FCC Part 15 Subpart C Test Report

Product Name : PIQS Virtual Touch Projector
Model Name : TT

Prepared for:

PIQS Technology(Shenzhen) Limited.
West,6F Buiding 1,No.35 CuiJing Road,Pingshan New District,Shenzhen City,Guangdong,China.
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Prepared by:

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Report Number : UL71220170302FCC- 2
Date of Report : 04-19-2017
Date of Test : 03-03-2017~04-16-2017

Notes：

The test results only relate to these samples which have been tested.
Partly using this report will not be admitted unless been allowed by Unilab.
Unilab is only responsible for the complete report with the reported stamp of Unilab.

Applicant:	PIQS Technology(Shenzhen) Limited. West,6F Buiding 1,No.35 CuiJing Road,Pingshan New District,Shenzhen City,Guangdong,China.
Manufacturer:	PIQS Technology(Shenzhen) Limited. West,6F Buiding 1,No.35 CuiJing Road,Pingshan New District,Shenzhen City,Guangdong,China.
Product Name:	PIQS Virtual Touch Projector
Brand Name:	PIQS
Model Name:	TT
FCC ID:	2ALH2-PFAT100
Serial Number:	N/A
EUT Voltage:	MIN: 16V, NOR: 19V, MAX: 23V
Date of Receipt:	03-02-2017
Date of Test:	03-03-2017~04-16-2017
Test Standard:	FCC CFR Tile 47 Part 15 Subpart C KDB 558074 D01 V04 KDB 662911 DO1 V02R01 KDB 789033 DO2 V01R04
Test Result:	PASS

Prepared by : Wayne Wu
(Technical Engineer: Wayne Wu)

Reviewed by : Forest cao
(Senior Engineer: Forest Cao)

Approved by : Eva wang
(Supervisor: Eva Wang)

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1. GENERAL INFORMATION

1.1 EUT DESCRIPTION

Product Name:	PIQS Virtual Touch Projector
Model Name:	TT
Hardware Version:	M3_T826_ARM_V3
Software Version:	TTCN20170224V001
RF Exposure Environment:	Uncontrolled
BT 3.0	
Frequency Range:	2402MHz~2480MHz
Carrier Frequency of Each Channel	2402+N*1MHz(N=0~78)
Type of Modulation:	GFSK, π/4-DQPSK, 8-DPSK
Channel Separation:	1MHz
Channel Number:	79
Antenna Type:	Internal
Antenna Peak Gain:	2dBi
Component	
AC Adapter:	Input: AC 100-240V 50/60Hz 1.5A
	Output: DC 19V 3.42A

1.2 TEST MODE

Unilab has verified the construction and function in typical operation. All the test modes were carried out with the EUT in normal operation, which was shown in this test report and defined as:

Test Mode
Mode 1: GFSK CH0
Mode 2: GFSK CH39
Mode 3: GFSK CH78
Mode 4: 8-DPSK CH0
Mode 5: 8-DPSK CH39
Mode 6: 8-DPSK CH78
Mode 7: Π/4-DQPSK CH0
Mode 8: Π/4-DQPSK CH39
Mode 9: Π/4-DQPSK CH78

Note:
1. Regards to the frequency band operation: the lowest, middle and highest frequency of channel were selected to perform the test, then shown on this report.
2. For radiated emission test, every axis (X, Y, Z) was verified, and show the worst result on this report.

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.4 and FCC CFR 47 2.1046, 2.1047, 2.1049, 2.1051, 2.1053, 2.1055, 2.1057, 15.207, 15.209 and 15.247.

2.1 EUT CONFIGURATION

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner that intends to maximize its emission characteristics in a continuous normal application

2.2 EUT EXERCISE

The EUT was operated in the engineering mode to fix the TX frequency that was for the purpose of the measurements. According to its specifications, the EUT must comply with the requirements of the Section 15.207, 15.209 and 15.247 under the FCC Rules Part 15 Subpart C.

2.3 GENERAL TEST PROCEDURES

Conducted Emissions

The EUT is placed on the turntable, which is 0.8 m above ground plane. According to the requirements in Section 13.1.4.1 of ANSI C63.4: 2014 Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR Quasi-peak and average detector modes.

Radiated Emissions

The EUT is placed on a turn table, which is 0.8 m above ground plane. The turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m

away from the receiving antenna, which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the maximum emissions, exploratory radiated emission measurements were made according to the requirements in Section 13.4 of ANSI C63.4: 2014.

2.4 FCC PART 15.205 RESTRICTED BANDS OF OPERATIONS

(a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
[1]0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2655 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	([2])
13.36 - 13.41			

1 Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

2 Above 38.6

(b) Except as provided in paragraphs (d) and (e), the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

2.5 DESCRIPTION OF TEST MODES

The EUT has been tested under operating condition.

After verification, all tests were carried out with the worst case test modes as shown below GFSK(1Mbps), Π/4-DQPSK (2Mbps)and 8-DPSK(3 Mbps) Channel Low (2402MHz),Mid (2441MHz) and High (2480MHz), these were chosen for full testing.

3. TECHNIACL SUMMARY

3.1 SUMMARY OF STANDARDS AND TEST RESULTS

The EUT have been tested according to the applicable standards as referenced below:

Test Item	FCC	Result
Channel Separation	§15.247 (a)	P
Minimum Hopping Channel	§15.247 (a)	P
Occupied Bandwidth	§15.247 (a)	P
Dwell Time	§15.247 (a)	P
Peak Output Power (Conduction)	§15.247 (b)	P
Unwanted Emissions (Conduction)	§15.247 (d)	P
Band edge measurement	§15.247 (d)	P
Unwanted Emissions (Radiation)	§15.247 (d) §15.35 (b) §15.209 (a)	P
AC Power Line Conducted Emissions	§15.207 (a)	P

Note: P means pass, F means failure, N/A means not applicable

3.2 TEST UNCERTAINTY

Where relevant, the following test uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Test item	Value (dB)
Conducted disturbance	3.4
Radiated disturbance	4.2
Conducted RF Measurement	1.1

3.3 TEST EQUIPMENT LIST

Equipment	Manufacturer	Model	Serial No.	Due Date
Receiver	Agilent	N9038A	MY51210142	11/10/2017
Wireless Connectivity Test Set	Agilent	N4010A	MY49080305	10/22/2017
Loop Antenna	Schwarzbeck	FMZB1519	1519-020	03/24/2018
LISN	R&S	ENV216	100069	08/21/2017
3m Chamber & Accessory Equipment	ETS-LINDGREN	FACT-3	CT-0000336	11/26/2017
Microwave Preamplifier	EM Electronics	EM30180	3008A02425	02/25/2018

Power Splitter	Agilent	11667C/ 52401	MY53806148	02/25/2018
Bilog Antenna	Schwarzbeck	VULB9160	9160-3316	09/18/2017
VHF-UHF-Biconical Antenna	Schwarzbeck	VUBA9117	9117-263	09/18/2017
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	9120D-942	09/18/2017
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	9120D-943	09/18/2017
Horn Antenna(18-40GHz)	ETS	3116	00070497	07/17/2017.

The measuring equipment utilized to perform the tests documented in this report has been calibrated once a year or in accordance with the manufacturer's recommendations, and has been calibrated by accredited calibration laboratories.

3.4 SUPPORT EQUIPMENT

Equipment	Manufacturer	Model	Serial No.	Due Date
Signal Generator	Agilent	N4010A	MY50140938	10/22/2017

3.5 TEST FACILITY

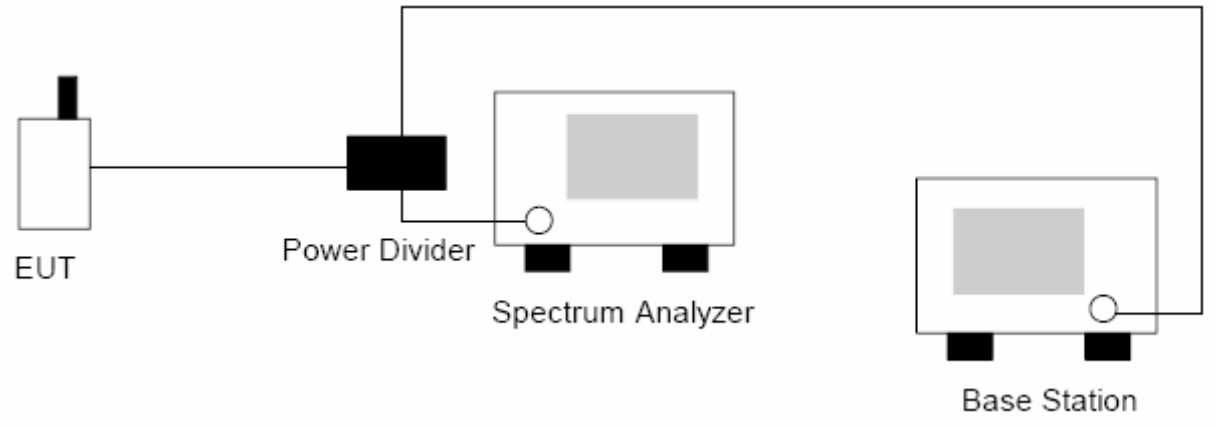
All test facilities used to collect the test data are located at Shanghai Institute of Measurement and Testing Technology EMC Lab., Shanghai, China.
The site and apparatus are constructed in conformance with the requirements of ANSI C63.4: 2014, CISPR 16-1-1 and other equivalent standards. The laboratory is compliance with the requirements of the ISO/IEC/E 17025.

3.6 TEST SETUP CONFIGURATION

The information contained within this report is intended to show verification of compliance of the EUT to the requirements of CFR 47 FCC Part 15.247.
Unilab has verified the construction and function in typical operation. All the test modes were carried out with the EUT in normal operation, which was shown in this test report .

4. CHANNEL SEPARATION

4.1 TEST SETUP



4.2 LIMITS

Limits	⩾25 kHz or 20 dB bandwidth of hopping channel

4.3 TEST PROCEDURE

The EUT have its hopping function enabled. Use the following spectrum analyzer settings:
Span = wide enough to capture the peaks of two adjacent channels
Resolution (or IF) Bandwidth (RBW) ≥ 1% of the span
Video (or Average) Bandwidth (VBW) ≥ RBW
Sweep = auto
Detector function = peak
Trace = max hold
Allow the trace to stabilize. Use the marker-delta function to determine the separation between the peaks of the adjacent channels.

4.4 TEST RESULT

GFSK

Channel Separation: 1.000MHz

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.439 806 GHz	-7.882 dBm			
2	N	1	f	2.440 796 GHz	-5.628 dBm			
3	N	1	f	2.441 975 GHz	-6.204 dBm			

Π/4-DQPSK

Channel Separation: 1.000MHz

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.439 959 GHz	-7.606 dBm			
2	N	1	f	2.440 958 GHz	-7.594 dBm			
3	N	1	f	2.441 948 GHz	-7.137 dBm			

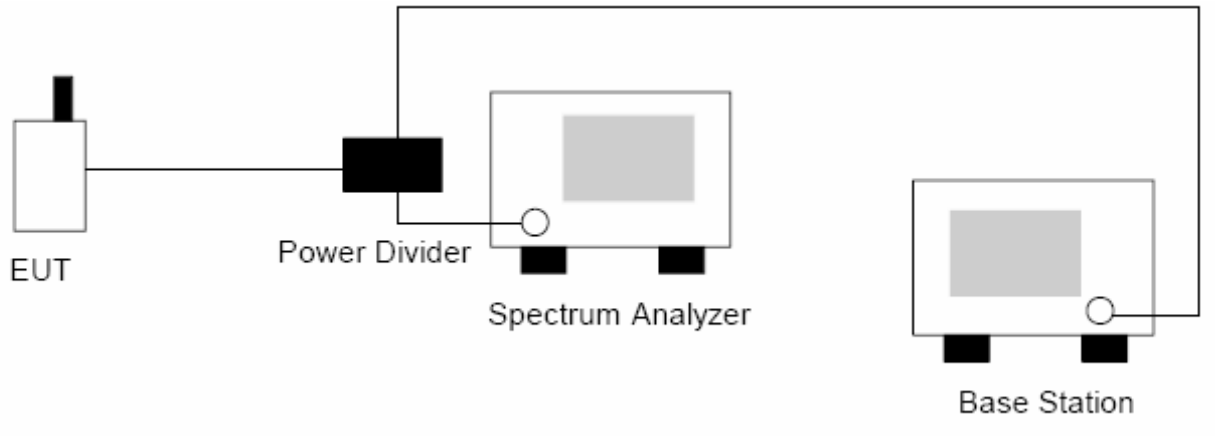
8-DPSK

Channel Separation: 1.000MHz

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.440 076 GHz	-7.885 dBm			
2	N	1	f	2.441 084 GHz	-7.952 dBm			
3	N	1	f	2.442 092 GHz	-7.957 dBm			
4								
5								
6								
7								
8								
9								
10								
11								

5. MINIMUM HOPPING CHANNELS

5.1 TEST SETUP



5.2 LIMITS

Limits	≥15 Channels

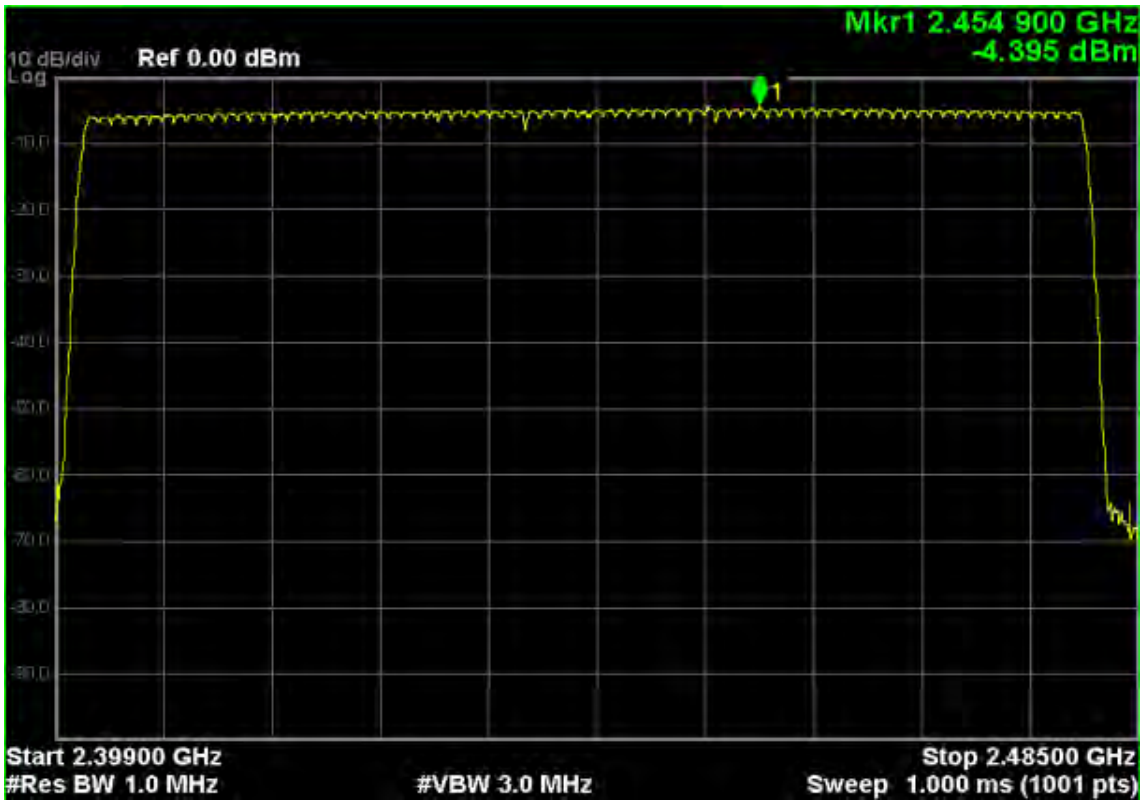
5.3 TEST PROCEDURE

The EUT have its hopping function enabled.
Use the following spectrum analyzer settings:
Span = the frequency band of operation
RBW ≥ 1% of the span
VBW ≥ RBW
Sweep = auto
Detector function = peak
Trace = max hold
Allow the trace to stabilize. It may prove necessary to break the span up to sections, in order to clearly show all of the hopping frequencies.

5.4 TEST RESULT

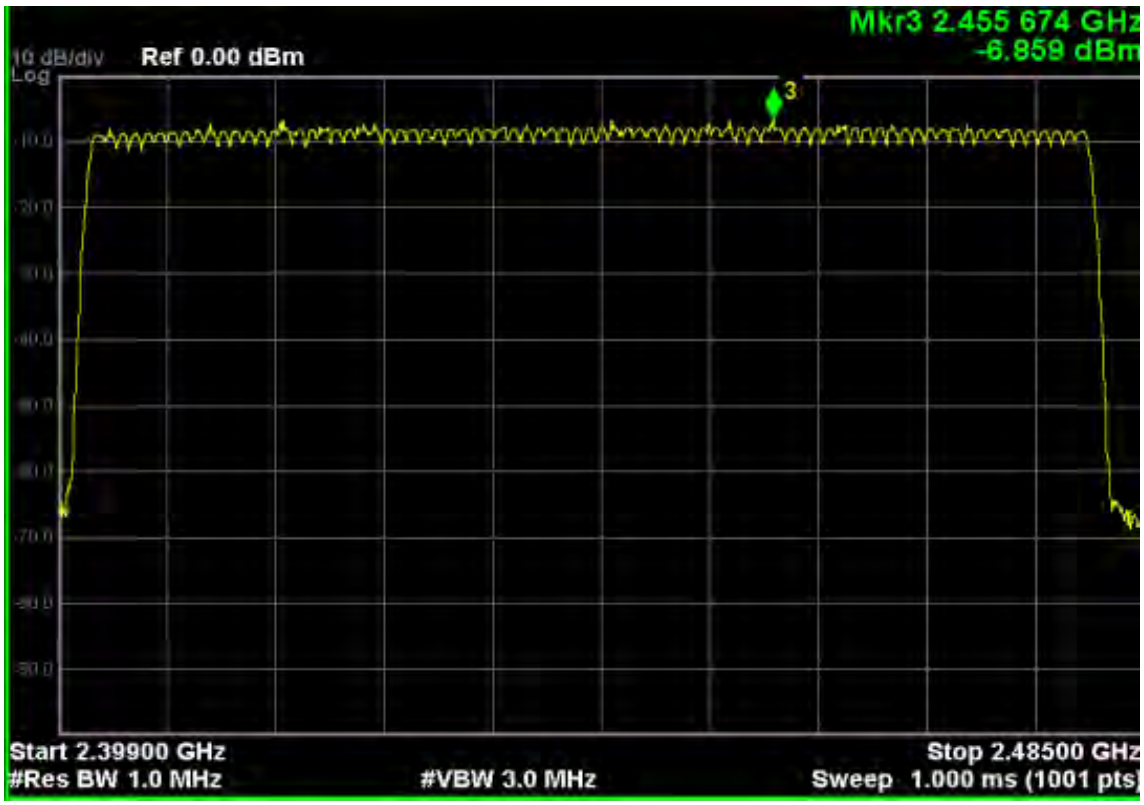
GFSK

Hopping Channel: 79 channels



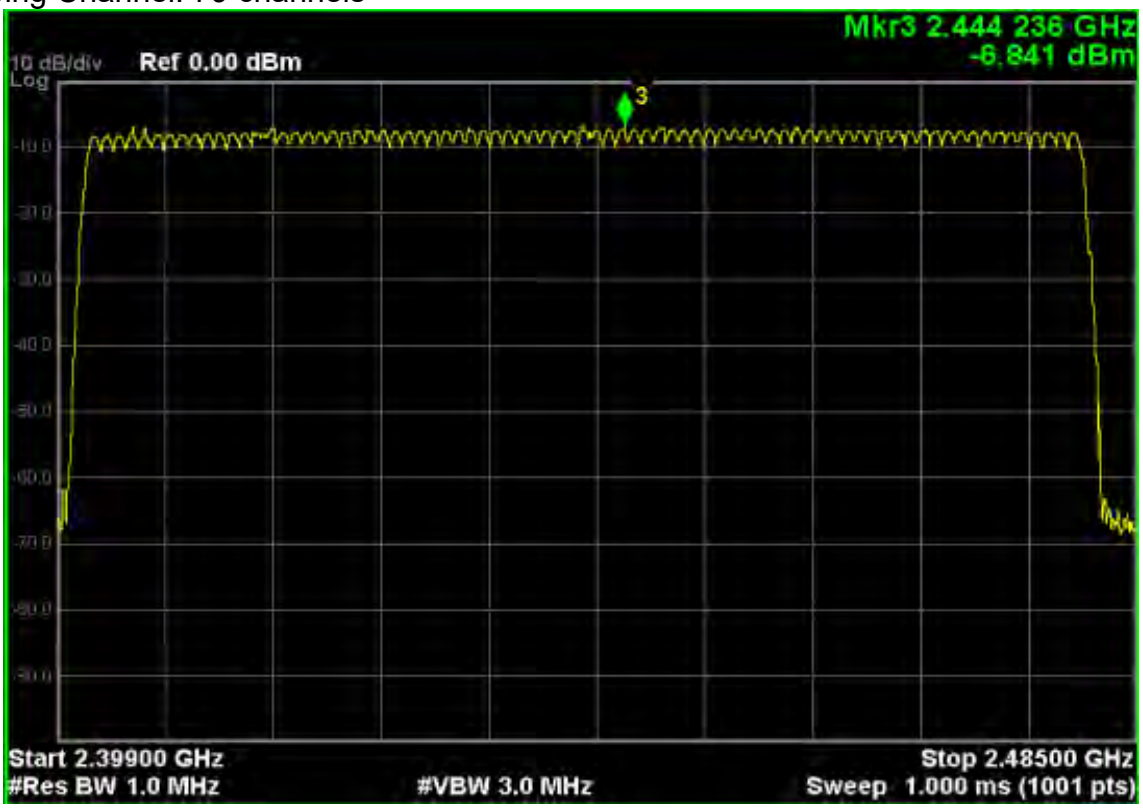
Π/4-DQPSK

Hopping Channel: 79 channels



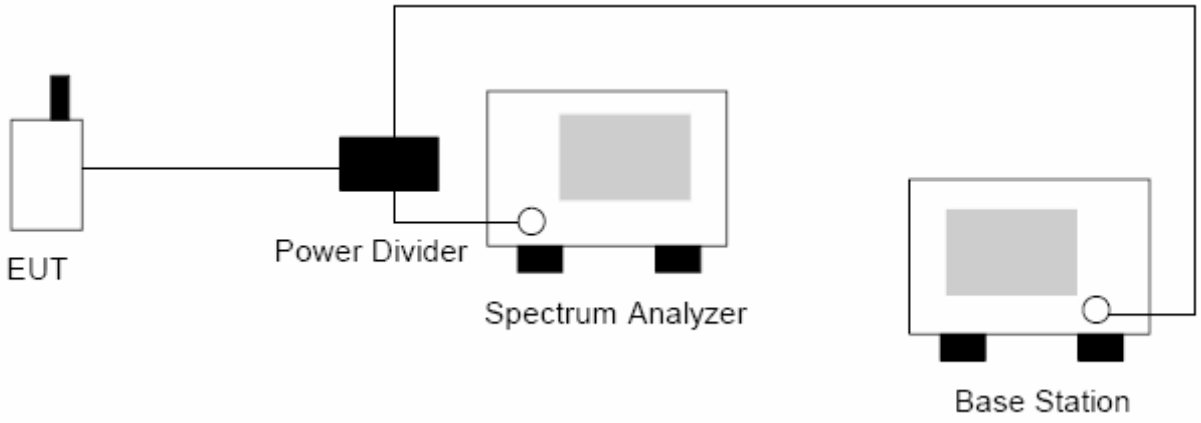
8-DPSK

Hopping Channel: 79 channels



6. OCCUPIED BANDWIDTH

6.1 TEST SETUP



6.2 LIMITS

Limits	≥25 kHz or 2 to 3 times the 20 dB bandwidth

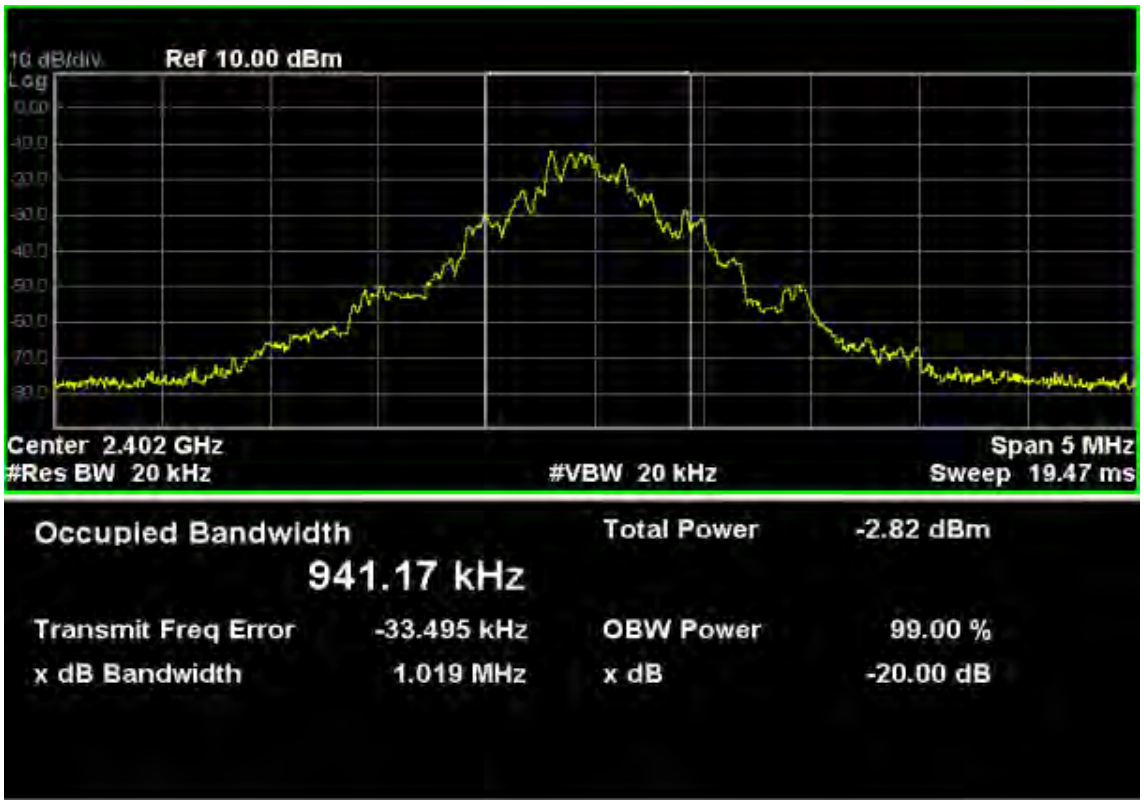
6.3 TEST PROCEDURE

Place the EUT on the table and set it in transmitting mode. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to spectrum analyzer. The loss between RF output port of the EUT and the input port of the tester will be taken into consideration.
The measurement will be conducted at three channels.
Bluetooth: Low(0), Middle(39) and High (78).
Using occupied BW measurement function of spectrum analyzer and settings are:
XdB = -20dB
RBW =20KHz
VBW ≥RBW
Span = approximately 2 to 3 times the 20 dB bandwidth, centered on a channel
Sweep = auto
Detector function = peak
Trace = max hold

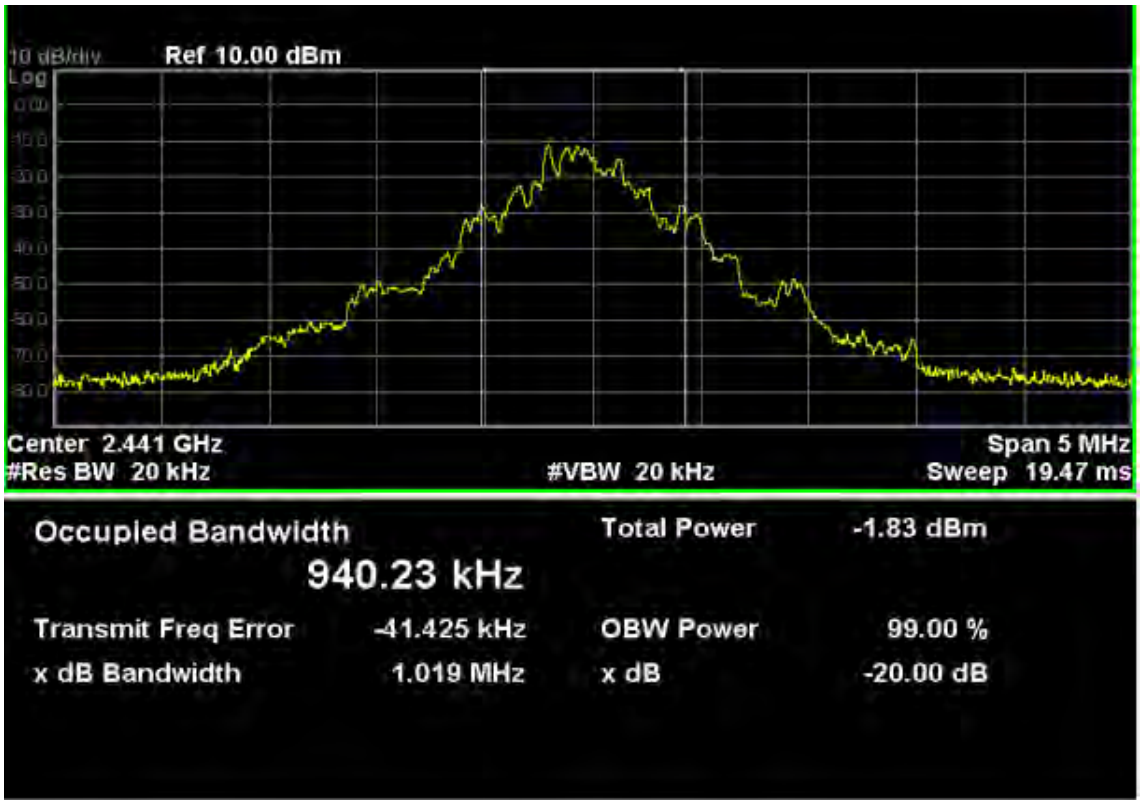
6.4 TEST RESULTS

Channel	20dB bandwidth (MHz)	99% bandwidth (MHz)
GFSK		
BT CH0	1.019	0.941
BT CH39	1.019	0.940
BT CH79	1.019	0.941
Π/4-DQPSK		
BT CH0	1.080	1.105
BT CH39	1.082	1.106
BT CH79	1.082	1.105
8-DPSK		
BT CH0	1.077	1.060
BT CH39	1.078	1.061
BT CH79	1.074	1.054

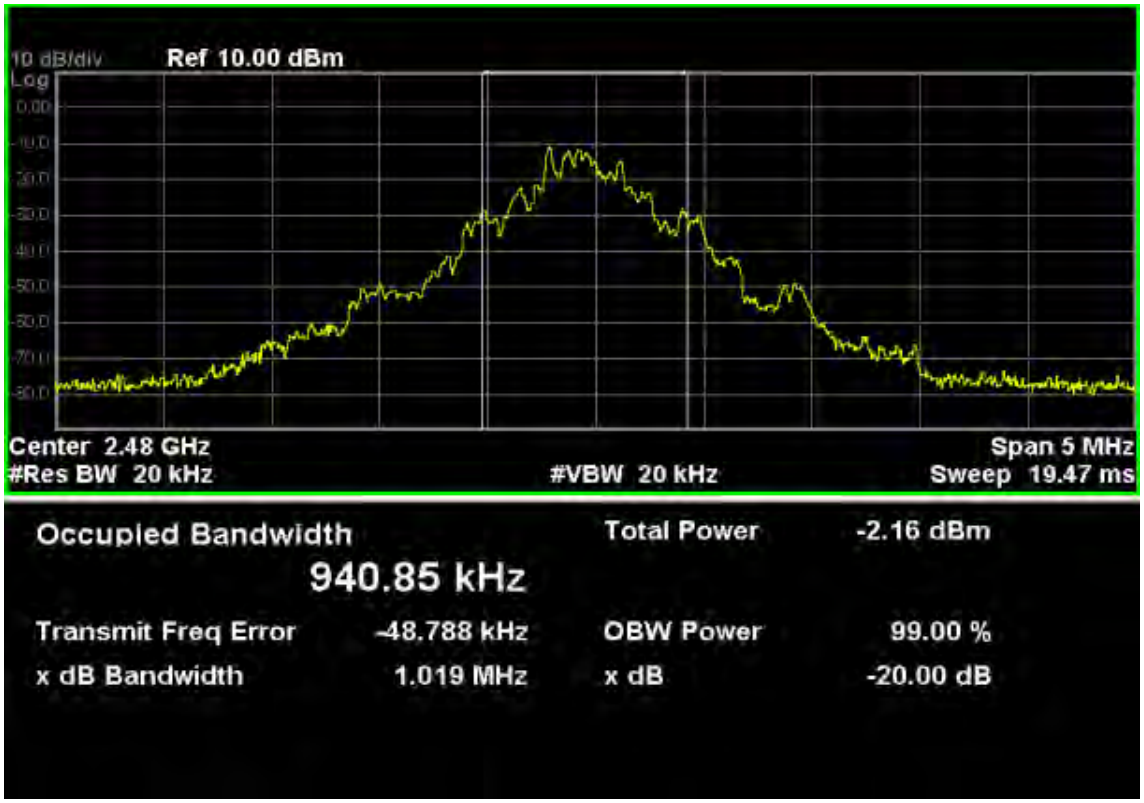
GFSK
Bluetooth Channel 0



Bluetooth Channel 39



Bluetooth Channel 78

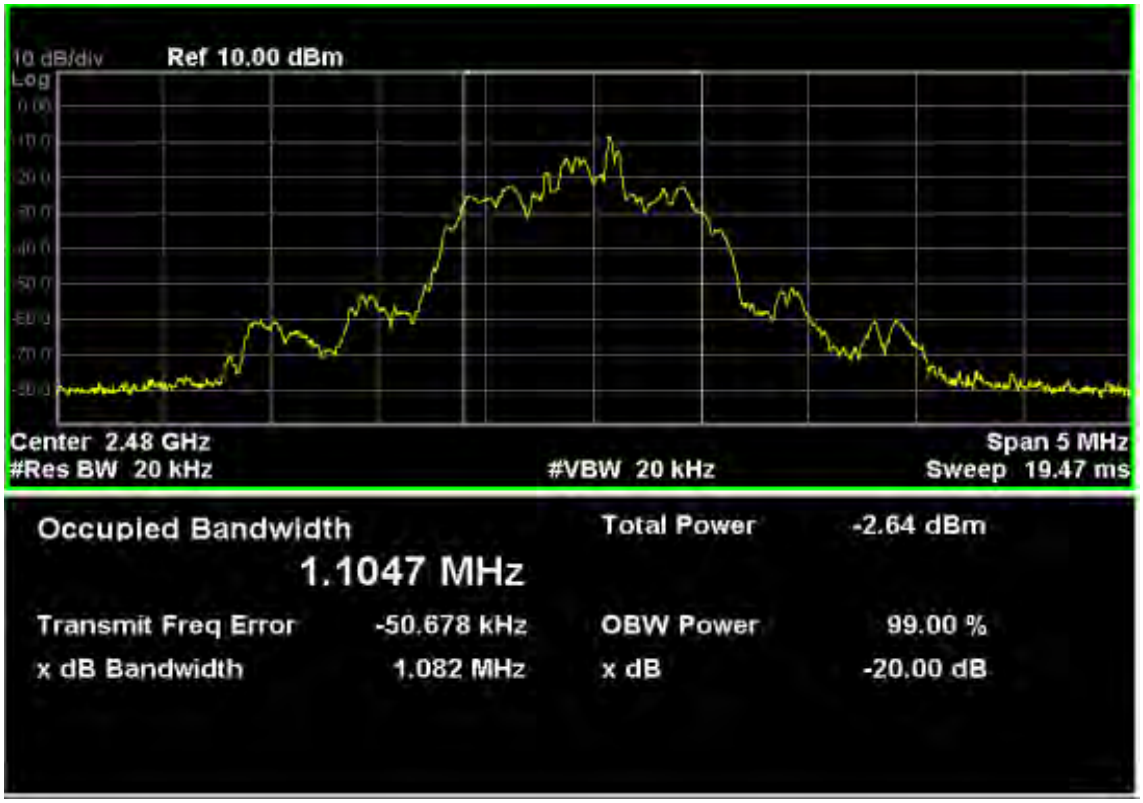


Π/4-DQPSK

Bluetooth Channel 0

Bluetooth Channel 39

Bluetooth Channel 78



8-DPSK

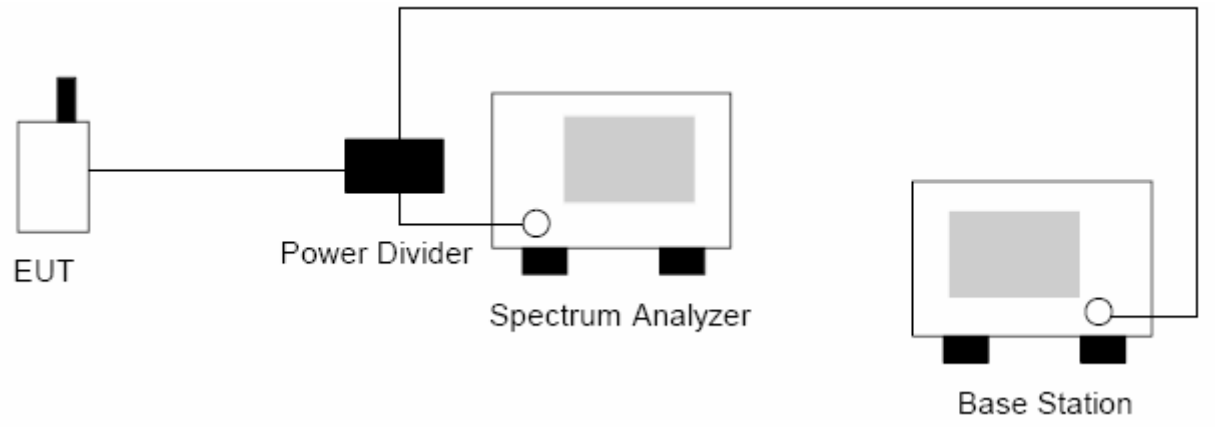
Bluetooth Channel 0

Bluetooth Channel 39

Bluetooth Channel 78

7. DWELL TIME

7.1 TEST SETUP



7.2 LIMITS

Limits	<400.00ms

7.3 TEST PROCEDURE

The EUT must have its hopping function enabled.
Use the following spectrum analyzer settings:
Span = zero span, centered on a hopping channel
RBW ≤ Channel Separation

VBW ≥ RBW

Sweep = as necessary to capture the entire dwell time per hopping channel
Detector function = peak
Trace = max hold
If possible, use the marker-delta function to determine the dwell time. If this value varies with different modes of operation (e.g., data rate, modulation format, etc.), repeat this test for each variation.

7.4 TEST RESULTS

GFSK

Packet	N	x(ms)	Calculation formula	Result(T)(ms)
DH1	2	0.382	$T=\frac{1600}{79\times N}\times x\times(0.4\times 79)=\frac{1600}{79\times N}\times x\times 31.6$	122.24
DH3	4	1.635	DH1, N=2; DH3, N=4; DH5, N=6	260.8
DH5	6	2.875		306.7

Π/4-DQPSK

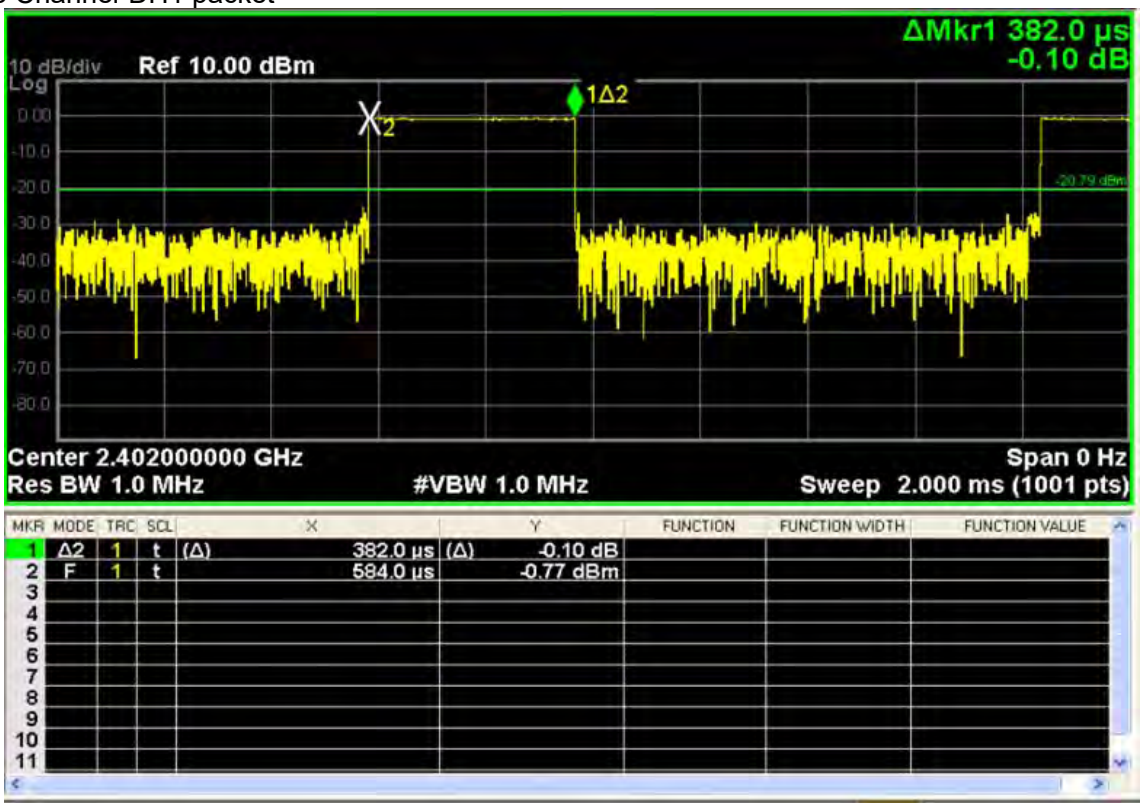
Packet	N	x(ms)	Calculation formula	Result(T)(ms)
DH1	2	0.386	$T=\frac{1600}{79\times N}\times x\times(0.4\times 79)=\frac{1600}{79\times N}\times x\times 31.6$	123.5
DH3	4	1.640	DH1, N=2; DH3, N=4; DH5, N=6	262.4
DH5	6	2.890		308.3

8-DPSK

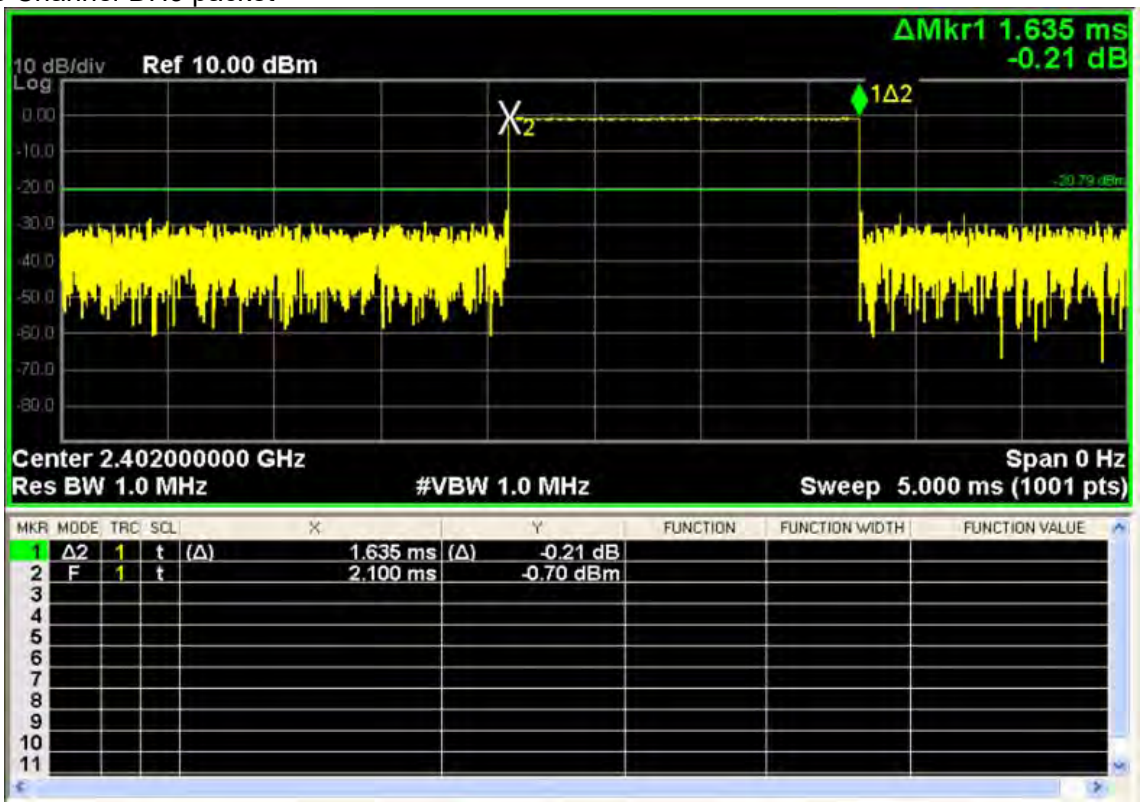
Packet	N	x(ms)	Calculation formula	Result(T)(ms)
DH1	2	0.388	$T=\frac{1600}{79\times N}\times x\times(0.4\times 79)=\frac{1600}{79\times N}\times x\times 31.6$	124.2
DH3	4	1.640	DH1, N=2; DH3, N=4; DH5, N=6	262.4
DH5	6	2.890		308.3

GFSK

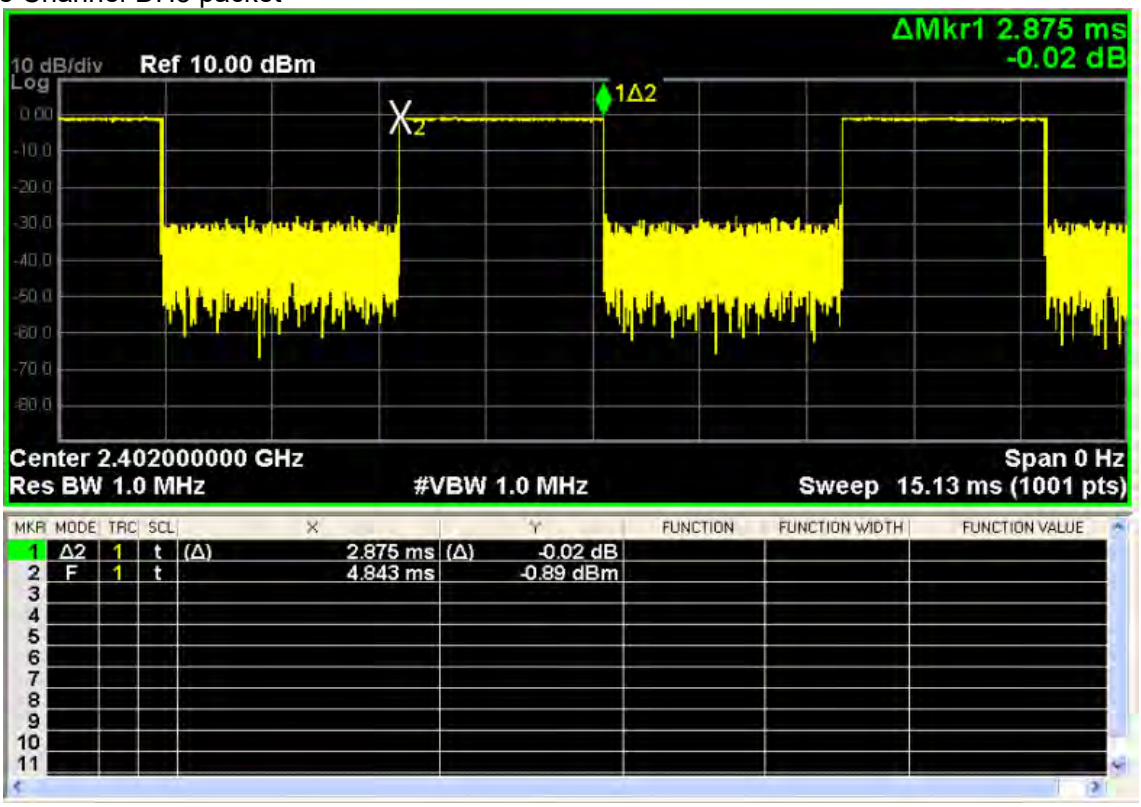
Single Channel-DH1 packet



Single Channel-DH3 packet

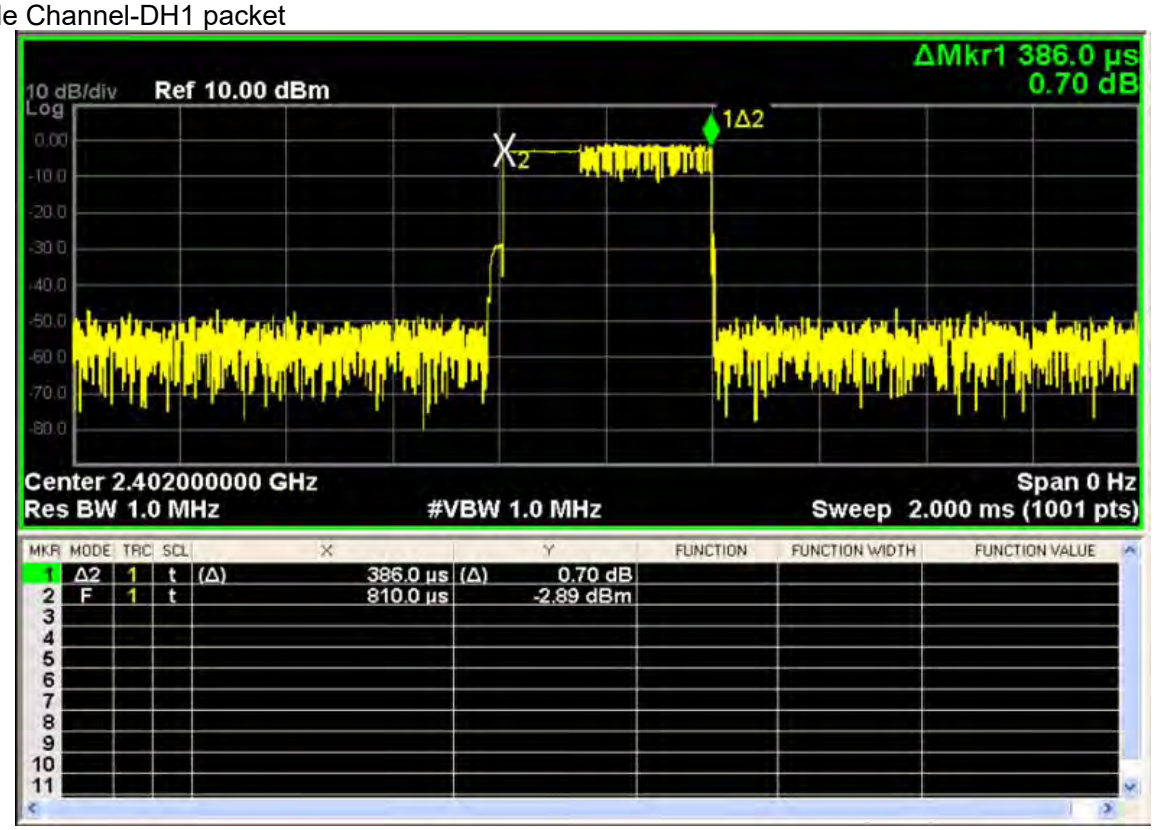


Single Channel-DH5 packet

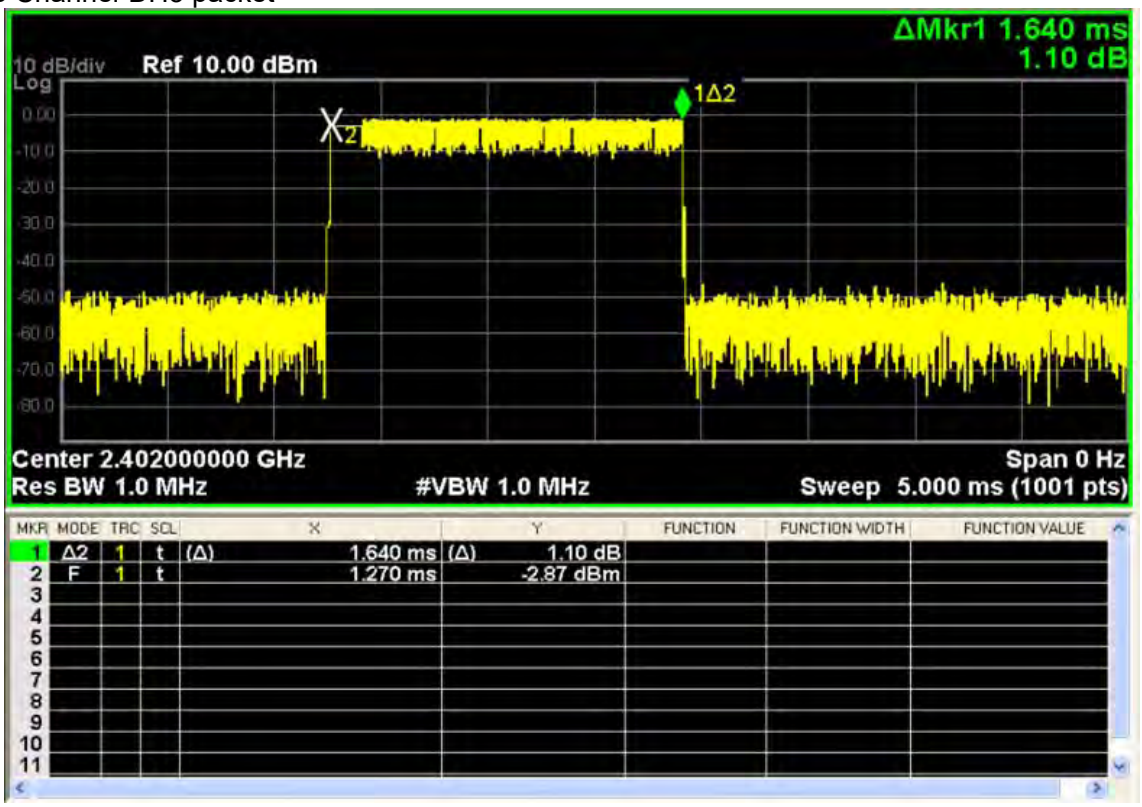


Π/4-DQPSK

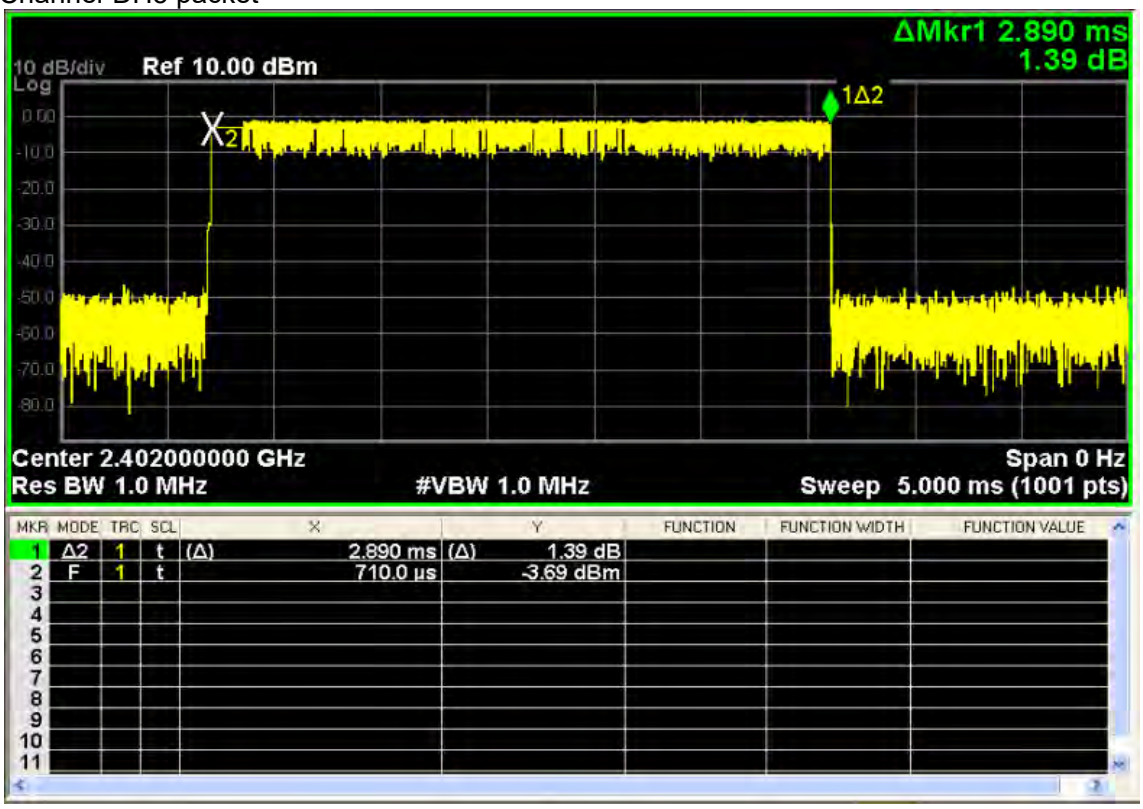
Single Channel-DH1 packet



Single Channel-DH3 packet

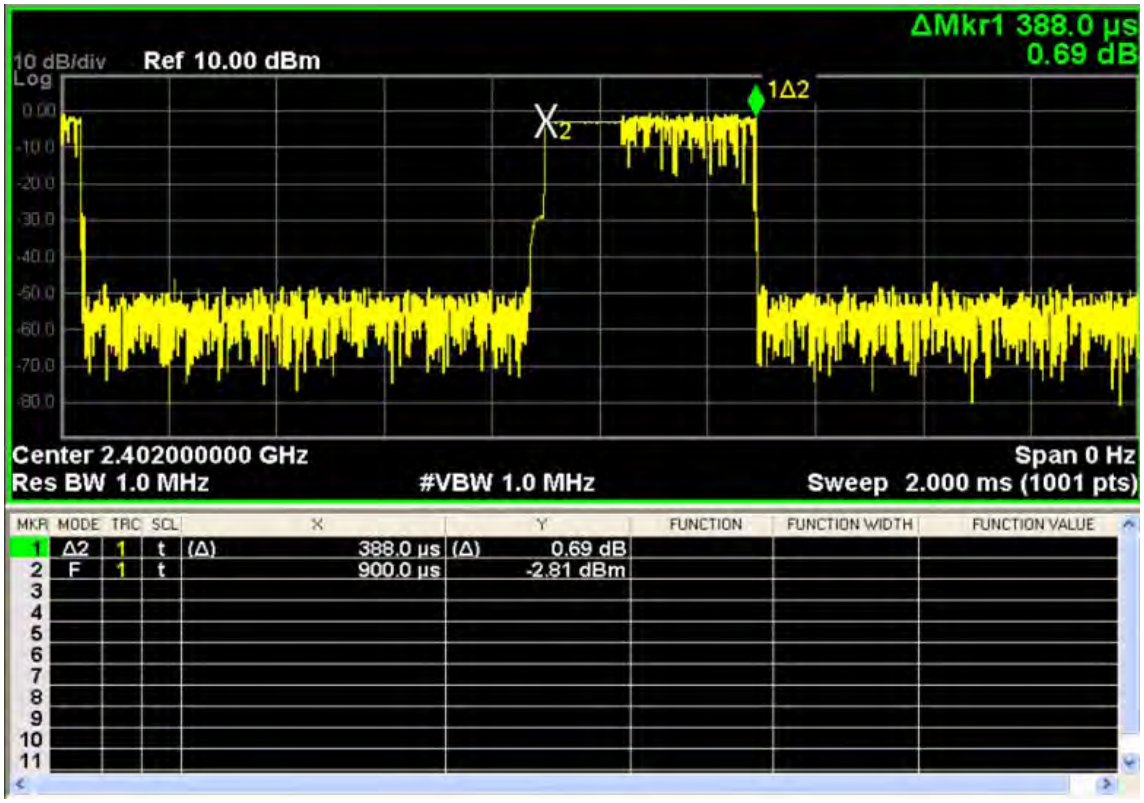


Single Channel-DH5 packet

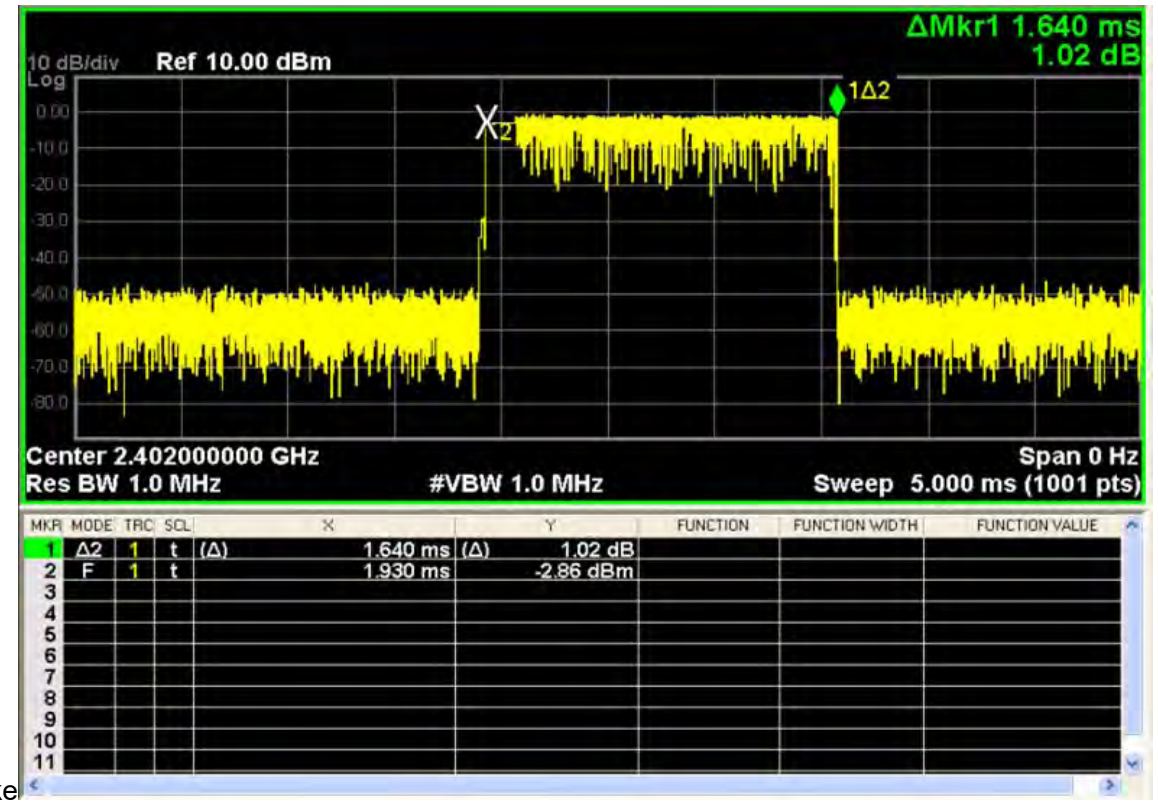


8-DPSK

Single Channel-DH1 packet



Single Channel-DH3



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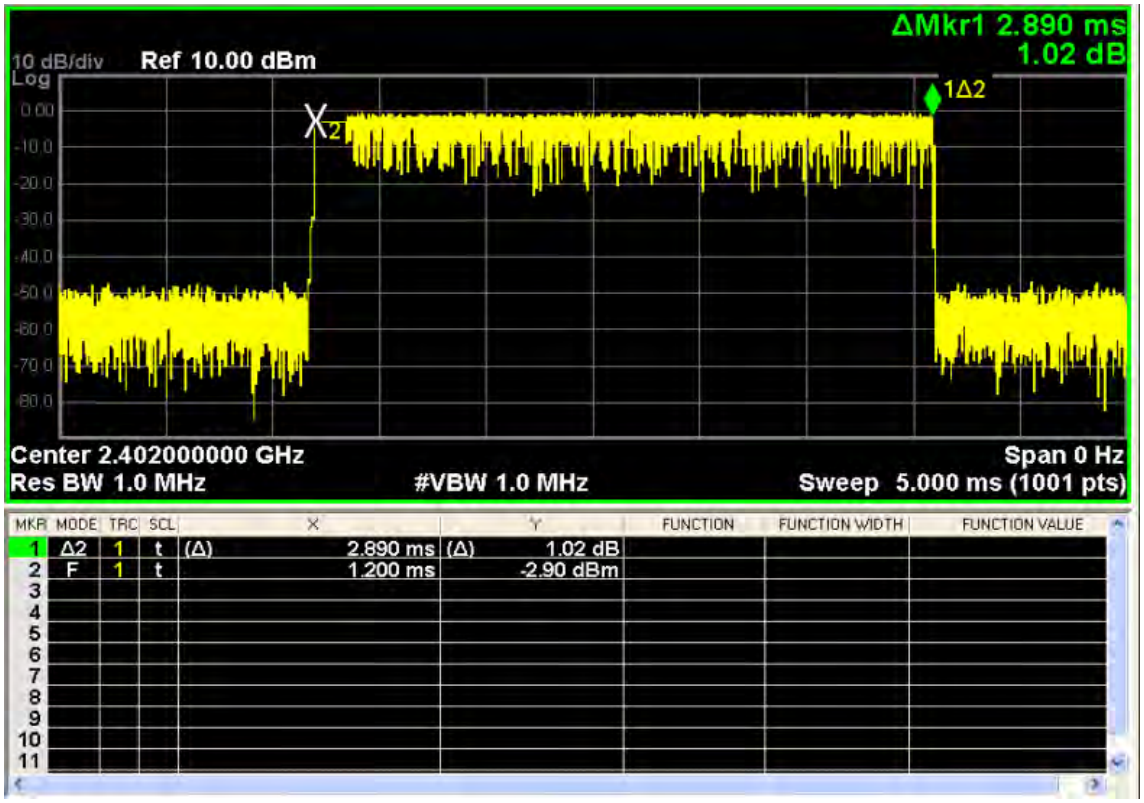
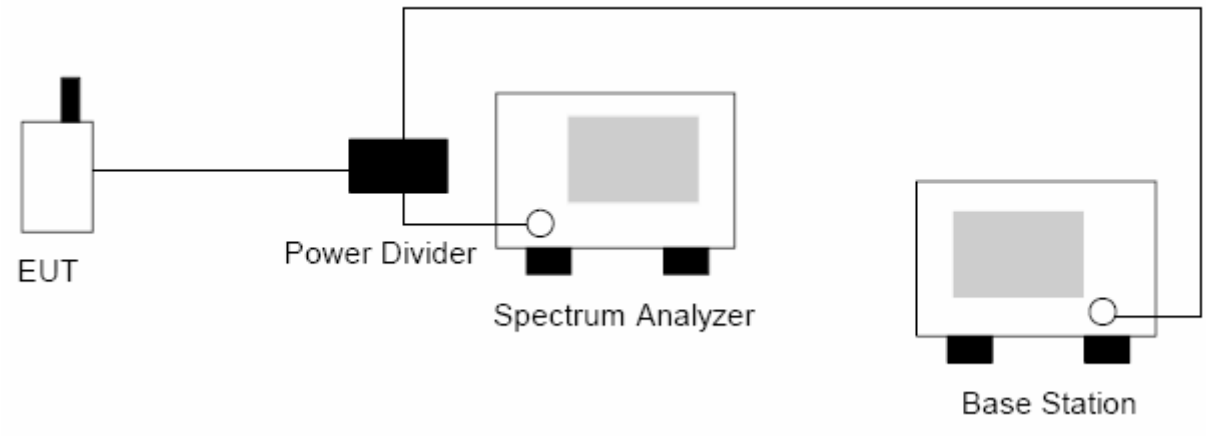
Single Channel-DH5 packet


ΔMkr1 2.890 ms
1.02 dB
10 dB/div
Log
Ref 10.00 dBm
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
-80.0
1Δ2
X2
Center 2.402000000 GHz
Res BW 1.0 MHz
#VBW 1.0 MHz
Span 0 Hz
Sweep 5.000 ms (1001 pts)
MKR MODE TRC SCL X Y FUNCTION FUNCTION WIDTH FUNCTION VALUE
1 Δ2 1 t (Δ) 2.890 ms (Δ) 1.02 dB
2 F 1 t 1.200 ms -2.90 dBm
3
4
5
6
7
8
9
10
11

8. PEAK OUTPUT POWER (CONDUCTION)

8.1 TEST SETUP



8.2 LIMITS

The maximum peak output power of the intentional radiator shall not exceed the following:

1. According to §15.247(a)(1), 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. 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.
2. According to §15.247(b)(3), for systems using digital modulation in the bands of 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz: 1 Watt.
3. According to §15.247(b)(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.

8.3 TEST PROCEDURE

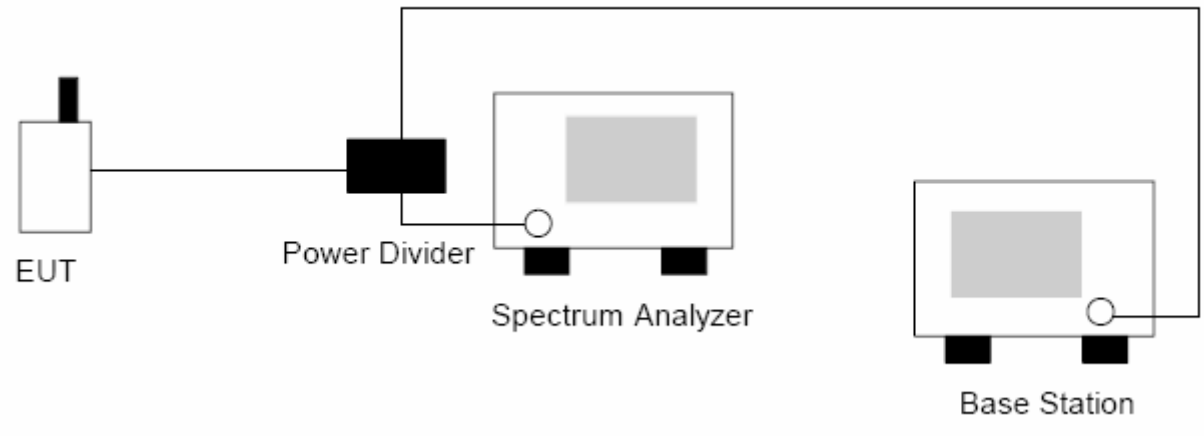
After a radio link has been established between EUT and Base station, using spectrum analyzer to measure the output power of the cell signal of the EUT, and record the max. The loss between RF output port of the EUT and the input port of the tester will be taken into consideration.
The measurement will be conducted at three channels:
Bluetooth: Low(0), middle(39) and High (78),
Set the spectrum analyzer as RBW = 3MHz, VBW = 3MHz, Span = 10MHz, Sweep = auto
Detector = Peak, Trace mode = max hold

8.4 RESULTS & PERFORMANCE

GFSK				
Channel	Peak power (dBm)	Peak power (mW)	Limit (mW)	Result
0 (2402MHz)	9.7	9.33	125	Pass
39 (2441MHz)	9.5	8.91		Pass
78 (2480MHz)	9.8	9.55		Pass
Π/4-DQPSK				
Channel	Peak power (dBm)	Peak power (mW)	Limit (mW)	Result
0 (2402MHz)	5.3	3.39	125	Pass
39 (2441MHz)	5.1	3.24		Pass
78 (2480MHz)	5.3	3.39		Pass
8-DPSK				
Channel	Peak power (dBm)	Peak power (mW)	Limit (mW)	Result
0 (2402MHz)	2.5	1.78	125	Pass
39 (2441MHz)	2.3	1.70		Pass
78 (2480MHz)	2.4	1.74		Pass

9. SPURIOUS EMISSIONS (CONDUCTION)

9.1 TEST SETUP



9.2 LIMITS

Limit	<(P-20dB)
Note: P is the highest level of the desired power	

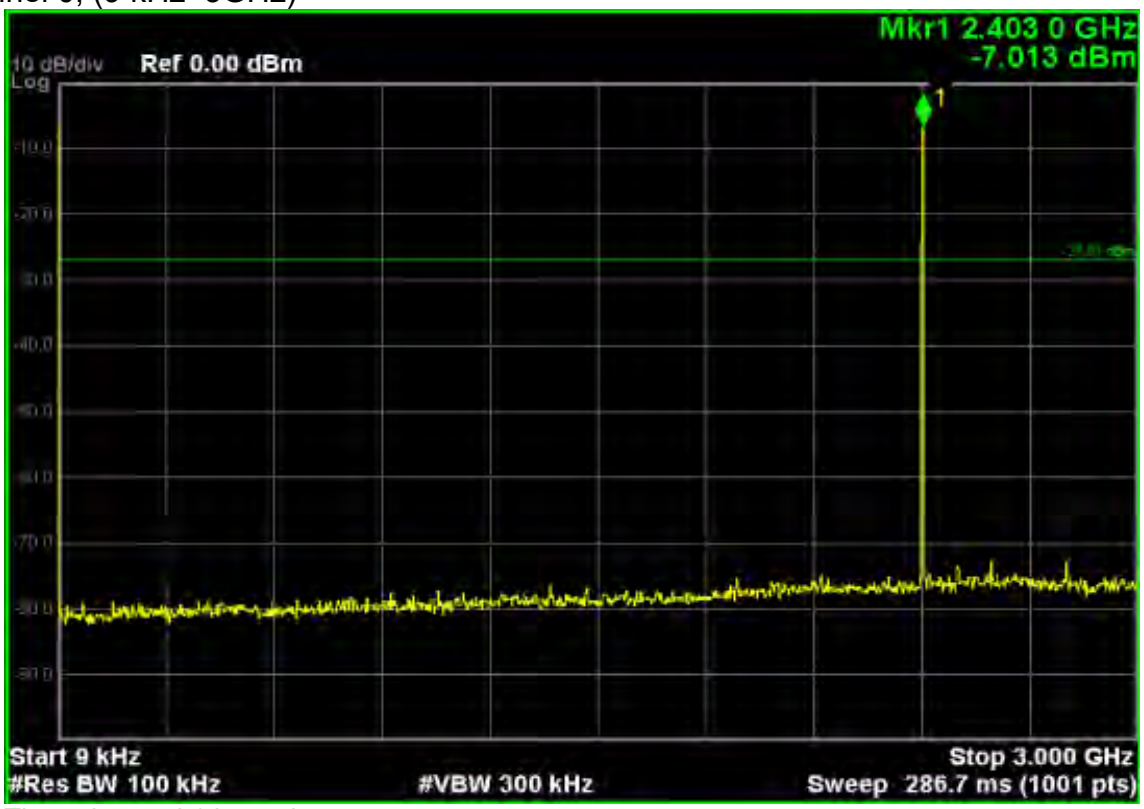
9.3 TEST PROCEDURE

The EUT was connected to Spectrum Analyzer and Base Station via power divider. Use the following spectrum analyzer settings:
Span = wide enough to capture the peak level of the in-band emission and all spurious emissions (e.g., harmonics) from the lowest frequency generated in the EUT up through the 10th harmonic. Typically, several plots are required to cover this entire span.
RBW = 100 kHz; VBW=300 kHz; Sweep = auto; Detector function = peak; Trace = max hold
Allow the trace to stabilize. Set the marker on the peak of any spurious emission recorded. The level displayed must comply with the limit specified in this Section.

9.4 RESULTS & PERFORMANCE

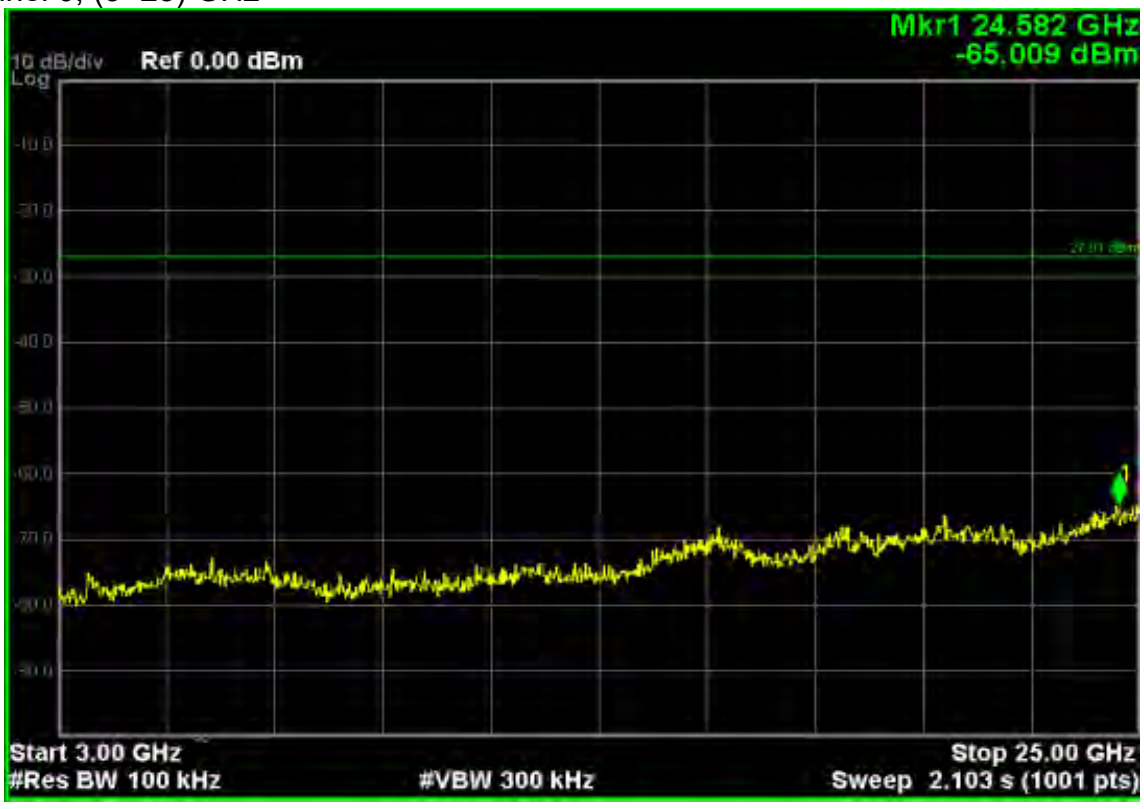
Bluetooth traffic mode GFSK

Channel 0; (9 kHz~3GHz)

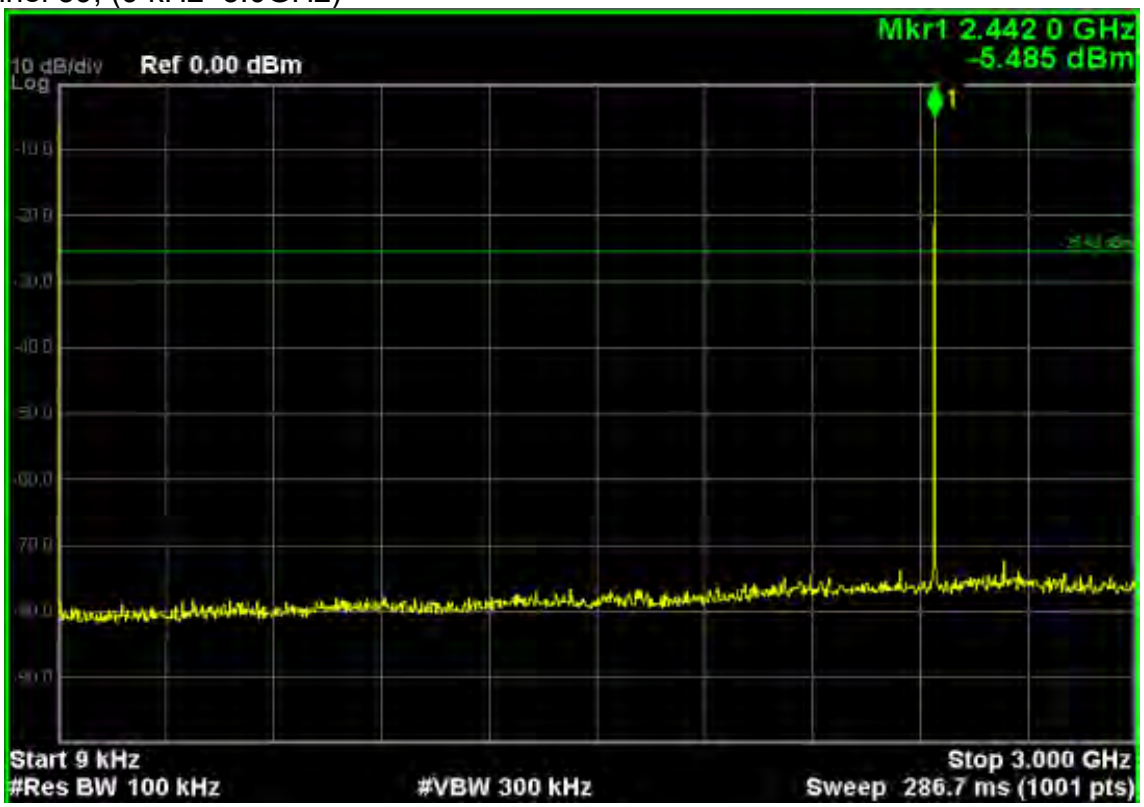


Note: The point mark1 is carrier.

Channel 0; (3~25) GHz

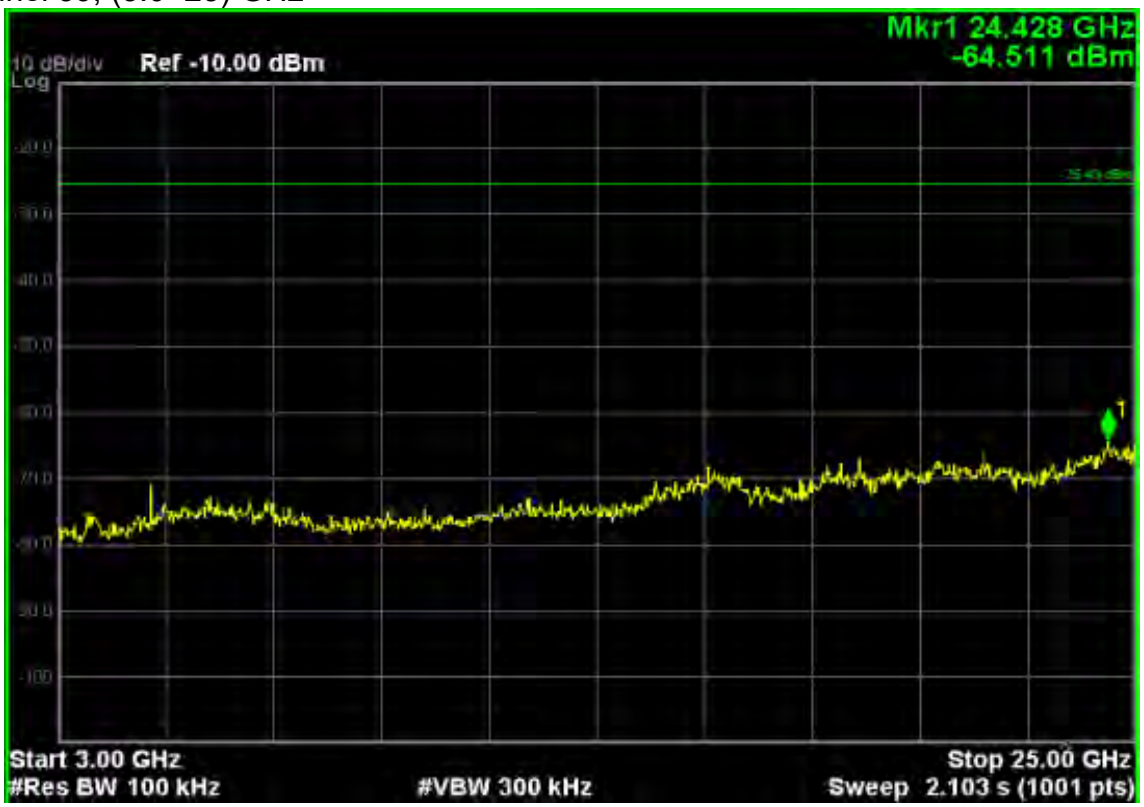


Channel 39; (9 kHz~3.0GHz)

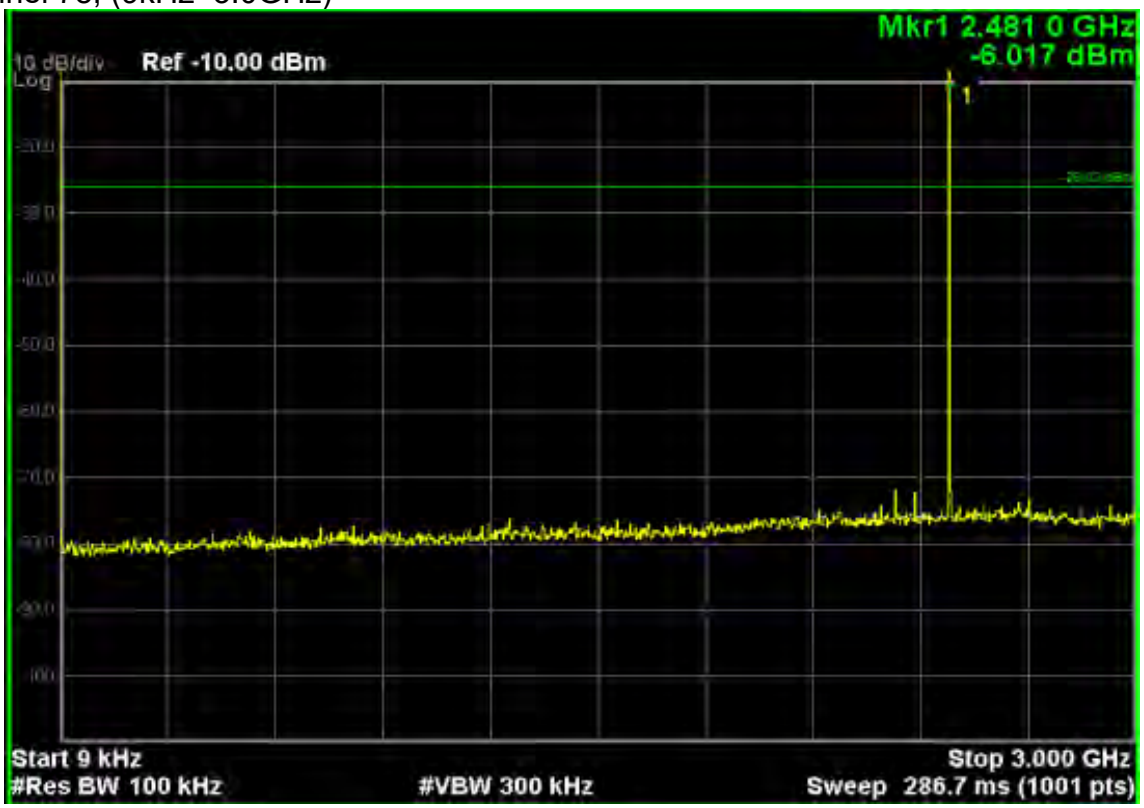


Note: The point mark1 is carrier.

Channel 39; (3.0~25) GHz

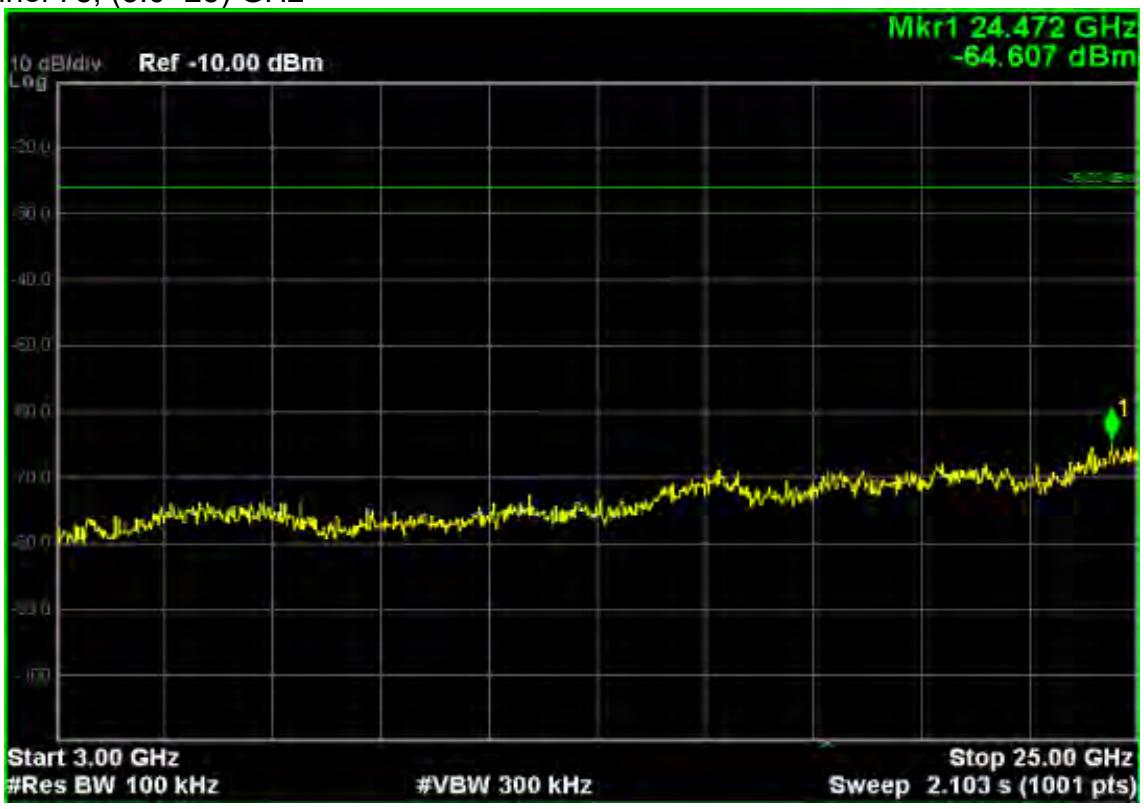


Channel 78; (9kHz~3.0GHz)



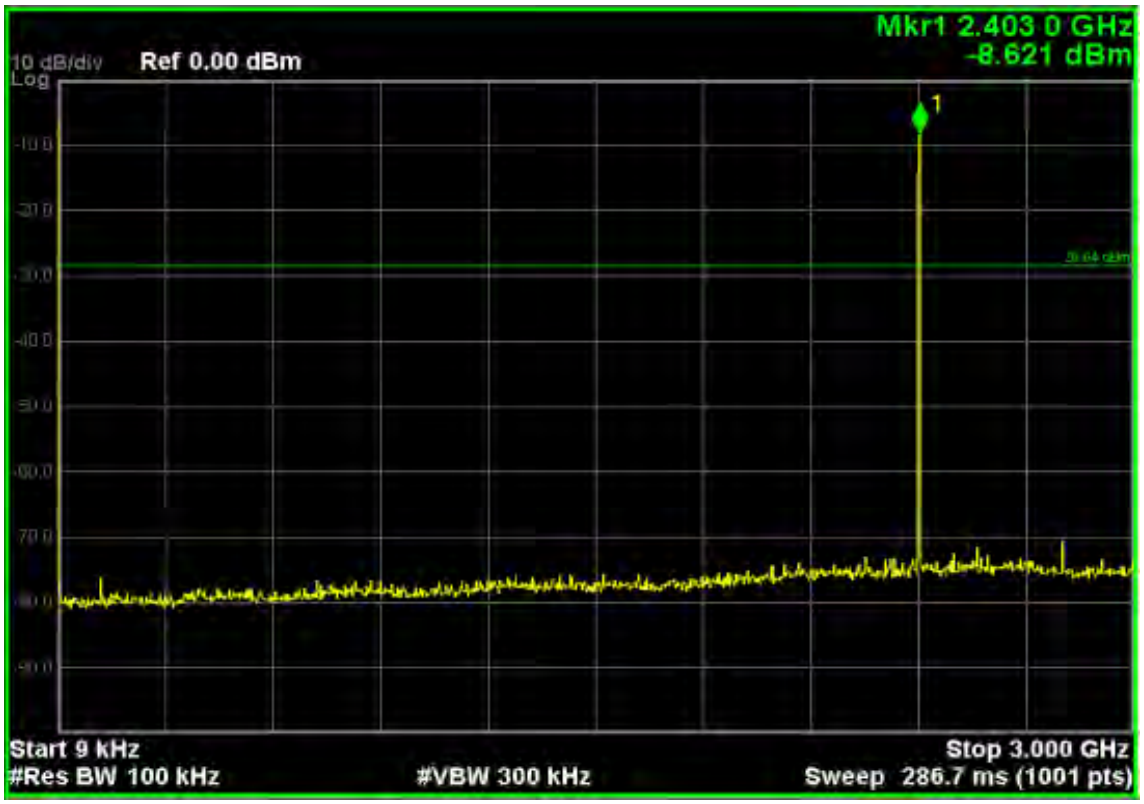
Note:The point mark1 is carrier.

Channel 78; (3.0~25) GHz



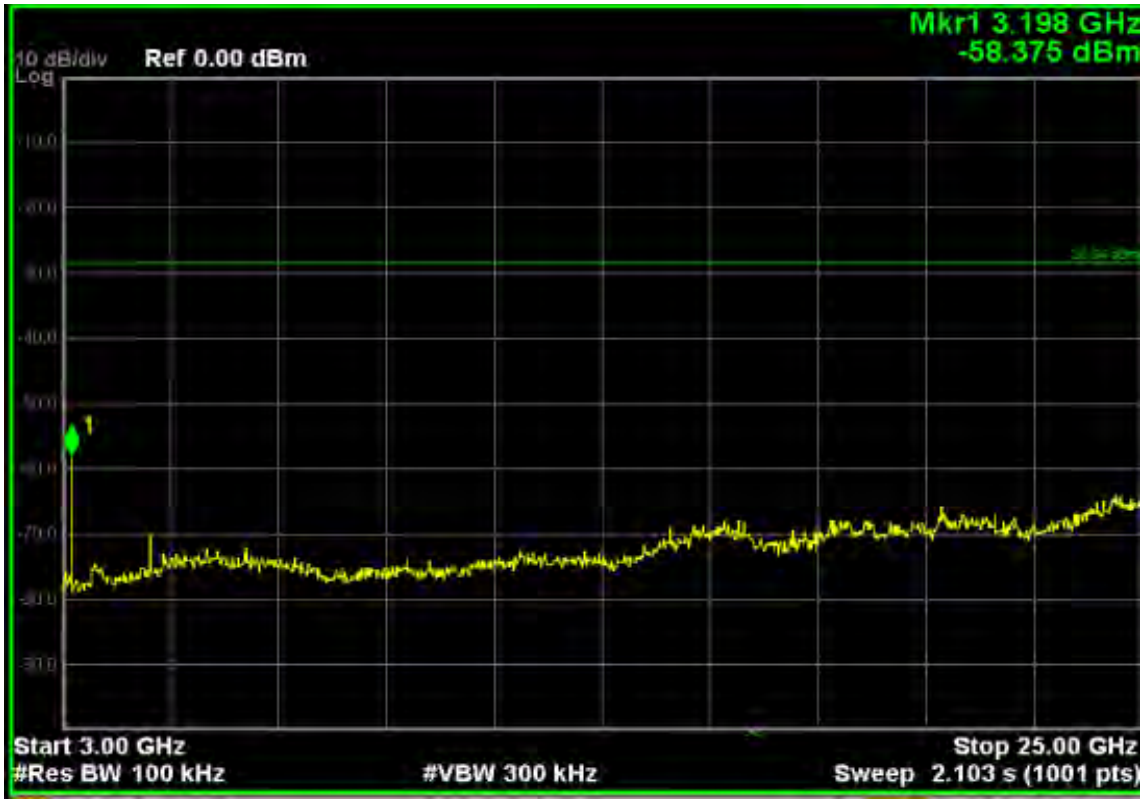
Bluetooth; traffic mode; π/4-DQPSK

Channel 0 (9 kHz~3.0GHz)

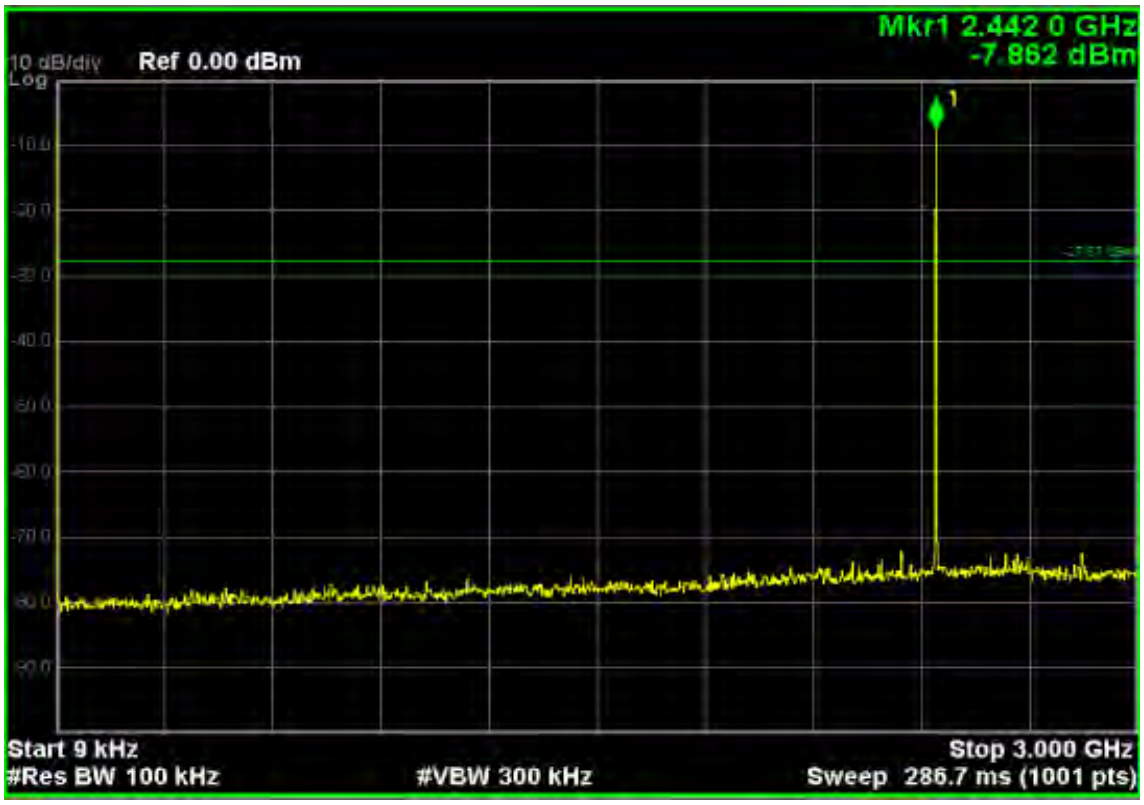


Note:The point mark1 is carrier.

Channel 0 (3GHz~25GHz)

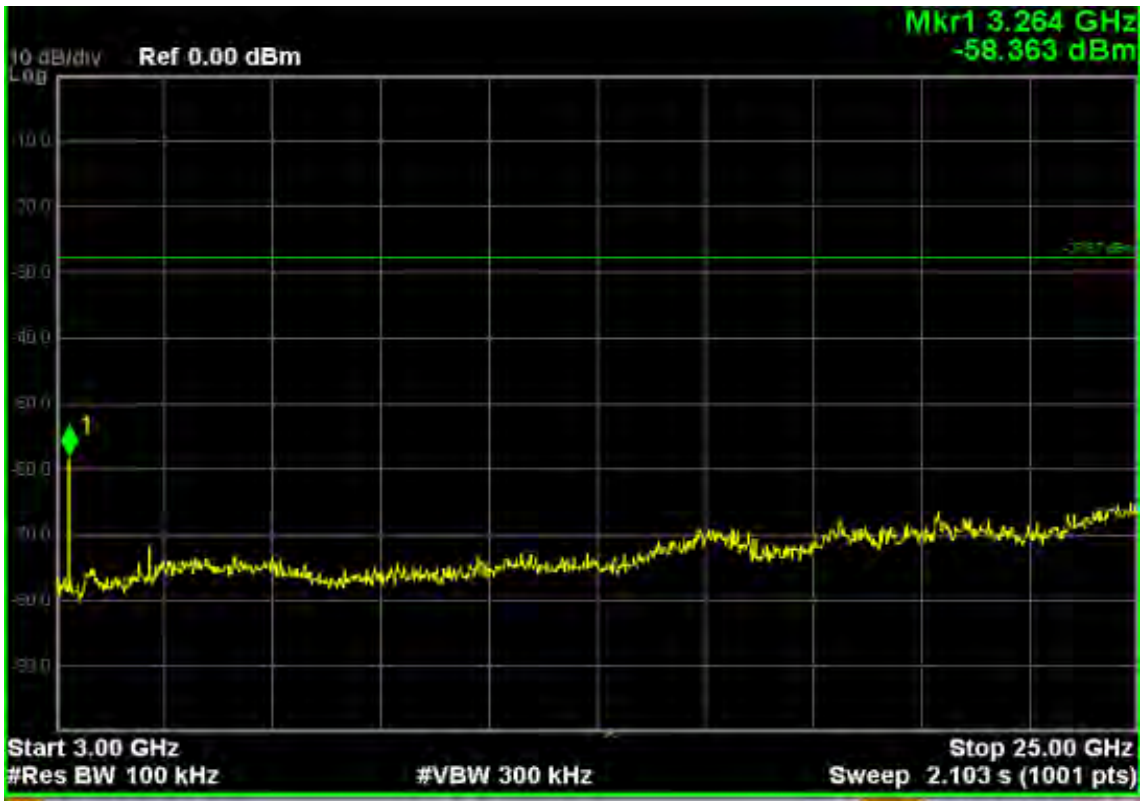


Channel 39 (9 kHz~3.0GHz)

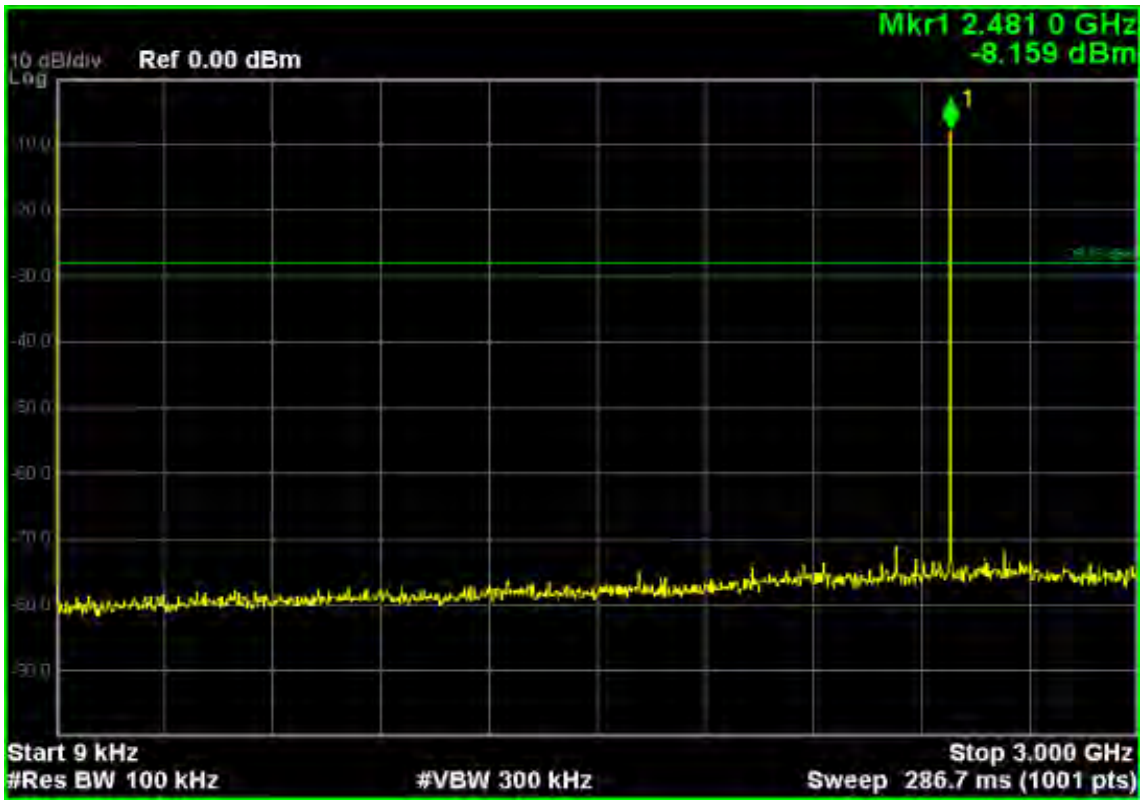


Note:The point mark1 is carrier.

Channel 39 (3.0GHz ~25GHz)

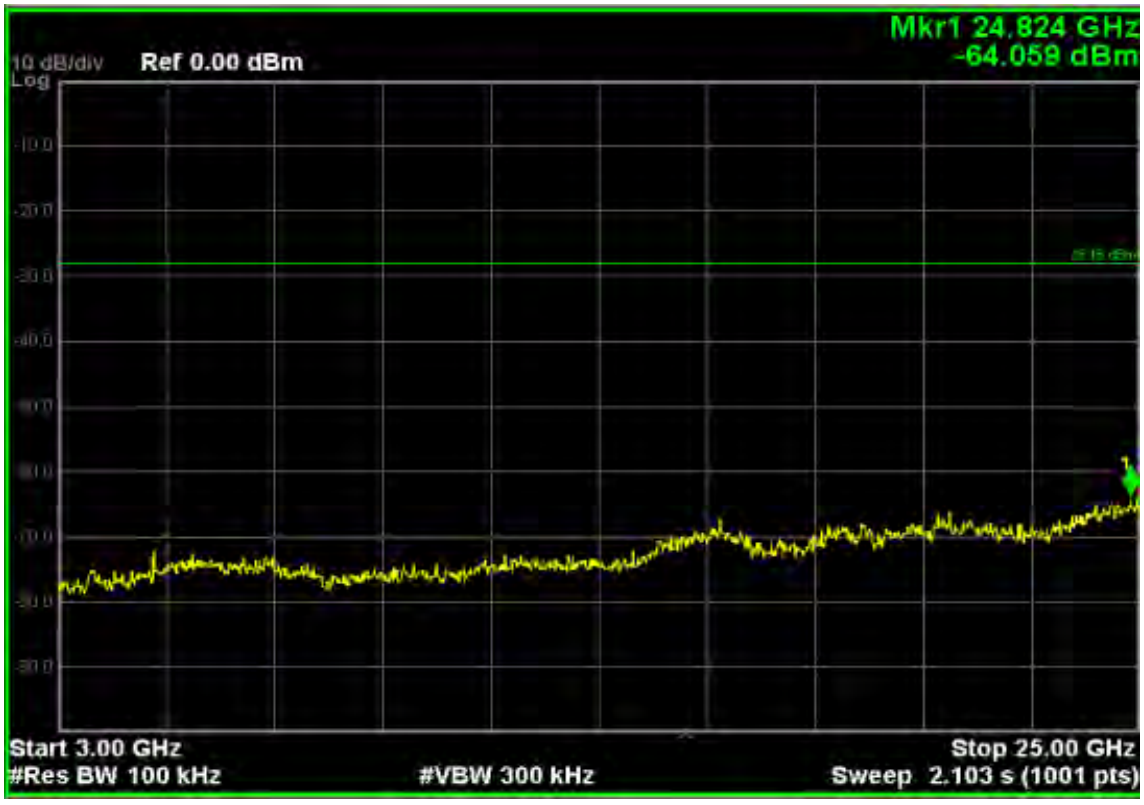


Channel 78 (9 kHz~3.0GHz)



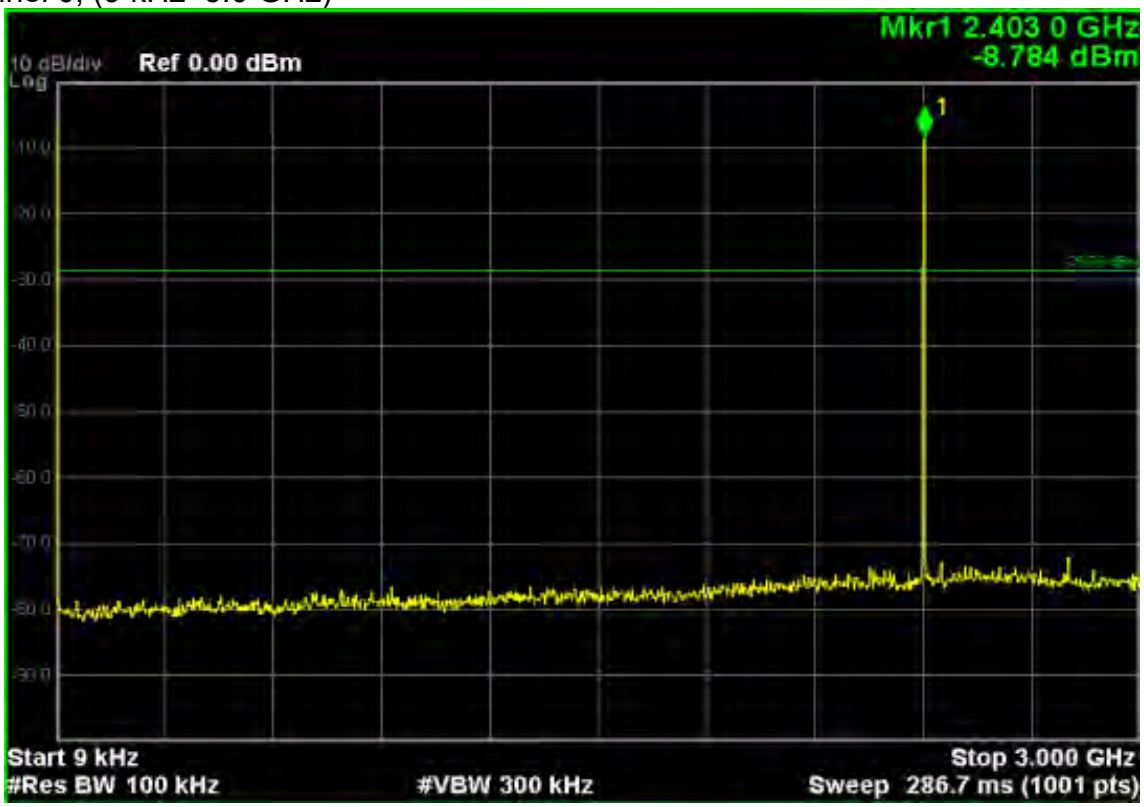
Note:The point mark1 is carrier.

Channel 78 (3.0GHz ~25GHz)



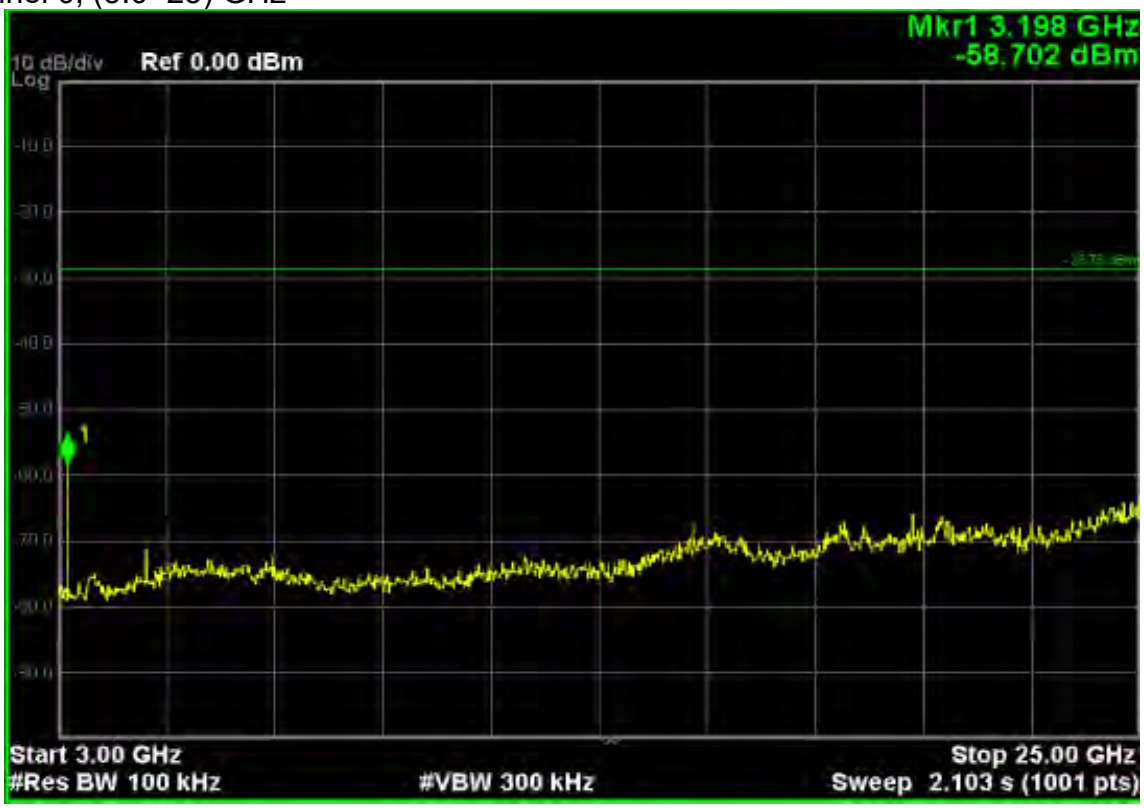
Bluetooth traffic mode 8-DPSK

Channel 0; (9 kHz~3.0 GHz)

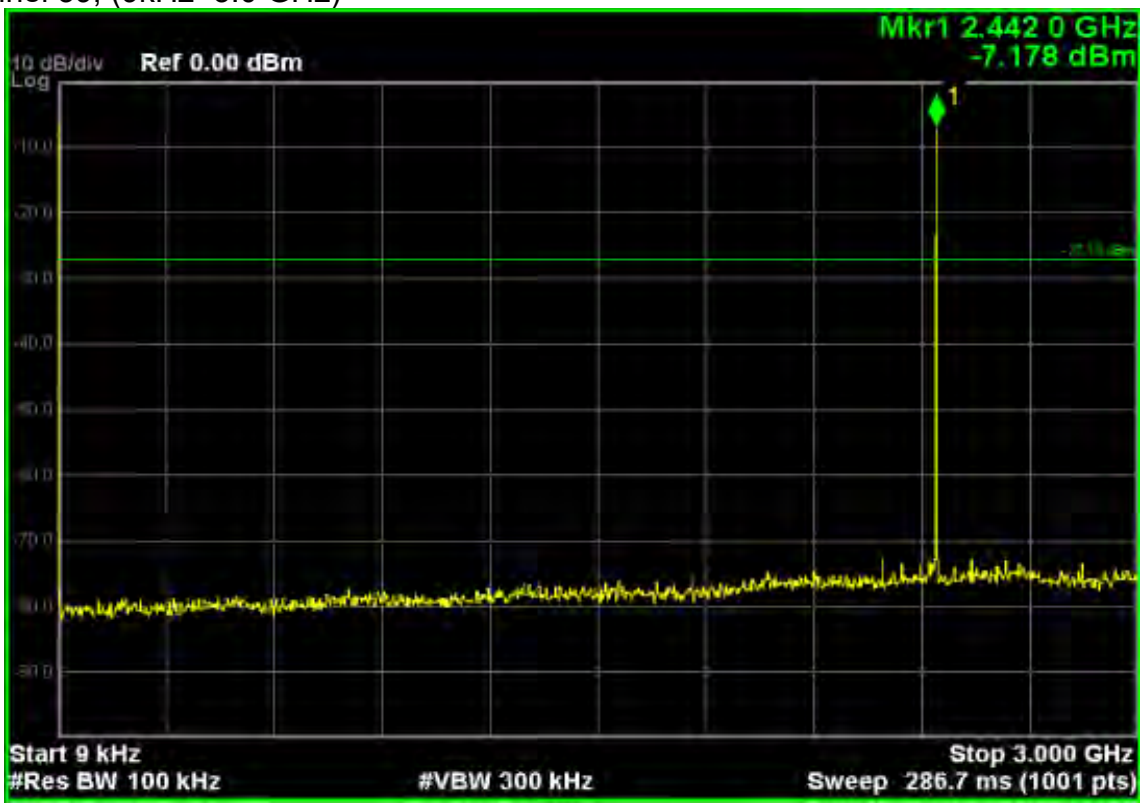


Note:The point mark1 is carrier.

Channel 0; (3.0~25) GHz

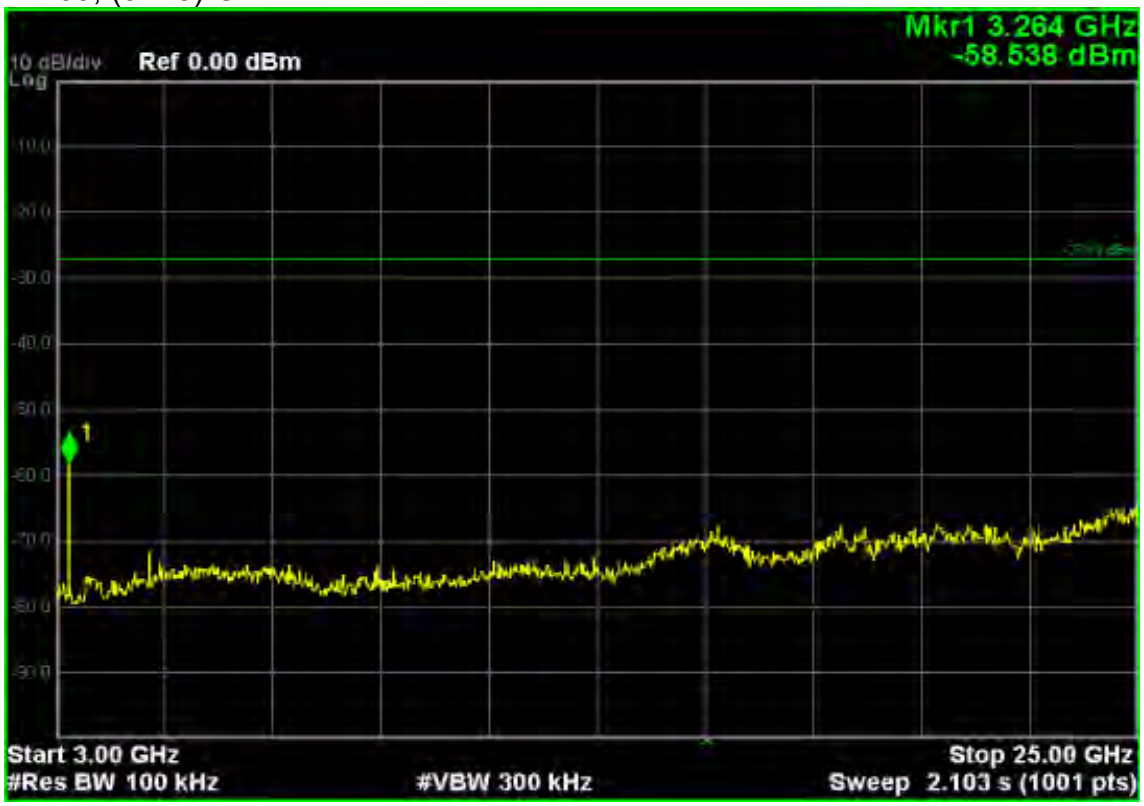


Channel 39; (9kHz~3.0 GHz)

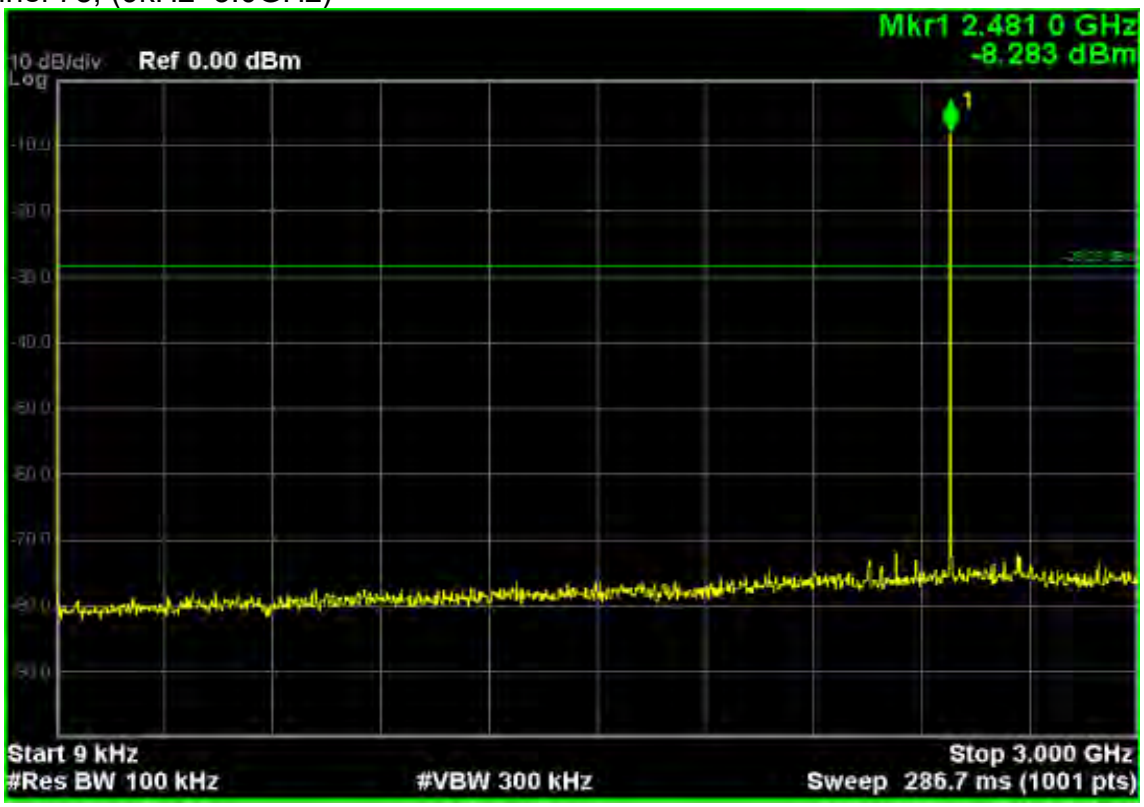


Note: The point mark1 is carrier.

Channel 39; (3~25) GHz

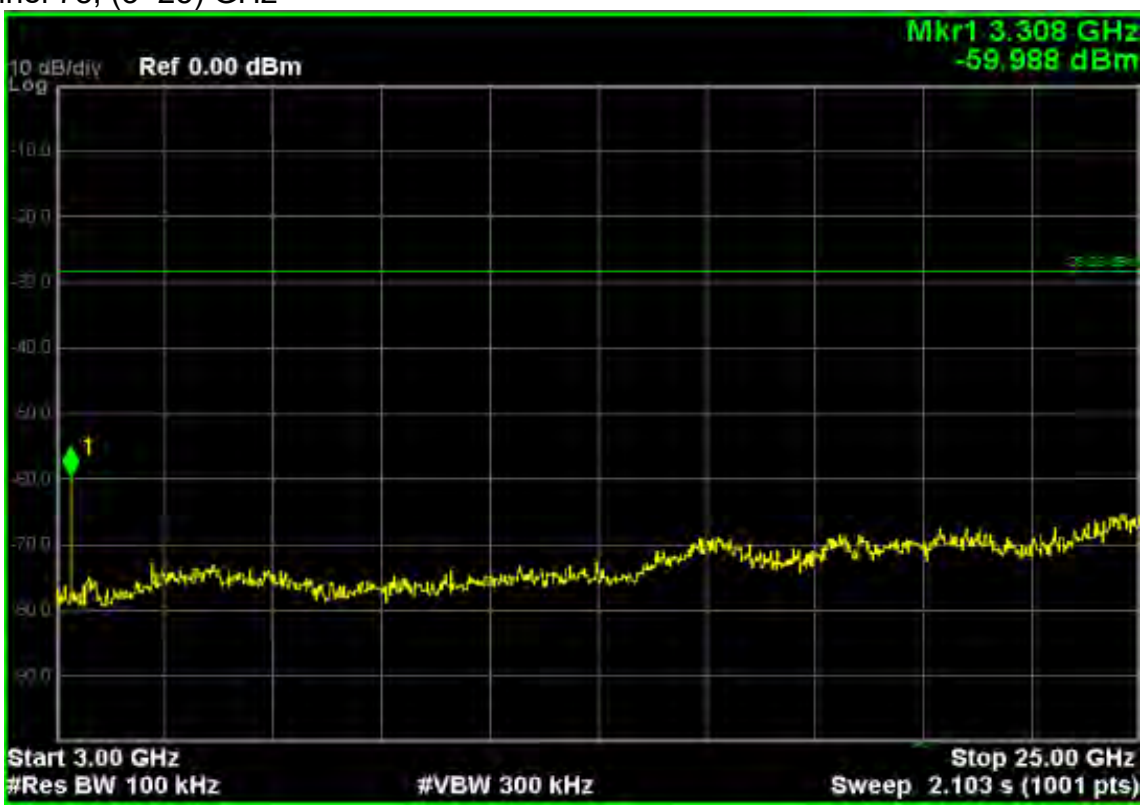


Channel 78; (9kHz~3.0GHz)



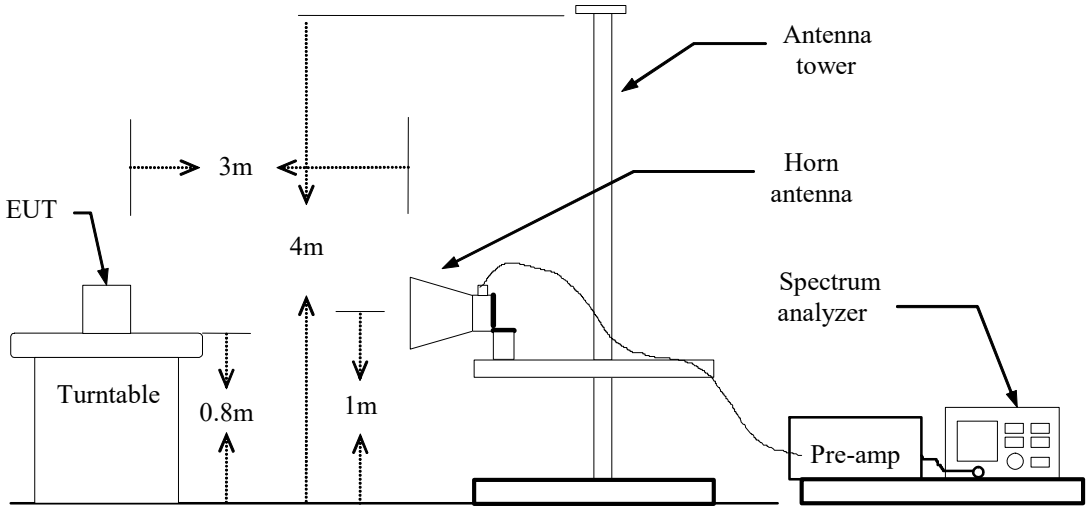
Note: The point mark1 is carrier.

Channel 78; (3~25) GHz



10. BAND EDGE MEASUREMENT

10.1 TEST SETUP



10.2 LIMITS

According to §15.247(c), in any 100 kHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator in operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in15.209(a).

10.3 TEST PROCEDURE

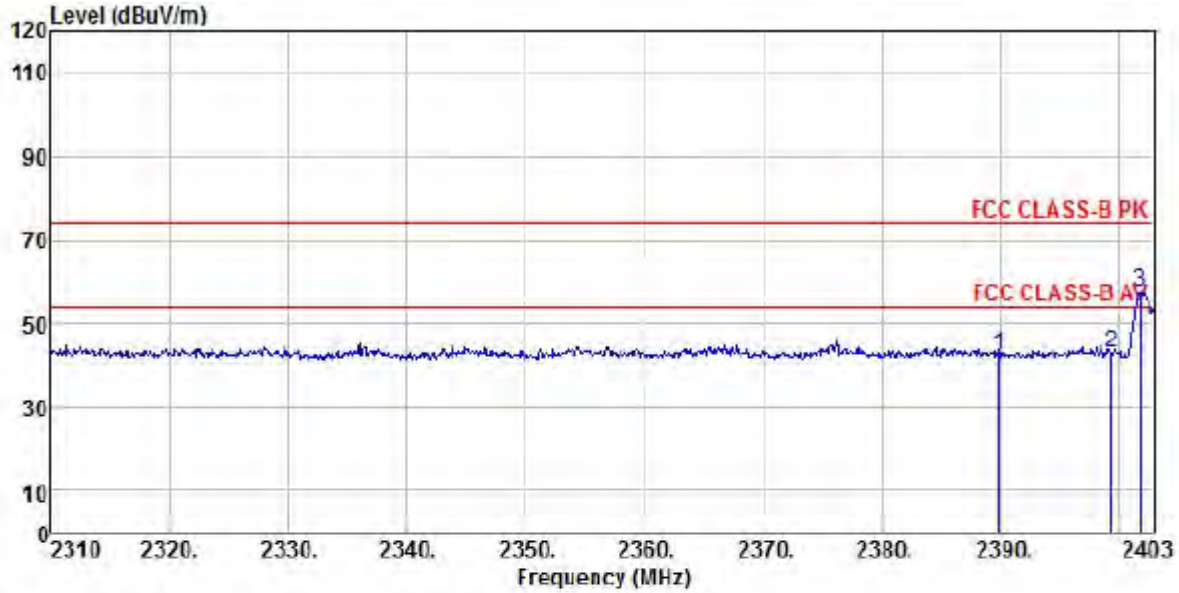
The EUT is placed on a turntable, which is 0.8m above the ground plane.
The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emission.
Set the spectrum analyzer in the following setting in order to capture the lower and upper band-edges of the emission:
PEAK: RBW=VBW=1MHz / Sweep=AUTO
AVERAGE: RBW=1MHz / VBW=10Hz / Sweep=AUTO
Repeat the procedures until all the PEAK and AVERAGE versus POLARIZATION are measured.

10.4 RESULTS & PERFORMANCE

Radiated Band Edge:

BT GFSK (Low Channel)

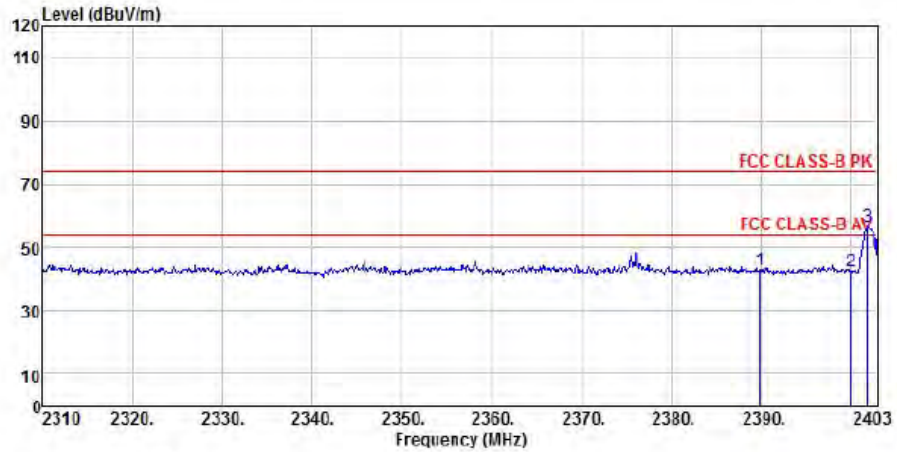
Detector mode: Peak Polarity: Horizontal



Site : chamber
Condition : FCC CLASS-B PK 3m BBHA9120D(942) HORIZONTAL
EUT :
Model Name : 神画投影仪
Temp/Humi : 19.4 ℃ / 59 %
Power Rating: 230V/50Hz
Mode : CH0
Memo :

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2389.89	46.40	27.58	7.13	38.53	42.58	74.00	-31.42	Peak
2	2399.37	46.87	27.58	7.13	38.52	43.06	74.00	-30.94	Peak
3 pp	2401.79	61.29	27.58	7.13	38.52	57.48	74.00	-16.52	Peak

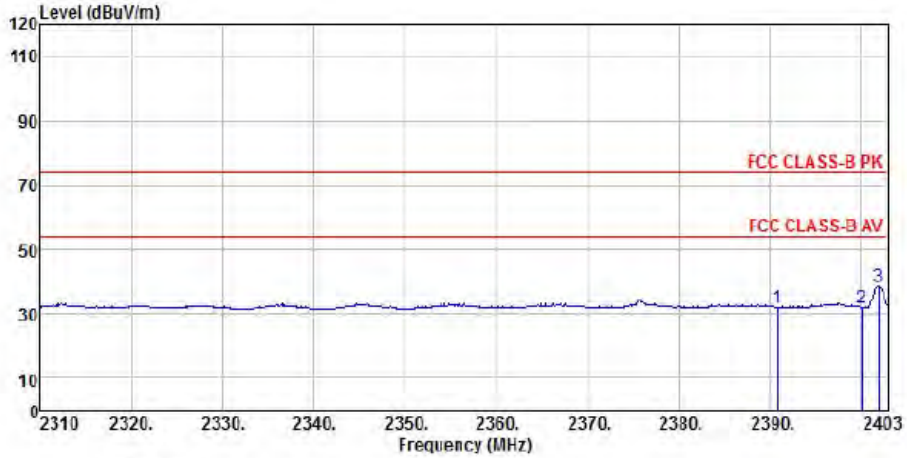
Detector mode: Peak Polarity: Vertical



Site : chamber
Condition : FCC CLASS-B PK 3m BBHA9120D(942) VERTICAL
EUT :
Model Name : 神画投影仪
Temp/Humi : 19.4 ℃ / 59 %
Power Rating: 230V/50Hz
Mode : CH0
Memo :

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2389.89	46.90	27.58	7.13	38.53	43.08	74.00	-30.92	Peak
2	2400.02	46.41	27.58	7.13	38.52	42.60	74.00	-31.40	Peak
3	pp 2401.88	60.40	27.54	7.13	38.52	56.55	74.00	-17.45	Peak

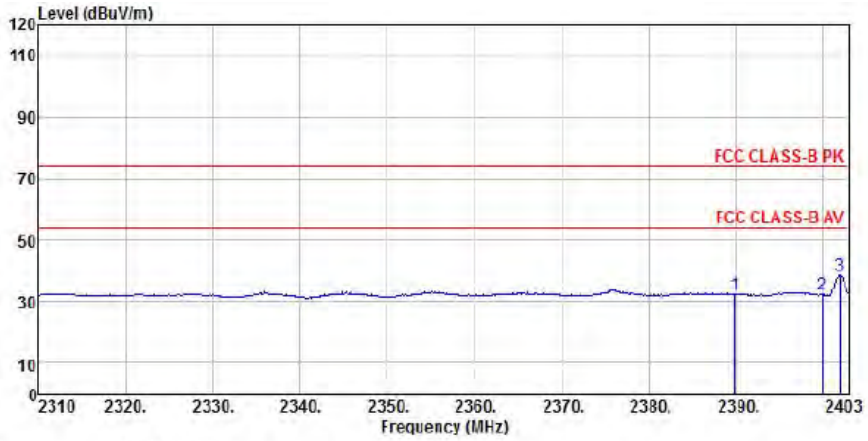
Detector mode: Average Polarity: Horizontal



Site : chamber
Condition : FCC CLASS-B PK 3m BBHA9120D(942) HORIZONTAL
EUT :
Model Name : 神画投影仪
Temp/Humi : 19.4 ℃ / 59 %
Power Rating: 230V/50Hz
Mode : CH0
Memo :

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2390.01	35.87	27.58	7.13	38.53	32.05	74.00	-41.95	Peak
2	2400.12	35.82	27.58	7.13	38.52	32.01	74.00	-41.99	Peak
3	pp 2401.98	42.45	27.54	7.13	38.52	38.60	74.00	-35.40	Peak

Detector mode: Average Polarity: Vertical

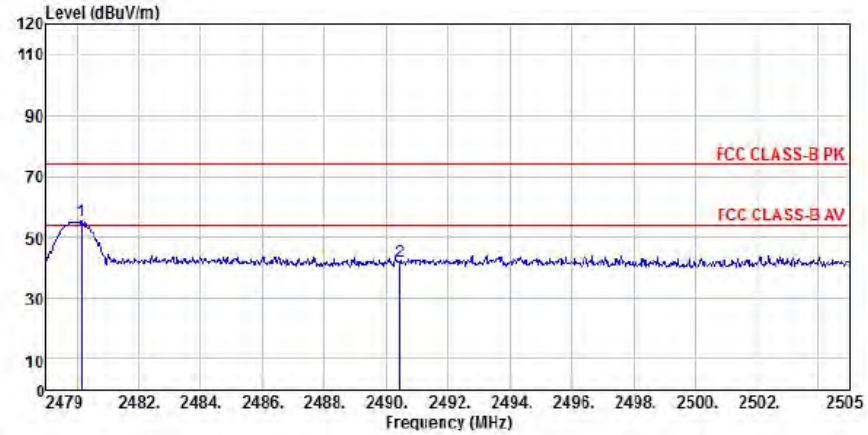


Site : chamber
Condition : FCC CLASS-B PK 3m BBHA9120D(942) VERTICAL
EUT :
Model Name : 神画投影仪
Temp/Humi : 19.4 ℃ / 59 %
Power Rating: 230V/50Hz
Mode : CH0
Memo :

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2389.89	36.03	27.58	7.13	38.53	32.21	74.00	-41.79	Peak
2	2399.93	35.99	27.58	7.13	38.52	32.18	74.00	-41.82	Peak
3	pp 2401.98	42.15	27.54	7.13	38.52	38.30	74.00	-35.70	Peak

BT GFSK (High Channel)

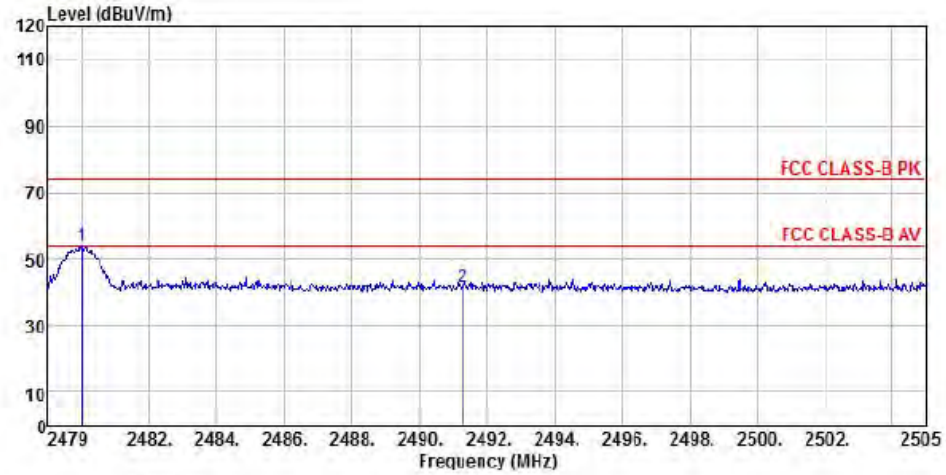
Detector mode: Peak Polarity: Horizontal



Site : chamber
Condition : FCC CLASS-B PK 3m BBHA9120D(942) HORIZONTAL
EUT :
Model Name : 神画投影仪
Temp/Humi : 19.4 ℃ / 59 %
Power Rating: 230V/50Hz
Mode : CH78
Memo :

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	pp 2480.14	58.89	27.52	7.41	38.49	55.33	74.00	-18.67	Peak
2	2490.44	45.39	27.55	7.43	38.49	41.88	74.00	-32.12	Peak

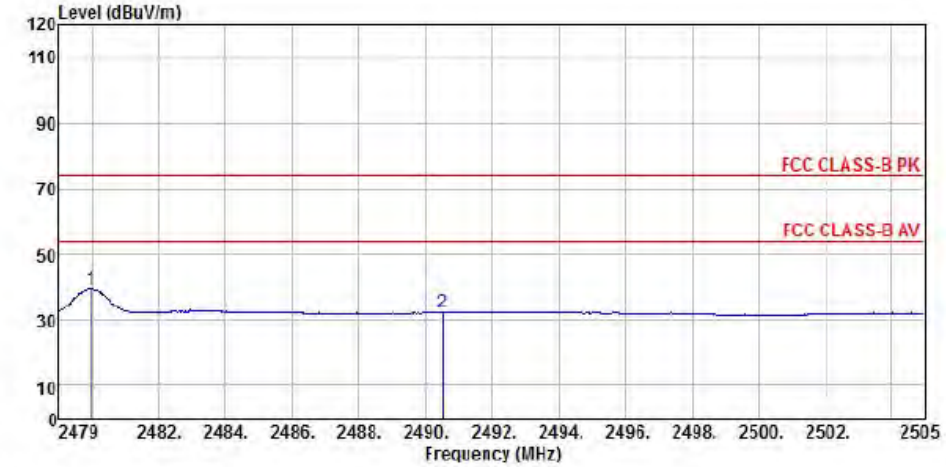
Detector mode: Peak Polarity: Vertical



Site : chamber
Condition : FCC CLASS-B PK 3m BBHA9120D(942) VERTICAL
EUT :
Model Name : 神画投影仪
Temp/Humi : 19.4 ℃ / 59 %
Power Rating: 230V/50Hz
Mode : CH78
Memo :

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	pp 2480.01	57.58	27.52	7.41	38.49	54.02	74.00	-19.98	Peak
2	2491.27	45.23	27.55	7.43	38.49	41.72	74.00	-32.28	Peak

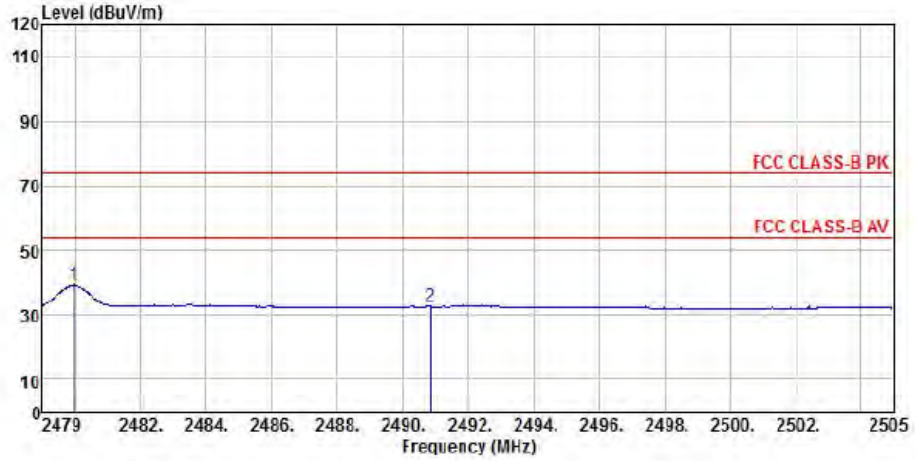
Detector mode: Average Polarity: Horizontal



Site : chamber
Condition : FCC CLASS-B PK 3m BBHA9120D(942) HORIZONTAL
EUT :
Model Name : 神画投影仪
Temp/Humi : 19.4 ℃ / 59 %
Power Rating: 230V/50Hz
Mode : CH78
Memo :

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	pp 2479.94	42.90	27.52	7.41	38.49	39.34	74.00	-34.66	Peak
2	2490.52	35.72	27.55	7.43	38.49	32.21	74.00	-41.79	Peak

Detector mode: Average Polarity: Vertical

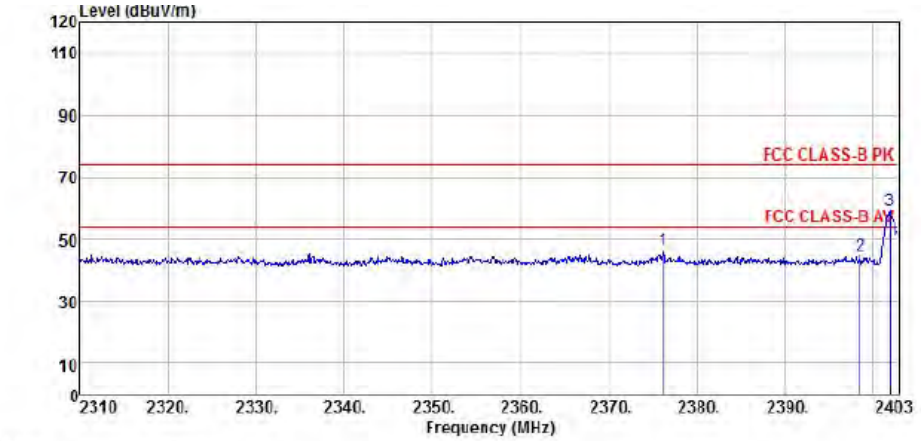


Site : chamber
Condition : FCC CLASS-B PK 3m BBHA9120D(942) VERTICAL
EUT :
Model Name : 神画投影仪
Temp/Humi : 19.4 ℃ / 59 %
Power Rating: 230V/50Hz
Mode : CH78
Memo :

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Limit Level	Over Line	Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	pp 2479.94	42.96	27.52	7.41	38.49	39.40	74.00	-34.60	Peak
2	2490.86	36.06	27.55	7.43	38.49	32.55	74.00	-41.45	Peak

BT Π/4-DQPSK (Low Channel)

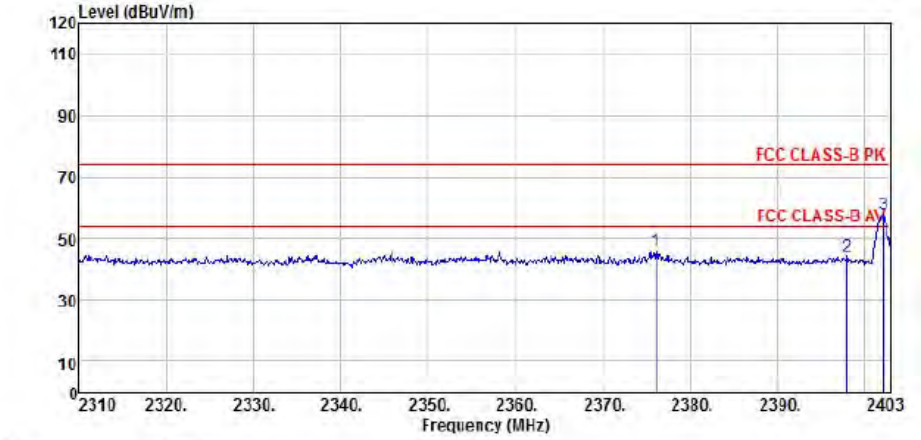
Detector mode: Peak Polarity: Horizontal



Site : chamber
Condition : FCC CLASS-B PK 3m BBHA9120D(942) HORIZONTAL
EUT :
Model Name : 神画投影仪
Temp/Humi : 19.4 ℃ / 59 %
Power Rating: 230V/50Hz
Mode : CH0
Memo :

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Limit Level	Over Line	Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2376.22	50.24	27.65	7.16	38.53	46.52	74.00	-27.48	Peak
2	2398.63	48.39	27.58	7.13	38.52	44.58	74.00	-29.42	Peak
3	pp 2401.98	62.97	27.54	7.13	38.52	59.12	74.00	-14.88	Peak

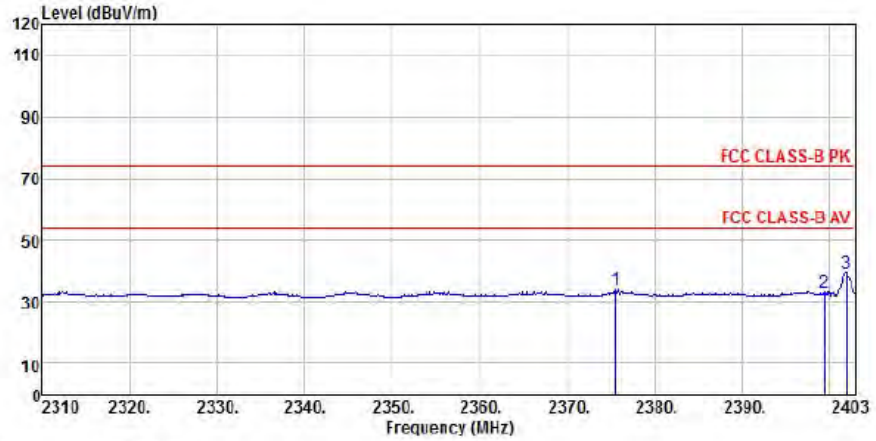
Detector mode: Peak Polarity: Vertical



Site : chamber
Condition : FCC CLASS-B PK 3m BBHA9120D(942) VERTICAL
EUT :
Model Name : 神画投影仪
Temp/Humi : 19.4 ℃ / 59 %
Power Rating: 230V/50Hz
Mode : CH0
Memo :

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Limit Level	Over Line	Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2376.12	49.94	27.65	7.16	38.53	46.22	74.00	-27.78	Peak
2	2397.98	48.13	27.58	7.13	38.52	44.32	74.00	-29.68	Peak
3	pp 2402.16	61.80	27.54	7.13	38.52	57.95	74.00	-16.05	Peak

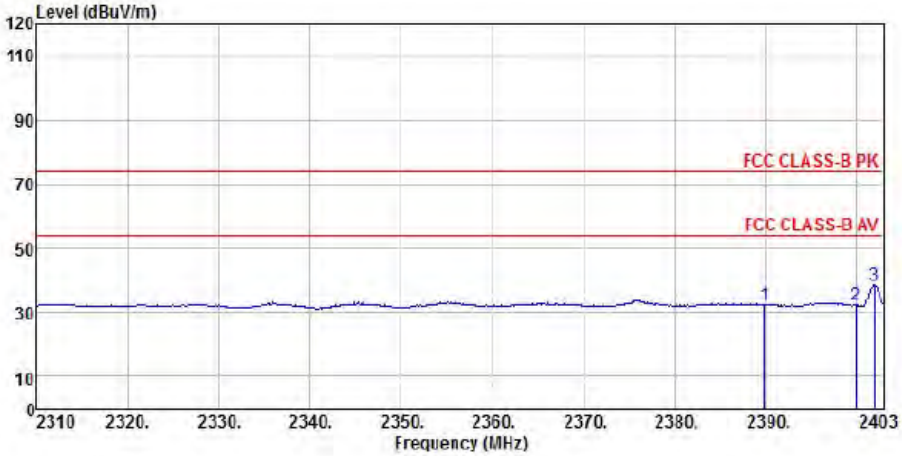
Detector mode: Average Polarity: Horizontal



Site : chamber
Condition : FCC CLASS-B PK 3m BBHA9120D(942) HORIZONTAL
EUT :
Model Name : 神画投影仪
Temp/Humi : 19.4 ℃ / 59 %
Power Rating: 230V/50Hz
Mode : CH0
Memo :

	Freq	Level	ReadAntenna Factor	Cable Loss	Preamp Factor	Limit Level	Over Line	Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2375.57	37.69	27.65	7.16	38.53	33.97	74.00	-40.03	Peak
2	2399.47	37.08	27.58	7.13	38.52	33.27	74.00	-40.73	Peak
3 pp	2401.98	43.45	27.54	7.13	38.52	39.60	74.00	-34.40	Peak

Detector mode: Average Polarity: Vertical

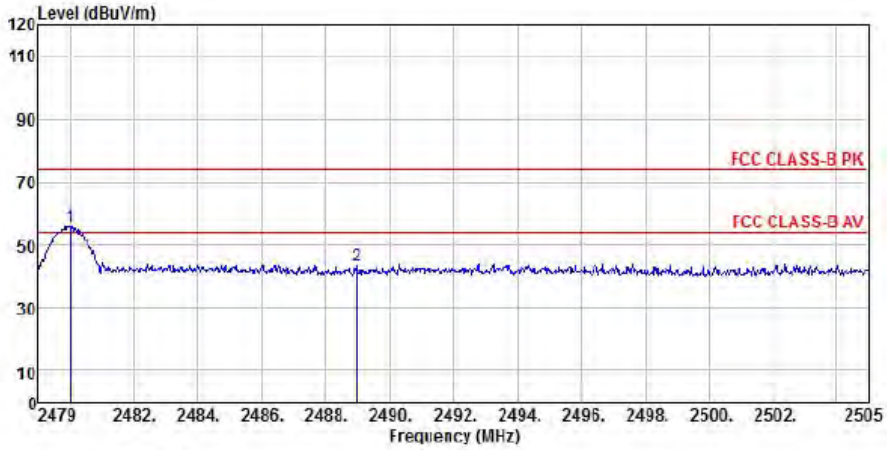


Site : chamber
Condition : FCC CLASS-B PK 3m BBHA9120D(942) VERTICAL
EUT :
Model Name : 神画投影仪
Temp/Humi : 19.4 ℃ / 59 %
Power Rating: 230V/50Hz
Mode : CH0
Memo :

	Freq	Level	ReadAntenna Factor	Cable Loss	Preamp Factor	Limit Level	Over Line	Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2389.89	36.03	27.58	7.13	38.53	32.21	74.00	-41.79	Peak
2	2399.93	35.99	27.58	7.13	38.52	32.18	74.00	-41.82	Peak
3 pp	2401.98	42.15	27.54	7.13	38.52	38.30	74.00	-35.70	Peak

BT Π/4-DQPSK (High Channel)

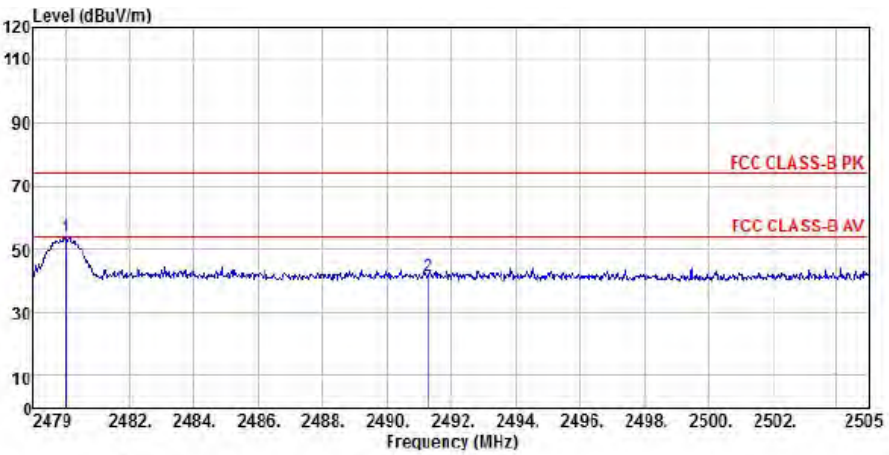
Detector mode: Peak Polarity: Horizontal



Site : chamber
Condition : FCC CLASS-B PK 3m BBHA9120D(942) HORIZONTAL
EUT :
Model Name : 神画投影仪
Temp/Humi : 19.4 ℃ / 59 %
Power Rating: 230V/50Hz
Mode : CH78
Memo :

	Freq	Level	ReadAntenna Factor	Cable Loss	Preamp Factor	Limit Level	Over Line Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m dB	
1 pp	2480.01	59.50	27.52	7.41	38.49	55.94	74.00 -18.06	Peak
2	2488.96	47.06	27.52	7.43	38.49	43.52	74.00 -30.48	Peak

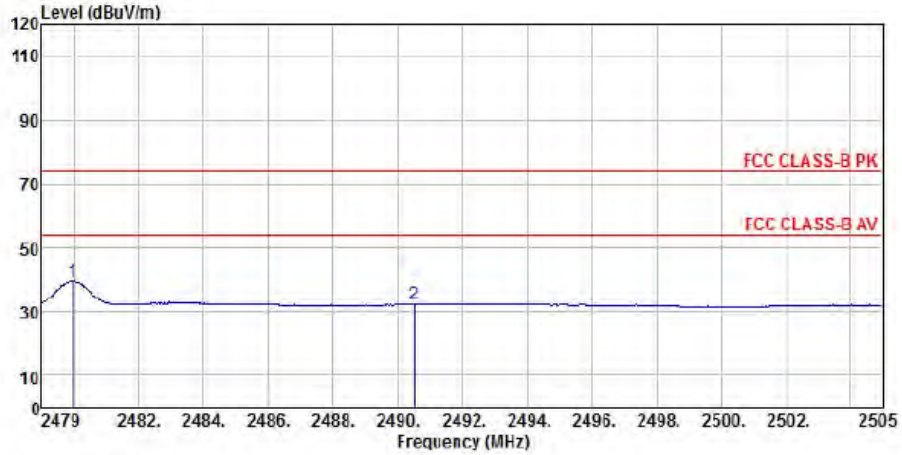
Detector mode: Peak Polarity: Vertical



Site : chamber
Condition : FCC CLASS-B PK 3m BBHA9120D(942) VERTICAL
EUT :
Model Name : 神画投影仪
Temp/Humi : 19.4 ℃ / 59 %
Power Rating: 230V/50Hz
Mode : CH78
Memo :

	Freq	Level	ReadAntenna Factor	Cable Loss	Preamp Factor	Limit Level	Over Line Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m dB	
1 pp	2480.01	57.58	27.52	7.41	38.49	54.02	74.00 -19.98	Peak
2	2491.27	45.23	27.55	7.43	38.49	41.72	74.00 -32.28	Peak

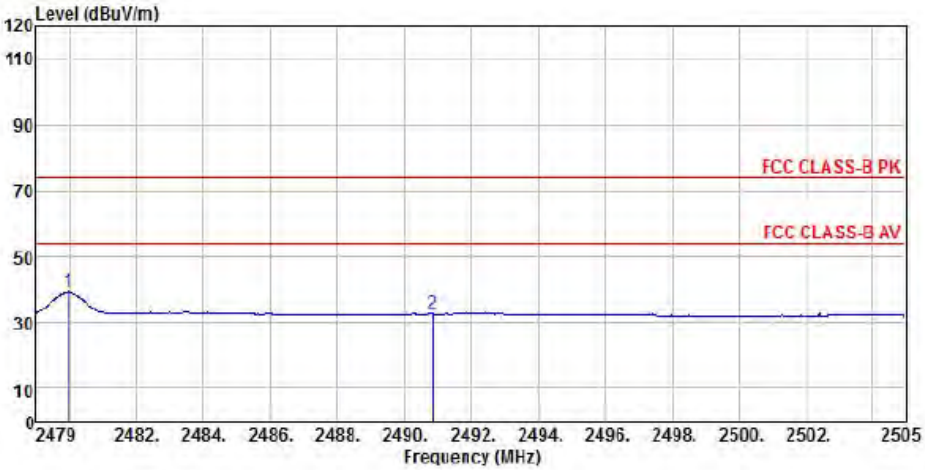
Detector mode: Average Polarity: Horizontal



Site : chamber
Condition : FCC CLASS-B PK 3m BBHA9120D(942) HORIZONTAL
EUT :
Model Name : 神画投影仪
Temp/Humi : 19.4 ℃ / 59 %
Power Rating: 230V/50Hz
Mode : CH78
Memo :

Freq	Level	ReadAntenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1 pp 2479.94	42.90	27.52	7.41	38.49	39.34	74.00	-34.66	Peak
2 2490.52	35.72	27.55	7.43	38.49	32.21	74.00	-41.79	Peak

Detector mode: Average Polarity: Vertical

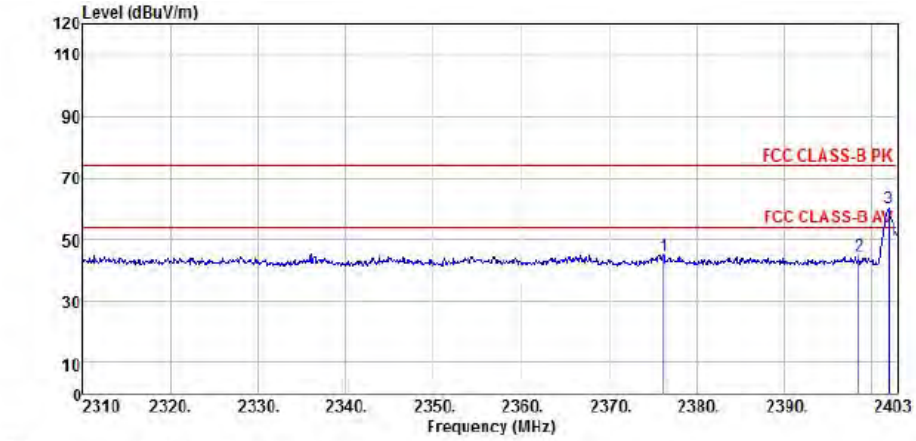


Site : chamber
Condition : FCC CLASS-B PK 3m BBHA9120D(942) VERTICAL
EUT :
Model Name : 神画投影仪
Temp/Humi : 19.4 ℃ / 59 %
Power Rating: 230V/50Hz
Mode : CH78
Memo :

Freq	Level	ReadAntenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1 pp 2479.94	42.96	27.52	7.41	38.49	39.40	74.00	-34.60	Peak
2 2490.86	36.06	27.55	7.43	38.49	32.55	74.00	-41.45	Peak

BT 8-DPSK (Low Channel)

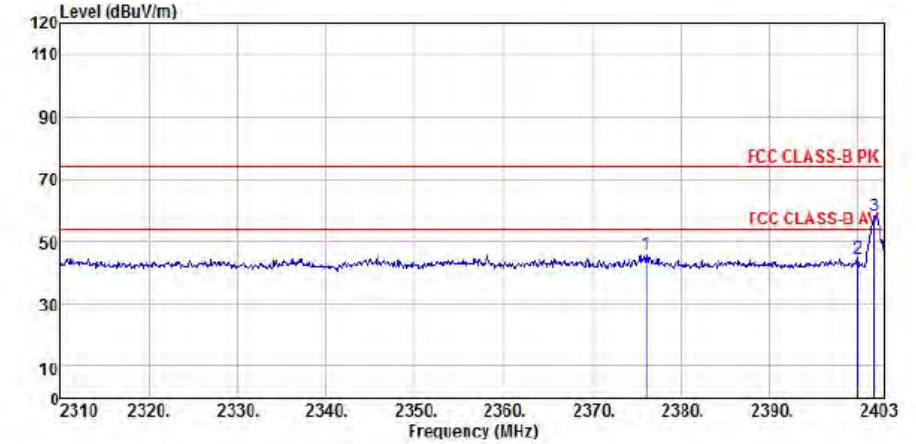
Detector mode: Peak Polarity: Horizontal



Site : chamber
Condition : FCC CLASS-B PK 3m BBHA9120D(942) HORIZONTAL
EUT :
Model Name : 神画投影仪
Temp/Humi : 19.4 ℃ / 59 %
Power Rating: 230V/50Hz
Mode : CH0
Memo :

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2376.31	48.55	27.65	7.16	38.53	44.83	74.00	-29.17	Peak
2	2398.63	48.39	27.58	7.13	38.52	44.58	74.00	-29.42	Peak
3 pp	2401.98	63.97	27.54	7.13	38.52	60.12	74.00	-13.88	Peak

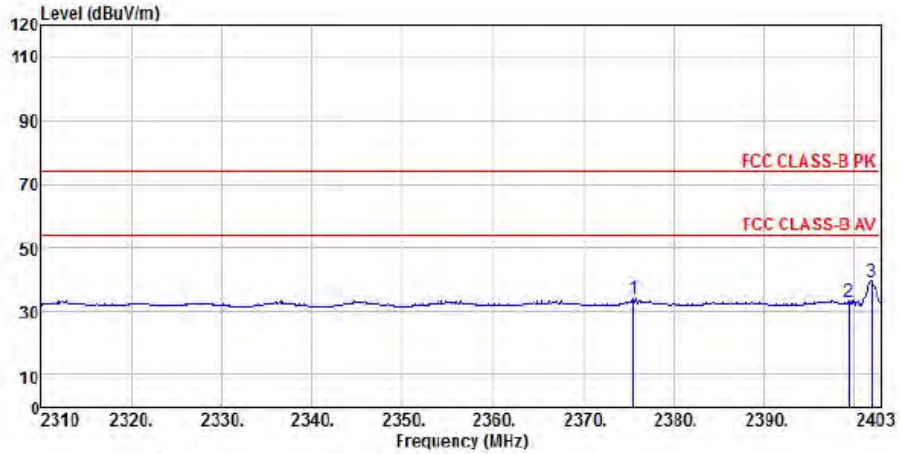
Detector mode: Peak Polarity: Vertical



Site : chamber
Condition : FCC CLASS-B PK 3m BBHA9120D(942) VERTICAL
EUT :
Model Name : 神画投影仪
Temp/Humi : 19.4 ℃ / 59 %
Power Rating: 230V/50Hz
Mode : CH0
Memo :

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2376.12	49.94	27.65	7.16	38.53	46.22	74.00	-27.78	Peak
2	2400.02	48.41	27.58	7.13	38.52	44.60	74.00	-29.40	Peak
3 pp	2401.88	62.40	27.54	7.13	38.52	58.55	74.00	-15.45	Peak

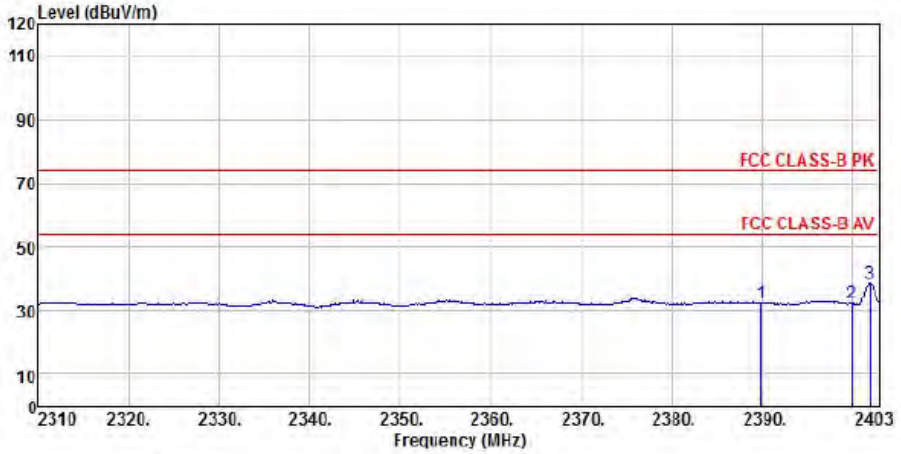
Detector mode: Average Polarity: Horizontal



Site : chamber
Condition : FCC CLASS-B PK 3m BBHA9120D(942) HORIZONTAL
EUT :
Model Name : 神画投影仪
Temp/Humi : 19.4 ℃ / 59 %
Power Rating: 230V/50Hz
Mode : CH0
Memo :

	Freq	Level	ReadAntenna Factor	Cable Loss	Preamp Factor	Limit Level	Over Line	Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2375.57	37.69	27.65	7.16	38.53	33.97	74.00	-40.03	Peak
2	2399.47	37.08	27.58	7.13	38.52	33.27	74.00	-40.73	Peak
3 pp	2401.98	43.45	27.54	7.13	38.52	39.60	74.00	-34.40	Peak

Detector mode: Average Polarity: Vertical

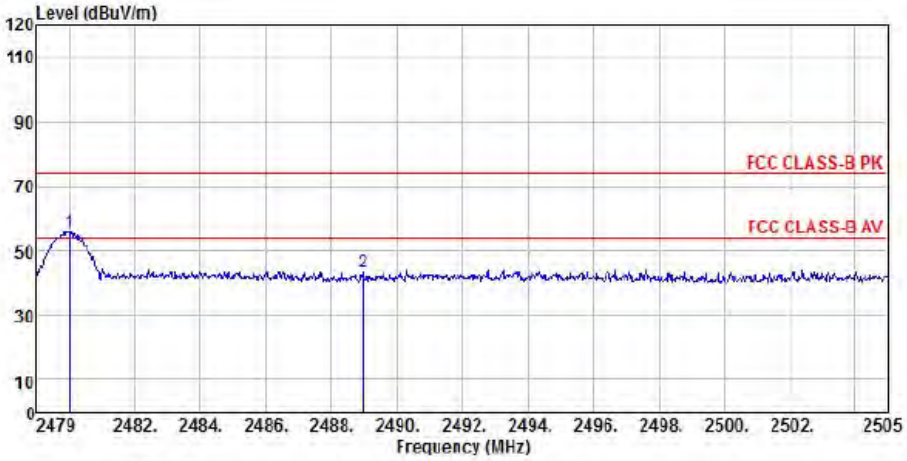


Site : chamber
Condition : FCC CLASS-B PK 3m BBHA9120D(942) VERTICAL
EUT :
Model Name : 神画投影仪
Temp/Humi : 19.4 ℃ / 59 %
Power Rating: 230V/50Hz
Mode : CH0
Memo :

	Freq	Level	ReadAntenna Factor	Cable Loss	Preamp Factor	Limit Level	Over Line	Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2389.89	36.03	27.58	7.13	38.53	32.21	74.00	-41.79	Peak
2	2399.93	35.99	27.58	7.13	38.52	32.18	74.00	-41.82	Peak
3 pp	2401.98	42.15	27.54	7.13	38.52	38.30	74.00	-35.70	Peak

BT 8-DPSK (High Channel)

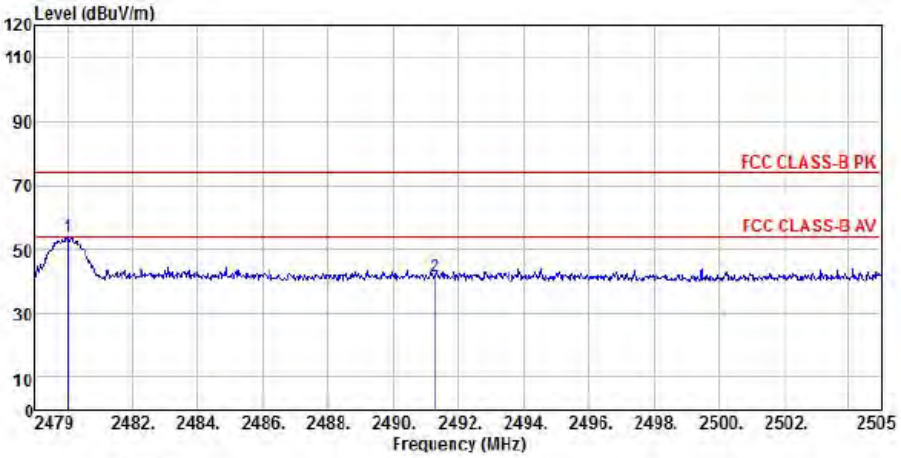
Detector mode: Peak Polarity: Horizontal



Site : chamber
Condition : FCC CLASS-B PK 3m BBHA9120D(942) HORIZONTAL
EUT :
Model Name : 神画投影仪
Temp/Humi : 19.4 ℃ / 59 %
Power Rating: 230V/50Hz
Mode : CH78
Memo :

	Freq	Level	ReadAntenna Factor	Cable Loss	Preamp Factor	Limit Level	Over Line	Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1 pp	2480.01	59.50	27.52	7.41	38.49	55.94	74.00	-18.06	Peak
2	2488.96	47.06	27.52	7.43	38.49	43.52	74.00	-30.48	Peak

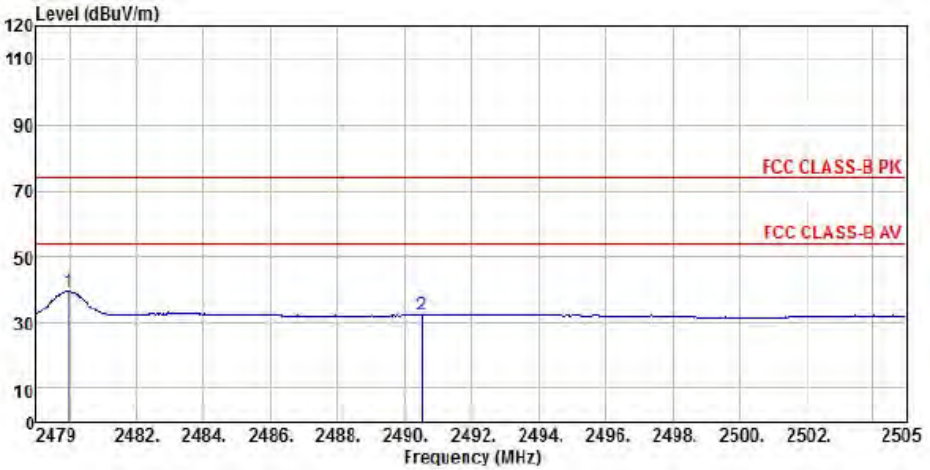
Detector mode: Peak Polarity: Vertical



Site : chamber
Condition : FCC CLASS-B PK 3m BBHA9120D(942) VERTICAL
EUT :
Model Name : 神画投影仪
Temp/Humi : 19.4 ℃ / 59 %
Power Rating: 230V/50Hz
Mode : CH78
Memo :

	Freq	Level	ReadAntenna Factor	Cable Loss	Preamp Factor	Limit Level	Over Line	Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1 pp	2480.01	57.58	27.52	7.41	38.49	54.02	74.00	-19.98	Peak
2	2491.27	45.23	27.55	7.43	38.49	41.72	74.00	-32.28	Peak

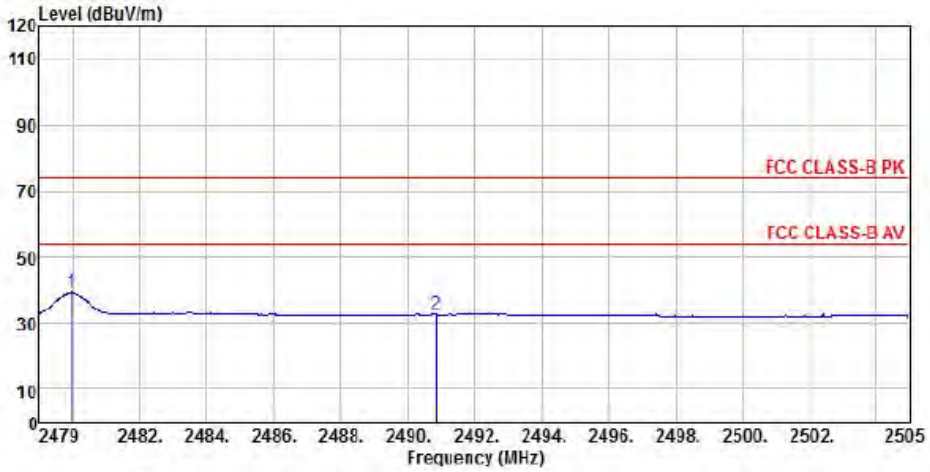
Detector mode: Average Polarity: Horizontal



Site : chamber
Condition : FCC CLASS-B PK 3m BBHA9120D(942) HORIZONTAL
EUT :
Model Name : 神画投影仪
Temp/Humi : 19.4 ℃ / 59 %
Power Rating: 230V/50Hz
Mode : CH78
Memo :

Freq	Level	ReadAntenna Factor	Cable Loss	Preamp Factor	Limit Level	Over Line	Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1 pp	2479.94	42.90	27.52	7.41	38.49	39.34	74.00	-34.66 Peak
2	2490.52	35.72	27.55	7.43	38.49	32.21	74.00	-41.79 Peak

Detector mode: Average Polarity: Vertical

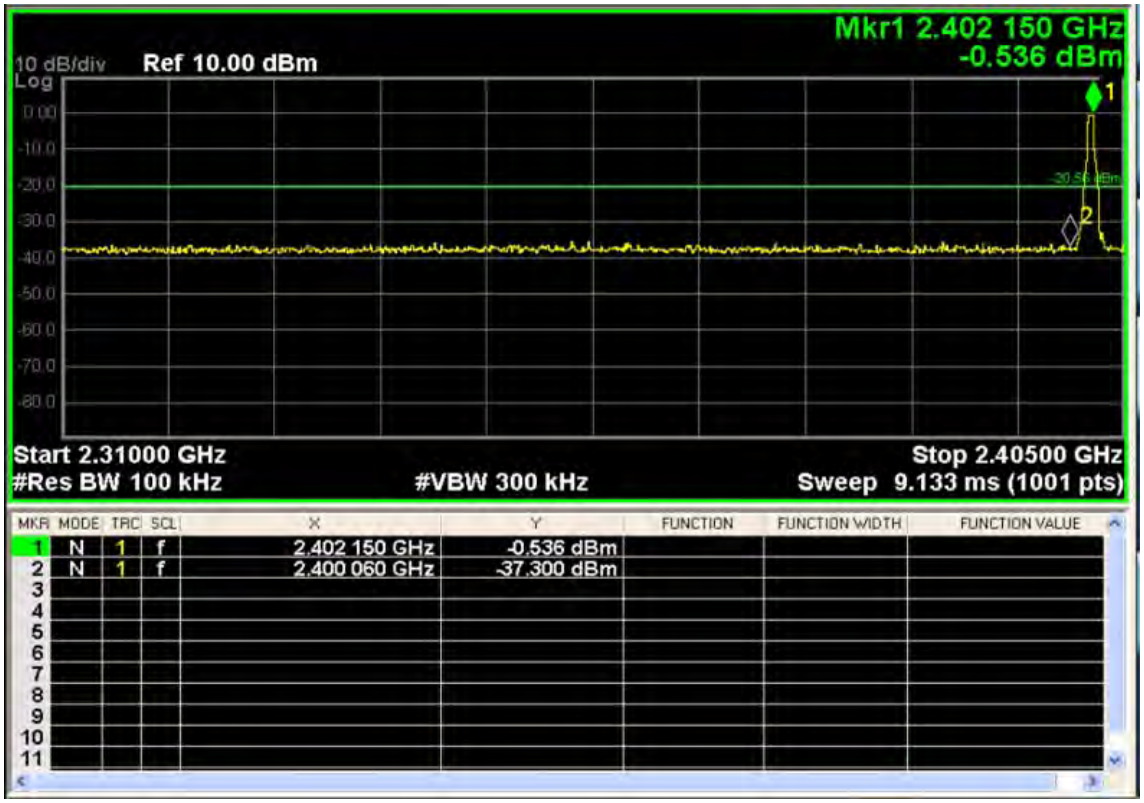


Site : chamber
Condition : FCC CLASS-B PK 3m BBHA9120D(942) VERTICAL
EUT :
Model Name : 神画投影仪
Temp/Humi : 19.4 ℃ / 59 %
Power Rating: 230V/50Hz
Mode : CH78
Memo :

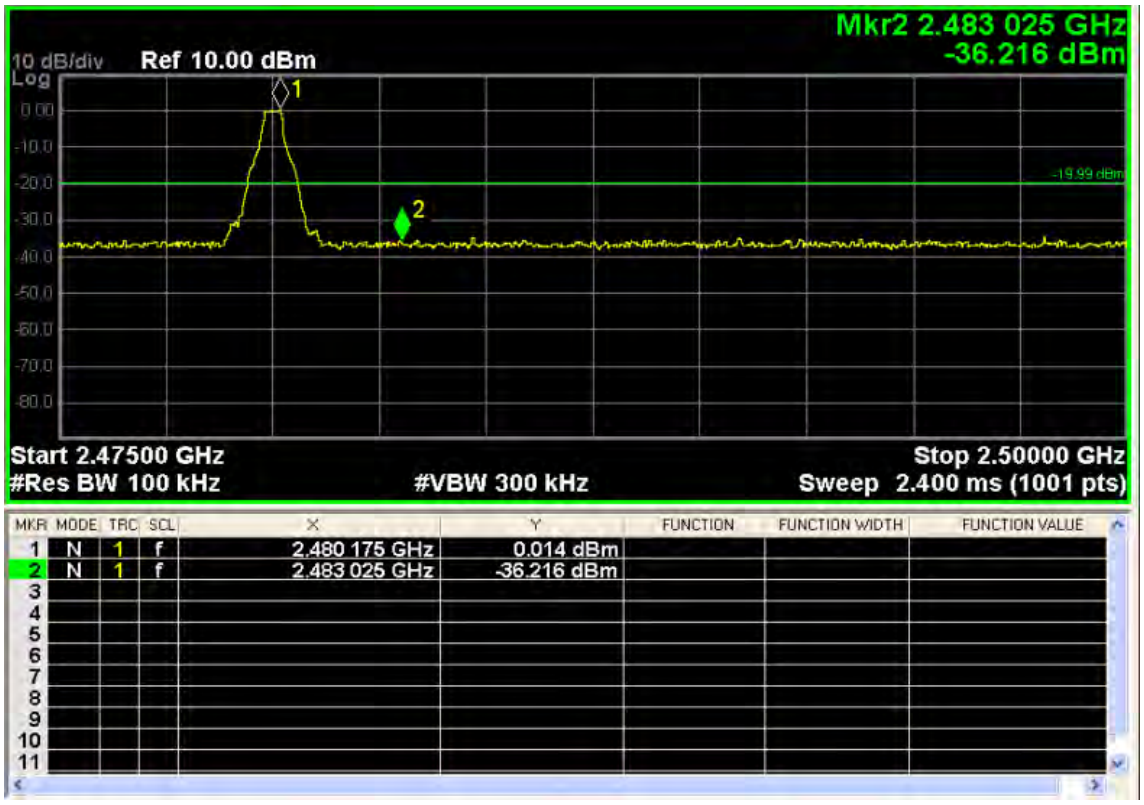
Freq	Level	ReadAntenna Factor	Cable Loss	Preamp Factor	Limit Level	Over Line	Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1 pp	2479.94	42.96	27.52	7.41	38.49	39.40	74.00	-34.60 Peak
2	2490.86	36.06	27.55	7.43	38.49	32.55	74.00	-41.45 Peak

Conducted Band Edge:

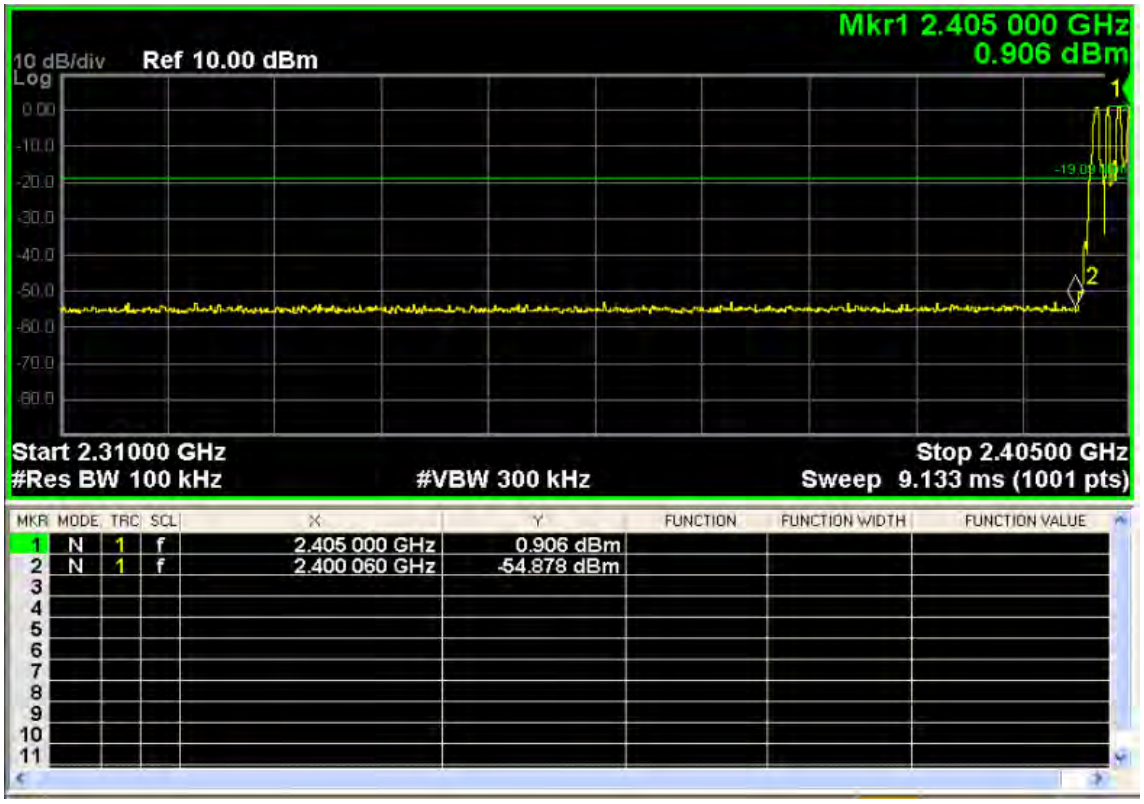
GFSK CH0



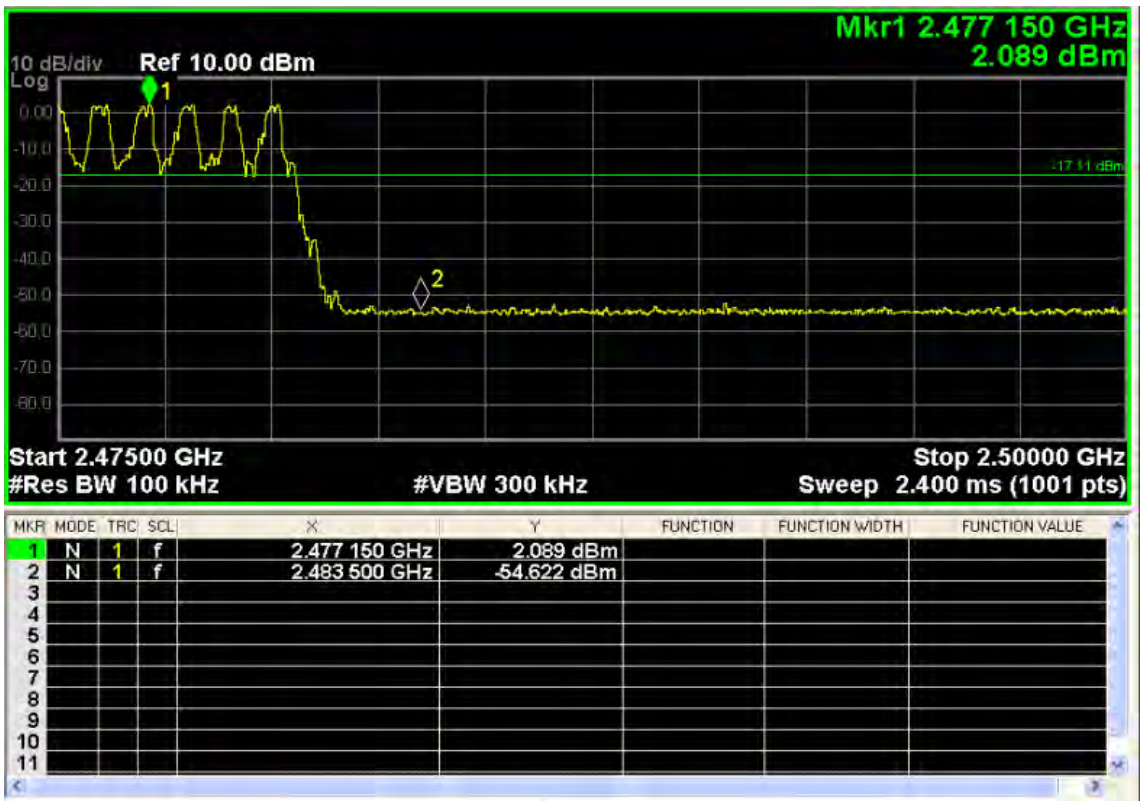
GFSK CH78



GFSK（Hopping Mode）

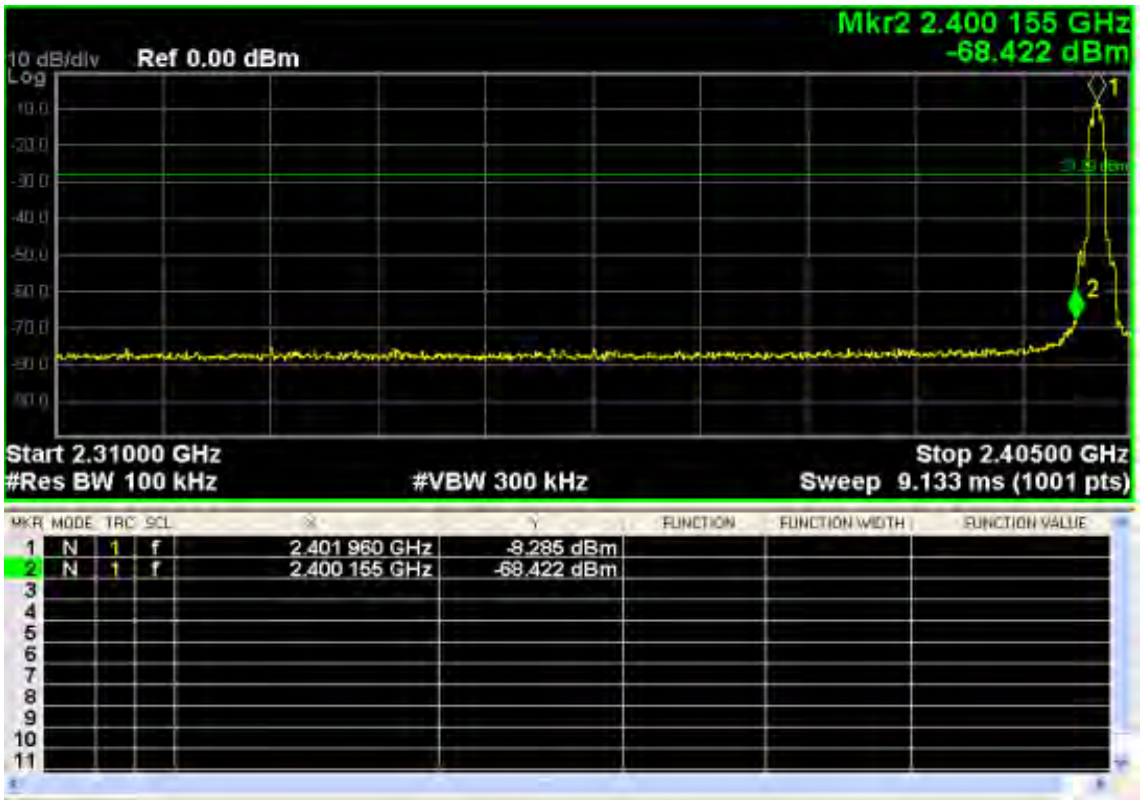


MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.405 000 GHz	0.906 dBm			
2	N	1	f	2.400 060 GHz	-54.878 dBm			
3								
4								
5								
6								
7								
8								
9								
10								
11								

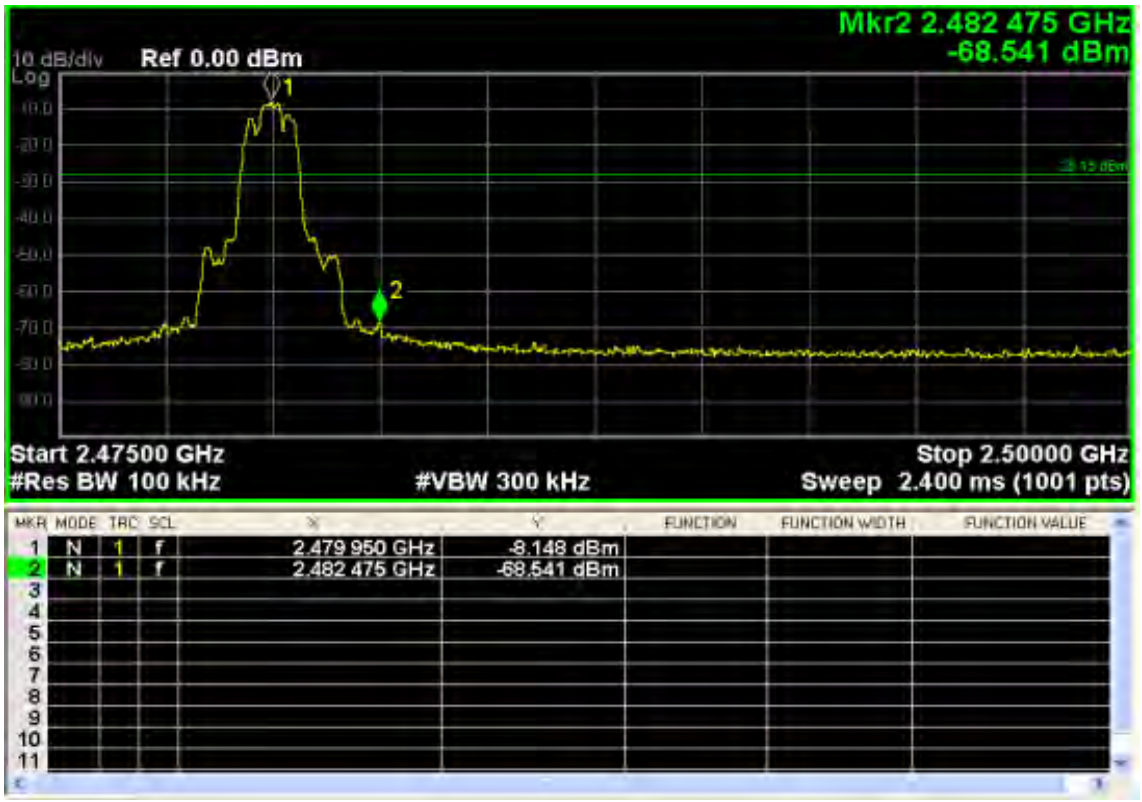


MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.477 150 GHz	2.089 dBm			
2	N	1	f	2.483 500 GHz	-54.622 dBm			
3								
4								
5								
6								
7								
8								
9								
10								
11								

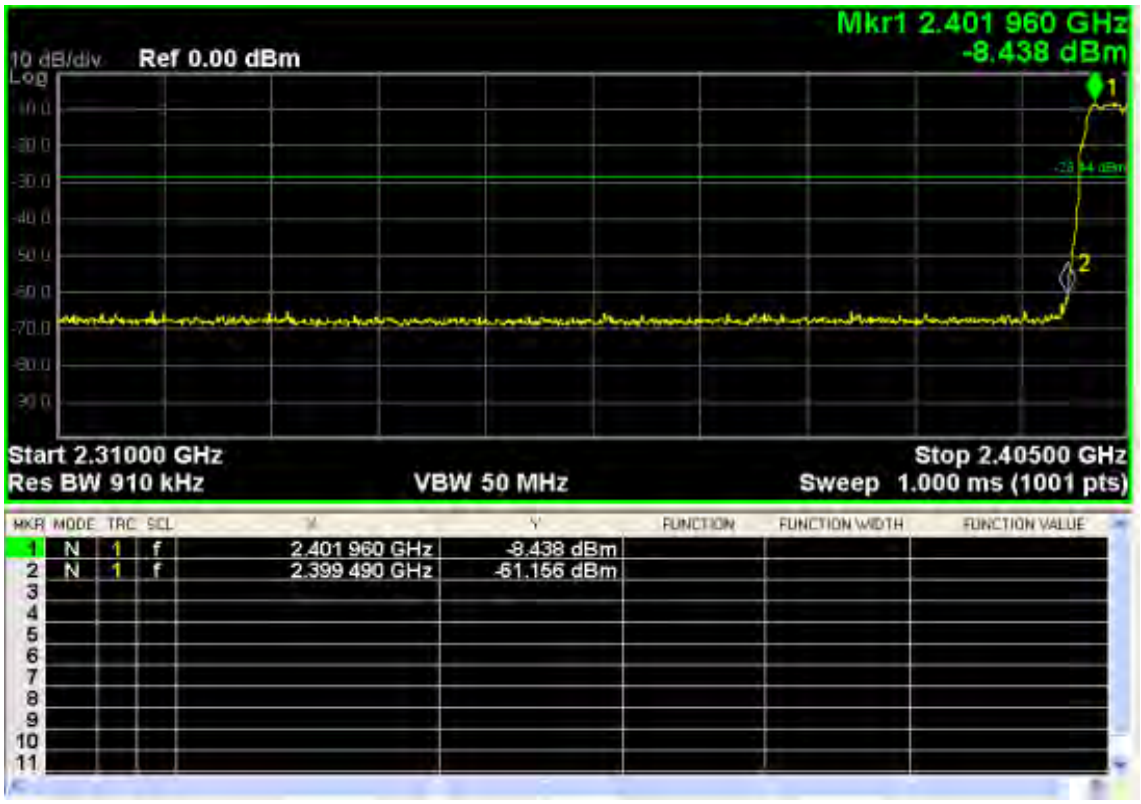
Π/4-DQPSK CH0



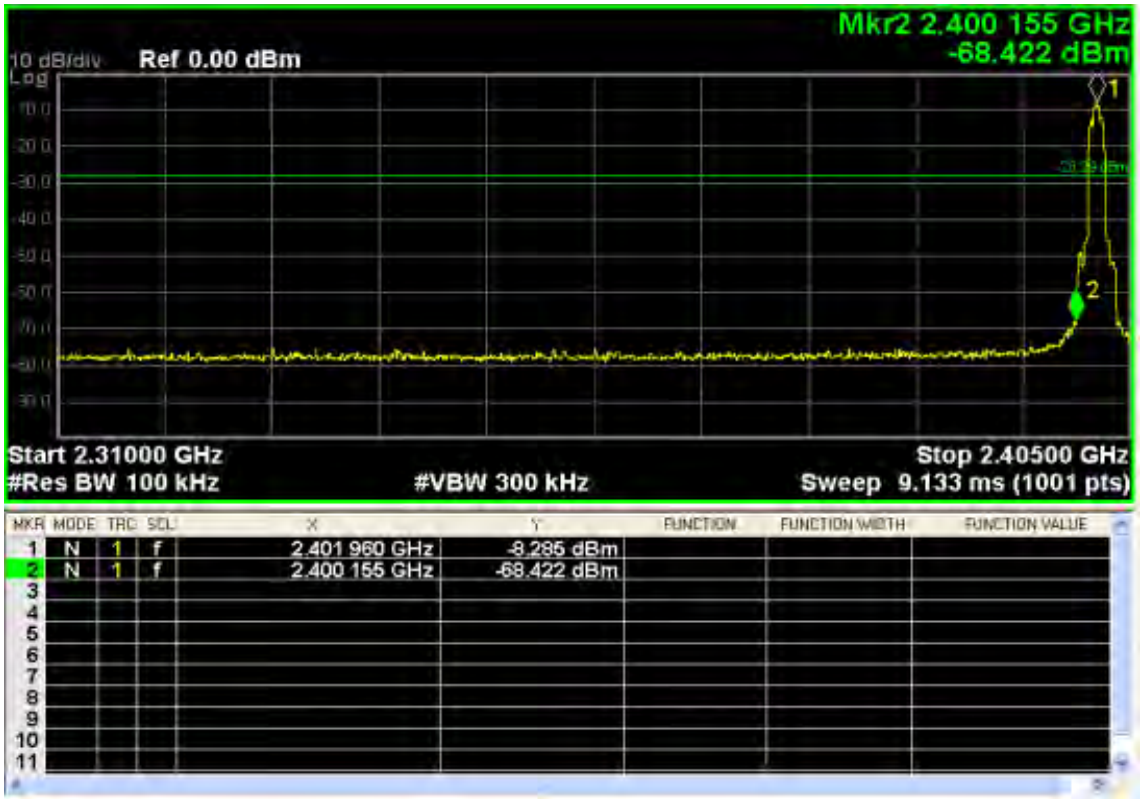
Π/4-DQPSK CH78



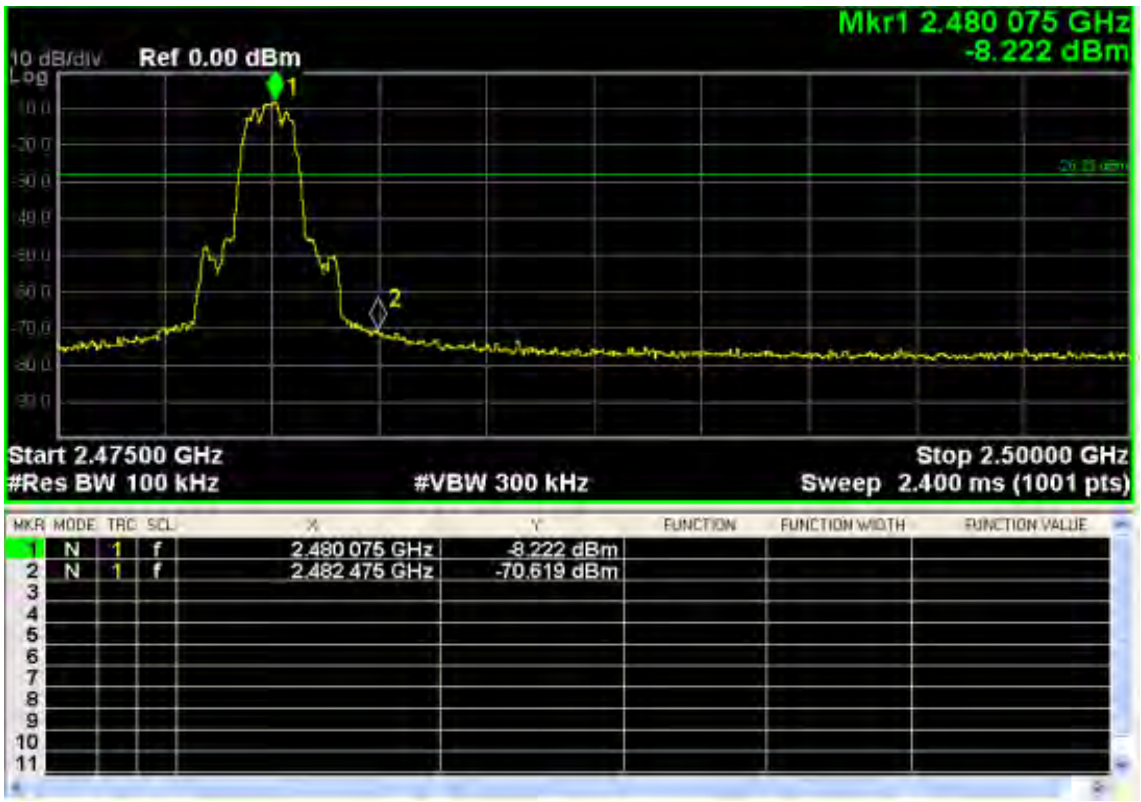
Π/4-DQPSK(Hopping Mode)



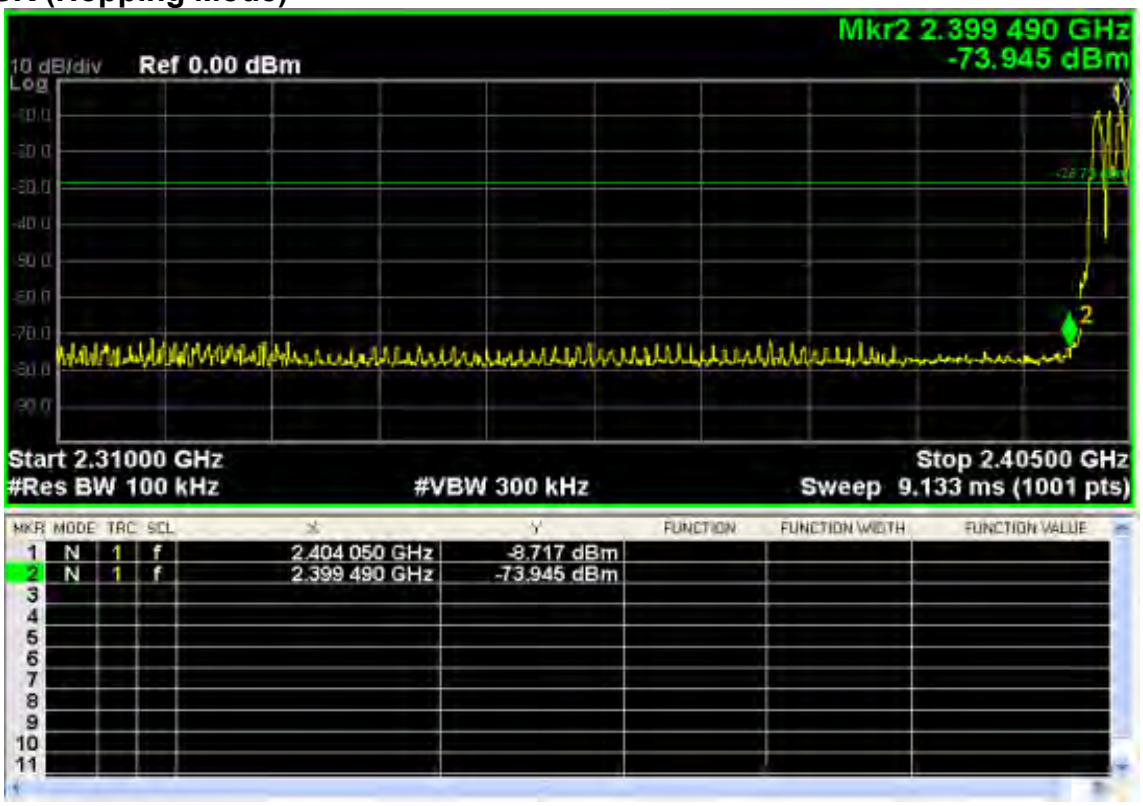
8DPSK CH0

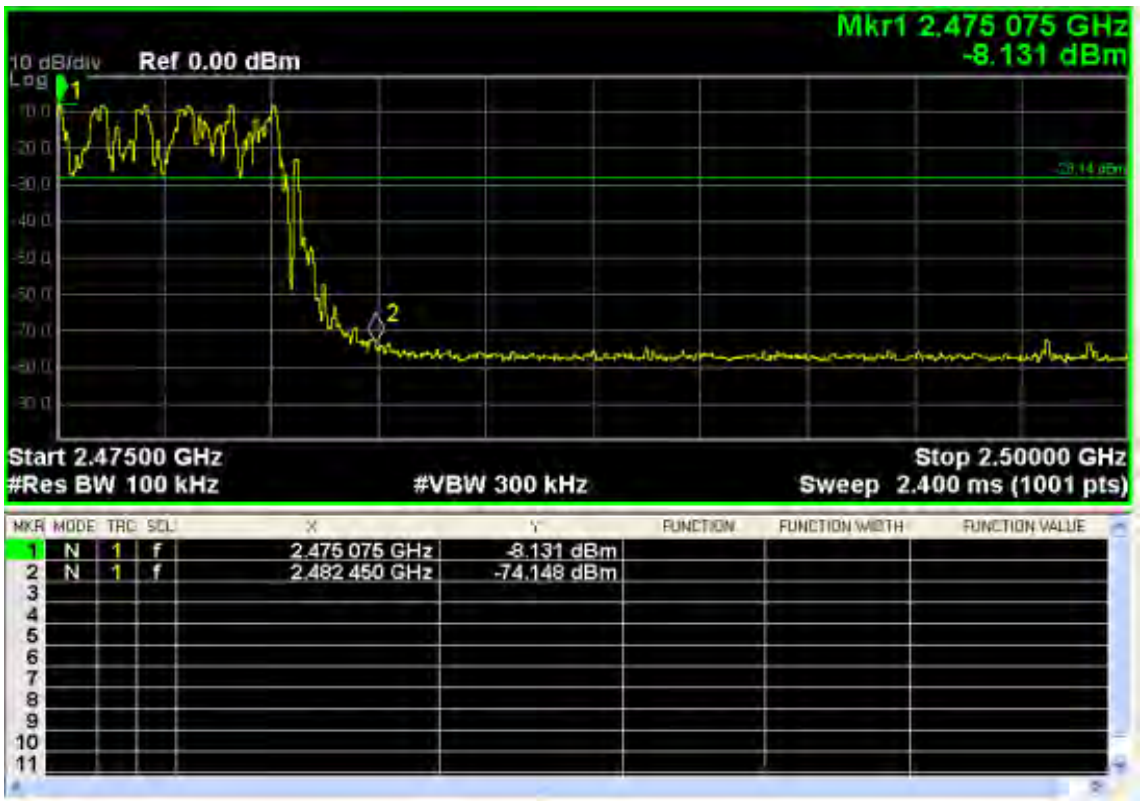


8DPSK CH78



8DPSK (Hopping Mode)

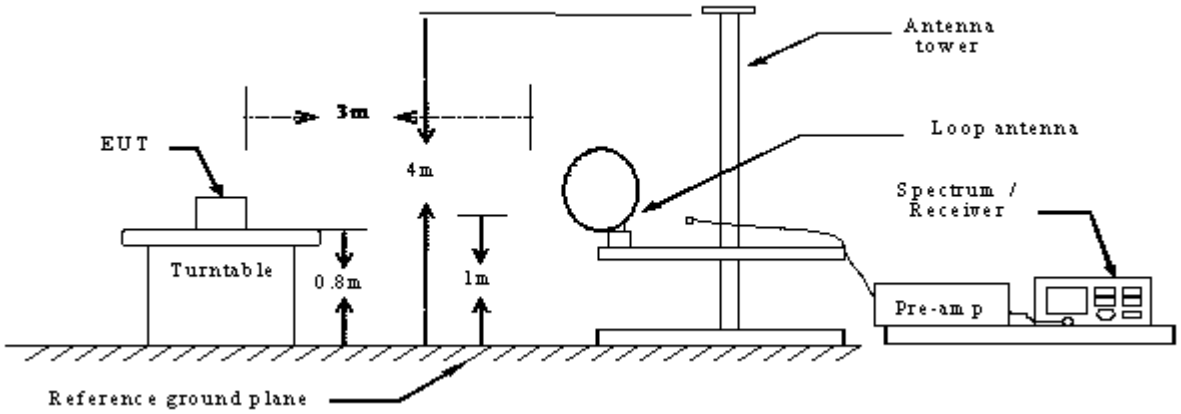




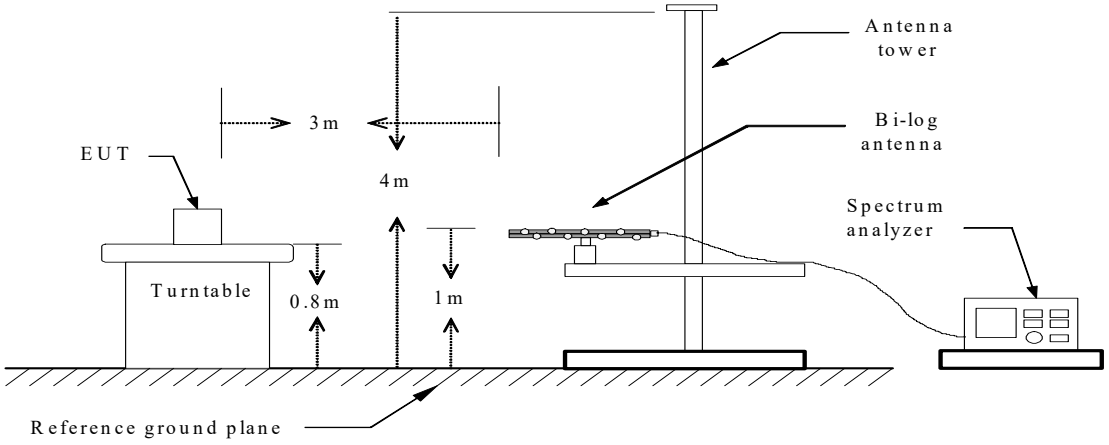
11. SPURIOUS EMISSIONS (RADIATION)

11.1 TEST SETUP

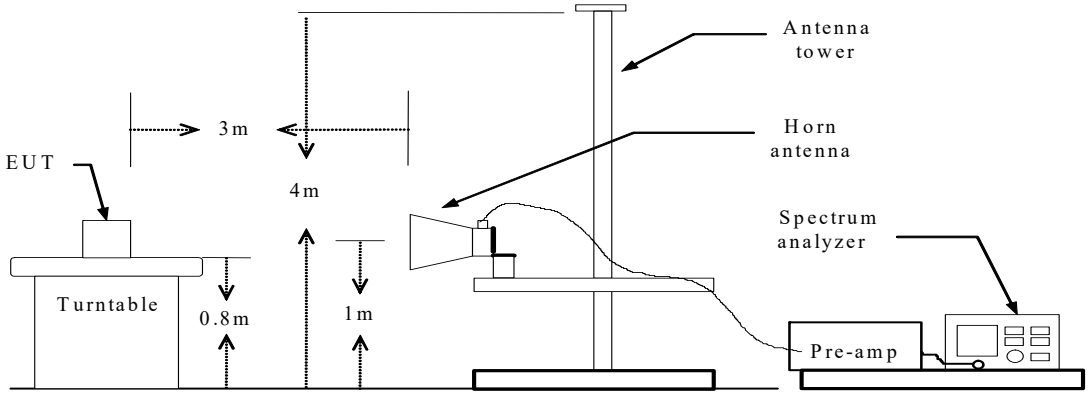
Radiated Spurious Measurement: below 30MHz



Radiated Spurious Measurement: below 1GHz



Radiated Spurious Measurement: above 1GHz



11.2 LIMITS

Frequency (MHz)	Limits (uV/m)	Limits(dBuV/m) At 3m	Measured Distance (m)
0.009-0.490	2400/F(KHz)	128.5-93.80	300
0.490-1.705	24000/F(KHz)	73.80-63.00	30
1.705-30.0	30	69.5	30
30~88	100	40	3
88~216	150	43.5	3
216-960	200	46	3
Above 960	500	54	3

Notes: the calculate formula for below 30MHz
L2 = 20lg (L1) + 40lg (d1/d2)
L2: is the specified limit in dB microvolts per metre at distance d2.
L1: is the specified limit in microvolts per metre at distance d1.
For example:
L1 = 2400/9 (μV/m), d1 = 300 (m), d2 = 3 (m), so L2 as follows:
20lg（2400/9）+40lg(300/3) = 128.5(dBμV/m)

11.3 TEST PROCEDURE

Radiated Emission (9 kHz – 30 MHz) :
Spurious emissions from the EUT are measured in the frequency range of 9 kHz to 30 MHz using a tuned receiver and a shielded loop antenna. The antenna was positioned 3 meters horizontally from the EUT. The RBW of the spectrum analyzer is set to 200Hz(measured frequency range was 9KHz~150KHz) or 9KHz(measured frequency range was 150KHz~30MHz). Measurements have been made in all three orthogonal axes and the shielded loop antenna was rotated to locate the maximum of the emissions. The emission limits are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz(these two bands employing a average detector)

Radiated Emission (30 MHz – 1000 MHz) :
According to description of ANSI C63.4: 2014 sec.13.4, the preliminary radiated emissions measurement were carried out. The preliminary radiated measurements were performed at the measurement distance that specified for compliance to determine the emission characteristics of the EUT. The EUT configuration (in X, Y and Z axis), cable configuration and mode of operation were determined for producing the maximum level of emissions. These configurations were used for the final radiated emissions measurements. The measurement is carried out using a spectrum analyzer or receiver. The Quasi-peak detector is used and RBW is set to 120kHz.The antenna height and turn table rotation is adjusted until the maximum power value is founded on spectrum analyzer or receiver.

Radiated Emission (Above 1 GHz):

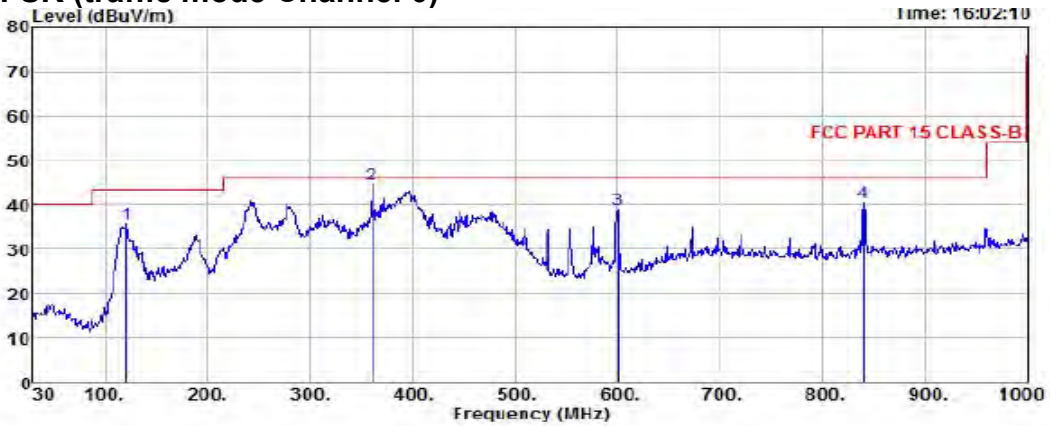
According to description of ANSI C63.4: 2014 sec.13.4, the preliminary radiated emissions measurement were carried out. The preliminary radiated measurements were performed at the measurement distance that specified for compliance to determine the emission characteristics of the EUT. The EUT configuration (in X, Y and Z axis), cable configuration and mode of operation were determined for producing the maximum level of emissions. These configurations were used for the final radiated emissions measurements. The measurement is carried out using a spectrum analyzer or receiver. The spectrum analyzer scans from 1GHz to 25GHz (higher than the 10^{th} harmonic of the carrier). The peak detector is used for Peak limit and RBW is set to 1MHz ,VBW ≥ 3RBW. The peak detector is used for Average limit and RBW is set to 1MHz ,VBW=1kHz is not smaller than 1/T, T = to the shortest pulse width. The antenna height and turn table rotation is adjusted until the maximum power value is founded on spectrum analyzer or receiver.

11.4 RESULTS & PERFORMANCE

From 9kHz to 30MHz:
The test data was 20dB lower than the permissible limit was not recorded in the report.

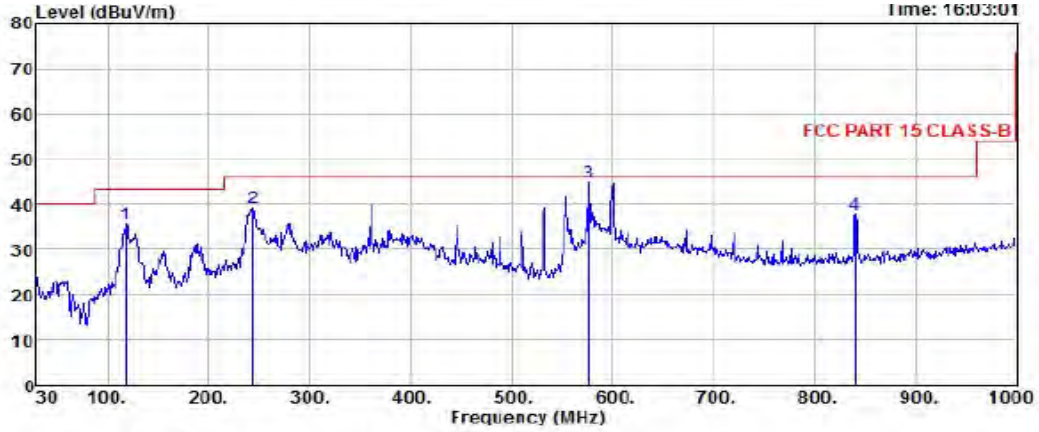
From 30MHz to 1GHz:
Only show the worst test data when EUT was operated on different mode.

BT GFSK (traffic mode Channel 0)



Site : chamber
Condition : FCC PART 15 CLASS-B 3m VULB9160 HORIZONTAL
EUT :
Model Name : 神画投影仪
Temp/Humi : 20 ℃ / 56 %
Power Rating: 230V/50Hz
Mode : BT3.1 CH0
Memo :

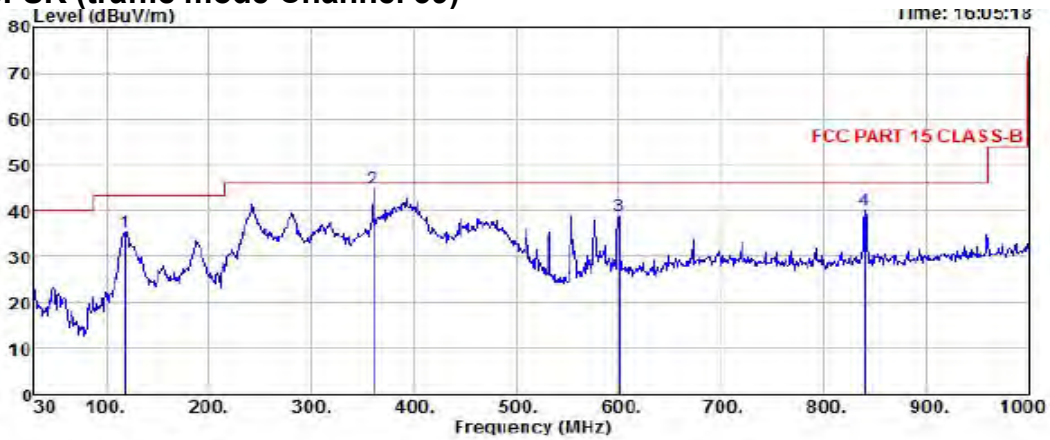
	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Limit Level	Over Line	Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	120.21	22.29	12.03	1.45	0.00	35.77	43.50	-7.73	Peak
2 pp	359.80	27.70	14.39	2.58	0.00	44.67	46.00	-1.33	Peak
3	600.36	16.49	19.16	3.34	0.00	38.99	46.00	-7.01	Peak
4	839.95	14.54	22.01	3.94	0.00	40.49	46.00	-5.51	Peak



Site : chamber
Condition : FCC PART 15 CLASS-B 3m VULB9160 VERTICAL
EUT :
Model Name : 神画投影仪
Temp/Humi : 20 ℃ / 56 %
Power Rating: 230V/50Hz
Mode : BT3.1 CH0
Memo :

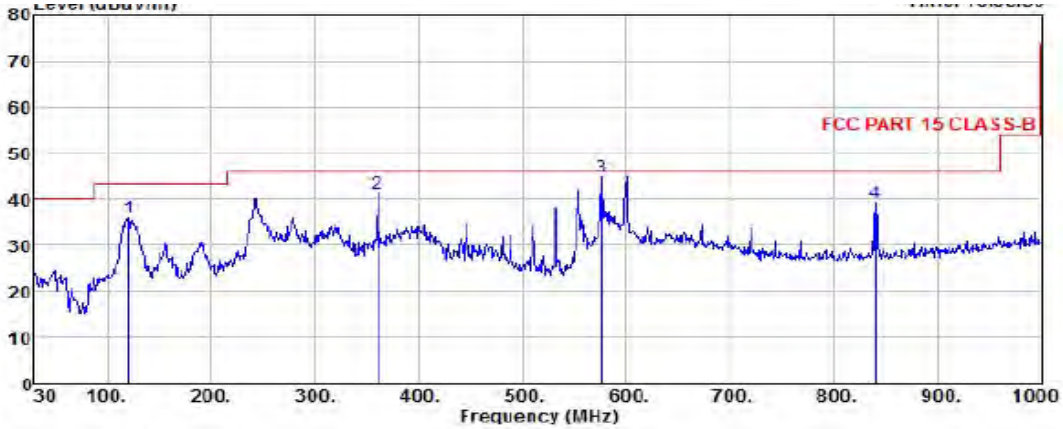
	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Limit Level	Over Line	Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	118.27	22.43	11.84	1.44	0.00	35.71	43.50	-7.79	Peak
2	244.37	25.39	11.79	2.14	0.00	39.32	46.00	-6.68	Peak
3	pp 576.11	23.18	18.53	3.26	0.00	44.97	46.00	-1.03	Peak
4	839.95	11.90	22.01	3.94	0.00	37.85	46.00	-8.15	Peak

BT GFSK (traffic mode Channel 39)



Site : chamber
Condition : FCC PART 15 CLASS-B 3m VULB9160 HORIZONTAL
EUT :
Model Name : 神画投影仪
Temp/Humi : 20 ℃ / 56 %
Power Rating: 230V/50Hz
Mode : BT3.1 CH39
Memo :

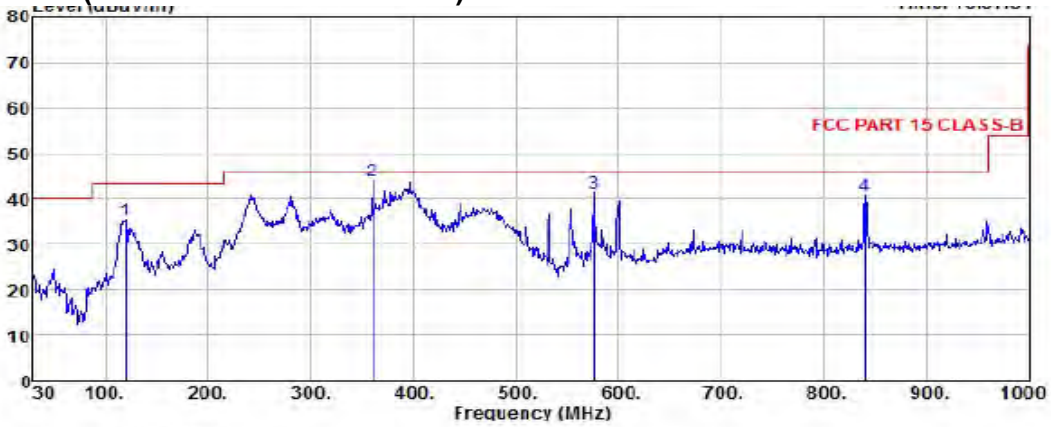
	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Limit Level	Over Line	Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	118.27	22.25	11.84	1.44	0.00	35.53	43.50	-7.97	Peak
2	pp 359.80	27.88	14.39	2.58	0.00	44.85	46.00	-1.15	Peak
3	600.36	16.59	19.16	3.34	0.00	39.09	46.00	-6.91	Peak
4	839.95	14.17	22.01	3.94	0.00	40.12	46.00	-5.88	Peak



Site : chamber
Condition : FCC PART 15 CLASS-B 3m VULB9160 VERTICAL
EUT :
Model Name : 神画投影仪
Temp/Humi : 20 ℃ / 56 %
Power Rating: 230V/50Hz
Mode : BT3.1 CH39
Memo :

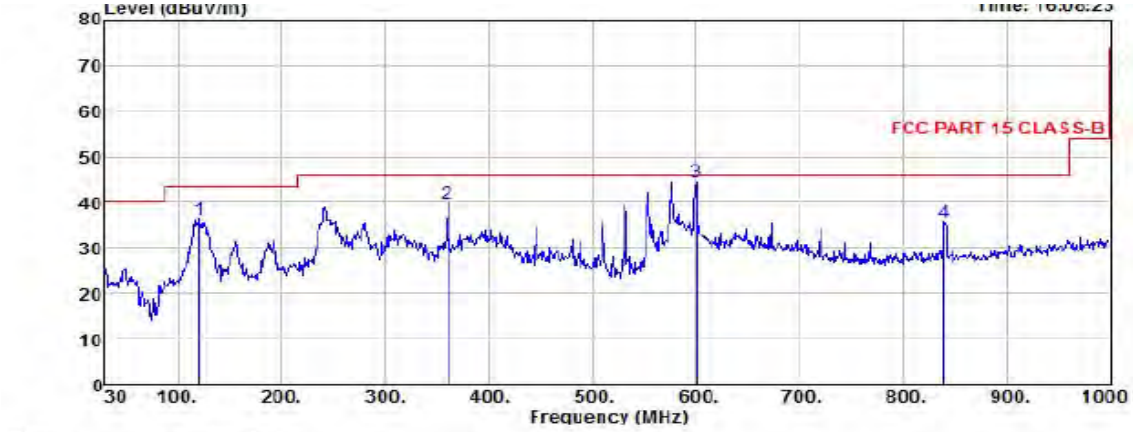
	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	120.21	22.48	12.03	1.45	0.00	35.96	43.50	-7.54	Peak
2	359.80	24.46	14.39	2.58	0.00	41.43	46.00	-4.57	Peak
3	pp 576.11	23.13	18.53	3.26	0.00	44.92	46.00	-1.08	Peak
4	839.95	13.32	22.01	3.94	0.00	39.27	46.00	-6.73	Peak

BT GFSK (traffic mode Channel 78)



Site : chamber
Condition : FCC PART 15 CLASS-B 3m VULB9160 HORIZONTAL
EUT :
Model Name : 神画投影仪
Temp/Humi : 20 ℃ / 56 %
Power Rating: 230V/50Hz
Mode : BT3.1 CH78
Memo :

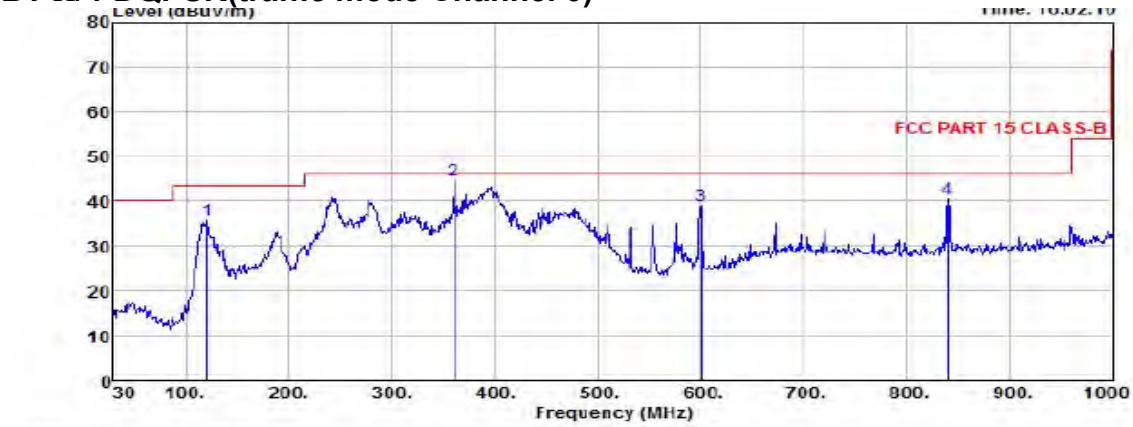
	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	119.24	21.87	12.03	1.44	0.00	35.34	43.50	-8.16	Peak
2	pp 359.80	27.04	14.39	2.58	0.00	44.01	46.00	-1.99	Peak
3	576.11	19.40	18.53	3.26	0.00	41.19	46.00	-4.81	Peak
4	839.95	14.68	22.01	3.94	0.00	40.63	46.00	-5.37	Peak



Site : chamber
Condition : FCC PART 15 CLASS-B 3m VULB9160 VERTICAL
EUT :
Model Name : 神画投影仪
Temp/Humi : 20 ℃ / 56 %
Power Rating: 230V/50Hz
Mode : BT3.1 CH78
Memo :

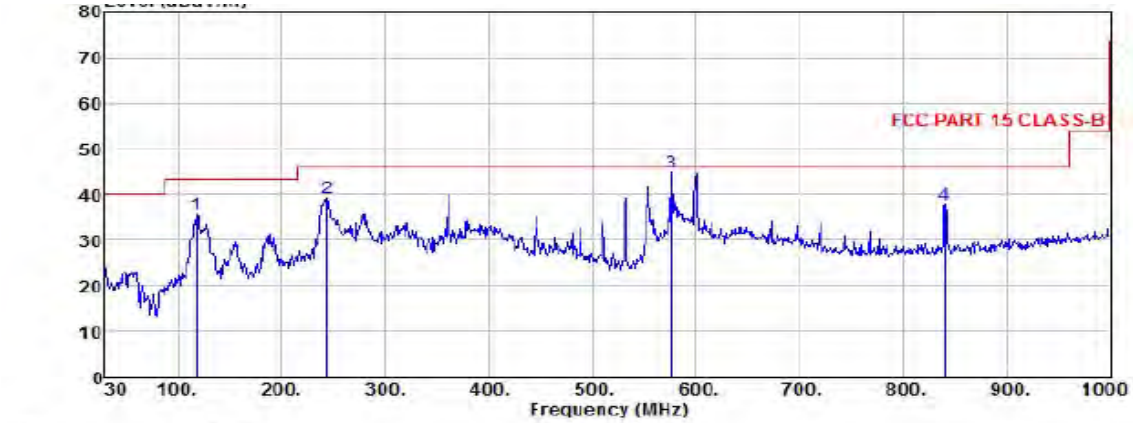
	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	120.21	22.79	12.03	1.45	0.00	36.27	43.50	-7.23	Peak
2	359.80	22.80	14.39	2.58	0.00	39.77	46.00	-6.23	Peak
3	pp 600.36	22.19	19.16	3.34	0.00	44.69	46.00	-1.31	Peak
4	838.98	9.69	22.00	3.94	0.00	35.63	46.00	-10.37	Peak

BT Π/4-DQPSK(traffic mode Channel 0)



Site : chamber
Condition : FCC PART 15 CLASS-B 3m VULB9160 HORIZONTAL
EUT :
Model Name : 神画投影仪
Temp/Humi : 20 ℃ / 56 %
Power Rating: 230V/50Hz
Mode : BT3.1 CH0
Memo :

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	120.21	22.29	12.03	1.45	0.00	35.77	43.50	-7.73	Peak
2	pp 359.80	27.70	14.39	2.58	0.00	44.67	46.00	-1.33	Peak
3	600.36	16.49	19.16	3.34	0.00	38.99	46.00	-7.01	Peak
4	839.95	14.54	22.01	3.94	0.00	40.49	46.00	-5.51	Peak

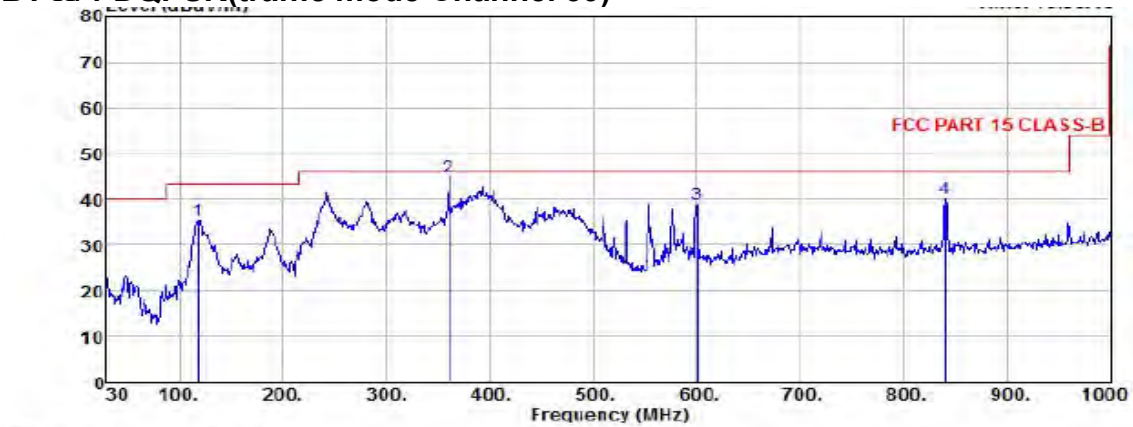


Site : chamber
Condition : FCC PART 15 CLASS-B 3m VULB9160 VERTICAL
EUT :
Model Name : 神画投影仪
Temp/Humi : 20 ℃ / 56 %
Power Rating: 230V/50Hz
Mode : BT3.1 CH0
Memo :

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Limit Level	Over Line	Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	118.27	22.43	11.84	1.44	0.00	35.71	43.50	-7.79	Peak
2	244.37	25.39	11.79	2.14	0.00	39.32	46.00	-6.68	Peak
3	pp 576.11	23.18	18.53	3.26	0.00	44.97	46.00	-1.03	Peak
4	839.95	11.90	22.01	3.94	0.00	37.85	46.00	-8.15	Peak

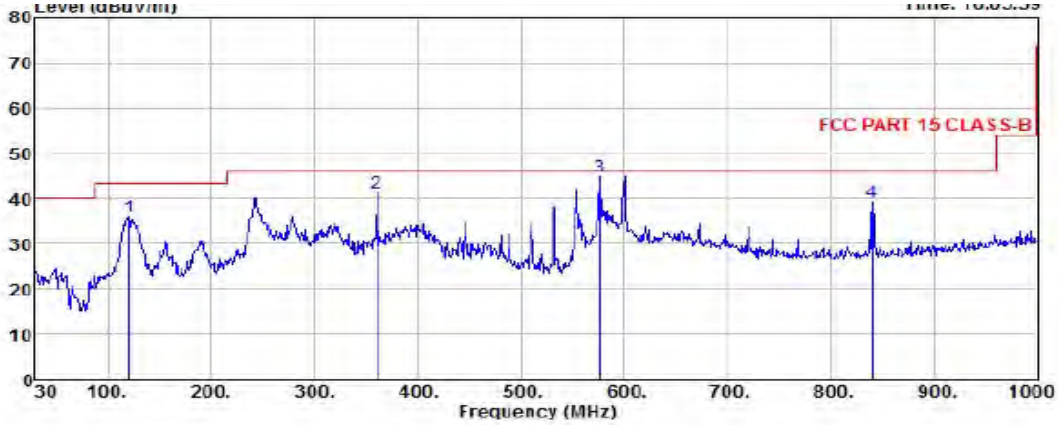
:

BT Π/4-DQPSK(traffic mode Channel 39)



Site : chamber
Condition : FCC PART 15 CLASS-B 3m VULB9160 HORIZONTAL
EUT :
Model Name : 神画投影仪
Temp/Humi : 20 ℃ / 56 %
Power Rating: 230V/50Hz
Mode : BT3.1 CH39
Memo :

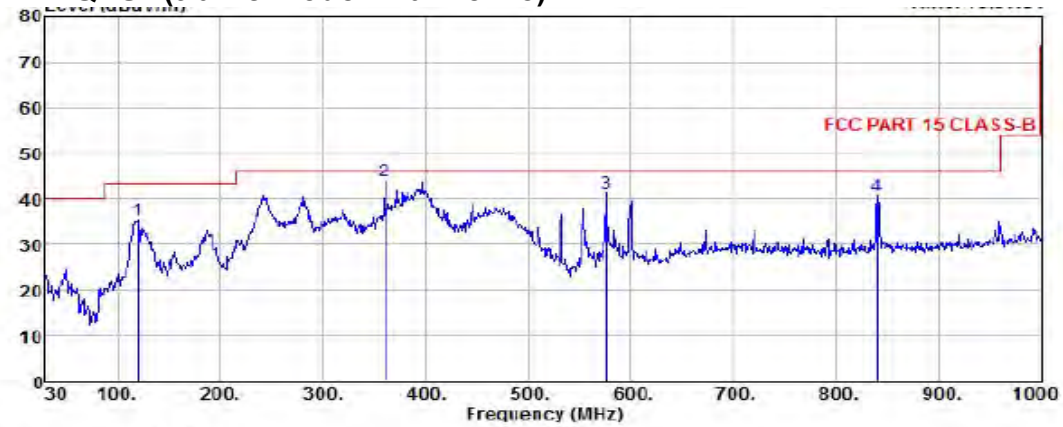
	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Limit Level	Over Line	Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	118.27	22.25	11.84	1.44	0.00	35.53	43.50	-7.97	Peak
2	pp 359.80	27.88	14.39	2.58	0.00	44.85	46.00	-1.15	Peak
3	600.36	16.59	19.16	3.34	0.00	39.09	46.00	-6.91	Peak
4	839.95	14.17	22.01	3.94	0.00	40.12	46.00	-5.88	Peak



Site : chamber
Condition : FCC PART 15 CLASS-B 3m VULB9160 VERTICAL
EUT :
Model Name : 神画投影仪
Temp/Humi : 20 ℃ / 56 %
Power Rating: 230V/50Hz
Mode : BT3.1 CH39
Memo :

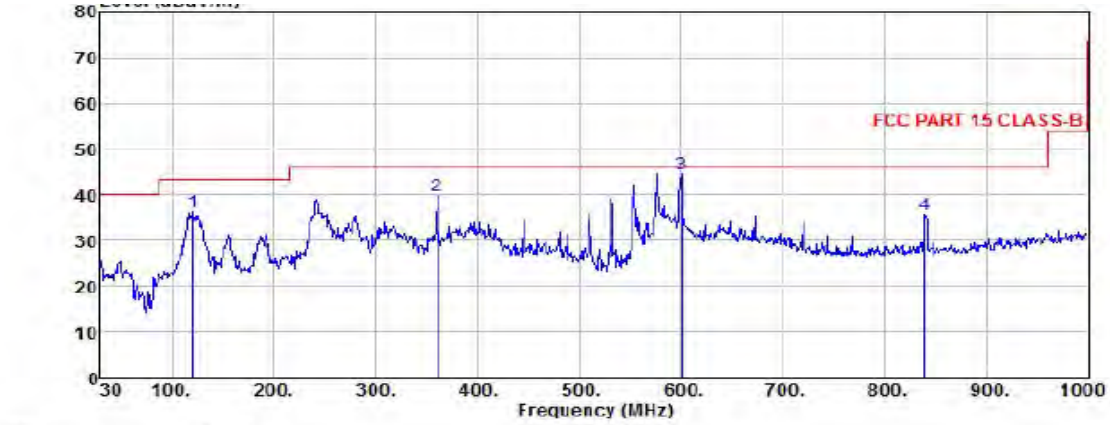
	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Limit Level	Over Line	Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	120.21	22.48	12.03	1.45	0.00	35.96	43.50	-7.54	Peak
2	359.80	24.46	14.39	2.58	0.00	41.43	46.00	-4.57	Peak
3	pp 576.11	23.13	18.53	3.26	0.00	44.92	46.00	-1.08	Peak
4	839.95	13.32	22.01	3.94	0.00	39.27	46.00	-6.73	Peak

BT Π/4-DQPSK(traffic mode Channel 78)



Site : chamber
Condition : FCC PART 15 CLASS-B 3m VULB9160 HORIZONTAL
EUT :
Model Name : 神画投影仪
Temp/Humi : 20 ℃ / 56 %
Power Rating: 230V/50Hz
Mode : BT3.1 CH78
Memo :

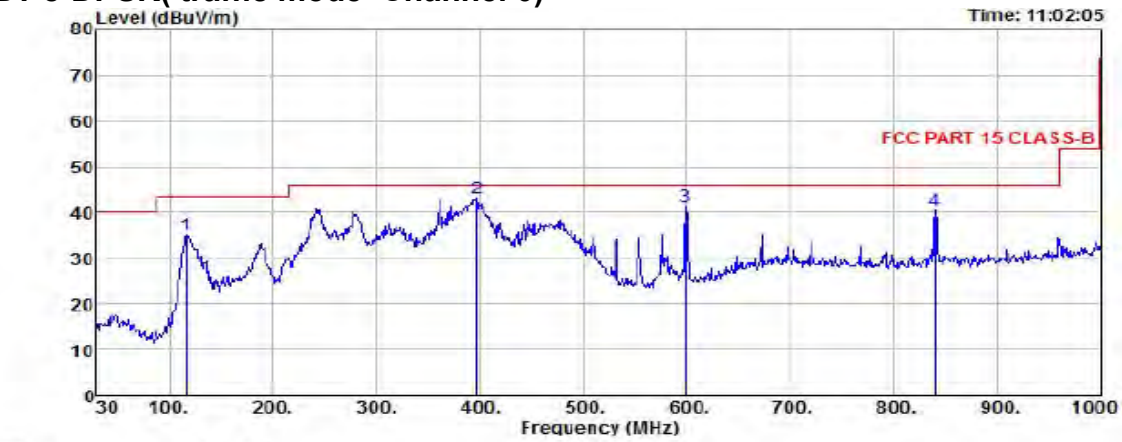
	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Limit Level	Over Line	Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	119.24	21.87	12.03	1.44	0.00	35.34	43.50	-8.16	Peak
2	pp 359.80	27.04	14.39	2.58	0.00	44.01	46.00	-1.99	Peak
3	576.11	19.40	18.53	3.26	0.00	41.19	46.00	-4.81	Peak
4	839.95	14.68	22.01	3.94	0.00	40.63	46.00	-5.37	Peak



Site : chamber
Condition : FCC PART 15 CLASS-B 3m VULB9160 VERTICAL
EUT :
Model Name : 神画投影仪
Temp/Humi : 20 ℃ / 56 %
Power Rating: 230V/50Hz
Mode : BT3.1 CH78
Memo :

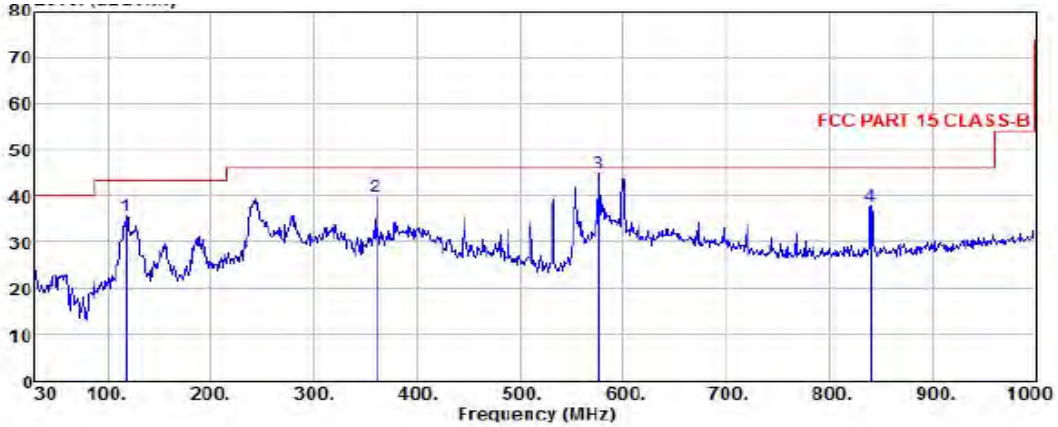
	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	120.21	22.79	12.03	1.45	0.00	36.27	43.50	-7.23	Peak
2	359.80	22.80	14.39	2.58	0.00	39.77	46.00	-6.23	Peak
3	pp 600.36	22.19	19.16	3.34	0.00	44.69	46.00	-1.31	Peak
4	838.98	9.69	22.00	3.94	0.00	35.63	46.00	-10.37	Peak

BT 8-DPSK(traffic mode Channel 0)



Site : chamber
Condition : FCC PART 15 CLASS-B 3m VULB9160 HORIZONTAL
EUT :
Model Name : 神画投影仪
Temp/Humi : 20 ℃ / 56 %
Power Rating: 230V/50Hz
Mode : BT3.1 CH0
Memo :

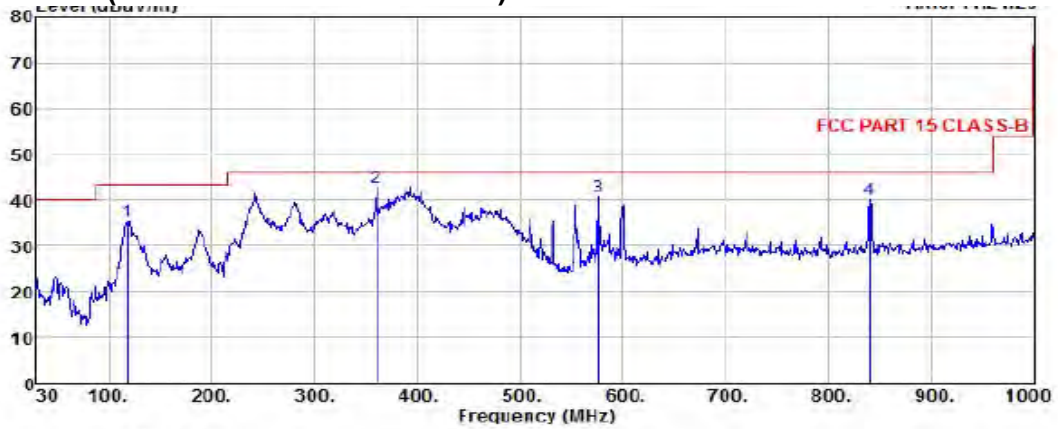
	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	116.33	22.12	11.65	1.42	0.00	35.19	43.50	-8.31	Peak
2	pp 396.66	25.18	15.23	2.64	0.00	43.05	46.00	-2.95	Peak
3	599.39	18.82	19.16	3.34	0.00	41.32	46.00	-4.68	Peak
4	839.95	14.54	22.01	3.94	0.00	40.49	46.00	-5.51	Peak



Site : chamber
Condition : FCC PART 15 CLASS-B 3m VULB9160 VERTICAL
EUT :
Model Name : 神画投影仪
Temp/Humi : 20 ℃ / 56 %
Power Rating: 230V/50Hz
Mode : BT3.1 CH0
Memo :

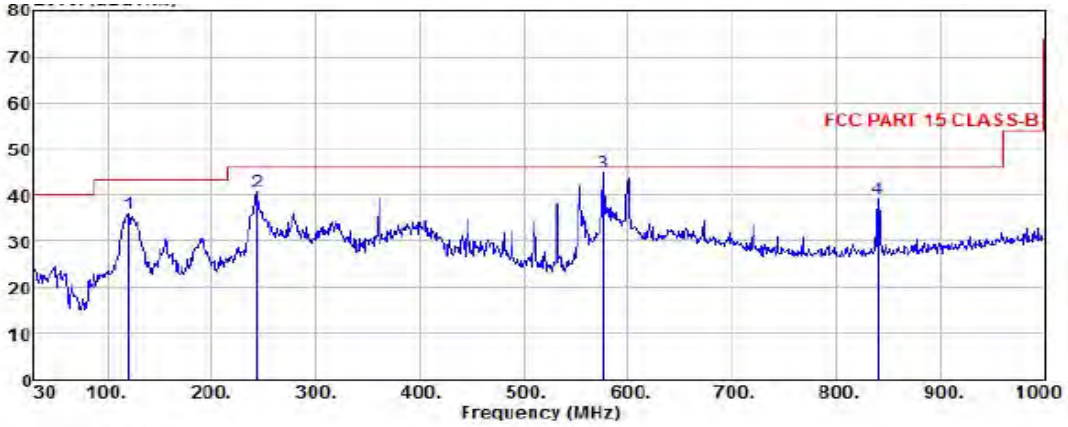
	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Limit Level	Over Line	Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	118.27	22.43	11.84	1.44	0.00	35.71	43.50	-7.79	Peak
2	359.80	22.98	14.39	2.58	0.00	39.95	46.00	-6.05	Peak
3	pp 576.11	23.18	18.53	3.26	0.00	44.97	46.00	-1.03	Peak
4	839.95	11.90	22.01	3.94	0.00	37.85	46.00	-8.15	Peak

BT 8-DPSK(traffic mode Channel 39)



Site : chamber
Condition : FCC PART 15 CLASS-B 3m VULB9160 HORIZONTAL
EUT :
Model Name : 神画投影仪
Temp/Humi : 20 ℃ / 56 %
Power Rating: 230V/50Hz
Mode : BT3.1 CH39
Memo :

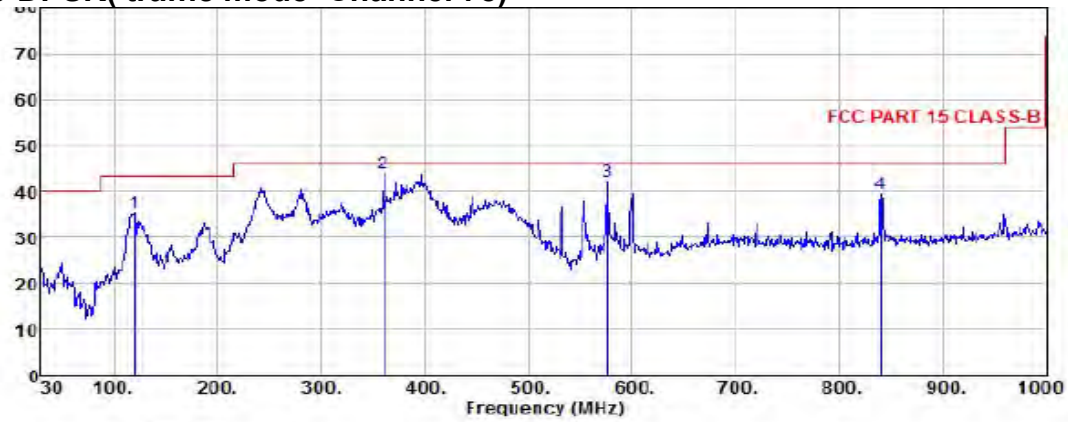
	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Limit Level	Over Line	Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	118.27	22.25	11.84	1.44	0.00	35.53	43.50	-7.97	Peak
2	pp 359.80	25.88	14.39	2.58	0.00	42.85	46.00	-3.15	Peak
3	576.11	18.97	18.53	3.26	0.00	40.76	46.00	-5.24	Peak
4	839.95	14.17	22.01	3.94	0.00	40.12	46.00	-5.88	Peak



Site : chamber
Condition : FCC PART 15 CLASS-B 3m VULB9160 VERTICAL
EUT :
Model Name : 神画投影仪
Temp/Humi : 20 ℃ / 56 %
Power Rating: 230V/50Hz
Mode : BT3.1 CH39
Memo :

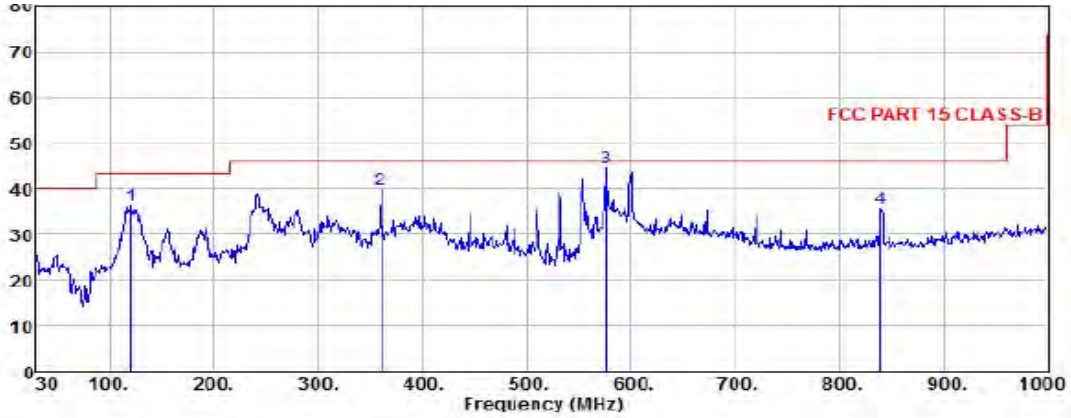
	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Limit Level	Over Line	Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	120.21	22.48	12.03	1.45	0.00	35.96	43.50	-7.54	Peak
2	244.37	26.80	11.79	2.14	0.00	40.73	46.00	-5.27	Peak
3	pp 576.11	23.13	18.53	3.26	0.00	44.92	46.00	-1.08	Peak
4	839.95	13.32	22.01	3.94	0.00	39.27	46.00	-6.73	Peak

BT 8-DPSK(traffic mode Channel 78)



Site : chamber
Condition : FCC PART 15 CLASS-B 3m VULB9160 HORIZONTAL
EUT :
Model Name : 神画投影仪
Temp/Humi : 20 ℃ / 56 %
Power Rating: 230V/50Hz
Mode : BT3.1 CH78
Memo :

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Limit Level	Over Line	Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	119.24	21.87	12.03	1.44	0.00	35.34	43.50	-8.16	Peak
2	pp 359.80	27.04	14.39	2.58	0.00	44.01	46.00	-1.99	Peak
3	576.11	20.40	18.53	3.26	0.00	42.19	46.00	-3.81	Peak
4	839.95	13.68	22.01	3.94	0.00	39.63	46.00	-6.37	Peak



Site : chamber
Condition : FCC PART 15 CLASS-B 3m VULB9160 VERTICAL
EUT :
Model Name : 神画投影仪
Temp/Humi : 20 C / 56 %
Power Rating: 230V/50Hz
Mode : BT3.1 CH78
Memo :

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Limit Level	Over Line	Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	120.21	22.79	12.03	1.45	0.00	36.27	43.50	-7.23	Peak
2	359.80	22.80	14.39	2.58	0.00	39.77	46.00	-6.23	Peak
3	pp 576.11	22.74	18.53	3.26	0.00	44.53	46.00	-1.47	Peak
4	838.98	9.69	22.00	3.94	0.00	35.63	46.00	-10.37	Peak

From 1GHz to 25GHz:

Only show the worst test data when EUT was operated on different mode.

EUT operation mode : BT GFSK(Ch0/Ch39/Ch78); BT Π/4-DQPSK(Ch0/Ch39/Ch78); BT 8-DPSK(Ch0/Ch39/Ch78)

BT GFSK traffic mode Ch78

Frequency (MHz)	Reading (dBuV)	Correct Factor(dB)	Antenna Polarity	Total (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector Type
2480	97.11	-2.88	Horizontal	94.23	/	/	Peak
4960	38.03	5.23	H	43.26	74	30.74	Peak
7440	37.14	13.15	H	50.29	74	23.71	Peak
2480	90.25	-2.88	Vertical	87.37	/	/	Peak
4960	36.87	5.23	V	42.10	74	31.90	Peak
7440	37.00	12.85	V	49.85	74	24.15	Peak

Note: 1, Total=Reading+Correct factor

2, 2480 MHz was fundamental signal which can be ignored.

3, Average measurement was not performed if peak level were lower than the average limit.

4, Other harmonics are lower than background noise.

BT Π/4-DQPSK traffic mode Ch39

Frequency (MHz)	Reading (dBuV)	Correct Factor(dB)	Antenna Polarity	Total (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector Type
2441	96.46	-3.29	Horizontal	93.17	/	/	Peak
4882	37.54	5.02	H	42.56	74	31.44	Peak
7322	38.02	11.86	H	49.88	74	24.12	Peak
2441	90.14	-3.29	Vertical	86.85	/	/	Peak
4882	36.65	5.02	V	41.67	74	32.33	Peak
7322	36.67	12.36	V	49.03	74	24.97	Peak

Note: 1, Total=Reading+Correct factor

2, 2441MHz was fundamental signal which can be ignored.

3, Average measurement was not performed if peak level were lower than the average limit.

4, Other harmonics are lower than background noise.

BT 8-DPSK traffic mode Ch39

Frequency (MHz)	Reading (dBuV)	Correct Factor(dB)	Antenna Polarity	Total (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector Type
2441	97.32	-3.29	Horizontal	94.03	/	/	Peak
4882	37.52	5.02	H	42.54	74	31.46	Peak
7322	39.61	11.86	H	51.47	74	22.53	Peak
2441	90.40	-3.29	Vertical	87.11	/	/	Peak
4882	36.27	5.02	V	41.29	74	32.71	Peak
7322	37.94	12.36	V	50.30	74	23.70	Peak

Note: 1, Total=Reading+Correct factor

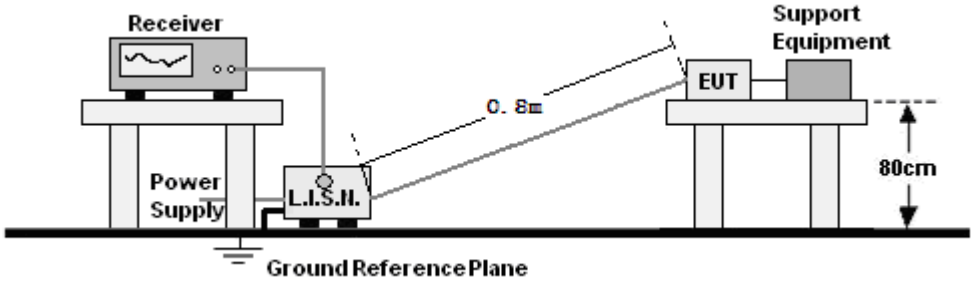
2, 2441MHz was fundamental signal which can be ignored.

3, Average measurement was not performed if peak level were lower than the average limit.

4, Other harmonics are lower than background noise.

12. AC POWER LINE CONDUCTED EMISSIONS

12.1 TEST SETUP



12.2 LIMITS

Frequency range (MHz)	Limits dB(μV)	
	Quasi-peak	Average
0,15 to 0,50	66 to 56	56 to 46
0,50 to 5	56	46
5 to 30	60	50

NOTE: 1. The lower limit shall apply at the transition frequencies.
2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 to 0.50 MHz.

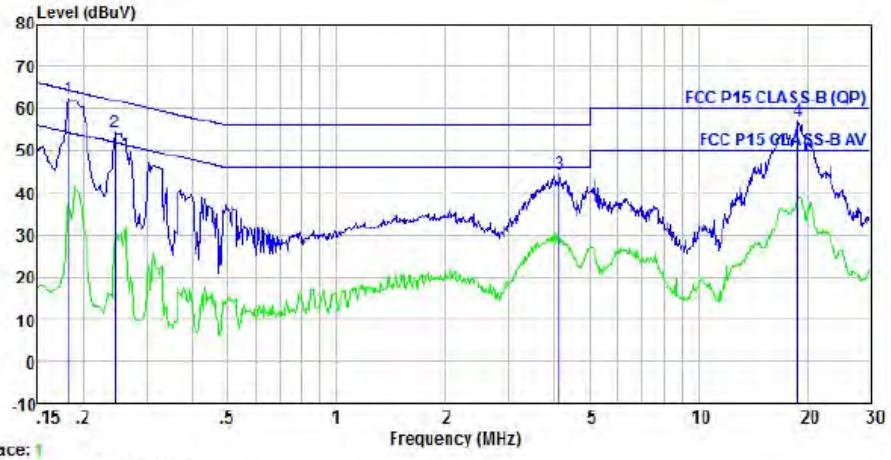
12.3 TEST PROCEDURE

According to description of ANSI C63.4: 2014 sec.13.3, the AC power line preliminary conducted emissions measurements were carried out. The preliminary conducted measurements were performed using the spectrum analyzer to observe the emission characteristics of the EUT. The EUT configuration, cable configuration and mode of operation were determined for producing the maximum level of emissions. These configurations were used for final AC power line conducted emissions measurements. The EUT is placed on a non-metallic table 0.8m above the horizontal metal reference ground plane. The EUT is connected to LISN and LISN is connected to the reference ground. All other supplemental devices are connected with EUT through other LISN. The distance between EUT and LISN is 80cm. A radio link is established between EUT and the tester. The output power of the EUT is controlled by the tester and driven to maximum value. An initial pre-scan was performed on the live L line and neutral line with peak detector (9kHz RBW). Both average detector and qausi-peak detector are performed at the frequencies with maximized peak emission.
Conducted emissions were invested over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

12.4 RESULTS & PERFORMANCE

EUT was operated on different mode.EUT work mode: BT GFSK(CH0/39/78); BT π /4-DQPSK(CH0/39/78); BT 8-DPSK(CH0/39/78)

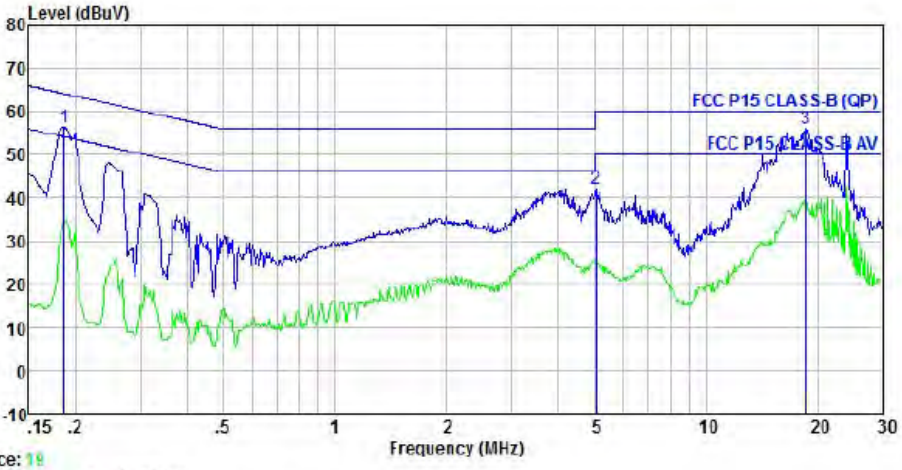
GFSK traffic mode Ch0



Trace: 1

Site : chamber
Condition : FCC P15 CLASS-B (QP) ENV216(L) LINE
EUT :
Model Name : 神画
Temp/Humi : 21 ℃ /56 %
Power Rating: 230V/50Hz
Mode : BT 3.1 CH0
Memo :

	Freq	Read Level	LISN Factor	Cable Loss	Preamp Factor	Limit Level	Over Line	Limit	Remark
	MHz	dBuV	dB	dB	dB	dBuV	dBuV	dB	
1	0.18	52.83	9.46	0.23	0.00	62.52	64.42	-1.90	Peak
2	0.24	44.79	9.52	0.20	0.00	54.51	61.95	-7.44	Peak
3	4.14	34.64	9.66	0.14	0.00	44.44	56.00	-11.56	Peak
4	18.92	47.28	9.73	0.11	0.00	57.12	60.00	-2.88	Peak

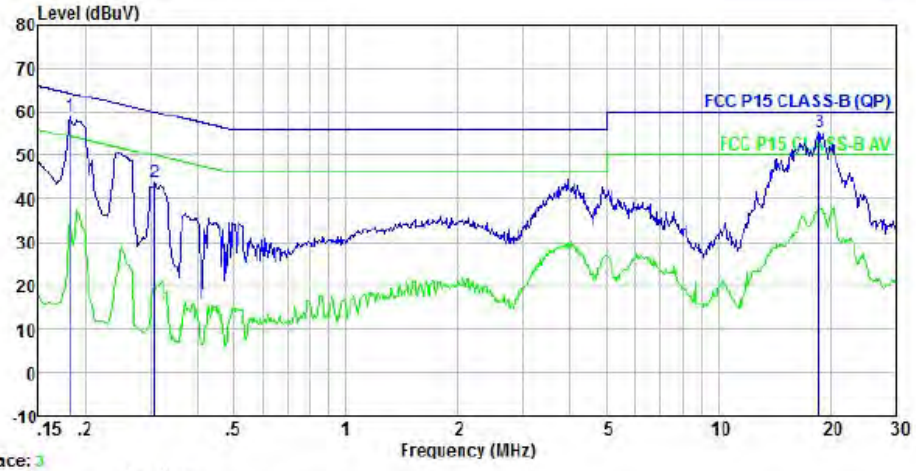


Trace: 19

Site : chamber
Condition : FCC P15 CLASS-B (QP) ENV216(N) NEUTRAL
EUT :
Model Name : 神画
Temp/Humi : 21 ℃ /56 %
Power Rating: 230V/50Hz
Mode : BT 3.1 CH0
Memo :

	Freq	Read Level	LISN Factor	Cable Loss	Preamp Factor	Limit Level	Over Line	Limit	Remark
	MHz	dBuV	dB	dB	dB	dBuV	dBuV	dB	
1	0.19	46.79	9.42	0.23	0.00	56.44	64.20	-7.76	Peak
2	5.06	32.46	9.53	0.15	0.00	42.14	60.00	-17.86	Peak
3	18.62	46.09	9.83	0.11	0.00	56.03	60.00	-3.97	Peak

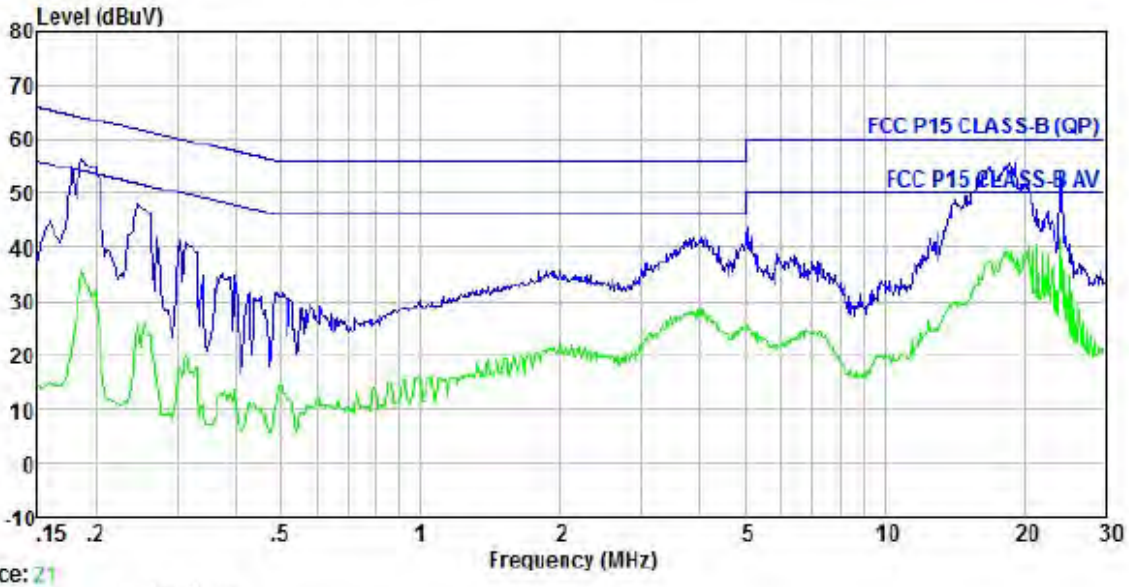
GFSK traffic mode Ch39



Trace: 3

Site : chamber
Condition : FCC P15 CLASS-B (QP) ENV216(L) LINE
EUT :
Model Name : 神画
Temp/Humi : 21 ℃ /56 %
Power Rating: 230V/50Hz
Mode : BT 3.1 CH39
Memo :

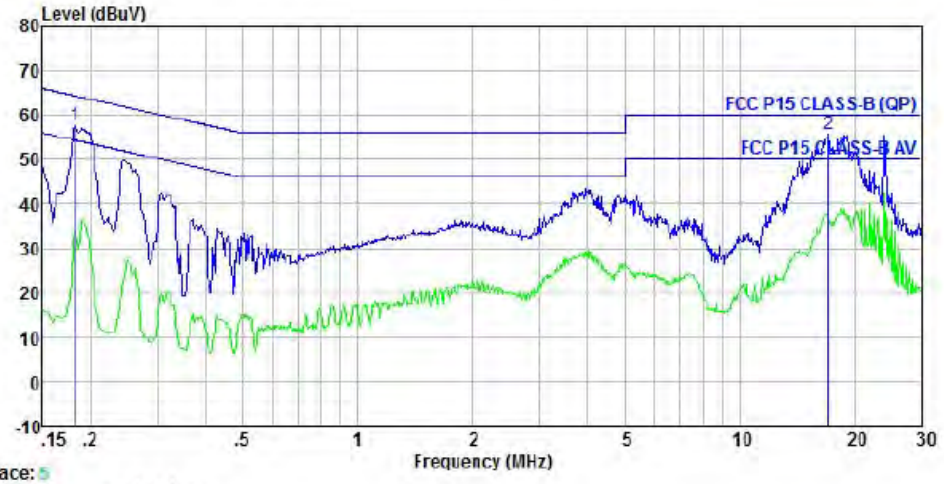
	Freq	Read Level	LISN Factor	Cable Loss	Preamp Factor	Limit Level	Over Line	Limit	Remark
	MHz	dBuV	dB	dB	dB	dBuV	dBuV	dB	
1	0.18	49.30	9.46	0.23	0.00	58.99	64.42	-5.43	Peak
2	0.31	34.06	9.58	0.18	0.00	43.82	60.06	-16.24	Peak
3	18.72	45.43	9.73	0.11	0.00	55.27	60.00	-4.73	Peak



Trace: 1

Site : chamber
Condition : FCC P15 CLASS-B (QP) ENV216(N) NEUTRAL
EUT :
Model Name : 神画
Temp/Humi : 21 ℃ /56 %
Power Rating: 230V/50Hz
Mode : BT 3.1 CH39
Memo :

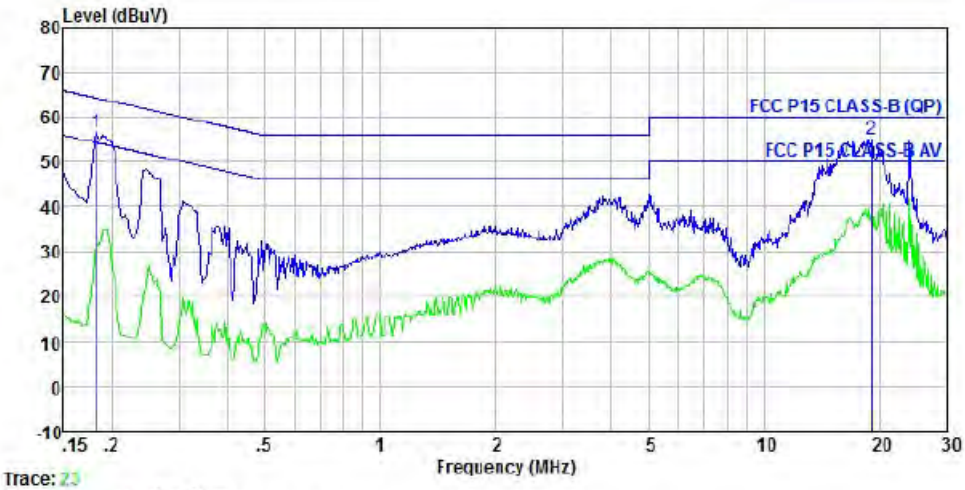
GFSK traffic mode Ch78



Trace: 5

Site : chamber
Condition : FCC P15 CLASS-B (QP) ENV216(L) LINE
EUT :
Model Name : 神画
Temp/Humi : 21 ℃ /56 %
Power Rating: 230V/50Hz
Mode : BT 3.1 CH78
Memo :

	Freq	Read Level	LISN Factor	Cable Loss	Preamp Factor	Limit Level	Over Line	Limit	Remark
	MHz	dBuV	dB	dB	dB	dBuV	dBuV	dB	
1	0.18	48.22	9.46	0.23	0.00	57.91	64.42	-6.51	Peak
2	17.11	46.03	9.71	0.12	0.00	55.86	60.00	-4.14	Peak

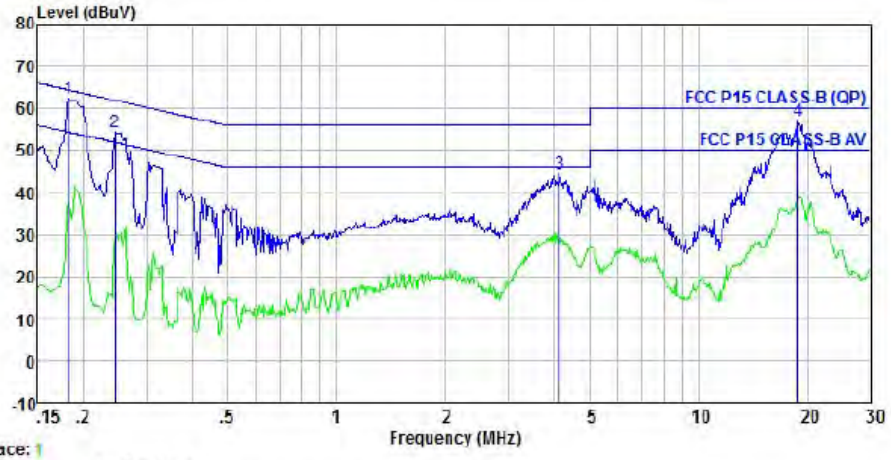


Trace: 23

Site : chamber
Condition : FCC P15 CLASS-B (QP) ENV216(N) NEUTRAL
EUT :
Model Name : 神画
Temp/Humi : 21 ℃ /56 %
Power Rating: 230V/50Hz
Mode : BT 3.1 CH79
Memo :

	Freq	Read Level	LISN Factor	Cable Loss	Preamp Factor	Limit Level	Over Line	Limit	Remark
	MHz	dBuV	dB	dB	dB	dBuV	dBuV	dB	
1	0.18	47.10	9.42	0.23	0.00	56.75	64.42	-7.67	Peak
2	19.12	45.21	9.84	0.11	0.00	55.16	60.00	-4.84	Peak

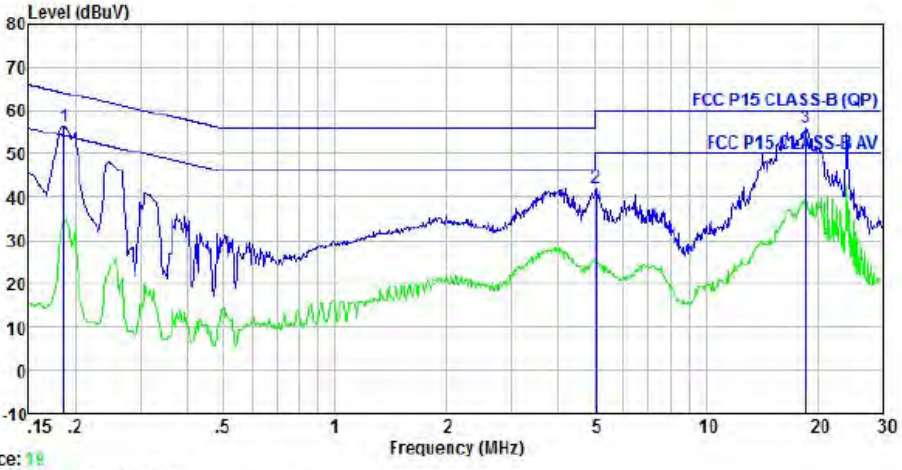
Ⅱ/4-DQPSK mode Ch0



Trace: 1

Site : chamber
Condition : FCC P15 CLASS-B (QP) ENV216(L) LINE
EUT :
Model Name : 神画
Temp/Humi : 21 ℃ /56 %
Power Rating: 230V/50Hz
Mode : BT 3.1 CH0
Memo :

	Freq	Read Level	LISN Factor	Cable Loss	Preamp Factor	Limit Level	Over Line	Limit	Remark
	MHz	dBuV	dB	dB	dB	dBuV	dBuV	dB	
1	0.18	52.83	9.46	0.23	0.00	62.52	64.42	-1.90	Peak
2	0.24	44.79	9.52	0.20	0.00	54.51	61.95	-7.44	Peak
3	4.14	34.64	9.66	0.14	0.00	44.44	56.00	-11.56	Peak
4	18.92	47.28	9.73	0.11	0.00	57.12	60.00	-2.88	Peak

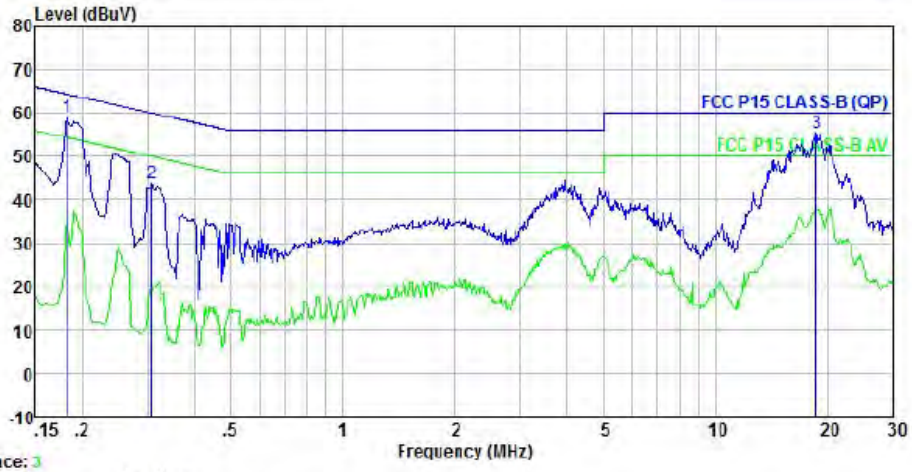


Trace: 19

Site : chamber
Condition : FCC P15 CLASS-B (QP) ENV216(N) NEUTRAL
EUT :
Model Name : 神画
Temp/Humi : 21 ℃ /56 %
Power Rating: 230V/50Hz
Mode : BT 3.1 CH0
Memo :

	Freq	Read Level	LISN Factor	Cable Loss	Preamp Factor	Limit Level	Over Line	Limit	Remark
	MHz	dBuV	dB	dB	dB	dBuV	dBuV	dB	
1	0.19	46.79	9.42	0.23	0.00	56.44	64.20	-7.76	Peak
2	5.06	32.46	9.53	0.15	0.00	42.14	60.00	-17.86	Peak
3	18.62	46.09	9.83	0.11	0.00	56.03	60.00	-3.97	Peak

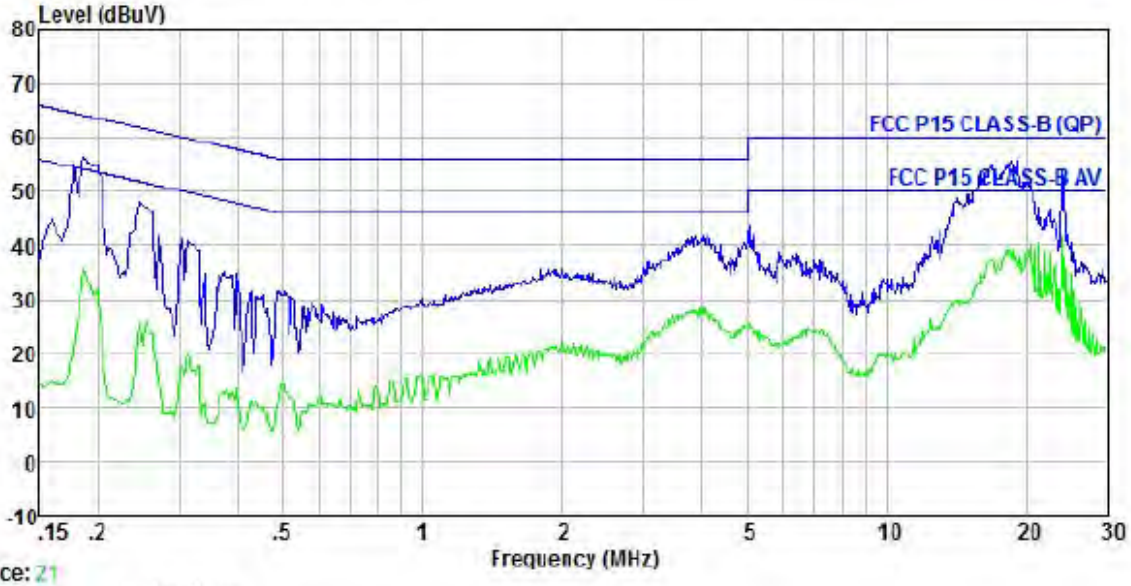
Π/4-DQPSK mode Ch39



Trace: 3

Site : chamber
Condition : FCC P15 CLASS-B (QP) ENV216(L) LINE
EUT :
Model Name : 神画
Temp/Humi : 21 ℃ /56 %
Power Rating: 230V/50Hz
Mode : BT 3.1 CH39
Memo :

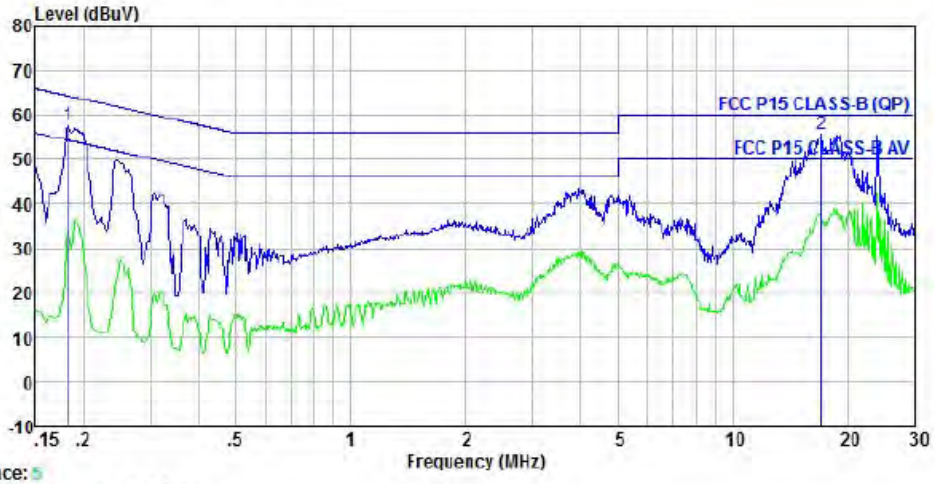
	Freq	Read Level	LISN Factor	Cable Loss	Preamp Factor	Limit Level	Over Line	Limit	Remark
	MHz	dBuV	dB	dB	dB	dBuV	dBuV	dB	
1	0.18	49.30	9.46	0.23	0.00	58.99	64.42	-5.43	Peak
2	0.31	34.06	9.58	0.18	0.00	43.82	60.06	-16.24	Peak
3	18.72	45.43	9.73	0.11	0.00	55.27	60.00	-4.73	Peak



Trace: Z1

Site : chamber
Condition : FCC P15 CLASS-B (QP) ENV216(N) NEUTRAL
EUT :
Model Name : 神画
Temp/Humi : 21 ℃ /56 %
Power Rating: 230V/50Hz
Mode : BT 3.1 CH39
Memo :

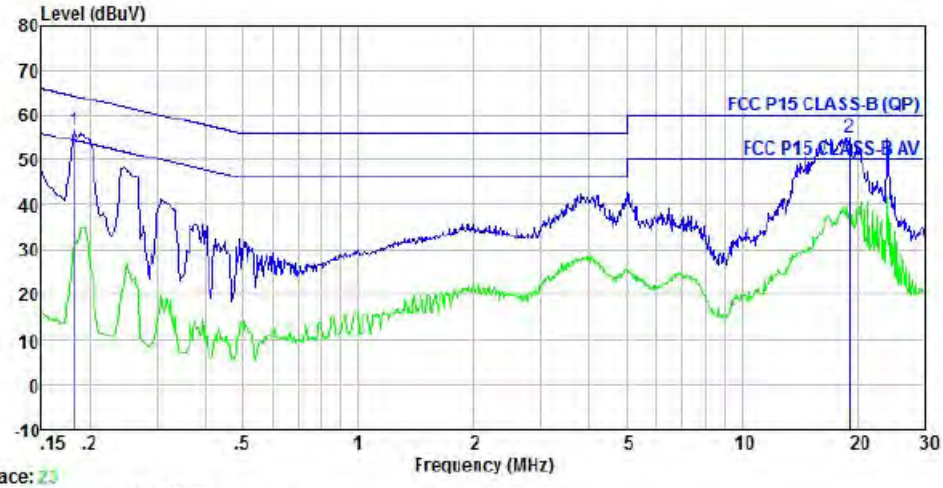
Π/4-DQPSK mode Ch78



Trace: 5

Site : chamber
Condition : FCC P15 CLASS-B (QP) ENV216(L) LINE
EUT :
Model Name : 神画
Temp/Humi : 21 ℃ /56 %
Power Rating: 230V/50Hz
Mode : BT 3.1 CH78
Memo :

	Freq	Read Level	LISN Factor	Cable Loss	Preamp Factor	Limit Level	Over Line	Limit	Remark
	MHz	dBuV	dB	dB	dB	dBuV	dBuV	dB	
1	0.18	48.22	9.46	0.23	0.00	57.91	64.42	-6.51	Peak
2	17.11	46.03	9.71	0.12	0.00	55.86	60.00	-4.14	Peak

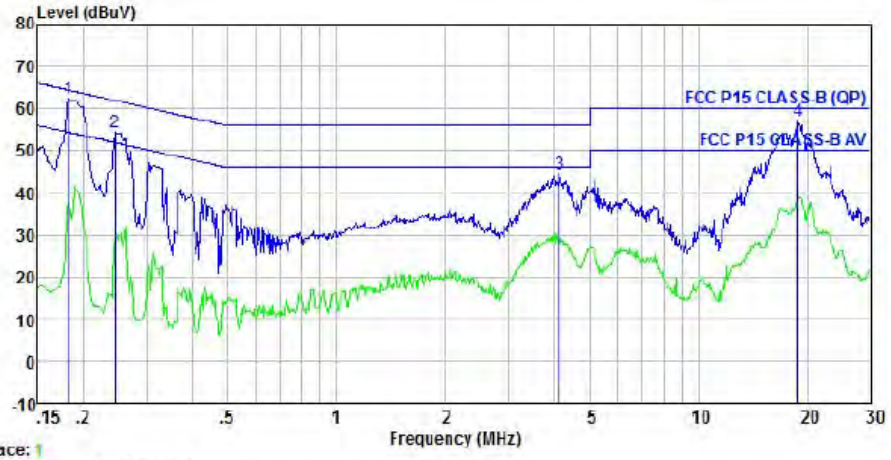


Trace: 23

Site : chamber
Condition : FCC P15 CLASS-B (QP) ENV216(N) NEUTRAL
EUT :
Model Name : 神画
Temp/Humi : 21 ℃ /56 %
Power Rating: 230V/50Hz
Mode : BT 3.1 CH79
Memo :

	Freq	Read Level	LISN Factor	Cable Loss	Preamp Factor	Limit Level	Over Line	Limit	Remark
	MHz	dBuV	dB	dB	dB	dBuV	dBuV	dB	
1	0.18	47.10	9.42	0.23	0.00	56.75	64.42	-7.67	Peak
2	19.12	45.21	9.84	0.11	0.00	55.16	60.00	-4.84	Peak

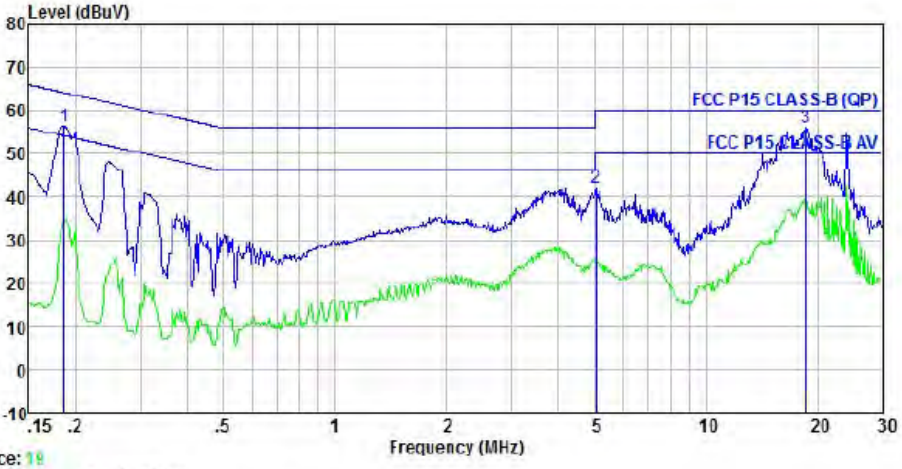
8-DPSK traffic mode Ch0



Trace: 1

Site : chamber
Condition : FCC P15 CLASS-B (QP) ENV216(L) LINE
EUT :
Model Name : 神画
Temp/Humi : 21 ℃ /56 %
Power Rating: 230V/50Hz
Mode : BT 3.1 CH0
Memo :

	Freq	Read Level	LISN Factor	Cable Loss	Preamp Factor	Limit Level	Over Line	Limit	Remark
	MHz	dBuV	dB	dB	dB	dBuV	dBuV	dB	
1	0.18	52.83	9.46	0.23	0.00	62.52	64.42	-1.90	Peak
2	0.24	44.79	9.52	0.20	0.00	54.51	61.95	-7.44	Peak
3	4.14	34.64	9.66	0.14	0.00	44.44	56.00	-11.56	Peak
4	18.92	47.28	9.73	0.11	0.00	57.12	60.00	-2.88	Peak

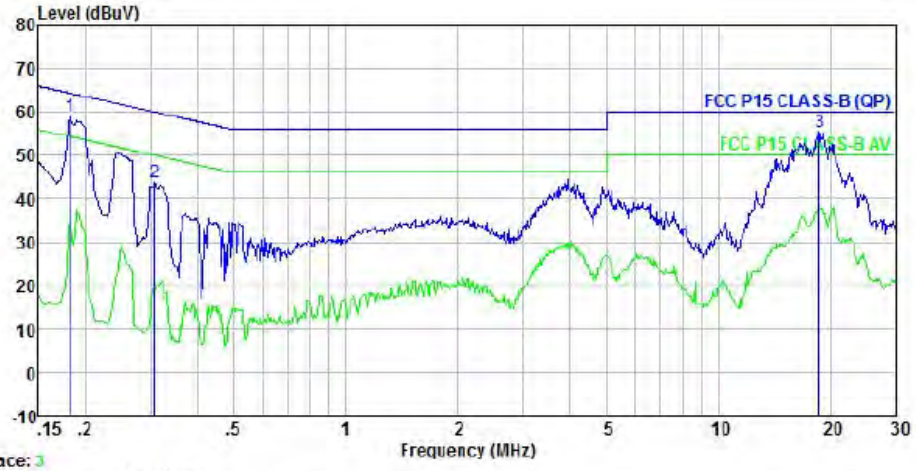


Trace: 19

Site : chamber
Condition : FCC P15 CLASS-B (QP) ENV216(N) NEUTRAL
EUT :
Model Name : 神画
Temp/Humi : 21 ℃ /56 %
Power Rating: 230V/50Hz
Mode : BT 3.1 CH0
Memo :

	Freq	Read Level	LISN Factor	Cable Loss	Preamp Factor	Limit Level	Over Line	Limit	Remark
	MHz	dBuV	dB	dB	dB	dBuV	dBuV	dB	
1	0.19	46.79	9.42	0.23	0.00	56.44	64.20	-7.76	Peak
2	5.06	32.46	9.53	0.15	0.00	42.14	60.00	-17.86	Peak
3	18.62	46.09	9.83	0.11	0.00	56.03	60.00	-3.97	Peak

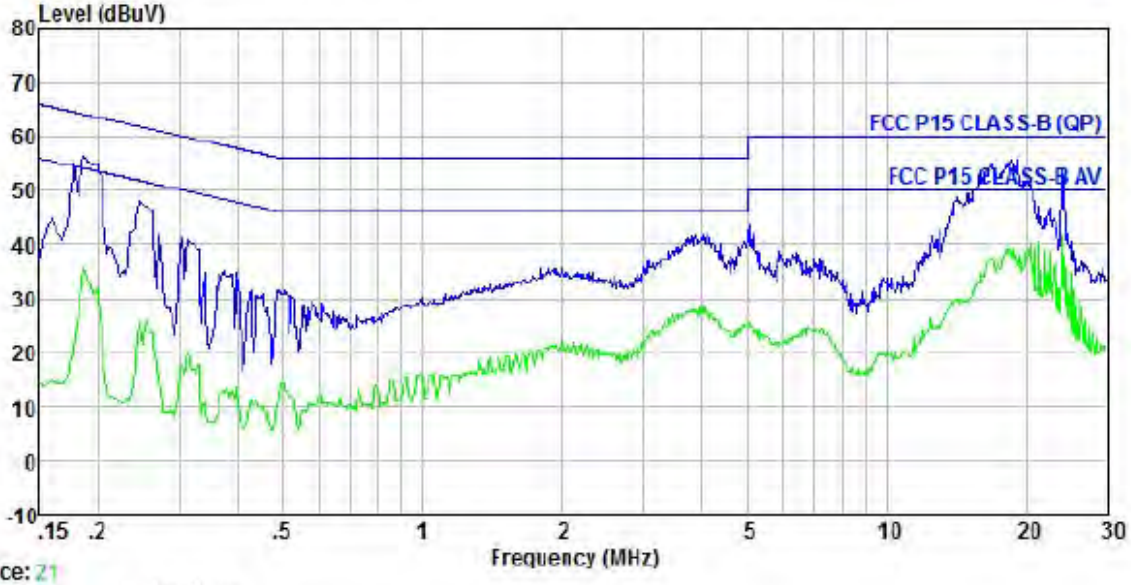
8-DPSK mode Ch39



Trace: 3

Site : chamber
Condition : FCC P15 CLASS-B (QP) ENV216(L) LINE
EUT :
Model Name : 神画
Temp/Humi : 21 ℃ /56 %
Power Rating: 230V/50Hz
Mode : BT 3.1 CH39
Memo :

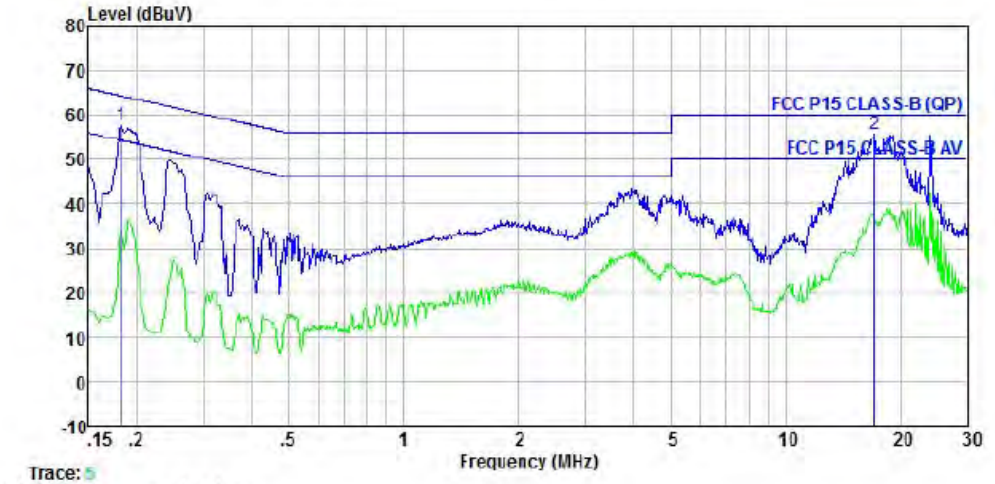
	Freq	Read Level	LISN Factor	Cable Loss	Preamp Factor	Limit Level	Over Line	Limit	Remark
	MHz	dBuV	dB	dB	dB	dBuV	dBuV	dB	
1	0.18	49.30	9.46	0.23	0.00	58.99	64.42	-5.43	Peak
2	0.31	34.06	9.58	0.18	0.00	43.82	60.06	-16.24	Peak
3	18.72	45.43	9.73	0.11	0.00	55.27	60.00	-4.73	Peak



Trace: 21

Site : chamber
Condition : FCC P15 CLASS-B (QP) ENV216(N) NEUTRAL
EUT :
Model Name : 神画
Temp/Humi : 21 ℃ /56 %
Power Rating: 230V/50Hz
Mode : BT 3.1 CH39
Memo :

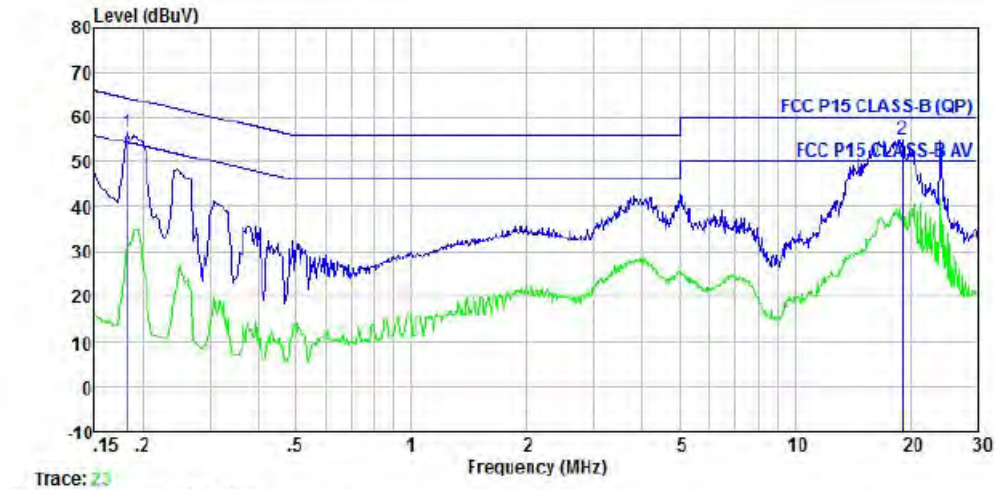
8-DPSK mode Ch78



Trace: 5

Site : chamber
Condition : FCC P15 CLASS-B (QP) ENV216(L) LINE
EUT :
Model Name : 神画
Temp/Humi : 21 ℃ /56 %
Power Rating: 230V/50Hz
Mode : BT 3.1 CH78
Memo :

	Freq	Read Level	LISN Factor	Cable Loss	Preamp Factor	Limit Level	Over Line	Limit	Remark
	MHz	dBuV	dB	dB	dB	dBuV	dBuV	dB	
1	0.18	48.22	9.46	0.23	0.00	57.91	64.42	-6.51	Peak
2	17.11	46.03	9.71	0.12	0.00	55.86	60.00	-4.14	Peak



Trace: 23

Site : chamber
Condition : FCC P15 CLASS-B (QP) ENV216(N) NEUTRAL
EUT :
Model Name : 神画
Temp/Humi : 21 ℃ /56 %
Power Rating: 230V/50Hz
Mode : BT 3.1 CH79
Memo :

	Freq	Read Level	LISN Factor	Cable Loss	Preamp Factor	Limit Level	Over Line	Limit	Remark
	MHz	dBuV	dB	dB	dB	dBuV	dBuV	dB	
1	0.18	47.10	9.42	0.23	0.00	56.75	64.42	-7.67	Peak
2	19.12	45.21	9.84	0.11	0.00	55.16	60.00	-4.84	Peak

APPENDIX 1 PHOTOGRAPHS OF TEST SETUP

Please refer to the file named “Part 15C Setup Photos”.

APPENDIX 2 PHOTOGRAPHS OF EUT

Please refer to the files named “External Photos”and” Internal Photos” .

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