Measurement Results:

Mode	Direction	Channel	Frequency Range	Test Results	Conclusion
GFSK	Horizontal	0	1 GHz ~3 GHz	Fig.42	P
			3 GHz ~18 GHz	Fig.43	P
		39	1 GHz ~3 GHz	Fig.44	P
			3 GHz ~18 GHz	Fig.45	P
		78	1 GHz ~3GHz	Fig.46	P
			3 GHz ~18 GHz	Fig.47	P
		Restricted Band(CH0)	2.38 GHz ~ 2.45 GHz	Fig.48	P
		Restricted Band(CH78)	2.45 GHz ~ 2.5 GHz	Fig.49	P
	Vertical	0	1 GHz ~3 GHz	Fig.50	P
			3 GHz ~18 GHz	Fig.51	P
		39	1 GHz ~3 GHz	Fig.52	P
			3 GHz ~18 GHz	Fig.53	P
		78	1 GHz ~3GHz	Fig.54	P
			3 GHz ~18 GHz	Fig.55	P
		Restricted Band(CH0)	2.38 GHz ~ 2.45 GHz	Fig.56	P
		Restricted Band(CH78)	2.45 GHz ~ 2.5 GHz	Fig.57	P
	/	All channels	9 kHz ~30 MHz	Fig.58	P
			30 MHz ~1 GHz	Fig.59	P
			18 GHz ~26.5 GHz	Fig.60	P

Mode	Direction	Channel	Frequency Range	Test Results	Conclusion
π/4 DQPSK	Horizontal	0	1 GHz ~3 GHz	Fig.61	P
			3 GHz ~18 GHz	Fig.62	P
		39	1 GHz ~3 GHz	Fig.63	P
			3 GHz ~18 GHz	Fig.64	P
		78	1 GHz ~3GHz	Fig.65	P
			3 GHz ~18 GHz	Fig.66	P
		Restricted Band(CH0)	2.38 GHz ~ 2.45 GHz	Fig.67	P
		Restricted Band(CH78)	2.45 GHz ~ 2.5 GHz	Fig.68	P
	Vertical	0	1 GHz ~3 GHz	Fig.69	P
			3 GHz ~18 GHz	Fig.70	P
		39	1 GHz ~3 GHz	Fig.71	P
			3 GHz ~18 GHz	Fig.72	P
		78	1 GHz ~3GHz	Fig.73	P
			3 GHz ~18 GHz	Fig.74	P
		Restricted Band(CH0)	2.38 GHz ~ 2.45 GHz	Fig.75	P
		Restricted Band(CH78)	2.45 GHz ~ 2.5 GHz	Fig.76	P
	/	All channels	9 kHz ~30 MHz	Fig.77	P
			30 MHz ~1 GHz	Fig.78	P
			18 GHz ~26.5 GHz	Fig.79	P

Mode	Direction	Channel	Frequency Range	Test Results	Conclusion
8DPSK	Horizontal	0	1 GHz ~3 GHz	Fig.80	**P**
			3 GHz ~18 GHz	Fig.81	**P**
		39	1 GHz ~3 GHz	Fig.82	**P**
			3 GHz ~18 GHz	Fig.83	**P**
		78	1 GHz ~3GHz	Fig.84	**P**
			3 GHz ~18 GHz	Fig.85	**P**
		Restricted Band(CH0)	2.38 GHz ~ 2.45 GHz	Fig.86	**P**
		Restricted Band(CH78)	2.45 GHz ~ 2.5 GHz	Fig.87	**P**
	Vertical	0	1 GHz ~3 GHz	Fig.88	**P**
			3 GHz ~18 GHz	Fig.89	**P**
		39	1 GHz ~3 GHz	Fig.90	**P**
			3 GHz ~18 GHz	Fig.91	**P**
		78	1 GHz ~3GHz	Fig.92	**P**
			3 GHz ~18 GHz	Fig.93	**P**
		Restricted Band(CH0)	2.38 GHz ~ 2.45 GHz	Fig.94	**P**
		Restricted Band(CH78)	2.45 GHz ~ 2.5 GHz	Fig.95	**P**
	/	All channels	9 kHz ~30 MHz	Fig.96	**P**
			30 MHz ~1 GHz	Fig.97	**P**
			18 GHz ~26.5 GHz	Fig.98	**P**

Worst Case Result

Horizontal Direction:

GFSK CH0 (1-18GHz)

Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Pol	Corr. (dB)
4881.500000	---	34.64	54.00	19.36	V	0.2
5759.500000	---	34.76	54.00	19.24	V	1.7
5760.000000	46.62	---	74.00	27.38	V	1.7
8997.000000	46.54	---	74.00	27.46	V	5.1
10813.500000	---	32.14	54.00	21.86	H	7.3
14518.500000	48.08	---	74.00	25.92	H	12.7
15213.500000	---	35.41	54.00	18.59	V	13.4
15970.000000	---	36.89	54.00	17.11	V	15.2
16552.500000	50.40	---	74.00	23.60	H	16.0
17007.500000	---	37.57	54.00	16.43	V	16.5
17132.000000	50.43	---	74.00	23.57	V	16.3
17539.500000	50.74	---	74.00	23.26	V	0.2

Vertical Direction:

GFSK CH0 (1-18GHz)

Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Pol	Corr. (dB)
4803.500000	---	33.80	54.00	20.20	V	0.2
5760.000000	---	29.78	54.00	24.22	V	1.7
5991.000000	42.03	---	74.00	31.97	V	1.9
8264.500000	43.00	---	74.00	31.00	H	4.6
8724.500000	---	30.99	54.00	23.01	H	5.3
9459.500000	43.12	---	74.00	30.88	V	5.2
12333.000000	46.33	---	74.00	27.67	H	9.3
14423.000000	---	35.51	54.00	18.49	V	12.8
15915.000000	49.06	---	74.00	24.94	V	14.9
16710.500000	---	37.87	54.00	16.13	H	16.4
17900.500000	52.44	---	74.00	21.56	H	17.6
17929.000000	---	38.69	54.00	15.31	H	17.6

Horizontal Direction:

π/4 DQPSK CH0 (1-18GHz)

Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Pol	Corr. (dB)
6435.000000	---	29.77	54.00	24.23	V	2.6
6940.000000	41.85	---	74.00	32.16	V	2.9
9752.000000	---	31.29	54.00	22.71	H	6.0
9905.500000	44.44	---	74.00	29.56	V	6.6
12120.500000	---	33.82	54.00	20.18	V	9.5
12124.500000	46.72	---	74.00	27.28	V	9.5
14431.000000	47.82	---	74.00	26.18	H	12.7
14449.000000	---	35.43	54.00	18.57	V	12.6
16494.500000	50.01	---	74.00	23.99	V	15.7
16703.000000	---	37.77	54.00	16.23	H	16.3
17866.000000	51.17	---	74.00	22.83	H	17.7
17938.500000	---	38.75	54.00	15.25	V	17.6

Vertical Direction:

π/4 DQPSK CH0 (1-18GHz)

Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Pol	Corr. (dB)
5760.000000	---	30.61	54.00	23.39	V	1.7
5776.500000	41.46	---	74.00	32.54	V	1.6
9858.500000	44.65	---	74.00	29.35	H	6.5
10193.000000	---	31.85	54.00	22.15	V	6.7
12114.000000	---	33.86	54.00	20.14	H	9.5
12610.000000	46.90	---	74.00	27.10	H	10.1
14440.500000	---	35.29	54.00	18.71	V	12.7
14534.000000	47.59	---	74.00	26.41	V	12.5
16555.500000	---	37.42	54.00	16.58	V	16.0
16698.000000	50.66	---	74.00	23.34	V	16.3
17581.000000	50.50	---	74.00	23.50	V	16.9
17944.000000	---	38.52	54.00	15.48	H	17.5

Horizontal Direction:

8DPSK CH0 (1-18GHz)

Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Pol	Corr. (dB)
5760.000000	44.21	---	74.00	29.79	V	1.7
5760.000000	---	33.36	54.00	20.64	V	1.7
8995.000000	46.52	---	74.00	27.48	V	5.1
8997.500000	---	32.13	54.00	21.87	V	5.1
10991.500000	45.47	---	74.00	28.53	H	7.4
12068.500000	---	33.70	54.00	20.30	H	9.4
12596.000000	46.62	---	74.00	27.38	H	10.0
14431.000000	---	35.41	54.00	18.59	H	12.7
15109.000000	48.12	---	74.00	25.88	V	13.3
16060.500000	---	36.47	54.00	17.53	V	15.4
17118.000000	---	37.75	54.00	16.25	V	16.3
17292.500000	50.69	---	74.00	23.31	V	16.4

Vertical Direction:

8DPSK CH0 (1-18GHz)

Frequency (MHz)	MaxPeak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Pol	Corr. (dB)
5760.000000	---	31.49	54.00	22.51	H	1.6
6000.000000	42.08	---	74.00	31.92	V	1.9
7258.000000	---	29.81	54.00	24.19	H	3.0
8679.500000	43.14	---	74.00	30.86	V	4.6
9786.500000	---	31.71	54.00	22.29	V	6.2
10244.500000	44.73	---	74.00	29.27	V	6.9
12084.500000	45.80	---	74.00	28.20	H	9.4
14474.500000	---	35.43	54.00	18.57	V	12.6
14593.000000	48.09	---	74.00	25.91	H	12.6
16633.000000	---	37.53	54.00	16.47	H	16.2
17139.500000	50.34	---	74.00	23.66	V	16.2
17934.000000	---	38.75	54.00	15.25	H	17.6

Note:

A "reference path loss" is established and the A_{Rpl} is the attenuation of “reference path loss”, and Antenna Factor, the gain of the preamplifier, the cable loss. P_{Mea} is the field strength recorded from the instrument.

The measurement results are obtained as described below:

Result= P_{Mea} +Cable Loss +Antenna Factor-Gain of the preamplifier.

See below for test graphs.

Conclusion: Pass

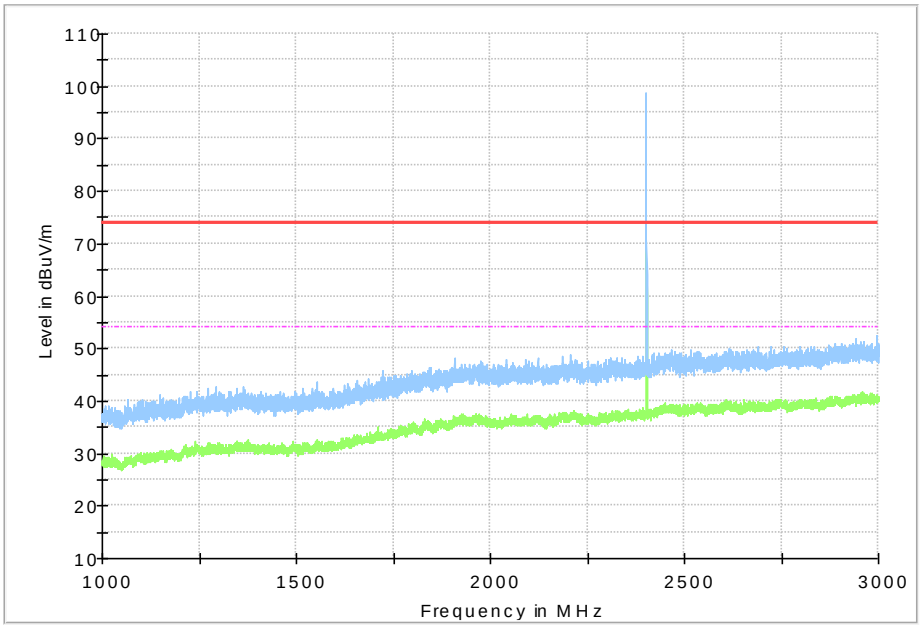

Fig.42 Radiated Spurious Emission (GFSK, Ch0, 1 GHz ~3 GHz, Horizontal Direction)

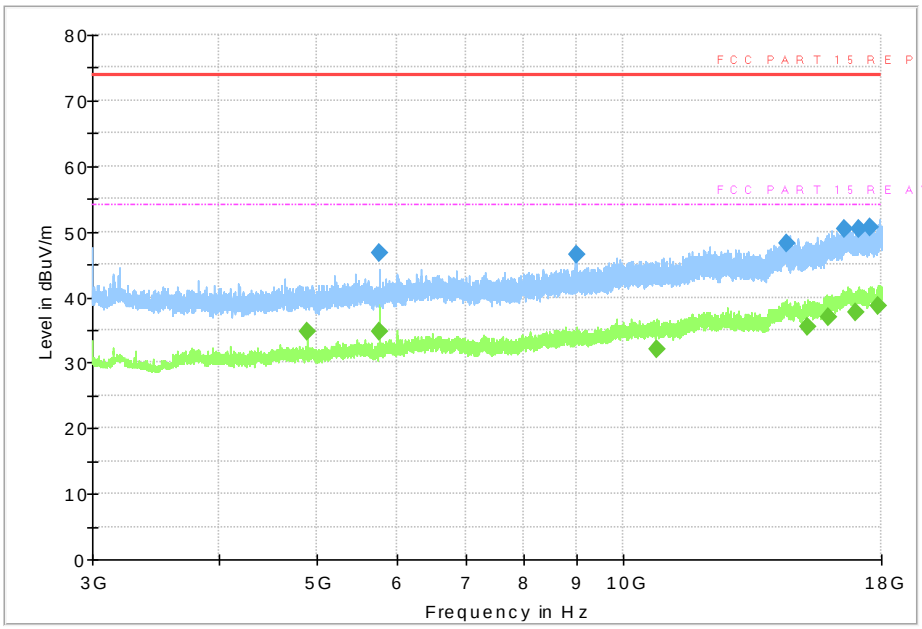

Fig.43 Radiated Spurious Emission (GFSK, Ch0, 3GHz ~18 GHz,Horizontal Direction)

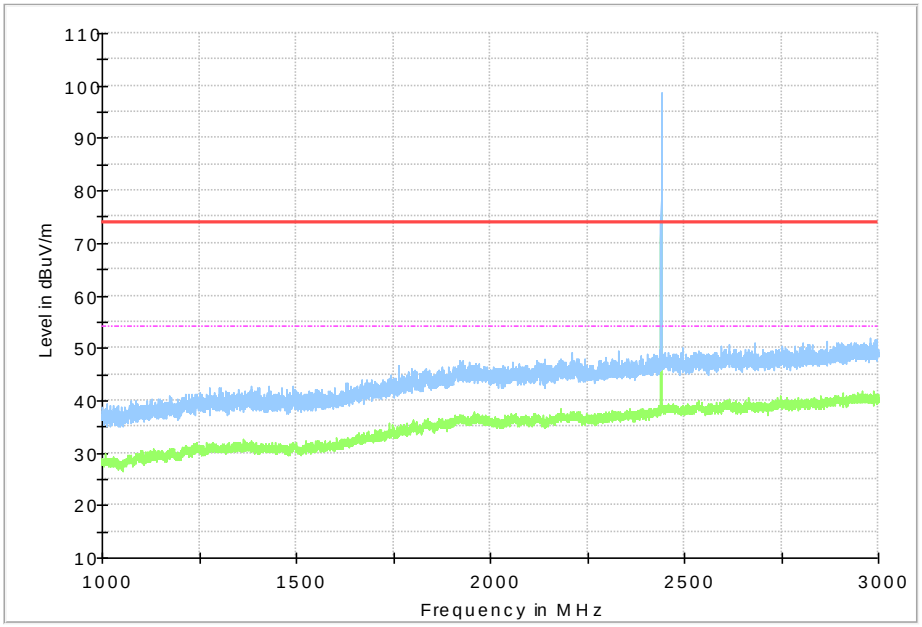

Fig.44 Radiated Spurious Emission (GFSK, Ch39, 1GHz ~3 GHz ,Horizontal Direction)

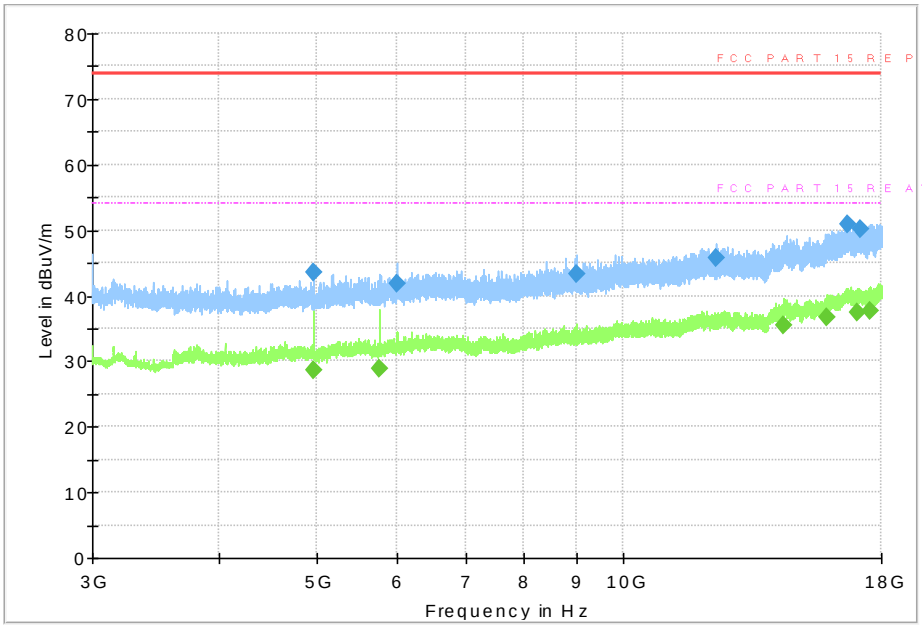

Fig.45 Radiated Spurious Emission (GFSK, Ch39, 3GHz ~18 GHz ,Horizontal Direction)

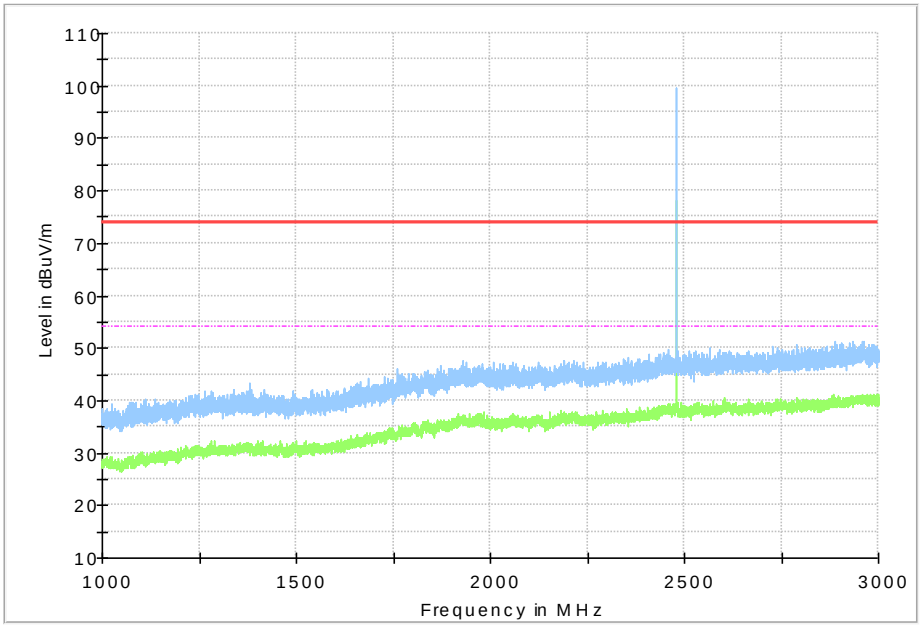

Fig.46 Radiated Spurious Emission (GFSK, Ch78, 1GHz ~3 GHz ,Horizontal Direction)

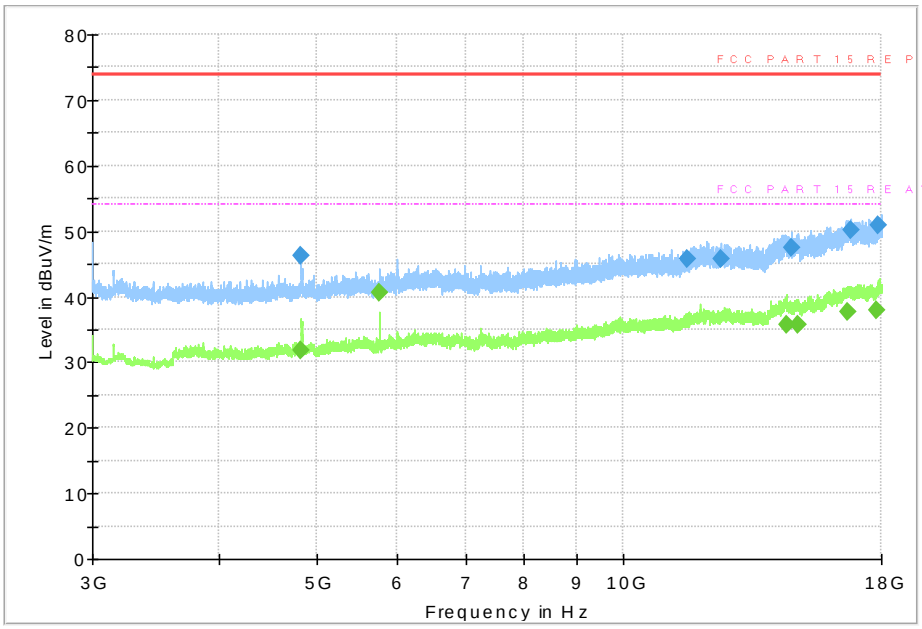

Fig.47 Radiated Spurious Emission (GFSK, Ch78, 3GHz ~18GHz , Horizontal Direction)

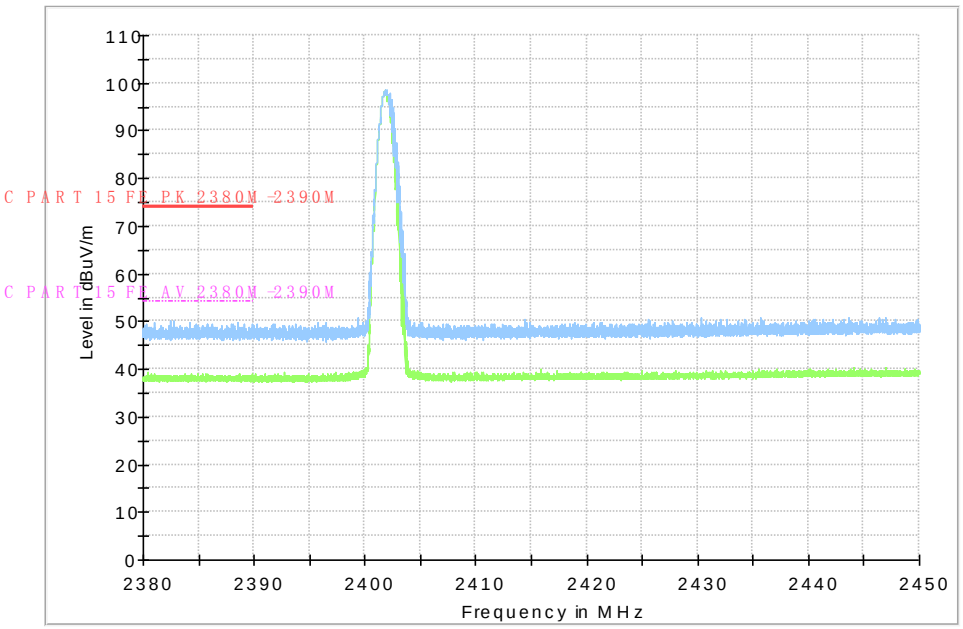

Fig.48 Radiated Band Edges (GFSK, Ch0, 2380GHz~2450GHz , Horizontal Direction)

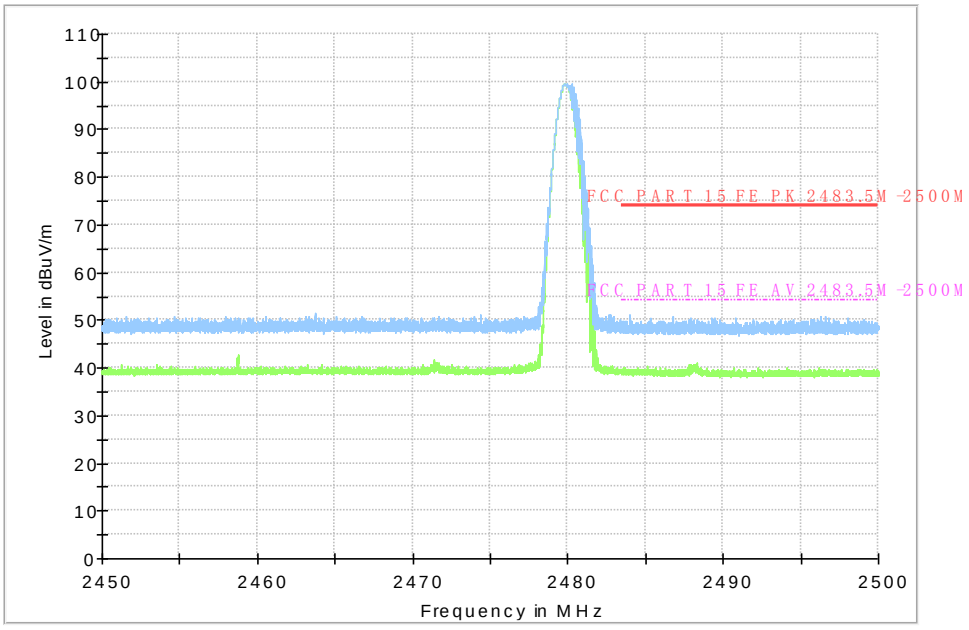

Fig.49 Radiated Band Edges (GFSK, Ch78, 2450GHz~2500GHz , Horizontal Direction)

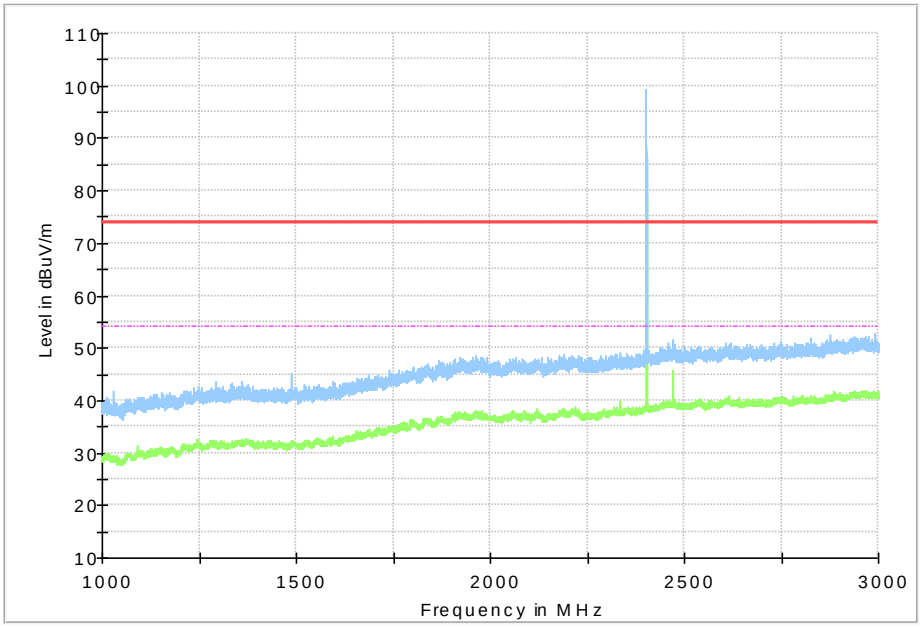

Fig.50 Radiated Spurious Emission (GFSK, Ch0, 1GHz ~3GHz , Vertical Direction)

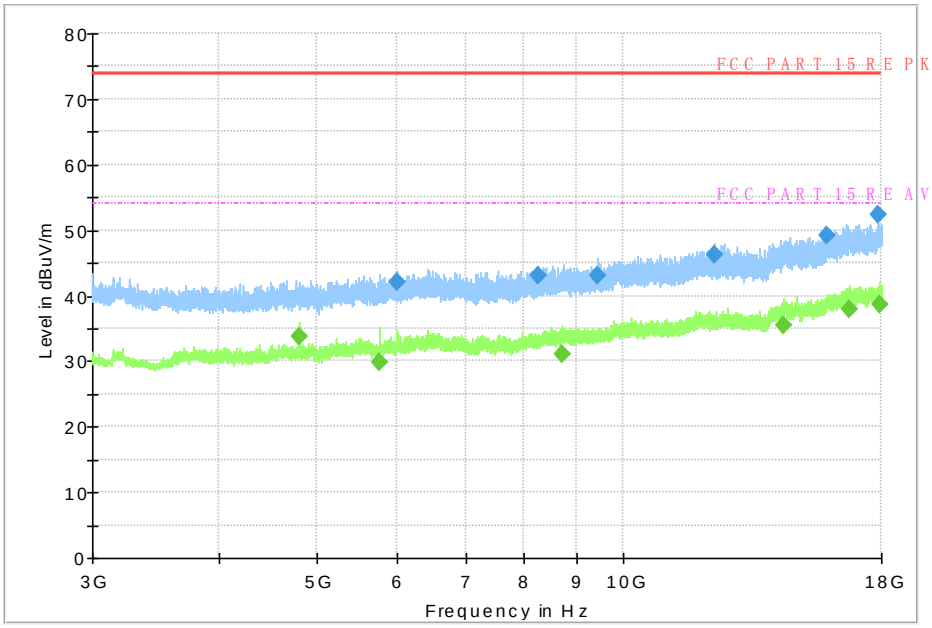

Fig.51 Radiated Spurious Emission (GFSK, Ch0, 3GHz ~18GHz , Vertical Direction)

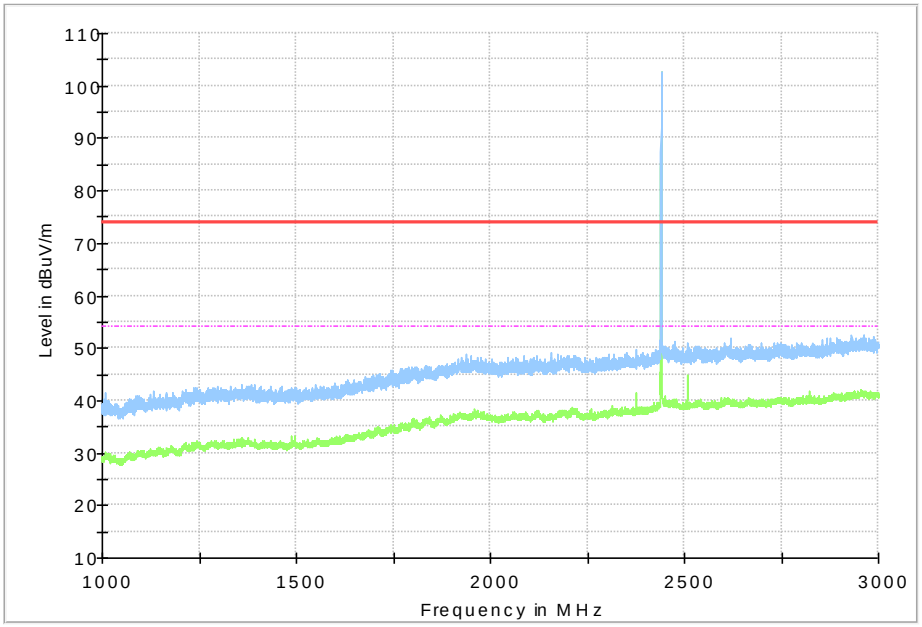

Fig.52 Radiated Spurious Emission (GFSK, Ch39, 1GHz ~3GHz , Vertical Direction)

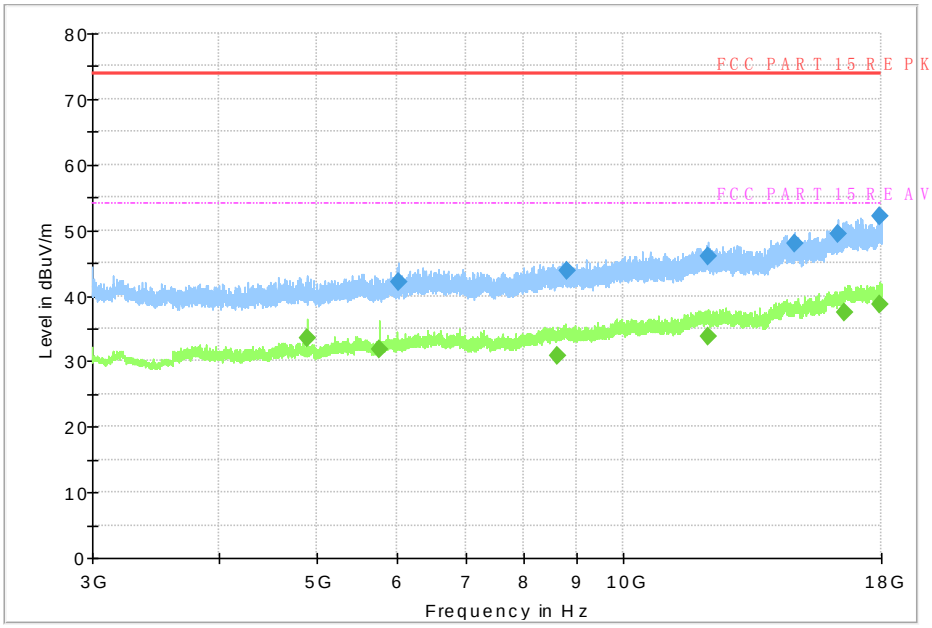

Fig.53 Radiated Spurious Emission (GFSK, Ch39, 3GHz ~18GHz , Vertical Direction)

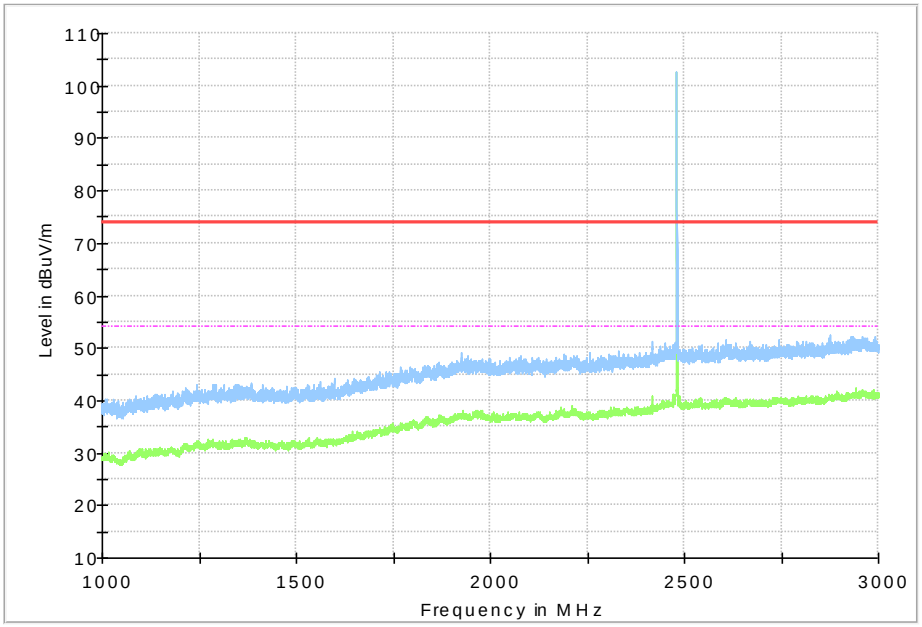

Fig.54 Radiated Spurious Emission (GFSK, Ch78, 1GHz ~3GHz , Vertical Direction)

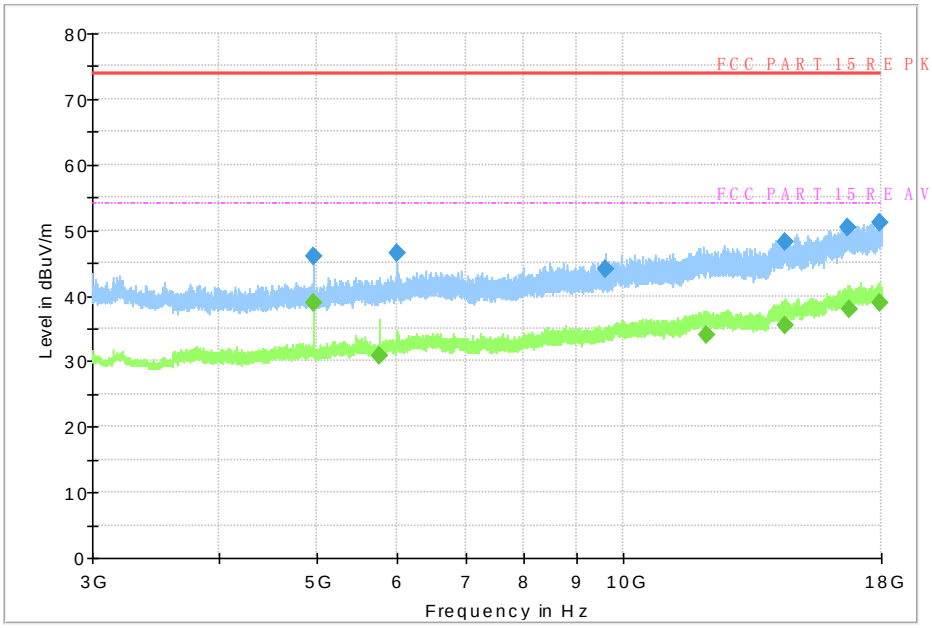

Fig.55 Radiated Spurious Emission (GFSK, Ch78, 3GHz ~18GHz , Vertical Direction)

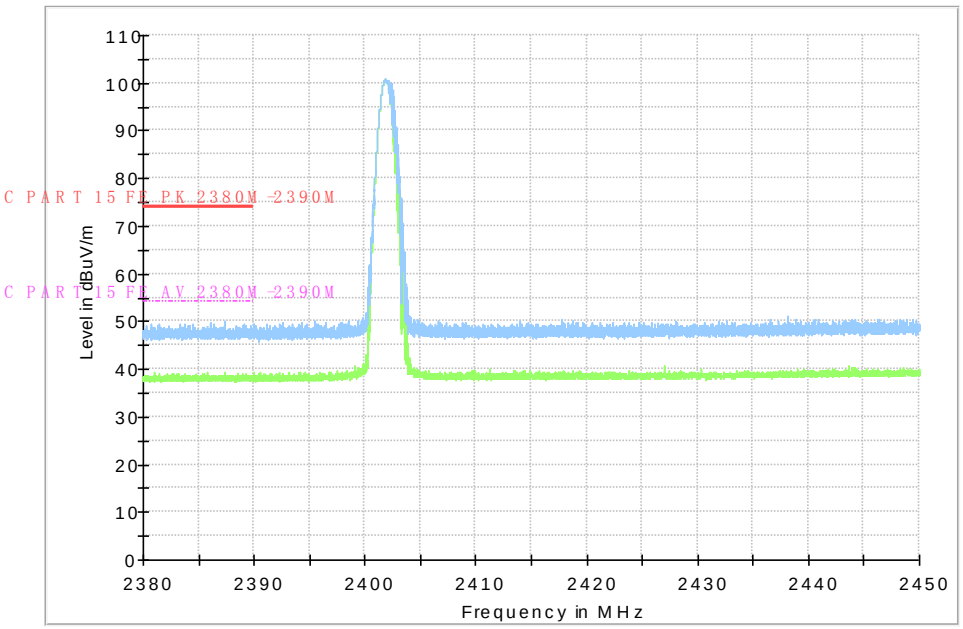

Fig.56 Radiated Band Edges (GFSK, Ch0, 2380GHz~2450GHz ,Vertical Direction)

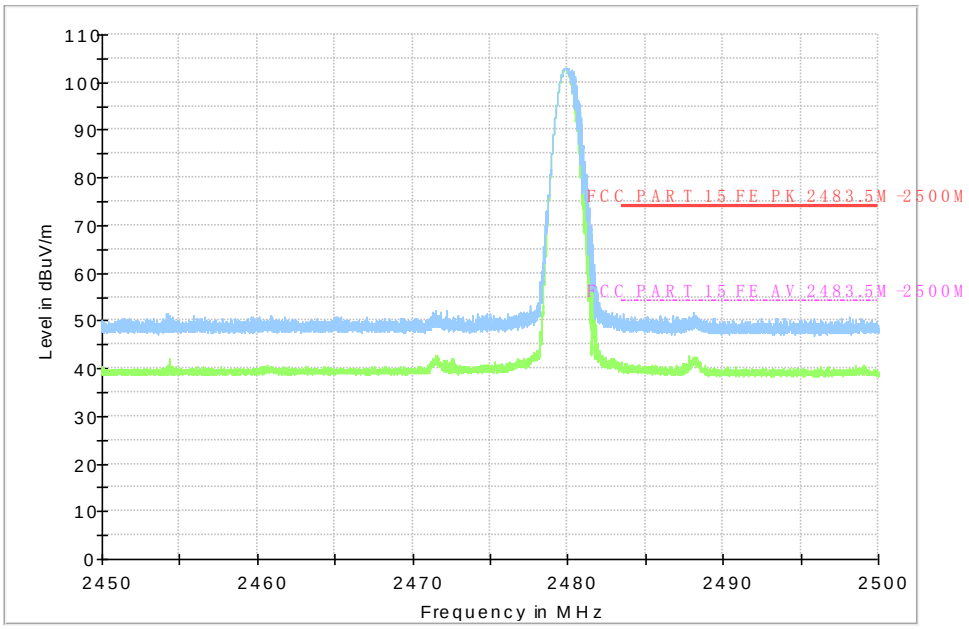

Fig.57 Radiated Band Edges (GFSK, Ch78, 2450GHz~2500GHz, Vertical Direction)

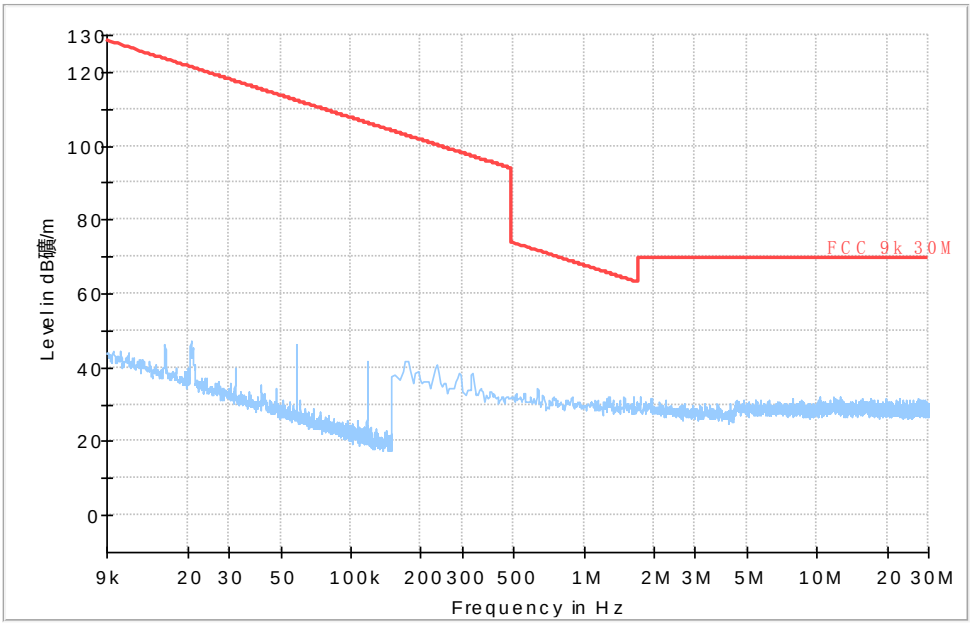

Fig.58 Radiated Spurious Emission (GFSK, All Channels, 9 kHz-30 MHz)

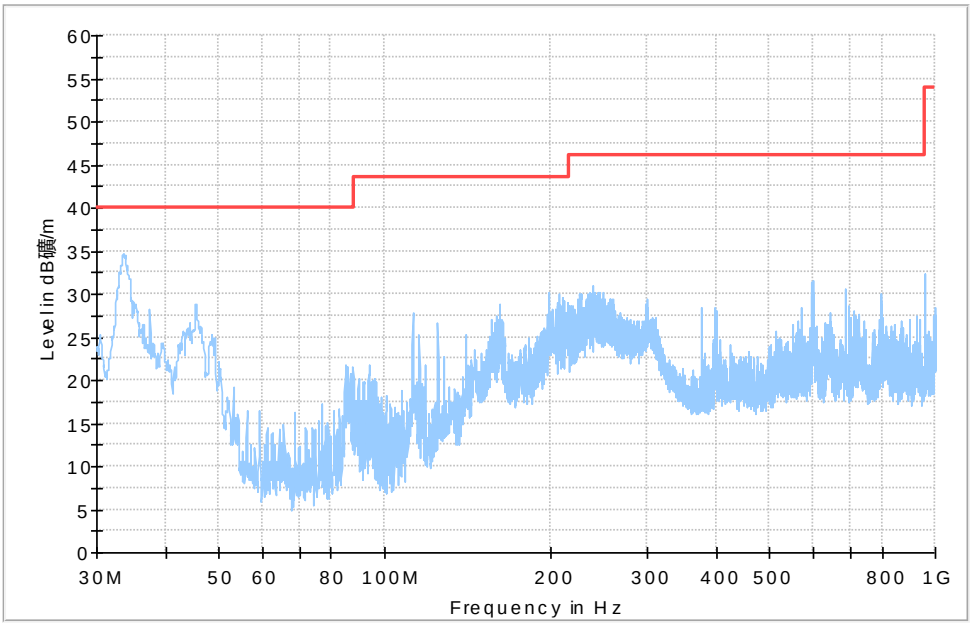

Fig.59 Radiated Spurious Emission (GFSK, All Channels, 30 MHz ~1 GHz)

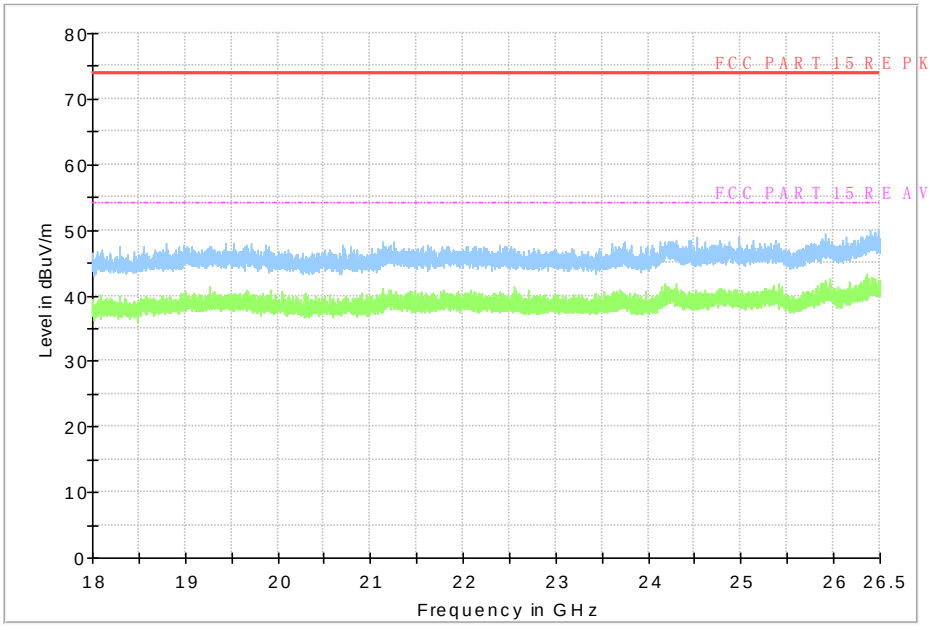

Fig.60 Radiated Spurious Emission (GFSK, All Channels, 18 GHz~ 26.5 GHz)

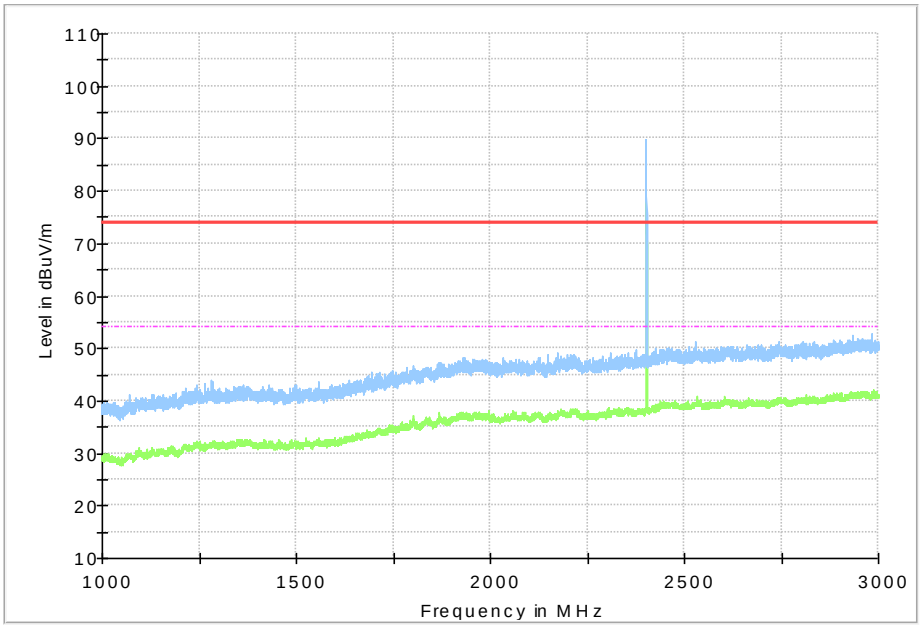

Fig.61 Radiated Spurious Emission (π /4 DQPSK, Ch0, 1 GHz ~3 GHz, Horizontal Direction)

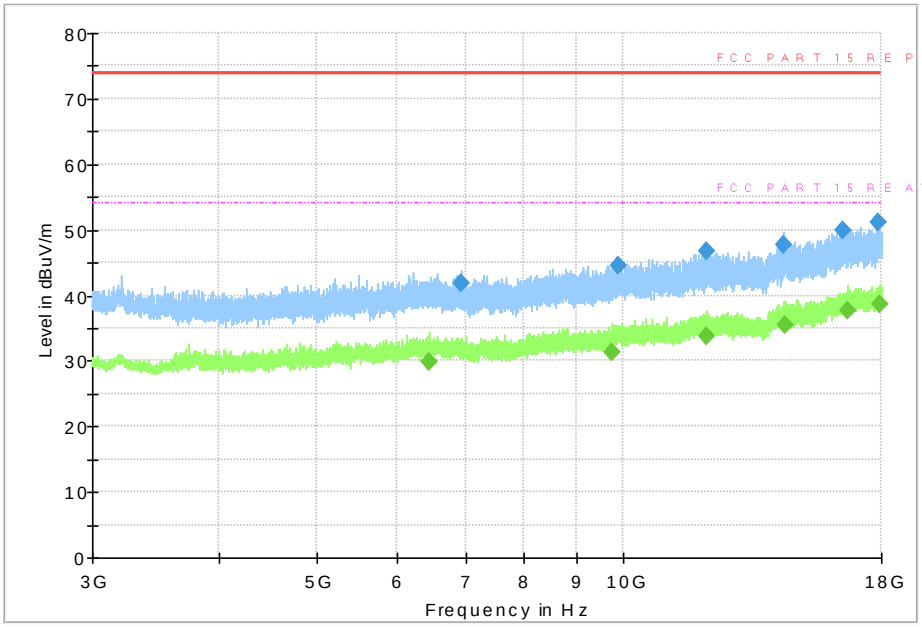

Fig.62 Radiated Spurious Emission (π/4 DQPSK, Ch0, 3GHz ~18 GHz, Horizontal Direction)

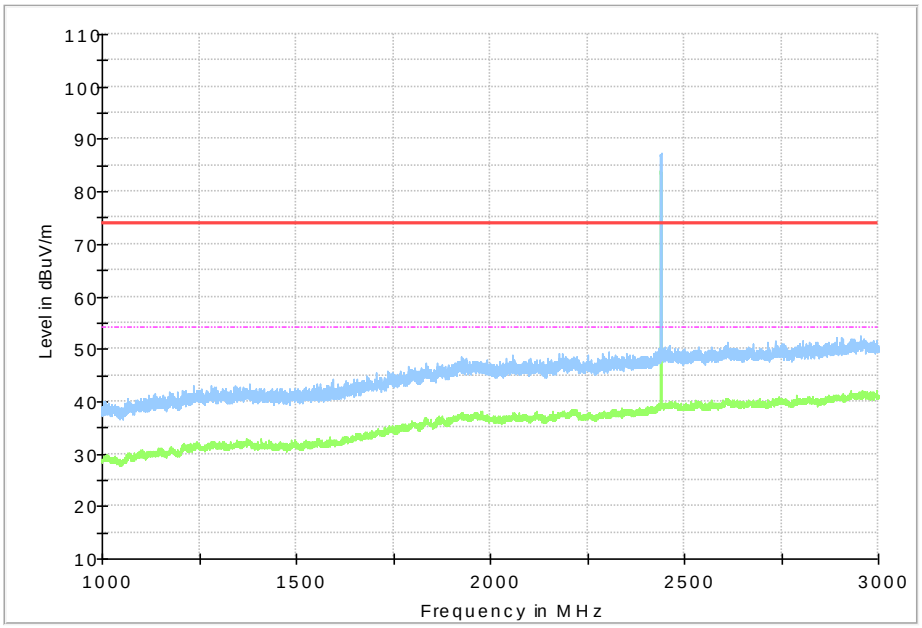

Fig.63 Radiated Spurious Emission (π/4 DQPSK, Ch39, 1GHz ~3 GHz ,Horizontal Direction)

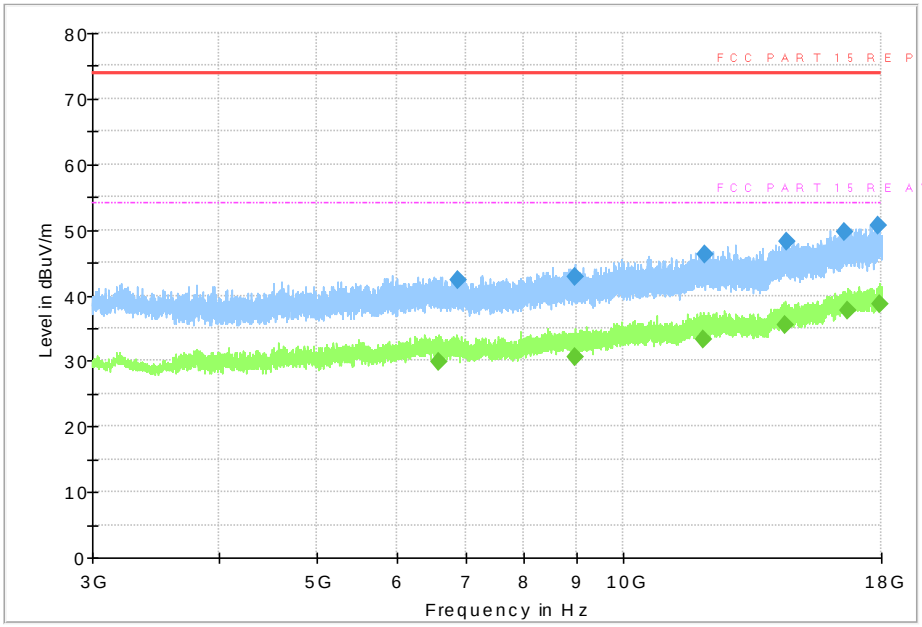

Fig.64 Radiated Spurious Emission (π /4 DQPSK, Ch39, 3GHz ~18 GHz ,Horizontal Direction)

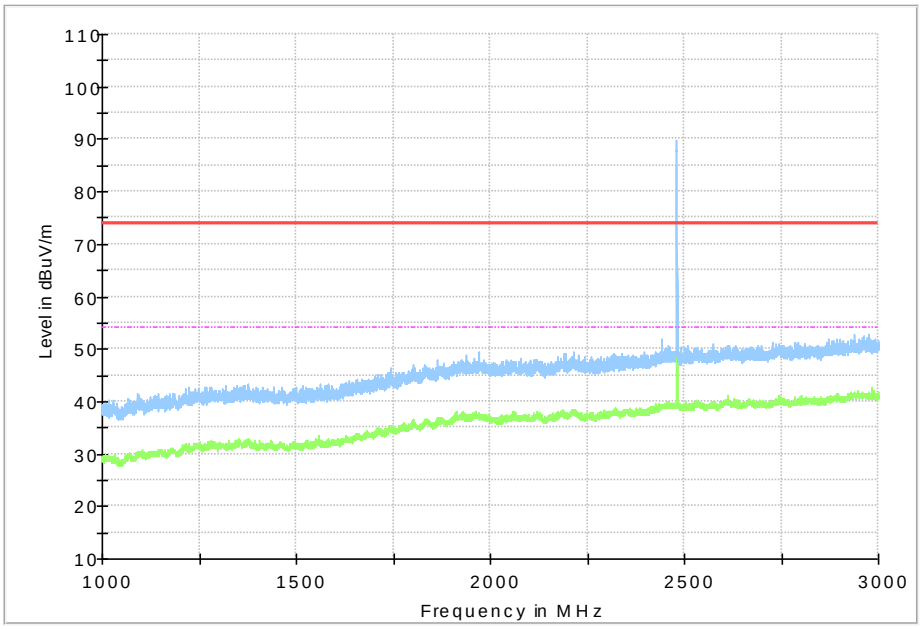

Fig.65 Radiated Spurious Emission (π /4 DQPSK, Ch78, 1GHz ~3 GHz ,Horizontal Direction)

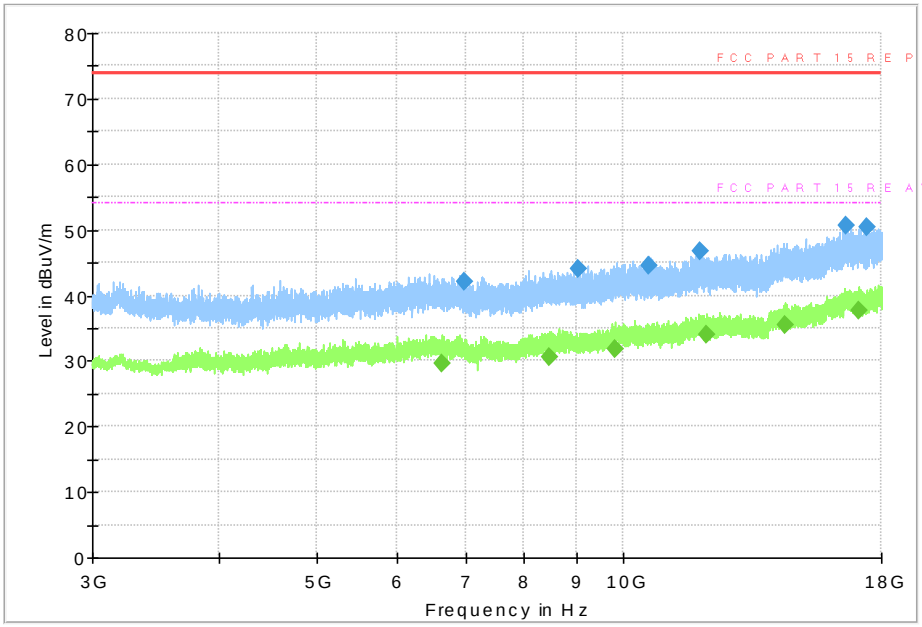

Fig.66 Radiated Spurious Emission (π /4 DQPSK, Ch78, 3GHz ~18GHz , Horizontal Direction)

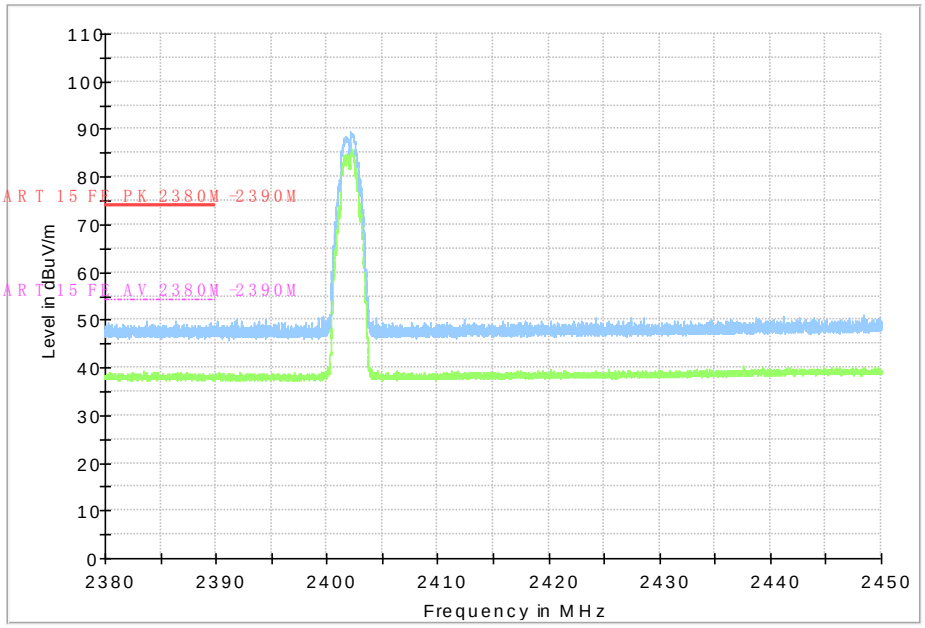

Fig.67 Radiated Band Edges (π /4 DQPSK, Ch0, 2380GHz~2450GHz , Horizontal Direction)

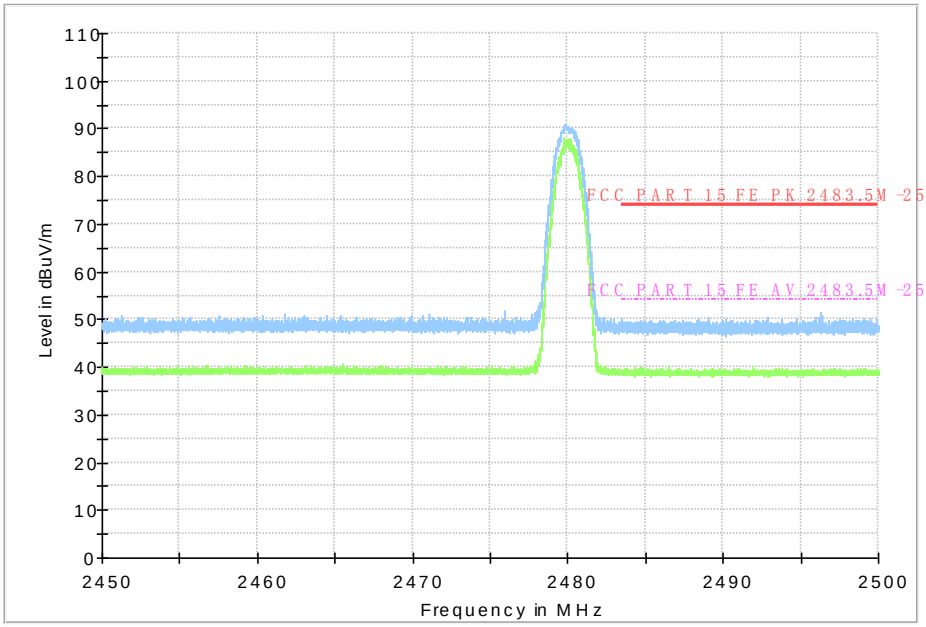

Fig.68 Radiated Band Edges (π/4 DQPSK, Ch78, 2450GHz~2500GHz , Horizontal Direction)

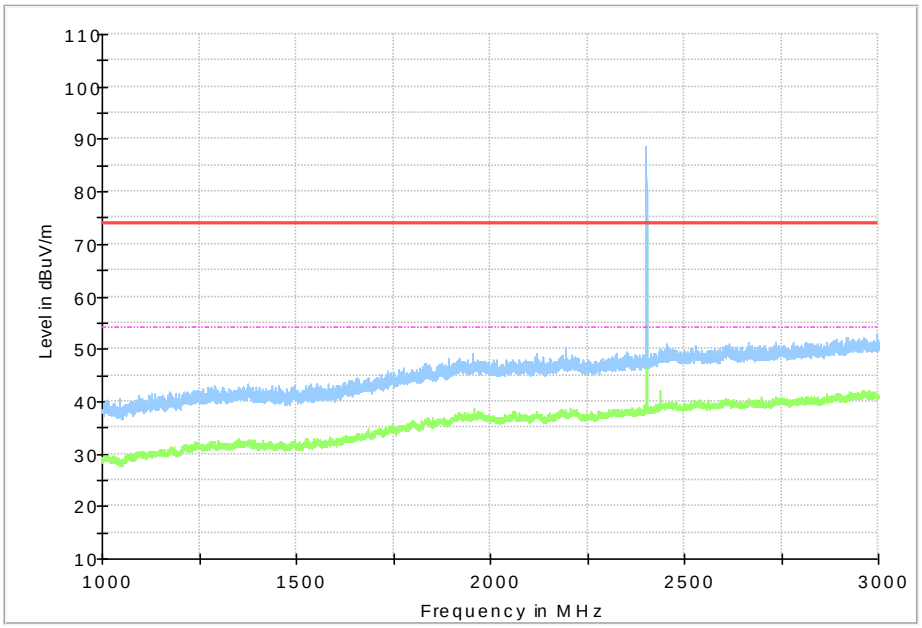

Fig.69 Radiated Spurious Emission (π/4 DQPSK, Ch0, 1GHz ~3GHz , Vertical Direction)

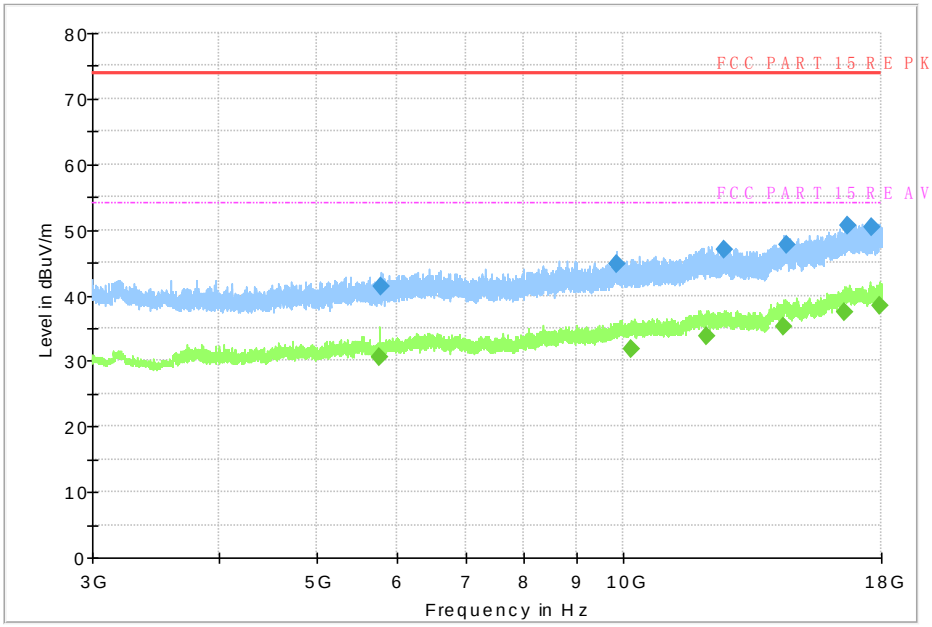

Fig.70 Radiated Spurious Emission (π /4 DQPSK, Ch0, 3GHz ~18GHz , Vertical Direction)

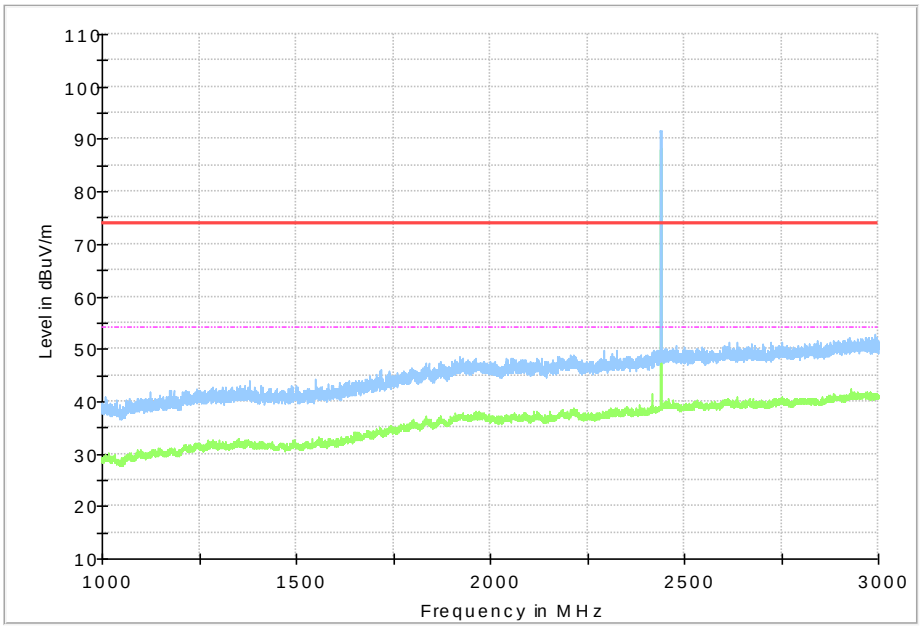

Fig.71 Radiated Spurious Emission (π /4 DQPSK, Ch39, 1GHz ~3GHz , Vertical Direction)

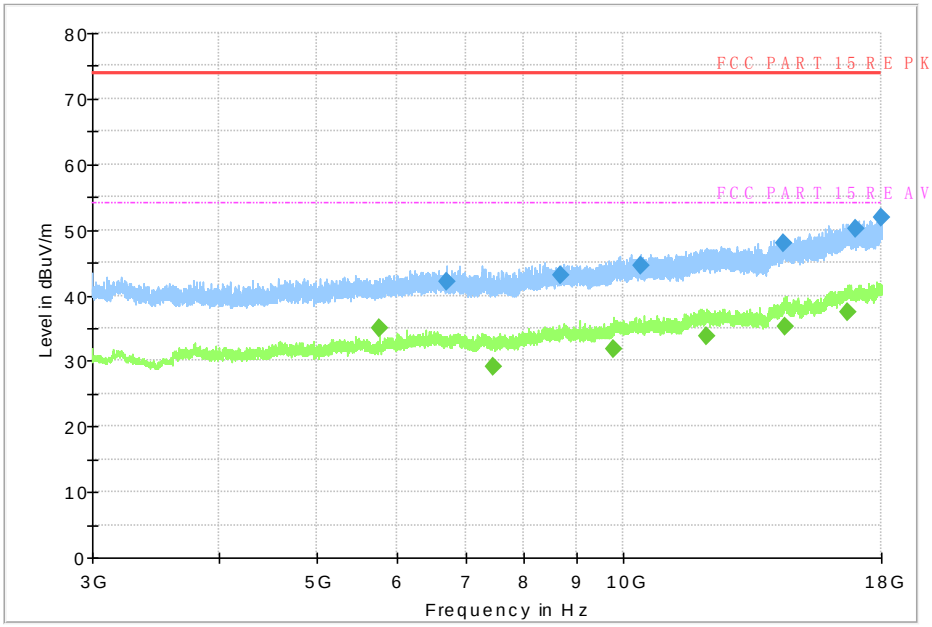

Fig.72 Radiated Spurious Emission (π /4 DQPSK, Ch39, 3GHz ~18GHz , Vertical Direction)

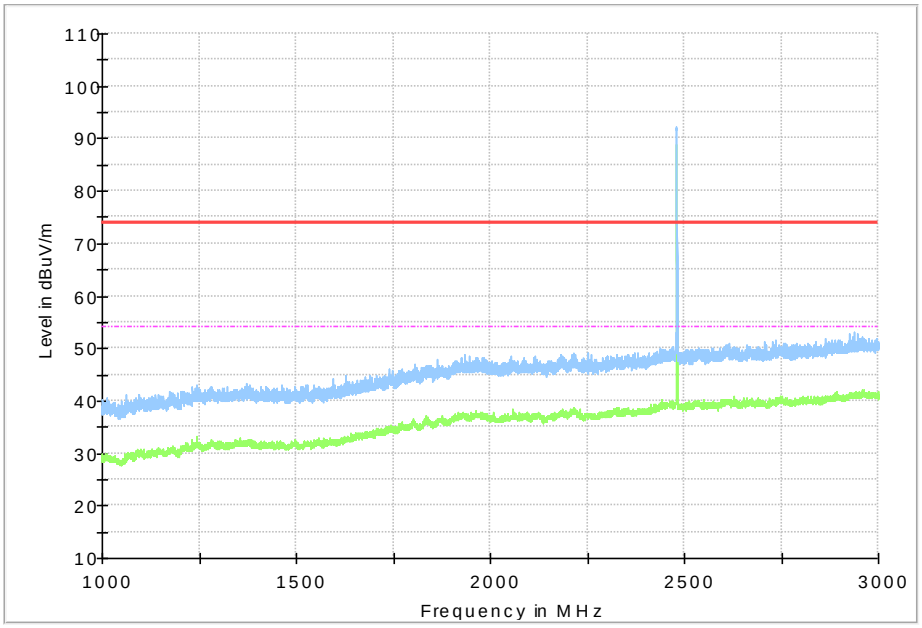

Fig.73 Radiated Spurious Emission (π /4 DQPSK, Ch78, 1GHz ~3GHz , Vertical Direction)

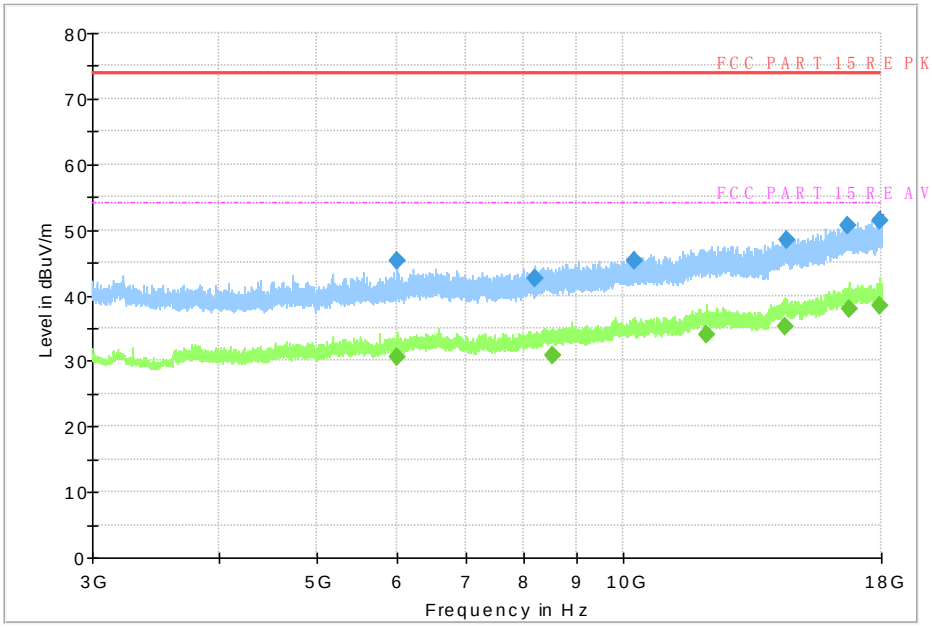

Fig.74 Radiated Spurious Emission (π /4 DQPSK, Ch78, 3GHz ~18GHz , Vertical Direction)

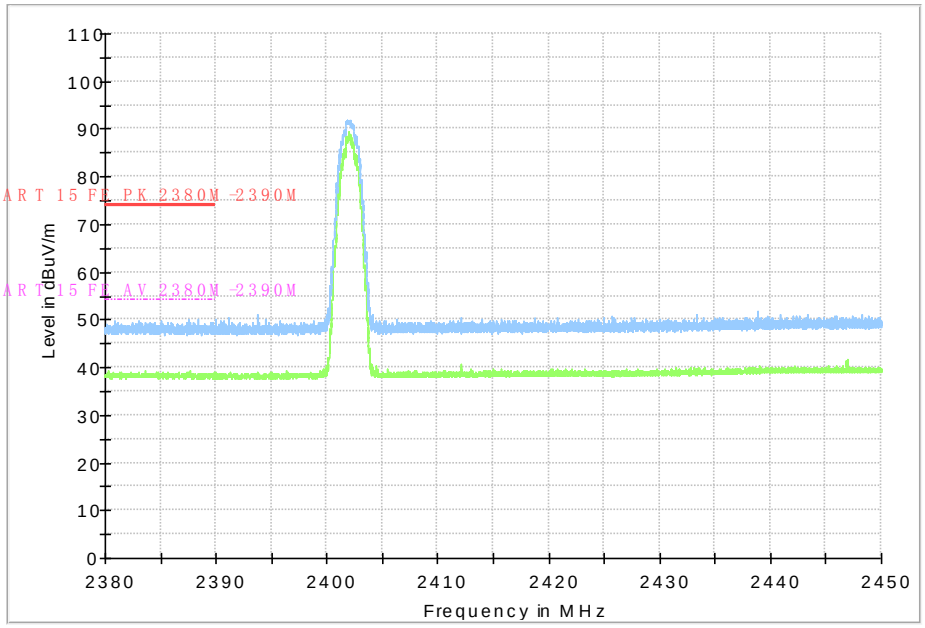

Fig.75 Radiated Band Edges (π /4 DQPSK, Ch0, 2380GHz~2450GHz ,Vertical Direction)

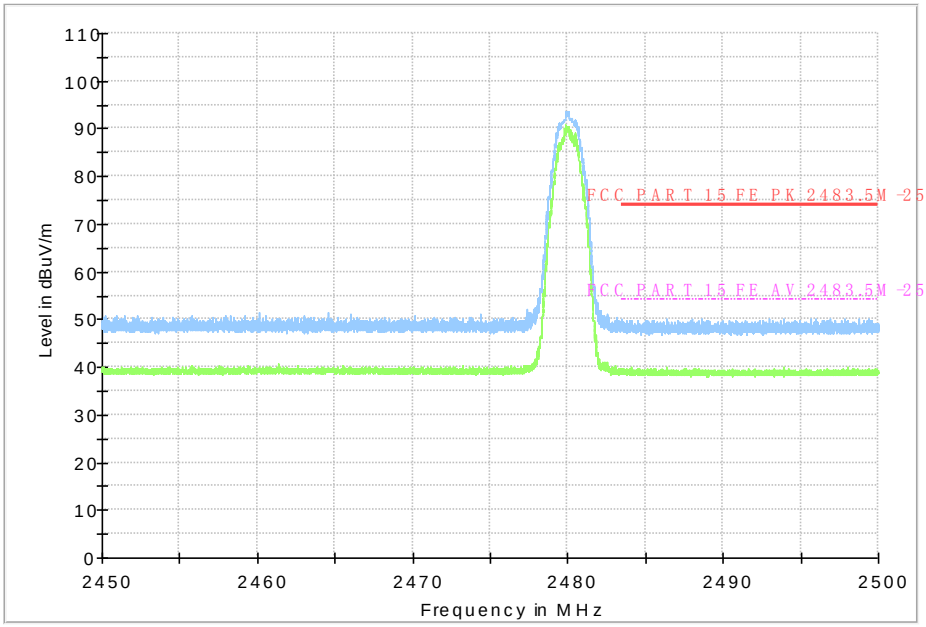

Fig.76 Radiated Band Edges (π /4 DQPSK, Ch78, 2450GHz~2500GHz, Vertical Direction)

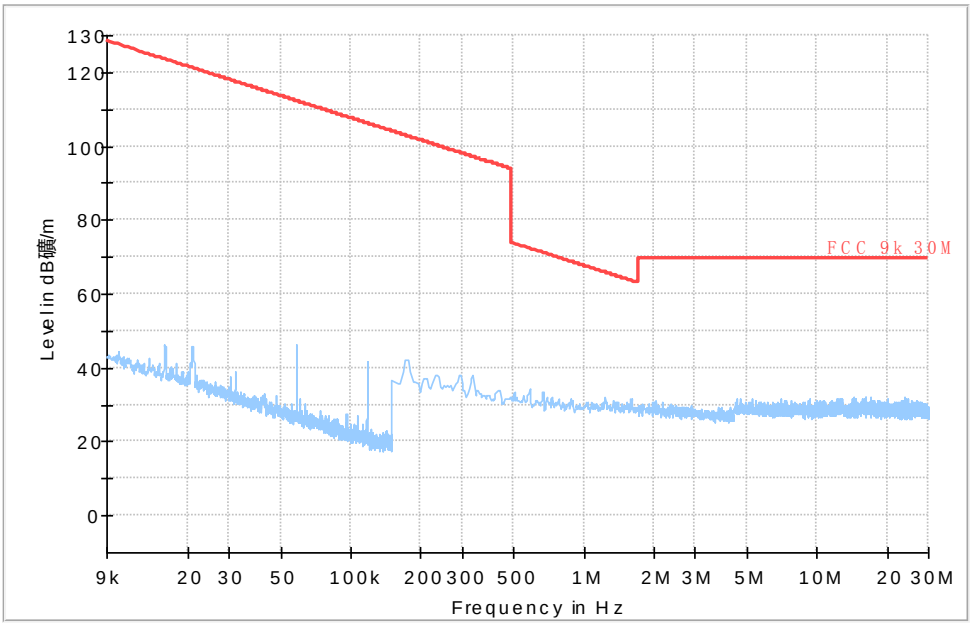

Fig.77 Radiated Spurious Emission (π /4 DQPSK, All Channels, 9 kHz-30 MHz)

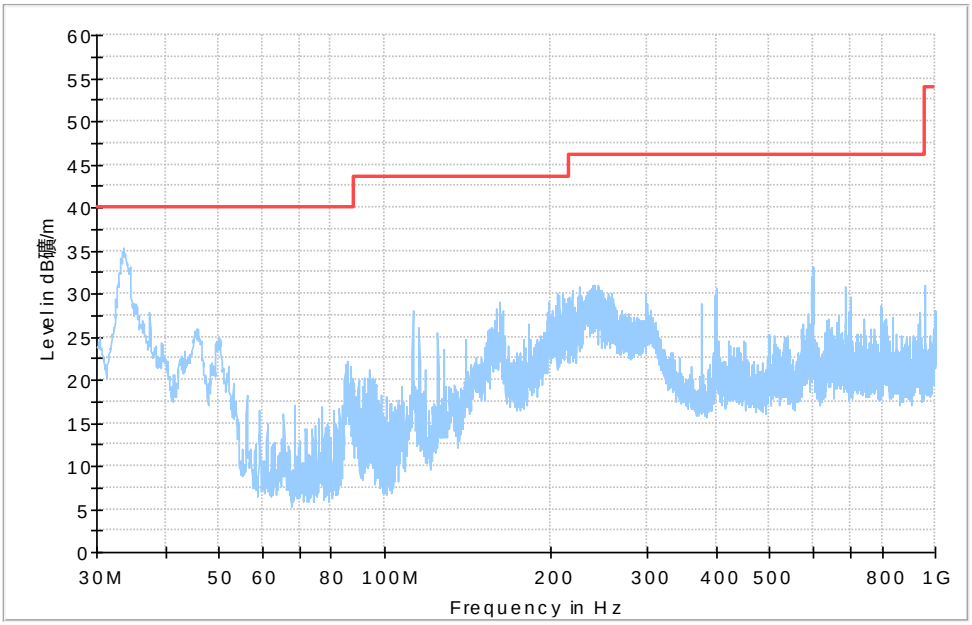

Fig.78 Radiated Spurious Emission (π /4 DQPSK, All Channels, 30 MHz ~1 GHz)

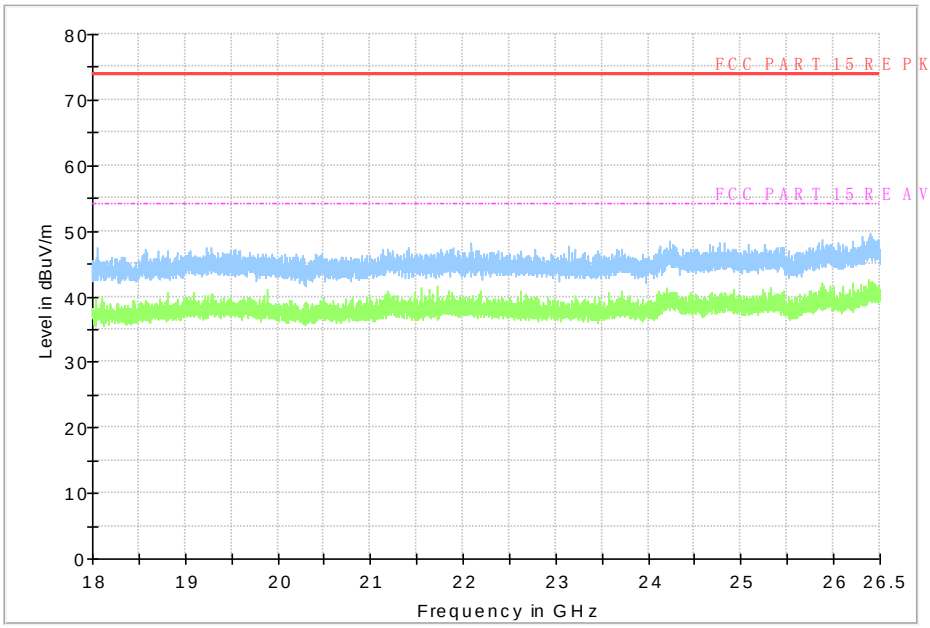

Fig.79 Radiated Spurious Emission (π /4 DQPSK, All Channels, 18 GHz~ 26.5 GHz)

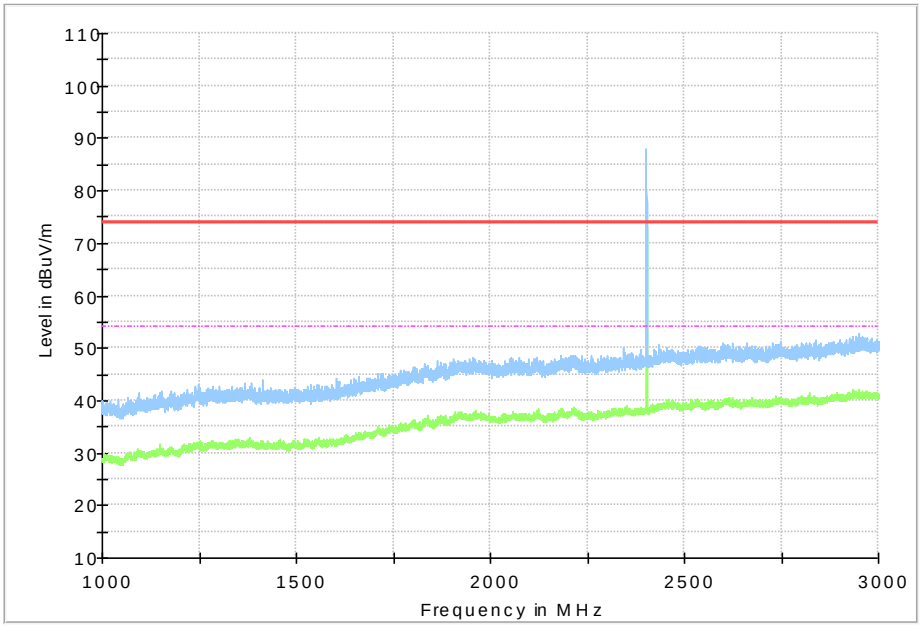

Fig.80 Radiated Spurious Emission (8DPSK, Ch0, 1 GHz ~3 GHz, Horizontal Direction)

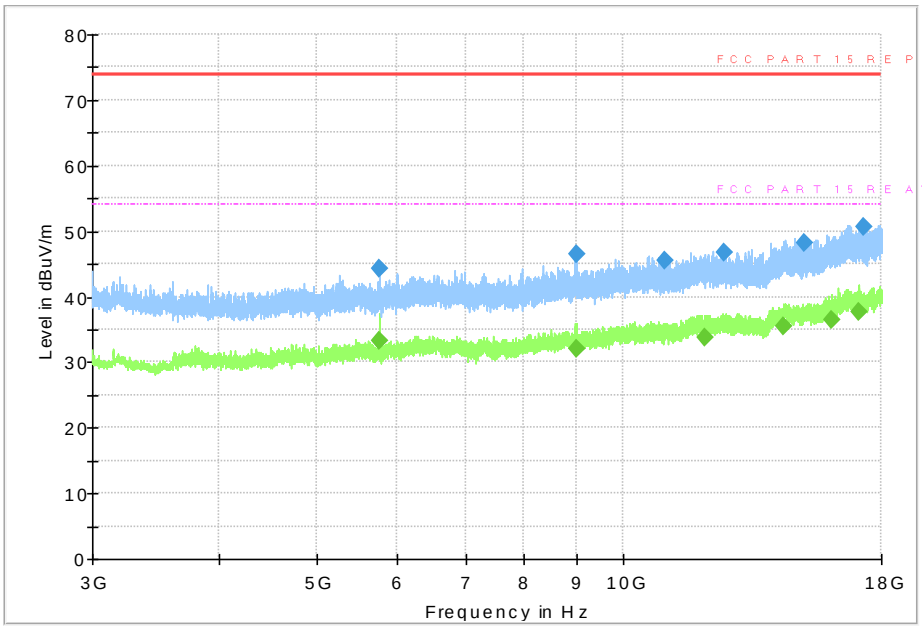

Fig.81 Radiated Spurious Emission (8DPSK, Ch0, 3GHz ~18 GHz,Horizontal Direction)

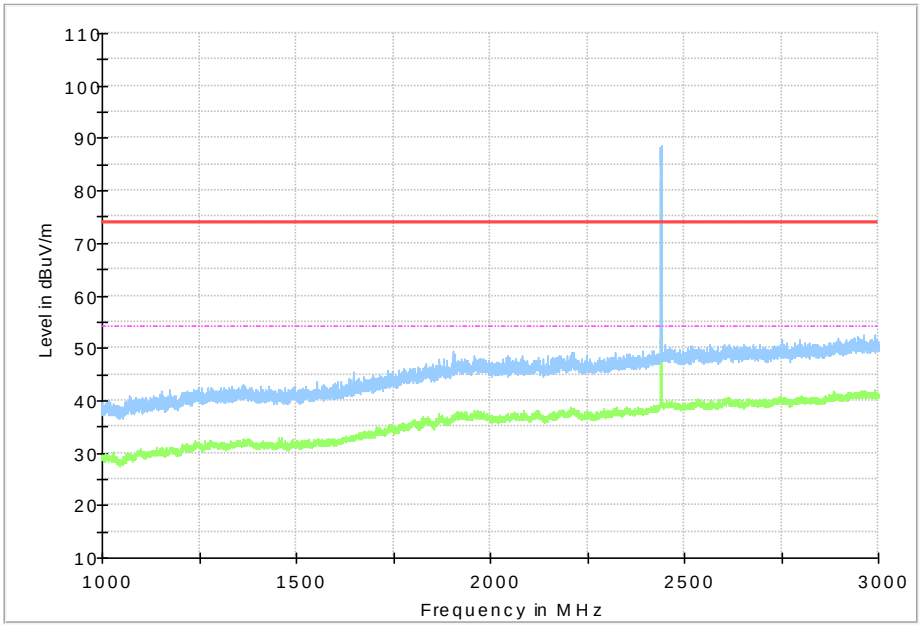

Fig.82 Radiated Spurious Emission (8DPSK, Ch39, 1GHz ~3 GHz ,Horizontal Direction)

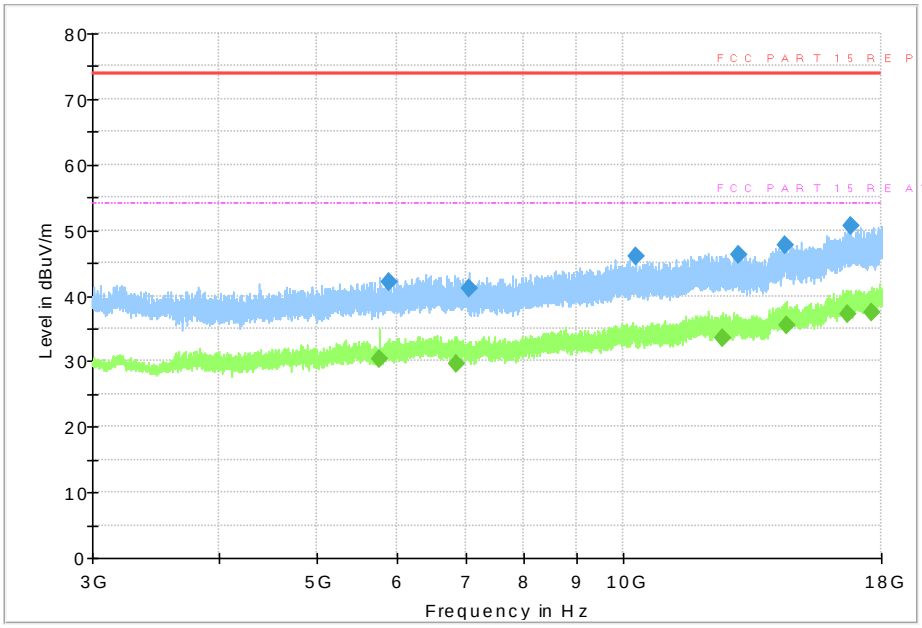

Fig.83 Radiated Spurious Emission (8DPSK, Ch39, 3GHz ~18 GHz ,Horizontal Direction)

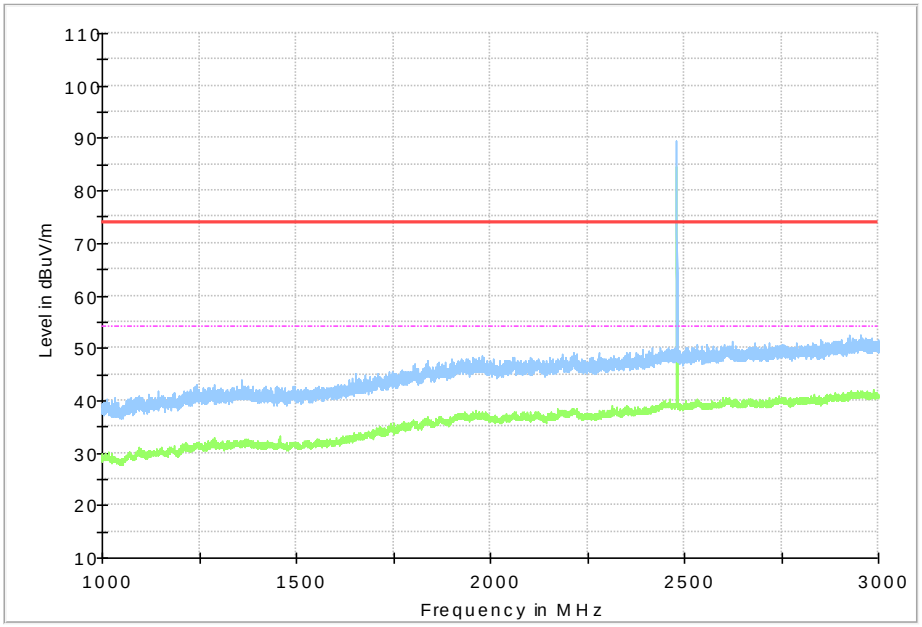

Fig.84 Radiated Spurious Emission (8DPSK, Ch78, 1GHz ~3 GHz ,Horizontal Direction)

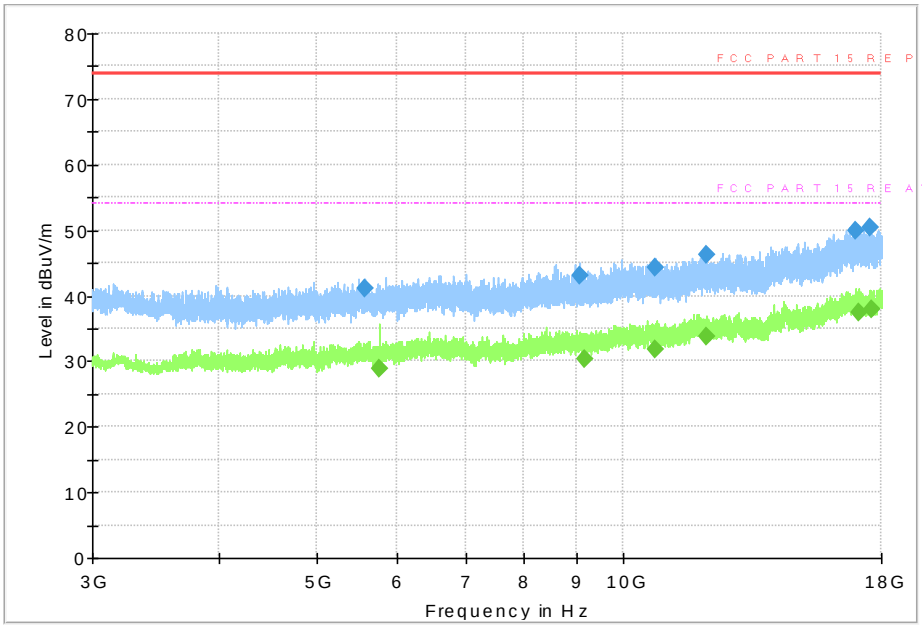

Fig.85 Radiated Spurious Emission (8DPSK, Ch78, 3GHz ~18GHz , Horizontal Direction)

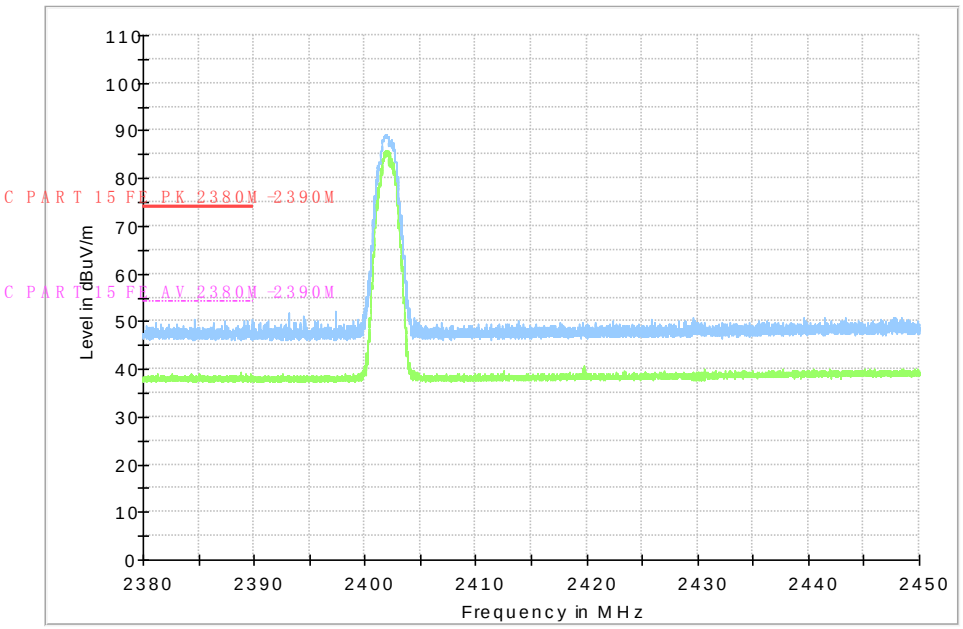

Fig.86 Radiated Band Edges (8DPSK, Ch0, 2380GHz~2450GHz , Horizontal Direction)

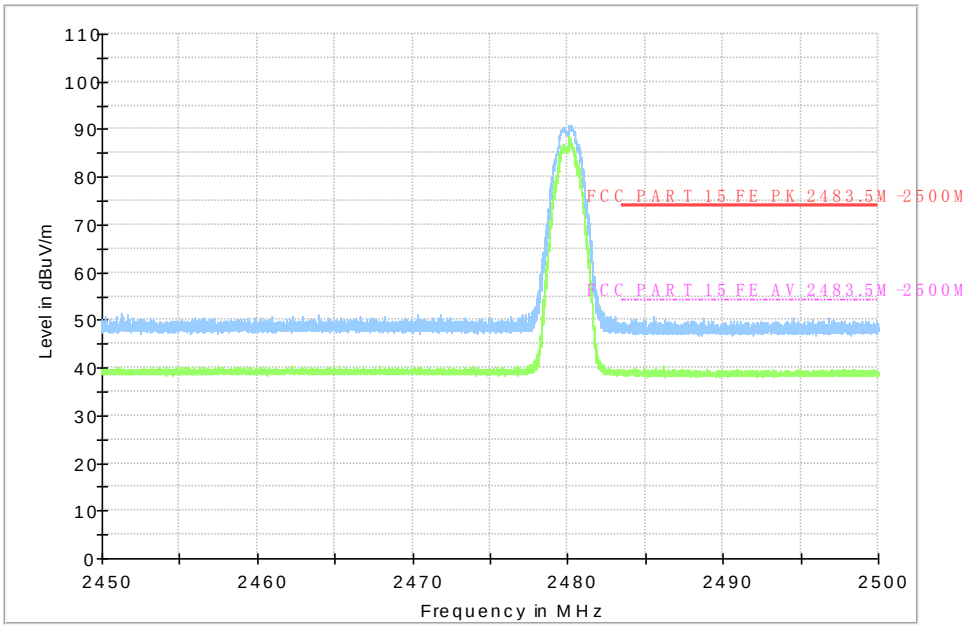

Fig.87 Radiated Band Edges (8DPSK, Ch78, 2450GHz~2500GHz , Horizontal Direction)

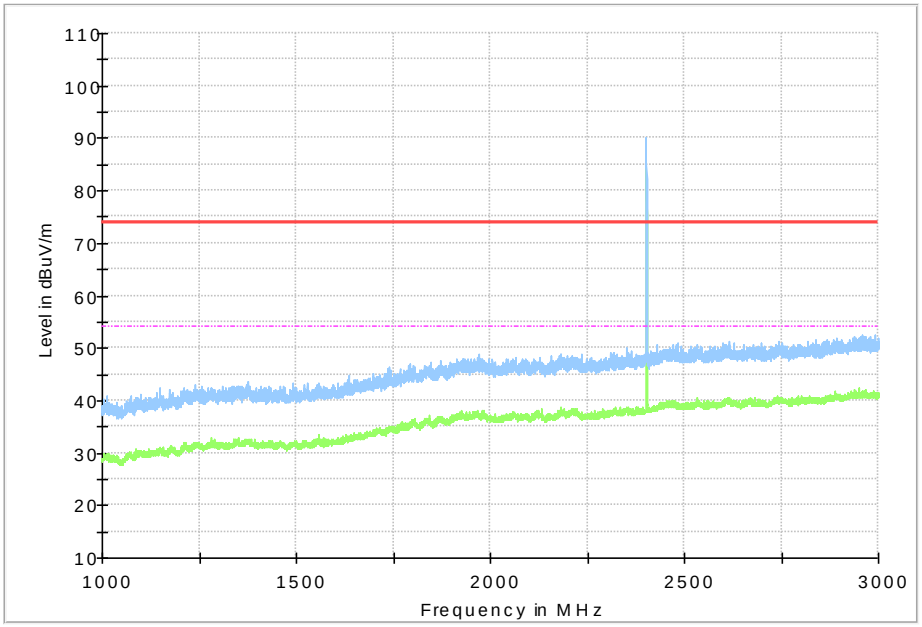

Fig.88 Radiated Spurious Emission (8DPSK, Ch0, 1GHz ~3GHz , Vertical Direction)

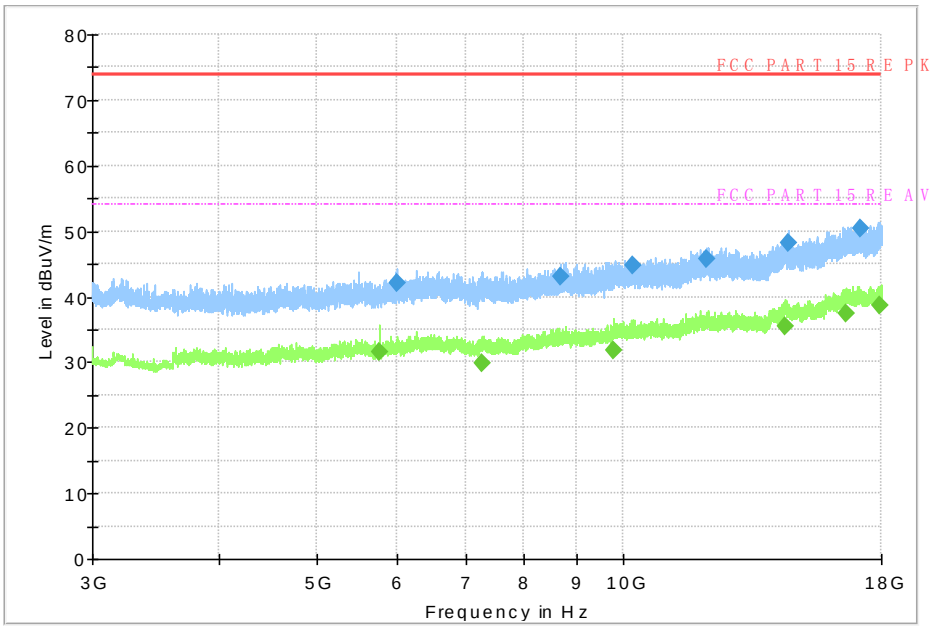

Fig.89 Radiated Spurious Emission (8DPSK, Ch0, 3GHz ~18GHz , Vertical Direction)

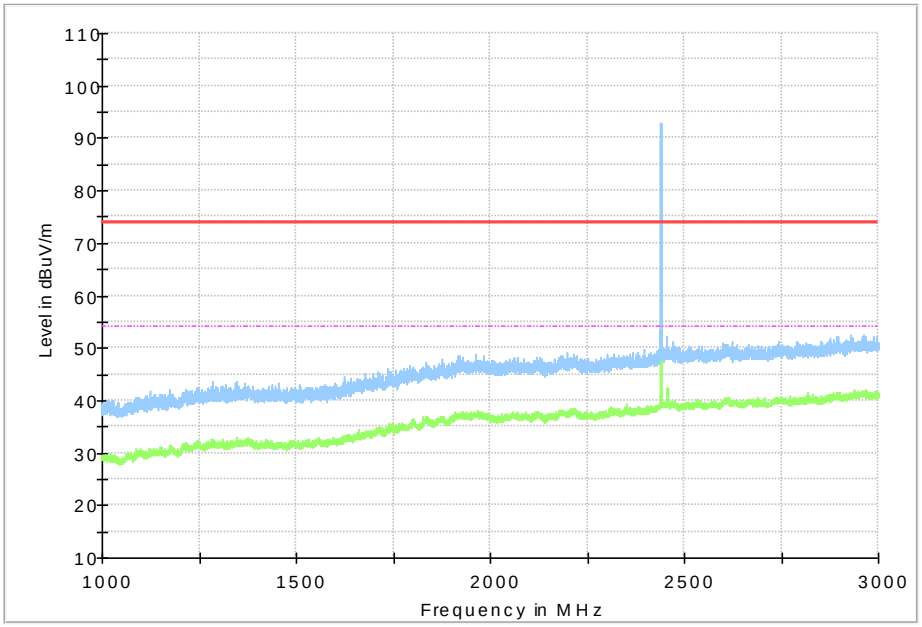

Fig.90 Radiated Spurious Emission (8DPSK, Ch39, 1GHz ~3GHz , Vertical Direction)

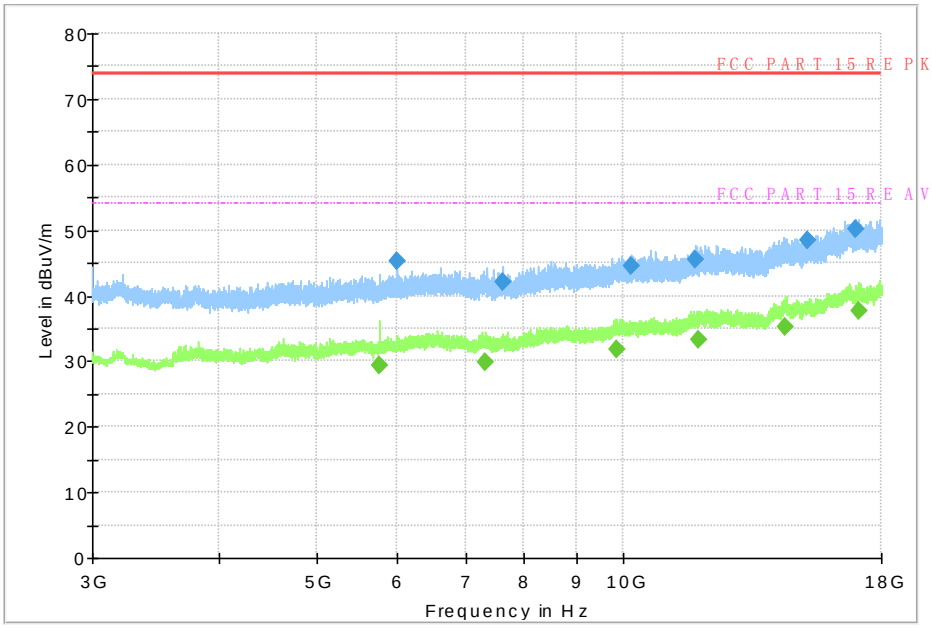

Fig.91 Radiated Spurious Emission (8DPSK, Ch39, 3GHz ~18GHz , Vertical Direction)

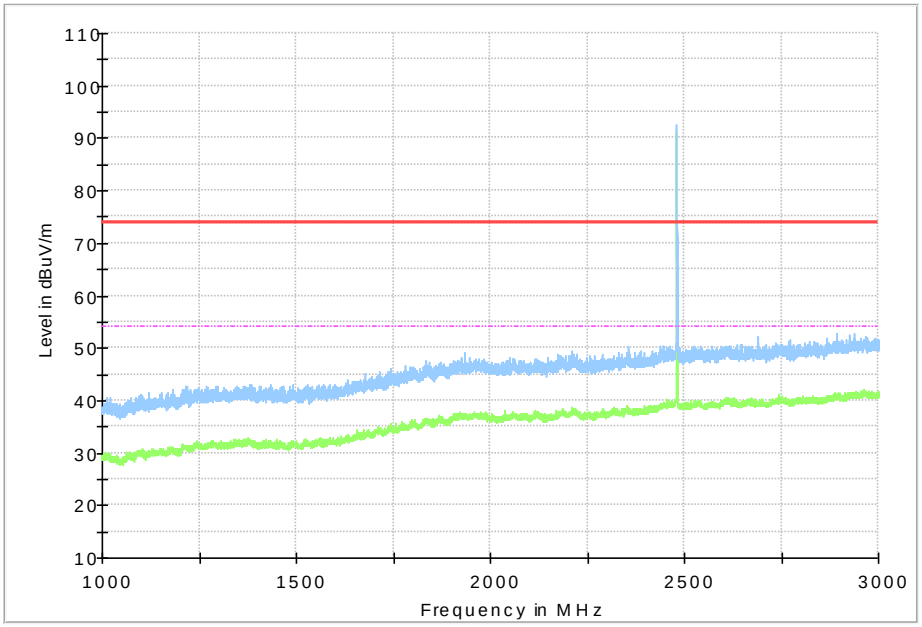

Fig.92 Radiated Spurious Emission (8DPSK, Ch78, 1GHz ~3GHz , Vertical Direction)

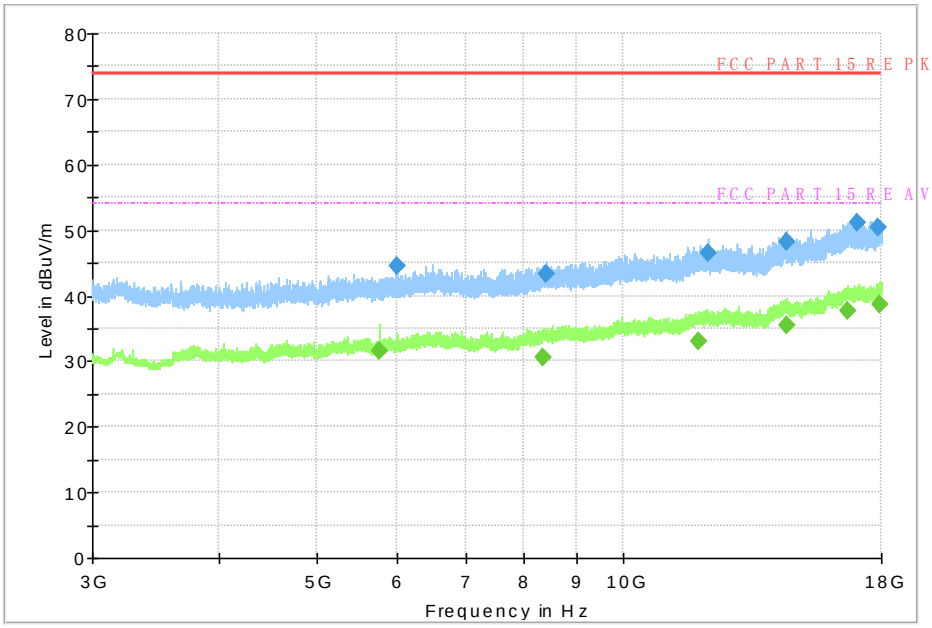

Fig.93 Radiated Spurious Emission (8DPSK, Ch78, 3GHz ~18GHz , Vertical Direction)

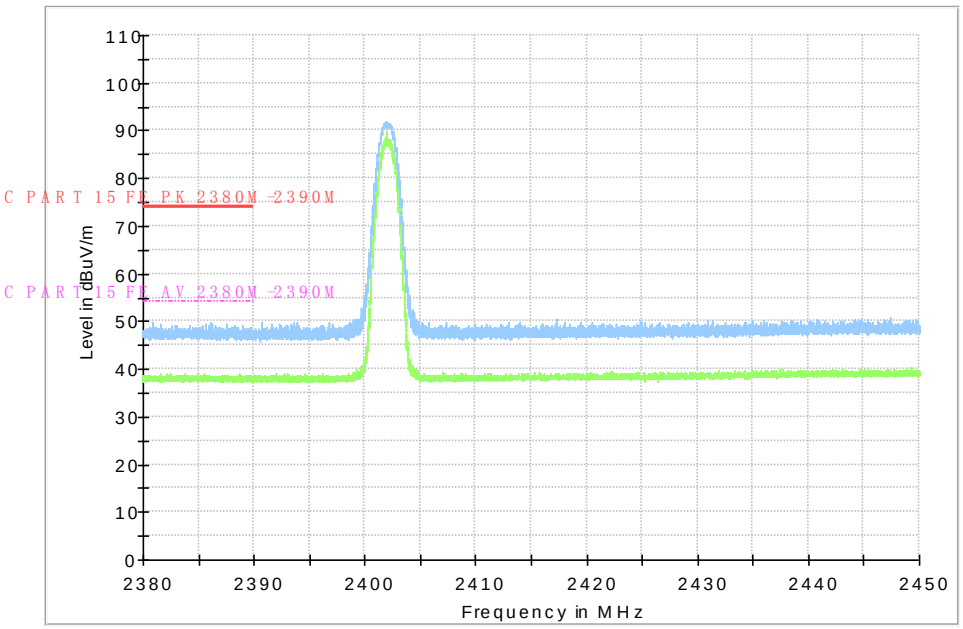

Fig.94 Radiated Band Edges (8DPSK, Ch0, 2380GHz~2450GHz ,Vertical Direction)

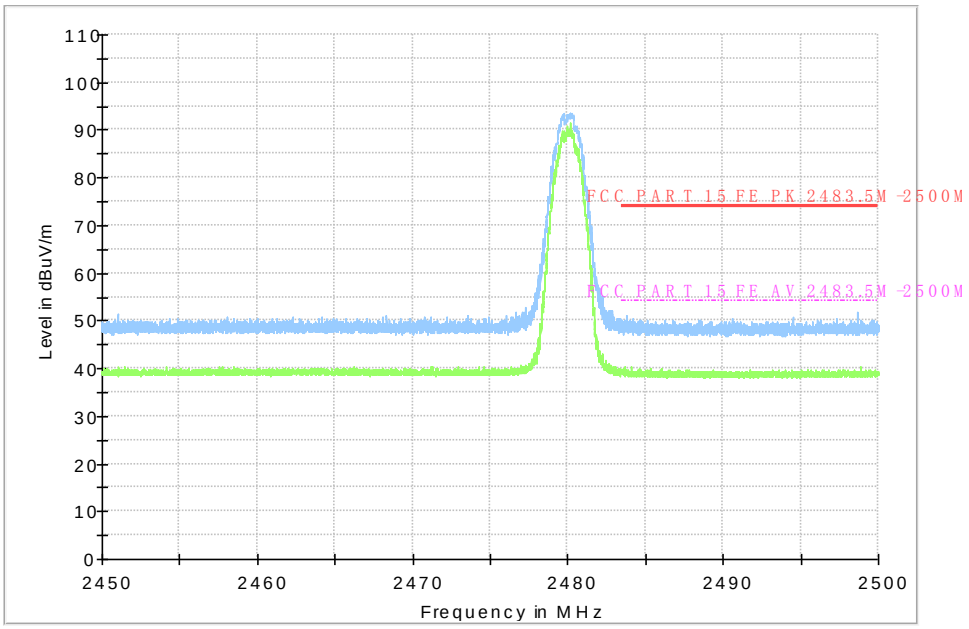

Fig.95 Radiated Band Edges (8DPSK, Ch78, 2450GHz~2500GHz, Vertical Direction)

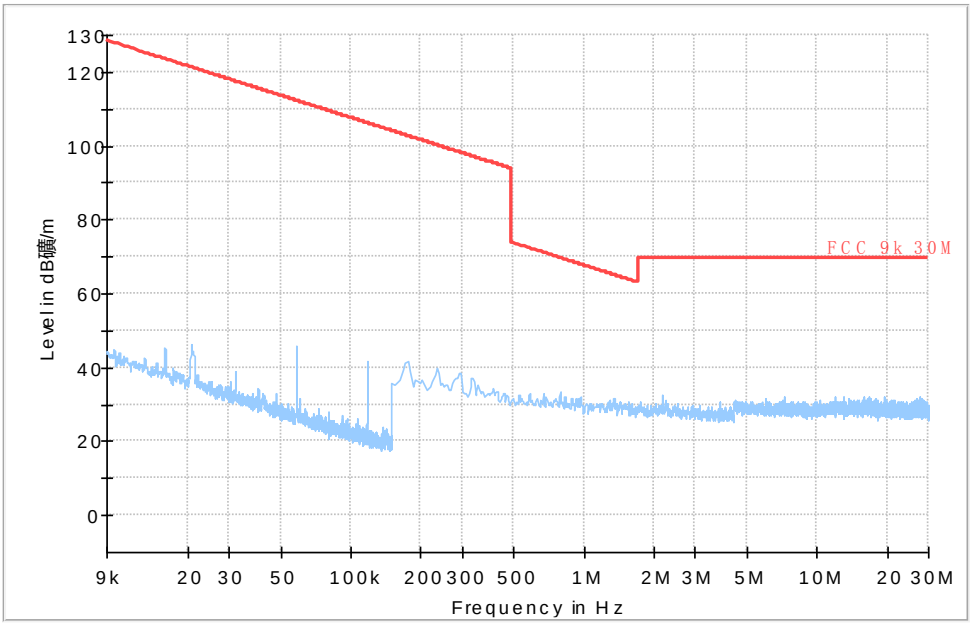

Fig.96 Radiated Spurious Emission (8DPSK, All Channels, 9 kHz-30 MHz)

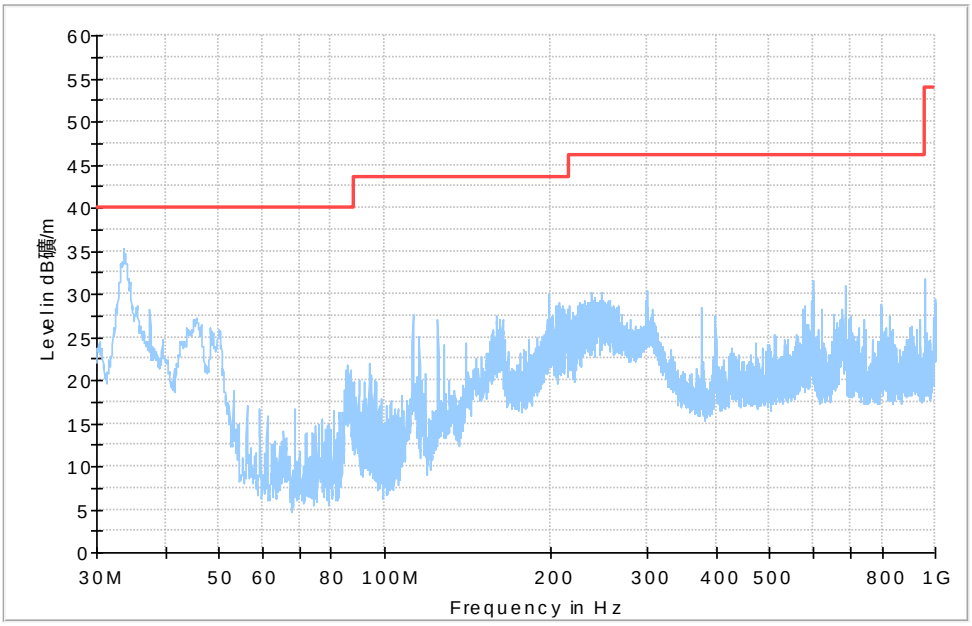

Fig.97 Radiated Spurious Emission (8DPSK, All Channels, 30 MHz ~1 GHz)

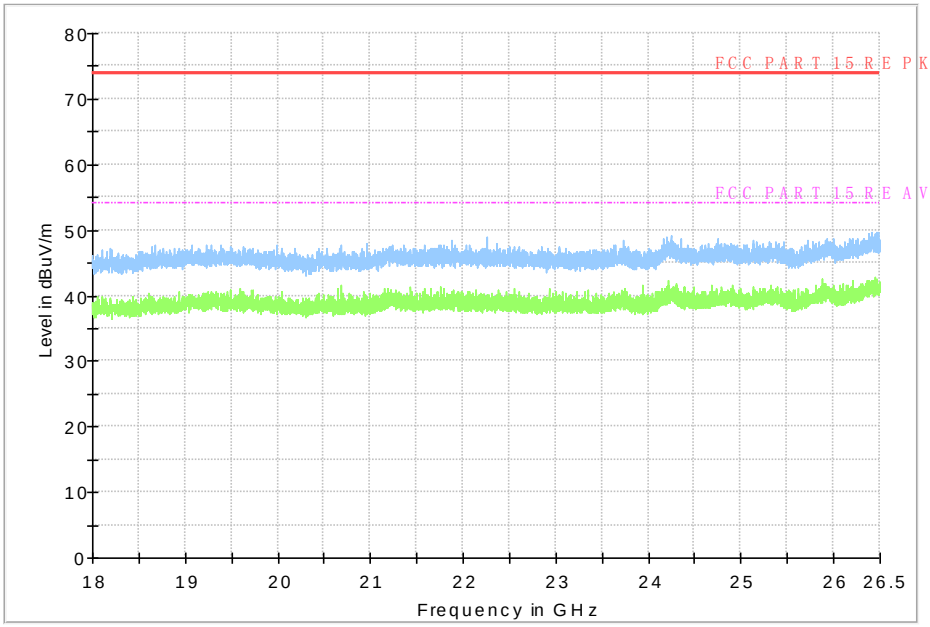

Fig.98 Radiated Spurious Emission (8DPSK, All Channels, 18 GHz~ 26.5 GHz)

A.5 20dB Bandwidth

Measurement Limit:

Standard	Limit (kHz)
FCC 47 CFR Part 15.247 (a)	/

Measurement Result:

Mode	Channel	20dB Bandwidth (KHz)		conclusion
GFSK	0	Fig.99	936.75	/
	39	Fig.100	937.50	
	78	Fig.101	936.00	
π /4 DQPSK	0	Fig.102	1279.50	/
	39	Fig.103	1281.00	
	78	Fig.104	1281.75	
8DPSK	0	Fig.105	1262.25	/
	39	Fig.106	1262.25	
	78	Fig.107	1266.00	

See below for test graphs.

Conclusion: PASS

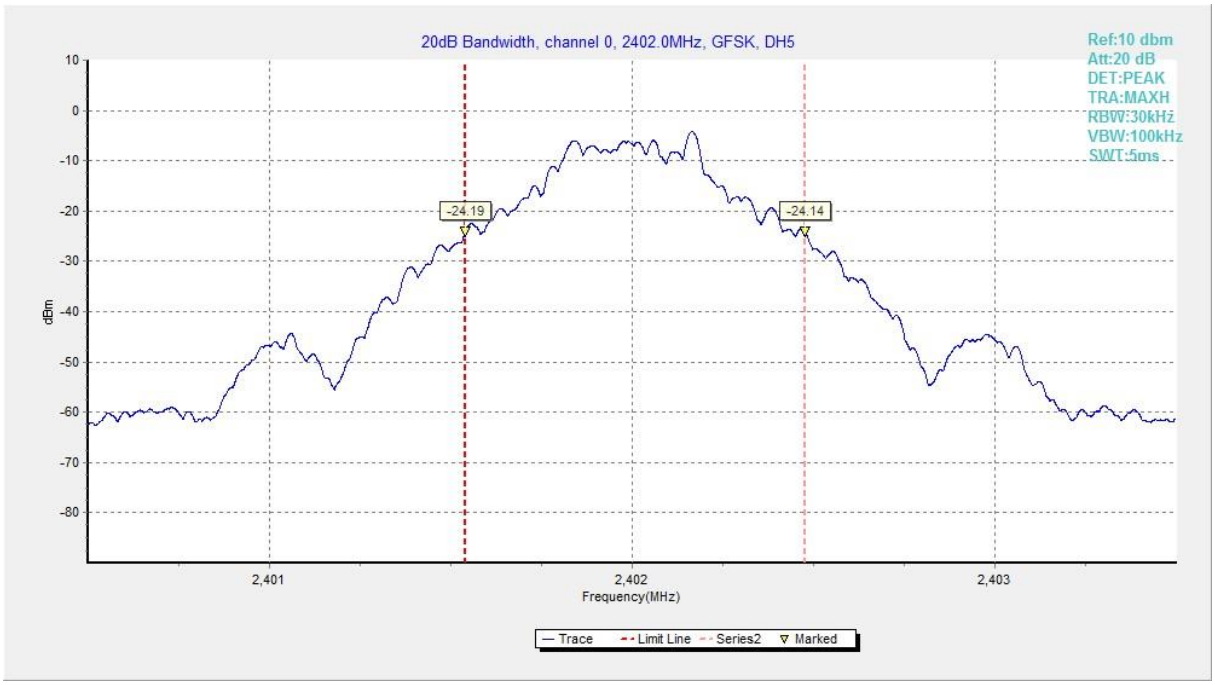

Fig. 99 20dB Bandwidth (GFSK, Ch 0)

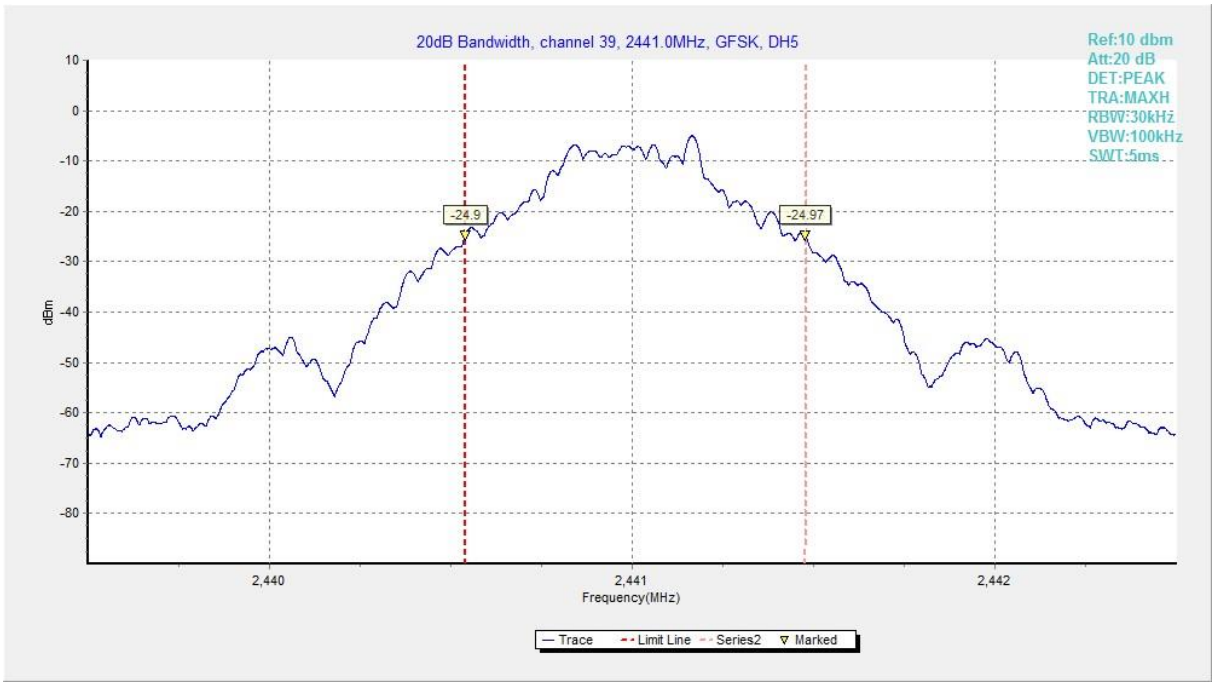

Fig. 100 20dB Bandwidth (GFSK, Ch 39)

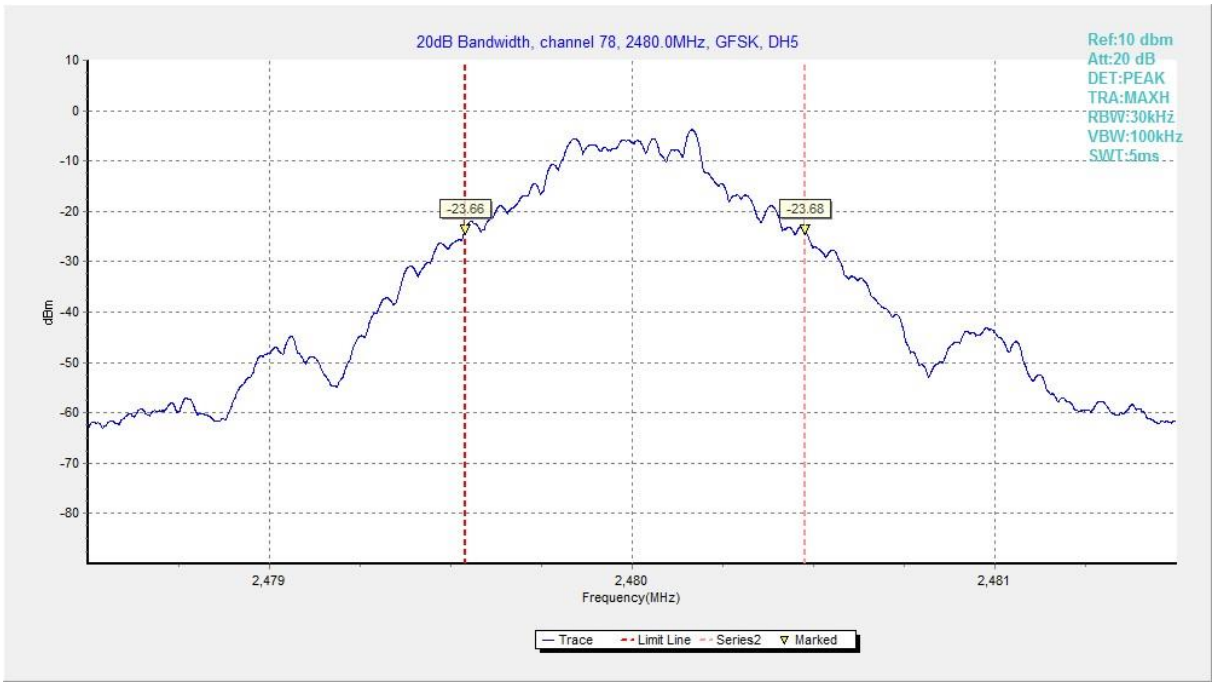

Fig. 101 20dB Bandwidth (GFSK, Ch 78)

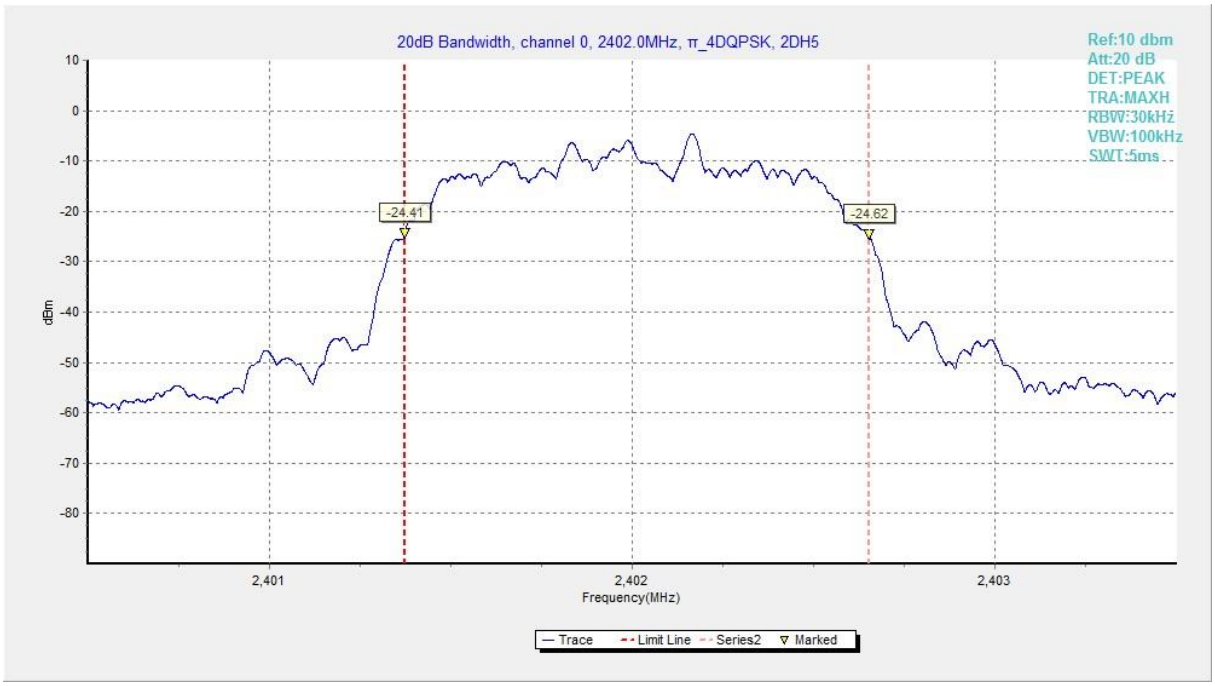

Fig. 102 20dB Bandwidth (π /4 DQPSK, Ch 0)

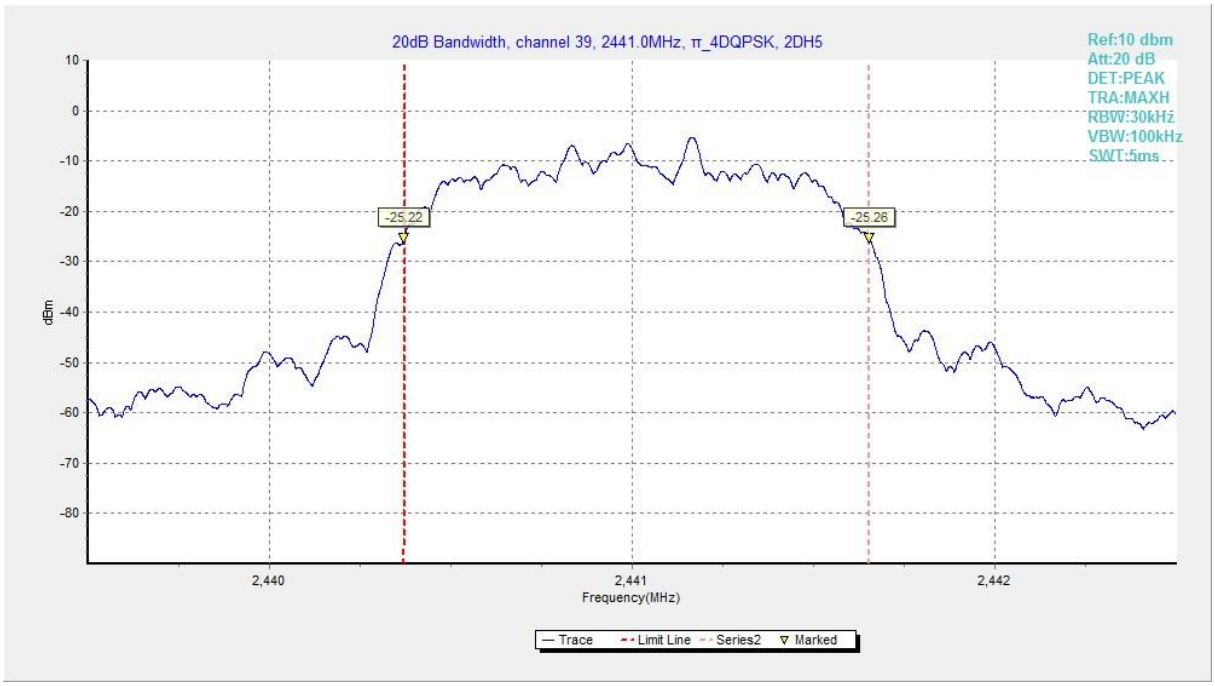

Fig. 103 20dB Bandwidth (π /4 DQPSK, Ch 39)

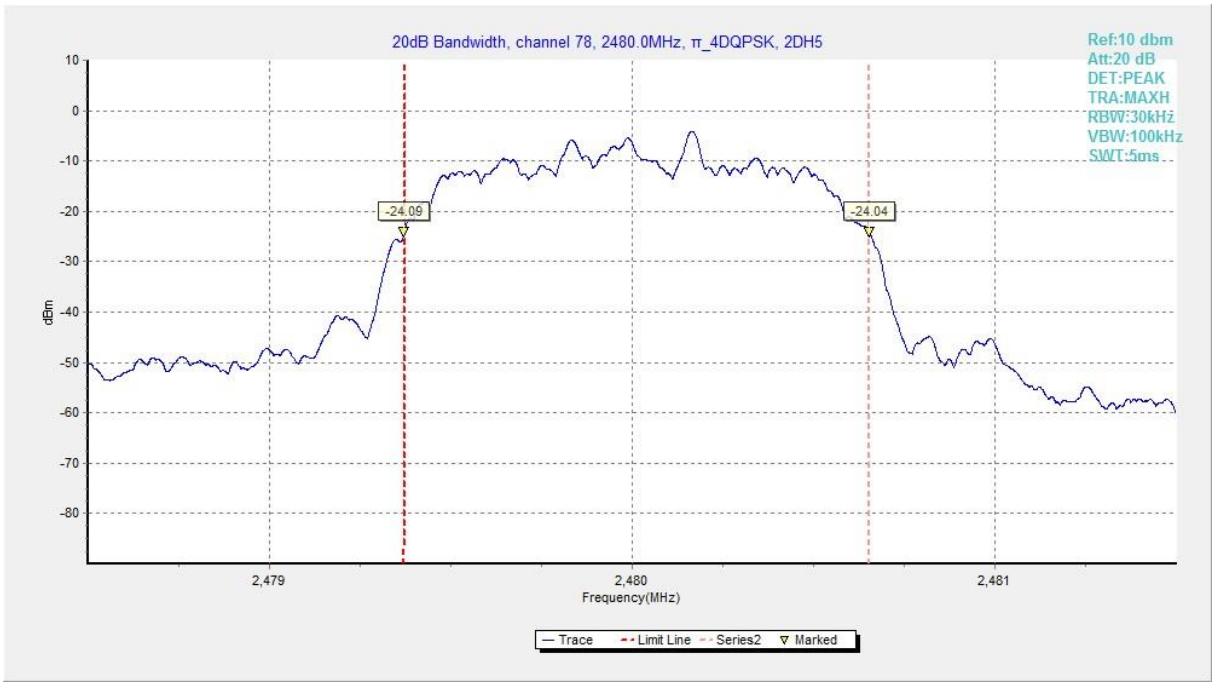

Fig. 104 20dB Bandwidth (π /4 DQPSK, Ch 78)

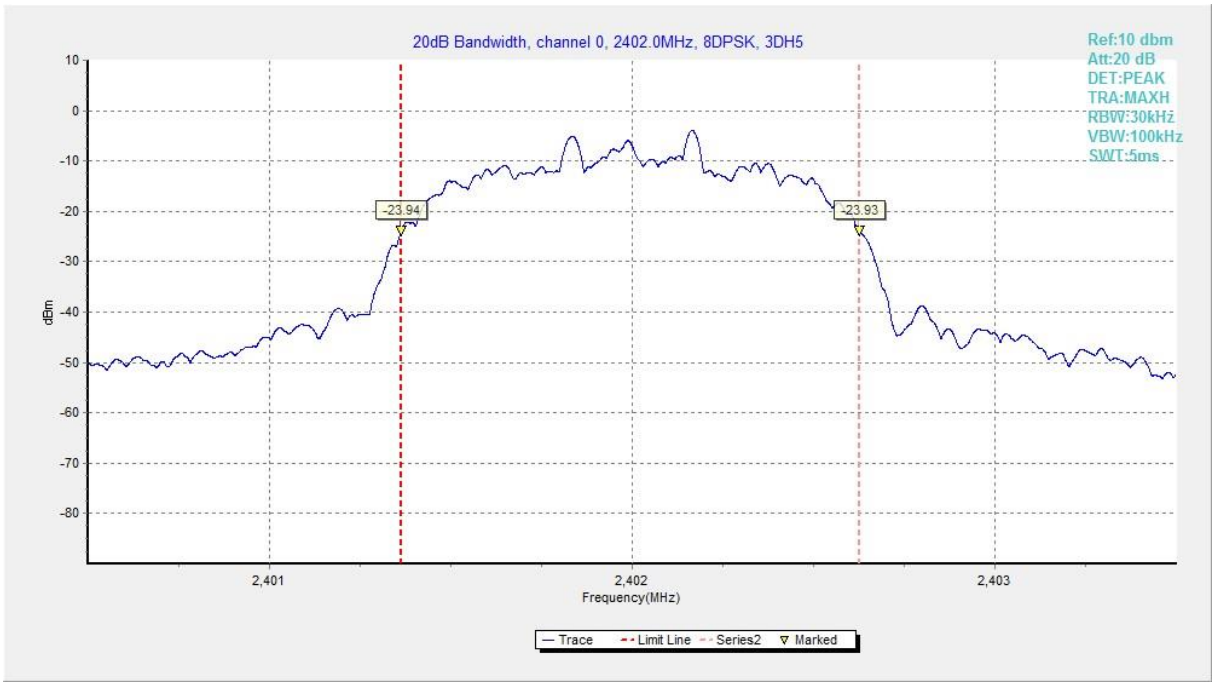

Fig. 105 20dB Bandwidth (8DPSK, Ch 0)

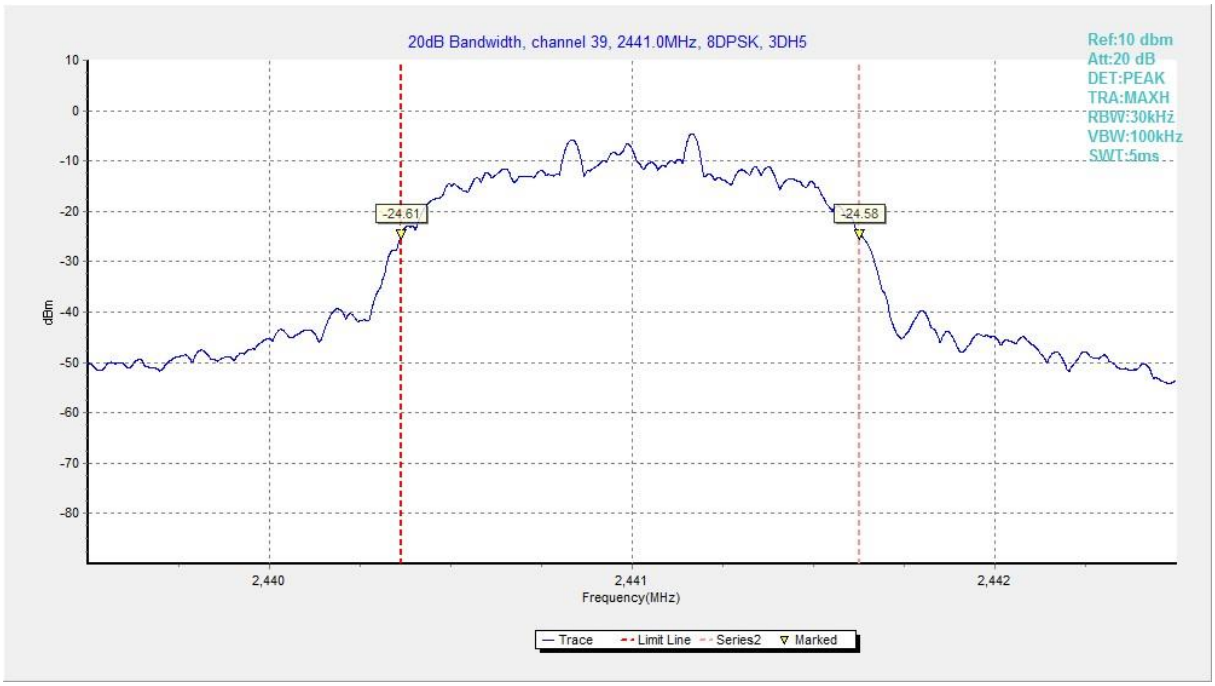

Fig. 106 20dB Bandwidth (8DPSK, Ch 39)

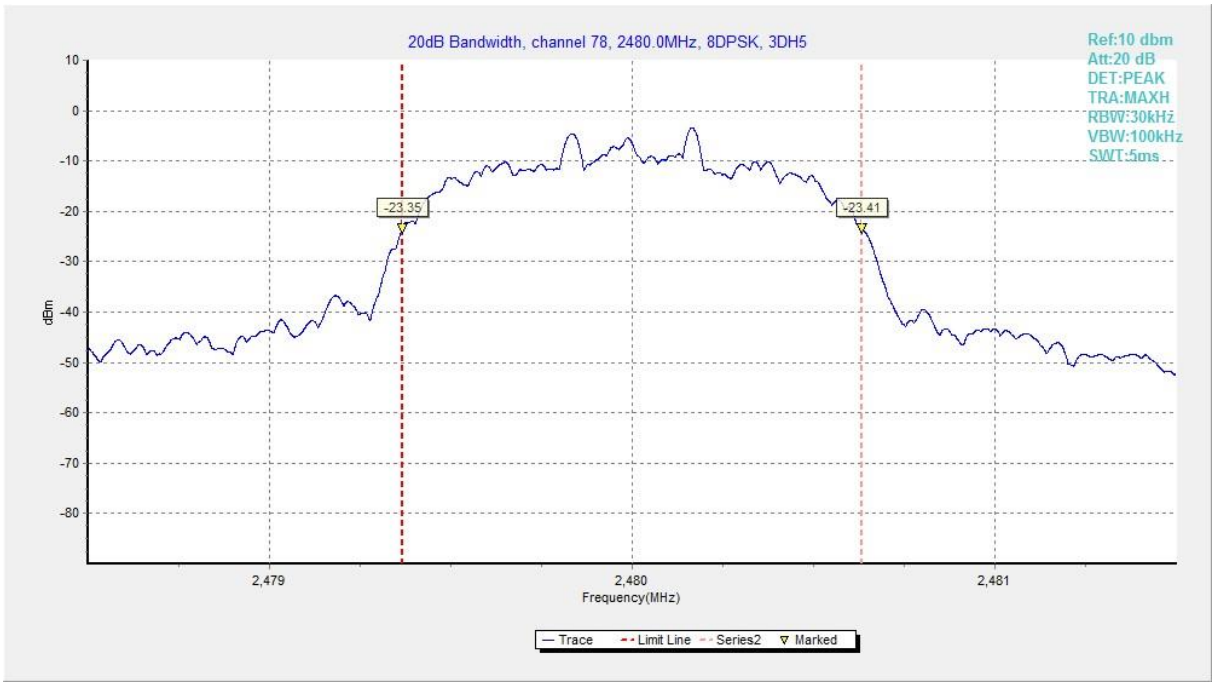

Fig. 107 20dB Bandwidth (8DPSK, Ch 78)

A.6 Time of Occupancy (Dwell Time)

Measurement Limit:

Standard	Limit
FCC 47 CFR Part 15.247(a)	< 400 ms

Measurement Results:

Mode	Channel	Packet	Dwell Time(ms)		Conclusion
GFSK	39	DH5	Fig.108	307.91	**P**
			Fig.109		
π/4 DQPSK	39	2-DH5	Fig.110	308.11	**P**
			Fig.111		
8DPSK	39	3-DH5	Fig.112	306.73	**P**
			Fig.113		

See below for test graphs.

Conclusion: Pass

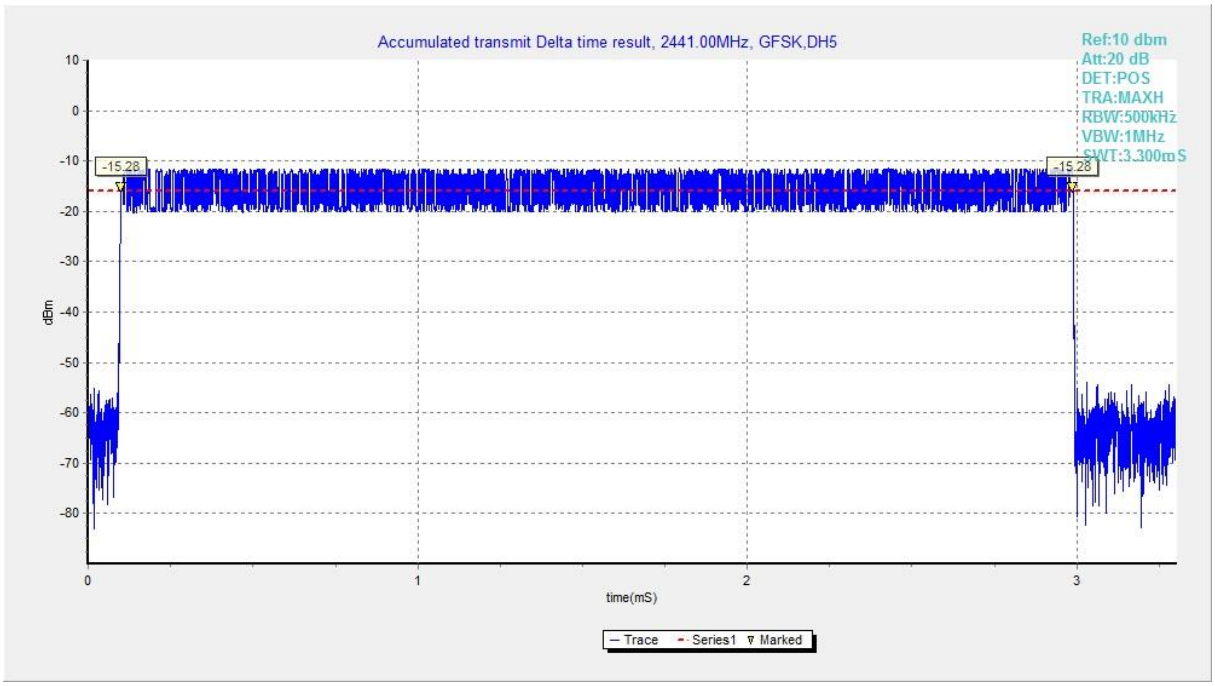

Fig. 108 Time of Occupancy(Dwell Time) (GFSK, Ch39)

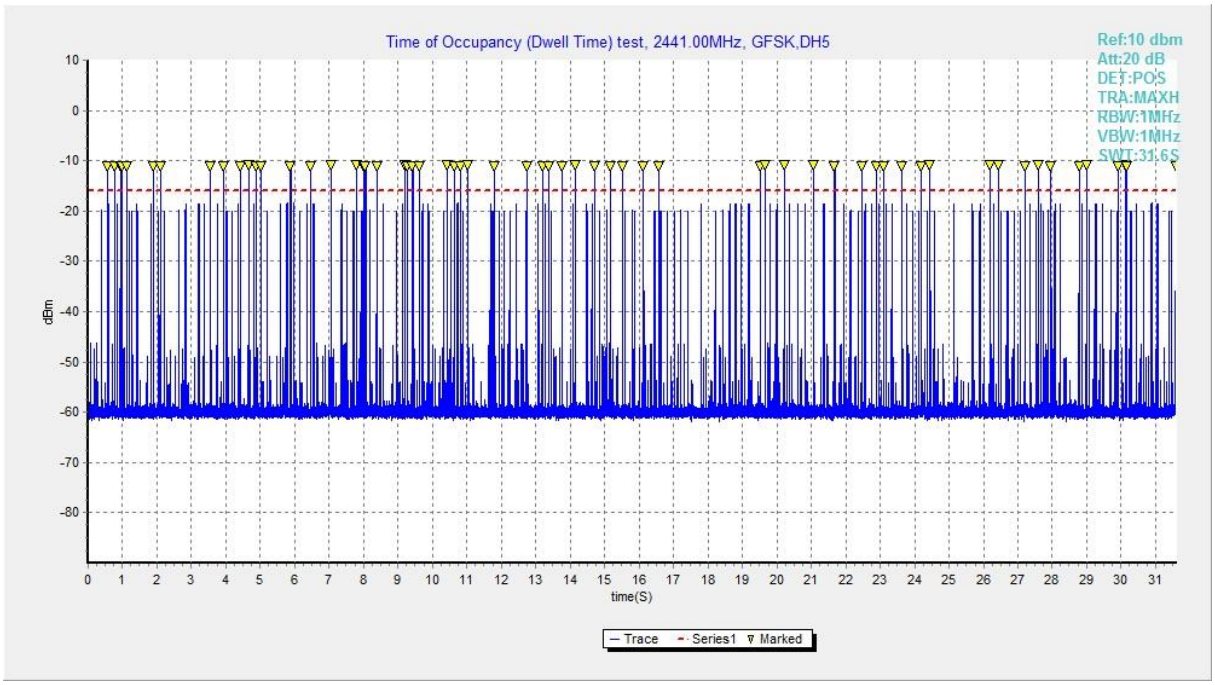

Fig. 109 Time of Occupancy(Dwell Time) (GFSK, Ch39)