

Fig. 64 Radiated Band Edges (8DPSK, Ch0, 2380GHz~2450GHz)

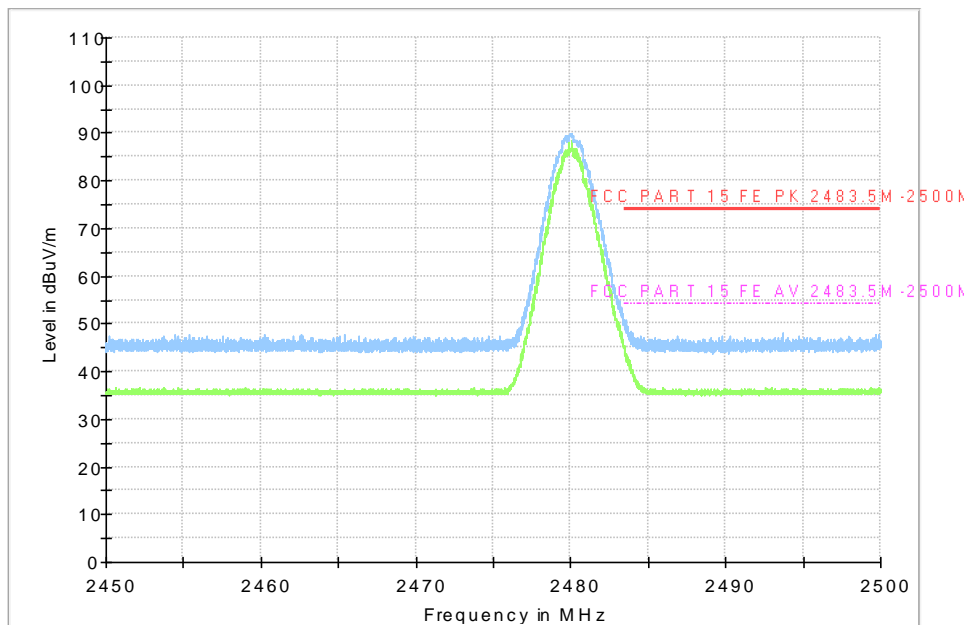


Fig. 65 Radiated Band Edges (8DPSK, Ch78, 2450GHz~2500GHz)

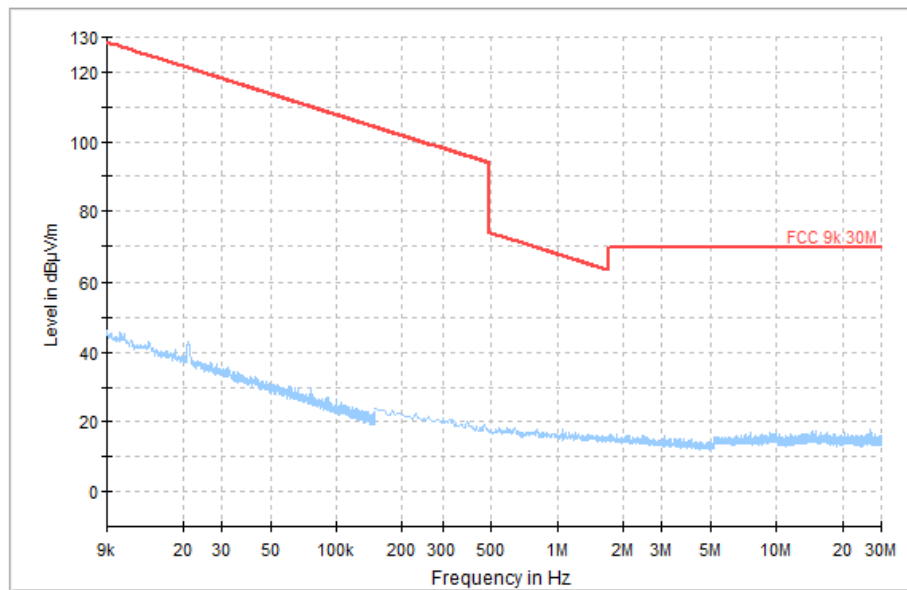


Fig. 66 Radiated Spurious Emission (All Channels, 9 kHz ~30 MHz)

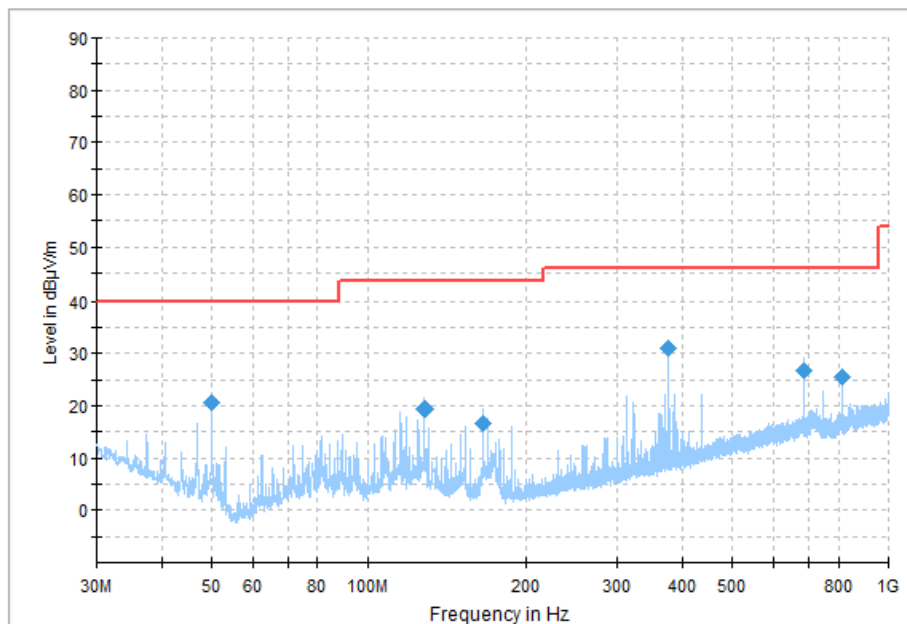


Fig. 67 Radiated Spurious Emission (All Channels, 30 MHz ~1 GHz)

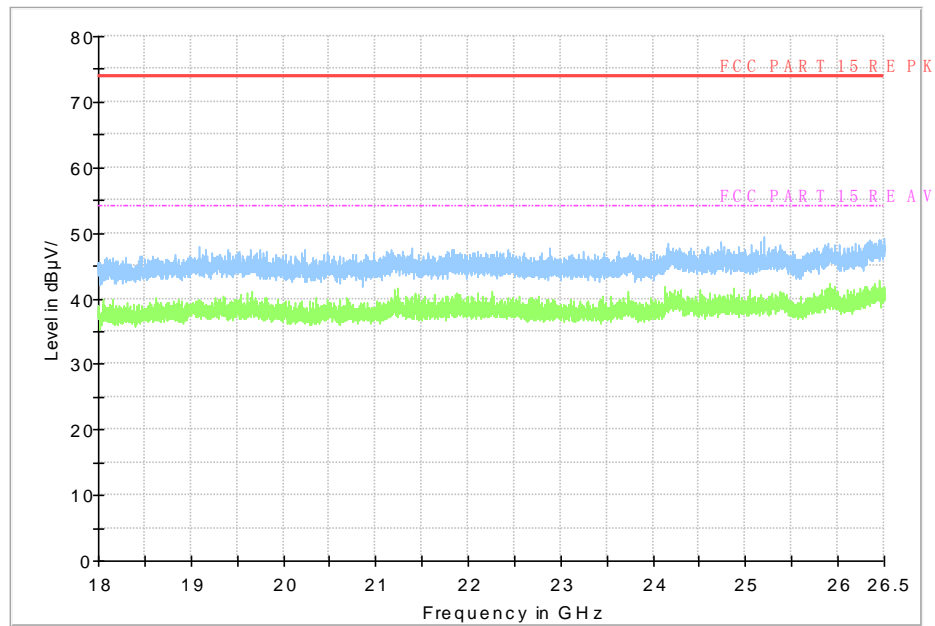


Fig. 68 Radiated Spurious Emission (All Channels, 18 GHz ~26.5 GHz)

A.5 20dB Bandwidth

Measurement Limit:

Standard	Limit (kHz)
FCC 47 CFR Part 15.247 (a)	/

Measurement Result:

Mode	Channel	20dB Bandwidth (KHz)		conclusion
		Fig.	Value	
GFSK	0	Fig.69	922.50	/
	39	Fig.70	922.50	
	78	Fig.71	923.25	
$\pi/4$ DQPSK	0	Fig.72	1280.25	/
	39	Fig.73	1278.00	
	78	Fig.74	1275.75	
8DPSK	0	Fig.75	1296.75	/
	39	Fig.76	1271.25	
	78	Fig.77	1269.75	

See below for test graphs.

Conclusion: PASS

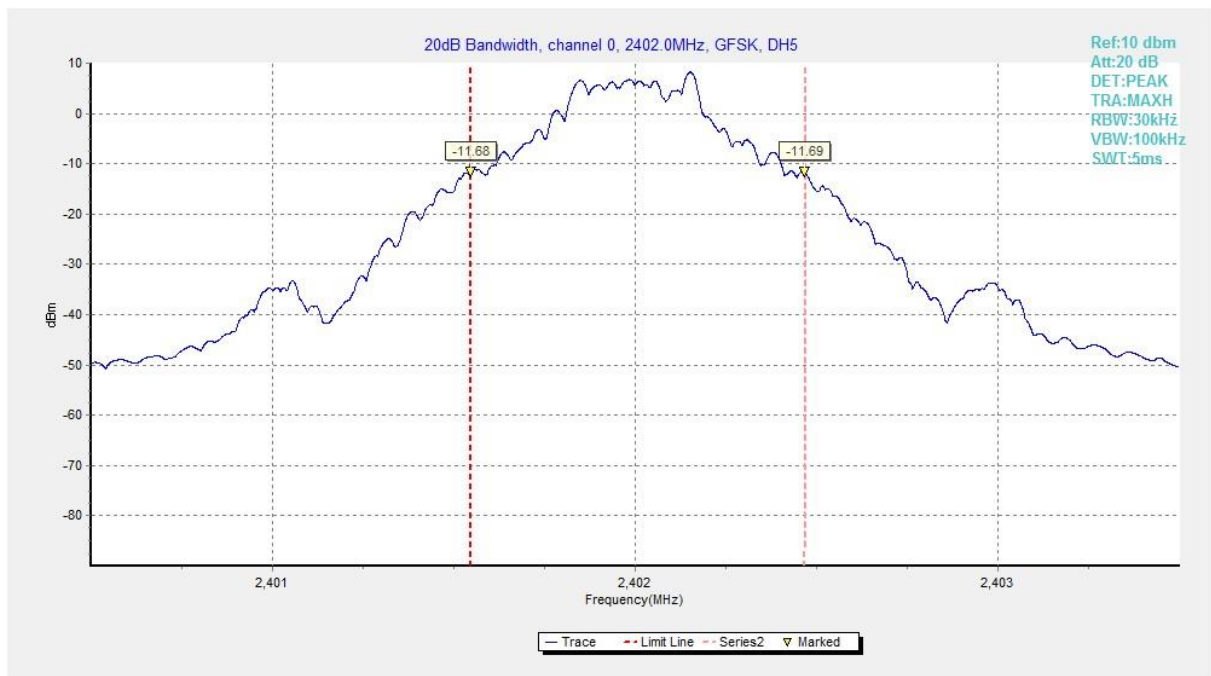


Fig. 69 20dB Bandwidth (GFSK, Ch 0)

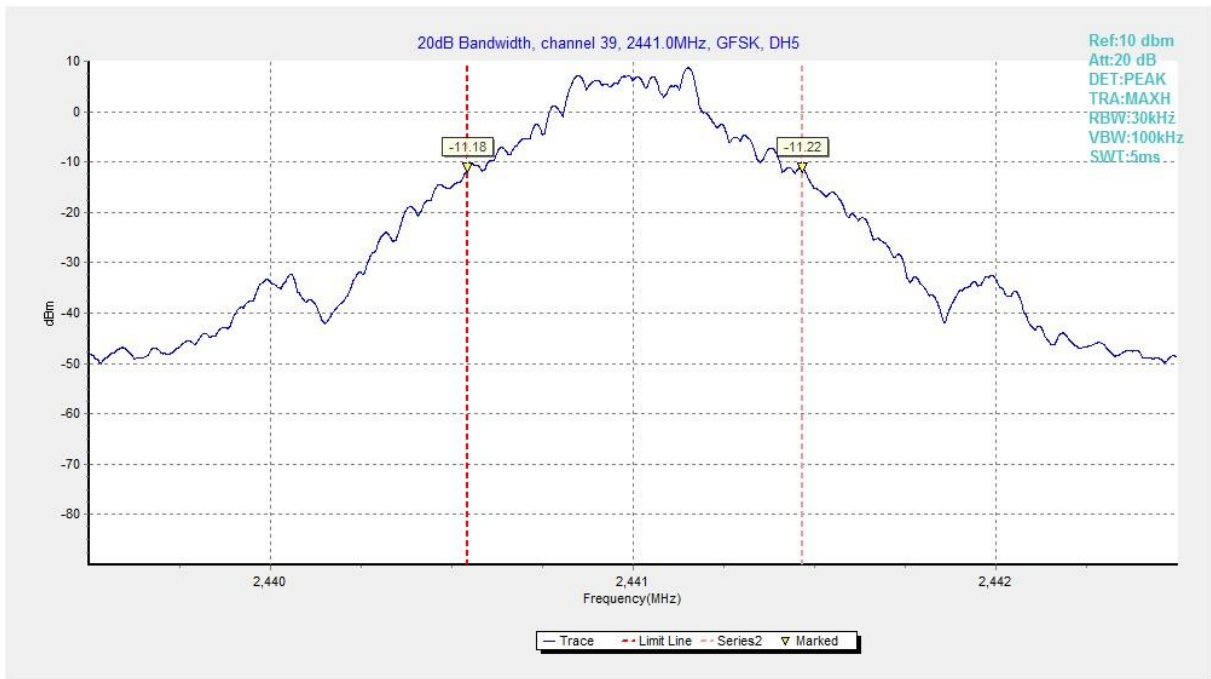


Fig. 70 20dB Bandwidth (GFSK, Ch 39)

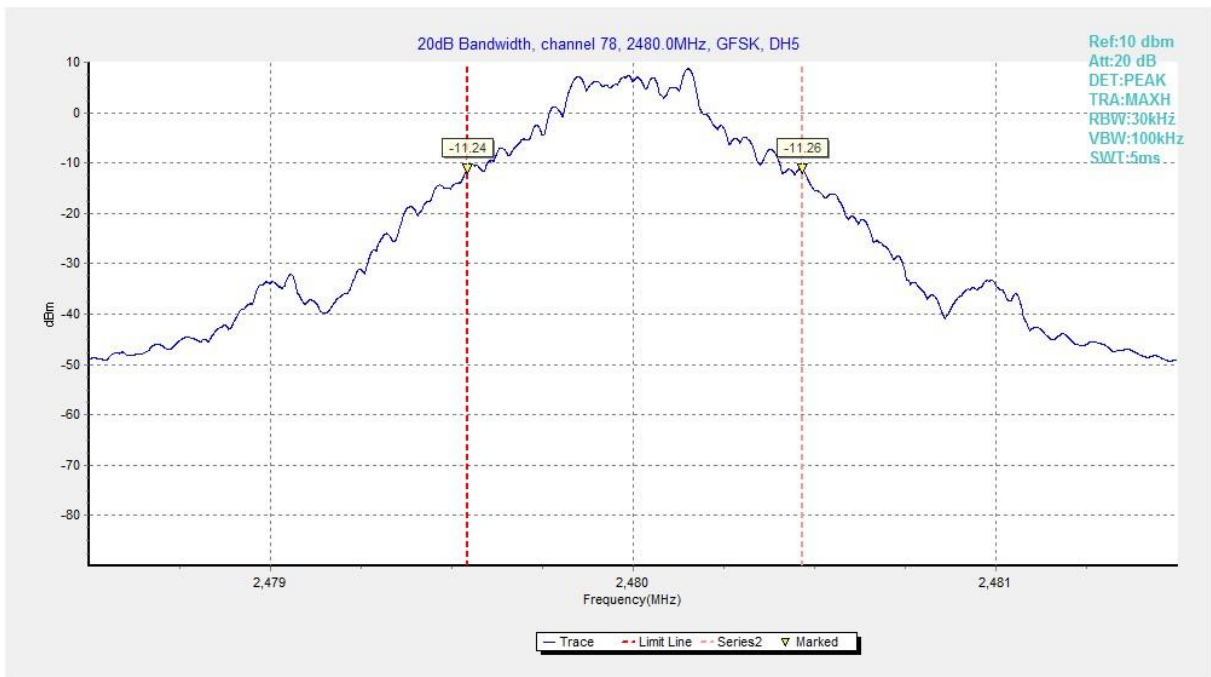


Fig. 71 20dB Bandwidth (GFSK, Ch 78)

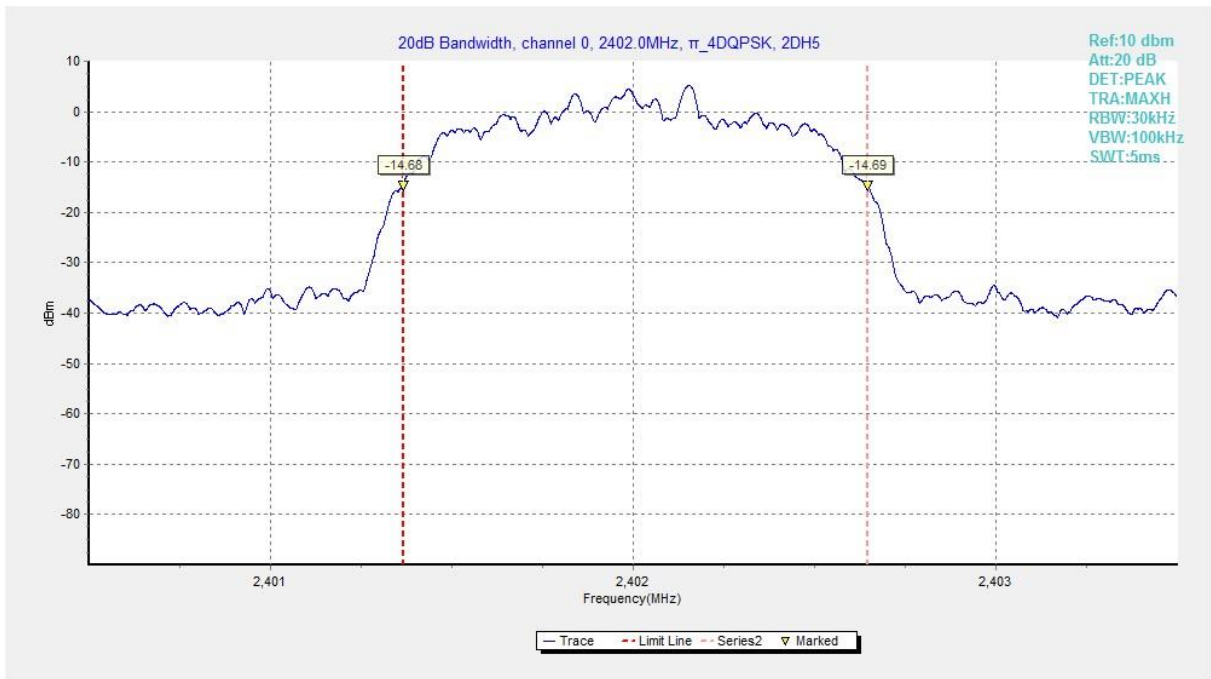


Fig. 72 20dB Bandwidth (π /4 DQPSK, Ch 0)

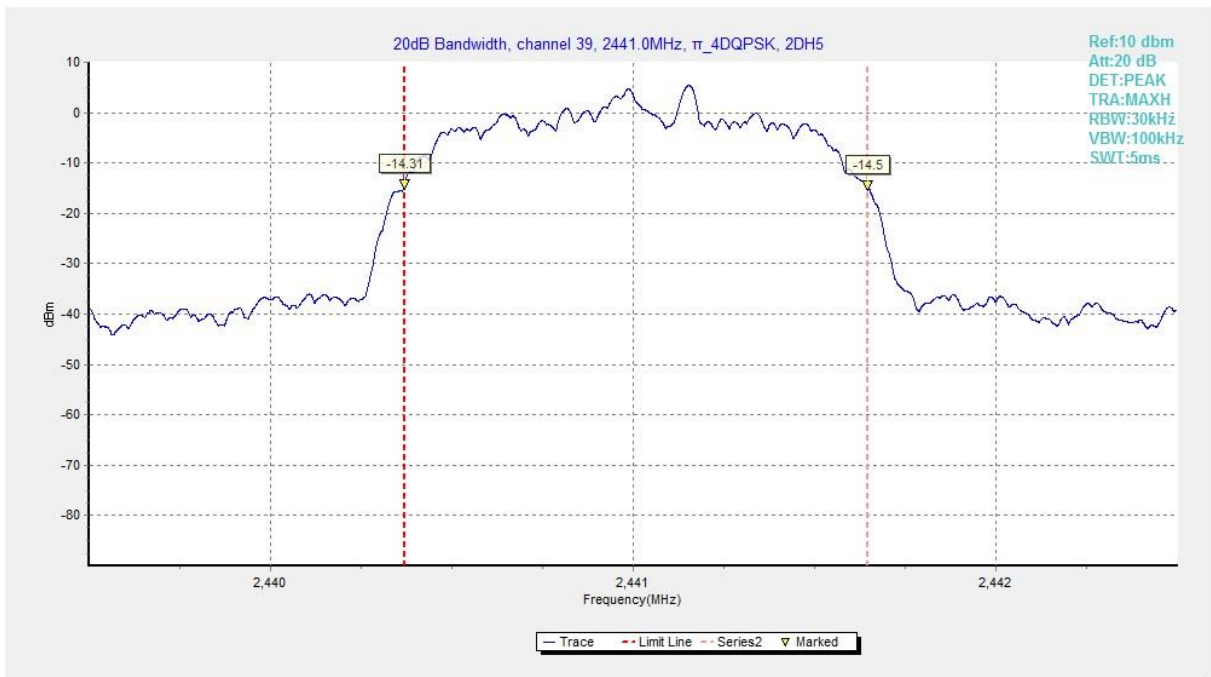


Fig. 73 20dB Bandwidth (π /4 DQPSK, Ch 39)

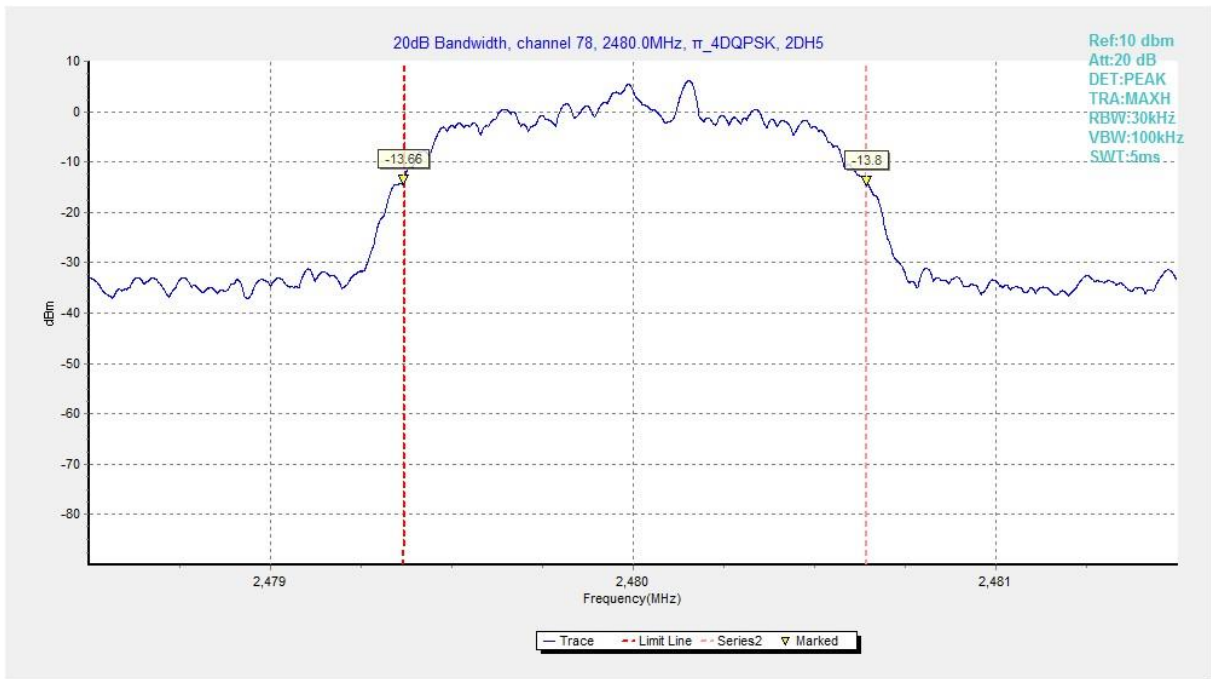


Fig. 74 20dB Bandwidth ($\pi/4$ DQPSK, Ch 78)

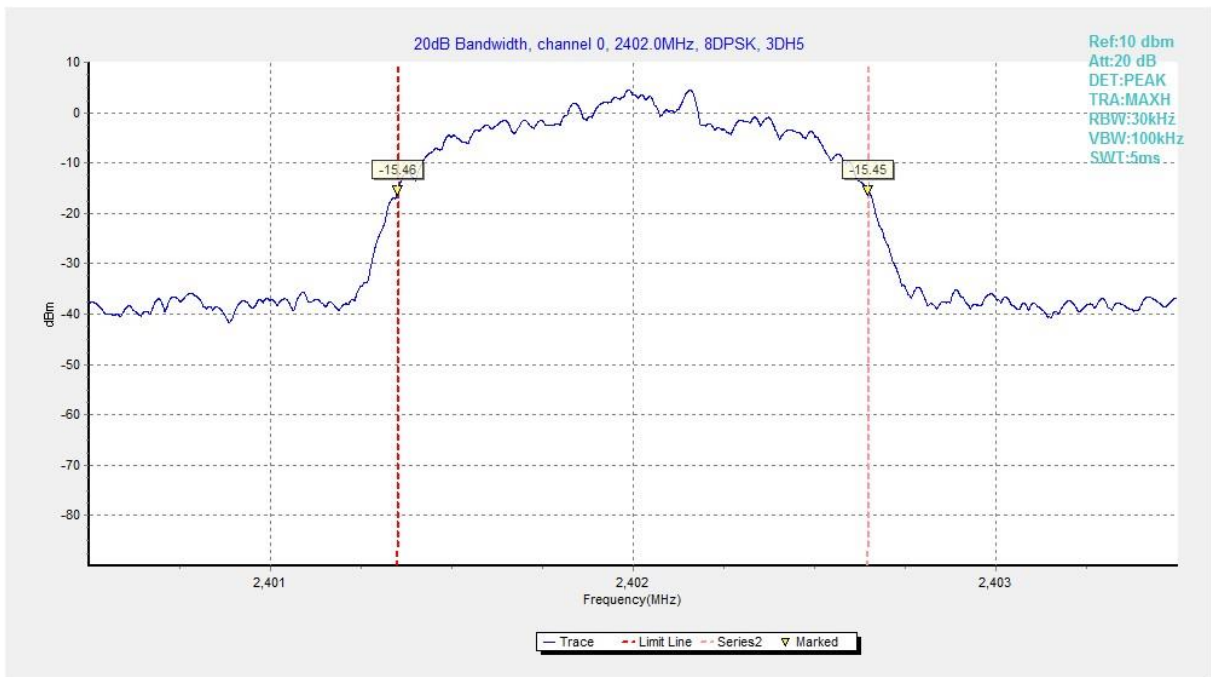


Fig. 75 20dB Bandwidth (8DPSK, Ch 0)

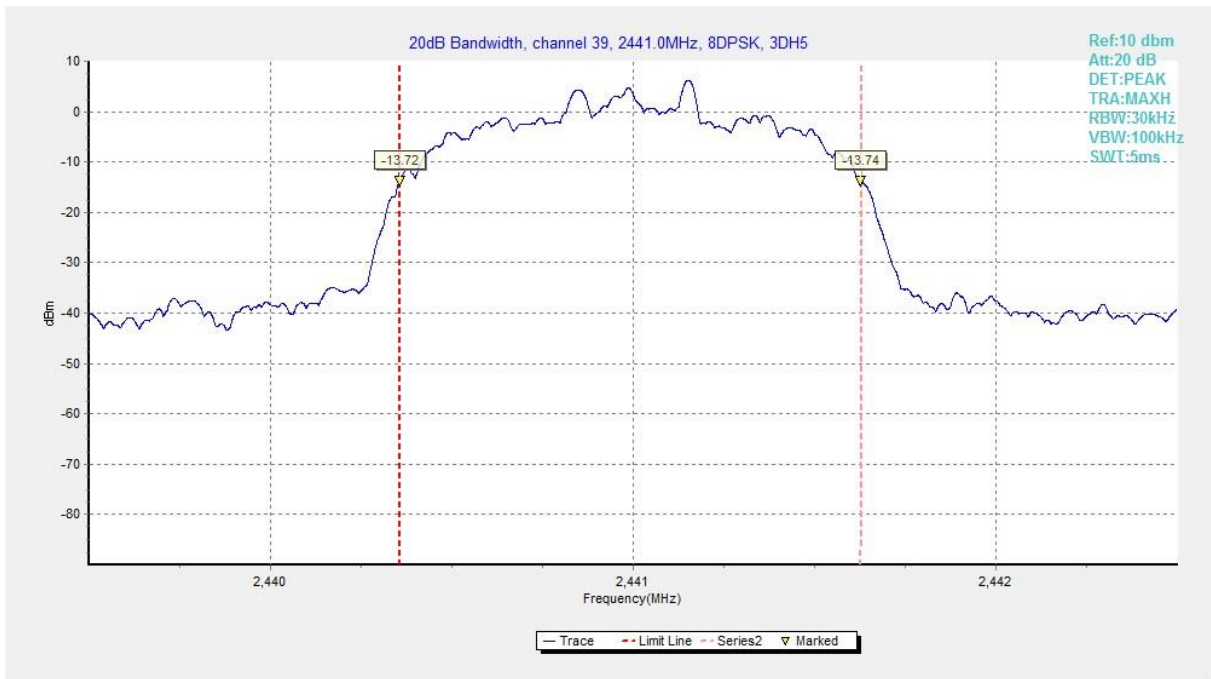


Fig. 76 20dB Bandwidth (8DPSK, Ch 39)

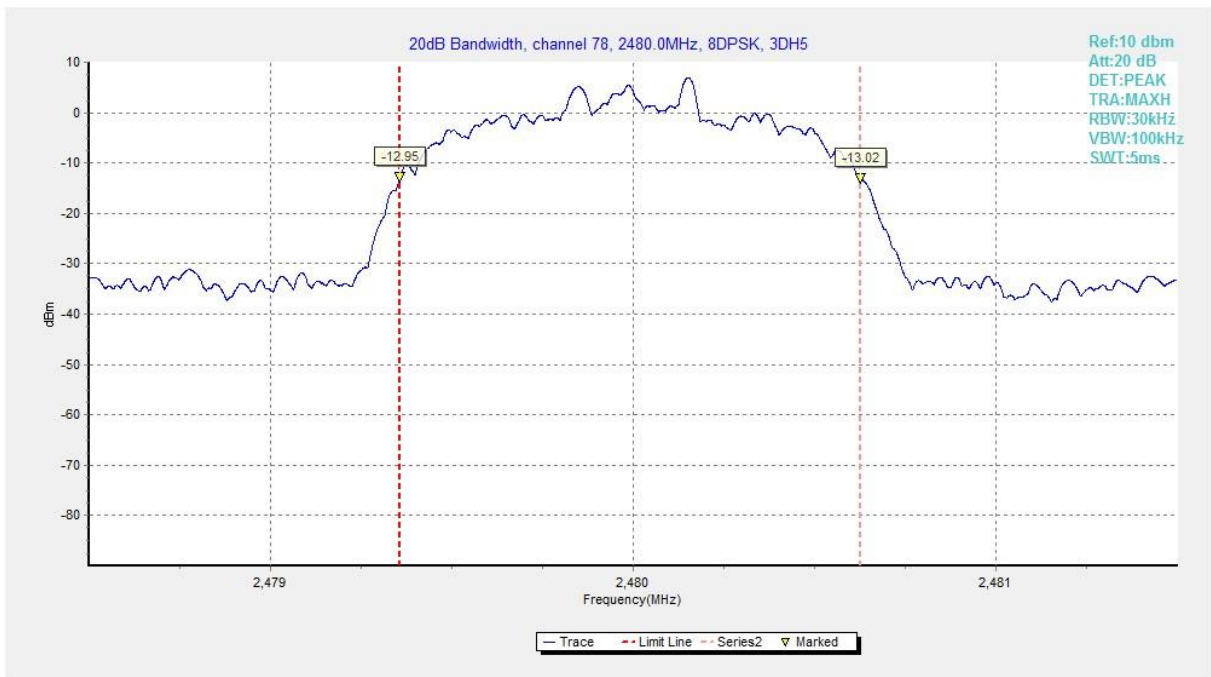


Fig. 77 20dB Bandwidth (8DPSK, Ch 78)



A.6 Time of Occupancy (Dwell Time)

Measurement Limit:

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

Measurement Results:

Mode	Channel	Packet	Dwell Time(ms)		Conclusion
GFSK	39	DH5	Fig.78	306.45	P
			Fig.79		
$\pi/4$ DQPSK	39	2-DH5	Fig.80	306.50	P
			Fig.81		
8DPSK	39	3-DH5	Fig.82	306.75	P
			Fig.83		

See below for test graphs.

Conclusion: Pass

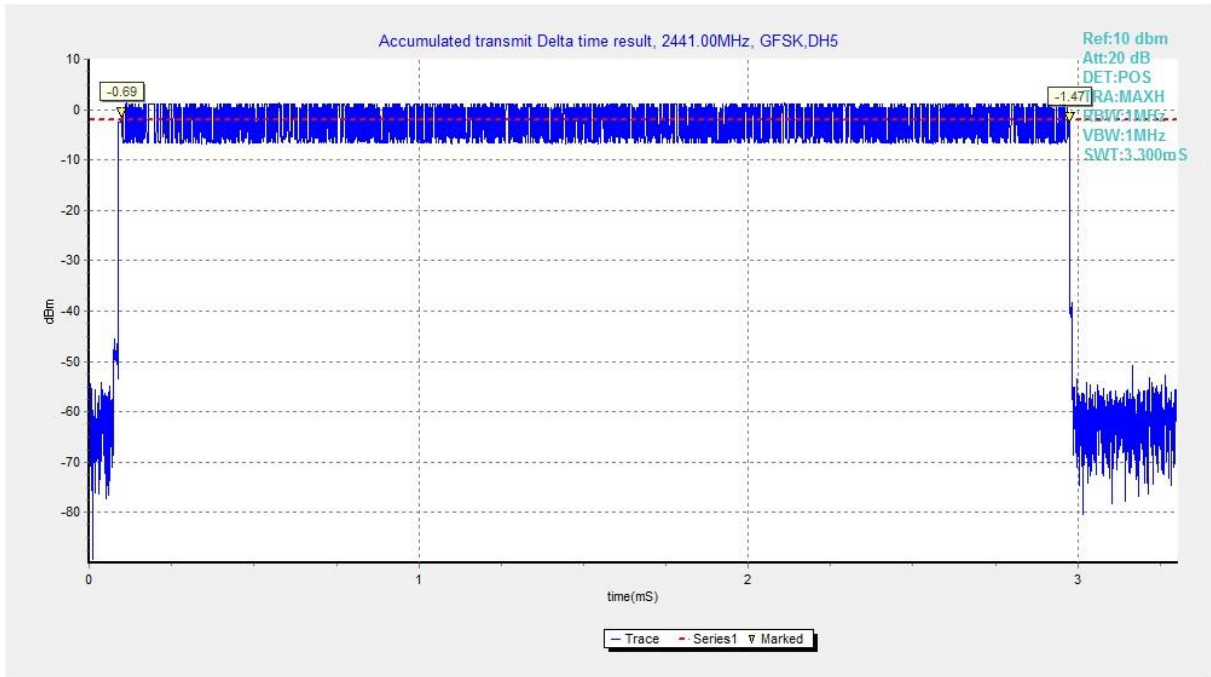


Fig. 78 Time of Occupancy(Dwell Time) (GFSK, Ch39)

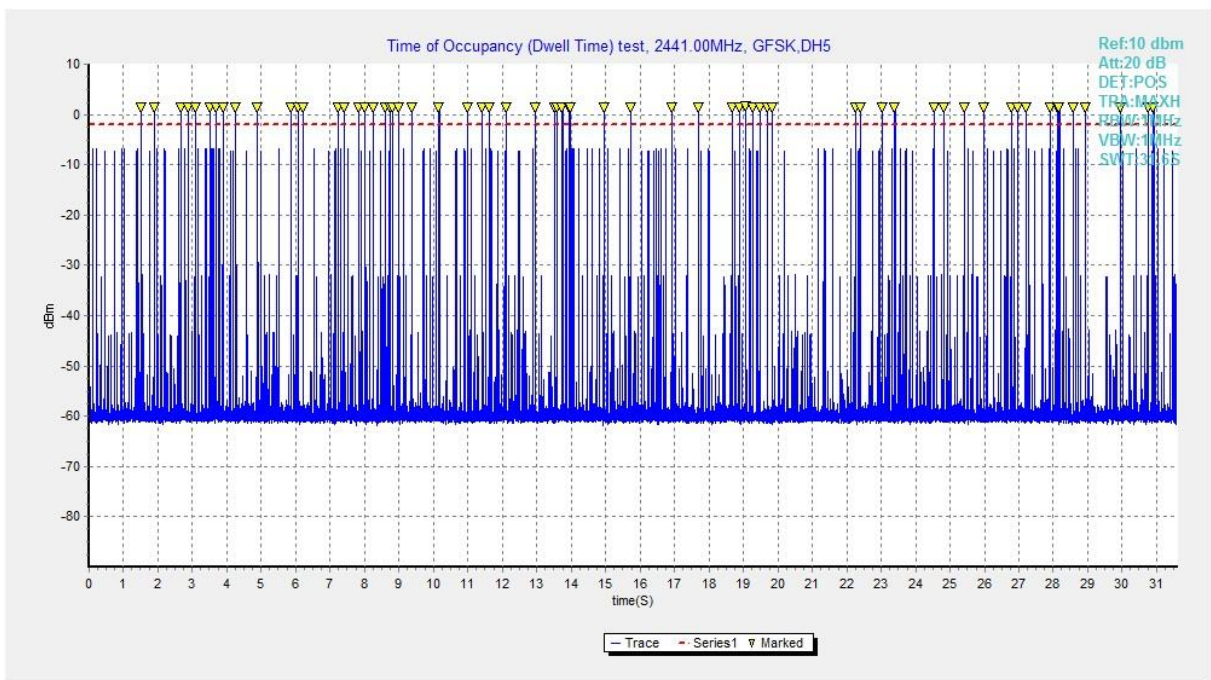


Fig. 79 Time of Occupancy(Dwell Time) (GFSK, Ch39)

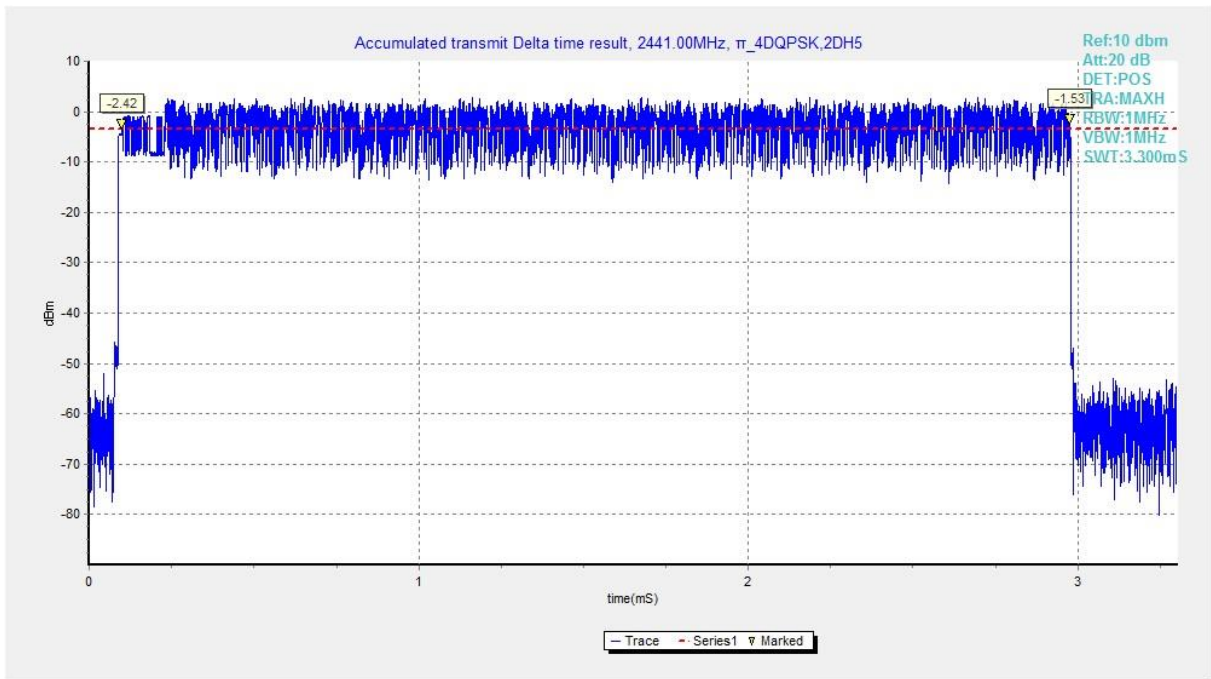


Fig. 80 Time of Occupancy(Dwell Time) (π /4 DQPSK, Ch39)

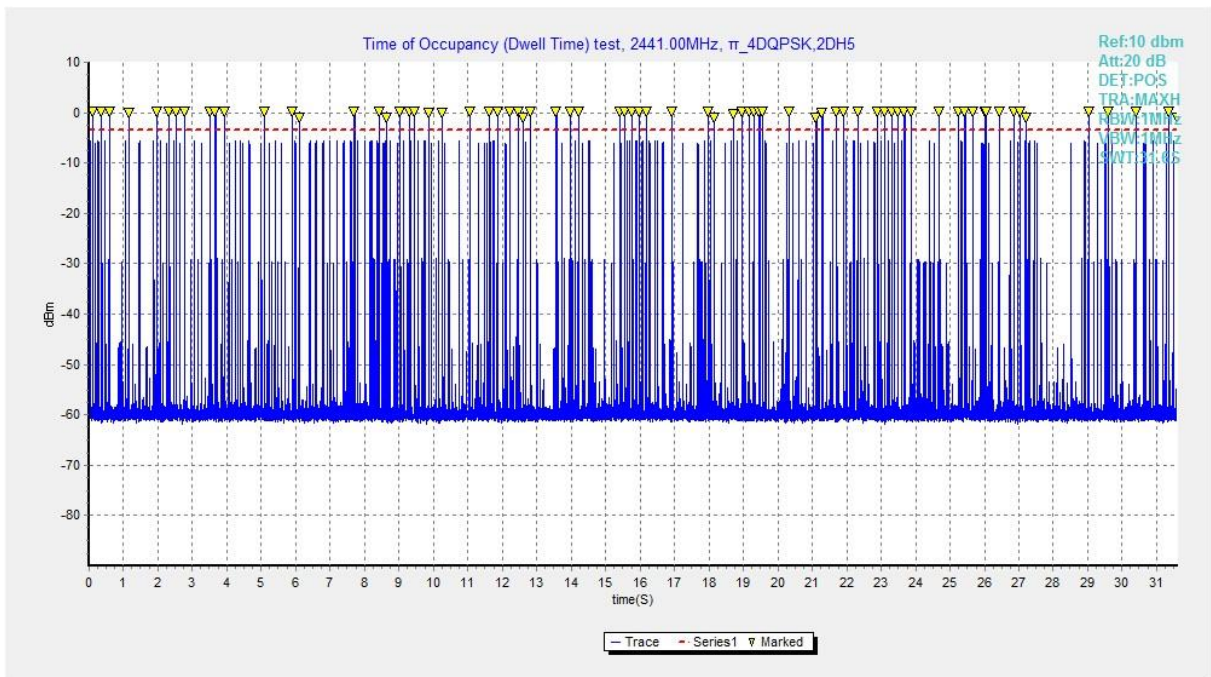


Fig. 81 Time of Occupancy(Dwell Time) (π /4 DQPSK, Ch39)

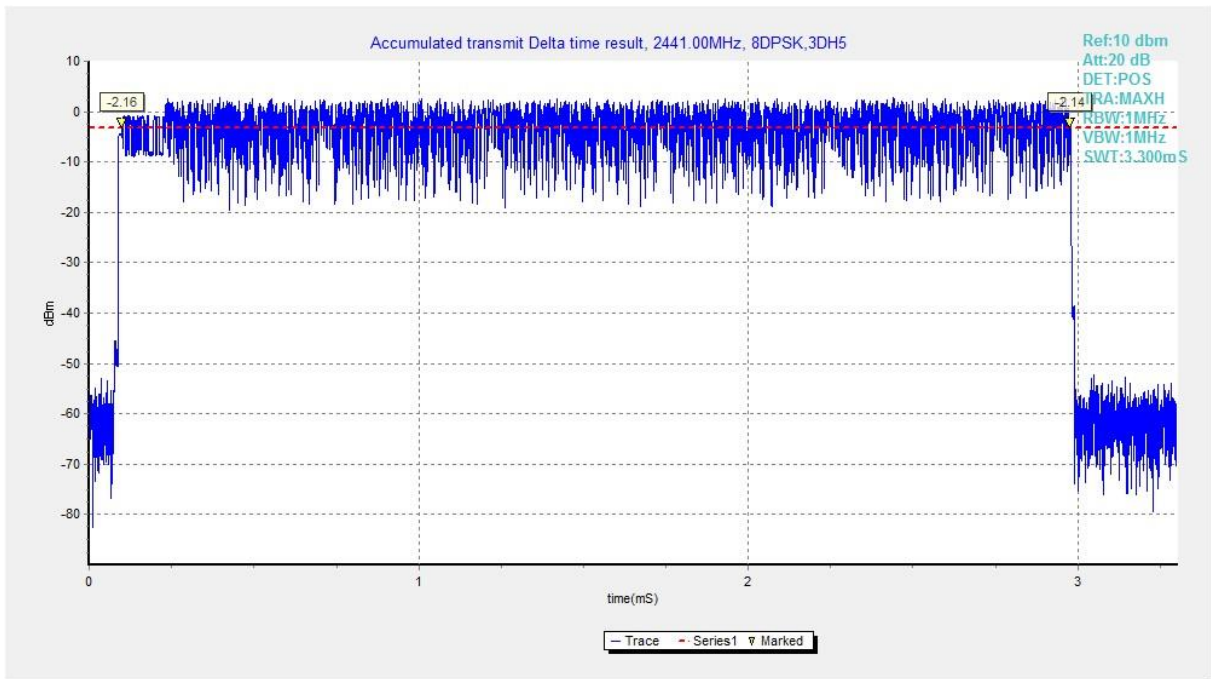


Fig. 82 Time of Occupancy(Dwell Time) (8DPSK, Ch39)

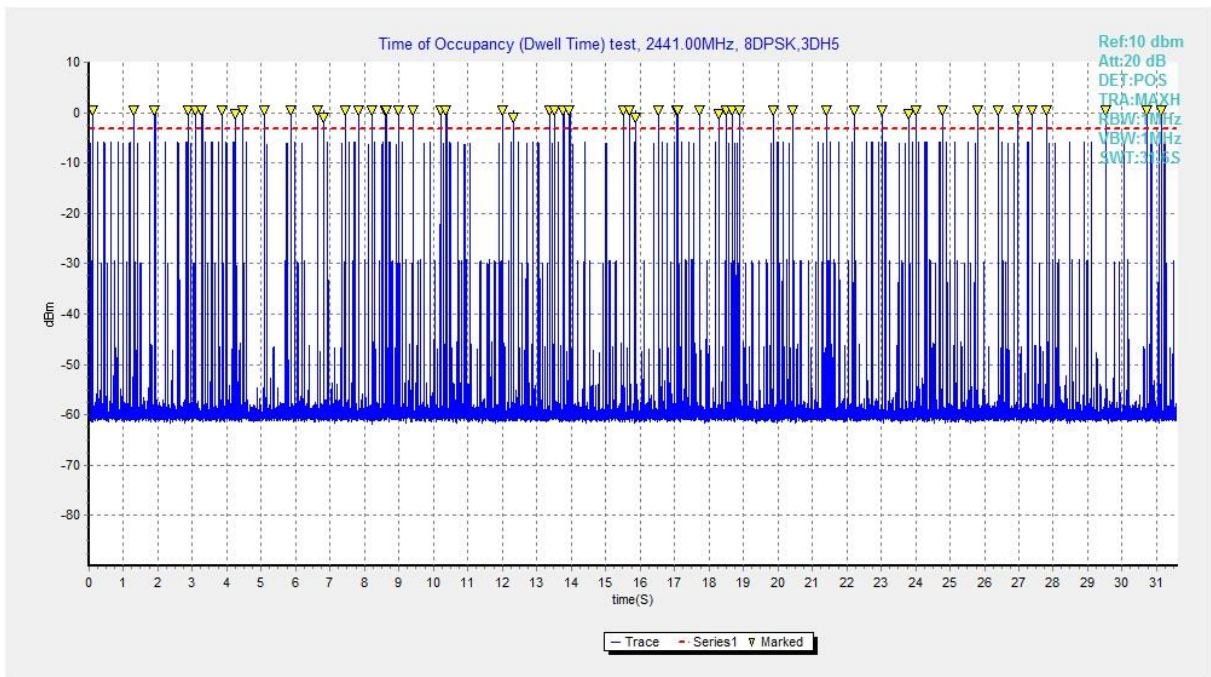


Fig. 83 Time of Occupancy(Dwell Time) (8DPSK, Ch39)



A.7 Number of Hopping Channels

Measurement Limit:

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

Measurement Results:

Mode	Packet	Number of hopping		Test result	Conclusion
GFSK	DH5	Fig.84	Fig.85	79	P
$\pi/4$ DQPSK	2-DH5	Fig.86	Fig.87	79	P
8DPSK	3-DH5	Fig.88	Fig.89	79	P

See below for test graphs.

Conclusion: Pass

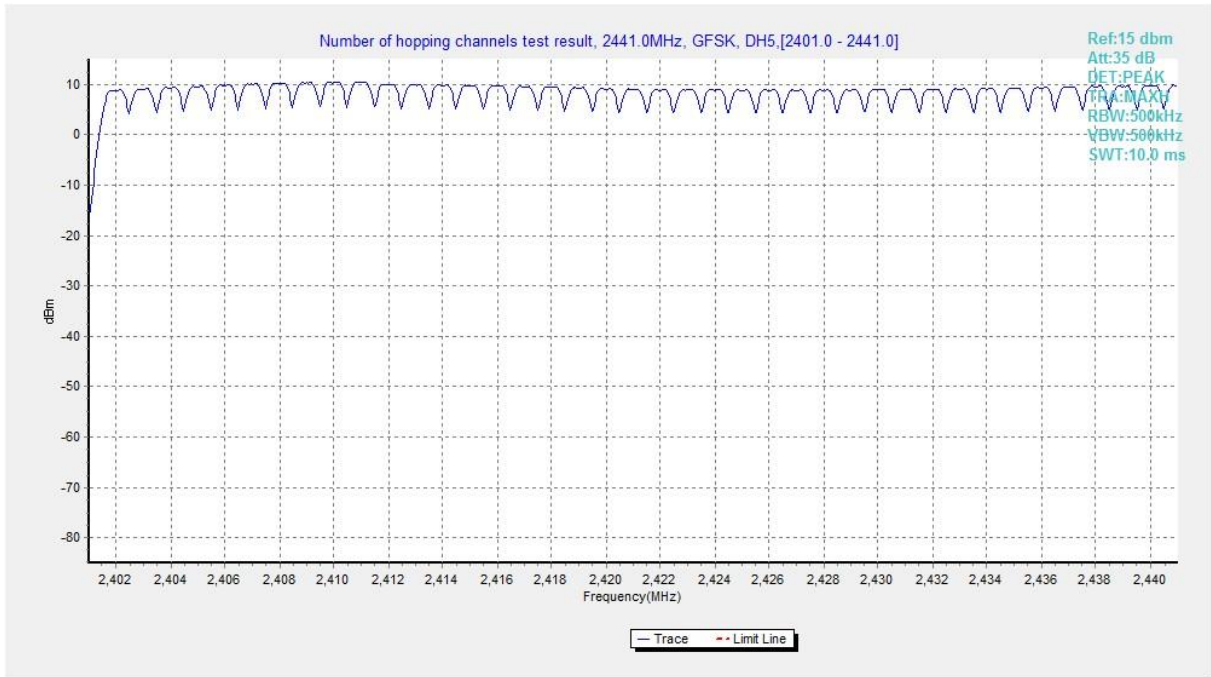


Fig. 84 Hopping channel ch0~39 (GFSK, Ch39)

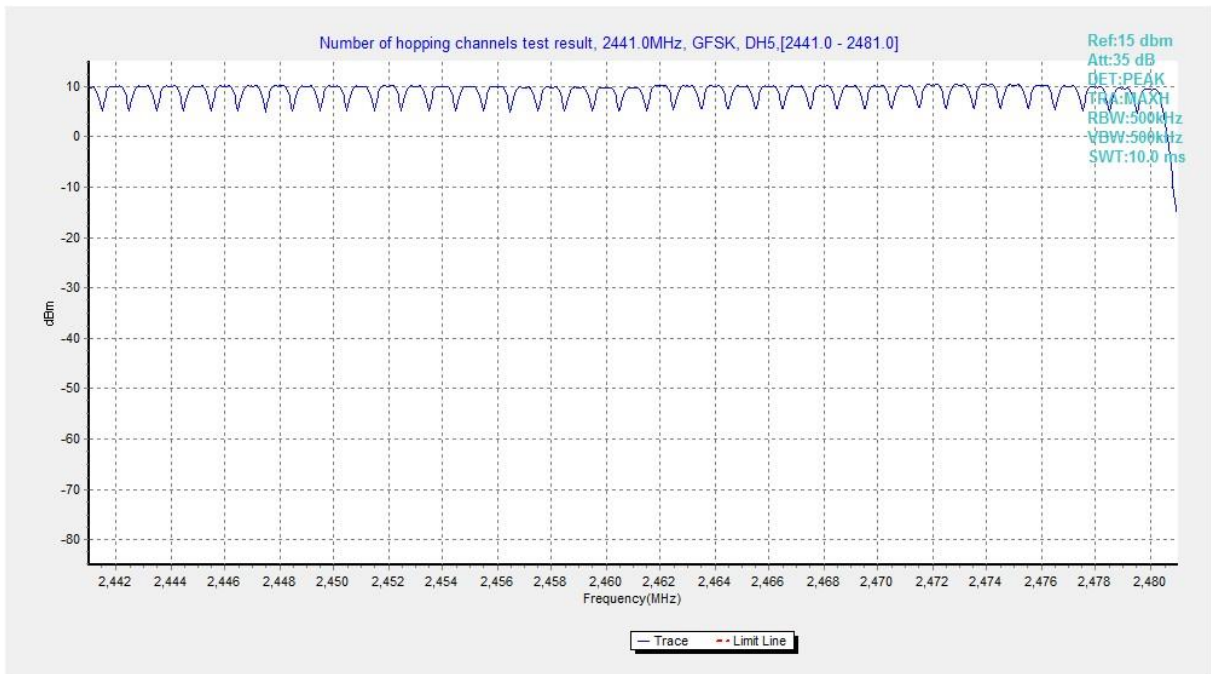


Fig. 85 Hopping channel ch39~78 (GFSK, Ch39)

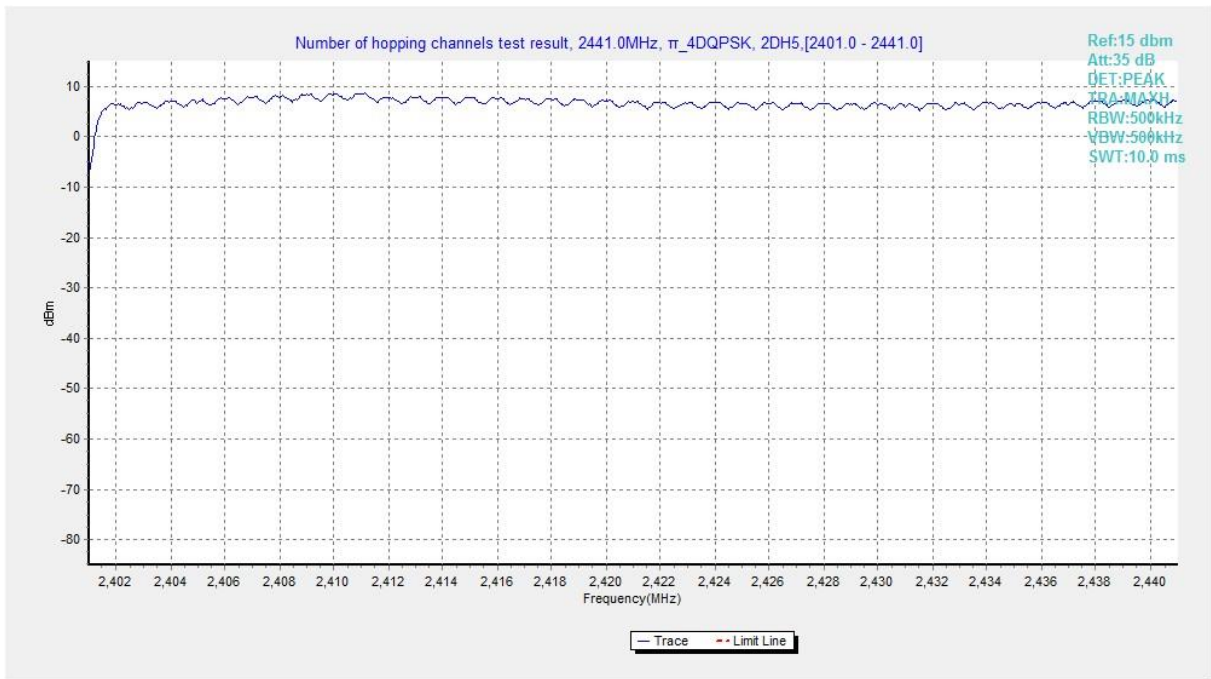


Fig. 86 Hopping channel ch0~39 ($\pi/4$ DQPSK, Ch39)

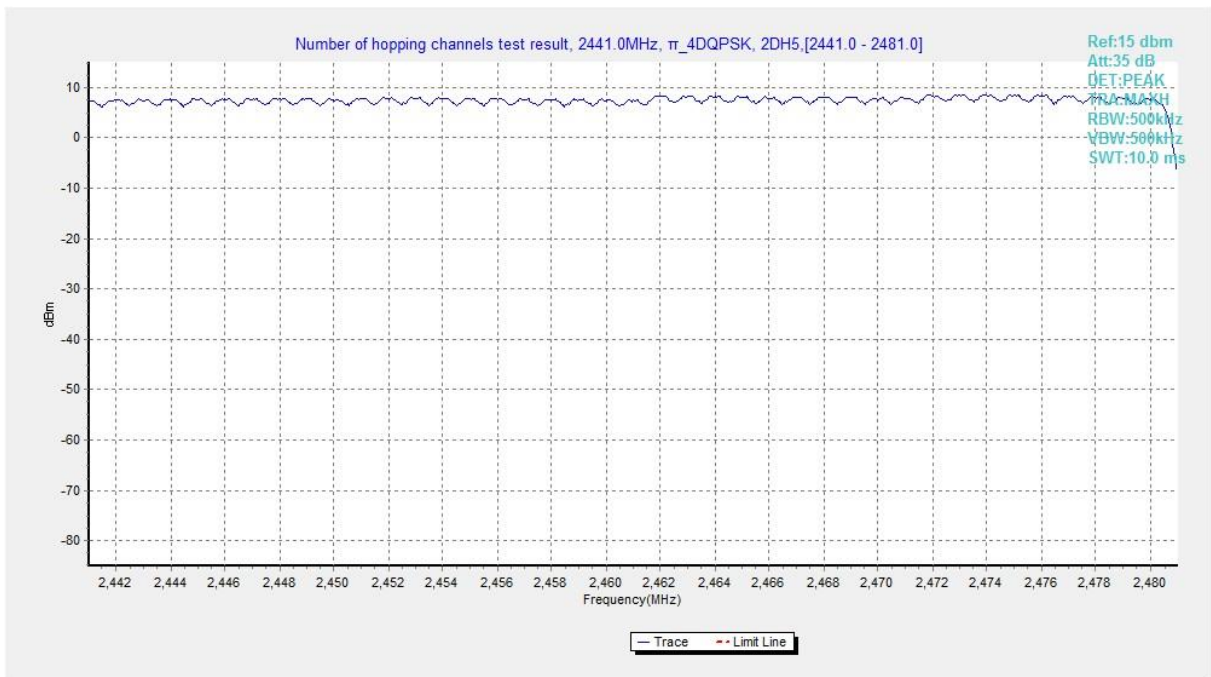


Fig. 87 Hopping channel ch39~78 ($\pi/4$ DQPSK, Ch39)

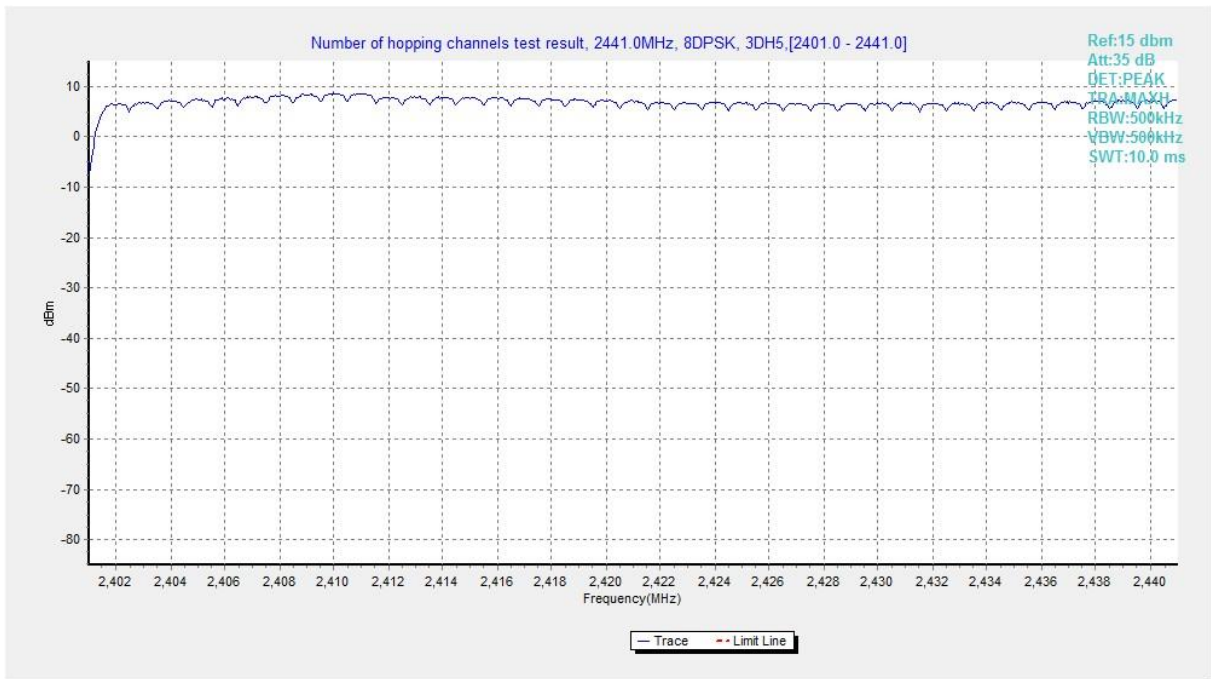


Fig. 88 Hopping channel ch0~39 (8DPSK, Ch39)

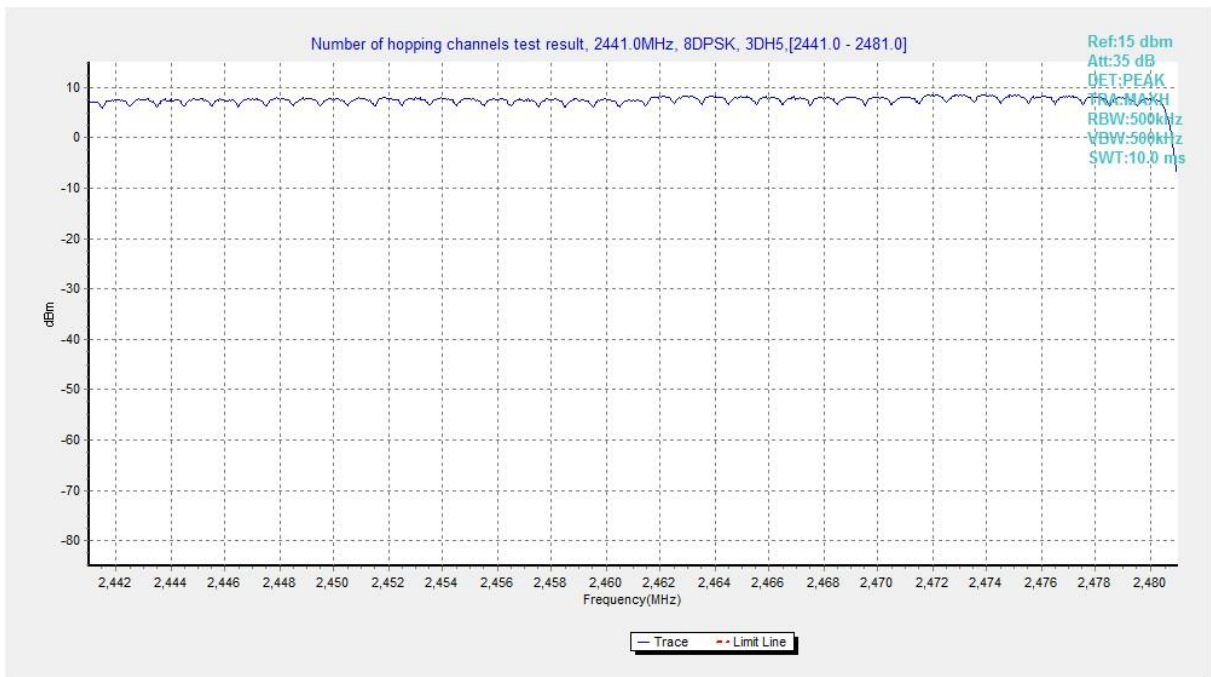


Fig. 89 Hopping channel ch39~78 (8DPSK, Ch39)

A.8 Carrier Frequency Separation

Measurement Limit:

Standard	Limit
FCC 47 CFR Part 15.247(a)	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.90	999.75	P
$\pi/4$ DQPSK	39	2-DH5	Fig.91	1155.75	P
8DPSK	39	3-DH5	Fig.92	1158.00	P

See below for test graphs.

Conclusion: Pass

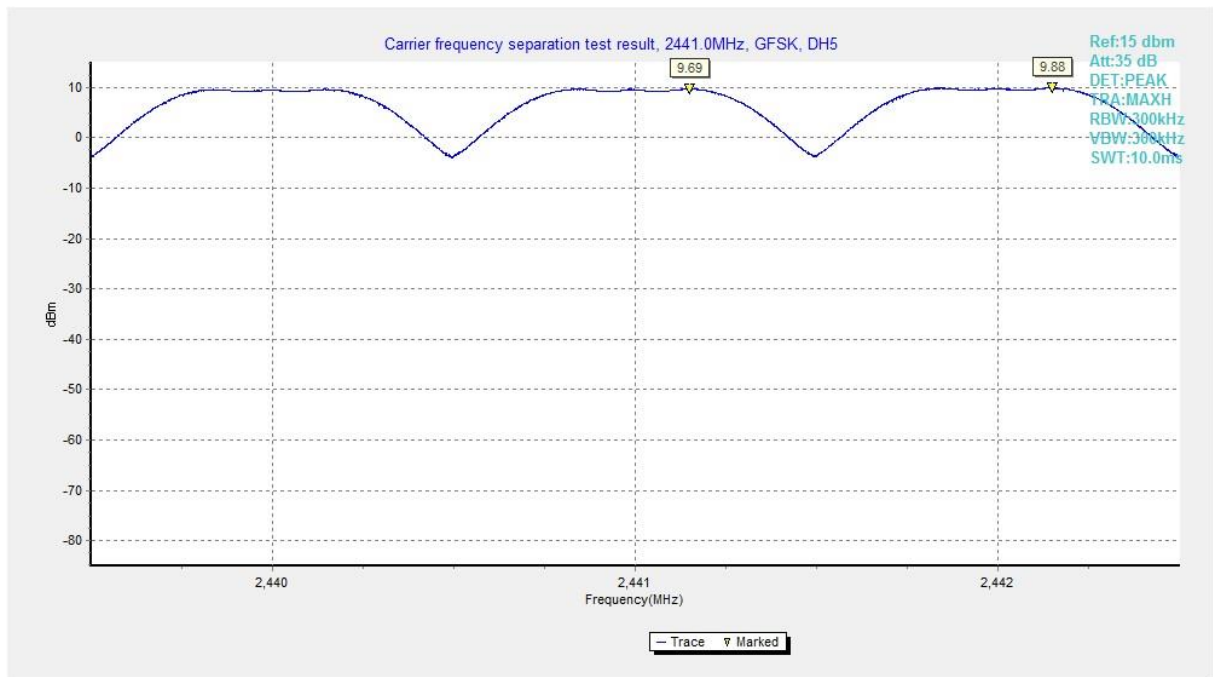


Fig. 90 Carrier Frequency Separation (GFSK, Ch39)

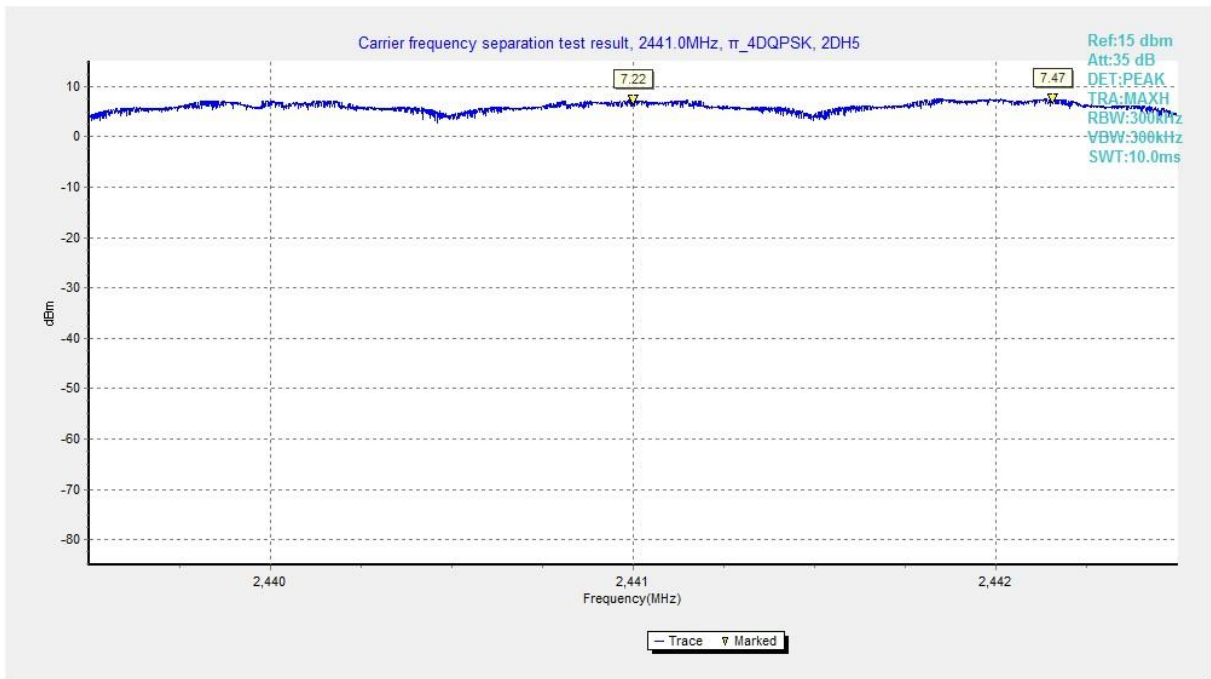


Fig. 91 Carrier Frequency Separation (π /4 DQPSK, Ch39)

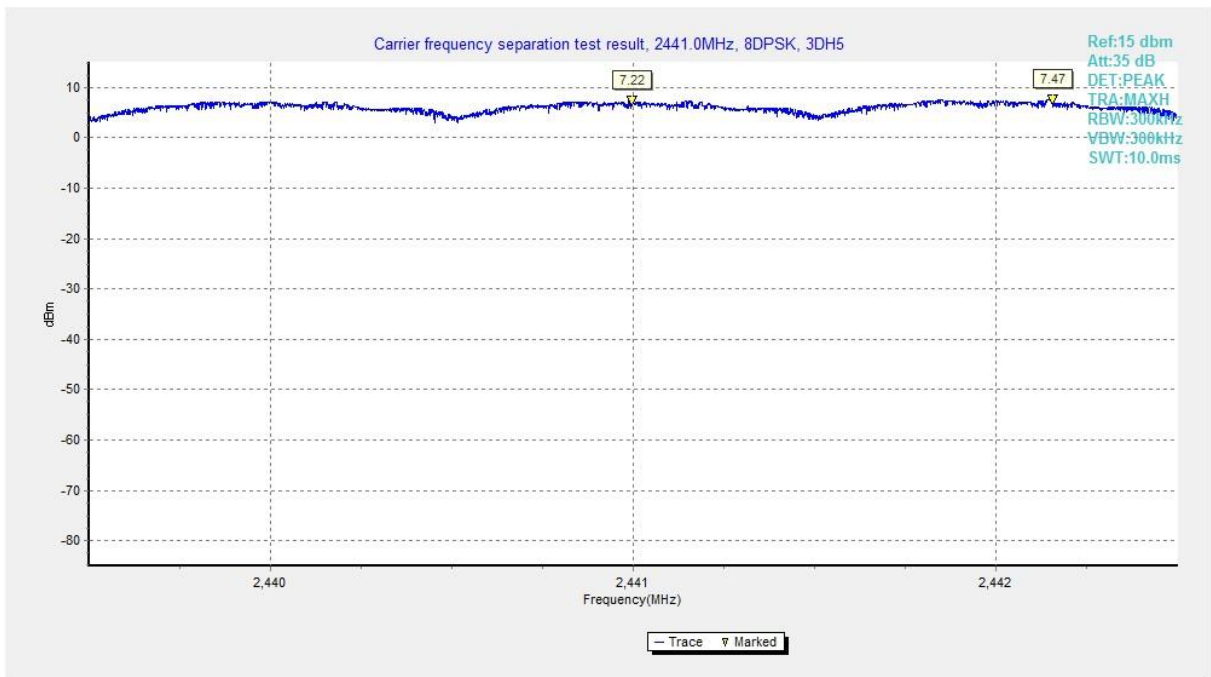


Fig. 92 Carrier Frequency Separation (8DPSK, Ch39)

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 (dB μ V)	Result (dB μ V)		Conclusion
		Traffic	Idle	
0.15 to 0.5	66 to 56	Fig.102	Fig.103	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 (dB μ V)	Result (dB μ V)		Conclusion
		Traffic	Idle	
0.15 to 0.5	56 to 46	Fig 102	Fig 103	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

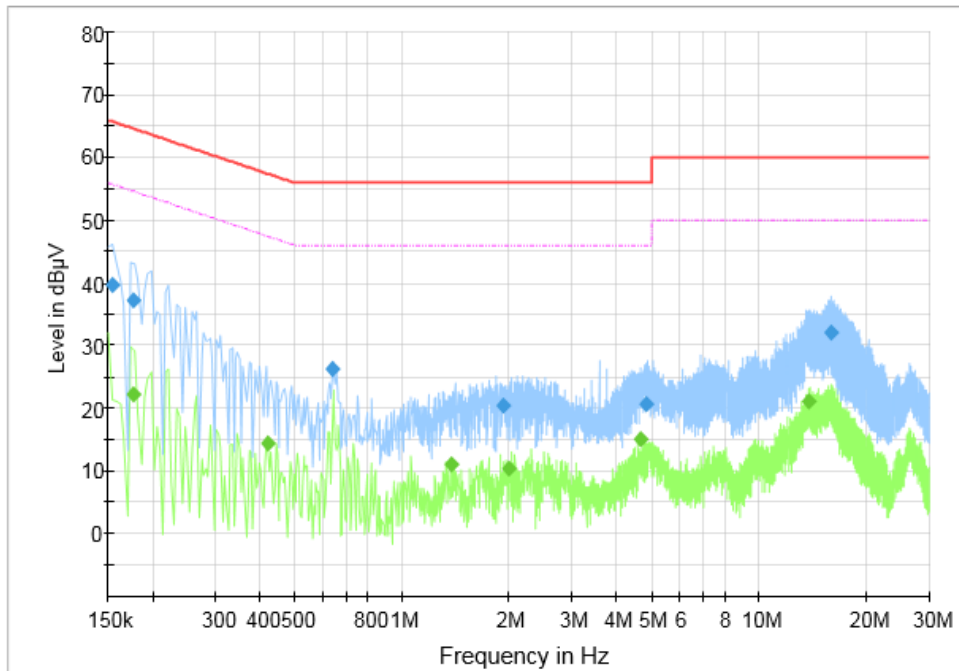


Fig. 93 AC Powerline Conducted Emission (Traffic)

Measurement Results: Quasi Peak

Frequency (MHz)	Quasi Peak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.154	39.68	65.78	26.10	L1	ON	9.6
0.176	37.14	64.67	27.53	N	ON	9.6
0.640	26.35	56.00	29.65	N	ON	9.6
1.916	20.36	56.00	35.64	N	ON	9.7
4.832	20.73	56.00	35.27	L1	ON	9.7
15.948	32.00	60.00	28.00	N	ON	9.8

Measurement Results : Average

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.176	22.34	54.67	32.34	N	ON	9.6
0.420	14.44	47.45	33.00	N	ON	9.7
1.372	11.11	46.00	34.89	L1	ON	9.7
1.996	10.37	46.00	35.63	N	ON	9.7
4.668	15.00	46.00	31.00	N	ON	9.7
13.820	21.22	50.00	28.78	L1	ON	9.8

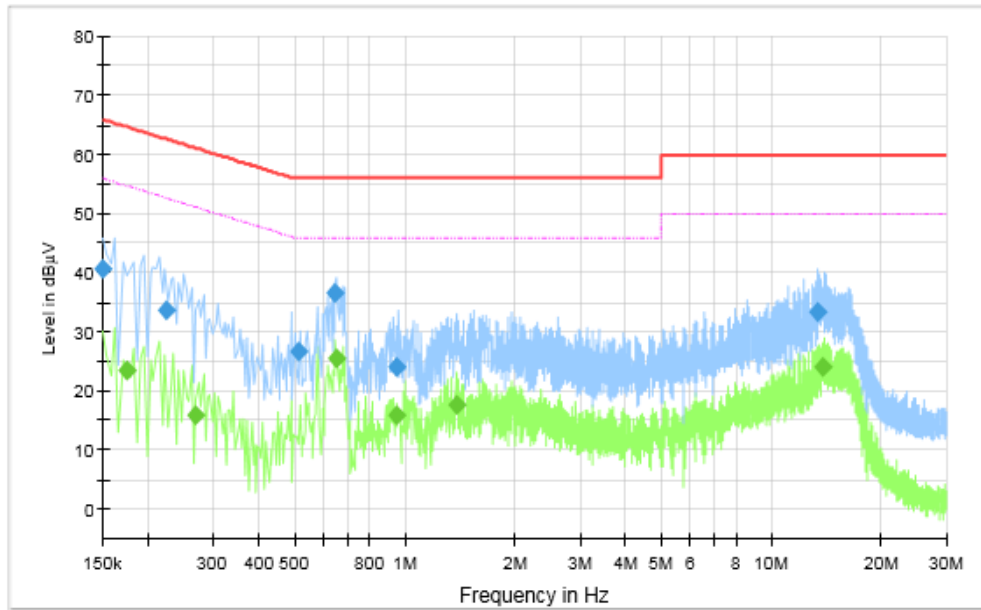


Fig. 94 AC Power line Conducted Emission (Idle)

Measurement Results: Quasi Peak

Frequency (MHz)	Quasi Peak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.948	24.25	56.00	31.75	N	ON	9.7
0.512	26.75	56.00	29.25	N	ON	9.6
13.336	33.47	60.00	26.53	N	ON	9.8
0.224	33.74	62.67	28.93	N	ON	9.6
0.644	36.63	56.00	19.37	N	ON	9.6
0.150	40.64	66.00	25.36	N	ON	9.6

Measurement Results : Average

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.174	23.55	54.77	31.21	N	ON	9.6
0.268	15.83	51.18	35.35	N	ON	9.6
0.652	25.59	46.00	20.41	N	ON	9.6
0.952	16.09	46.00	29.91	N	ON	9.7
1.384	17.62	46.00	28.38	N	ON	9.7
13.856	24.22	50.00	25.78	N	ON	9.8

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