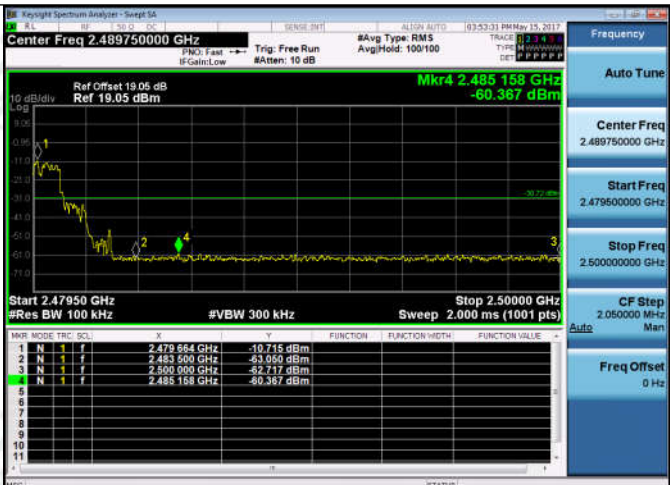
Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	1.610	Off	-58.919	-18.39	PASS
			0.294	On	-60.856	-19.71	PASS
GFSK	HCH	2480	0.715	Off	-52.055	-19.29	PASS
			-1.153	On	-57.383	-21.15	PASS
$\pi/4$ DQPSK	LCH	2402	-4.760	Off	-60.598	-24.76	PASS
			-7.938	On	-61.427	-27.94	PASS
$\pi/4$ DQPSK	HCH	2480	-5.948	Off	-59.574	-25.95	PASS
			-10.715	On	-60.367	-30.72	PASS
8DPSK	LCH	2402	-4.702	Off	-61.100	-24.70	PASS
			-8.822	On	-58.365	-28.82	PASS
8DPSK	HCH	2480	-5.759	Off	-58.734	-25.76	PASS
			-10.565	On	-60.622	-30.57	PASS

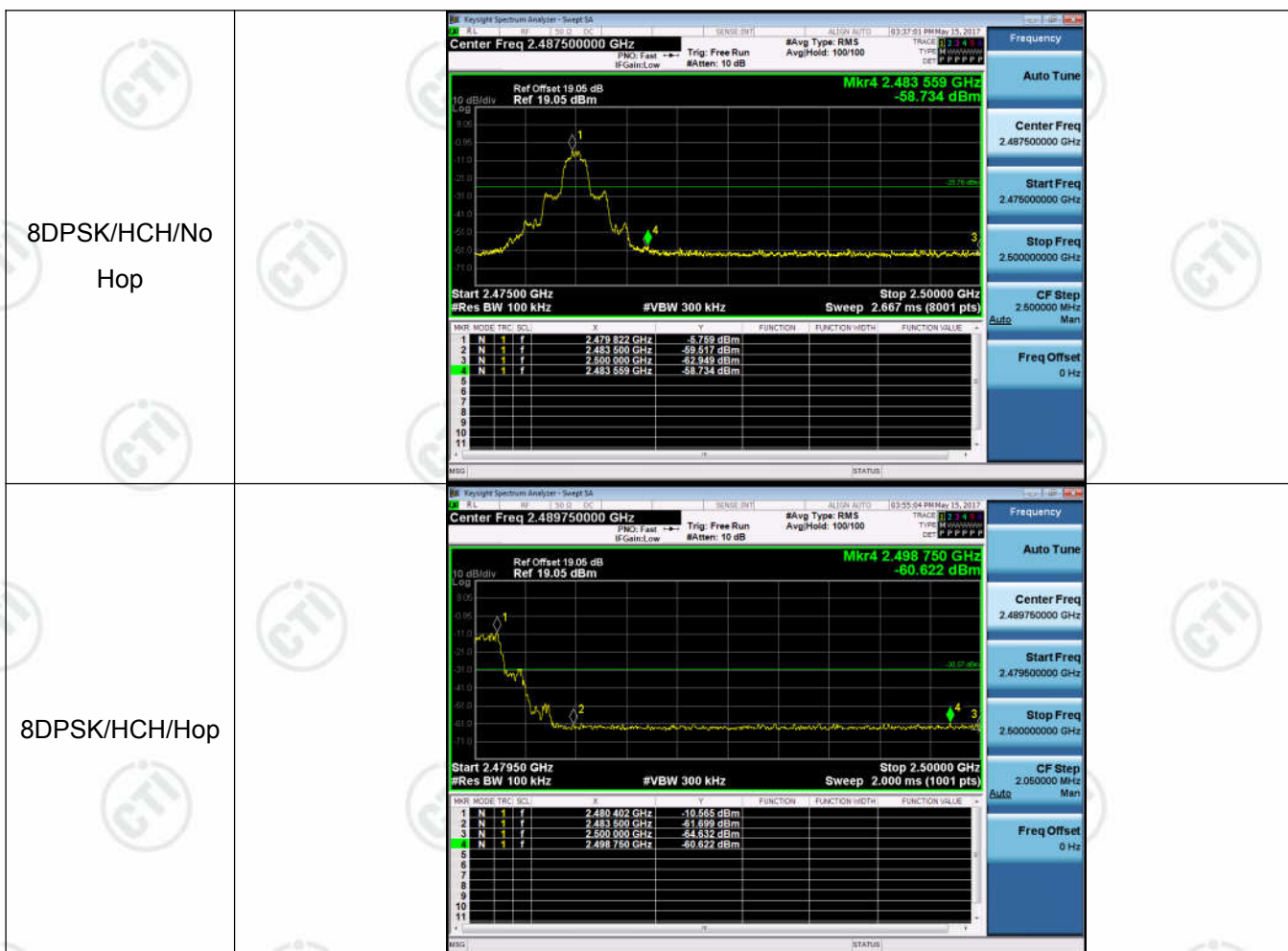
Test Graph





$\pi/4$DQPSK/LCH/ No Hop	
$\pi/4$DQPSK/LCH/ Hop	
$\pi/4$DQPSK/HCH/ No Hop	

π /4DQPSK/HCH/ Hop	 Center Freq 2.489750000 GHz Ref Offset 19.05 dB Ref 19.05 dBm Mkr4 2.485 158 GHz -60.367 dBm Start 2.47950 GHz #Res BW 100 kHz Stop 2.50000 GHz Sweep 2.000 ms (1001 pts) <table><tr><th>MNR</th><th>MODE</th><th>TRF</th><th>SCL</th><th>X</th><th>Y</th><th>FUNCTION</th><th>FUNCTION WIDTH</th><th>FUNCTION VALUE</th></tr><tr><td>1</td><td>N</td><td>1</td><td>f</td><td>2.479 684 GHz</td><td>-10.715 dBm</td><td></td><td></td><td></td></tr><tr><td>2</td><td>N</td><td>1</td><td>f</td><td>2.483 500 GHz</td><td>-63.050 dBm</td><td></td><td></td><td></td></tr><tr><td>3</td><td>N</td><td>1</td><td>f</td><td>2.500 000 GHz</td><td>-52.112 dBm</td><td></td><td></td><td></td></tr><tr><td>4</td><td>N</td><td>1</td><td>f</td><td>2.485 158 GHz</td><td>-60.367 dBm</td><td></td><td></td><td></td></tr></table>	MNR	MODE	TRF	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	1	N	1	f	2.479 684 GHz	-10.715 dBm				2	N	1	f	2.483 500 GHz	-63.050 dBm				3	N	1	f	2.500 000 GHz	-52.112 dBm				4	N	1	f	2.485 158 GHz	-60.367 dBm			
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4	N	1	f	2.485 158 GHz	-60.367 dBm																																									
8DPSK/LCH/No Hop	 Center Freq 2.395000000 GHz Ref Offset 19.08 dB Ref 19.08 dBm Mkr4 2.387 435 0 GHz -61.100 dBm Start 2.38500 GHz #Res BW 100 kHz Stop 2.40500 GHz Sweep 2.133 ms (8001 pts) <table><tr><th>MNR</th><th>MODE</th><th>TRF</th><th>SCL</th><th>X</th><th>Y</th><th>FUNCTION</th><th>FUNCTION WIDTH</th><th>FUNCTION VALUE</th></tr><tr><td>1</td><td>N</td><td>1</td><td>f</td><td>2.402 152 5 GHz</td><td>-4.702 dBm</td><td></td><td></td><td></td></tr><tr><td>2</td><td>N</td><td>1</td><td>f</td><td>2.400 000 0 GHz</td><td>-47.635 dBm</td><td></td><td></td><td></td></tr><tr><td>3</td><td>N</td><td>1</td><td>f</td><td>2.390 000 0 GHz</td><td>-62.961 dBm</td><td></td><td></td><td></td></tr><tr><td>4</td><td>N</td><td>1</td><td>f</td><td>2.387 435 0 GHz</td><td>-61.100 dBm</td><td></td><td></td><td></td></tr></table>	MNR	MODE	TRF	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	1	N	1	f	2.402 152 5 GHz	-4.702 dBm				2	N	1	f	2.400 000 0 GHz	-47.635 dBm				3	N	1	f	2.390 000 0 GHz	-62.961 dBm				4	N	1	f	2.387 435 0 GHz	-61.100 dBm			
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8DPSK/LCH/Hop	 Center Freq 2.393750000 GHz Ref Offset 19.08 dB Ref 19.08 dBm Mkr4 2.387 992 5 GHz -58.385 dBm Start 2.385000 GHz #Res BW 100 kHz Stop 2.402500 GHz Sweep 1.733 ms (1001 pts) <table><tr><th>MNR</th><th>MODE</th><th>TRF</th><th>SCL</th><th>X</th><th>Y</th><th>FUNCTION</th><th>FUNCTION WIDTH</th><th>FUNCTION VALUE</th></tr><tr><td>1</td><td>N</td><td>1</td><td>f</td><td>2.401 922 5 GHz</td><td>-8.822 dBm</td><td></td><td></td><td></td></tr><tr><td>2</td><td>N</td><td>1</td><td>f</td><td>2.400 000 0 GHz</td><td>-45.374 dBm</td><td></td><td></td><td></td></tr><tr><td>3</td><td>N</td><td>1</td><td>f</td><td>2.390 000 0 GHz</td><td>-62.296 dBm</td><td></td><td></td><td></td></tr><tr><td>4</td><td>N</td><td>1</td><td>f</td><td>2.387 992 5 GHz</td><td>-58.385 dBm</td><td></td><td></td><td></td></tr></table>	MNR	MODE	TRF	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	1	N	1	f	2.401 922 5 GHz	-8.822 dBm				2	N	1	f	2.400 000 0 GHz	-45.374 dBm				3	N	1	f	2.390 000 0 GHz	-62.296 dBm				4	N	1	f	2.387 992 5 GHz	-58.385 dBm			
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4	N	1	f	2.387 992 5 GHz	-58.385 dBm																																									



Appendix G): RF Conducted Spurious Emissions

Result Table

Mode	Channel	Pref [dBm]	Puw[dBm]	Verdict
GFSK	LCH	1.502	<Limit	PASS
GFSK	MCH	0.923	<Limit	PASS
GFSK	HCH	0.477	<Limit	PASS
$\pi/4$ DQPSK	LCH	-4.877	<Limit	PASS
$\pi/4$ DQPSK	MCH	-5.472	<Limit	PASS
$\pi/4$ DQPSK	HCH	-5.970	<Limit	PASS
8DPSK	LCH	-4.703	<Limit	PASS
8DPSK	MCH	-5.279	<Limit	PASS
8DPSK	HCH	-5.901	<Limit	PASS

Test Graph

