



TEST REPORT

Applicant: XiamenPaperangTechnologyCo.,Ltd.

Address of Applicant: Room 3124,Xuanye Building,Pioneer Park,Xiamen Torch High-tech Zone,Fujian,China

Equipment Under Test (EUT)

Product Name: ThermalPrinter

Model No.: P3,P3L,P3S,PAPERANG P3,PAPERANG-P3,P3B2,P3Y2,P3A2,P3Z2,P3N2,P3S2,P3C2,P3W2,P3X2

Trade mark: PAPERANG

FCC ID: 2APWO-PAPERANG-P3

Applicable standards: FCC CFR Title 47 Part 15 Subpart C Section 15.247

Date of sample receipt: 29 Mar., 2021

Date of Test: 10 Apr. 2021~ 18June 2021

Date of report issued: June 18, 2021

Test Result: PASS *

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

This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product and does not permit the use of the JYT product certification mark. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

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2 Version

Version No.	Date	Description
00	01 Jan., 2021	Original

Tested by: Elvis Wang
Test Engineer

Date: June 18, 2021

Reviewed by: Wife
Project Engineer

Date: June 18, 2021

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4 Test Summary

Test Items	Section in CFR 47	Result
Antenna Requirement	15.203&15.247 (b)	Pass
AC Power Line Conducted Emission	15.207	Pass
Conducted Peak Output Power	15.247 (b)(1)	Pass
20dB Occupied Bandwidth	15.247 (a)(1)	Pass
Carrier Frequencies Separation	15.247 (a)(1)	Pass
Hopping Channel Number	15.247 (a)(1)	Pass
Dwell Time	15.247 (a)(1)	Pass
Spurious Emission	15.205&15.209	Pass
Band Edge	15.247(d)	Pass
<p>Remark:</p> <ol style="list-style-type: none"> 1. Pass: The EUT complies with the essential requirements in the standard. 2. N/A:Not Applicable. 3. The cable insertion loss used by "RF Output Power" and other conduction measurement items is 0.5dB (provided by the customer). 		
Test Method:	ANSI C63.10-2013 KDB 558074 D01 15.247 Meas Guidance v05r02	

5 General Information

5.1 Client Information

Applicant:	XiamenPaperangTechnologyCo.,Ltd.
Address:	Room 3124,Xuanye Building,Pioneer Park,Xiamen Torch High-tech Zone,Fujian,China
Manufacturer:	XiamenPaperangTechnologyCo.,Ltd.
Address:	Room 3124,Xuanye Building,Pioneer Park,Xiamen Torch High-tech Zone,Fujian,China

5.2 General Description of E.U.T.

Product Name:	Thermal Printer
Model No.:	P3,P3L,P3S,PAPERANG P3,PAPERANG-P3,P3B2,P3Y2,P3A2,P3Z2,P3N2,P3S2,P3C2,P3W2,P3X2
Operation Frequency:	2402MHz~2480MHz
Transfer rate:	1/2/3 Mbits/s
Number of channel:	79
Modulation type:	GFSK, $\pi/4$ -DQPSK, 8DPSK
Modulation technology:	FHSS
Antenna Type:	PCB Antenna
Antenna gain:	0dBi
Power supply:	Battery
AC adapter:	N/A
Remarks:	The model P3 is identical withP3L,P3S,PAPERANG P3,PAPERANG-P3,P3B2,P3Y2,P3A2,P3Z2,P3N2,P3S2,P3C2,P3W2and P3X2 except for model No., so full tests were performed on the model P3.

Operation Frequency each of channel for GFSK, $\pi/4$ -DQPSK, 8DPSK

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
...
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		

Remark: Channel 0, 39 &78 selected for GFSK, $\pi/4$ -DQPSK and 8DPSK.

5.3 Test environment and test mode

Operating Environment:	
Temperature:	22.5°C
Humidity:	55 % RH
Atmospheric Pressure:	1010 mbar
Test Modes:	
Non-hopping mode:	Keep the EUT in continuous transmitting mode with worst case data rate.
Hopping mode:	Keep the EUT in hopping mode.
Remark	GFSK (1 Mbps) is the worst case mode.
<p>The sample was placed 0.8m (below 1GHz)/1.5m (above 1GHz) above the ground plane of 3m chamber*. Measurements in both horizontal and vertical polarities were performed. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, rotating the turntable, varying antenna height from 1m to 4m in both horizontal and vertical polarizations. The emissions worst-case are shown in Test Results of the following pages.</p>	

5.4 Description of Support Units

The EUT has been tested as an independent unit.

5.5 Measurement Uncertainty

Parameters	Expanded Uncertainty
Radiated Emission (9kHz ~ 30MHz)	±3.12 dB (k=2)
Radiated Emission (30MHz ~ 1000MHz)	±4.32 dB (k=2)
Radiated Emission (1GHz ~ 18GHz)	±5.16 dB (k=2)

5.6 Additions to, deviations, or exclusions from the method

No

5.7 Laboratory Facility

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

- **FCC - Designation No.: CN1279**
 Jianyan Testing Group Co., Ltd. has been accredited as a testing laboratory by FCC(Federal Communications Commission). The test firm Registration No. is 892155.
- **ISED – CAB identifier.: CN0102**
 Jianyan Testing Group Co., Ltd. has been recognized by Innovation, Science and Economic Development Canada to test to Canadian radio equipment requirements with ISED#:26114.
- **A2LA - Registration No.: 5568.01**
 This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017General requirements for the competence of testing and calibration laboratories. The test scope can be found as below link: <https://portal.a2la.org/scopepdf/5568-01.pdf>

5.8 Laboratory Location

JianYan Testing Group Co.,Ltd.
 Address: No.760, Fengling Road, Tong'an District, Xiamen, Fujian, China
 Tel: +86-592-2273071, Fax:+86-592-2273700
 Email: info-JYTee@lets.com, Website: <http://www.lets.com/>

5.9 Test Instruments list

Conducted Emission:					
Test Equipment	Manufacturer	Model No.	Serial No.	Cal. Date (mm-dd-yy)	Cal. Due date (mm-dd-yy)
EMI Test Receiver	Rohde & Schwarz	ESR 3	102330	2020-08-05	2021-08-04
LISN	Rohde & Schwarz	ENV 216	102240	2020-08-05	2021-08-04
Voltage probe	Schwarzbeck	TK9420+VT9420	814	2020-08-05	2021-08-04
ISN	Schwarzbeck	CAT3 8158	95	2020-08-05	2021-08-04
EMI Test Software	Farad	EZ-EMC	Version: V.EMCE-3A1		

Radiated Emission:					
Test Equipment	Manufacturer	Model No.	Serial No.	Cal. Date (mm-dd-yy)	Cal. Due date (mm-dd-yy)
EMI Test Receiver	Rohde & Schwarz	ESR 3	102329	2020-08-06	2021-08-05
SpectrumAnalyzer	Rohde & Schwarz	FSV40-N	102175	2021-04-12	2022-04-11
BiConiLog Antenna	SCHWARZBECK	VULB 9163	1105	2020-12-20	2021-12-19
BiConiLog Antenna	SCHWARZBECK	VULB 9168	1066	2021-04-01	2022-03-31
Horn Antenna	SCHWARZBECK	BBHA 9120 D	911	2021-03-17	2022-03-16
Pre-amplifier	SCHWARZBECK	BBV9743	00009	2020-08-06	2021-08-05
Pre-amplifier	SCHWARZBECK	BBV9718C	00014	2021-04-01	2022-03-31
EMI Test Software	Farad	EZ-EMC	Version: V.EMCE-3A1		

Conducted method For EN 300 328 Test System:					
Test Equipment	Manufacturer	Model No.	Serial No.	Cal. Date (mm-dd-yy)	Cal. Due date (mm-dd-yy)
Signal Generator	Agilent	N5181	MY49060122	2021-04-12	2022-04-11
Signal Generator	Agilent	N5182A	MY51004823	2021-04-12	2022-04-11
Wideband Radio Communication Tester	R&S	CMW500	145852	2021-04-12	2022-04-11
Spectrum Analyzer	R&S	FSV40-N	102175	2021-04-12	2022-04-11
Test Software	MWRFTTEST	MTS 8310	Version: 2.0.0.0		

6 Test results and measurement data

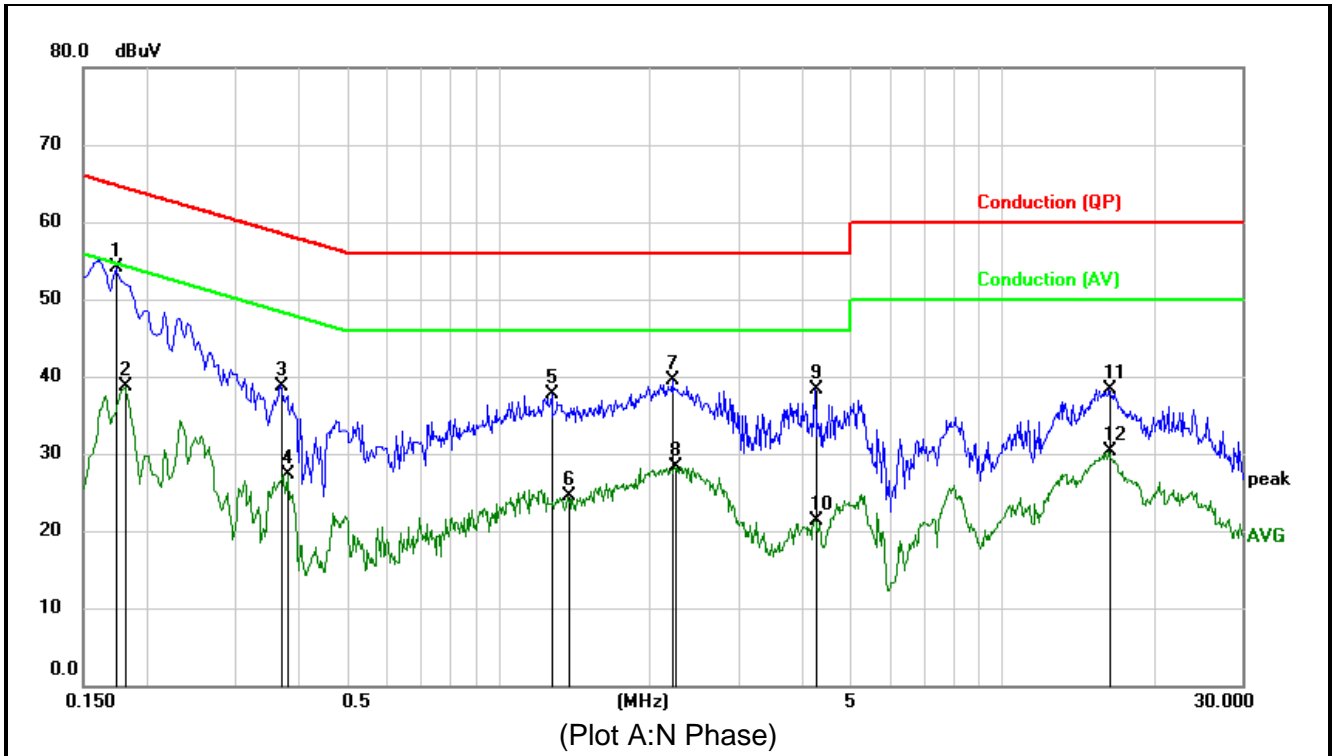
6.1 Antenna Requirement

Standard requirement:	FCC Part15 C Section 15.203 &247(b)
<p>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.</p> <p>15.247(b) (4) requirement: (4) 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.</p>	
E.U.T Antenna:	
<p>The Bluetooth antenna is an internal antenna which permanently attached, and the best case gain of the antenna is 0dBi.</p>	

6.2 Conducted Emissions

Test Requirement:	FCC Part15 C Section 15.207		
Test Frequency Range:	150kHz to 30MHz		
Class / Severity:	Class B		
Receiver setup:	RBW=9kHz, VBW=30kHz, Sweep time=auto		
Limit:	Frequency range (MHz)	Limit (dBuV)	
		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 of the frequency.			
Test setup:	<p><i>Remark</i> E.U.T: Equipment Under Test LISN: Line Impedance Stabilization Network Test table height=0.8m</p>		
Test procedure:	<ol style="list-style-type: none"> 1. The E.U.T and simulators are connected to the main power through a line impedance stabilization network(L.I.S.N.). This provides a 50ohm/50uH coupling impedance for the measuring equipment. 2. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs). 3. Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10(latest version) on conducted measurement. 		
Test Instruments:	Refer to section 5.9 for details		
Test mode:	Charging + BT Link.		
Test results:	Pass		

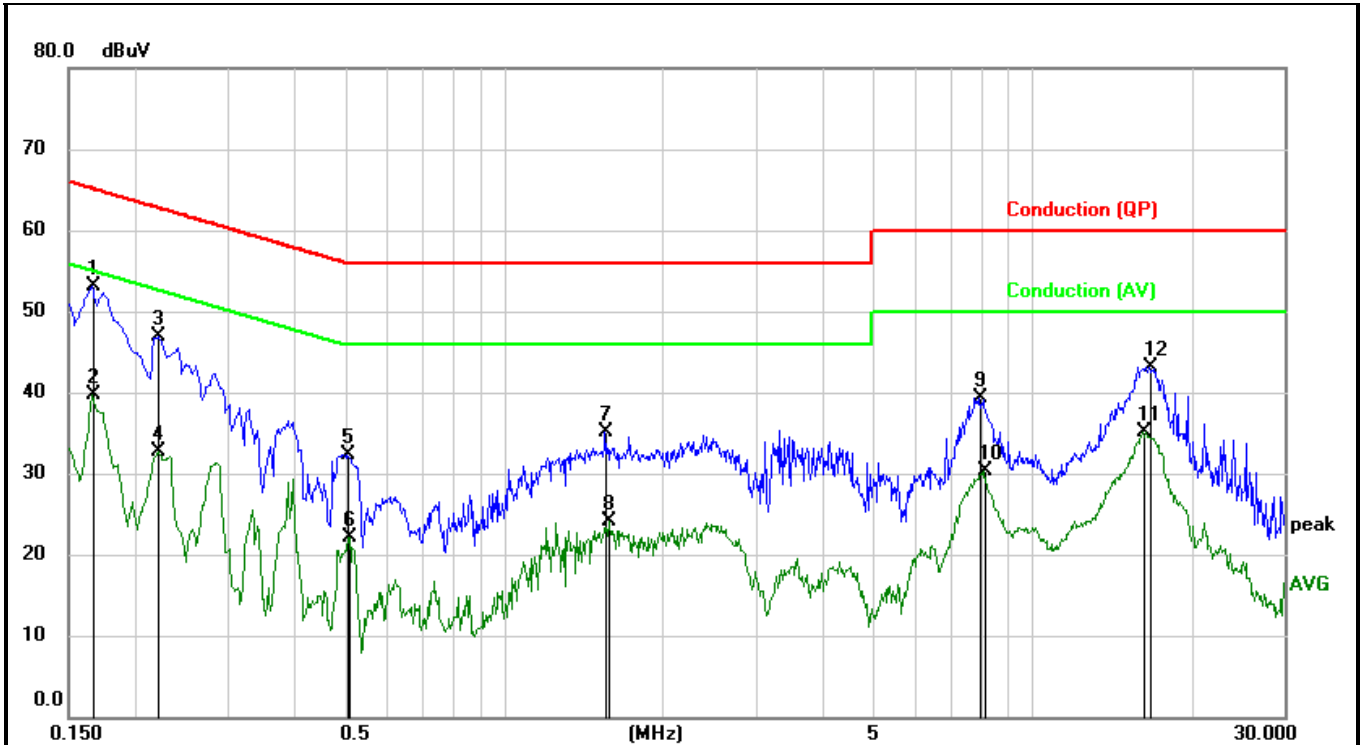
Measurement Data:



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector
1	*	0.1740	44.51	9.64	54.15	64.77	-10.62	QP
2		0.1819	29.07	9.64	38.71	54.40	-15.69	AVG
3		0.3700	29.15	9.65	38.80	58.50	-19.70	QP
4		0.3820	17.63	9.65	27.28	48.24	-20.96	AVG
5		1.2780	27.97	9.69	37.66	56.00	-18.34	QP
6		1.3779	14.75	9.69	24.44	46.00	-21.56	AVG
7		2.2180	29.78	9.70	39.48	56.00	-16.52	QP
8		2.2460	18.59	9.70	28.29	46.00	-17.71	AVG
9		4.2540	28.49	9.74	38.23	56.00	-17.77	QP
10		4.2540	11.56	9.74	21.30	46.00	-24.70	AVG
11		16.3580	28.23	10.10	38.33	60.00	-21.67	QP
12		16.3580	20.12	10.10	30.22	50.00	-19.78	AVG

Notes:

1. An initial pre-scan was performed on the line and neutral lines with peak detector.
2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
3. Final Level = Receiver Read level + LISN Factor + Cable Loss.



(Plot B:L Phase)

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector
1	*	0.1660	43.43	9.65	53.08	65.16	-12.08	QP
2		0.1660	30.03	9.65	39.68	55.16	-15.48	AVG
3		0.2220	37.20	9.64	46.84	62.74	-15.90	QP
4		0.2220	23.02	9.64	32.66	52.74	-20.08	AVG
5		0.5060	22.67	9.65	32.32	56.00	-23.68	QP
6		0.5100	12.46	9.65	22.11	46.00	-23.89	AVG
7		1.5580	25.31	9.71	35.02	56.00	-20.98	QP
8		1.5820	14.40	9.71	24.11	46.00	-21.89	AVG
9		7.9700	29.41	9.89	39.30	60.00	-20.70	QP
10		8.1059	20.49	9.89	30.38	50.00	-19.62	AVG
11		16.1858	25.14	10.05	35.19	50.00	-14.81	AVG
12		16.6700	33.13	10.05	43.18	60.00	-16.82	QP

Notes:

1. An initial pre-scan was performed on the line and neutral lines with peak detector.
2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
3. Final Level = Receiver Read level + LISN Factor + Cable Loss.

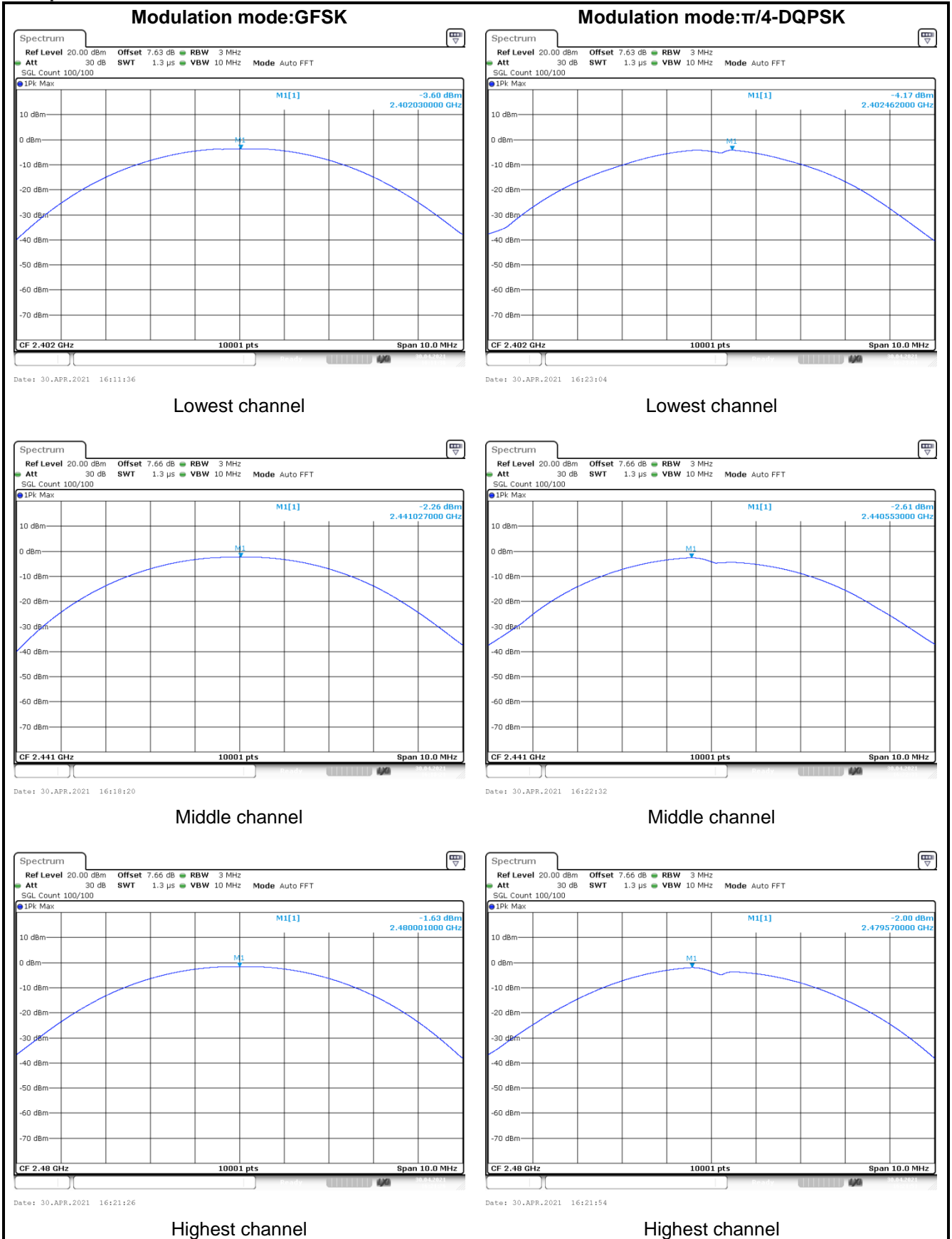
6.3 Conducted Output Power

Test Requirement:	FCC Part15 C Section 15.247 (b)(1)
Receiver setup:	RBW=3MHz, VBW=10MHz, span=10MHz, Sweep time=auto couple. Detector=Peak , Trace mode=max hold, Allow trace to fully stabilize.
Limit:	For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watts.
Test setup:	<p>The diagram illustrates the test setup. A Spectrum Analyzer is connected via a red cable to an E.U.T. (Equipment Under Test). Both are placed on a Non-Conducted Table. Below the table is a Ground Reference Plane.</p>
Test Instruments:	Refer to section 5.9 for details
Test mode:	Non-hopping mode
Test results:	Pass

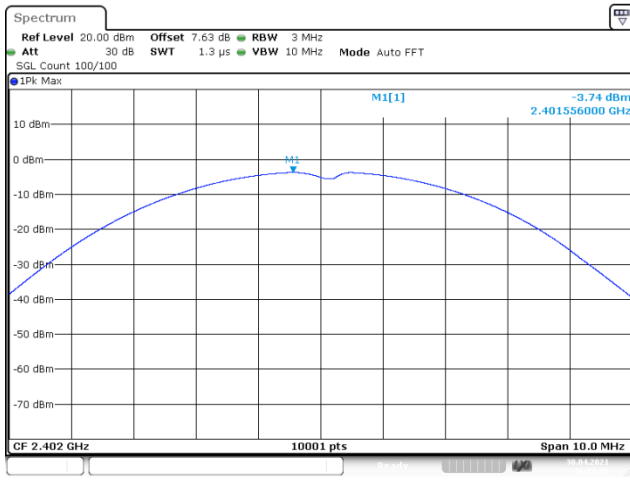
Measurement Data:

Test channel	Peak Output Power (dBm)	Limit (dBm)	Result
GFSK mode			
Lowest channel	-3.60	21.00	Pass
Middle channel	-2.26	21.00	Pass
Highest channel	-1.63	21.00	Pass
$\pi/4$ -DQPSK mode			
Lowest channel	-4.17	21.00	Pass
Middle channel	-2.61	21.00	Pass
Highest channel	-2.00	21.00	Pass
8DPSK mode			
Lowest channel	-3.74	21.00	Pass
Middle channel	-2.60	21.00	Pass
Highest channel	-1.87	21.00	Pass

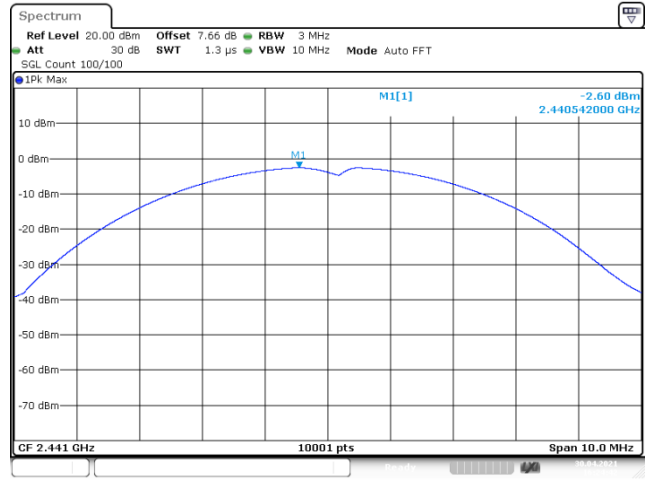
Test plot as follows:



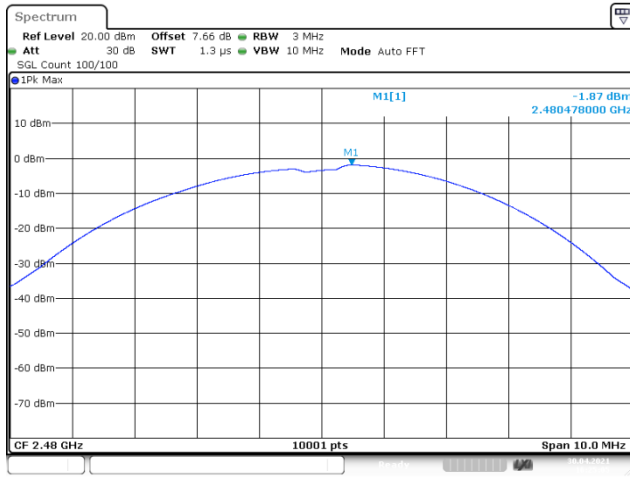
Modulation mode:8DPSK



Lowest channel

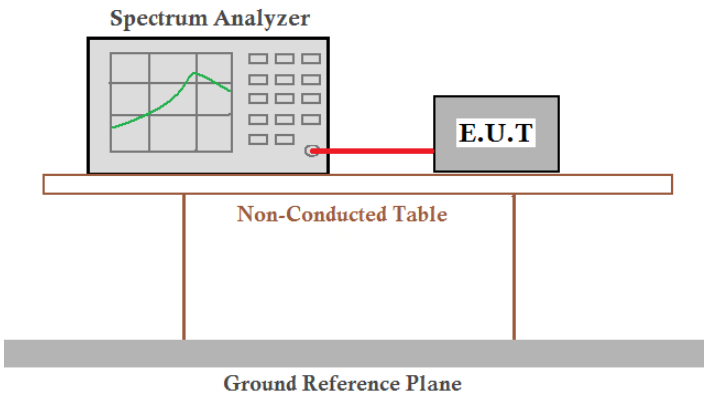


Middle channel



Highest channel

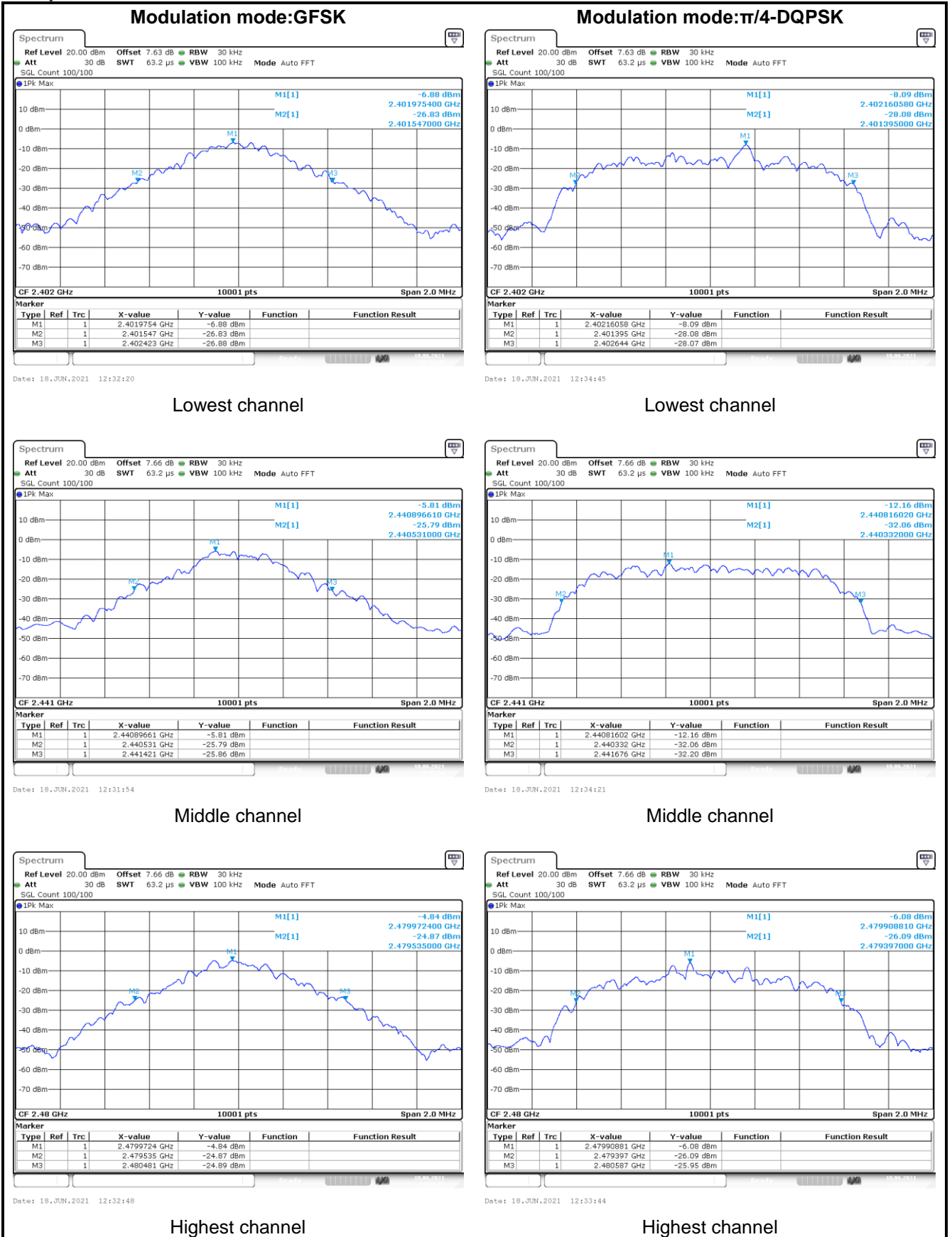
6.4 20dB Occupy Bandwidth

Test Requirement:	FCC Part15 C Section 15.247 (a)(1)
Receiver setup:	RBW=30kHz, VBW=100kHz, detector=Peak
Limit:	N/A
Test setup:	
Test Instruments:	Refer to section 5.9 for details
Test mode:	Non-hopping mode
Test results:	Pass

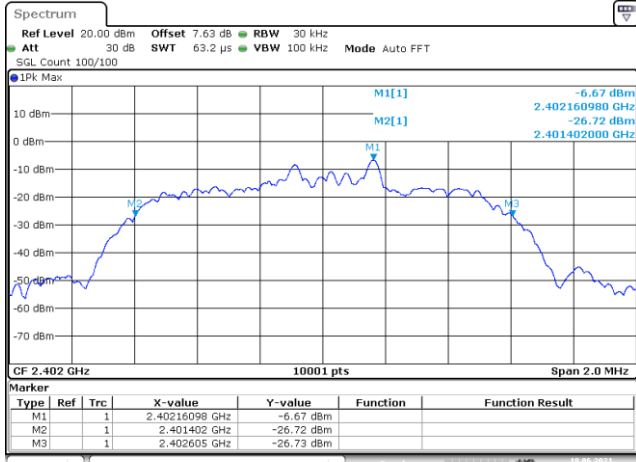
Measurement Data:

Test channel	20dB Occupy Bandwidth (MHz)		
	GFSK	$\pi/4$ -DQPSK	8DPSK
Lowest	0.876	1.249	1.202
Middle	0.890	1.344	1.179
Highest	0.946	1.190	1.248

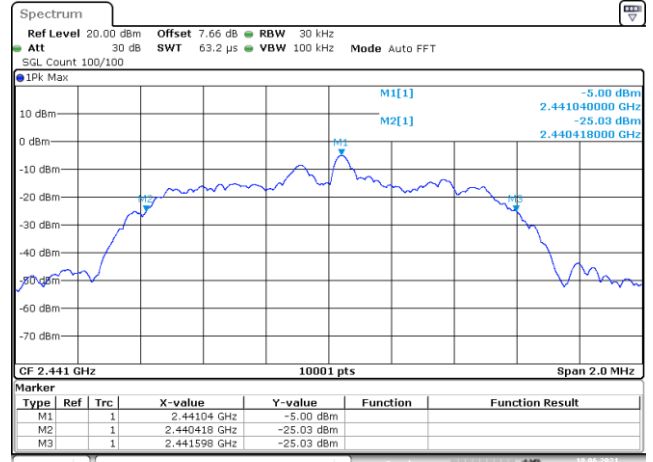
Test plot as follows:



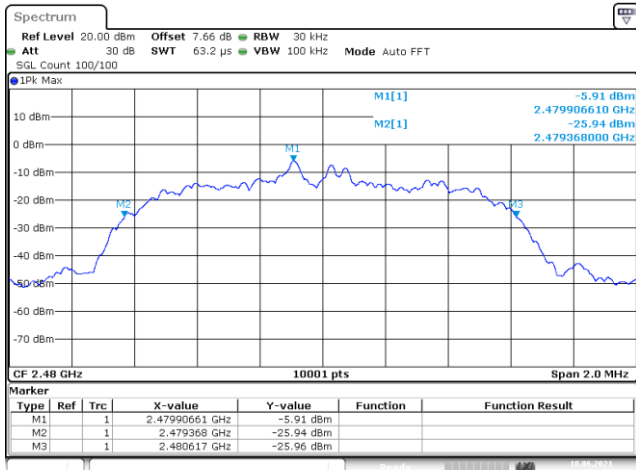
Modulation mode:8DPSK



Lowest channel

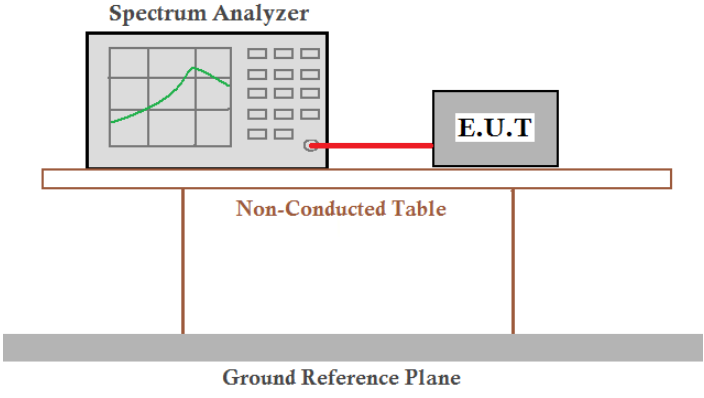


Middle channel



Highest channel

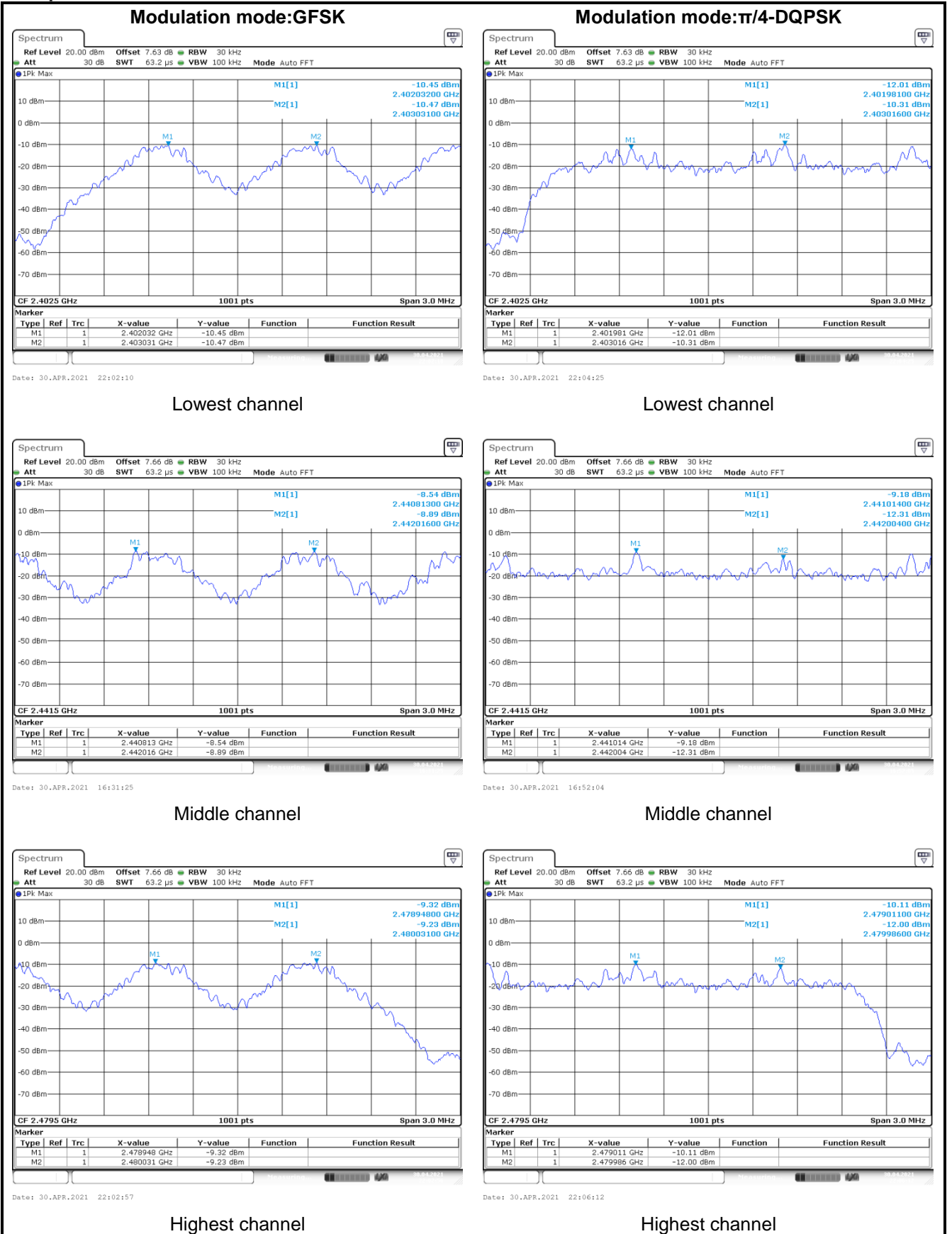
6.5 Carrier Frequencies Separation

Test Requirement:	FCC Part15 C Section 15.247 (a)(1)
Receiver setup:	RBW=100kHz, VBW=300kHz, detector=Peak
Limit:	0.025MHz or two-thirds of the 20dB bandwidth (whichever is greater)
Test setup:	 <p>The diagram illustrates the test setup. A Spectrum Analyzer is connected via a red cable to an E.U.T. (Equipment Under Test). Both are placed on a Non-Conducted Table. Below the table is a Ground Reference Plane.</p>
Test Instruments:	Refer to section 5.9 for details
Test mode:	Hopping mode
Test results:	Pass

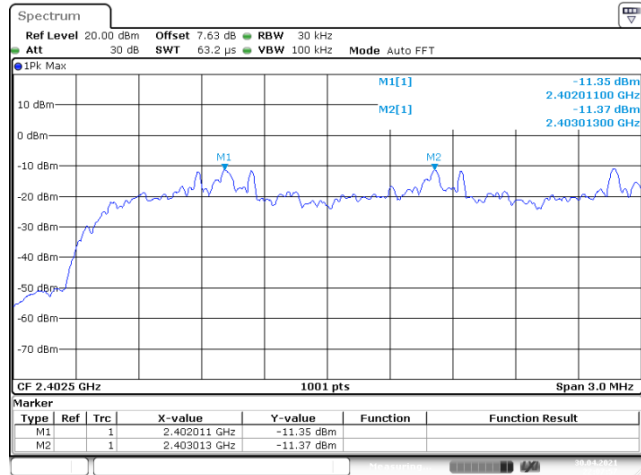
Measurement Data:

Measured Channel Numbers	Carrier Frequencies Separation (MHz)	20dB bandwidth (MHz)	Limit (MHz)	Result
GFSK				
0 and 1	0.999	0.876	0.584	Pass
39 and 40	1.203	0.890	0.593	Pass
77 and 78	1.083	0.946	0.631	Pass
$\pi/4$ -DQPSK mode				
0 and 1	1.035	1.249	0.833	Pass
39 and 40	0.990	1.344	0.896	Pass
77 and 78	0.975	1.190	0.793	Pass
8DPSK mode				
0 and 1	1.002	1.202	0.801	Pass
39 and 40	1.110	1.179	0.786	Pass
77 and 78	1.038	1.248	0.832	Pass
Note 1:Min. Limit is equal to the two-thirds of the 20dB bandwidth				

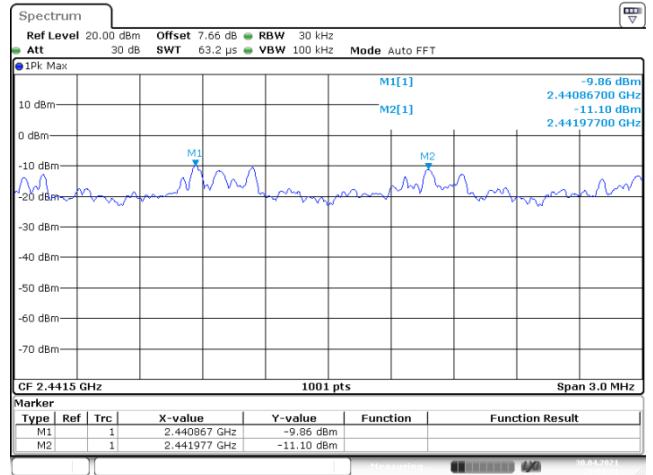
Test plot as follows:



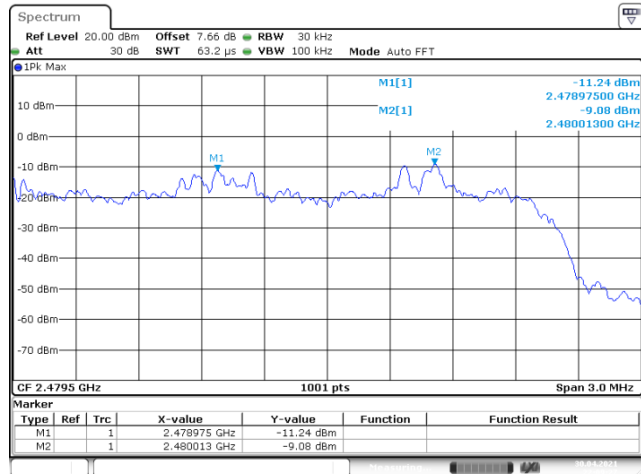
Modulation mode:8DPSK



Lowest channel

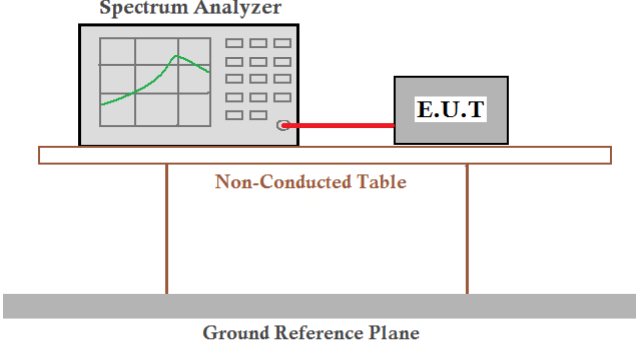


Middle channel



Highest channel

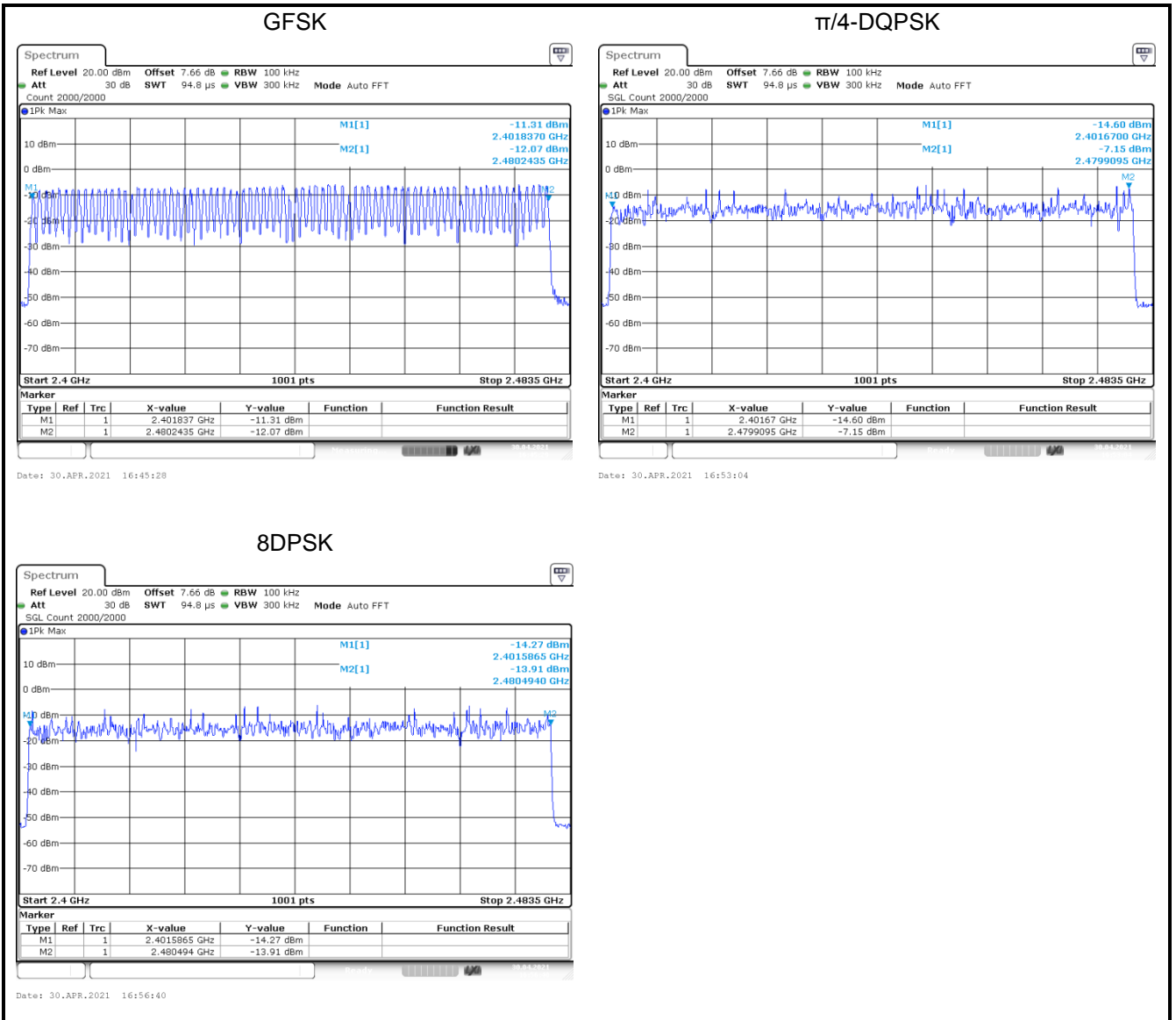
6.6 Hopping Channel Number

Test Requirement:	FCC Part15 C Section 15.247 (a)(1)
Receiver setup:	RBW=100kHz, VBW=300kHz, Frequency range=2400MHz to 2483.5MHz, Detector=Peak
Limit:	15 channels
Test setup:	 <p>The diagram illustrates the test setup. A Spectrum Analyzer is connected via a red cable to an E.U.T. (Equipment Under Test). Both are placed on a Non-Conducted Table. Below the table is a Ground Reference Plane.</p>
Test Instruments:	Refer to section 5.9 for details
Test mode:	Hopping mode
Test results:	Pass

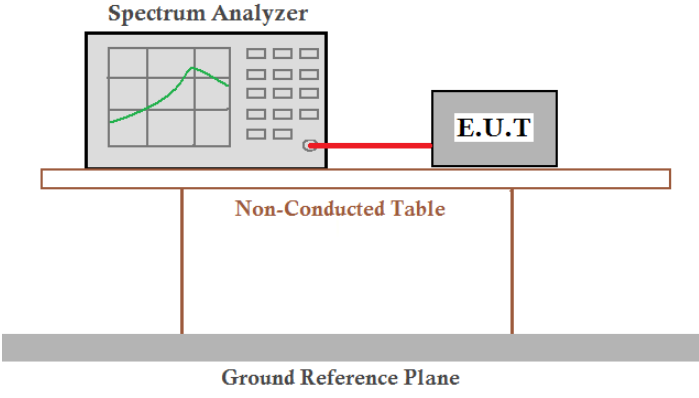
Measurement Data:

Mode	Hopping channel numbers	Limit	Result
GFSK, $\pi/4$ -DQPSK, 8DPSK	79	15	Pass

Test plot as follows:



6.7 Dwell Time

Test Requirement:	FCC Part15 C Section 15.247 (a)(1)
Receiver setup:	RBW=1MHz, VBW=3MHz, Span=0Hz, Detector=Peak
Limit:	0.4 Second
Test setup:	 <p>The diagram illustrates the test setup. A Spectrum Analyzer is connected via a red cable to an E.U.T. (Equipment Under Test). Both are placed on a Non-Conducted Table. Below the table is a Ground Reference Plane.</p>
Test Instruments:	Refer to section 5.9 for details
Test mode:	Hopping mode
Test results:	Pass

Measurement Data (Worse case):

For time of occupancy, all of mode were tested separately, we only recorded the worst test result(DH5/2DH5/3DH5) in this report.

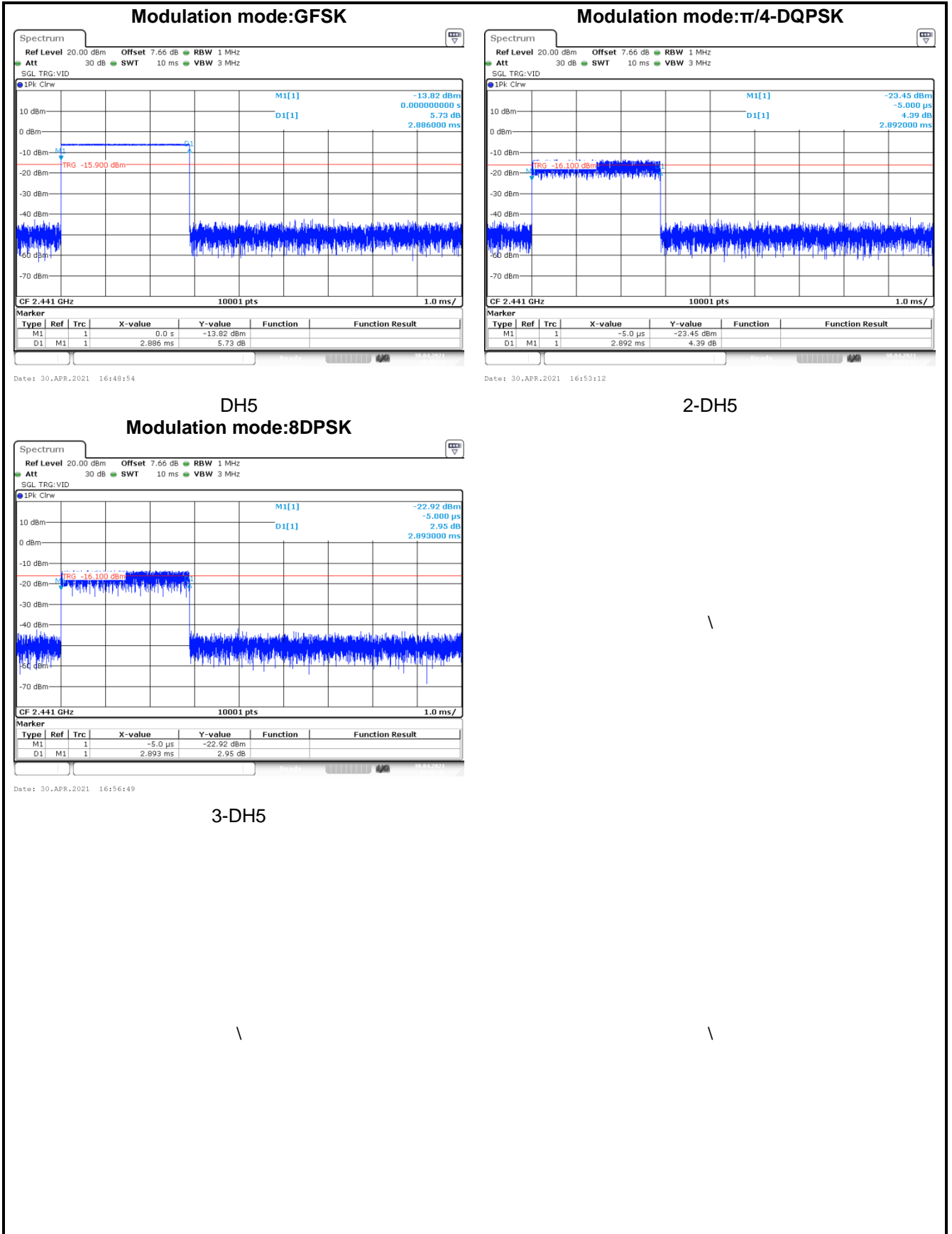
Mode	Packet	PulseWidth (ms)	Dwell time (ms)	Limit (second)	Result
GFSK	DH5	2.886	307.84	0.4	Pass
$\pi/4$ -DQPSK	2DH5	2.892	308.48		
8DPSK	3DH5	2.893	308.59		

Note:

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

CalculationFormula: Dwell time = Ton time per hop * Hopping numbers * Period

Test plot as follows:

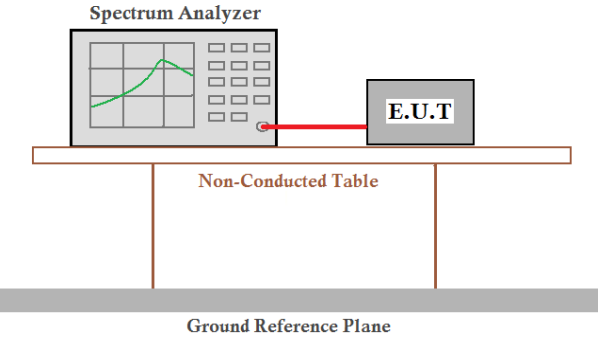


6.8 Pseudorandom Frequency Hopping Sequence

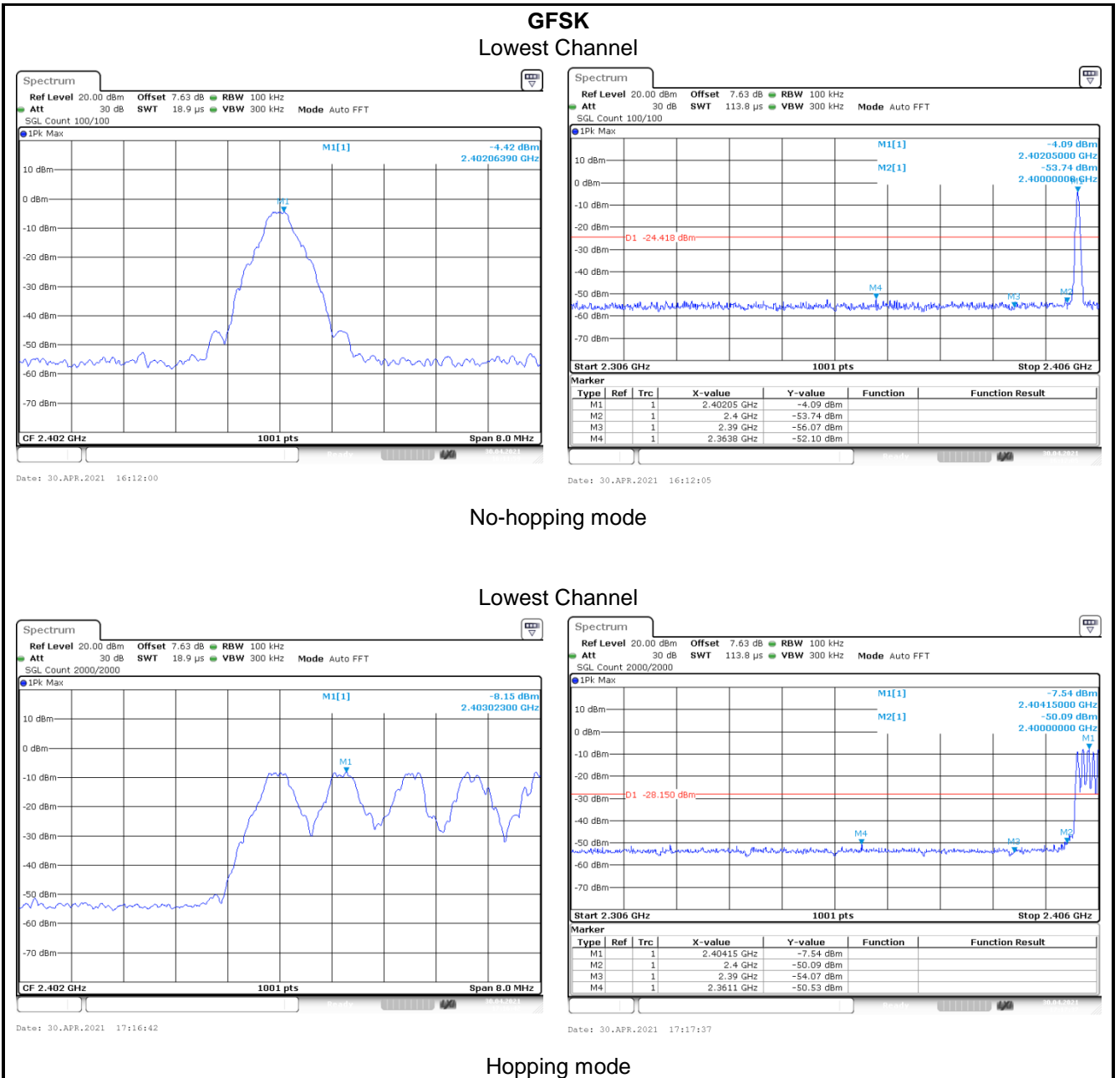
Test Requirement:	FCC Part15 C Section 15.247 (a)(1) requirement:
<p>Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.</p> <p>Alternatively. Frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW. The system shall hop to channel frequencies that are selected at the system hopping rate from a Pseudorandom ordered list of hopping frequencies. Each frequency must be used equally on the average by each transmitter. The system receivers shall have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shall shift frequencies in synchronization with the transmitted signals.</p>	
<p>EUT Pseudorandom Frequency Hopping Sequence</p>	
<p>The pseudorandom sequence may be generated in a nine-stage shift register whose 5th and 9th stage outputs are added in a modulo-two addition stage. And the result is fed back to the input of the first stage. The sequence begins with the first ONE of 9 consecutive ONES; i.e. the shift register is initialized with nine ones.</p> <ul style="list-style-type: none"> • Number of shift register stages: 9 • Length of pseudo-random sequence: $2^9 - 1 = 511$ bits • Longest sequence of zeros: 8 (non-inverted signal) <div data-bbox="260 860 1299 1003" style="text-align: center;"> </div> <p style="text-align: center;"><i>Linear Feedback Shift Register for Generation of the PRBS sequence</i></p> <p>An example of Pseudorandom Frequency Hopping Sequence as follow:</p> <div data-bbox="260 1106 1246 1249" style="text-align: center;"> </div> <p>Each frequency used equally on the average by each transmitter. The system receivers have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shift frequencies in synchronization with the transmitted signals.</p>	

6.9 Band Edge

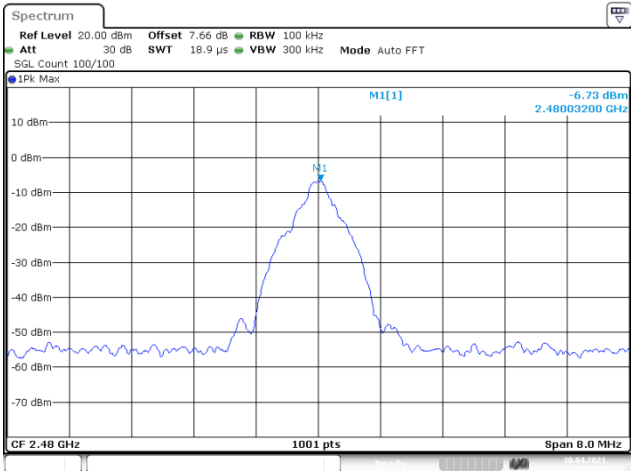
6.9.1 Conducted Emission Method

Test Requirement:	FCC Part15 C Section 15.247 (d)
Receiver setup:	RBW=100kHz, VBW=300kHz, Detector=Peak
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.
Test setup:	 <p>The diagram illustrates the test setup. A Spectrum Analyzer is connected to an E.U.T (Equipment Under Test) via a red cable. Both are placed on a Non-Conducted Table, which sits on a Ground Reference Plane.</p>
Test Instruments:	Refer to section 5.9 for details
Test mode:	Non-hopping mode and hopping mode
Test results:	Pass

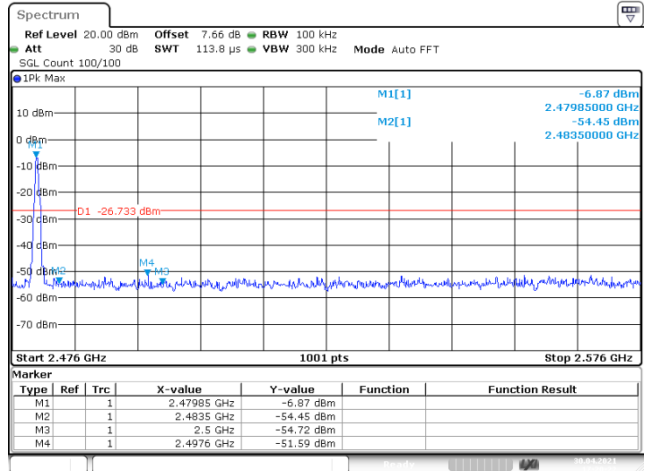
Test plot as follows:



GFSK
Highest Channel



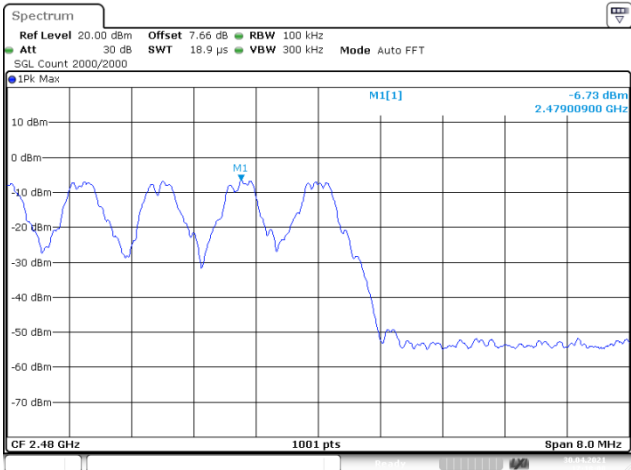
Date: 30.APR.2021 17:20:16



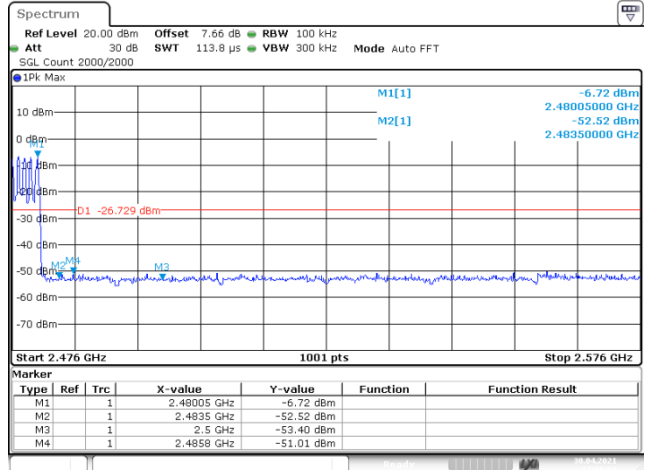
Date: 30.APR.2021 17:20:22

No-hopping mode

Highest Channel



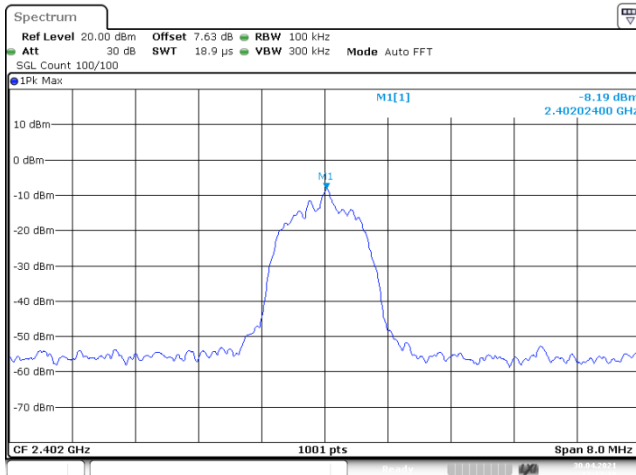
Date: 30.APR.2021 17:17:59



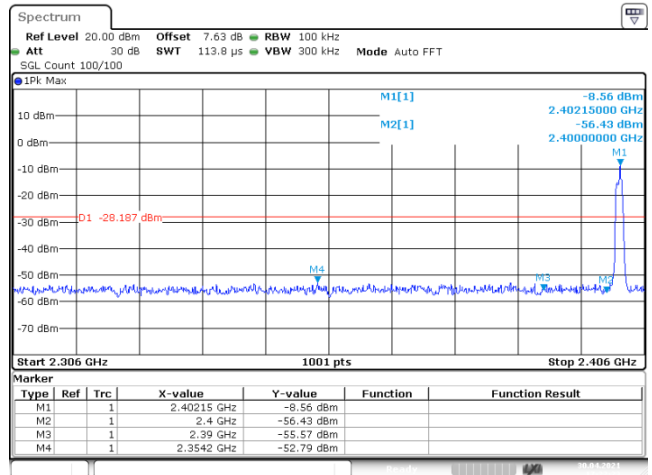
Date: 30.APR.2021 17:18:53

Hopping mode

$\pi/4$ -DQPSK
Lowest Channel



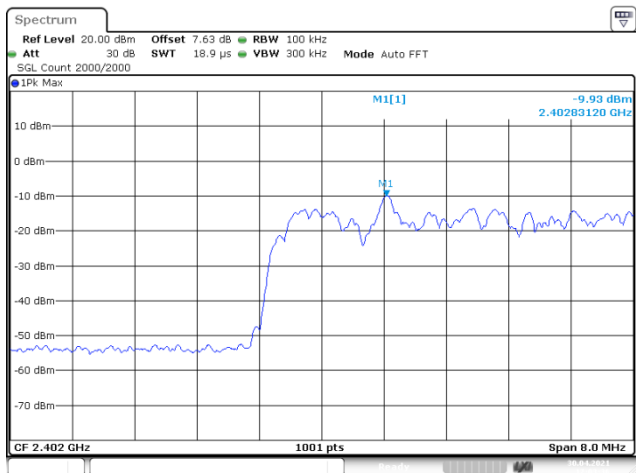
Date: 30.APR.2021 17:22:17



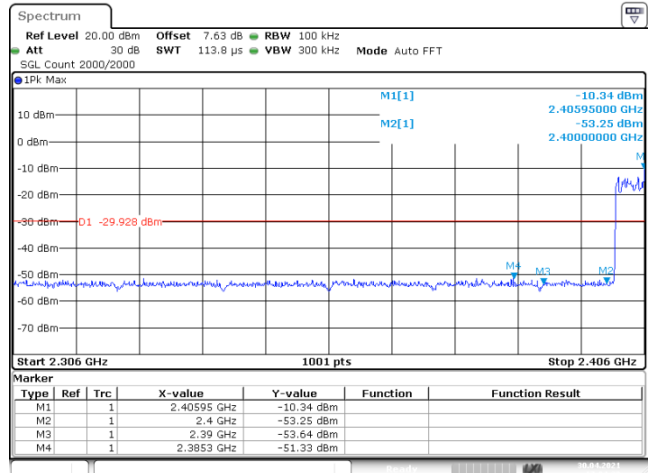
Date: 30.APR.2021 17:22:23

No-hopping mode

Lowest Channel



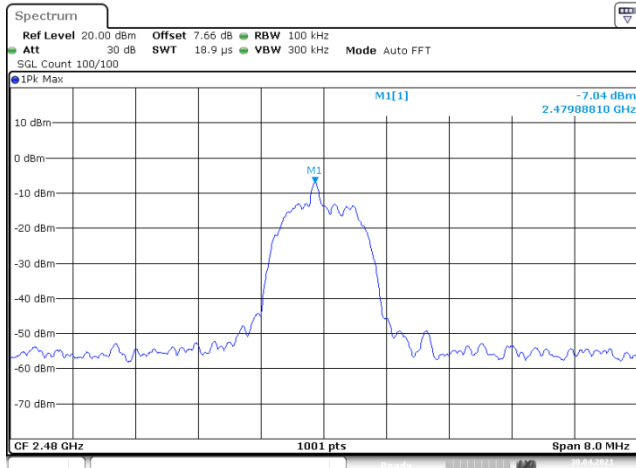
Date: 30.APR.2021 17:03:35



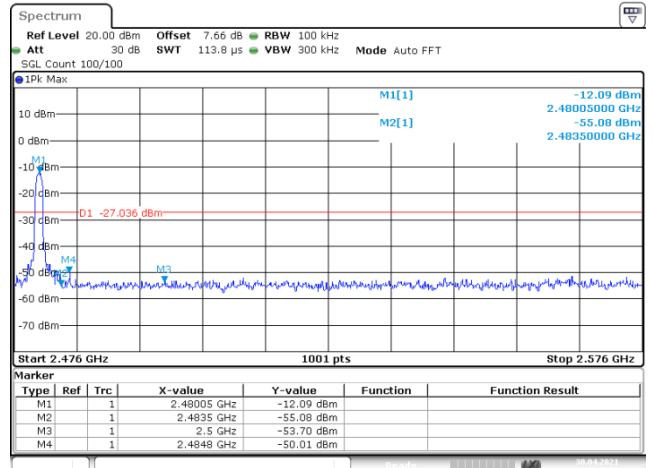
Date: 30.APR.2021 17:04:30

Hopping mode

**$\pi/4$ -DQPSK
Highest Channel**



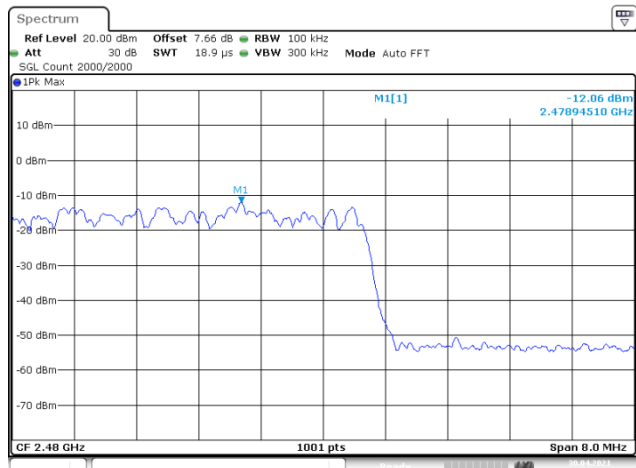
Date: 30.APR.2021 17:26:07



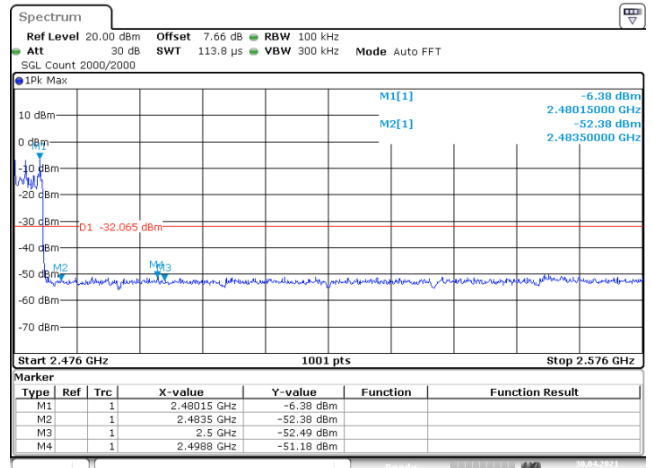
Date: 30.APR.2021 17:26:12

No-hopping mode

Highest Channel



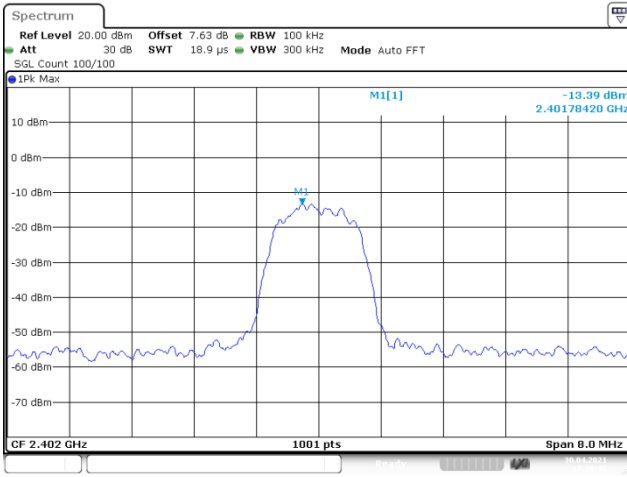
Date: 30.APR.2021 17:04:58



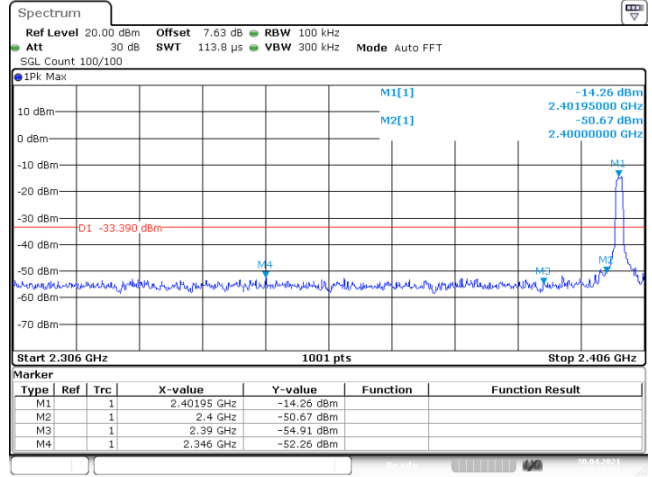
Date: 30.APR.2021 17:05:53

Hopping mode

8DPSK
Lowest Channel



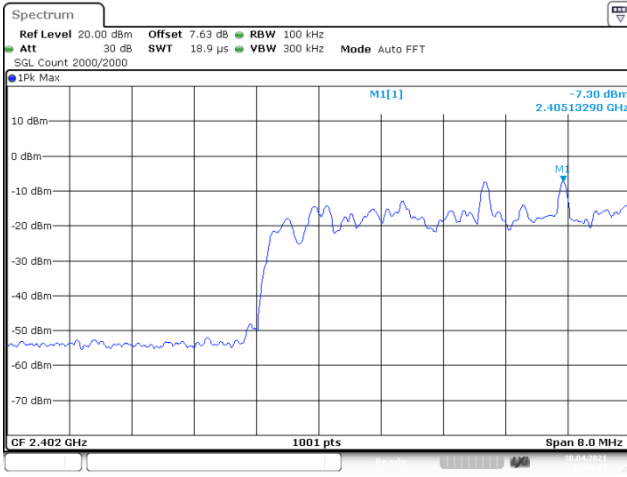
Date: 30.APR.2021 17:36:46



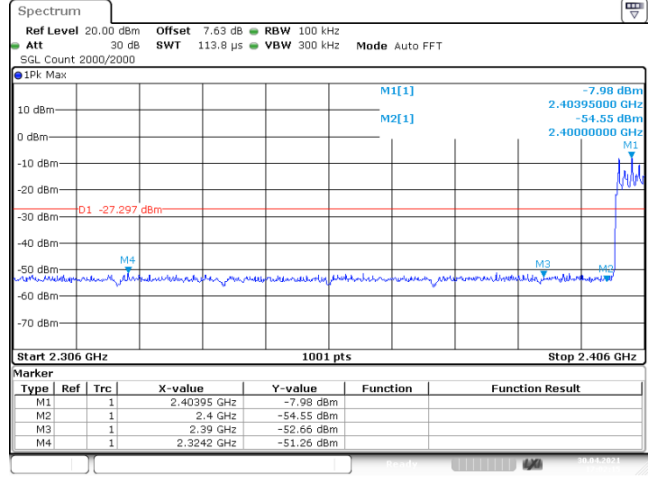
Date: 30.APR.2021 17:36:51

No-hopping mode

Lowest Channel



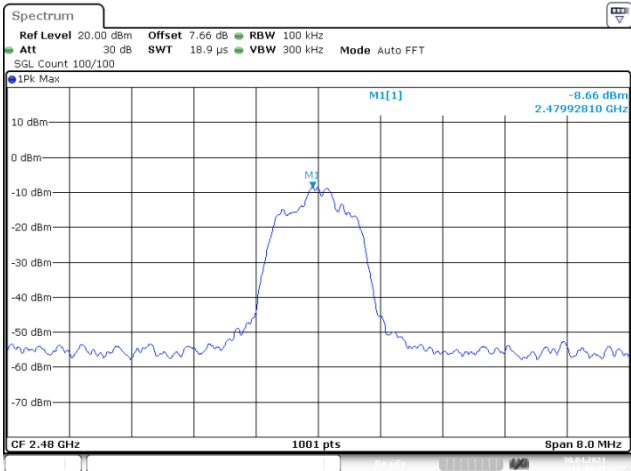
Date: 30.APR.2021 17:01:19



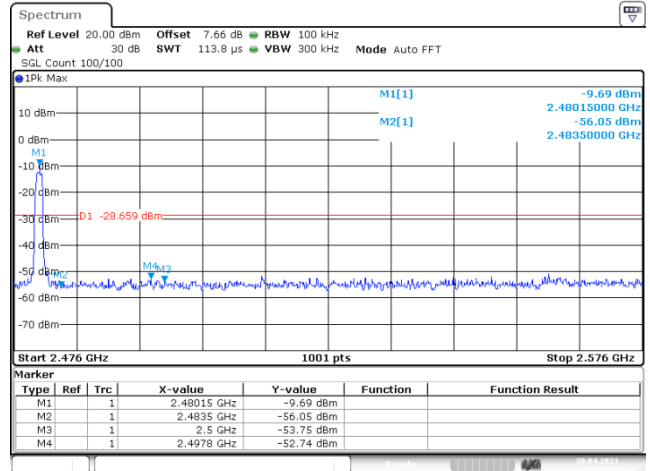
Date: 30.APR.2021 17:02:14

Hopping mode

8DPSK
Highest Channel



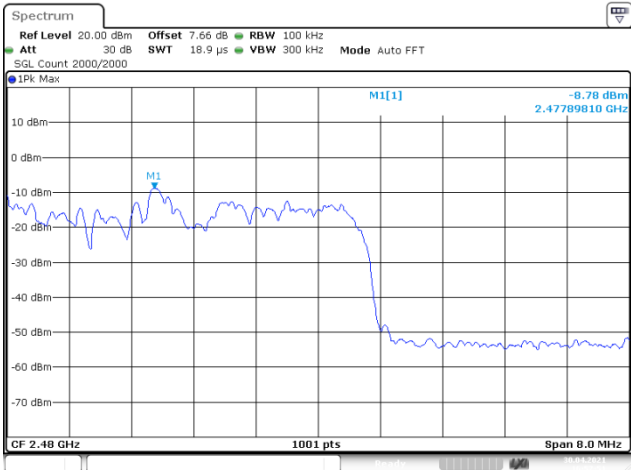
Date: 30.APR.2021 17:45:43



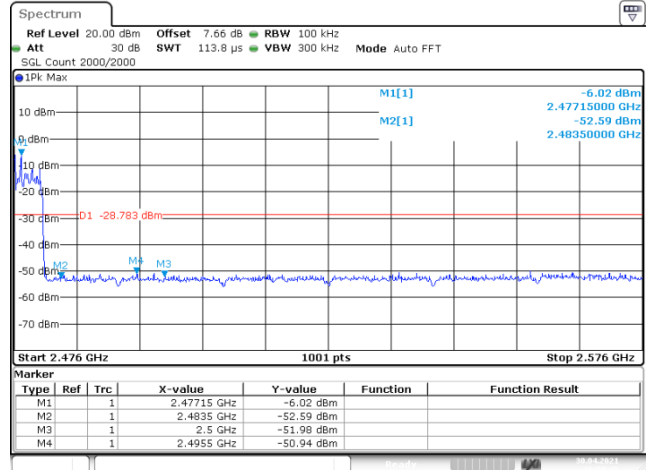
Date: 30.APR.2021 17:45:48

No-hopping mode

Highest Channel



Date: 30.APR.2021 16:57:50



Date: 30.APR.2021 16:58:45

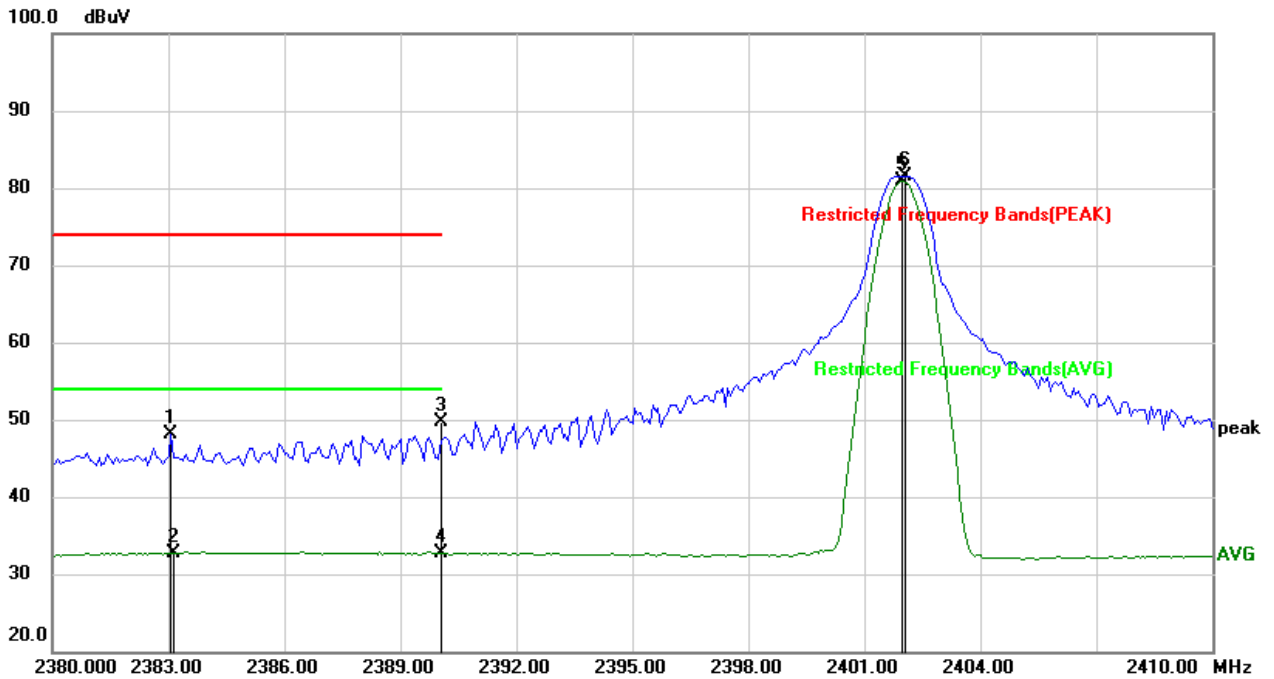
Hopping mode

6.9.2 Radiated Emission Method

Test Requirement:	FCC Part15 C Section 15.209 and 15.205				
Test Frequency Range:	2380 MHz to 2410 MHz and 2465 MHz to 2520 MHz				
Test Distance:	3m				
Receiver setup:	Frequency	Detector	RBW	VBW	Remark
	Above 1GHz	Peak	1MHz	3MHz	Peak Value
		RMS	1MHz	3MHz	Average Value
Limit:	Frequency	Limit (dBuV/m @3m)		Remark	
	Above 1GHz	54.00		Average Value	
		74.00		Peak Value	
Test setup:					
Test Procedure:	<ol style="list-style-type: none"> 1. The EUT was placed on the top of a rotating table 1.5meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation. 2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. 3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. 4. 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 and the rotating table was turned from 0 degrees to 360 degrees to find the maximum reading. 5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. 6. 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. 				
Test Instruments:	Refer to section 5.9 for details				
Test mode:	Non-hopping mode				
Test results:	Passed				

GFSK Mode:

Product Name:	Thermal Printer	Product Model:	P3
Test By:	Elvis Wang	Test mode:	DH5Tx mode
Test Channel:	Lowest channel	Polarization:	Vertical
Test Voltage:	DC5V	Environment:	Temp:22.5°C Humi: 49%

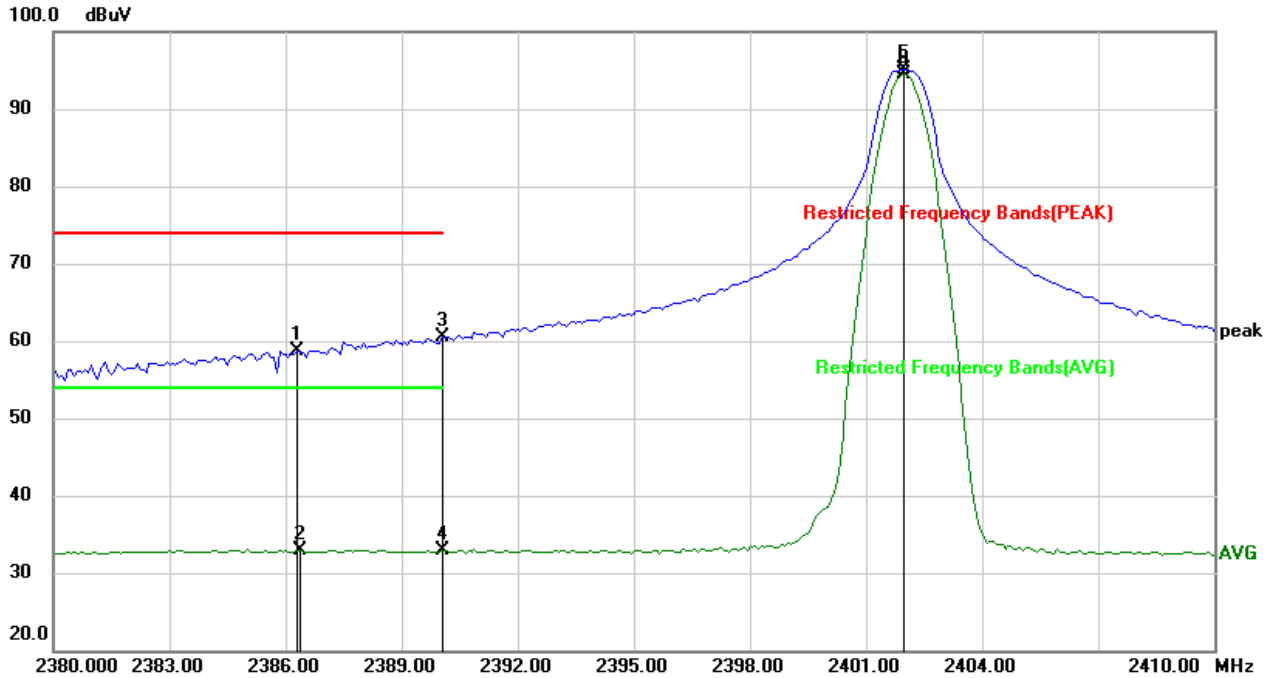


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector
1		2383.075	34.66	13.38	48.04	74.00	-25.96	peak
2	*	2383.150	19.42	13.38	32.80	54.00	-21.20	AVG
3		2390.000	36.23	13.40	49.63	74.00	-24.37	peak
4		2390.000	19.27	13.40	32.67	54.00	-21.33	AVG
5		2401.975	67.41	13.45	80.86			AVG
6		2402.050	68.04	13.45	81.49			peak

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Pre-amplifier Factor.
2. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product Name:	Thermal Printer	Product Model:	P3
Test By:	Elvis Wang	Test mode:	DH5Tx mode
Test Channel:	Lowest channel	Polarization:	Horizontal
Test Voltage:	DC5V	Environment:	Temp: 22.5°C Humi: 49%

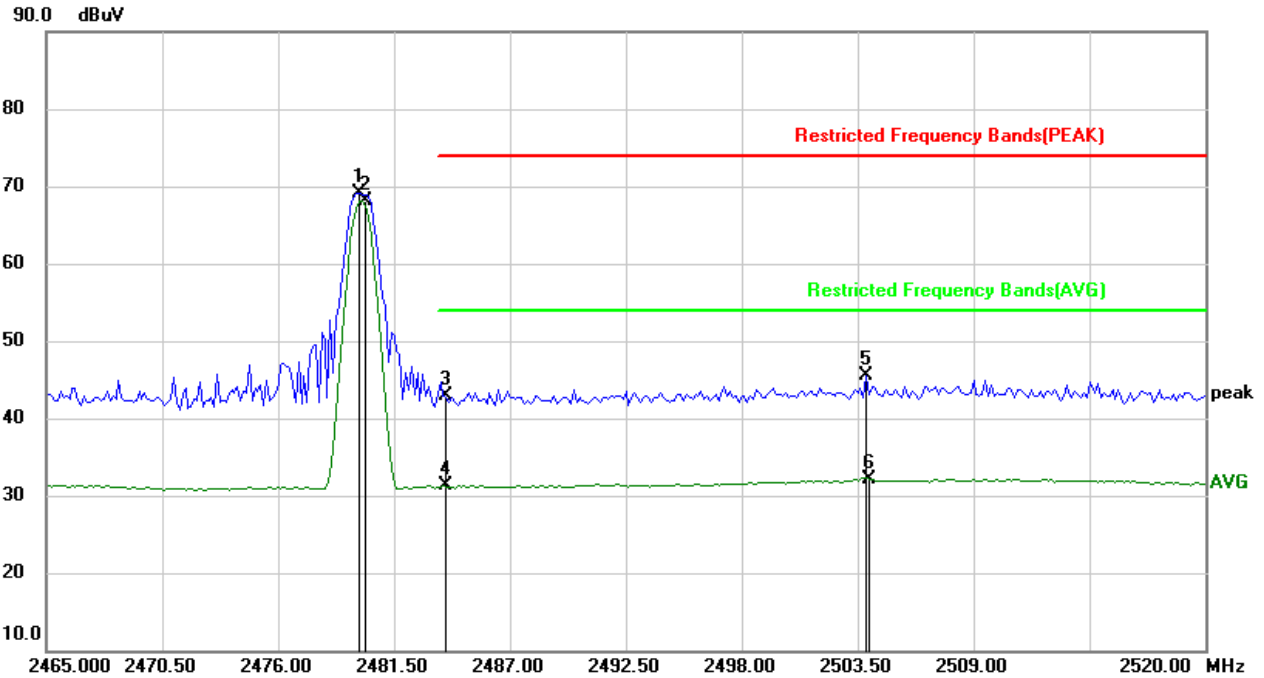


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector
1		2386.300	45.40	13.39	58.79	74.00	-15.21	peak
2		2386.375	19.46	13.39	32.85	54.00	-21.15	AVG
3	*	2390.000	47.05	13.40	60.45	74.00	-13.55	peak
4		2390.000	19.43	13.40	32.83	54.00	-21.17	AVG
5		2401.975	81.58	13.45	95.03			peak
6		2401.975	80.97	13.45	94.42			AVG

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product Name:	Thermal Printer	Product Model:	P3
Test By:	Elvis Wang	Test mode:	DH5 Tx mode
Test Channel:	Highest channel	Polarization:	Vertical
Test Voltage:	DC5V	Environment:	Temp: 22.5°C Humi: 49%

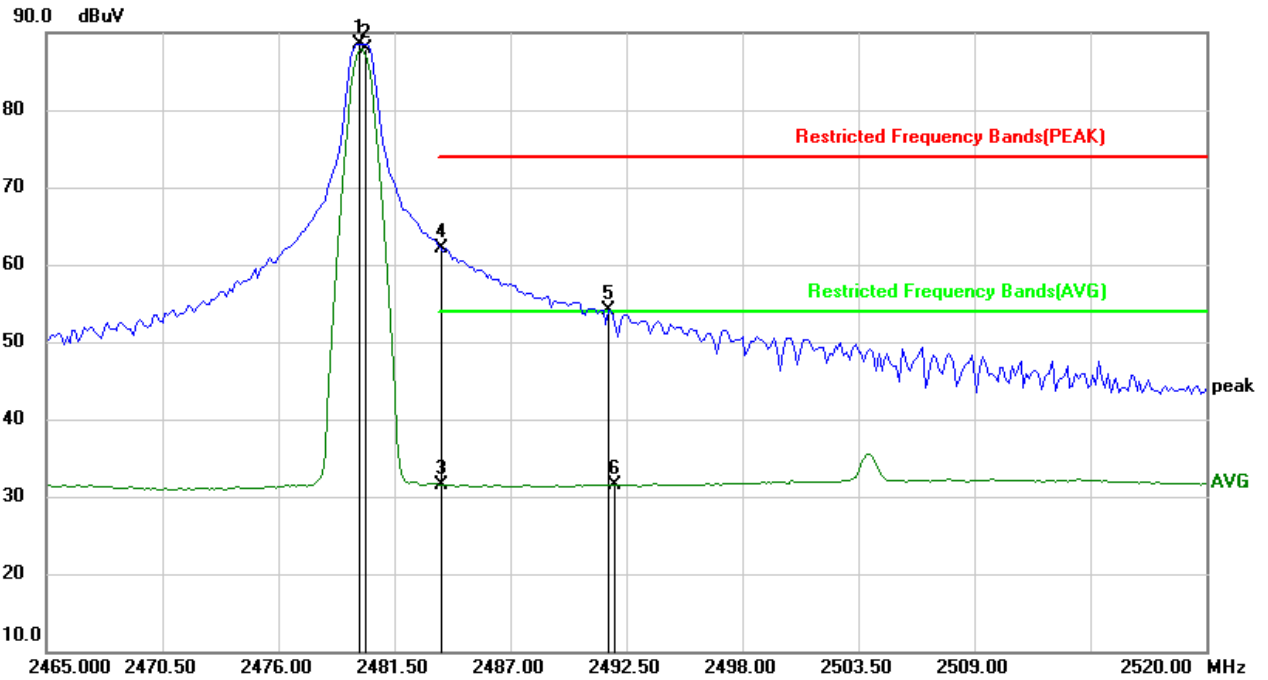


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector
1		2479.850	55.32	13.78	69.10			
2	*	2479.988	54.39	13.78	68.17			
3		2483.838	29.04	13.80	42.84	74.00	-31.16	peak
4		2483.838	17.44	13.80	31.24	54.00	-22.76	AVG
5		2503.912	31.70	13.88	45.58	74.00	-28.42	peak
6		2504.050	18.23	13.88	32.11	54.00	-21.89	AVG

Remark:

- Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
- The emission levels of other frequencies are very lower than the limit and not show in test report.

Product Name:	Thermal Printer	Product Model:	P3
Test By:	Elvis Wang	Test mode:	DH5 Tx mode
Test Channel:	Highest channel	Polarization:	Horizontal
Test Voltage:	DC5V	Environment:	Temp:22.5°C Humi: 49%



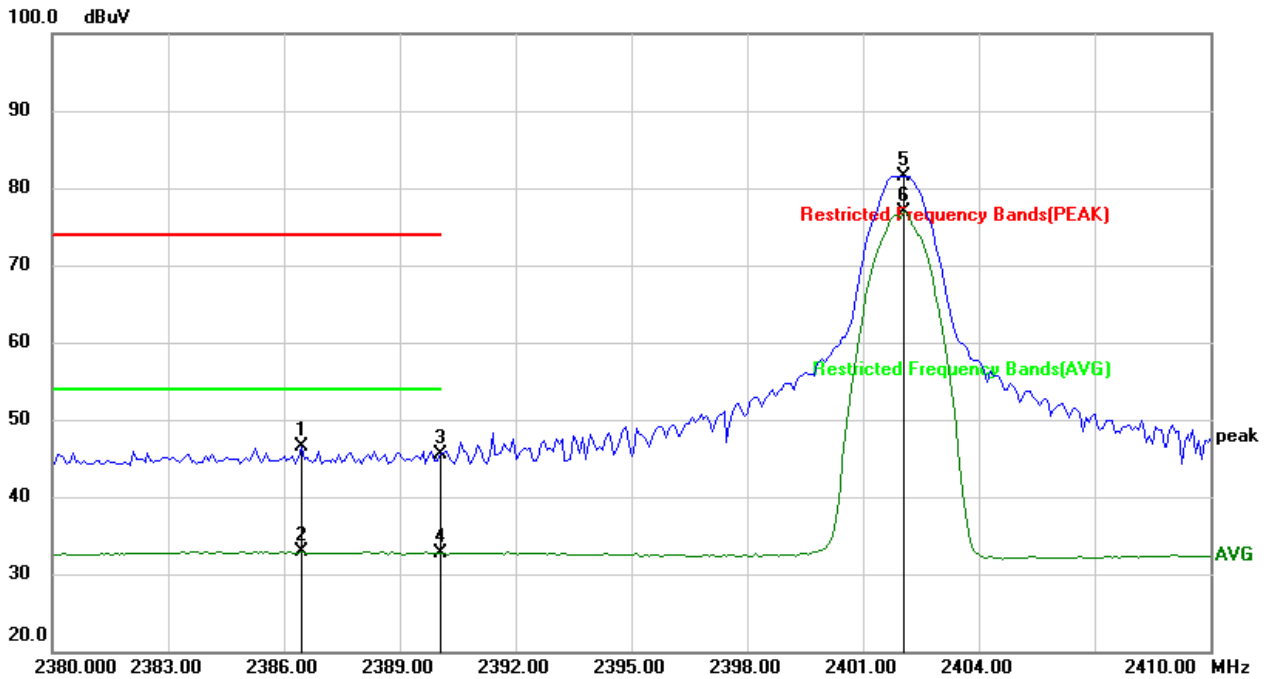
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector
1	X	2479.850	74.75	13.78	88.53			
2	*	2479.988	74.06	13.78	87.84			
3		2483.563	17.78	13.80	31.58	54.00	-22.42	AVG
4		2483.700	48.36	13.80	62.16	74.00	-11.84	peak
5		2491.675	40.31	13.82	54.13	74.00	-19.87	peak
6		2491.813	17.65	13.82	31.47	54.00	-22.53	AVG

Remark:

- Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
- The emission levels of other frequencies are very lower than the limit and not show in test report.

$\pi/4$ -DQPSK mode

Product Name:	Thermal Printer	Product Model:	P3
Test By:	Elvis Wang	Test mode:	2DH5 Tx mode
Test Channel:	Lowest channel	Polarization:	Vertical
Test Voltage:	DC5V	Environment:	Temp:22.5°C Humi: 49%

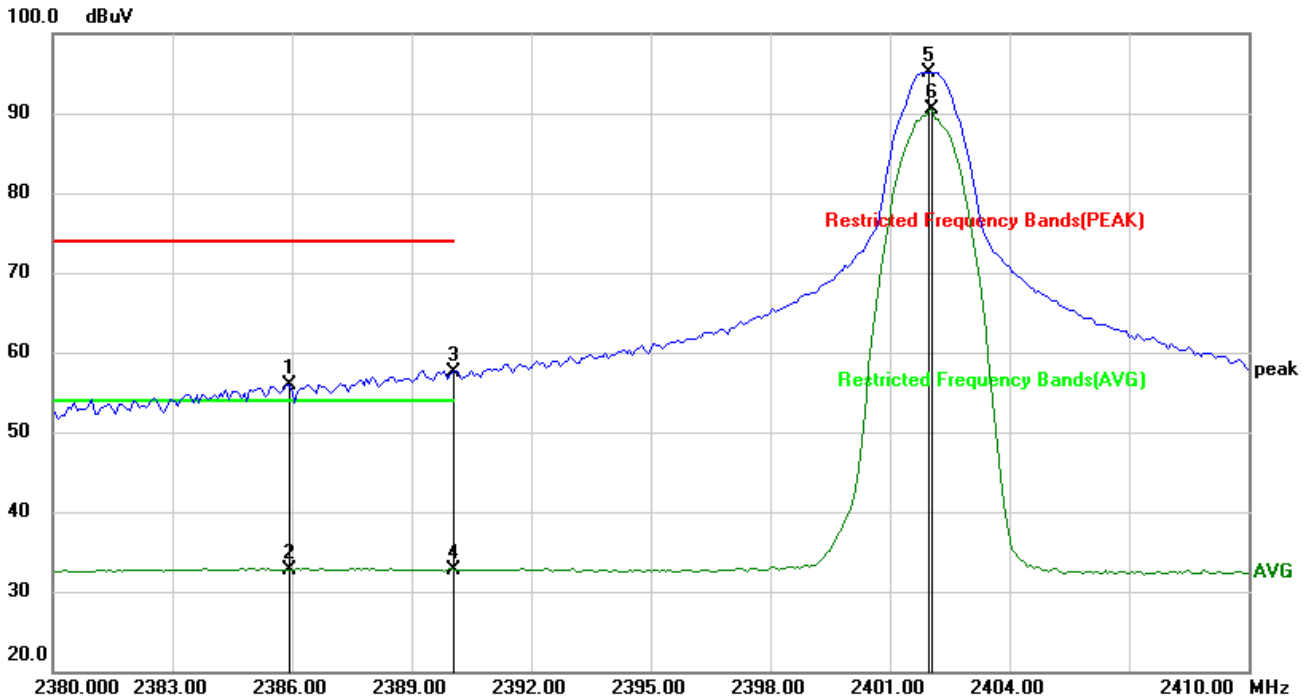


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector
1		2386.450	33.02	13.39	46.41	74.00	-27.59	peak
2	*	2386.450	19.43	13.39	32.82	54.00	-21.18	AVG
3		2390.000	32.15	13.40	45.55	74.00	-28.45	peak
4		2390.000	19.38	13.40	32.78	54.00	-21.22	AVG
5		2402.050	68.09	13.45	81.54			peak
6		2402.050	63.47	13.45	76.92			AVG

Remark:

- Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
- The emission levels of other frequencies are very lower than the limit and not show in test report.

Product Name:	Thermal Printer	Product Model:	P3
Test By:	Elvis Wang	Test mode:	2DH5 Tx mode
Test Channel:	Lowest channel	Polarization:	Horizontal
Test Voltage:	DC5V	Environment:	Temp:22.5°C Humi: 49%

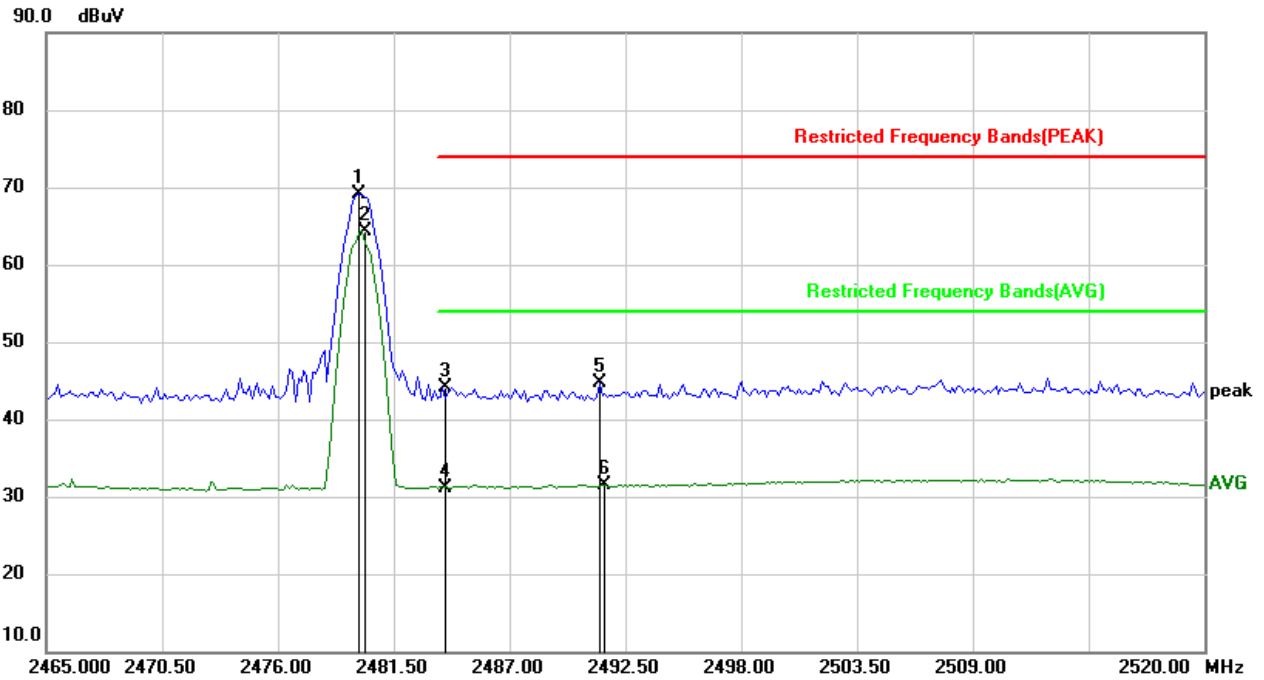


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector
1		2385.925	42.50	13.39	55.89	74.00	-18.11	peak
2		2385.925	19.35	13.39	32.74	54.00	-21.26	AVG
3	*	2390.000	44.10	13.40	57.50	74.00	-16.50	peak
4		2390.000	19.37	13.40	32.77	54.00	-21.23	AVG
5		2401.975	81.70	13.45	95.15			peak
6		2402.050	77.07	13.45	90.52			AVG

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product Name:	Thermal Printer	Product Model:	P3
Test By:	Elvis Wang	Test mode:	2DH5 Tx mode
Test Channel:	Highest channel	Polarization:	Vertical
Test Voltage:	DC5V	Environment:	Temp:22.5°C Humi: 49%

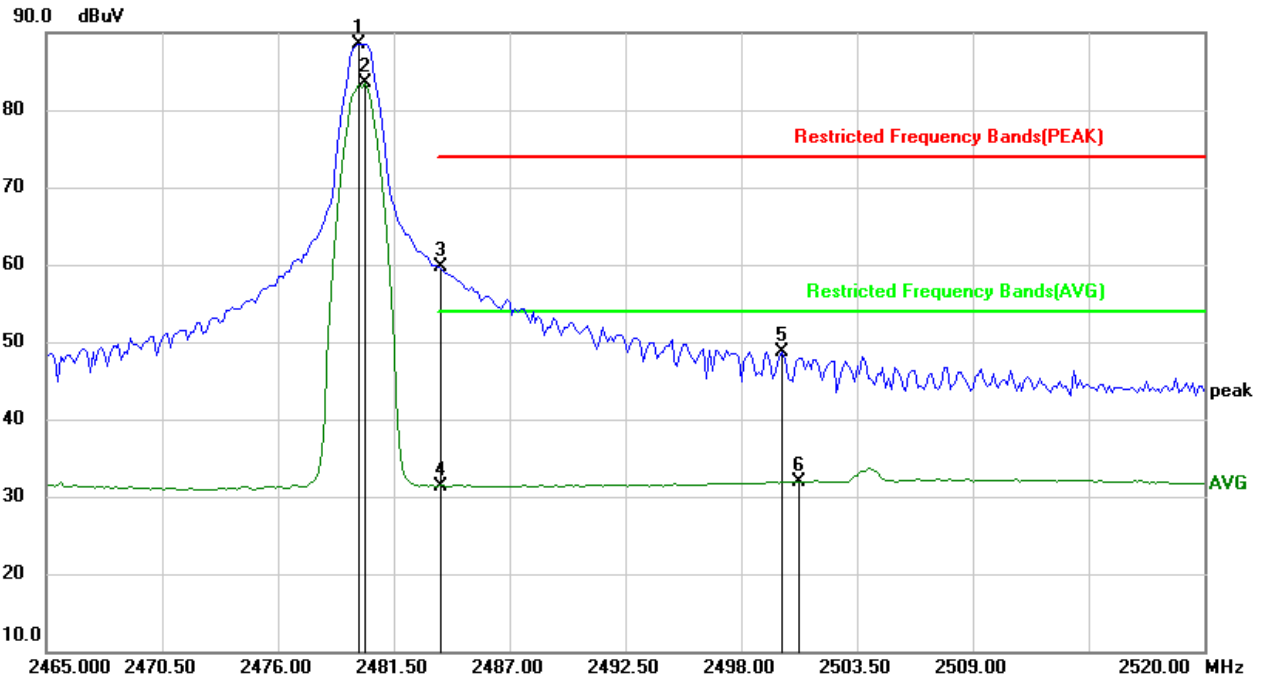


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector
1		2479.850	55.36	13.78	69.14			
2	*	2479.988	50.51	13.78	64.29			
3		2483.838	30.22	13.80	44.02	74.00	-29.98	peak
4		2483.838	17.35	13.80	31.15	54.00	-22.85	AVG
5		2491.262	30.79	13.82	44.61	74.00	-29.39	peak
6		2491.537	17.67	13.82	31.49	54.00	-22.51	AVG

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Pre-amplifier Factor.
2. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product Name:	Thermal Printer	Product Model:	P3
Test By:	Elvis Wang	Test mode:	2DH5 Tx mode
Test Channel:	Highest channel	Polarization:	Horizontal
Test Voltage:	DC5V	Environment:	Temp:22.5°C Humi: 49%



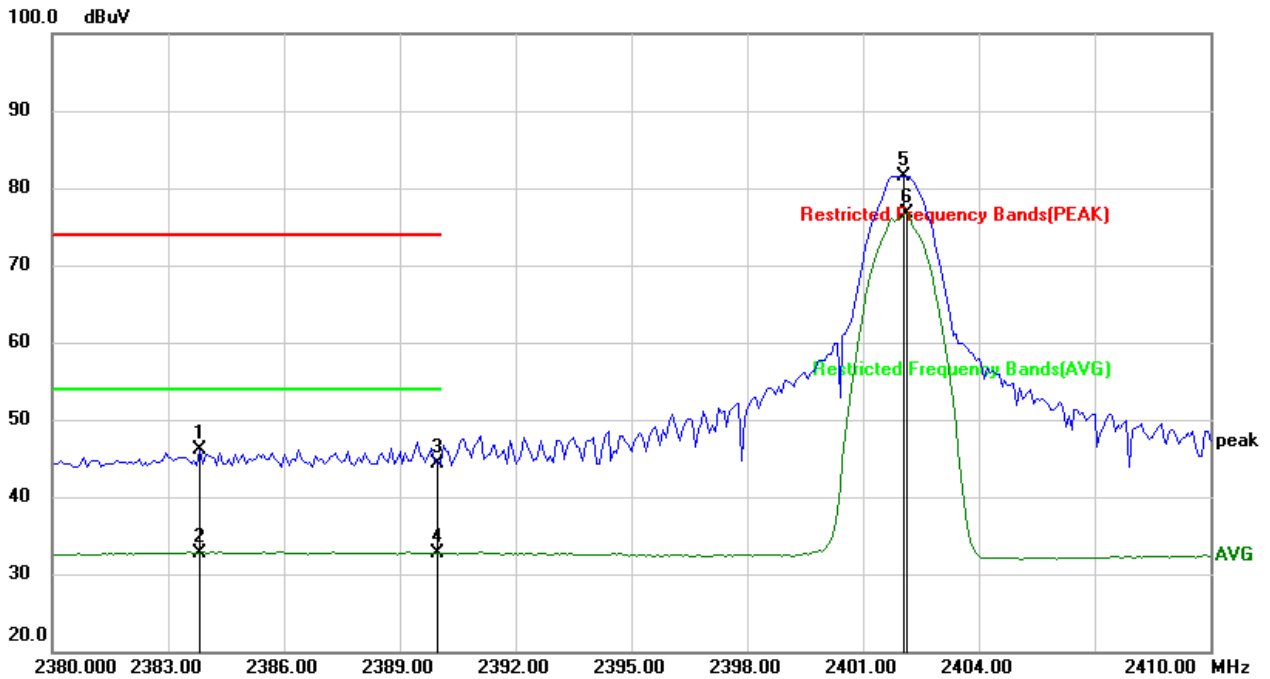
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector
1	X	2479.850	74.74	13.78	88.52			
2	*	2480.125	69.73	13.78	83.51			
3		2483.563	45.82	13.80	59.62	74.00	-14.38	peak
4		2483.563	17.50	13.80	31.30	54.00	-22.70	AVG
5		2499.925	34.79	13.85	48.64	74.00	-25.36	peak
6		2500.613	18.15	13.85	32.00	54.00	-22.00	AVG

Remark:

- Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
- The emission levels of other frequencies are very lower than the limit and not show in test report.

8DPSK mode

Product Name:	Thermal Printer	Product Model:	P3
Test By:	Elvis Wang	Test mode:	3DH5 Tx mode
Test Channel:	Lowest channel	Polarization:	Vertical
Test Voltage:	DC5V	Environment:	Temp:22.5°C Humi: 49%

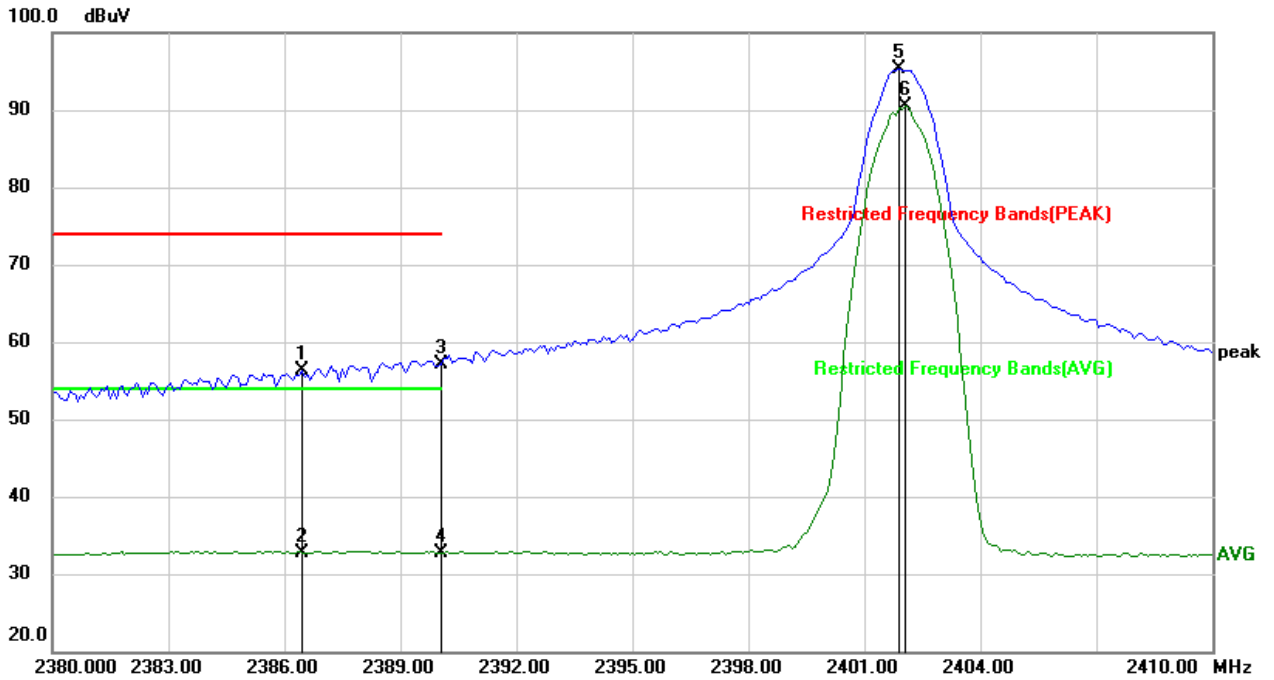


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector
1		2383.825	32.63	13.38	46.01	74.00	-27.99	peak
2	*	2383.825	19.35	13.38	32.73	54.00	-21.27	AVG
3		2389.975	30.81	13.40	44.21	74.00	-29.79	peak
4		2389.975	19.30	13.40	32.70	54.00	-21.30	AVG
5		2402.050	68.13	13.45	81.58			peak
6		2402.125	63.30	13.45	76.75			AVG

Remark:

- Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
- The emission levels of other frequencies are very lower than the limit and not show in test report.

Product Name:	Thermal Printer	Product Model:	P3
Test By:	Elvis Wang	Test mode:	3DH5 Tx mode
Test Channel:	Lowest channel	Polarization:	Horizontal
Test Voltage:	DC5V	Environment:	Temp:22.5°C Humi: 49%

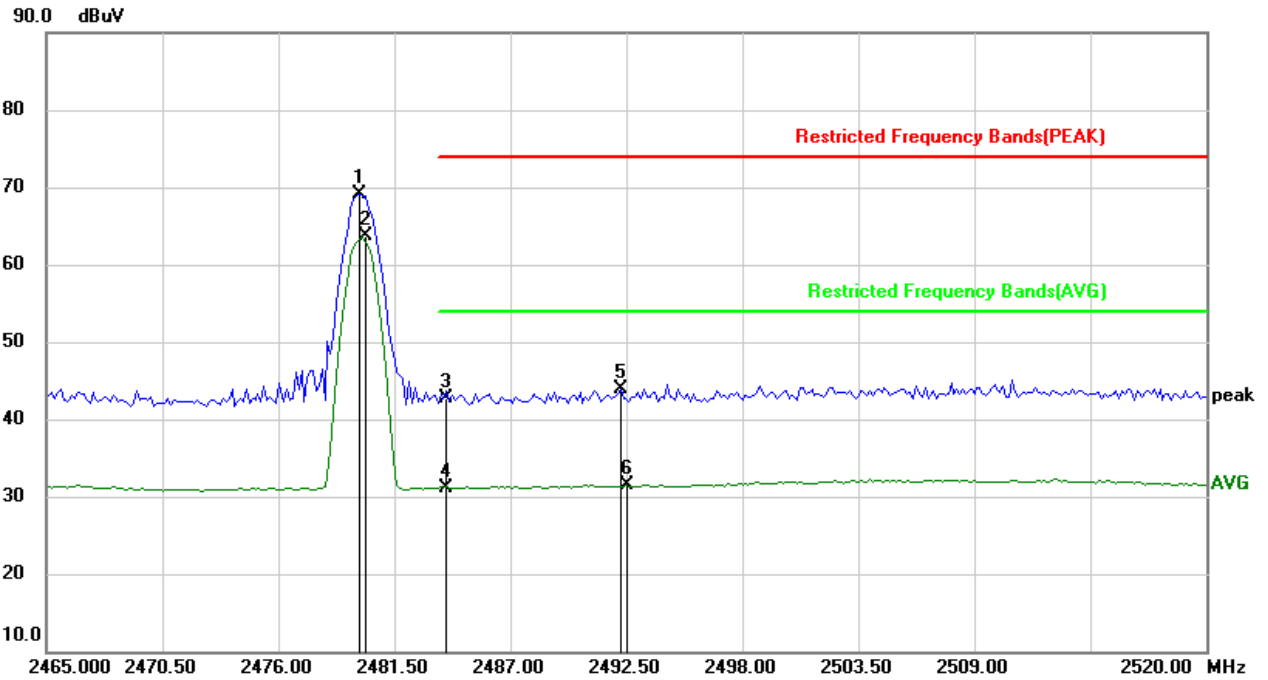


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector
1		2386.450	42.89	13.39	56.28	74.00	-17.72	peak
2		2386.450	19.33	13.39	32.72	54.00	-21.28	AVG
3	*	2390.000	43.79	13.40	57.19	74.00	-16.81	peak
4		2390.000	19.26	13.40	32.66	54.00	-21.34	AVG
5		2401.900	81.76	13.45	95.21			peak
6		2402.050	77.07	13.45	90.52			AVG

Remark:

- Final Level = Receiver Read level + Antenna Factor + Cable Loss – Pre-amplifier Factor.
- The emission levels of other frequencies are very lower than the limit and not show in test report.

Product Name:	Thermal Printer	Product Model:	P3
Test By:	Elvis Wang	Test mode:	3DH5 Tx mode
Test Channel:	Highest channel	Polarization:	Vertical
Test Voltage:	DC5V	Environment:	Temp:22.5°C Humi: 49%

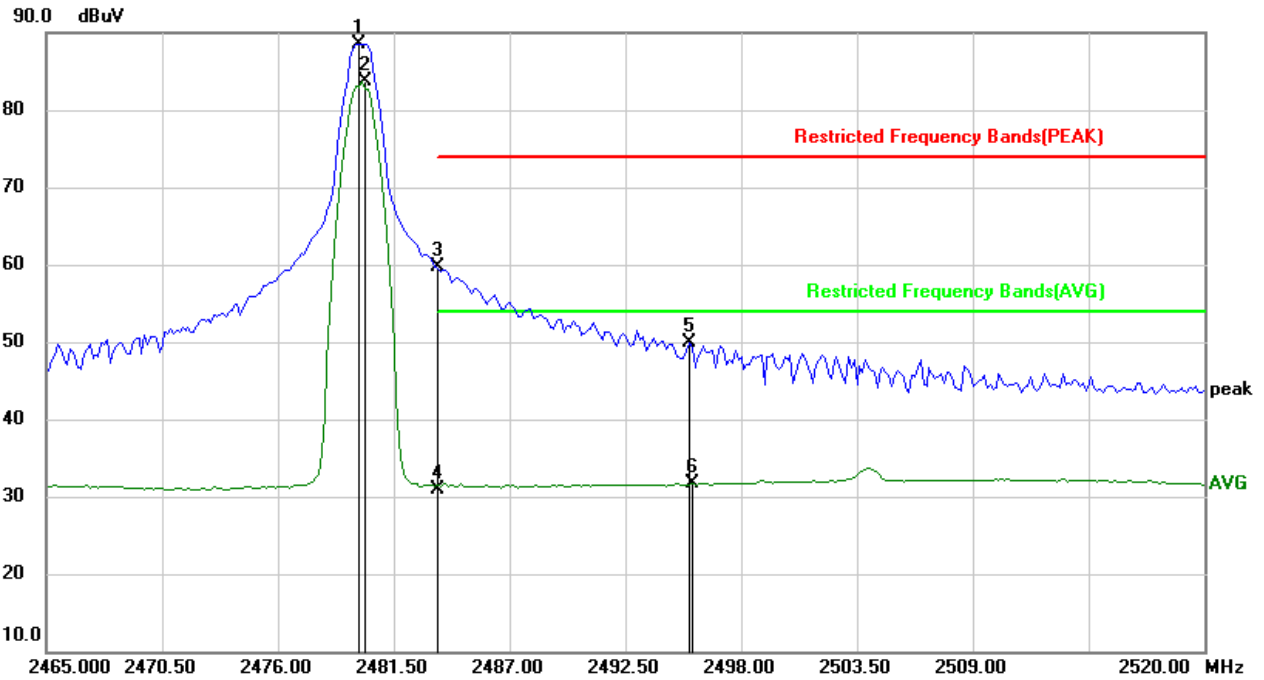


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector
1		2479.850	55.41	13.78	69.19			
2	*	2479.988	49.83	13.78	63.61			AVG
3		2483.838	28.93	13.80	42.73	74.00	-31.27	peak
4		2483.838	17.35	13.80	31.15	54.00	-22.85	AVG
5		2492.225	30.06	13.82	43.88	74.00	-30.12	peak
6		2492.500	17.59	13.82	31.41	54.00	-22.59	AVG

Remark:

- Final Level = Receiver Read level + Antenna Factor + Cable Loss – Pre-amplifier Factor.
- The emission levels of other frequencies are very lower than the limit and not show in test report.

Product Name:	Thermal Printer	Product Model:	P3
Test By:	Elvis Wang	Test mode:	3DH5 Tx mode
Test Channel:	Highest channel	Polarization:	Horizontal
Test Voltage:	DC5V	Environment:	Temp:22.5°C Humi: 49%



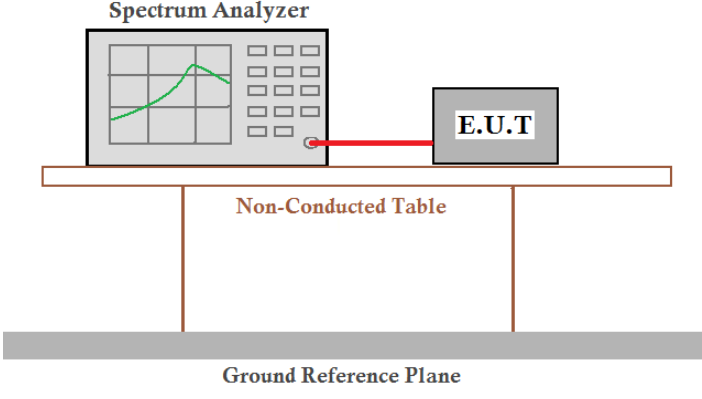
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector
1	X	2479.850	74.75	13.78	88.53			peak
2	*	2479.988	70.02	13.78	83.80			AVG
3		2483.500	45.91	13.80	59.71	74.00	-14.29	peak
4		2483.500	17.03	13.80	30.83	54.00	-23.17	AVG
5		2495.525	35.97	13.84	49.81	74.00	-24.19	peak
6		2495.662	17.79	13.84	31.63	54.00	-22.37	AVG

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are very lower than the limit and not show in test report.

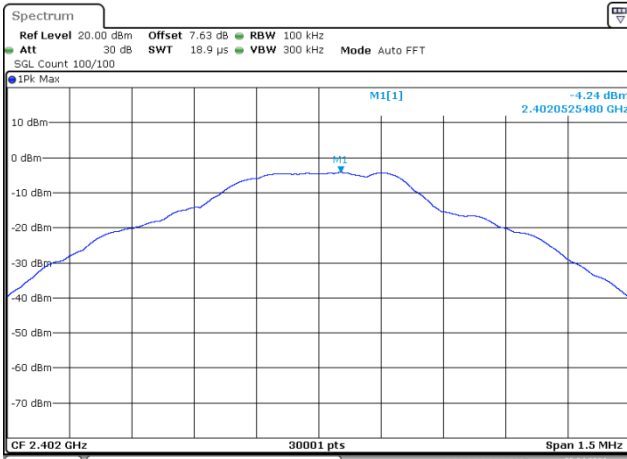
6.10 Spurious Emission

6.10.1 Conducted Emission Method

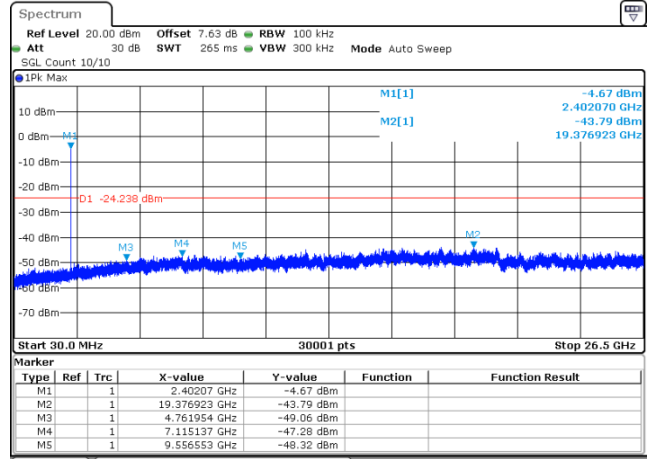
Test Requirement:	FCC Part15 C Section 15.247 (d)
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.
Test setup:	 <p>The diagram illustrates the test setup. A Spectrum Analyzer is connected to an E.U.T (Equipment Under Test) via a red cable. Both the Spectrum Analyzer and the E.U.T are placed on a Non-Conducted Table. The table is supported by two vertical legs and sits on a Ground Reference Plane.</p>
Test Instruments:	Refer to section 5.9 for details
Test mode:	Non-hopping mode
Test results:	Pass

Test plot as follows:

GFSK Lowest Channel

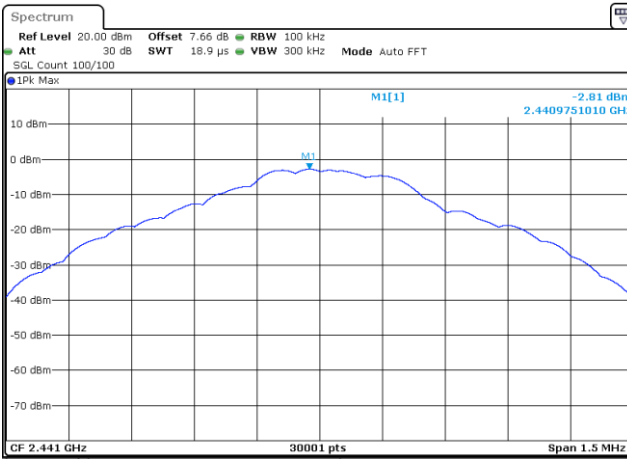


Date: 30.APR.2021 16:12:13

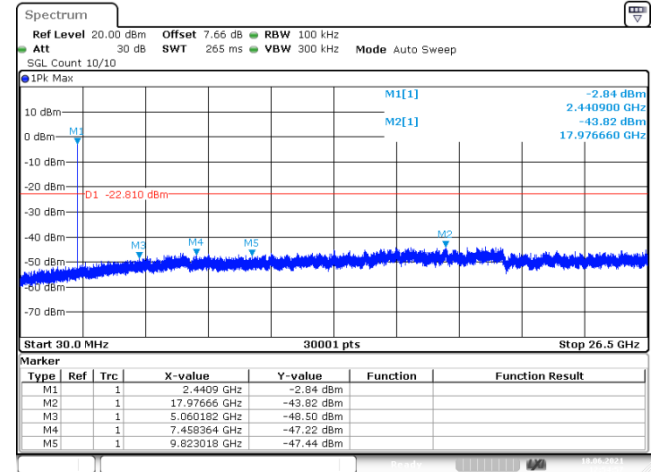


Date: 30.APR.2021 16:12:28

Middle channel

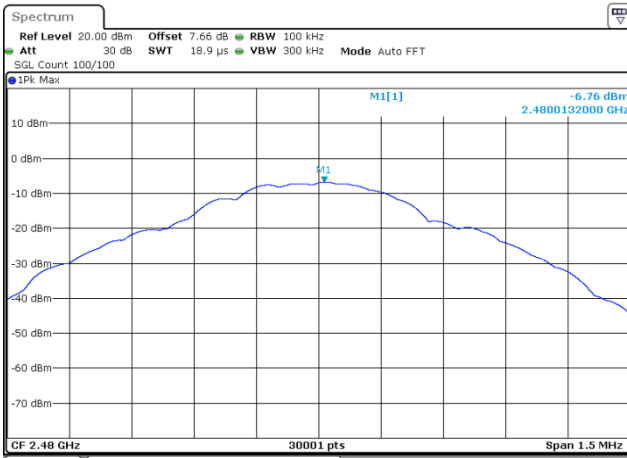


Date: 18.JUN.2021 12:54:44

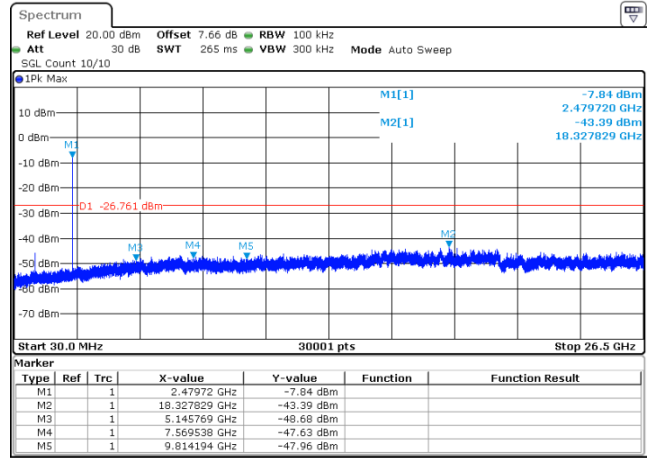


Date: 18.JUN.2021 12:54:58

Highest Channel

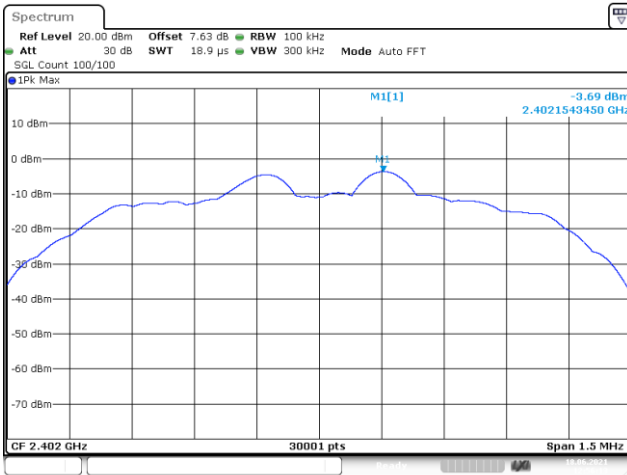


Date: 30.APR.2021 17:20:34

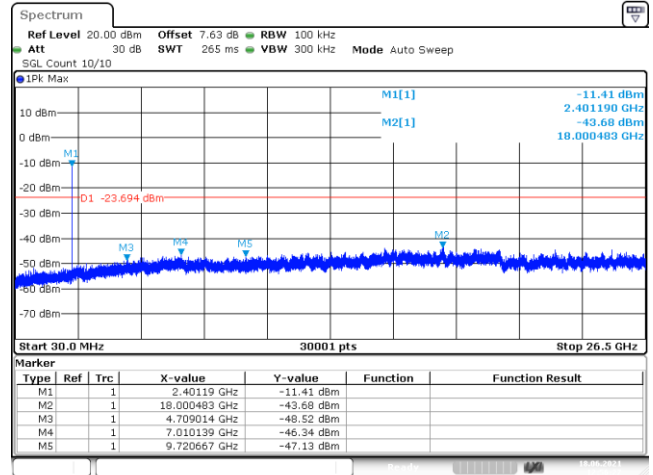


Date: 30.APR.2021 17:20:49

π/4-DQPSK Lowest Channel

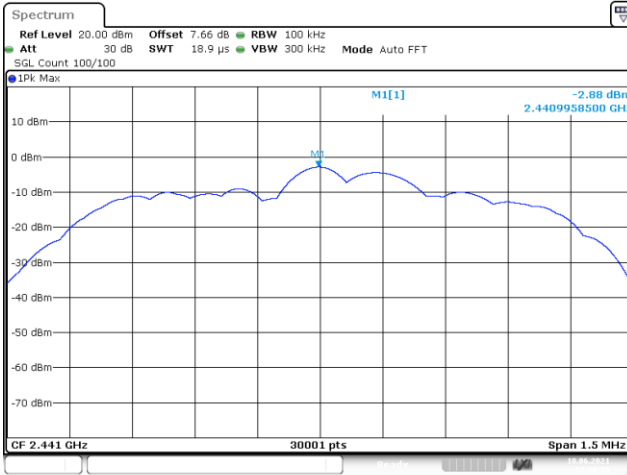


Date: 18 JUN 2021 12:56:12

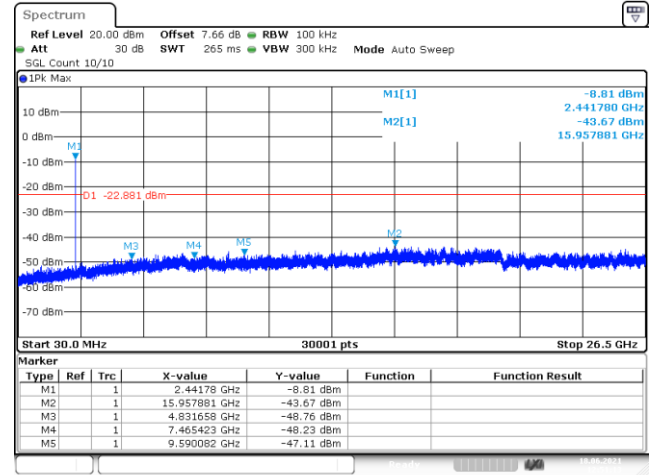


Date: 18 JUN 2021 12:56:27

Middle channel

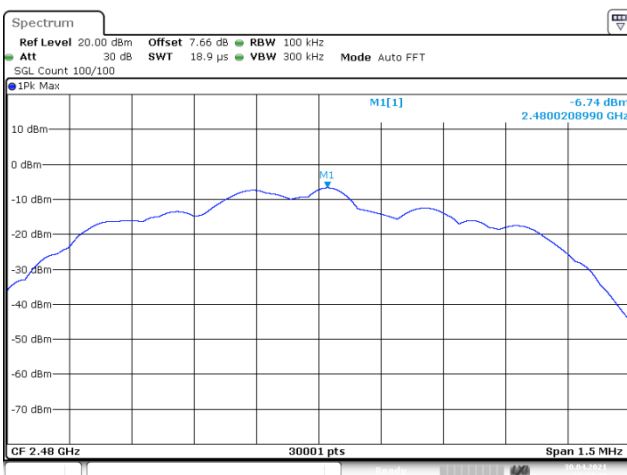


Date: 18 JUN 2021 12:50:58

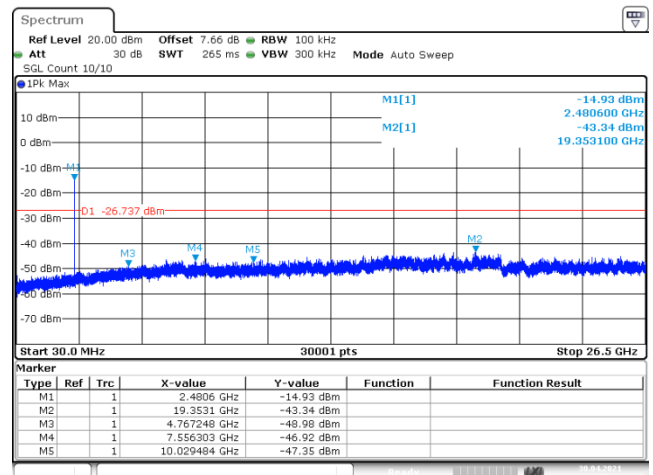


Date: 18 JUN 2021 12:51:13

Highest Channel

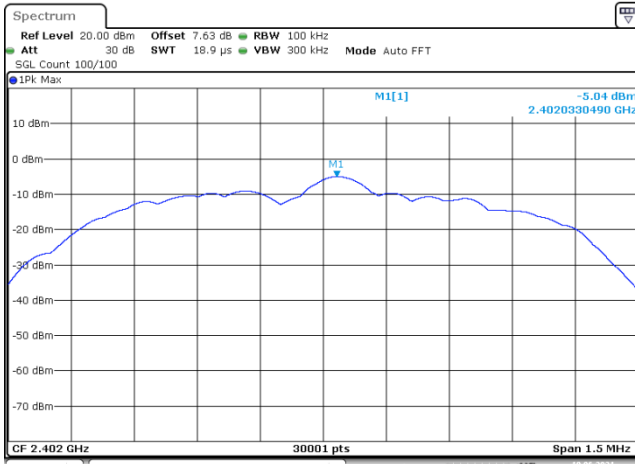


Date: 30 APR 2021 17:34:48

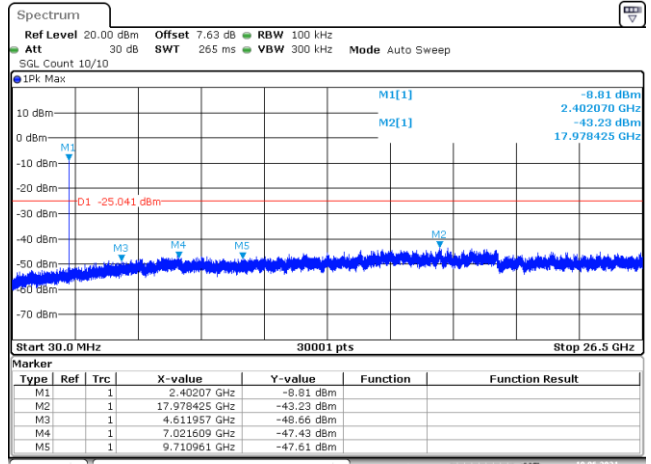


Date: 30 APR 2021 17:35:03

8DPSK Lowest Channel

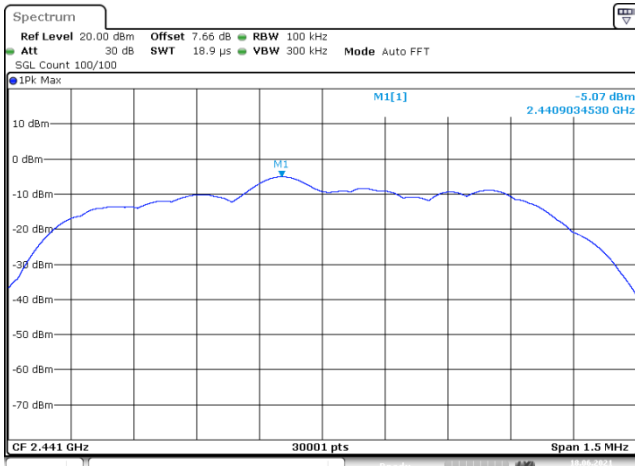


Date: 18 JUN 2021 12:57:22

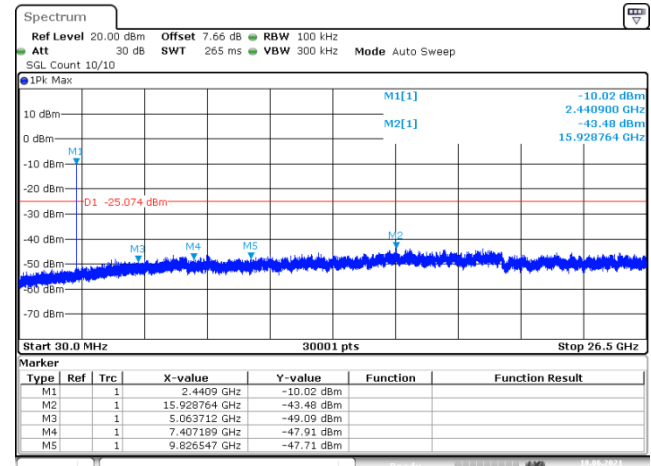


Date: 18 JUN 2021 12:57:37

Middle channel

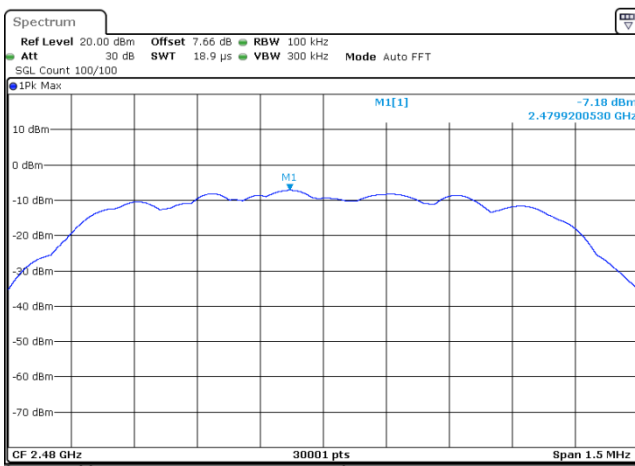


Date: 18 JUN 2021 12:44:11

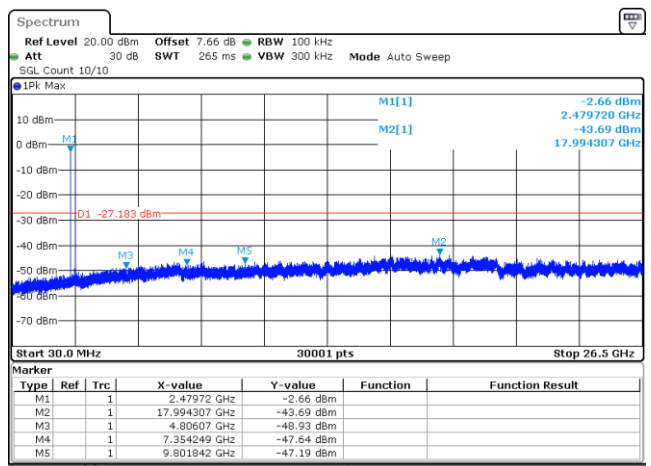


Date: 18 JUN 2021 12:44:26

Highest Channel



Date: 18 JUN 2021 12:58:21



Date: 18 JUN 2021 12:58:36

6.10.2 Radiated Emission Method

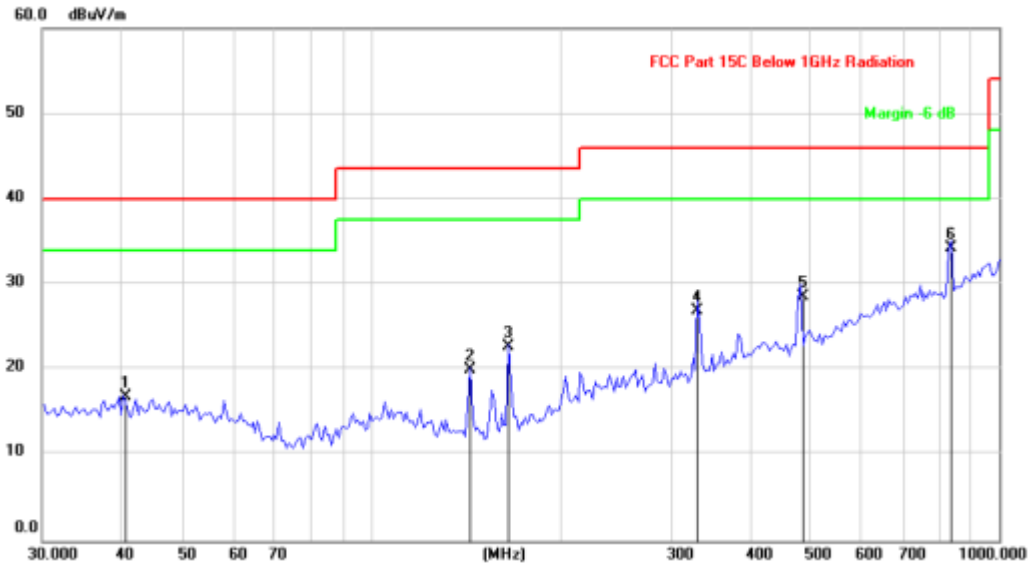
Test Requirement:	FCC Part15 C Section 15.209				
Test Frequency Range:	9kHz to 25GHz				
TestDistance:	3m				
Receiver setup:	Frequency	Detector	RBW	VBW	Remark
	30MHz-1GHz	Quasi-peak	120kHz	300kHz	Quasi-peak Value
	Above 1GHz	Peak	1MHz	3MHz	Peak Value
		RMS	1MHz	3MHz	Average Value
Limit:	Frequency	Limit (dBuV/m @3m)		Remark	
	30MHz-88MHz	40.0		Quasi-peak Value	
	88MHz-216MHz	43.5		Quasi-peak Value	
	216MHz-960MHz	46.0		Quasi-peak Value	
	960MHz-1GHz	54.0		Quasi-peak Value	
	Above 1GHz	54.0		Average Value	
		74.0		Peak Value	
Test setup:	Below 1GHz				
	Above 1GHz				
Test Procedure:	<ol style="list-style-type: none"> 1. The EUT was placed on the top of a rotating table 0.8m(below 1GHz)/1.5m(above 1GHz) above the groundat a 3 meter chamber.The table was rotated 360 degrees todetermine the position of the highest radiation. 2. The EUT was set 3 meters away from the interference-receiving antenna, whichwas mounted on the top of a variable-height antenna 				

	<p>tower.</p> <ol style="list-style-type: none"> 3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. 4. 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 and the rotatable was turned from 0 degrees to 360 degrees to find the maximum reading. 5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. 6. 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.
Test Instruments:	Refer to section 5.9 for details
Test mode:	Non-hopping mode
Test results:	Pass
Remark:	<ol style="list-style-type: none"> 1. Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the Y-axis is the worst case. 2. 9 kHz to 30 MHz is noise floor, so only shows the data of above 30MHz in this report.

Measurement Data(worst case):

Below 1GHz:

Product Name:	Thermal Printer	Product Model:	P3
Test By:	Elvis Wang	Test mode:	BT Tx mode
Test Frequency:	30 MHz ~ 1 GHz	Polarization:	Vertical
Test Voltage:	DC5V	Environment:	Temp: 22.5°C Humi: 49%

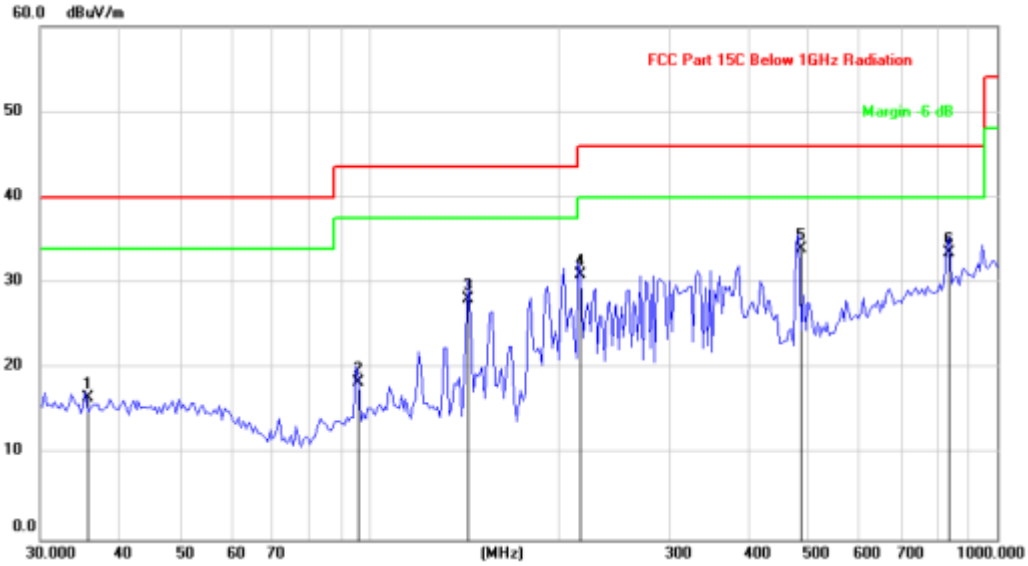


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1		40.4172	30.34	-13.46	16.88	40.00	-23.12	QP
2		144.0819	37.72	-17.69	20.03	43.50	-23.47	QP
3		165.7771	39.38	-16.63	22.75	43.50	-20.75	QP
4		331.3546	37.37	-10.50	26.87	46.00	-19.13	QP
5		483.0618	36.09	-7.52	28.57	46.00	-17.43	QP
6	*	839.1818	35.06	-0.81	34.25	46.00	-11.75	QP

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product Name:	Thermal Printer	Product Model:	P3
Test By:	Elvis Wang	Test mode:	BT Tx mode
Test Frequency:	30 MHz ~ 1 GHz	Polarization:	Horizontal
Test Voltage:	DC5V	Environment:	Temp: 22.5°C Humi: 49%



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1		35.4371	30.38	-13.81	16.57	40.00	-23.43	QP
2		95.4270	33.92	-15.55	18.37	43.50	-25.13	QP
3		144.0819	45.78	-17.69	28.09	43.50	-15.41	QP
4		215.6456	44.43	-13.40	31.03	43.50	-12.47	QP
5	*	483.0618	41.49	-7.52	33.97	46.00	-12.03	QP
6		839.1818	34.38	-0.81	33.57	46.00	-12.43	QP

Remark:

- Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
- The emission levels of other frequencies are very lower than the limit and not show in test report.

Above 1GHz:

Test channel: Lowest channel								
Detector: PeakValue								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4804.00	46.36	35.99	6.80	41.81	47.34	74.00	-26.66	Vertical
4804.00	45.06	35.99	6.80	41.81	46.04	74.00	-27.96	Horizontal
Detector: AverageValue								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4804.00	39.24	35.99	6.80	41.81	40.22	54.00	-13.78	Vertical
4804.00	38.25	35.99	6.80	41.81	39.23	54.00	-14.77	Horizontal
Test channel: Middle channel								
Detector: PeakValue								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4882.00	48.22	36.38	6.86	41.84	49.62	74.00	-24.38	Vertical
4882.00	48.57	36.38	6.86	41.84	49.97	74.00	-24.03	Horizontal
Detector: AverageValue								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4884.00	35.97	36.38	6.86	41.84	37.37	54.00	-16.63	Vertical
4884.00	35.64	36.38	6.86	41.84	37.04	54.00	-16.96	Horizontal
Test channel: Highest channel								
Detector: PeakValue								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4960.00	47.02	36.71	6.91	41.87	48.77	74.00	-25.23	Vertical
4960.00	47.71	36.71	6.91	41.87	49.46	74.00	-24.54	Horizontal
Detector: AverageValue								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4960.00	38.03	36.71	6.91	41.87	39.78	54.00	-14.22	Vertical
4960.00	37.02	36.71	6.91	41.87	38.77	54.00	-15.23	Horizontal
Remark: 1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor. 2. The emission levels of other frequencies are very lower than the limit and not show in test report.								

-----End of report-----