

Fig.26. Conducted spurious emission: GFSK, Channel 78, 3GHz - 10GHz

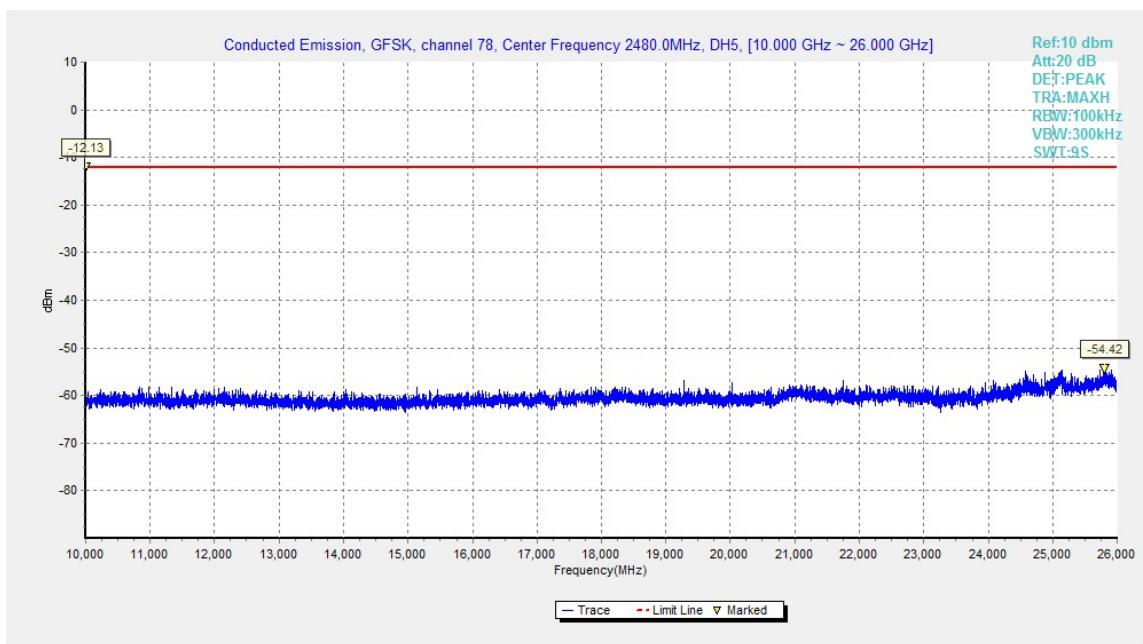


Fig.27. Conducted spurious emission: GFSK, Channel 78, 10GHz - 26GHz

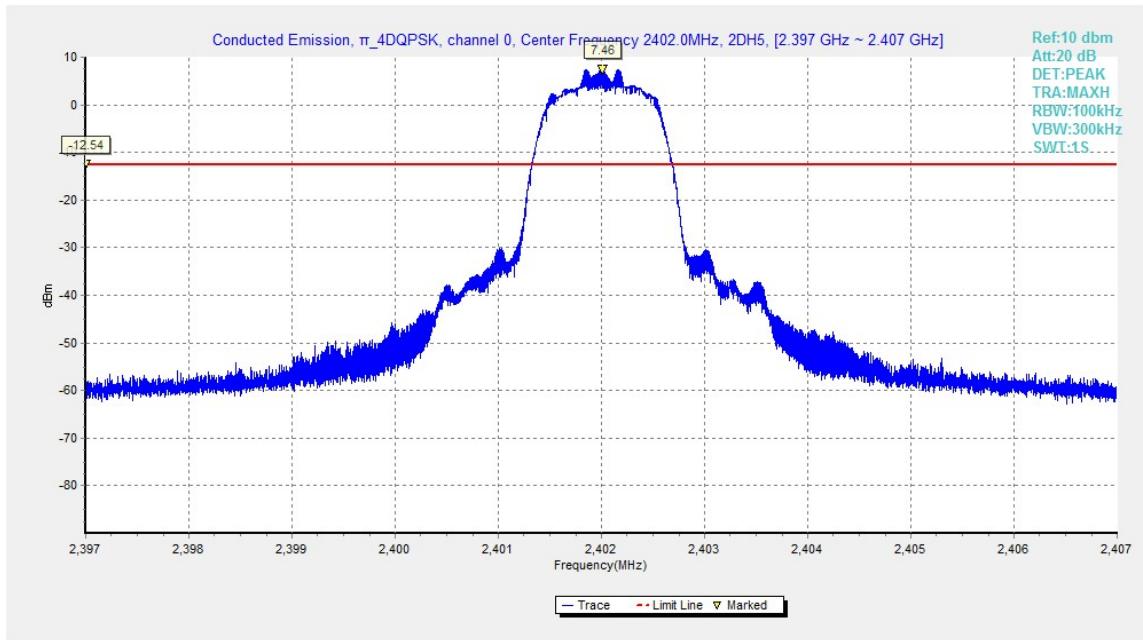


Fig.28. Conducted spurious emission: π/4 DQPSK, Channel 0, 2402MHz

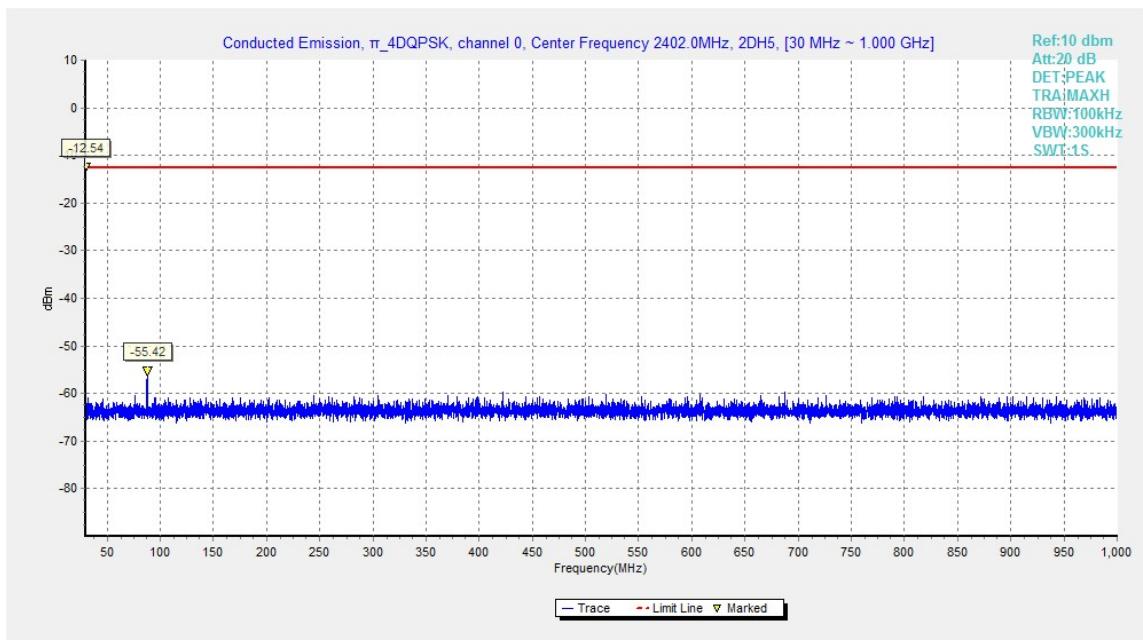


Fig.29. Conducted spurious emission: π/4 DQPSK, Channel 0, 30MHz - 1GHz

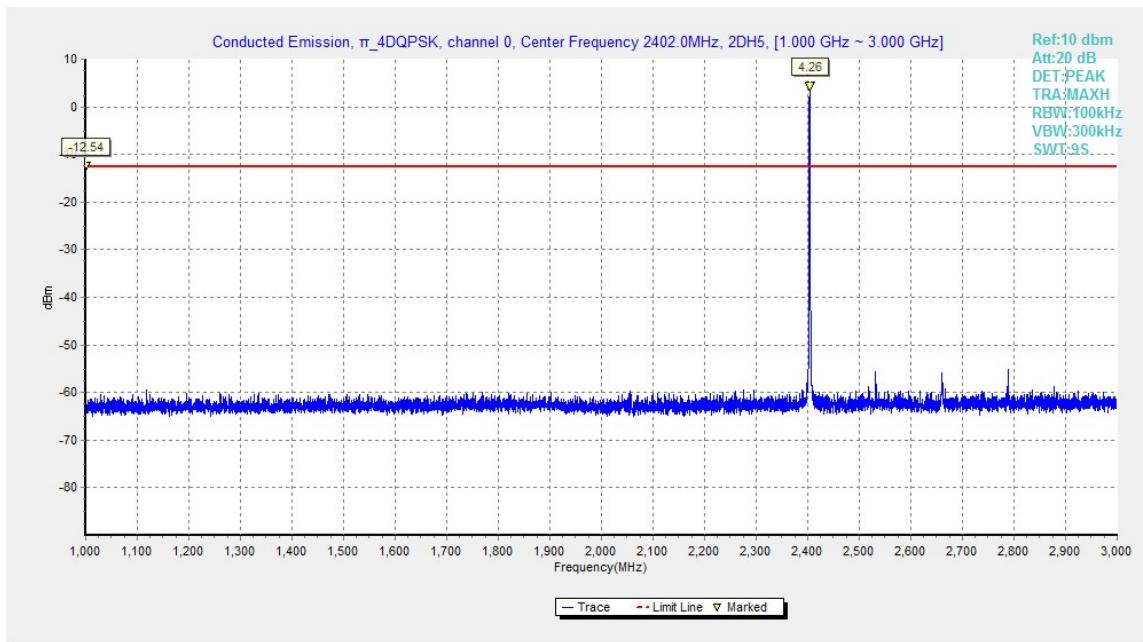


Fig.30. Conducted spurious emission: π/4 DQPSK, Channel 0, 1GHz - 3GHz

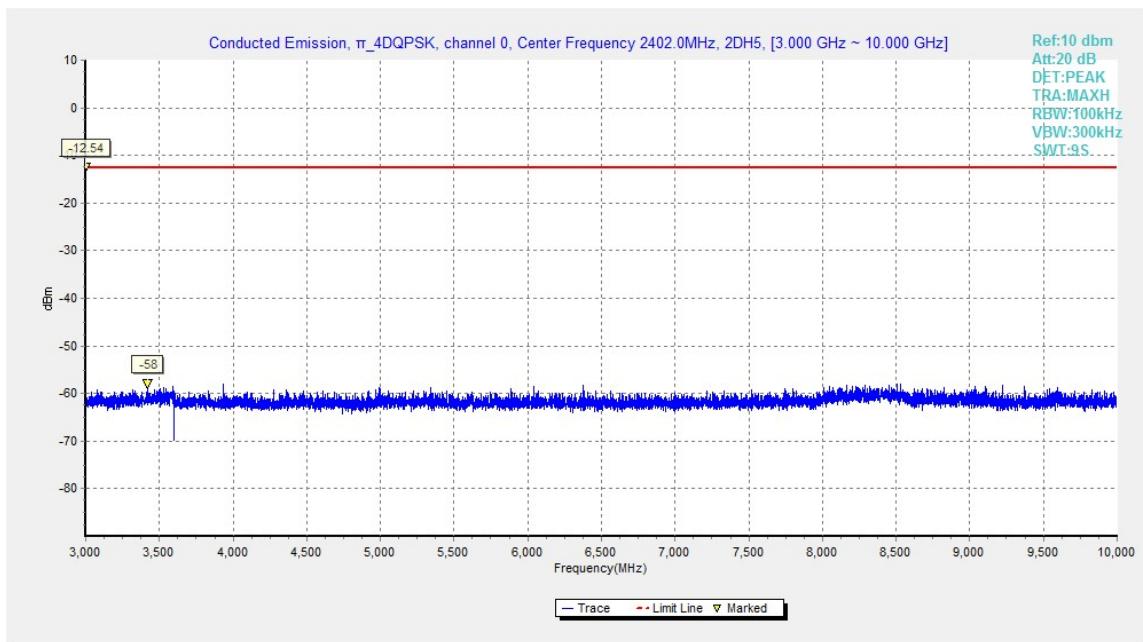


Fig.31. Conducted spurious emission: π/4 DQPSK, Channel 0, 3GHz - 10GHz

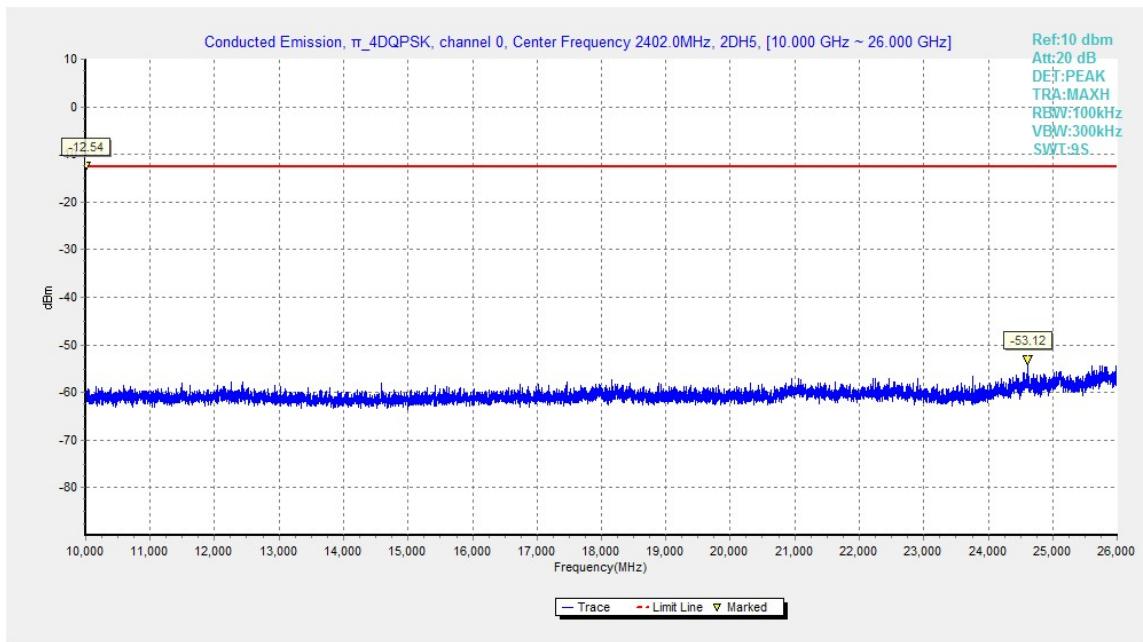


Fig.32. Conducted spurious emission: $\pi/4$ DQPSK, Channel 0, 10GHz - 26GHz

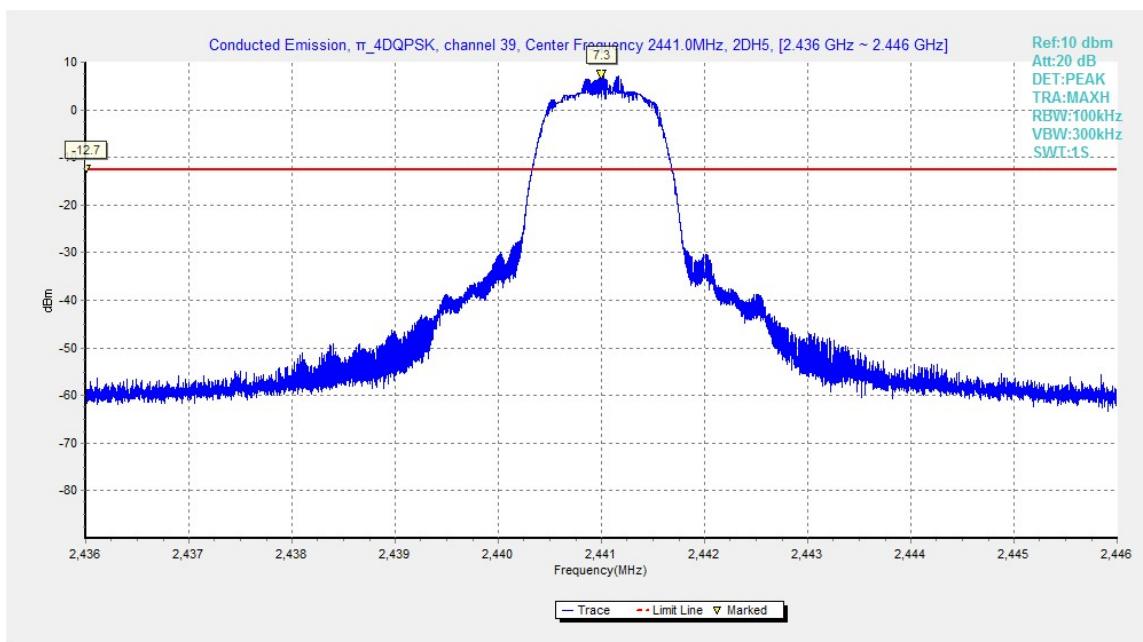


Fig.33. Conducted spurious emission: $\pi/4$ DQPSK, Channel 39, 2441MHz

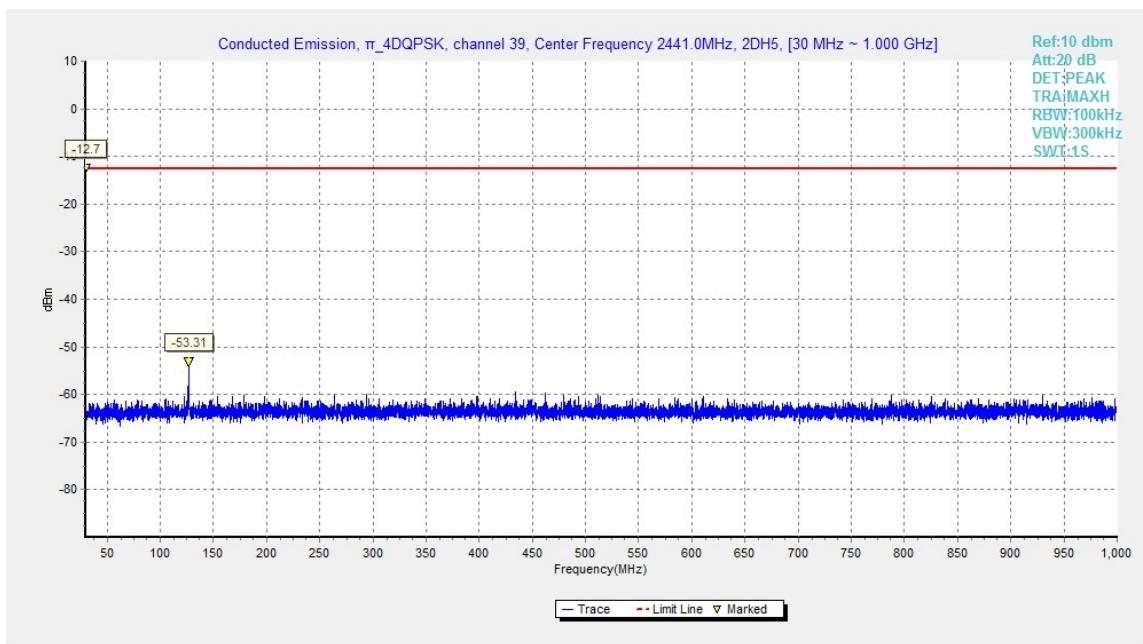


Fig.34. Conducted spurious emission: π/4 DQPSK, Channel 39, 30MHz - 1GHz

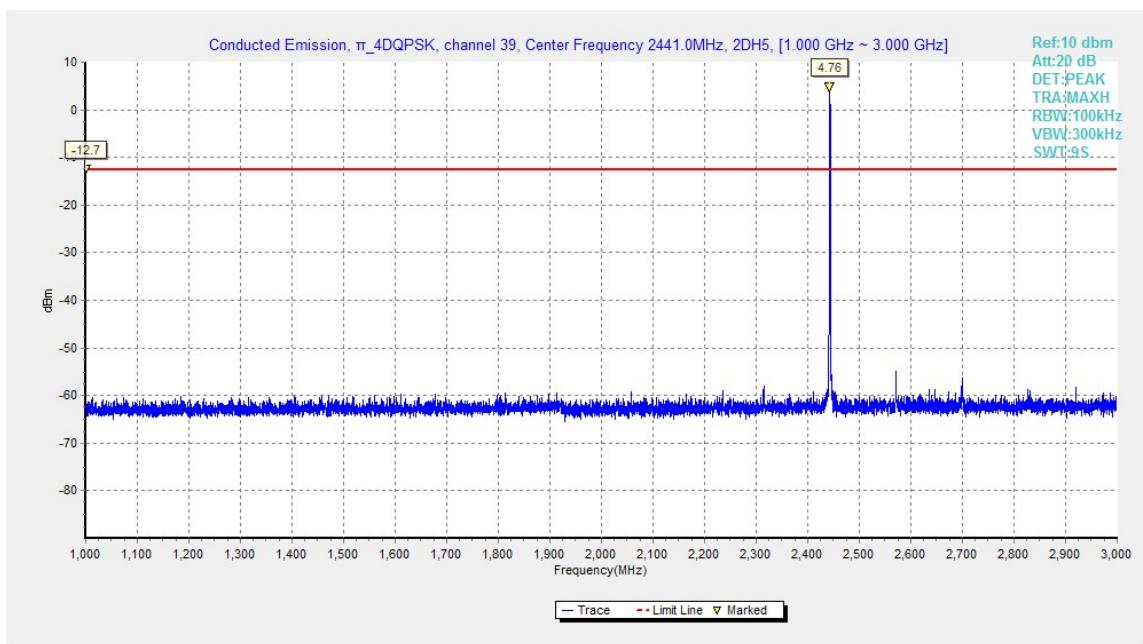


Fig.35. Conducted spurious emission: π/4 DQPSK, Channel 39, 1GHz - 3GHz

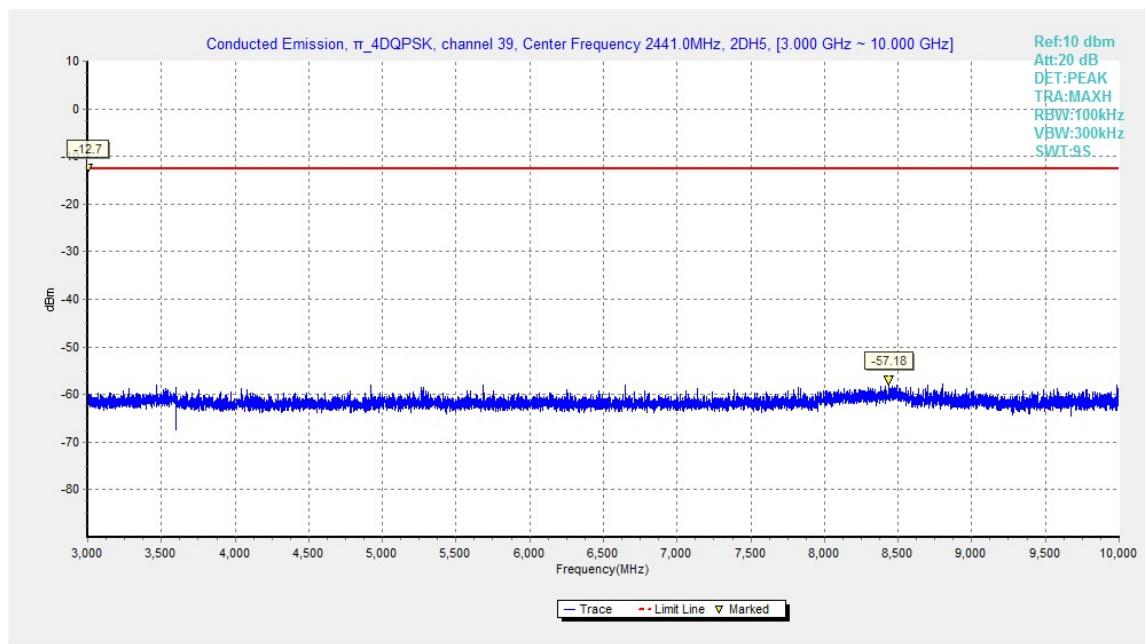


Fig.36. Conducted spurious emission: π/4 DQPSK, Channel 39, 3GHz - 10GHz

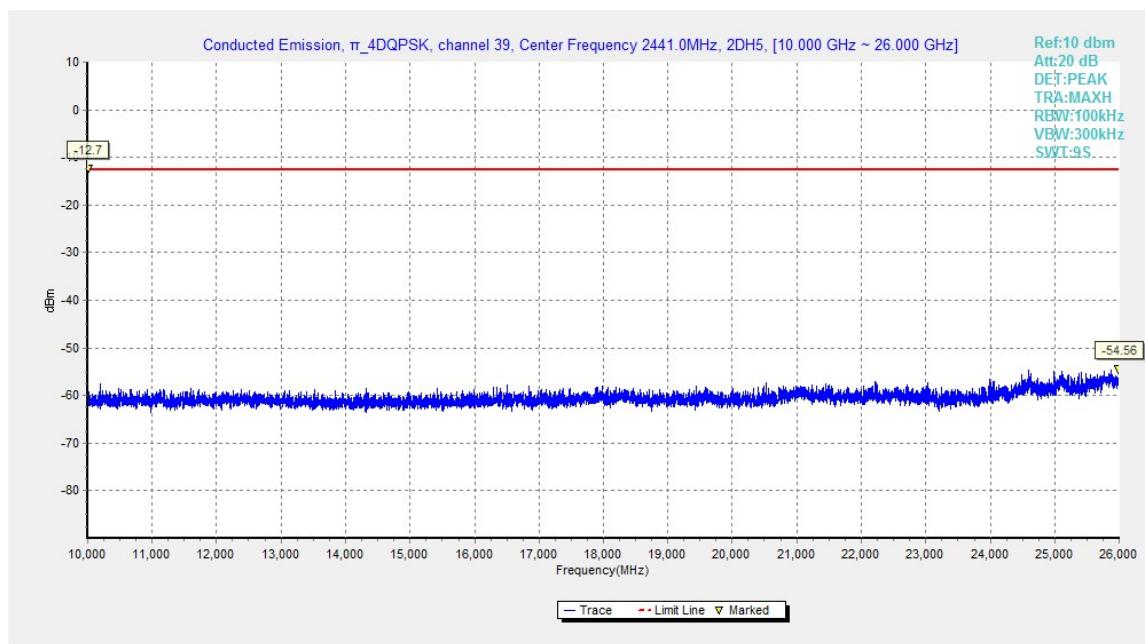


Fig.37. Conducted spurious emission: π/4 DQPSK, Channel 39, 10GHz – 26GHz

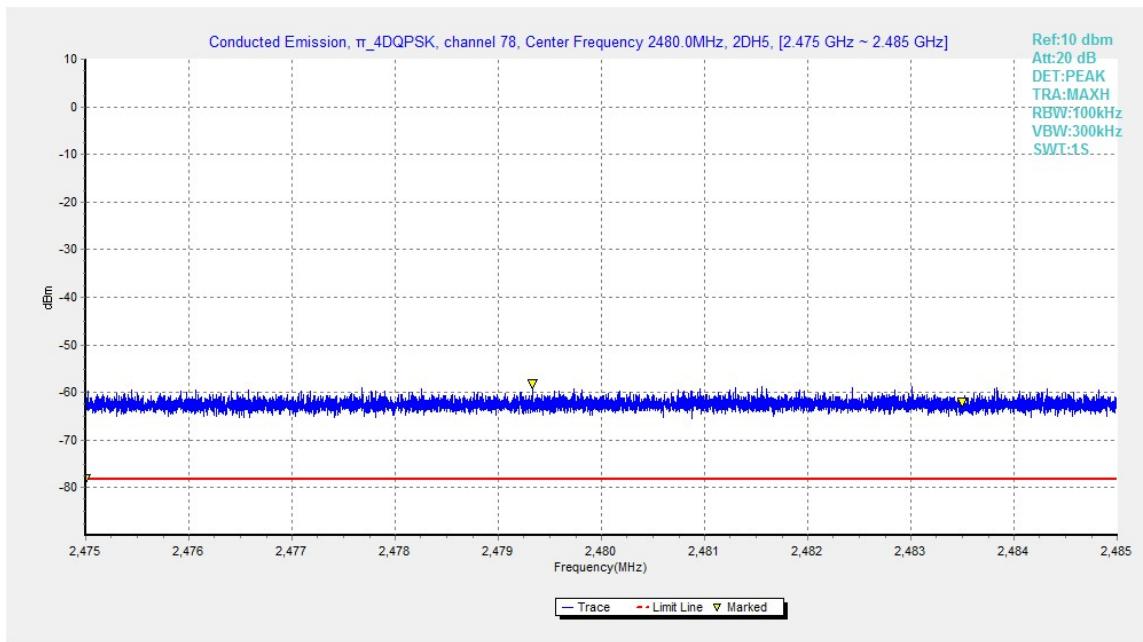


Fig.38. Conducted spurious emission: $\pi/4$ DQPSK, Channel 78, 2480MHz

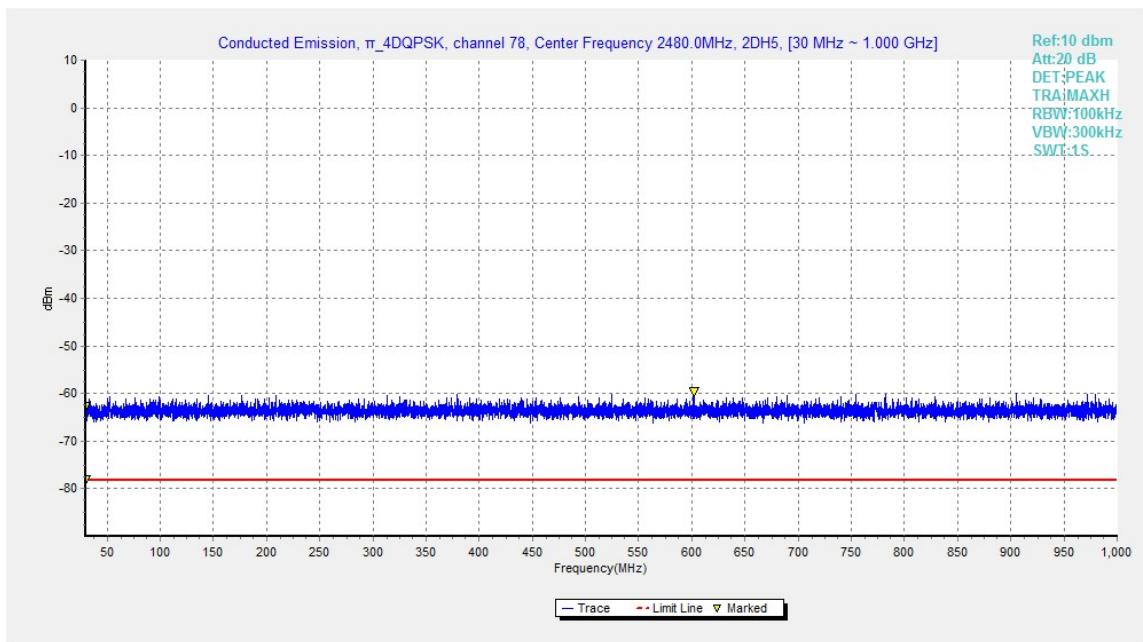


Fig.39. Conducted spurious emission: $\pi/4$ DQPSK, Channel 78, 30MHz - 1GHz

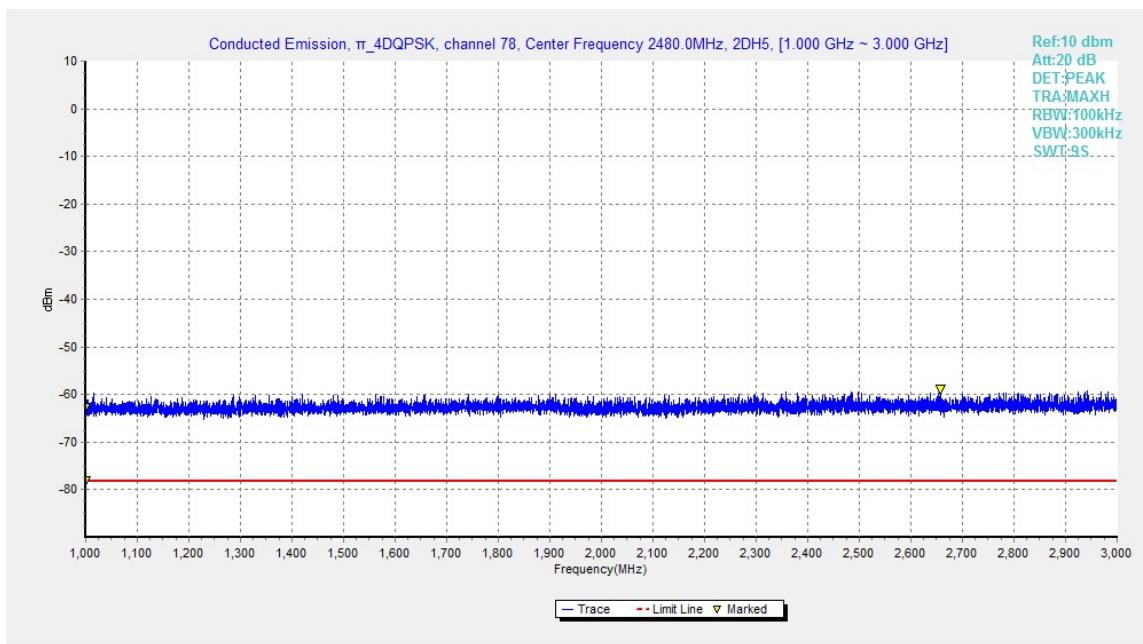


Fig.40. Conducted spurious emission: π/4 DQPSK, Channel 78, 1GHz - 3GHz

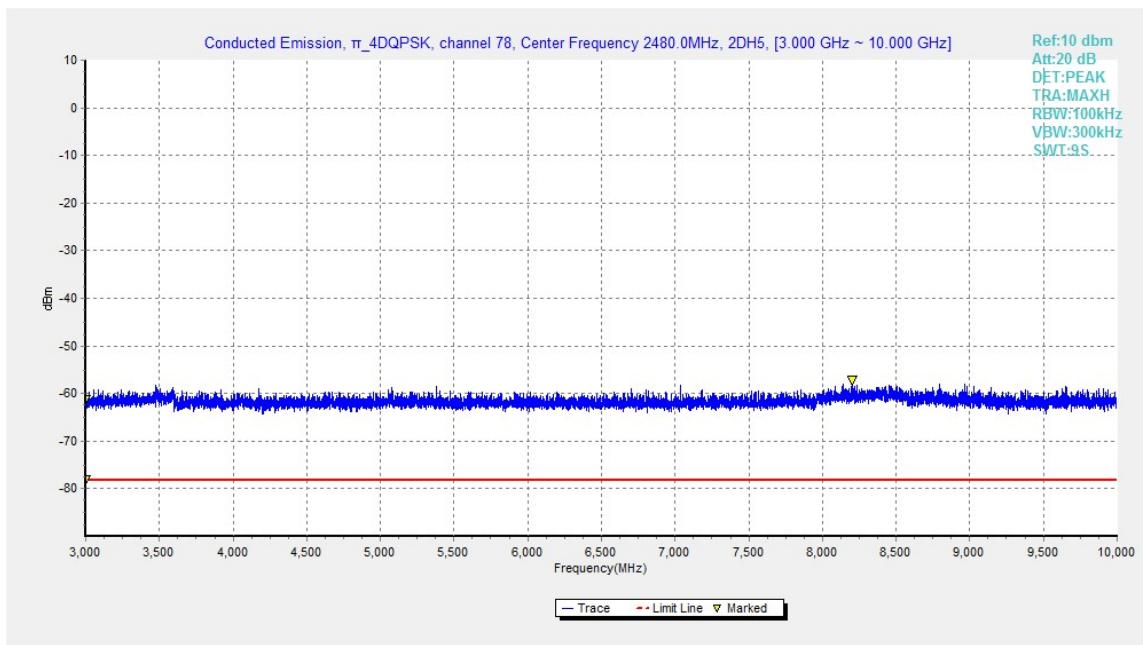


Fig.41. Conducted spurious emission: π/4 DQPSK, Channel 78, 3GHz - 10GHz

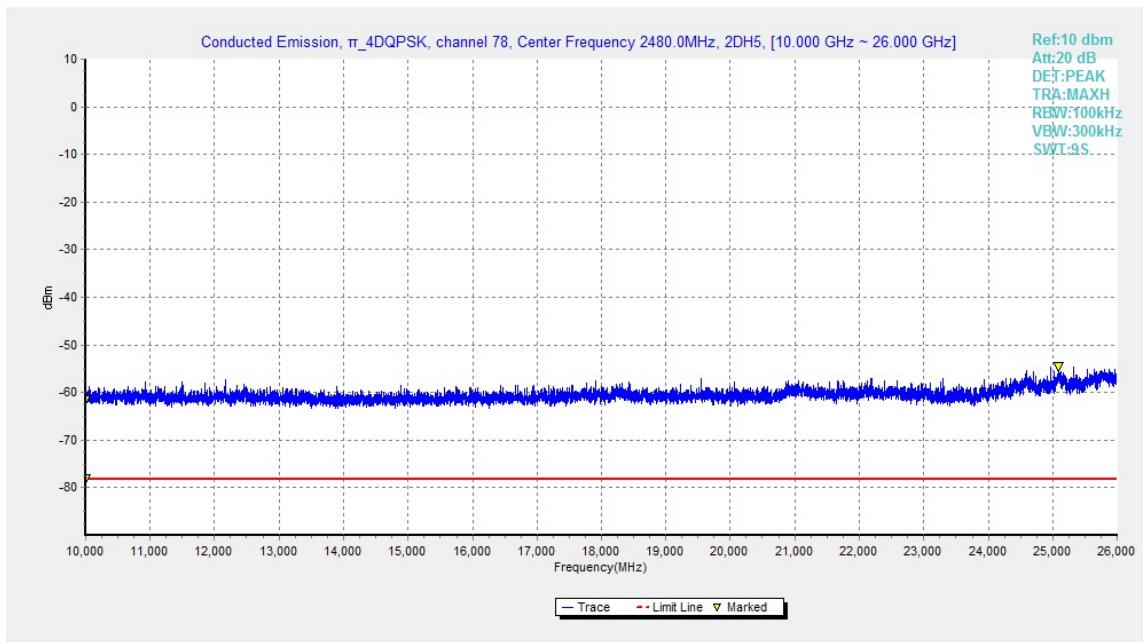


Fig.42. Fig.30 Conducted spurious emission: $\pi/4$ DQPSK, Channel 78, 10GHz - 26GHz

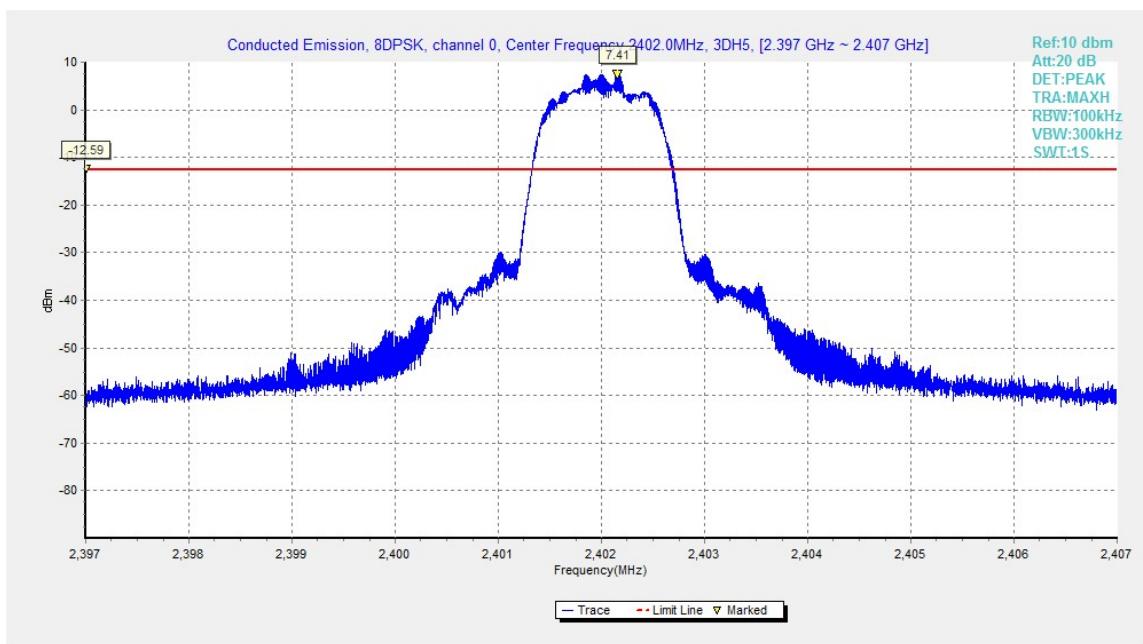


Fig.43. Conducted spurious emission: 8DPSK, Channel 0, 2402MHz

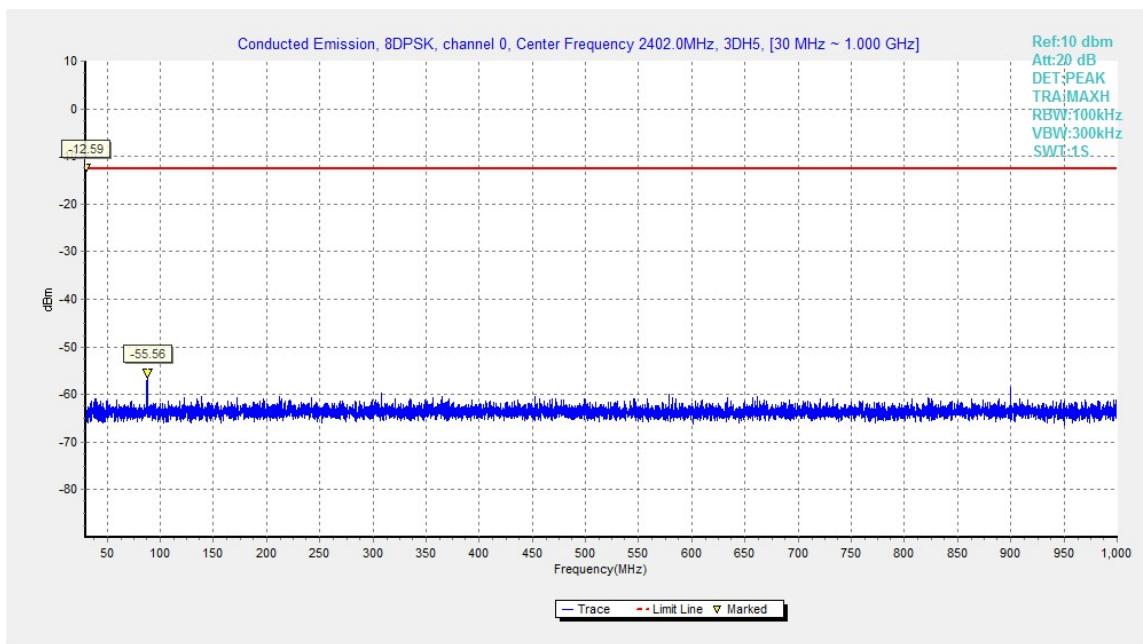


Fig.44. Conducted spurious emission: 8DPSK, Channel 0, 30MHz - 1GHz

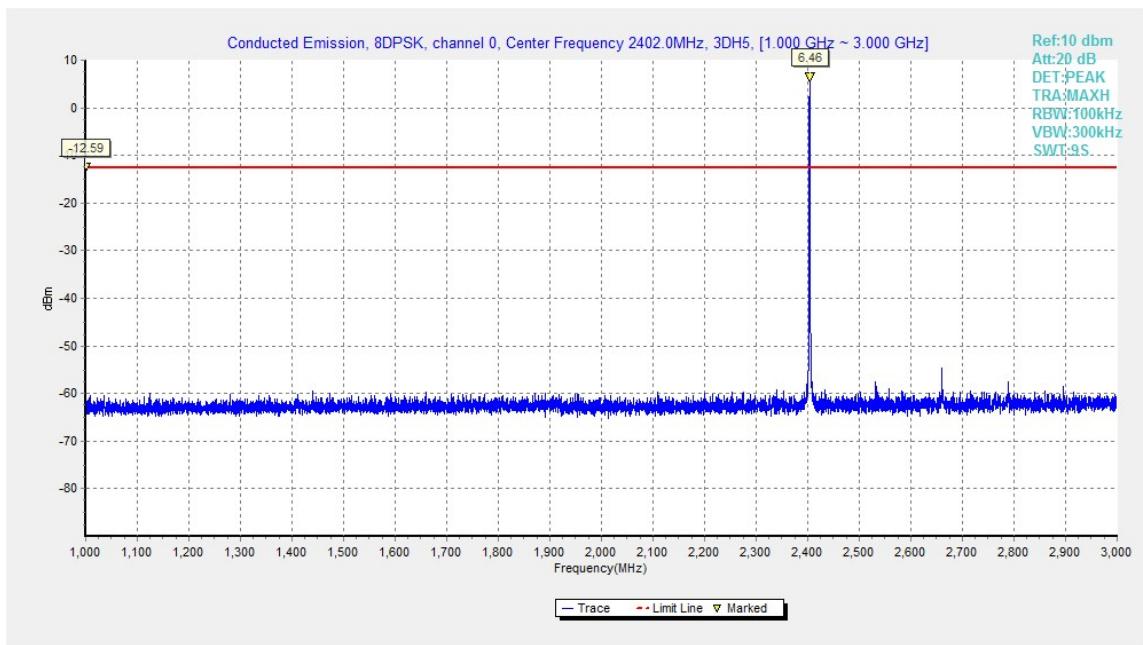


Fig.45. Conducted spurious emission: 8DPSK, Channel 0, 1GHz - 3GHz

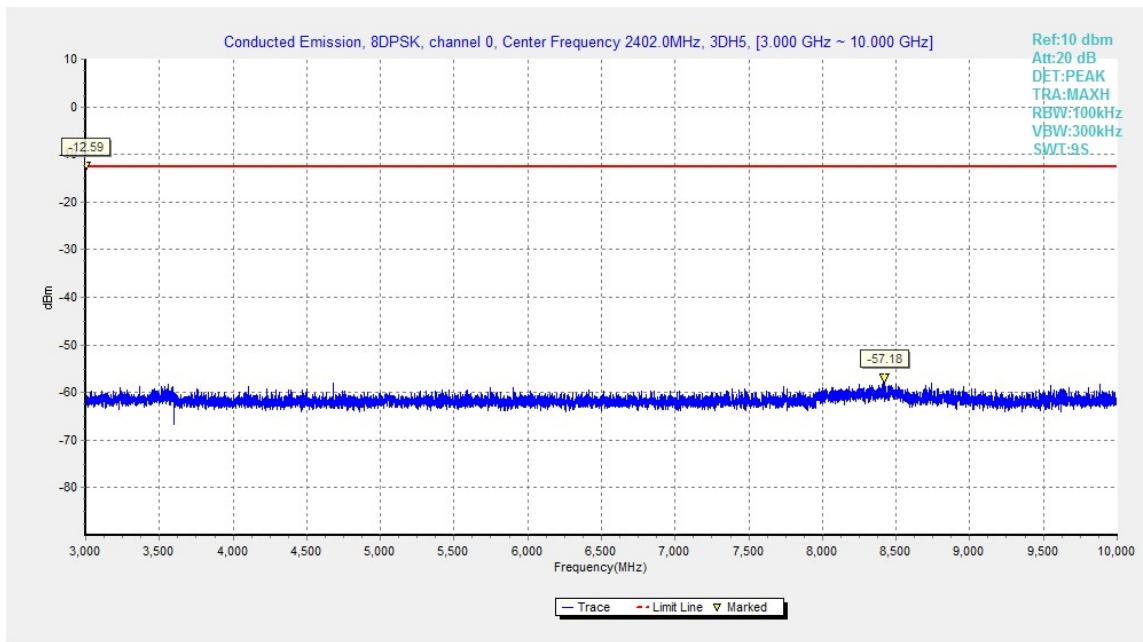


Fig.46. Conducted spurious emission: 8DPSK, Channel 0, 3GHz - 10GHz

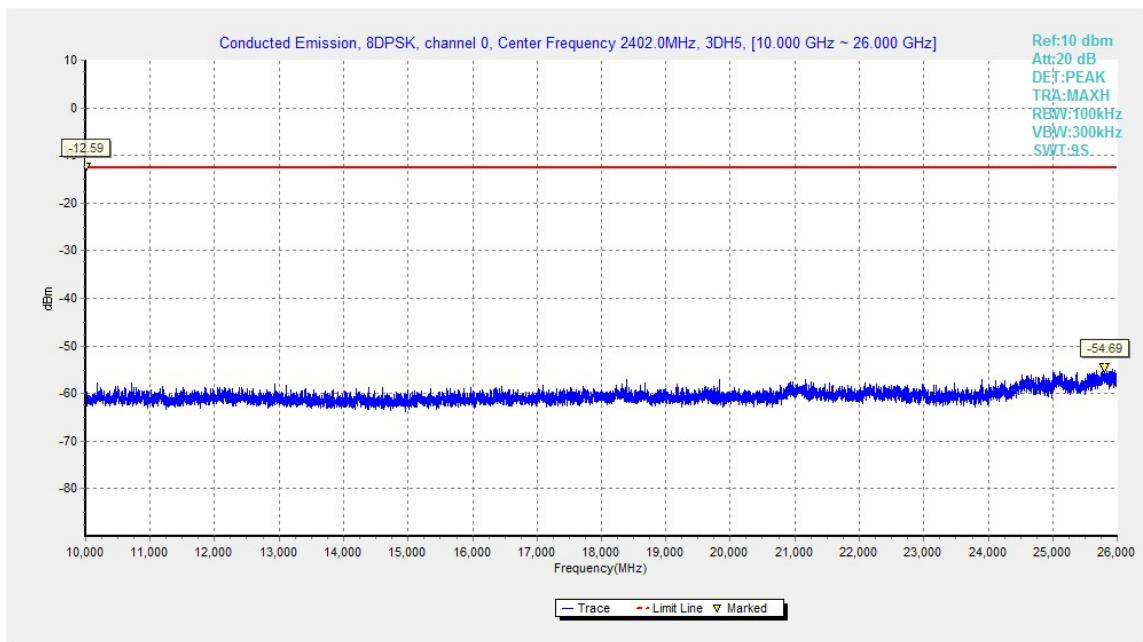


Fig.47. Conducted spurious emission: 8DPSK, Channel 0, 10GHz - 26GHz

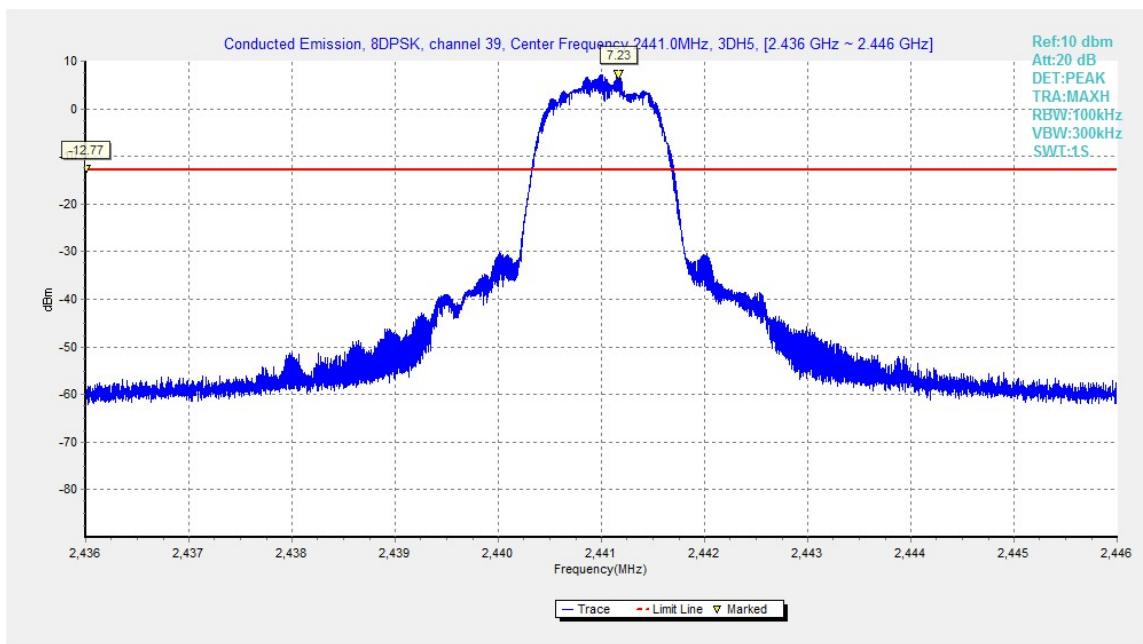


Fig.48. Conducted spurious emission: 8DPSK, Channel 39, 2441MHz

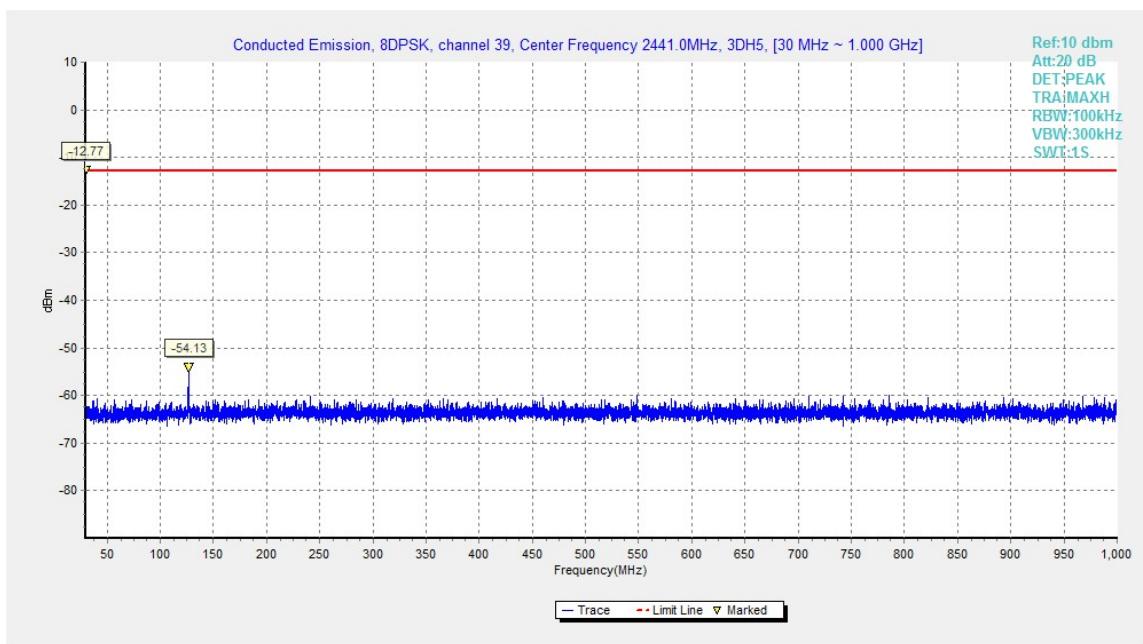


Fig.49. Conducted spurious emission: 8DPSK, Channel 39, 30MHz - 1GHz

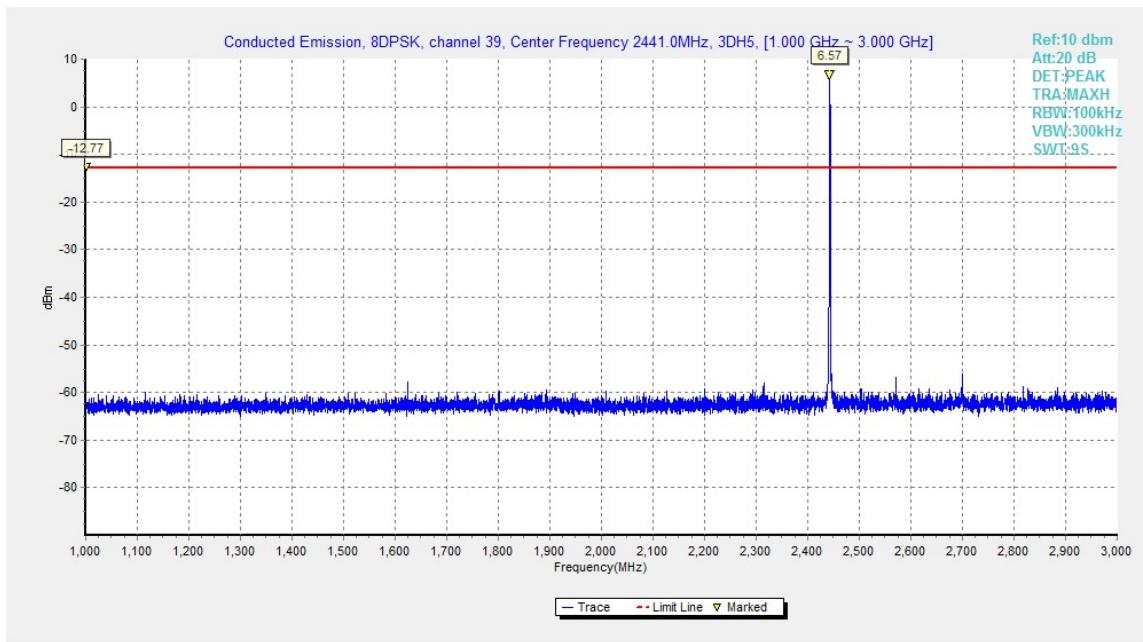


Fig.50. Conducted spurious emission: 8DPSK, Channel 39, 1GHz - 3GHz

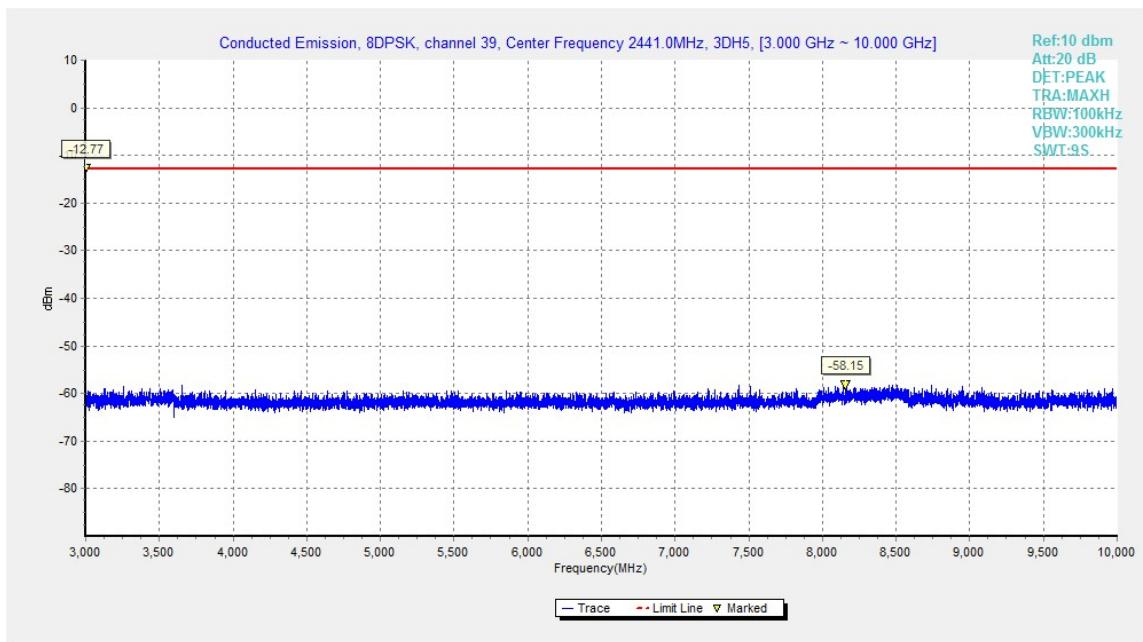


Fig.51. Conducted spurious emission: 8DPSK, Channel 39, 3GHz - 10GHz

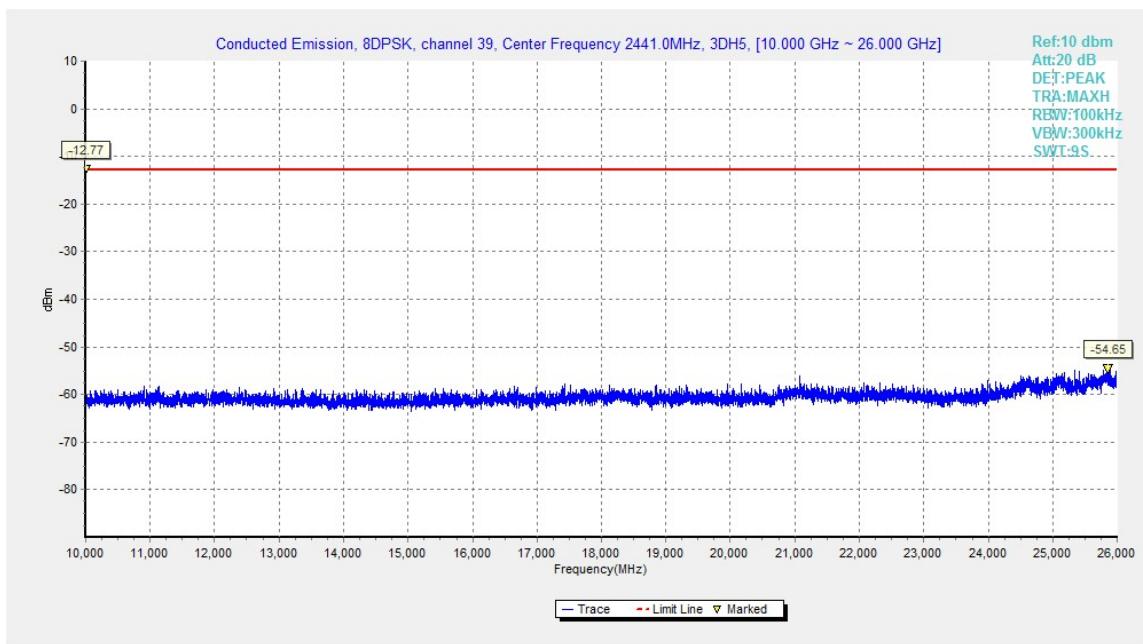


Fig.52. Conducted spurious emission: 8DPSK, Channel 39, 10GHz – 26GHz

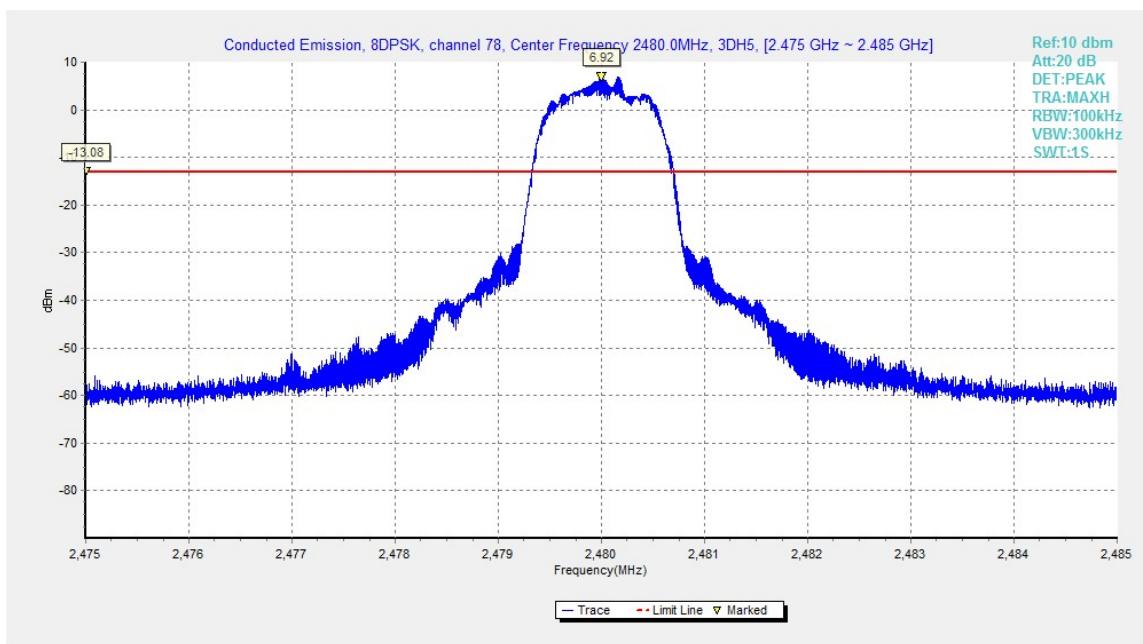


Fig.53. Conducted spurious emission: 8DPSK, Channel 78, 2480MHz

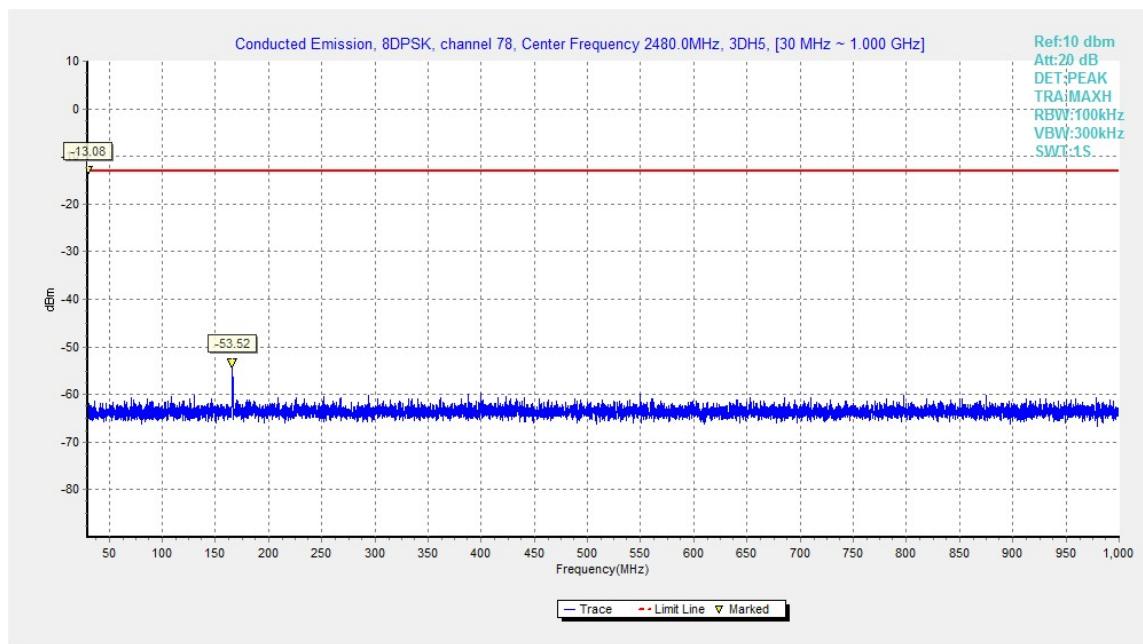


Fig.54. Conducted spurious emission: 8DPSK, Channel 78, 30MHz - 1GHz

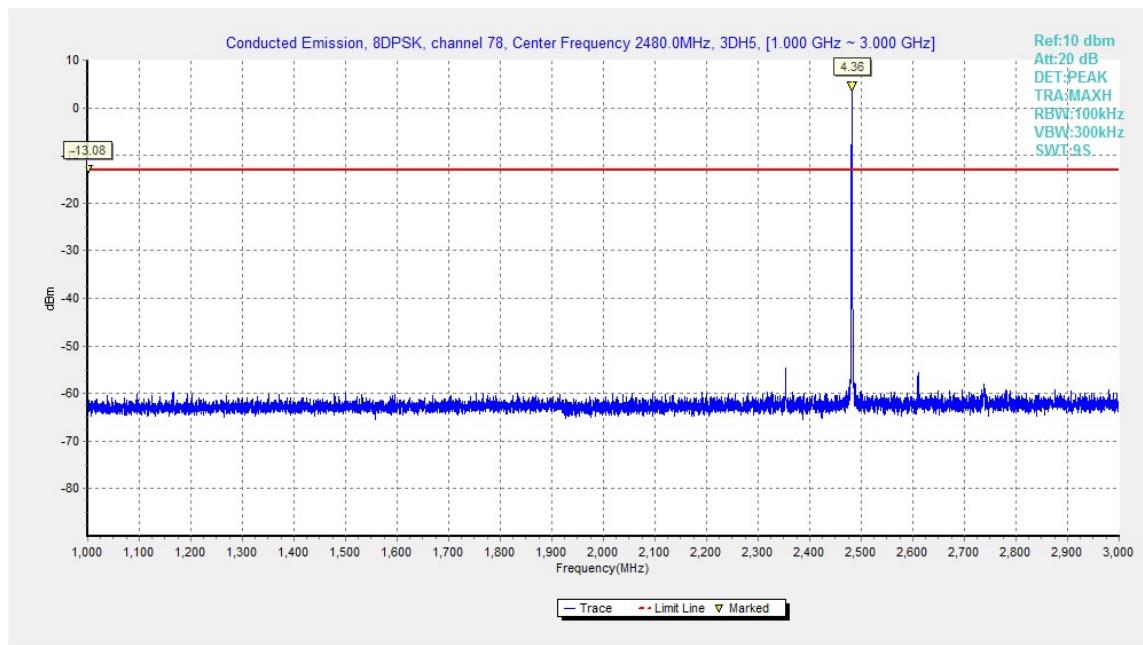


Fig.55. Conducted spurious emission: 8DPSK, Channel 78, 1GHz - 3GHz

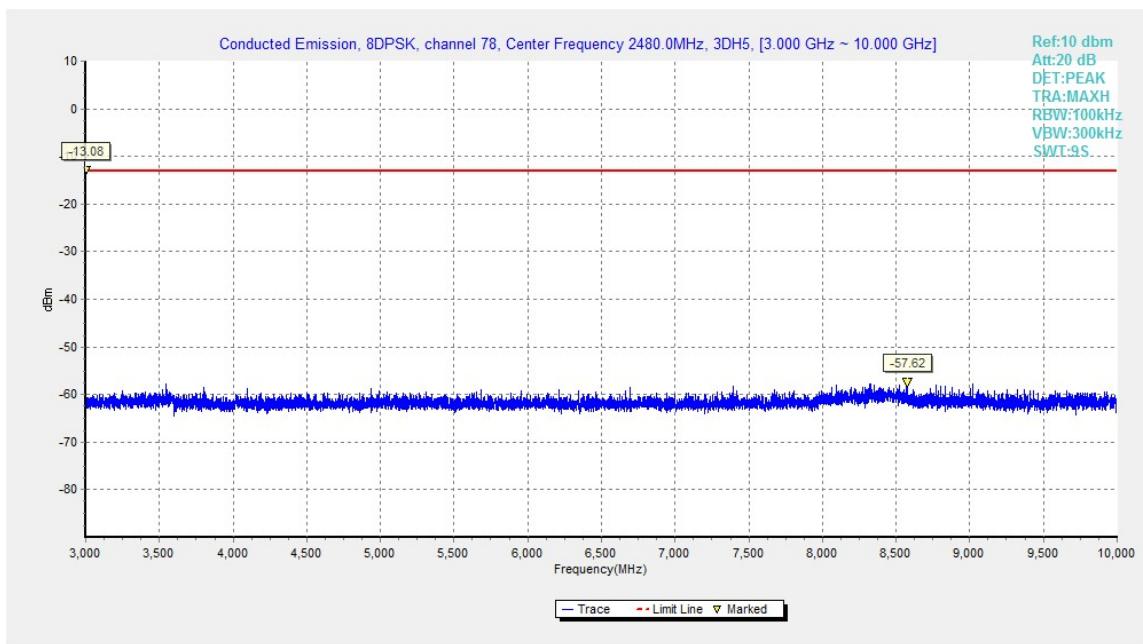


Fig.56. Conducted spurious emission: 8DPSK, Channel 78, 3GHz - 10GHz

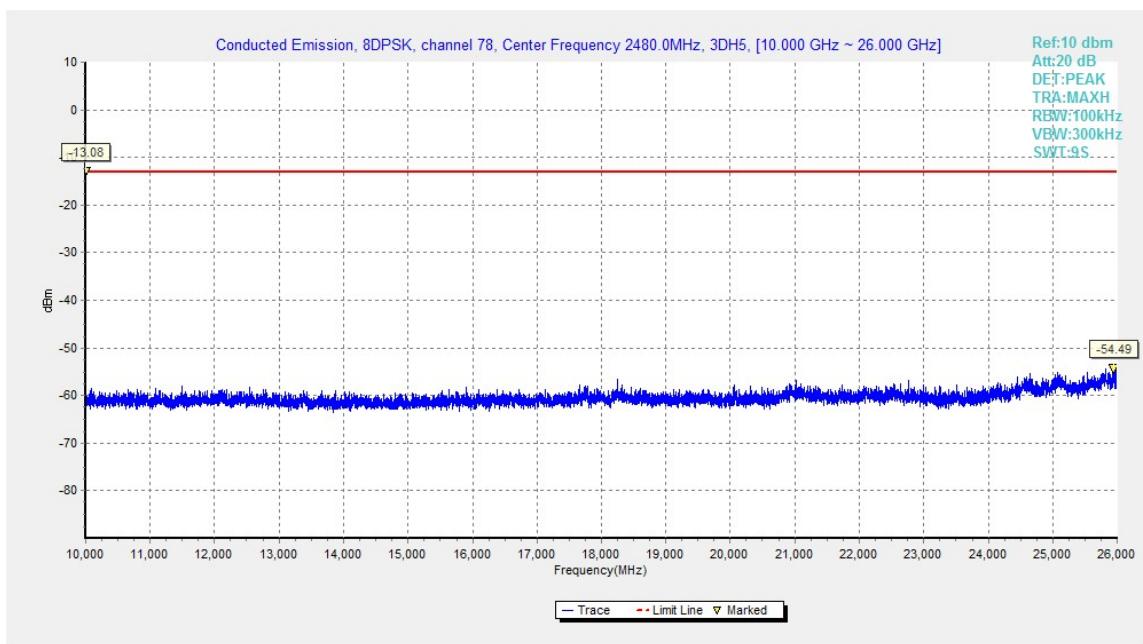


Fig.57. Conducted spurious emission: 8DPSK, Channel 78, 10GHz - 26GHz

A.5. Radiated Emission

Measurement Limit:

Standard	Limit
FCC 47 CFR Part 15.247, 15.205, 15.209	20dB below peak output power

In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a) (see § 15.205(c)).

The measurement is made according to ANSI C63.10

Limit in restricted band:

Frequency of emission (MHz)	Field strength(uV/m)	Field strength(dBuV/m)
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

Test Condition

The EUT was placed on a non-conductive table. The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations.

Frequency of emission (MHz)	RBW/VBW	Sweep Time(s)
30-1000	100KHz/300KHz	5
1000-4000	1MHz/1MHz	15
4000-18000	1MHz/1MHz	40
18000-26500	1MHz/1MHz	20

Measurement Results:

$$\text{Result} = P_{\text{Mea}} + \text{ARPL}$$

For GFSK

Channel	Frequency Range	Test Results	Conclusion
Ch 0 2402 MHz	1 GHz ~ 3 GHz	Fig.58	P
	3 GHz ~ 18 GHz	Fig.59	P
Ch 39 2441 MHz	9 kHz ~ 30 MHz	Fig.60	P
	30 MHz ~ 1 GHz	Fig.61	P
	1 GHz ~ 3 GHz	Fig.62	P
	3 GHz ~ 18 GHz	Fig.63	P
Ch 78 2480 MHz	1 GHz ~ 3 GHz	Fig.64	P
	3 GHz ~ 18 GHz	Fig.65	P
Power	2.38GHz~2.4GHz---L	Fig.66	P
Power	2.45GHz~2.5GHz---H	Fig.67	P

For all channels	18 GHz ~ 26 GHz	Fig.68	P
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Form/4 DQPSK

Channel	Frequency Range	Test Results	Conclusion
Ch 0 2402 MHz	1 GHz ~ 3 GHz	Fig.69	P
	3 GHz ~ 18 GHz	Fig.70	P
Ch 39 2441 MHz	30 MHz ~ 1 GHz	Fig.71	P
	1 GHz ~ 3 GHz	Fig.72	P
	3 GHz ~ 18 GHz	Fig.73	P
Ch 78 2480 MHz	1 GHz ~ 3 GHz	Fig.74	P
	3 GHz ~ 18 GHz	Fig.75	P
Power	2.38GHz~2.4GHz---L	Fig.76	P
Power	2.45GHz~2.5GHz---H	Fig.77	P
For all channels	18 GHz ~ 26 GHz	Fig.78	P

For 8DPSK

Channel	Frequency Range	Test Results	Conclusion
Ch 0 2402 MHz	1 GHz ~ 3 GHz	Fig.79	P
	3 GHz ~ 18 GHz	Fig.80	P
Ch 39 2441 MHz	30 MHz ~ 1 GHz	Fig.81	P
	1 GHz ~ 3 GHz	Fig.82	P
	3 GHz ~ 18 GHz	Fig.83	P
Ch 78 2480 MHz	1 GHz ~ 3 GHz	Fig.84	P
	3 GHz ~ 18 GHz	Fig.85	P
Power	2.38GHz~2.4GHz---L	Fig.86	P
Power	2.45GHz~2.5GHz---H	Fig.87	P
For all channels	18 GHz ~ 26 GHz	Fig.88	P

GFSK Ch 0 – Average

Frequency (MHz)	Measurement Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)
2382.200	46.9	2.9	32.0	11.99	54.0	7.1	H
2388.400	46.6	2.9	32.0	11.72	54.0	7.4	H
4804.500	37.2	-17.3	34.5	19.96	54.0	16.8	H
7206.000	39.4	-16.4	36.1	19.71	54.0	14.6	H
9607.500	40.4	-18.2	37.0	21.65	54.0	13.6	H
12010.500	41.4	-17.4	39.3	19.45	54.0	12.6	H

GFSK Ch 39 - Average

Frequency (MHz)	Measurement Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)
2379.300	47.0	2.9	32.1	12.04	54.0	7.0	H
2650.020	49.7	3.0	33.7	12.93	54.0	4.3	H

4882.500	36.0	-18.5	34.5	19.99	54.0	18.1	H
7323.000	37.3	-18.5	36.1	19.68	54.0	16.7	H
9763.500	39.1	-17.8	37.2	19.69	54.0	14.9	H
12205.500	40.6	-17.8	39.2	19.17	54.0	13.4	H

GFSK Ch 78 - Average

Frequency (MHz)	Measurement Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)
2485.250	47.8	2.9	32.7	12.169	54.0	6.2	H
2486.000	47.8	2.9	32.7	12.210	54.0	6.2	H
4960.500	36.6	-18.2	34.5	20.31	54.0	17.4	H
7440.000	38.9	-16.9	36.0	19.82	54.0	15.1	H
9919.500	40.0	-17.1	37.4	19.66	54.0	14.0	H
12400.500	40.8	-17.5	39.1	19.18	54.0	13.2	H

 $\pi/4$ DQPSK Ch 0 - Average

Frequency (MHz)	Measurement Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)
2387.200	46.9	2.9	32.0	12.07	54.0	7.1	H
2388.400	46.9	2.9	32.0	12.07	54.0	7.1	H
4804.500	37.2	-17.3	34.5	19.97	54.0	16.8	H
7206.000	39.4	-16.4	36.1	19.73	54.0	14.6	H
9607.500	40.3	-18.2	37.0	21.60	54.0	13.7	H
12010.500	41.4	-17.4	39.3	19.47	54.0	12.6	H

 $\pi/4$ DQPSK Ch 39 - Average

Frequency (MHz)	Measurement Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)
2378.900	47.0	2.9	32.1	12.06	54.0	7.0	H
2650.300	49.7	3.0	33.7	12.92	54.0	4.3	H
4882.500	35.9	-18.5	34.5	19.99	54.0	18.1	H
7323.000	37.2	-18.5	36.1	19.65	54.0	16.8	H
9763.500	39.1	-17.8	37.2	19.69	54.0	14.9	H
12205.500	40.6	-17.8	39.2	19.15	54.0	13.4	H

 $\pi/4$ DQPSK Ch 78 - Average

Frequency (MHz)	Measurement Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)
2486.600	47.9	2.9	32.7	12.299	54.0	6.1	H
2489.200	47.8	2.9	32.6	12.280	54.0	6.2	H
4960.500	36.4	-18.2	34.5	20.12	54.0	17.6	H

7440.000	39.0	-16.9	36.0	19.87	54.0	15.0	H
9919.500	39.9	-17.1	37.4	19.63	54.0	14.1	H
12400.500	40.8	-17.5	39.1	19.16	54.0	13.2	H

8DPSK Ch 0 - Average

Frequency (MHz)	Measurement Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)
2387.700	47.0	2.9	32.0	12.18	54.0	7.0	H
2389.400	47.1	2.9	32.0	12.21	54.0	6.9	H
4804.500	37.1	-17.3	34.5	19.89	54.0	16.9	H
7206.000	39.4	-16.4	36.1	19.73	54.0	14.6	H
9607.500	40.5	-18.2	37.0	21.77	54.0	13.5	H
12010.500	41.4	-17.4	39.3	19.51	54.0	12.6	H

8DPSK Ch 39 - Average

Frequency (MHz)	Measurement Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)
2378.800	46.9	2.9	32.1	11.97	54.0	7.1	H
2475.600	48.4	2.9	33.0	12.50	54.0	5.6	H
4882.500	35.9	-18.5	34.5	19.94	54.0	18.1	H
7323.000	37.3	-18.5	36.1	19.75	54.0	16.7	H
9763.500	39.2	-17.8	37.2	19.74	54.0	14.8	H
12205.500	40.7	-17.8	39.2	19.23	54.0	13.3	H

8DPSK Ch 78 - Average

Frequency (MHz)	Measurement Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)
2488.100	47.8	2.9	32.6	12.203	54.0	6.2	H
2493.300	47.7	2.9	32.5	12.266	54.0	6.3	H
4960.500	36.5	-18.2	34.5	20.17	54.0	17.5	H
7440.000	38.9	-16.9	36.0	19.81	54.0	15.1	H
9919.500	40.0	-17.1	37.4	19.68	54.0	14.0	H
12400.500	40.8	-17.5	39.1	19.12	54.0	13.2	H

GFSK Ch 0 – Peak

Frequency (MHz)	Measurement Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)
2380.500	60.7	2.9	32.1	25.78	74.0	13.3	H
2387.990	59.6	2.9	32.0	24.77	74.0	14.4	V
17997.000	60.2	-13.5	40.8	32.92	74.0	13.8	H
17581.500	59.9	-13.6	41.1	32.34	74.0	14.1	H

17774.250	59.6	-13.4	41.0	32.01	74.0	14.4	V
17758.500	59.6	-13.3	41.0	31.94	74.0	14.4	V

GFSK Ch 39 - Peak

Frequency (MHz)	Measurement Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)
2313.800	49.0	-27.8	31.1	45.71	74.0	25.0	H
2532.400	52.4	-26.8	32.8	46.41	74.0	21.6	H
17230.500	59.5	-14.3	41.2	32.60	74.0	14.5	V
17685.750	59.4	-13.1	41.1	31.51	74.0	14.6	V
17946.750	59.4	-13.6	40.8	32.17	74.0	14.6	V
17861.250	59.3	-13.5	40.9	31.93	74.0	14.7	H

GFSK Ch 78 - Peak

Frequency (MHz)	Measurement Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)
2483.880	61.2	2.9	32.8	25.52	74.0	12.8	H
2484.610	60.8	2.9	32.7	25.14	74.0	13.2	H
17259.750	59.8	-14.1	41.2	32.68	74.0	14.2	H
17676.750	59.5	-13.1	41.1	31.55	74.0	14.5	V
17772.000	59.4	-13.4	41.0	31.78	74.0	14.6	H
17360.250	59.4	-14.4	41.2	32.51	74.0	14.6	V

 $\pi/4$ DQPSK Ch 0 - Peak

Frequency (MHz)	Measurement Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)
2384.592	60.1	2.9	32.0	25.24	74.0	13.9	H
2388.420	59.5	2.9	32.0	24.65	74.0	14.5	H
17625.750	60.2	-13.1	41.1	32.17	74.0	13.8	H
17664.000	59.7	-13.1	41.1	31.69	74.0	14.3	V
17926.500	59.5	-13.6	40.9	32.23	74.0	14.5	V
17277.750	59.3	-14.0	41.2	32.08	74.0	14.7	H

 $\pi/4$ DQPSK Ch 39 - Peak

Frequency (MHz)	Measurement Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)
2364.400	49.7	-27.3	31.9	45.07	74.0	24.3	H
2569.100	51.9	-26.8	33.0	45.75	74.0	22.1	H
17279.250	60.3	-14.0	41.2	33.06	74.0	13.7	V
17666.250	60.2	-13.1	41.1	32.27	74.0	13.8	H
17621.250	60.0	-13.1	41.1	32.01	74.0	14.0	H

17742.750	59.7	-13.3	41.0	31.94	74.0	14.3	V
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π/4 DQPSK Ch 78 - Peak

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
2483.600	60.9	2.9	32.8	25.18	74.0	13.1	V
2486.280	60.4	2.9	32.7	24.80	74.0	13.6	V
17537.250	60.2	-14.1	41.2	33.13	74.0	13.8	H
17280.000	59.9	-14.0	41.2	32.64	74.0	14.1	H
17996.250	59.9	-13.5	40.8	32.59	74.0	14.1	H
17637.750	59.9	-13.0	41.1	31.78	74.0	14.1	V

8DPSK Ch 0 - Peak

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
2385.012	59.7	2.9	32.0	24.84	74.0	14.3	H
2387.126	59.9	2.9	32.0	25.00	74.0	14.1	H
17345.250	59.4	-14.3	41.2	32.49	74.0	14.6	H
17915.250	59.4	-13.6	40.9	32.06	74.0	14.6	V
17720.250	59.3	-13.2	41.0	31.53	74.0	14.7	H
17622.750	59.3	-13.1	41.1	31.28	74.0	14.7	V

8DPSK Ch 39 - Peak

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
2349.000	49.5	-27.7	31.6	45.60	74.0	24.5	V
2539.400	52.1	-26.8	32.9	45.98	74.0	21.9	V
17273.250	59.8	-14.0	41.2	32.59	74.0	14.2	H
17342.250	59.4	-14.3	41.2	32.44	74.0	14.6	H
17621.250	59.2	-13.1	41.1	31.26	74.0	14.8	H
17229.750	59.2	-14.3	41.2	32.30	74.0	14.8	V

8DPSK Ch 78 - Peak

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
2483.530	60.6	2.9	32.8	24.92	74.0	13.4	H
2484.700	61.0	2.9	32.7	25.32	74.0	13.0	H
17571.750	60.3	-13.7	41.1	32.86	74.0	13.7	H
17298.000	59.6	-14.0	41.2	32.36	74.0	14.4	V
17518.500	59.5	-14.3	41.2	32.59	74.0	14.5	H

17331.000	59.5	-14.2	41.2	32.46	74.0	14.5	H
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Conclusion: PASS
Test graphs as below:

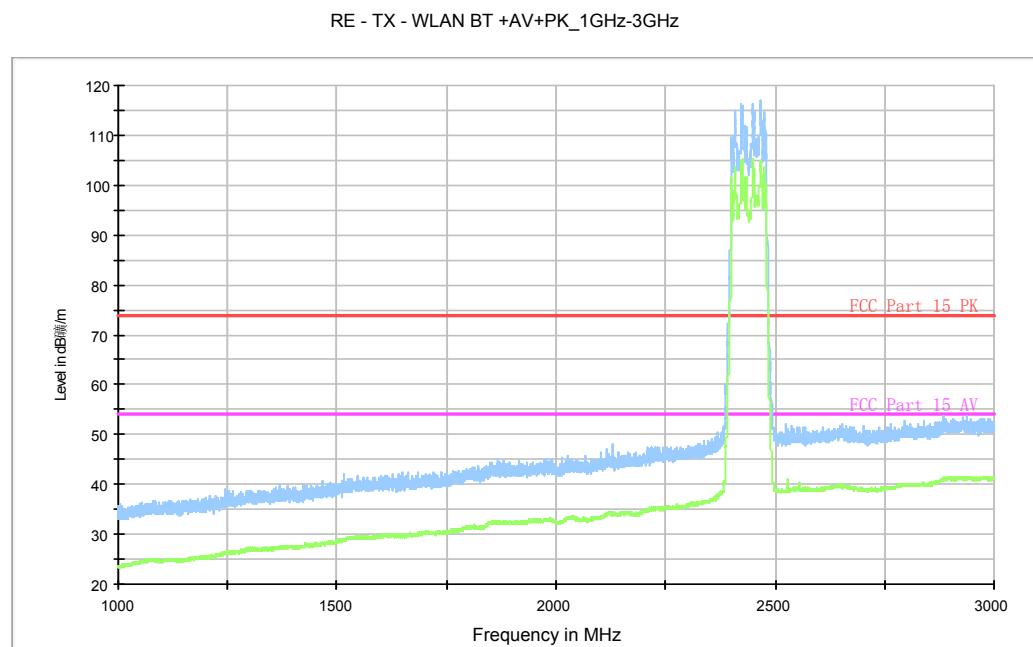


Fig.58. Radiated emission: GFSK, Channel 0, 1 GHz - 3 GHz

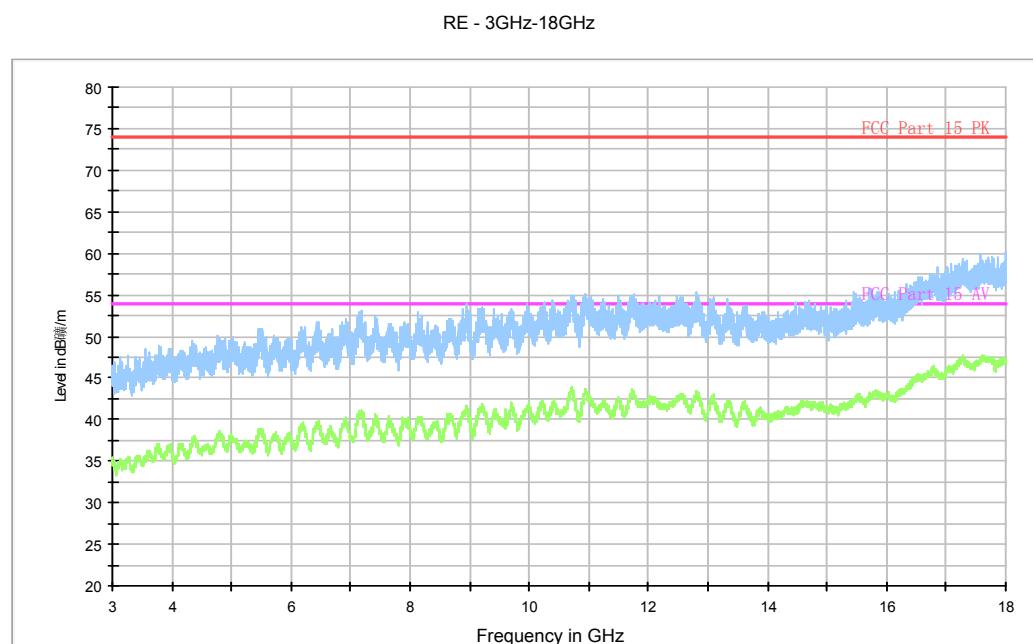


Fig.59. Radiated emission: GFSK, Channel 0, 3 GHz - 18 GHz

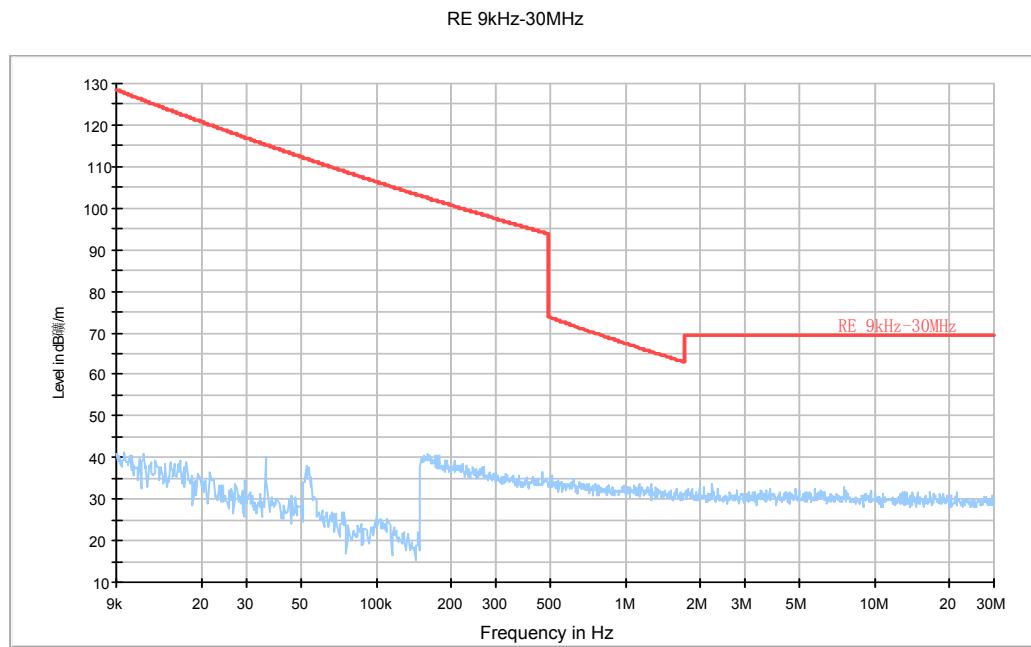


Fig.60. Radiated emission: GFSK, Channel 39, 9 kHz - 30 MHz

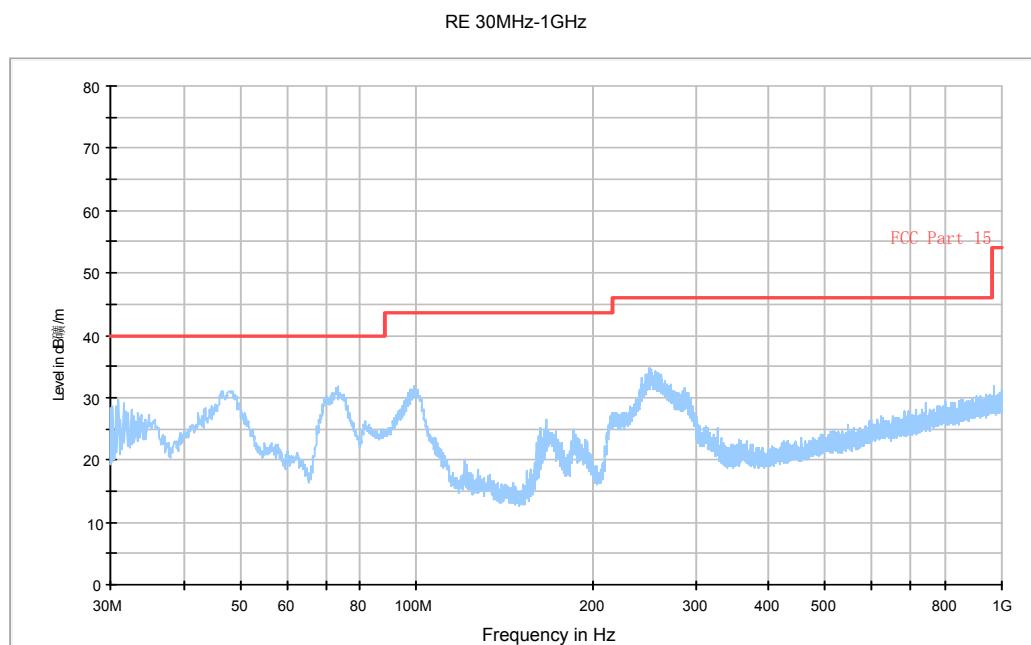


Fig.61. Radiated emission: GFSK, Channel 39, 30 MHz - 1 GHz

RE - TX - WLAN BT +AV+PK_1GHz-3GHz

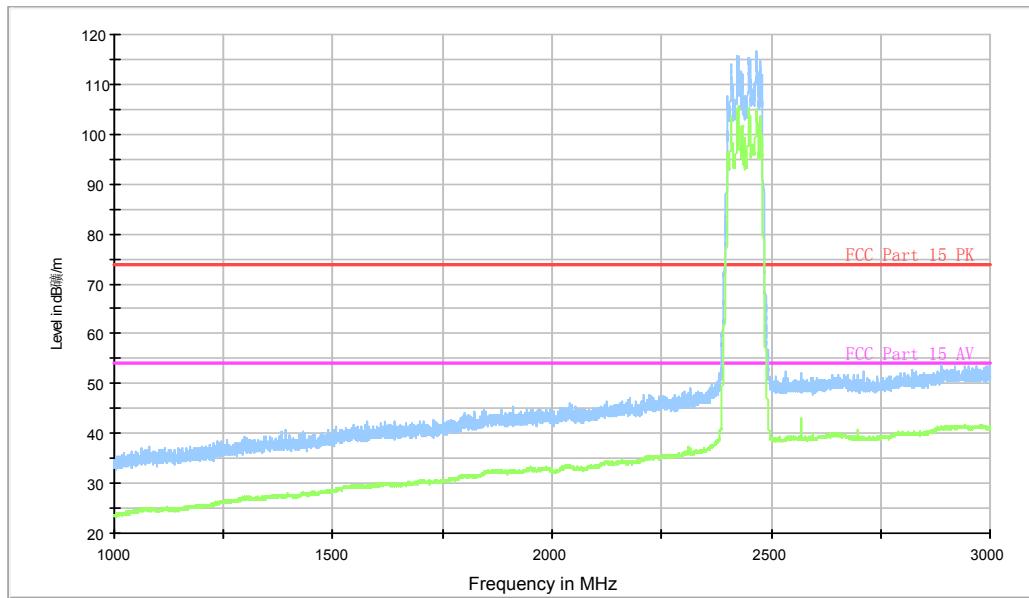


Fig.62. Radiated emission: GFSK, Channel 39, 1 GHz - 3 GHz

RE - 3GHz-18GHz

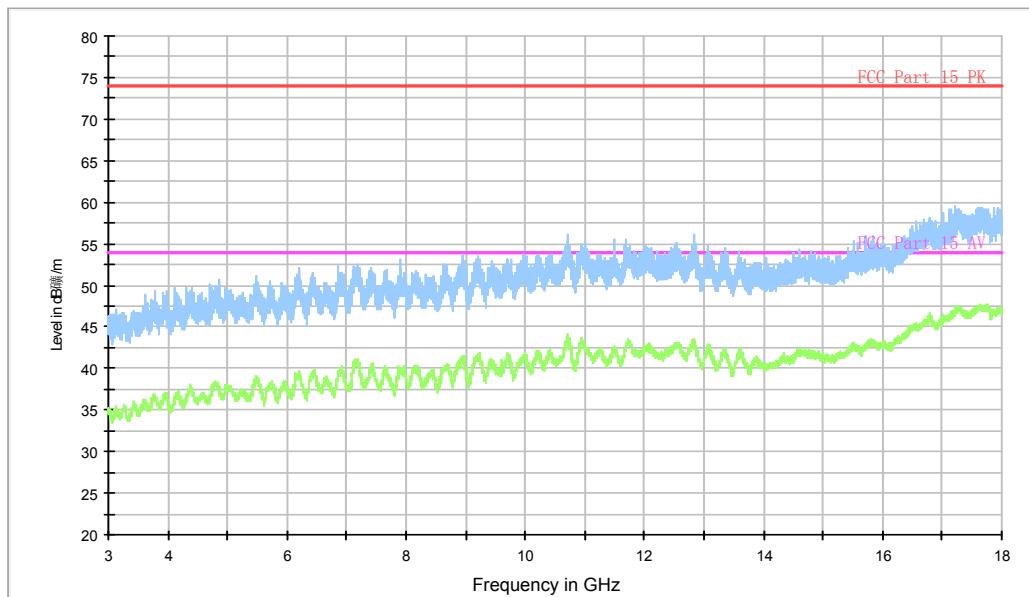


Fig.63. Radiated emission: GFSK, Channel 39, 3 GHz - 18 GHz

RE - TX - WLAN BT +AV+PK_1GHz-3GHz

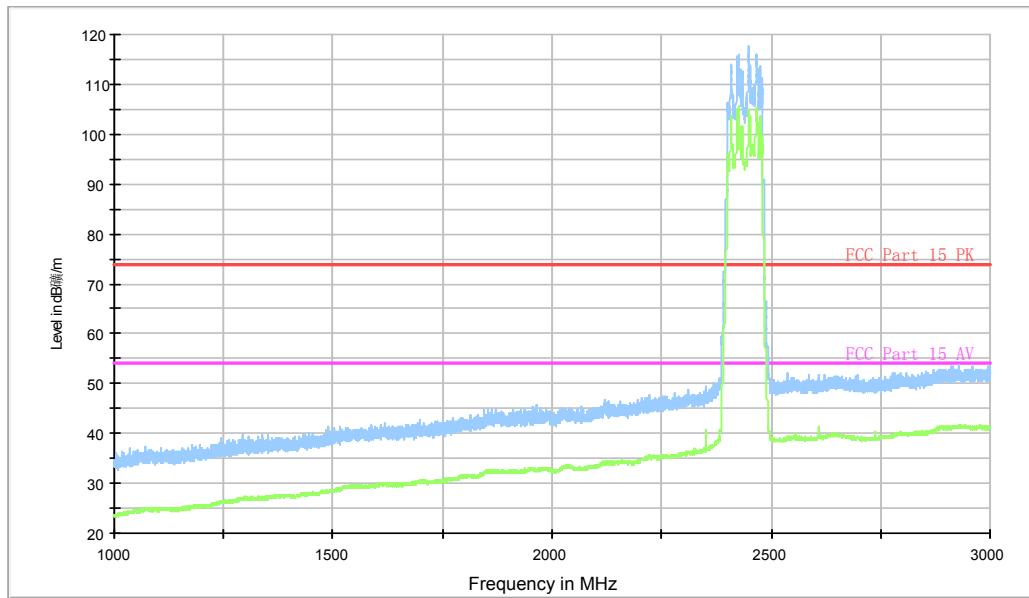


Fig.64. Radiated emission: GFSK, Channel 78, 1 GHz - 3 GHz

RE - 3GHz-18GHz

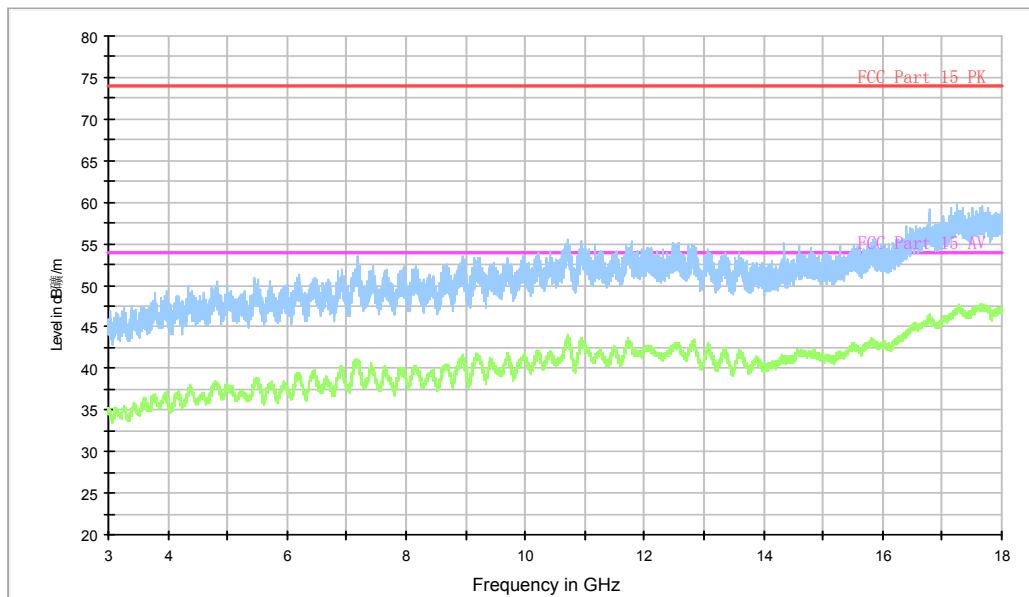


Fig.65. Radiated emission: GFSK, Channel 78, 3 GHz - 18 GHz

RE - Power-2.38GHz-2.45GHz

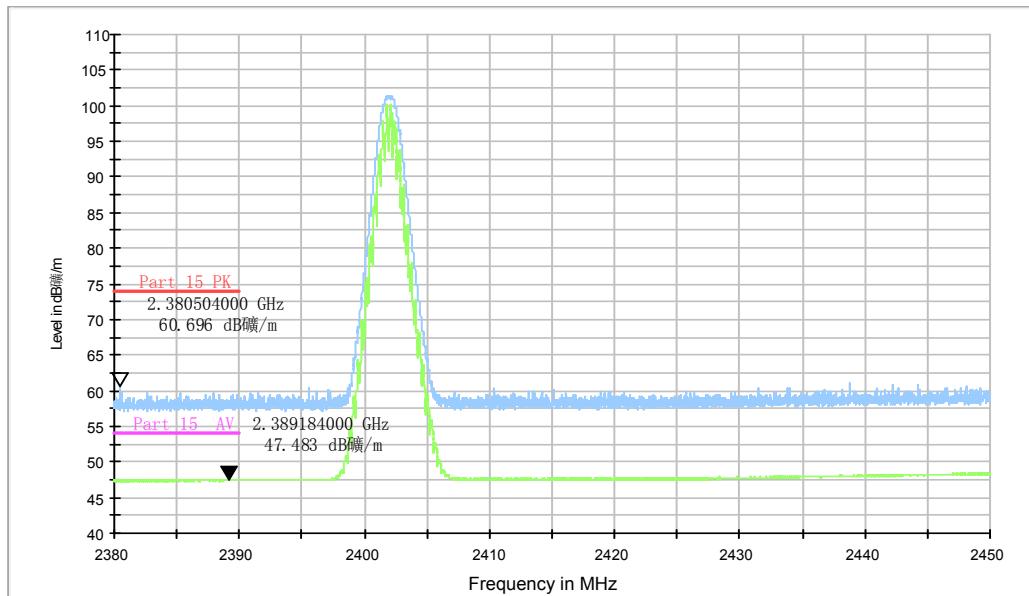


Fig.66. Radiated emission (Power): GFSK, low channel

RE - Power-2.45GHz-2.5GHz

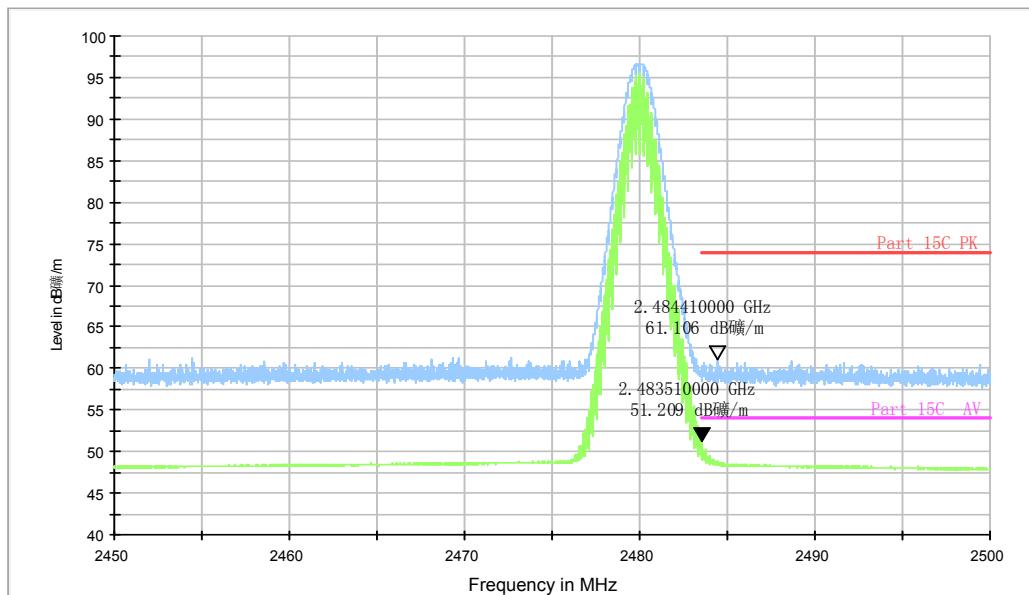


Fig.67. Radiated emission (Power) GFSK, high channel

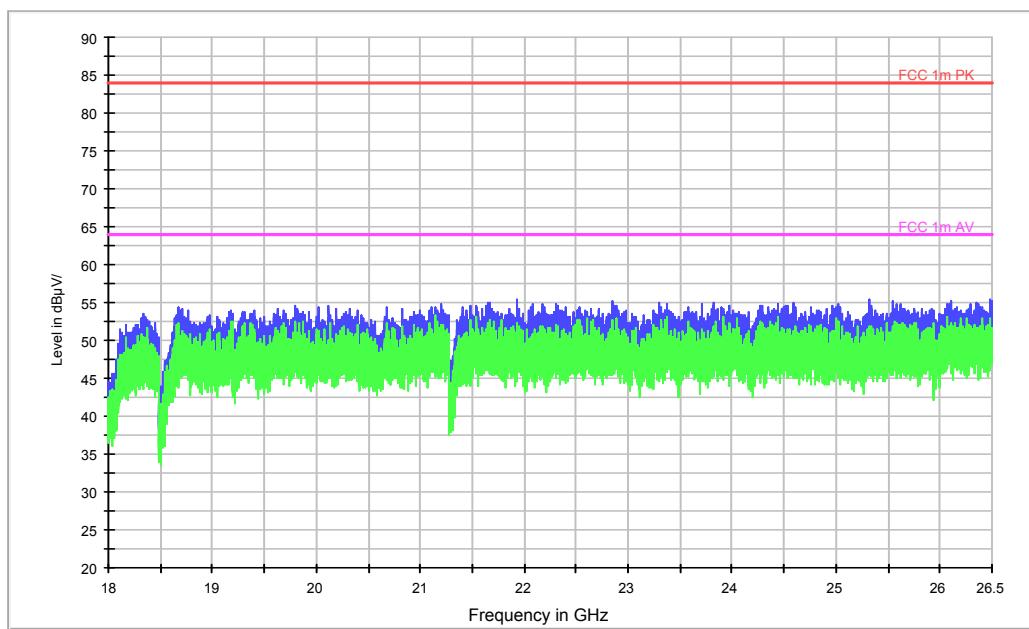


Fig.68. Radiated emission: GFSK, 18 GHz - 26 GHz

RE - TX - WLAN BT +AV+PK_1GHz-3GHz

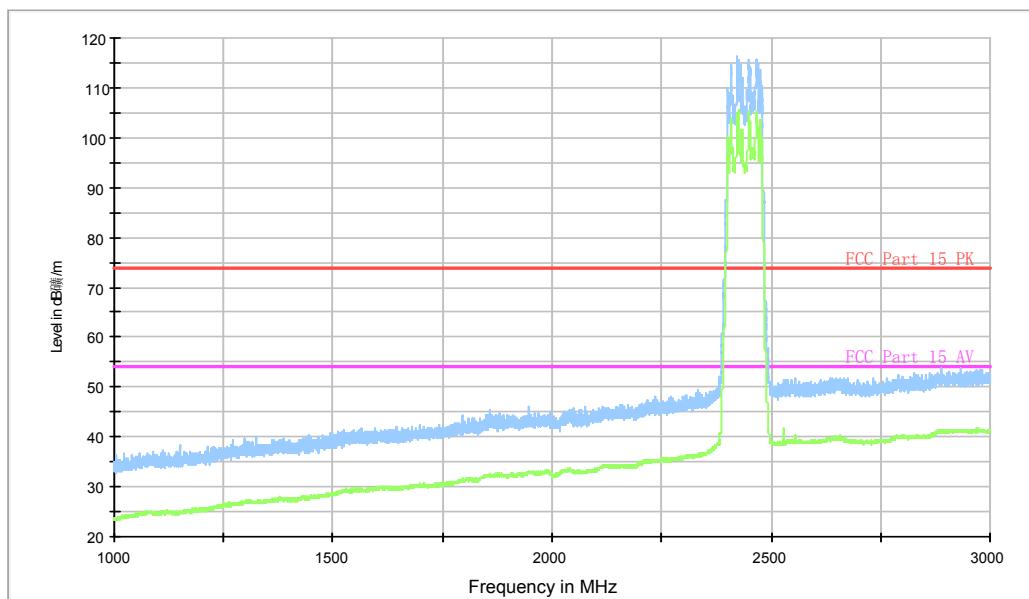
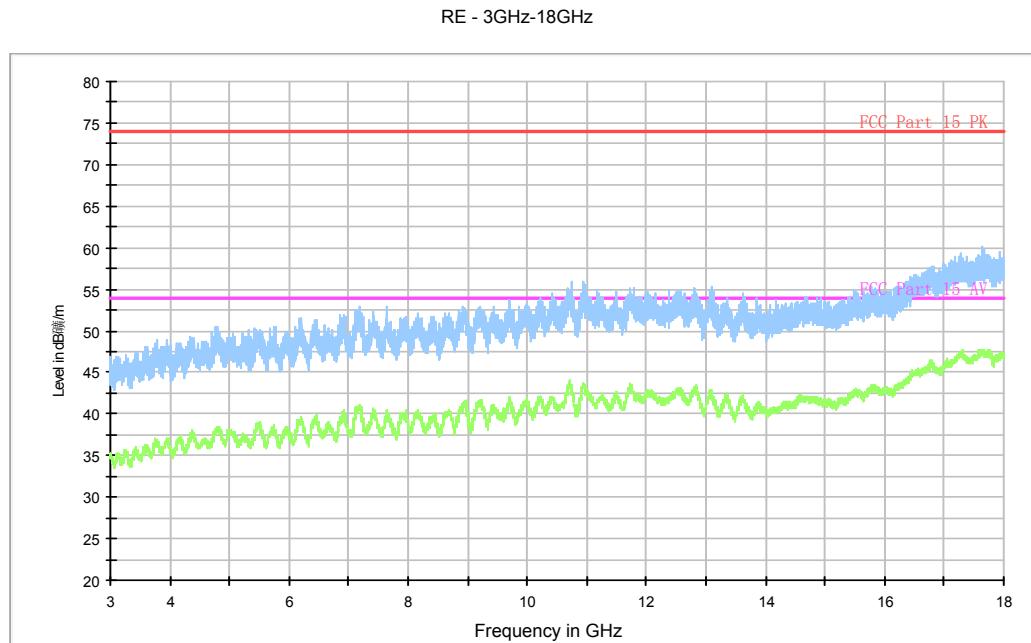
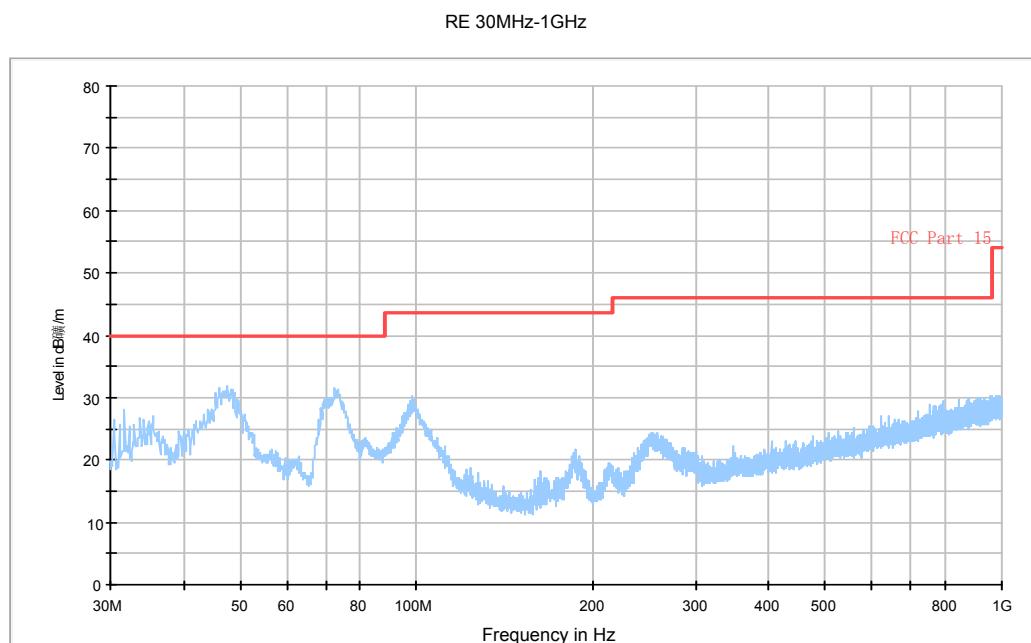


Fig.69. Radiated emission: π/4 DQPSK, Channel 0, 1 GHz - 3 GHz

Fig.70. Radiated emission: $\pi/4$ DQPSK, Channel 0, 3 GHz - 18 GHzFig.71. Radiated emission: $\pi/4$ DQPSK, Channel 39, 30 MHz - 1 GHz

RE - TX - WLAN BT +AV+PK_1GHz-3GHz

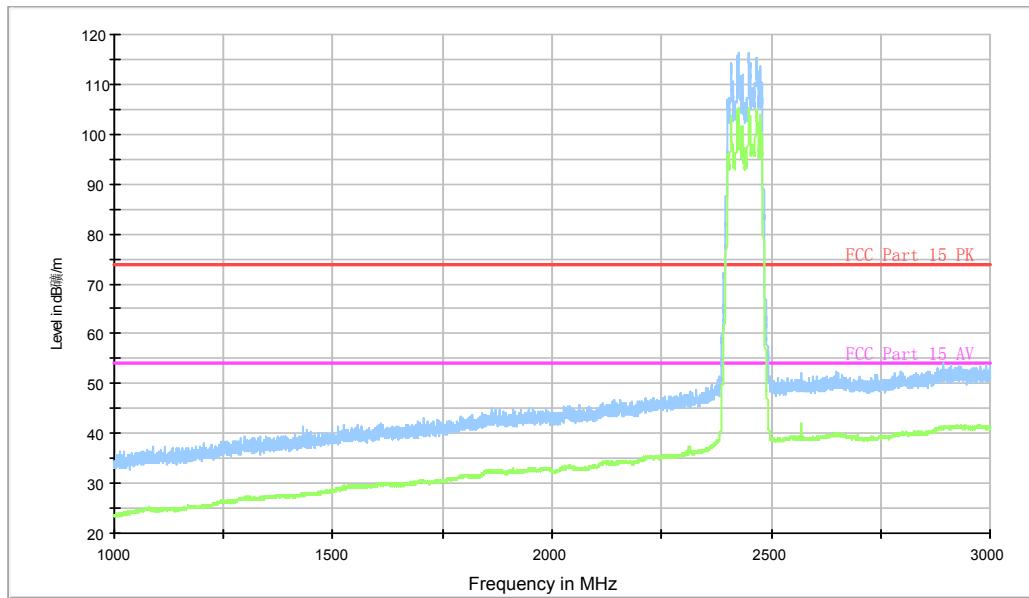


Fig.72. Radiated emission: $\pi/4$ DQPSK, Channel 39, 1 GHz - 3 GHz

RE - 3GHz-18GHz

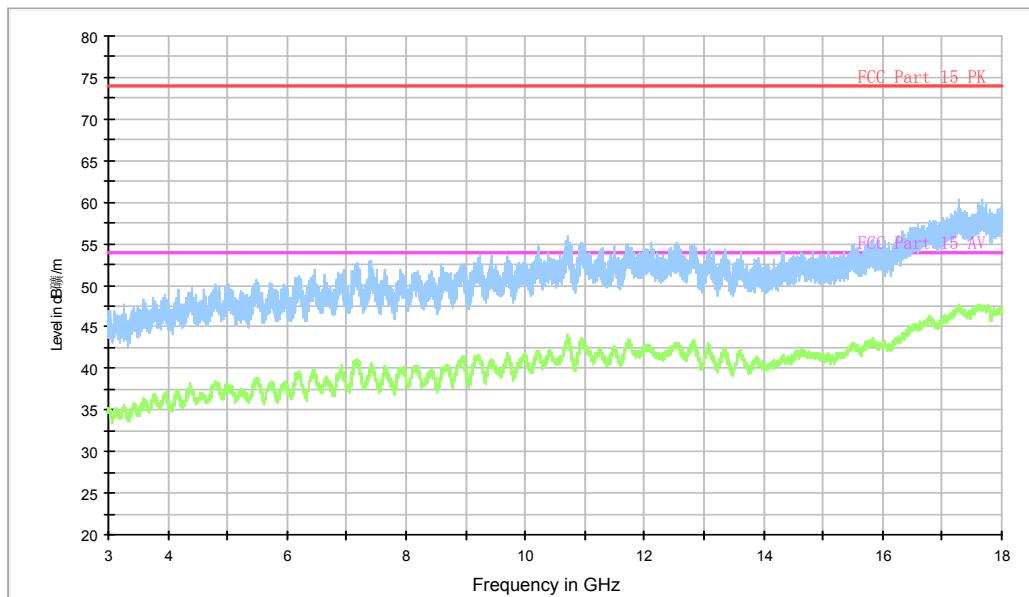


Fig.73. Radiated emission: $\pi/4$ DQPSK, Channel 39, 3 GHz - 18 GHz

RE - TX - WLAN BT +AV+PK_1GHz-3GHz

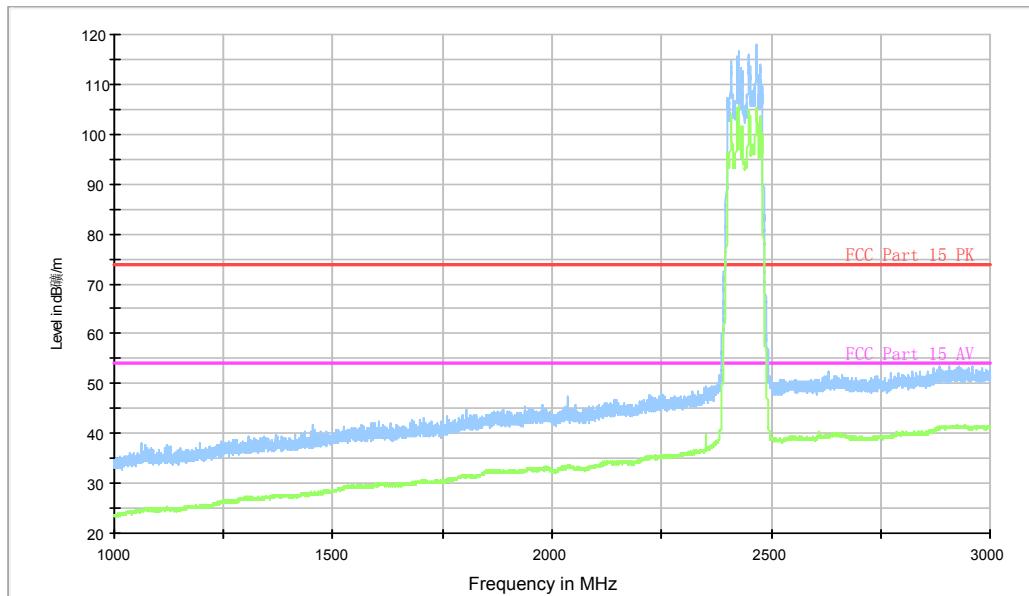


Fig.74. Radiated emission: $\pi/4$ DQPSK, Channel 78, 1 GHz - 3 GHz

RE - 3GHz-18GHz

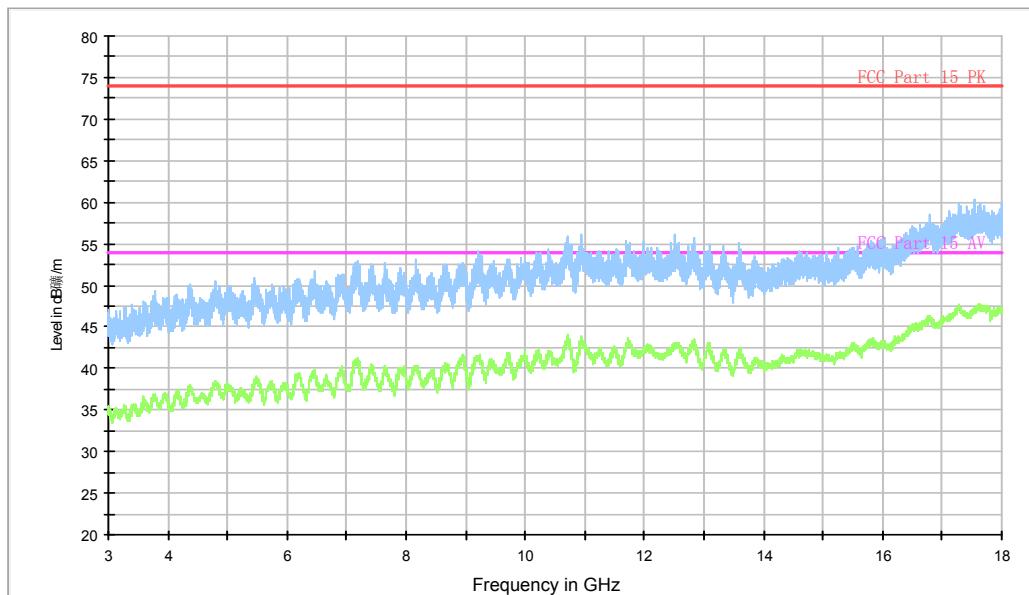


Fig.75. Radiated emission: $\pi/4$ DQPSK, Channel 78, 3 GHz - 18 GHz