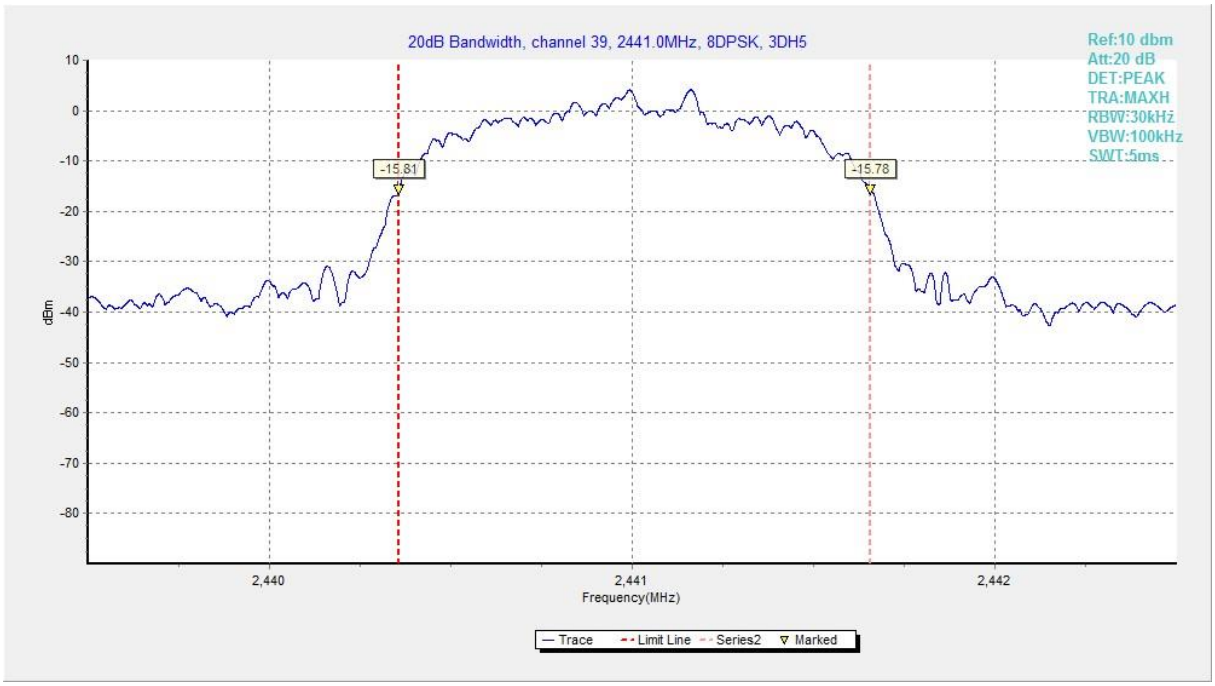

Fig. 67 20dB Bandwidth (8DPSK, Ch 39)

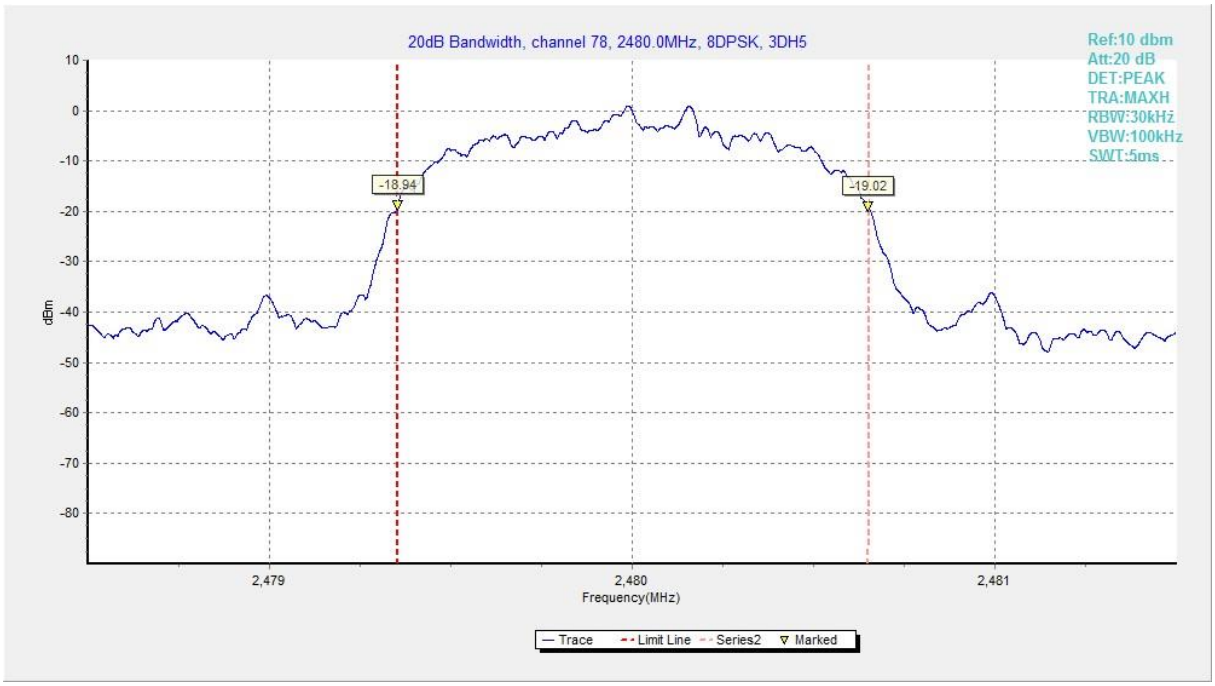

Fig. 68 20dB Bandwidth (8DPSK, Ch 78)

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A.6 Time of Occupancy (Dwell Time)

Measurement Limit:

Standard	Limit
FCC 47 CFR Part 15.247(a) & RSS-247 Section 5.1	< 400 ms

Measurement Results:

Mode	Channel	Packet	Dwell Time(ms)		Conclusion
GFSK	39	DH5	Fig.69	306.59	**P**
			Fig.70		
π /4 DQPSK	39	2-DH5	Fig.71	308.09	**P**
			Fig.72		
8DPSK	39	3-DH5	Fig.73	308.26	**P**
			Fig.74		

See below for test graphs.

Conclusion: Pass

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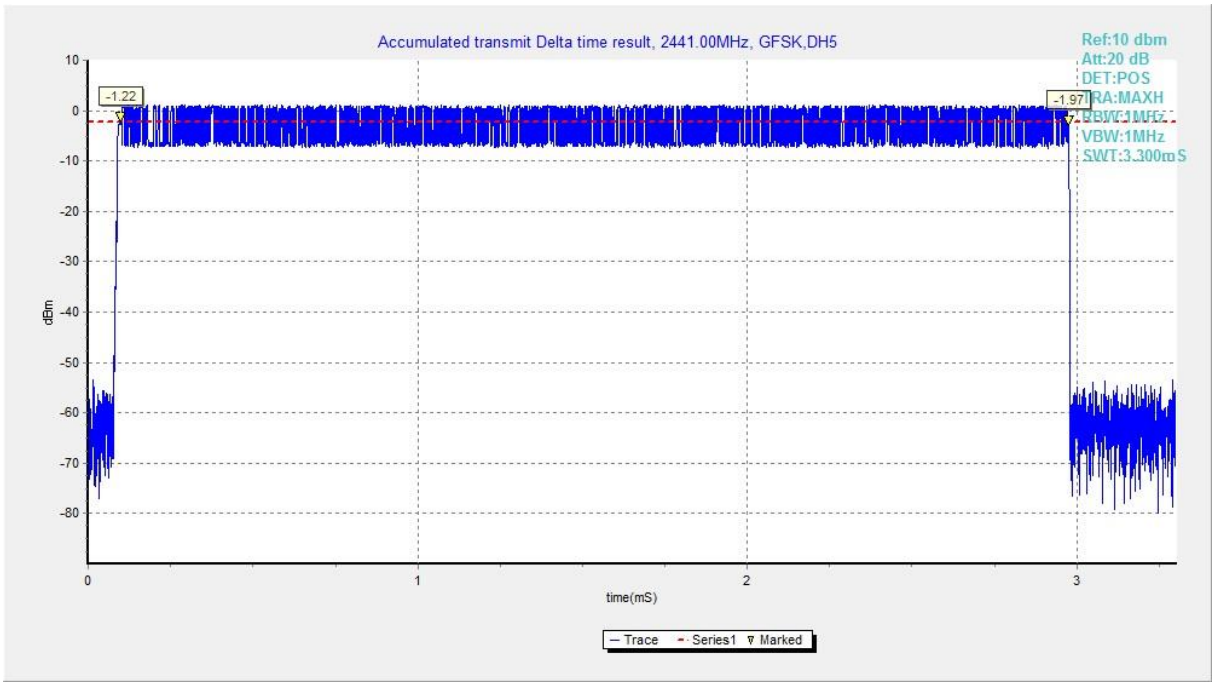

Fig. 69 Time of Occupancy(Dwell Time) (GFSK, Ch39)

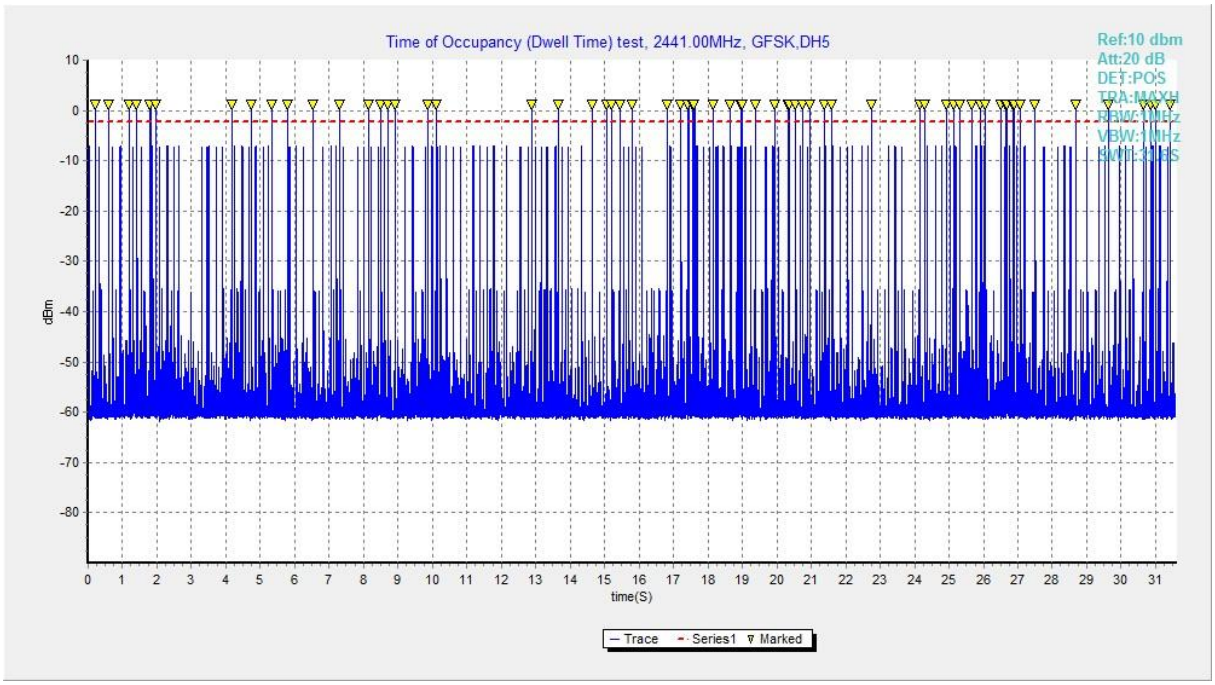

Fig. 70 Time of Occupancy(Dwell Time) (GFSK, Ch39)

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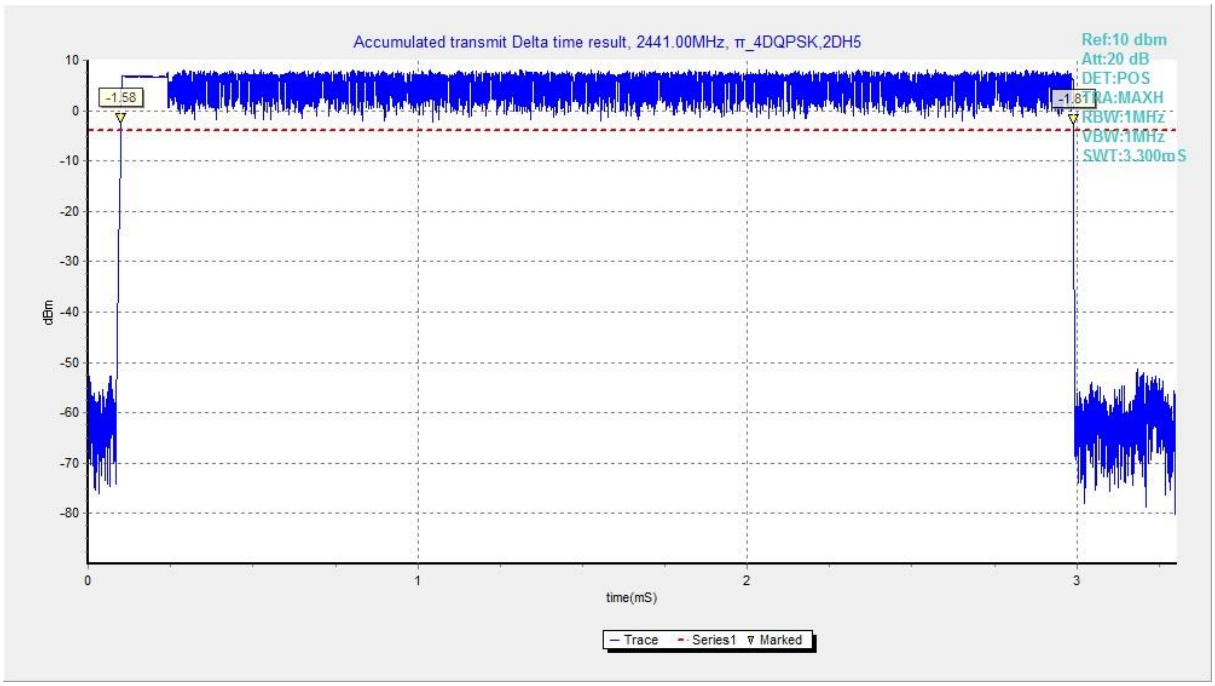

Fig. 71 Time of Occupancy(Dwell Time) (π /4 DQPSK, Ch39)

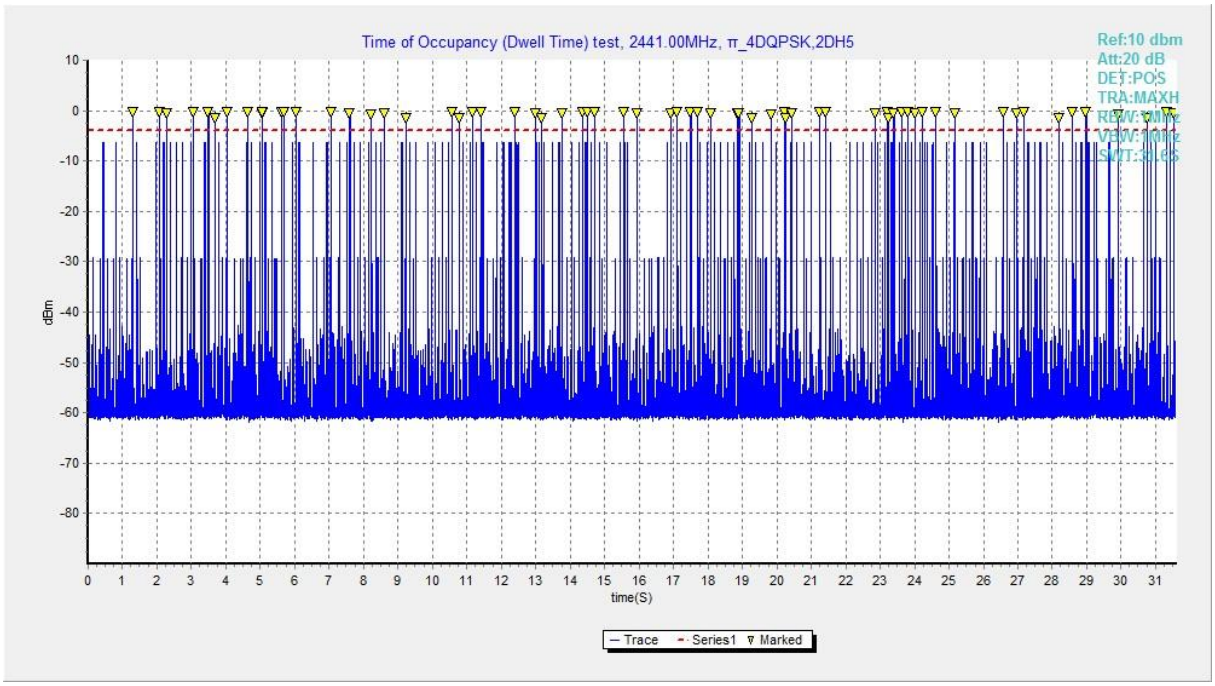

Fig. 72 Time of Occupancy(Dwell Time) (π /4 DQPSK, Ch39)

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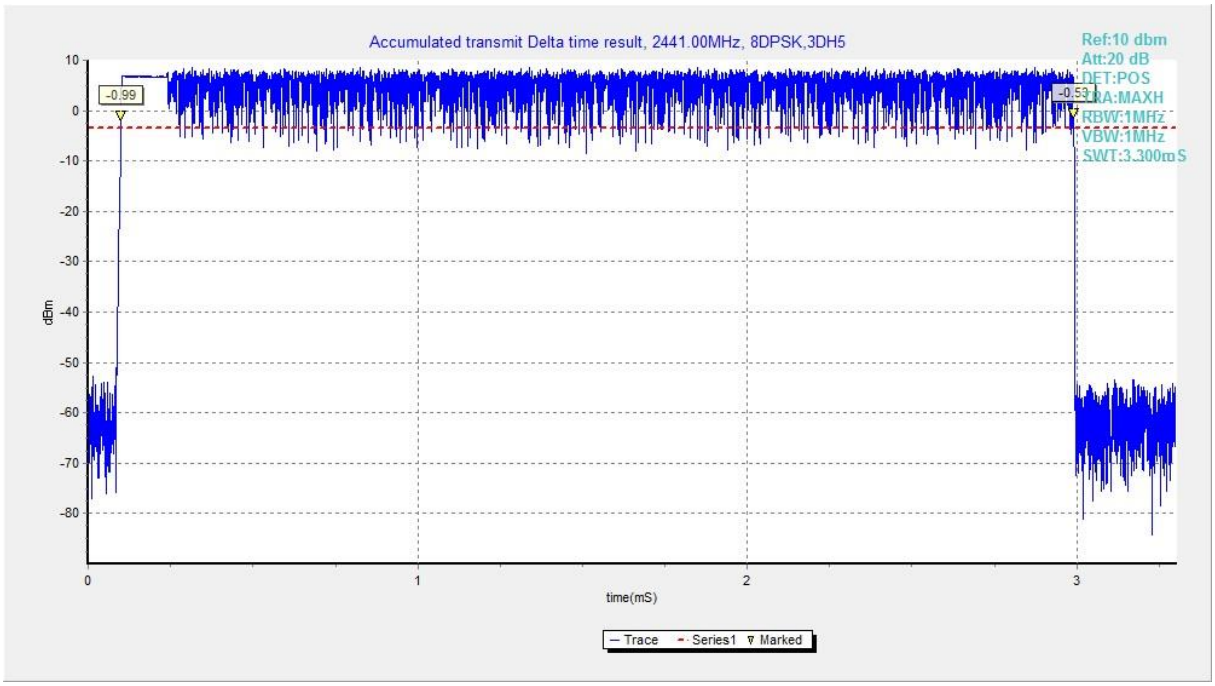

Fig. 73 Time of Occupancy(Dwell Time) (8DPSK, Ch39)

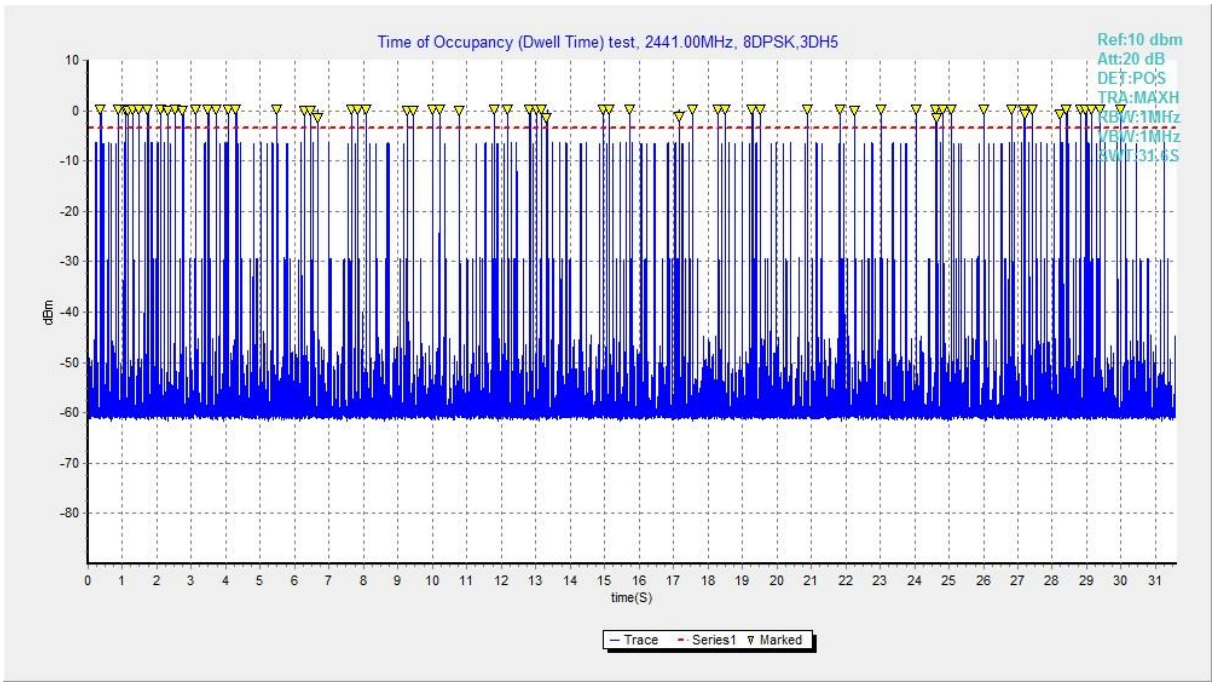

Fig. 74 Time of Occupancy(Dwell Time) (8DPSK, Ch39)

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A.7 Number of Hopping Channels

Measurement Limit:

Standard	Limit
FCC 47 CFR Part 15.247(a) & RSS-247 Section 5.1	At least 15 non-overlapping channels

Measurement Results:

Mode	Packet	Number of hopping		Test result	Conclusion
GFSK	DH5	Fig.75	Fig.76	79	**P**
π/4 DQPSK	2-DH5	Fig.77	Fig.78	79	**P**
8DPSK	3-DH5	Fig.79	Fig.80	79	**P**

See below for test graphs.

Conclusion: Pass

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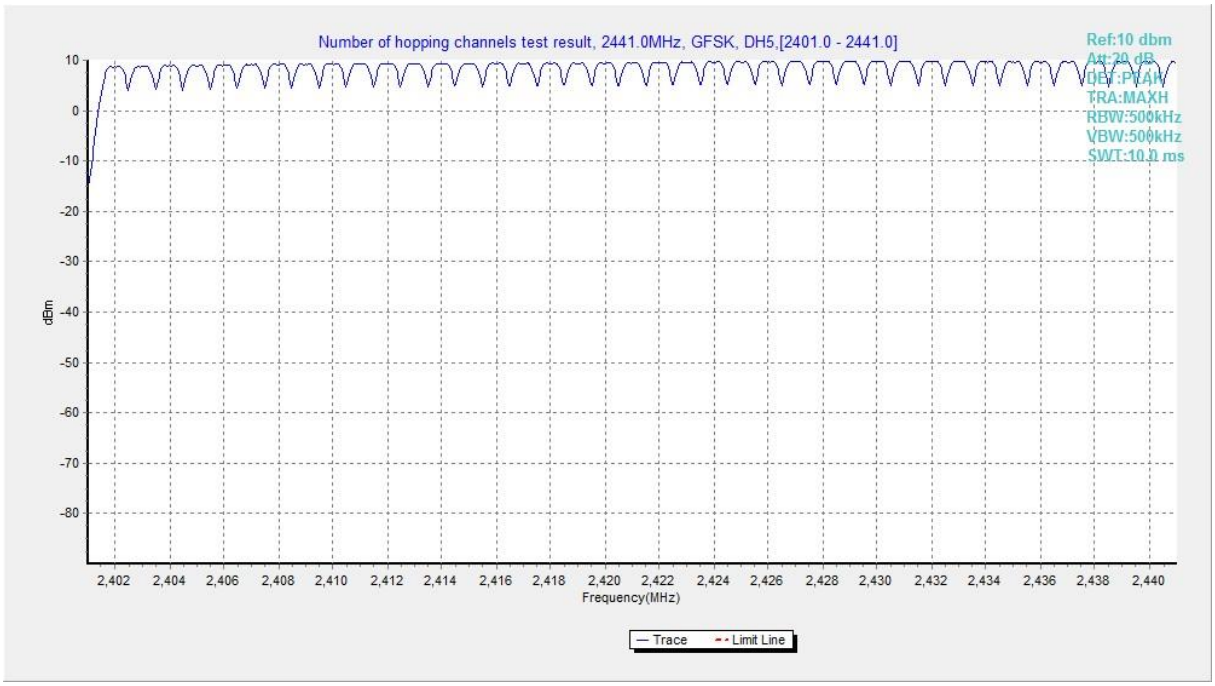

Fig. 75 Hopping channel ch0~39 (GFSK, Ch39)

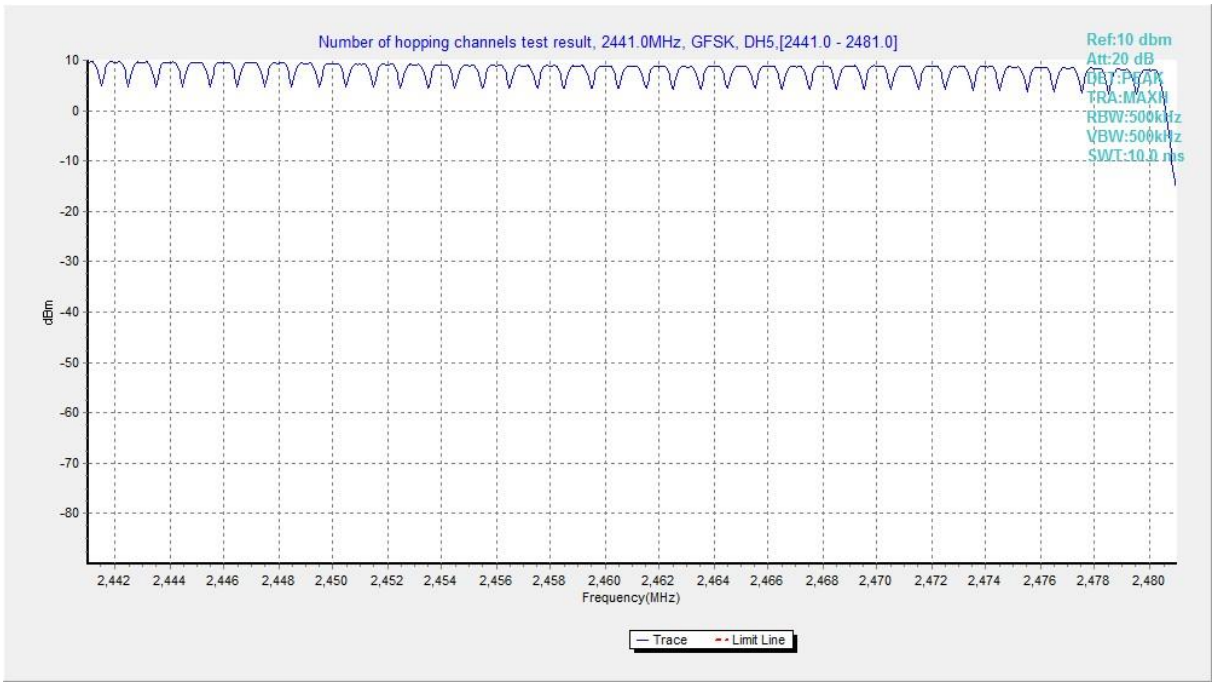

Fig. 76 Hopping channel ch39~78 (GFSK, Ch39)

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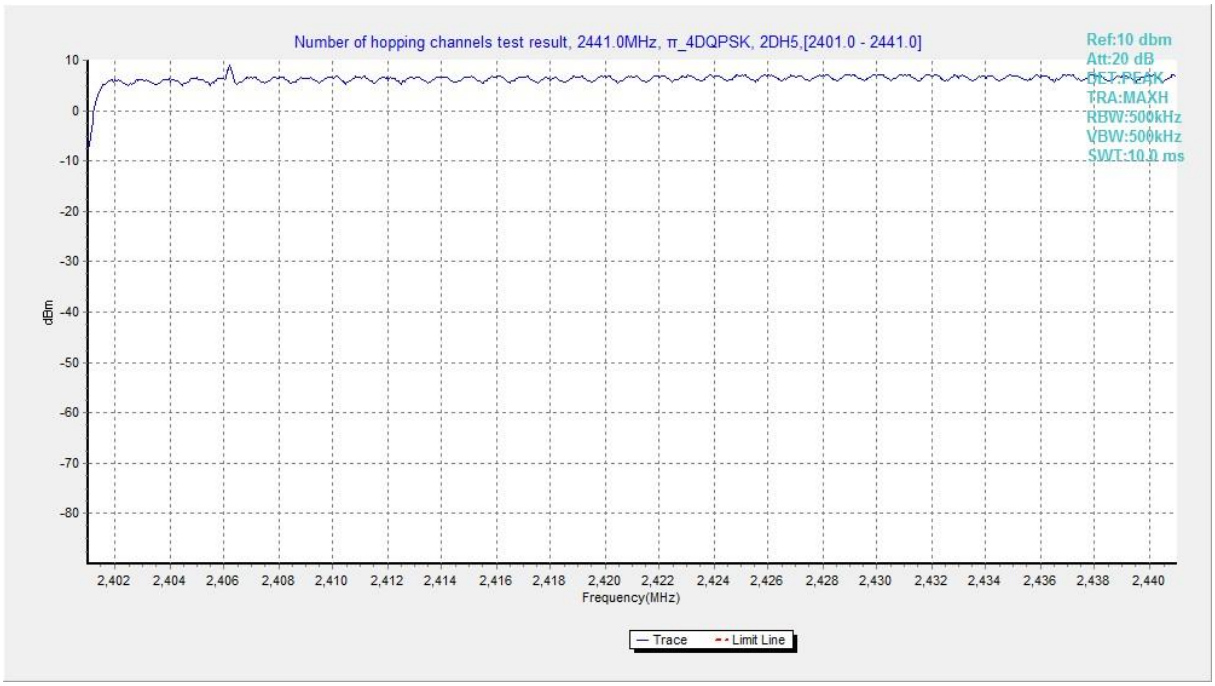

Fig. 77 Hopping channel ch0~39 (π /4 DQPSK, Ch39)

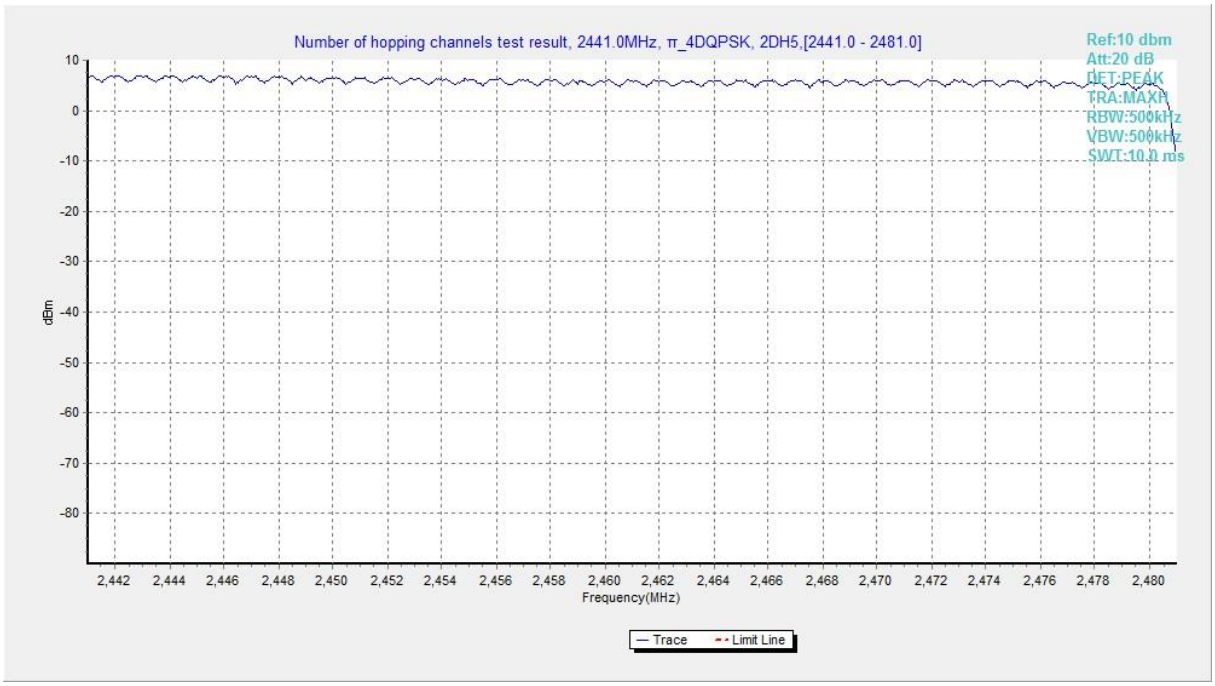

Fig. 78 Hopping channel ch39~78 (π /4 DQPSK, Ch39)

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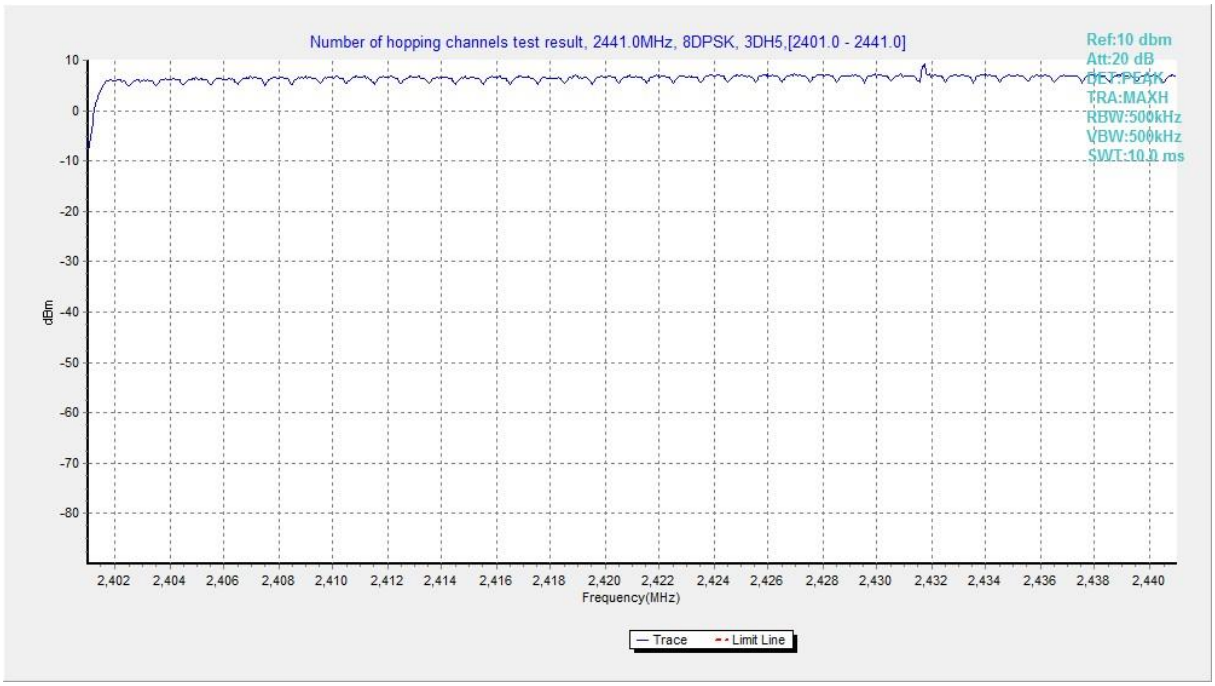

Fig. 79 Hopping channel ch0~39 (8DPSK, Ch39)

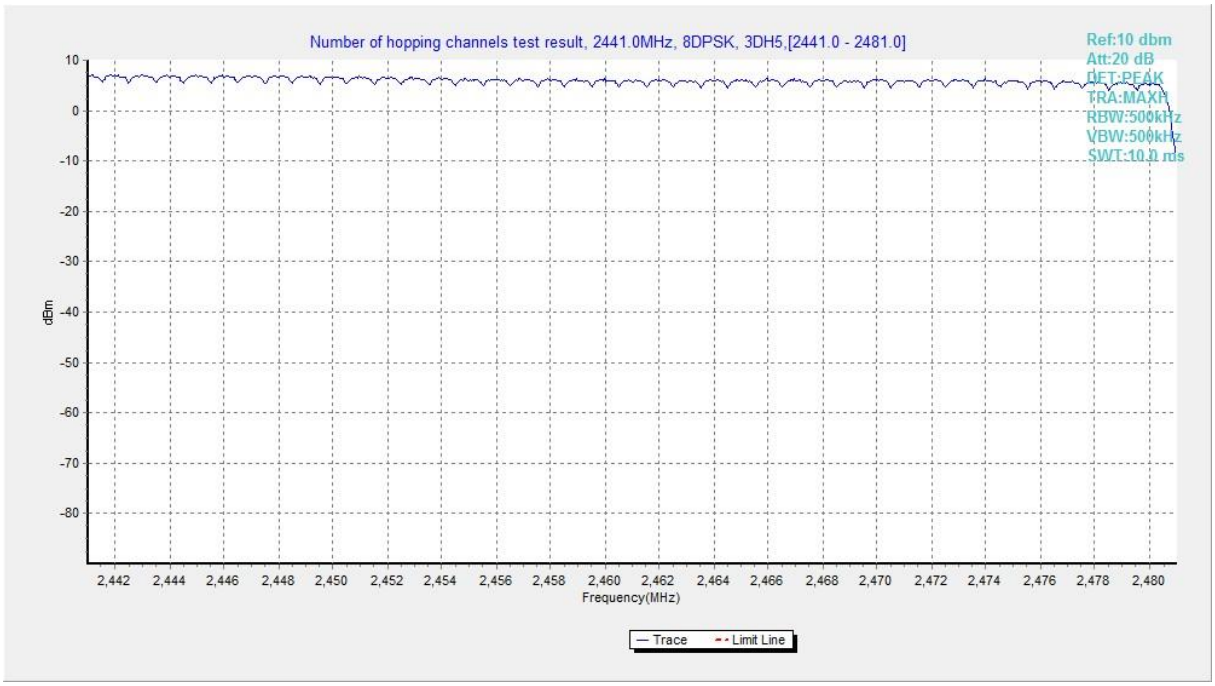

Fig. 80 Hopping channel ch39~78 (8DPSK, Ch39)

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A.8 Carrier Frequency Separation

Measurement Limit:

Standard	Limit
FCC 47 CFR Part 15.247(a) & RSS-247 Section 5.1	By a minimum of 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater

Measurement Results:

Mode	Channel	Packet	Separation of hopping channels	Test result (kHz)	Conclusion
GFSK	39	DH5	Fig.81	996.75	**P**
π /4 DQPSK	39	2-DH5	Fig.82	1296.75	**P**
8DPSK	39	3-DH5	Fig.83	1306.50	**P**

See below for test graphs.

Conclusion: Pass

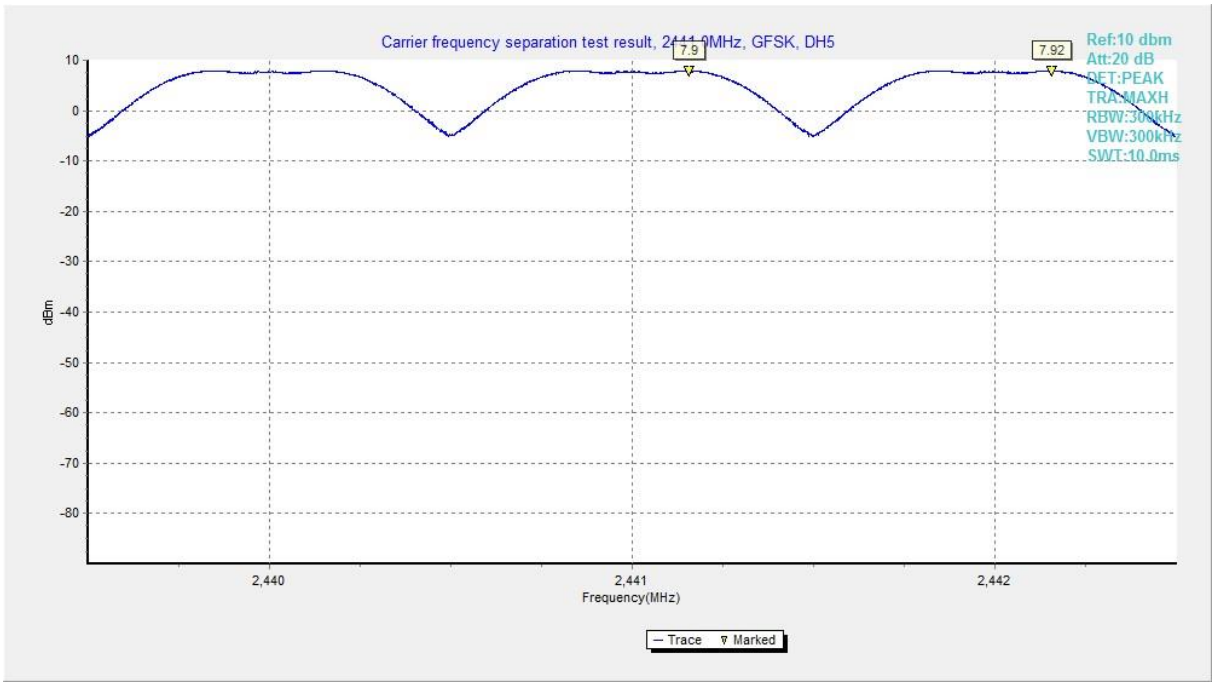

Fig. 81 Carrier Frequency Separation (GFSK, Ch39)

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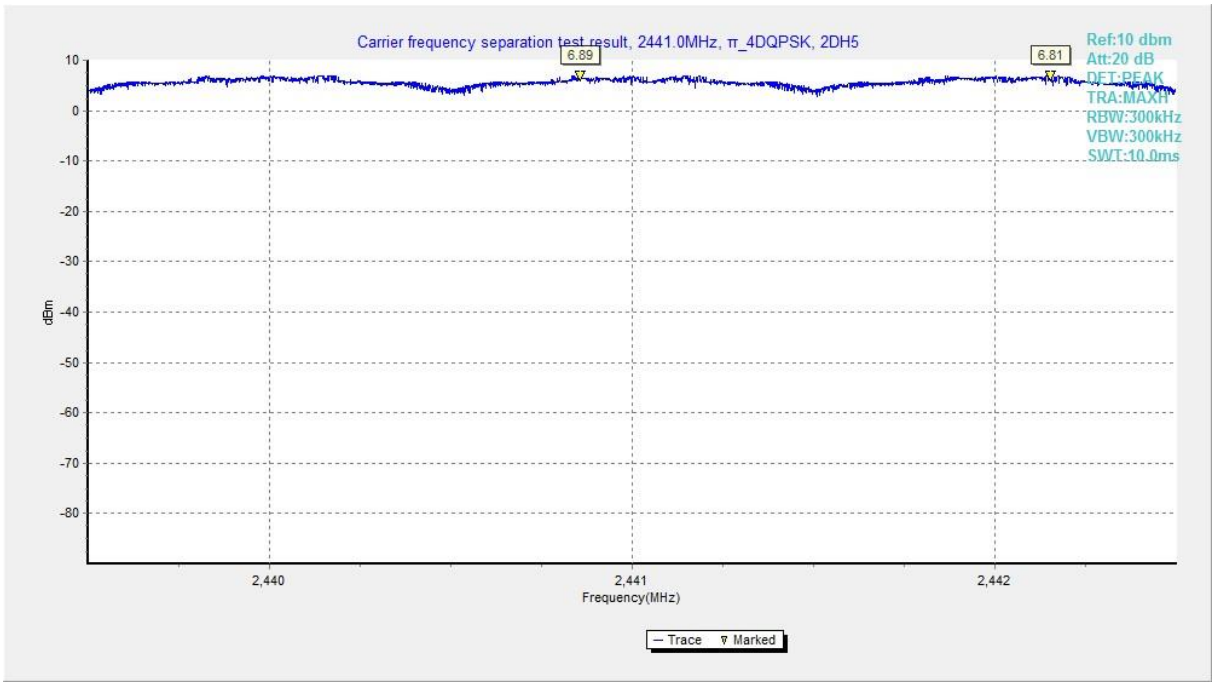

Fig. 82 Carrier Frequency Separation (π /4 DQPSK, Ch39)

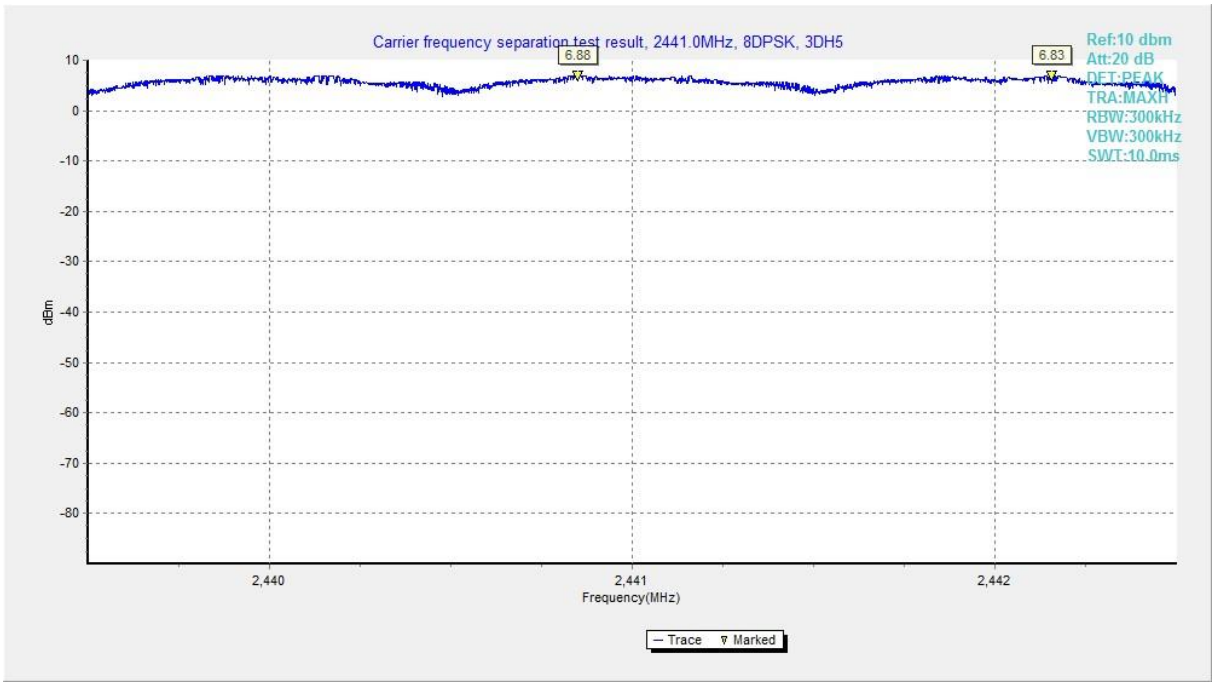

Fig. 83 Carrier Frequency Separation (8DPSK, Ch39)

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A.9 AC Power line Conducted Emission

Test Condition:

Voltage（V）	Frequency（Hz）
120	60

Measurement Result and limit:

BT (Quasi-peak Limit)

Frequency range (MHz)	Quasi-peak Limit (dBμV)	Result (dBμV)		Conclusion
		Traffic	Idle	
0.15 to 0.5	66 to 56	Fig.84	Fig.85	**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.				

BT (Average Limit)

Frequency range (MHz)	Average-peak Limit (dBμV)	Result (dBμV)		Conclusion
		Traffic	Idle	
0.15 to 0.5	56 to 46	Fig.84	Fig.85	**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.				

Note: The measurement results include the L1 and N measurements.

See below for test graphs.

Conclusion: Pass

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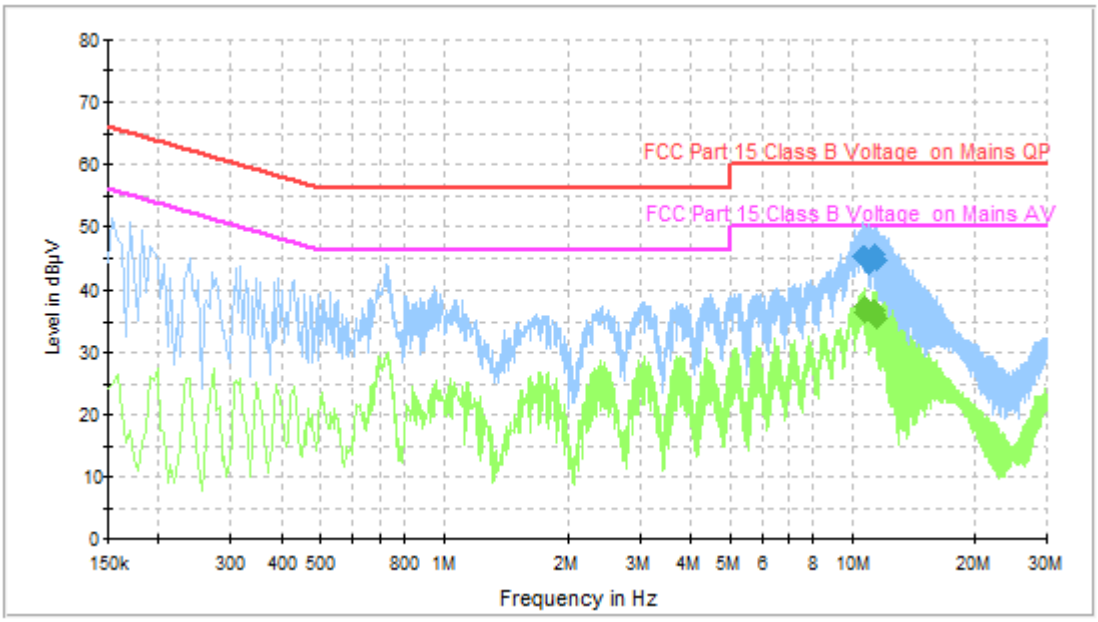

Fig. 84 AC Powerline Conducted Emission (Traffic)

Measurement Results: Quasi Peak

Frequency (MHz)	Quasi Peak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
10.586000	45.1	60.0	15.0	N	9.8
10.730000	45.3	60.0	14.7	N	9.8
10.914000	44.4	60.0	15.6	N	9.9
10.990000	44.2	60.0	15.8	N	9.8
11.298000	45.4	60.0	14.6	N	9.9
11.518000	44.4	60.0	15.6	N	9.9

Measurement Results: Average

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
10.662000	37.6	50.0	12.4	N	9.8
10.746000	36.6	50.0	13.4	N	9.8
11.266000	36.6	50.0	13.4	N	9.9
11.282000	36.7	50.0	13.3	N	9.9
11.350000	36.1	50.0	13.9	N	9.9
11.442000	35.5	50.0	14.5	N	9.9

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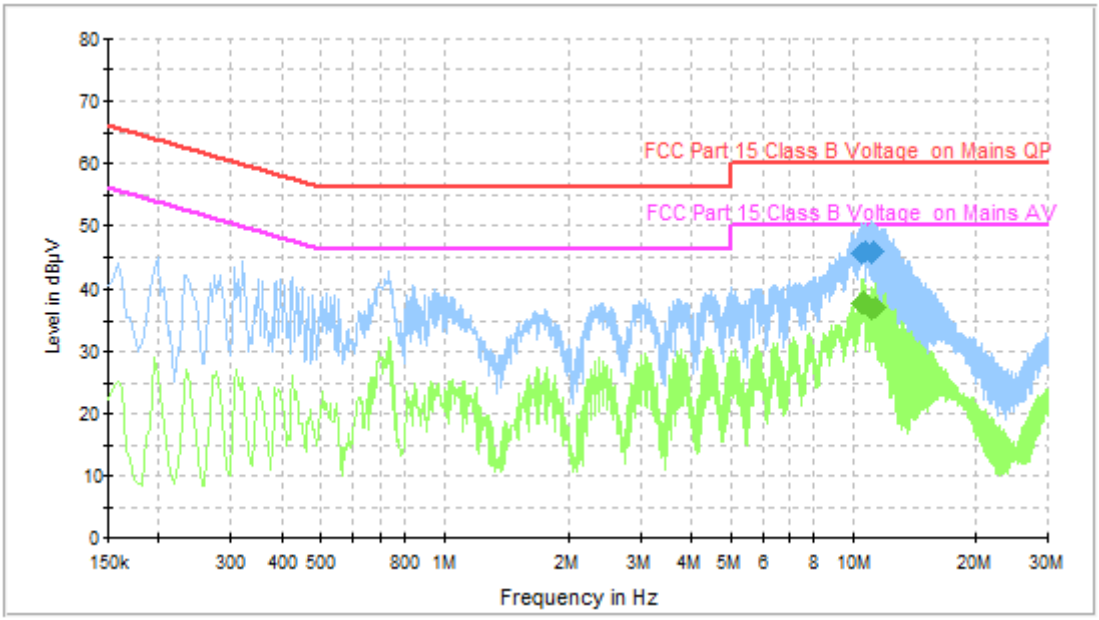

Fig. 85 AC Power line Conducted Emission (Idle)

Measurement Results: Quasi Peak

Frequency (MHz)	Quasi Peak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
10.482000	45.4	60.0	14.6	N	9.8
10.658000	45.9	60.0	14.1	N	9.8
10.682000	45.9	60.0	14.1	N	9.8
10.750000	45.7	60.0	14.3	N	9.8
11.090000	45.3	60.0	14.7	N	9.9
11.218000	45.8	60.0	14.2	N	9.9

Measurement Results: Average

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
10.482000	37.7	50.0	12.3	N	9.8
10.574000	38.1	50.0	11.9	N	9.8
10.582000	37.8	50.0	12.2	N	9.8
11.094000	36.7	50.0	13.3	N	9.9
11.270000	37.1	50.0	12.9	N	9.9
11.278000	37.2	50.0	12.8	N	9.9

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A.10 Occupied Bandwidth

Measurement Limit:

Standard	Limit
RSS-Gen section 6.7	/

Measurement Result:

Mode	Channel	Occupied Bandwidth (kHz)		conclusion
GFSK	0	Fig.86	905.27	/
	39	Fig.87	907.77	
	78	Fig.88	905.27	
π /4 DQPSK	0	Fig.89	1180.70	/
	39	Fig.90	1182.20	
	78	Fig.91	1185.20	
8DPSK	0	Fig.92	1197.70	/
	39	Fig.93	1198.70	
	78	Fig.94	1199.70	

See below for test graphs.

Conclusion: Pass

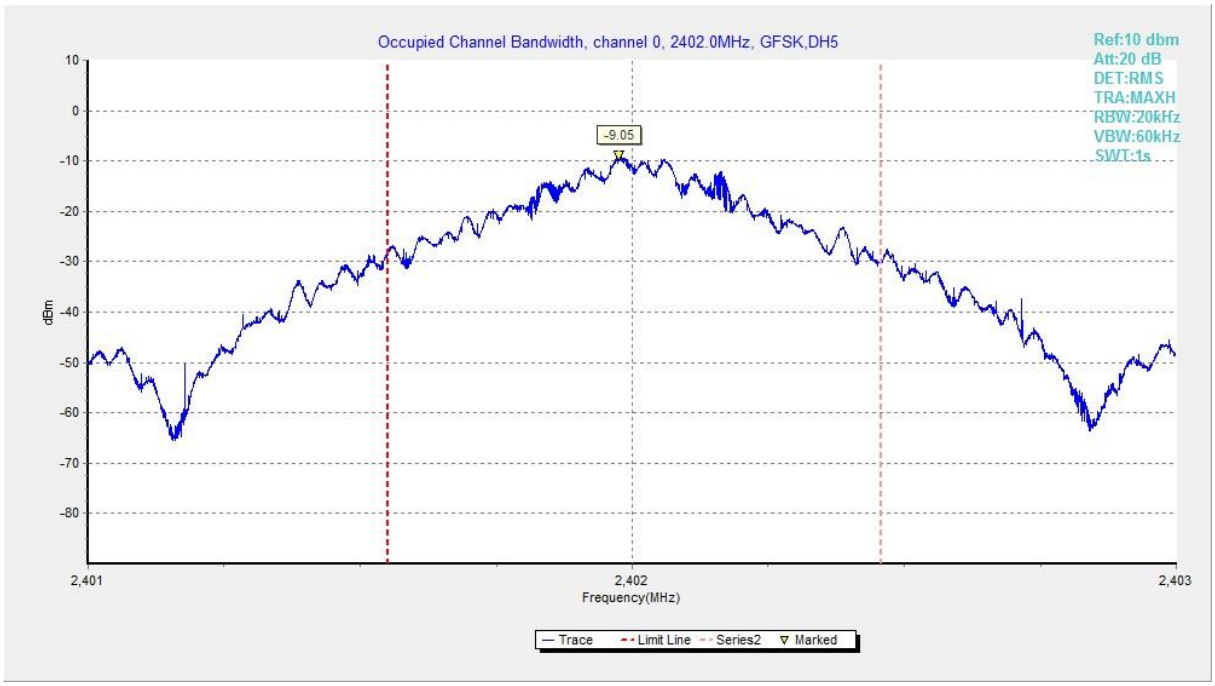

Fig. 86 Occupied Bandwidth (GFSK, Ch 0)

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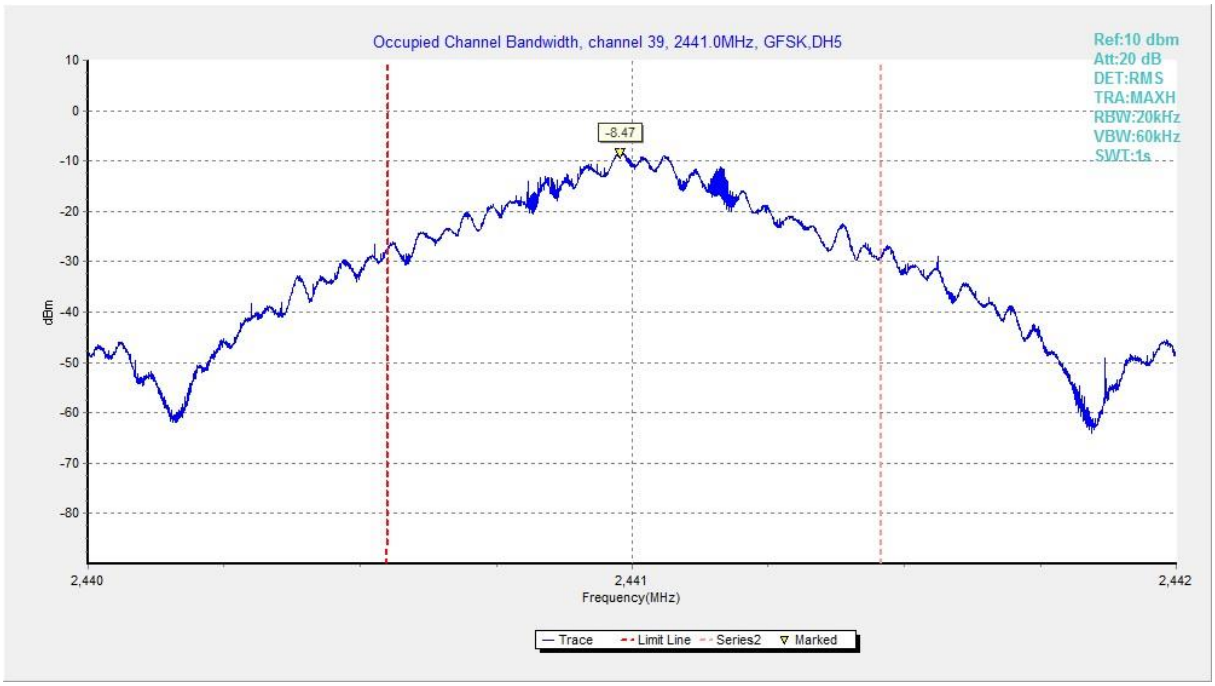

Fig. 87 Occupied Bandwidth (GFSK, Ch 39)

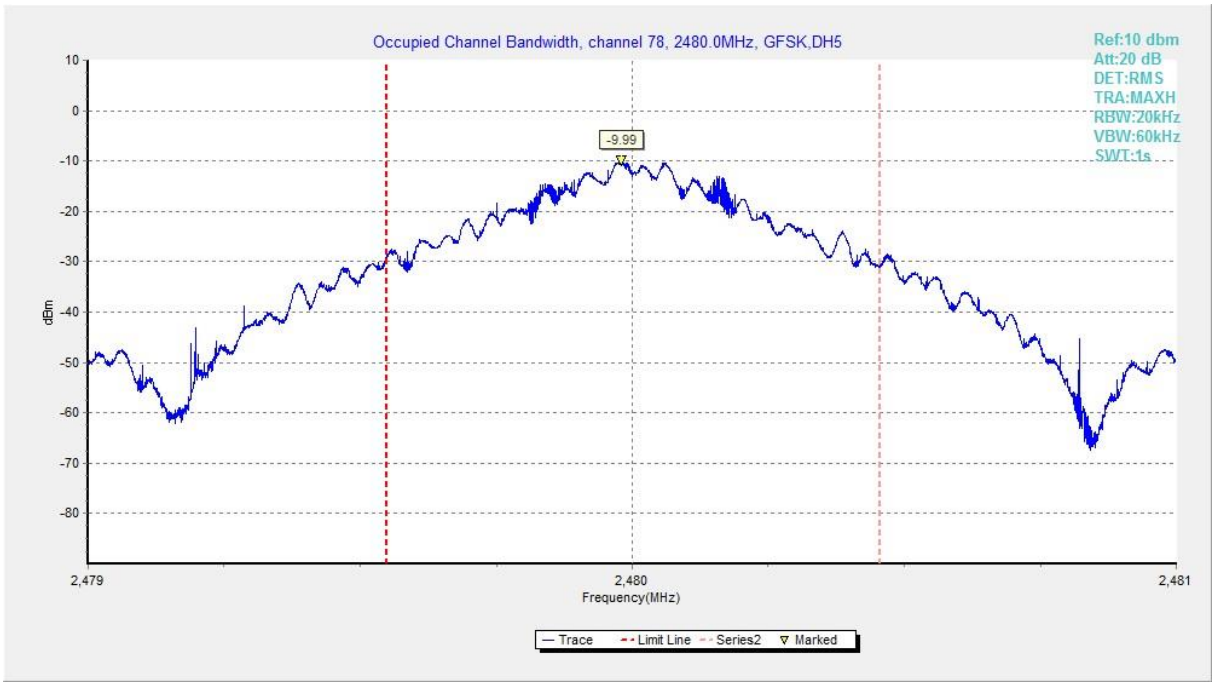

Fig. 88 Occupied Bandwidth (GFSK, Ch 78)

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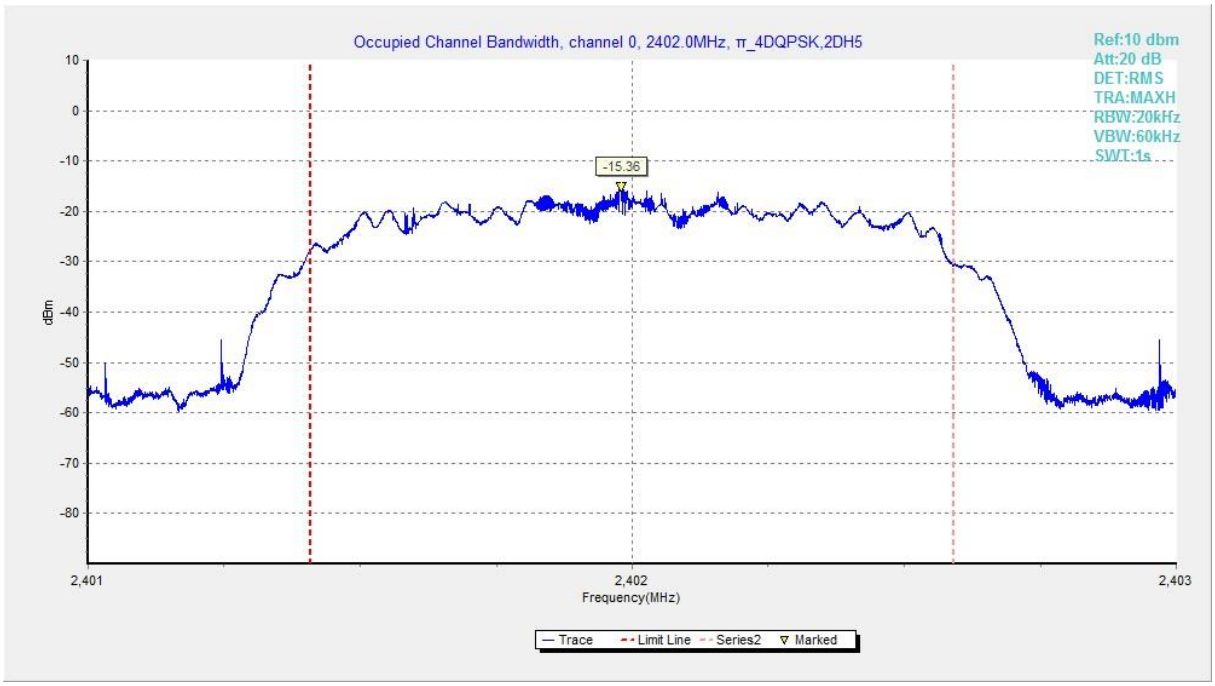

Fig. 89 Occupied Bandwidth (π /4 DQPSK, Ch 0)

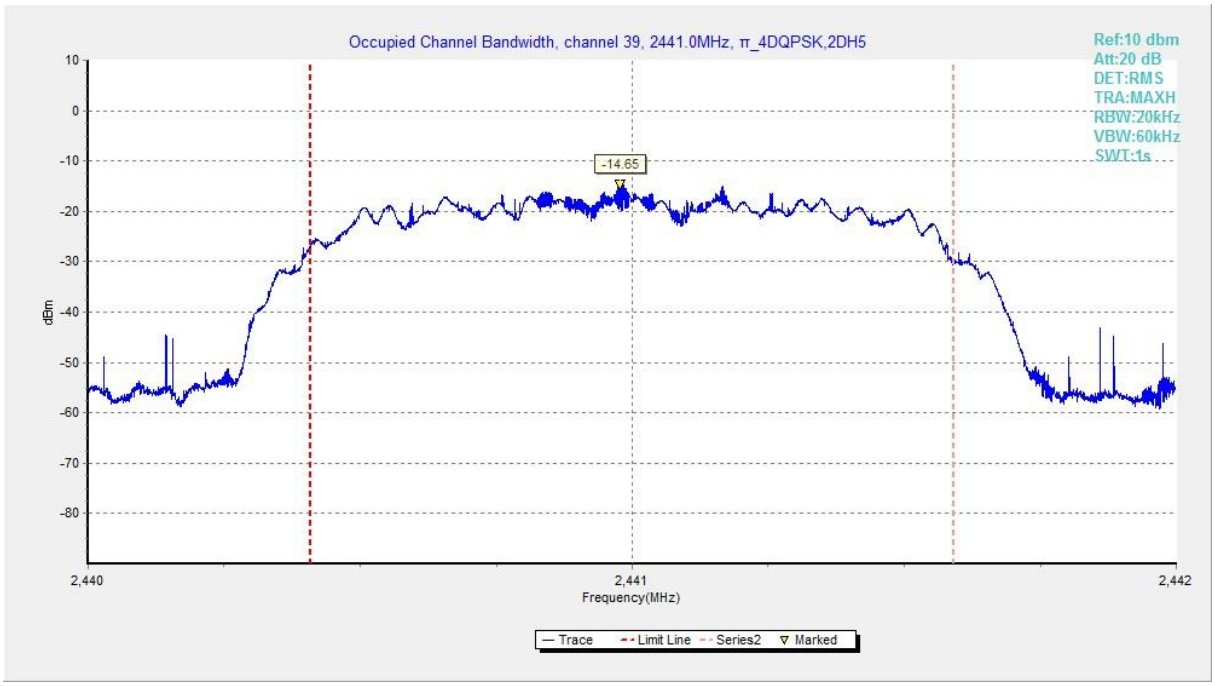

Fig. 90 Occupied Bandwidth (π /4 DQPSK, Ch 39)

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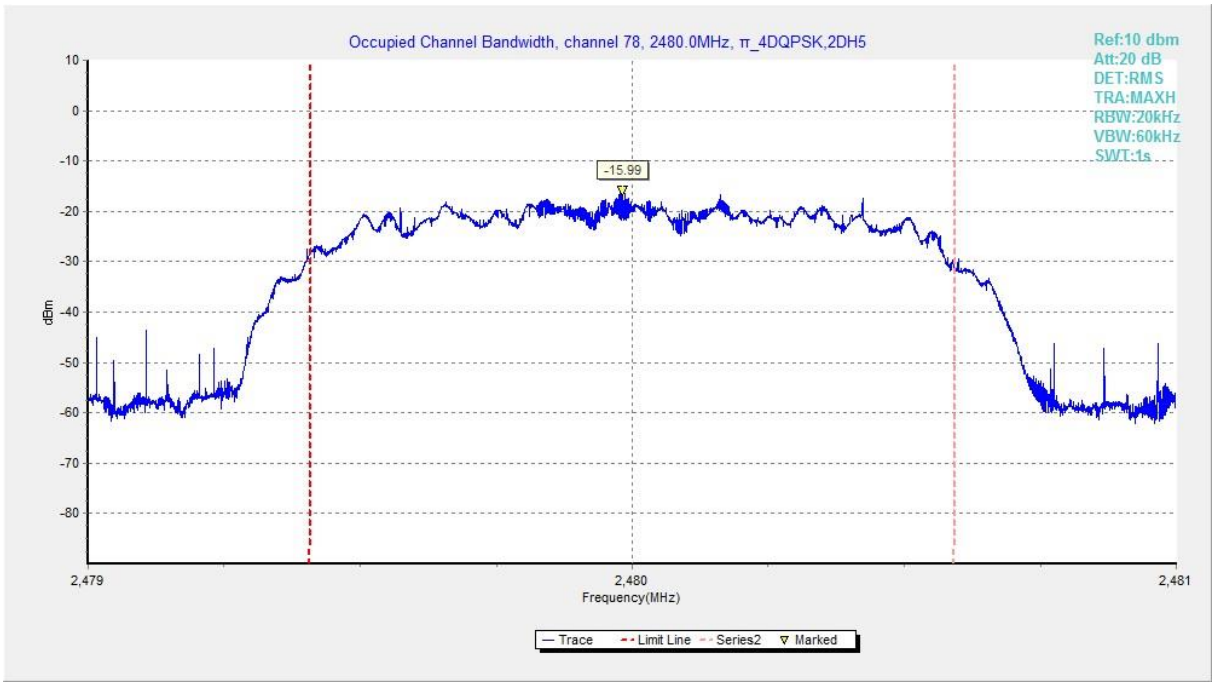

Fig. 91 Occupied Bandwidth (π /4 DQPSK, Ch 78)

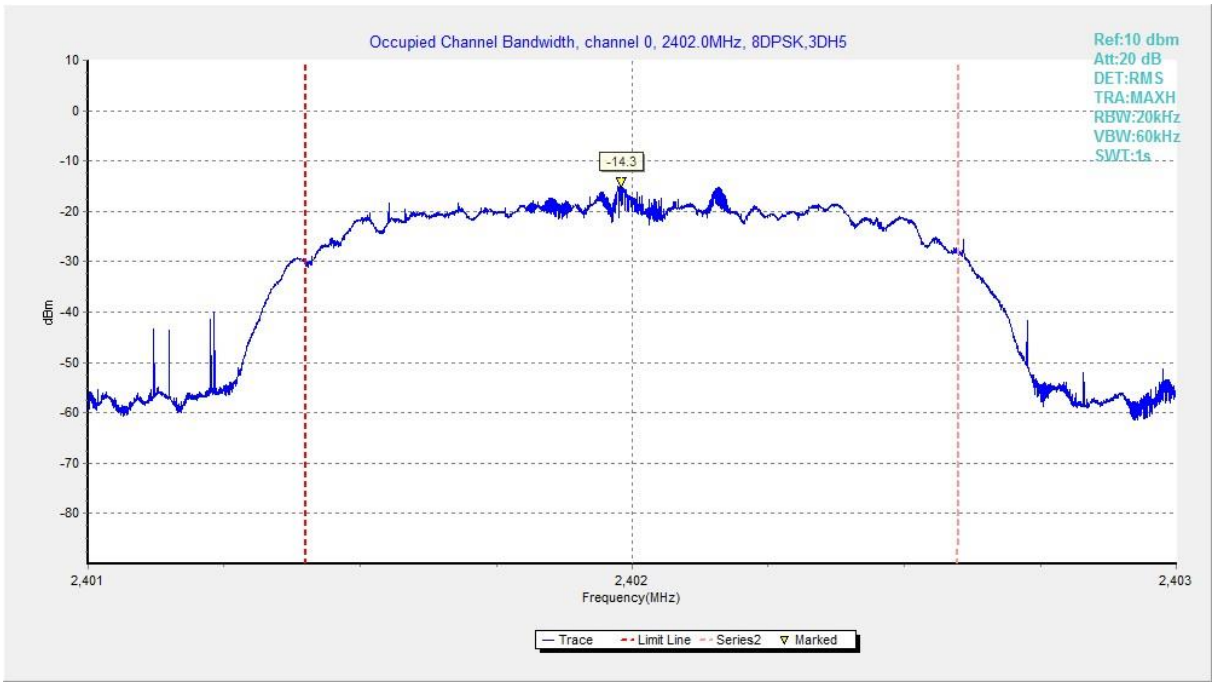

Fig. 92 Occupied Bandwidth (8DPSK, Ch 0)

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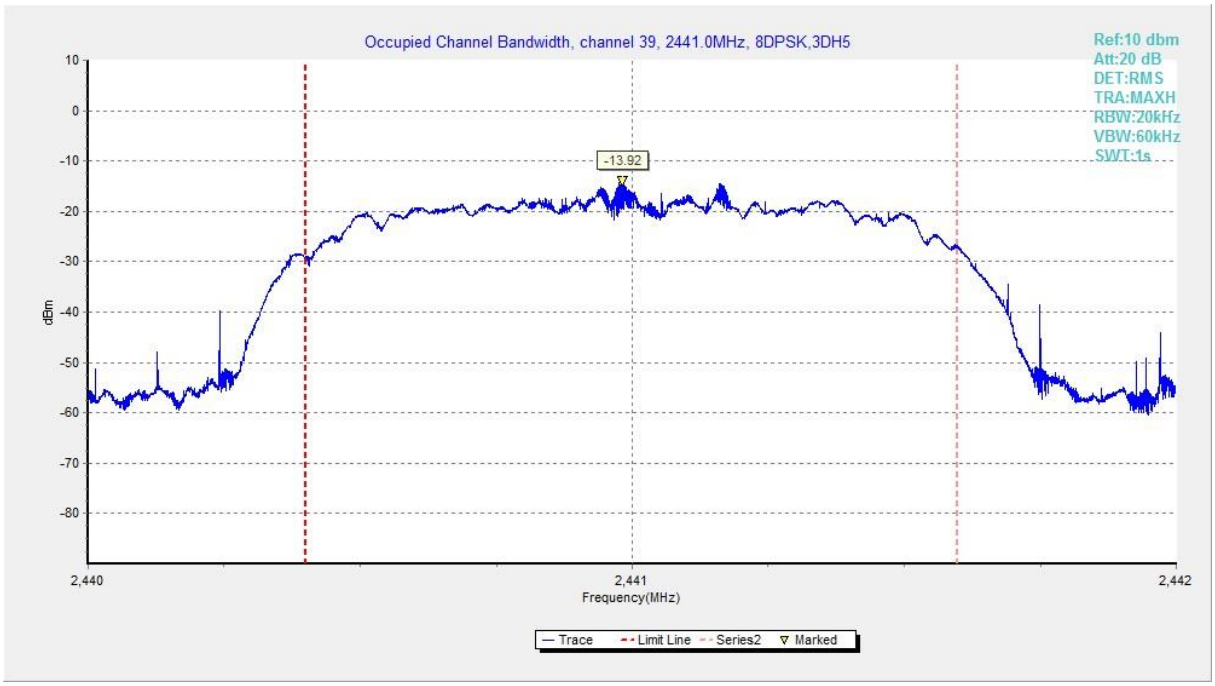

Fig. 93 Occupied Bandwidth (8DPSK, Ch 39)

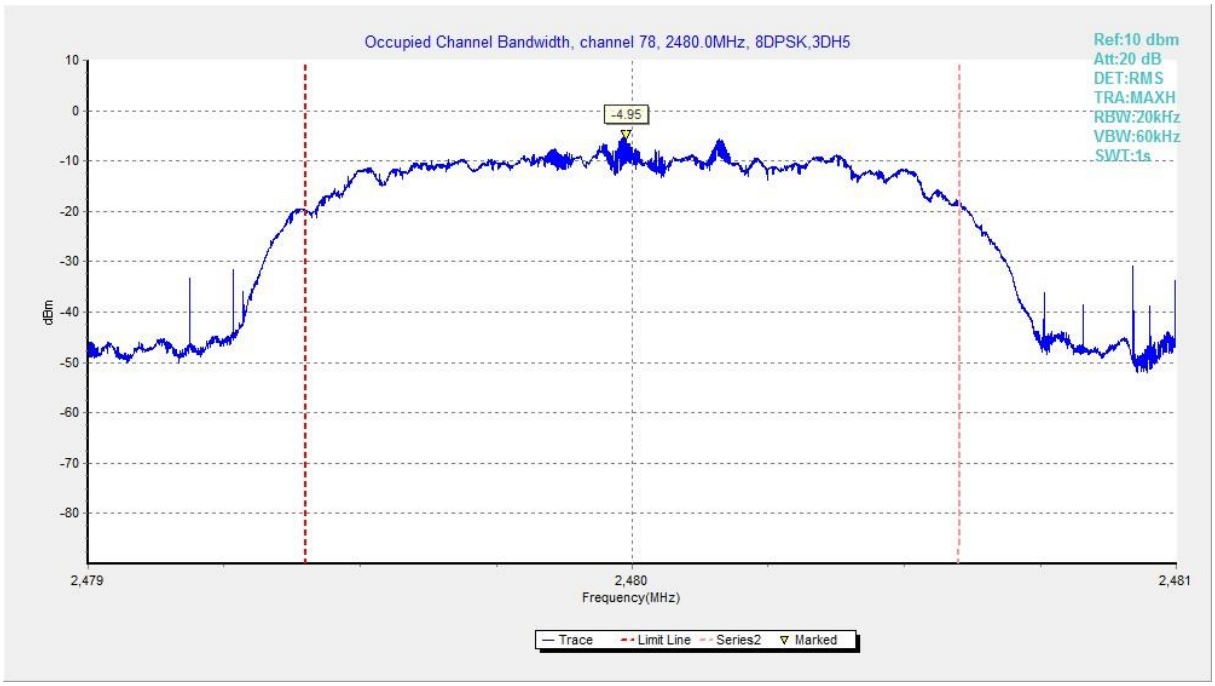

Fig. 94 Occupied Bandwidth (8DPSK, Ch 78)

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