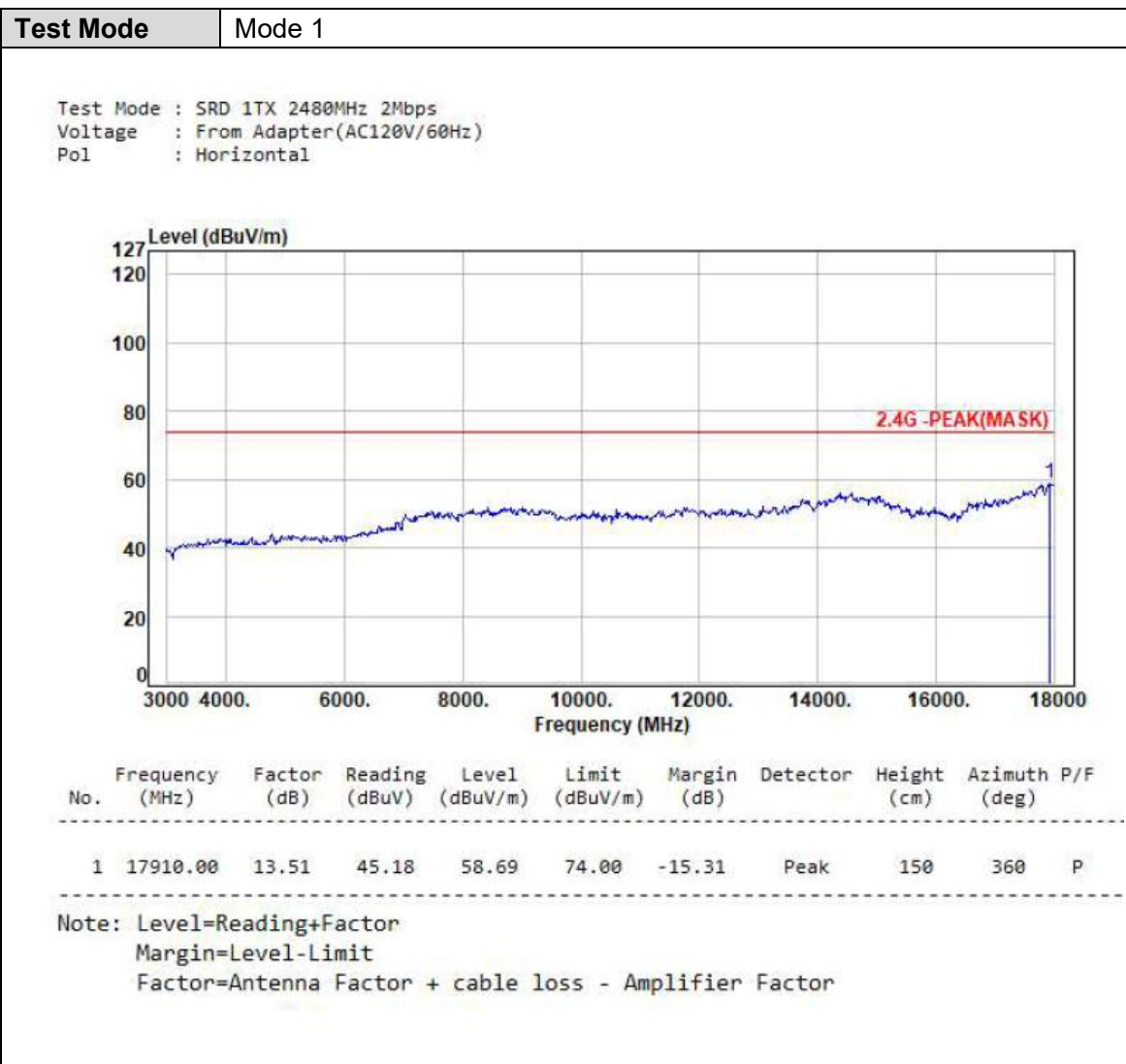
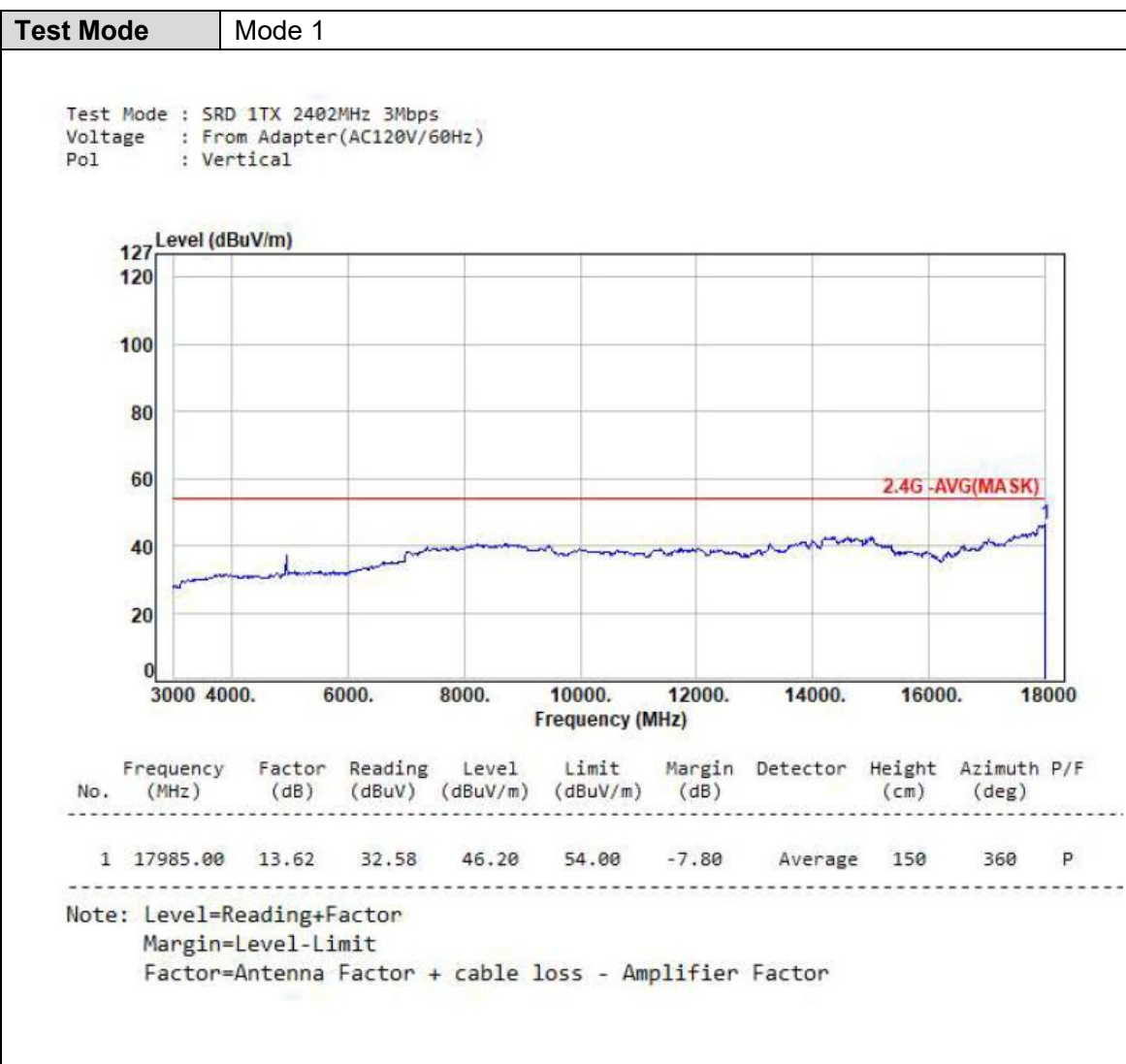
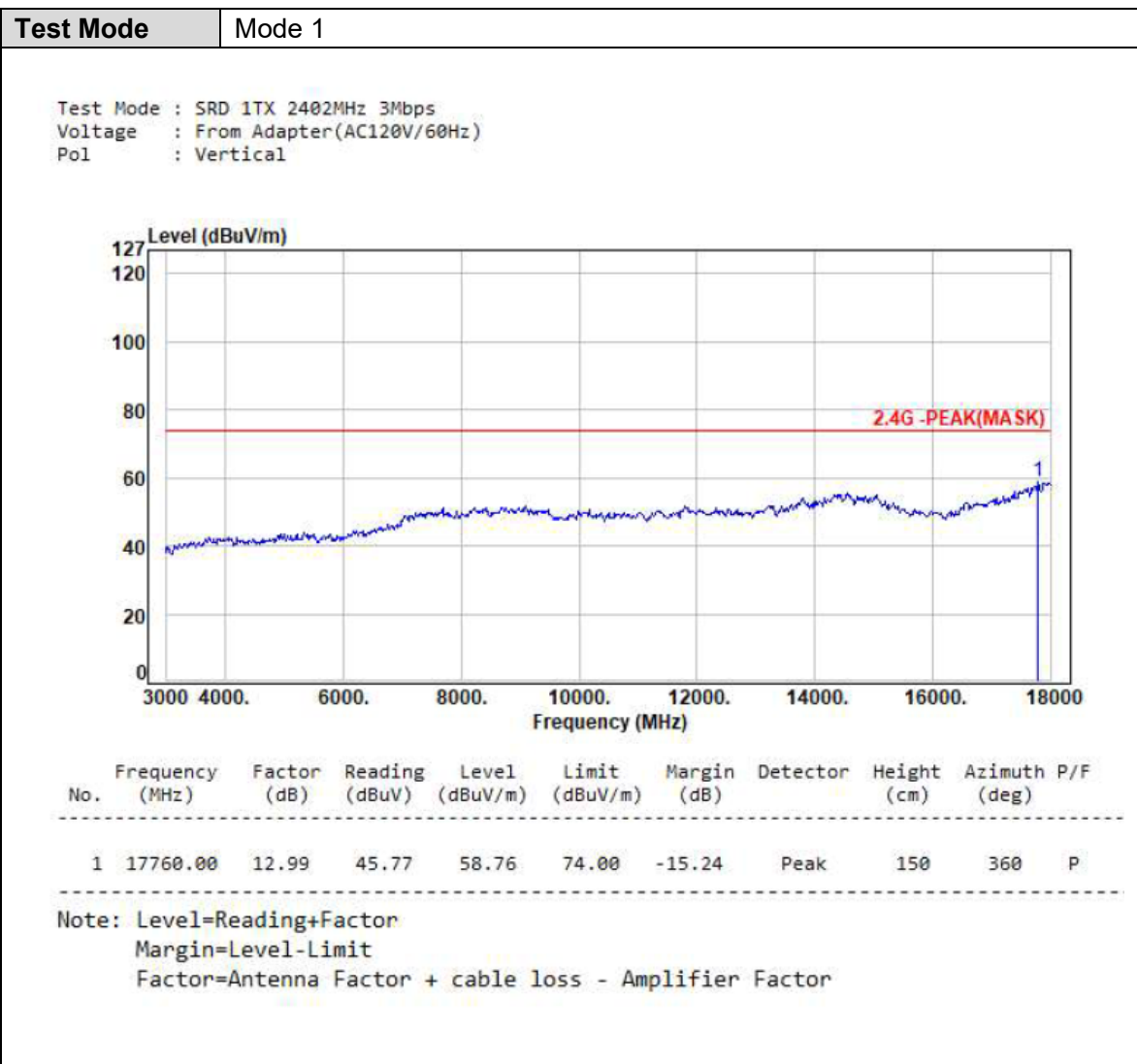
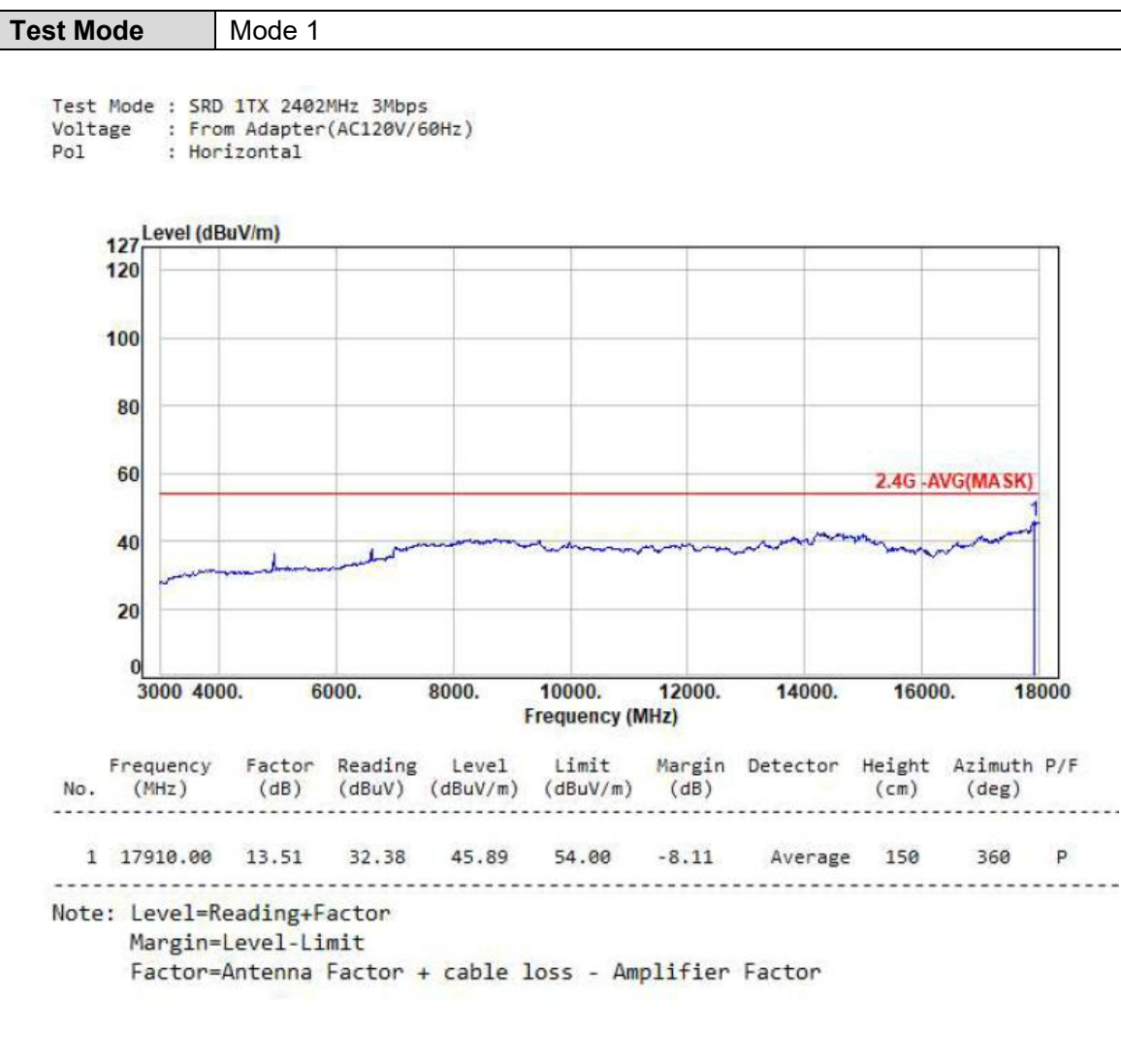
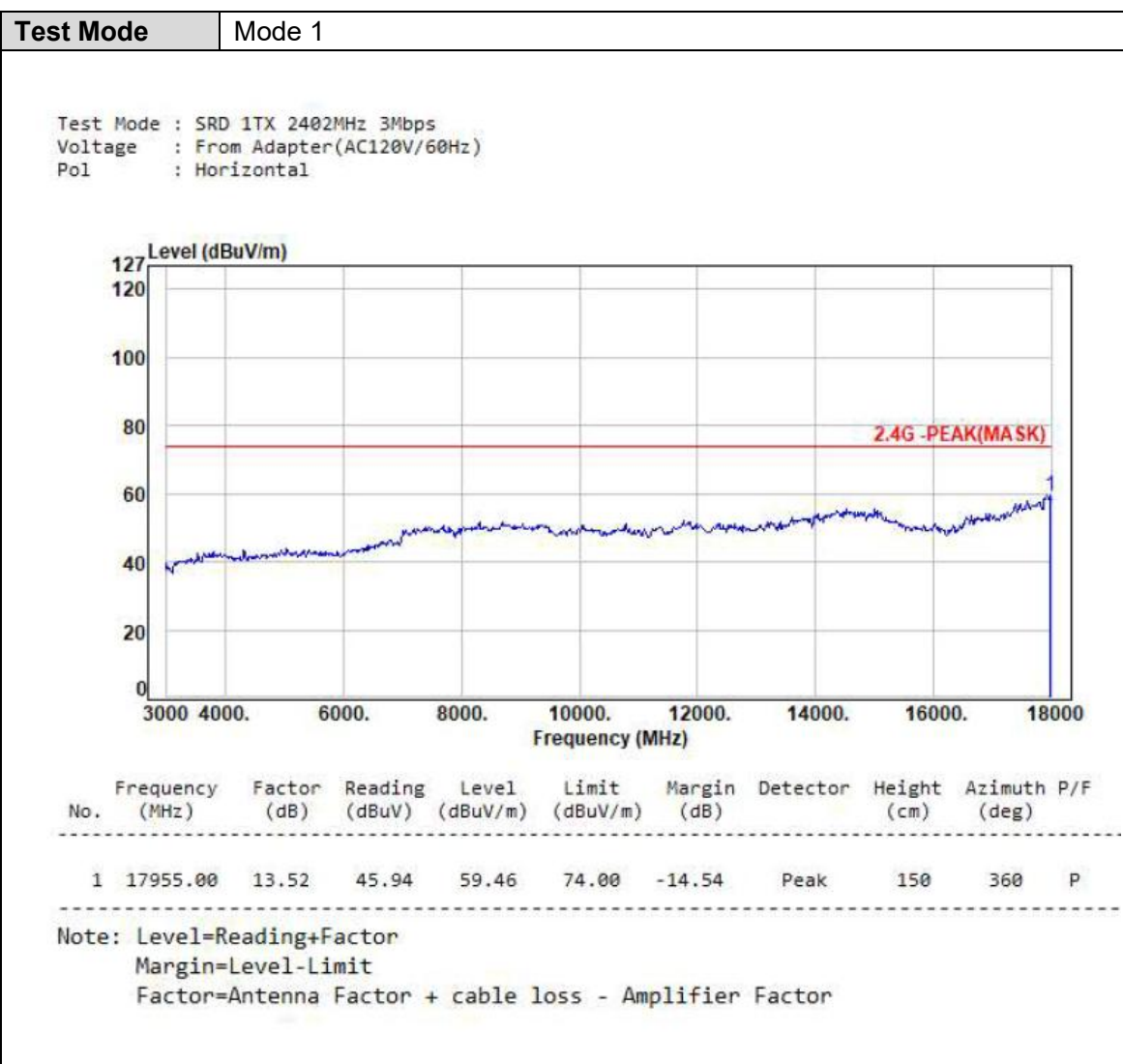


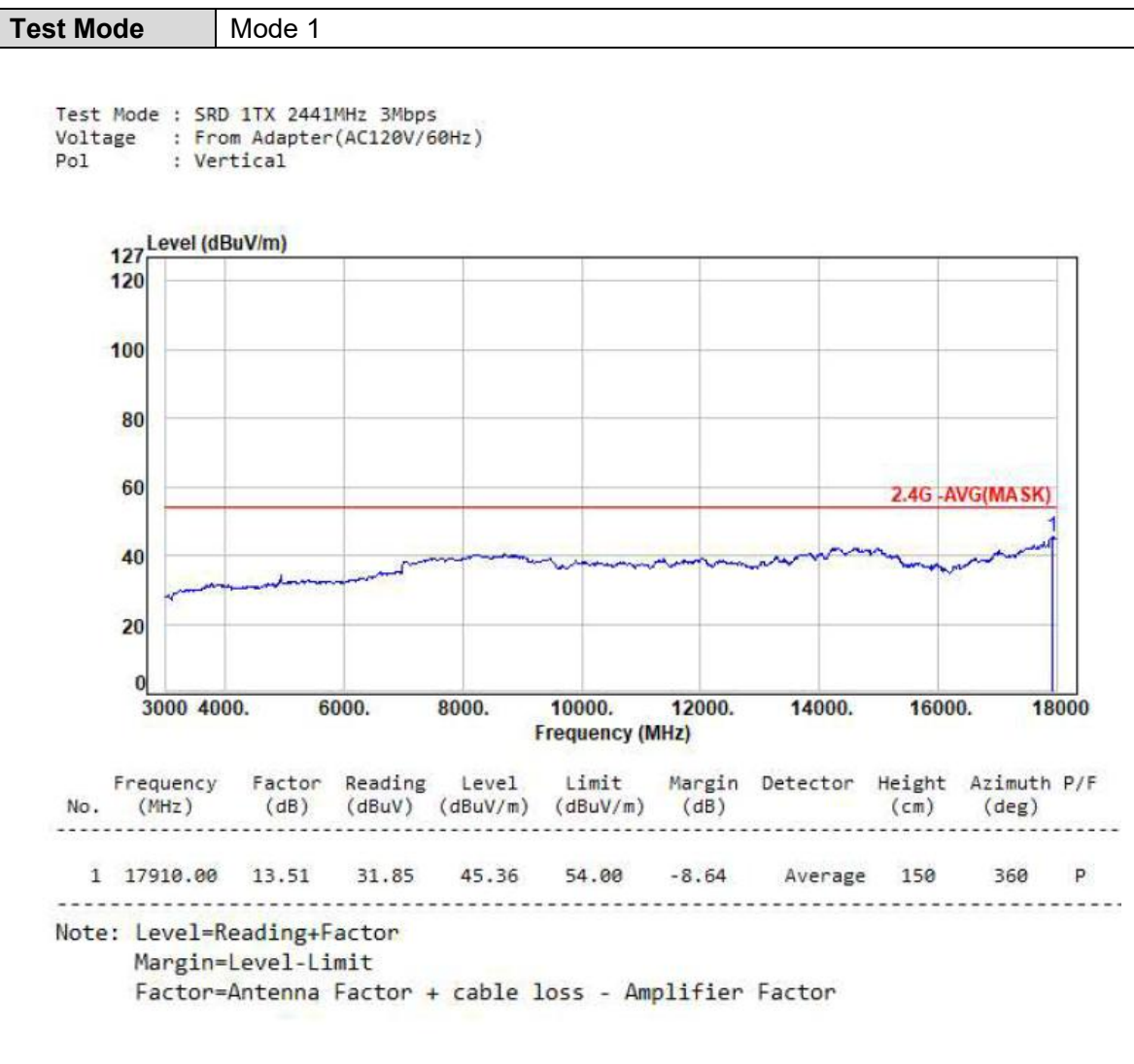


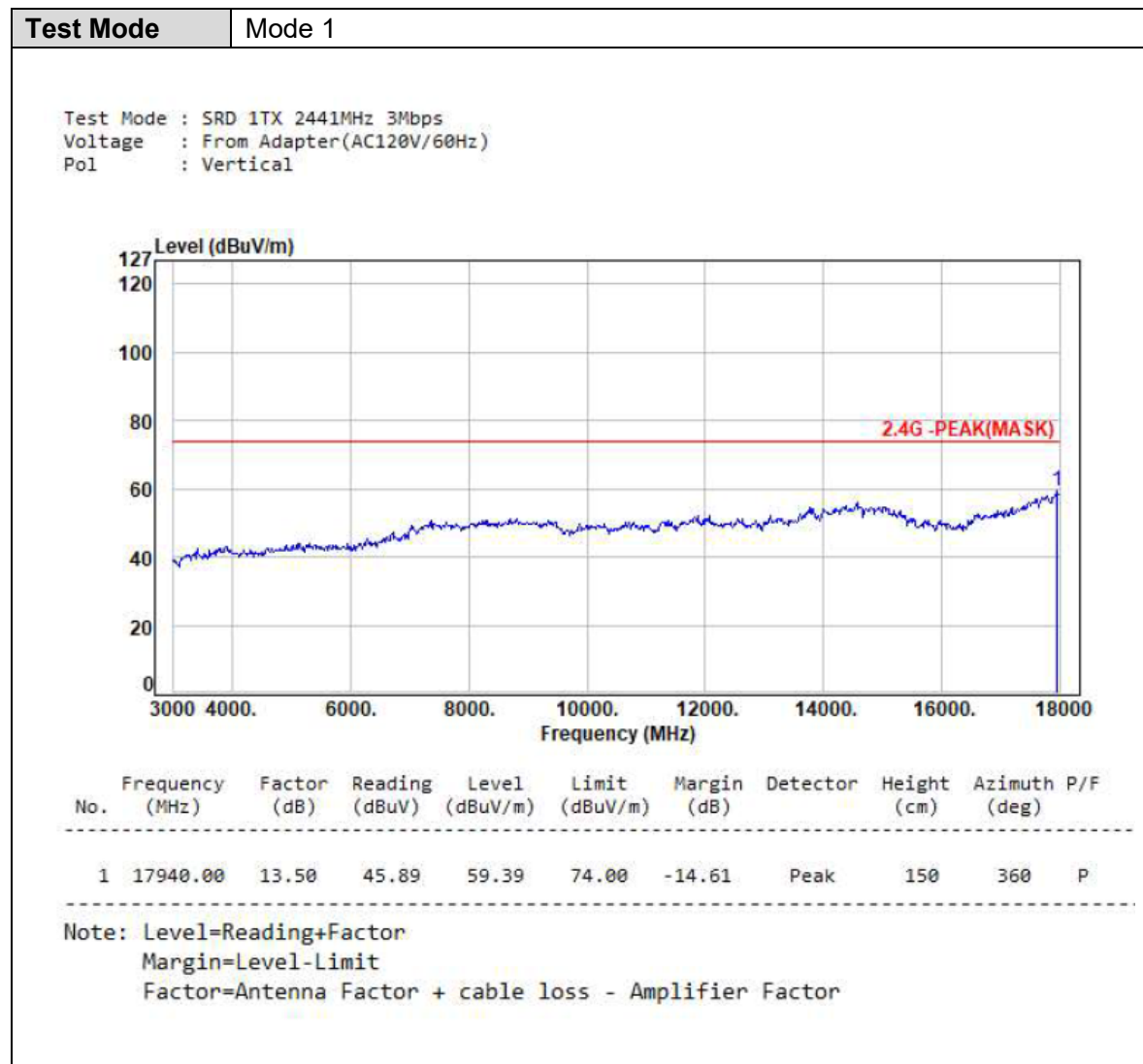


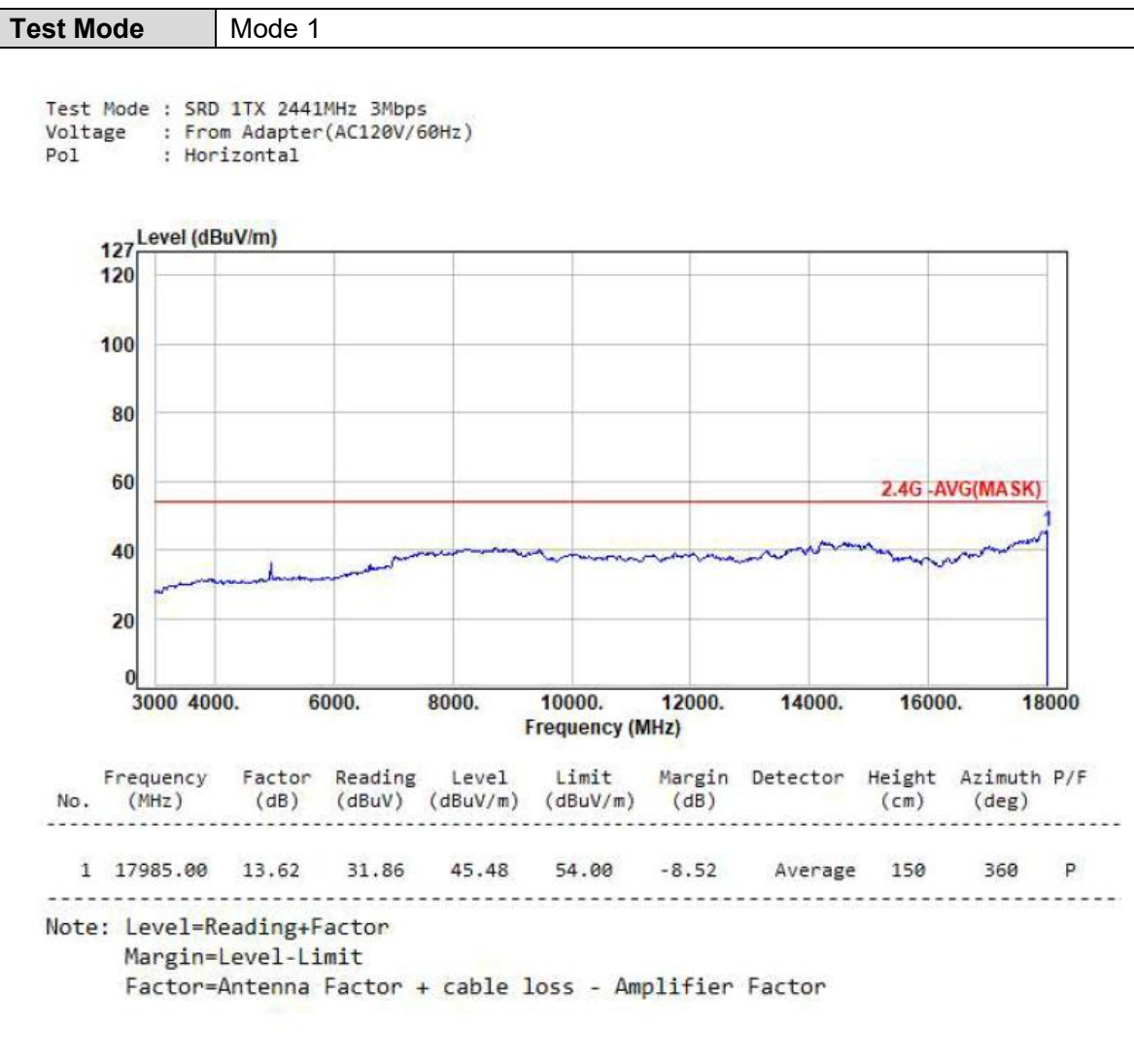


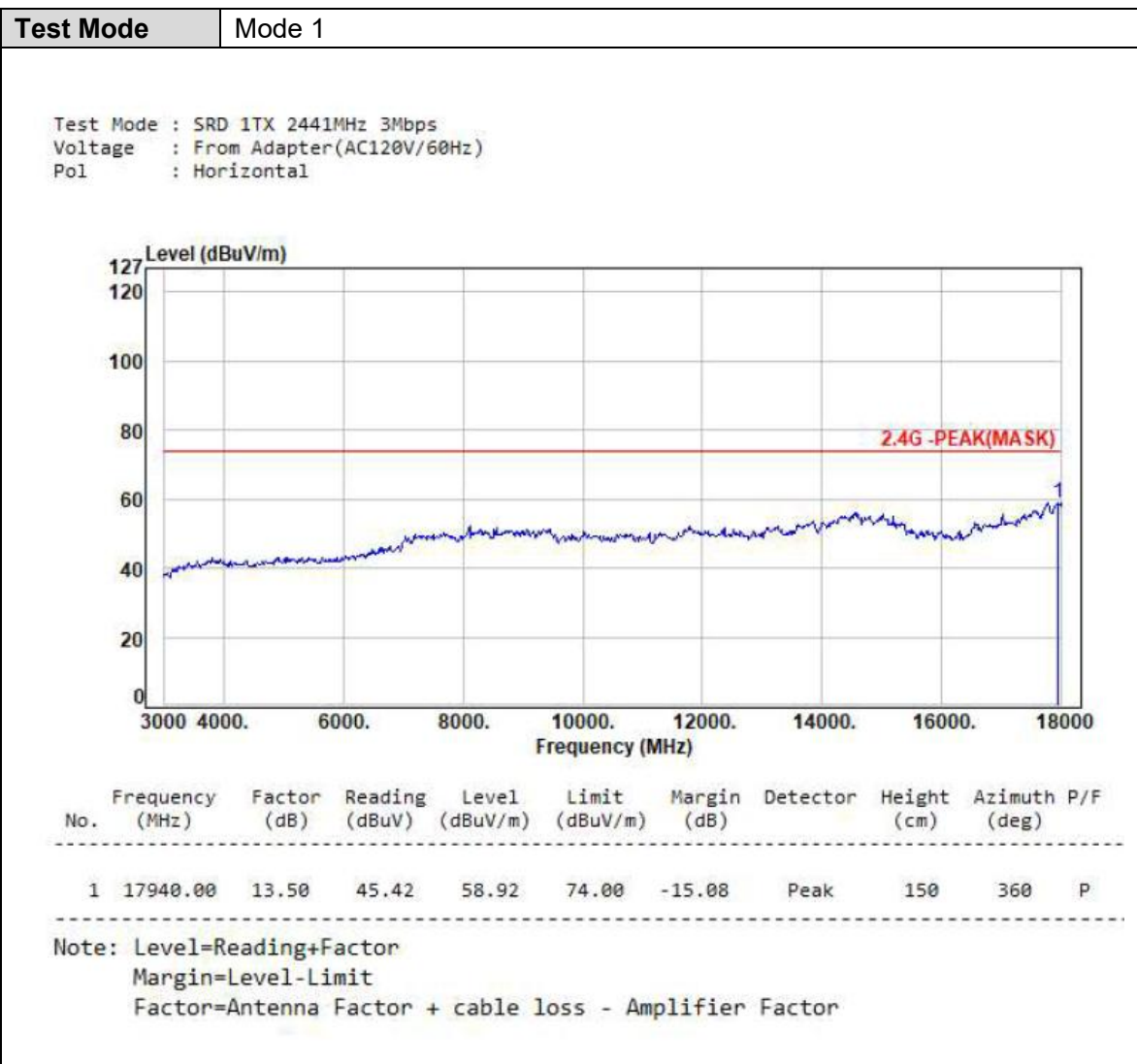


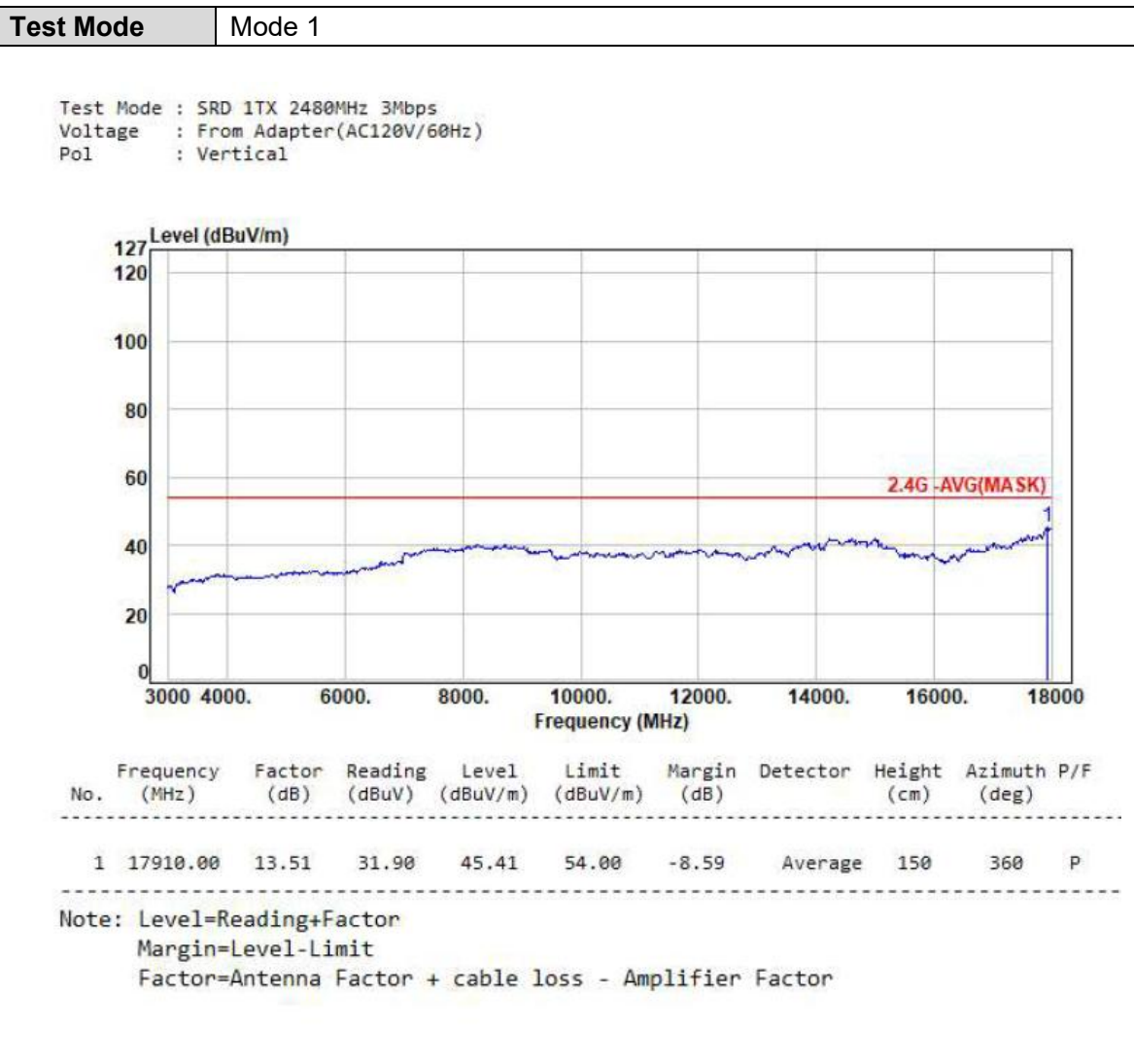


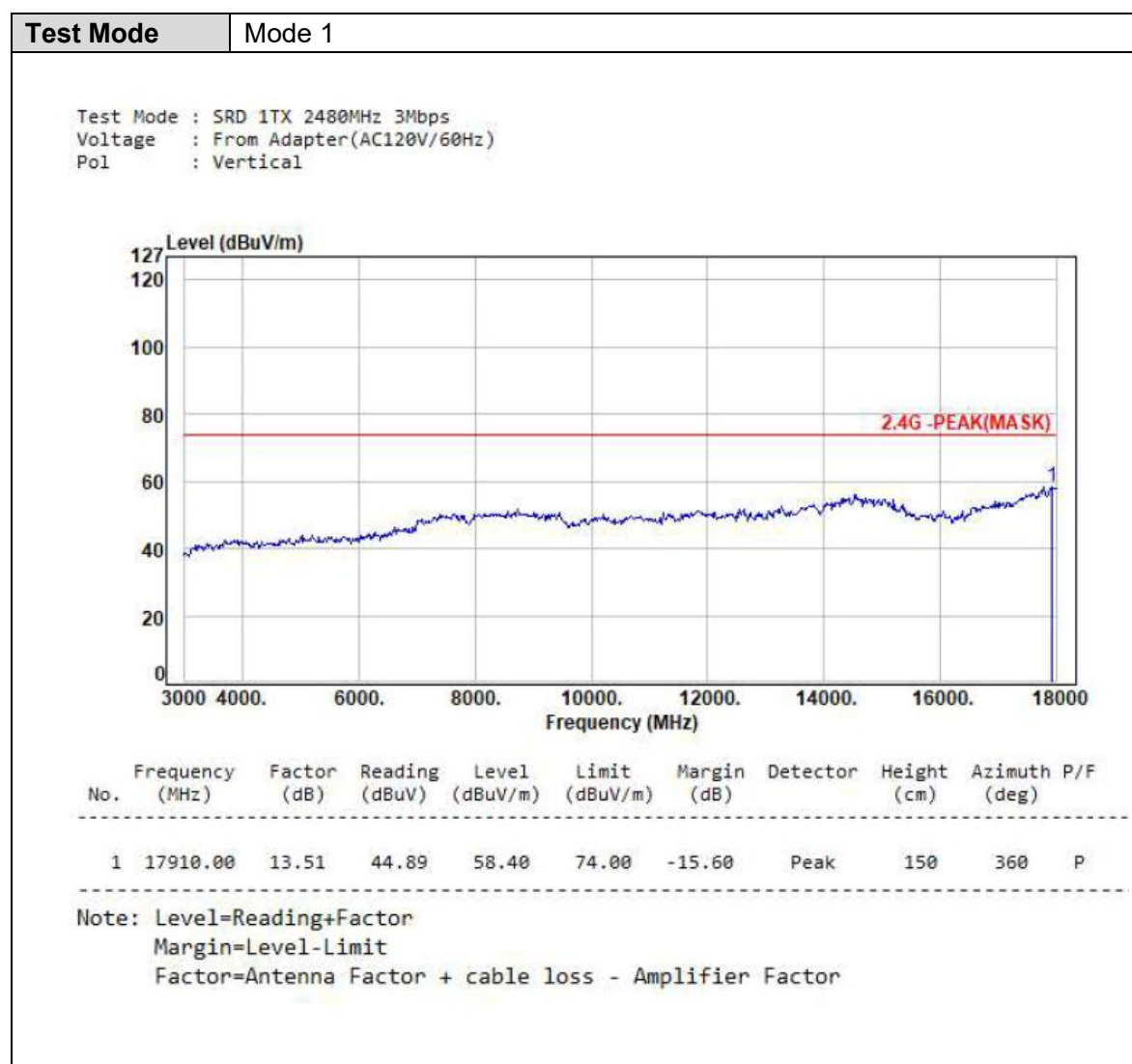


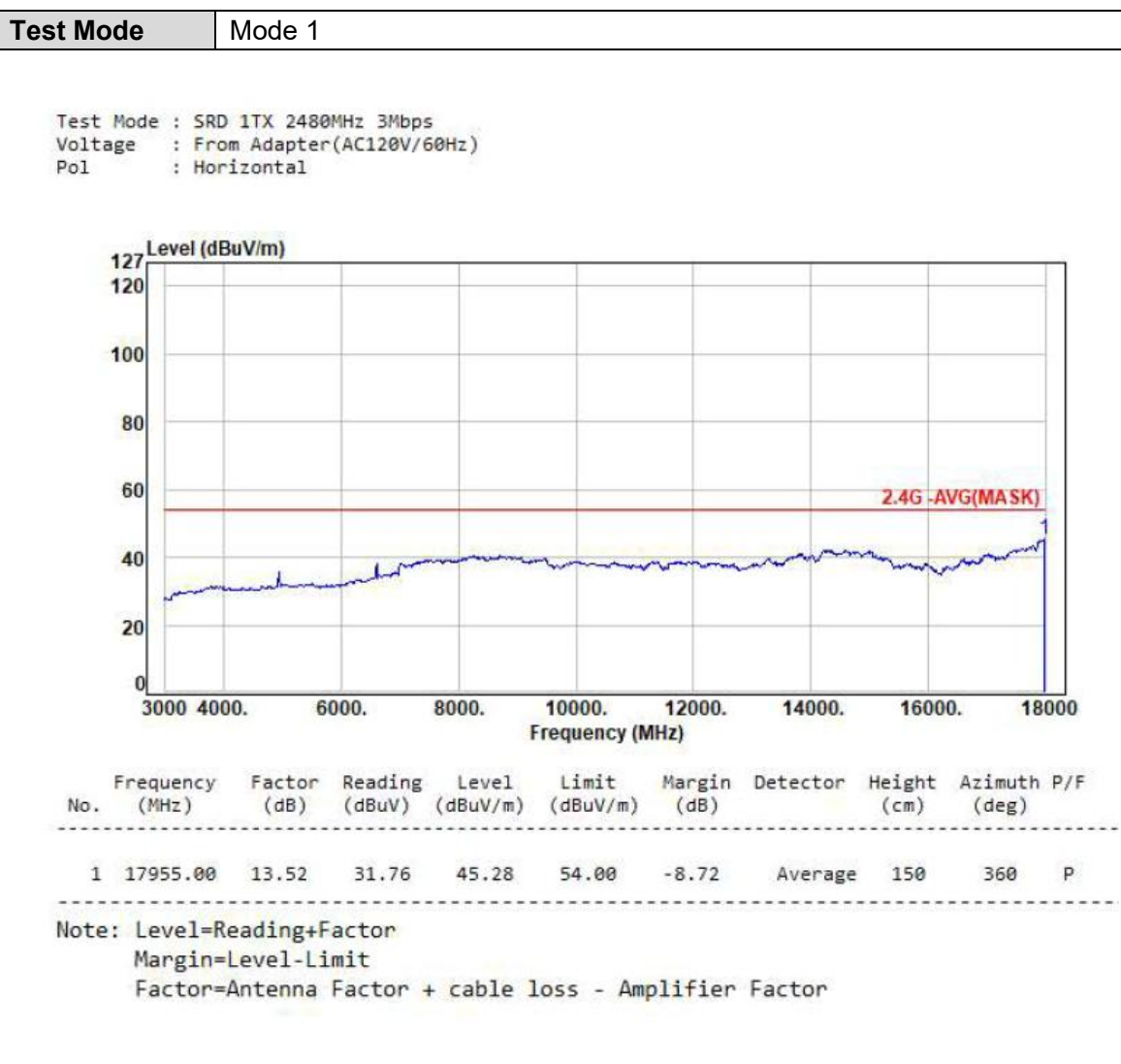


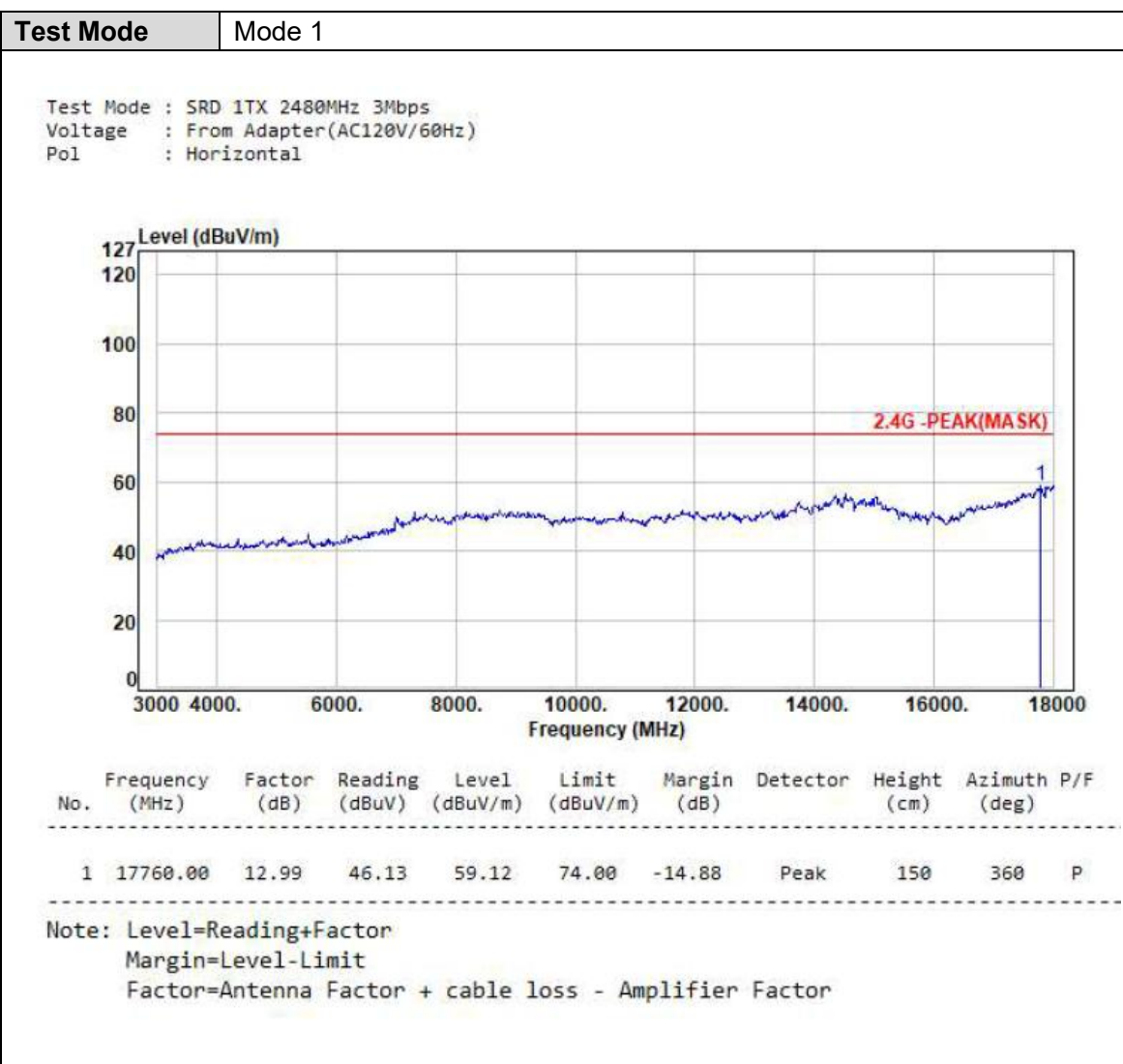






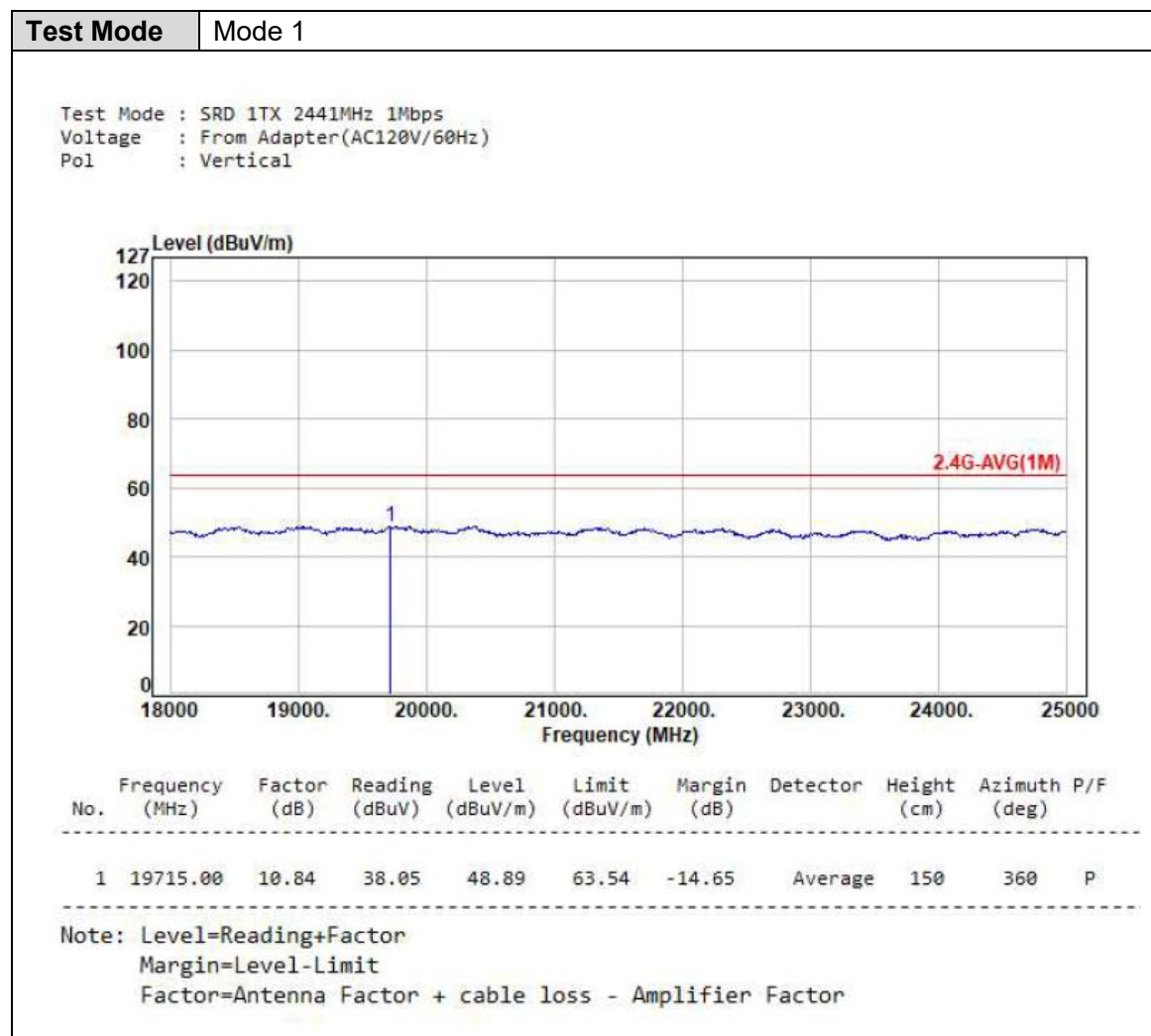


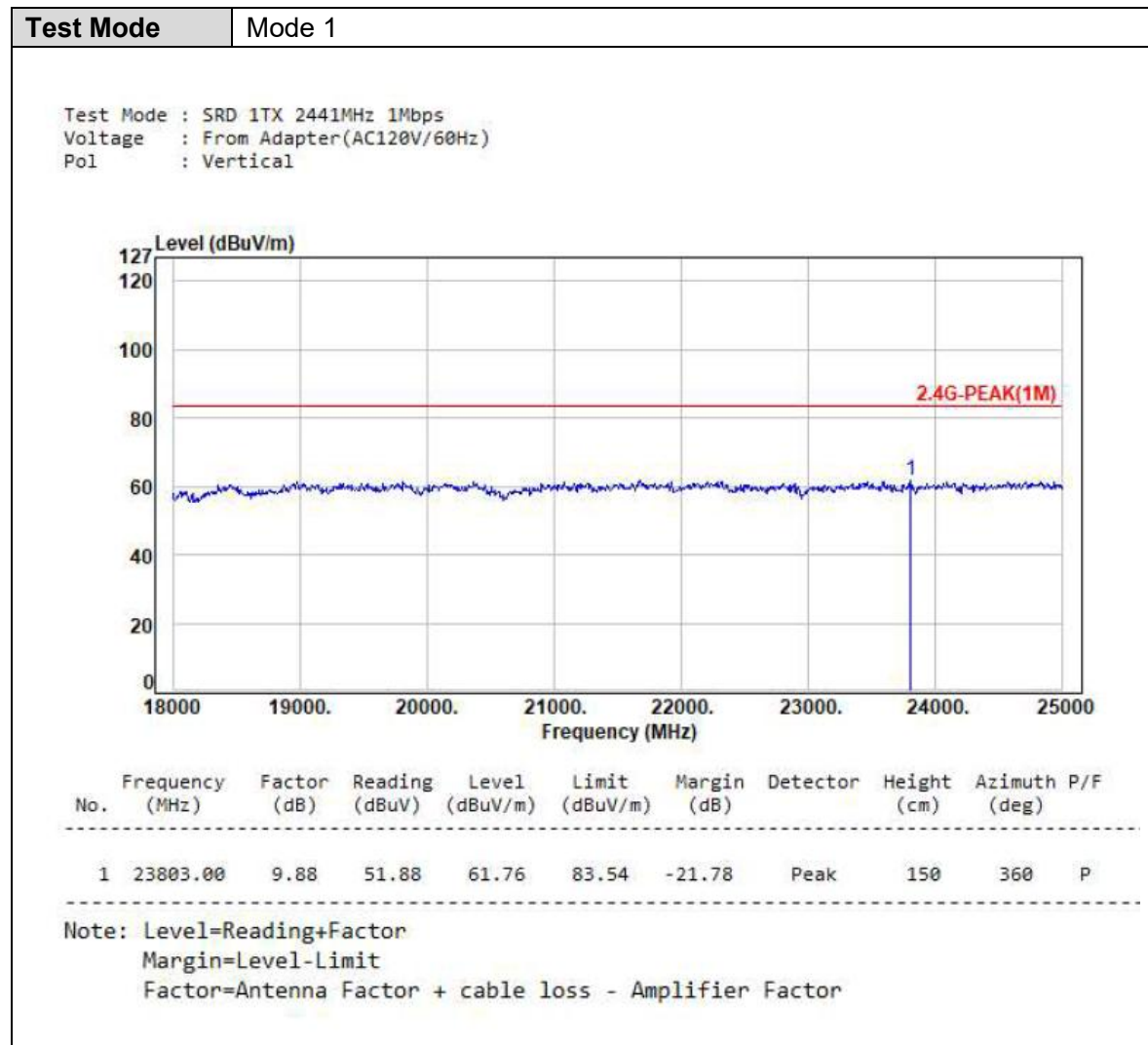


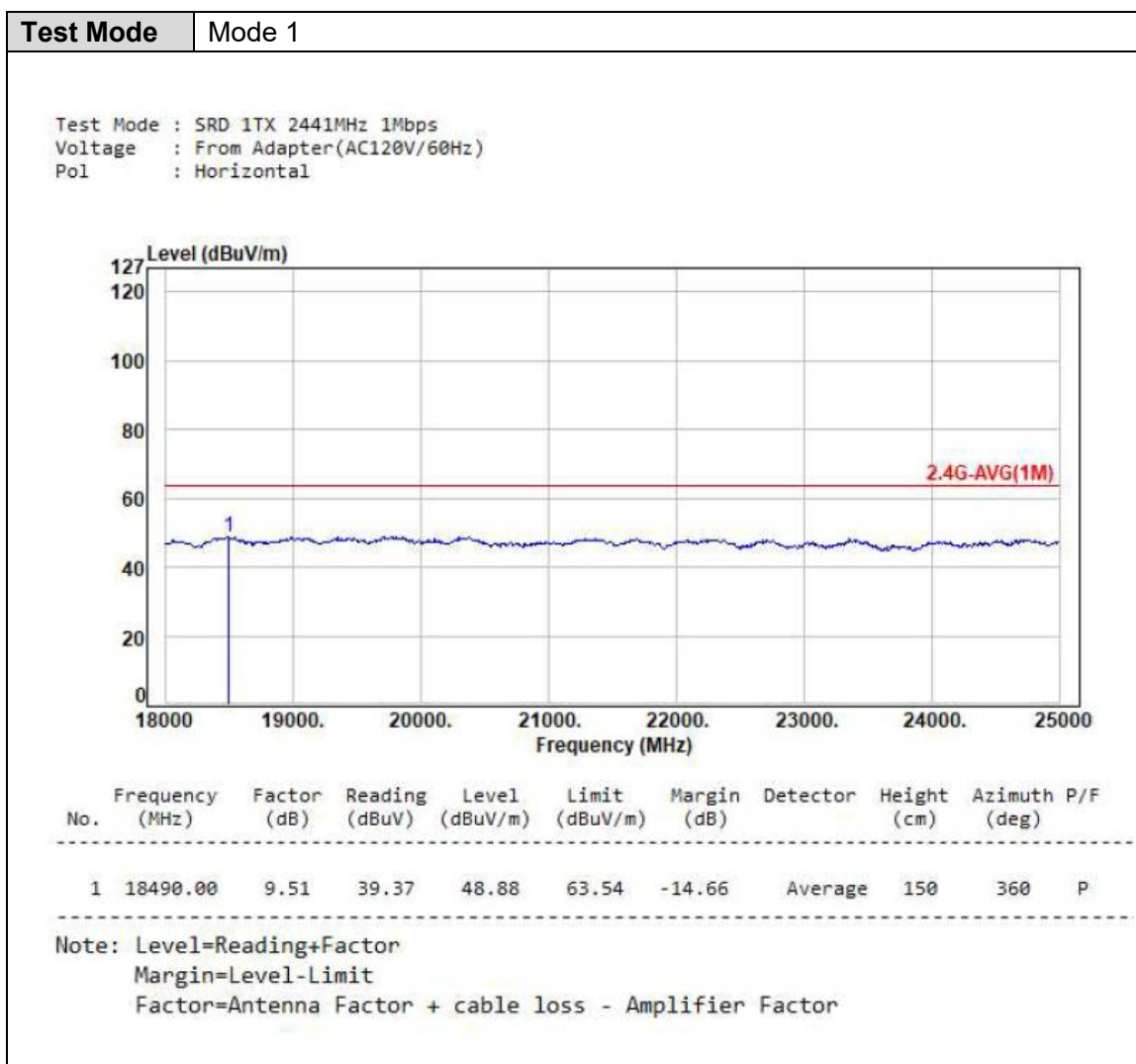


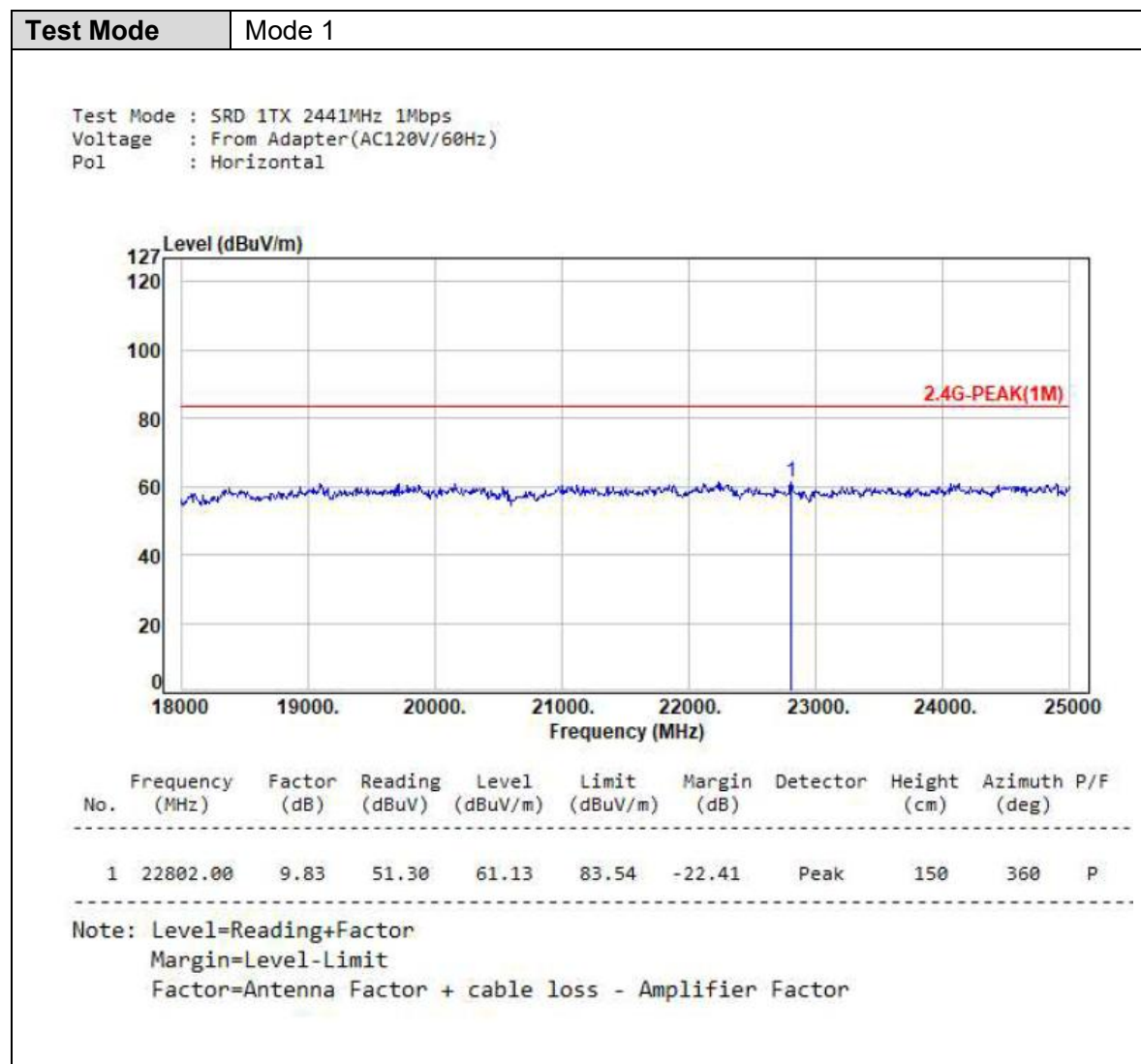


7.9 Test Result and Data (18GHz ~ 25GHz)











7.10 Restricted Bands of Operation

Only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.09000 – 0.11000	16.42000 – 16.42300	399.9 – 410.0	4.500 – 5.250
0.49500 – 0.505**	16.69475 – 16.69525	608.0 – 614.0	5.350 – 5.460
2.17350 – 2.19050	16.80425 – 16.80475	960.0 – 1240.0	7.250 – 7.750
4.12500 – 4.12800	25.50000 – 25.67000	1300.0 – 1427.0	8.025 – 8.500
4.17725 – 4.17775	37.50000 – 38.25000	1435.0 – 1626.5	9.000 – 9.200
4.20725 – 4.20775	73.00000 – 74.60000	1645.5 – 1646.5	9.300 – 9.500
6.21500 – 6.21800	74.80000 – 75.20000	1660.0 – 1710.0	10.600 – 12.700
6.26775 – 6.26825	108.00000 – 121.94000	1718.8 – 1722.2	13.250 – 13.400
6.31175 – 6.31225	123.00000 – 138.00000	2200.0 – 2300.0	14.470 – 14.500
8.29100 – 8.29400	149.90000 – 150.05000	2310.0 – 2390.0	15.350 – 16.200
8.36200 – 8.36600	156.52475 – 156.52525	2483.5 – 2500.0	17.700 – 21.400
8.37625 – 8.38675	156.70000 – 156.90000	2655.0 – 2900.0	22.010 – 23.120
8.41425 – 8.41475	162.01250 – 167.17000	3260.0 – 3267.0	23.600 – 24.000
12.29000 – 12.29300	167.72000 – 173.20000	3332.0 – 3339.0	31.200 – 31.800
12.51975 – 12.52025	240.00000 – 285.00000	3345.8 – 3358.0	36.430 – 36.500
12.57675 – 12.57725	322.00000 – 335.40000	3600.0 – 4400.0	Above 38.6
13.36000 – 13.41000			

** : Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz



8. Test of Conducted Spurious Emission

8.1 Test Limit

According to the methods defined in ANSI C63.10-2020 Section 7.8.8

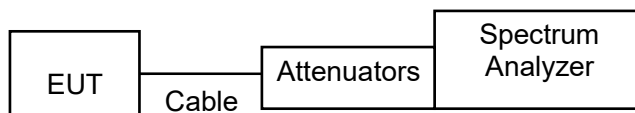
Below -30dB of the highest emission level of operating band (in 100kHz Resolution Bandwidth).

8.2 Test Procedure

According to the methods defined in ANSI C63.10-2020

- The transmitter output was connected to the spectrum analyzer via a low loss cable.
- Set RBW of spectrum analyzer to 100kHz and VBW of spectrum analyzer to 300kHz with convenient frequency span including 100kHz bandwidth from band edge.
- The band edges was measured and recorded.

8.3 Test Setup Layout

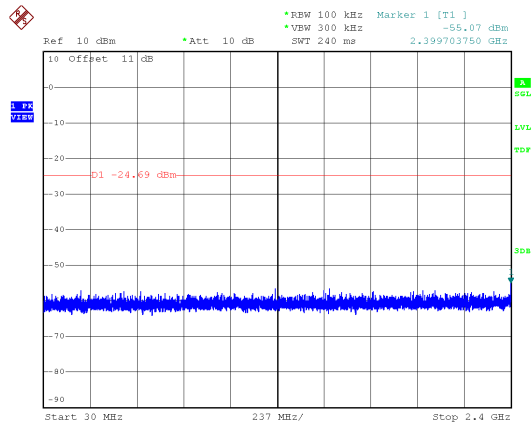


8.4 Test Result and Data

Note: Test plots refer to the following pages.

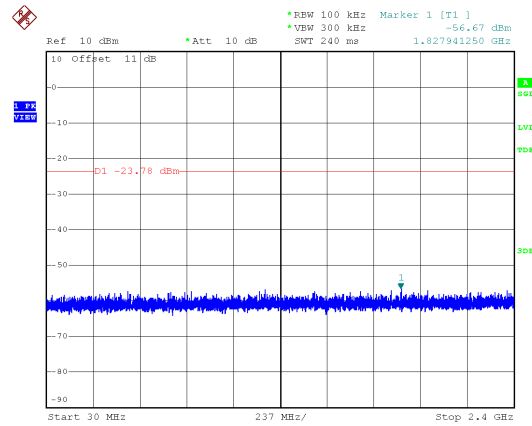


Modulation Type: GFSK (1Mbps), CH00

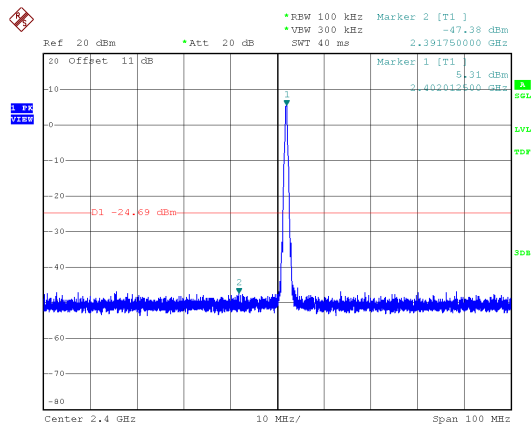


Date: 21.MAY.2025 12:16:49

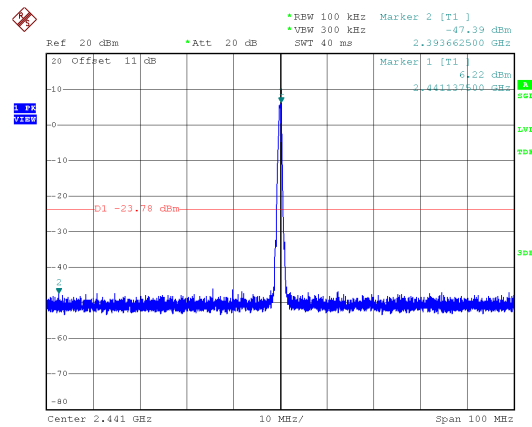
Modulation Type: GFSK (1Mbps), CH39



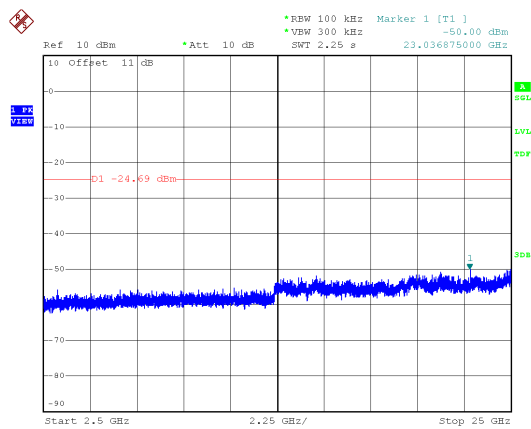
Date: 21.MAY.2025 12:18:48



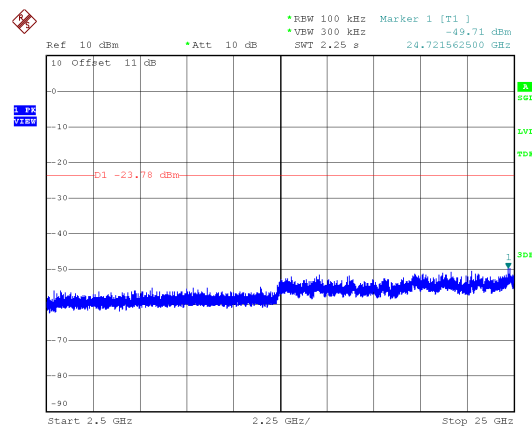
Date: 21.MAY.2025 12:16:24



Date: 21.MAY.2025 12:18:23



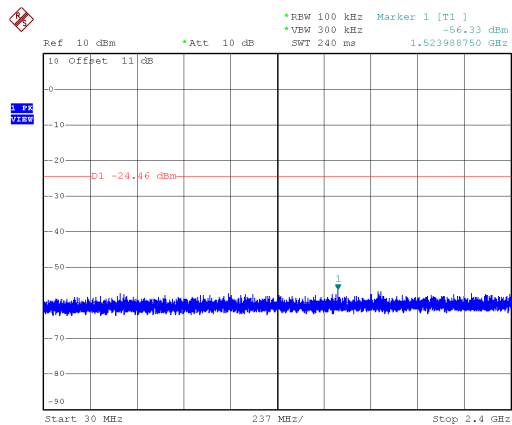
Date: 21.MAY.2025 12:17:14



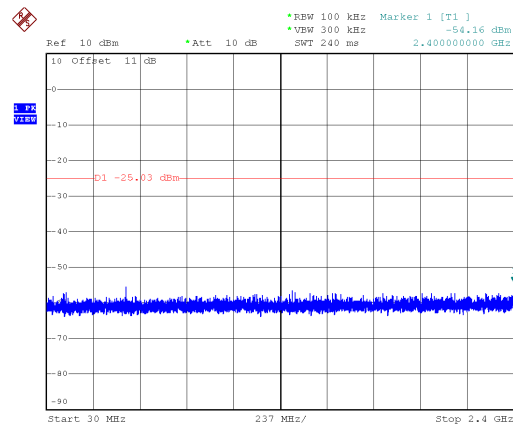
Date: 21.MAY.2025 12:19:13



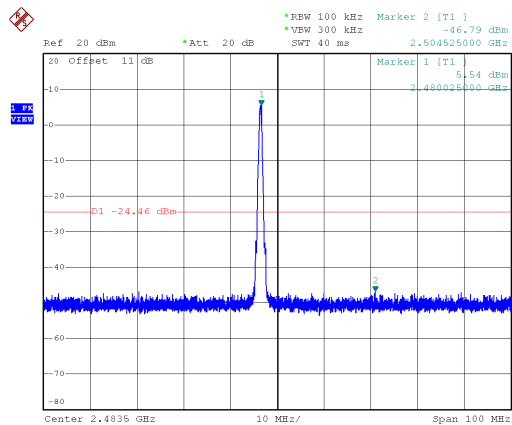
Modulation Type: GFSK (1Mbps), CH78



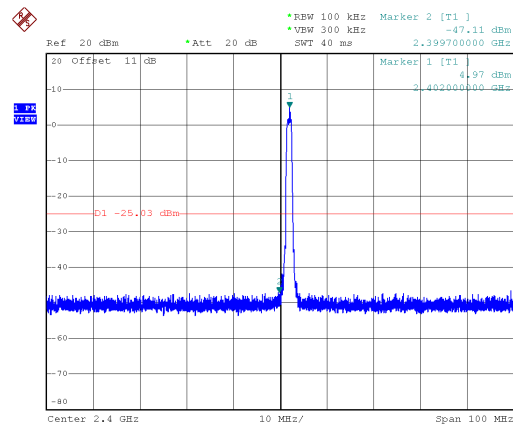
Date: 21.MAY.2025 12:20:40

Modulation Type: $\pi/4$ -DQPSK (2Mbps), CH00

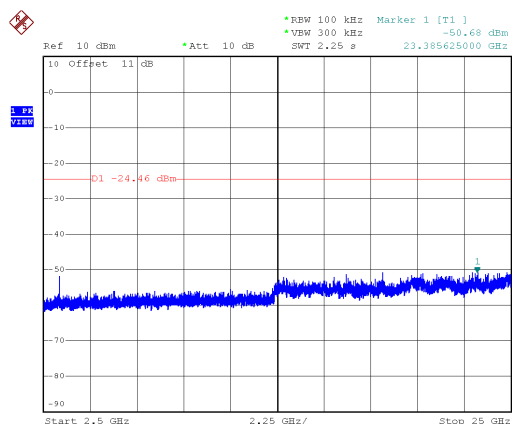
Date: 21.MAY.2025 12:26:27



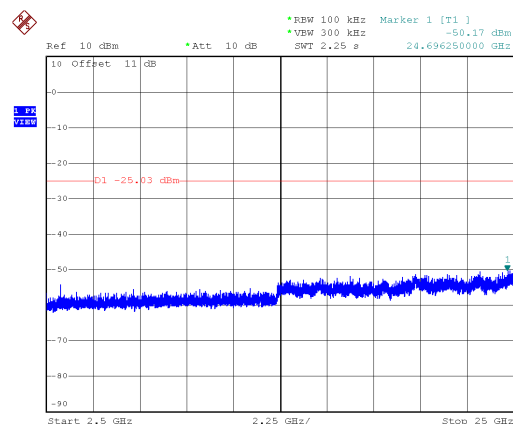
Date: 21.MAY.2025 12:20:14



Date: 21.MAY.2025 12:26:02



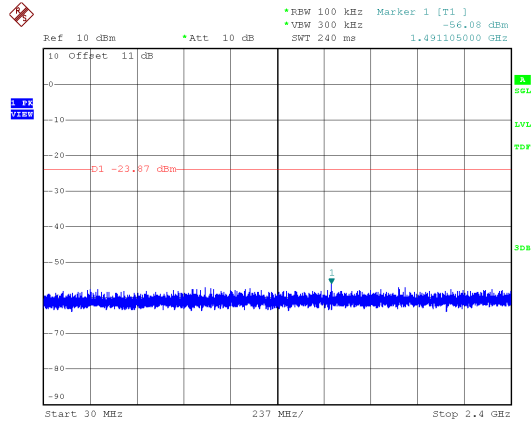
Date: 21.MAY.2025 12:21:05



Date: 21.MAY.2025 12:26:52

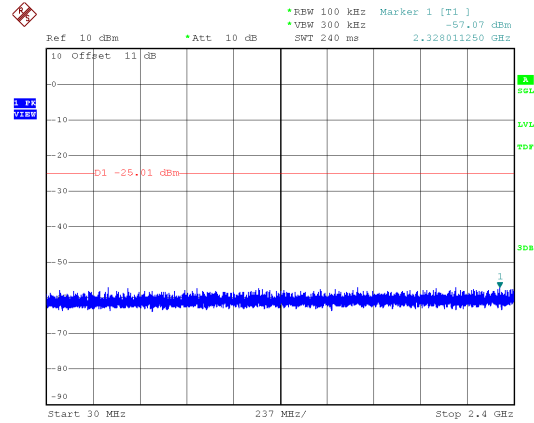


Modulation Type: $\pi/4$ -DQPSK (2Mbps), CH39

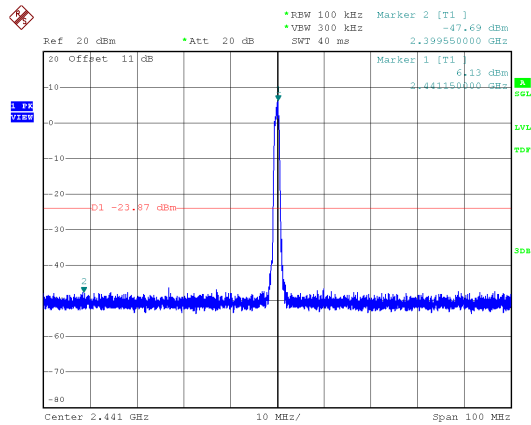


Date: 21.MAY.2025 12:30:01

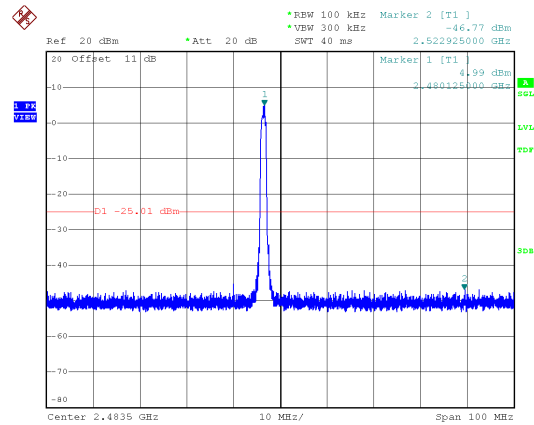
Modulation Type: $\pi/4$ -DQPSK (2Mbps), CH78



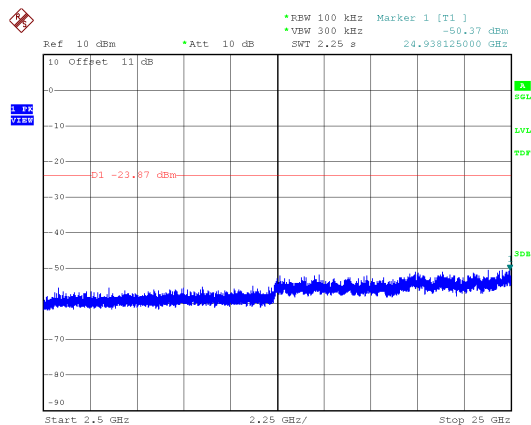
Date: 21.MAY.2025 12:31:38



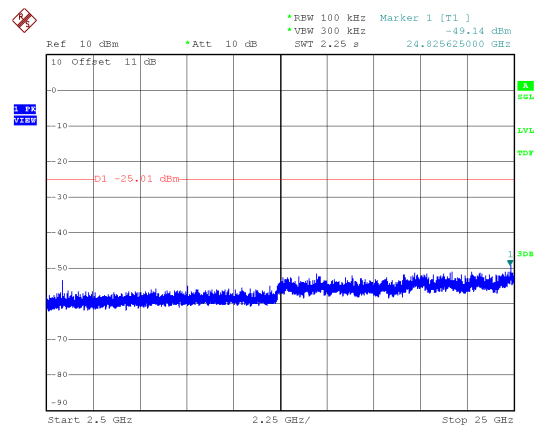
Date: 21.MAY.2025 12:29:36



Date: 21.MAY.2025 12:31:13



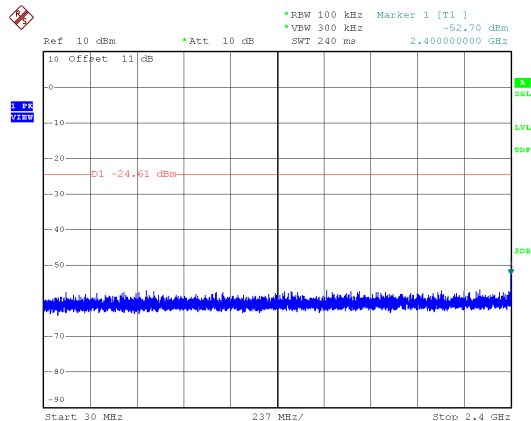
Date: 21.MAY.2025 12:30:26



Date: 21.MAY.2025 12:32:03

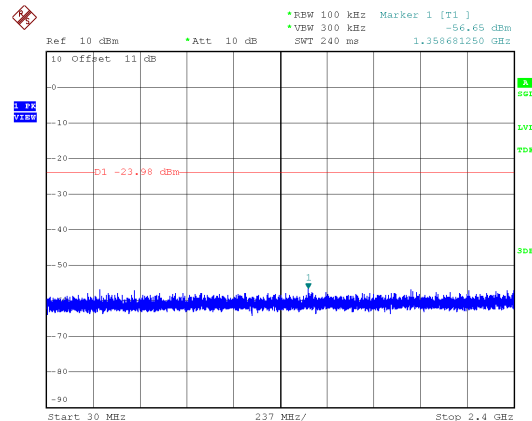


Modulation Type: 8DPSK (3Mbps), CH00

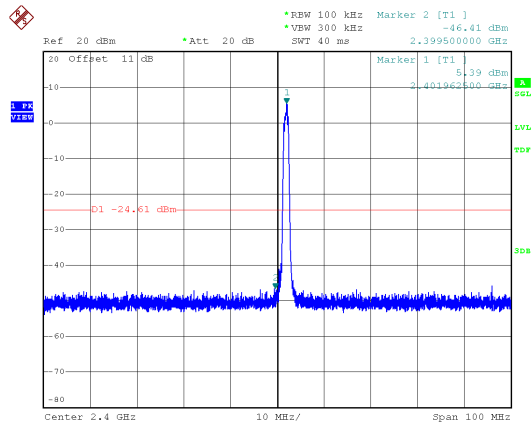


Date: 21.MAY.2025 12:34:02

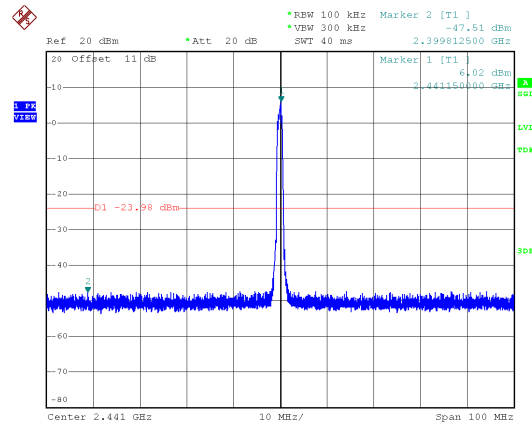
Modulation Type: 8DPSK (3Mbps), CH39



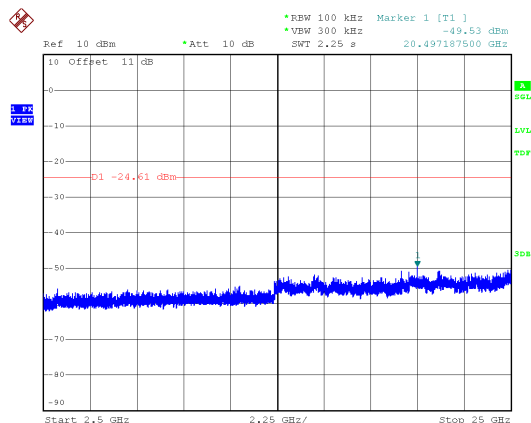
Date: 21.MAY.2025 12:35:47



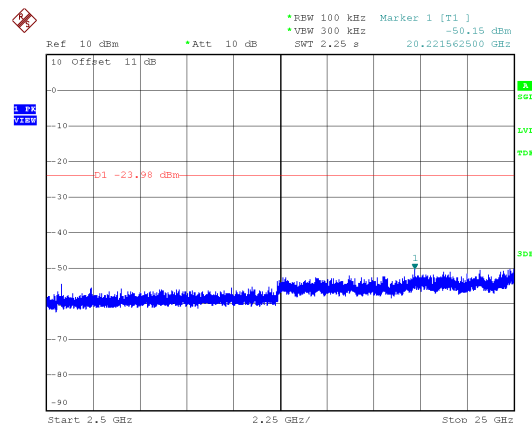
Date: 21.MAY.2025 12:33:37



Date: 21.MAY.2025 12:35:22



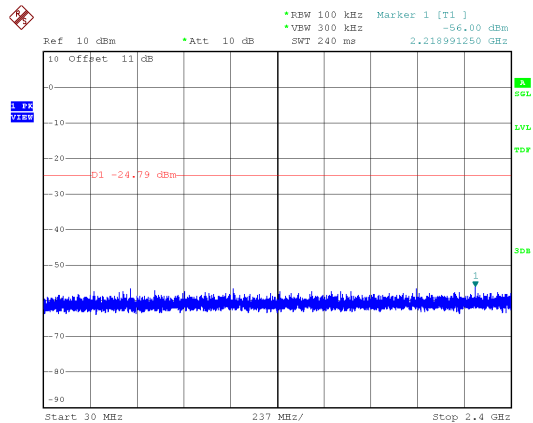
Date: 21.MAY.2025 12:34:27



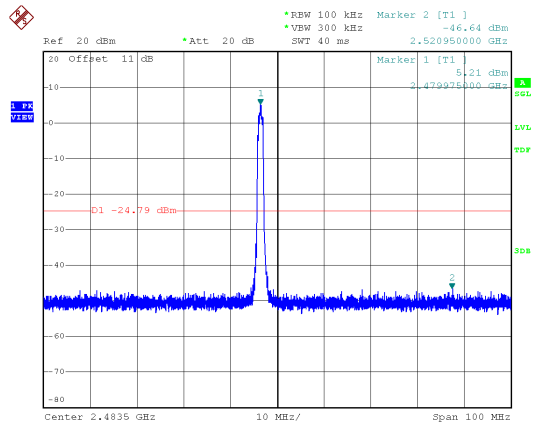
Date: 21.MAY.2025 12:36:12



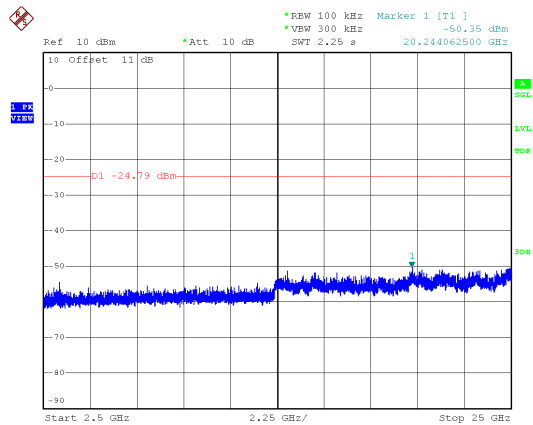
Modulation Type: 8DPSK (3Mbps), CH78



Date: 21.MAY.2025 12:37:12



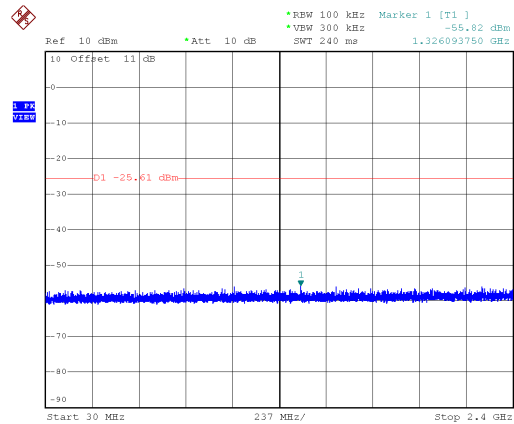
Date: 21.MAY.2025 12:36:47



Date: 21.MAY.2025 12:37:37

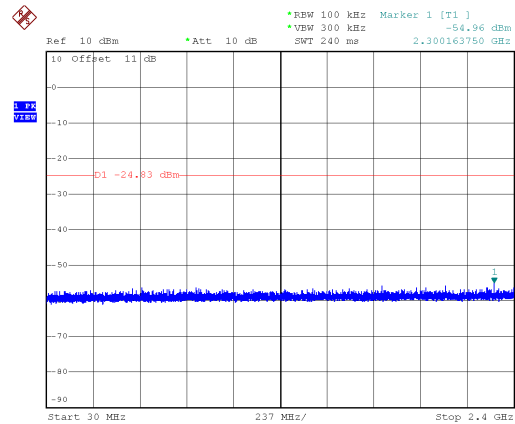


Hopping Mode:
Modulation Type: GFSK

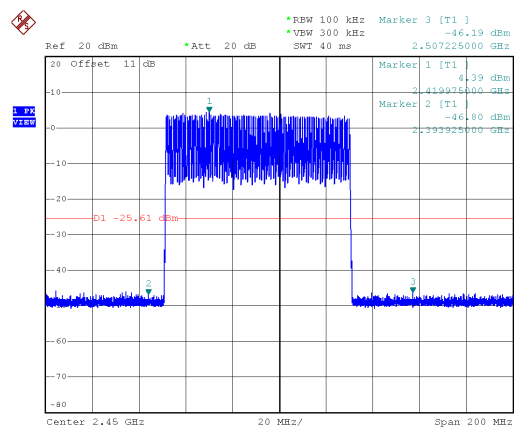


Date: 28.APR.2025 21:50:12

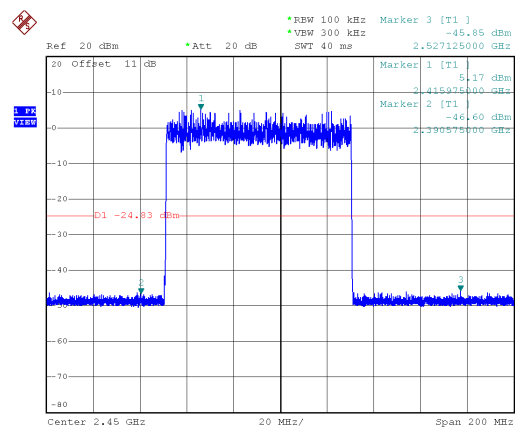
Modulation Type: $\pi/4$ -DQPSK



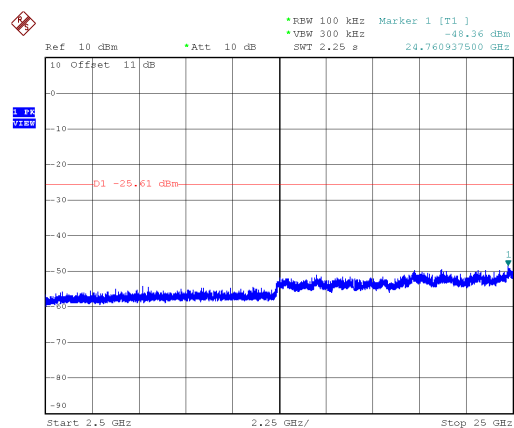
Date: 28.APR.2025 22:17:12



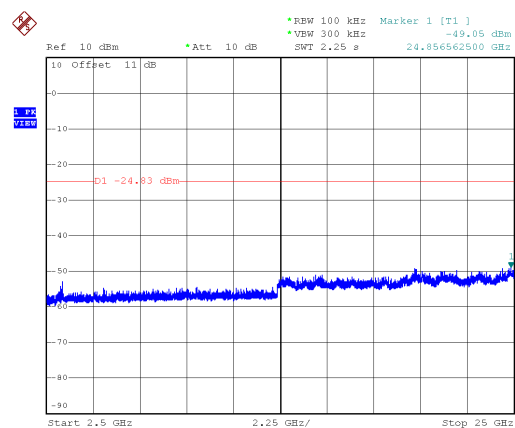
Date: 28.APR.2025 21:47:28



Date: 28.APR.2025 22:13:28



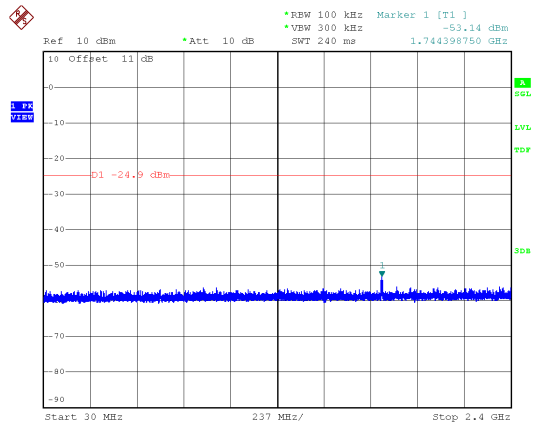
Date: 28.APR.2025 21:52:56



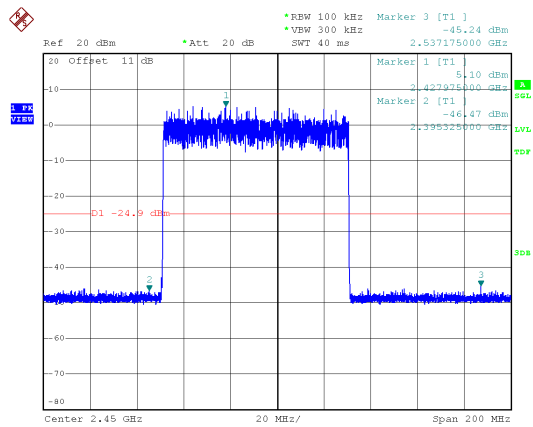
Date: 28.APR.2025 22:20:56



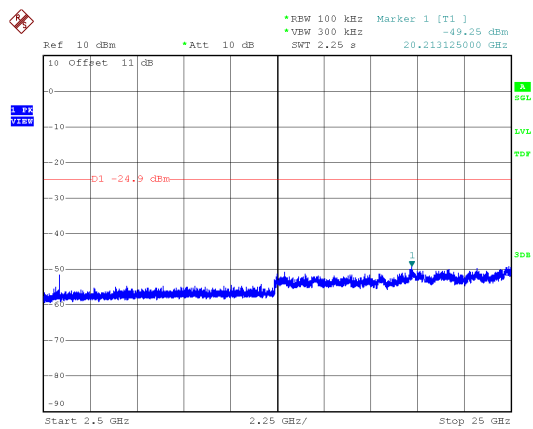
Modulation Type: 8DPSK



Date: 28.APR.2025 23:06:01



Date: 28.APR.2025 23:02:18



Date: 28.APR.2025 23:09:45



9. 20dB Bandwidth Measurement Data

9.1 Test Limit

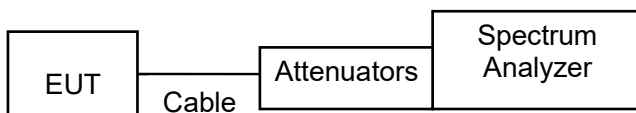
For reference data.

9.2 Test Procedures

According to the methods defined in ANSI C63.10-2020 Section 6.9

- The transmitter output was connected to the spectrum analyzer.
- Set RBW of spectrum analyzer to 1% to 5% of the 20dB Bandwidth and VBW to approximately three times RBW.
- The 20 dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 20 dB.

9.3 Test Setup Layout

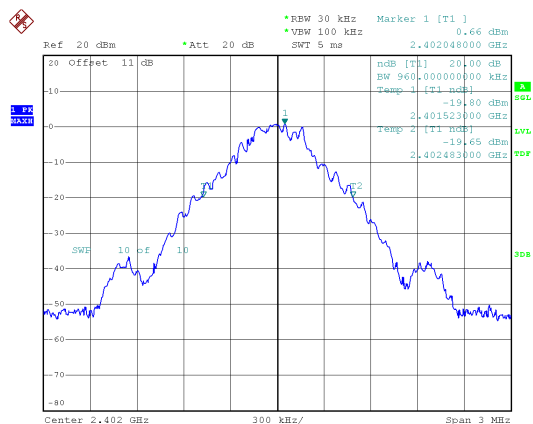


9.4 Test Result and Data

Modulation Type	Channel	Frequency (MHz)	20dB Bandwidth (MHz)	2/3 20dB Bandwidth (MHz)
GFSK	0	2402	0.960	0.640
	39	2441	0.909	0.606
	78	2480	0.957	0.638
$\pi/4$ -DQPSK	0	2402	1.287	0.858
	39	2441	1.287	0.858
	78	2480	1.287	0.858
8DPSK	0	2402	1.302	0.868
	39	2441	1.305	0.870
	78	2480	1.299	0.866

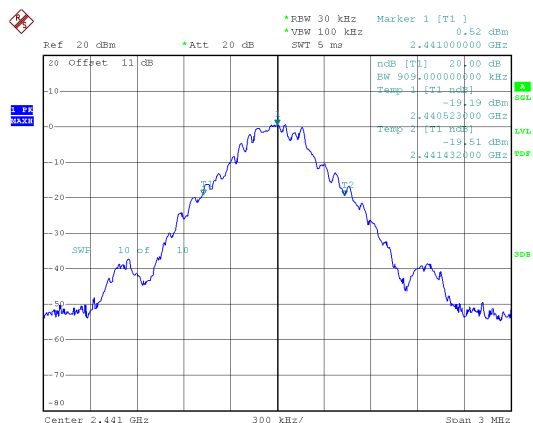


Modulation Type: GFSK (1Mbps)
Channel: 00



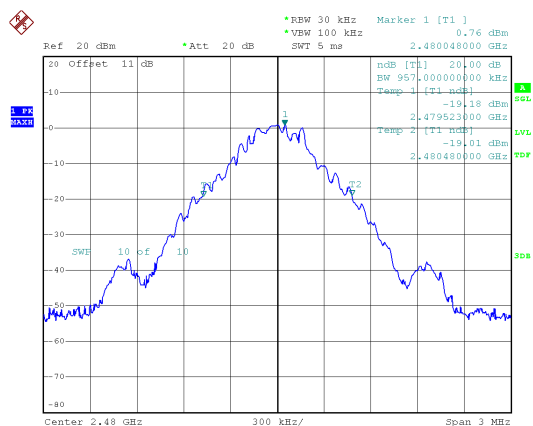
Date: 28.APR.2025 21:35:04

CH39



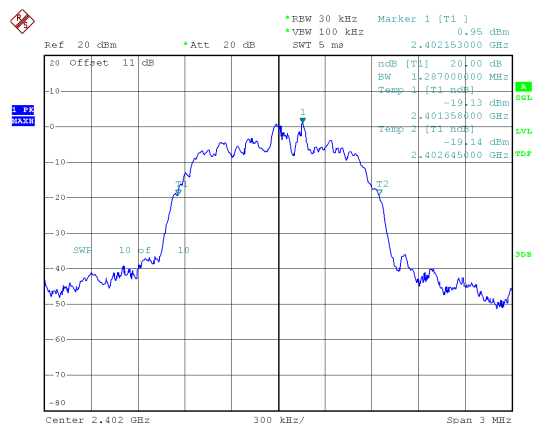
Date: 28.APR.2025 21:37:25

CH78



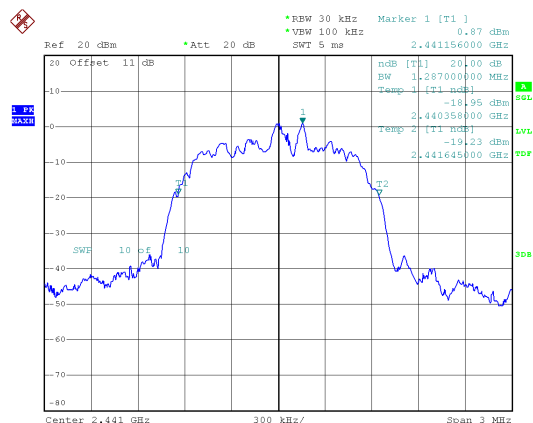
Date: 28.APR.2025 21:39:58

Modulation Type: $\pi/4$ -DQPSK (2Mbps)
Channel: 00



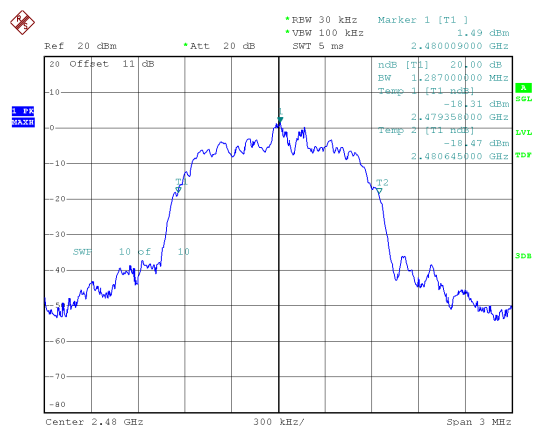
Date: 28.APR.2025 21:58:03

CH39



Date: 28.APR.2025 22:01:30

CH78



Date: 28.APR.2025 22:03:43



Date: 28.APR.2025 22:49:29

Date: 28.APR.2025 22:52:13



10. Carrier Frequency Separation

10.1 Test Limit

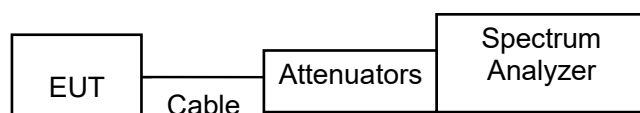
Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400–2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW.

10.2 Test Procedures

According to the methods defined in ANSI C63.10-2020+Cor.1-2023 and ANSI C63.10a-2024 Section 7.8.2

- The transmitter output was connected to the spectrum analyzer.
- Set RBW of spectrum analyzer to 300 kHz and VBW to 1000 kHz.
- By using the MaxHold function record the separation of two adjacent channels.
- Measure the frequency difference of these two adjacent channels.

10.3 Test Setup Layout

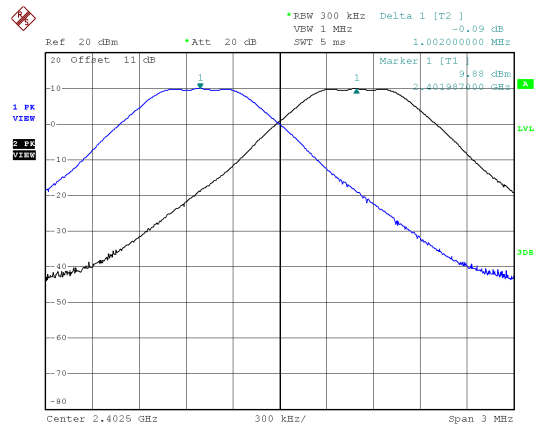


10.4 Test Result and Data

Modulation Type	Channel	Frequency (MHz)	Channel Separation (MHz)	Limit (MHz)
GFSK	0	2402	1.002	0.640
	39	2441	1.002	0.606
	78	2480	1.002	0.638
$\pi/4$ -DQPSK	0	2402	1.002	0.858
	39	2441	1.002	0.858
	78	2480	1.002	0.858
8DPSK	0	2402	1.002	0.868
	39	2441	1.002	0.870
	78	2480	1.002	0.866

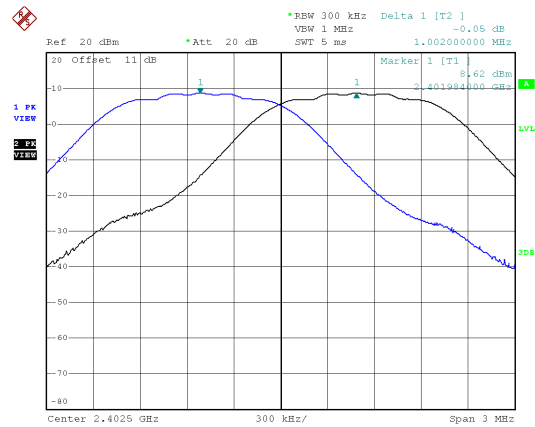


Modulation Type: GFSK (1Mbps)
Channel: 00



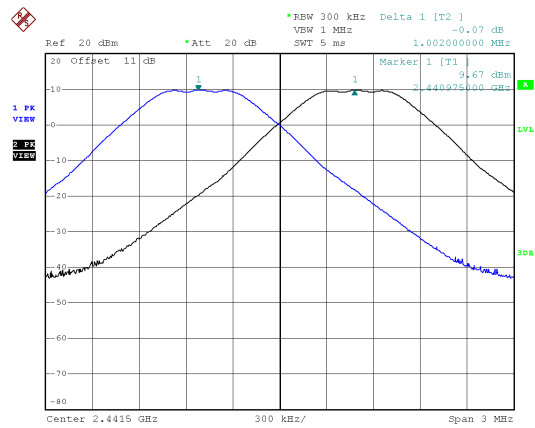
Date: 29.APR.2025 11:27:21

Modulation Type: $\pi/4$ -DQPSK (2Mbps)
Channel: 00



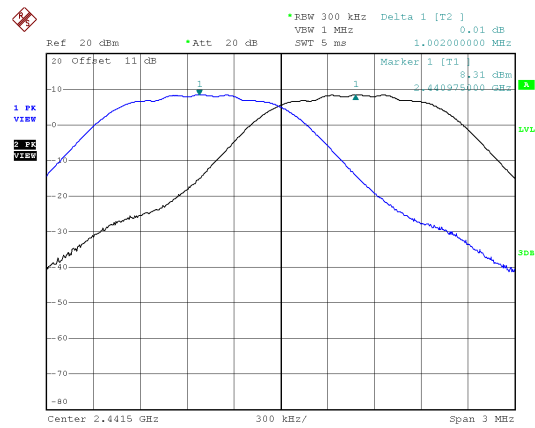
Date: 29.APR.2025 11:33:01

CH39



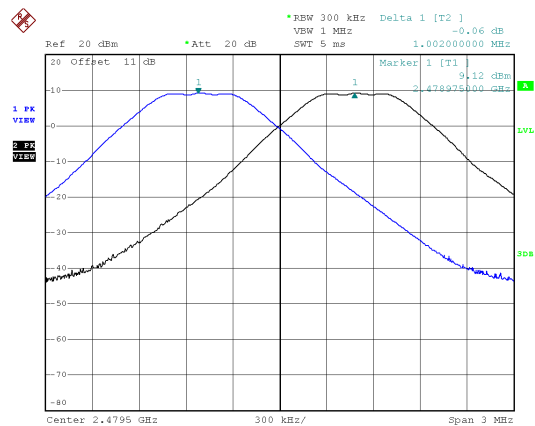
Date: 29.APR.2025 11:42:38

CH39



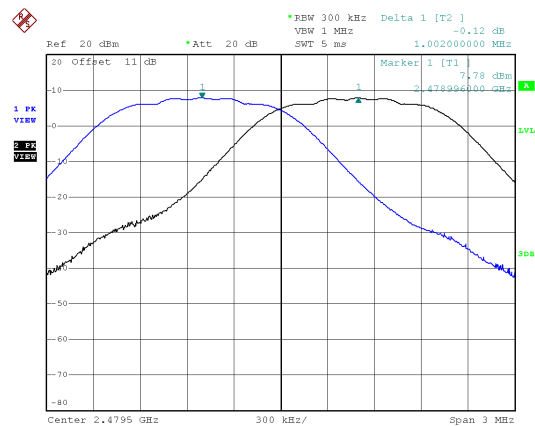
Date: 29.APR.2025 11:46:03

CH78



Date: 29.APR.2025 11:56:59

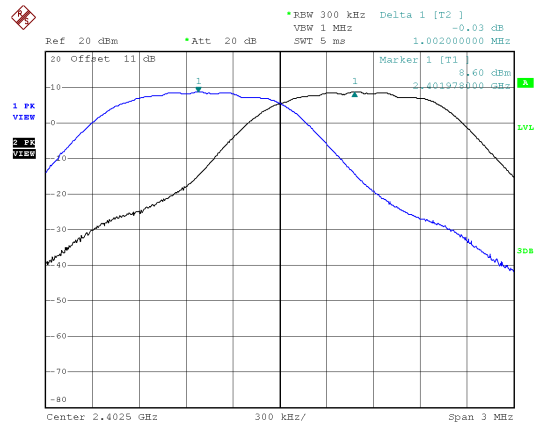
CH78



Date: 29.APR.2025 11:58:59

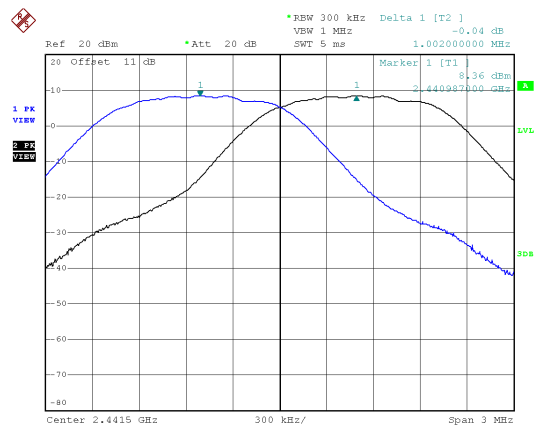


Modulation Type: 8DPSK (3Mbps)
CH00



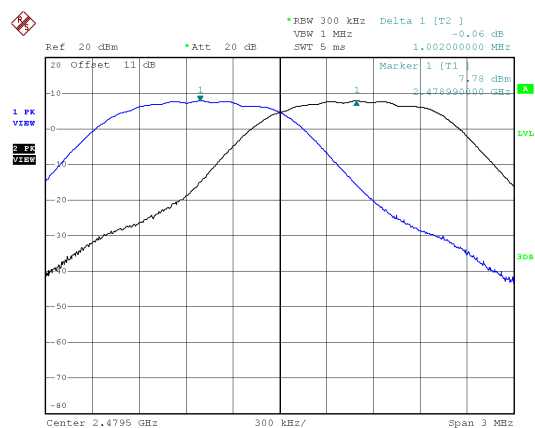
Date: 29.APR.2025 11:35:43

CH39



Date: 29.APR.2025 11:48:43

CH78



Date: 29.APR.2025 12:00:41



11. Dwell Time on each channel

11.1 Test Limit

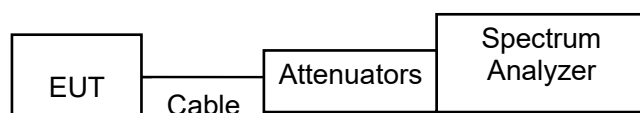
The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.

11.2 Test Procedures

According to the methods defined in ANSI C63.10-2020 Section 7.8.4

1. The transmitter output was connected to the spectrum analyzer.
2. Adjust the center frequency to measure frequency, then set zero span mode.
3. Set RBW of spectrum analyzer to 300kHz and VBW to 1MHz.
4. Measure the time duration of one transmission on the measured frequency.

11.3 Test Setup Layout



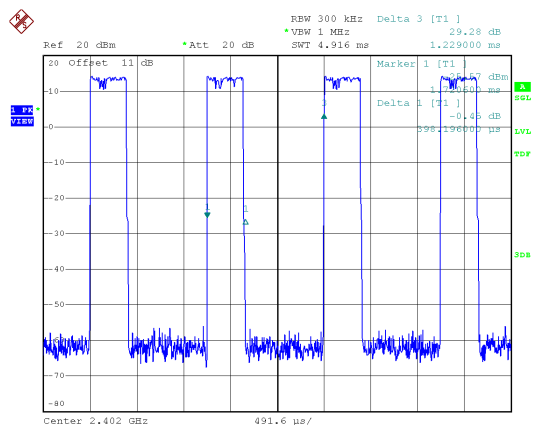
11.4 Test Result and Data

Modulation Type	Frequency (MHz)	Length of transmission time (ms)	Number of transmission in a 31.6 (79 Hopping*0.4)	Dwell Time (ms)	Limit (ms)
GFSK-DH1	2402	0.398	320.00	127.42	400
GFSK-DH3	2402	1.642	160.00	262.66	400
GFSK-DH5	2402	2.880	106.67	307.20	400
$\pi/4$ -DQPSK-DH1	2402	0.408	320.00	130.57	400
$\pi/4$ -DQPSK-DH3	2402	1.661	160.00	265.73	400
$\pi/4$ -DQPSK-DH5	2402	2.896	106.67	308.91	400
8DPSK-DH1	2402	0.388	320.00	124.28	400
8DPSK-DH3	2402	1.668	160.00	266.88	400
8DPSK-DH5	2402	2.912	106.67	310.61	400

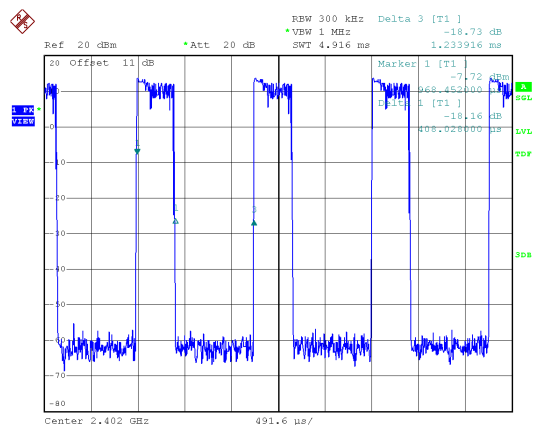
Modulation Type	Frequency (MHz)	Length of transmission time (ms)	Number of transmission in a 8 (20 Hopping*0.4)	Dwell Time (ms)	Limit (ms)
AFH-DH1	2402-2421	0.404	160.00	64.61	400
AFH-DH3	2402-2421	1.649	80.00	131.89	400
AFH-DH5	2402-2421	2.903	53.33	154.82	400



Modulation Type: GFSK-DH1, CH00

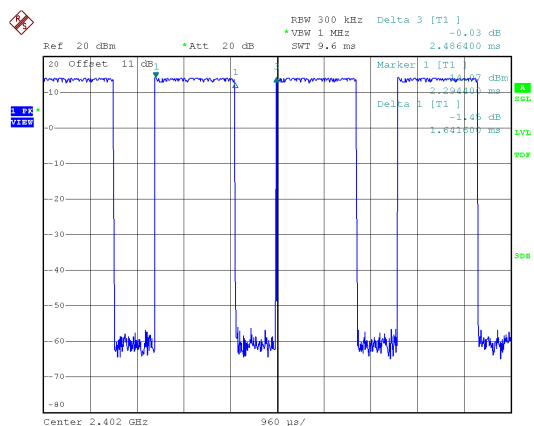


Date: 28.APR.2025 21:31:01

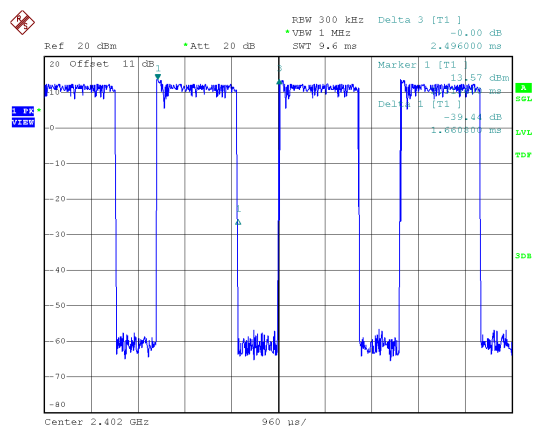
Modulation Type: $\pi/4$ -DQPSK-DH1, CH00

Date: 28.APR.2025 21:55:26

Modulation Type: GFSK-DH3, CH00

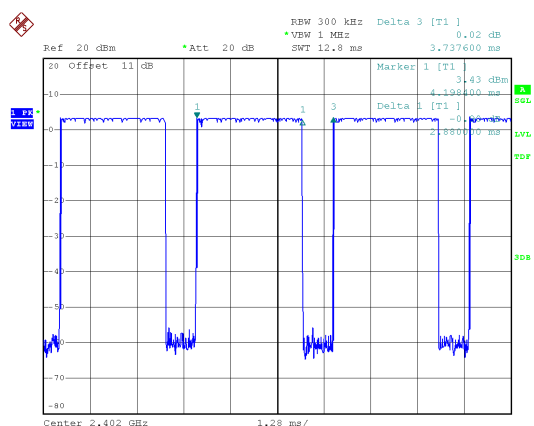


Date: 28.APR.2025 21:32:05

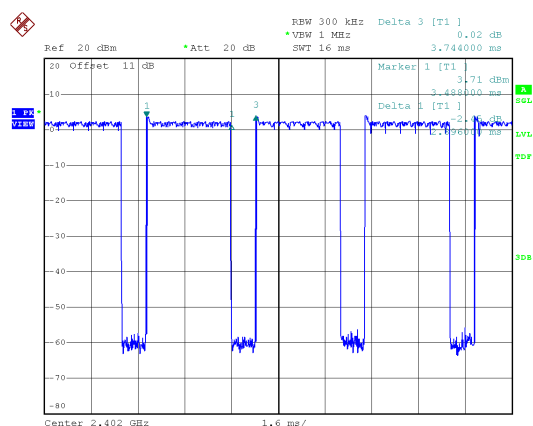
Modulation Type: $\pi/4$ -DQPSK-DH3, CH00

Date: 28.APR.2025 21:56:14

Modulation Type: GFSK-DH5, CH00



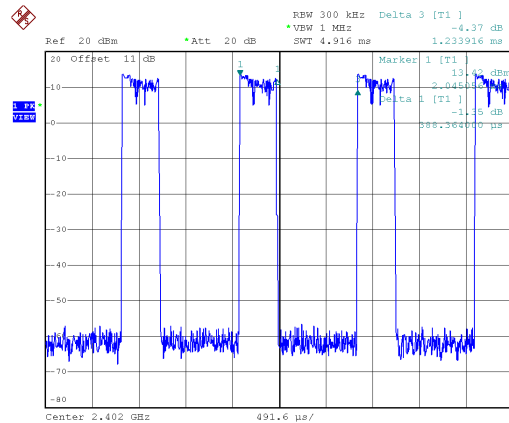
Date: 28.APR.2025 21:34:25

Modulation Type: $\pi/4$ -DQPSK-DH5, CH00

Date: 28.APR.2025 21:57:27

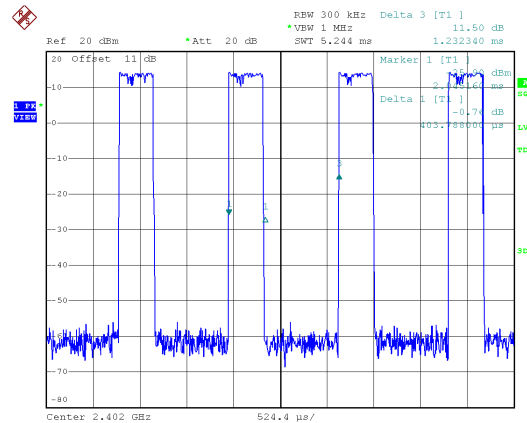


Modulation Type: 8DPSK-DH1, CH00



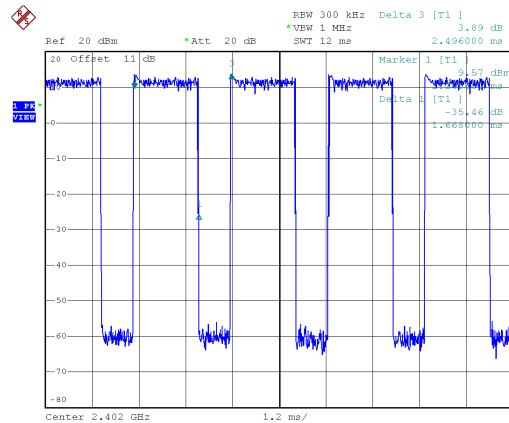
Date: 28.APR.2025 22:41:18

Modulation Type: GFSK, AFH (DH1)



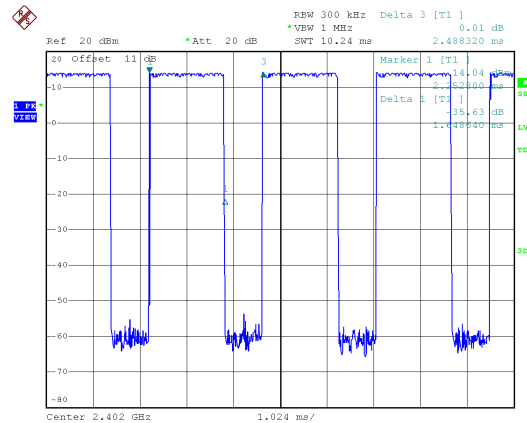
Date: 28.APR.2025 21:31:23

Modulation Type: 8DPSK-DH3, CH00



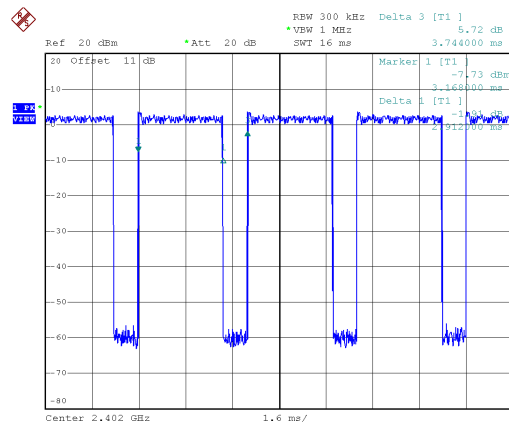
Date: 28.APR.2025 22:42:10

Modulation Type: GFSK, AFH (DH3)



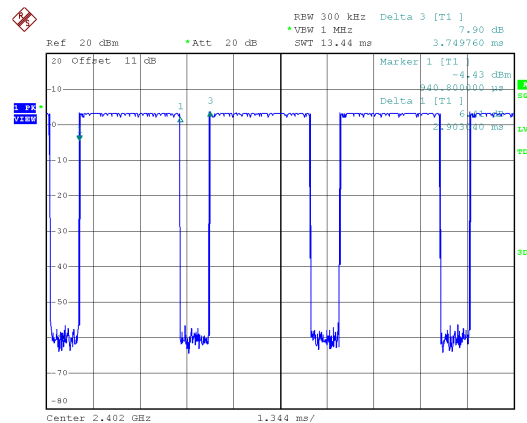
Date: 28.APR.2025 21:32:20

Modulation Type: 8DPSK-DH5, CH00



Date: 28.APR.2025 22:43:40

Modulation Type: GFSK, AFH (DH5)



Date: 28.APR.2025 21:34:40



12. Number of Hopping Channels

12.1 Test Limit

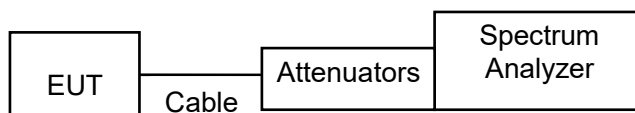
Frequency hopping systems in the 2400 ~ 2483.5 MHz band shall use at least 15 channels.

12.2 Test Procedures

According to the methods defined in ANSI C63.10-2020+Cor.1-2023 and ANSI C63.10a-2024 Section 7.8.3

- The transmitter output was connected to the spectrum analyzer.
- Set RBW of spectrum analyzer to 100kHz and VBW to 300kHz.
- Set the MaxHold function, and then keep the EUT in hopping mode. Record all the signals from each channel until each one has been record.

12.3 Test Setup Layout

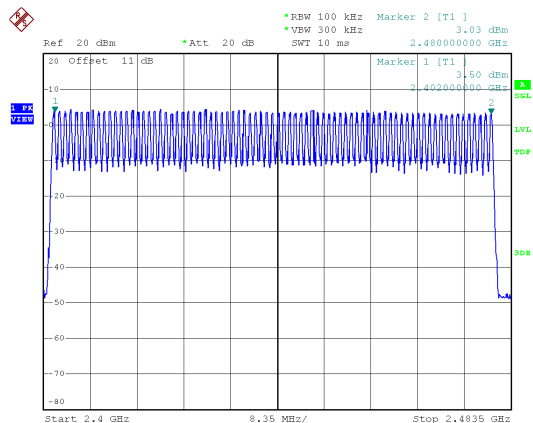


12.4 Test Result and Data

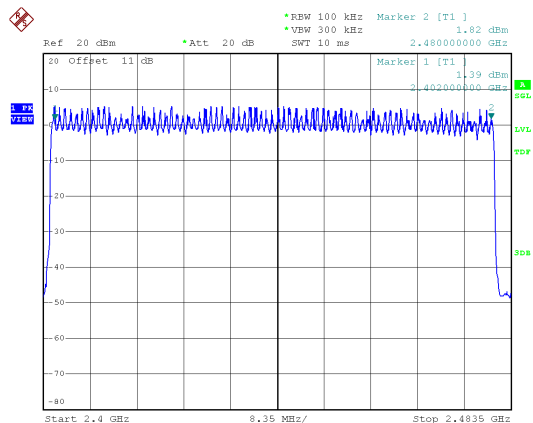
Modulation Type	Hopping Channels
GFSK	79
$\pi/4$ -DQPSK	79
8DPSK	79



Modulation Type: GFSK (1Mbps)

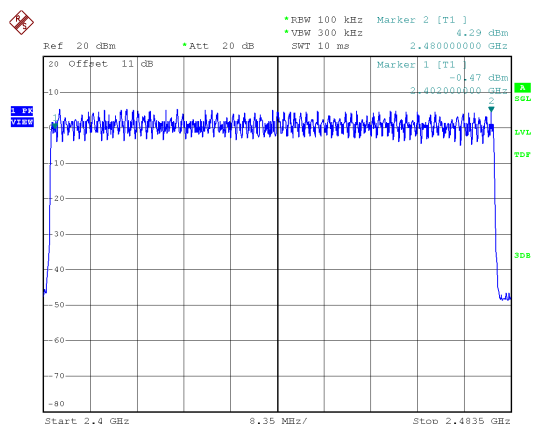


Date: 28.APR.2025 21:44:43

Modulation Type: $\pi/4$ -DQPSK (2Mbps)

Date: 28.APR.2025 22:09:44

Modulation Type: 8DPSK (3Mbps)



Date: 28.APR.2025 22:58:33



13. Maximum Average Output Power

13.1 Test Limit

The Maximum Average Output Power Measurement is 30dBm.

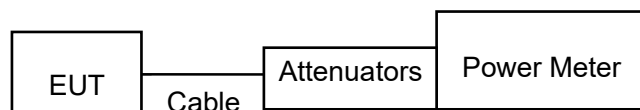
13.2 Test Procedures

According to the methods defined in ANSI C63.10-2020 Section 7.8.5

The antenna port(RF output)of the EUT was connected to the input(RF input)of a power meter.

Power was read directly from the meter and cable loss connection was added to the reading to obtain power at the EUT antenna terminal. The EUT Output Power was set to maximum to produce the worse case test result.

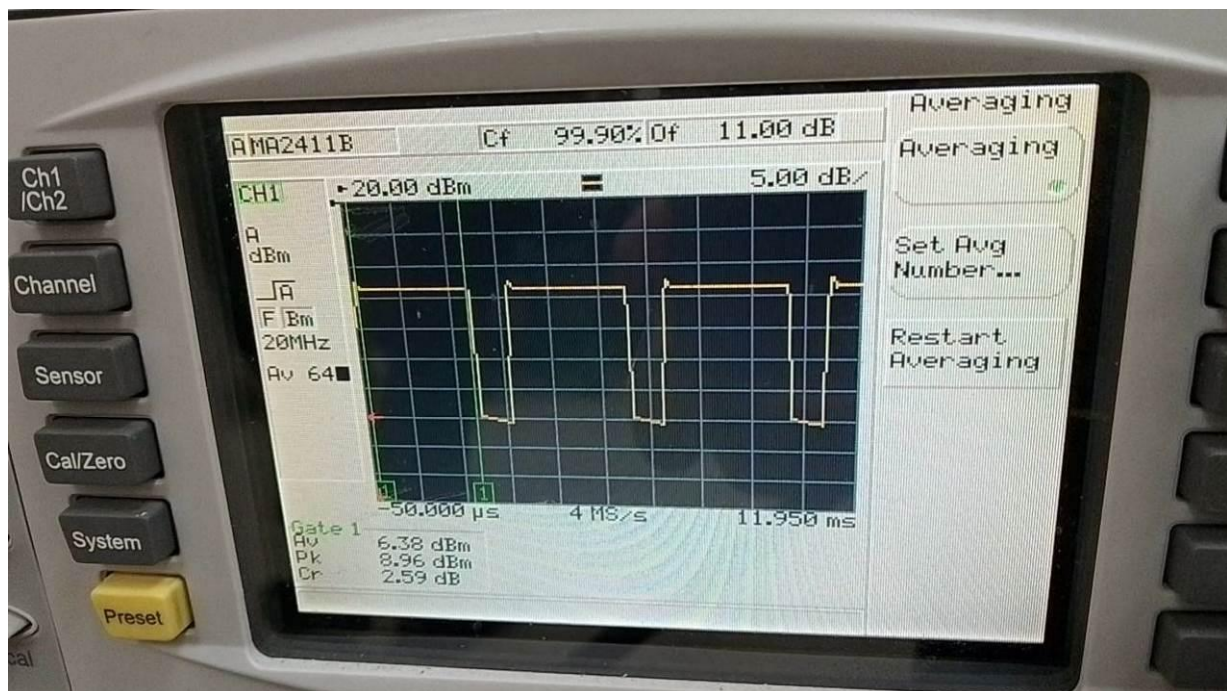
13.3 Test Setup Layout



13.4 Test Result and Data

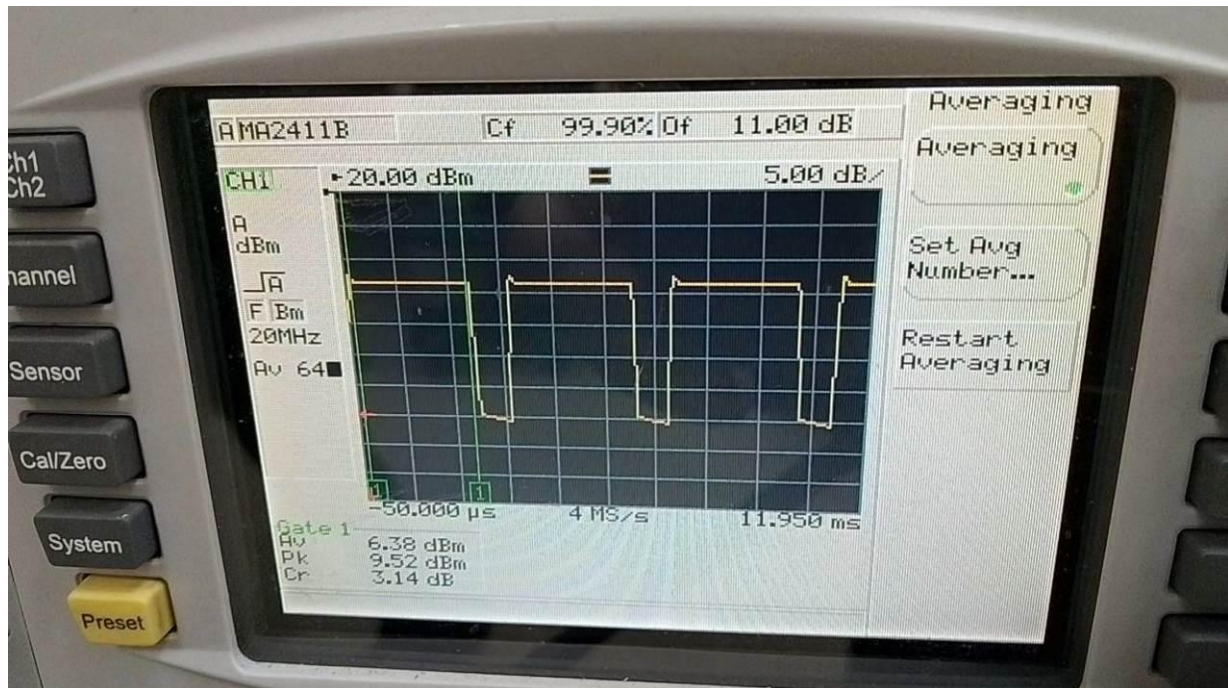
Setting	Modulation Type	Channel	Frequency (MHz)	AV Output Power (dBm)	AV Output Power (mW)
Default	GFSK	0	2402	6.48	4.446
Default		39	2441	6.73	4.710
Default		78	2480	6.68	4.656
Default	$\pi/4$ -DQPSK	0	2402	6.43	4.395
Default		39	2441	6.52	4.487
Default		78	2480	6.44	4.406
Default	8DPSK	0	2402	6.38	4.345
Default		39	2441	6.52	4.487
Default		78	2480	6.55	4.519

AFH Mode					
Setting	Modulation Type	Channel	Frequency (MHz)	AV Output Power (dBm)	AV Output Power (mW)
Default	GFSK	0-19	2402-2421	6.61	4.581
Default	$\pi/4$ -DQPSK	0-19	2402-2421	6.48	4.446
Default	8DPSK	0-19	2402-2421	6.45	4.416





Modulation Type: 8DPSK



-----THE END OF REPORT-----