

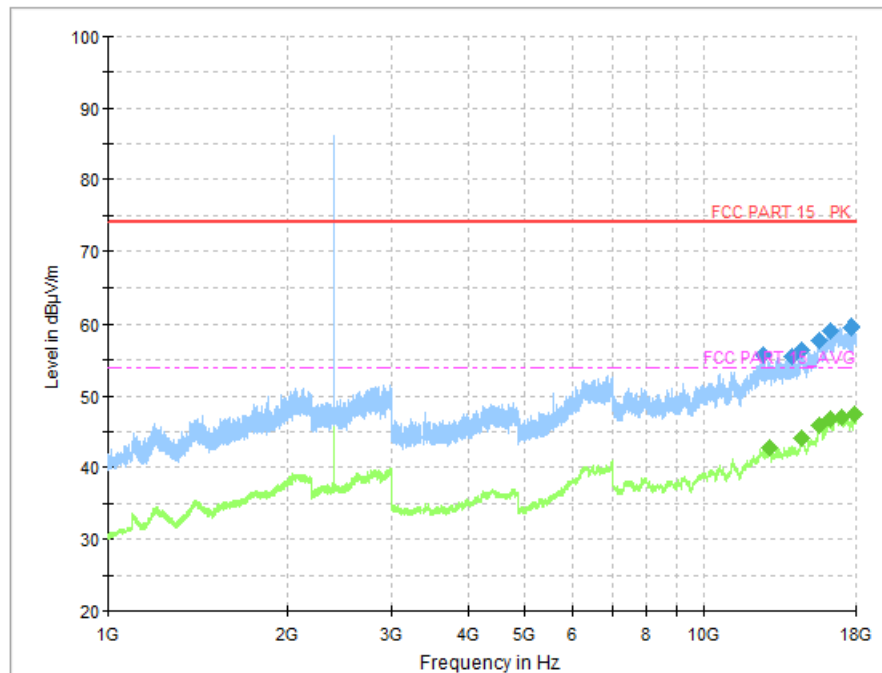


Fig. 52 Radiated Spurious Emission (8DPSK, Ch0, 1GHz ~ 18GHz)

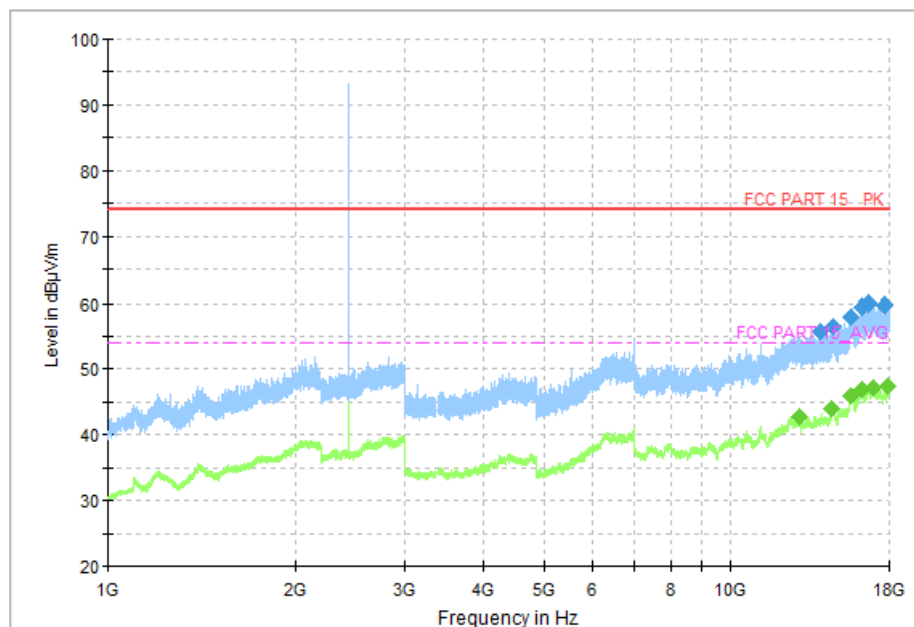


Fig. 53 Radiated Spurious Emission (8DPSK, Ch39, 1GHz ~ 18GHz)

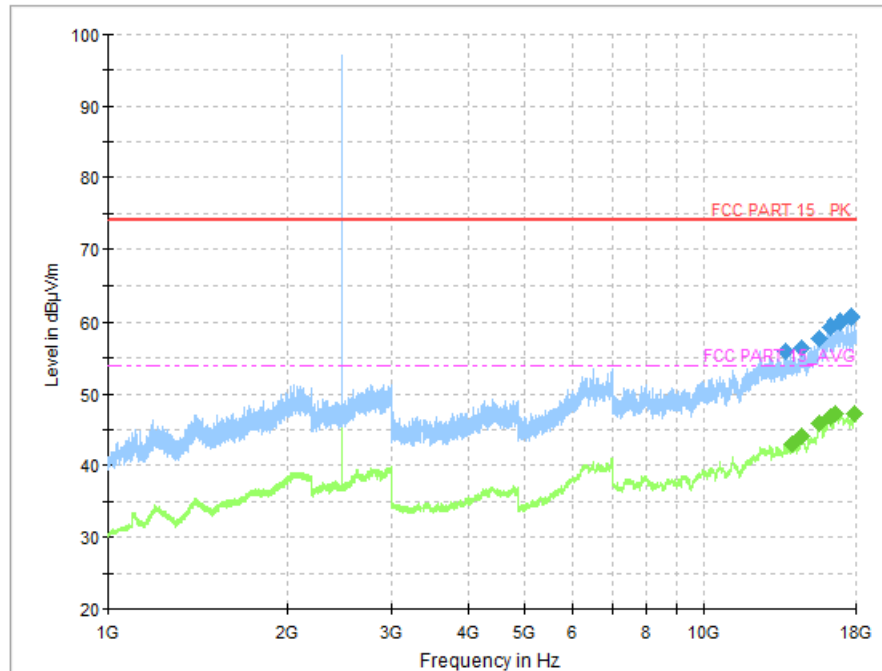


Fig. 54 Radiated Spurious Emission (8DPSK, Ch78, 1GHz ~ 18GHz)

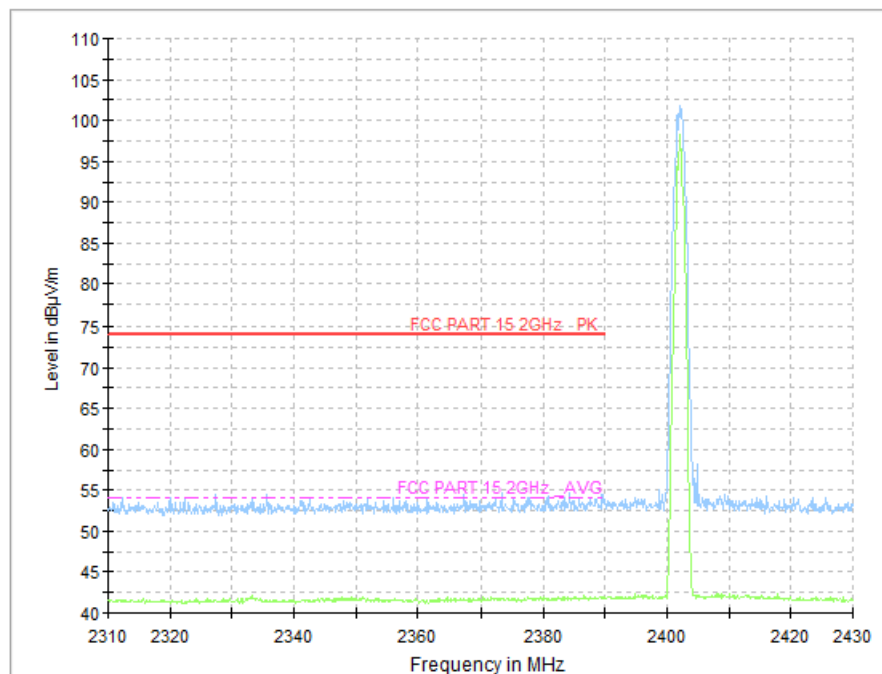


Fig. 55 Radiated Band Edges (8DPSK, Ch0, 2380GHz ~ 2450GHz)

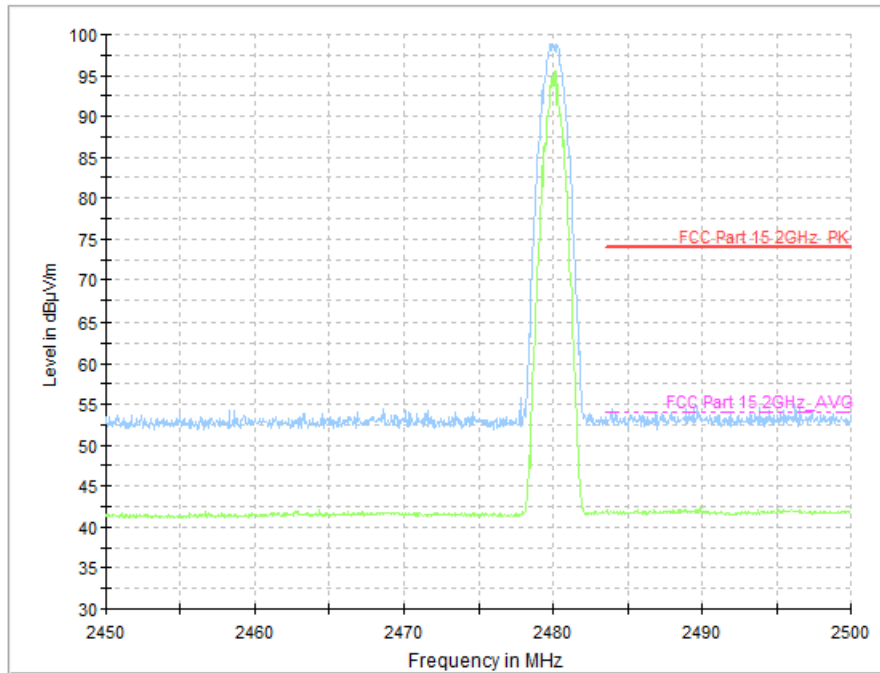


Fig. 56 Radiated Band Edges (8DPSK, Ch78, 2450GHz ~ 2500GHz)

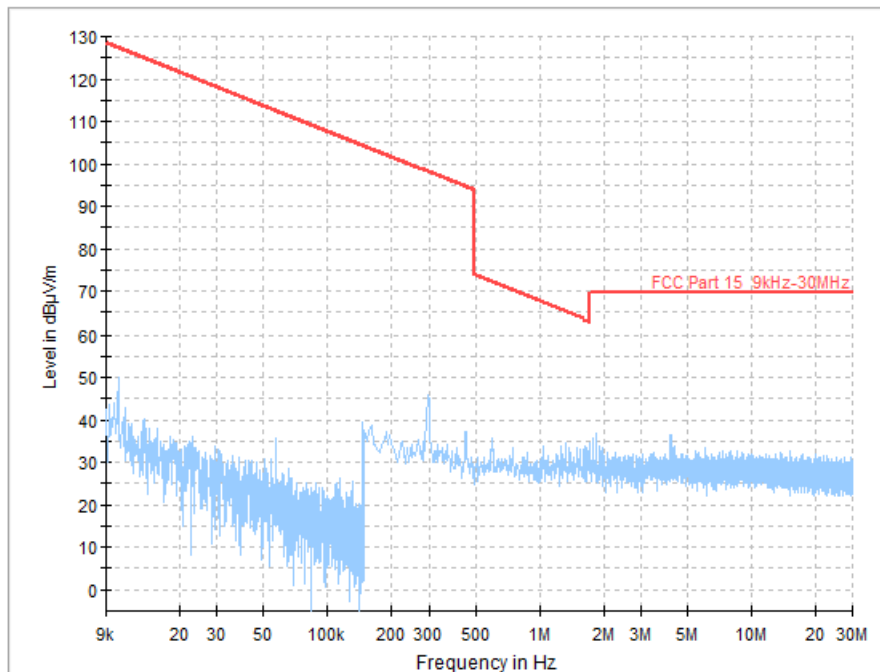


Fig. 57 Radiated Spurious Emission (All Channels, 9kHz ~ 30MHz)

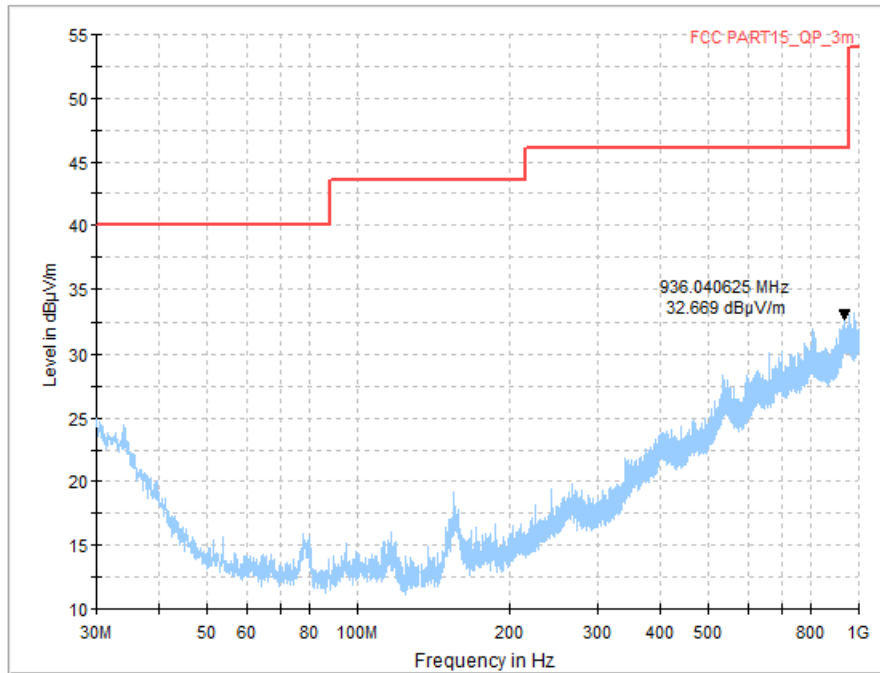


Fig. 58 Radiated Spurious Emission (All Channels, 30MHz ~ 1GHz)

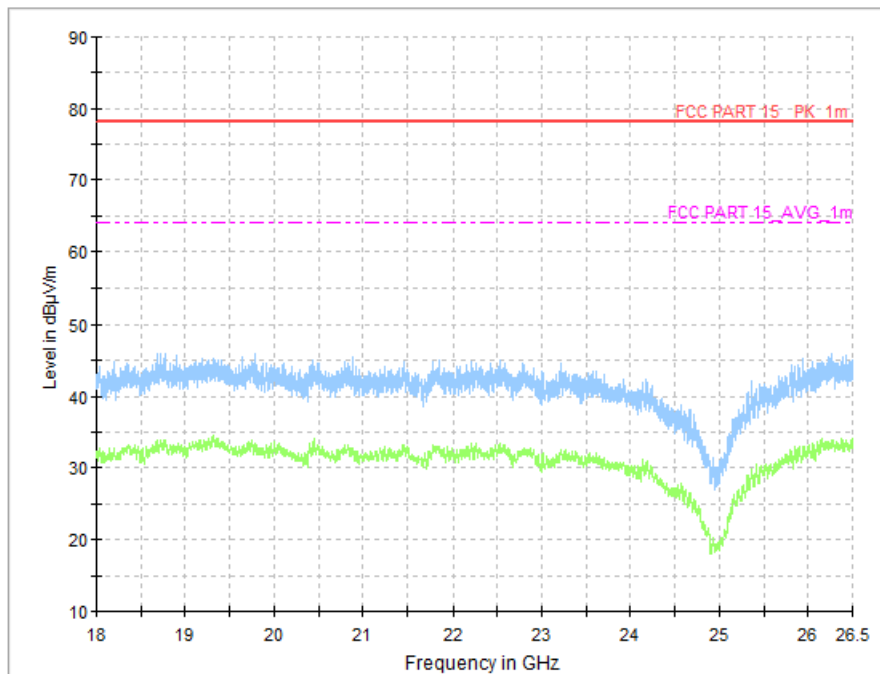


Fig. 59 Radiated Spurious Emission (All Channels, 18GHz ~ 26.5GHz)

A.5 20dB Bandwidth

Measurement Limit:

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

Measurement Result:

Mode	Channel	20dB Bandwidth (kHz)		conclusion
GFSK	0	Fig.60	1013.25	/
	39	Fig.61	941.25	
	78	Fig.62	941.25	
$\pi/4$ DQPSK	0	Fig.63	1230.75	/
	39	Fig.64	1251.75	
	78	Fig.65	1252.50	
8DPSK	0	Fig.66	1235.25	/
	39	Fig.67	1252.50	
	78	Fig.68	1252.50	

See below for test graphs.

Conclusion: PASS

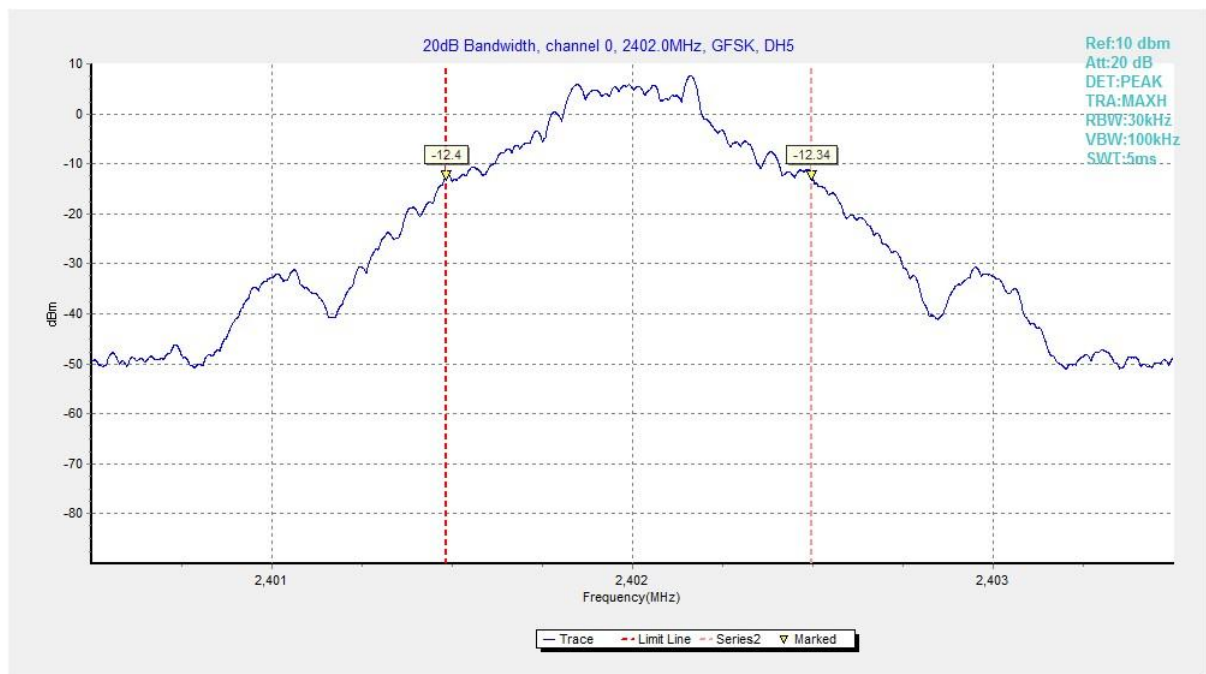


Fig. 60 20dB Bandwidth (GFSK, Ch 0)

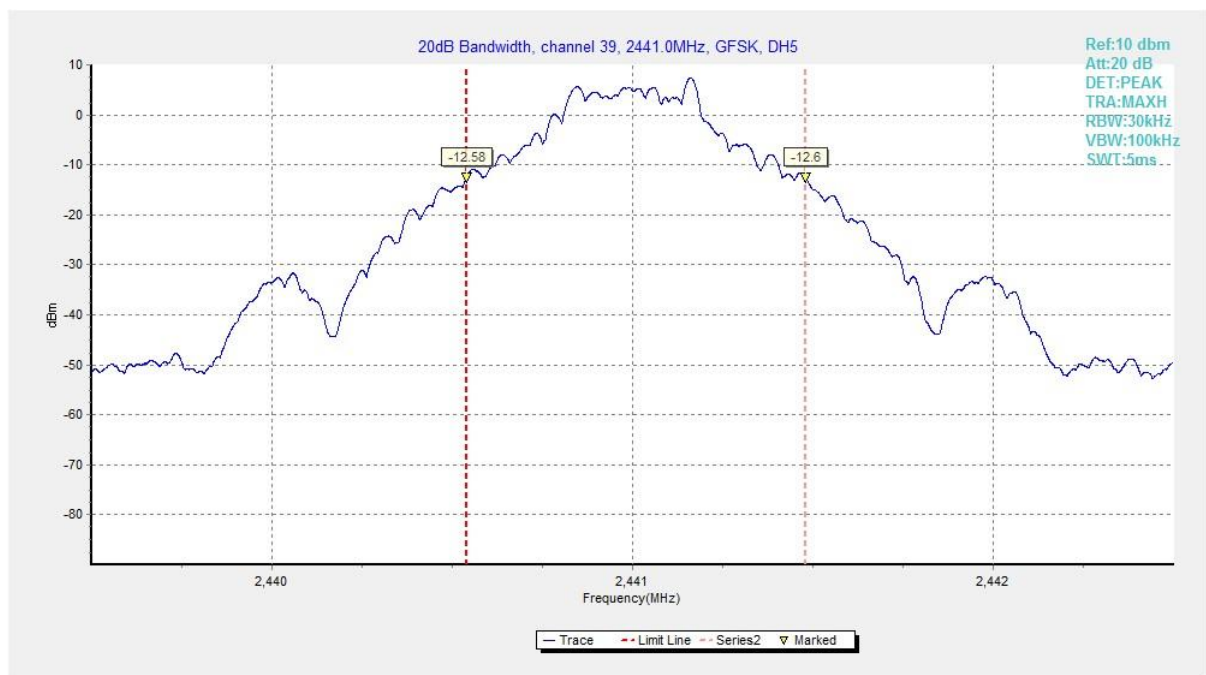


Fig. 61 20dB Bandwidth (GFSK, Ch 39)

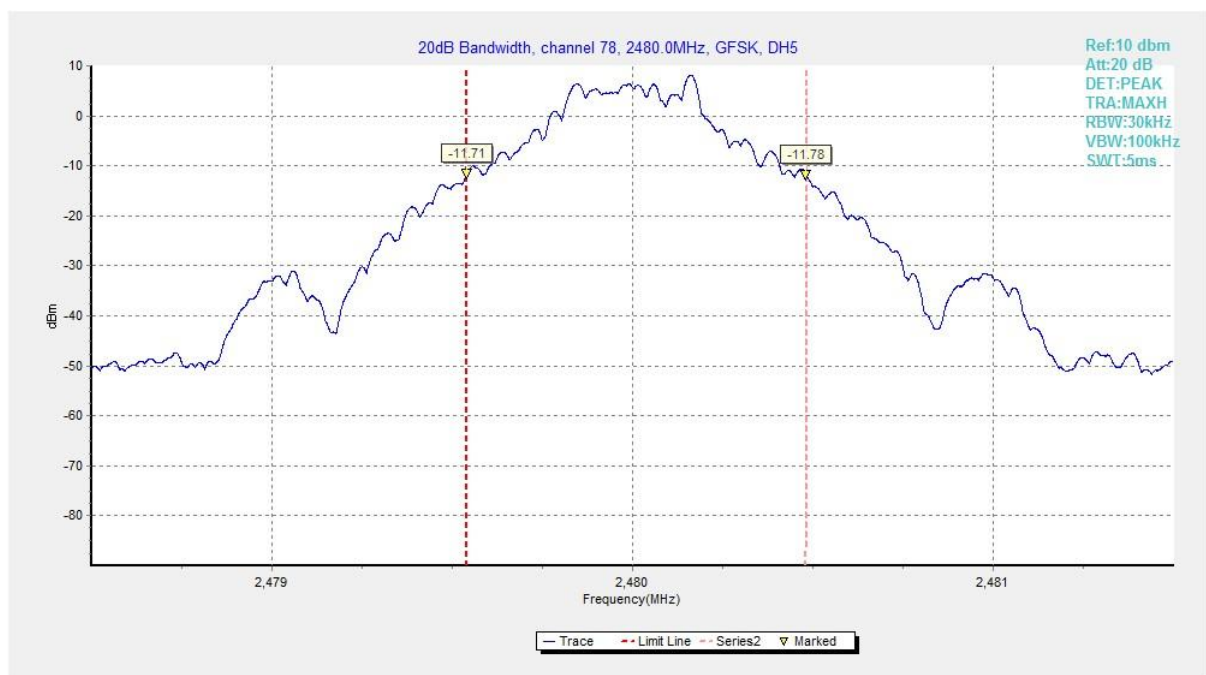


Fig. 62 20dB Bandwidth (GFSK, Ch 78)

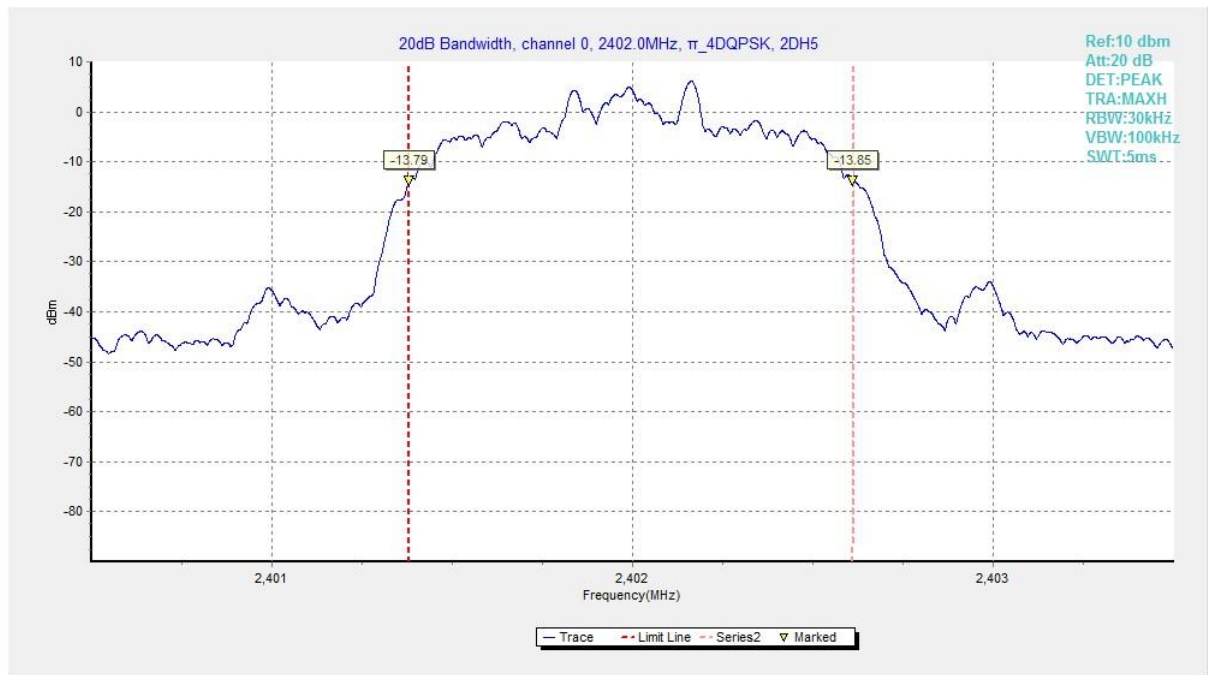


Fig. 63 20dB Bandwidth (π /4 DQPSK, Ch 0)

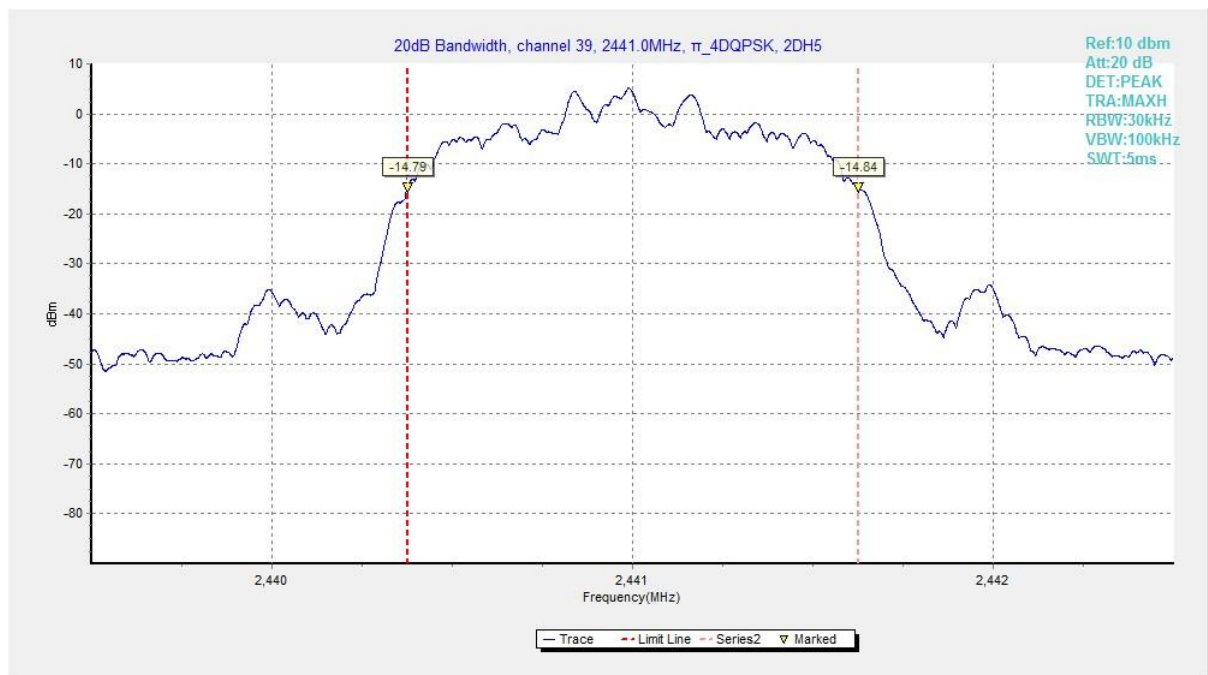


Fig. 64 20dB Bandwidth (π /4 DQPSK, Ch 39)

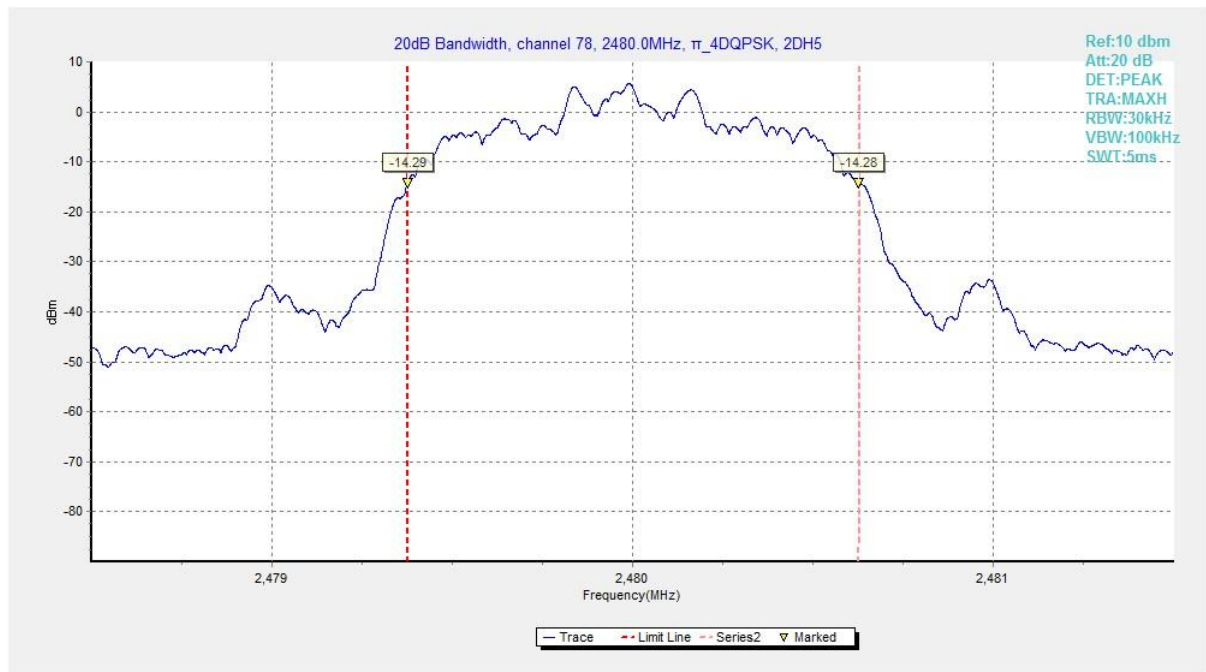


Fig. 65 20dB Bandwidth ($\pi/4$ DQPSK, Ch 78)

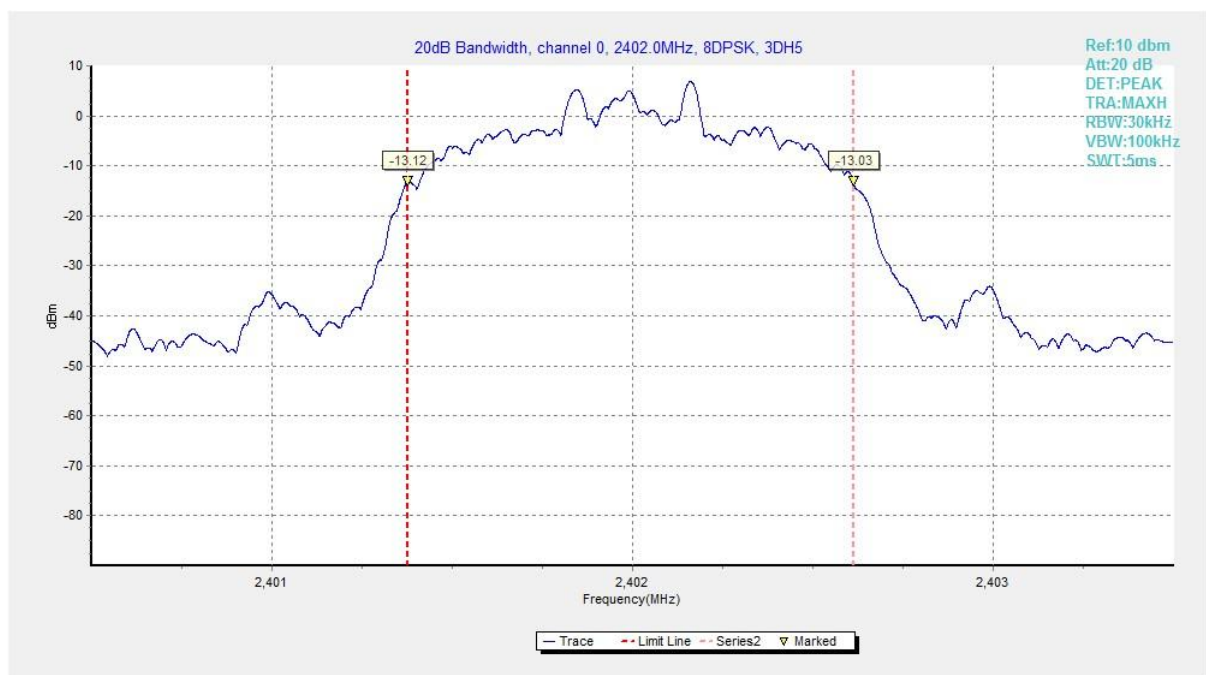


Fig. 66 20dB Bandwidth (8DPSK, Ch 0)

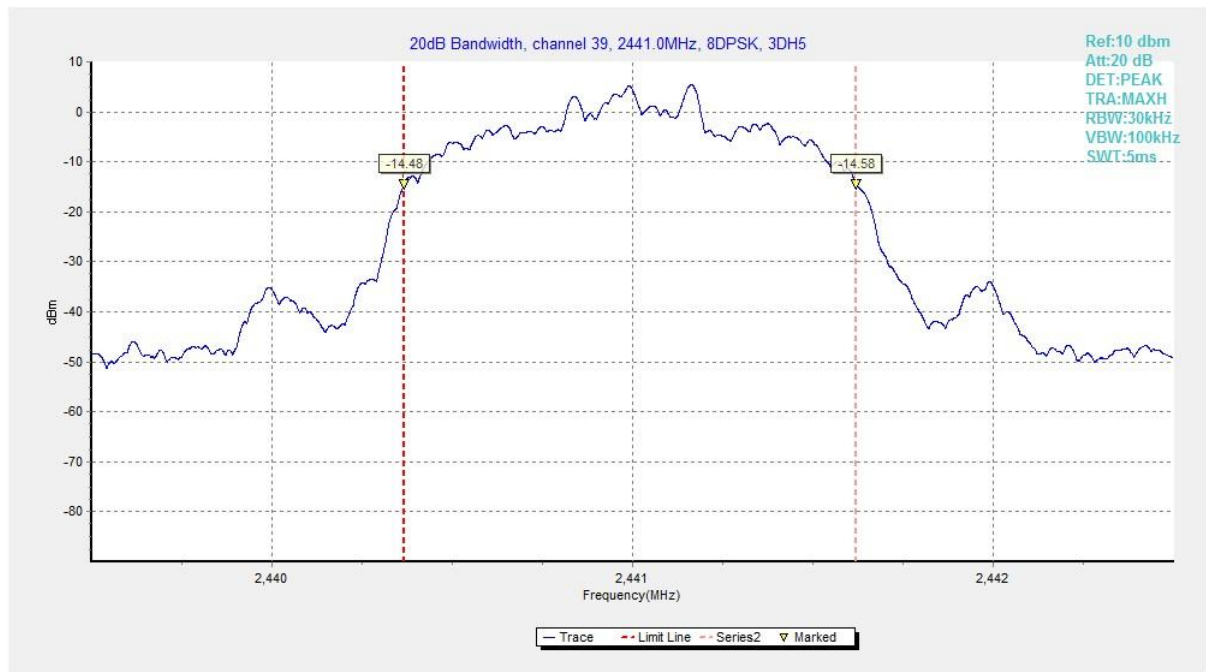


Fig. 67 20dB Bandwidth (8DPSK, Ch 39)

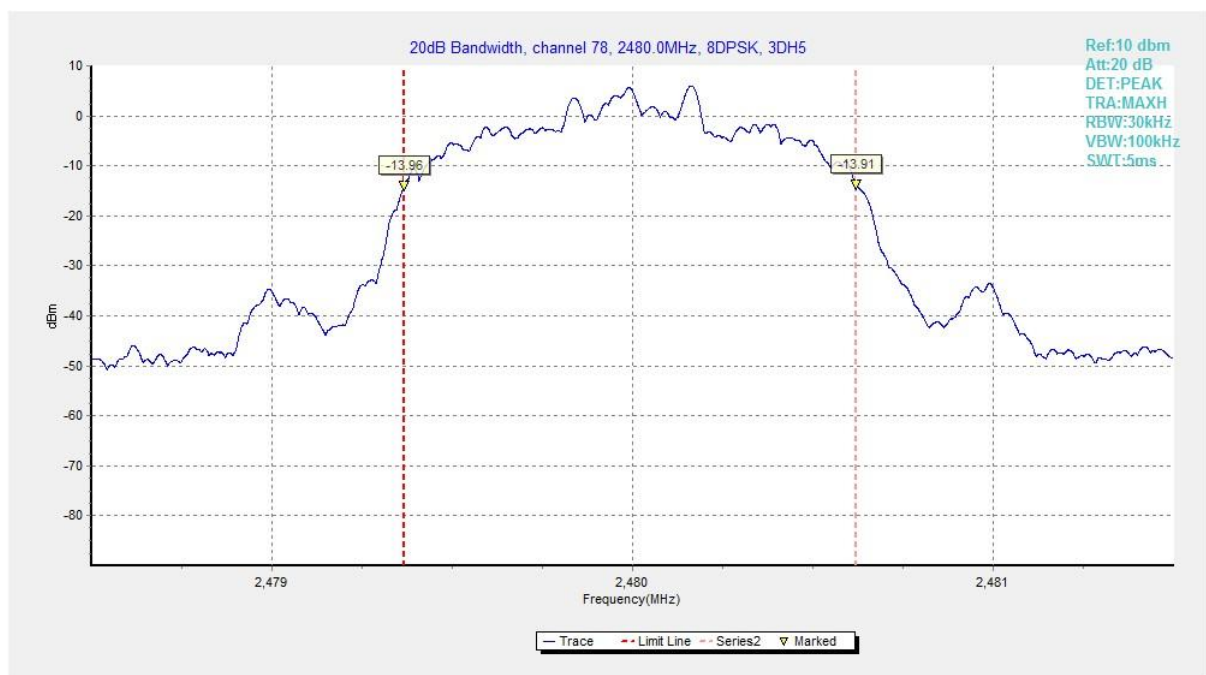


Fig. 68 20dB Bandwidth (8DPSK, Ch 78)

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.69	187.34	P
			Fig.70		
$\pi/4$ DQPSK	39	2-DH5	Fig.71	190.44	P
			Fig.72		
8DPSK	39	3-DH5	Fig.73	181.40	P
			Fig.74		

See below for test graphs.

Conclusion: Pass

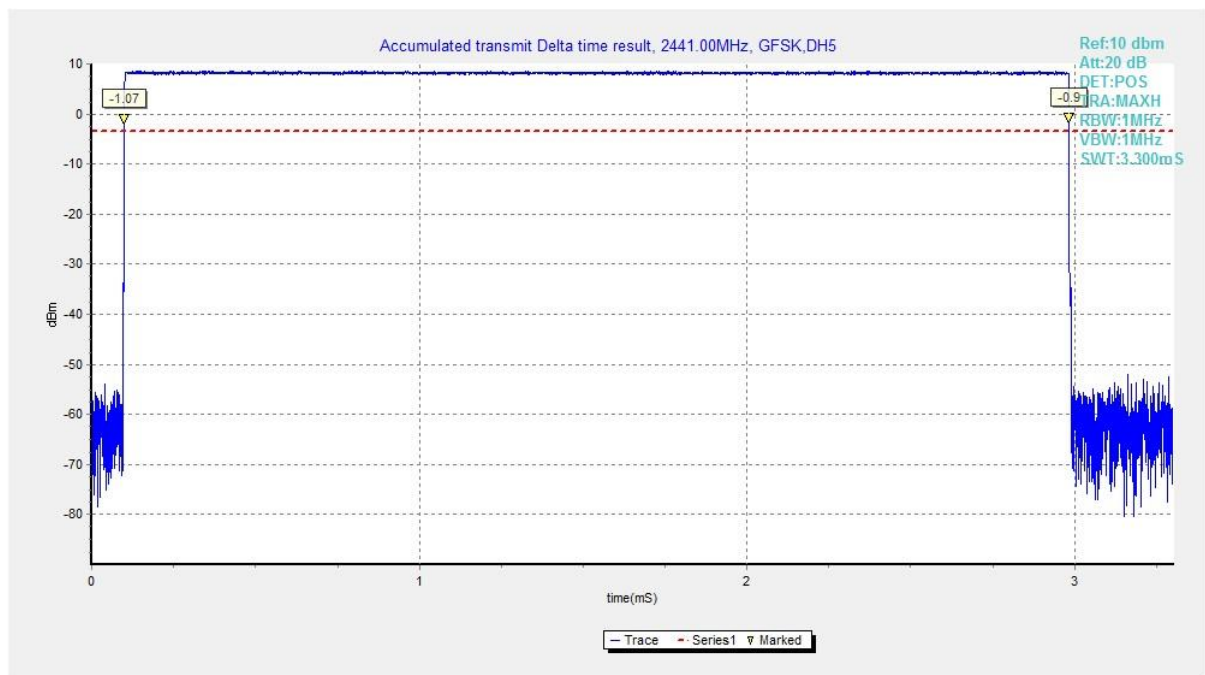


Fig. 69 Time of Occupancy(Dwell Time) (GFSK, Ch39)

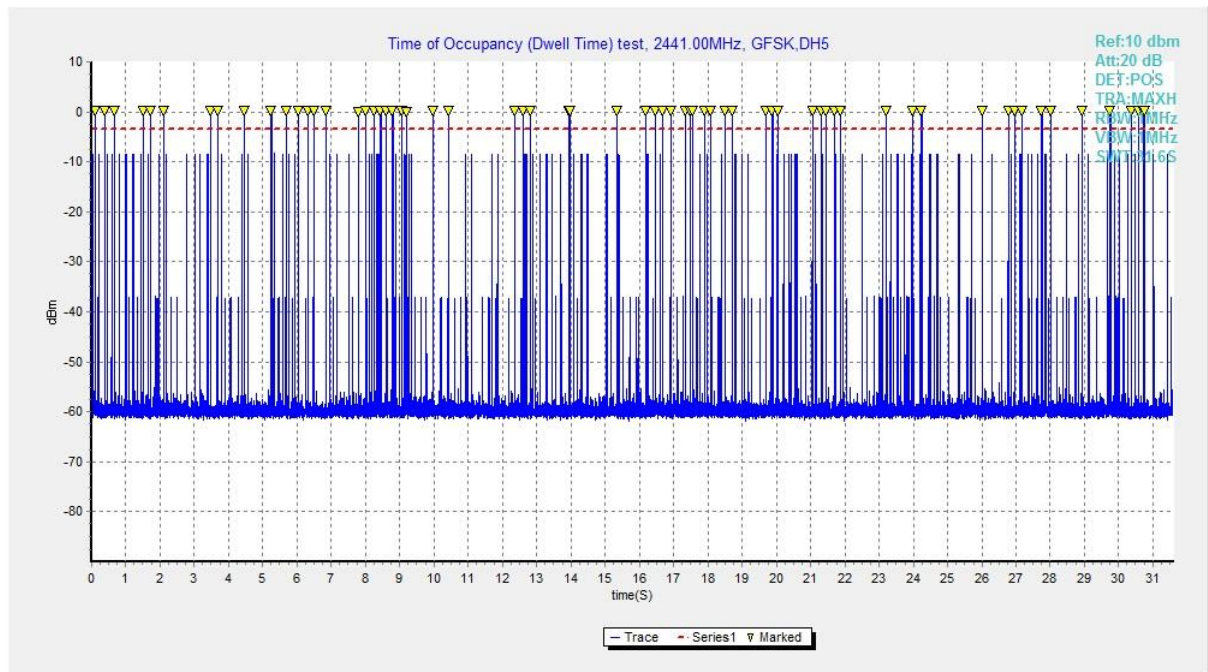


Fig. 70 Time of Occupancy(Dwell Time) (GFSK, Ch39)

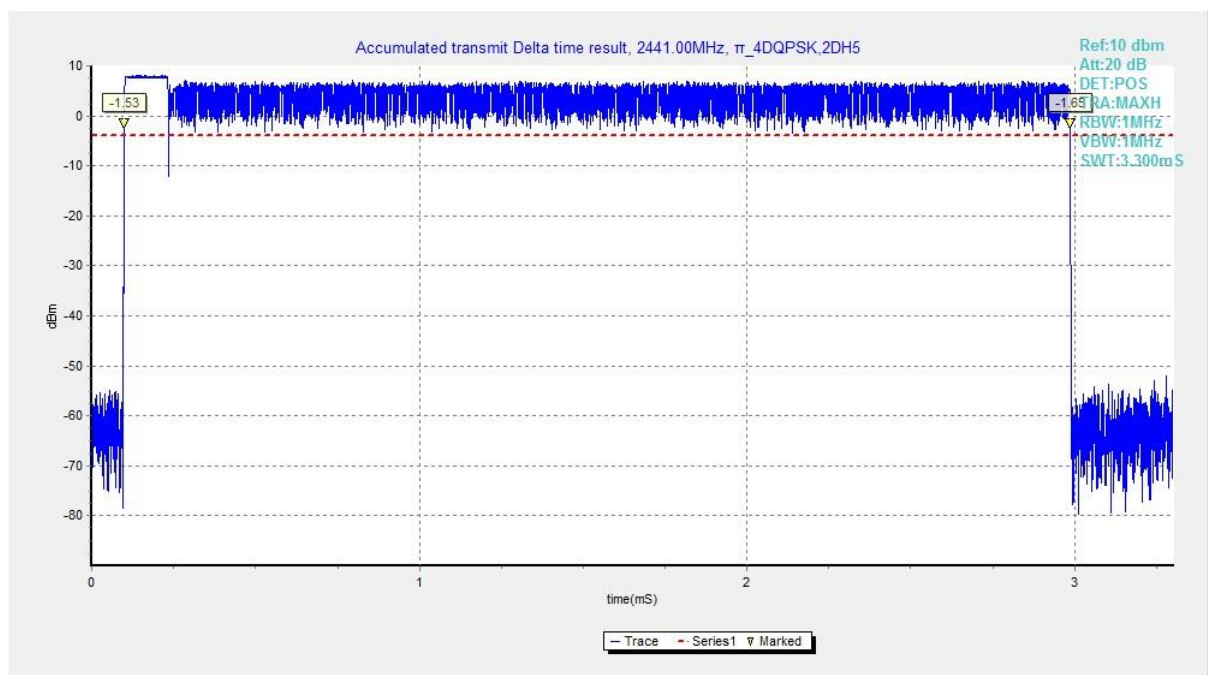


Fig. 71 Time of Occupancy(Dwell Time) ($\pi/4$ DQPSK, Ch39)

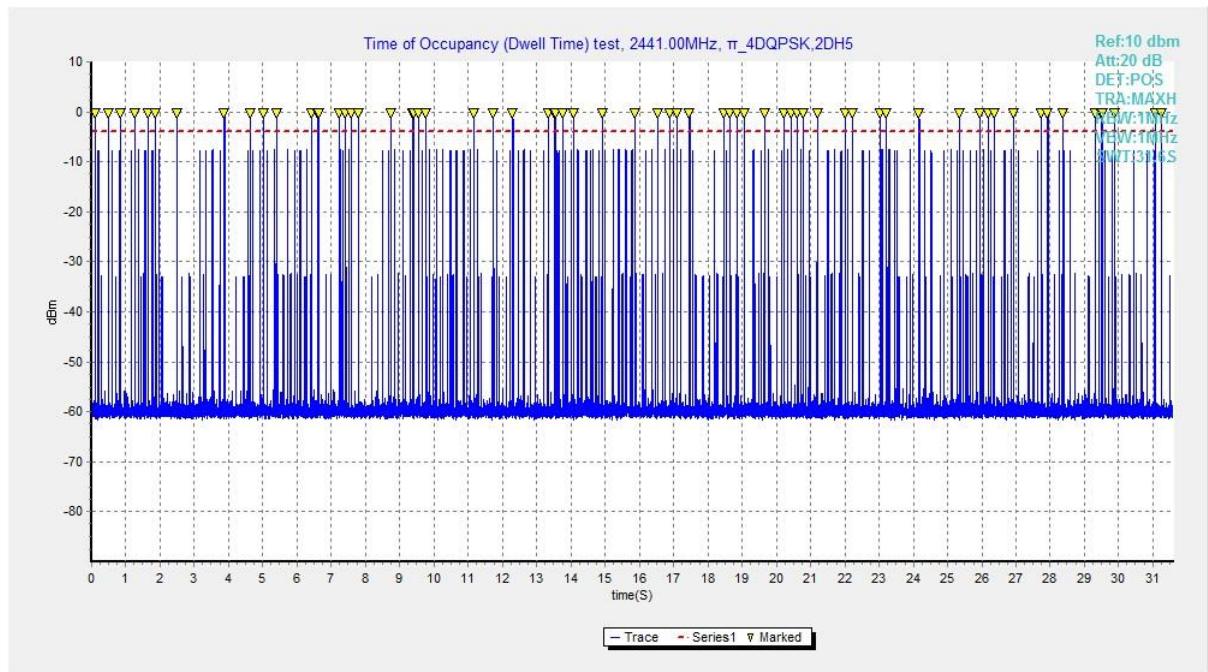


Fig. 72 Time of Occupancy(Dwell Time) (π /4 DQPSK, Ch39)

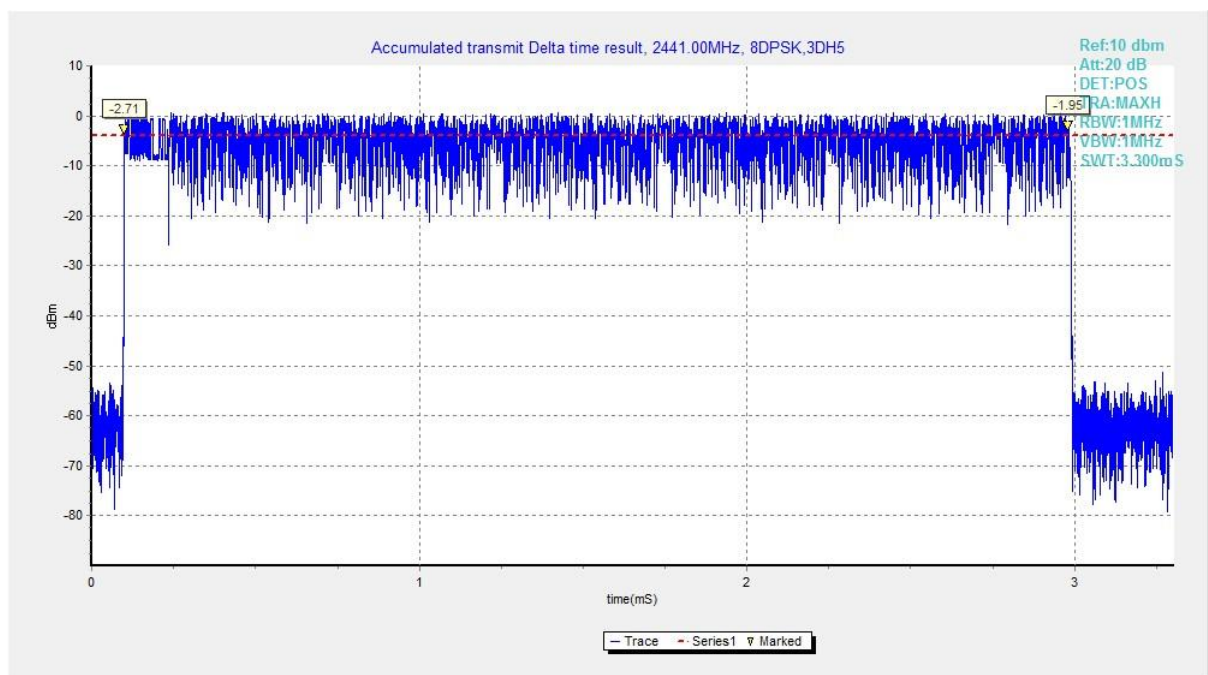


Fig. 73 Time of Occupancy(Dwell Time) (8DPSK, Ch39)

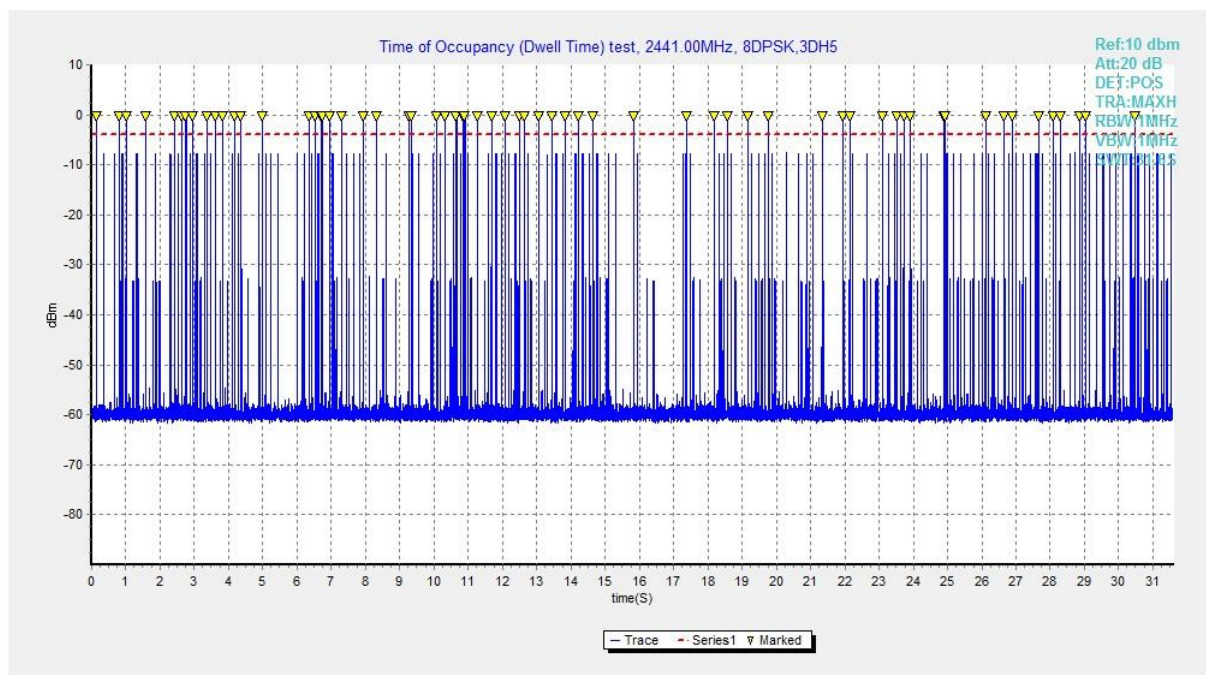


Fig. 74 Time of Occupancy(Dwell Time) (8DPSK, Ch39)

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 channels		Test result	Conclusion
GFSK	DH5	Fig.75	Fig.76	79	P
$\pi/4$ 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

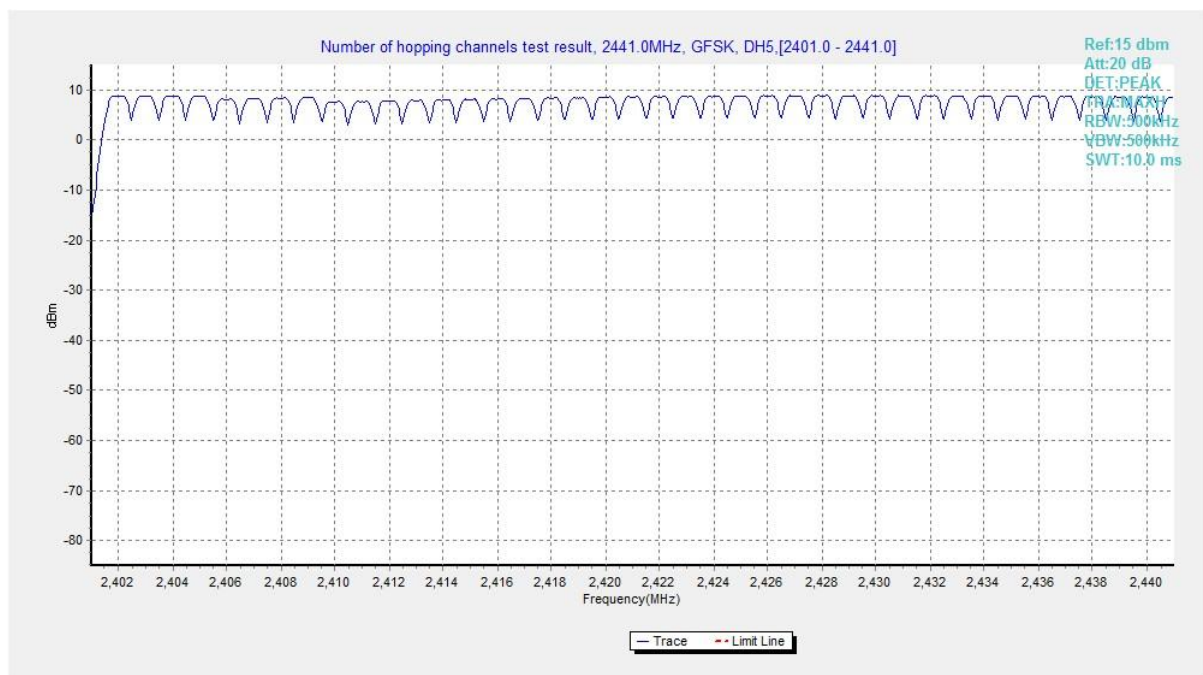


Fig. 75 Hopping channel ch0~39 (GFSK, Ch39)

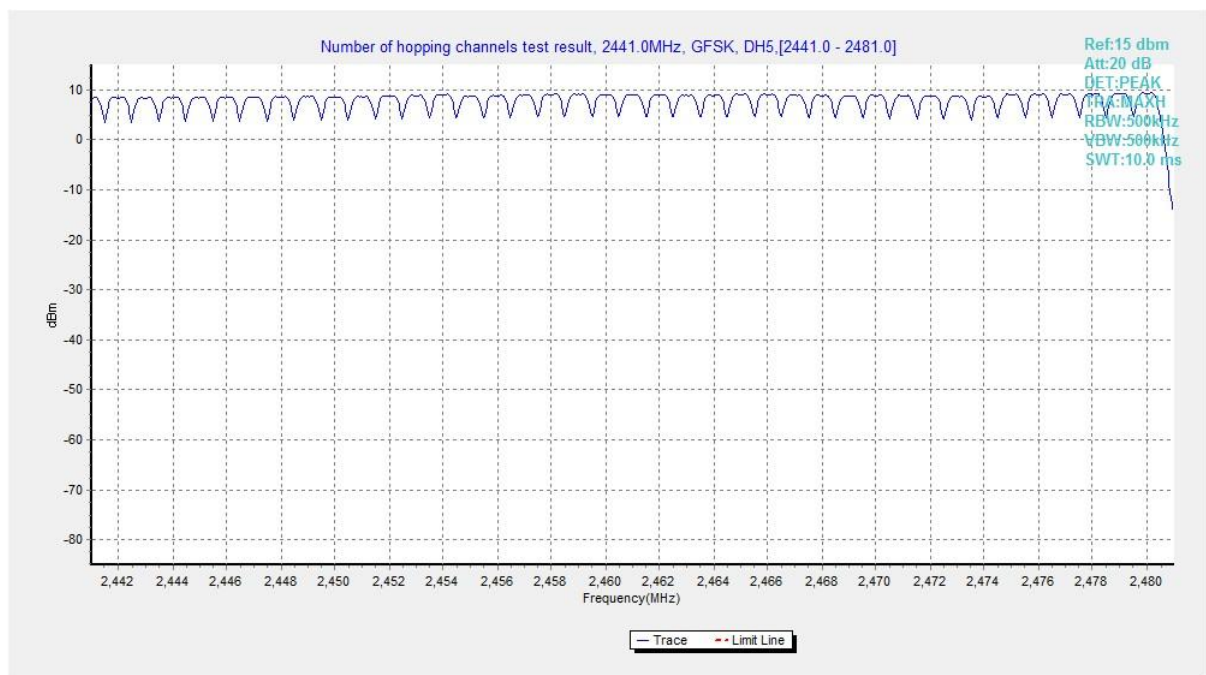


Fig. 76 Hopping channel ch40~78 (GFSK, Ch39)

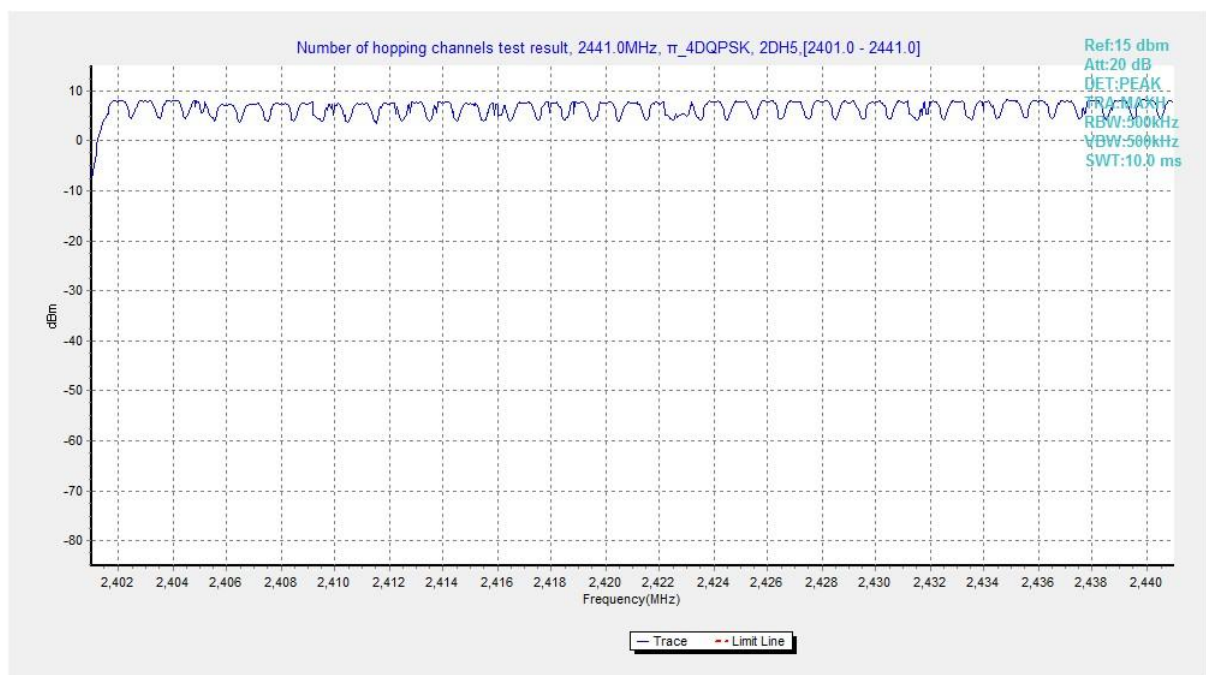


Fig. 77 Hopping channel ch0~39 ($\pi/4$ DQPSK, Ch39)

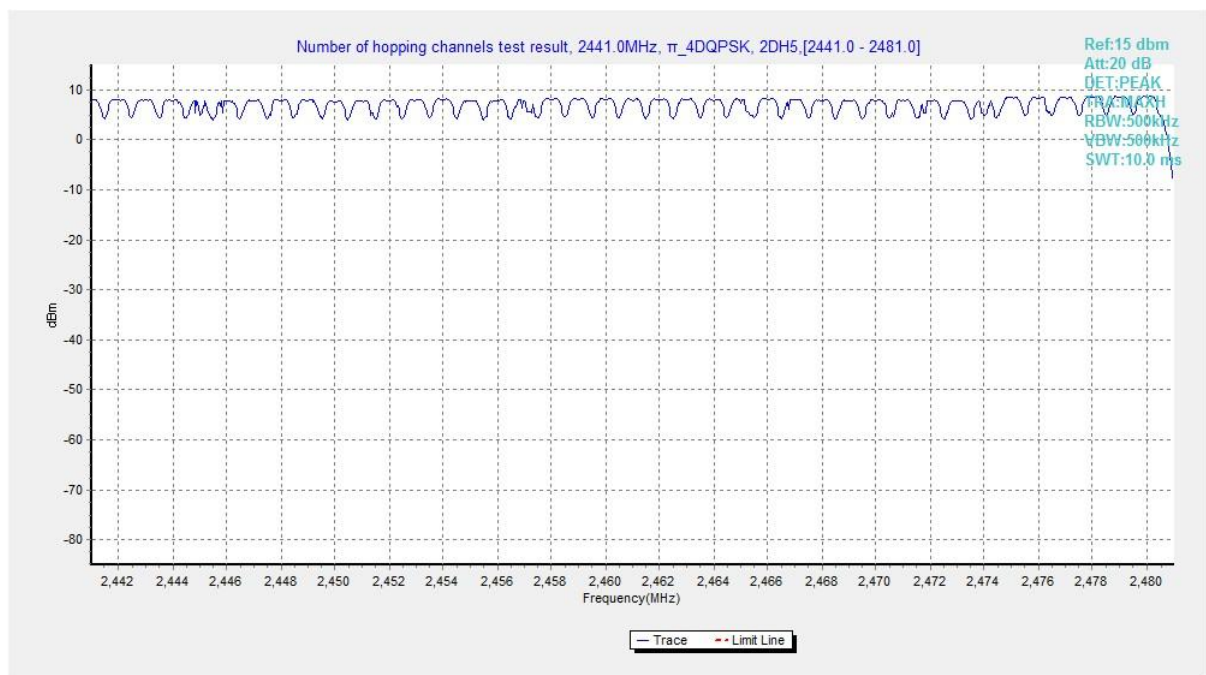


Fig. 78 Hopping channel ch40~78 ($\pi/4$ DQPSK, Ch39)

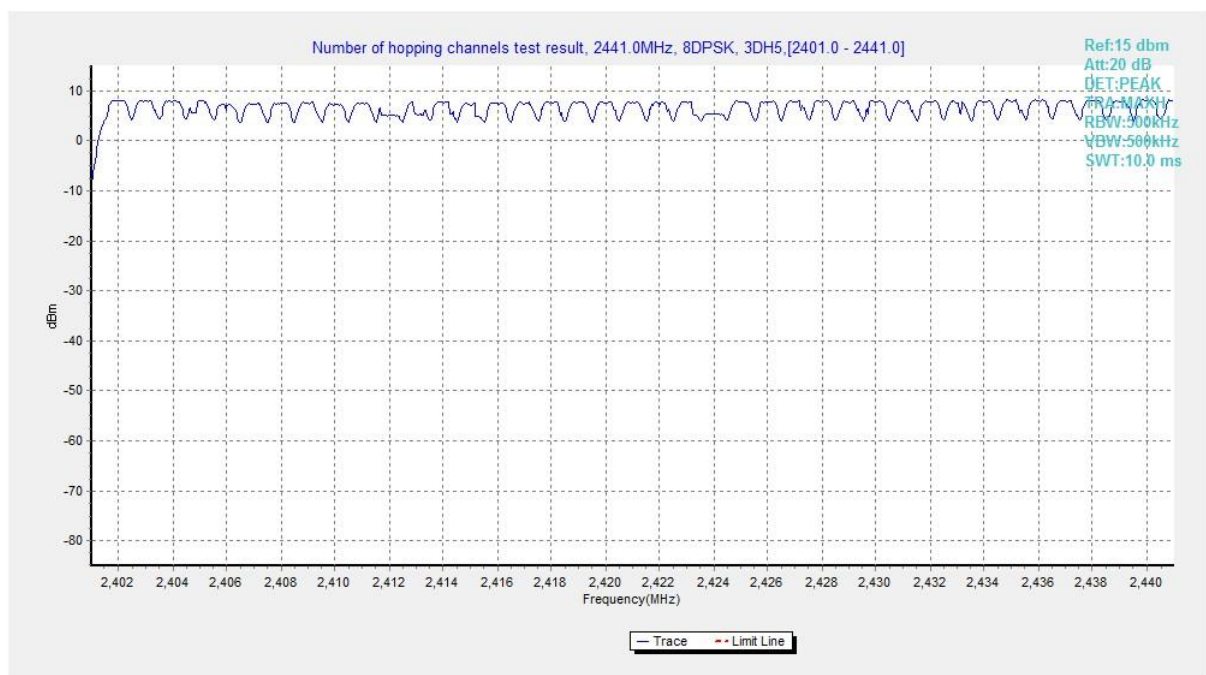


Fig. 79 Hopping channel ch0~39 (8DPSK, Ch39)

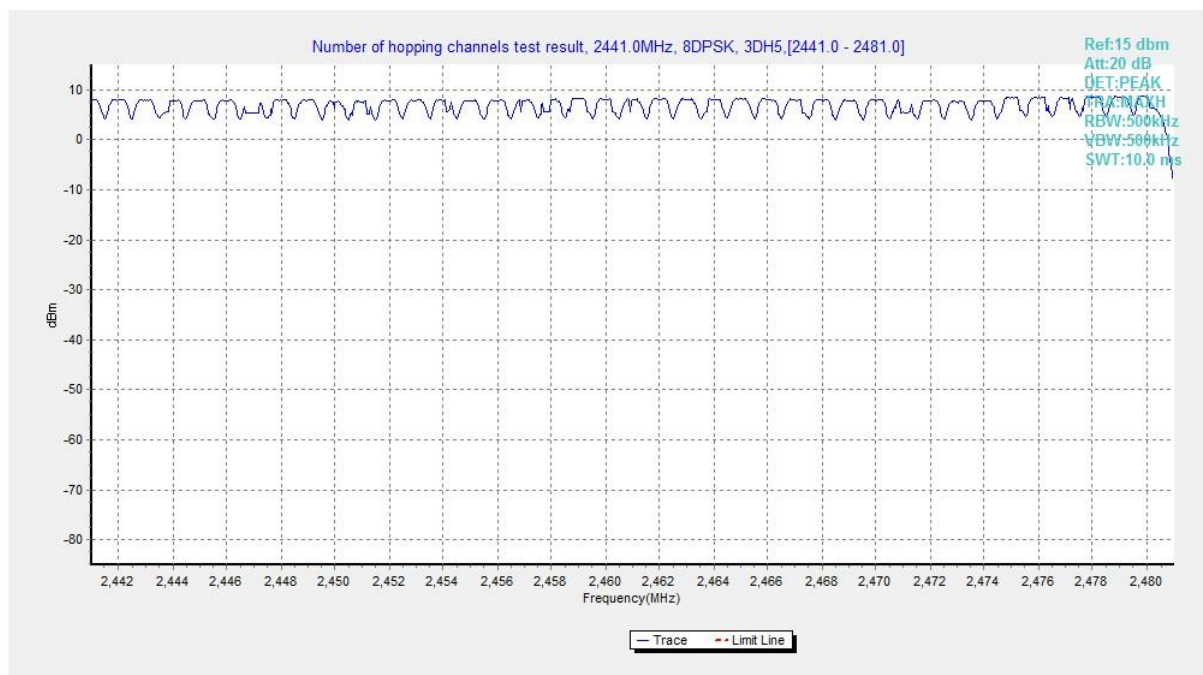


Fig. 80 Hopping channel ch40~78 (8DPSK, Ch39)

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 (MHz)	Conclusion
GFSK	39	DH5	Fig.81	1.00	P
$\pi/4$ DQPSK	39	2-DH5	Fig.82	1.01	P
8DPSK	39	3-DH5	Fig.83	1.00	P

See below for test graphs.

Conclusion: Pass

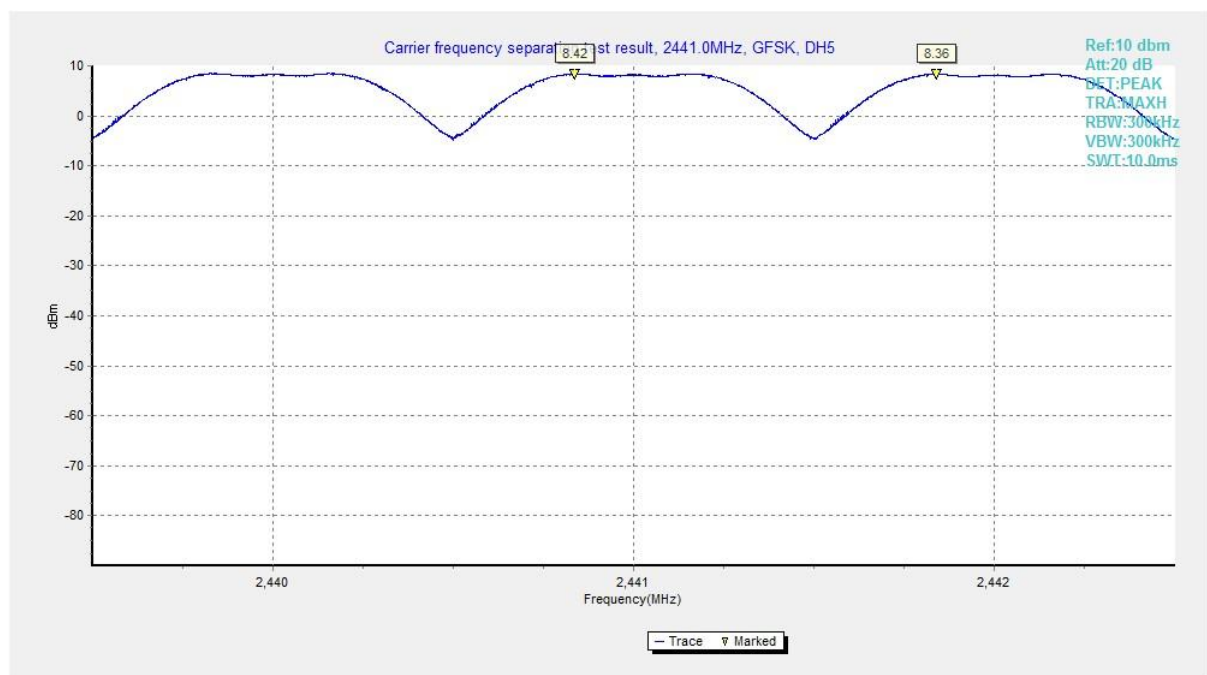


Fig. 81 Carrier Frequency Separation (GFSK, Ch39)

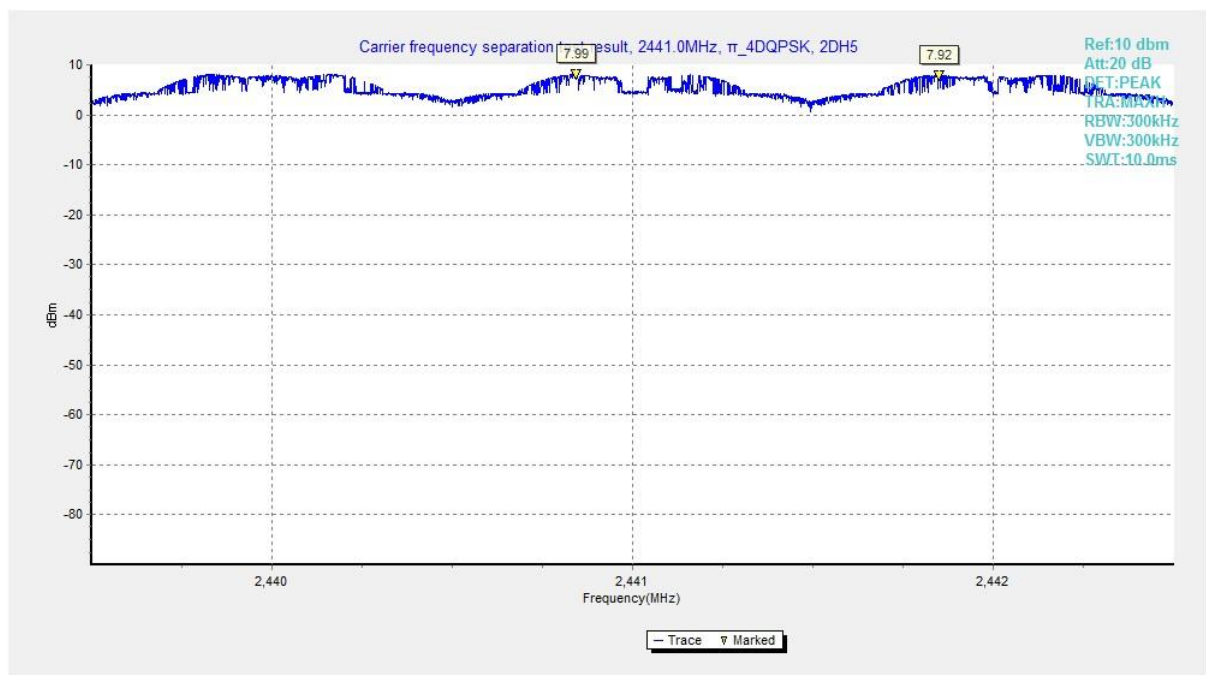


Fig. 82 Carrier Frequency Separation ($\pi/4$ DQPSK, Ch39)

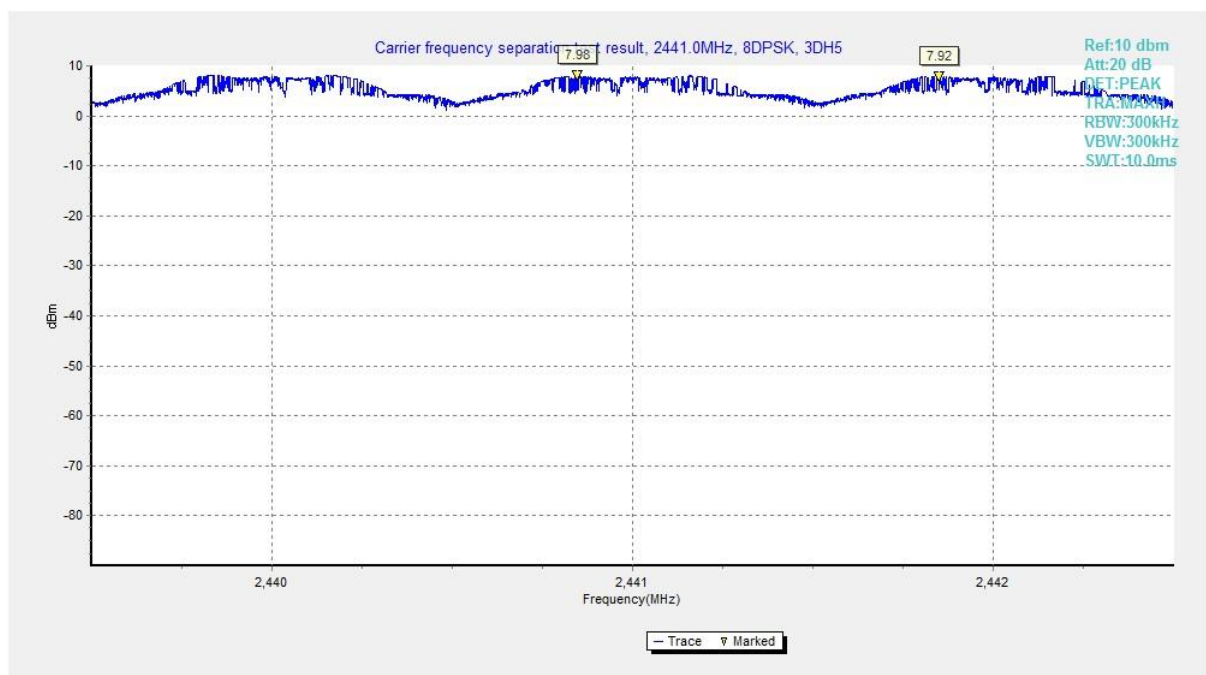


Fig. 83 Carrier Frequency Separation (8DPSK, Ch39)

A.9 AC Power line Conducted Emission

Test Condition:

Voltage (V)	Frequency (Hz)
120	60

Measurement Result and limit:

BT (Quasi-peak Limit) - AE2

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.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) - AE2

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.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

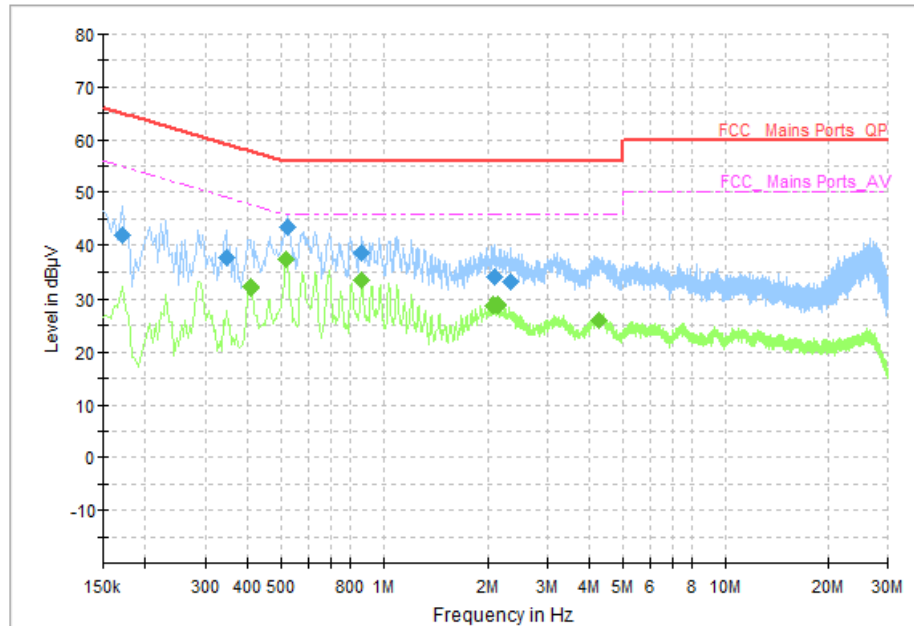


Fig. 84 AC Powerline Conducted Emission (Traffic, AE2, 120V)

Measurement Results: Quasi Peak

Frequency (MHz)	Quasi Peak (dBμV)	Limit (dBμV)	Margin (dB)	Line	Filter	Corr. (dB)
0.170000	41.76	64.96	23.20	N	ON	10
0.346000	37.67	59.06	21.39	L1	ON	10
0.522000	43.53	56.00	12.47	L1	ON	10
0.862000	38.47	56.00	17.53	L1	ON	10
2.106000	34.08	56.00	21.92	L1	ON	10
2.338000	33.19	56.00	22.81	L1	ON	10

Measurement Results: Average

Frequency (MHz)	Average (dBμV)	Limit (dBμV)	Margin (dB)	Line	Filter	Corr. (dB)
0.406000	32.19	47.73	15.54	L1	ON	10
0.518000	37.27	46.00	8.73	L1	ON	10
0.862000	33.48	46.00	12.52	L1	ON	10
2.082000	28.92	46.00	17.08	L1	ON	10
2.138000	28.73	46.00	17.27	L1	ON	10
4.246000	26.09	46.00	19.91	L1	ON	10

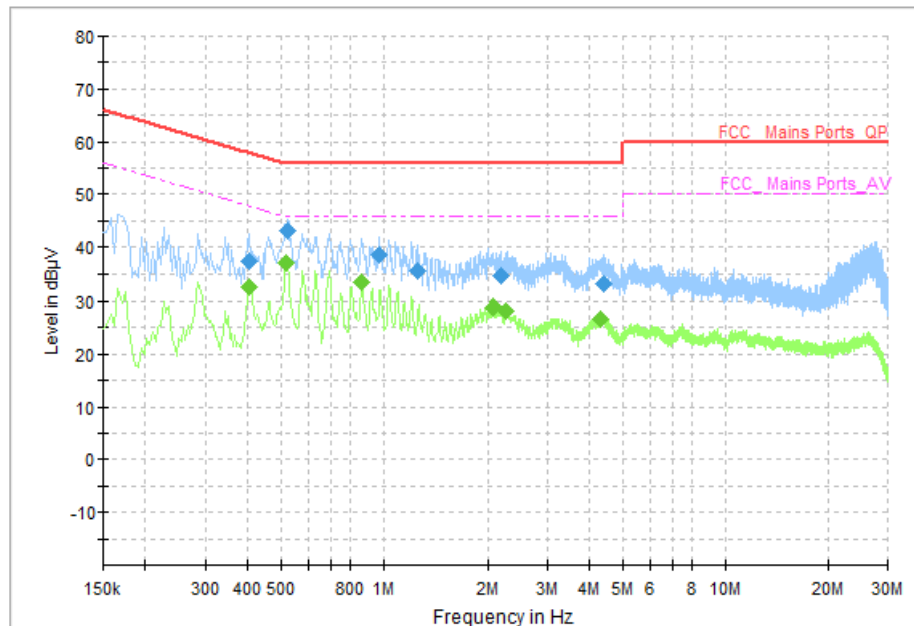


Fig. 85 AC Power line Conducted Emission (Idle, AE2, 120V)

Measurement Results: Quasi Peak

Frequency (MHz)	Quasi Peak (dBμV)	Limit (dBμV)	Margin (dB)	Line	Filter	Corr. (dB)
0.402000	37.34	57.81	20.47	N	ON	10
0.522000	43.04	56.00	12.96	L1	ON	10
0.970000	38.40	56.00	17.60	L1	ON	10
1.254000	35.59	56.00	20.41	L1	ON	10
2.190000	34.51	56.00	21.49	L1	ON	10
4.398000	32.96	56.00	23.04	L1	ON	10

Measurement Results: Average

Frequency (MHz)	Average (dBμV)	Limit (dBμV)	Margin (dB)	Line	Filter	Corr. (dB)
0.402000	32.56	47.81	15.25	L1	ON	10
0.518000	36.93	46.00	9.07	L1	ON	10
0.862000	33.35	46.00	12.65	L1	ON	10
2.082000	28.83	46.00	17.17	L1	ON	10
2.254000	28.15	46.00	17.85	L1	ON	10
4.286000	26.57	46.00	19.43	L1	ON	10

END OF REPORT