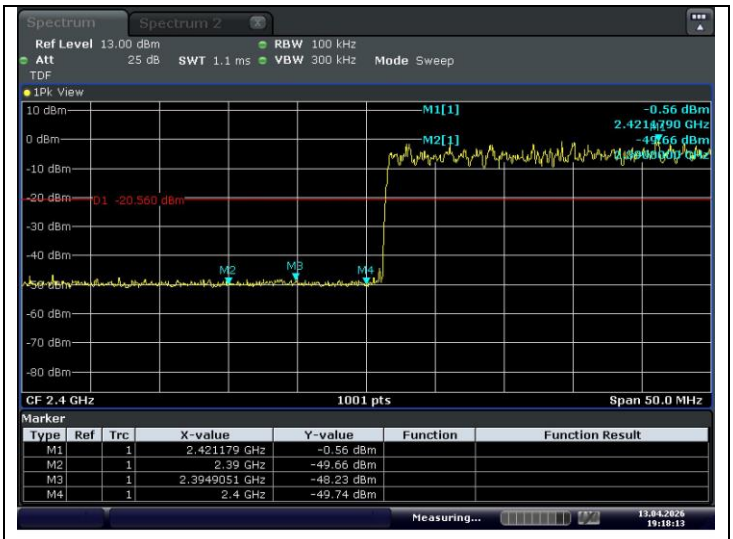
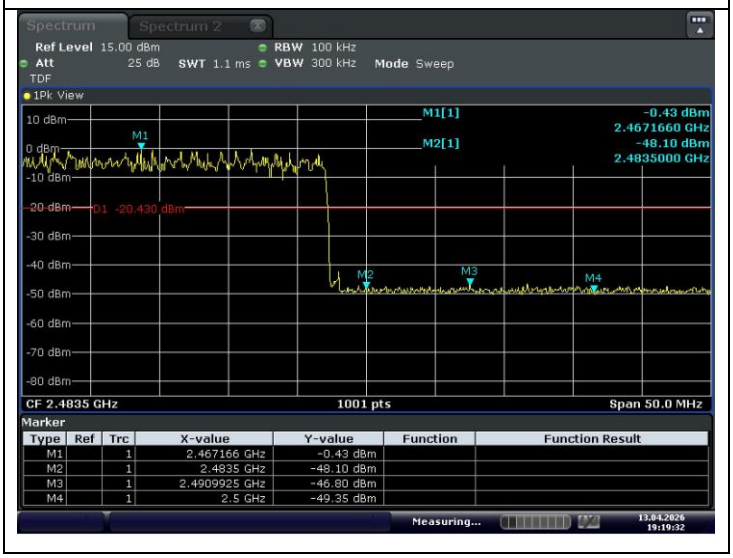
Mode: π/4DQPSK _hopping function turned on

Band edge compliance

Low channel



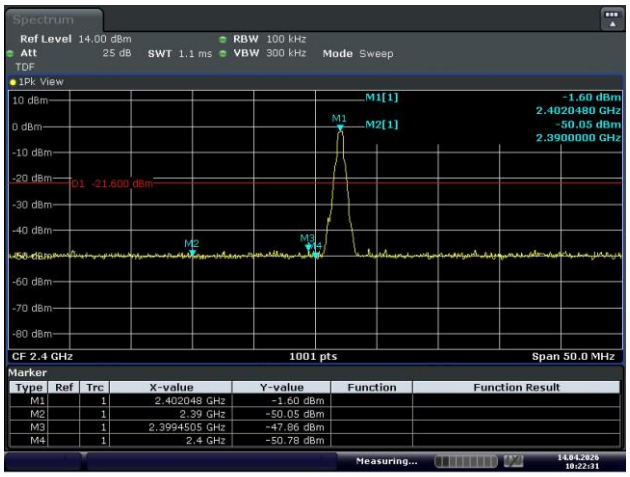
High channel

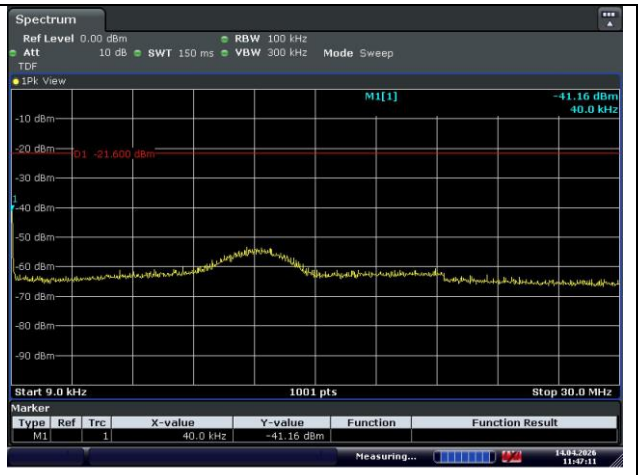


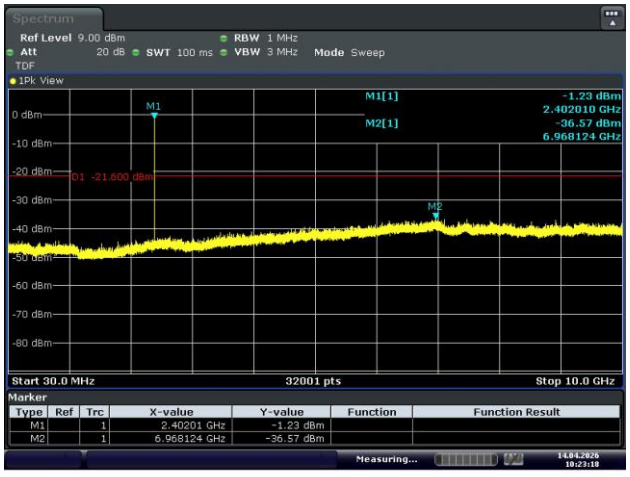
Ant. 1

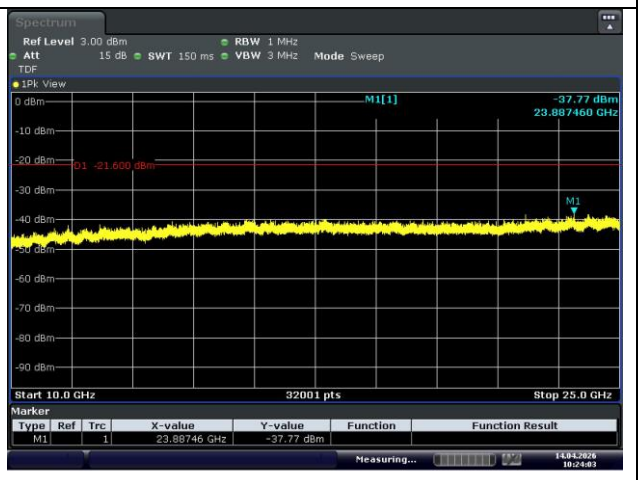
Mode: GFSK_hopping function turned off

- Low Channel

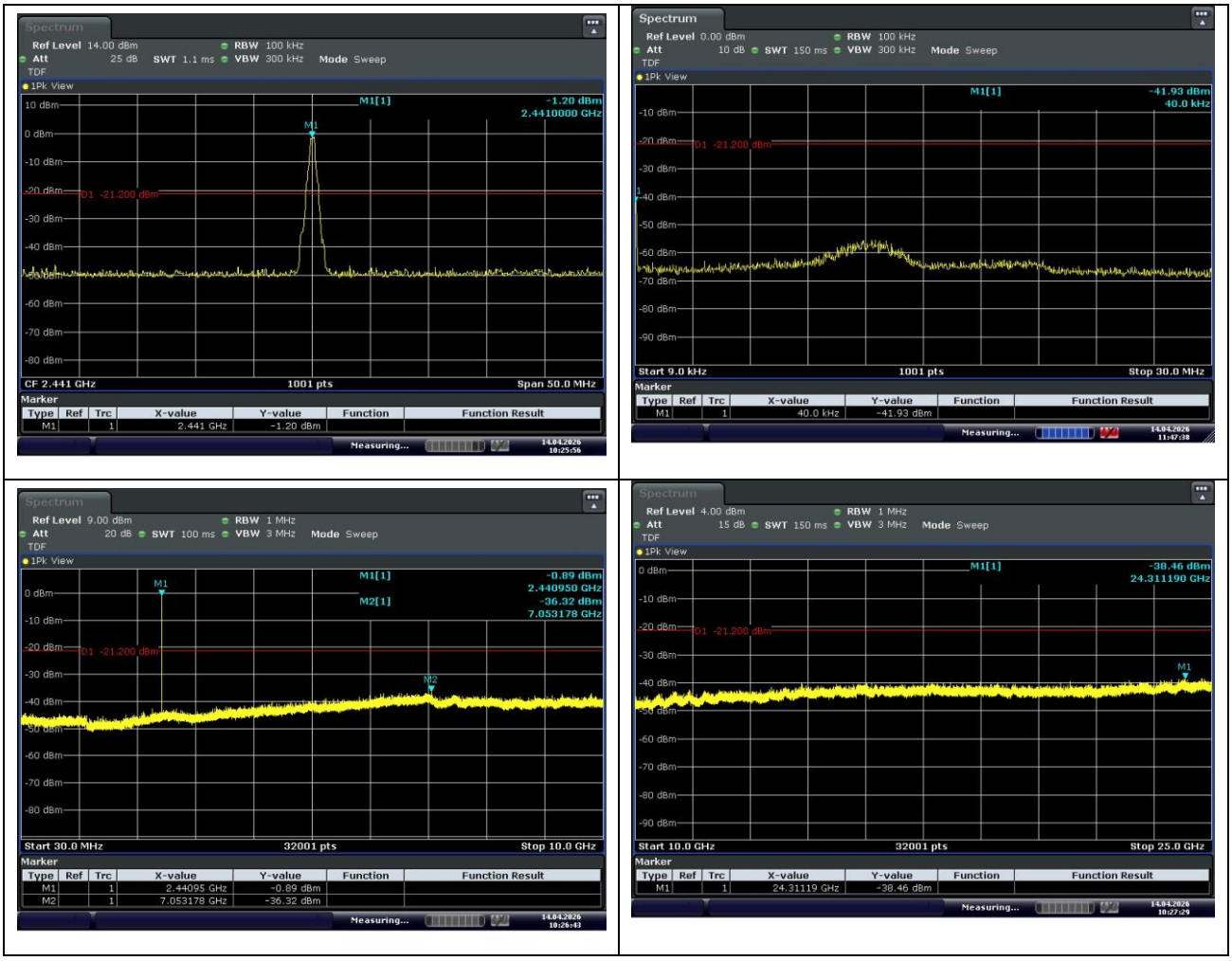




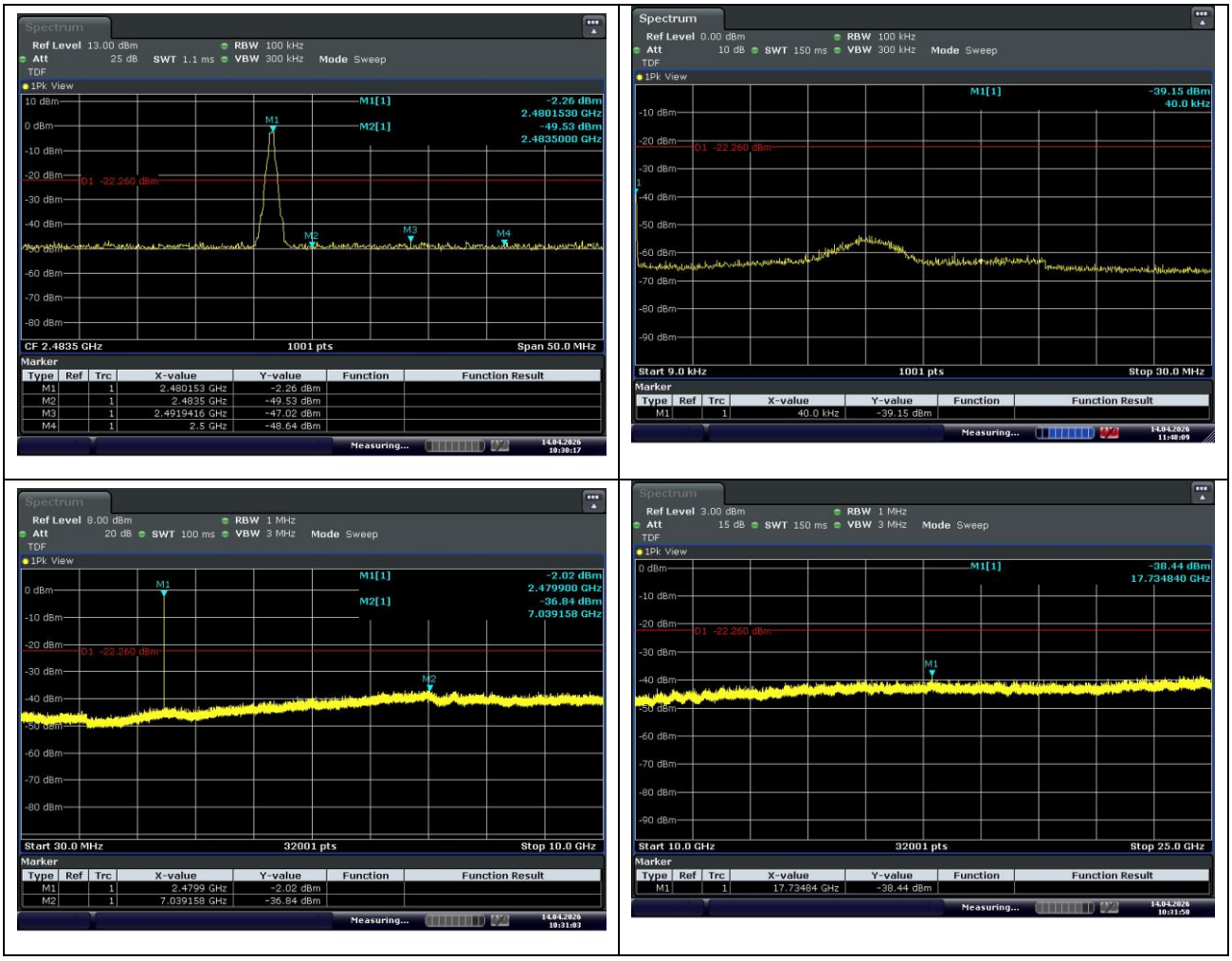




- Middle Channel



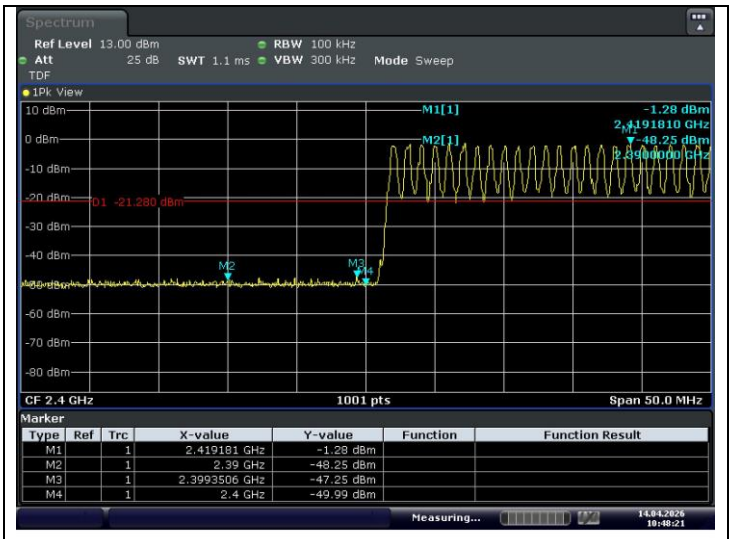
- High Channel



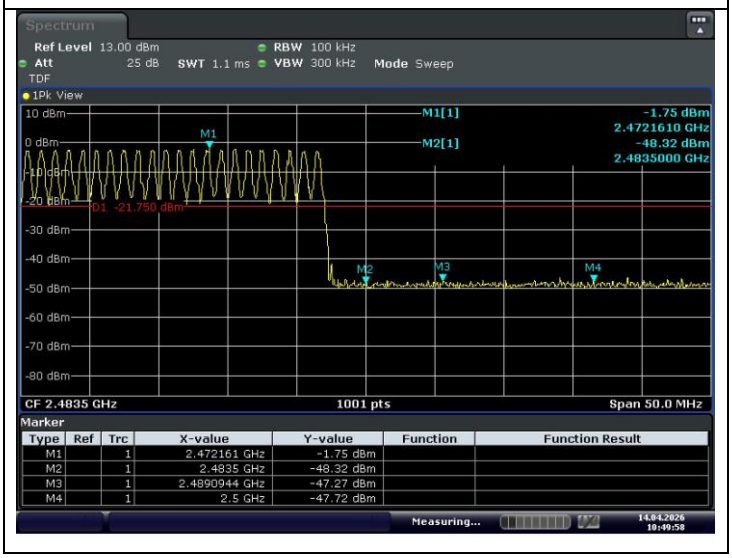
Mode: GFSK_hopping function turned on

Band edge compliance

Low Channel

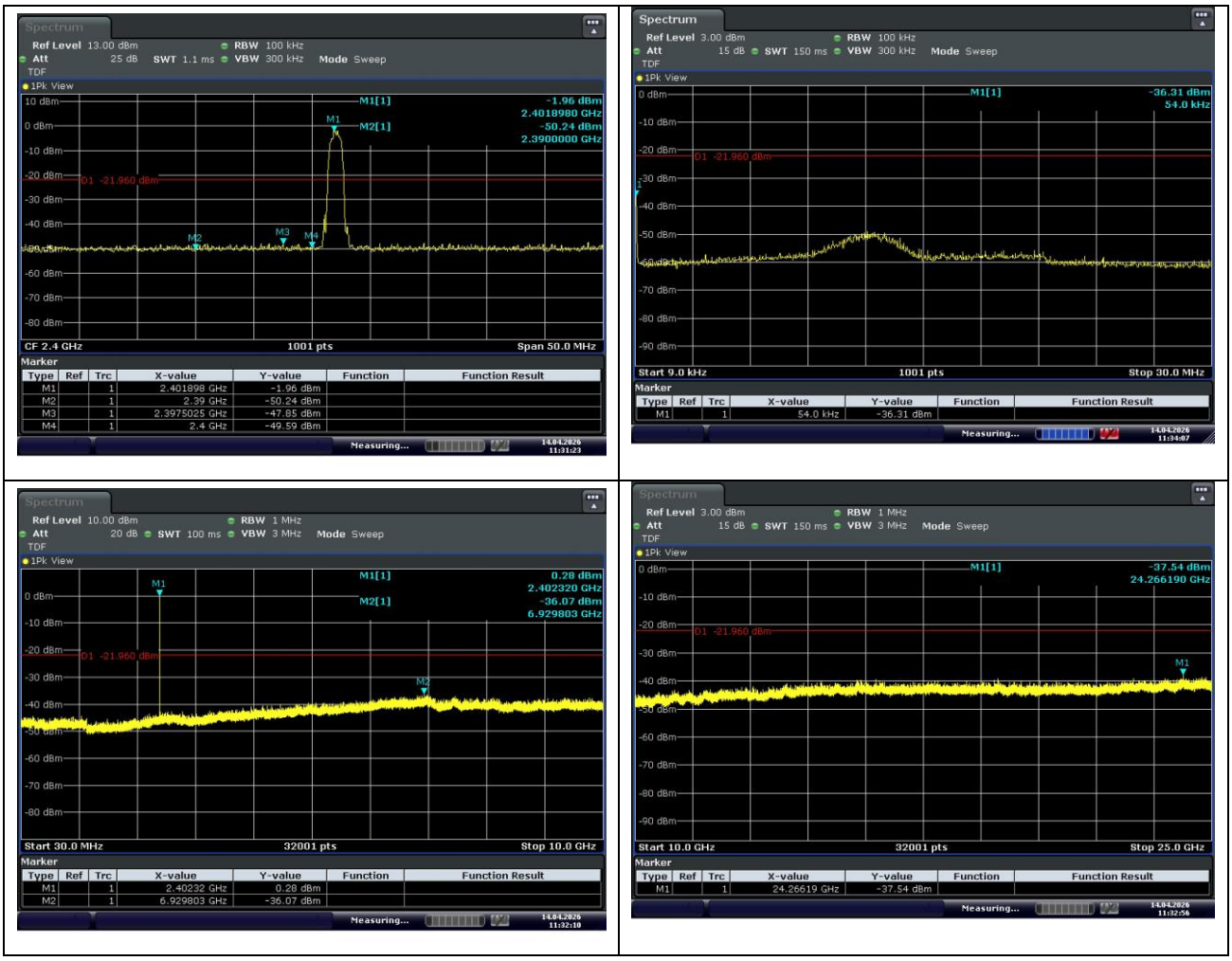


High Channel

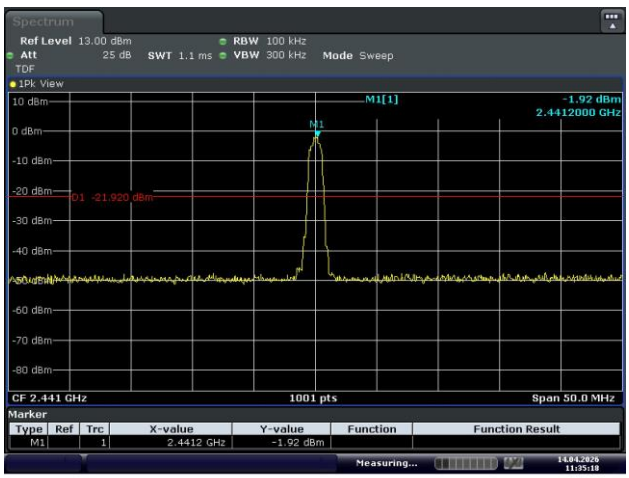


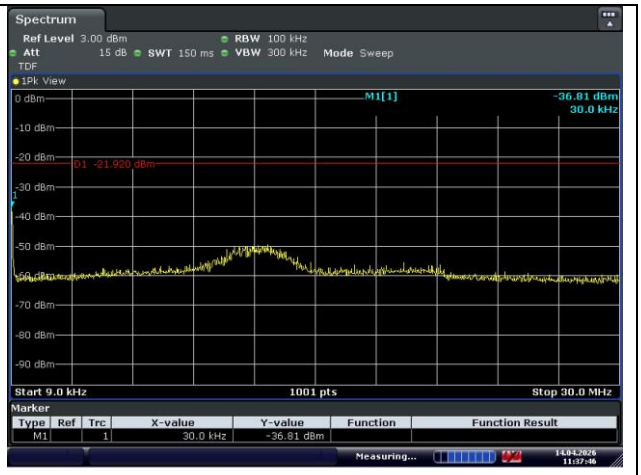
Mode: π/4DQPSK_hopping function turned off

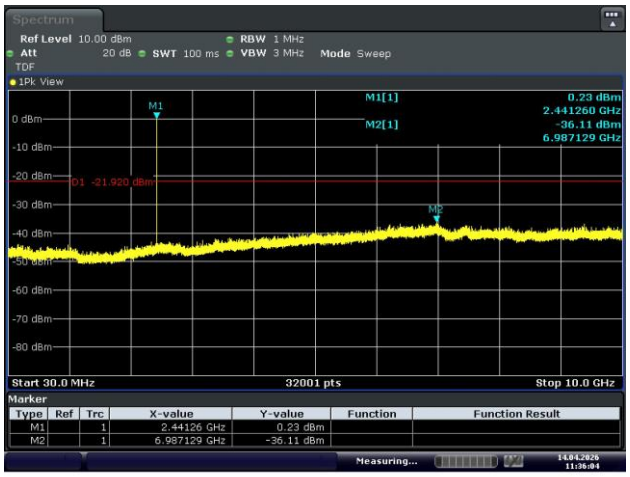
- Low Channel

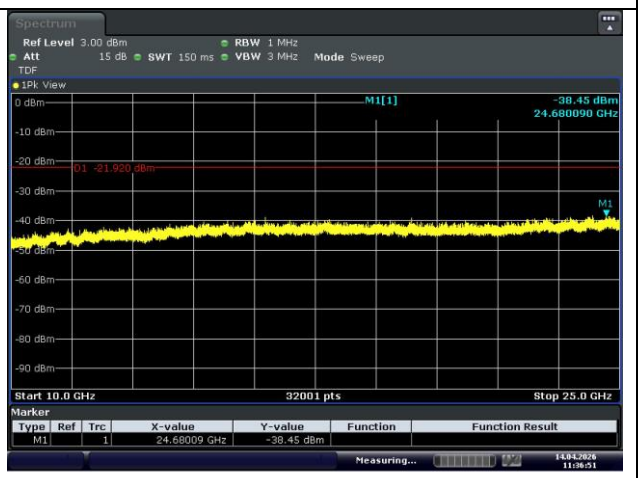


- Middle Channel

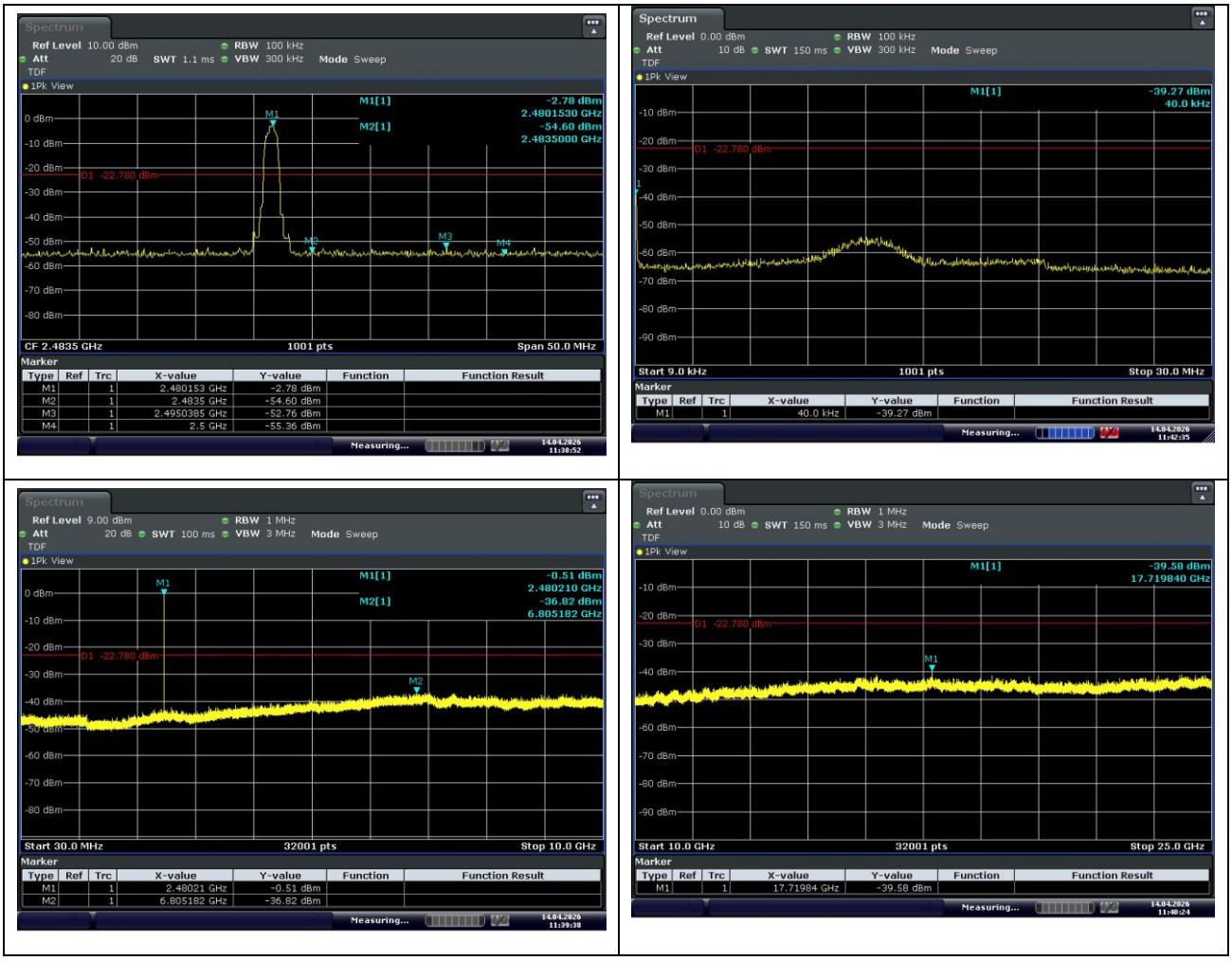








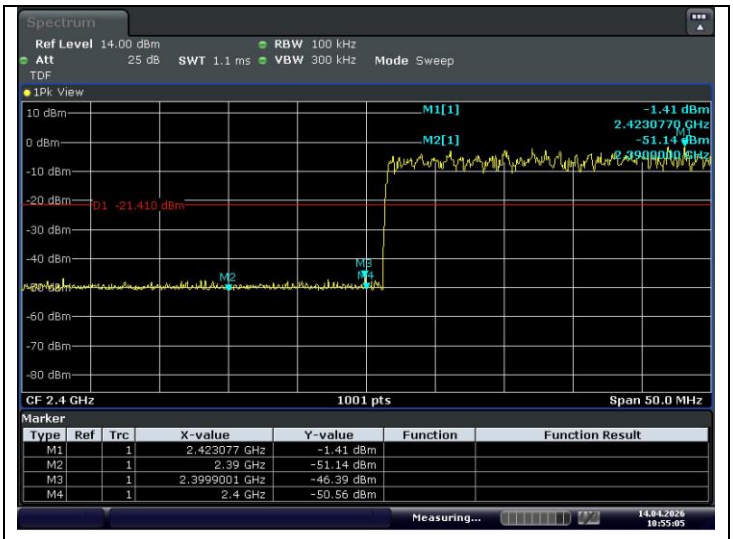
- High Channel



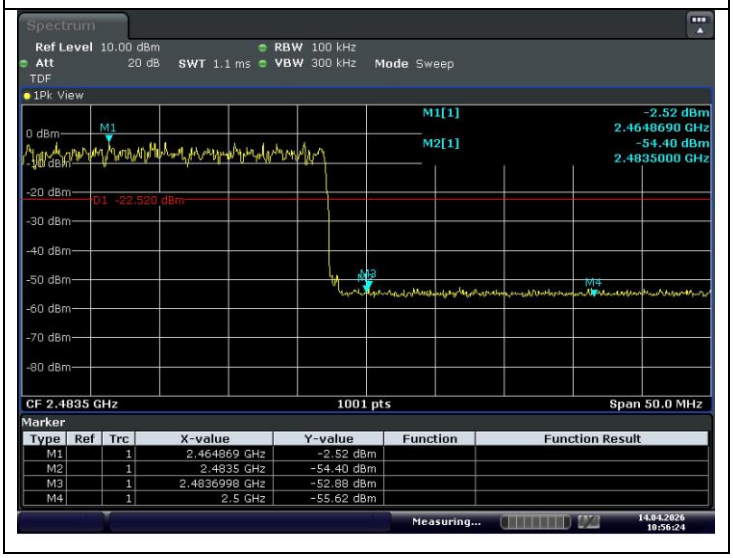
Mode: π/4DQPSK _hopping function turned on

Band edge compliance

Low channel

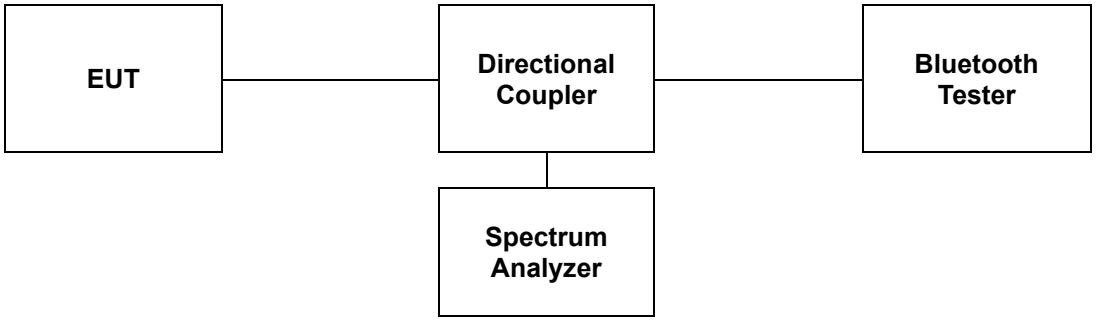


High channel



3. 20 dB Bandwidth and 99 % Bandwidth

3.1. Test Setup



3.2. Limit

Limit: Not Applicable

3.3. Test Procedure

3.3.1. 20 dB Bandwidth

The test follows ANSI C63.10-2020 (for FCC) and ANSI C63.10-2020 + Cor.1-2023 + C63.10a-2024 + Errata to C63.10a-2024 (for ISED).

The 20 dB bandwidth was measured with a spectrum analyzer connected to RF antenna connector (conducted measurement) while EUT was operating in transmit mode at the appropriate center frequency.

Use the following spectrum analyzer setting:

1. Span = approximately 2 to 5 times the 20 dB bandwidth.
2. RBW ≥ 1 % to 5 % of the 20 dB bandwidth.
3. VBW ≥ 3 x RBW
4. Sweep = auto
5. Detector = peak
6. Trace = max hold

The marker-to-peak function to set the mark to the peak of the emission. Use the marker-delta function to measure 20 dB down one side of the emission. Reset the function, and move the marker to the other side of the emission, until it is (as close as possible to) even with the reference marker level. The marker-delta reading at this point is 20 dB bandwidth of the emission.

3.3.2. 99 % Bandwidth

The test follows section 6.9.3 of ANSI C63.10-2020 (for FCC) and ANSI C63.10-2020 + Cor.1-2023 + C63.10a-2024 + Errata to C63.10a-2024 (for ISED).

The occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers are each equal to 0.5% of the total mean power of the given emission. The following procedure shall be used for measuring 99% power bandwidth:

a) The instrument center frequency is set to the nominal EUT channel center frequency. The frequency span for the spectrum analyzer shall be between 1.5 times and 5.0 times the OBW.

b) The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW, and VBW shall be at least three times the RBW, unless otherwise specified by the applicable requirement.

1) When measuring OBW for UWB, the VBW shall be set to three times the RBW or the maximum available VBW of the measuring instrument.

c) Set the reference level of the instrument as required, keeping the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope shall be more than [10 log (OBW/RBW)] below the reference level. Specific guidance is given in 4.1.6.2.

d) Step a) through step c) might require iteration to adjust within the specified range.

e) Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max-hold mode (until the trace stabilizes) shall be used.

f) Use the 99% power bandwidth function of the instrument (if available) and report the measured bandwidth.

g) If the instrument does not have a 99% power bandwidth function, then the trace data points are recovered and directly summed in linear power terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5% of the total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5% of the total is reached; that frequency is recorded as the upper frequency. The 99% power bandwidth is the difference between these two frequencies.

h) The occupied bandwidth shall be reported by providing spectral plot(s) of the measuring instrument display; the plot axes and the scale units per division shall be clearly labeled. Tabular data may be reported in addition to the plot(s).

3.4. Test Results

Ambient temperature : (23 ± 1) ℃
Relative humidity : 47 %

Ant. 0

Mode	Data Rate (Mbps)	Channel	Frequency (㎒)	20 ㏈ Bandwidth (㎒)	99 % Bandwidth (㎒)
GFSK	1	Low	2 402	1.144	0.923
		Middle	2 441	1.139	0.923
		High	2 480	1.149	0.920
π/4DQPSK	2	Low	2 402	1.414	1.196
		Middle	2 441	1.419	1.199
		High	2 480	1.414	1.196
8DPSK	3	Low	2 402	1.409	1.199
		Middle	2 441	1.409	1.202
		High	2 480	1.414	1.202

Ant. 1

Mode	Data Rate (Mbps)	Channel	Frequency (㎒)	20 ㏈ Bandwidth (㎒)	99 % Bandwidth (㎒)
GFSK	1	Low	2 402	1.144	0.926
		Middle	2 441	1.144	0.926
		High	2 480	1.134	0.932
π/4DQPSK	2	Low	2 402	1.414	1.190
		Middle	2 441	1.414	1.196
		High	2 480	1.414	1.199
8DPSK	3	Low	2 402	1.404	1.196
		Middle	2 441	1.409	1.199
		High	2 480	1.409	1.202

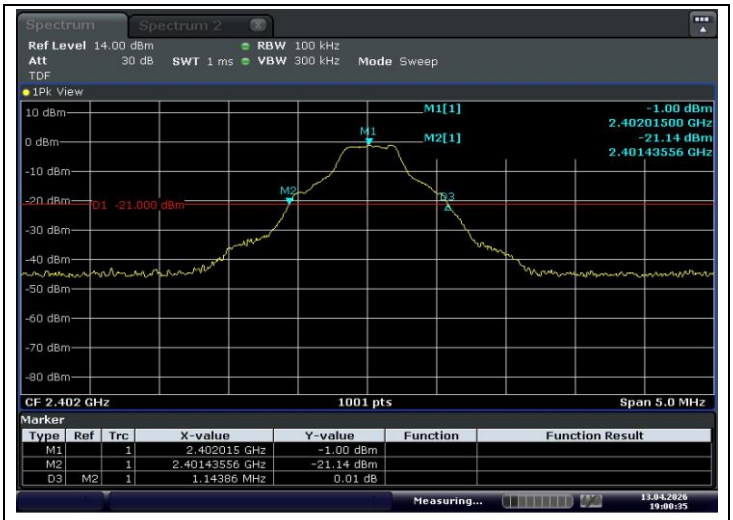
- Test plots

20 dB Bandwidth

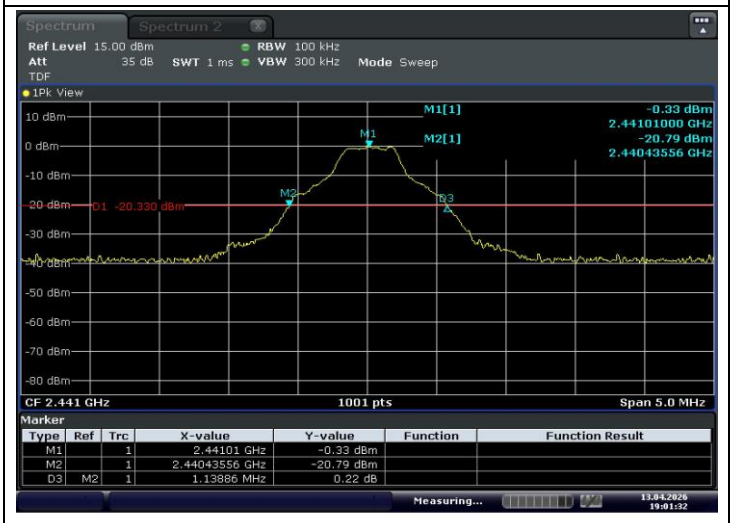
Ant. 0

Mode: GFSK

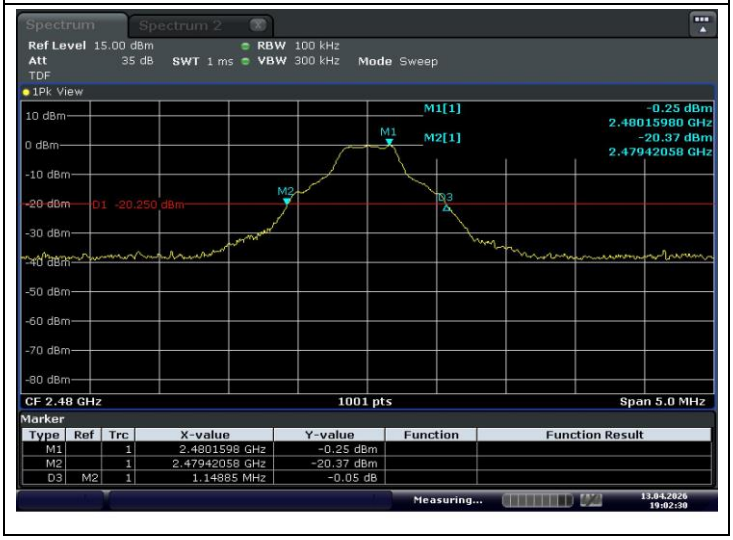
Low Channel



Middle Channel

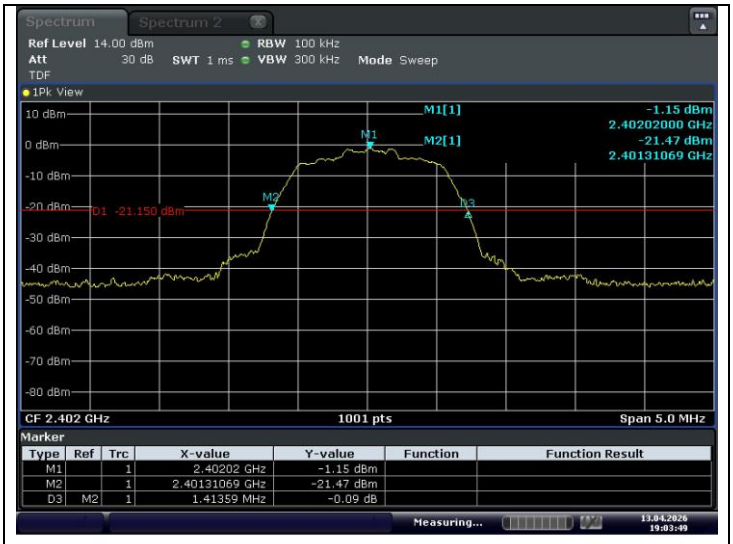


High Channel

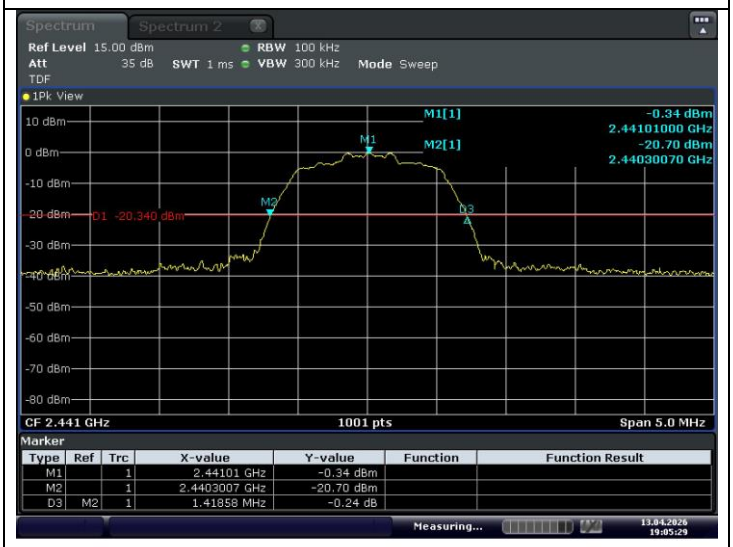


Mode: π/4DQPSK

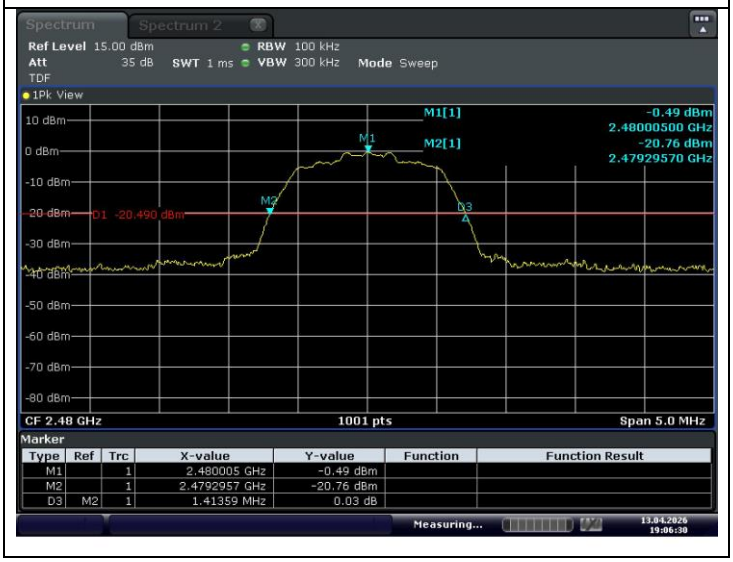
Low Channel



Middle Channel

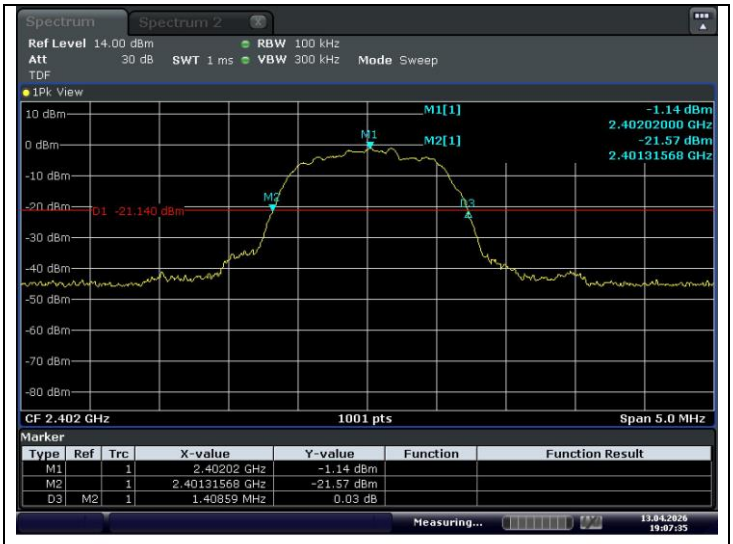


High Channel

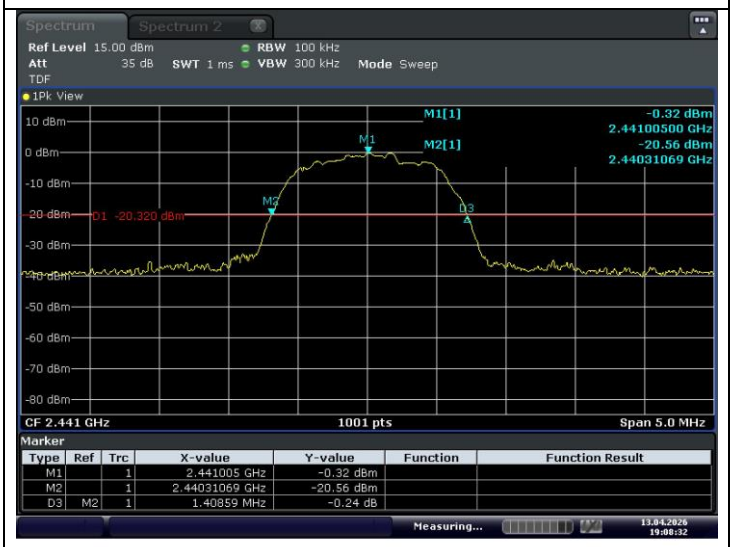


Mode: 8DPSK

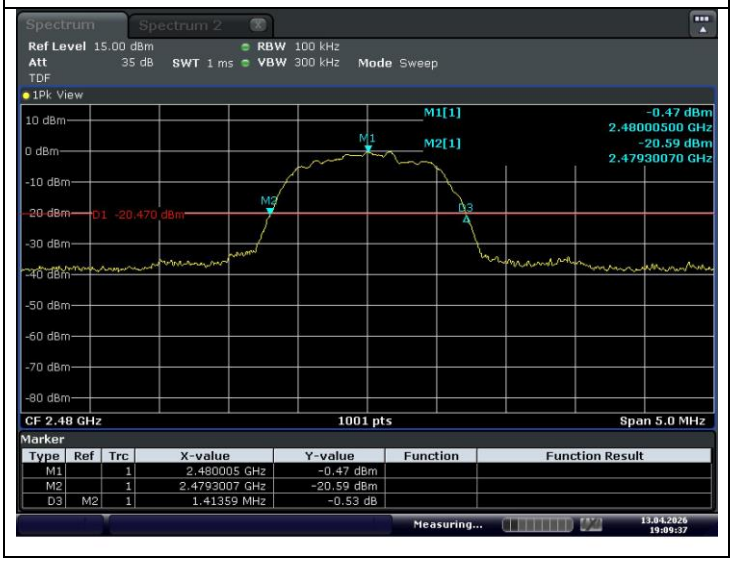
Low Channel



Middle Channel



High Channel

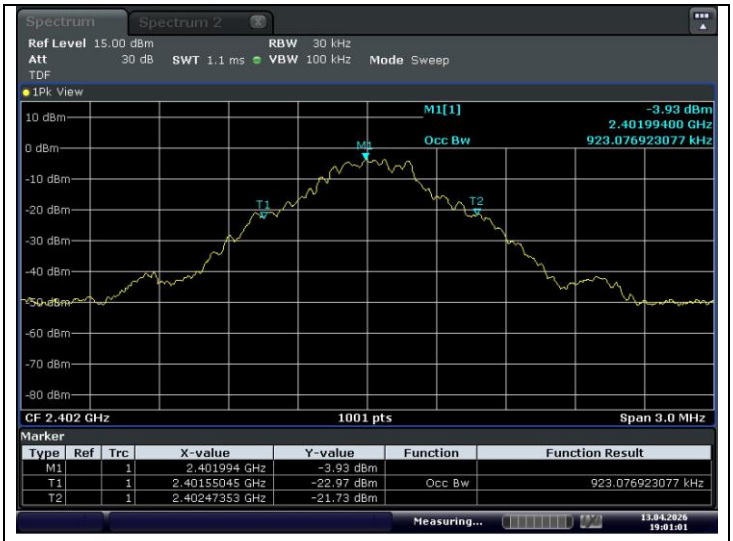


99 % Bandwidth

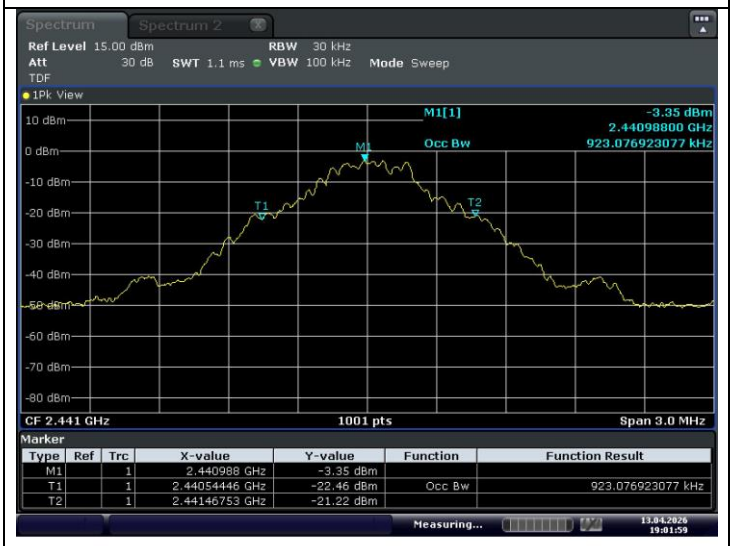
Ant. 0

Mode: GFSK

Low Channel



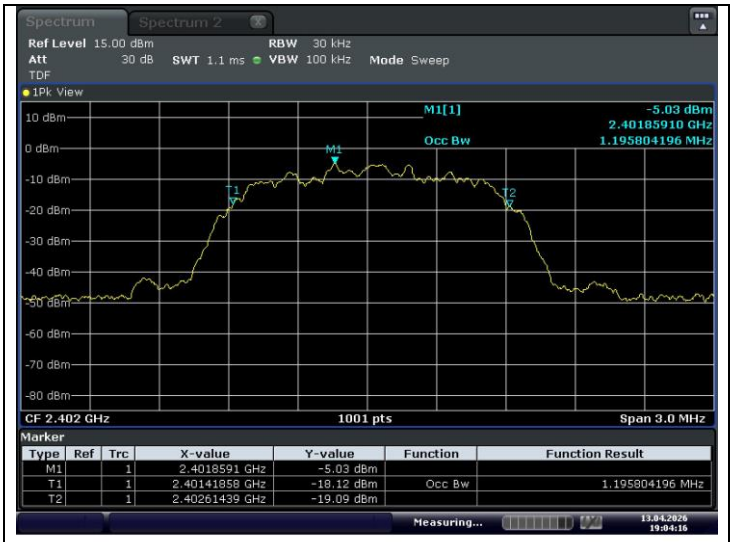
Middle Channel



High Channel

Mode: π/4DQPSK

Low Channel

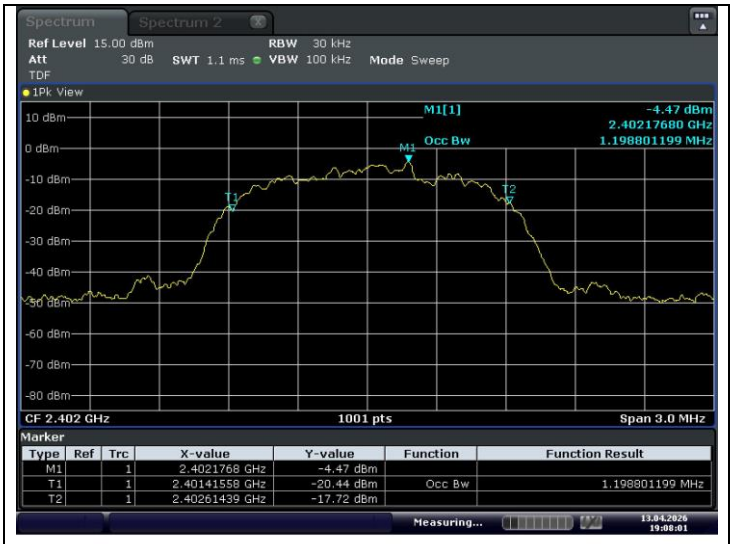


Middle Channel

High Channel

Mode: 8DPSK

Low Channel



Middle Channel

High Channel

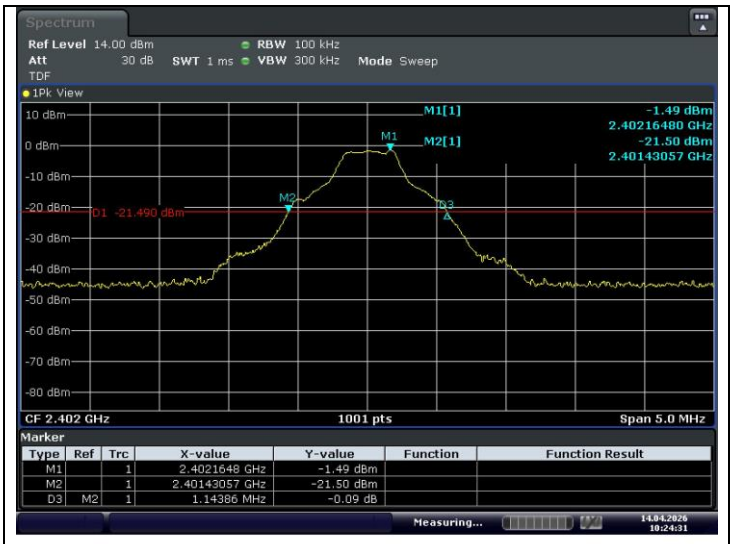
- Test plots

20 dB Bandwidth

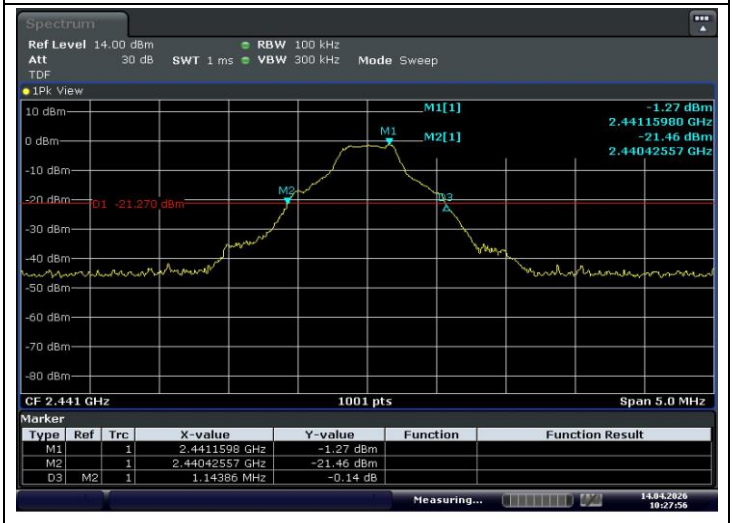
Ant. 1

Mode: GFSK

Low Channel



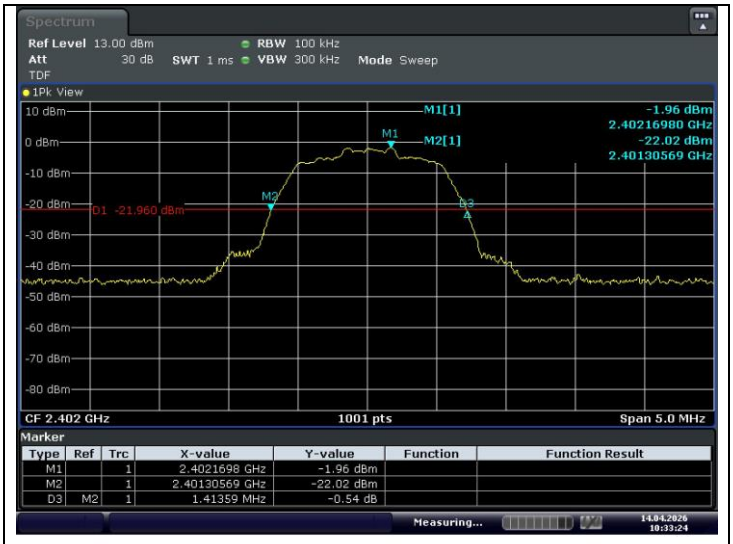
Middle Channel



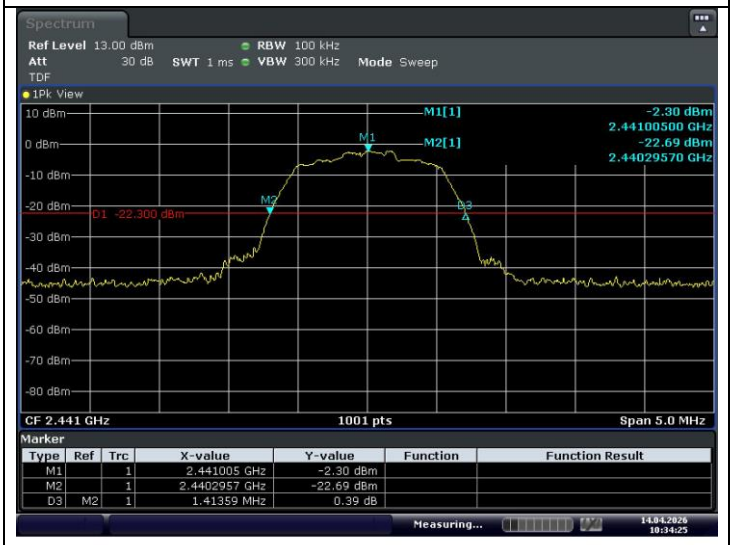
High Channel

Mode: π/4DQPSK

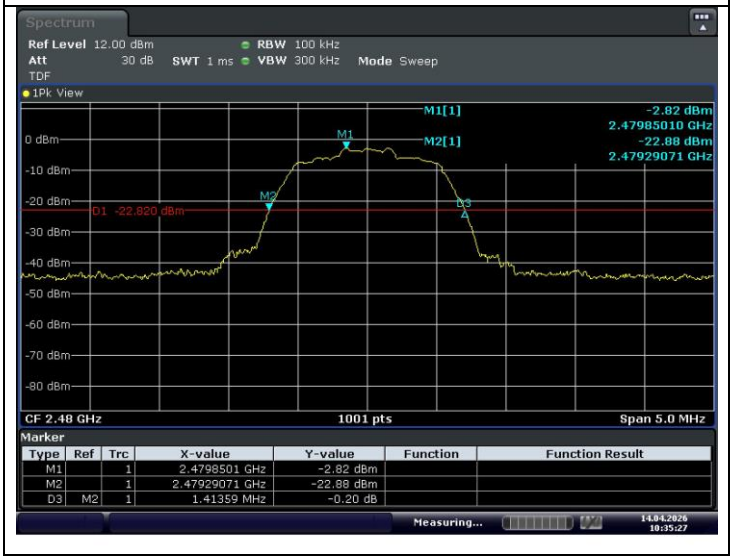
Low Channel



Middle Channel

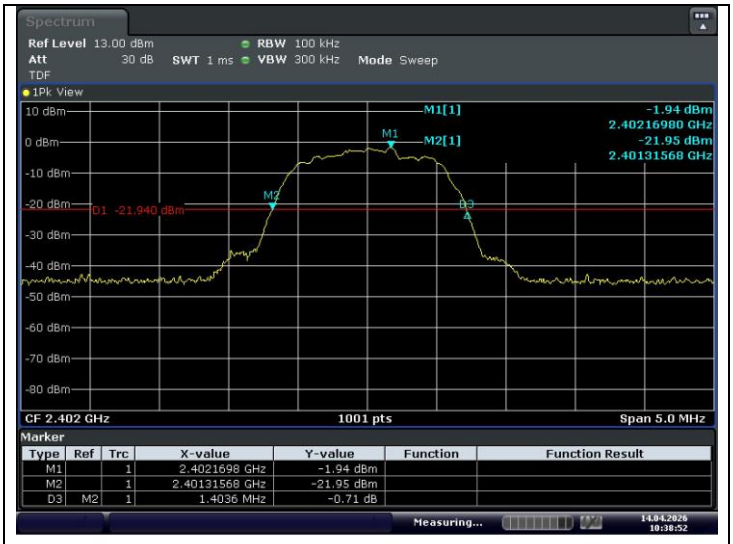


High Channel

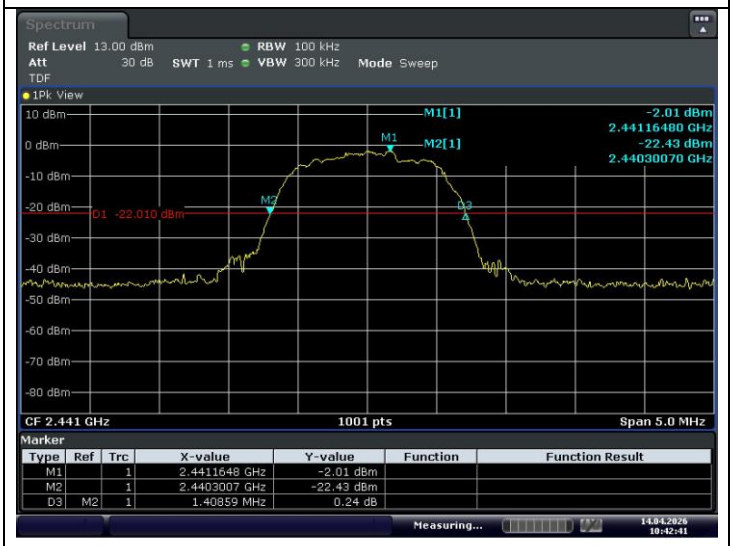


Mode: 8DPSK

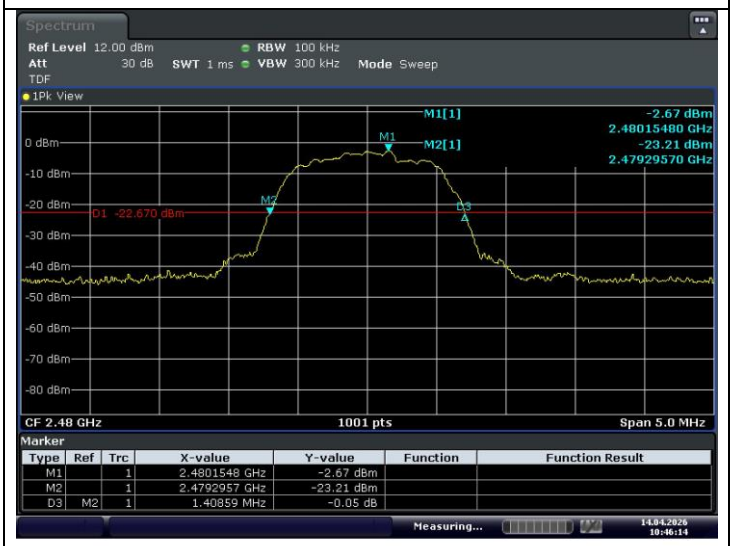
Low Channel



Middle Channel



High Channel

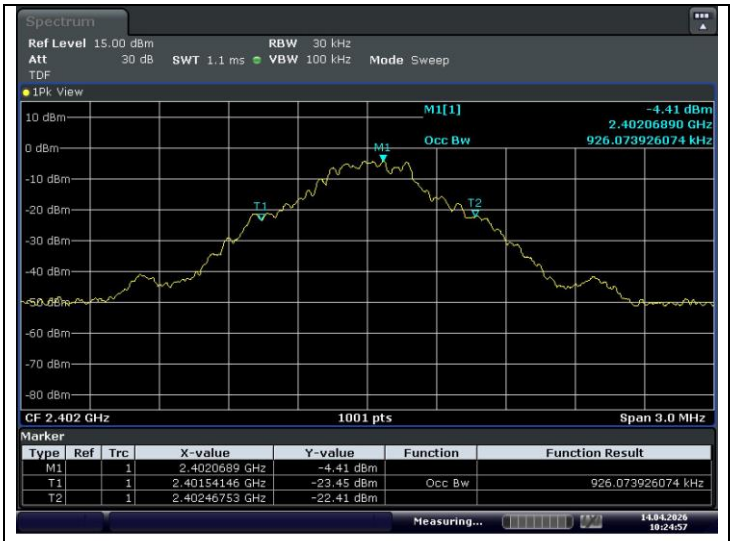


99 % Bandwidth

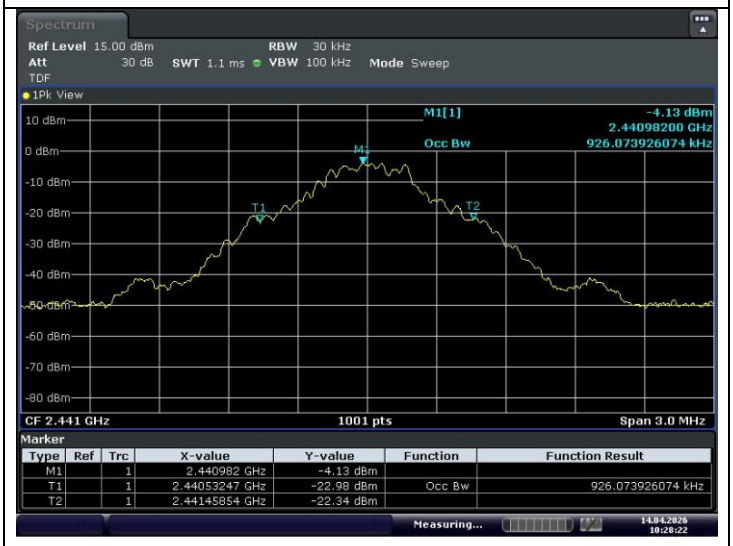
Ant. 1

Mode: GFSK

Low Channel



Middle Channel



High Channel

Mode: π/4DQPSK

Low Channel

Middle Channel

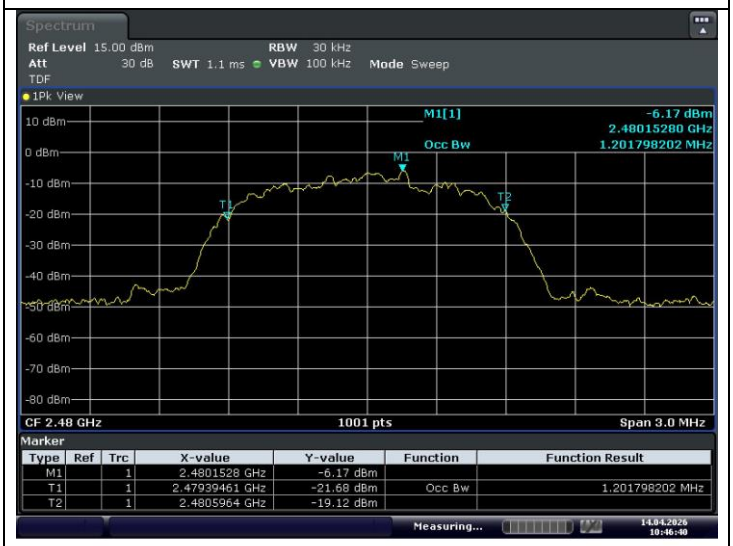
High Channel

Mode: 8DPSK

Low Channel

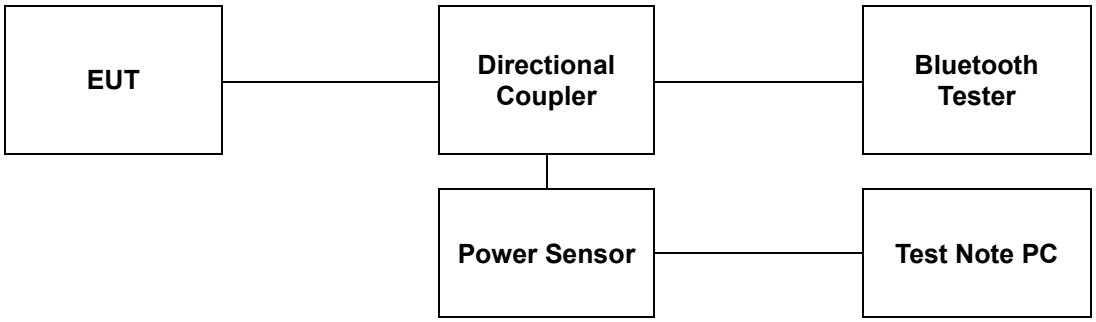
Middle Channel

High Channel



4. Maximum Peak Conducted Output Power

4.1. Test Setup



4.2. Limit

4.2.1. FCC

1. §15.247(a)(1), Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 ㎑ or the 20 ㏈ bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2 400-2 483.5 ㎒ band may have hopping channel carrier frequencies that are separated by 25 ㎑ or two-thirds of the 20 ㏈ bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 ㎽.
2. §15.247(b)(1), For frequency hopping systems operating in the 2 400-2 483.5 ㎒ band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5 725-5 850 ㎒ band: 1 watt. For all other frequency hopping systems in the 2 400-2 483.5 ㎒ band: 0.125 watts.

4.2.2. IC

1. According to RSS-247 Issue 4, 6.2.3.1(a), FHS operating in the band 2400-2483.5 ㎒ may have hopping channel carrier frequencies that are separated by 25 ㎑ or two-thirds of the 20 ㏈ bandwidth of the hopping channel, whichever is greater, provided that the systems operate with an output power no greater than 0.125 W.
2. According to RSS-247 Issue 4, 6.2.3.2, The following transmitter output power and e.i.r.p. requirements shall apply:
   a) If the hopset uses 75 or more hopping channels, the maximum peak conducted output power shall not exceed 1.0 W.
   b) If the hopset uses less than 75 hopping channels the maximum peak conducted output power shall not exceed 0.125 W.
   c) The e.i.r.p. shall not exceed 4 W, except as provided in sections 6.5 a) and b).

4.3. Test Procedure

The test follows ANSI C63.10-2020 (for FCC) and ANSI C63.10-2020 + Cor.1-2023 + C63.10a-2024 + Errata to C63.10a-2024 (for ISED). Using the power sensor instead of a spectrum analyzer.

1. Initially overall offset for directional coupler and cable loss is measured per frequencies.
2. Place the EUT on the table and set it in the transmitting mode.
3. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the Power sensor.
4. Test program: (S/W name: R&S Power Viewer, Version: 3.2.0)
5. Measure each channel.

4.4. Test Results

Ambient temperature : (23 ± 1) ℃
Relative humidity : 47 %

Ant. 0

Mode	Data Rate (Mbps)	Channel	Frequency (㎒)	Average Power Result (㏈m)	Peak Power Result (㏈m)	Limit (㏈m)
GFSK	1	Low	2 402	-0.37	0.85	20.97
		Middle	2 441	-0.59	0.66	
		High	2 480	**0.52**	**1.40**	
π/4DQPSK	2	Low	2 402	-0.23	2.78	
		Middle	2 441	-0.37	2.78	
		High	2 480	**0.29**	**3.79**	
8DPSK	3	Low	2 402	-0.36	2.13	
		Middle	2 441	-0.38	2.17	
		High	2 480	**0.20**	**3.59**	

Ant. 1

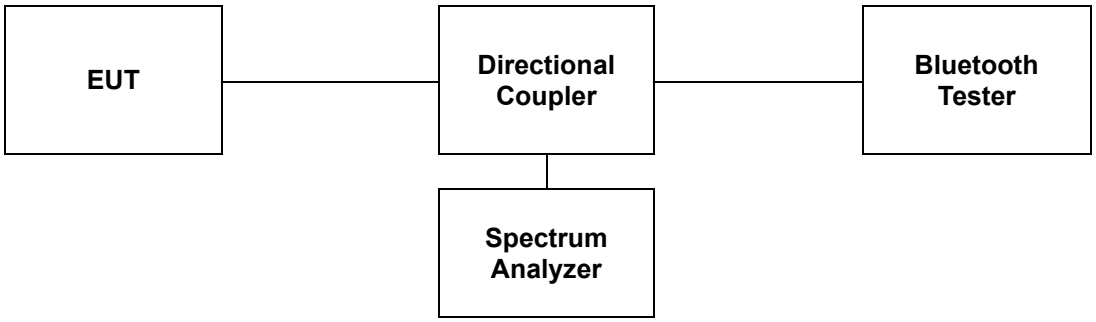
Mode	Data Rate (Mbps)	Channel	Frequency (㎒)	Average Power Result (㏈m)	Peak Power Result (㏈m)	Limit (㏈m)
GFSK	1	Low	2 402	**-0.27**	**0.96**	20.97
		Middle	2 441	-0.71	0.55	
		High	2 480	-1.19	-0.12	
π/4DQPSK	2	Low	2 402	**-0.33**	**3.09**	
		Middle	2 441	-0.64	2.92	
		High	2 480	-1.42	2.50	
8DPSK	3	Low	2 402	**-0.36**	**3.03**	
		Middle	2 441	-0.66	2.91	
		High	2 480	-1.44	2.00	

Remark;

In the case of AFH, the limit for peak power is 0.125 W.

5. Carrier Frequency Separation

5.1. Test Setup



5.2. Limit

5.2.1. FCC

§15.247(a)(1), Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 ㎑ or the 20 ㏈ bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2 400-2 483.5 ㎒ band may have hopping channel carrier frequencies that are separated by 25 ㎑ or two-thirds of the 20 ㏈ bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 ㎽.

5.2.2. IC

According to RSS-247 Issue 4, 6.2.3.1(a), FHS operating in the band 2400-2483.5 ㎒ may have hopping channel carrier frequencies that are separated by 25 ㎑ or two-thirds of the 20 ㏈ bandwidth of the hopping channel, whichever is greater, provided that the systems operate with an output power no greater than 0.125 W.

5.3. Test Procedure

The test follows ANSI C63.10-2020 (for FCC) and ANSI C63.10-2020 + Cor.1-2023 + C63.10a-2024 + Errata to C63.10a-2024 (for ISED).

The device is operating in hopping mode between 79 channels and also supporting Adaptive Frequency Hopping with hopping between 20 channels. As compared with each operating mode, 79 channels are chosen as a representative for test.

Use the following spectrum analyzer settings:

1. Span: Wide enough to capture the peaks of two adjacent channels
2. RBW: Start with the RBW set to approximately 30 % of the channel spacing; adjust as necessary to best identify the center of each individual channel.
3. VBW ≥ 1/10th the RBW.
4. Sweep: No faster than coupled (auto) time
5. Detector: Peak
6. Trace: Max hold
7. Allow the trace to stabilize.

Use the marker-delta function to determine the separation between the peaks of the adjacent channels. Compliance of an EUT with the appropriate regulatory limit shall be determined. A spectral plot of the data shall be included in the test report.

Where the device shares the same channel plan (carrier frequencies and number of channels) across multiple data rates or modulation schemes then the carrier separation need only be measured for one of those modulation schemes or data rates.

5.4. Test Results

Ambient temperature : (23 ± 1) ℃
Relative humidity : 47 %

Ant. 0

Mode	Frequency (㎒)	Adjacent Hopping Channel Separation (㎑)	Two-third of 20 dB Bandwidth (㎑)
GFSK	2 441	1 000	759
π/4DQPSK	2 441	1 000	946

Ant. 1

Mode	Frequency (㎒)	Adjacent Hopping Channel Separation (㎑)	Two-third of 20 dB Bandwidth (㎑)
GFSK	2 441	1 000	763
π/4DQPSK	2 441	1 000	943

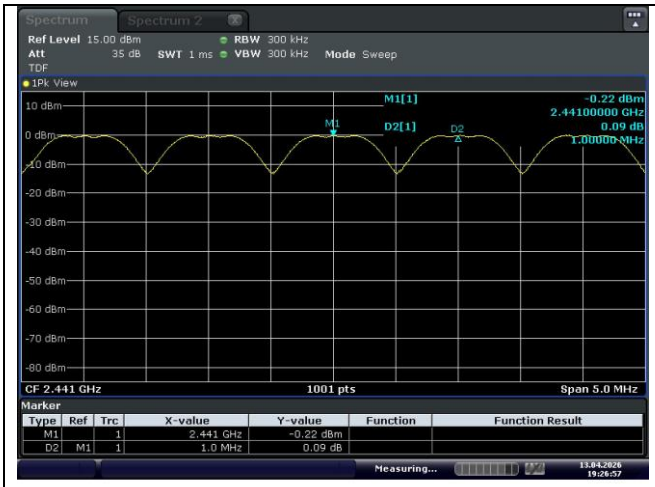
Remark;

Measurement is made with EUT operating in hopping mode between 79 channels providing a worst case scenario as compared to AFH mode hopping between 20 channels.

- Test plots

Ant. 0

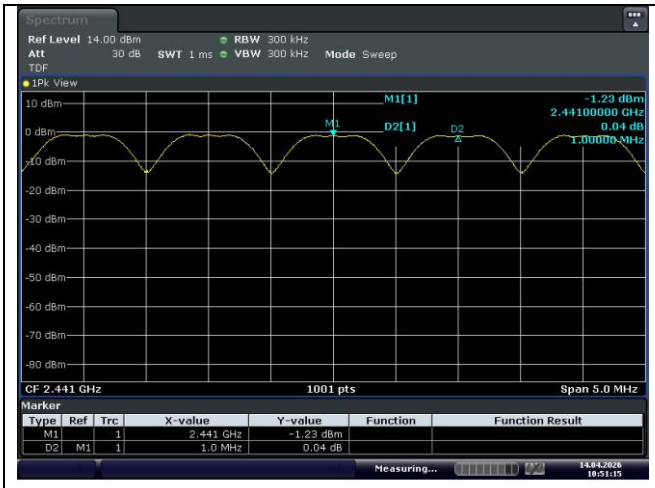
GFSK



π/4DQPSK

Ant. 1

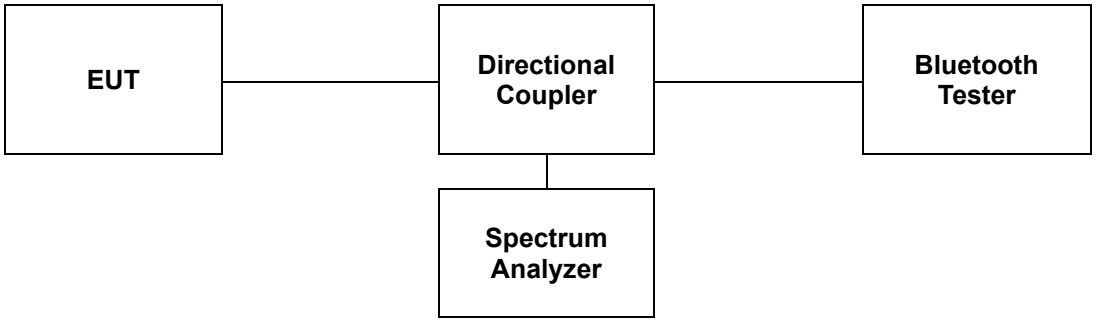
GFSK



π/4DQPSK

6. Number of Hopping Frequencies

6.1. Test Setup



6.2. Limit

6.2.1. FCC

§15.247(a)(1)(iii), Frequency hopping systems in the 2 400-2 483.5 ㎒ band shall use at least 15 channels. 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. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 channels are used.

6.2.2. IC

According to RSS-247 Issue 4, 6.2.3.1(b), FHS operating in the band 2 400-2 483.5 ㎒ shall use at least 15 hopping channels. The average time of occupancy on any channel shall not be greater than greater than 0.4 s within a period of 0.4 s, multiplied by the number of hopping channels employed. Transmissions on particular hopping frequencies may be avoided or suppressed provided that at least 15 hopping channels are used.

6.3. Test Procedure

The test follows ANSI C63.10-2020 (for FCC) and ANSI C63.10-2020 + Cor.1-2023 + C63.10a-2024 + Errata to C63.10a-2024 (for ISED).

The device supports Adaptive Frequency Hopping and will use a minimum of 20 channels of the 79 available channels.

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

1. Span: The frequency band of operation. Depending on the number of channels the device supports, it could be necessary to divide the frequency range of operation across multiple spans, to allow the individual channels to be clearly seen.
2. RBW: To identify clearly the individual channels, set the RBW to less than 30 % of the channel spacing or the 20 ㏈ bandwidth, whichever is smaller.
3. VBW ≥ 1/10th the RBW.
4. Sweep: No faster than coupled (auto) time.
5. Detector function: Peak
6. Trace: Max hold
7. 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 spectral plot of the data shall be included in the test report.
Where the device shares the same channel plan (carrier frequencies and number of channels) across multiple data rates or modulation schemes then the number of channels need only be measured for one of those modulation schemes or data rates.

6.4. Test Results

Ambient temperature : (23 ± 1) ℃
Relative humidity : 47 %

Mode	Number of Hopping Frequency	Limit
GFSK	79	≥ 15
π/4DQPSK	79	≥ 15

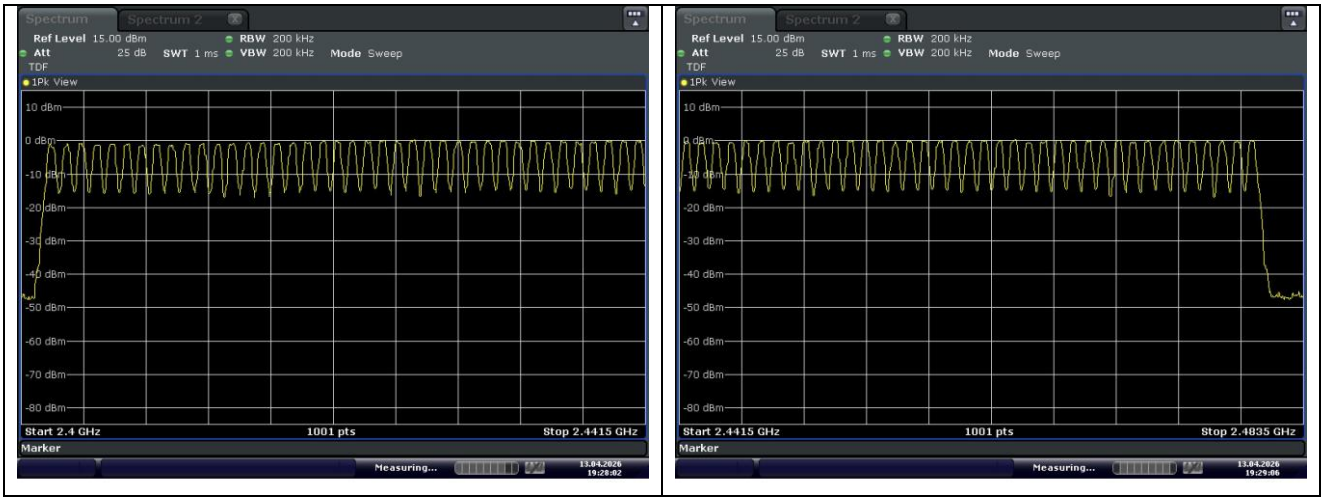
Remark;

Measurement is made with EUT operating in hopping mode between 79 channels providing a worst case scenario as compared to AFH mode hopping between 20 channels.

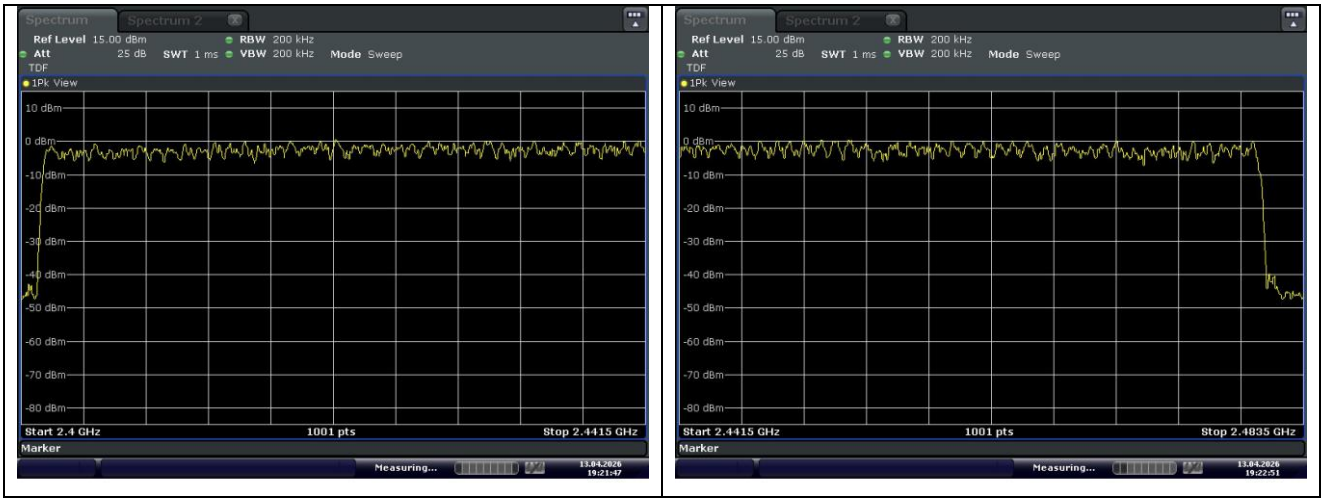
- Test plots

Ant. 0

GFSK

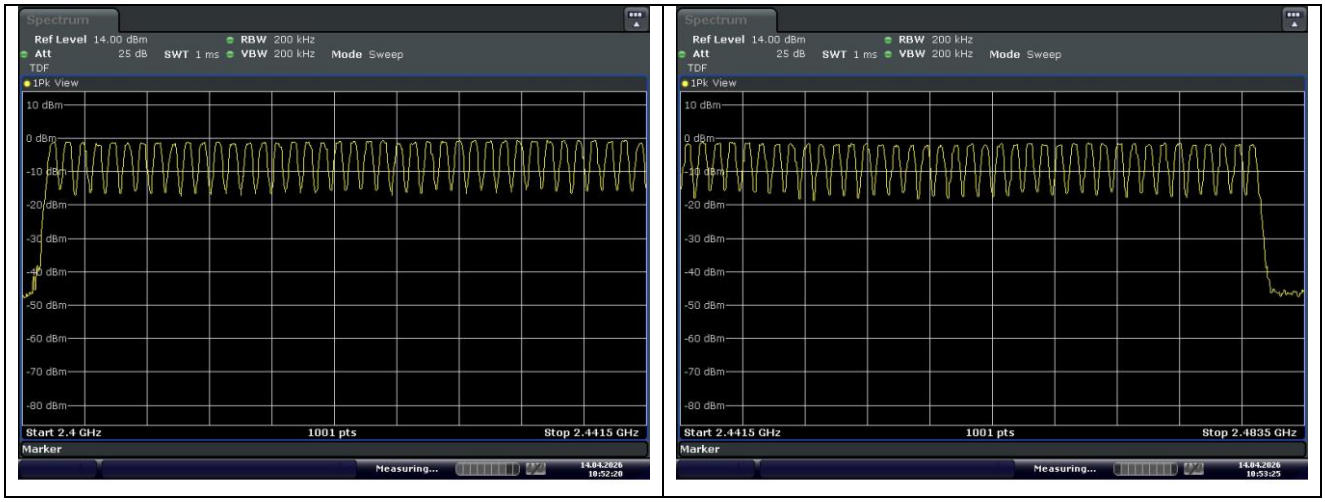


π/4DQPSK

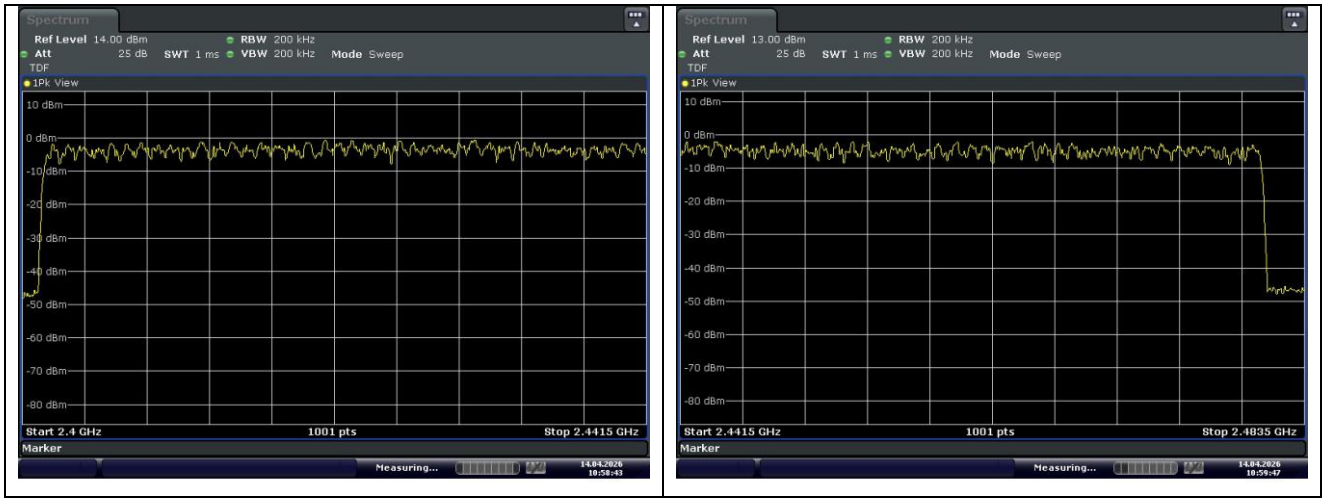


Ant. 1

GFSK

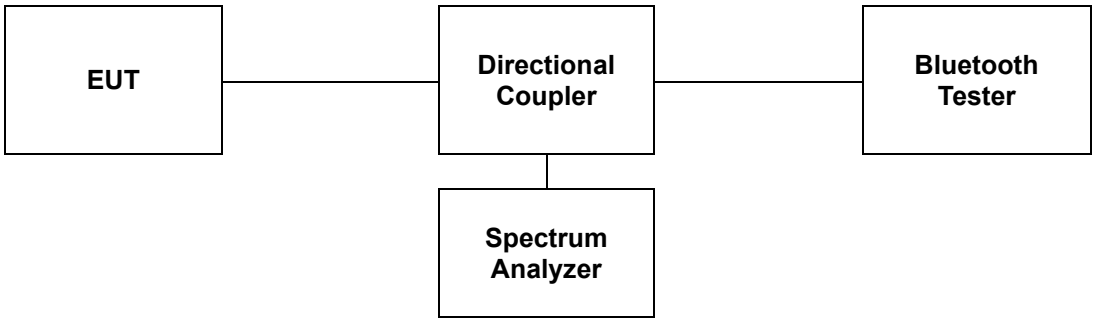


π/4DQPSK



7. Time of Occupancy (Dwell Time)

7.1. Test Set up



7.2. Limit

7.2.1. FCC

§15.247(a)(1)(iii), Frequency hopping systems in the 2 400-2 483.5 ㎒ band, the average time of occupancy on any frequency shall not be greater than 0.4 second within a 31.6 second period.

7.2.2. IC

According to RSS-247 Issue 4, 6.2.3.1(b), FHS operating in the band 2 400-2 483.5 ㎒ shall use at least 15 hopping channels. The average time of occupancy on any channel shall not be greater than greater than 0.4 s within a period of 0.4 s, multiplied by the number of hopping channels employed. Transmissions on particular hopping frequencies may be avoided or suppressed provided that at least 15 hopping channels are used.

A period time = 0.4 (s) * 79 = 31.6 (s)

***Adaptive Frequency Hopping**

A period time = 0.4 (s) * 20 = 8 (s)

7.3. Test Procedure

The test follows ANSI C63.10-2020 (for FCC) and ANSI C63.10-2020 + Cor.1-2023 + C63.10a-2024 + Errata to C63.10a-2024 (for ISED).

1. The dwell time per hop on a channel is the time from the start of the first transmission to the end of the last transmission for that hop. If the device has a single transmission per hop then the dwell time is the duration of that transmission. If the device has a multiple transmissions per hop then the dwell time is measured from the start of the first transmission to the end of the last transmission.

2. The time of occupancy is the total time that the device dwells on a channel over an observation period specified in the regulatory requirement. To determine the time of occupancy the spectrum analyzer will be configured to measure both the dwell time per hop and the number of times the device transmits on a specific channel in a given period.

3. The EUT shall have its hopping function enabled. Compliance with the requirements shall be made with the minimum and with the maximum number of channels enabled. If the dwell time per channel does not vary with the number of channels than compliance with the requirements may be based on the minimum number of channels. If the device supports different dwell times per channel (example Bluetooth devices can dwell on a channel for 1, 3 or 5 time slots) then measurements can be limited to the longest dwell time with the minimum number of channels.

Use the following spectrum analyzer settings to determine the dwell time per hop

1. Span = Zero span, centered on a hopping channel.
2. RBW shall be ≤ channel spacing and where possible RBW should be set ≫ 1 / T, where T is the expected transmission time per hop.
3. Sweep = Set so that the start of the first transmission and end of the last transmission for the hop are clearly captured. Setting the sweep time to be slightly longer than the hopping period per channel (hopping period = 1/hopping rate) should achieve this.
4. Use a video trigger, where possible with a trigger delay, so that the start of the transmission is clearly observed. The trigger level might need adjustment to reduce the chance of triggering when the system hops on an adjacent channel.
5. Detector = Peak.
6. Trace = Clear-write, Single sweep
7. Place markers at the start of the first transmission on the channel and at the end of the last transmission. The dwell time per hop is the time between these two markers.

7.4. Test Results

Ambient temperature : (23 ± 1) ℃
Relative humidity : 47 %

7.4.1. Packet Type: DH5,2DH5

Ant. 0

Mode	Frequency (㎒)	Dwell Time (㎳)	Time of occupancy on the Tx Channel in 31.6 sec (㎳)	Limit for time of occupancy on the Tx Channel in 31.6 sec (㎳)
GFSK	2 441	2.88	364.03	400
π/4DQPSK	2 441	2.88	364.03	400

Remark;

In case of GFSK:
The number of hops in 0.5 sec = 2
Time of occupancy on the Tx Channel in 31.6 sec = (2 / 0.5) × 31.6 x 2.88 ㎳ = 364.03 ㎳

In case of π/4DQPSK:
The number of hops in 0.5 sec = 2
Time of occupancy on the Tx Channel in 31.6 sec = (2 / 0.5) × 31.6 x 2.88 ㎳ = 364.03 ㎳

Ant. 1

Mode	Frequency (㎒)	Dwell Time (㎳)	Time of occupancy on the Tx Channel in 31.6 sec (㎳)	Limit for time of occupancy on the Tx Channel in 31.6 sec (㎳)
GFSK	2 441	2.88	364.03	400
π/4DQPSK	2 441	2.88	364.03	400

Remark;

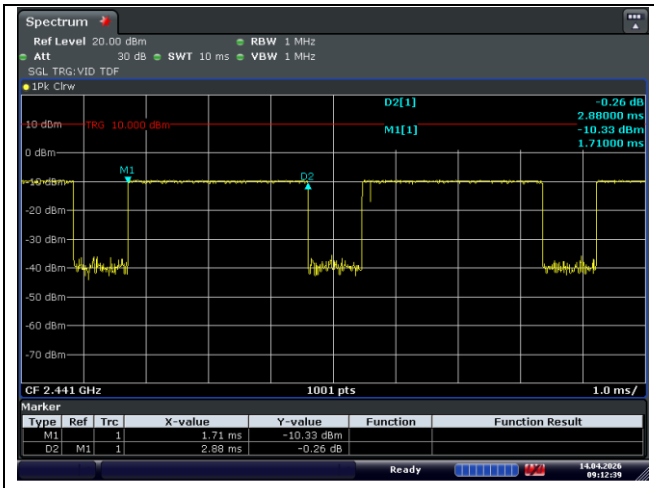
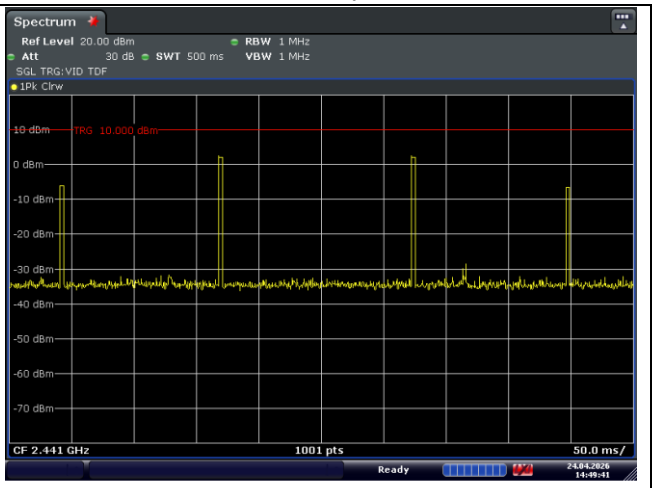
In case of GFSK:
The number of hops in 0.5 sec = 2
Time of occupancy on the Tx Channel in 31.6 sec = (2 / 0.5) × 31.6 x 2.88 ㎳ = 364.03 ㎳

In case of π/4DQPSK:
The number of hops in 0.5 sec = 2
Time of occupancy on the Tx Channel in 31.6 sec = (2 / 0.5) × 31.6 x 2.88 ㎳ = 364.03 ㎳

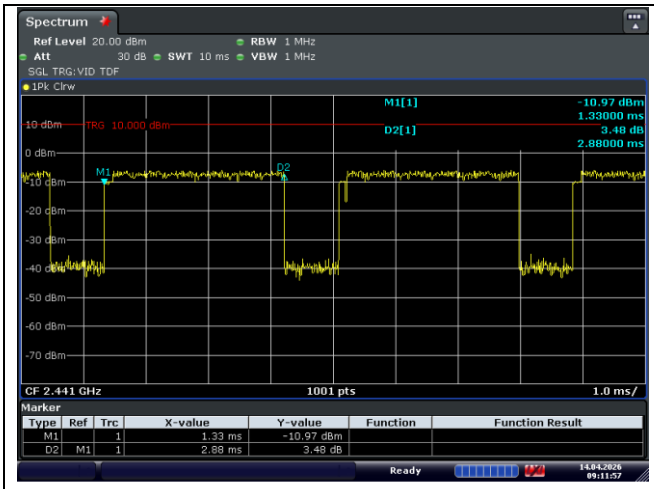
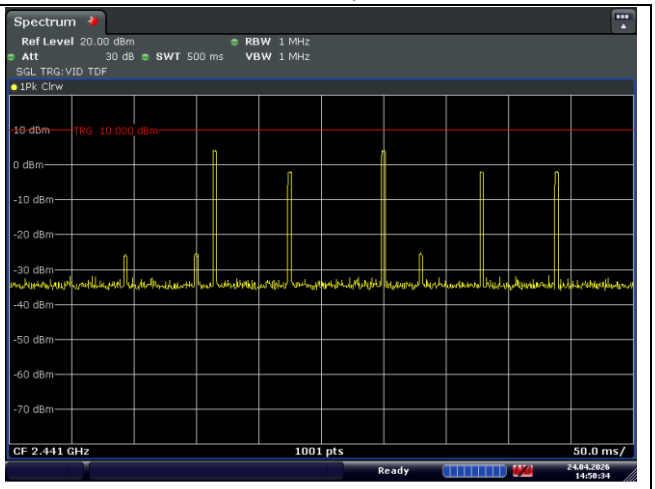
- Test plots

Ant. 0

Operation Mode: GFSK

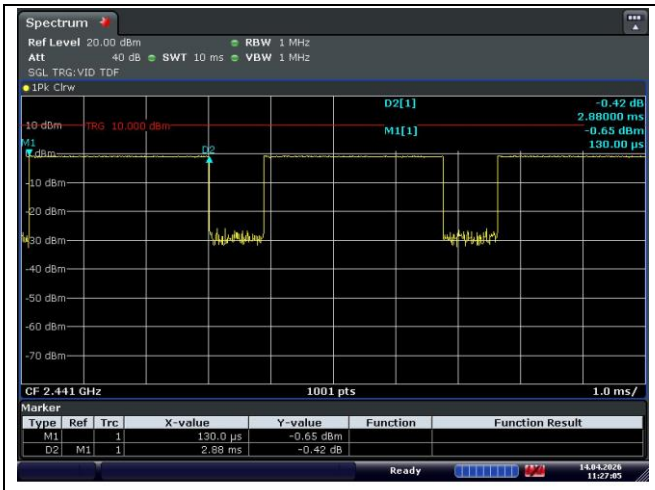
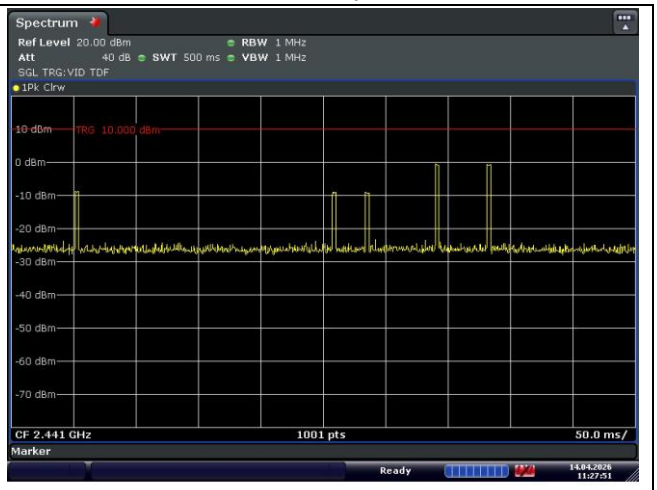
Dwell time	The number of hops in 0.5 sec
	

Operation Mode: π/4DQPSK

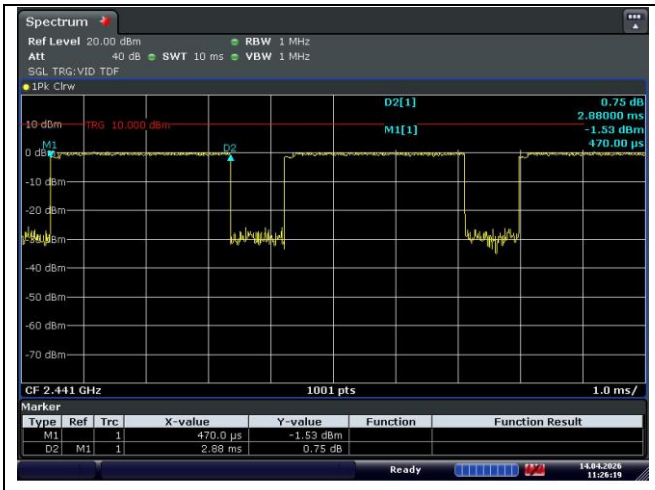
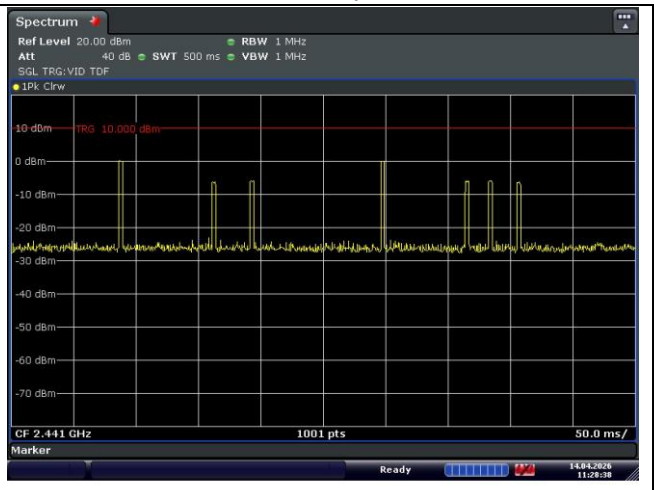
Dwell time	The number of hops in 0.5 sec
	

Ant. 1

Operation Mode: GFSK

Dwell time	The number of hops in 0.5 sec
	

Operation Mode: π/4DQPSK

Dwell time	The number of hops in 0.5 sec
	

7.4.2. Packet Type: DH5, 2DH5 (Adaptive Frequency Hopping)

Ant. 0

Operation Mode	Frequency (㎒)	Dwell Time (㎳)	Time of occupancy on the Tx Channel in 8 sec (㎳)	Limit for time of occupancy on the Tx Channel in 8 sec (㎳)
GFSK	2 441	2.88	138.24	400
π/4DQPSK	2 441	2.88	184.32	400

Remark;

In case of GFSK:
The number of hops in 0.5 sec = 3
Time of occupancy on the Tx Channel in 8 sec = (3 / 0.5) × 8 x 2.88 ㎳ = 138.24 ㎳

In case of π/4DQPSK:
The number of hops in 0.5 sec = 4
Time of occupancy on the Tx Channel in 8 sec = (4 / 0.5) × 8 x 2.88 ㎳ = 184.32 ㎳

Ant. 1

Operation Mode	Frequency (㎒)	Dwell Time (㎳)	Time of occupancy on the Tx Channel in 8 sec (㎳)	Limit for time of occupancy on the Tx Channel in 8 sec (㎳)
GFSK	2 441	2.88	230.40	400
π/4DQPSK	2 441	2.88	184.32	400

Remark;

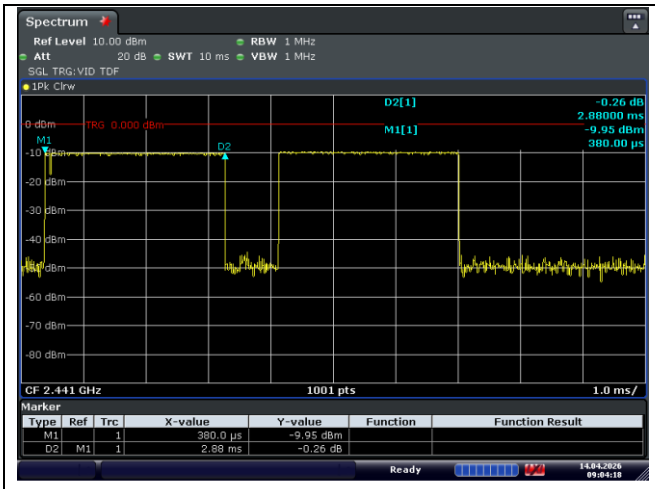
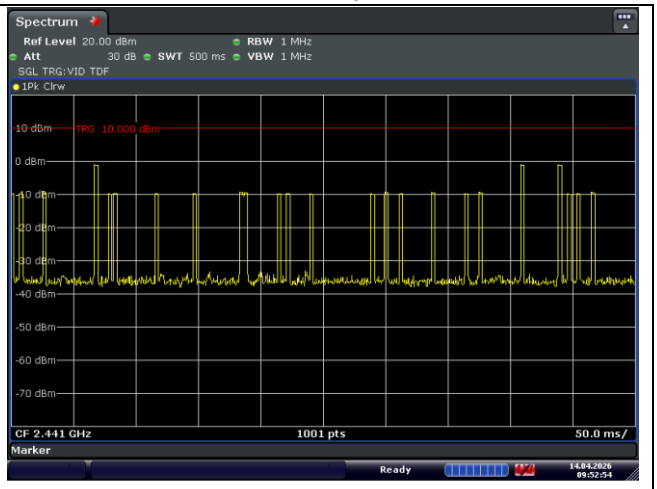
In case of GFSK:
The number of hops in 0.5 sec = 5
Time of occupancy on the Tx Channel in 8 sec = (5 / 0.5) × 8 x 2.88 ㎳ = 230.40 ㎳

In case of π/4DQPSK:
The number of hops in 0.5 sec = 4
Time of occupancy on the Tx Channel in 8 sec = (4 / 0.5) × 8 x 2.88 ㎳ = 184.32 ㎳

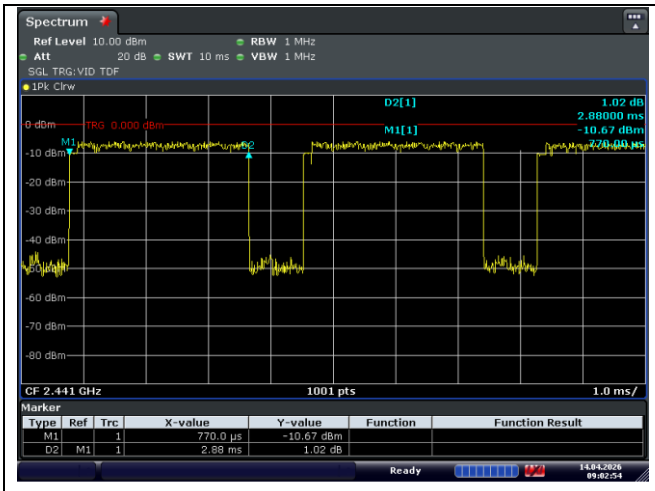
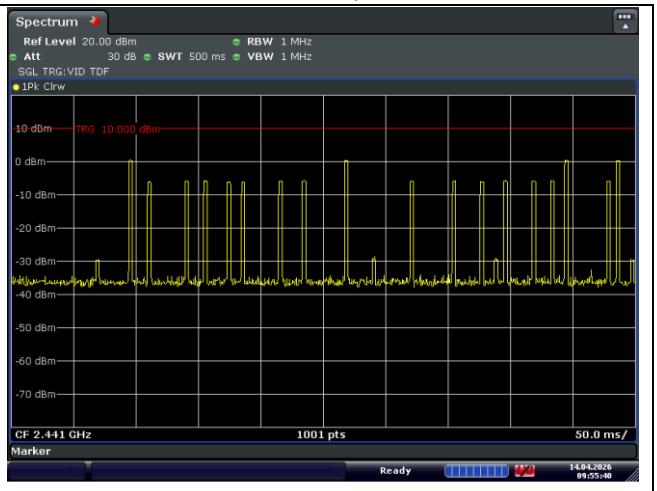
- Test plots

Ant. 0

Operation Mode: GFSK

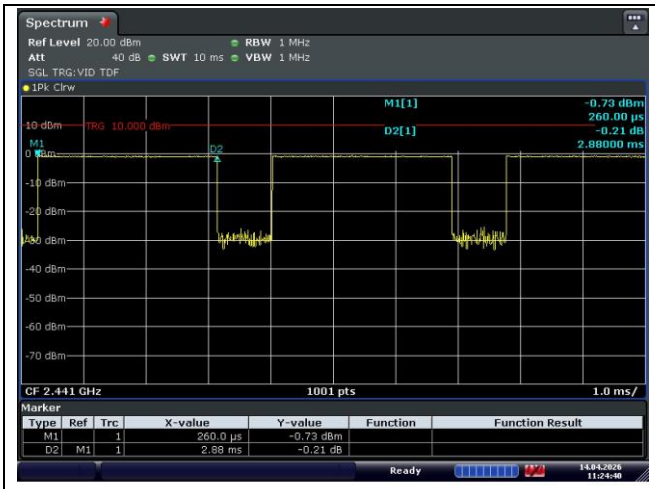
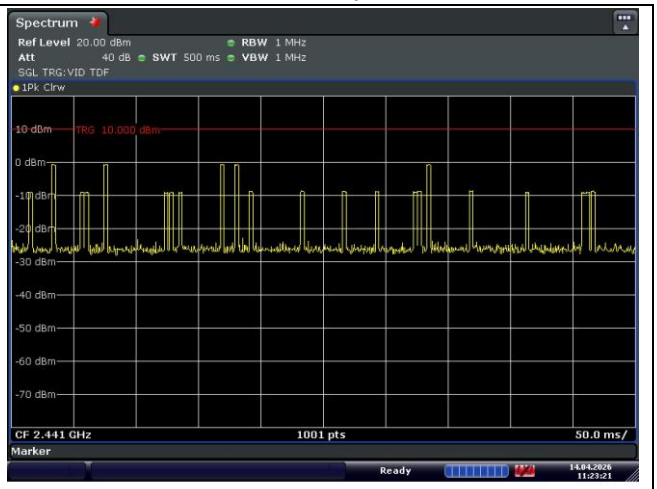
Dwell time	The number of hops in 0.5 sec
	

Operation Mode: π/4DQPSK

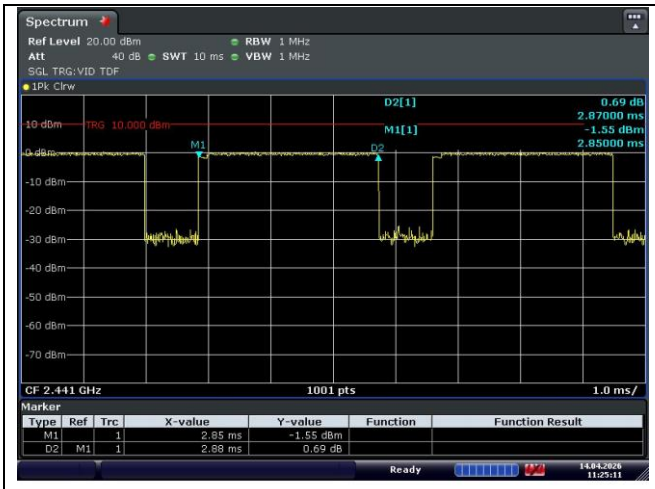
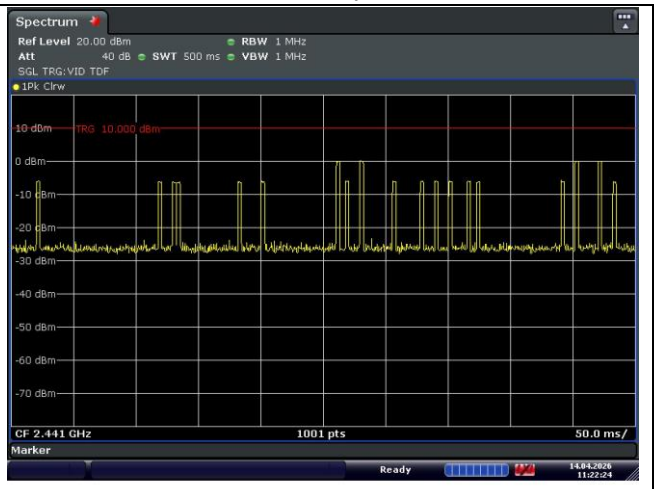
Dwell time	The number of hops in 0.5 sec
	

Ant. 1

Operation Mode: GFSK

Dwell time	The number of hops in 0.5 sec
	

Operation Mode: π/4DQPSK

Dwell time	The number of hops in 0.5 sec
	

8. Antenna Requirement

8.1. Standard Applicable

For intentional device, according to FCC 47 CFR Section §15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. And according to FCC 47 CFR Section §15.247(b) if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power shall be reduced appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

8.2. Antenna Connected Construction

Antenna 0 used in this product is PCB Pattern Antenna with gain of 0.93 dBi
Antenna 1 used in this product is PCB Pattern Antenna with gain of 0.21 dBi

- End of the Test Report -