

$\pi/4$ 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)	Antenna Height (cm)	Turntable angle (deg)
2388.800	46.28	2.9	32.0	11.43	54.0	7.7	H	155	0
2390.000	46.26	2.9	32.0	11.42	54.0	7.7	H	155	22
4804.500	34.93	-32.8	34.5	33.28	54.0	19.1	H	155	352
7206.000	37.22	-31.6	36.1	32.75	54.0	16.8	V	155	352
9607.500	41.05	-30.0	37.0	34.10	54.0	12.9	V	155	176
12010.500	42.20	-29.8	39.3	32.72	54.0	11.8	V	155	176

 $\pi/4$ 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)	Antenna Height (cm)	Turntable angle (deg)
2437.100	46.51	2.9	32.0	11.59	54.0	7.5	H	155	25
2445.500	46.54	2.9	32.2	11.40	54.0	7.5	H	155	49
4882.500	33.34	-32.7	34.5	31.55	54.0	20.7	H	155	4
7323.000	38.44	-31.9	36.1	34.28	54.0	15.6	H	155	6
9763.500	39.17	-30.6	37.2	32.55	54.0	14.8	H	155	25
12205.500	44.11	-29.4	39.2	34.32	54.0	9.9	H	155	186

 $\pi/4$ 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)	Antenna Height (cm)	Turntable angle (deg)
2483.500	48.47	2.9	32.8	12.78	54.0	5.5	H	155	175
2483.600	48.18	2.9	32.8	12.49	54.0	5.8	H	155	5
4960.500	33.87	-33.4	34.5	32.75	54.0	20.1	H	155	26
7440.000	37.31	-31.8	36.0	33.05	54.0	16.7	H	155	355
9919.500	41.22	-29.9	37.4	33.75	54.0	12.8	H	155	6
12400.500	43.48	-29.5	39.1	33.85	54.0	10.5	H	155	12

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)	Antenna Height (cm)	Turntable angle (deg)
2387.700	46.24	2.9	32.0	11.38	54.0	7.8	H	155	5
2390.000	46.29	2.9	32.0	11.45	54.0	7.7	H	155	25
4375.500	34.57	-33.4	34.3	33.69	54.0	19.4	H	155	356
7206.000	37.26	-31.6	36.1	32.79	54.0	16.7	H	155	350
9607.500	40.98	-30.0	37.0	34.03	54.0	13.0	H	155	185
12010.500	42.21	-29.8	39.3	32.74	54.0	11.8	H	155	187

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)	Antenna Height (cm)	Turntable angle (deg)
2436.100	46.44	2.9	32.0	11.55	54.0	7.6	H	155	86
2446.600	46.47	2.9	32.3	11.30	54.0	7.5	H	155	107
4882.500	33.09	-32.7	34.5	31.31	54.0	20.9	H	155	130
7323.000	38.43	-31.9	36.1	34.28	54.0	15.6	H	155	152
9763.500	39.19	-30.6	37.2	32.56	54.0	14.8	H	155	174
12205.500	44.11	-29.4	39.2	34.32	54.0	9.9	H	155	195

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)	Antenna Height (cm)	Turntable angle (deg)
2483.500	47.47	2.9	32.8	11.77	54.0	6.5	H	155	20
2483.700	47.00	2.9	32.8	11.31	54.0	7.0	H	155	45
4960.500	33.80	-33.4	34.5	32.67	54.0	20.2	H	155	240
7440.000	37.43	-31.8	36.0	33.17	54.0	16.6	H	155	180
9919.500	41.17	-29.9	37.4	33.69	54.0	12.8	H	155	85
12400.500	43.45	-29.5	39.1	33.82	54.0	10.6	H	155	25

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)	Antenna Height (cm)	Turntable angle (deg)
2385.306	60.05	2.9	32.0	25.17	74.0	14.0	H	155	132
2387.616	60.12	2.9	32.0	25.25	74.0	13.9	H	155	154
4804.000	44.76	-32.9	34.5	43.11	74.0	29.2	V	155	88
7206.000	43.05	-31.6	36.1	38.58	74.0	30.9	H	155	110
9608.000	47.51	-30.0	37.0	40.56	74.0	26.5	V	155	110
12010.000	45.40	-29.8	39.3	35.92	74.0	28.6	V	155	88

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)	Antenna Height (cm)	Turntable angle (deg)
2373.000	48.43	-26.8	32.1	43.16	74.0	25.6	H	155	22
2603.600	48.79	-26.9	33.0	42.70	74.0	25.2	H	155	242
4882.000	41.12	-32.7	34.5	39.33	74.0	32.9	V	155	44
7323.000	45.02	-31.9	36.1	40.86	74.0	29.0	H	155	330
9764.000	44.87	-30.6	37.2	38.24	74.0	29.1	H	155	176
12205.000	49.05	-29.4	39.2	39.26	74.0	25.0	H	155	0

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)	Antenna Height (cm)	Turntable angle (deg)
2487.930	60.31	2.9	32.6	24.74	74.0	13.7	H	155	22
2490.860	60.43	2.9	32.6	24.94	74.0	13.6	H	155	44
4960.000	40.57	-33.4	34.5	39.44	74.0	33.4	H	155	242
7440.000	42.52	-31.8	36.0	38.26	74.0	31.5	H	155	176
9920.000	47.47	-29.9	37.4	40.00	74.0	26.5	H	155	88
12400.000	47.16	-29.5	39.1	37.54	74.0	26.8	V	155	22

$\pi/4$ 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)	Antenna Height (cm)	Turntable angle (deg)
2384.018	60.01	2.9	32.0	25.12	74.0	14.0	H	155	88
2388.036	59.80	2.9	32.0	24.94	74.0	14.2	H	155	22
4804.000	41.13	-32.9	34.5	39.49	74.0	32.9	V	155	220
7206.000	42.98	-31.6	36.1	38.51	74.0	31.0	V	155	242
9608.000	47.36	-30.0	37.0	40.41	74.0	26.6	V	155	44
12010.000	46.69	-29.8	39.3	37.22	74.0	27.3	V	155	66

 $\pi/4$ 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)	Antenna Height (cm)	Turntable angle (deg)
2379.000	48.38	-26.4	32.1	42.7	74.0	25.6	H	155	22
2498.600	48.73	-26.0	32.3	42.4	74.0	25.3	V	155	44
4882.000	41.36	-32.7	34.5	39.58	74.0	32.6	H	155	0
7323.000	45.14	-31.9	36.1	40.99	74.0	28.9	H	155	0
9764.000	45.65	-30.6	37.2	39.02	74.0	28.4	H	155	22
12205.000	49.63	-29.4	39.2	39.84	74.0	24.4	H	155	176

 $\pi/4$ DQPSK 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)	Antenna Height (cm)	Turntable angle (deg)
2486.610	60.37	2.9	32.7	24.76	74.0	13.6	H	155	176
2494.350	60.46	2.9	32.5	25.07	74.0	13.5	H	155	0
4960.000	41.31	-33.4	34.5	40.19	74.0	32.7	V	155	22
7440.000	43.77	-31.8	36.0	39.51	74.0	30.2	V	155	352
9920.000	46.86	-29.9	37.4	39.39	74.0	27.1	V	155	0
12400.000	46.92	-29.5	39.1	37.29	74.0	27.1	V	155	0

8DPSK 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)	Antenna Height (cm)	Turntable angle (deg)
2386.244	60.68	2.9	32.0	25.81	74.0	13.3	H	155	0
2388.876	60.42	2.9	32.0	25.57	74.0	13.6	H	155	22
4804.000	40.65	-32.9	34.5	39.00	74.0	33.4	H	155	352
7206.000	43.11	-31.6	36.1	38.64	74.0	30.9	V	155	352
9608.000	48.26	-30.0	37.0	41.30	74.0	25.7	V	155	176
12010.000	46.60	-29.8	39.3	37.13	74.0	27.4	V	155	176

8DPSK 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)	Antenna Height (cm)	Turntable angle (deg)
2377.800	48.14	-26.5	32.1	42.52	74.0	25.9	V	155	88
2523.200	48.08	-26.8	32.7	42.20	74.0	25.9	H	155	110
4882.000	39.91	-32.7	34.5	38.13	74.0	34.1	V	155	132
7323.000	44.89	-31.9	36.1	40.74	74.0	29.1	H	155	154
9764.000	45.01	-30.6	37.2	38.38	74.0	29.0	V	155	176
12205.000	46.58	-29.4	39.2	36.79	74.0	27.4	V	155	198

8DPSK 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)	Antenna Height (cm)	Turntable angle (deg)
2489.610	60.98	2.9	32.6	25.45	74.0	13.0	H	155	22
2495.040	60.35	2.9	32.4	24.97	74.0	13.6	H	155	44
4960.000	40.47	-33.4	34.5	39.34	74.0	33.5	H	155	242
7440.000	42.51	-31.8	36.0	38.25	74.0	31.5	H	155	176
9920.000	45.51	-29.9	37.4	38.03	74.0	28.5	H	155	88
12400.000	47.19	-29.5	39.1	37.56	74.0	26.8	V	155	22

Conclusion: PASS

Test graphs as below:

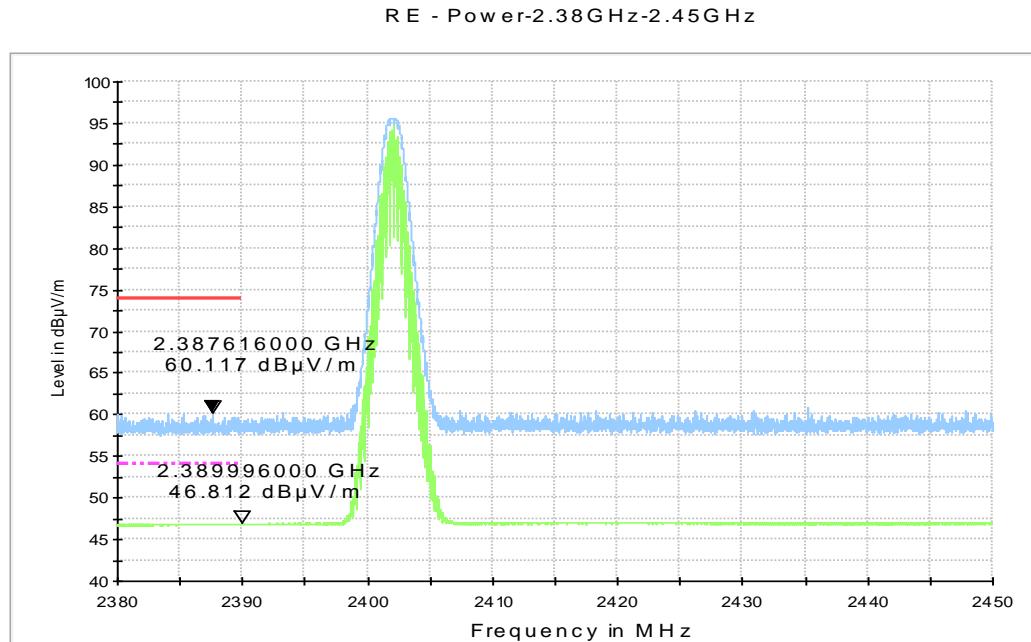


Fig.58. Radiated emission (Power): GFSK, low channel

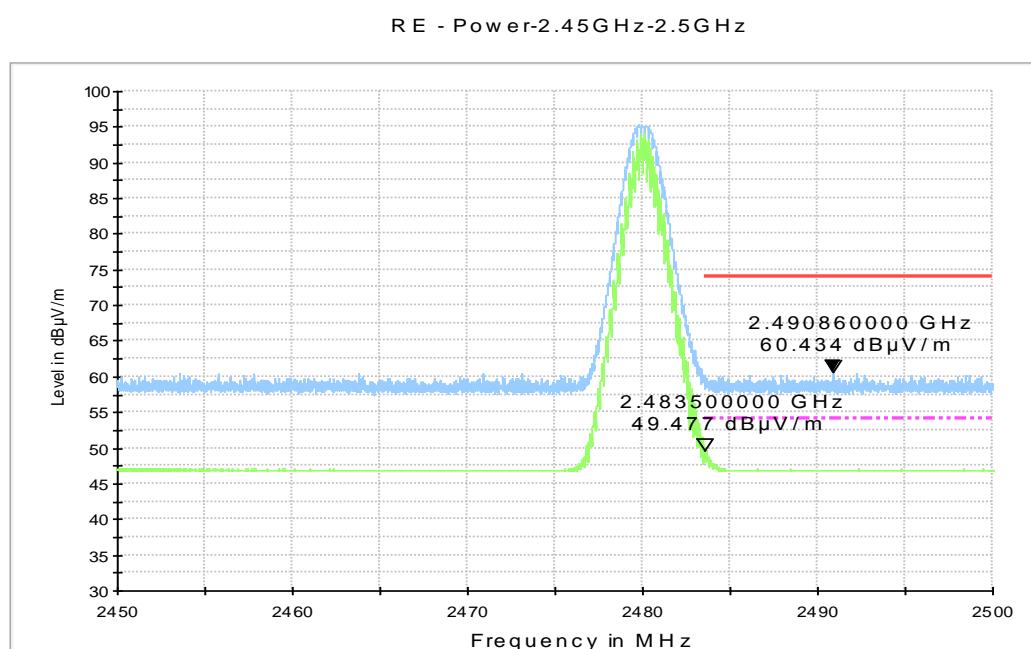


Fig.59. Radiated emission (Power) GFSK, high channel

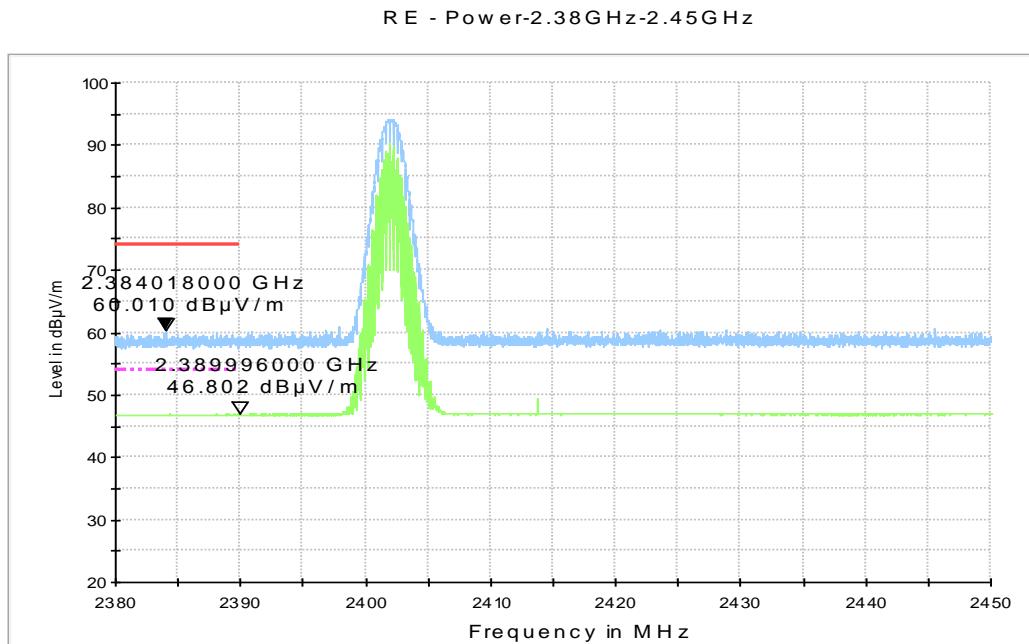


Fig.60. Radiated emission (Power): $\pi/4$ DQPSK, low channel

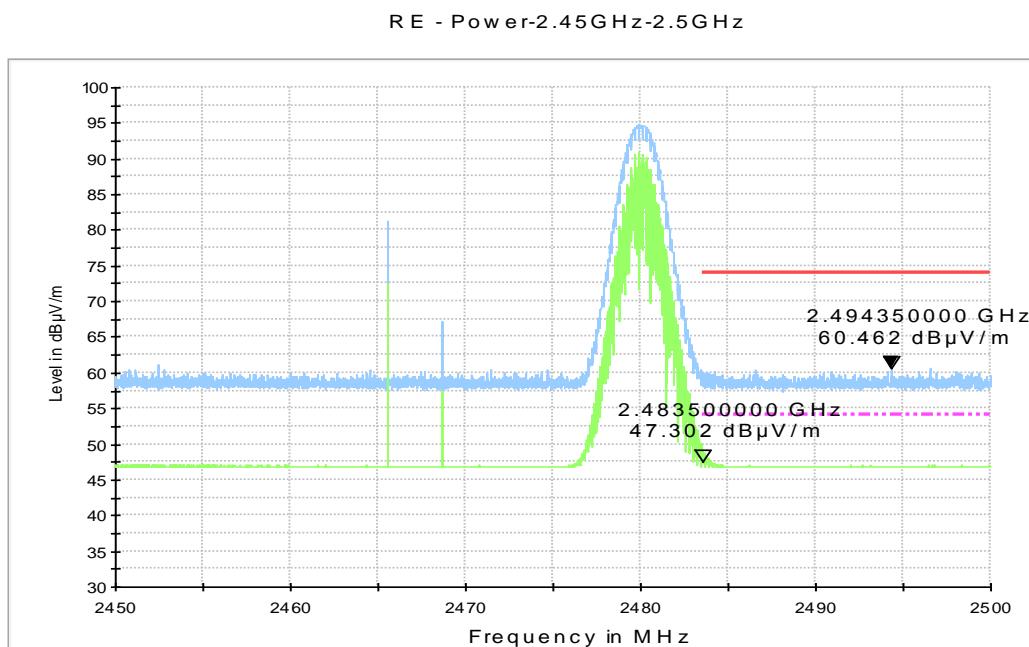


Fig.61. Radiated emission (Power): $\pi/4$ DQPSK, high channel

R E - Power-2.38 GHz-2.45 GHz

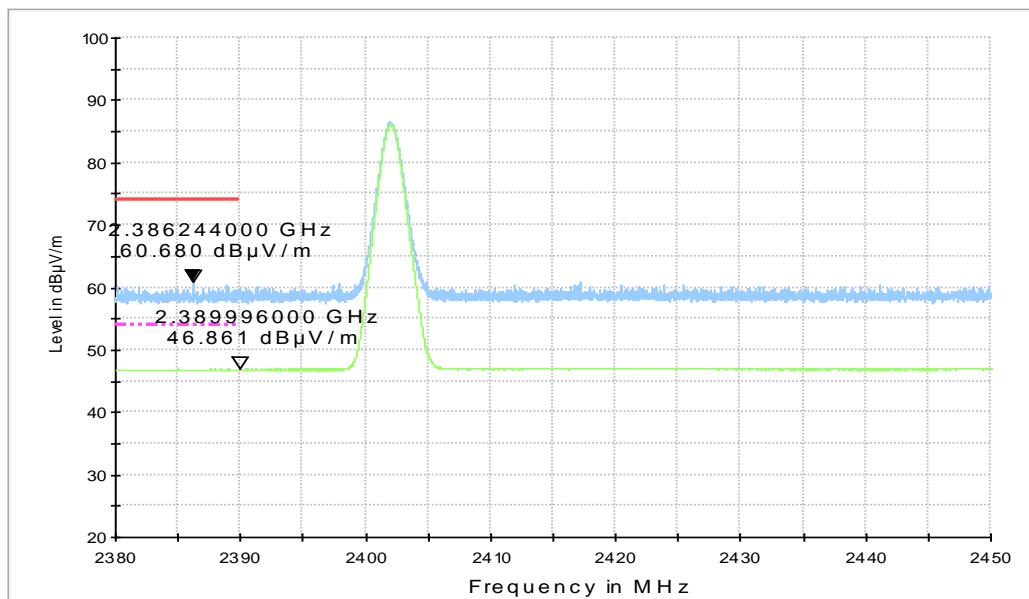


Fig.62. Radiated emission (Power): 8DPSK, low channel

R E - Power-2.45 GHz-2.5 GHz

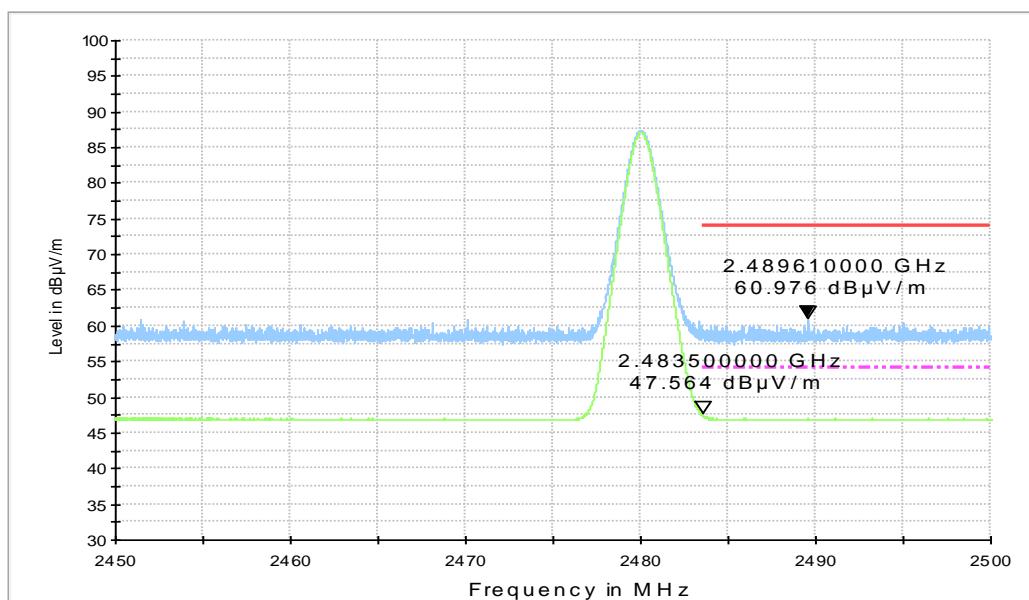


Fig.63. Radiated emission (Power): 8DPSK, high channel

A.6. Time of Occupancy (Dwell Time)

Method of Measurement: See ANSI C63.10-clause 7.8.4

The EUT must have its hopping function enabled. Use the following spectrum analyzer settings:

- Span = zero span, centered on a hopping channel
- RBW = 1 MHz
- VBW \geq RBW
- Sweep = as necessary to capture the entire dwell time per hopping channel
- Detector function = peak
- Trace = max hold

Measure a pulse time in time domain at middle frequency and then count the hopping number in 31.6s(which equals with 0.4 multiply 79) of middle frequency ,then multiply the pulse time and hopping number and record them.

Measurement Limit:

Standard	Limit (ms)
FCC 47 CFR Part 15.247(a) (1)(iii)	< 400

Measurement Result:

For GFSK

Channel	Packet	Dwell Time (ms)		Conclusion
39	DH1	Fig.64	121.15	P
		Fig.65		
	DH3	Fig.66	157.16	P
		Fig.67		
	DH5	Fig.68	213.52	P
		Fig.69		

For $\pi/4$ DQPSK

Channel	Packet	Dwell Time (ms)		Conclusion
39	DH1	Fig.70	123.43	P
		Fig.71		
	DH3	Fig.72	160.62	P
		Fig.73		
	DH5	Fig.74	181.88	P
		Fig.75		

For 8DPSK

Channel	Packet	Dwell Time (ms)		Conclusion
39	DH1	Fig.76	122.99	P
		Fig.77		
	DH3	Fig.78	186.71	P

		Fig.79		
DH5		Fig.80	210.88	P
		Fig.81		

Conclusion: PASS

Test graphs as below:

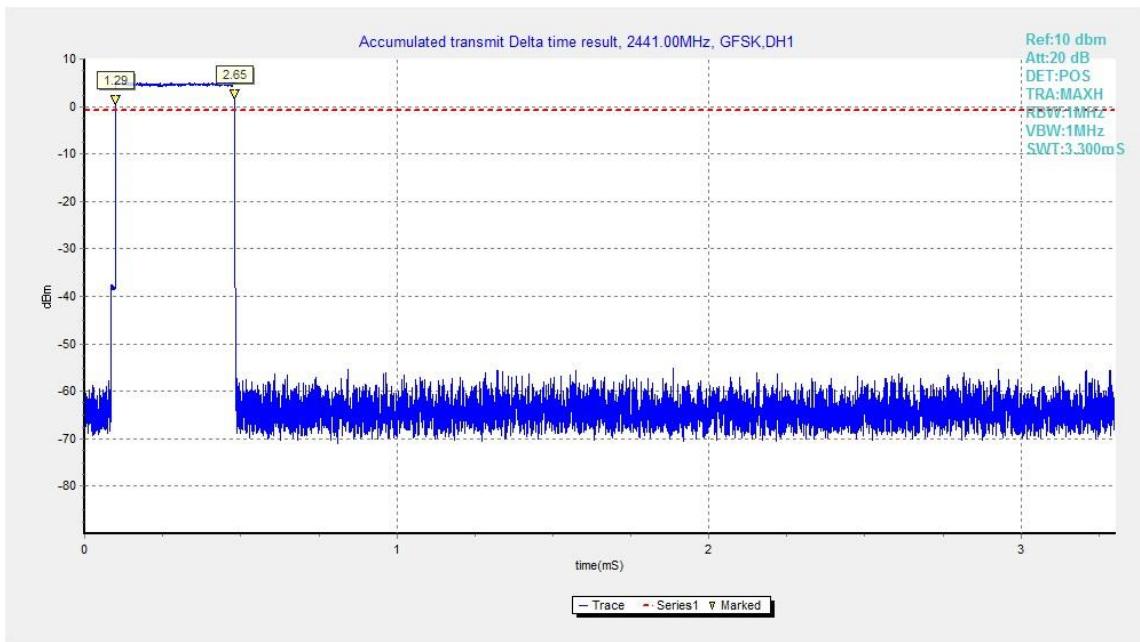


Fig.64. Time of occupancy (Dwell Time): Channel 39, Packet DH1

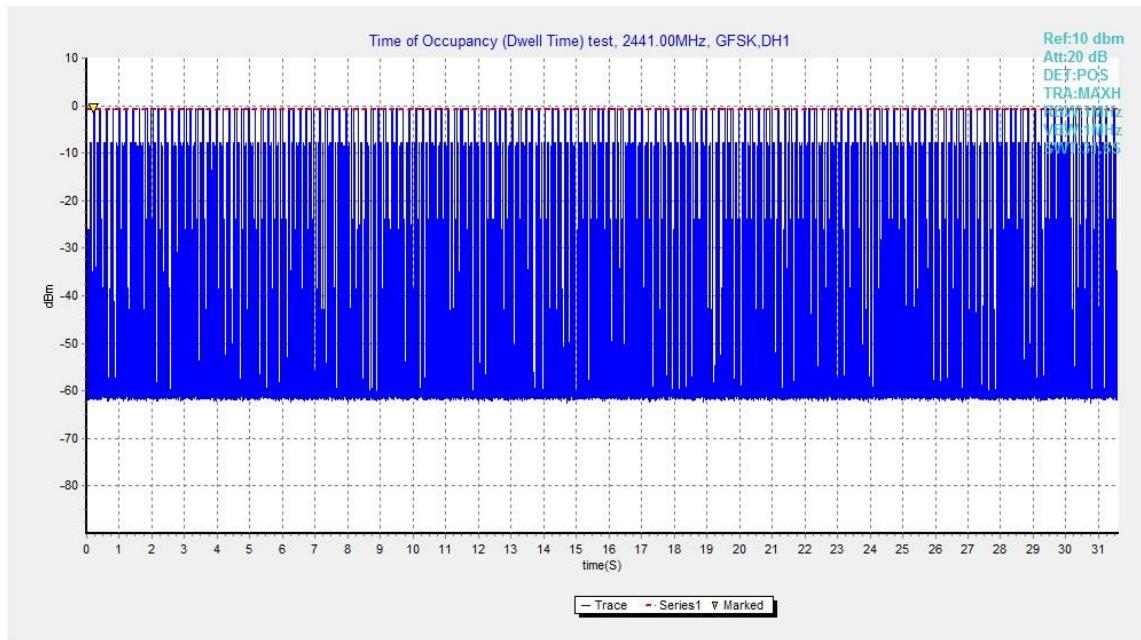


Fig.65. Number of Transmissions Measurement: Channel 39,Packet DH1

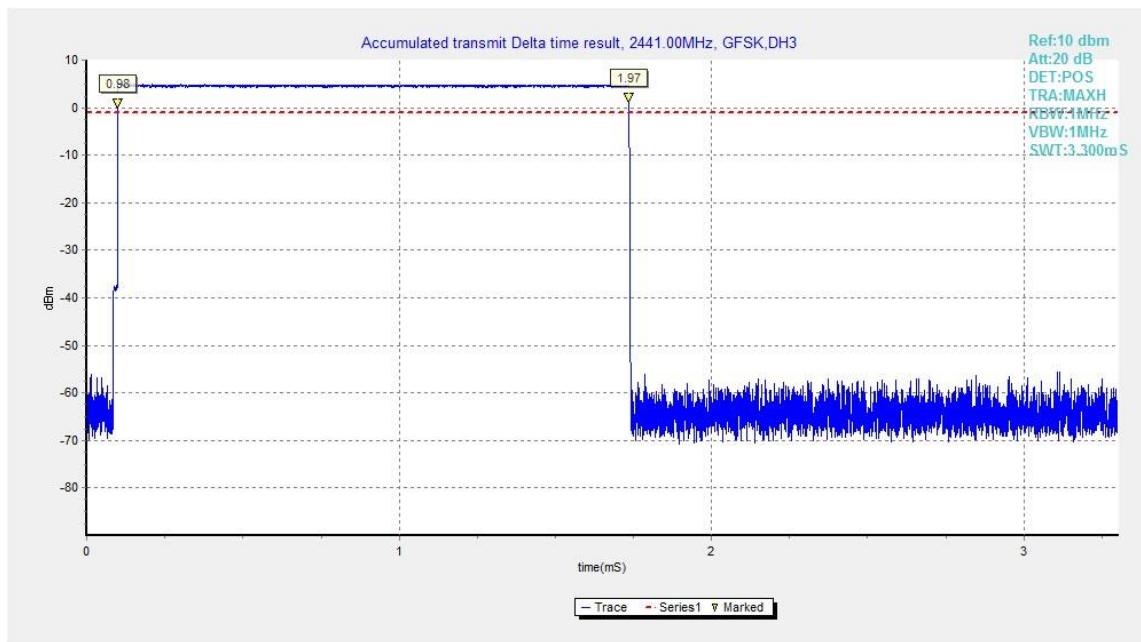


Fig.66. Time of occupancy (Dwell Time): Channel 39, Packet DH3

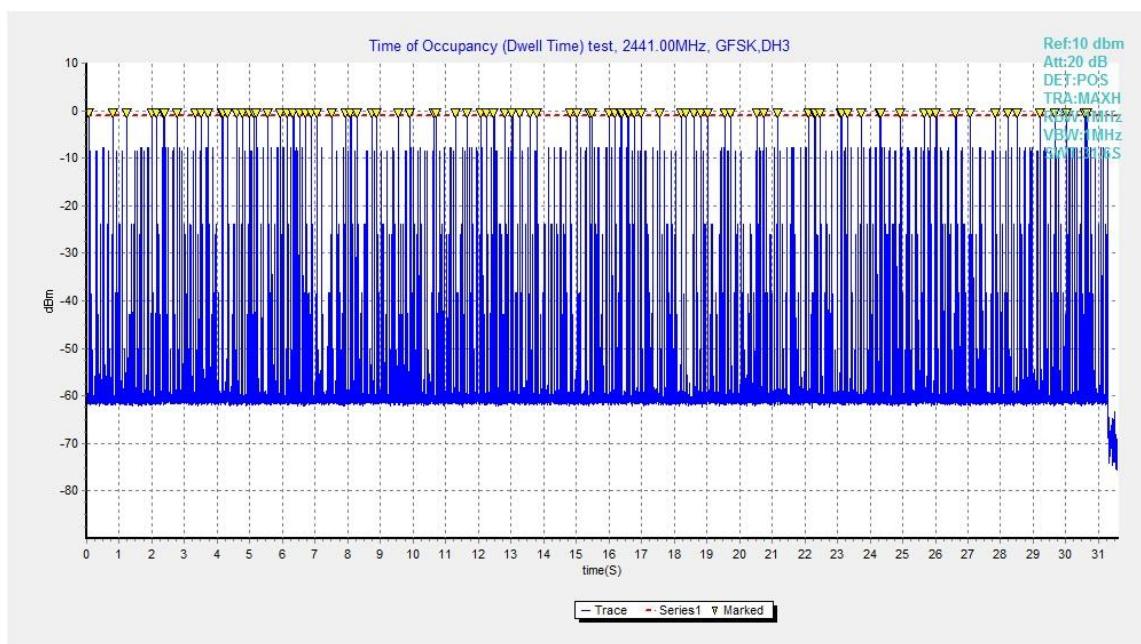


Fig.67. Number of Transmissions Measurement: Channel 39,Packet DH3

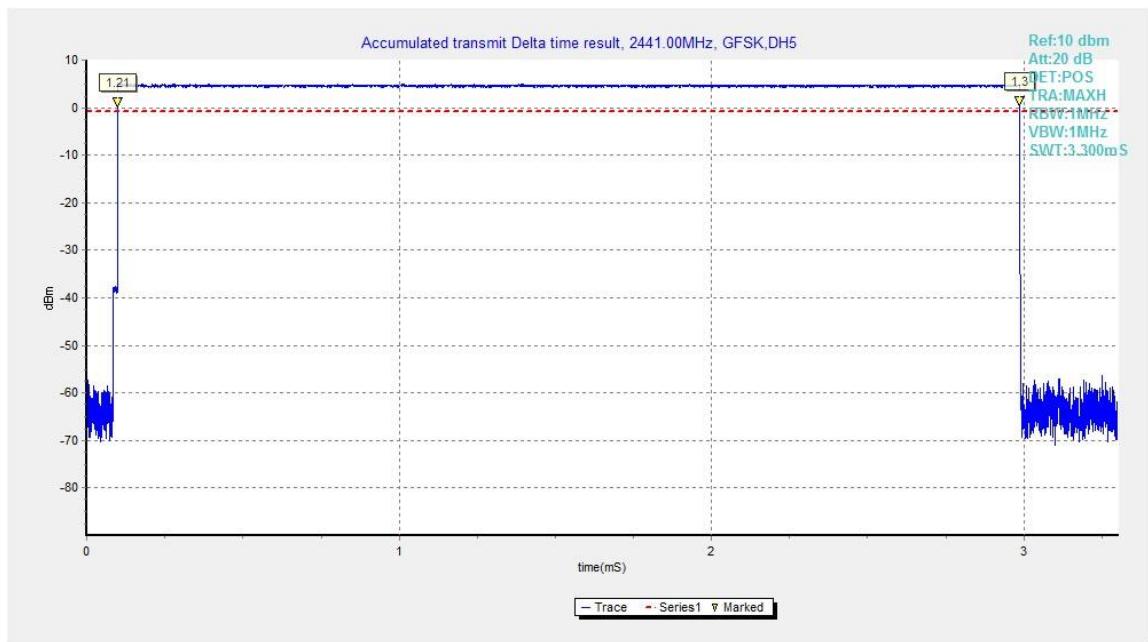


Fig.68. Time of occupancy (Dwell Time): Channel 39, Packet DH5

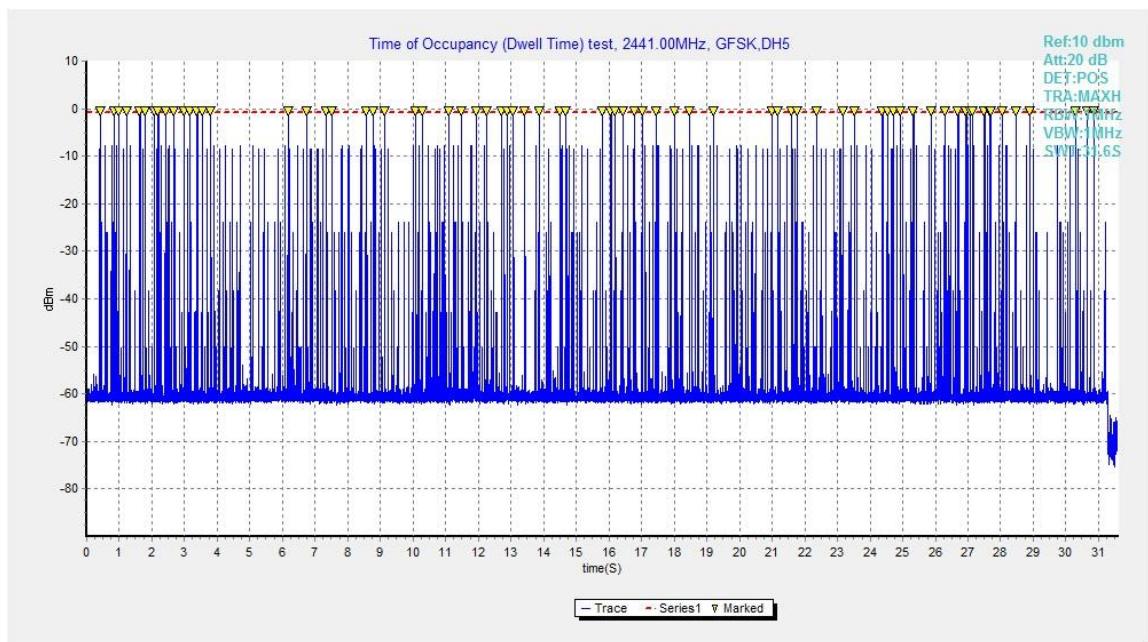


Fig.69. Number of Transmissions Measurement: Channel 39,Packet DH5

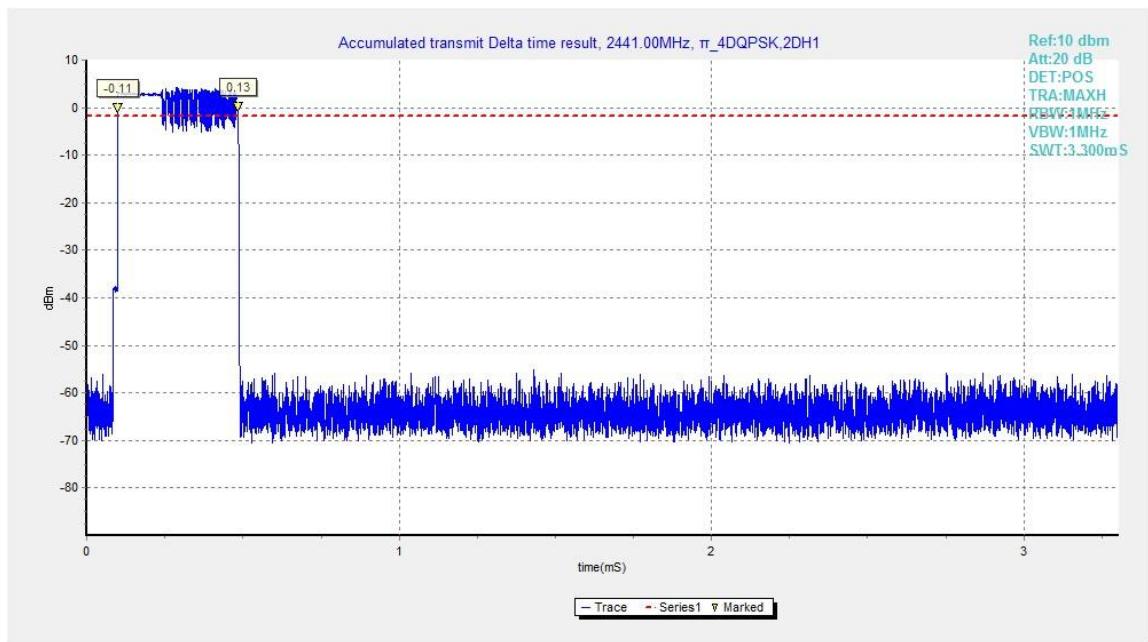


Fig.70. Time of occupancy (Dwell Time): Channel 39, Packet 2-DH1

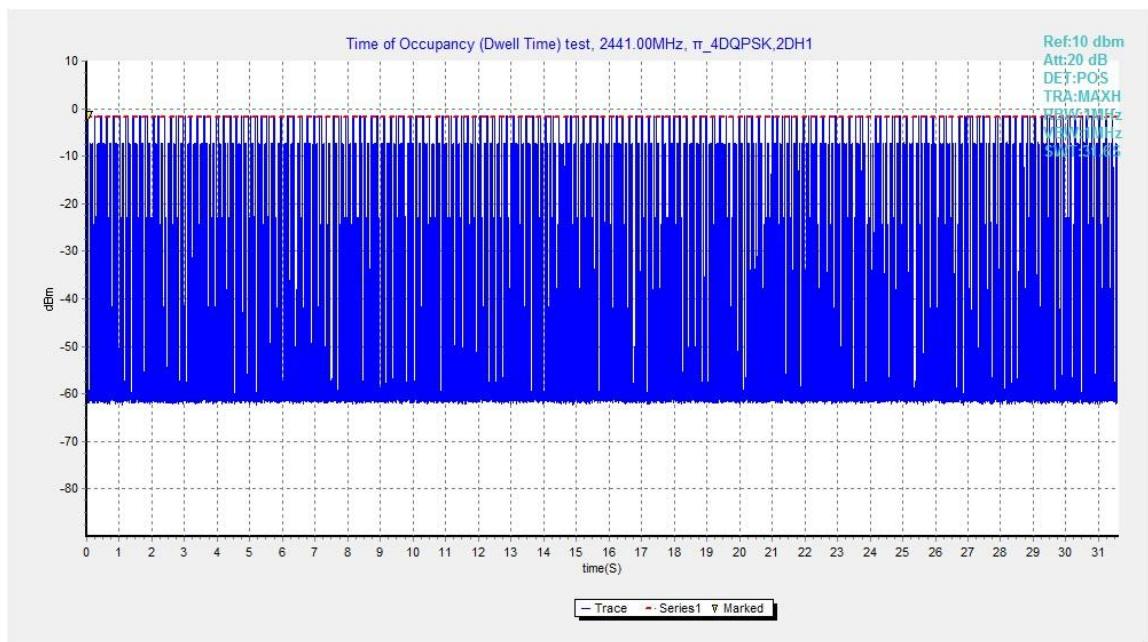


Fig.71. Number of Transmissions Measurement: Channel 39,Packet 2-DH1

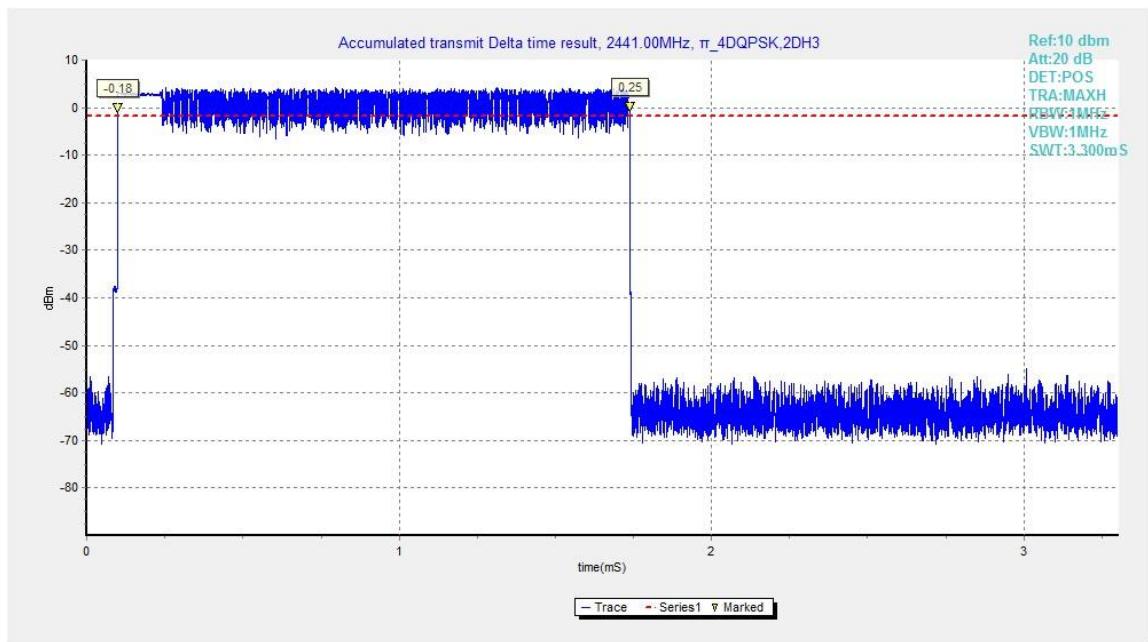


Fig.72. Time of occupancy (Dwell Time): Channel 39, Packet 2-DH3

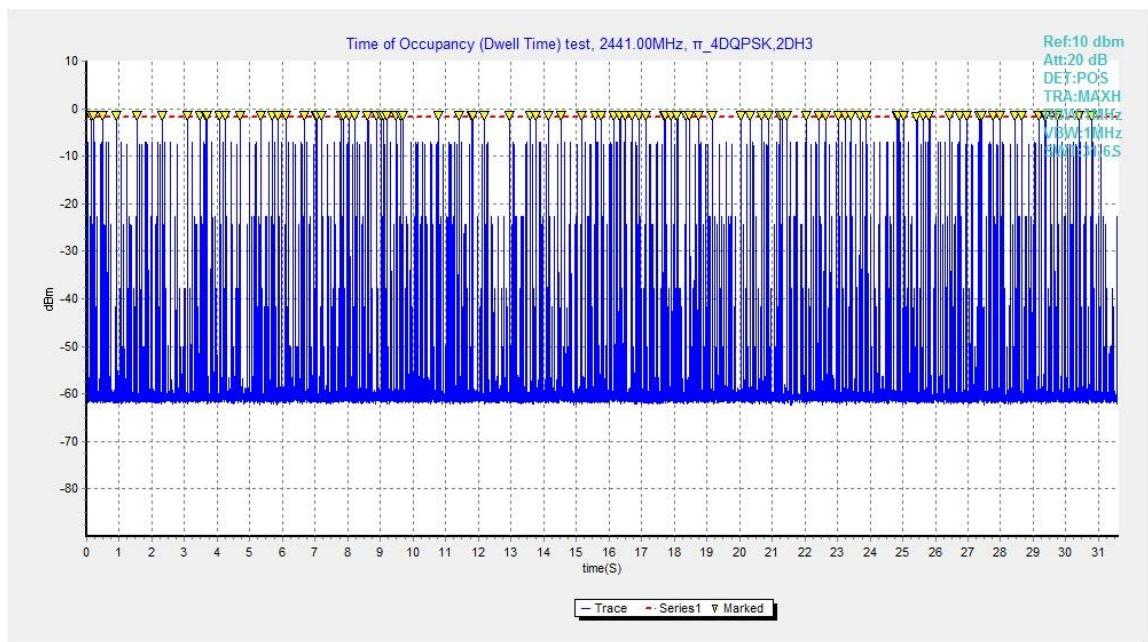


Fig.73. Number of Transmissions Measurement: Channel 39,Packet 2-DH3

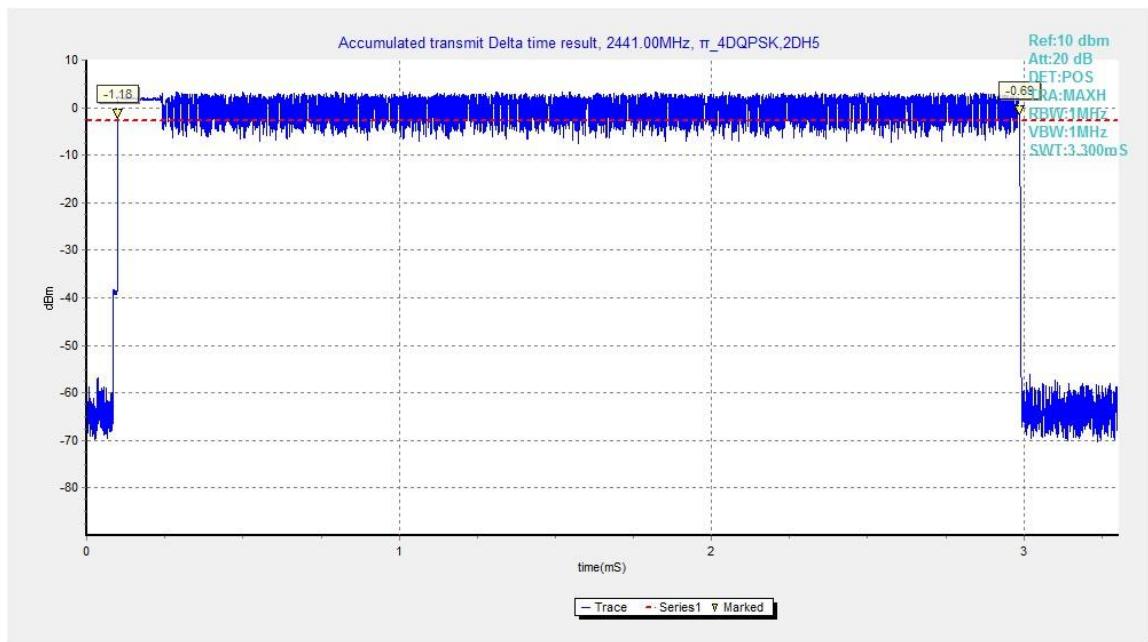


Fig.74. Time of occupancy (Dwell Time): Channel 39, Packet 2-DH5

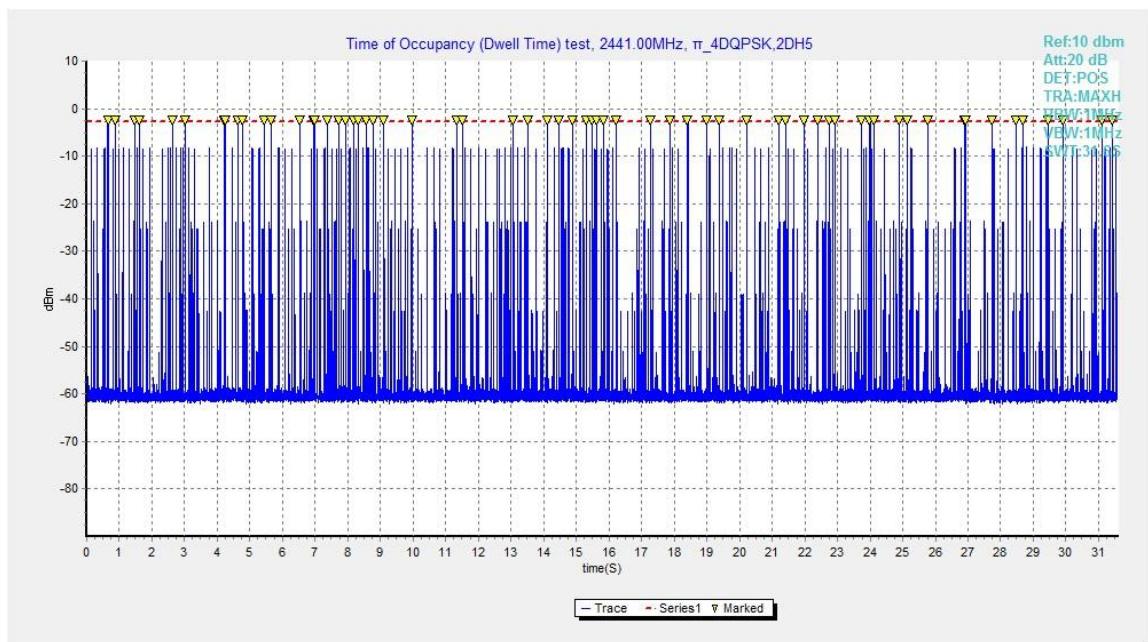


Fig.75. Number of Transmissions Measurement: Channel 39,Packet 2-DH5

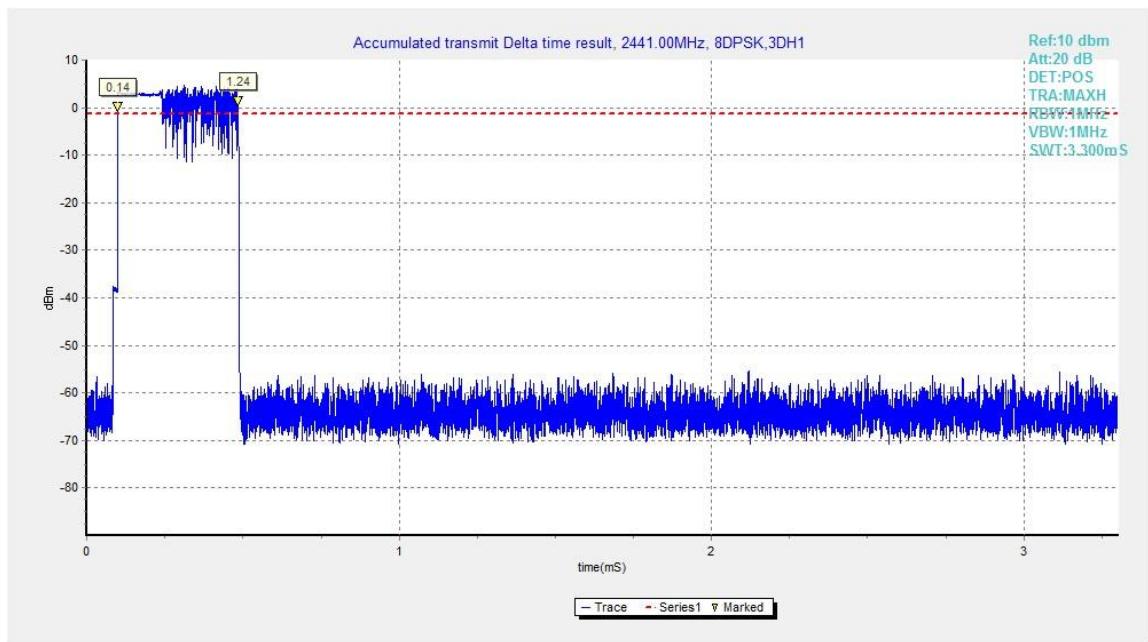


Fig.76. Time of occupancy (Dwell Time): Channel 39, Packet 3-DH1

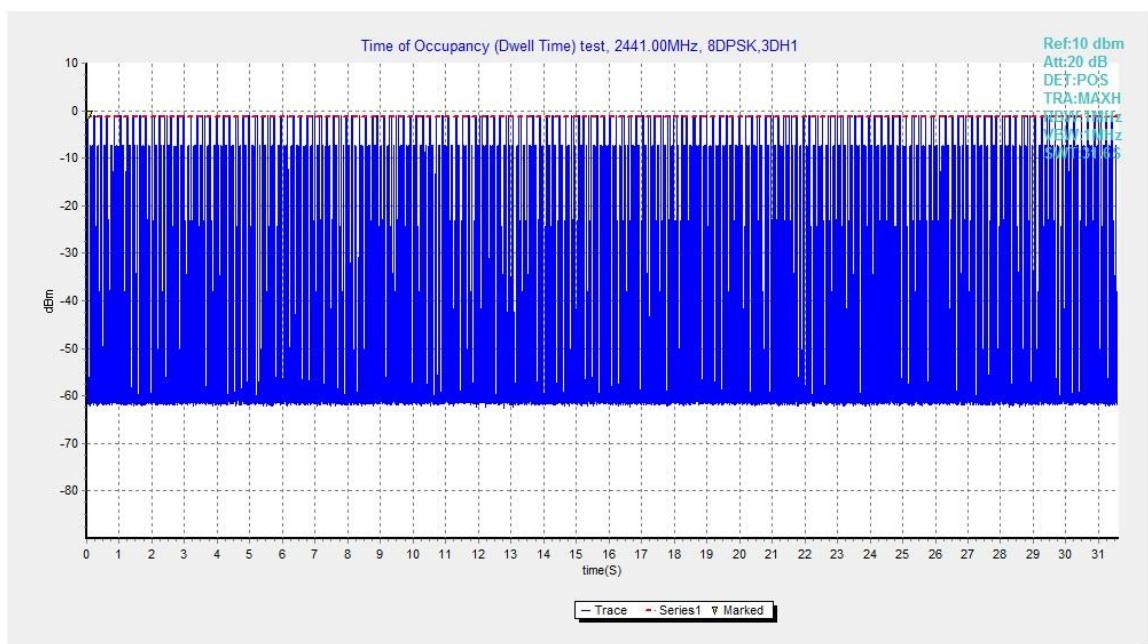


Fig.77. Number of Transmissions Measurement: Channel 39,Packet 3-DH1

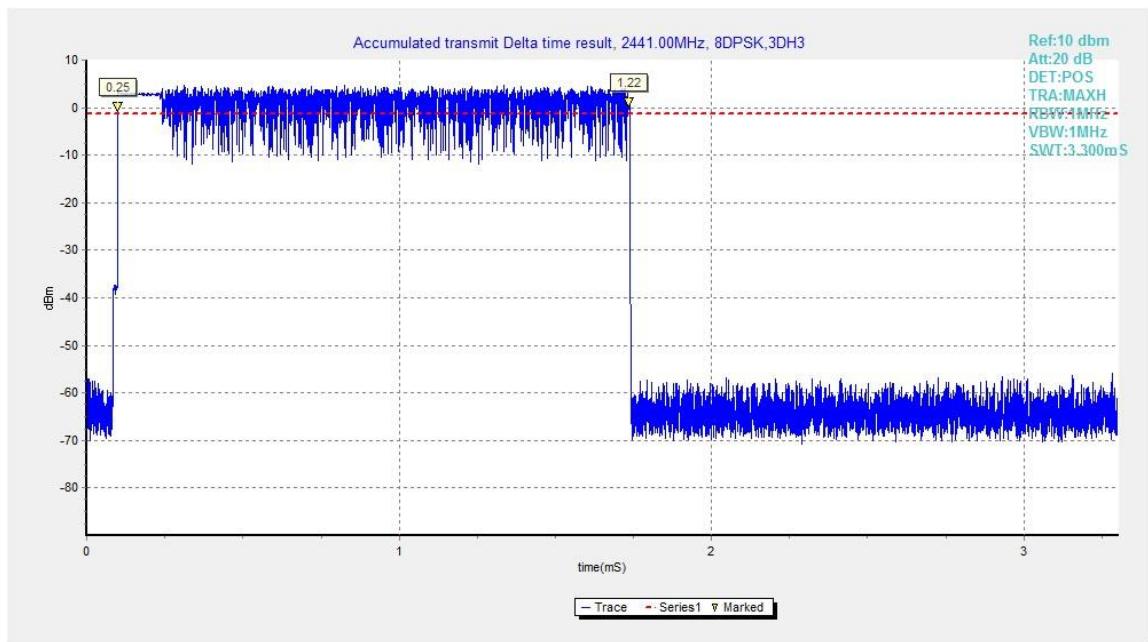


Fig.78. Time of occupancy (Dwell Time): Channel 39, Packet 3-DH3

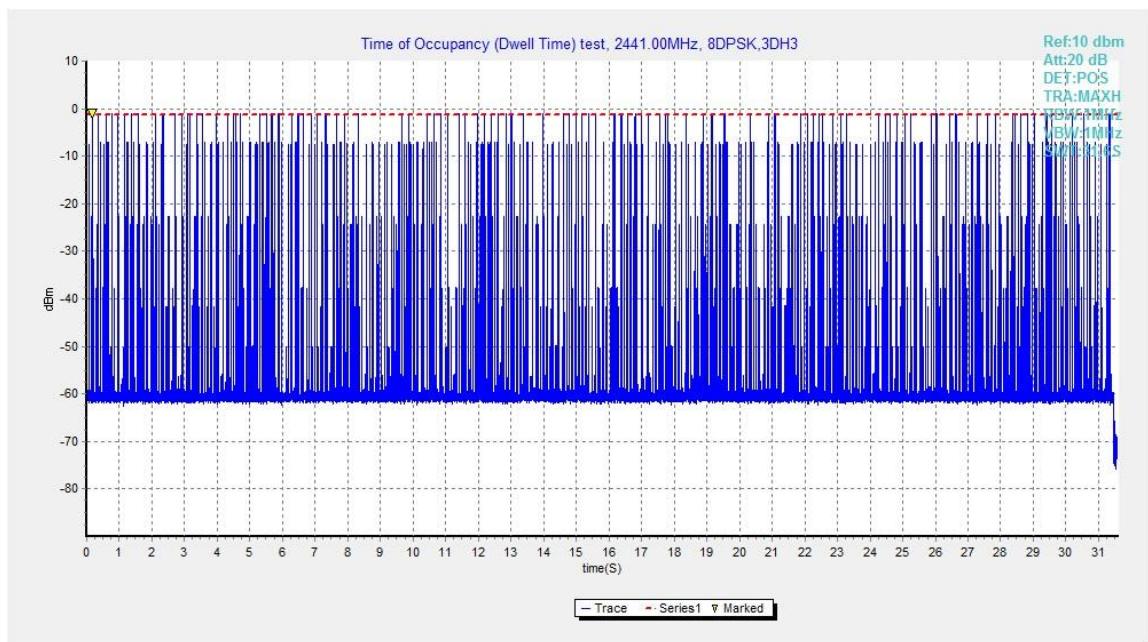


Fig.79. Number of Transmissions Measurement: Channel 39,Packet 3-DH3

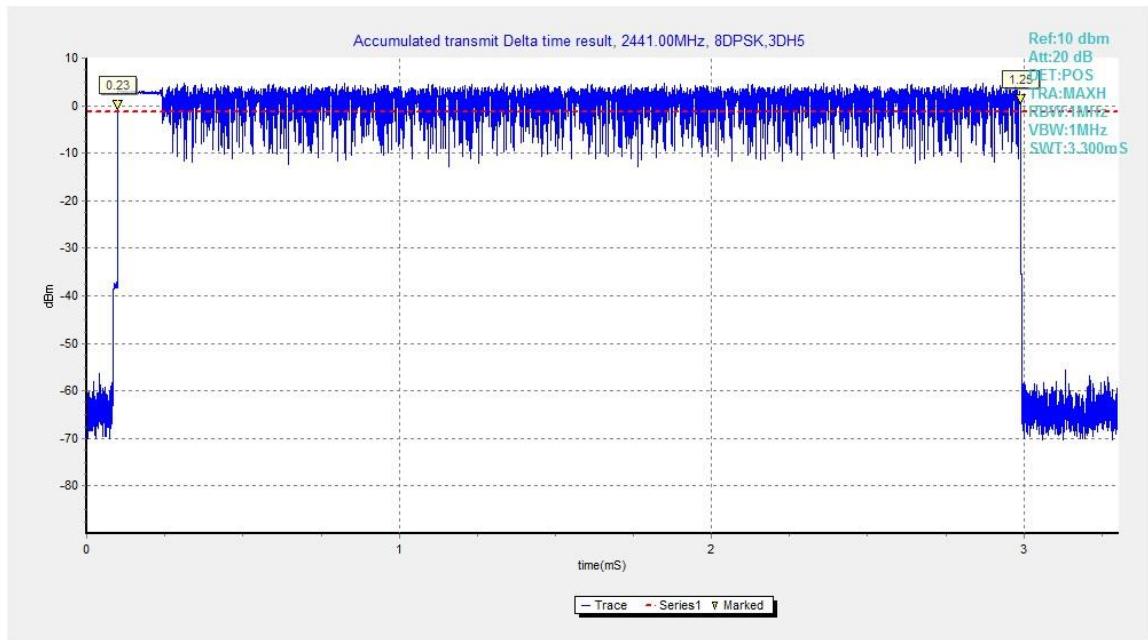


Fig.80. Time of occupancy (Dwell Time): Channel 39, Packet 3-DH5

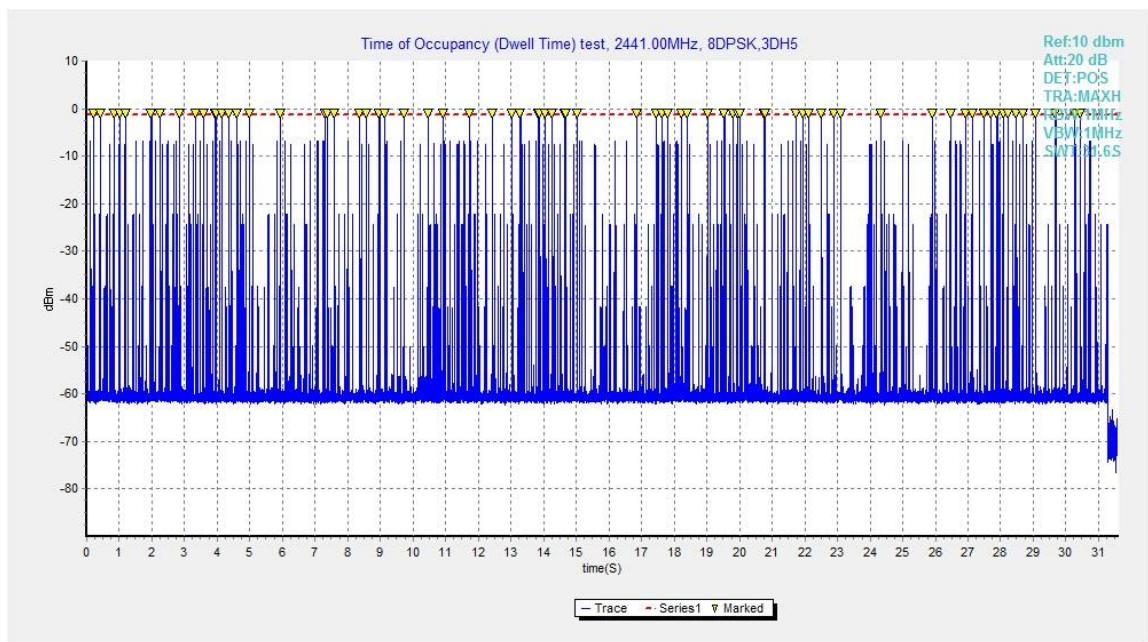


Fig.81. Number of Transmissions Measurement: Channel 39,Packet 3-DH5

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.82	943.50	NA
39	Fig.83	947.25	NA
78	Fig.84	942.75	NA

For π/4 DQPSK

Channel	20dB Bandwidth (kHz)		Conclusion
0	Fig.85	1284.00	NA
39	Fig.86	1281.75	NA
78	Fig.87	1283.25	NA

For 8DPSK

Channel	20dB Bandwidth (kHz)		Conclusion
0	Fig.88	1274.25	NA
39	Fig.89	1269.75	NA
78	Fig.90	1270.50	NA

Conclusion: NA

Test graphs as below:

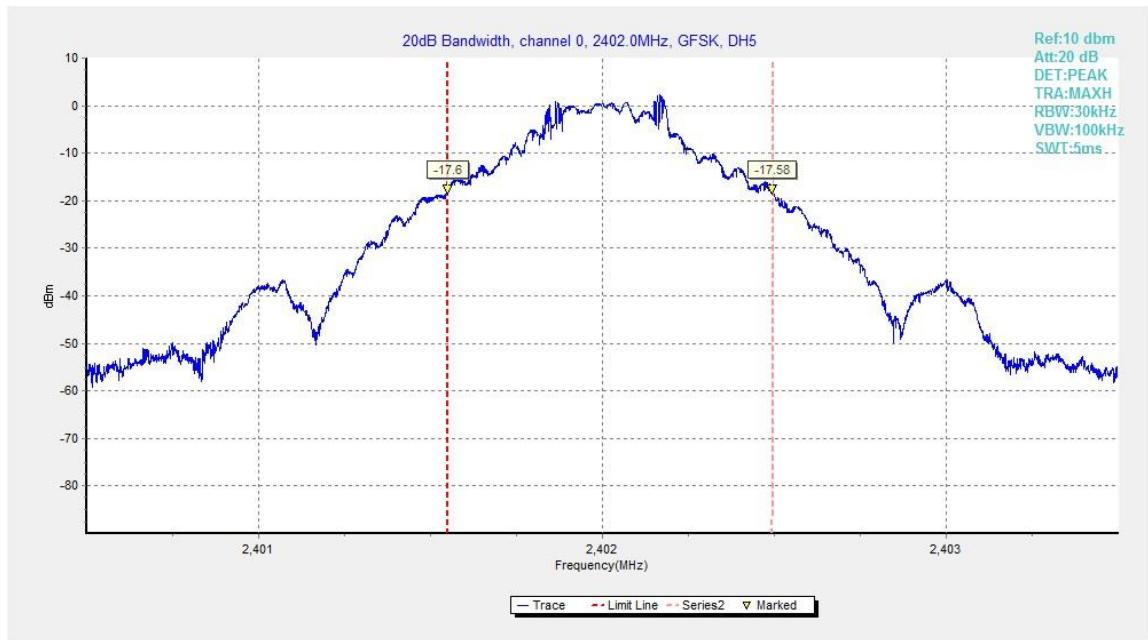


Fig.82. 20dB Bandwidth: GFSK, Channel 0

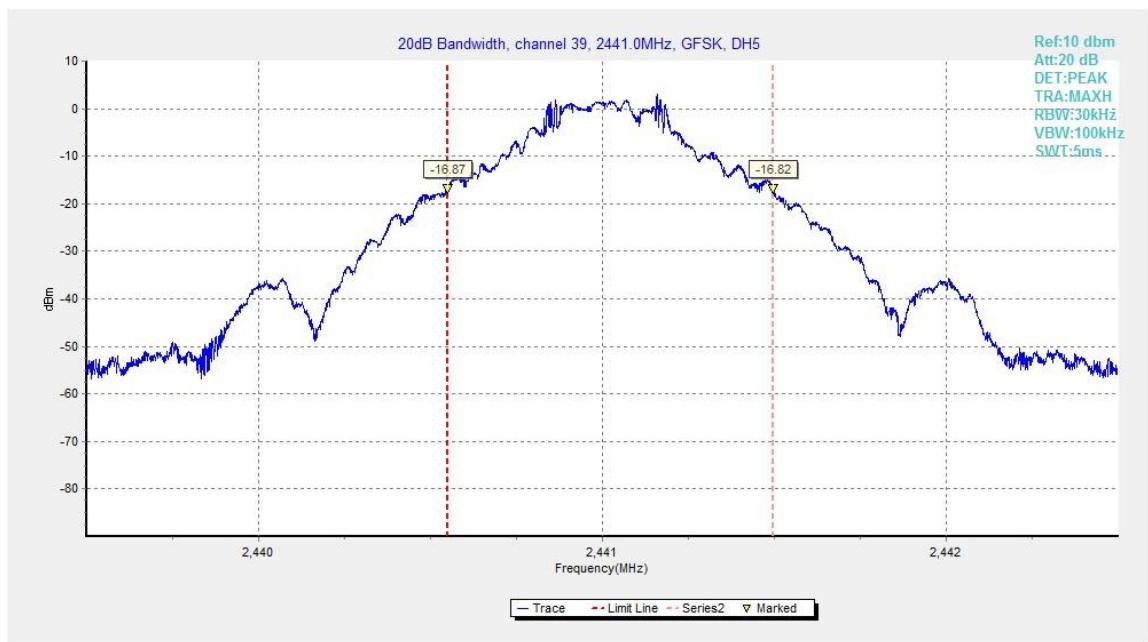


Fig.83. 20dB Bandwidth: GFSK, Channel 39

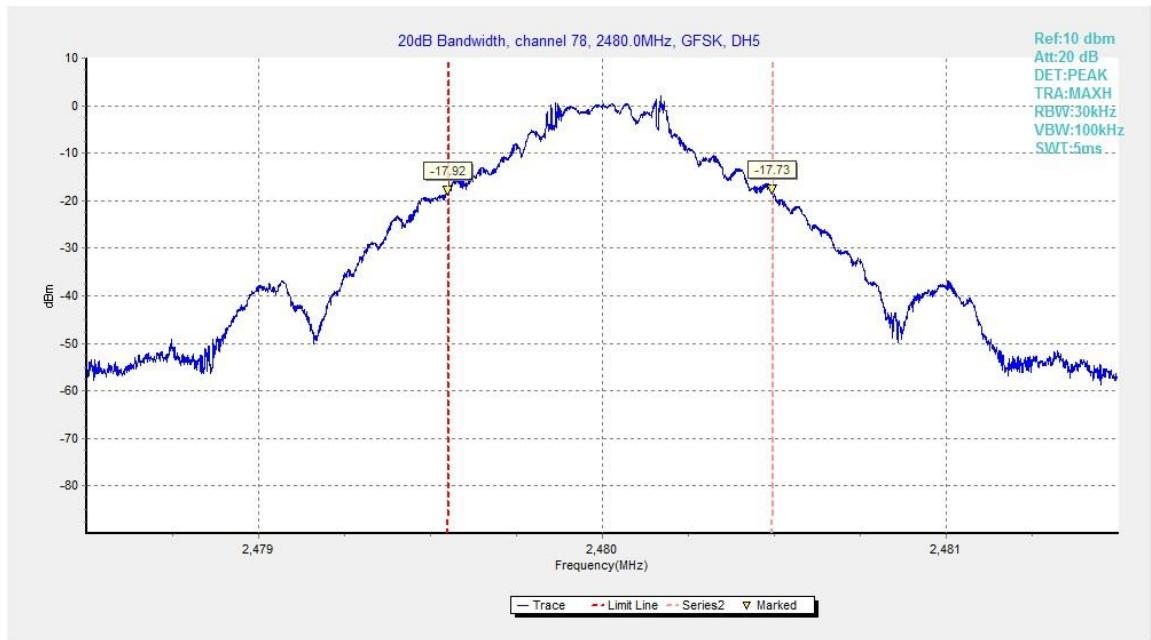


Fig.84. 20dB Bandwidth: GFSK, Channel 78

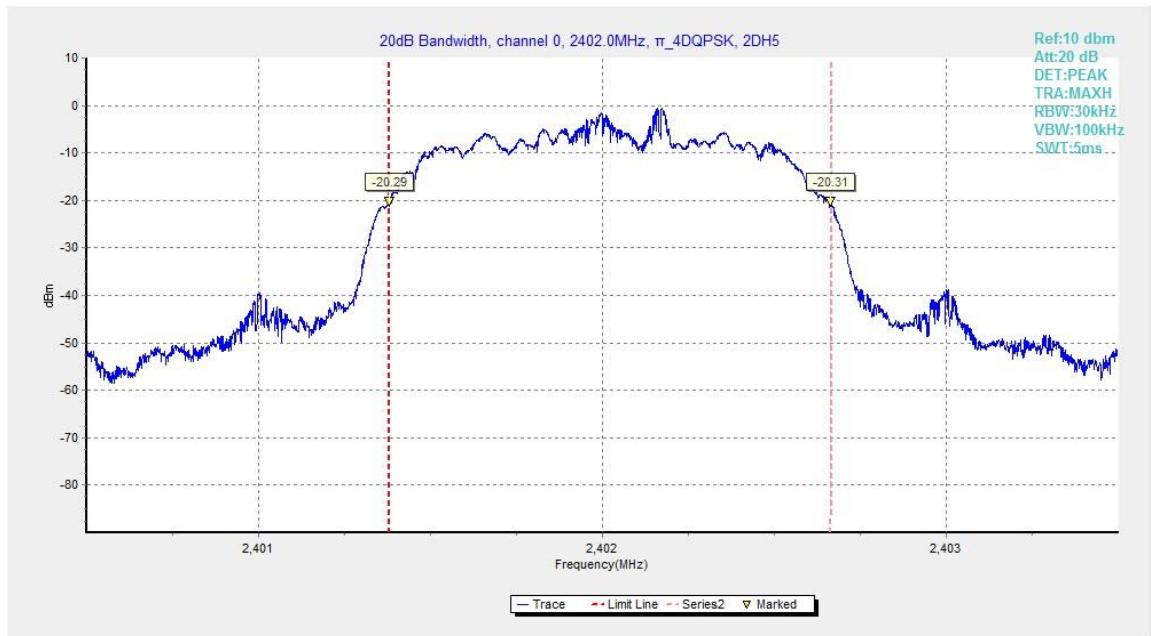


Fig.85. 20dB Bandwidth: $\pi/4$ DQPSK, Channel 0

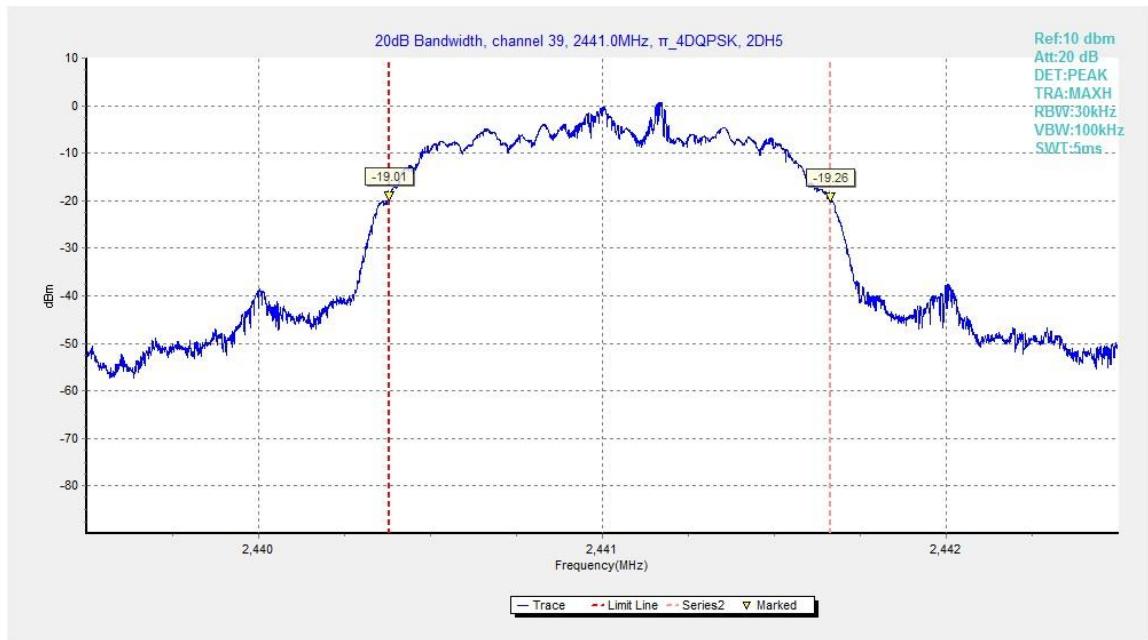


Fig.86. 20dB Bandwidth: $\pi/4$ DQPSK, Channel 39

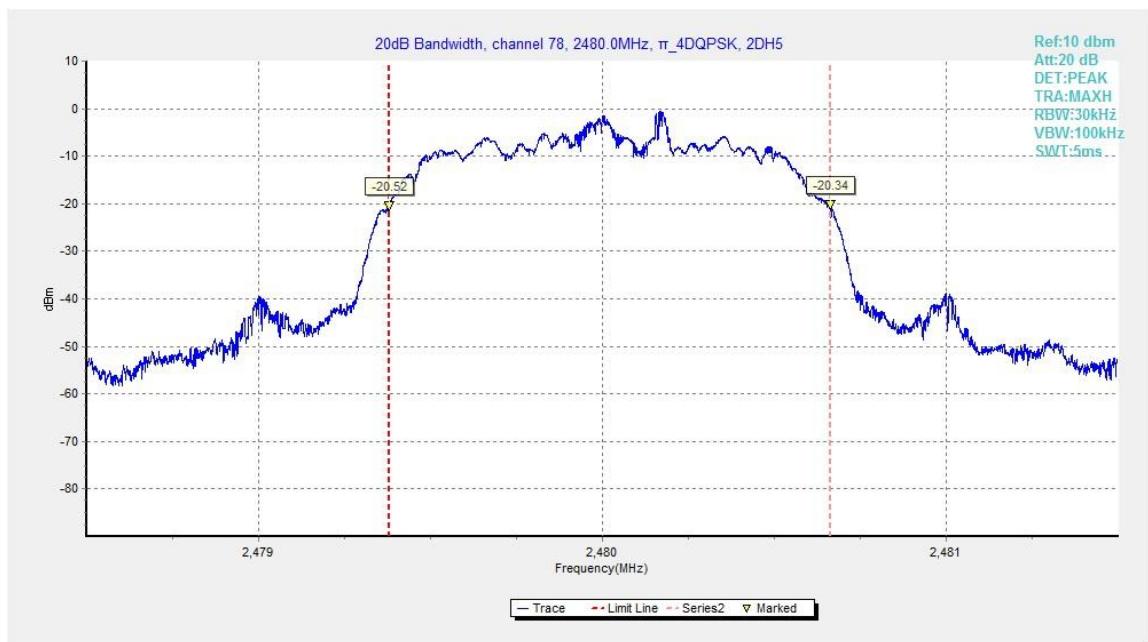


Fig.87. 20dB Bandwidth: $\pi/4$ DQPSK, Channel 78

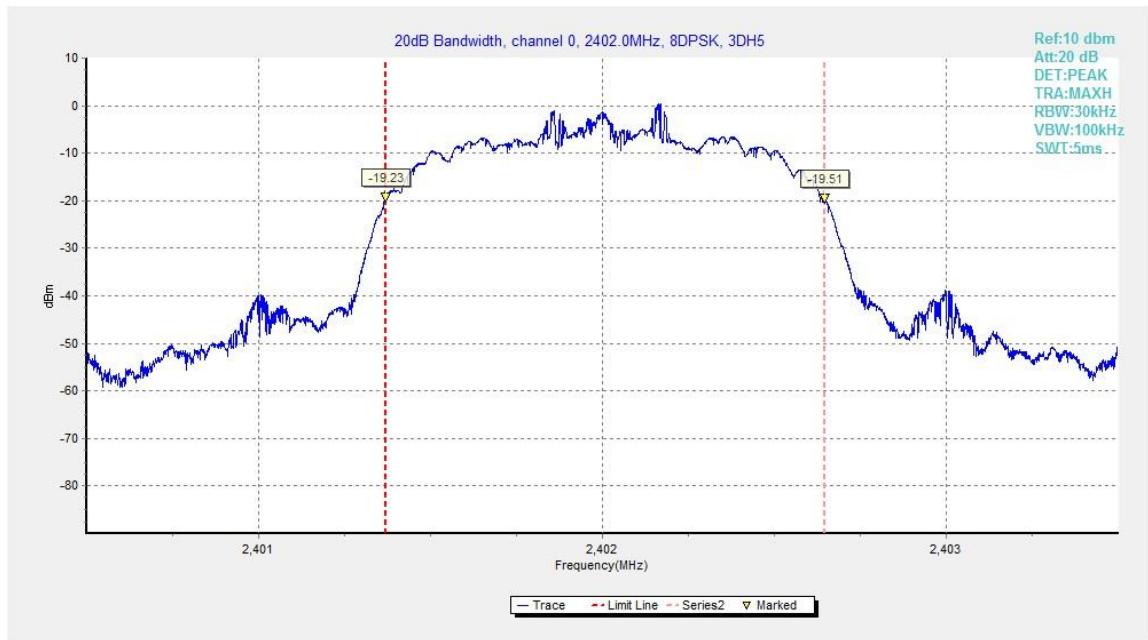


Fig.88. 20dB Bandwidth: 8DPSK, Channel 0

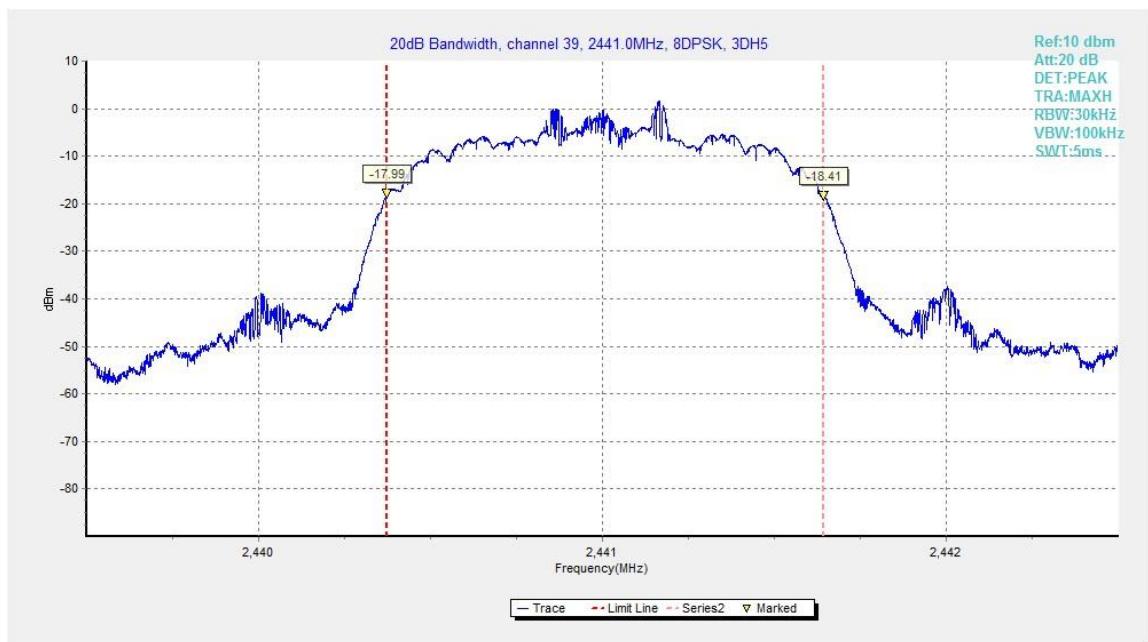


Fig.89. 20dB Bandwidth: 8DPSK, Channel 39

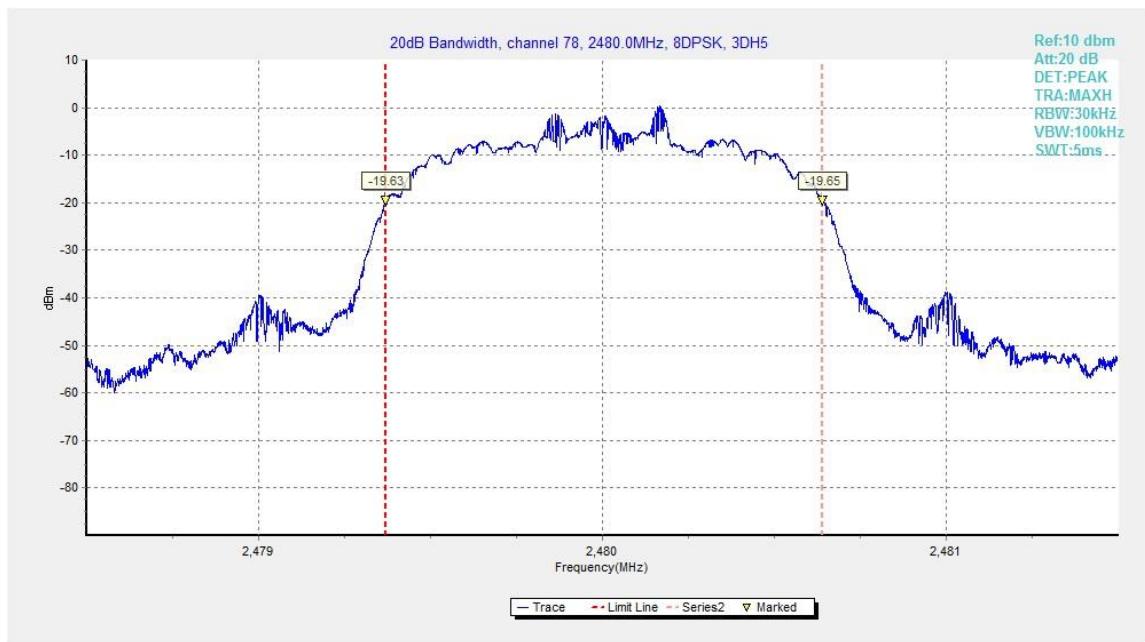


Fig.90. 20dB Bandwidth: 8DPSK, Channel 78

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.91	838.50	P

For $\pi/4$ DQPSK

Channel	Carrier frequency separation (kHz)		Conclusion
39	Fig.92	1293.00	P

For 8DPSK

Channel	Carrier frequency separation (kHz)		Conclusion
39	Fig.93	1012.50	P

Conclusion: PASS

Test graphs as below:

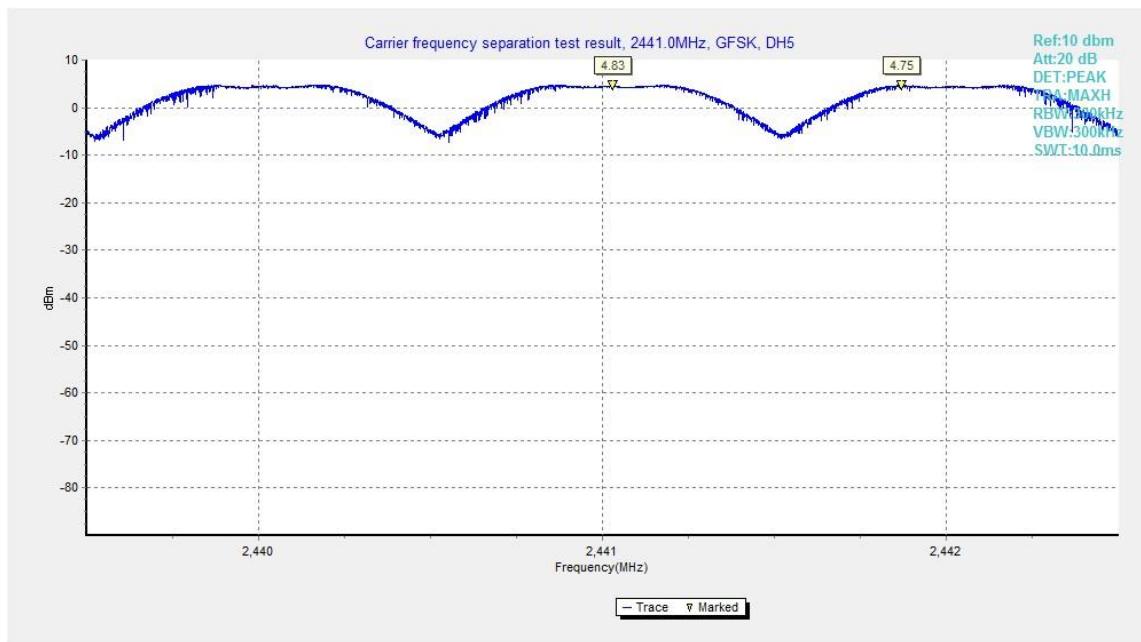


Fig.91. Carrier frequency separation measurement: GFSK, Channel 39

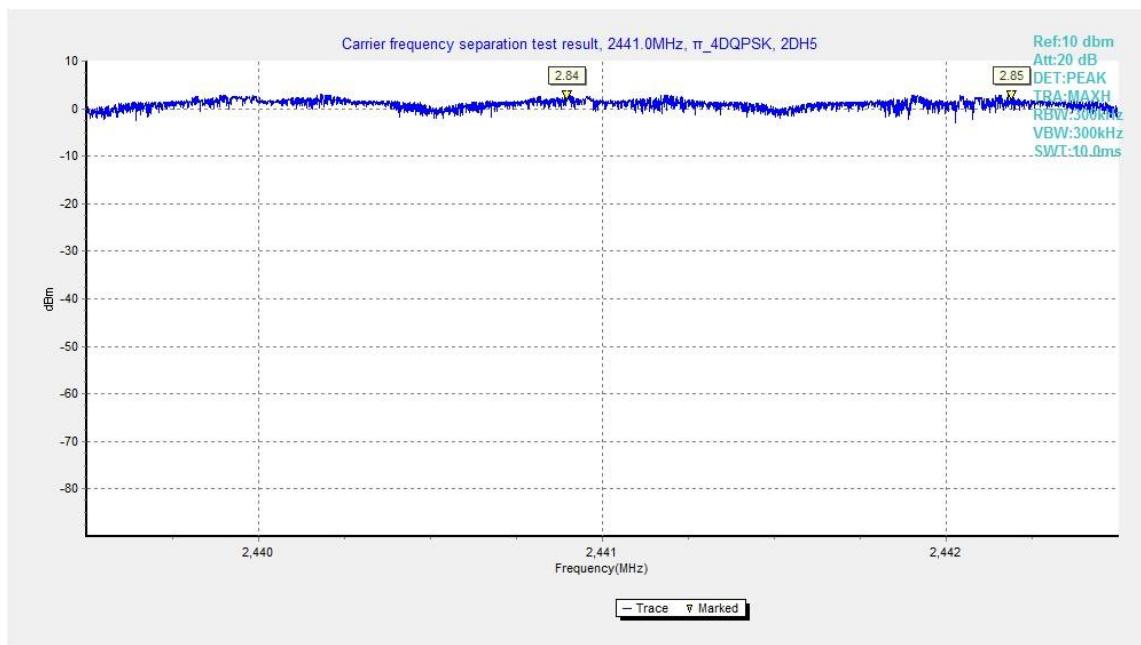


Fig.92. Carrier frequency separation measurement: π/4 DQPSK, Channel 39

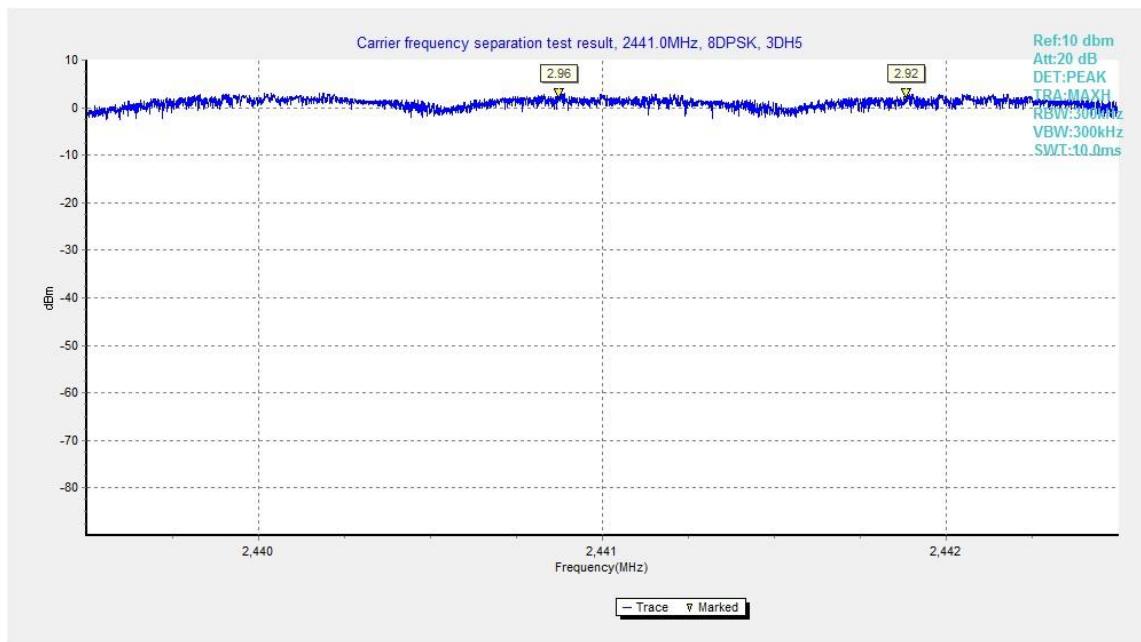


Fig.93. Carrier frequency separation measurement: 8DPSK, Channel 39

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 π/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:

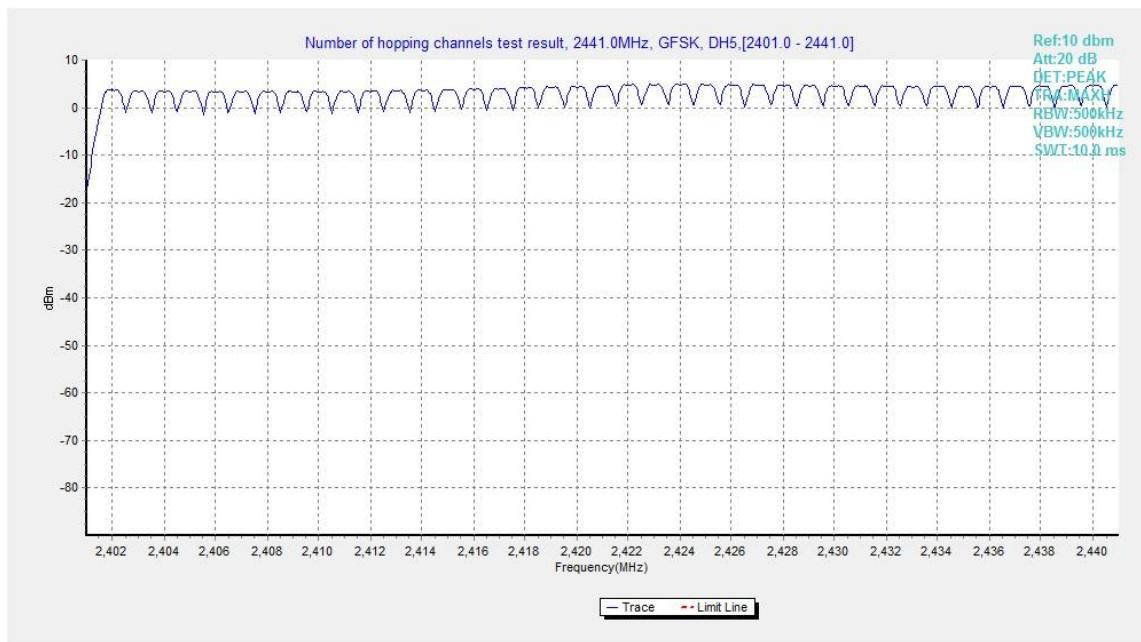


Fig.94. Number of hopping frequencies: GFSK, Channel 0 - 39

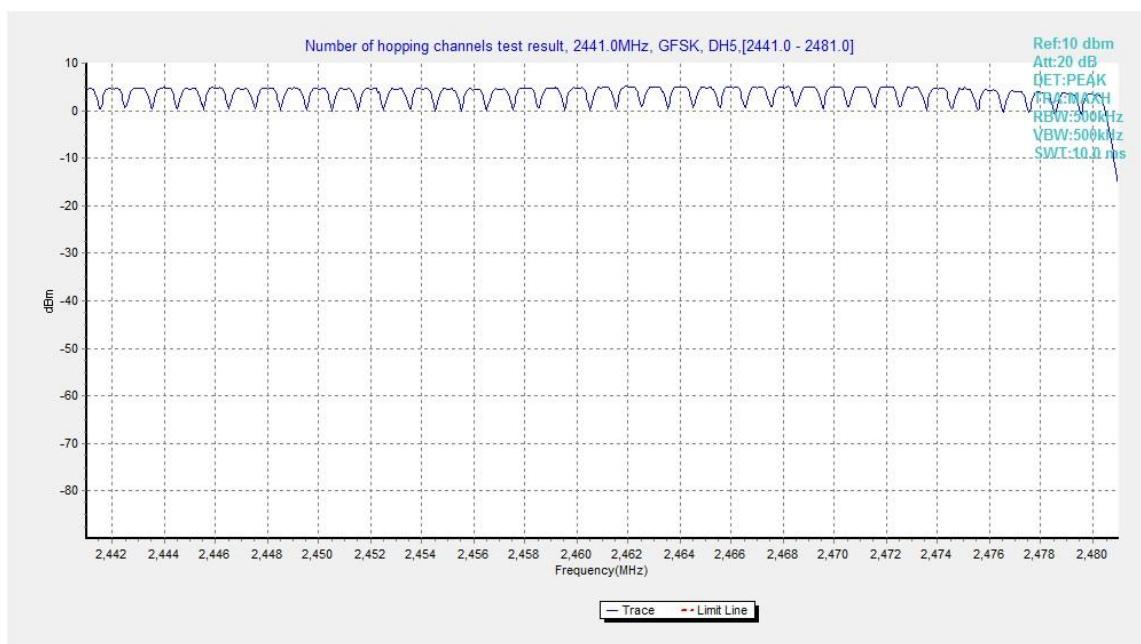


Fig.95. Number of hopping frequencies: GFSK, Channel 40 - 78

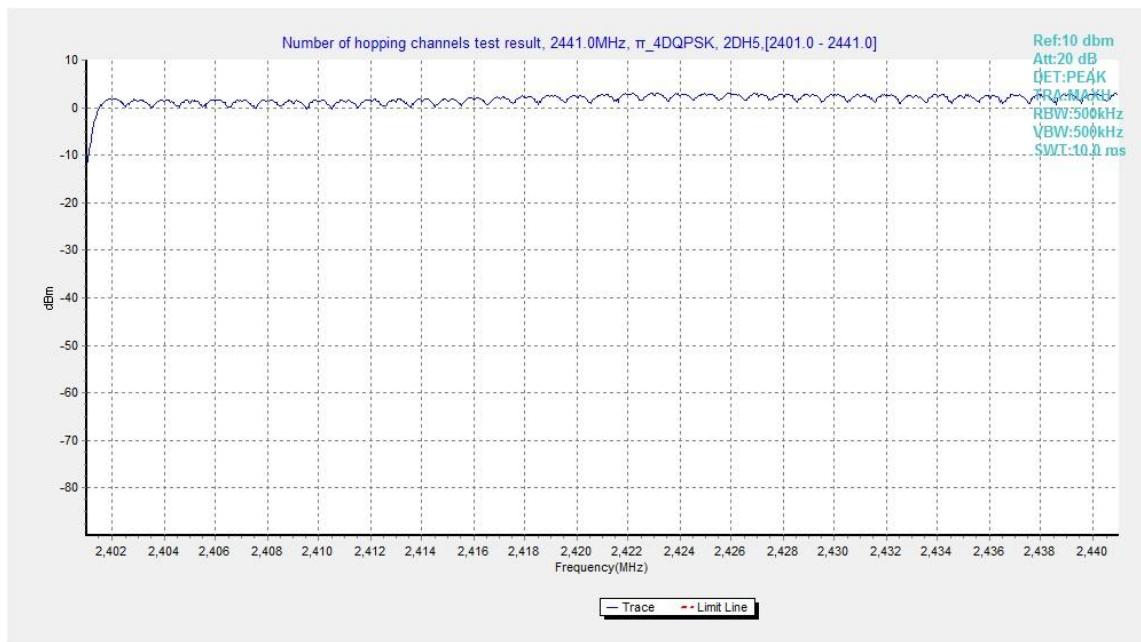


Fig.96. Number of hopping frequencies: $\pi/4$ DQPSK, Channel 0 - 39

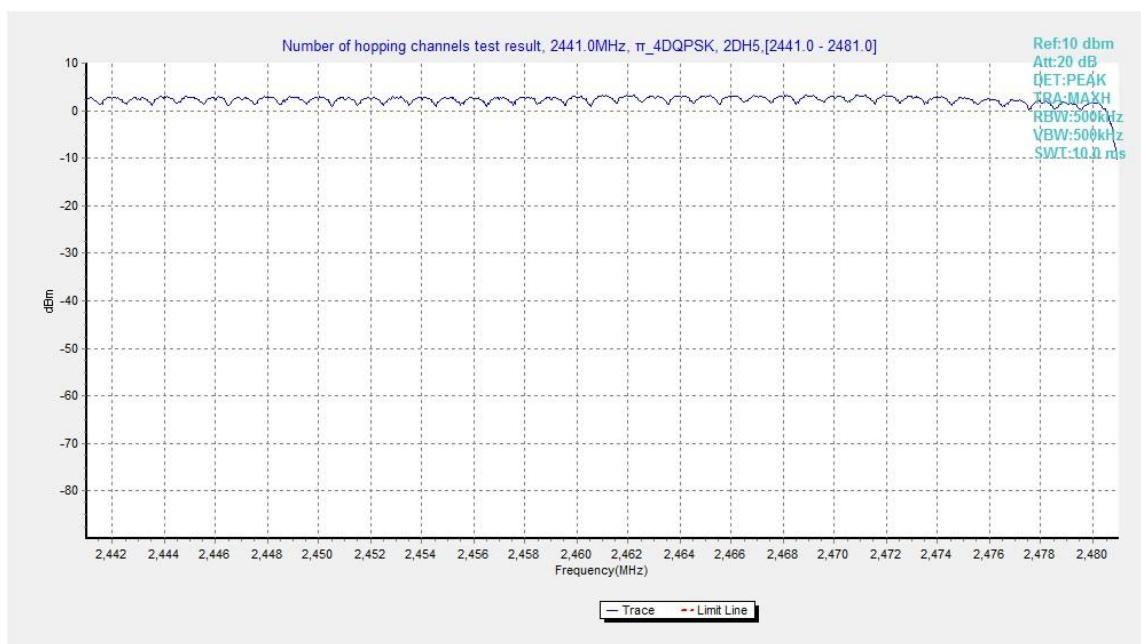


Fig.97. Number of hopping frequencies: $\pi/4$ DQPSK, Channel 40 - 78

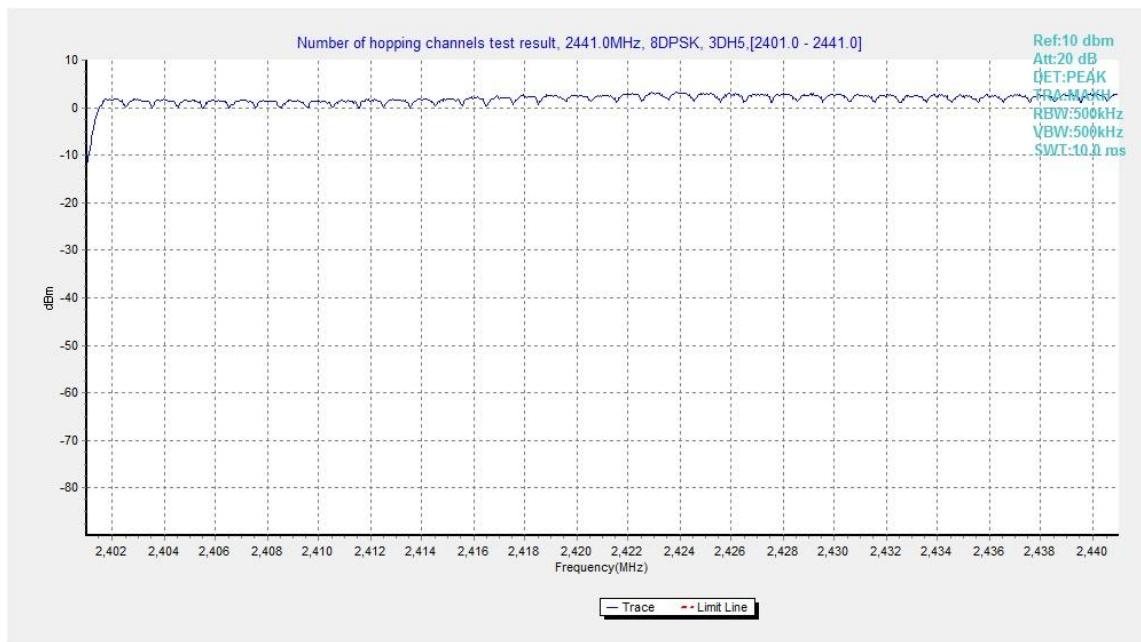


Fig.98. Number of hopping frequencies: 8DPSK, Channel 0 - 39

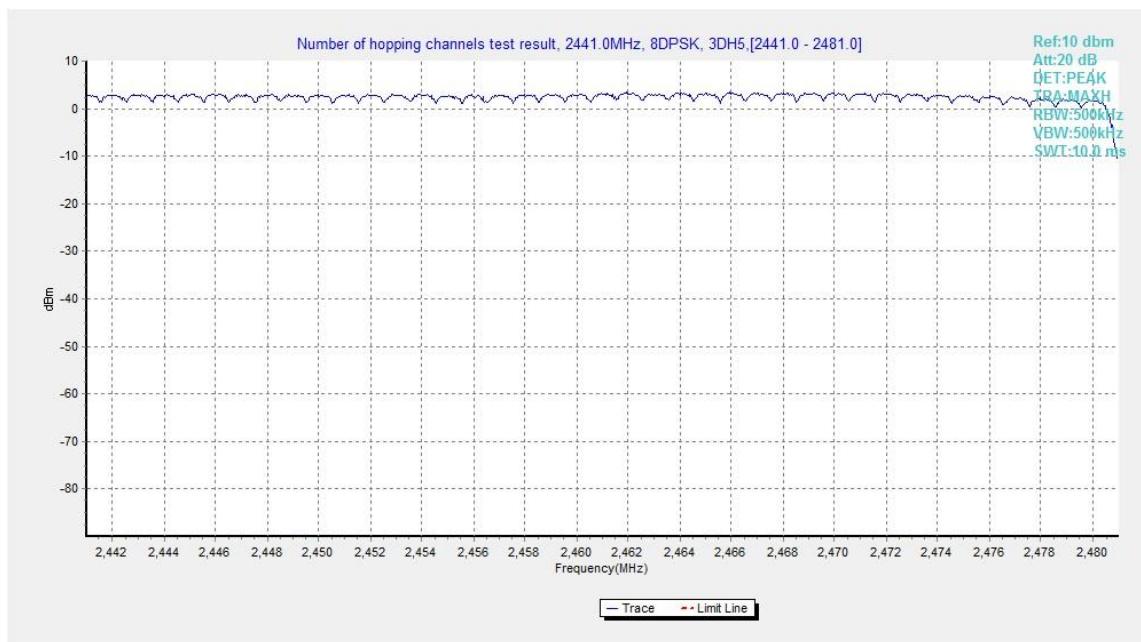


Fig.99. Number of hopping frequencies: 8DPSK, Channel 40 - 78

A.10. AC Powerline Conducted Emission

Method of Measurement: See ANSI C63.10-clause 6.2

1. the one EUT cable configuration and arrangement and mode of operation that produced the emission with the highest amplitude relative to the limit is selected for the final measurement, while applying the appropriate modulating signal to the EUT.
2. If the EUT is relocated from an exploratory test site to a final test site, the highest emissions shall be remaximized at the final test location before final ac power-line conducted emission measurements are performed.
3. The final test on all current-carrying conductors of all of the power cords to the equipment that comprises the EUT (but not the cords associated with other non-EUT equipment in the system) is then performed for the full frequency range for which the EUT is being tested for compliance without further variation of the EUT arrangement, cable positions, or EUT mode of operation.
4. If the EUT is comprised of equipment units that have their own separate ac power connections, e.g., floor-standing equipment with independent power cords for each shelf that are able to connect directly to the ac power network, each current-carrying conductor of one unit is measured while the other units are connected to a second (or more) LISN(s). All units shall be separately measured. If a power strip is provided by the manufacturer, to supply all of the units making up the EUT, only the conductors in the power cord of the power strip shall be measured.
5. If the EUT uses a detachable antenna, these measurements shall be made with a suitable dummy load connected to the antenna output terminals; otherwise, the tests shall be made with the antenna connected and, if adjustable, fully extended. When measuring the ac conducted emissions from a device that operates between 150 kHz and 30 MHz a non-detachable antenna may be replaced with a dummy load for the measurements within the fundamental emission band of the transmitter, but only for those measurements.³⁶ Record the six highest EUT emissions relative to the limit of each of the current-carrying conductors of the power cords of the equipment that comprises the EUT over the frequency range specified by the procuring or regulatory agency. Diagram or photograph the test setup that was used. See Clause 8 for full reporting requirements.

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)

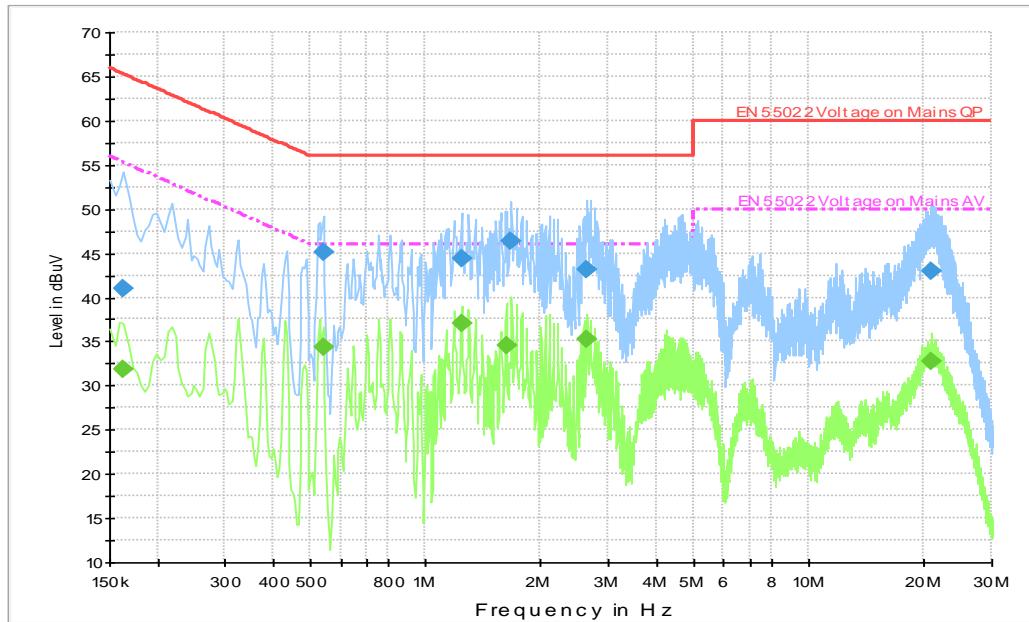
Frequency range (MHz)	Average Limit (dB μ V)	Conclusion
0.15 to 0.5	56 to 46	P
0.5 to 5	46	
5 to 30	50	

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

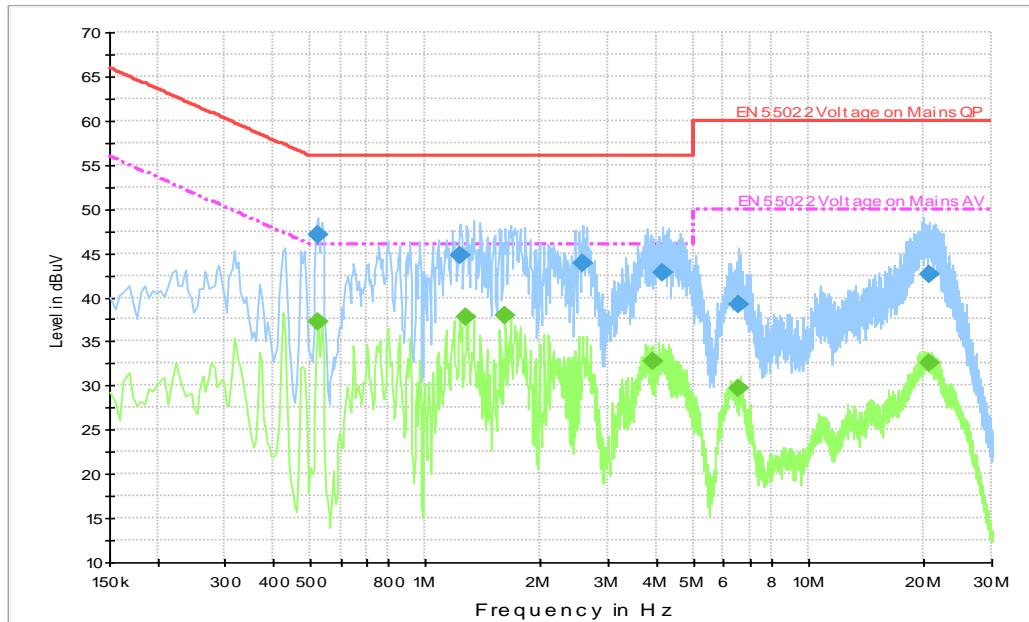
Test graphs as below:

Traffic (With AE3):

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.163500	41.0	10000.0	9.000	GND	L1	10.3	24.3	65.3
0.541500	45.1	10000.0	9.000	GND	L1	10.3	10.9	56.0
1.243500	44.4	10000.0	9.000	GND	L1	10.4	11.6	56.0
1.671000	46.3	10000.0	9.000	GND	L1	10.4	9.7	56.0
2.643000	43.2	10000.0	9.000	GND	L1	10.5	12.8	56.0
20.899500	42.9	10000.0	9.000	GND	L1	11.4	17.1	60.0

Final Result 2

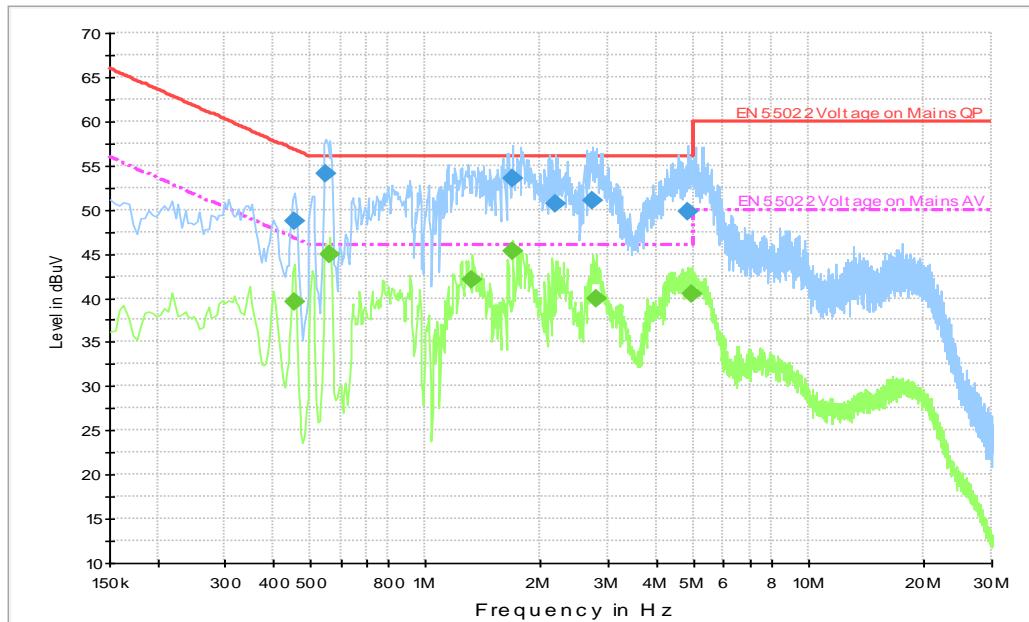
Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.163500	31.8	10000.0	9.000	GND	L1	10.3	23.5	55.3
0.541500	34.4	10000.0	9.000	GND	L1	10.3	11.6	46.0
1.243500	37.0	10000.0	9.000	GND	L1	10.4	9.0	46.0
1.621500	34.6	10000.0	9.000	GND	L1	10.4	11.4	46.0
2.643000	35.3	10000.0	9.000	GND	L1	10.5	10.7	46.0
20.899500	32.8	10000.0	9.000	GND	L1	11.4	17.2	50.0

Idle (With AE3):

Final Result 1

Frequency (MHz)	QuasiPeak (dB μ V)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.523500	47.1	10000.0	9.000	GND	L1	10.3	8.9	56.0
1.225500	44.8	10000.0	9.000	GND	L1	10.4	11.2	56.0
2.571000	43.9	10000.0	9.000	GND	L1	10.5	12.1	56.0
4.137000	42.8	10000.0	9.000	GND	L1	10.5	13.2	56.0
6.594000	39.3	10000.0	9.000	GND	L1	10.7	20.7	60.0
20.584500	42.5	10000.0	9.000	GND	L1	11.4	17.5	60.0

Final Result 2

Frequency (MHz)	Average (dB μ V)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.523500	37.2	10000.0	9.000	GND	L1	10.3	8.8	46.0
1.279500	37.8	10000.0	9.000	GND	L1	10.4	8.2	46.0
1.612500	38.0	10000.0	9.000	GND	L1	10.4	8.0	46.0
3.916500	32.8	10000.0	9.000	GND	L1	10.5	13.2	46.0
6.594000	29.7	10000.0	9.000	GND	L1	10.7	20.3	50.0
20.584500	32.6	10000.0	9.000	GND	L1	11.4	17.4	50.0

Traffic (With AE4):

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.456000	48.6	10000.0	9.000	GND	L1	10.3	8.2	56.8
0.550500	54.1	10000.0	9.000	GND	L1	10.3	1.9	56.0
1.689000	53.5	10000.0	9.000	GND	L1	10.4	2.5	56.0
2.188500	50.6	10000.0	9.000	GND	L1	10.4	5.4	56.0
2.737500	51.1	10000.0	9.000	GND	L1	10.5	4.9	56.0
4.825500	49.7	10000.0	9.000	GND	L1	10.5	6.3	56.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.456000	39.5	10000.0	9.000	GND	L1	10.3	7.3	46.8
0.564000	44.8	10000.0	9.000	GND	L1	10.3	1.2	46.0
1.324500	42.0	10000.0	9.000	GND	L1	10.4	4.0	46.0
1.689000	45.3	10000.0	9.000	GND	L1	10.4	0.7	46.0
2.796000	39.9	10000.0	9.000	GND	L1	10.5	6.1	46.0
4.938000	40.4	10000.0	9.000	GND	L1	10.5	5.6	46.0



ANNEX E: Accreditation Certificate

United States Department of Commerce
National Institute of Standards and Technology



Certificate of Accreditation to ISO/IEC 17025:2005

NVLAP LAB CODE: 600118-0

Telecommunication Technology Labs, CAICT

Beijing
China

is accredited by the National Voluntary Laboratory Accreditation Program for specific services,
listed on the Scope of Accreditation, for:

Electromagnetic Compatibility & Telecommunications

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005.
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality
management system (refer to joint ISO-ILAC-IAF Communiqué dated January 2009).

2018-09-28 through 2019-09-30

Effective Dates



For the National Voluntary Laboratory Accreditation Program

END OF REPORT