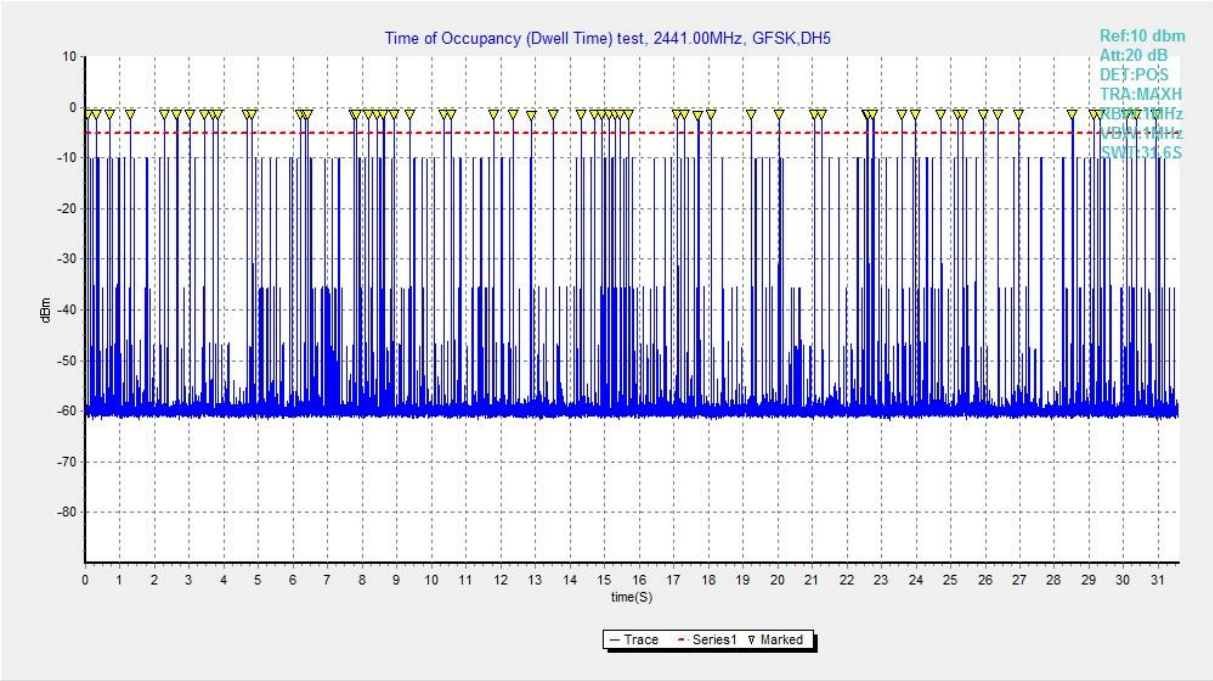

Fig. 79 Time of Occupancy (Dwell Time) (GFSK, Ch39)

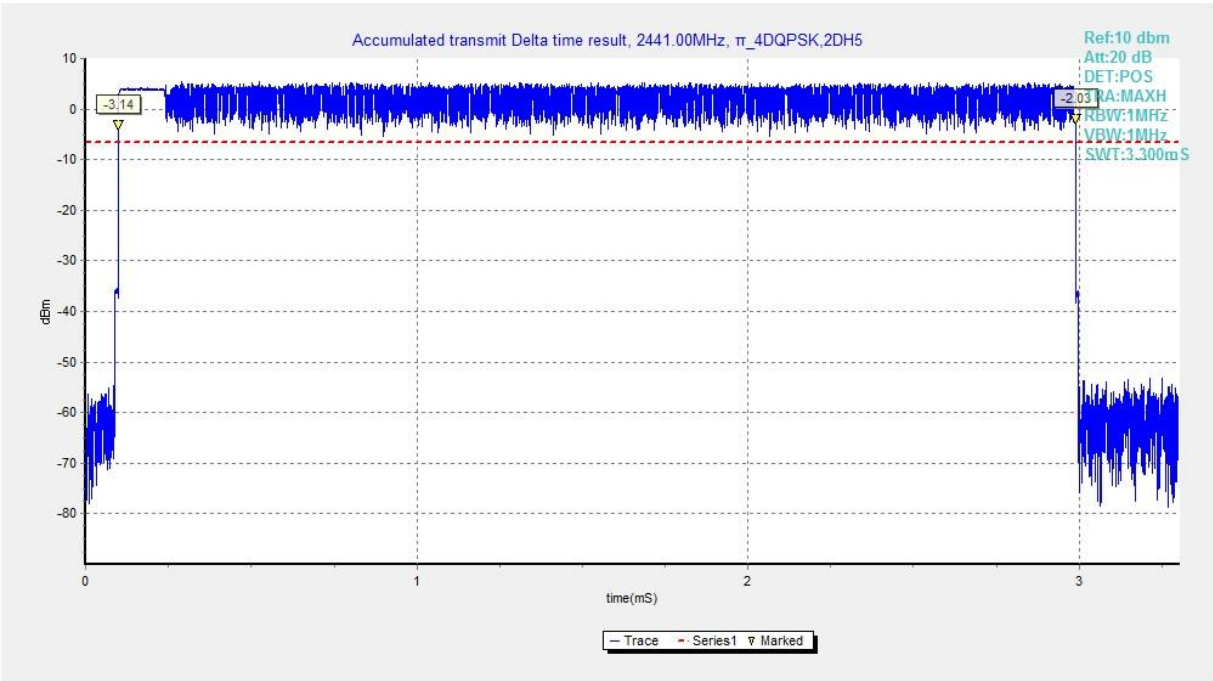

Fig. 80 Time of Occupancy (Dwell Time) (π /4 DQPSK, Ch39)

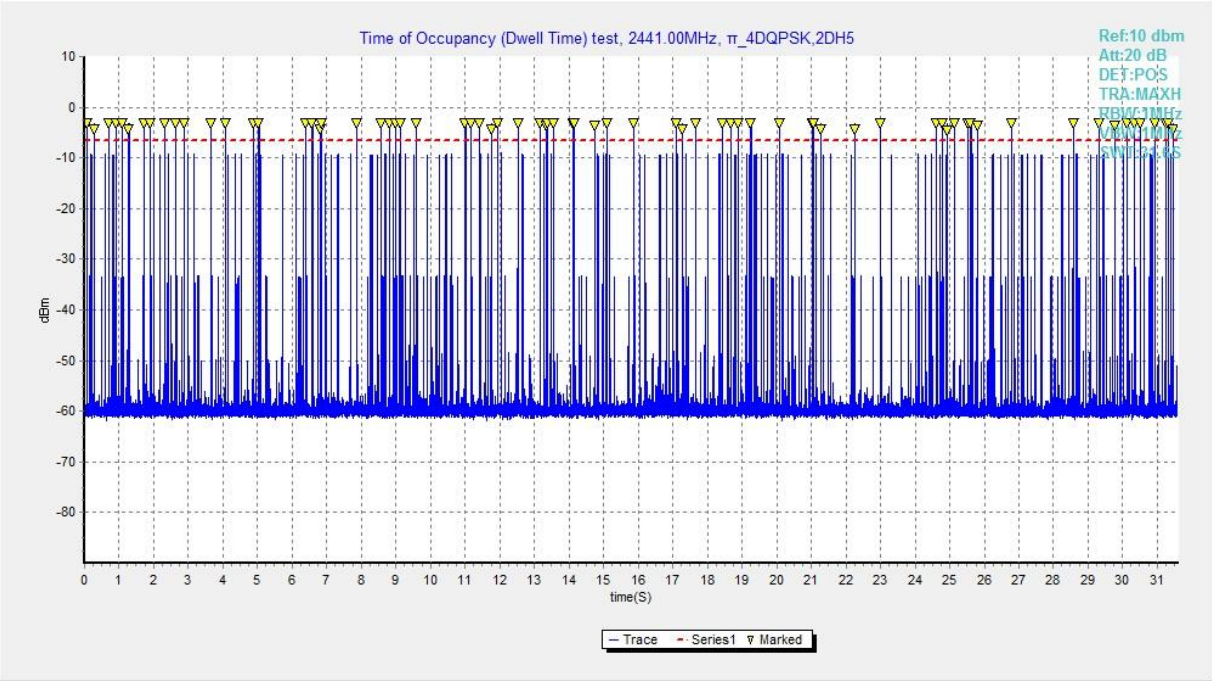

Fig. 81 Time of Occupancy (Dwell Time) (π /4 DQPSK, Ch39)

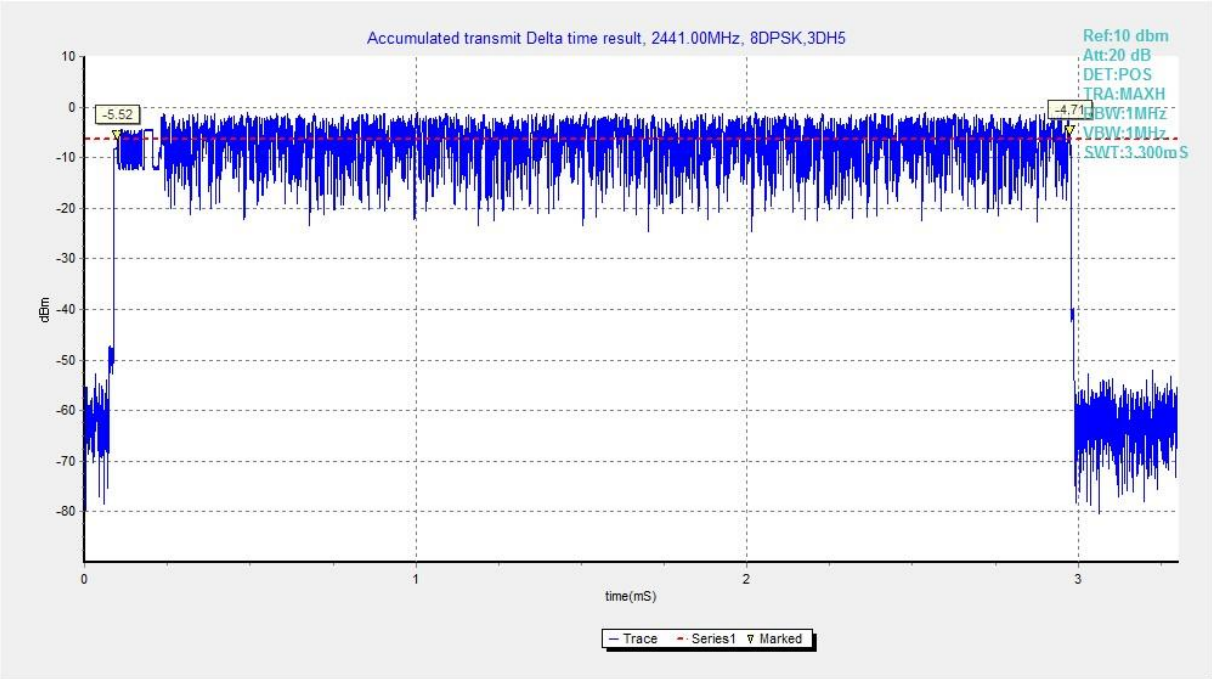

Fig. 82 Time of Occupancy (Dwell Time) (8DPSK, Ch39)

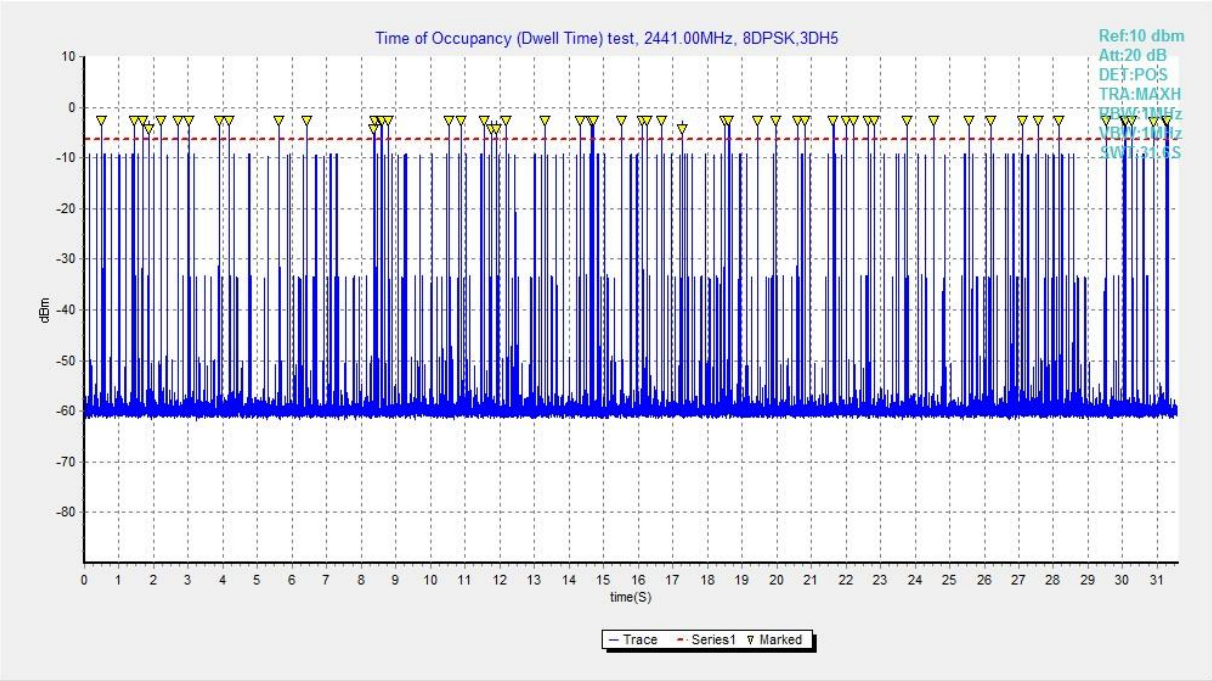

Fig. 83 Time of Occupancy (Dwell Time) (8DPSK, Ch39)

A.7 Number of Hopping Channels

Measurement Limit:

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

Measurement Results:

Mode	Packet	Number of hopping channels		Test result	Conclusion
GFSK	DH5	Fig.84	Fig.85	79	**P**
π /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

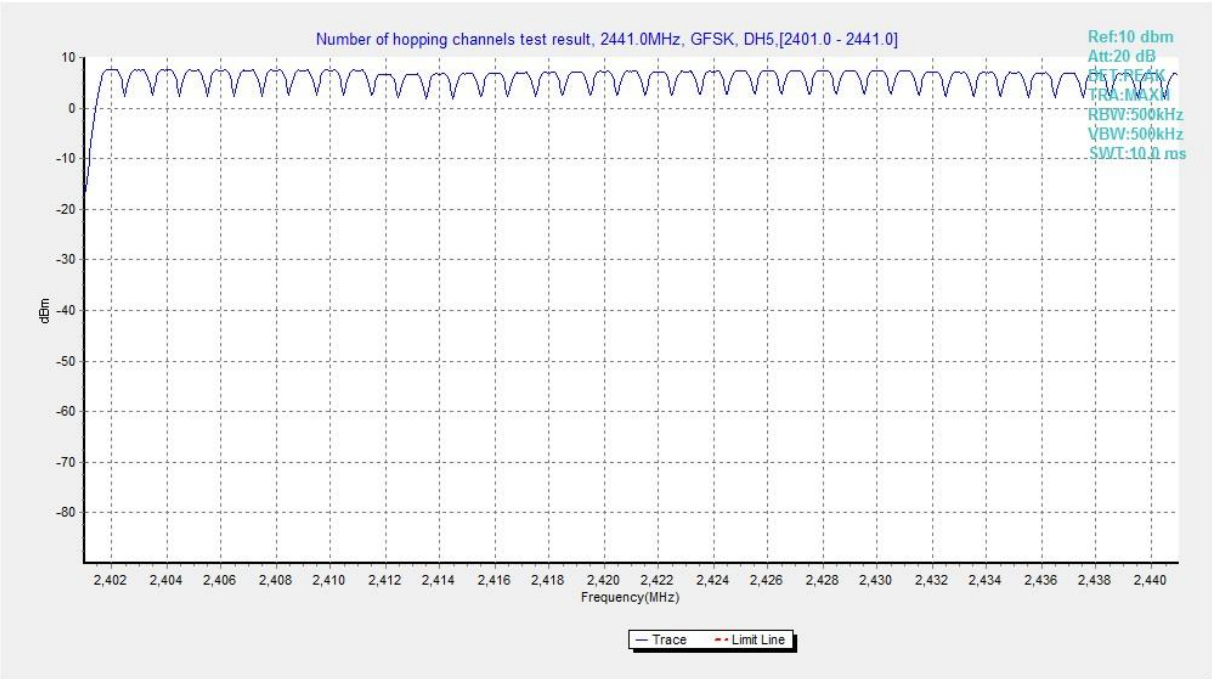

Fig. 84 Hopping channel ch0~39 (GFSK, Ch39)

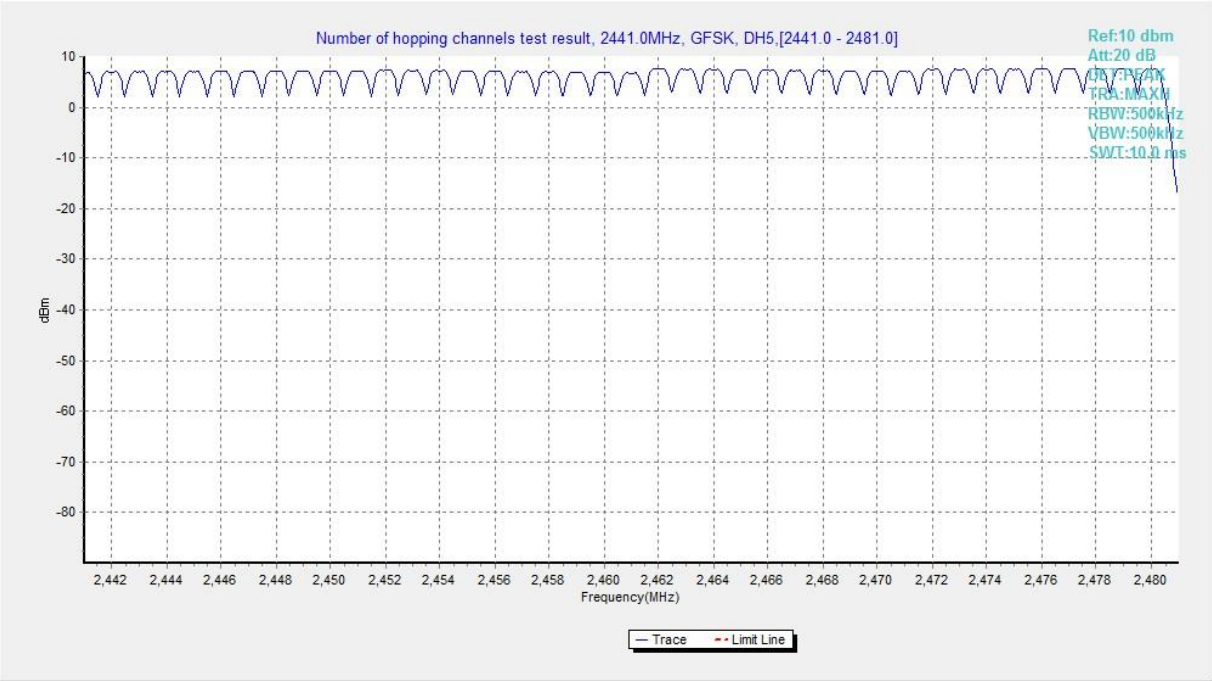

Fig. 85 Hopping channel ch40~78 (GFSK, Ch39)

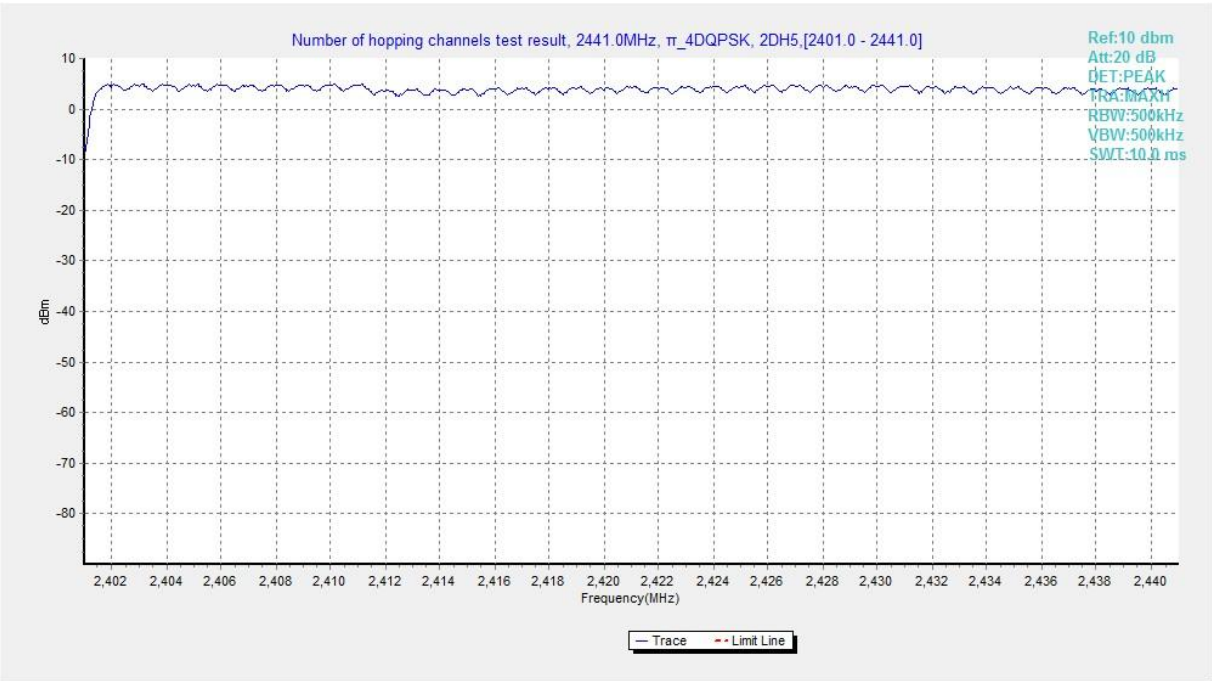

Fig. 86 Hopping channel ch0~39 (π /4 DQPSK, Ch39)

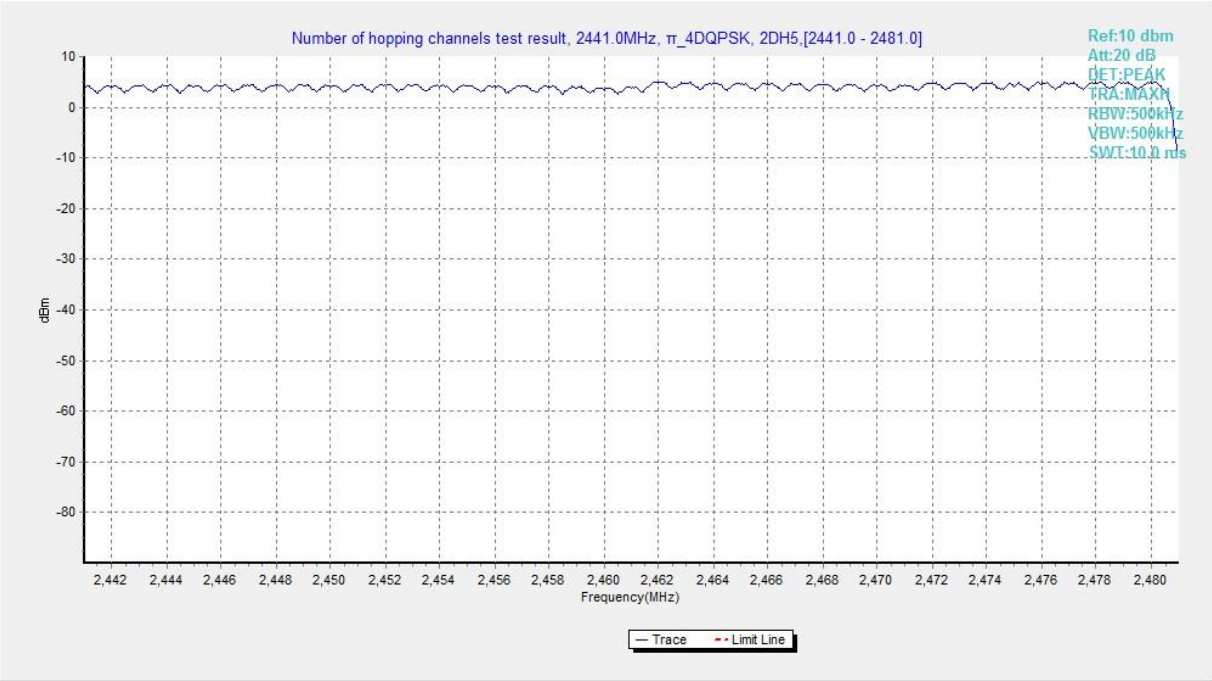

Fig. 87 Hopping channel ch40~78 (π /4 DQPSK, Ch39)

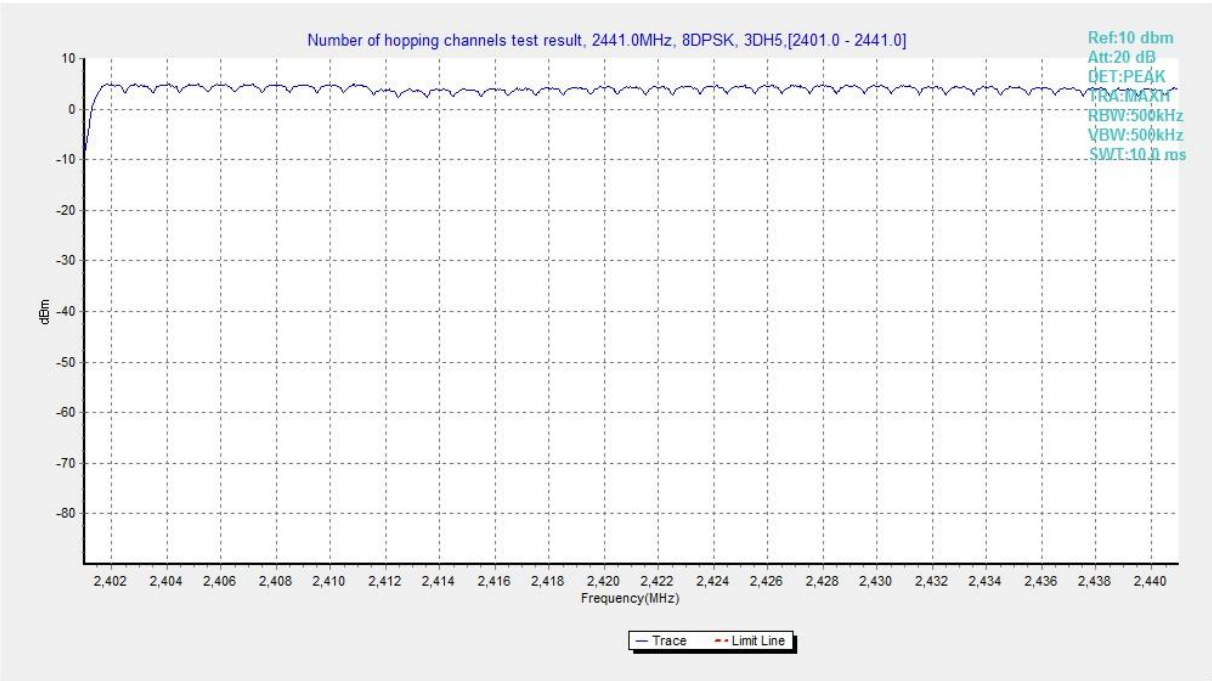

Fig. 88 Hopping channel ch0~39 (8DPSK, Ch39)

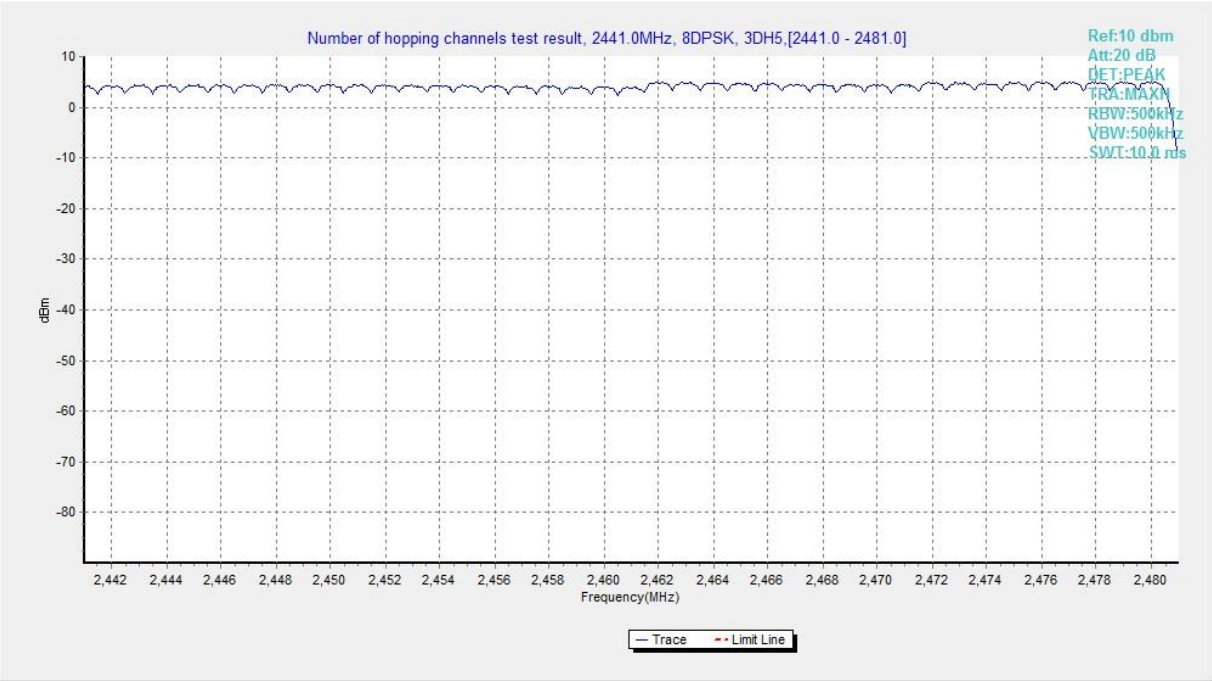

Fig. 89 Hopping channel ch40~78 (8DPSK, Ch39)

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 (MHz)	Conclusion
GFSK	39	DH5	Fig.90	1.00	**P**
π /4 DQPSK	39	2-DH5	Fig.91	1.00	**P**
8DPSK	39	3-DH5	Fig.92	1.00	**P**

See below for test graphs.

Conclusion: Pass

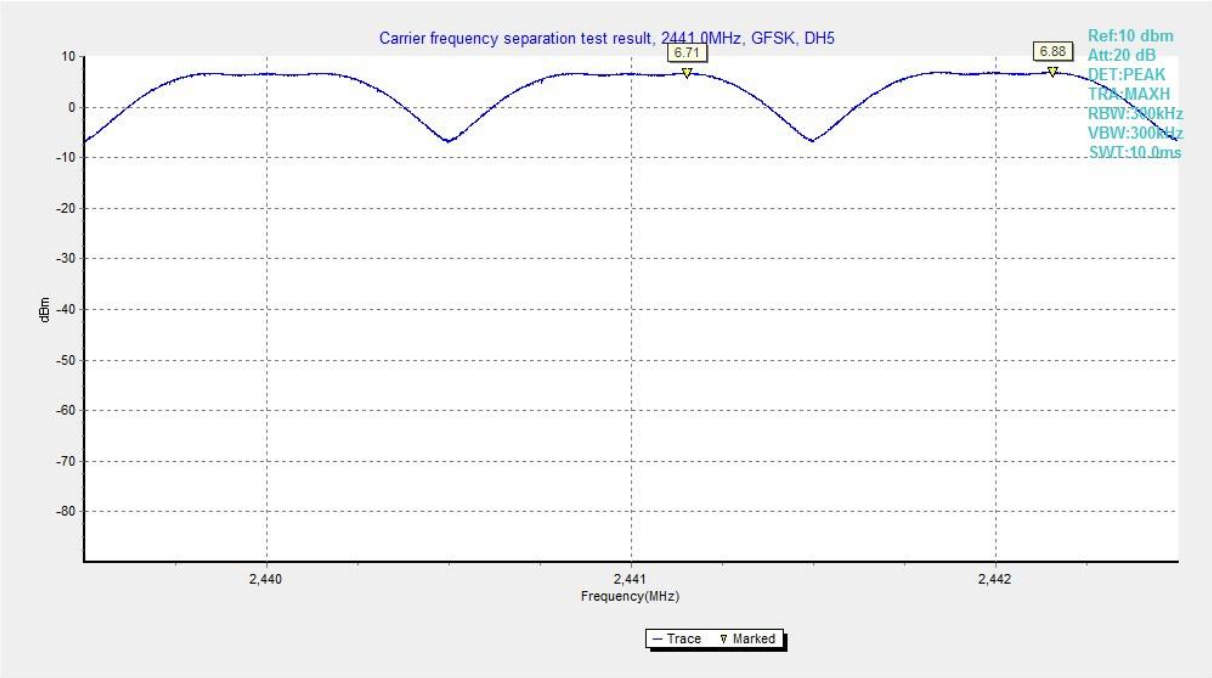

Fig. 90 Carrier Frequency Separation (GFSK, Ch39)

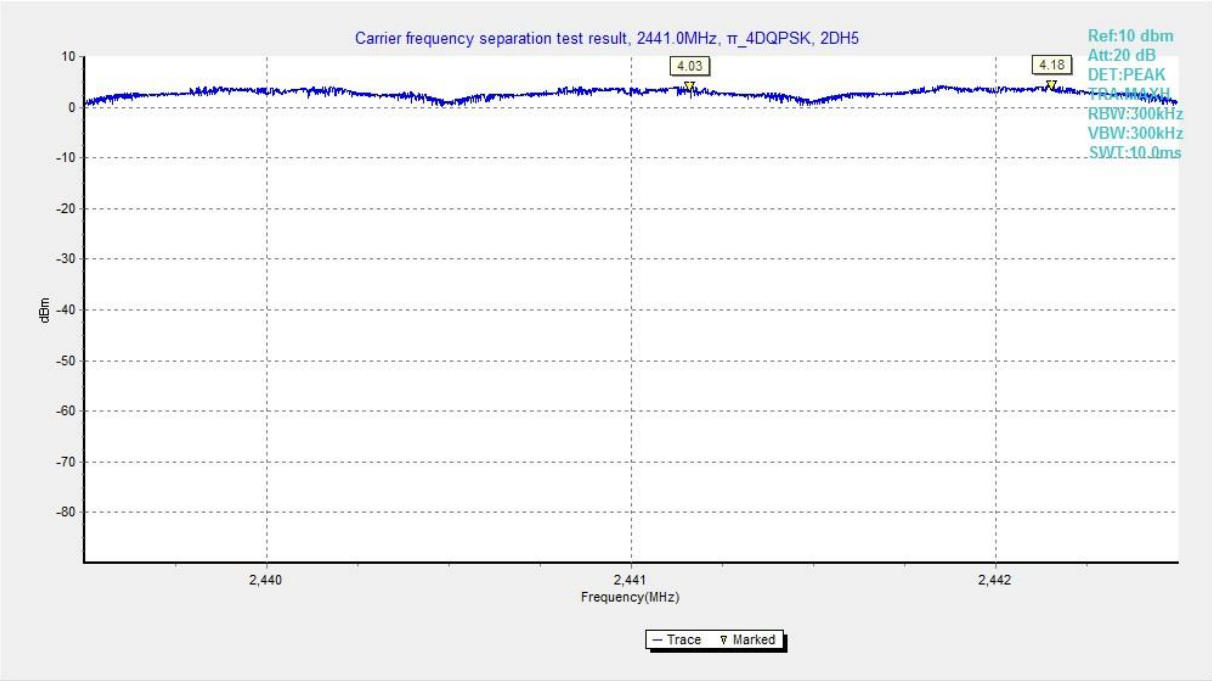

Fig. 91 Carrier Frequency Separation (π /4 DQPSK, Ch39)

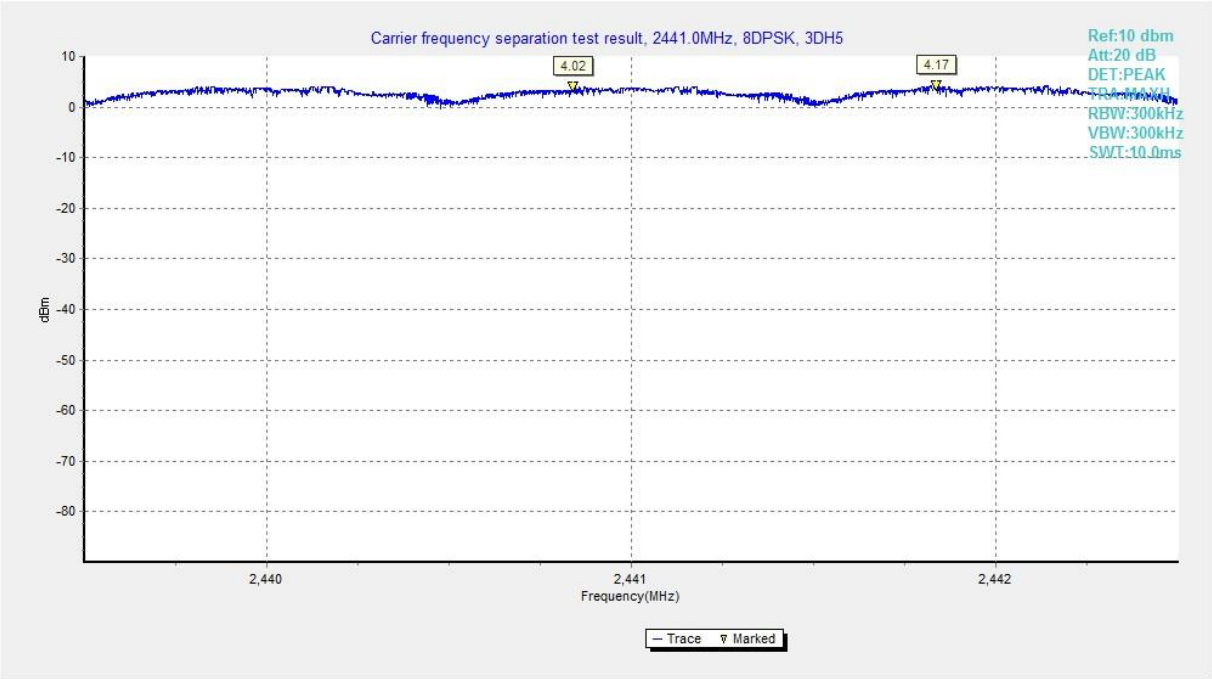

Fig. 92 Carrier Frequency Separation (8DPSK, Ch39)

A.9 AC Power line Conducted Emission

Test Condition:

Voltage (V)	Frequency (Hz)
120	60

Measurement Result and limit:

BT (Quasi-peak Limit) - AE1

Frequency range (MHz)	Quasi-peak Limit (dBμV)	Result (dBμV)		Conclusion
		Traffic	Idle	
0.15 to 0.5	66 to 56	Fig.93	Fig.94	**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) - AE1

Frequency range (MHz)	Average-peak Limit (dBμV)	Result (dBμV)		Conclusion
		Traffic	Idle	
0.15 to 0.5	56 to 46	Fig.93	Fig.94	**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

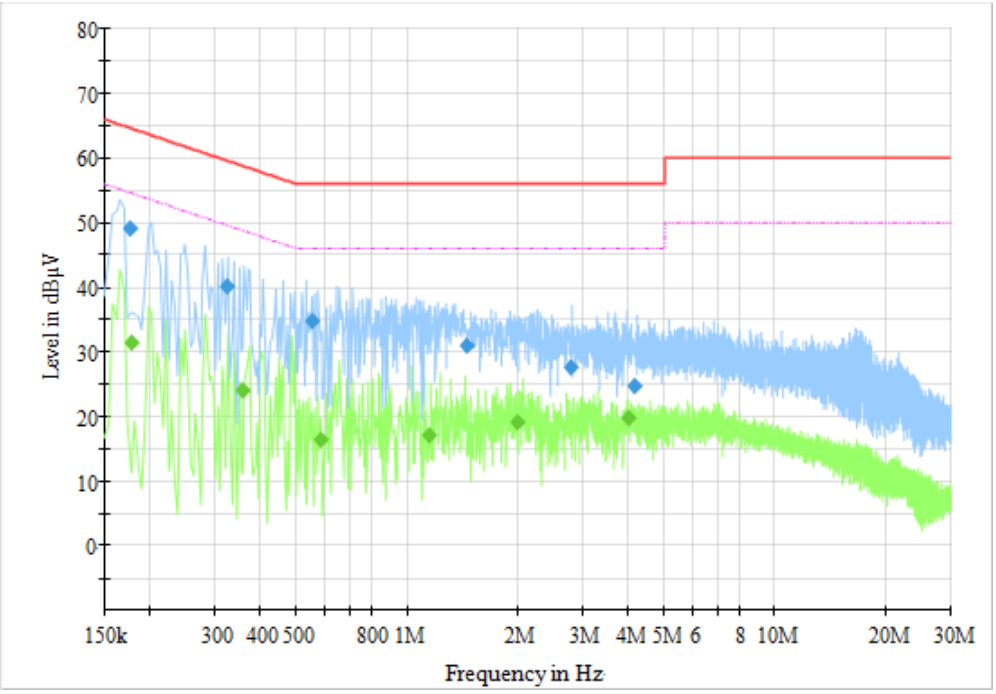

Fig. 93 AC Powerline Conducted Emission (Traffic, AE1, 120V)

Measurement Results: Quasi Peak

Frequency (MHz)	Quasi Peak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.176	49.08	64.67	15.59	L1	ON	9.6
0.324	40.18	59.60	19.43	L1	ON	9.6
0.552	34.75	56.00	21.25	L1	ON	9.6
1.448	31.00	56.00	25.00	L1	ON	9.7
2.788	27.57	56.00	28.43	L1	ON	9.7
4.144	24.72	56.00	31.28	L1	ON	9.7

Measurement Results: Average

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.178	31.37	54.58	23.21	L1	ON	9.6
0.356	23.94	48.82	24.88	N	ON	9.6
0.584	16.40	46.00	29.60	L1	ON	9.6
1.152	16.99	46.00	29.01	N	ON	9.7
1.996	19.06	46.00	26.94	N	ON	9.7
3.984	19.88	46.00	26.12	N	ON	9.7

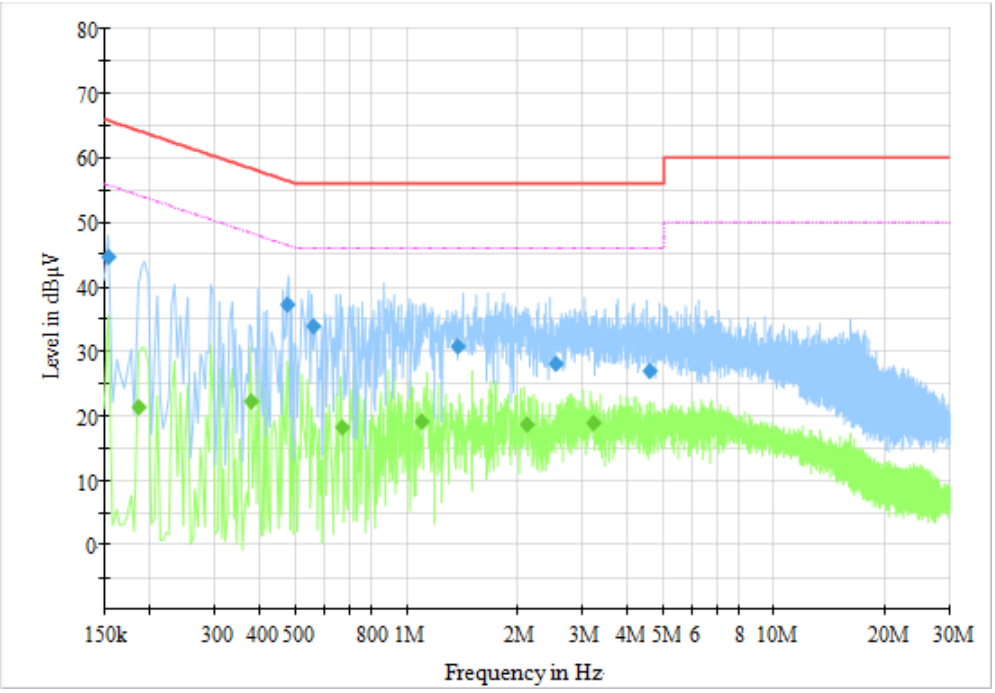

Fig. 94 AC Power line Conducted Emission (Idle, AE1, 120V)

Measurement Results: Quasi Peak

Frequency (MHz)	Quasi Peak (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.154	44.56	65.78	21.22	L1	ON	9.6
0.472	37.25	56.48	19.23	L1	ON	9.6
0.556	33.95	56.00	22.05	L1	ON	9.6
1.372	30.84	56.00	25.16	L1	ON	9.7
2.532	28.06	56.00	27.94	L1	ON	9.7
4.584	26.86	56.00	29.14	L1	ON	9.7

Measurement Results: Average

Frequency (MHz)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.186	21.45	54.21	32.76	N	ON	9.6
0.376	22.31	48.37	26.06	N	ON	9.6
0.664	18.27	46.00	27.73	L1	ON	9.6
1.092	19.18	46.00	26.82	N	ON	9.7
2.124	18.75	46.00	27.25	N	ON	9.7
3.220	18.92	46.00	27.08	N	ON	9.7

A.10 Occupied Bandwidth

Measurement Limit:

Standard	Limit
RSS-Gen section 6.7	/

Measurement Result:

Mode	Channel	Occupied Bandwidth (kHz)		conclusion
GFSK	0	Fig.95	853.29	/
	39	Fig.96	854.29	
	78	Fig.97	853.29	
π /4 DQPSK	0	Fig.98	1175.71	/
	39	Fig.99	1175.71	
	78	Fig.100	1179.71	
8DPSK	0	Fig.101	1193.70	/
	39	Fig.102	1192.20	
	78	Fig.103	1195.70	

See below for test graphs.
Conclusion: Pass

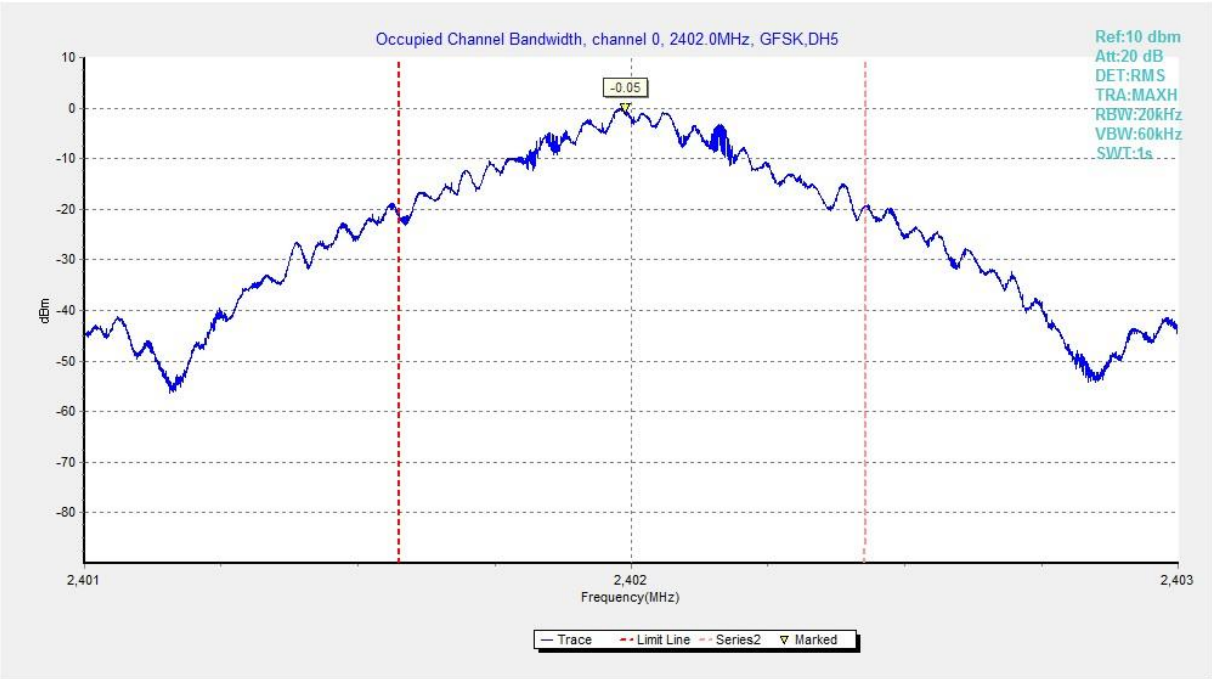

Fig. 95 Occupied Bandwidth (GFSK, Ch 0)

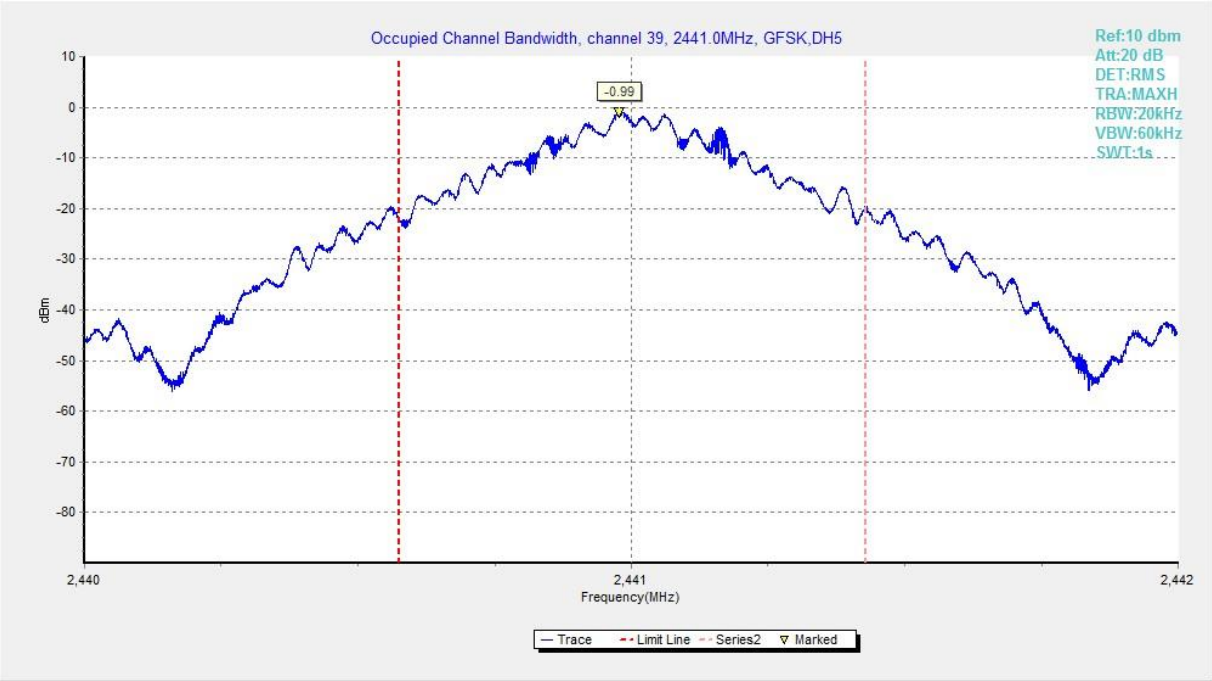

Fig. 96 Occupied Bandwidth (GFSK, Ch 39)

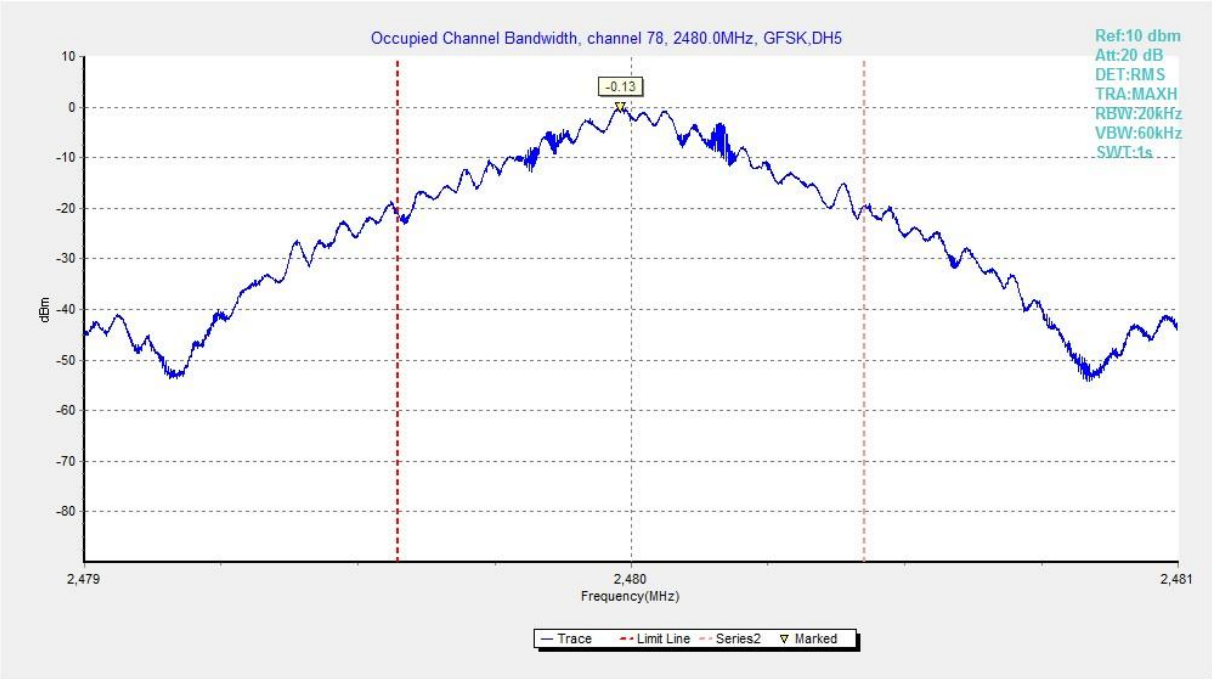

Fig. 97 Occupied Bandwidth (GFSK, Ch 78)

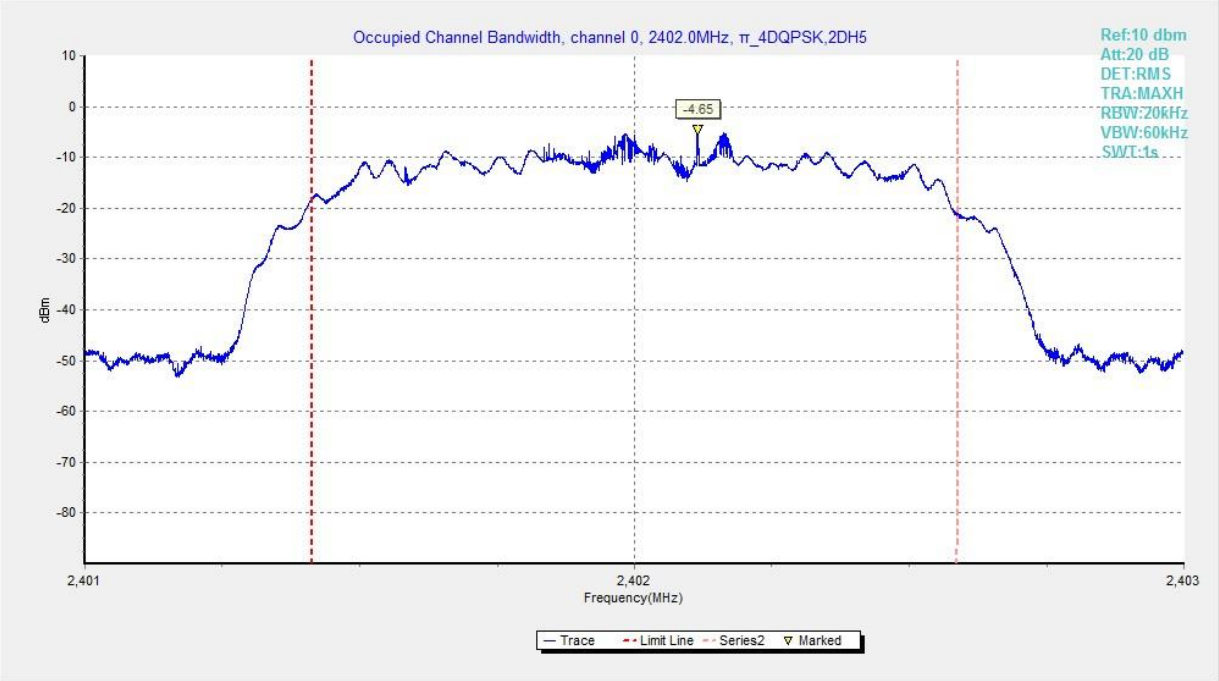

Fig. 98 Occupied Bandwidth (π /4 DQPSK, Ch 0)

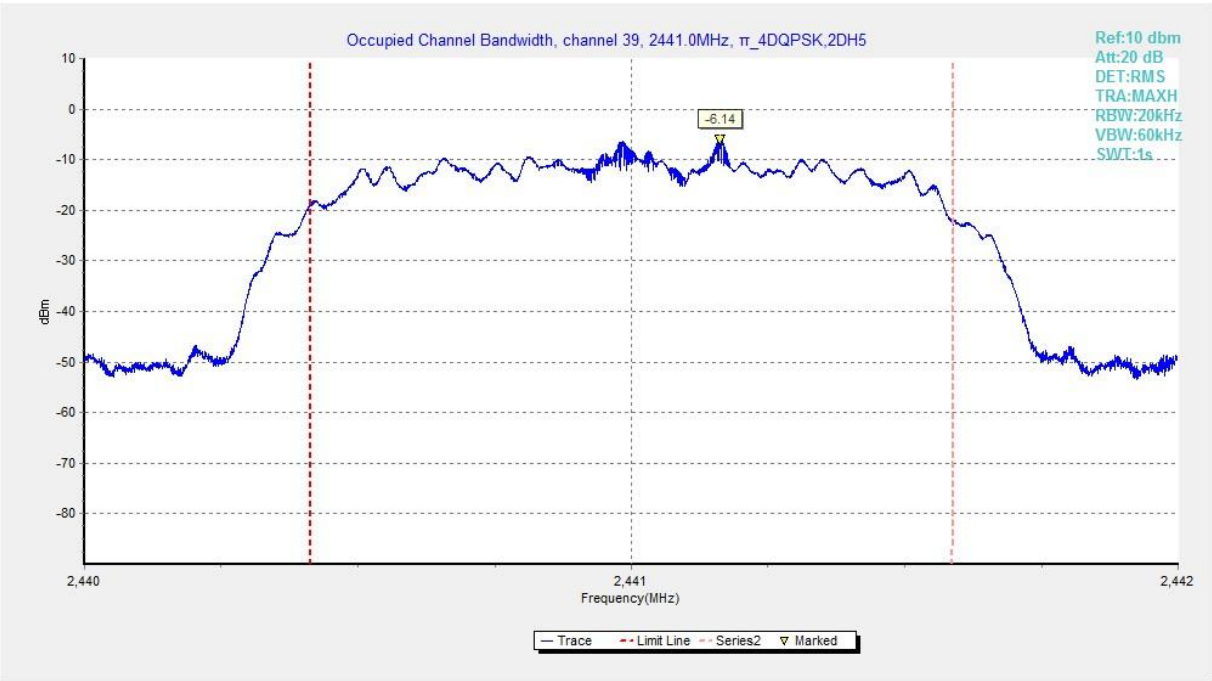

Fig. 99 Occupied Bandwidth (π /4 DQPSK, Ch 39)

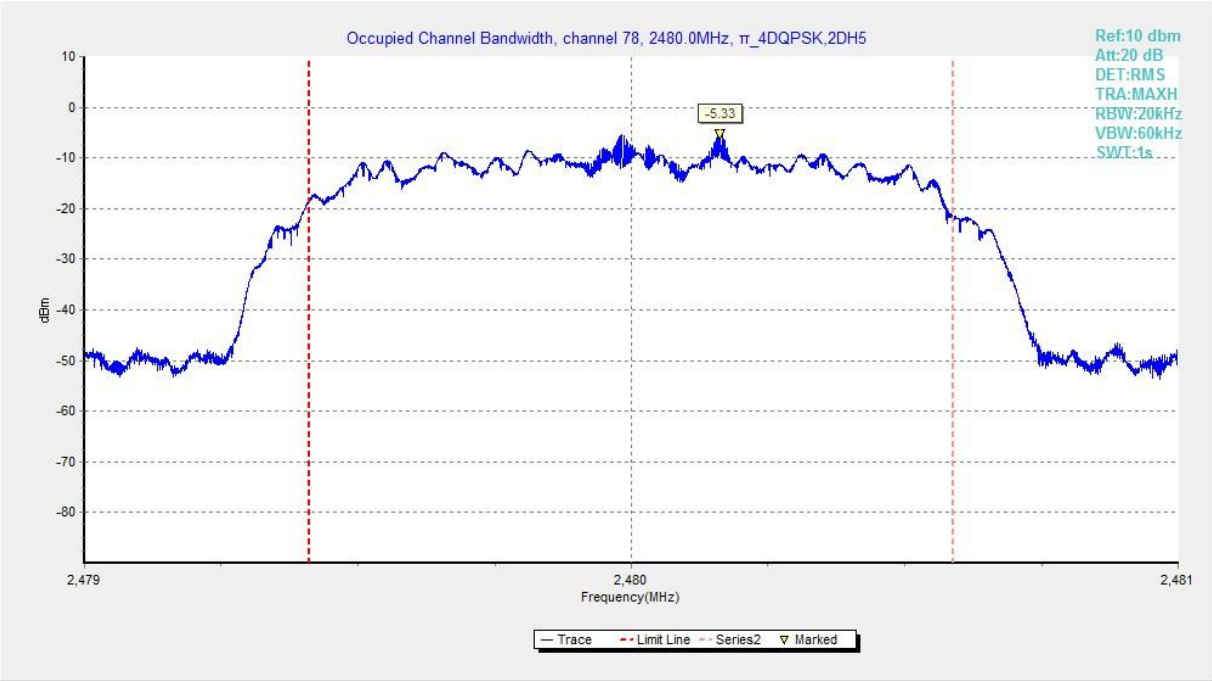

Fig. 100 Occupied Bandwidth (π /4 DQPSK, Ch 78)

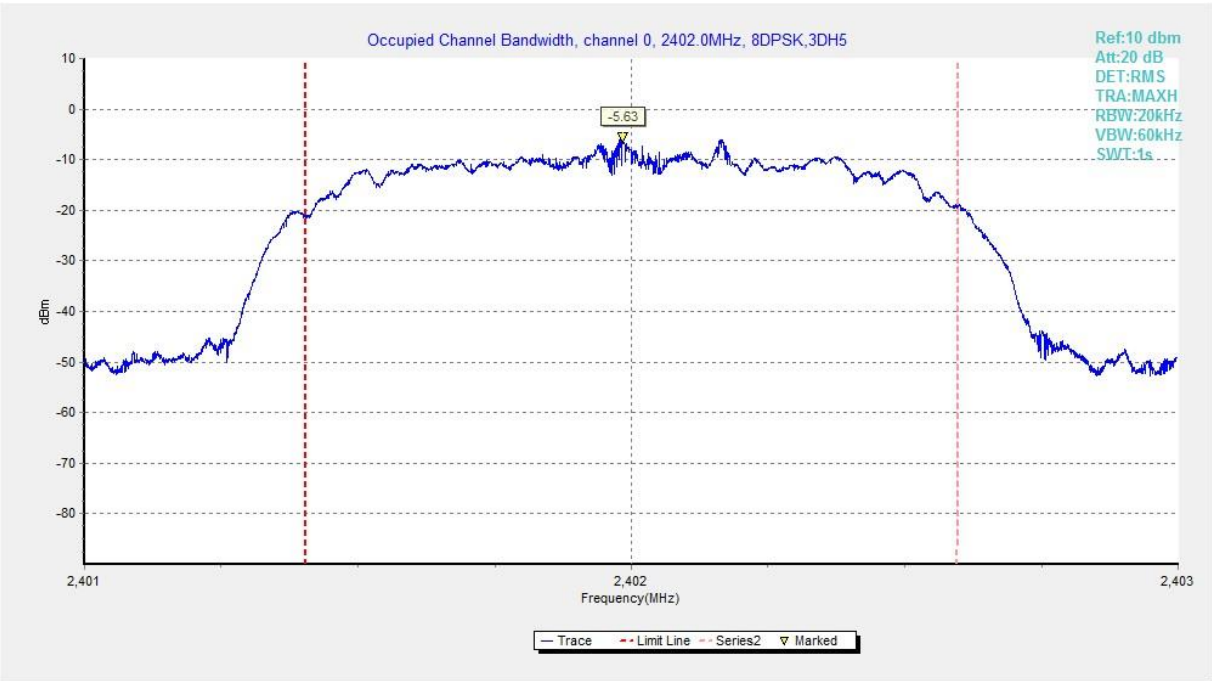

Fig. 101 Occupied Bandwidth (8DPSK, Ch 0)

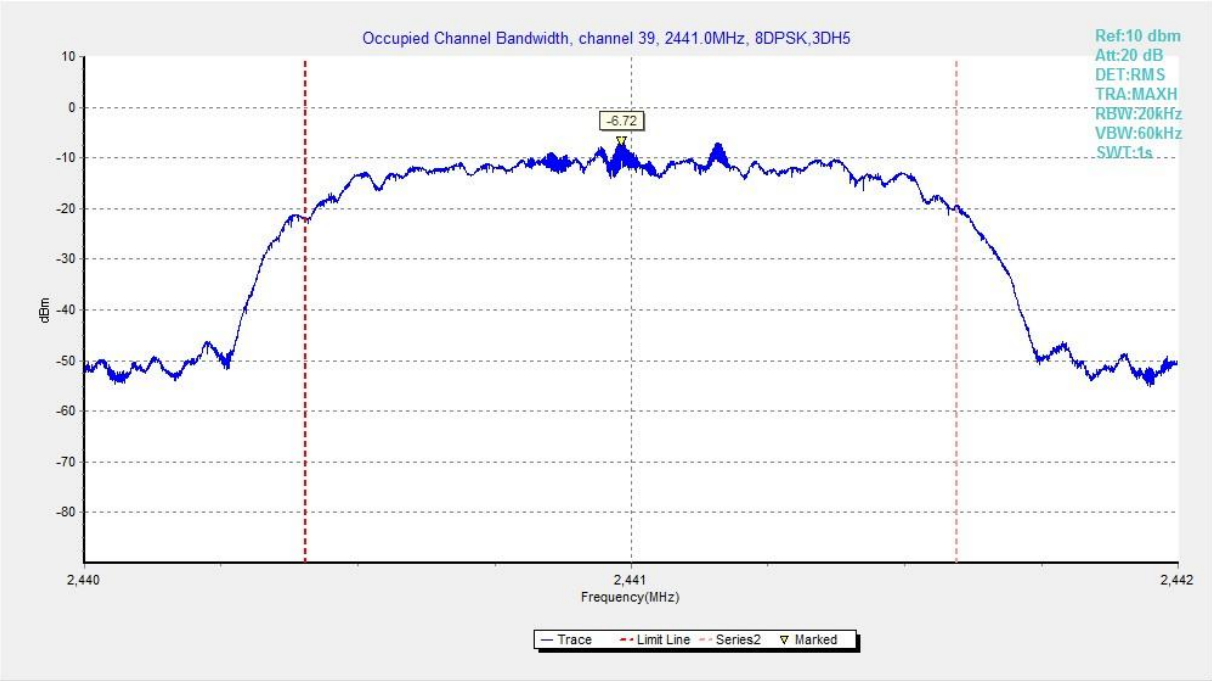

Fig. 102 Occupied Bandwidth (8DPSK, Ch 39)

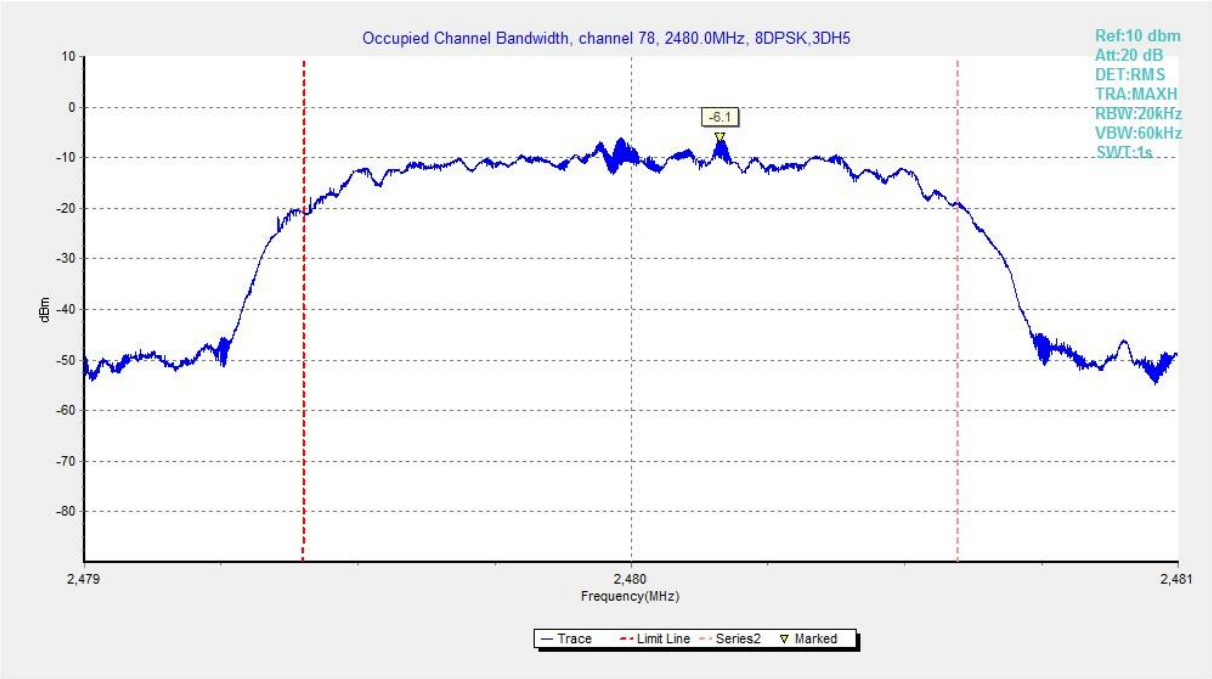

Fig. 103 Occupied Bandwidth (8DPSK, Ch 78)

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