

Fig.54. Conducted spurious emission: 8DPSK, Channel 78, 30MHz - 1GHz

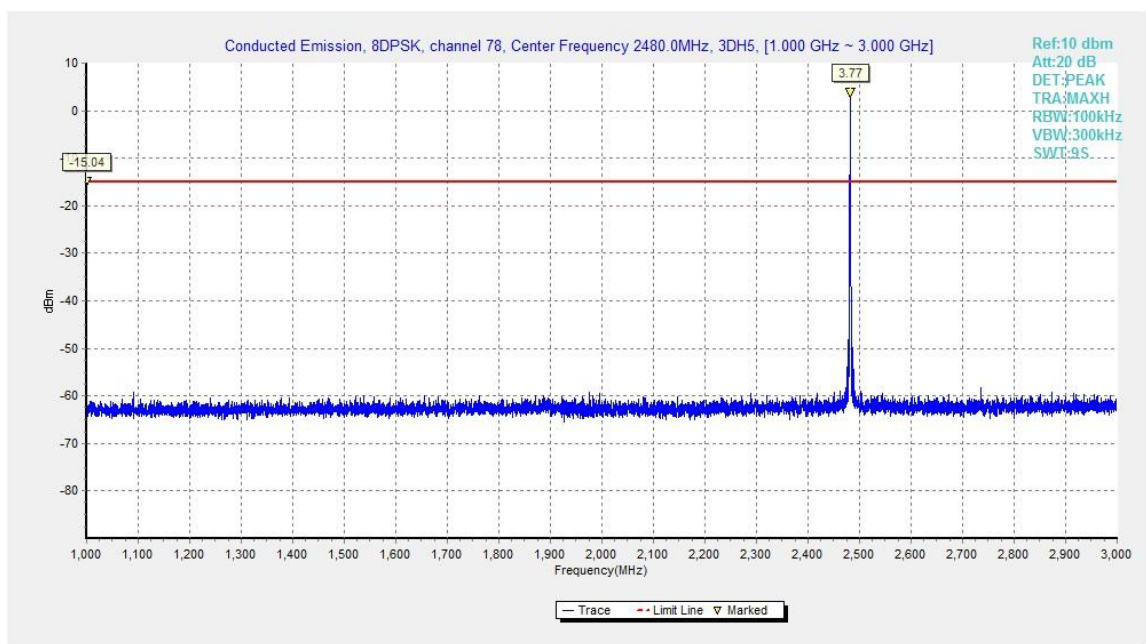


Fig.55. Conducted spurious emission: 8DPSK, Channel 78, 1GHz - 3GHz

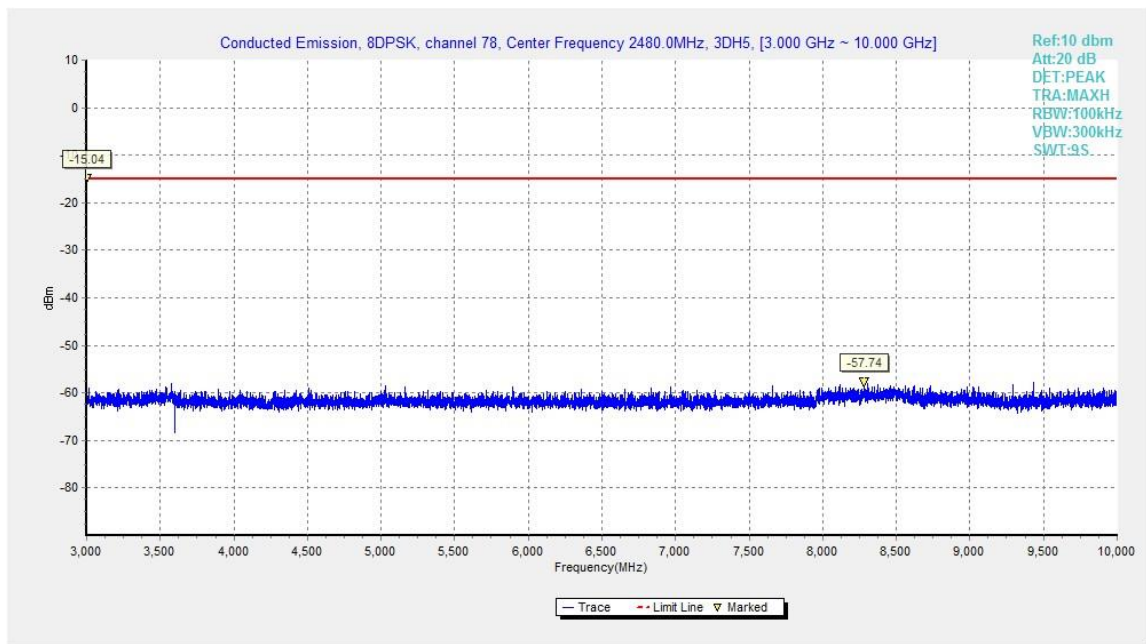


Fig.56. Conducted spurious emission: 8DPSK, Channel 78, 3GHz - 10GHz

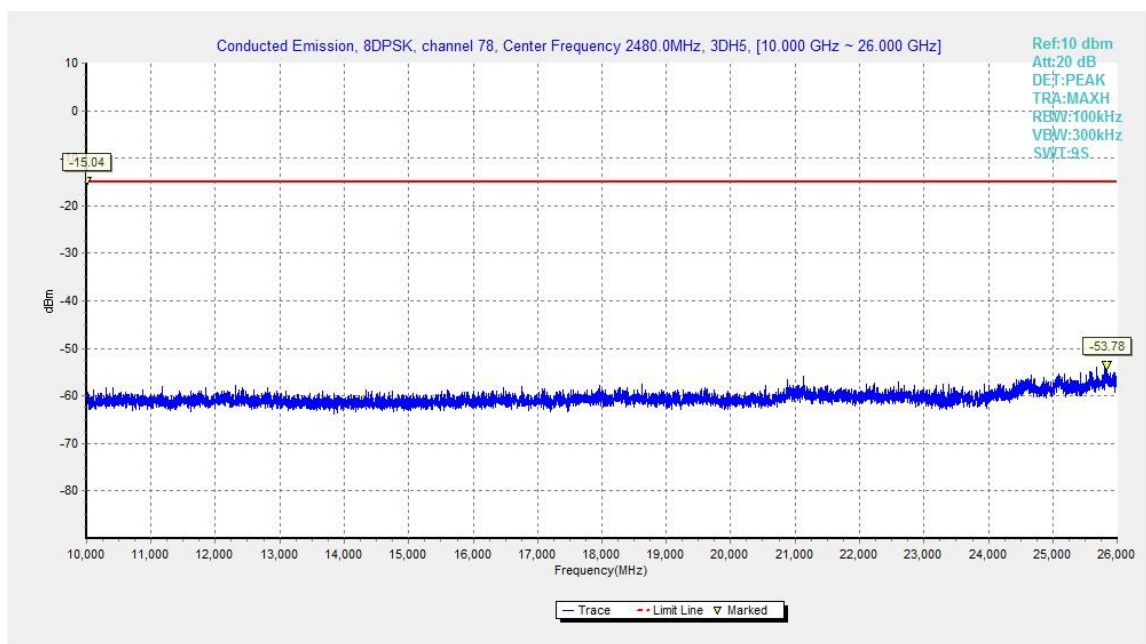


Fig.57. Conducted spurious emission: 8DPSK, Channel 78, 10GHz - 26GHz

## A.5. Radiated Emission

### Measurement Limit:

Standard	Limit
FCC 47 CFR Part 15.247, 15.205, 15.209	20dB below peak output 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 in § 15.209(a) (see § 15.205(c)).

The measurement is made according to ANSI C63.10

### Limit in restricted band:

Frequency of emission (MHz)	Field strength(uV/m)	Field strength(dBuV/m)
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

### Test Condition

The EUT was placed on a non-conductive table. The measurement antenna was placed at a distance of 3/10 meters from the EUT. During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations.

Frequency of emission (MHz)	RBW/VBW	Sweep Time(s)
30-1000	100KHz/300KHz	5
1000-4000	1MHz/1MHz	15
4000-18000	1MHz/1MHz	40
18000-26500	1MHz/1MHz	20

**Measurement Results for Set.10:**Result= $P_{\text{Mea}} + \text{ARPL}$ **For GFSK**

Channel	Frequency Range	Test Results	Conclusion
Power	2.38GHz~2.4GHz---L	Fig.58	P
Power	2.45GHz~2.5GHz---H	Fig.59	P

**For  $\pi/4$  DQPSK**

Channel	Frequency Range	Test Results	Conclusion
Power	2.38GHz~2.4GHz---L	Fig.60	P
Power	2.45GHz~2.5GHz---H	Fig.61	P

**For 8DPSK**

Channel	Frequency Range	Test Results	Conclusion
Power	2.38GHz~2.4GHz---L	Fig.62	P
Power	2.45GHz~2.5GHz---H	Fig.63	P

**GFSK Ch 0 - Average**

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
2381.400	46.2	2.9	32.0	11.33	54.0	7.8	H
2382.900	46.2	2.9	32.0	11.32	54.0	7.8	V
4804.500	35.0	-32.8	34.5	33.34	54.0	19.0	H
7206.000	37.8	-31.6	36.1	33.37	54.0	16.2	H
9607.500	40.4	-30.0	37.0	33.49	54.0	13.6	H
12010.500	43.2	-29.8	39.3	33.76	54.0	10.8	H

**GFSK Ch 39 - Average**

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
2382.560	46.5	2.9	32.0	11.60	54.0	7.5	H
2485.450	46.8	2.9	32.7	11.16	54.0	7.2	H
4882.500	35.2	-32.7	34.5	33.39	54.0	18.8	H
7323.000	37.5	-31.9	36.1	33.36	54.0	16.5	H
9763.500	40.0	-30.6	37.2	33.41	54.0	14.0	H
12205.500	43.6	-29.4	39.2	33.79	54.0	10.4	H

**GFSK Ch 78 - Average**

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
2483.500	47.1	2.9	32.8	11.44	54.0	6.9	H
2483.700	47.1	2.9	32.8	11.40	54.0	6.9	H
4960.500	34.7	-33.4	34.5	33.53	54.0	19.3	H
7440.000	37.6	-31.8	36.0	33.34	54.0	16.4	H
9919.500	40.9	-29.9	37.4	33.47	54.0	13.1	H
12400.500	43.8	-29.5	39.1	34.16	54.0	10.2	H

**GFSK Ch 0 – Peak**

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
2384.600	46.3	2.9	32.0	11.37	54.0	7.7	H
2386.700	46.3	2.9	32.0	11.44	54.0	7.7	H
4804.500	35.0	-32.8	34.5	33.39	54.0	19.0	V
7206.000	37.8	-31.6	36.1	33.36	54.0	16.2	V
9607.500	40.5	-30.0	37.0	33.55	54.0	13.5	H
12010.500	43.2	-29.8	39.3	33.71	54.0	10.8	H

**GFSK Ch 39 - Peak**

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
2385.680	46.4	2.9	32.0	11.52	54.0	7.6	H
2484.560	46.5	2.9	32.7	10.84	54.0	7.5	V
4882.500	35.2	-32.7	34.5	33.42	54.0	18.8	V
7323.000	37.6	-31.9	36.1	33.43	54.0	16.4	V
9763.500	40.0	-30.6	37.2	33.41	54.0	14.0	V
12205.500	43.7	-29.4	39.2	33.88	54.0	10.3	V

**GFSK Ch 78 - Peak**

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
2483.600	47.1	2.9	32.8	11.40	54.0	6.9	V
2483.900	47.1	2.9	32.7	11.40	54.0	6.9	H
4960.500	34.6	-33.4	34.5	33.47	54.0	19.4	H
7440.000	37.7	-31.8	36.0	33.39	54.0	16.3	H
9919.500	41.0	-29.9	37.4	33.52	54.0	13.0	V
12400.500	43.8	-29.5	39.1	34.21	54.0	10.2	V

**$\pi/4$  DQPSK Ch 0 - Average**

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)
2382.400	46.3	2.9	32.0	11.40	54.0	7.7	V
2386.200	46.3	2.9	32.0	11.41	54.0	7.7	H
4804.500	35.0	-32.8	34.5	33.36	54.0	19.0	H
7206.000	37.9	-31.6	36.1	33.44	54.0	16.1	H
9607.500	40.6	-30.0	37.0	33.63	54.0	13.4	H
12010.500	43.2	-29.8	39.3	33.70	54.0	10.8	H

**$\pi/4$  DQPSK Ch 39 - Average**

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)
2386.750	46.5	2.9	32.0	11.63	54.0	7.5	H
2486.860	46.6	2.9	32.7	11.00	54.0	7.4	V
4882.500	35.3	-32.7	34.5	33.47	54.0	18.7	H
7323.000	37.5	-31.9	36.1	33.36	54.0	16.5	H
9763.500	40.1	-30.6	37.2	33.45	54.0	13.9	H
12205.500	43.6	-29.4	39.2	33.82	54.0	10.4	H

**$\pi/4$  DQPSK Ch 78 - Average**

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)
2483.500	47.1	2.9	32.8	11.40	54.0	6.9	V
2483.800	47.1	2.9	32.8	11.37	54.0	6.9	H
4960.500	34.6	-33.4	34.5	33.51	54.0	19.4	H
7440.000	37.7	-31.8	36.0	33.45	54.0	16.3	H
9919.500	40.9	-29.9	37.4	33.44	54.0	13.1	H
12400.500	43.9	-29.5	39.1	34.22	54.0	10.2	H

**$\pi/4$  DQPSK Ch 0 – Peak**

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)
2380.840	59.4	2.9	32.1	24.47	74.0	14.6	H
2386.048	59.1	2.9	32.0	24.21	74.0	14.9	H
4803.750	38.3	-32.9	34.5	36.62	74.0	35.7	V
7206.000	41.1	-31.6	36.1	36.64	74.0	32.9	H
9608.250	43.7	-30.0	37.0	36.75	74.0	30.3	H
12009.750	45.3	-29.8	39.3	35.86	74.0	28.7	V

**$\pi/4$  DQPSK Ch 39 - Peak**

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)
2374.200	50.5	-26.7	32.1	45.07	74.0	23.5	V
2520.000	50.3	-26.7	32.6	44.38	74.0	23.7	H
4881.750	38.5	-32.7	34.5	36.76	74.0	35.5	H
7323.000	41.5	-31.9	36.1	37.33	74.0	32.5	V
9764.250	43.2	-30.6	37.2	36.54	74.0	30.8	V
12204.750	45.3	-29.4	39.2	35.51	74.0	28.7	V

**$\pi/4$  DQPSK Ch 78 - Peak**

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)
2484.600	60.1	2.9	32.7	24.44	74.0	13.9	H
2489.550	60.0	2.9	32.6	24.48	74.0	14.0	H
4960.500	40.0	-33.4	34.5	38.83	74.0	34.0	V
7440.000	40.7	-31.8	36.0	36.48	74.0	33.3	V
9920.250	45.7	-29.9	37.4	38.25	74.0	28.3	V
12399.750	44.4	-29.5	39.1	34.78	74.0	29.6	H



### 8DPSK Ch 0 - Average

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
2381.484	59.2	2.9	32.0	24.29	74.0	14.8	H
2385.320	59.6	2.9	32.0	24.72	74.0	14.4	V
4803.750	38.0	-32.9	34.5	36.31	74.0	36.0	H
7206.000	40.4	-31.6	36.1	35.90	74.0	33.6	H
9608.250	43.7	-30.0	37.0	36.71	74.0	30.3	H
12009.750	45.7	-29.8	39.3	36.27	74.0	28.3	H

### 8DPSK Ch 39 - Average

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
2346.600	48.9	-27.6	31.6	44.92	74.0	25.1	H
2539.400	51.9	-26.8	32.9	45.77	74.0	22.1	V
4881.750	39.3	-32.7	34.5	37.51	74.0	34.7	H
7323.000	41.3	-31.9	36.1	37.13	74.0	32.7	H
9764.250	42.4	-30.6	37.2	35.79	74.0	31.6	H
12204.750	46.3	-29.4	39.2	36.52	74.0	27.7	H

### 8DPSK Ch 78 - Average

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
2489.160	60.1	2.9	32.6	24.52	74.0	13.9	H
2492.270	60.0	2.9	32.5	24.51	74.0	14.0	H
4960.500	38.1	-33.4	34.5	36.98	74.0	35.9	H
7440.000	42.0	-31.8	36.0	37.76	74.0	32.0	H
9920.250	45.1	-29.9	37.4	37.59	74.0	28.9	H
12399.750	45.2	-29.5	39.1	35.60	74.0	28.8	H

### 8DPSK Ch 0 – Peak

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
2382.772	59.1	2.9	32.0	24.20	74.0	14.9	H
2388.190	59.1	2.9	32.0	24.24	74.0	14.9	V
4803.750	38.1	-32.9	34.5	36.49	74.0	35.9	H
7206.000	40.3	-31.6	36.1	35.86	74.0	33.7	V
9608.250	43.0	-30.0	37.0	36.00	74.0	31.0	H
12009.750	46.0	-29.8	39.3	36.49	74.0	28.0	H

### 8DPSK Ch 39 - Peak

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
2369.400	51.0	-27.0	32.0	46.02	74.0	23.0	V
2519.400	51.0	-26.7	32.6	45.09	74.0	23.0	H
4881.750	39.1	-32.7	34.5	37.33	74.0	34.9	V
7323.000	40.5	-31.9	36.1	36.33	74.0	33.5	V
9764.250	43.9	-30.6	37.2	37.28	74.0	30.1	V
12204.750	45.4	-29.4	39.2	35.58	74.0	28.6	V

### 8DPSK Ch 78 - Peak

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
2484.060	60.0	2.9	32.7	24.31	74.0	14.0	H
2488.000	60.3	2.9	32.6	24.69	74.0	13.7	H
4960.500	37.4	-33.4	34.5	36.25	74.0	36.6	V
7440.000	40.9	-31.8	36.0	36.64	74.0	33.1	H
9920.250	43.9	-29.9	37.4	36.45	74.0	30.1	H
12399.750	45.0	-29.5	39.1	35.34	74.0	29.0	V

**Conclusion: PASS**

**Test graphs as below for Set.10:**

RE - Power-2.38GHz-2.45GHz

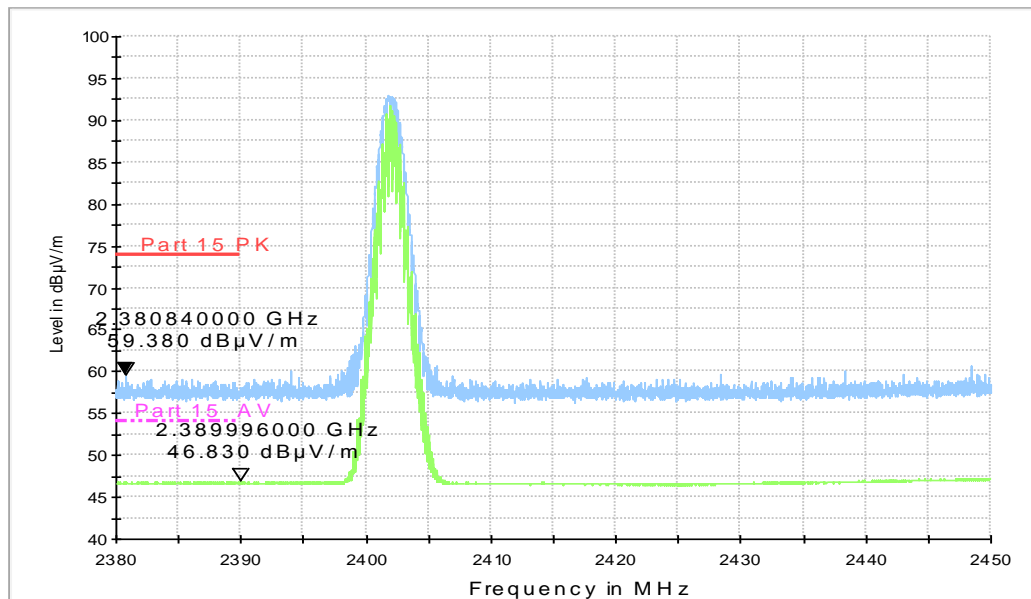


Fig.58. Radiated emission (Power): GFSK, low channel

RE - Power-2.45GHz-2.5GHz

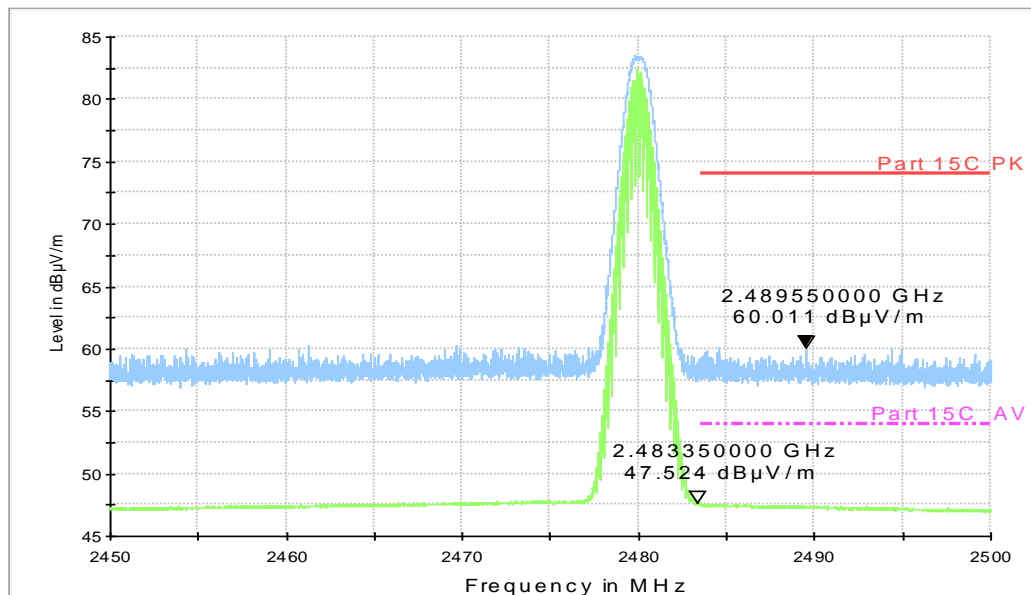


Fig.59. Radiated emission (Power) GFSK, high channel

RE - Power-2.38GHz-2.45GHz

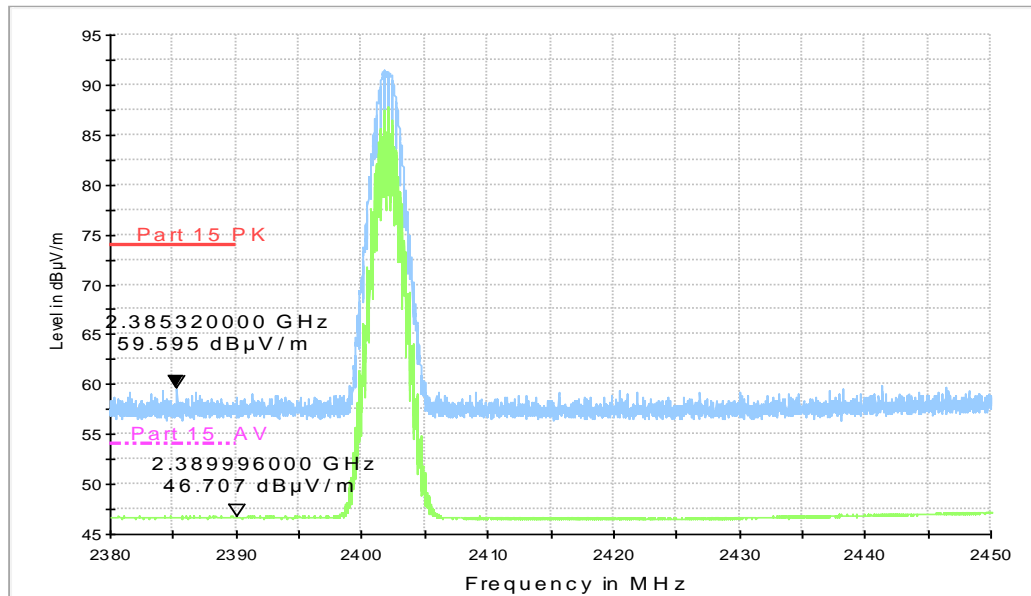


Fig.60. Radiated emission (Power):  $\pi/4$  DQPSK, low channel

RE - Power-2.45GHz-2.5GHz

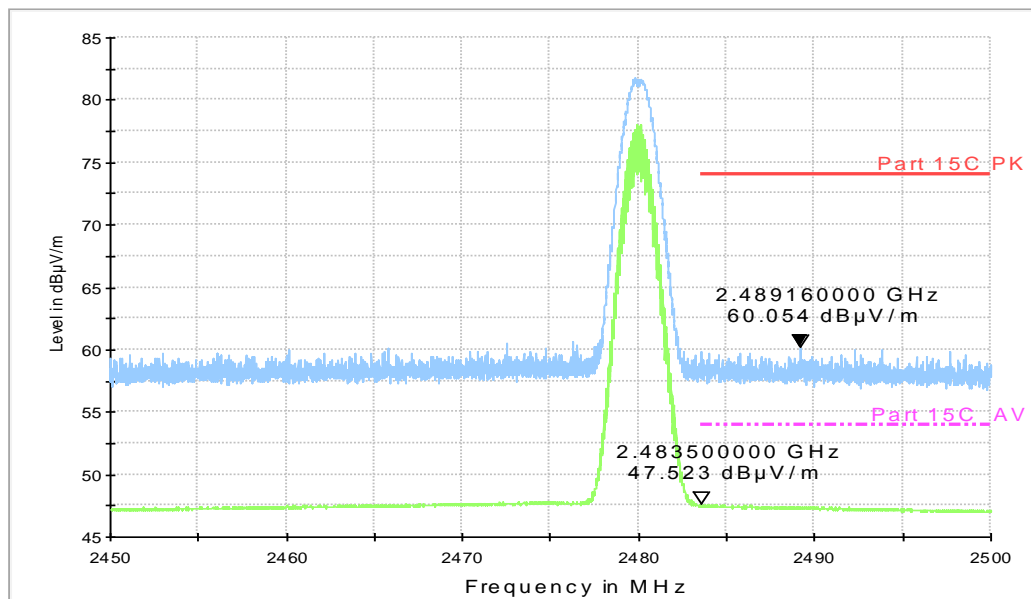


Fig.61. Radiated emission (Power):  $\pi/4$  DQPSK, high channel

RE - Power-2.38GHz-2.45GHz

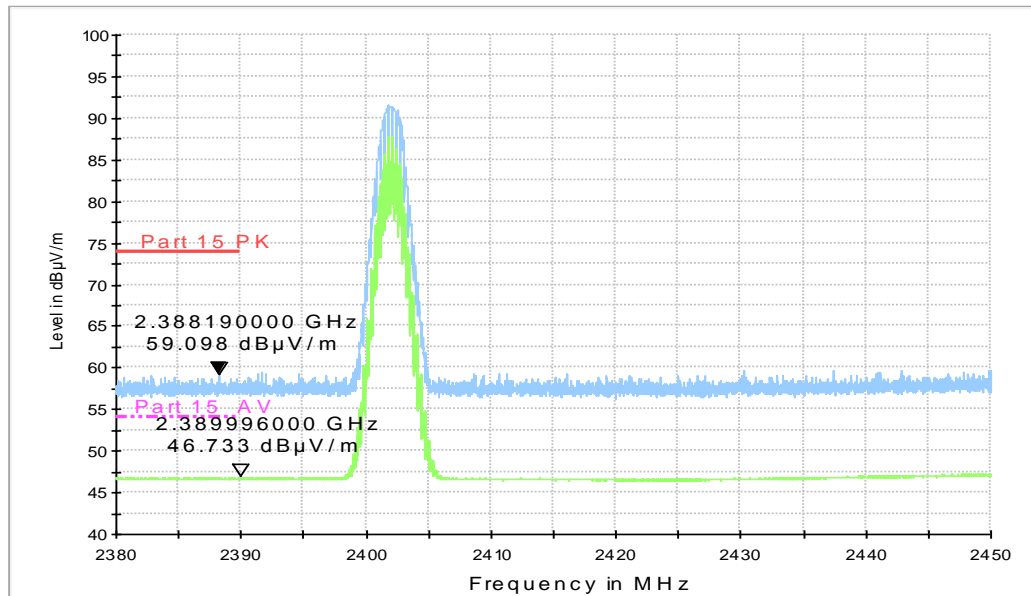


Fig.62. Radiated emission (Power): 8DPSK, low channel

RE - Power-2.45GHz-2.5GHz

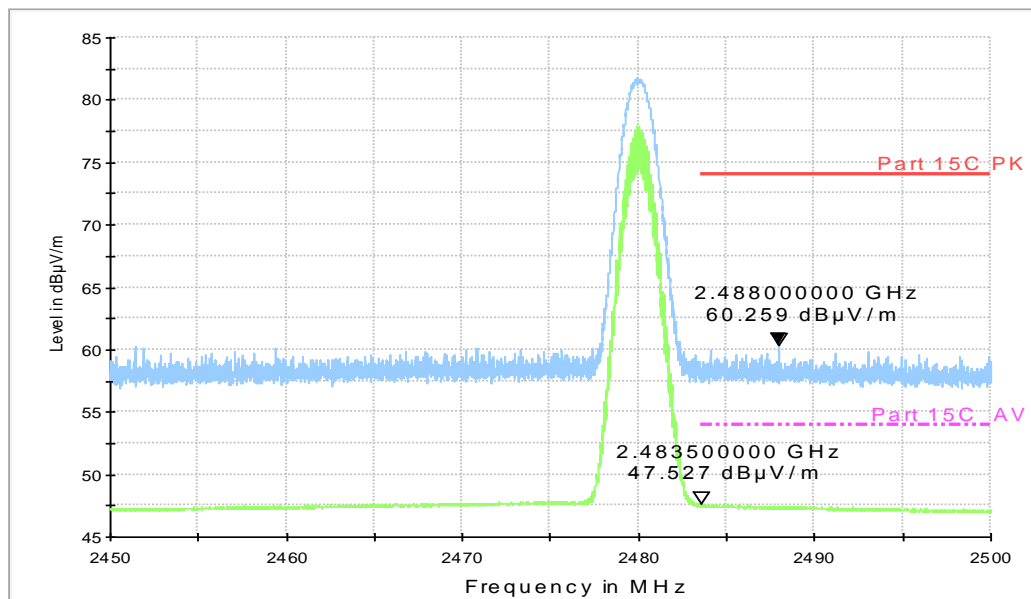


Fig.63. Radiated emission (Power): 8DPSK, high channel

## A.6. Time of Occupancy (Dwell Time)

### Method of Measurement: See ANSI C63.10-clause 7.8.4

The EUT must have its hopping function enabled. Use the following spectrum analyzer settings:

- Span = zero span, centered on a hopping channel
- RBW = 1 MHz
- VBW  $\geq$  RBW
- Sweep = as necessary to capture the entire dwell time per hopping channel
- Detector function = peak
- Trace = max hold

Measure a pulse time in time domain at middle frequency and then count the hopping number in 31.6s(which equals with 0.4 multiply 79) of middle frequency ,then multiply the pulse time and hopping number and record them.

### Measurement Limit:

Standard	Limit (ms)
FCC 47 CFR Part 15.247(a) (1)(iii)	< 400

### Measurement Result:

#### For GFSK

Channel	Packet	Dwell Time (ms)		Conclusion
39	DH1	Fig.64	118.32	P
	DH3	Fig.65	260.12	P
	DH5	Fig.66	306.56	P

#### For $\pi/4$ DQPSK

Channel	Packet	Dwell Time (ms)		Conclusion
39	DH1	Fig.67	120.60	P
	DH3	Fig.68	260.65	P
	DH5	Fig.69	307.01	P

#### For 8DPSK

Channel	Packet	Dwell Time (ms)		Conclusion
39	DH1	Fig.70	120.91	P
	DH3	Fig.71	260.46	P

	DH5	Fig.72	306.72	P
--	-----	--------	--------	---

**Conclusion: PASS**

**Test graphs as below:**

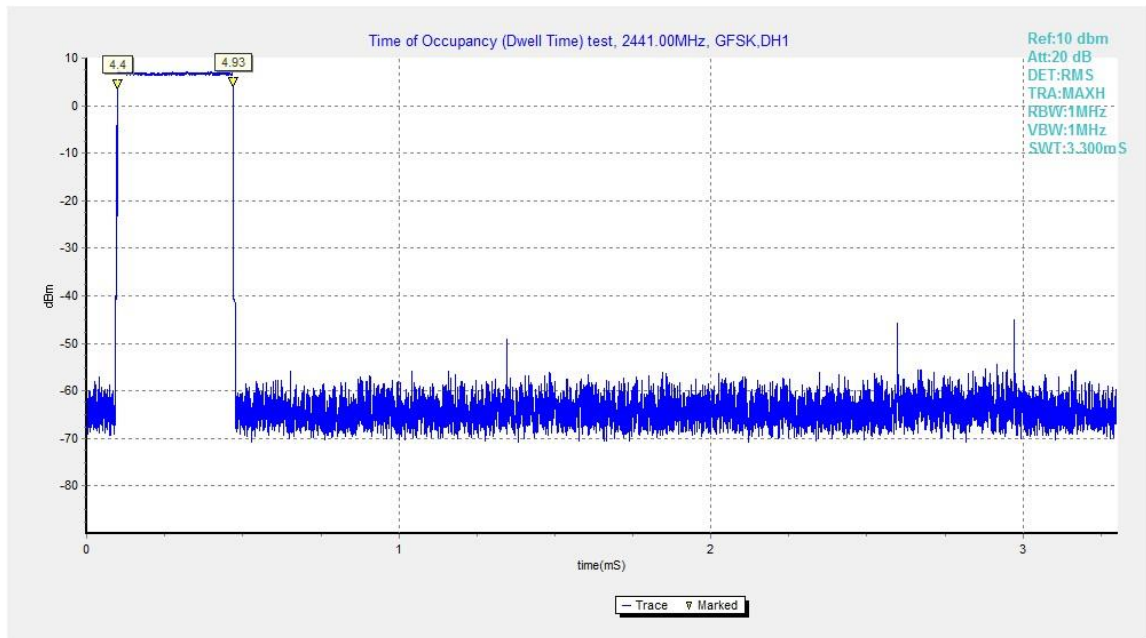


Fig.64. Time of occupancy (Dwell Time): Channel 39, Packet DH1

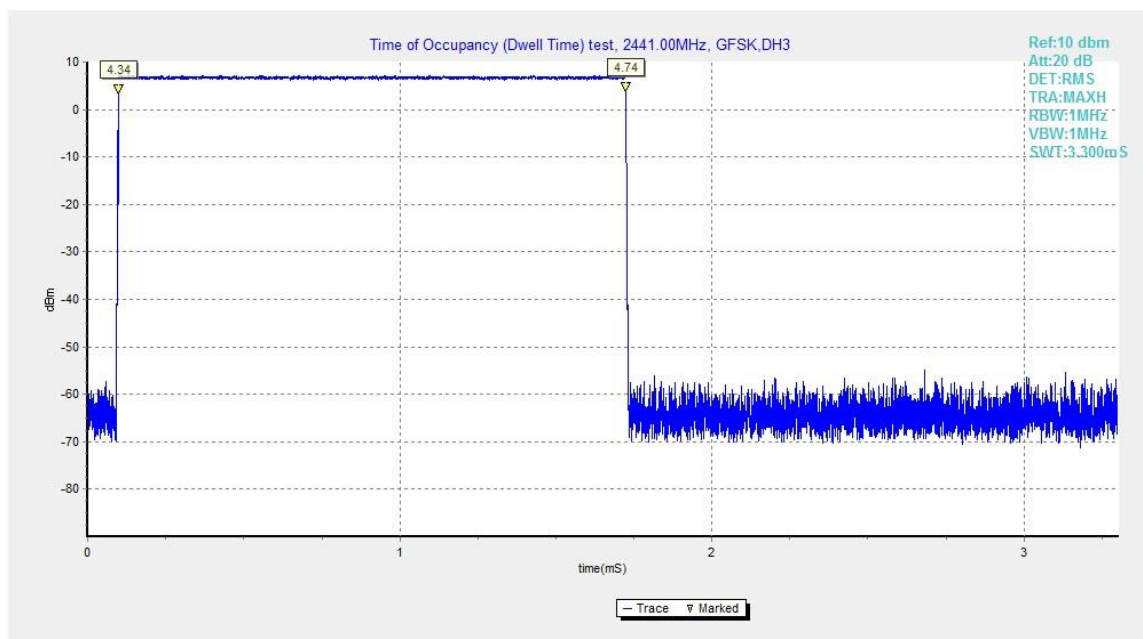


Fig.65. Time of occupancy (Dwell Time): Channel 39, Packet DH3



Fig.66. Time of occupancy (Dwell Time): Channel 39, Packet DH5

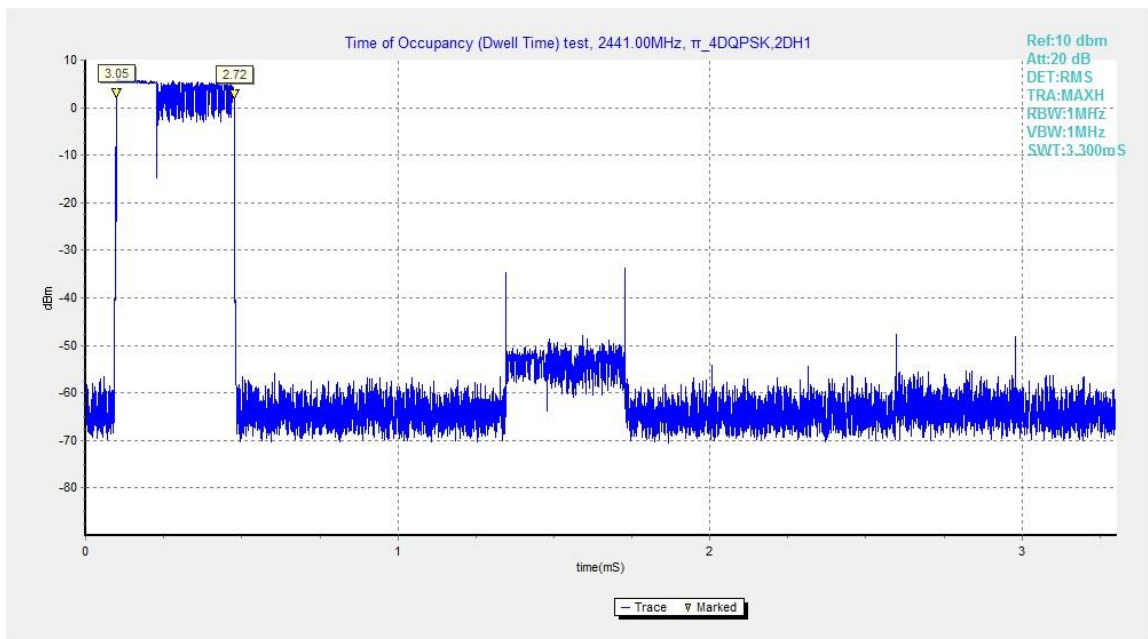


Fig.67. Time of occupancy (Dwell Time): Channel 39, Packet 2-DH1



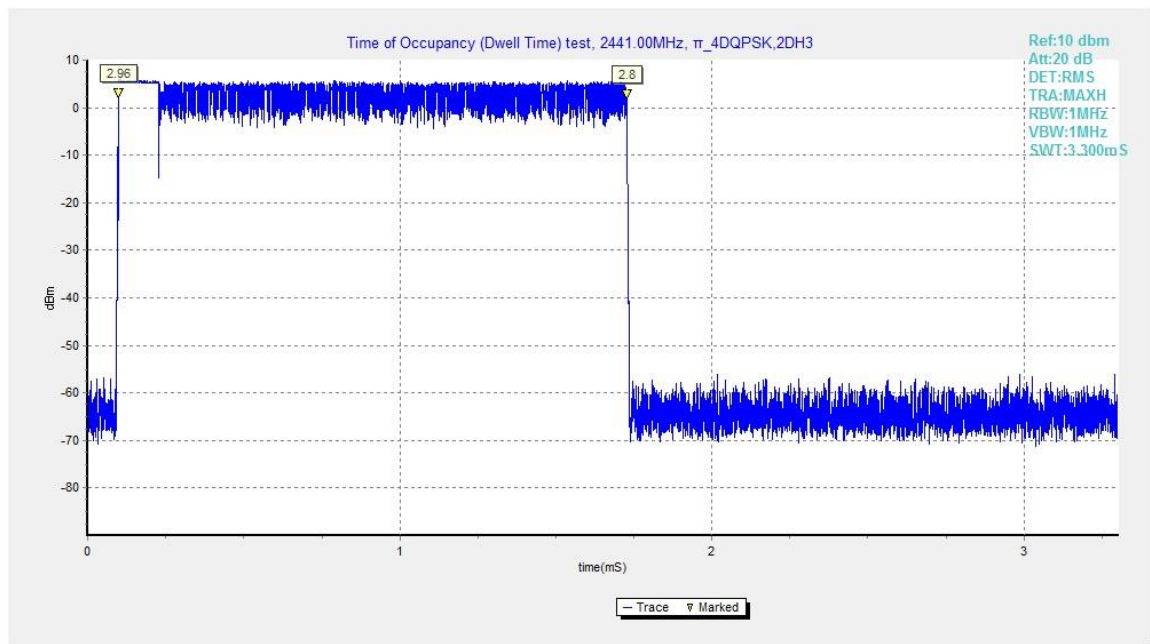


Fig.68. Time of occupancy (Dwell Time): Channel 39, Packet 2-DH3

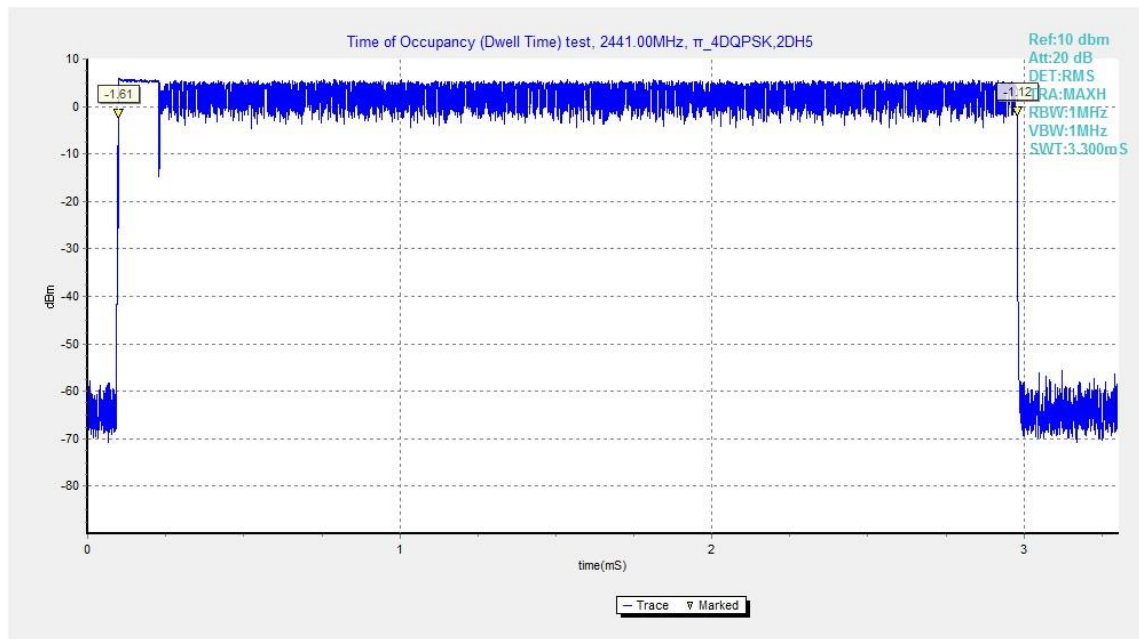


Fig.69. Time of occupancy (Dwell Time): Channel 39, Packet 2-DH5

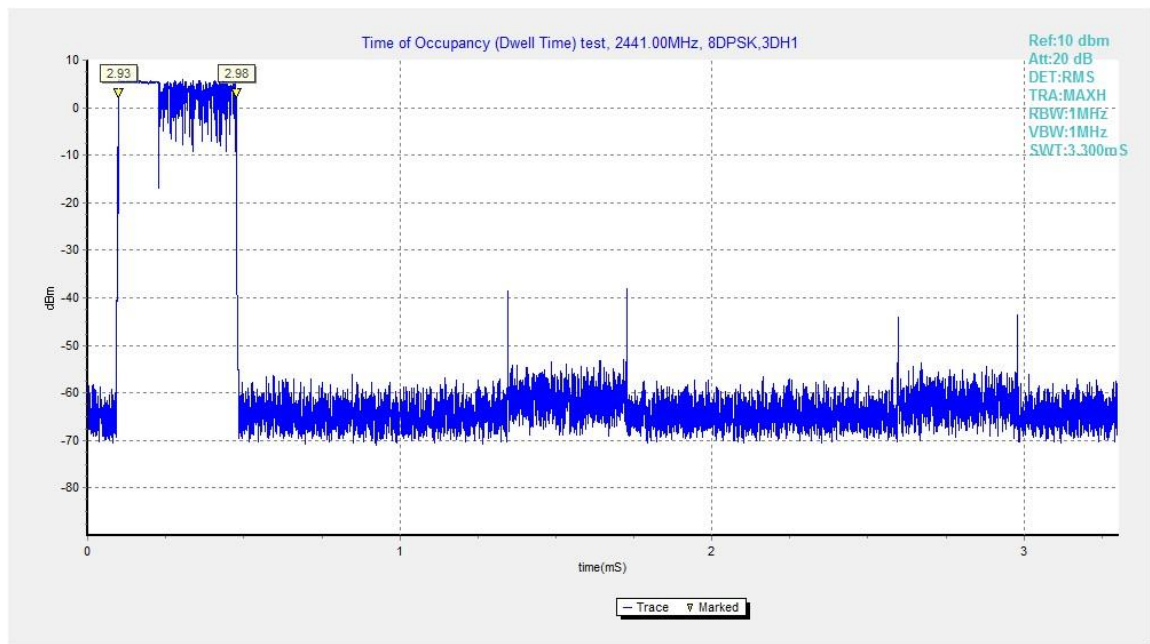


Fig.70. Time of occupancy (Dwell Time): Channel 39, Packet 3-DH1

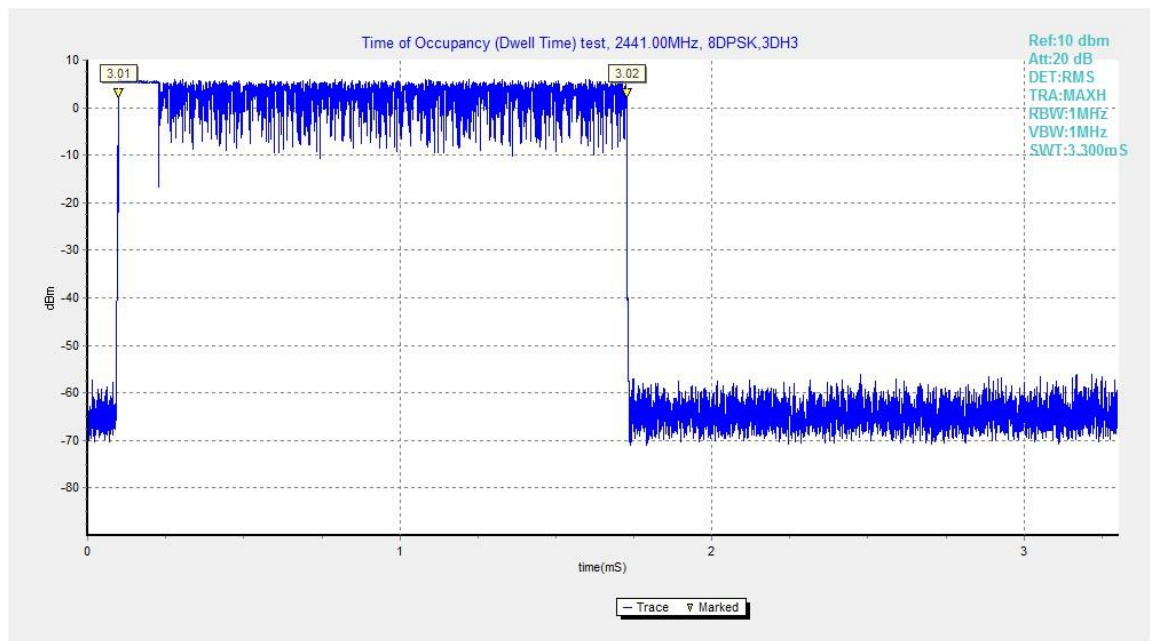


Fig.71. Time of occupancy (Dwell Time): Channel 39, Packet 3-DH3

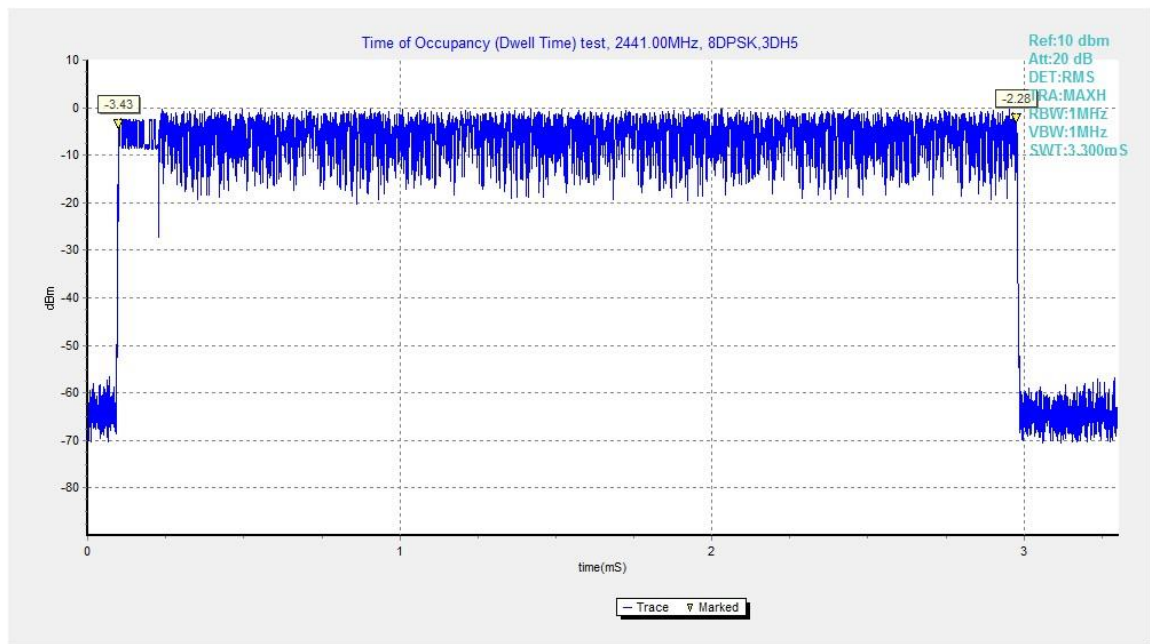


Fig.72. Time of occupancy (Dwell Time): Channel 39, Packet 3-DH5

## A.7. 20dB Bandwidth

### Method of Measurement: See ANSI C63.10-clause 6.9.2

Measurement Procedure - Unwanted Emissions

1. Set RBW = 30kHz.
2. Set VBW = 100 kHz.
3. Set span to 3MHz
4. Detector = peak.
5. Trace Mode = max hold.
6. Sweep = auto couple.
7. Allow the trace to stabilize (this may take some time, depending on the extent of the span).

### Measurement Limit:

Standard	Limit
FCC 47 CFR Part 15.247(a)(1)	NA *

Use NdB Down function of the SA to measure the 20dB Bandwidth

\* Comment: This test case is not required according to the latest FCC 47 CFR Part 15.247. But the test results are necessary for “carrier frequency separation” test case, in Annex A.8.

### Measurement Results:

#### For GFSK

Channel	20dB Bandwidth (kHz)		Conclusion
0	Fig.73	950.00	NA
39	Fig.74	949.00	NA
78	Fig.75	946.00	NA

#### For $\pi/4$ DQPSK

Channel	20dB Bandwidth (kHz)		Conclusion
0	Fig.76	1291.00	NA
39	Fig.77	1285.00	NA
78	Fig.78	1279.00	NA

#### For 8DPSK

Channel	20dB Bandwidth (kHz)		Conclusion
0	Fig.79	1264.00	NA
39	Fig.80	1292.00	NA
78	Fig.81	1269.00	NA

**Conclusion: NA**

**Test graphs as below:**

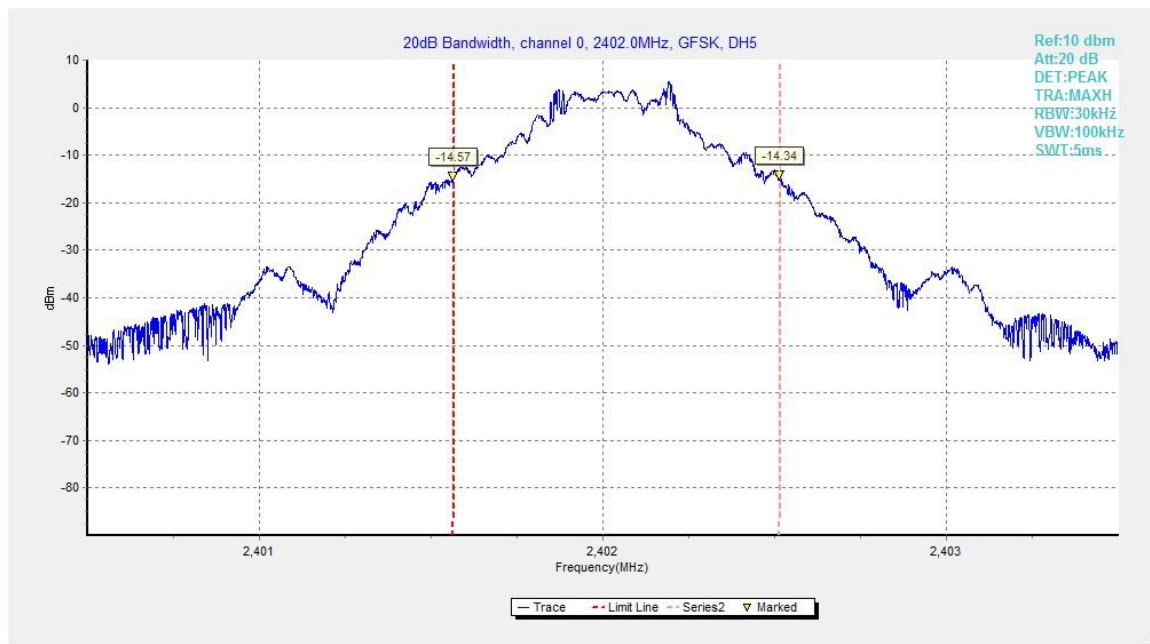


Fig.73. 20dB Bandwidth: GFSK, Channel 0

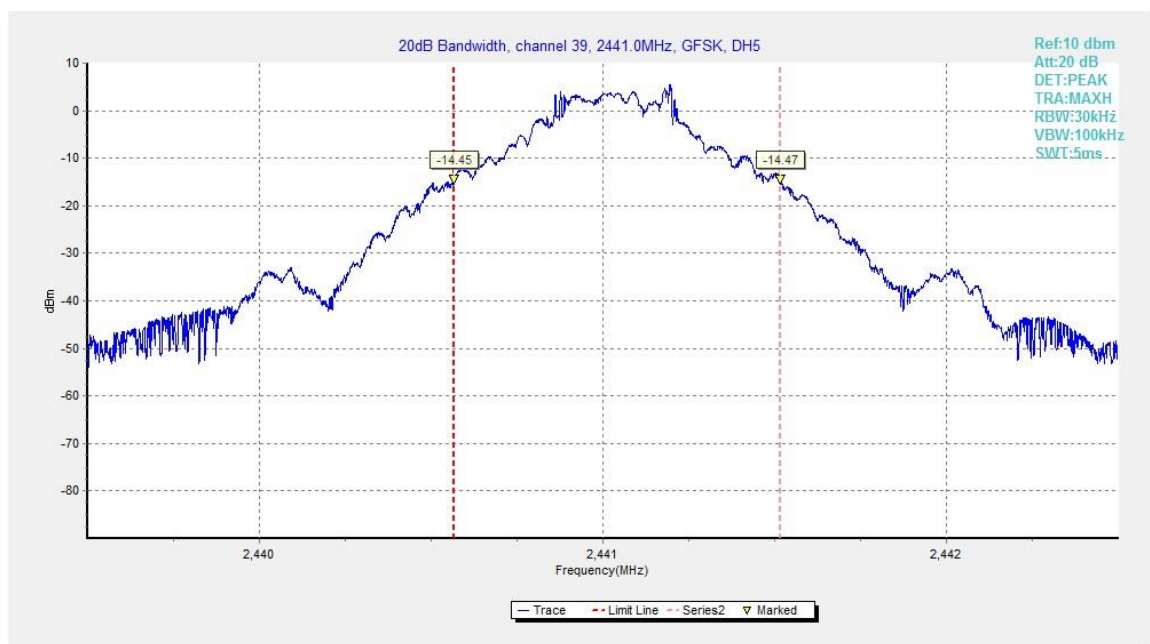


Fig.74. 20dB Bandwidth: GFSK, Channel 39

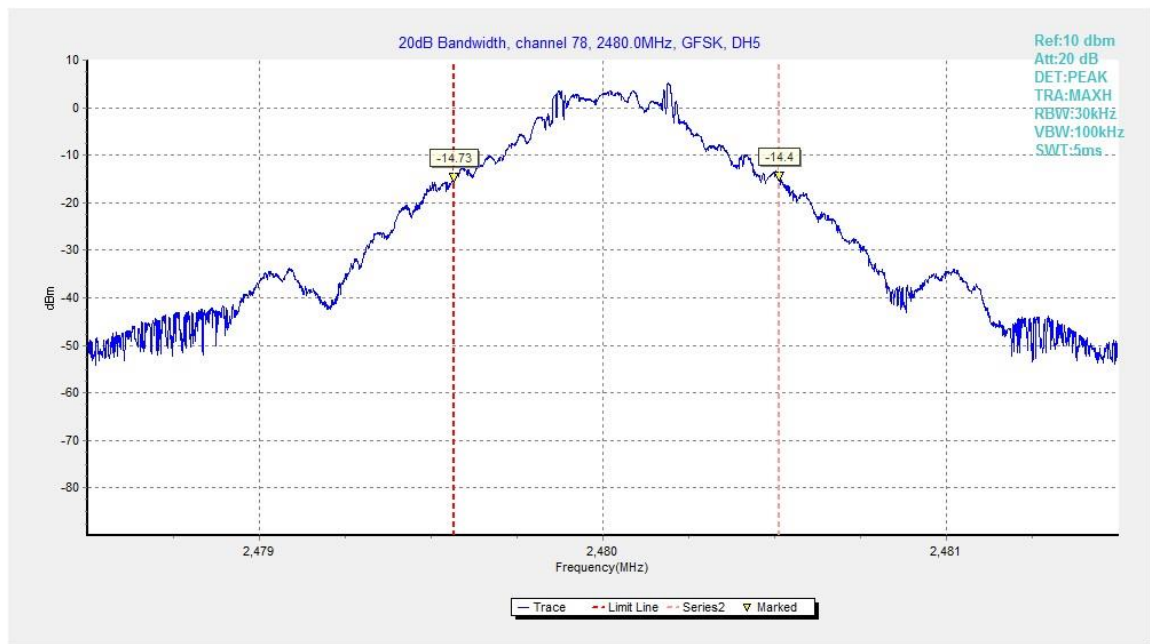


Fig.75. 20dB Bandwidth: GFSK, Channel 78

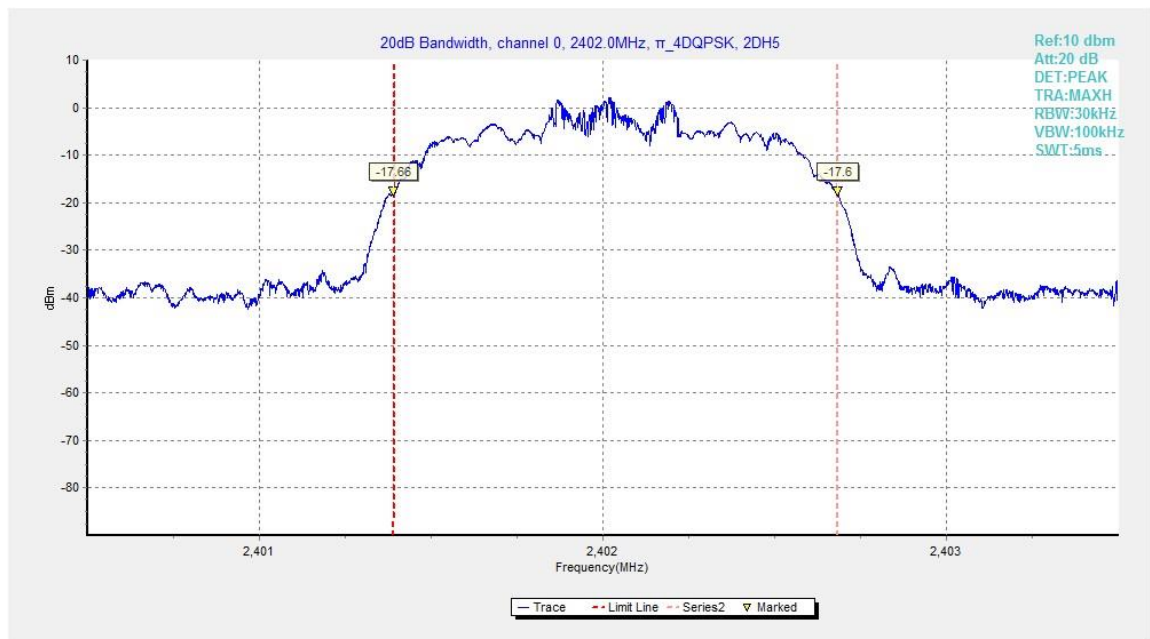


Fig.76. 20dB Bandwidth:  $\pi/4$  DQPSK, Channel 0



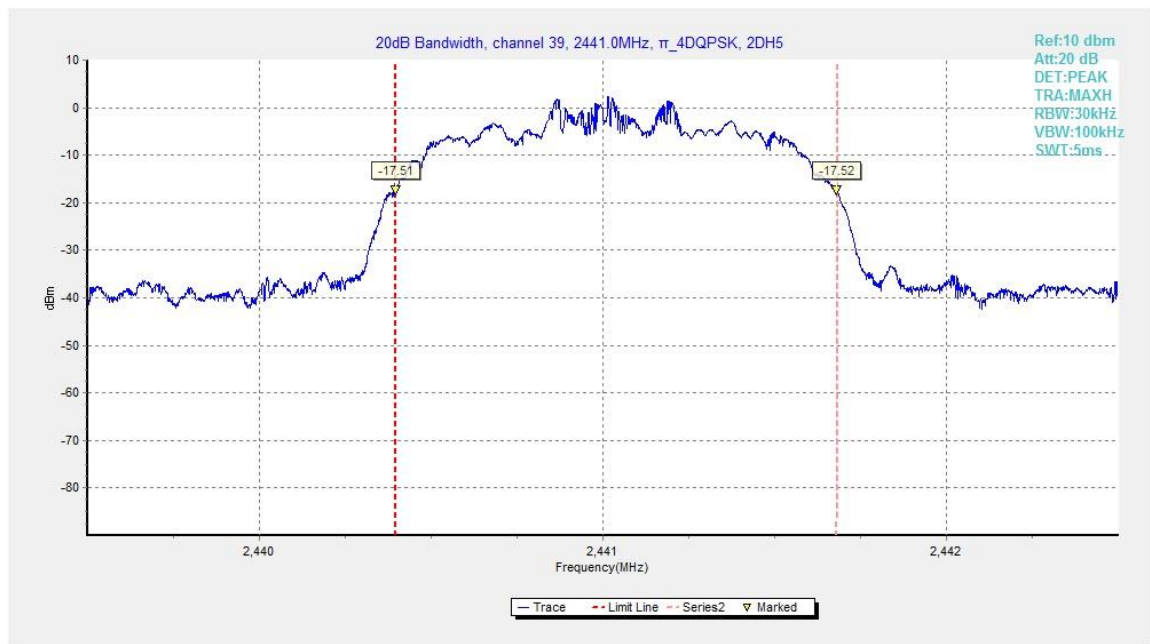


Fig.77. 20dB Bandwidth:  $\pi/4$  DQPSK, Channel 39

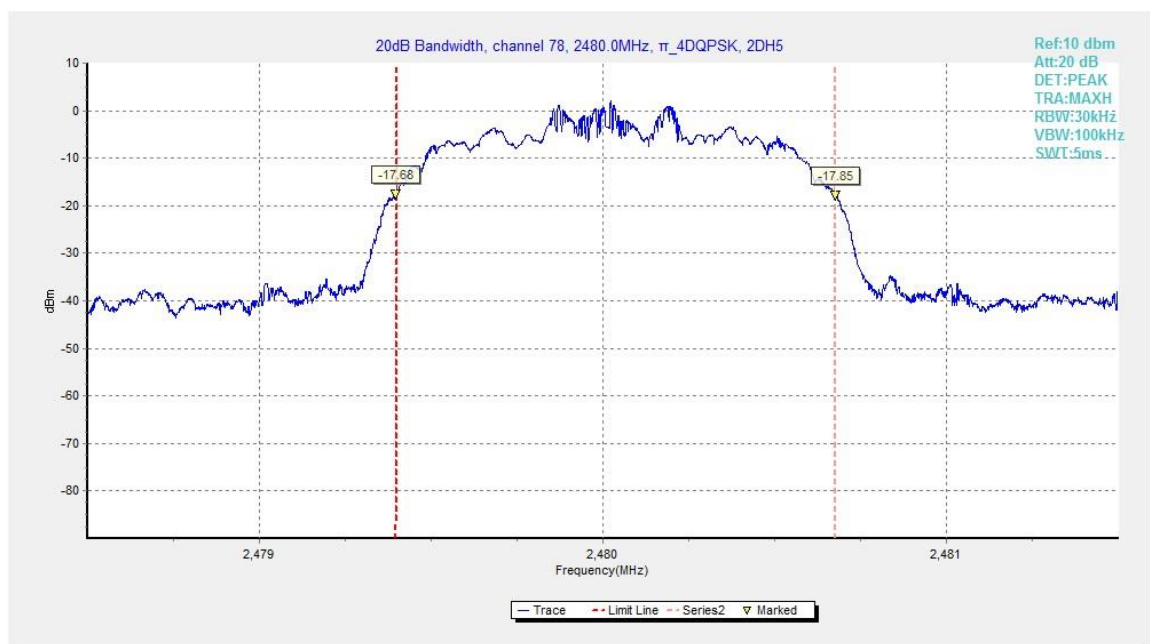


Fig.78. 20dB Bandwidth:  $\pi/4$  DQPSK, Channel 78

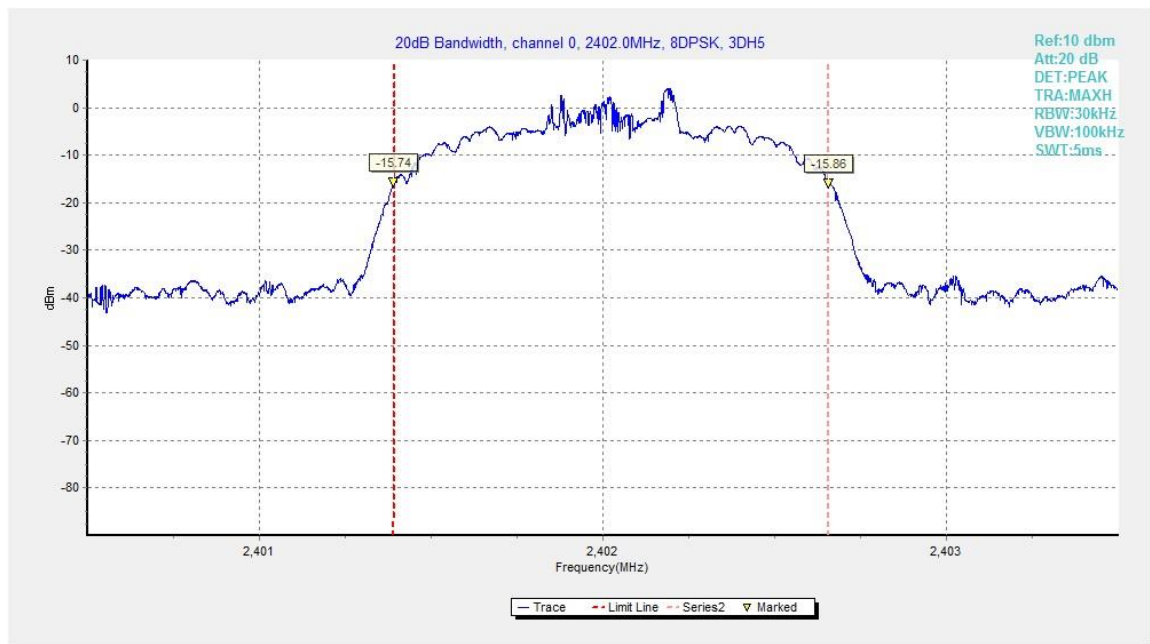


Fig.79. 20dB Bandwidth: 8DPSK, Channel 0

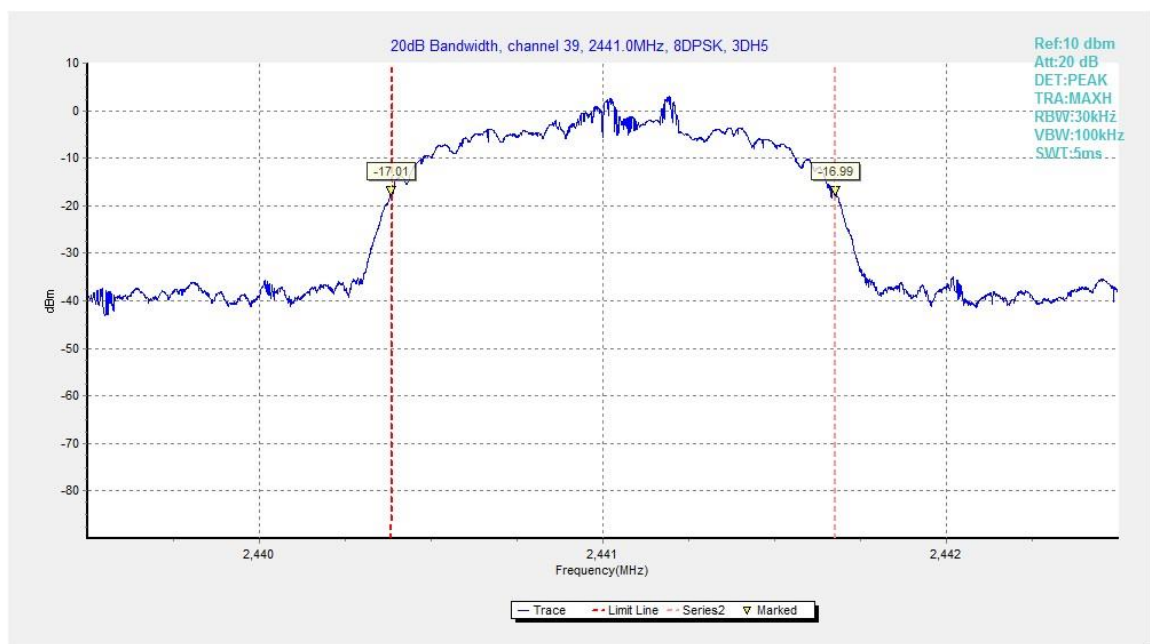


Fig.80. 20dB Bandwidth: 8DPSK, Channel 39



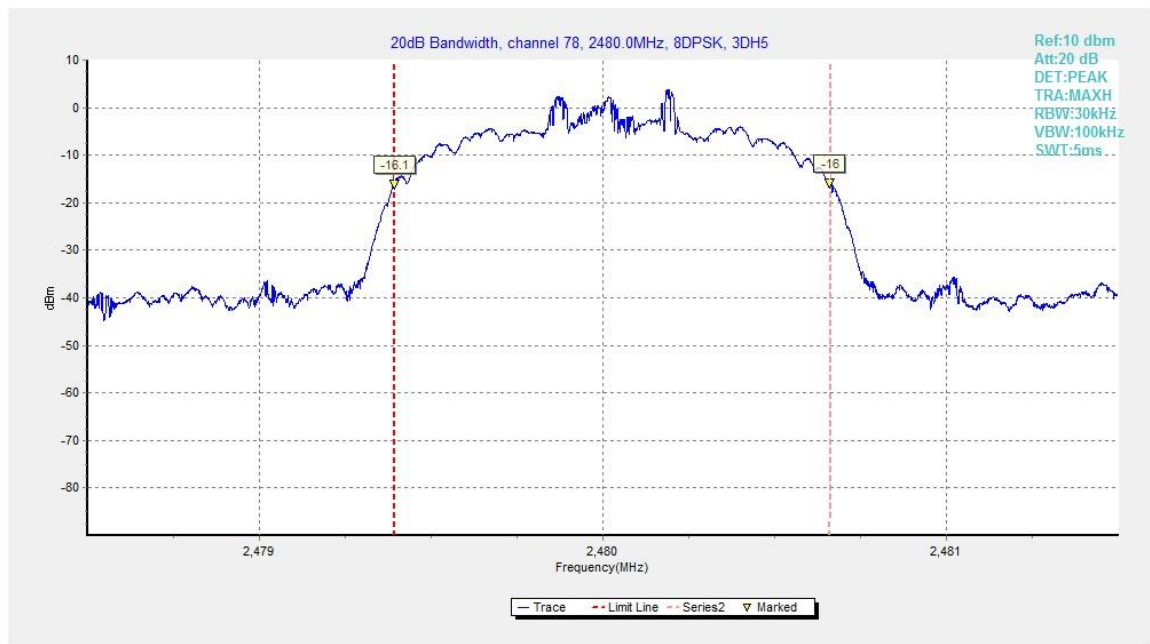


Fig.81. 20dB Bandwidth: 8DPSK, Channel 78

## A.8. Carrier Frequency Separation

**Method of Measurement: See ANSI C63.10-clause 7.8.2**

The EUT must have its hopping function enabled. Use the following spectrum analyzer settings:

- Span = 3MHz
- RBW=300kHz
- VBW=300kHz
- Sweep = auto
- Detector function = peak
- Trace = max hold
- Allow the trace to stabilize

Search the peak marks of the middle frequency and adjacent channel, then record the separation between them.

\* Comment: This limit should be over 25 kHz or  $(2/3) * 20\text{dB}$  bandwidth, whichever is greater.

### Measurement Limit:

Standard	Limit(kHz)
FCC 47 CFR Part 15.247(a)(1)	over 25 kHz or $(2/3) * 20\text{dB}$ bandwidth

### Measurement Result:

#### For GFSK

Channel	Carrier frequency separation (kHz)		Conclusion
39	Fig.82	1311.00	P

#### For $\pi/4$ DQPSK

Channel	Carrier frequency separation (kHz)		Conclusion
39	Fig.83	1144.00	P

#### For 8DPSK

Channel	Carrier frequency separation (kHz)		Conclusion
39	Fig.84	998.00	P

**Conclusion: PASS**

**Test graphs as below:**

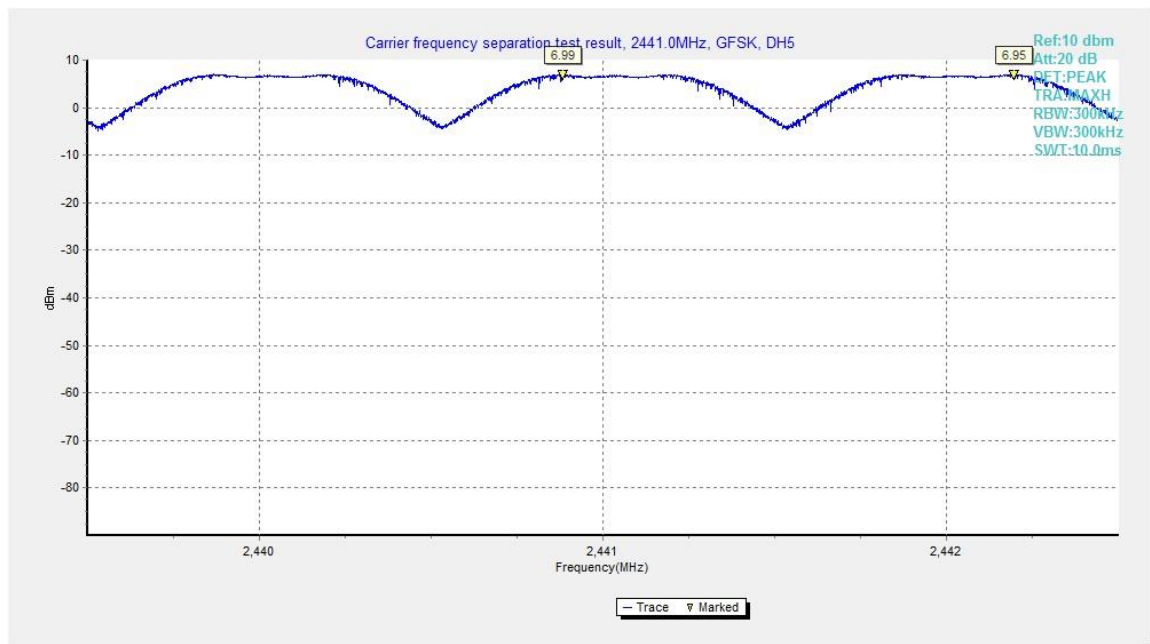


Fig.82. Carrier frequency separation measurement: GFSK, Channel 39

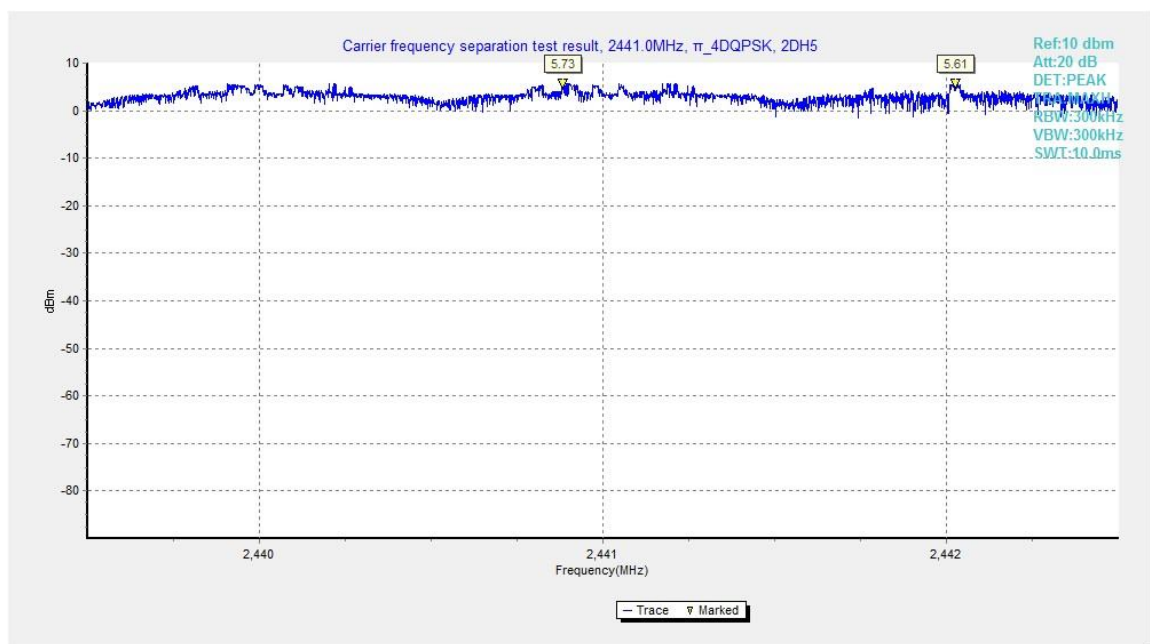


Fig.83. Carrier frequency separation measurement:  $\pi/4$  DQPSK, Channel 39

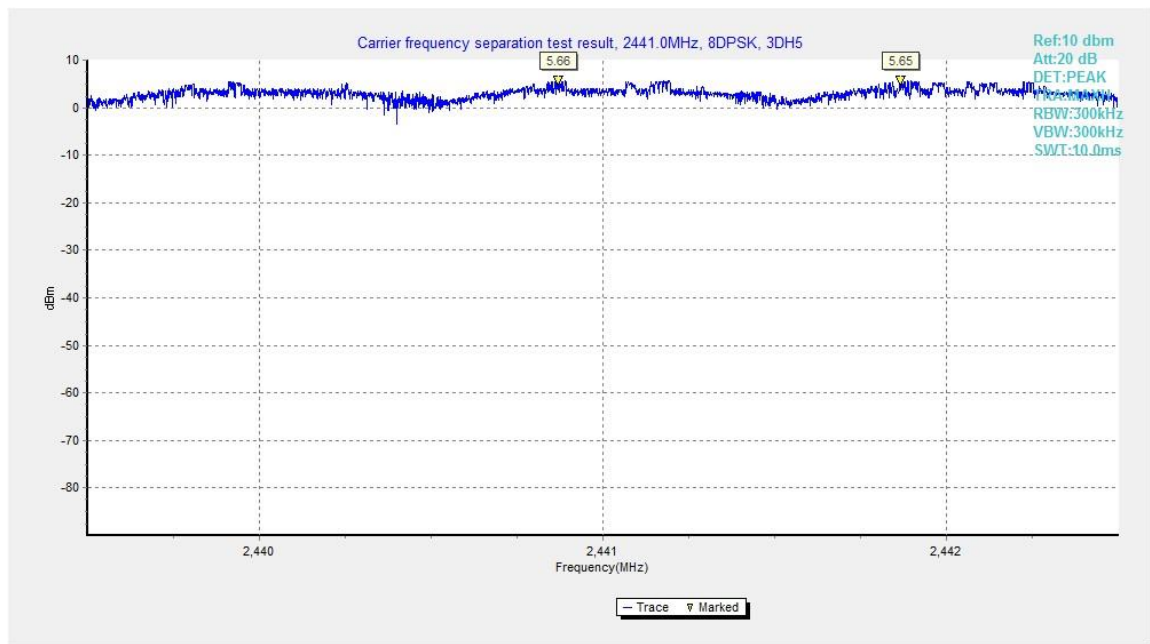


Fig.84. Carrier frequency separation measurement: 8DPSK, Channel 39

## A.9. Number of Hopping Channels

### Method of Measurement: See ANSI C63.10-clause 7.8.3

The EUT must have its hopping function enabled. Use the following spectrum analyzer settings:

- Span = the frequency band of operation
- RBW = 500kHz
- VBW = 500kHz
- Sweep = auto
- Detector function = peak
- Trace = max hold
- Allow the trace to stabilize

It might prove necessary to break the span up into subranges to show clearly all of the hopping frequencies. Compliance of an EUT with the appropriate regulatory limit shall be determined for the number of hopping channels. A plot of the data shall be included in the test report.

### Measurement Limit:

Standard	Limit
FCC 47 CFR Part 15.247(a) (1)(iii)	At least 15 non-overlapping channels

### Measurement Result:

#### For GFSK

Channel	Number of hopping channels		Conclusion
0~39	Fig.85	79	P
40~78	Fig.86		

#### For $\pi/4$ DQPSK

Channel	Number of hopping channels		Conclusion
0~39	Fig.87	79	P
40~78	Fig.88		

#### For 8DPSK

Channel	Number of hopping channels		Conclusion
0~39	Fig.89	79	P
40~78	Fig.90		

**Conclusion: PASS**

**Test graphs as below:**

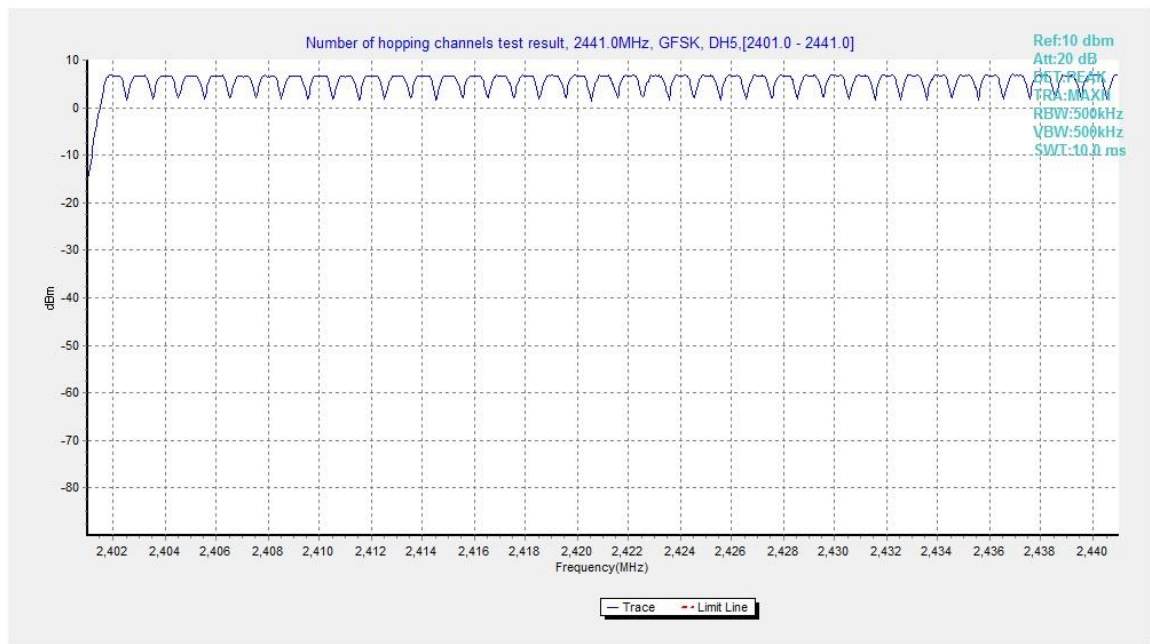


Fig.85. Number of hopping frequencies: GFSK, Channel 0 - 39

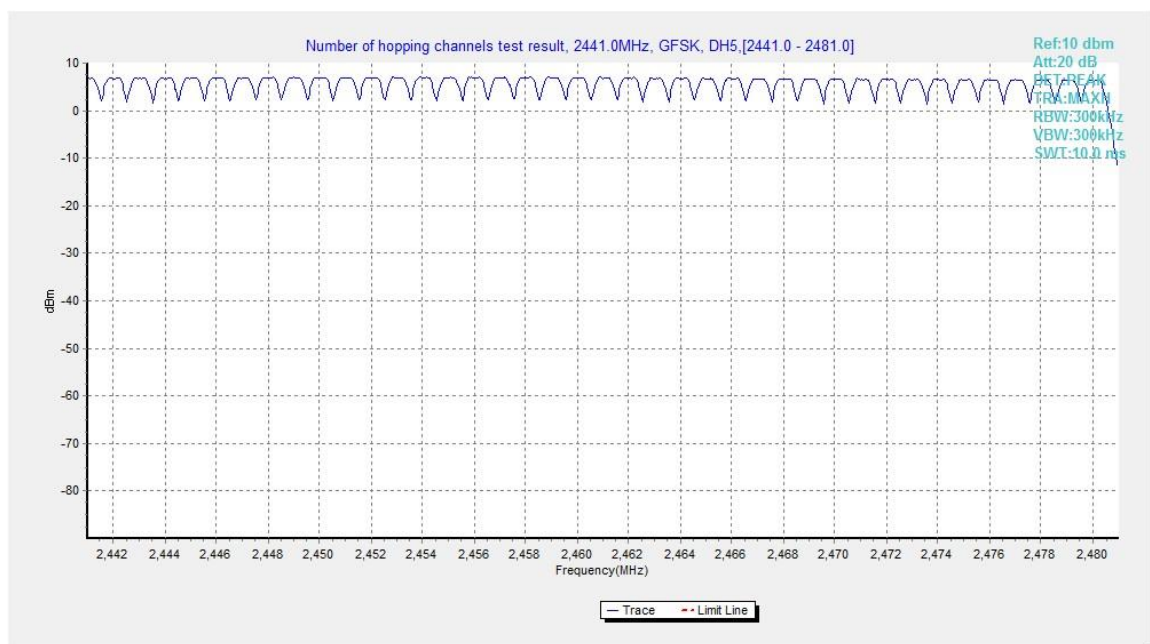


Fig.86. Number of hopping frequencies: GFSK, Channel 40 - 78

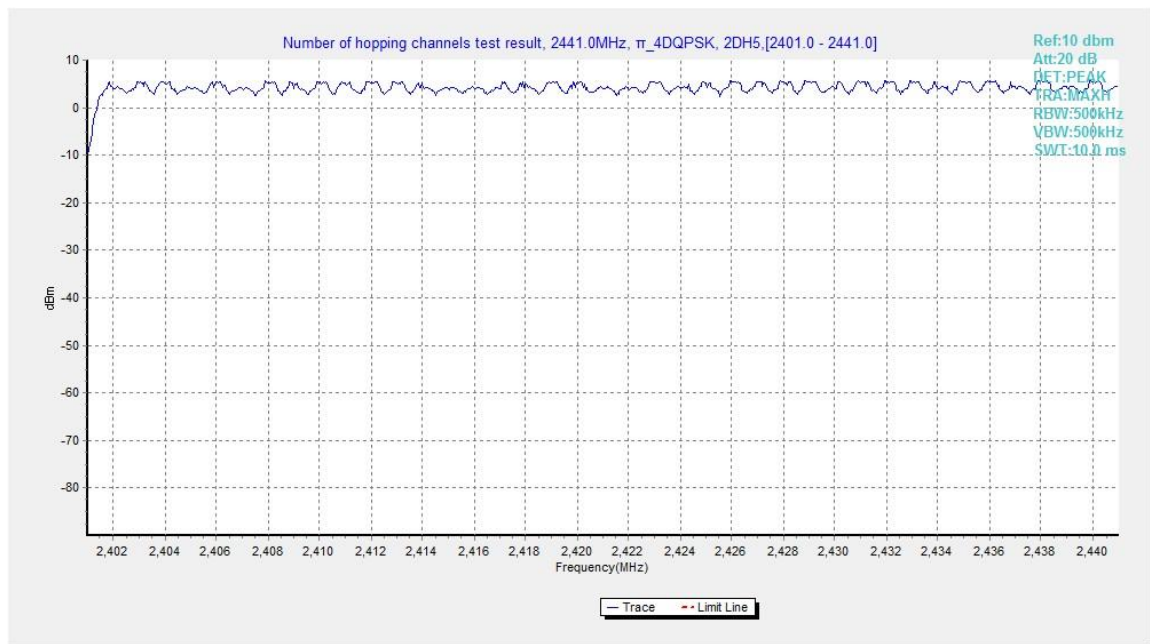


Fig.87. Number of hopping frequencies:  $\pi/4$  DQPSK, Channel 0 - 39

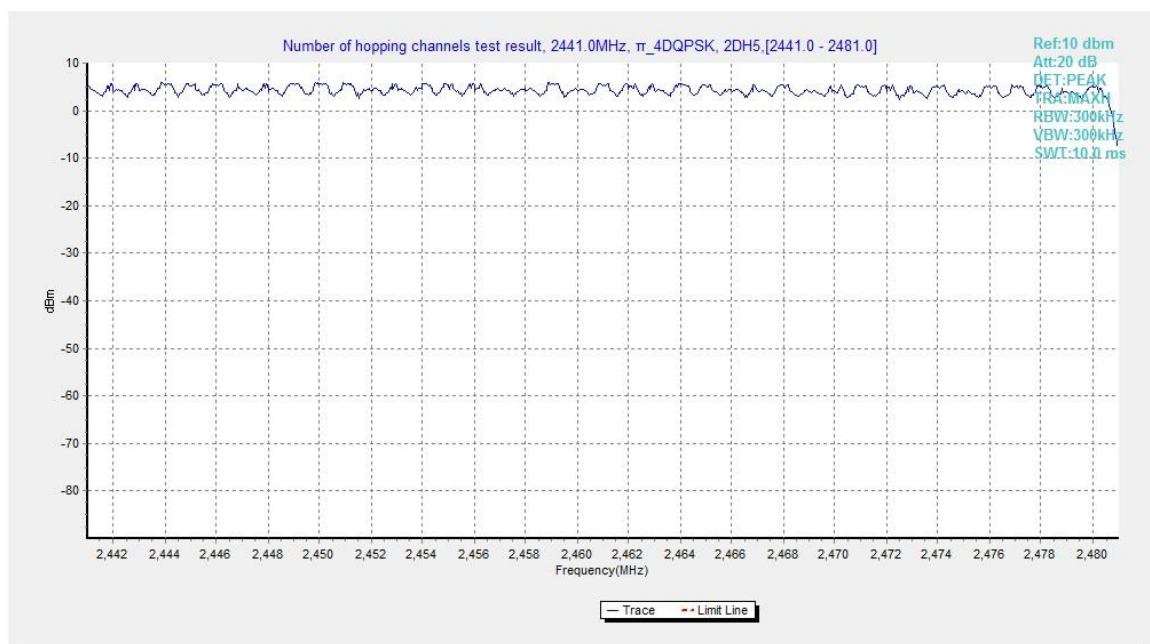


Fig.88. Number of hopping frequencies:  $\pi/4$  DQPSK, Channel 40 - 78



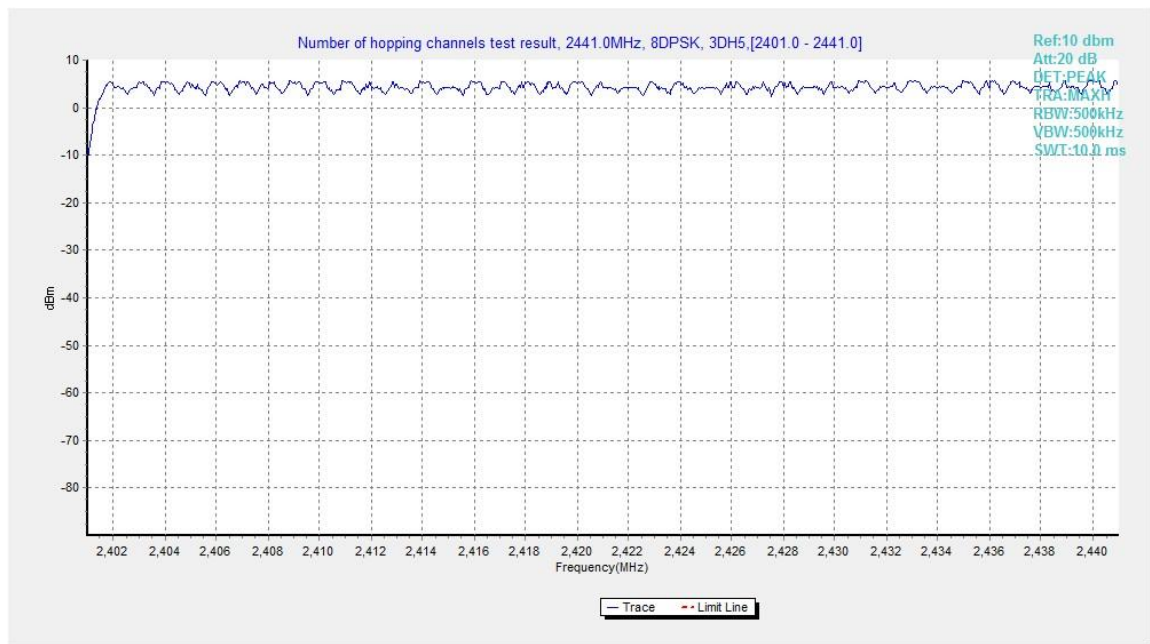


Fig.89. Number of hopping frequencies: 8DPSK, Channel 0 - 39

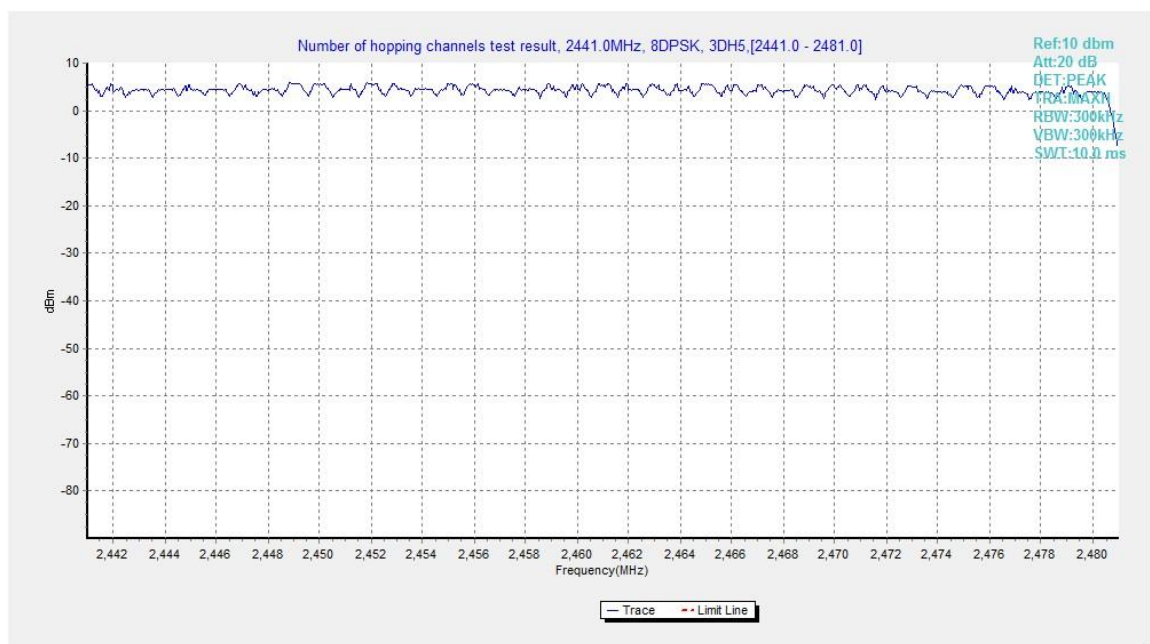


Fig.90. Number of hopping frequencies: 8DPSK, Channel 40 - 78



**A.10. AC Powerline Conducted Emission****Test Condition**

Voltage (V)	Frequency (Hz)
120	60

**Measurement Result and limit:****Bluetooth (Quasi-peak Limit)**

Frequency range (MHz)	Quasi-peak Limit (dBμV)	Conclusion
0.15 to 0.5	66 to 56	P
0.5 to 5	56	
5 to 30	60	
NOTE: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.		

**Bluetooth (Average Limit)**

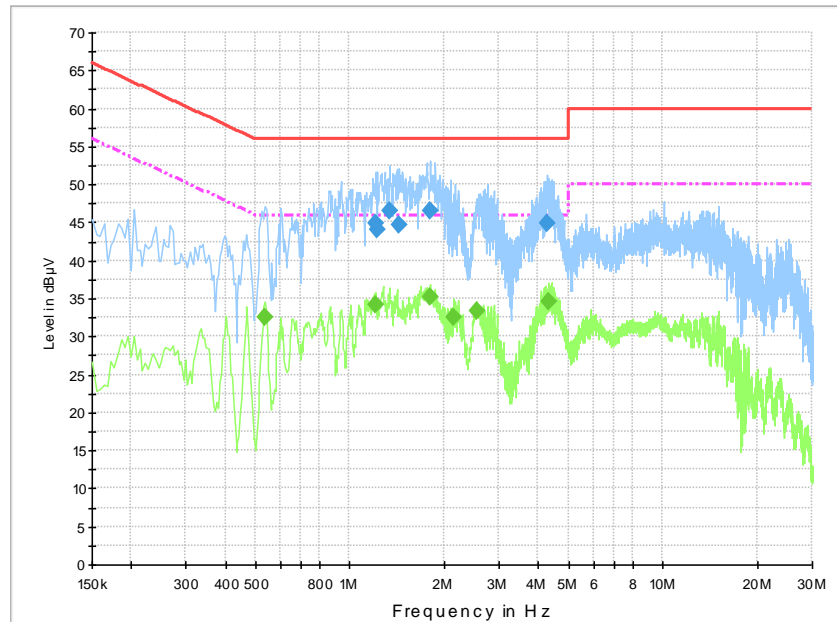
Frequency range (MHz)	Average Limit (dBμV)	Conclusion
0.15 to 0.5	56 to 46	P
0.5 to 5	46	
5 to 30	50	
NOTE: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.		

The measurement is made according to ANSI C63.10

**Conclusion: PASS**

**Test graphs as below:**

## Traffic: Set.10



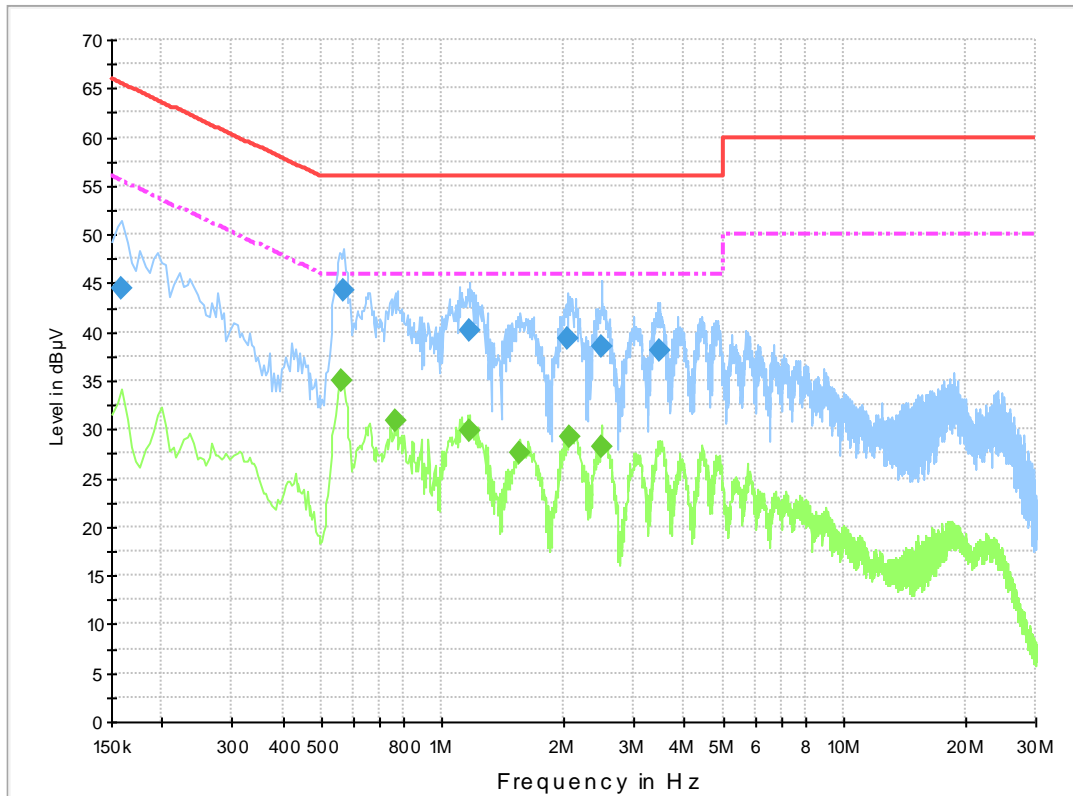
## Final Result 1

Frequency (MHz)	QuasiPeak (dBμV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
1.212000	44.8	GND	N	10.4	11.2	56.0
1.225500	44.0	GND	N	10.4	12.0	56.0
1.342500	46.5	GND	L1	10.3	9.5	56.0
1.437000	44.6	GND	L1	10.3	11.4	56.0
1.806000	46.6	GND	L1	10.4	9.4	56.0
4.281000	44.8	GND	N	10.5	11.2	56.0

## Final Result 2

Frequency (MHz)	Average (dBμV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.537000	32.5	GND	N	10.4	13.5	46.0
1.203000	34.1	GND	N	10.4	11.9	46.0
1.806000	35.2	GND	L1	10.4	10.8	46.0
2.157000	32.5	GND	L1	10.4	13.5	46.0
2.548500	33.3	GND	N	10.5	12.7	46.0
4.344000	34.5	GND	L1	10.5	11.5	46.0

## Traffic: Set.11



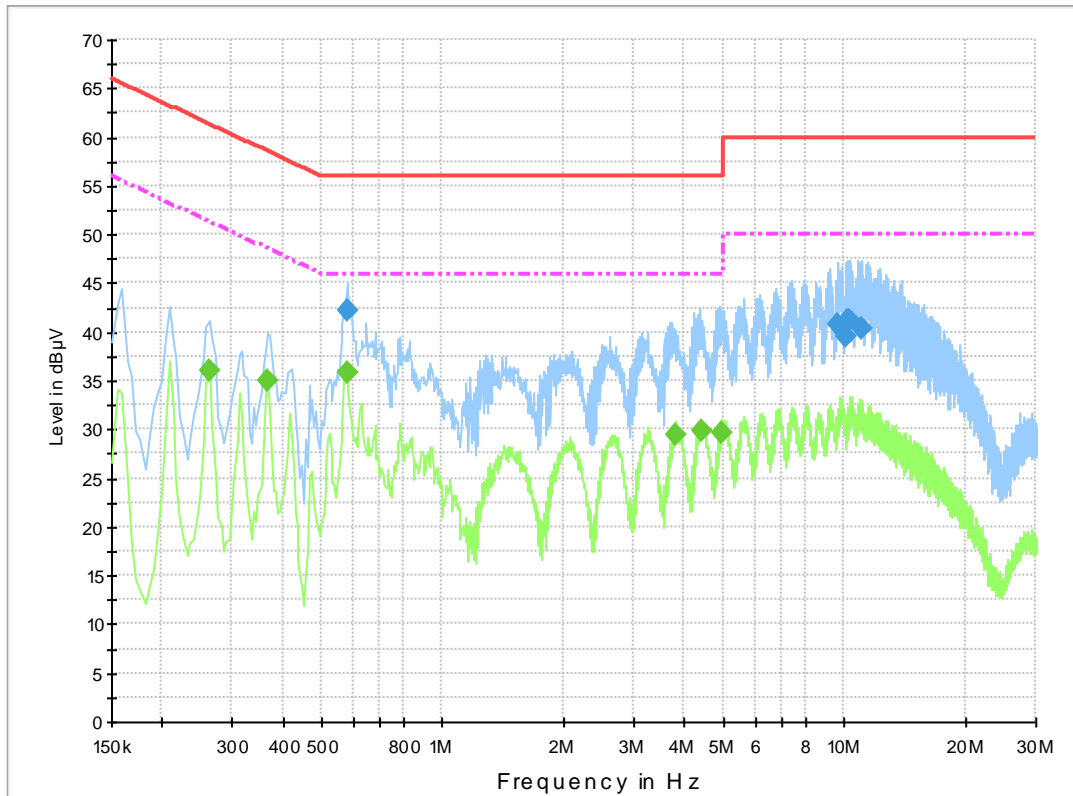
## Final Result 1

Frequency (MHz)	QuasiPeak (dBμV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.159000	44.5	GND	L1	10.3	21.0	65.5
0.568500	44.4	GND	N	10.4	11.6	56.0
1.167000	40.2	GND	N	10.4	15.8	56.0
2.058000	39.4	GND	N	10.5	16.6	56.0
2.490000	38.5	GND	L1	10.4	17.5	56.0
3.466500	38.0	GND	N	10.5	18.0	56.0

## Final Result 2

Frequency (MHz)	Average (dBμV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.559500	35.1	GND	N	10.4	10.9	46.0
0.762000	30.9	GND	N	10.4	15.1	46.0
1.167000	29.9	GND	N	10.4	16.1	46.0
1.563000	27.7	GND	L1	10.3	18.3	46.0
2.071500	29.1	GND	N	10.5	16.9	46.0
2.490000	28.2	GND	L1	10.4	17.8	46.0

## Traffic: Set.12



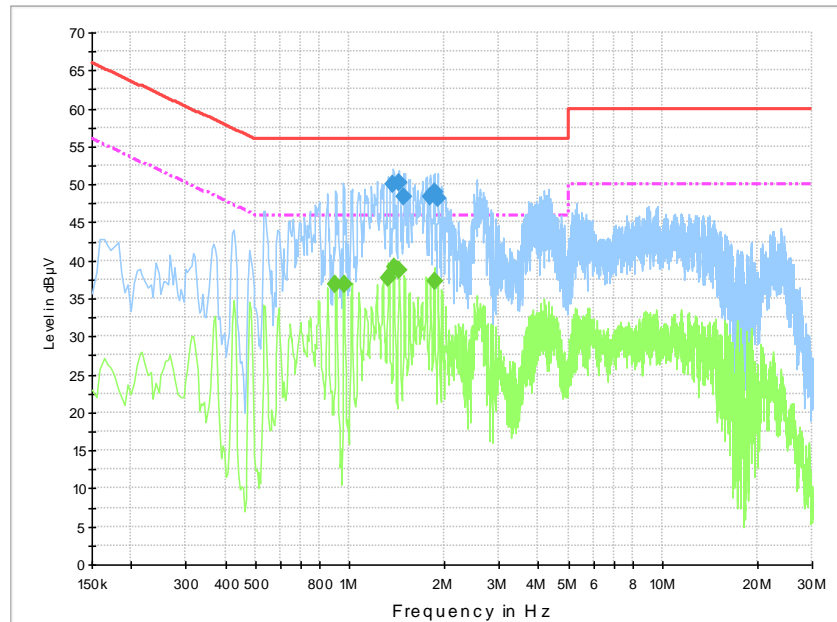
## Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.577500	42.3	GND	N	10.4	13.7	56.0
9.649500	40.7	GND	L1	10.7	19.3	60.0
10.140000	39.5	GND	N	10.7	20.5	60.0
10.243500	41.1	GND	L1	10.7	18.9	60.0
10.288500	41.3	GND	N	10.7	18.7	60.0
11.017500	40.4	GND	L1	10.7	19.6	60.0

## Final Result 2

Frequency (MHz)	Average (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.262500	36.1	GND	L1	10.3	15.2	51.4
0.366000	34.9	GND	L1	10.3	13.7	48.6
0.577500	35.8	GND	N	10.4	10.2	46.0
3.813000	29.4	GND	N	10.5	16.6	46.0
4.402500	29.8	GND	N	10.5	16.2	46.0
4.956000	29.7	GND	N	10.6	16.3	46.0

Idle: Set.10



## Final Result 1

Frequency (MHz)	QuasiPeak (dBμV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
1.378500	50.1	GND	L1	10.3	5.9	56.0
1.437000	50.3	GND	L1	10.3	5.7	56.0
1.486500	48.3	GND	N	10.4	7.7	56.0
1.801500	48.5	GND	N	10.4	7.5	56.0
1.860000	49.1	GND	L1	10.4	6.9	56.0
1.909500	48.1	GND	L1	10.4	7.9	56.0

## Final Result 2

Frequency (MHz)	Average (dBμV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.901500	36.9	GND	N	10.4	9.1	46.0
0.960000	36.9	GND	N	10.4	9.1	46.0
1.324500	37.6	GND	N	10.4	8.4	46.0
1.383000	39.2	GND	N	10.4	6.8	46.0
1.437000	38.7	GND	L1	10.3	7.3	46.0
1.860000	37.3	GND	L1	10.4	8.7	46.0

\*\*\*END OF REPORT\*\*\*