

Fig.91. Carrier frequency separation measurement: GFSK, Channel 39

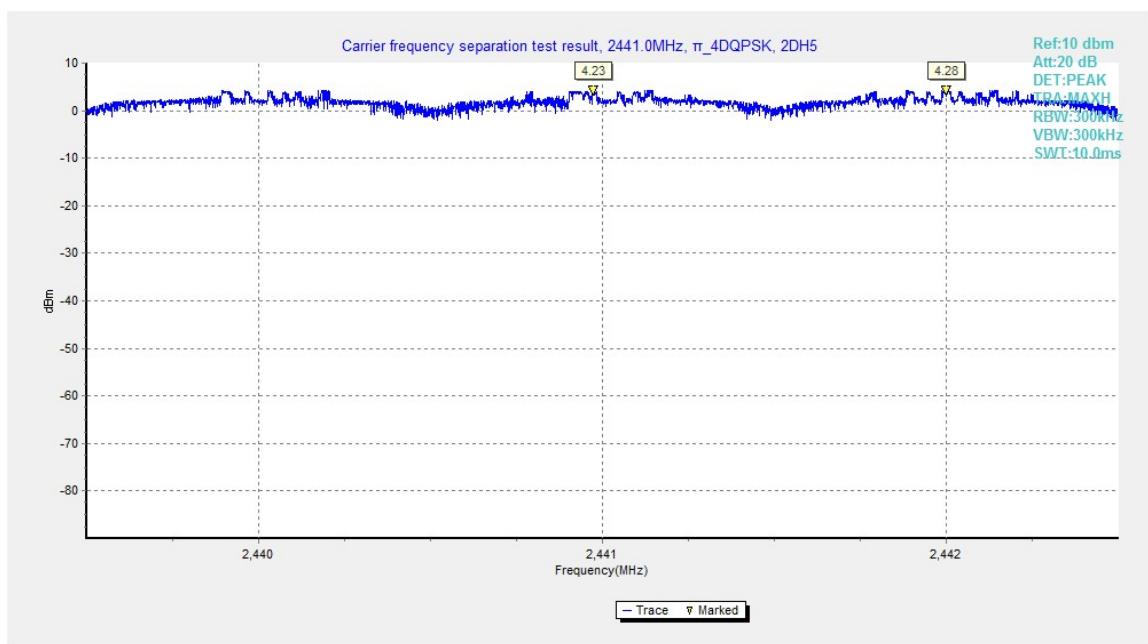


Fig.92. Carrier frequency separation measurement: $\pi/4$ DQPSK, Channel 39

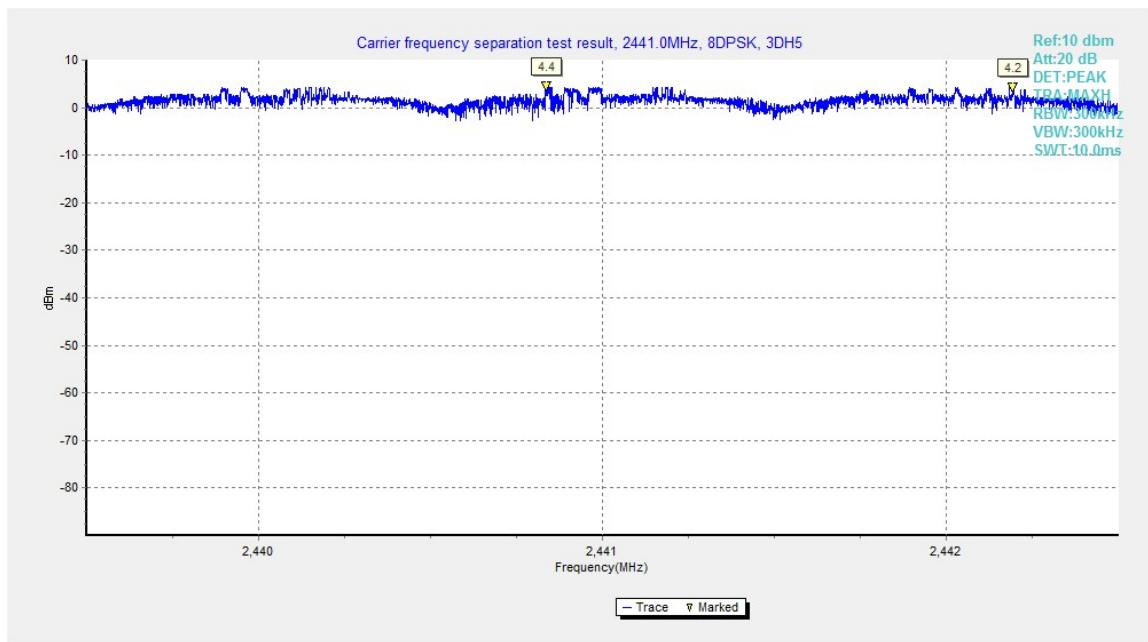


Fig.93. Carrier frequency separation measurement: 8DPSK, Channel 39

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.94	
40~78	Fig.95	P

For 4 DQPSK

Channel	Number of hopping channels	Conclusion
0~39	Fig.96	
40~78	Fig.97	P

For 8DPSK

Channel	Number of hopping channels	Conclusion
0~39	Fig.98	
40~78	Fig.99	P

Conclusion: PASS

Test graphs as below:

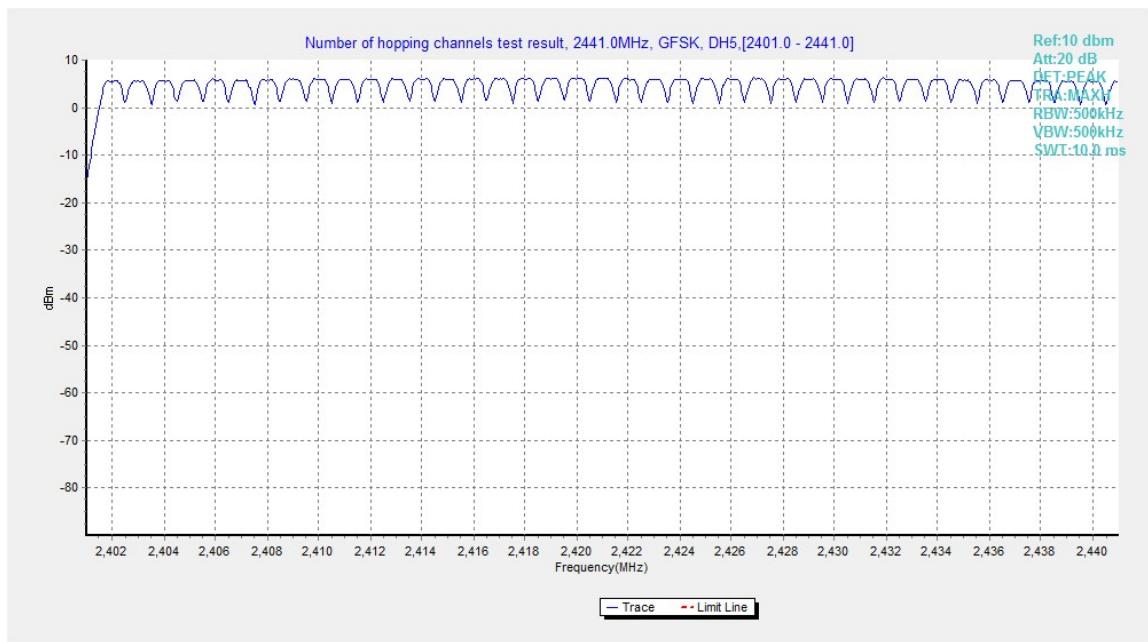


Fig.94. Number of hopping frequencies: GFSK, Channel 0 - 39

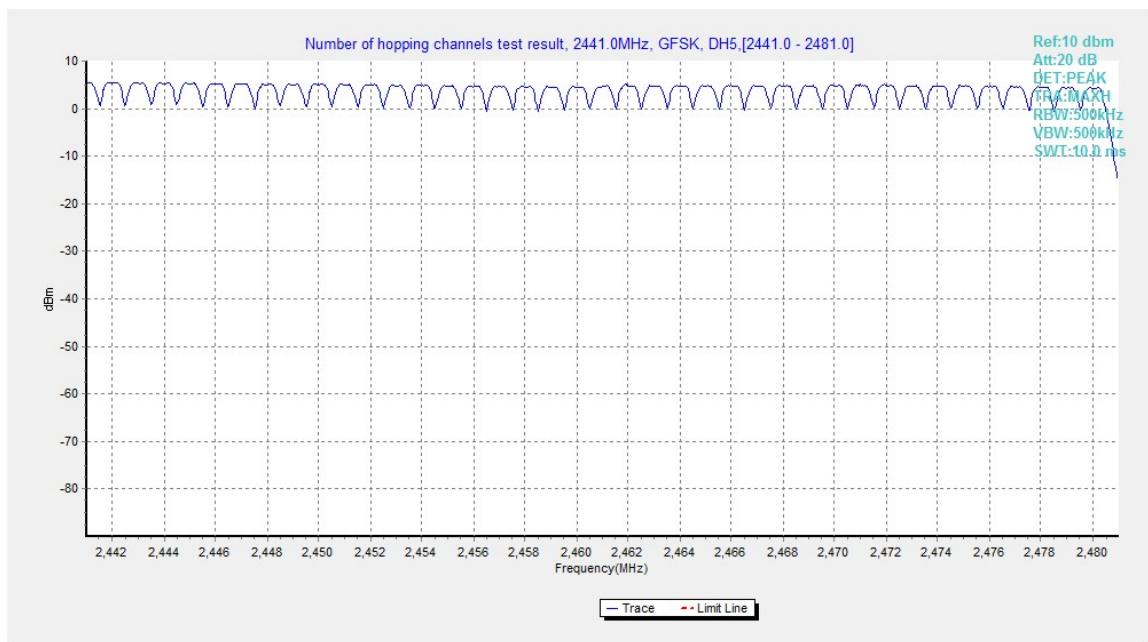


Fig.95. Number of hopping frequencies: GFSK, Channel 40 - 78

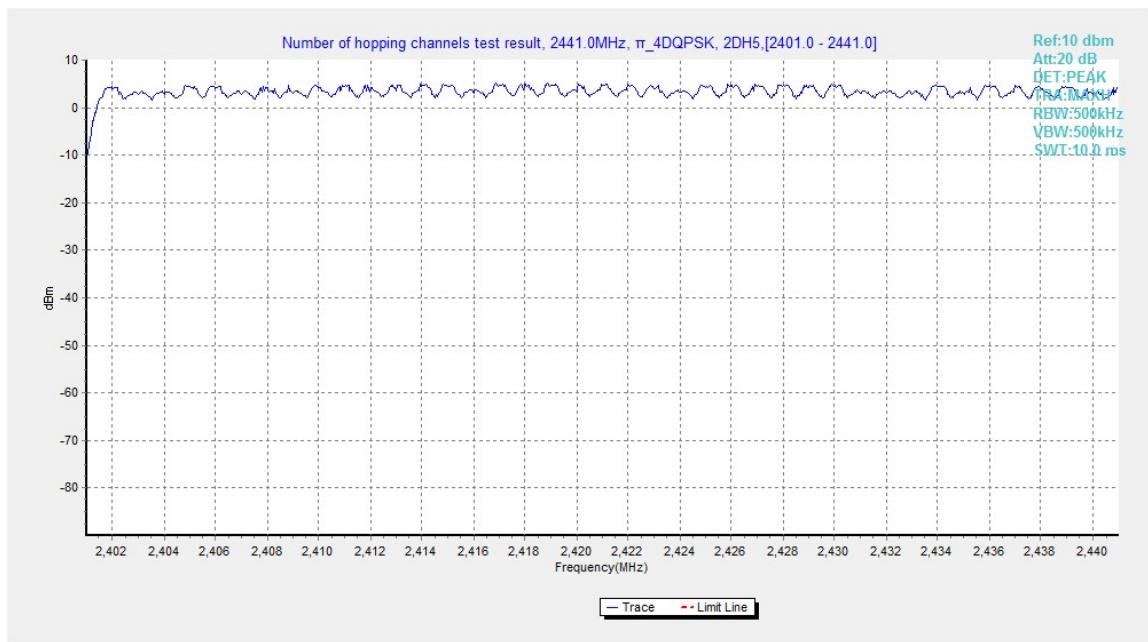


Fig.96. Number of hopping frequencies: $\pi/4$ DQPSK, Channel 0 - 39

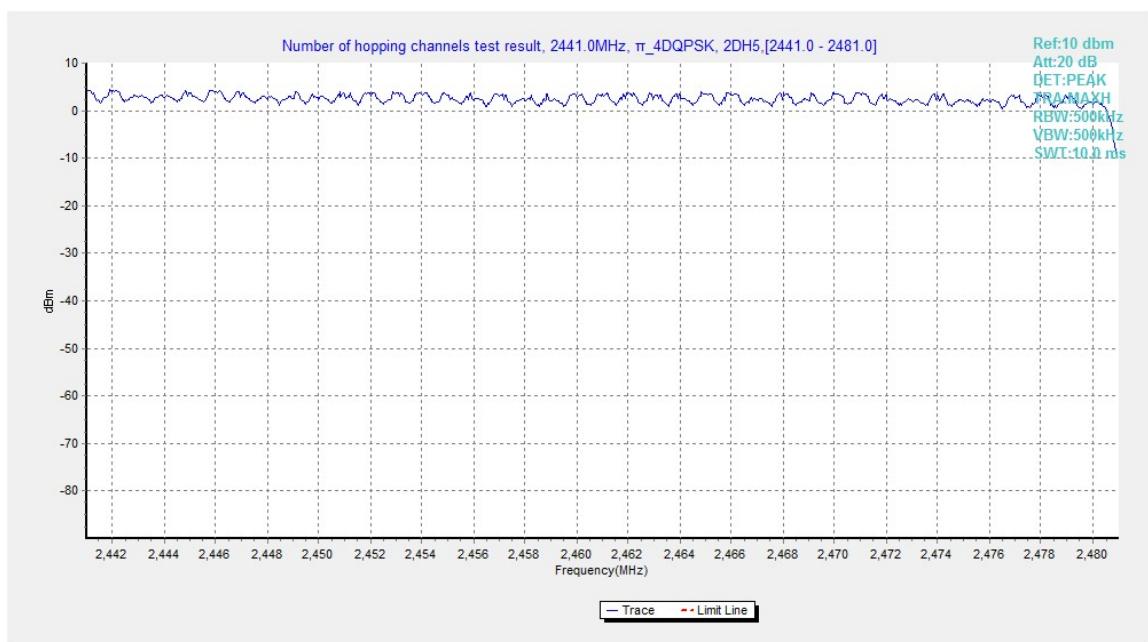


Fig.97. Number of hopping frequencies: $\pi/4$ DQPSK, Channel 40 - 78

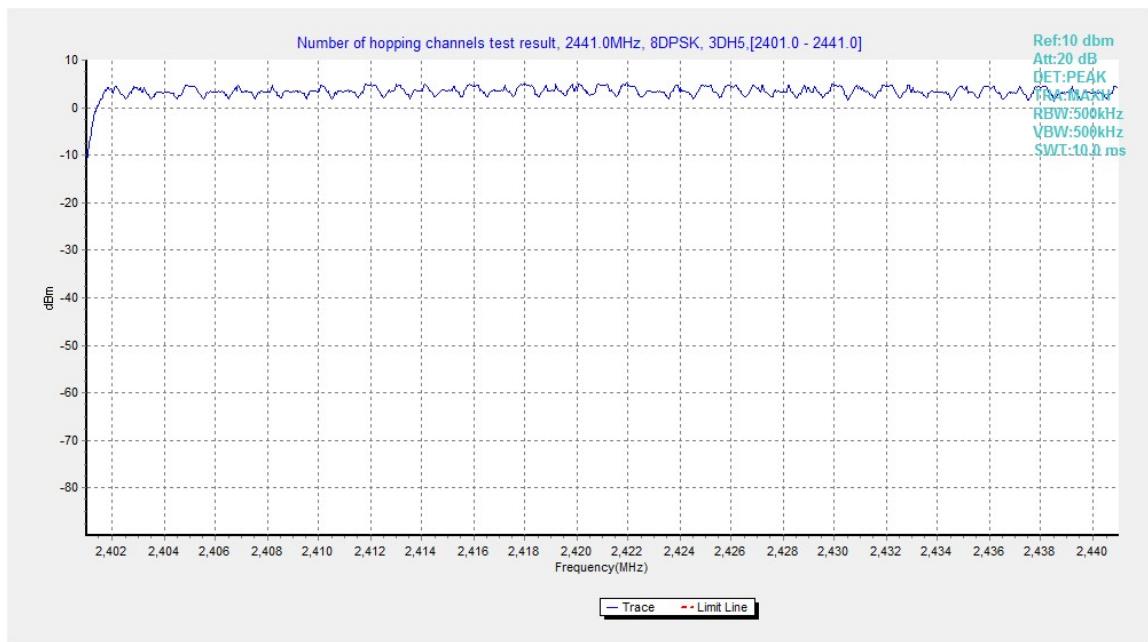


Fig.98. Number of hopping frequencies: 8DPSK, Channel 0 - 39

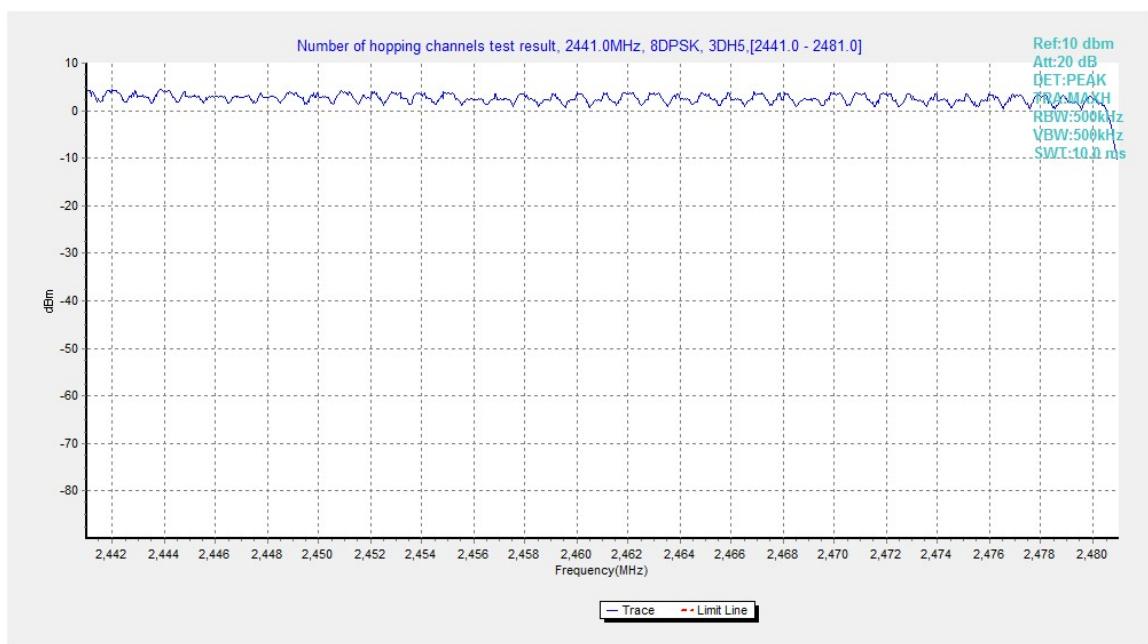


Fig.99. Number of hopping frequencies: 8DPSK, Channel 40 - 78

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 (dB μ V)	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)

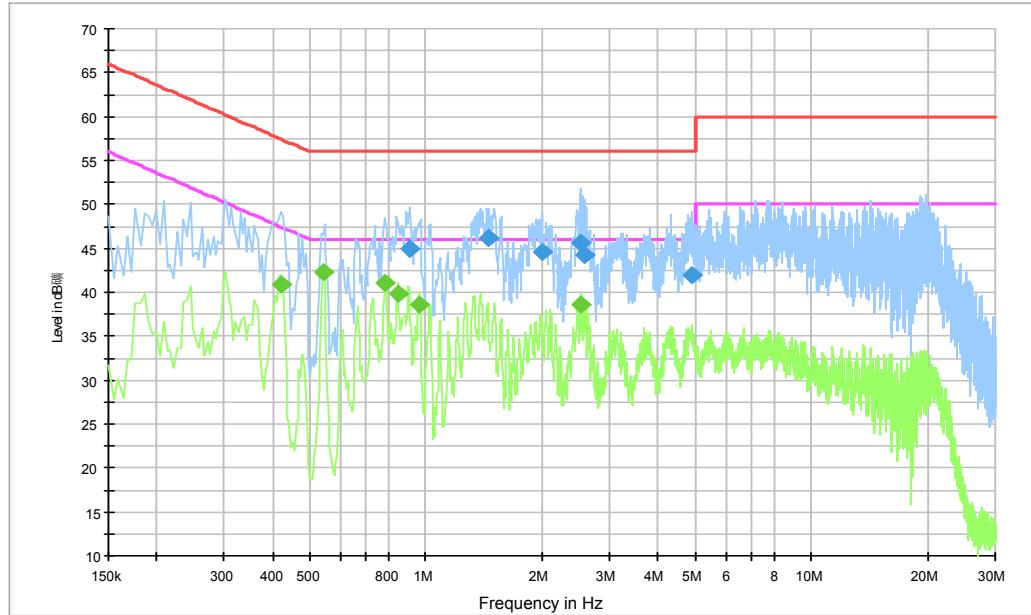
Frequency range (MHz)	Average Limit (dB μ V)	Conclusion
0.15 to 0.5	56 to 46	P
0.5 to 5	46	
5 to 30	50	

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:

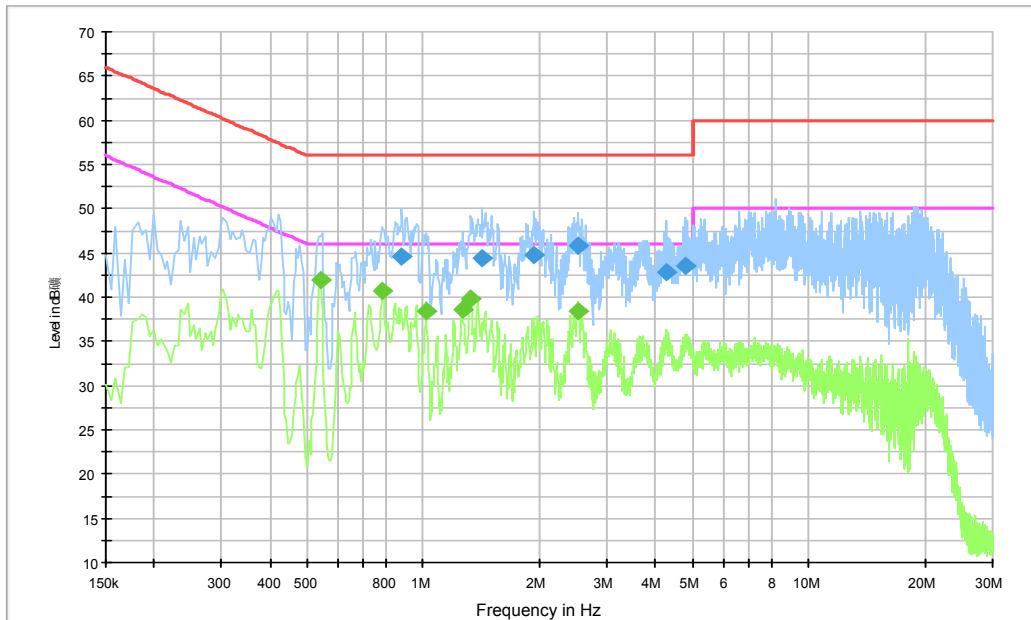
Traffic:

Final Result 1

Frequency (MHz)	QuasiPeak (dB μ V)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.910500	44.9	GND	L1	10.2	11.1	56.0
1.450500	46.1	GND	L1	10.2	9.9	56.0
1.999500	44.5	GND	L1	10.3	11.5	56.0
2.530500	45.6	GND	L1	10.3	10.4	56.0
2.589000	44.2	GND	L1	10.3	11.8	56.0
4.879500	42.0	GND	L1	10.4	14.0	56.0

Final Result 2

Frequency (MHz)	Average (dB μ V)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.420000	40.9	GND	L1	10.2	6.6	47.4
0.541500	42.3	GND	L1	10.2	3.7	46.0
0.784500	41.1	GND	L1	10.2	4.9	46.0
0.847500	39.9	GND	L1	10.2	6.1	46.0
0.960000	38.6	GND	L1	10.2	7.4	46.0
2.530500	38.7	GND	L1	10.3	7.3	46.0

Idle:



Final Result 1

Frequency (MHz)	QuasiPeak (dB μ V)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.879000	44.6	GND	L1	10.2	11.4	56.0
1.423500	44.3	GND	L1	10.2	11.7	56.0
1.932000	44.8	GND	L1	10.3	11.2	56.0
2.517000	45.7	GND	L1	10.3	10.3	56.0
4.263000	42.9	GND	L1	10.4	13.1	56.0
4.803000	43.6	GND	L1	10.4	12.4	56.0

Final Result 2

Frequency (MHz)	Average (dB μ V)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.541500	42.0	GND	L1	10.2	4.0	46.0
0.784500	40.7	GND	L1	10.2	5.3	46.0
1.018500	38.3	GND	L1	10.2	7.7	46.0
1.266000	38.6	GND	L1	10.2	7.4	46.0
1.324500	39.9	GND	L1	10.2	6.1	46.0
2.526000	38.4	GND	L1	10.3	7.6	46.0

END OF REPORT