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	79	P
40~78	Fig.111		

Forπ/4 DQPSK

Channel	Number of hopping channels		Conclusion
0~39	Fig.112	79	P
40~78	Fig.113		

For 8DPSK

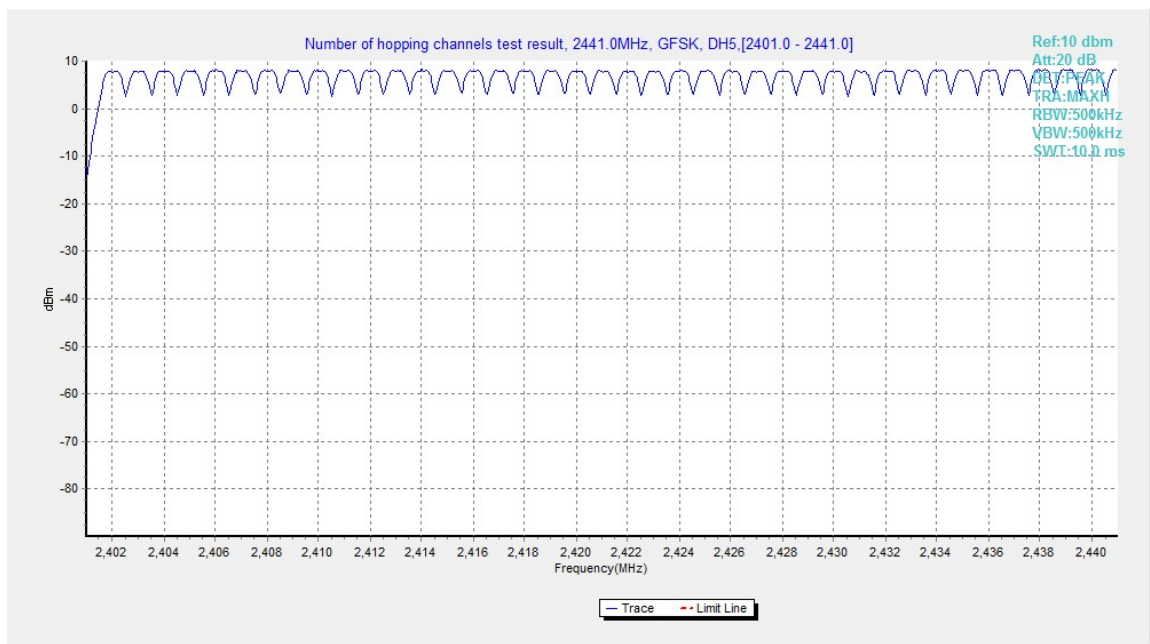| Channel	Number of hopping channels		Conclusion
0~39	Fig.114	79	P
40~78	Fig.115		

Conclusion: PASS

Test graphs as below:

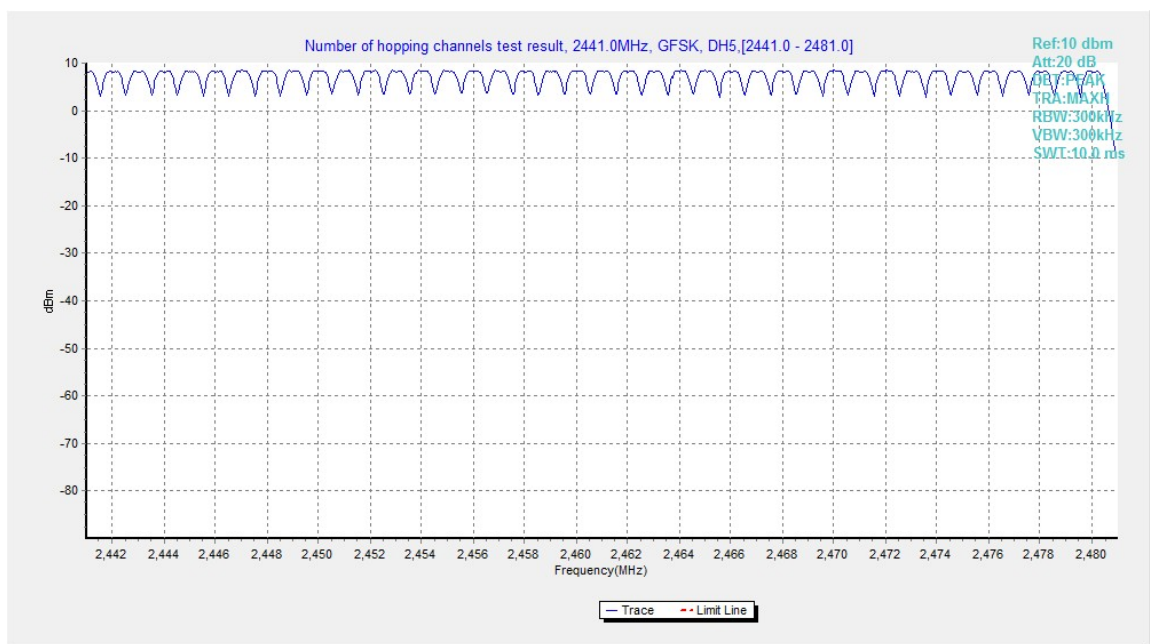Fig.110. Number of hopping frequencies: GFSK, Channel 0 - 39

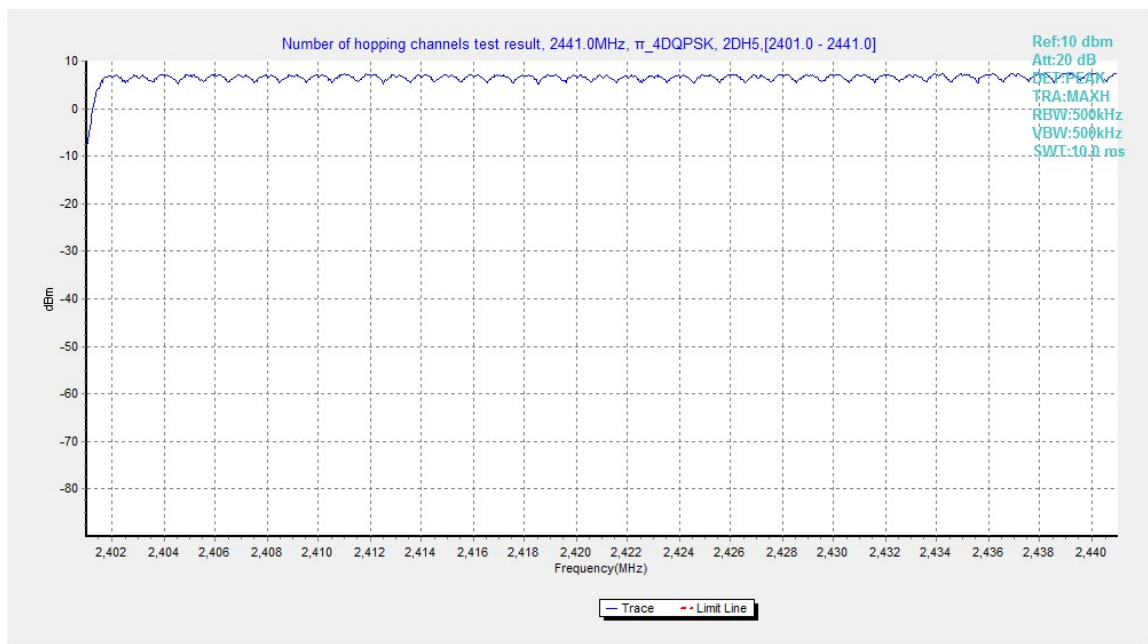Fig.111. Number of hopping frequencies: GFSK, Channel 40 - 78

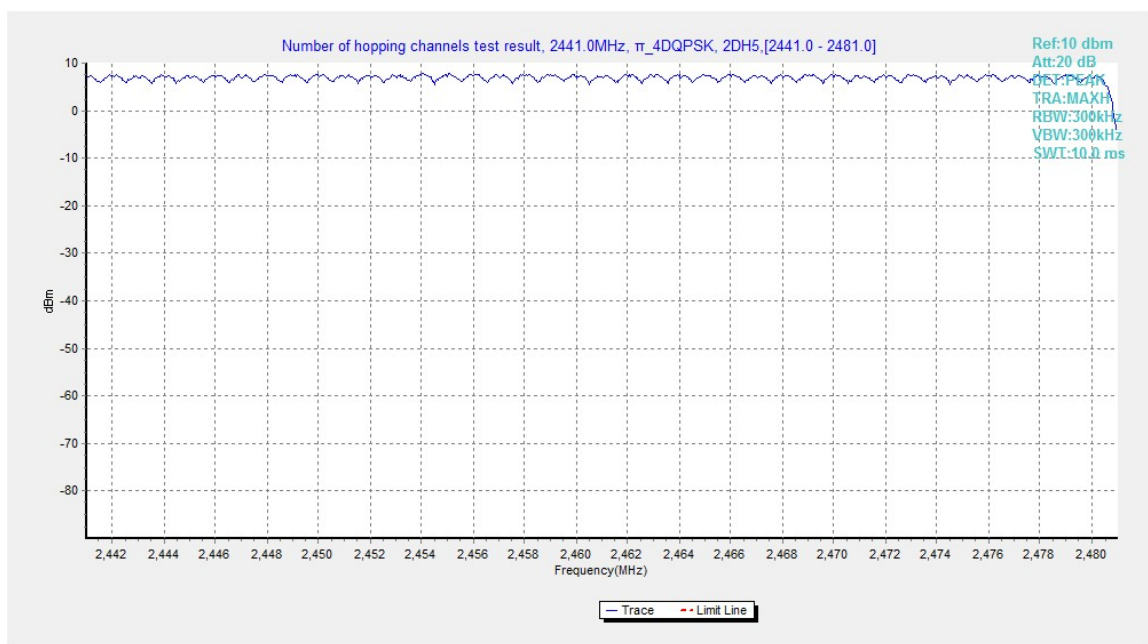Fig.112. Number of hopping frequencies: π/4 DQPSK, Channel 0 - 39

Fig.113. Number of hopping frequencies: π/4 DQPSK, Channel 40 - 78
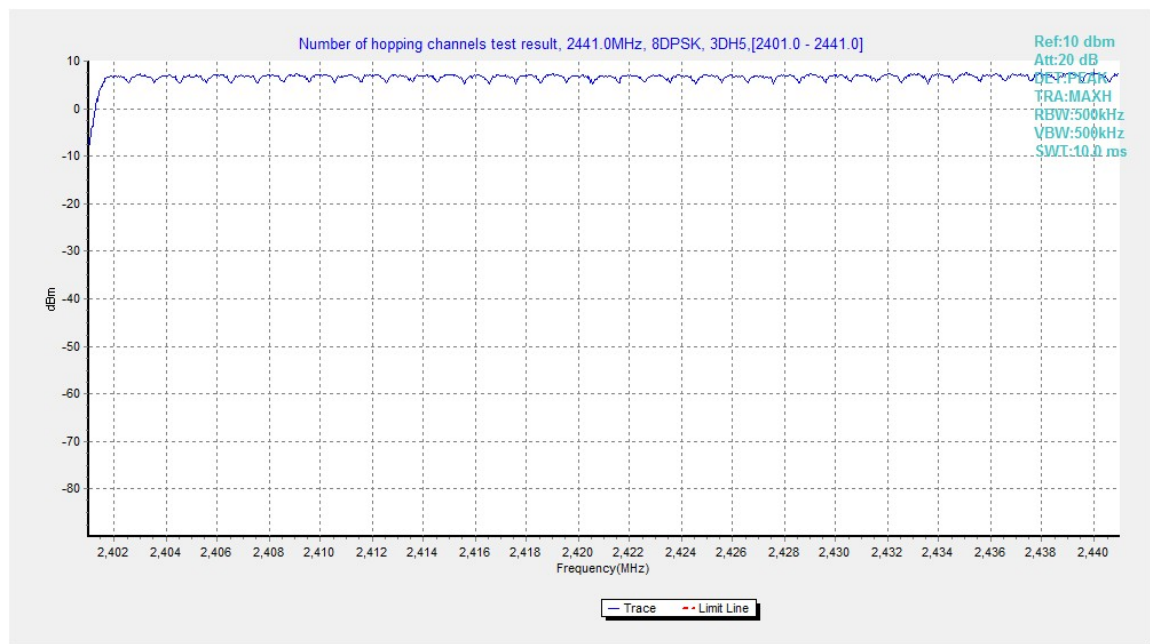
Fig.114. Number of hopping frequencies: 8DPSK, Channel 0 - 39
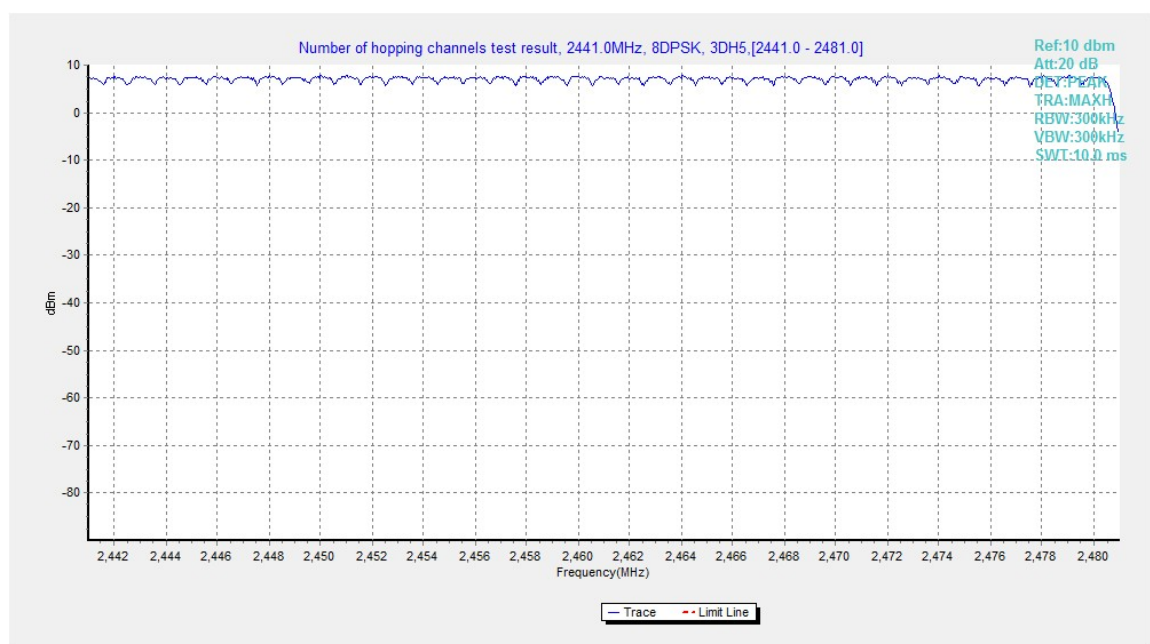

Fig.115. Number of hopping frequencies: 8DPSK, Channel 40 - 78

A.10. AC Powerline Conducted Emission

Test Condition

Voltage（V）	Frequency（Hz）
120	60

Measurement Result and limit:

Bluetooth (Quasi-peak Limit)

Frequency range (MHz)	Quasi-peak Limit (dBμV)	Conclusion
0.15 to 0.5	66 to 56	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.		

Bluetooth (Average Limit)

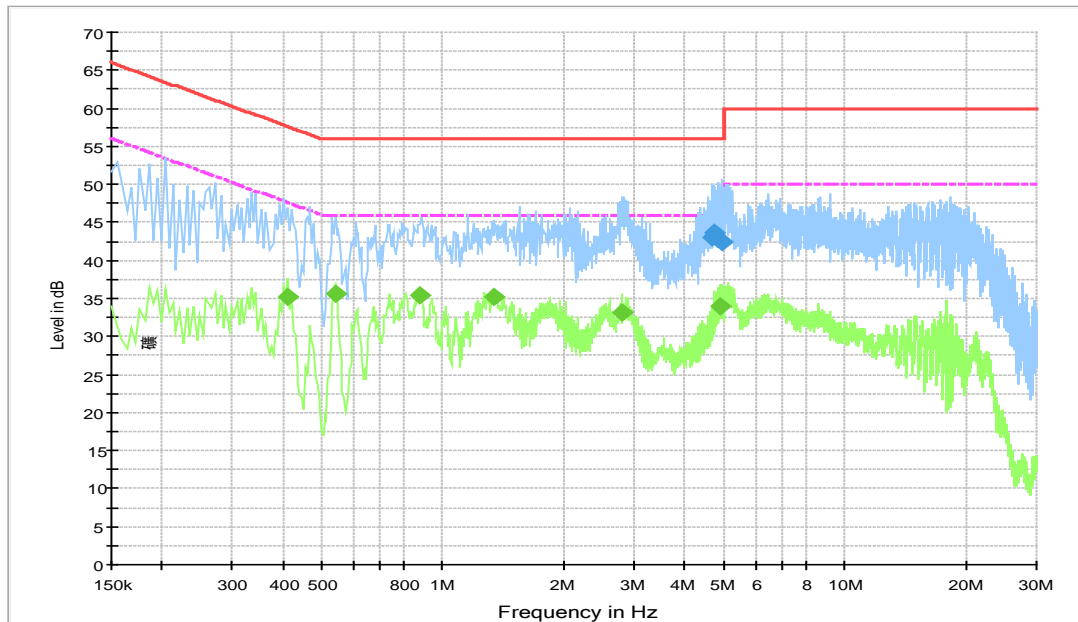| Frequency range (MHz)	Average Limit (dBμV)	Conclusion
0.15 to 0.5	56 to 46	P
0.5 to 5	46	
5 to 30	50	
NOTE: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.		

The measurement is made according to ANSI C63.10

**Conclusion: PASS**

Test graphs as below:

Traffic:

Final Result 1

Frequency	QuasiPeak	PE	Line	Corr.	Margin	Limit
(MHz)	(dBμV)			(dB)	(dB)	(dBμV)
4.677000	43.0	GND	L1	10.5	13.0	56.0
4.726500	43.3	GND	L1	10.5	12.7	56.0
4.744500	43.6	GND	L1	10.5	12.4	56.0
4.834500	42.7	GND	L1	10.5	13.3	56.0
4.861500	42.7	GND	L1	10.5	13.3	56.0
4.969500	42.4	GND	L1	10.5	13.6	56.0

Final Result 2

Frequency	Average	PE	Line	Corr.	Margin	Limit
(MHz)	(dBμV)			(dB)	(dB)	(dBμV)
0.411000	35.2	GND	L1	10.3	12.4	47.6
0.541500	35.6	GND	L1	10.3	10.4	46.0
0.874500	35.5	GND	L1	10.3	10.5	46.0
1.347000	35.2	GND	L1	10.3	10.8	46.0
2.800500	33.2	GND	L1	10.4	12.8	46.0
4.902000	34.0	GND	L1	10.5	12.0	46.0

Idle:
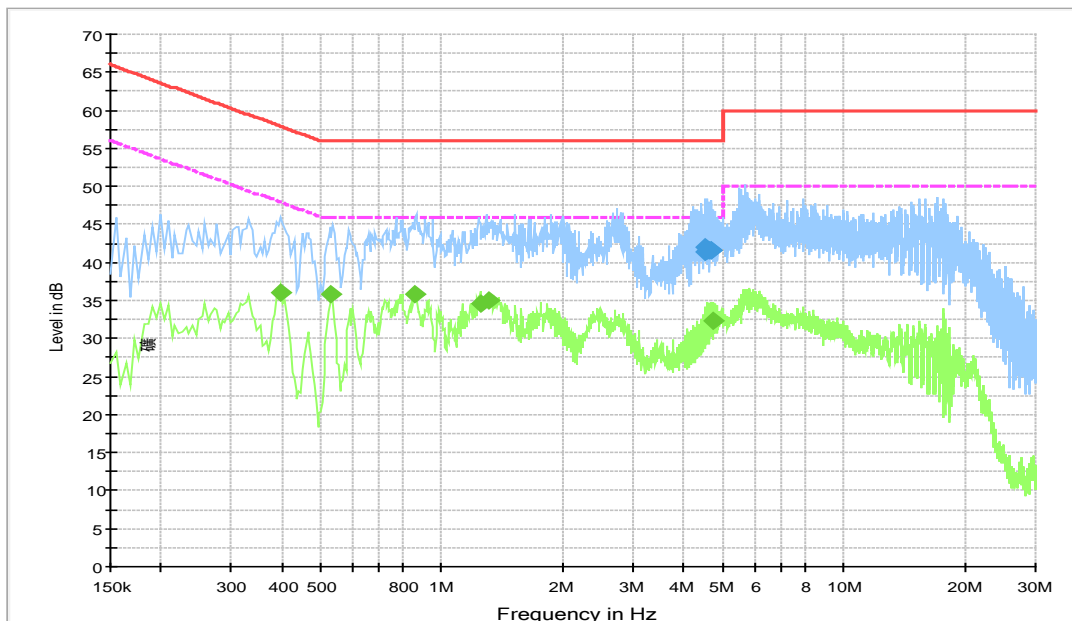
Final Result 1

Frequency	QuasiPeak	PE	Line	Corr.	Margin	Limit
(MHz)	(dBμV)			(dB)	(dB)	(dBμV)
4.510500	41.4	GND	L1	10.5	14.6	56.0
4.542000	42.0	GND	L1	10.5	14.0	56.0
4.569000	41.7	GND	L1	10.5	14.3	56.0
4.609500	41.6	GND	L1	10.5	14.4	56.0
4.668000	41.5	GND	L1	10.5	14.5	56.0
4.677000	41.7	GND	L1	10.5	14.3	56.0

Final Result 2

Frequency	Average	PE	Line	Corr.	Margin	Limit
(MHz)	(dBμV)			(dB)	(dB)	(dBμV)
0.397500	36.1	GND	L1	10.3	11.8	47.9
0.532500	35.9	GND	L1	10.3	10.1	46.0
0.861000	35.9	GND	L1	10.3	10.1	46.0
1.248000	34.6	GND	L1	10.3	11.4	46.0
1.315500	34.9	GND	L1	10.3	11.1	46.0
4.735500	32.4	GND	L1	10.5	13.6	46.0

END OF REPORT