

	DH3	Fig.96	165.10	P
	DH5	Fig.97	175.39	P

Conclusion: PASS

Test graphs as below:

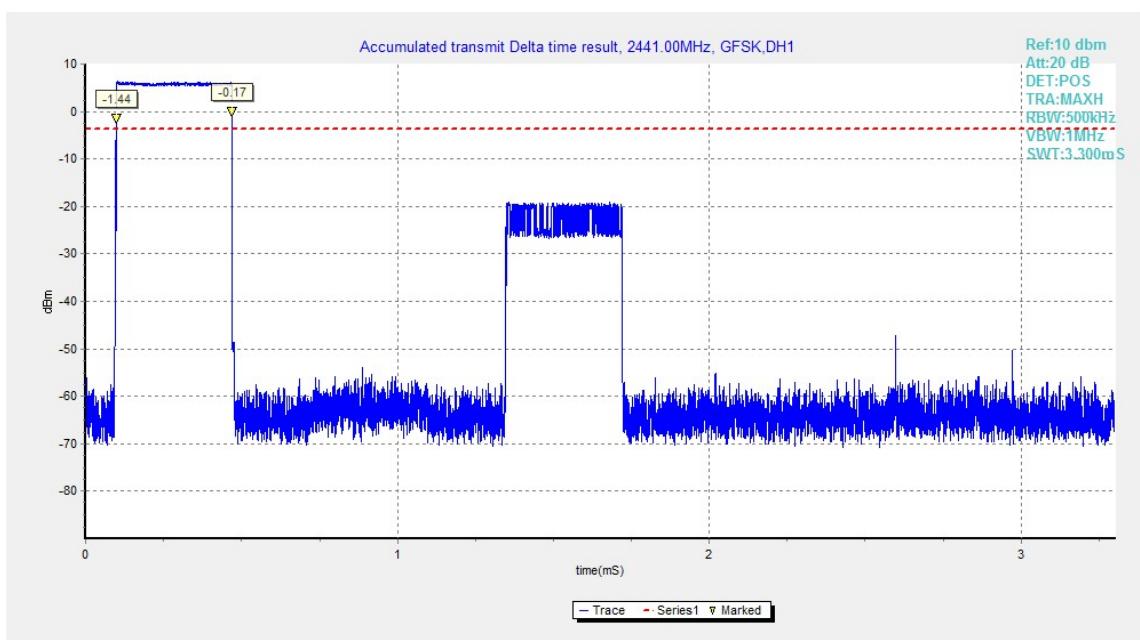
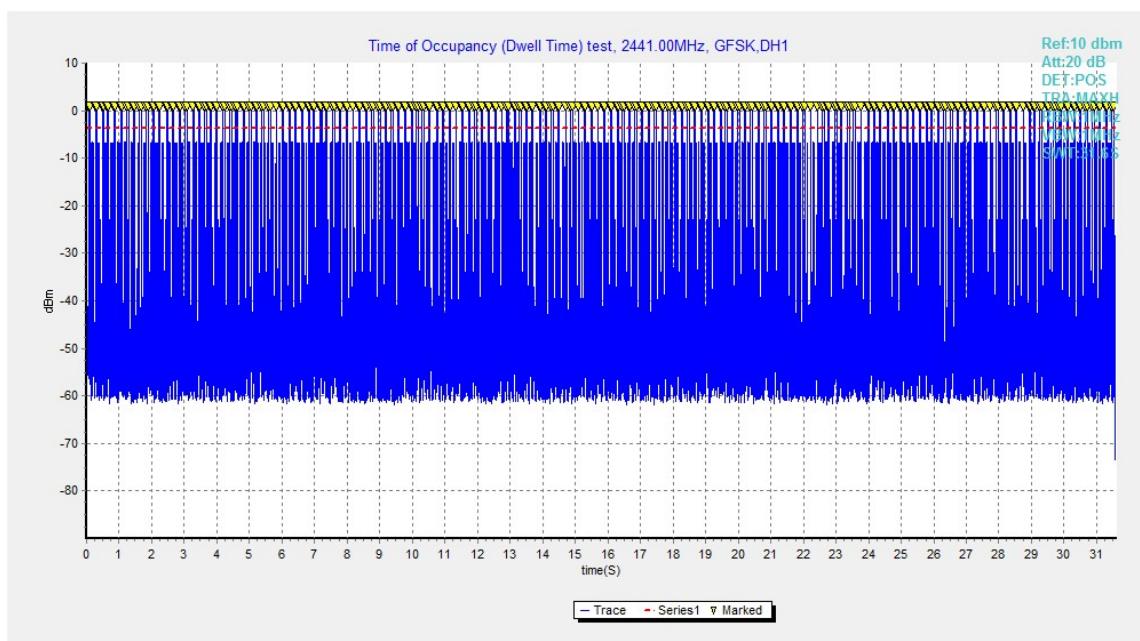


Fig.89. Time of occupancy (Dwell Time): Channel 39, Packet DH1



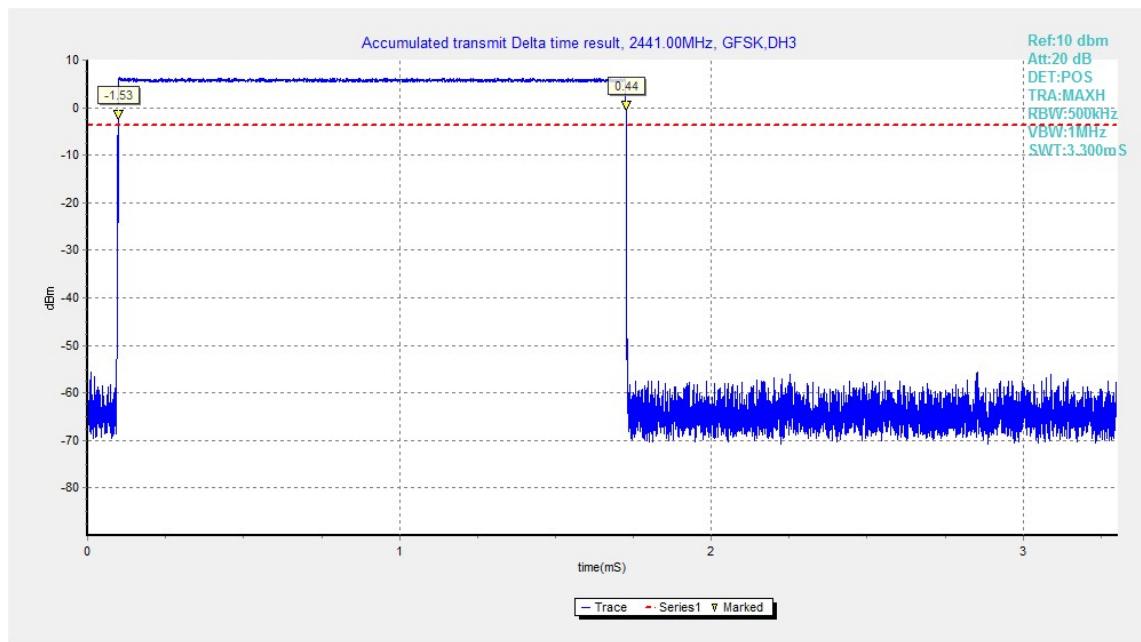
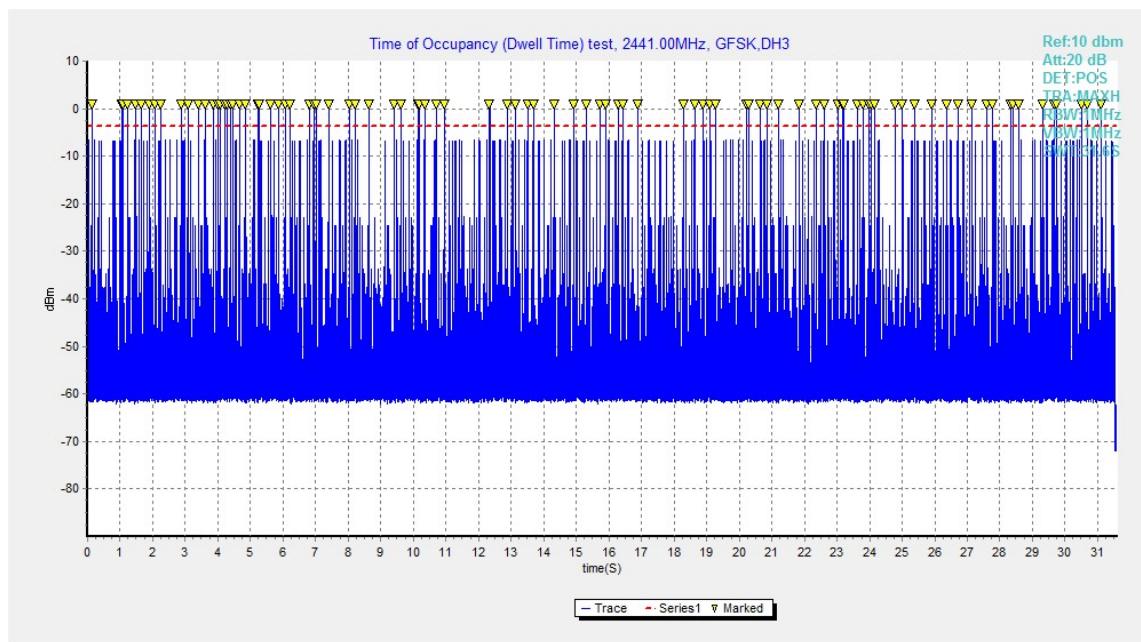


Fig.90. Time of occupancy (Dwell Time): Channel 39, Packet DH3



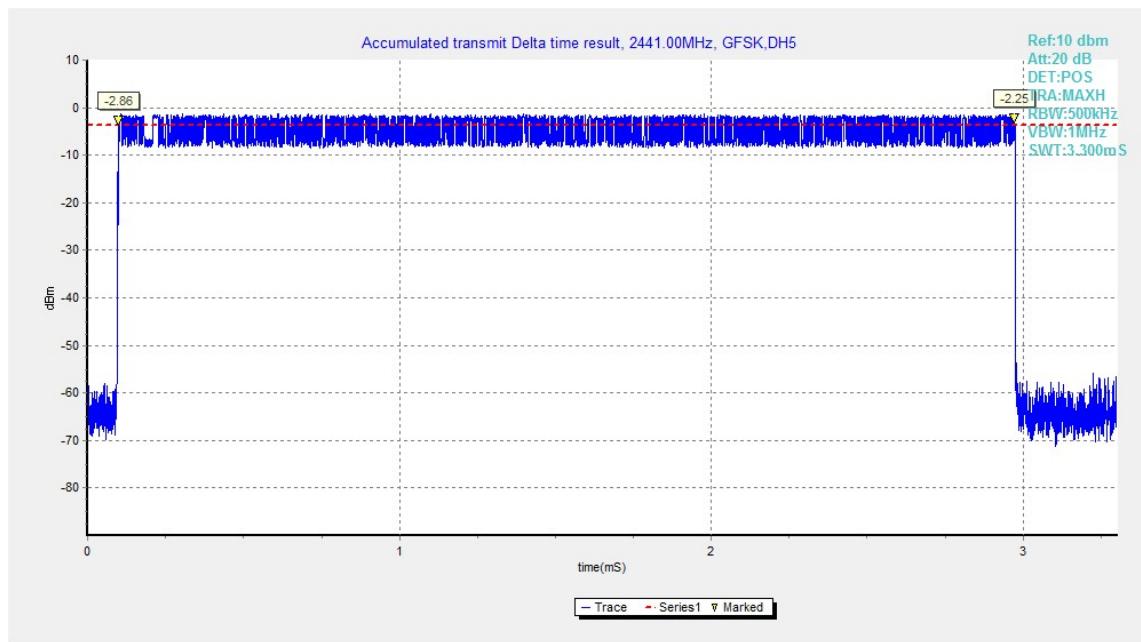
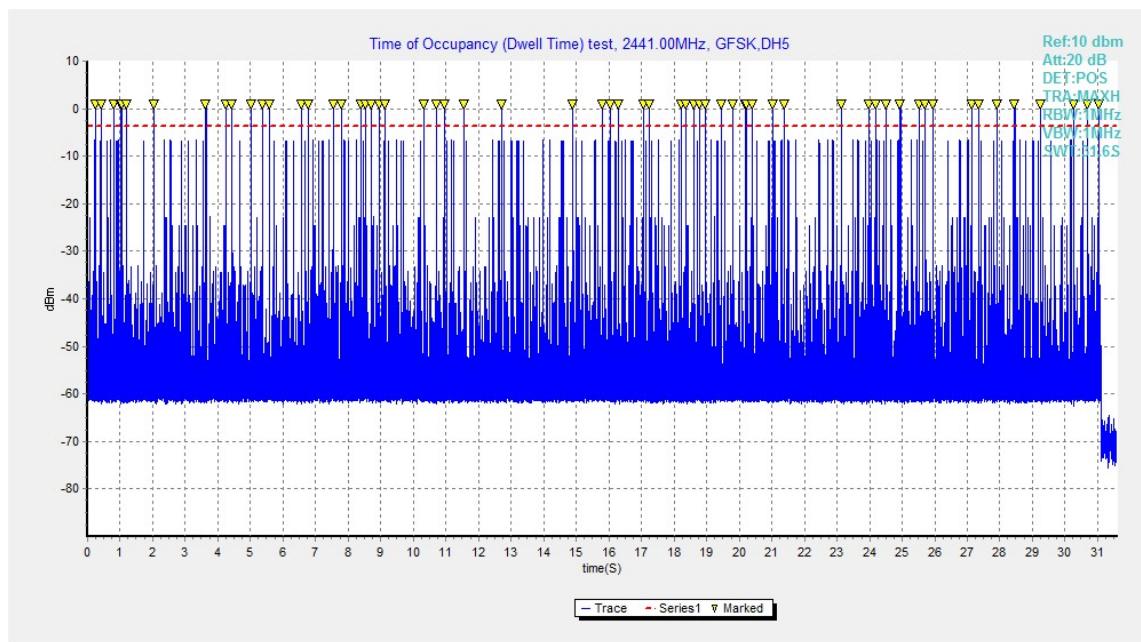


Fig.91. Time of occupancy (Dwell Time): Channel 39, Packet DH5



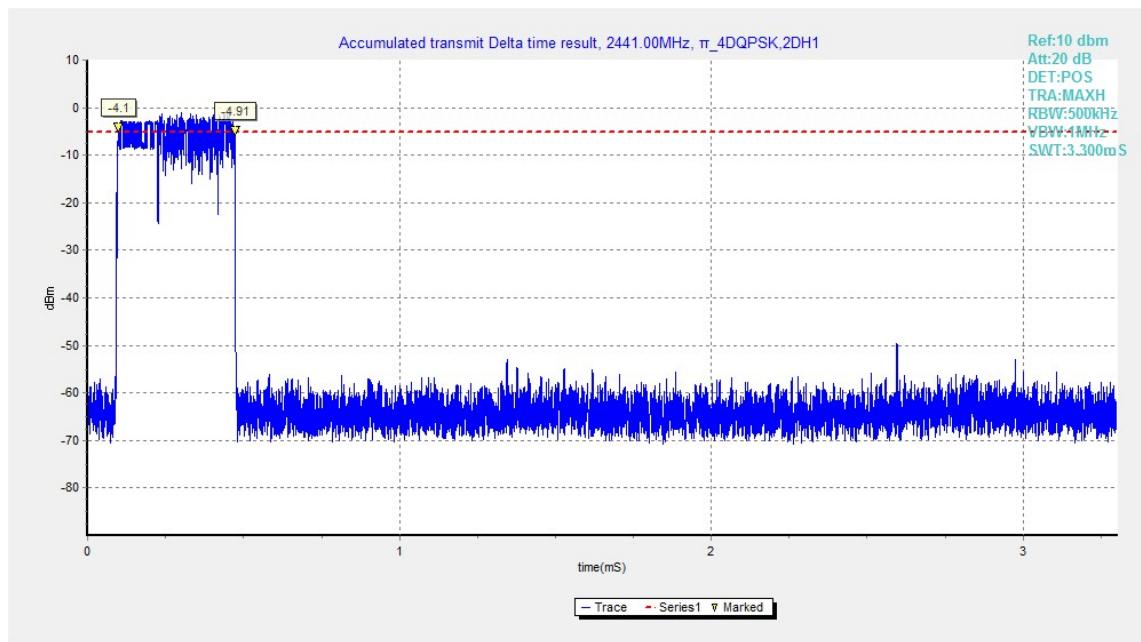
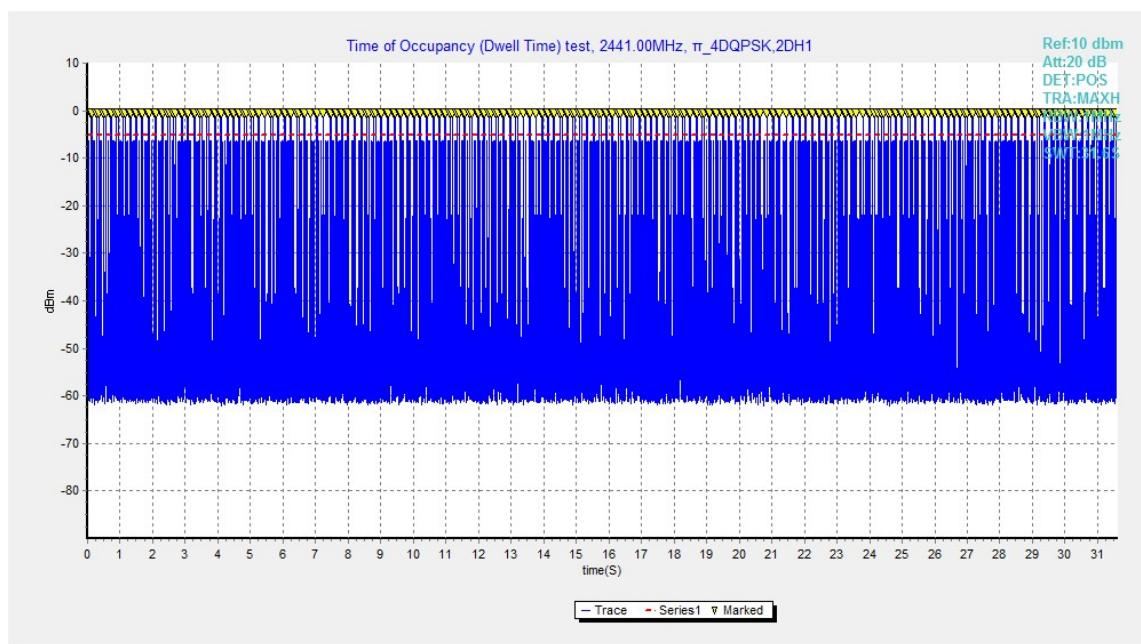


Fig.92. Time of occupancy (Dwell Time): Channel 39, Packet 2-DH1



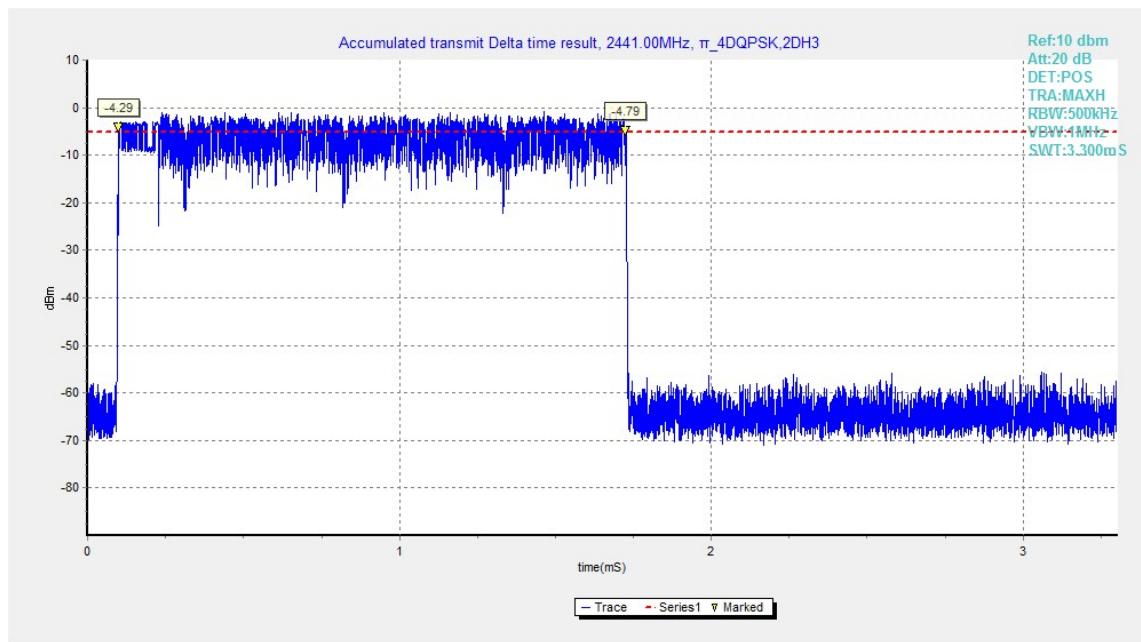
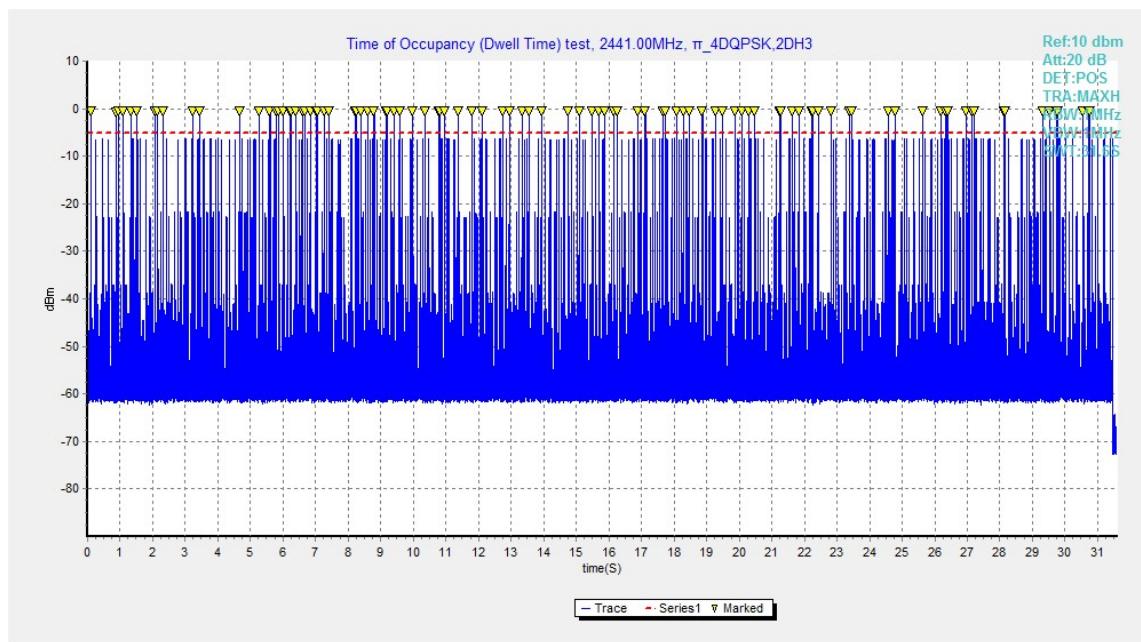


Fig.93. Time of occupancy (Dwell Time): Channel 39, Packet 2-DH3



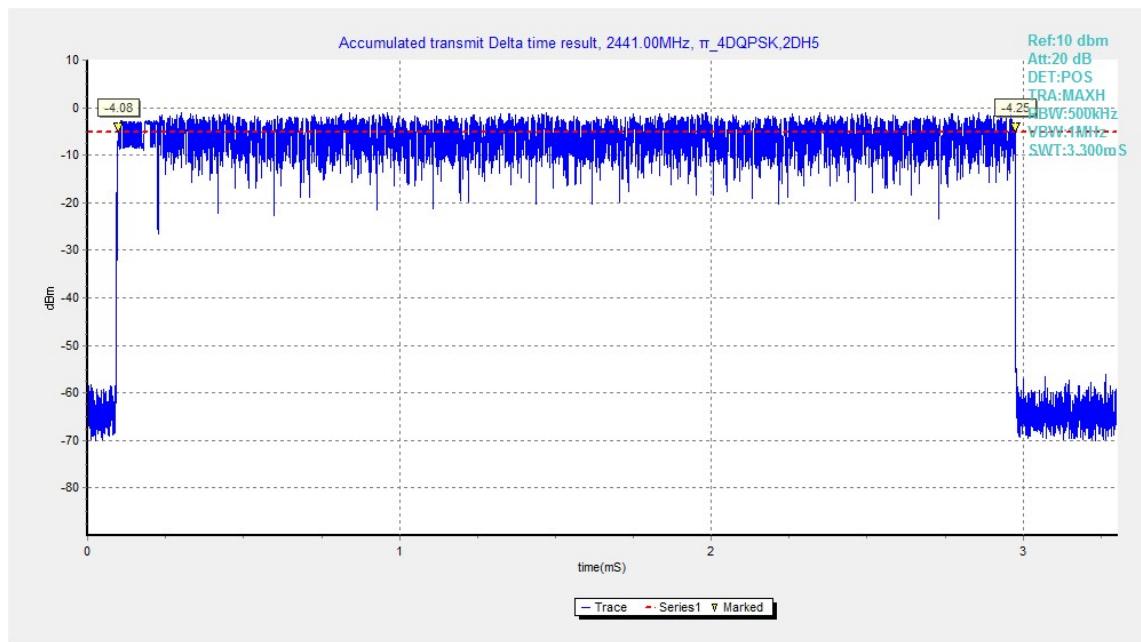
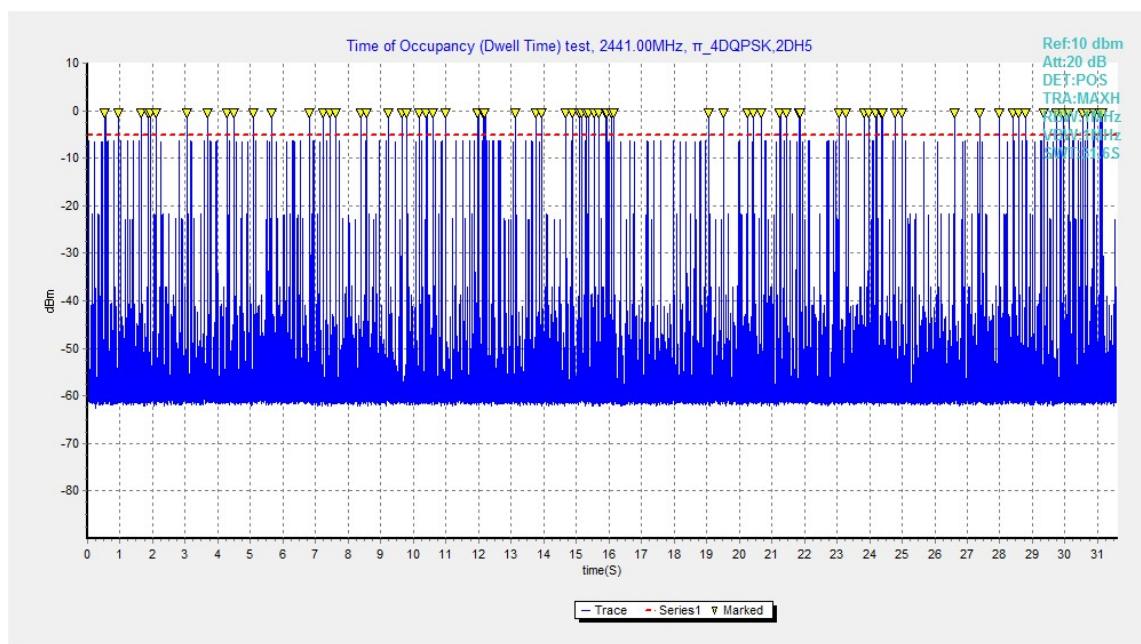


Fig.94. Time of occupancy (Dwell Time): Channel 39, Packet 2-DH5



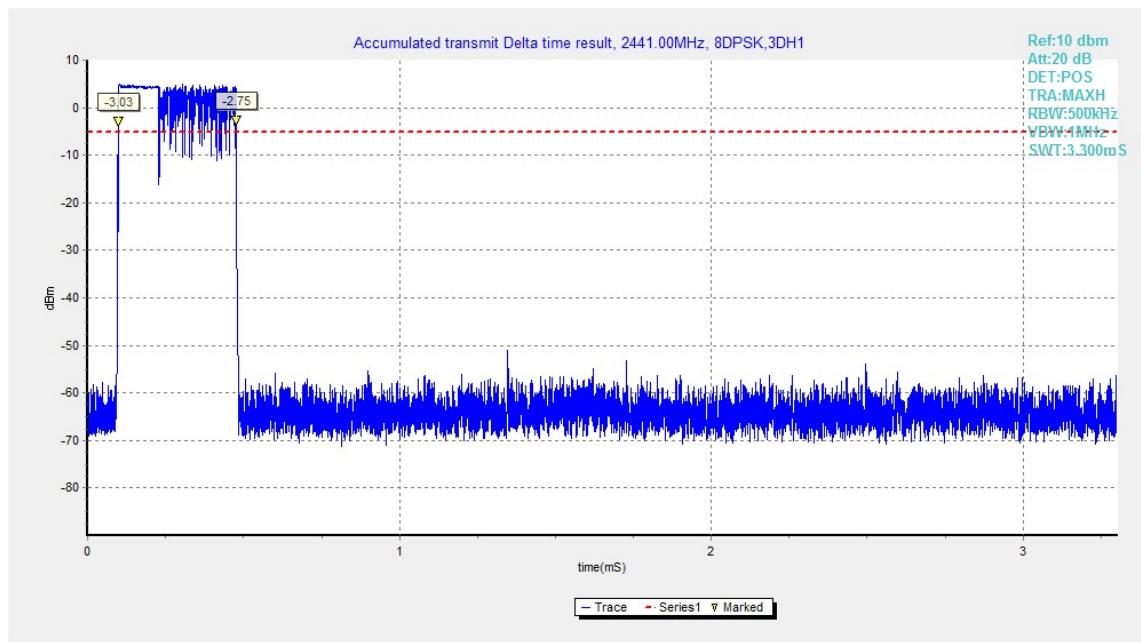
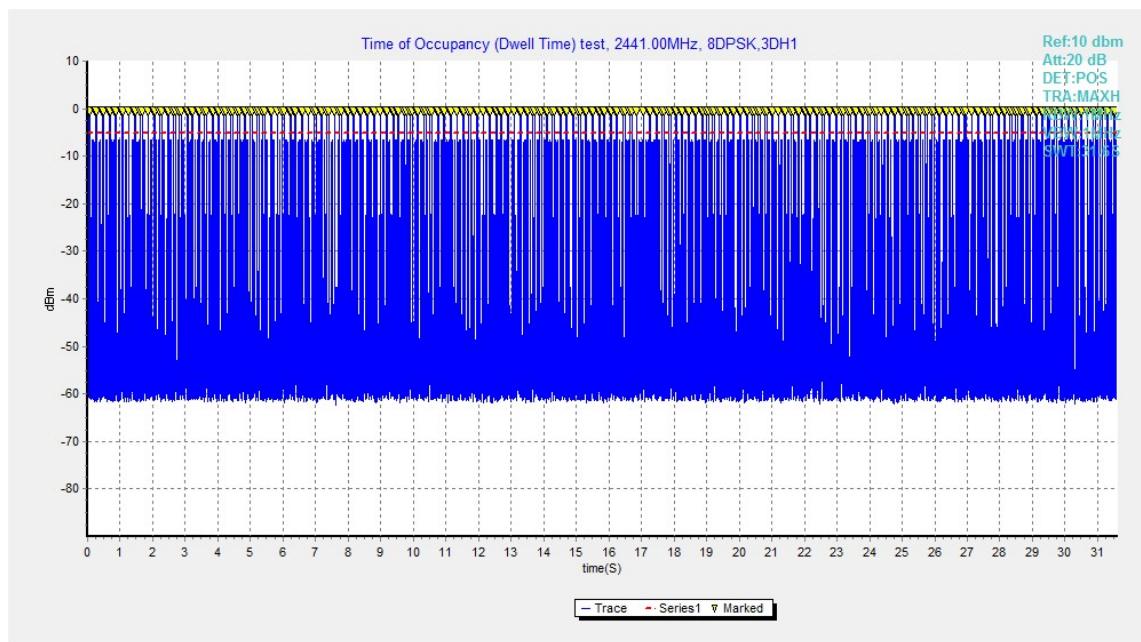


Fig.95. Time of occupancy (Dwell Time): Channel 39, Packet 3-DH1



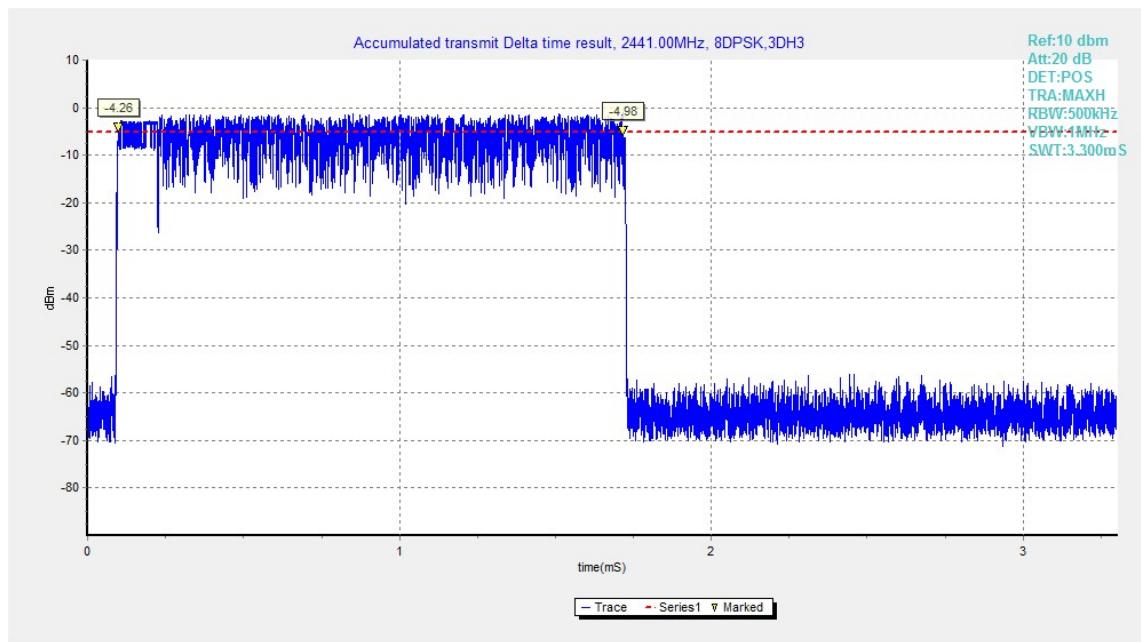
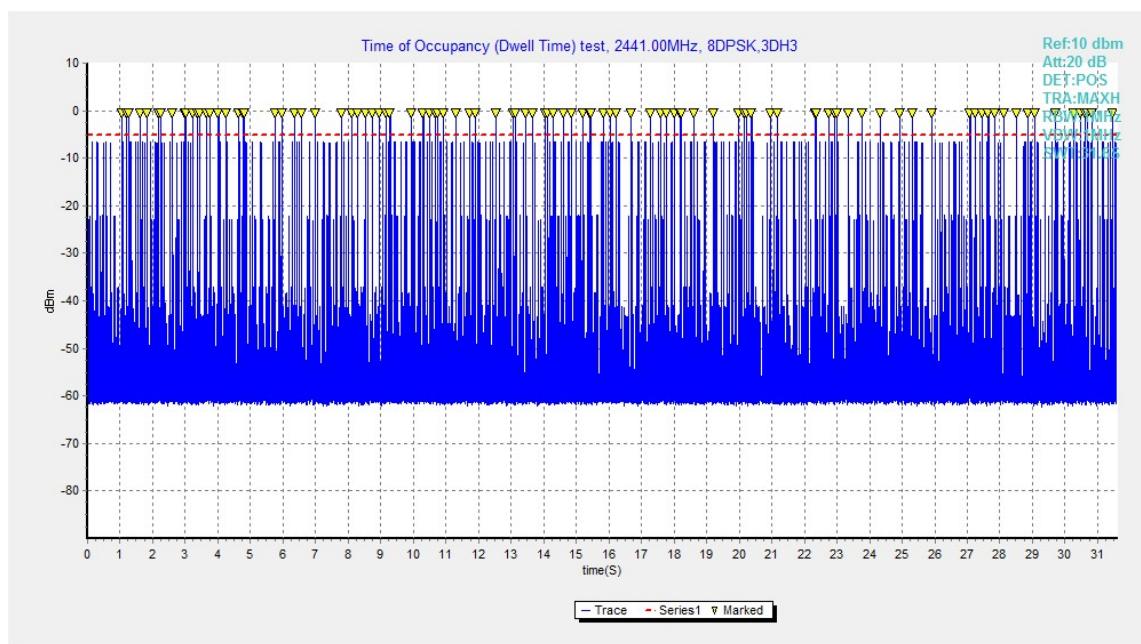


Fig.96. Time of occupancy (Dwell Time): Channel 39, Packet 3-DH3



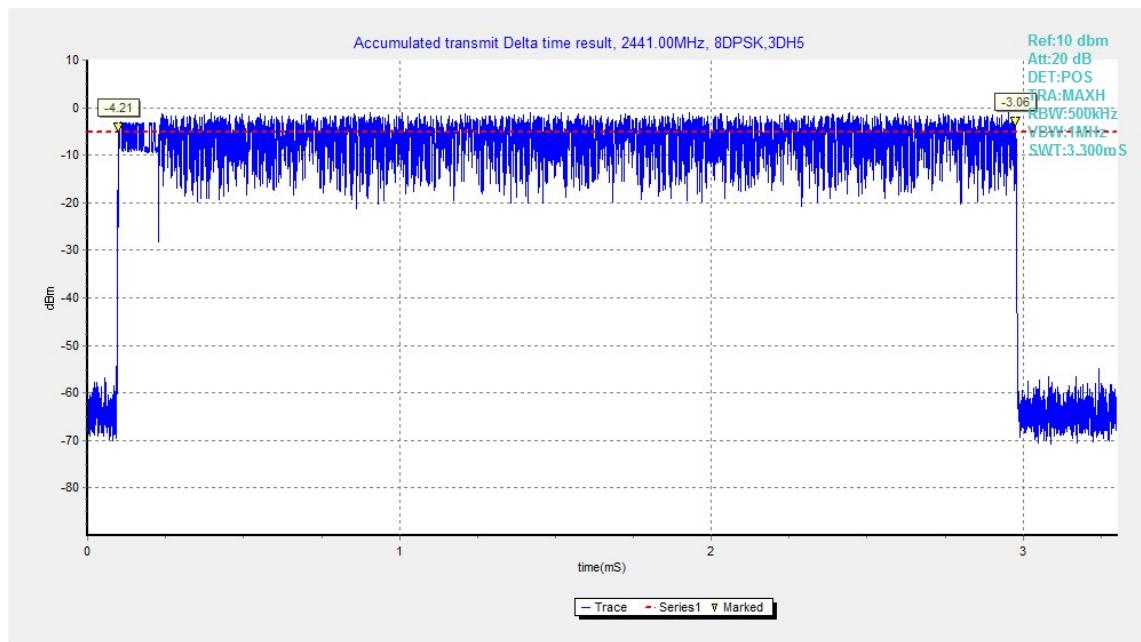
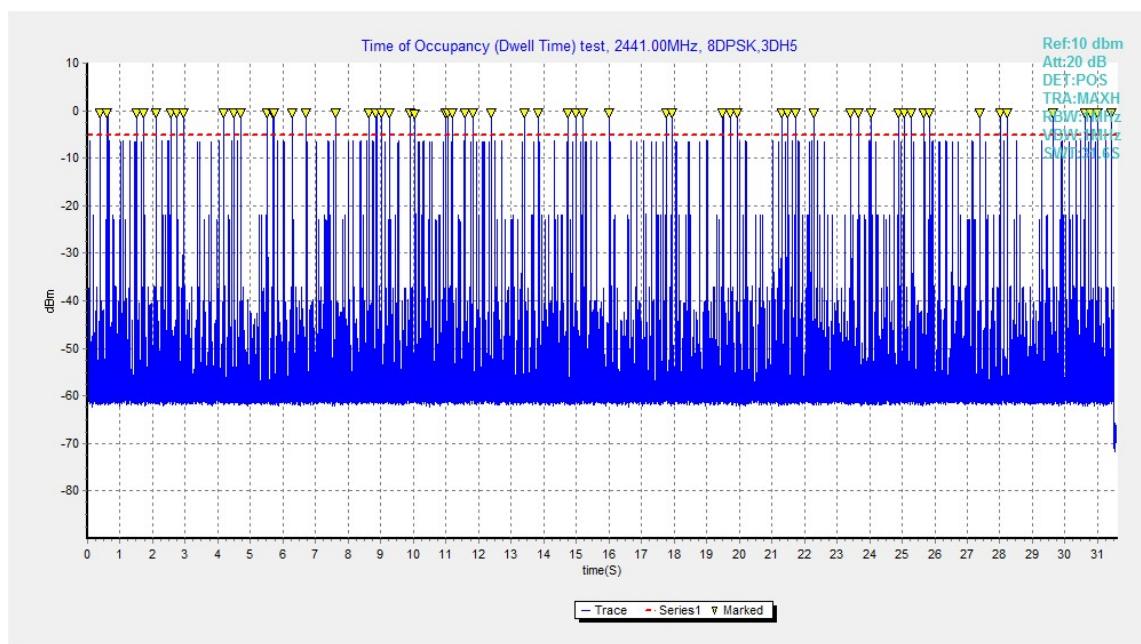


Fig.97. Time of occupancy (Dwell Time): Channel 39, Packet 3-DH5



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.98	946.50	NA
39	Fig.99	965.25	NA
78	Fig.100	950.25	NA

For π/4 DQPSK

Channel	20dB Bandwidth (kHz)		Conclusion
0	Fig.101	1287.00	NA
39	Fig.102	1268.25	NA
78	Fig.103	1288.50	NA

For 8DPSK

Channel	20dB Bandwidth (kHz)		Conclusion
0	Fig.104	1267.50	NA
39	Fig.105	1266.75	NA
78	Fig.106	1269.00	NA

Conclusion: NA

Test graphs as below:

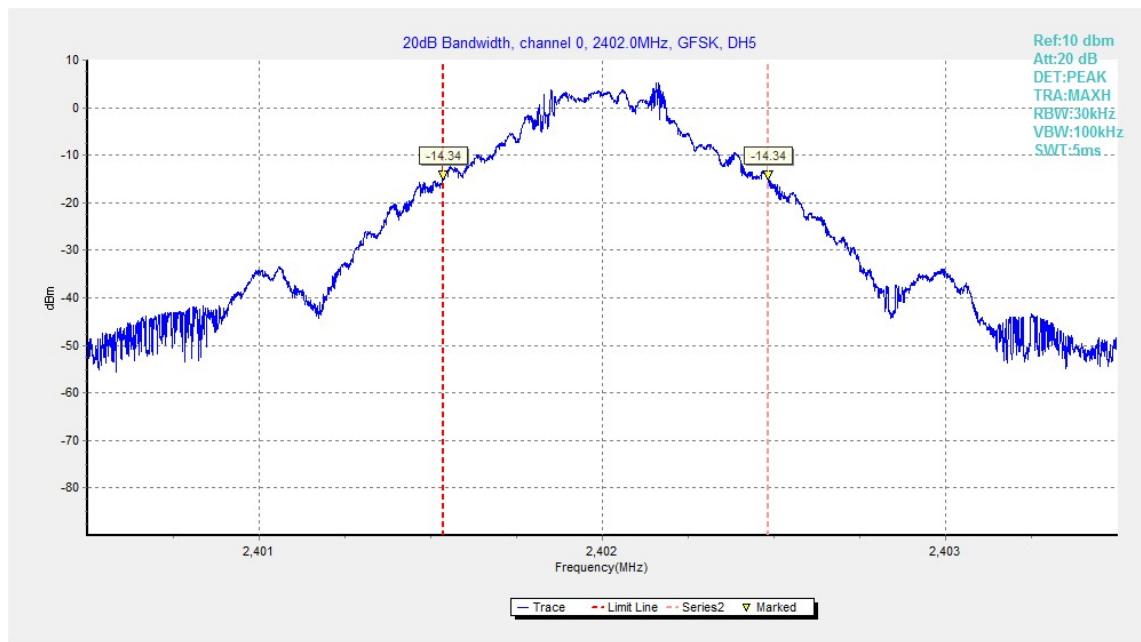


Fig.98. 20dB Bandwidth: GFSK, Channel 0

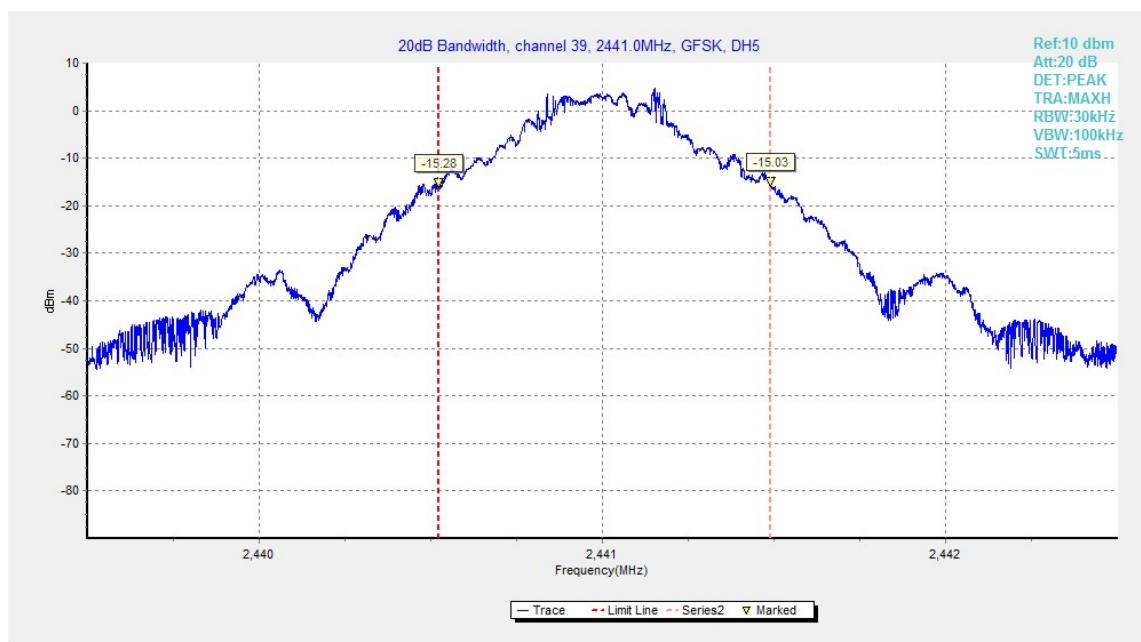


Fig.99. 20dB Bandwidth: GFSK, Channel 39

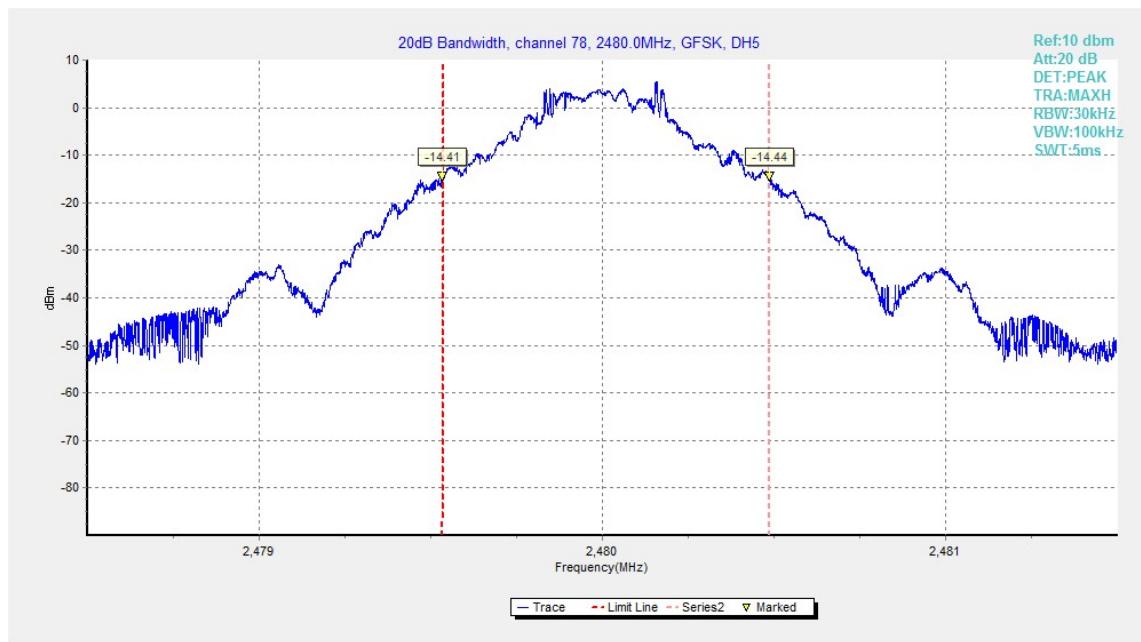


Fig.100. 20dB Bandwidth: GFSK, Channel 78

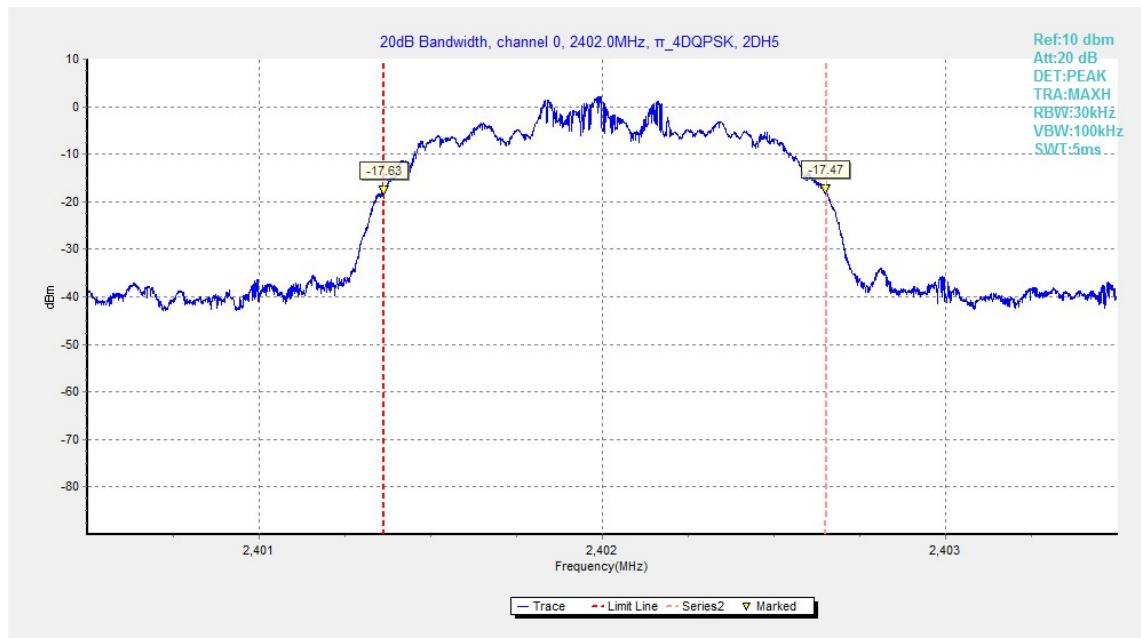
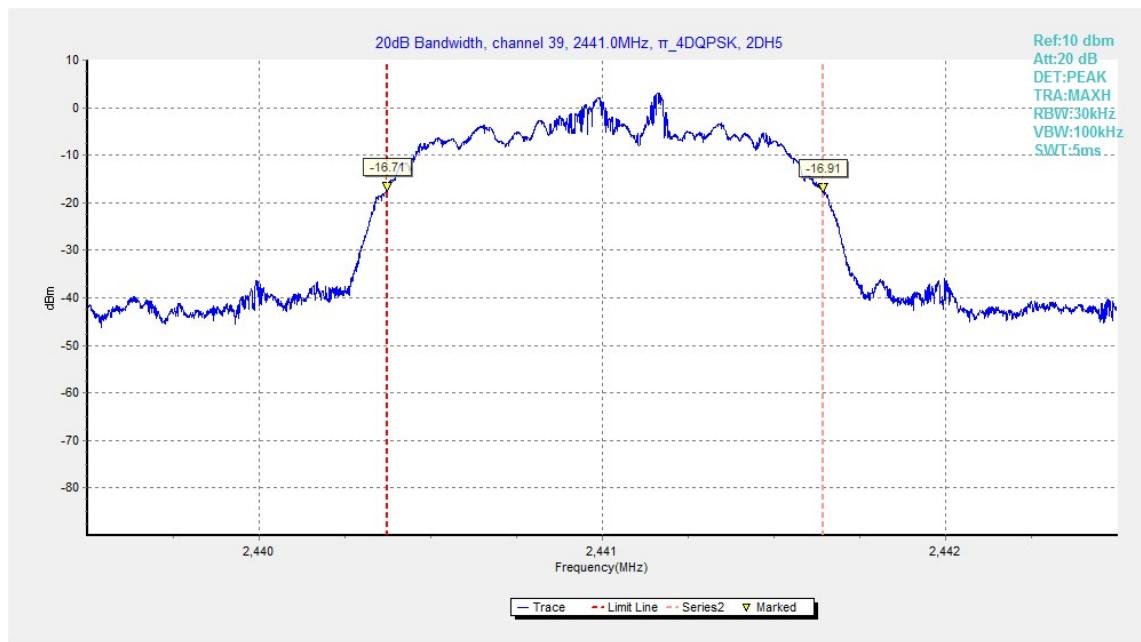
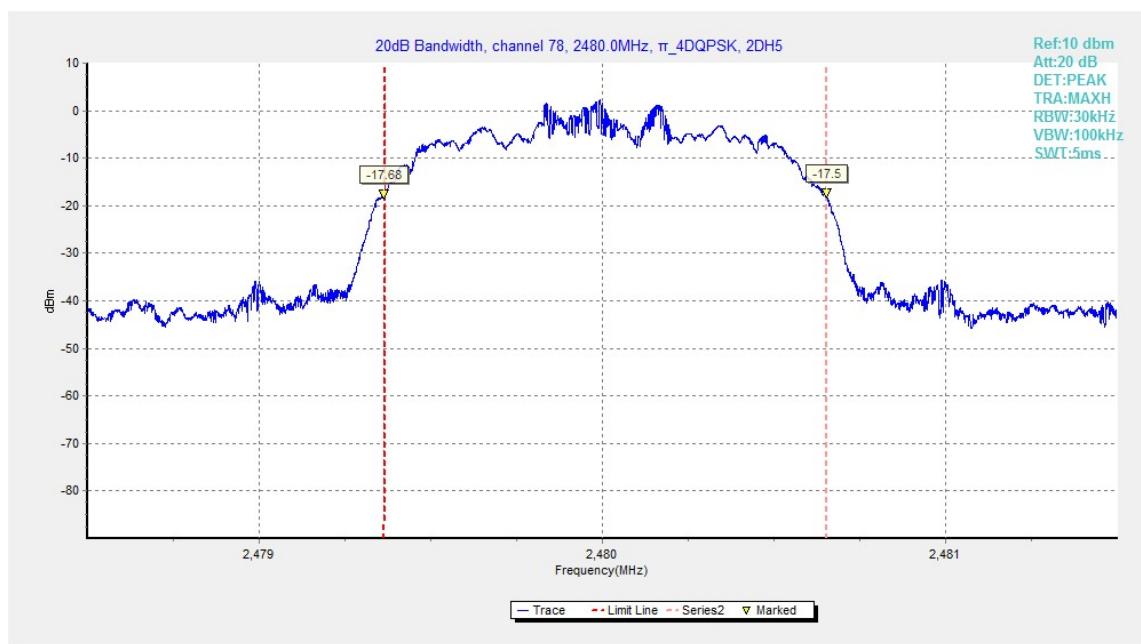


Fig.101. 20dB Bandwidth: π/4 DQPSK, Channel 0


 Fig.102. 20dB Bandwidth: $\pi/4$ DQPSK, Channel 39

 Fig.103. 20dB Bandwidth: $\pi/4$ DQPSK, Channel 78

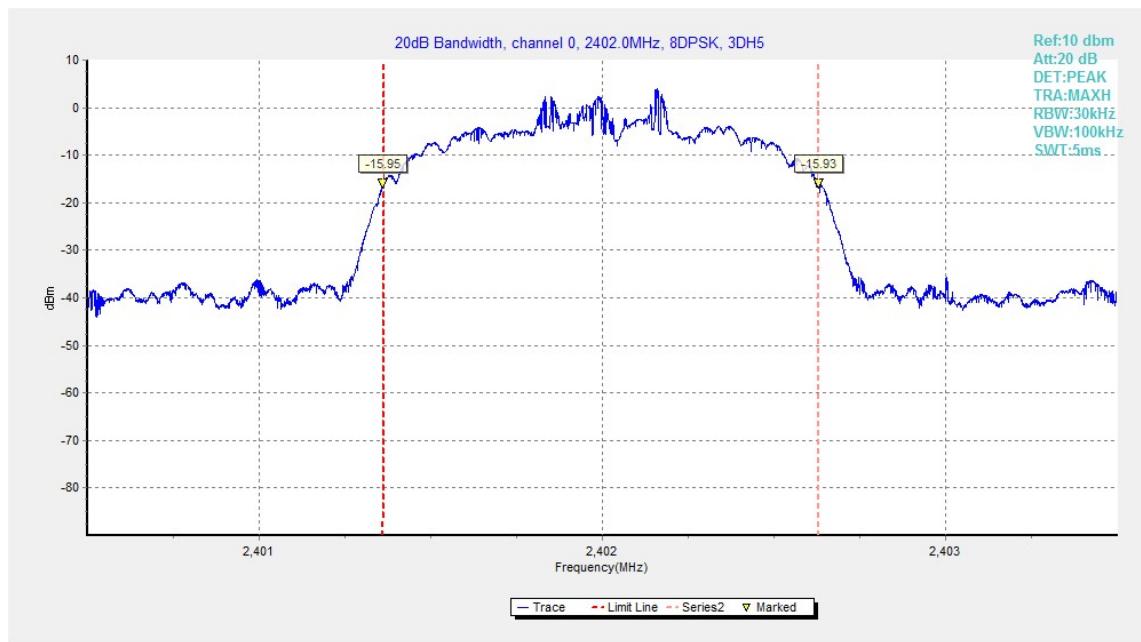


Fig.104. 20dB Bandwidth: 8DPSK, Channel 0

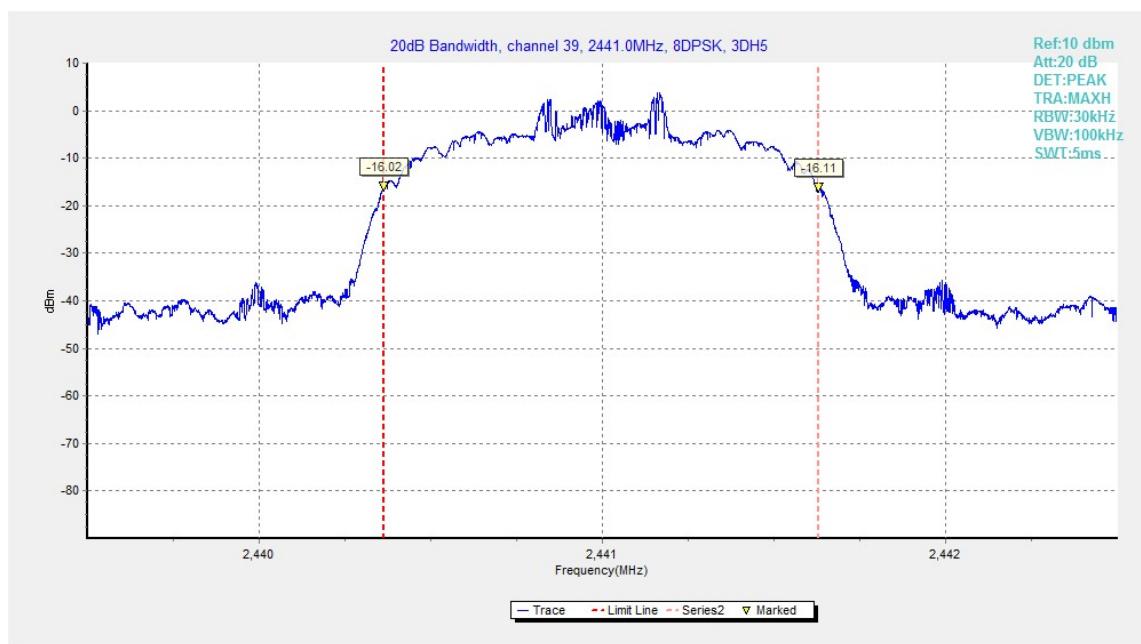


Fig.105. 20dB Bandwidth: 8DPSK, Channel 39

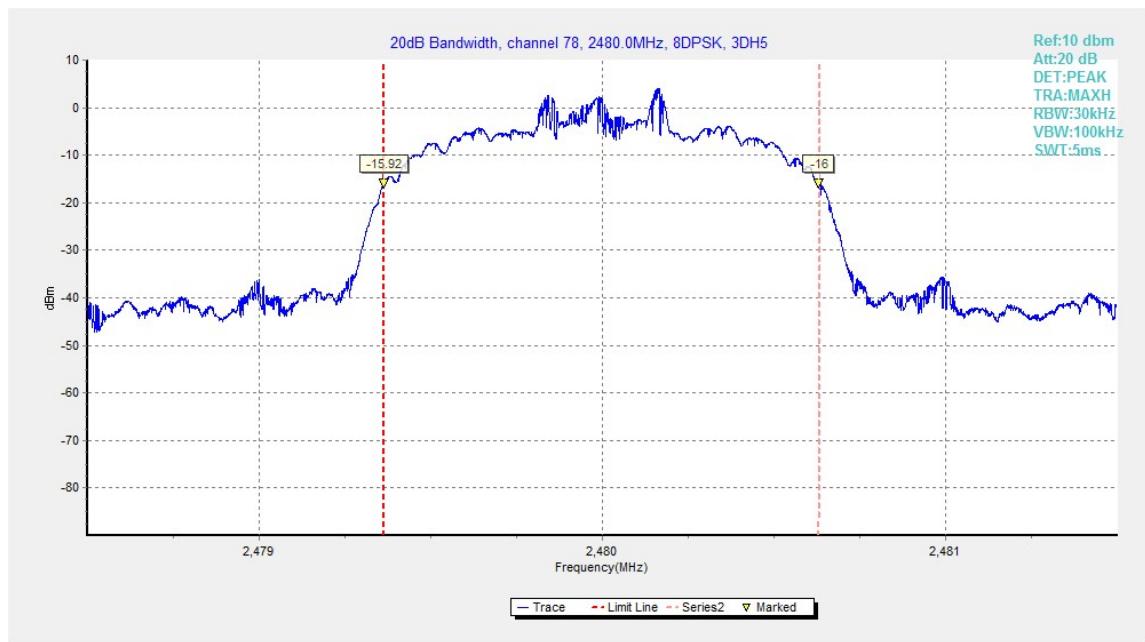


Fig.106. 20dB Bandwidth: 8DPSK, Channel 78

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.107	1015.50	P

For $\pi/4$ DQPSK

Channel	Carrier frequency separation (kHz)		Conclusion
39	Fig.108	1008.75	P

For 8DPSK

Channel	Carrier frequency separation (kHz)		Conclusion
39	Fig.109	987.75	P

Conclusion: PASS

Test graphs as below:

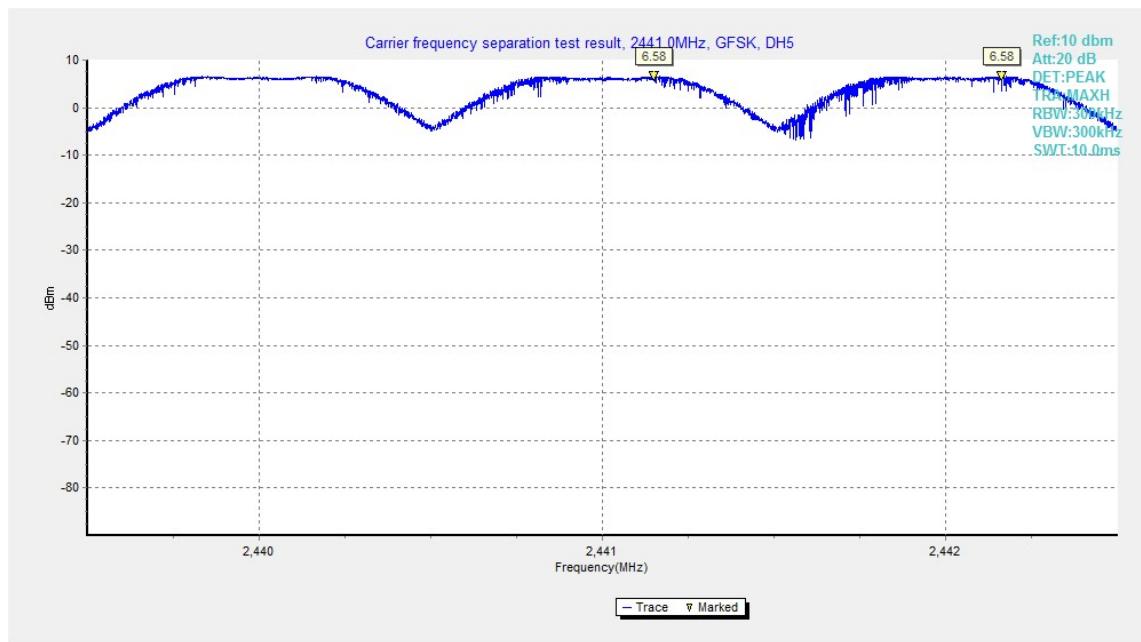


Fig.107. Carrier frequency separation measurement: GFSK, Channel 39

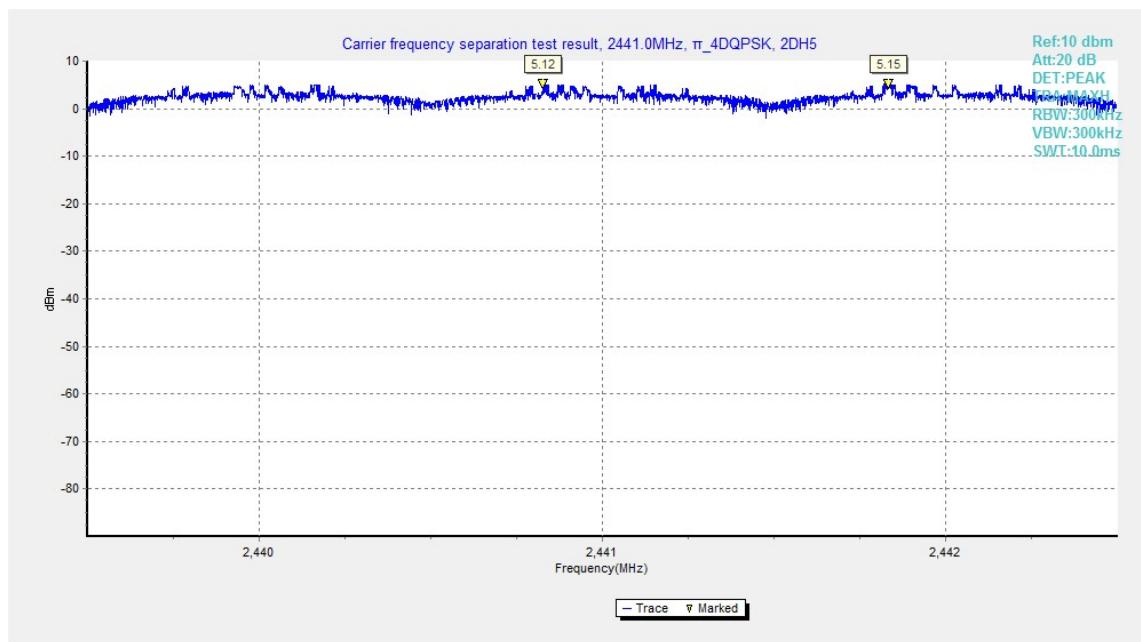


Fig.108. Carrier frequency separation measurement: $\pi/4$ DQPSK, Channel 39

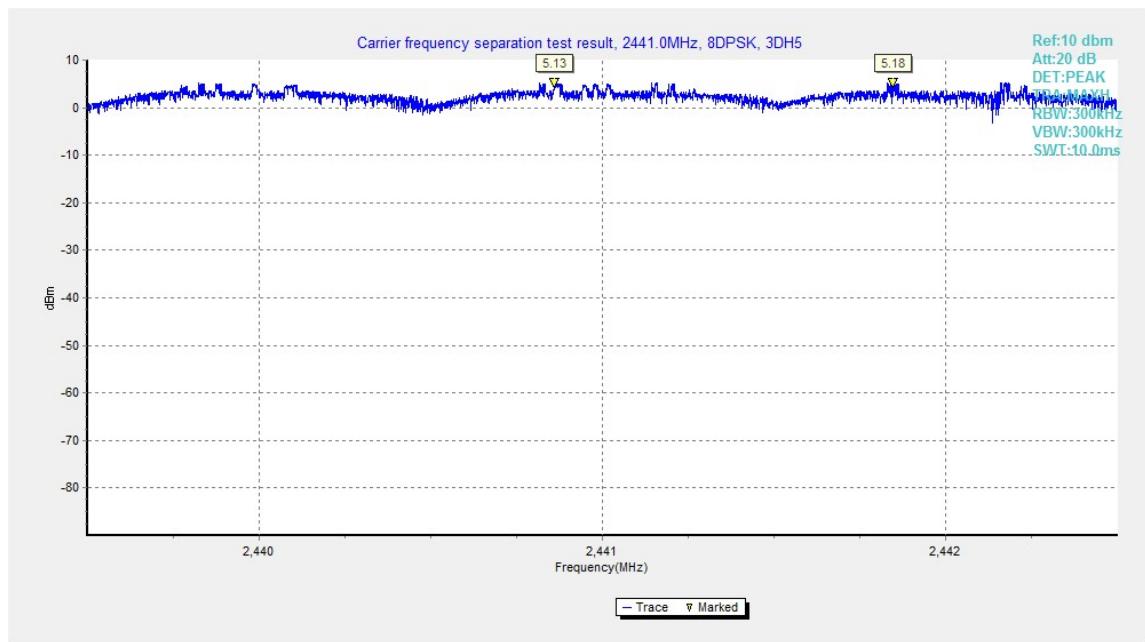


Fig.109. Carrier frequency separation measurement: 8DPSK, Channel 39

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.110	
40~78	Fig.111	P

For 4 DQPSK

Channel	Number of hopping channels	Conclusion
0~39	Fig.112	
40~78	Fig.113	P

For 8DPSK

Channel	Number of hopping channels	Conclusion
0~39	Fig.114	
40~78	Fig.115	P

Conclusion: PASS

Test graphs as below:

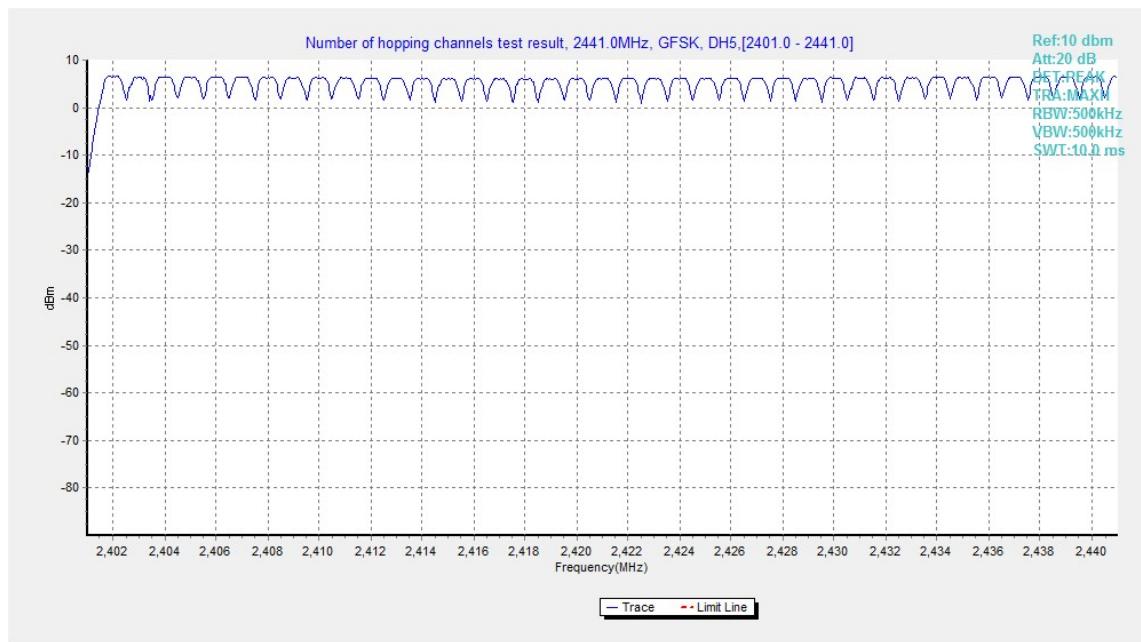


Fig.110. Number of hopping frequencies: GFSK, Channel 0 - 39

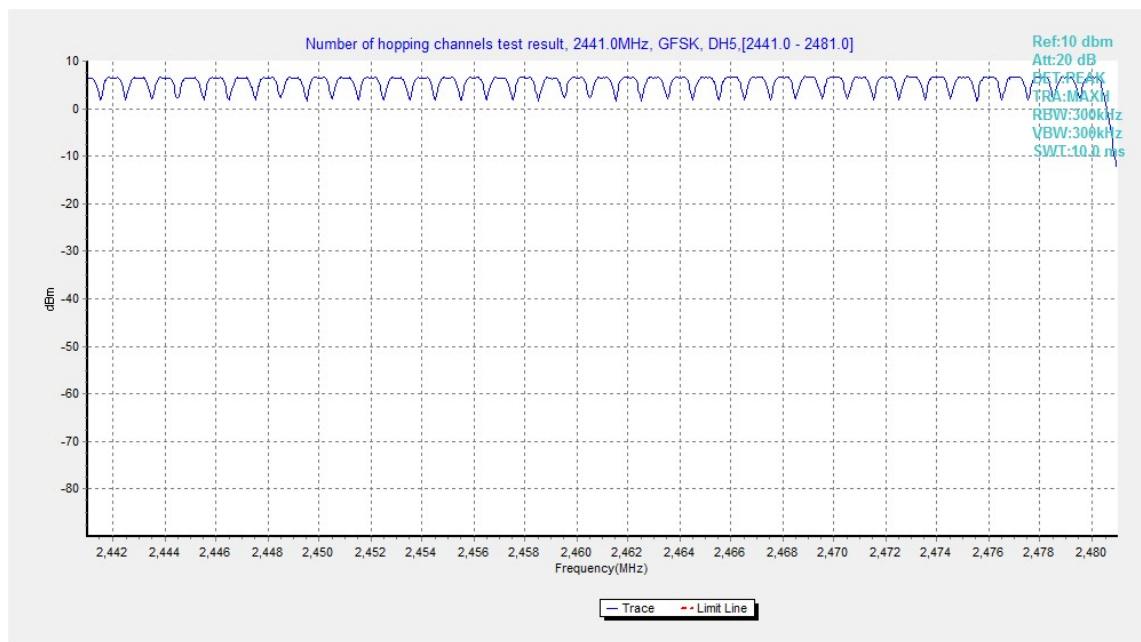


Fig.111. Number of hopping frequencies: GFSK, Channel 40 - 78

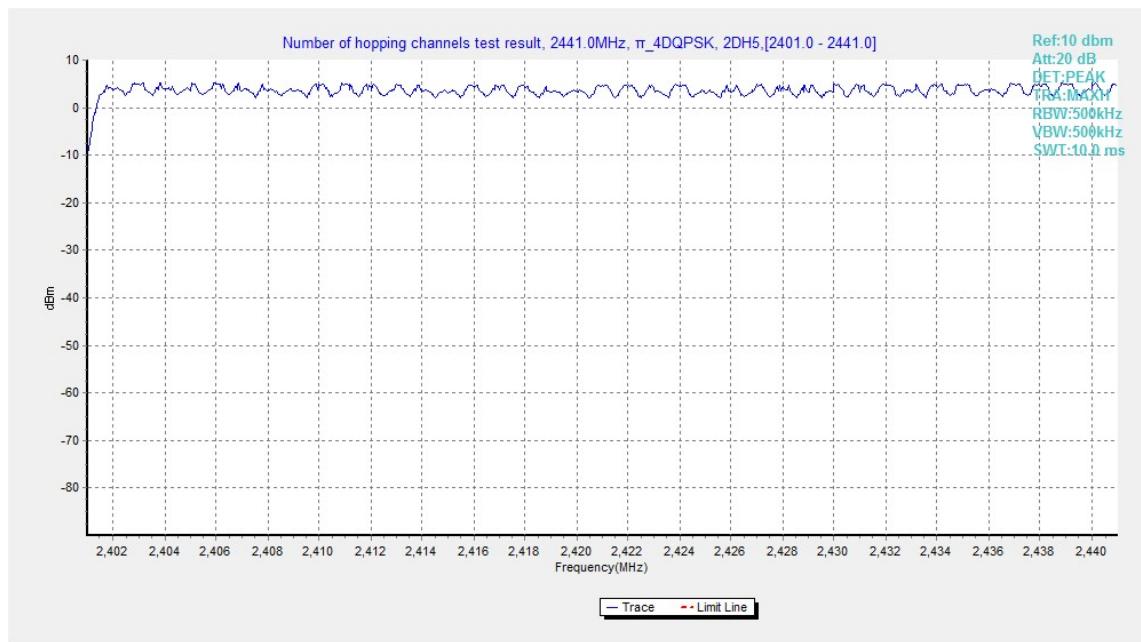


Fig.112. Number of hopping frequencies: $\pi/4$ DQPSK, Channel 0 - 39

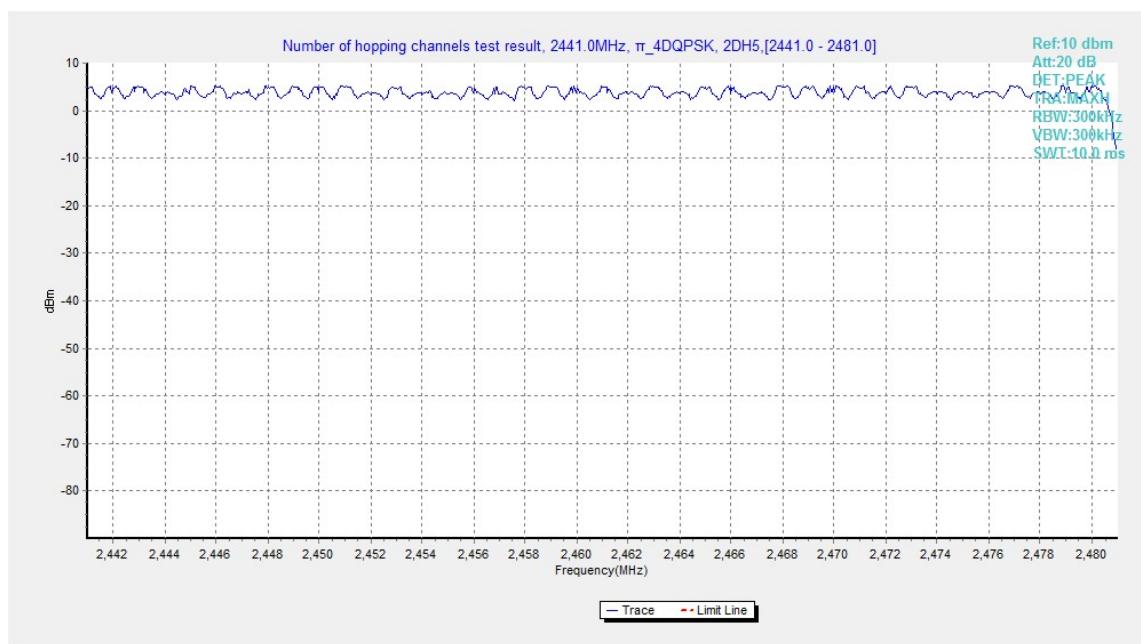


Fig.113. Number of hopping frequencies: $\pi/4$ DQPSK, Channel 40 - 78