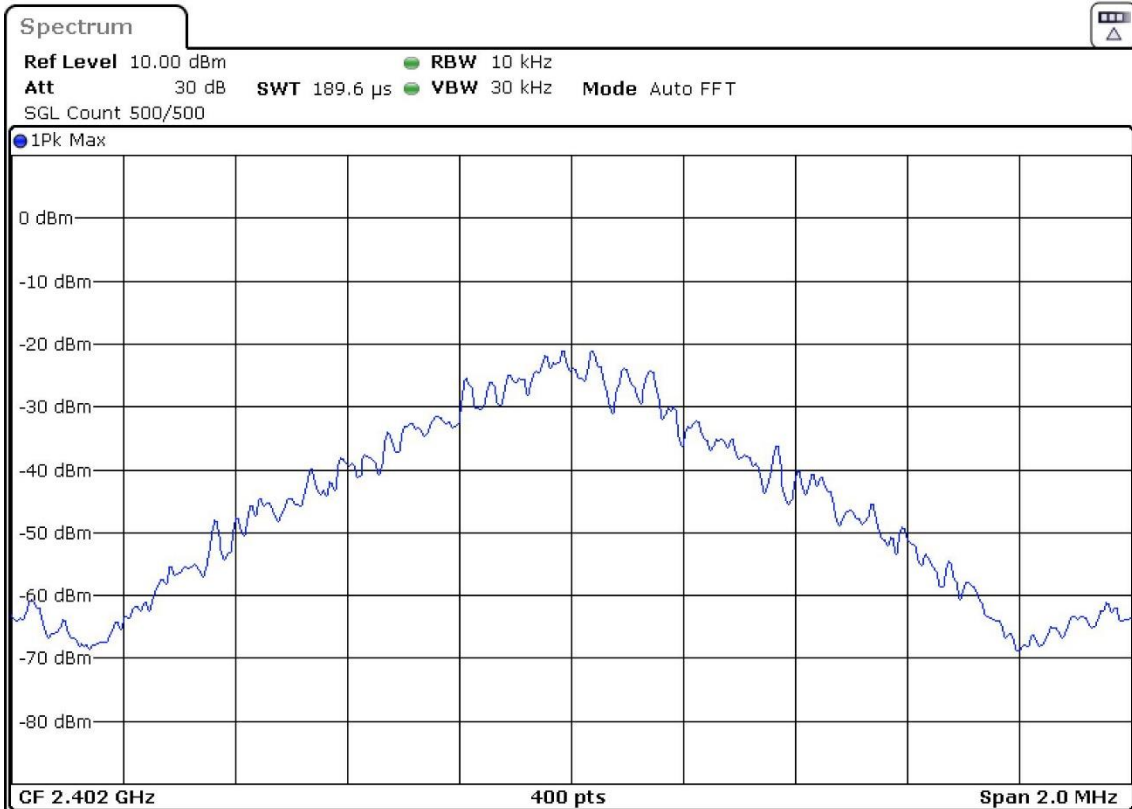
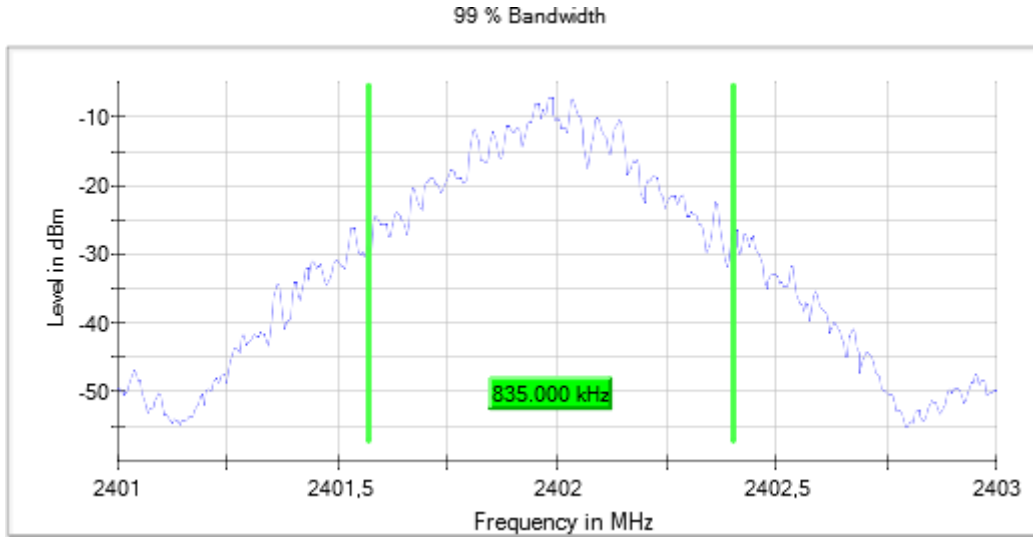


**Attachments**

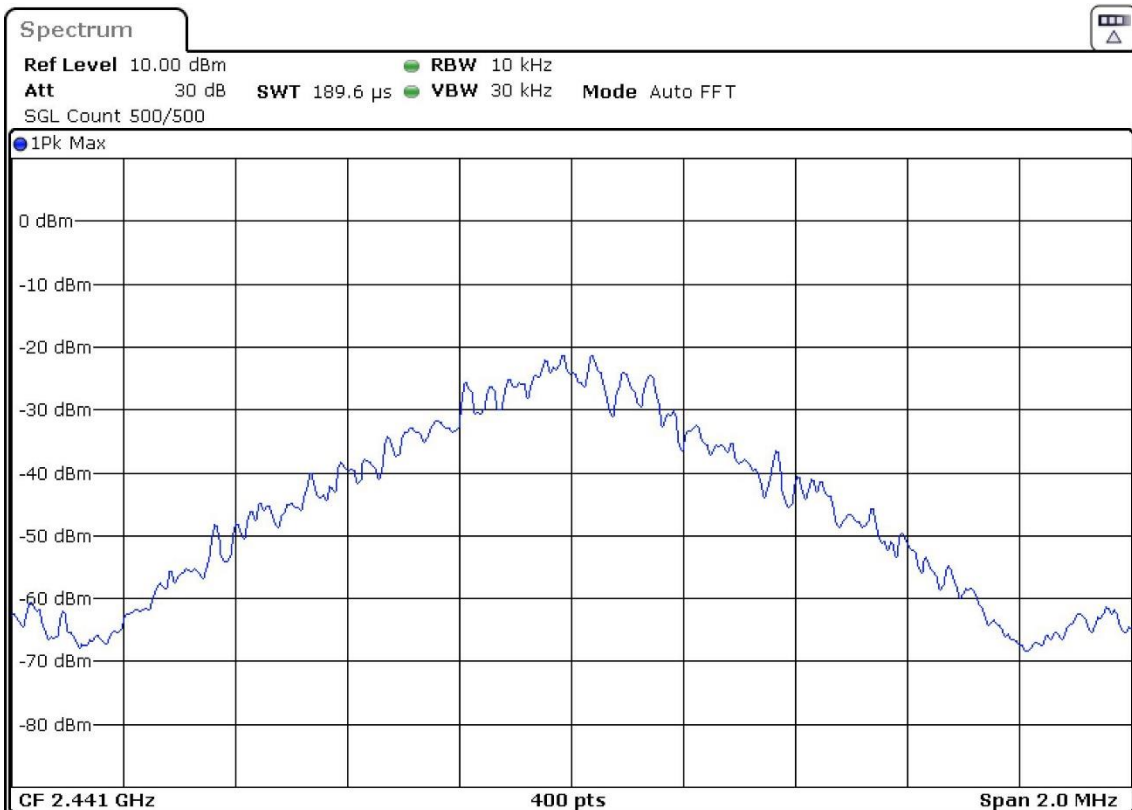
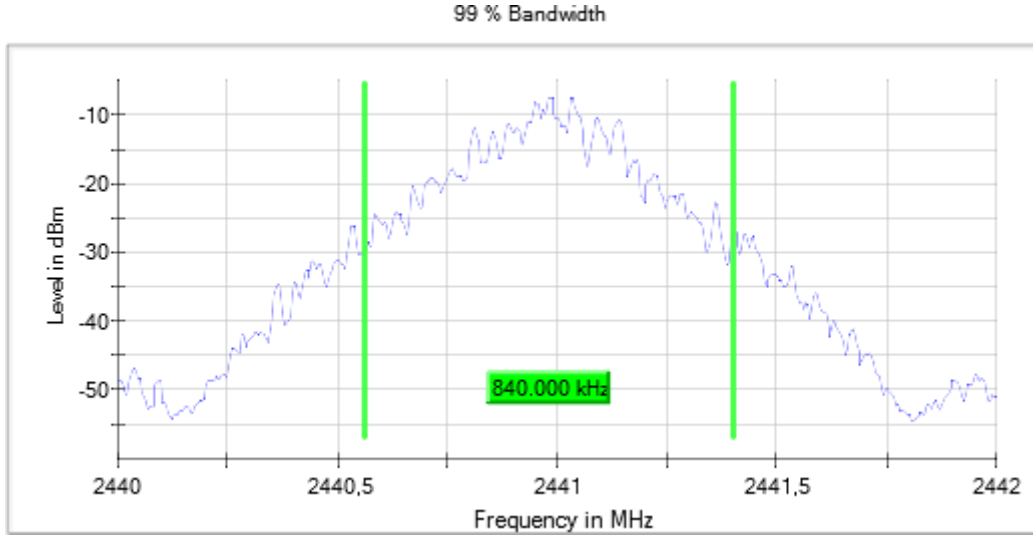
**Frequency MHz = 2402.00000, Equipment Type = Frequency Hopping Spread Spectrum systems (DSS),  
Bandwidth MHz = 1, Modulation = BT (GFSK 1-DH5), Number of Transmission Chains = 1, Active Port = 1**

**Images:**



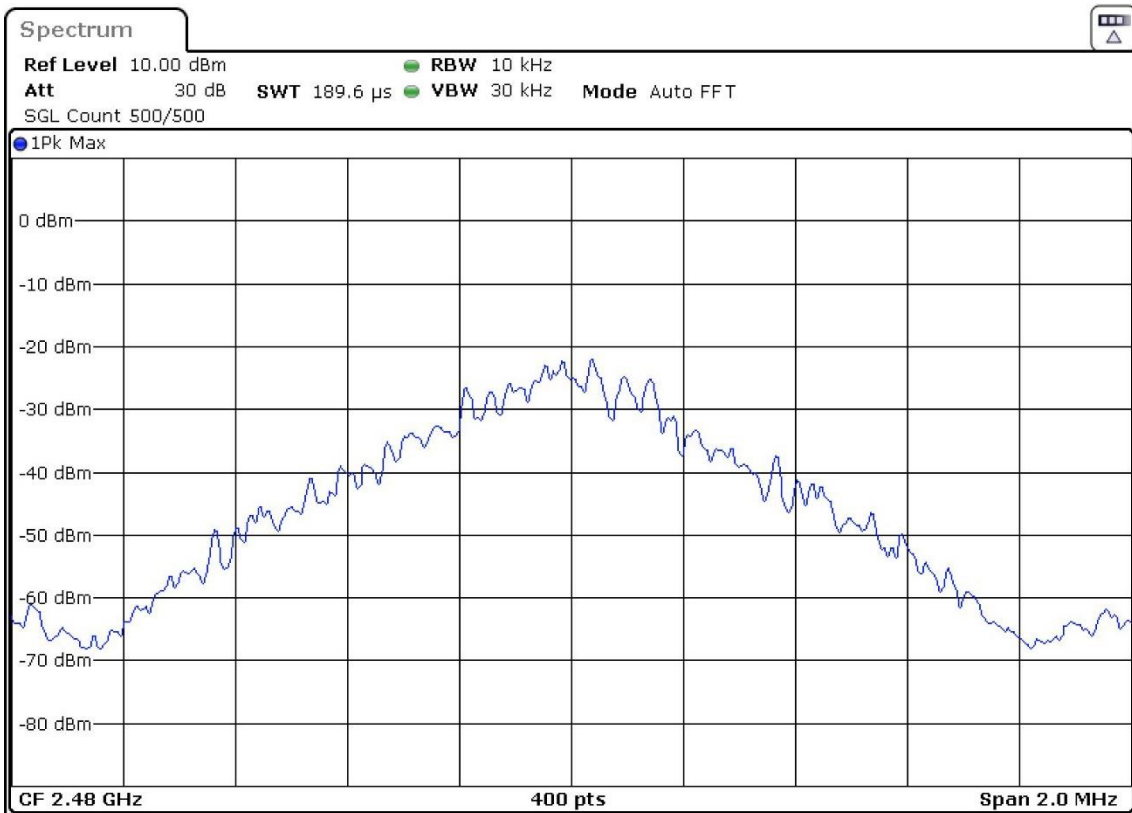
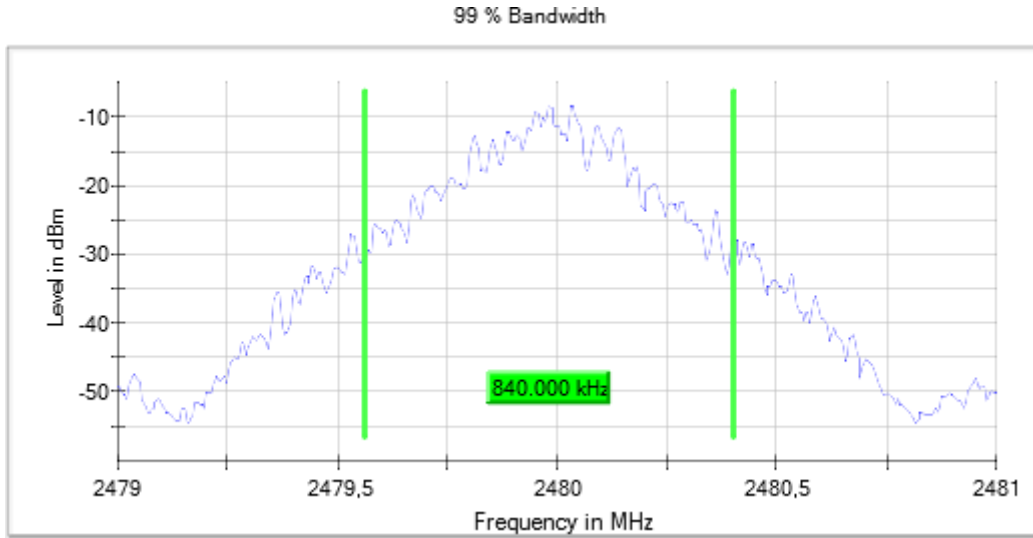
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Images:



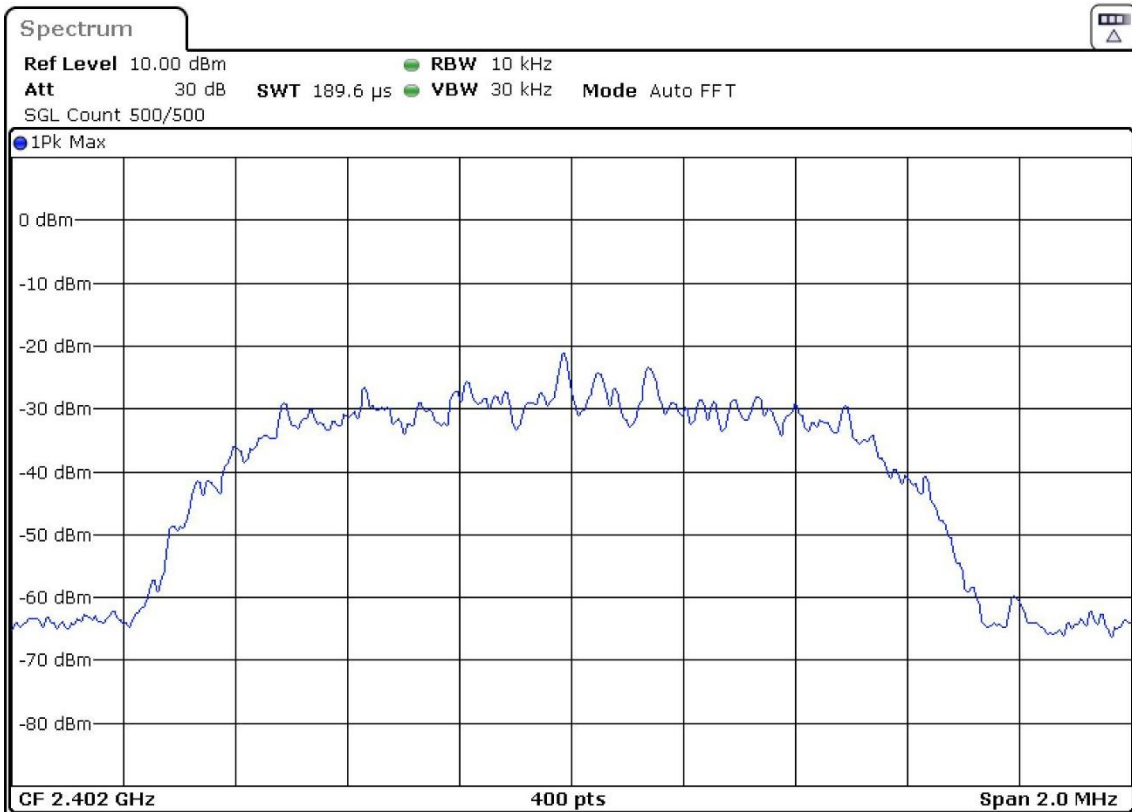
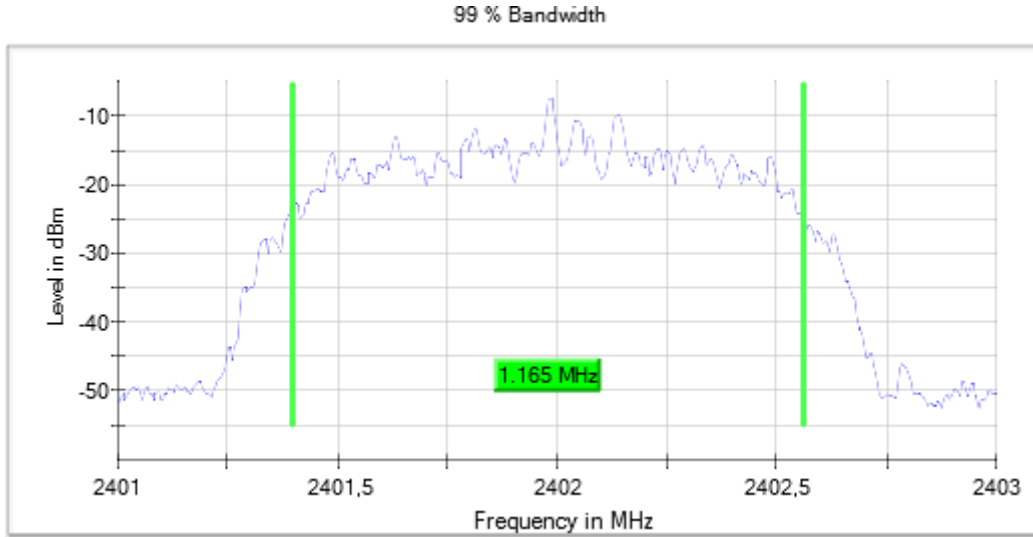
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Images:



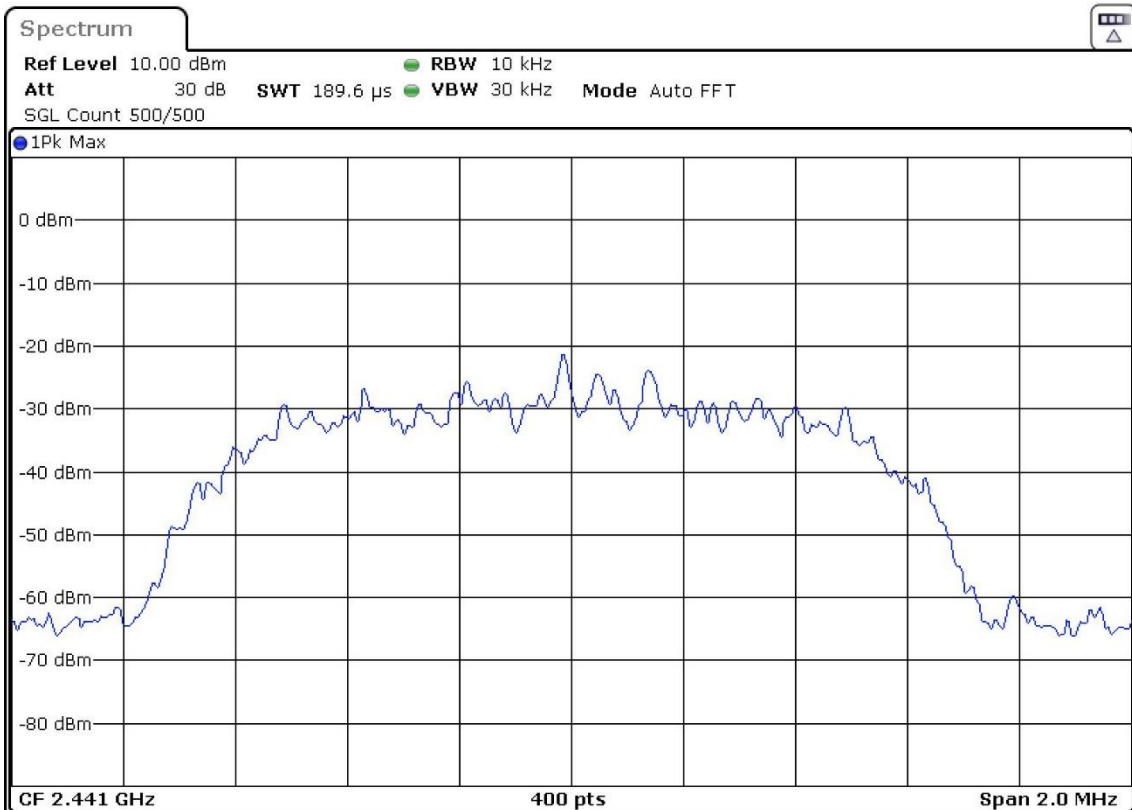
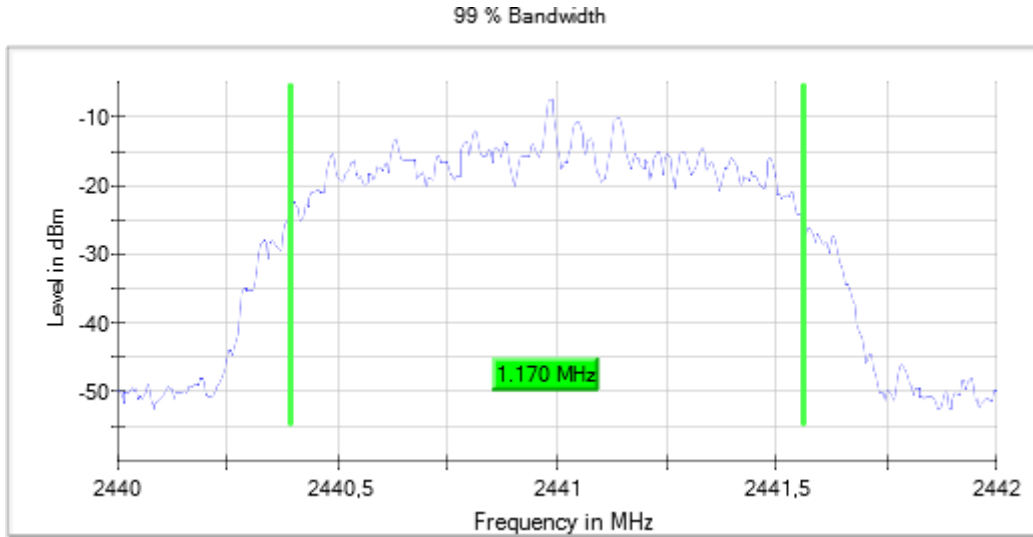
Frequency MHz = 2402.00000, Equipment Type = Frequency Hopping Spread Spectrum systems (DSS),  
Bandwidth MHz = 1, Modulation = BT (Pi/4 DQPSK 2-DH5), Number of Transmission Chains = 1, Active  
Port = 1

Images:



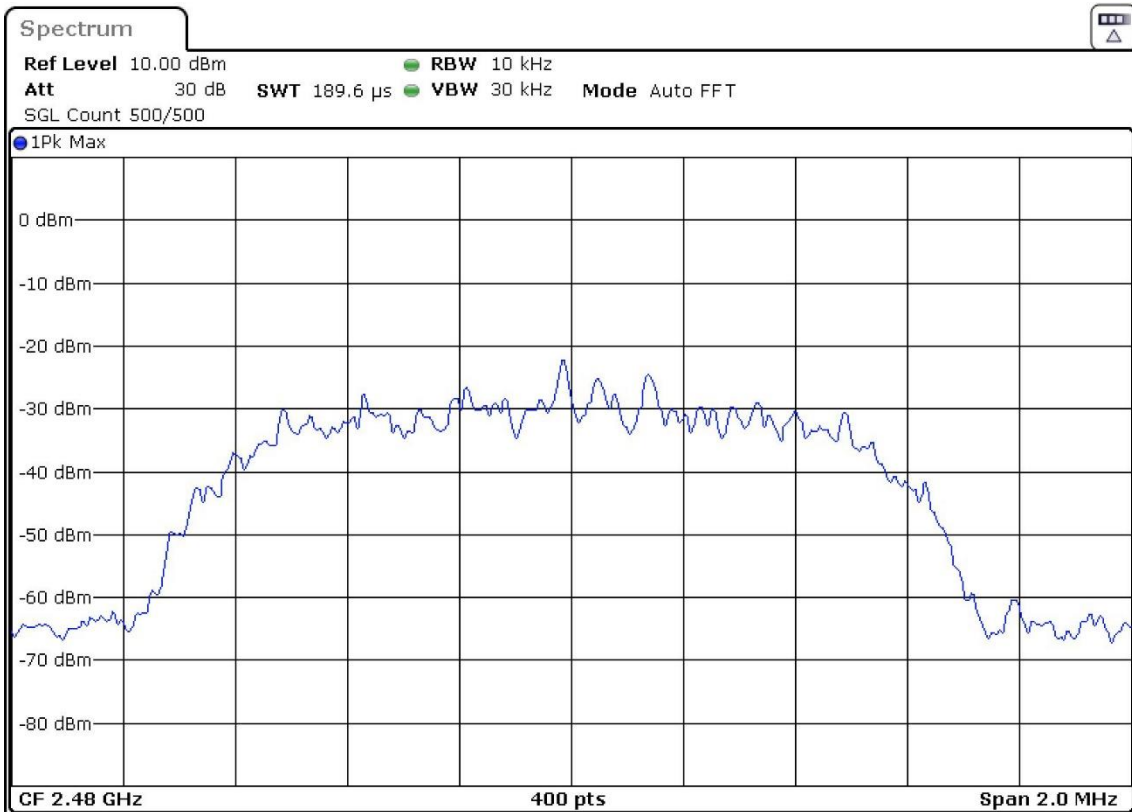
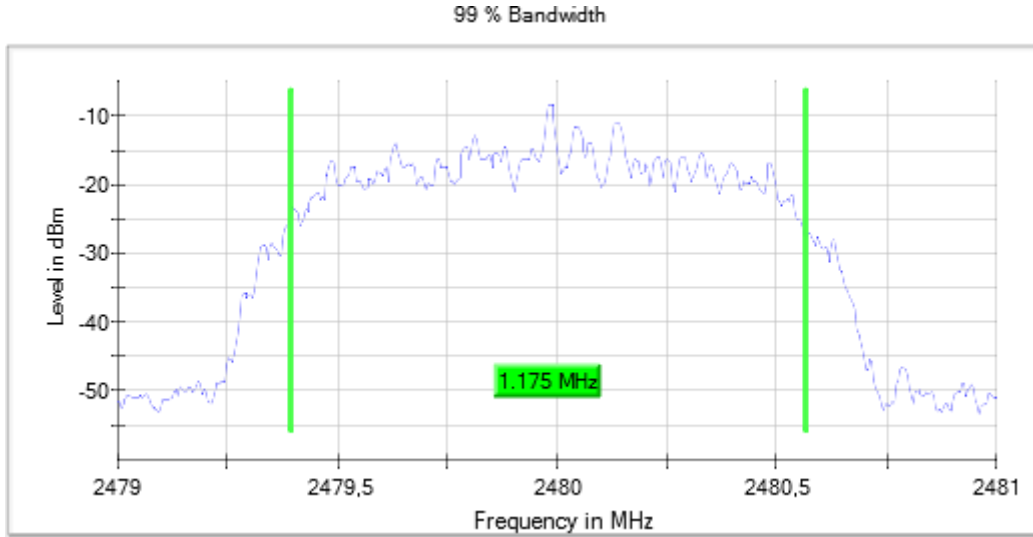
Frequency MHz = 2441.00000, Equipment Type = Frequency Hopping Spread Spectrum systems (DSS),  
Bandwidth MHz = 1, Modulation = BT (Pi/4 DQPSK 2-DH5), Number of Transmission Chains = 1, Active  
Port = 1

Images:



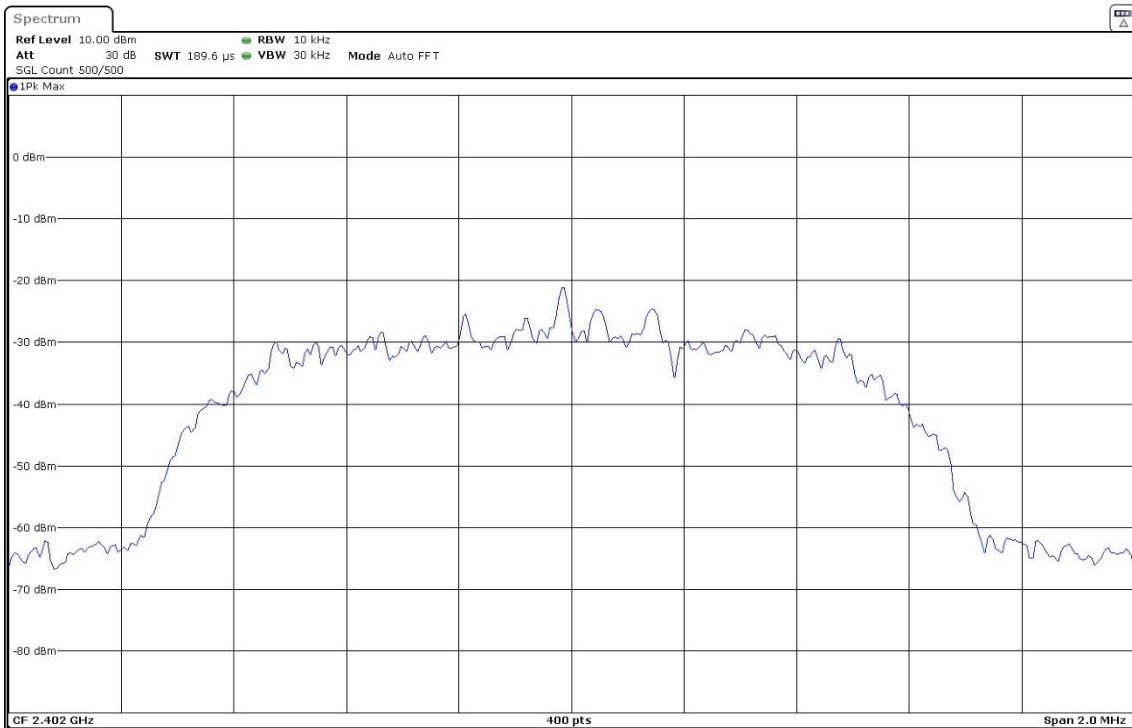
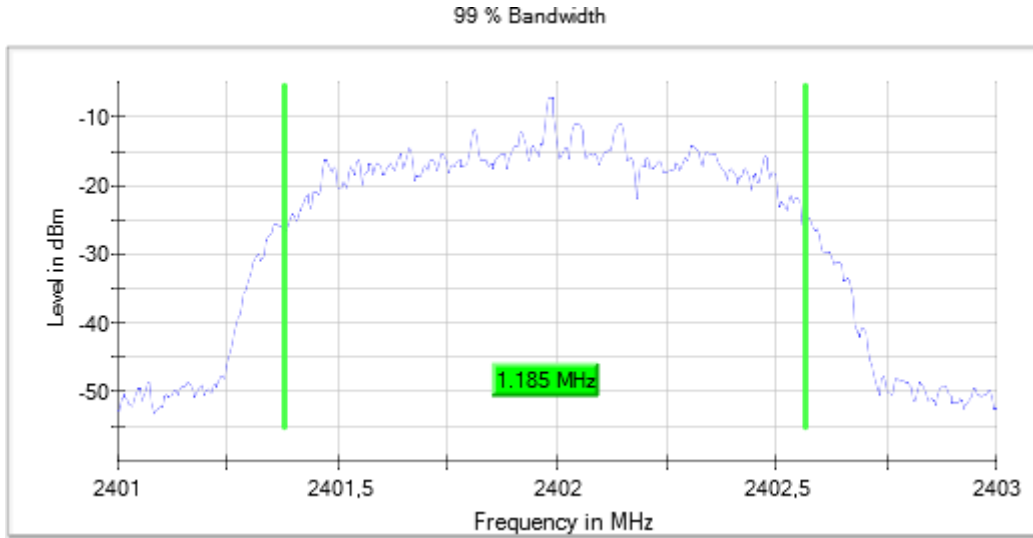
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Bandwidth MHz = 1, Modulation = BT (Pi/4 DQPSK 2-DH5), Number of Transmission Chains = 1, Active  
Port = 1

Images:



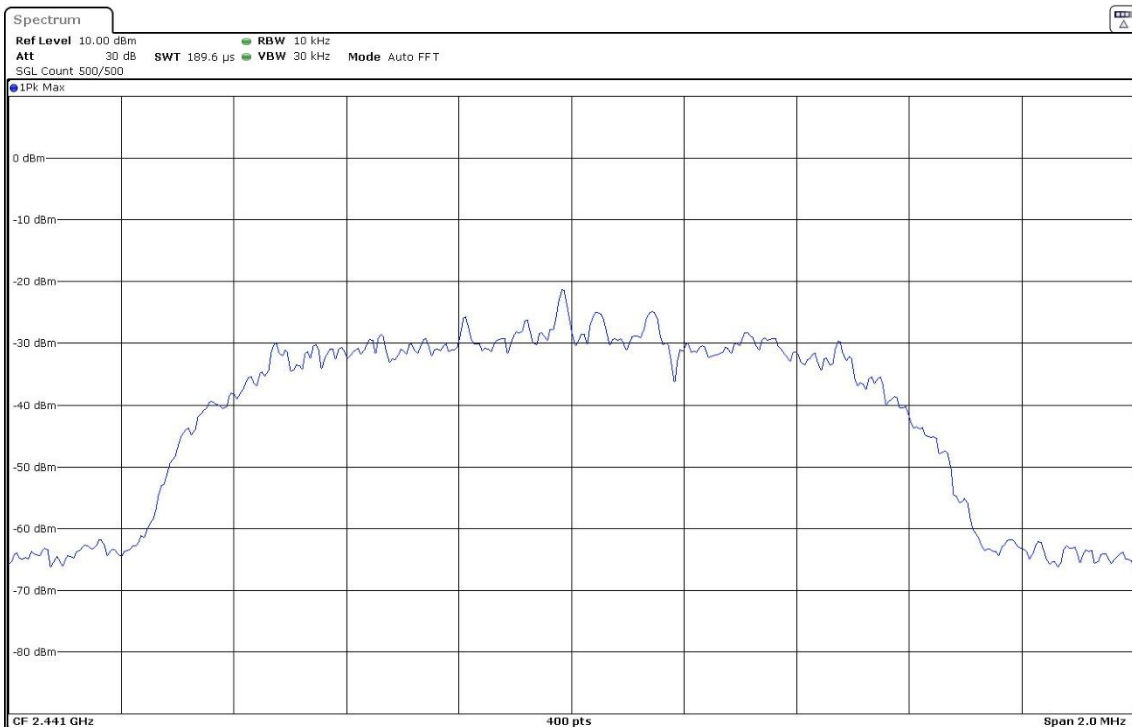
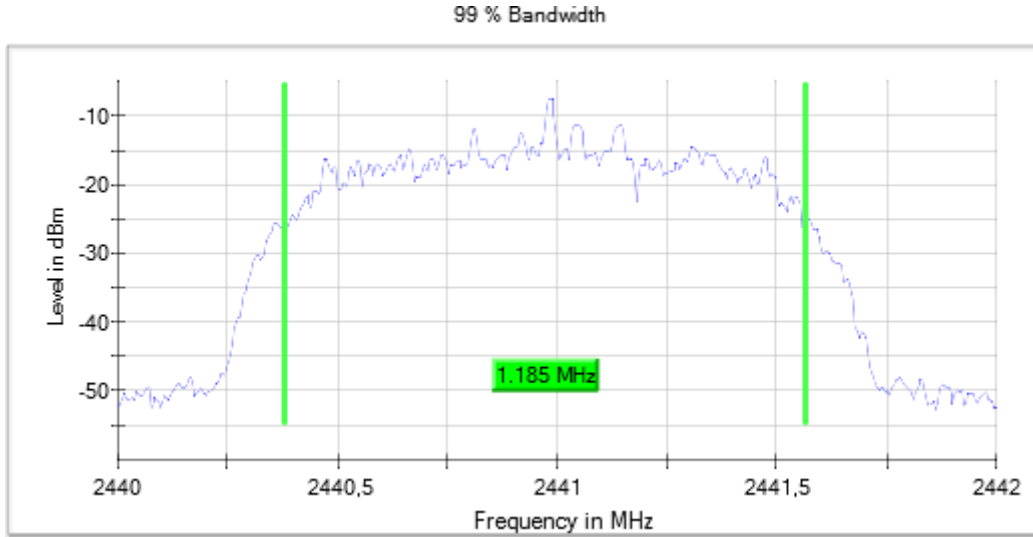
Frequency MHz = 2402.00000, Equipment Type = Frequency Hopping Spread Spectrum systems (DSS),  
Bandwidth MHz = 1, Modulation = BT (8DPSK 3-DH5), Number of Transmission Chains = 1, Active Port = 1

Images:



Frequency MHz = 2441.00000, Equipment Type = Frequency Hopping Spread Spectrum systems (DSS),  
Bandwidth MHz = 1, Modulation = BT (8DPSK 3-DH5), Number of Transmission Chains = 1, Active Port = 1

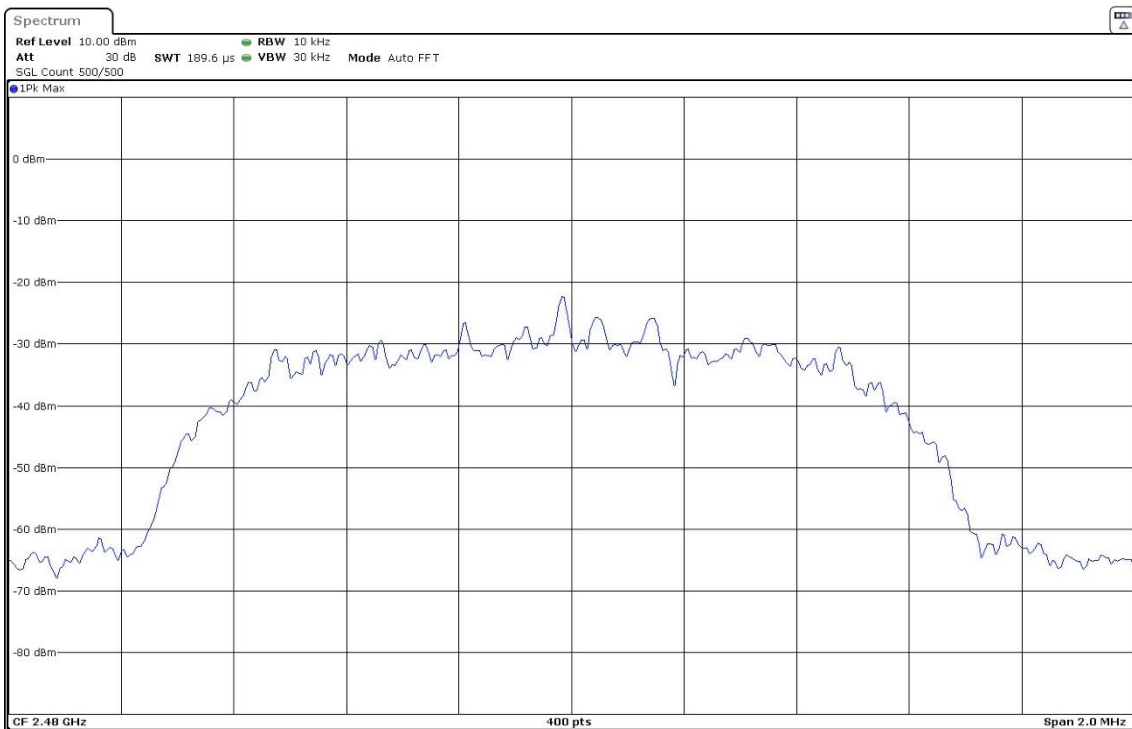
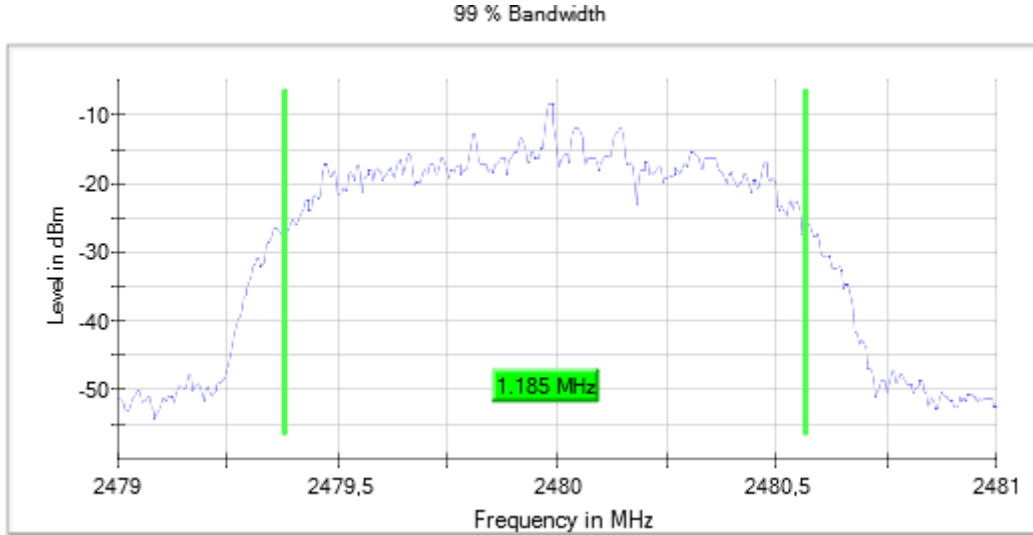
Images:





Frequency MHz = 2480.00000, Equipment Type = Frequency Hopping Spread Spectrum systems (DSS),  
Bandwidth MHz = 1, Modulation = BT (8DPSK 3-DH5), Number of Transmission Chains = 1, Active Port = 1

Images:



## FCC 15.247 (a) (1) 20 dB Bandwidth

### Limits

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.

### Results

Modulation: BT (GFSK 1-DH5)

Freq (MHz)	26Ebw (MHz)
2402.00000	0.910
2441.00000	0.905
2480.00000	0.910

Modulation: BT (Pi/4 DQPSK 2-DH5)

Freq (MHz)	26Ebw (MHz)
2402.00000	1.265
2441.00000	1.265
2480.00000	1.265

Modulation: BT (8DPSK 3-DH5)

Freq (MHz)	26Ebw (MHz)
2402.00000	1.260
2441.00000	1.265
2480.00000	1.260

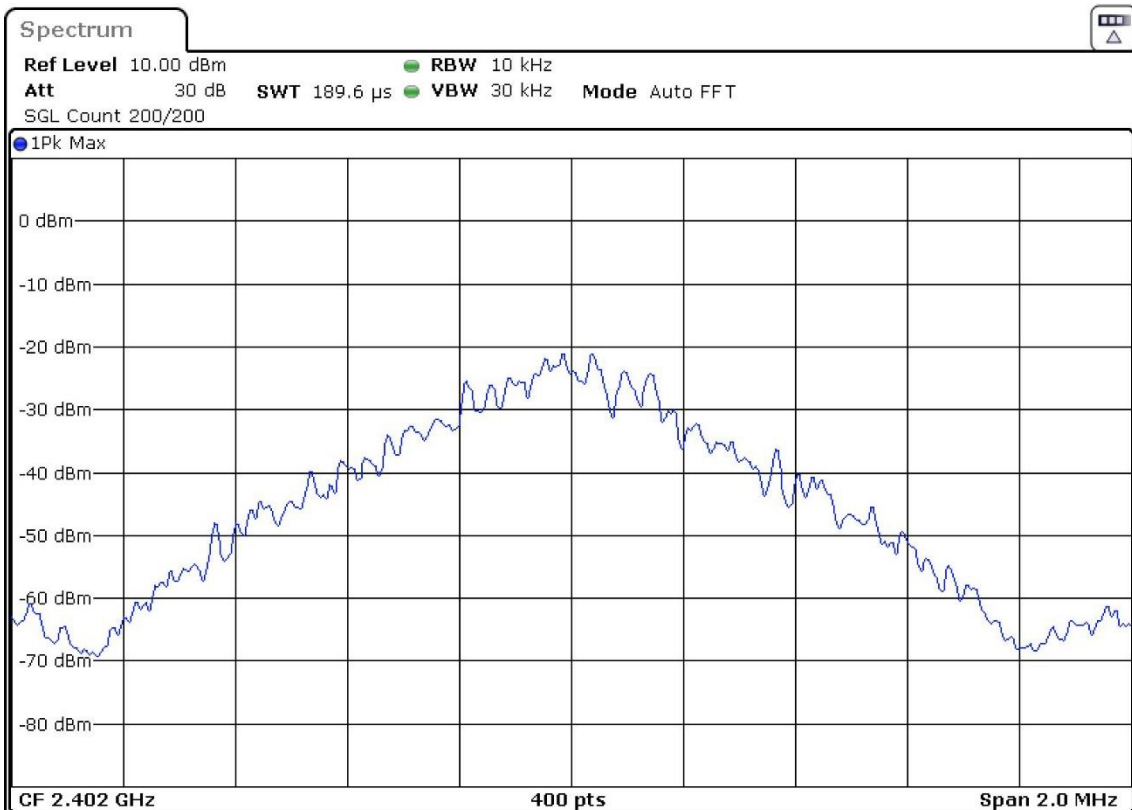
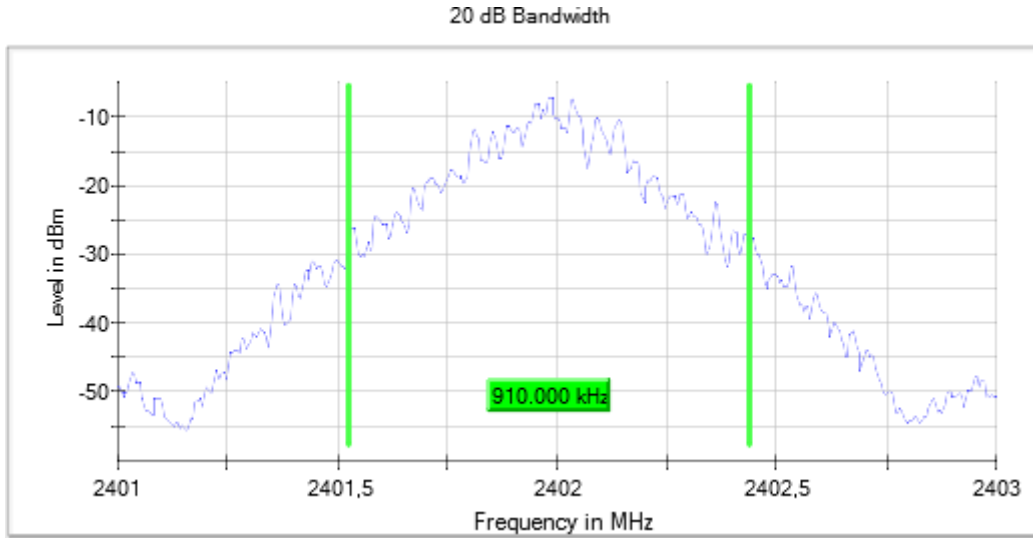
### Verdict

Pass

**Attachments**

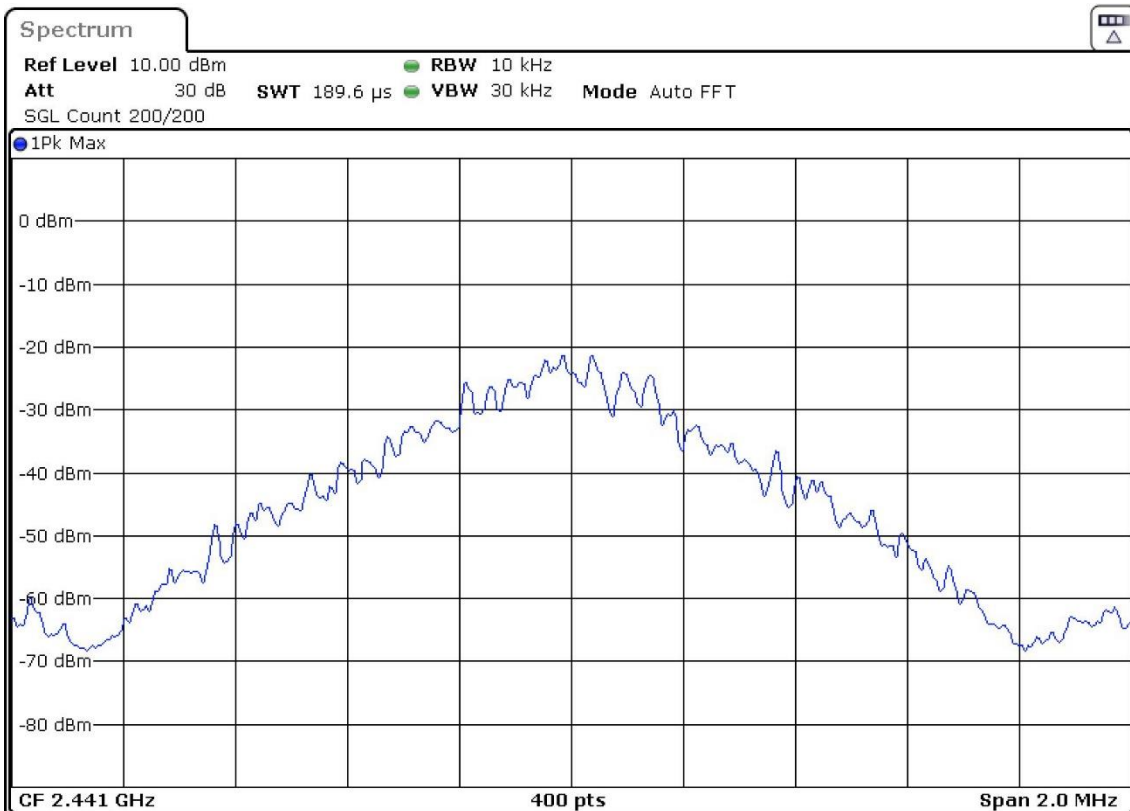
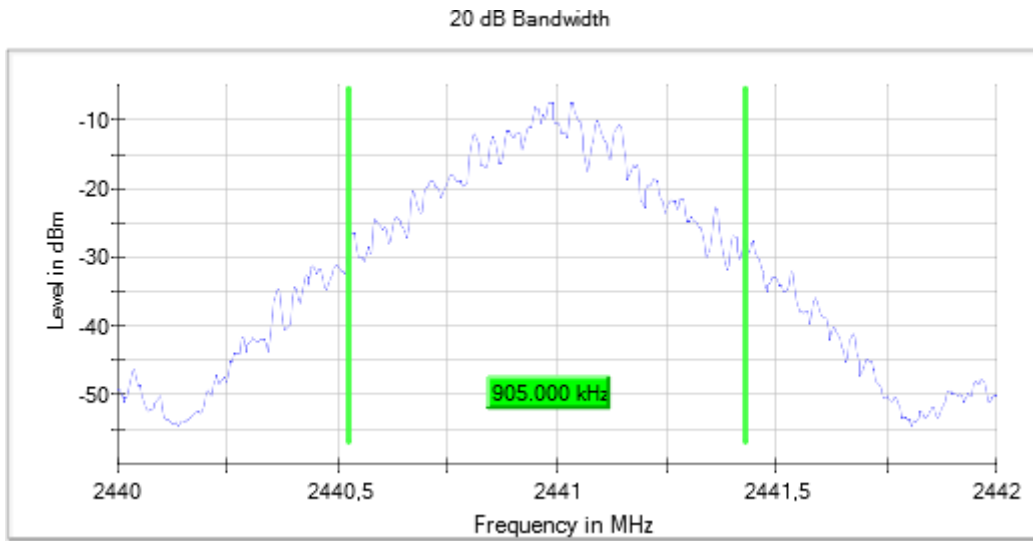
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 Bandwidth MHz = 1, Modulation = BT (GFSK 1-DH5), Number of Transmission Chains = 1, Active Port = 1**

**Images:**



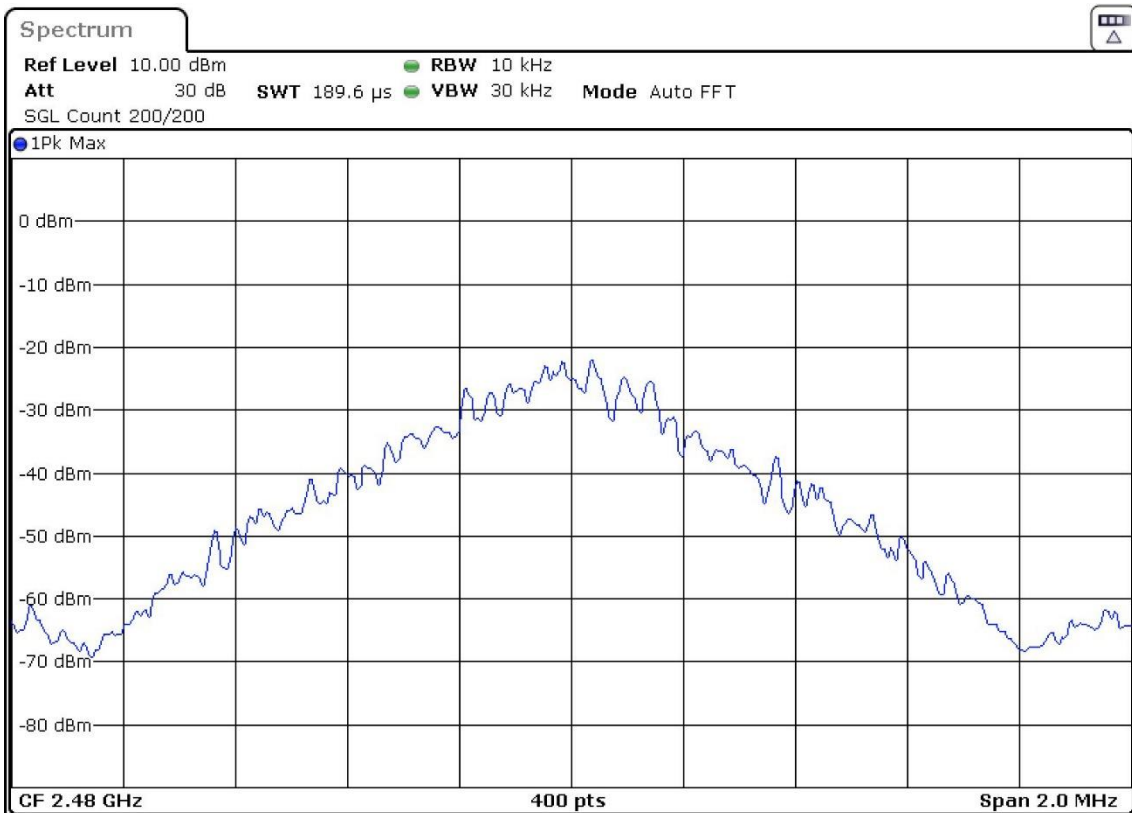
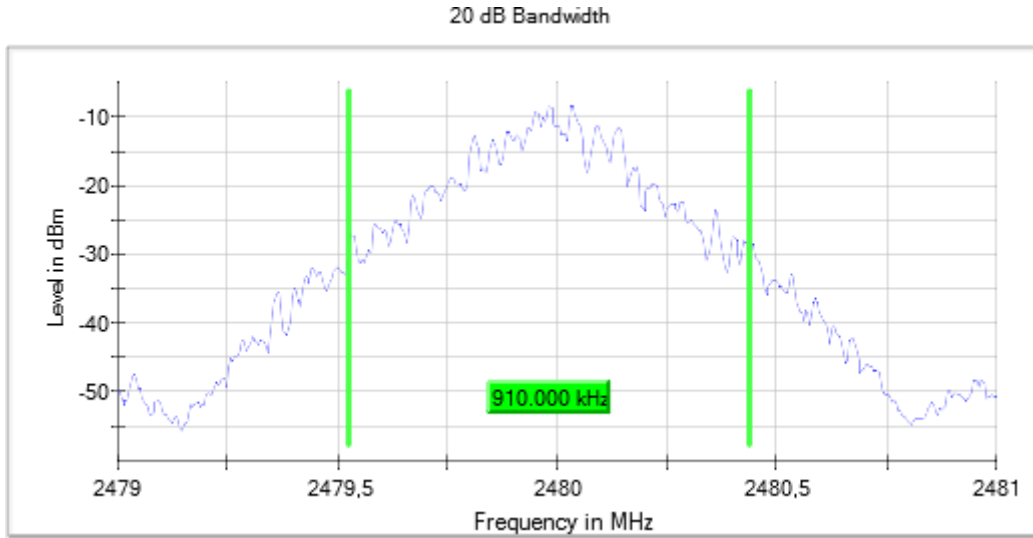
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Images:



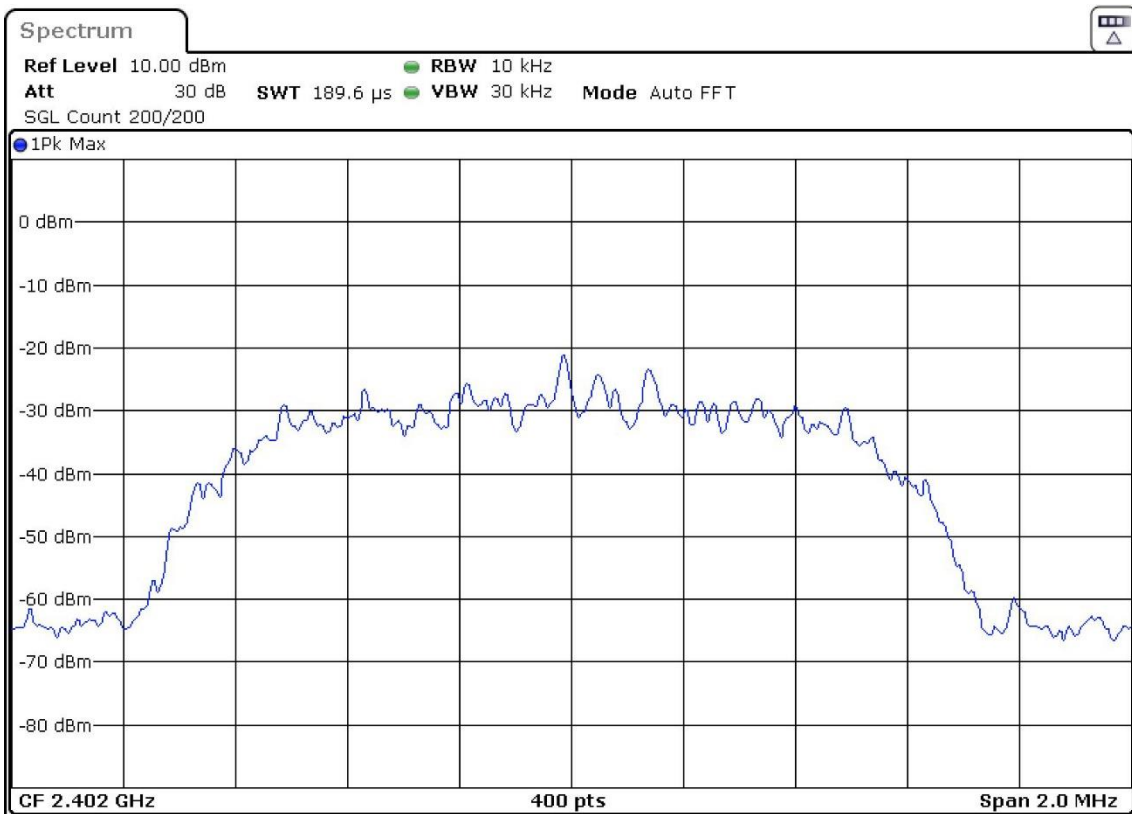
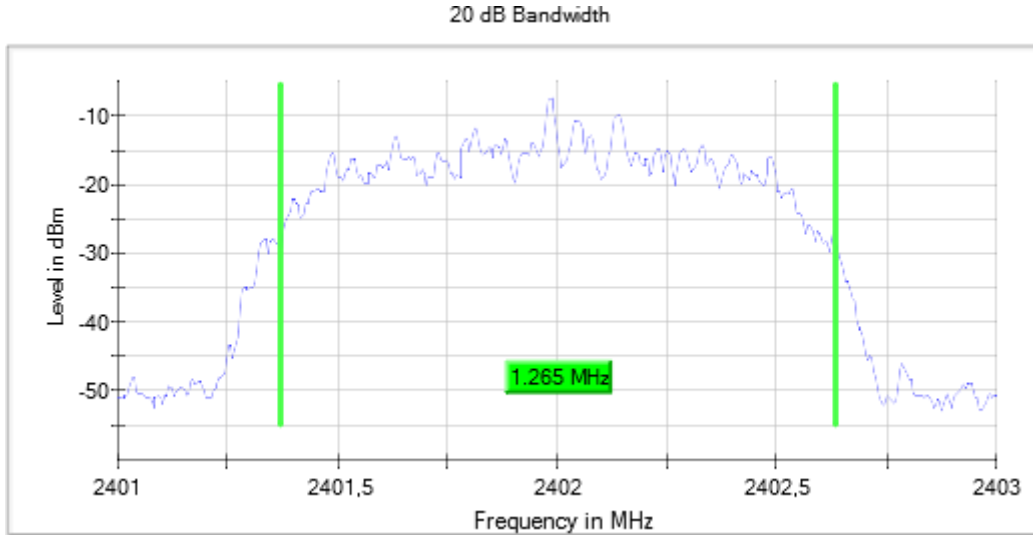
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Images:



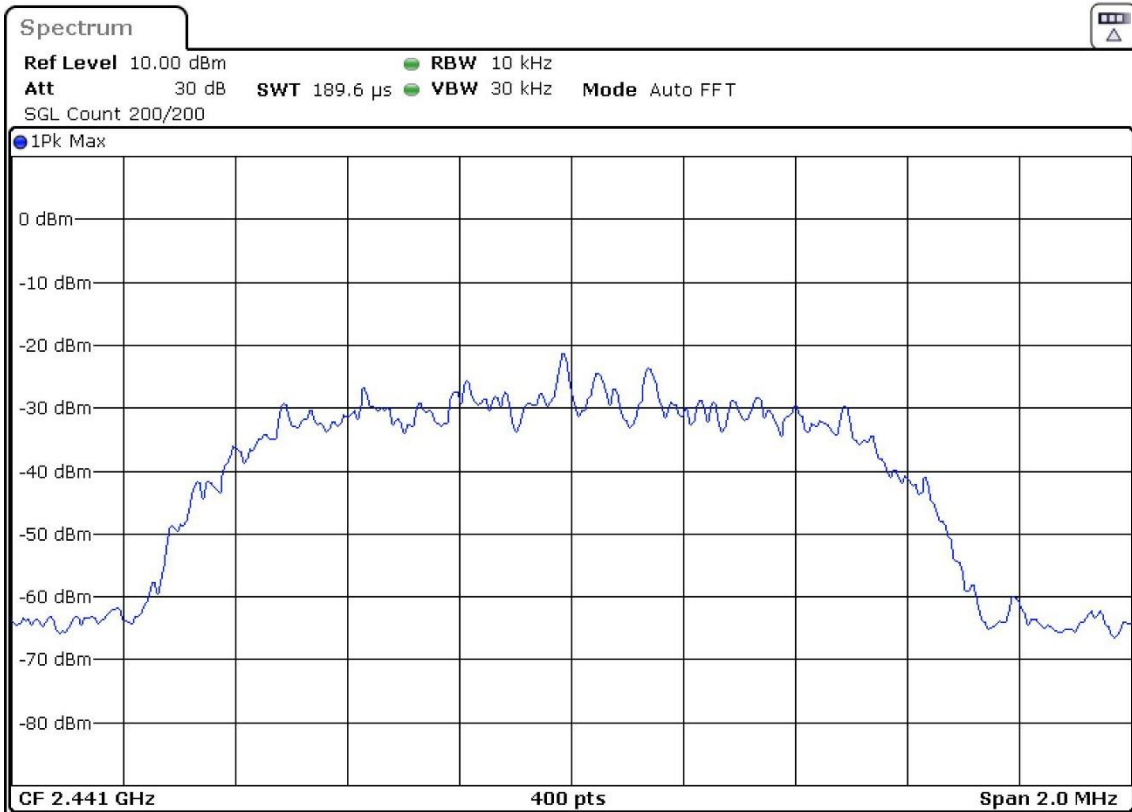
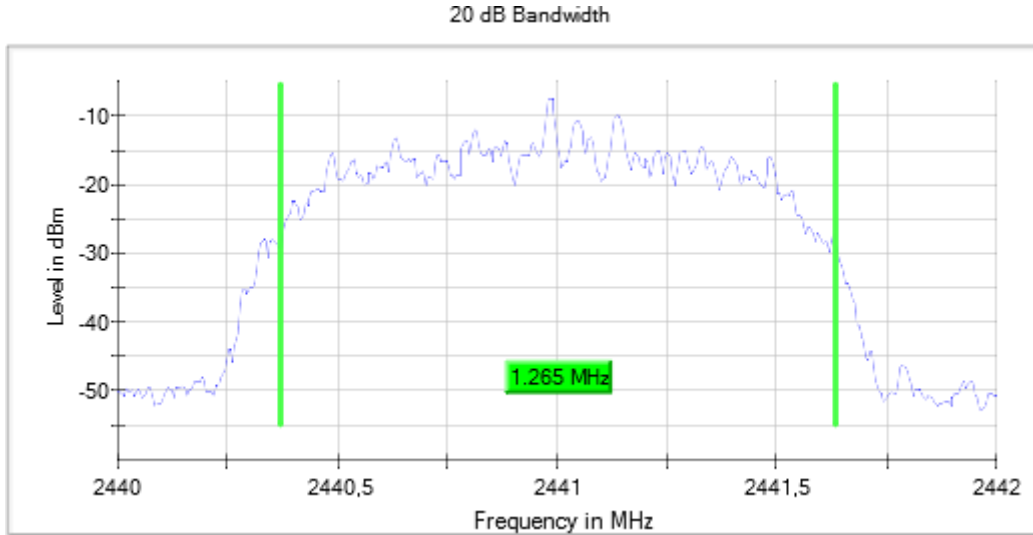
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Port = 1

Images:



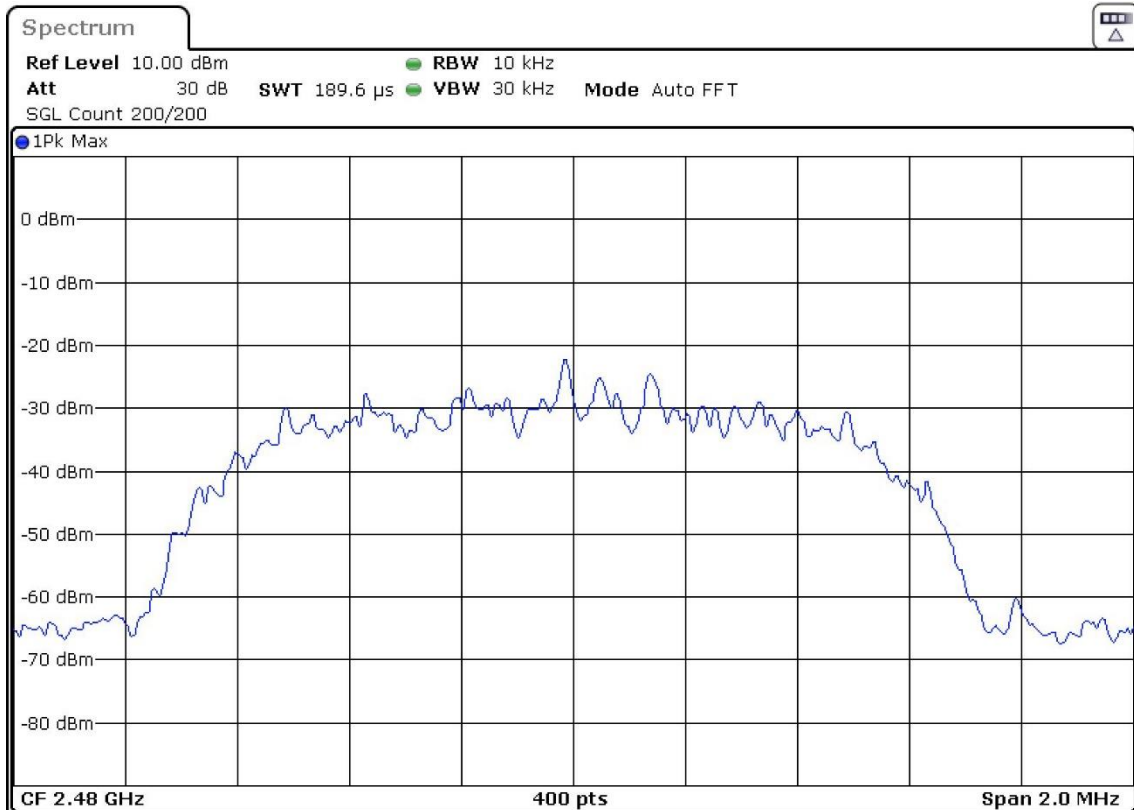
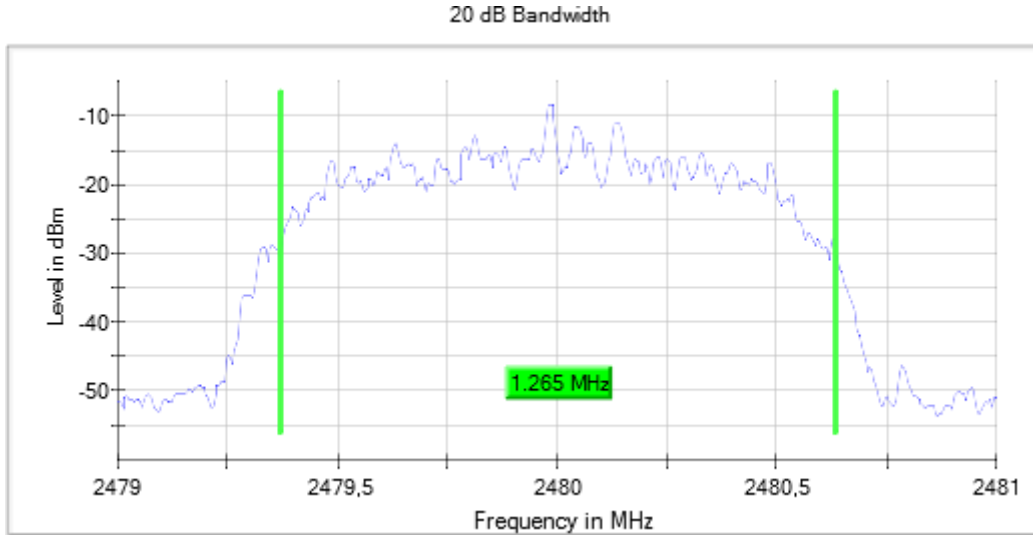
Frequency MHz = 2441.00000, Equipment Type = Frequency Hopping Spread Spectrum systems (DSS),  
Bandwidth MHz = 1, Modulation = BT (Pi/4 DQPSK 2-DH5), Number of Transmission Chains = 1, Active  
Port = 1

Images:



Frequency MHz = 2480.00000, Equipment Type = Frequency Hopping Spread Spectrum systems (DSS),  
Bandwidth MHz = 1, Modulation = BT (Pi/4 DQPSK 2-DH5), Number of Transmission Chains = 1, Active  
Port = 1

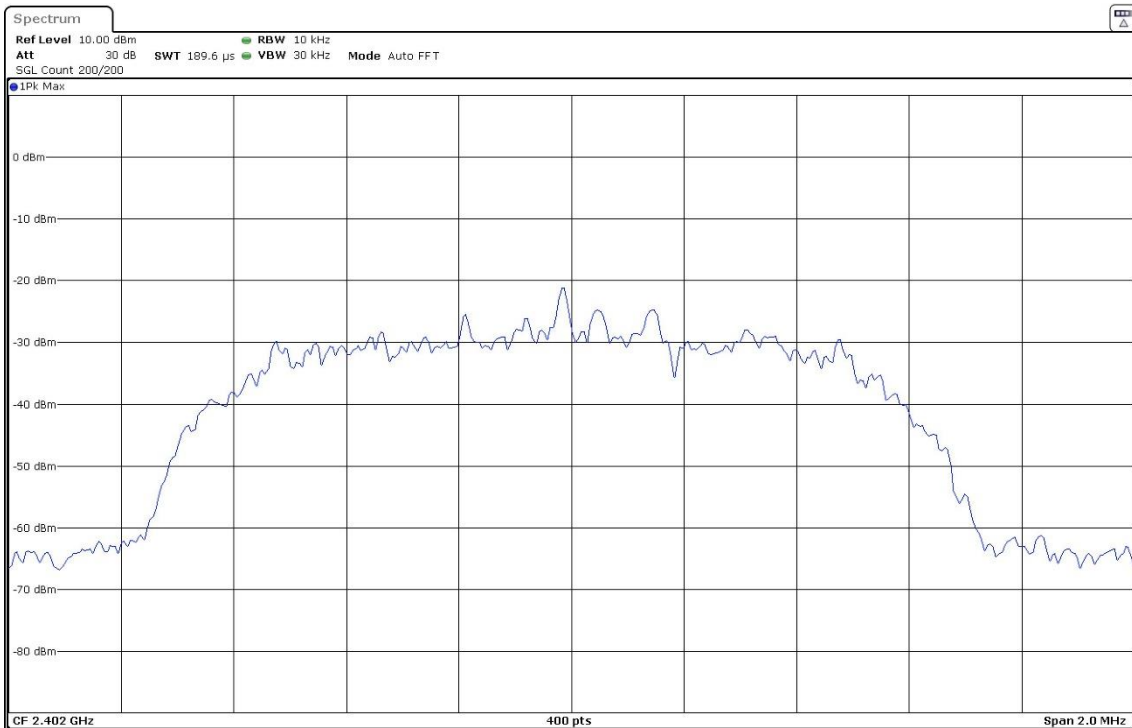
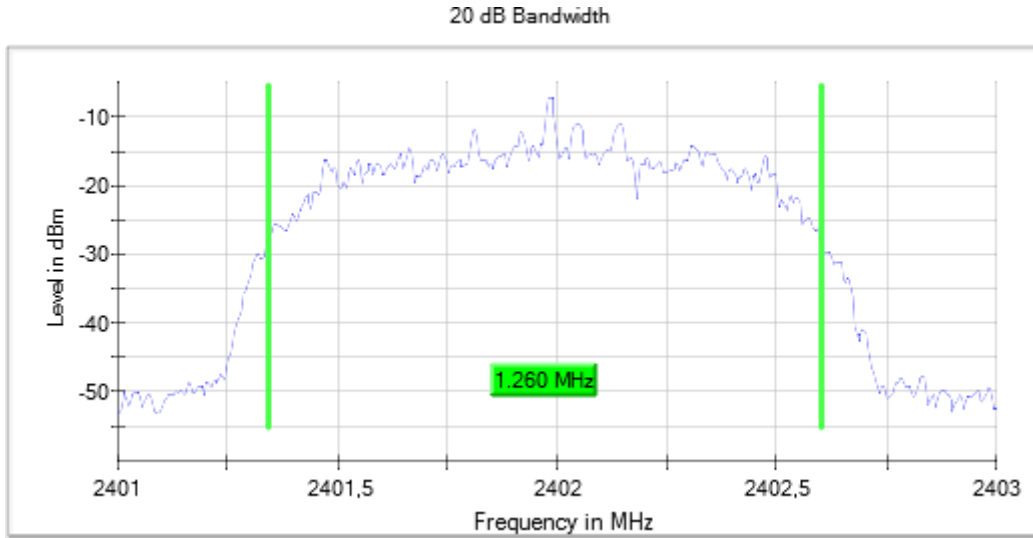
Images:





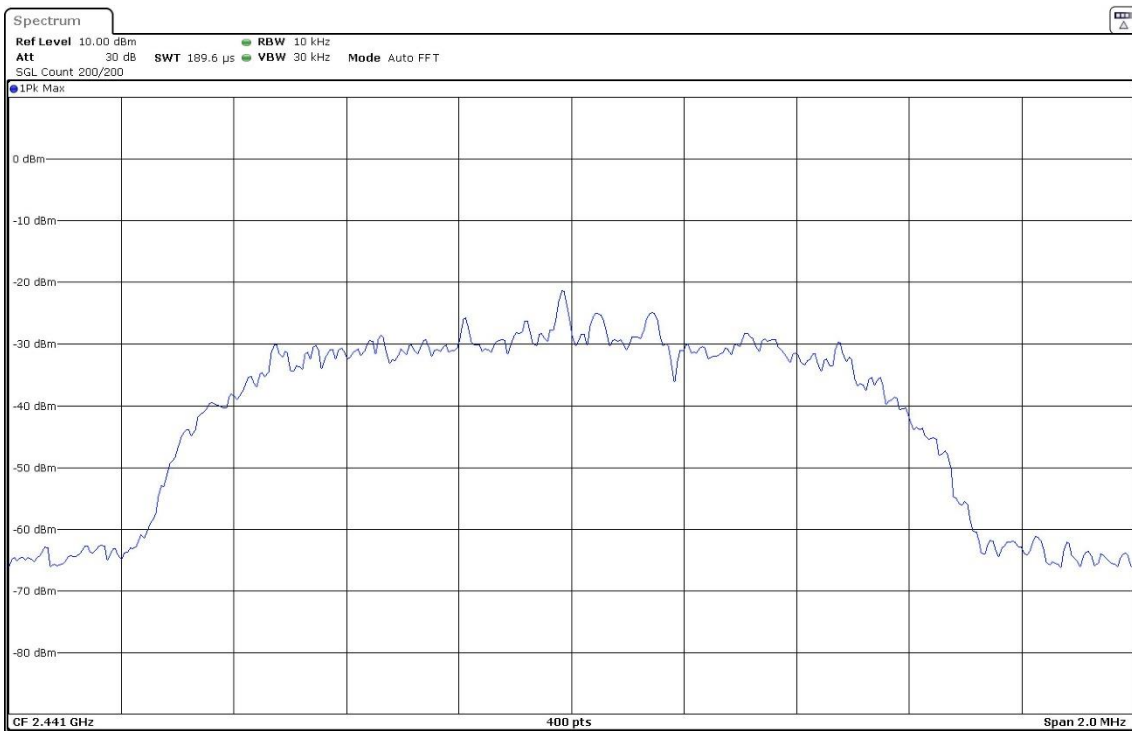
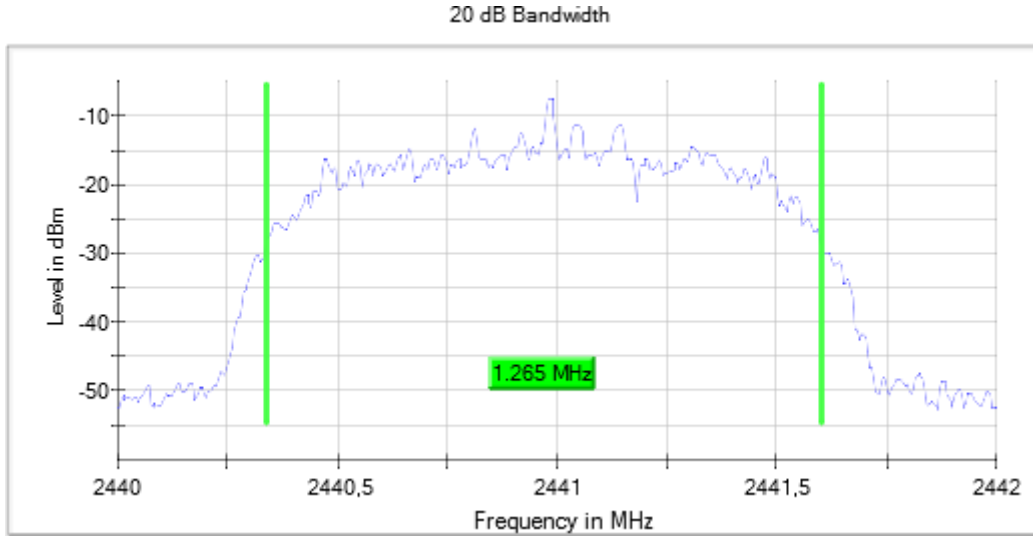
Frequency MHz = 2402.00000, Equipment Type = Frequency Hopping Spread Spectrum systems (DSS),  
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Images:



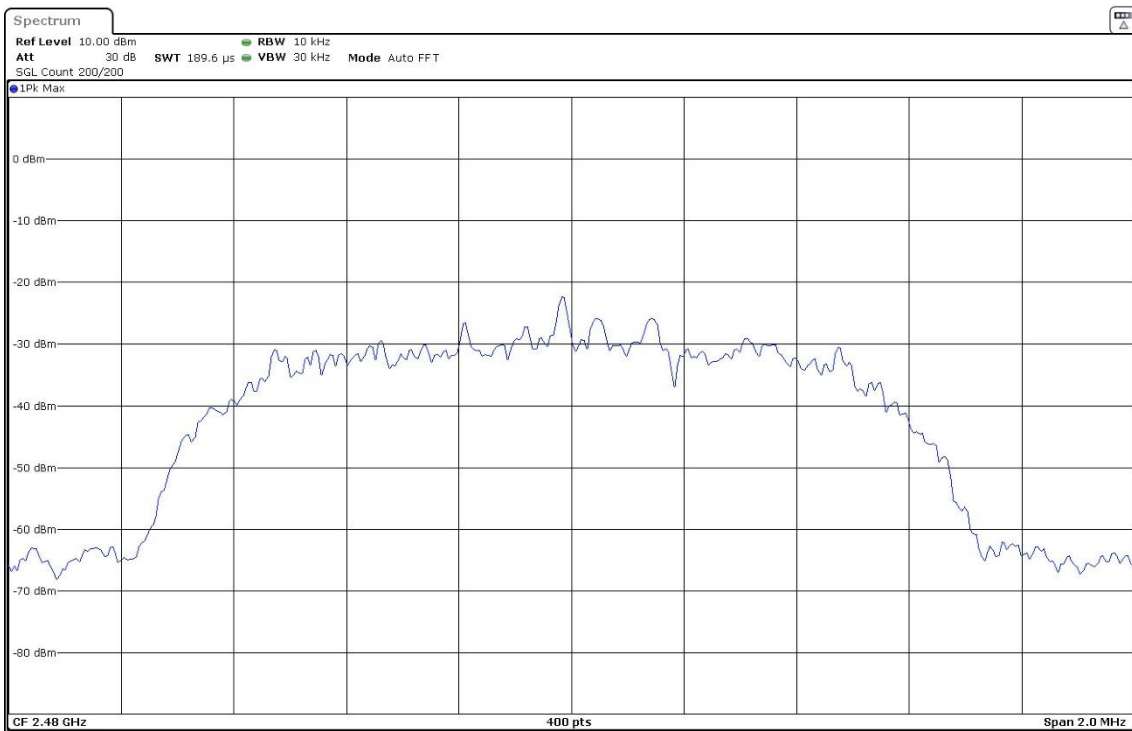
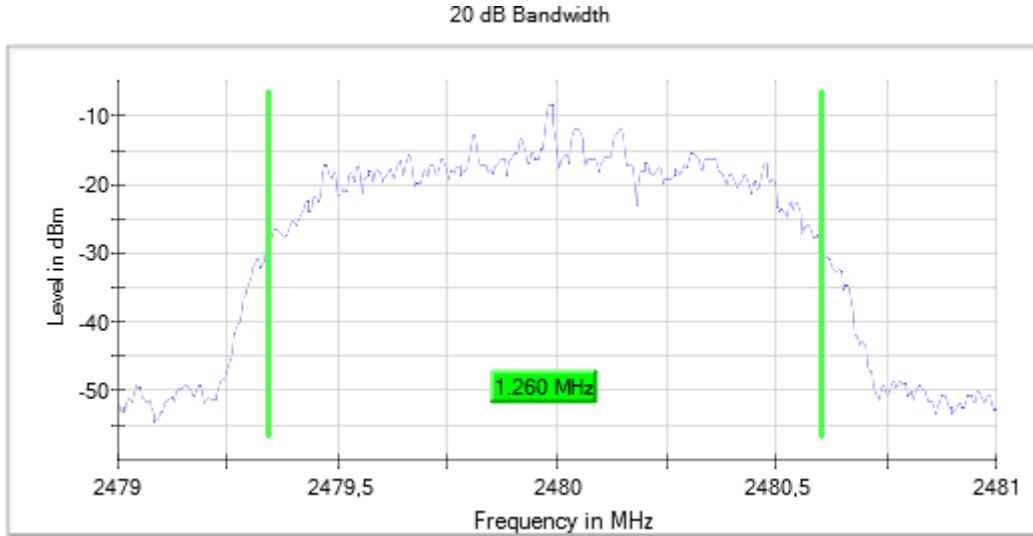
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Bandwidth MHz = 1, Modulation = BT (8DPSK 3-DH5), Number of Transmission Chains = 1, Active Port = 1

Images:



Frequency MHz = 2480.00000, Equipment Type = Frequency Hopping Spread Spectrum systems (DSS),  
Bandwidth MHz = 1, Modulation = BT (8DPSK 3-DH5), Number of Transmission Chains = 1, Active Port = 1

Images:



## FCC 15.247 (a) (1) Carrier Frequency Separation

### Results

Modulation: BT (GFSK 1-DH5)

Operation Band (MHz)	Equipment	Freq Sep (MHz)
[2400, 2483.5]	Frequency Hopping Spread Spectrum systems (DSS)	1.0100

Modulation: BT (Pi/4 DQPSK 2-DH5)

Operation Band (MHz)	Equipment	Freq Sep (MHz)
[2400, 2483.5]	Frequency Hopping Spread Spectrum systems (DSS)	1.0015

Modulation: BT (8DPSK 3-DH5)

Operation Band (MHz)	Equipment	Freq Sep (MHz)
[2400, 2483.5]	Frequency Hopping Spread Spectrum systems (DSS)	1.0101

The hopping channel carrier frequencies are separated by a minimum of two-thirds of the 20 dB bandwidth of the hopping channel.

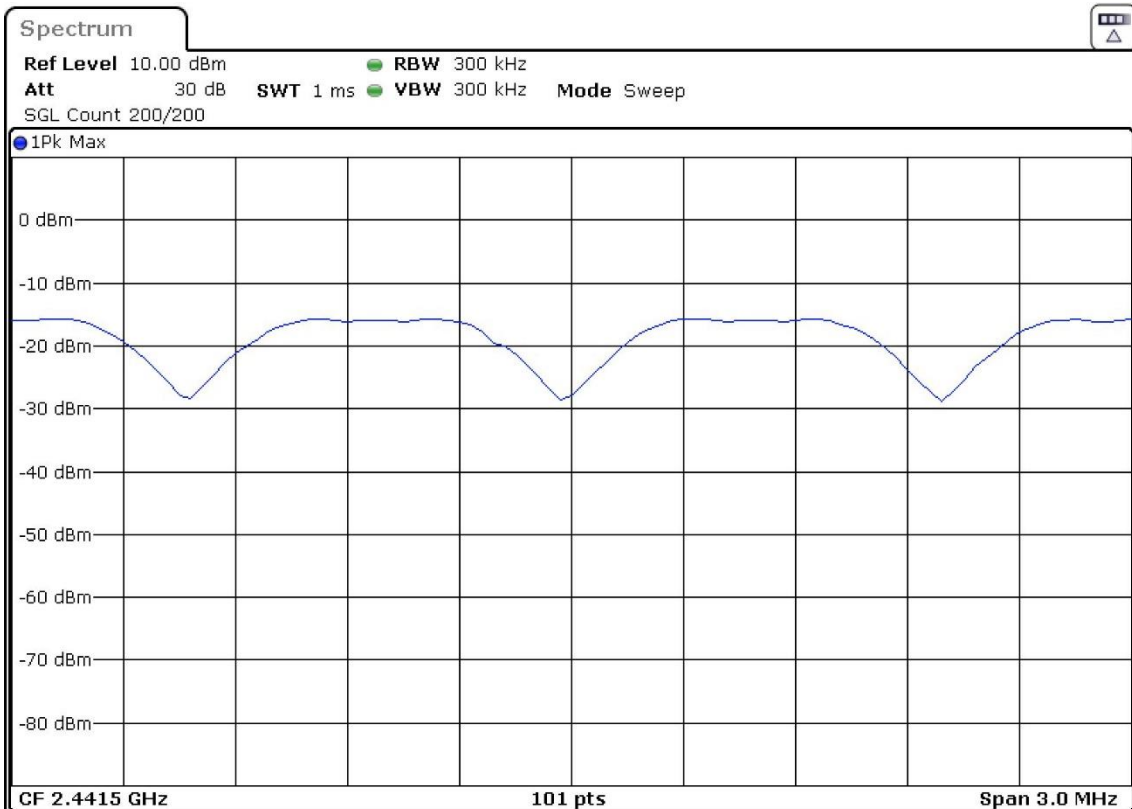
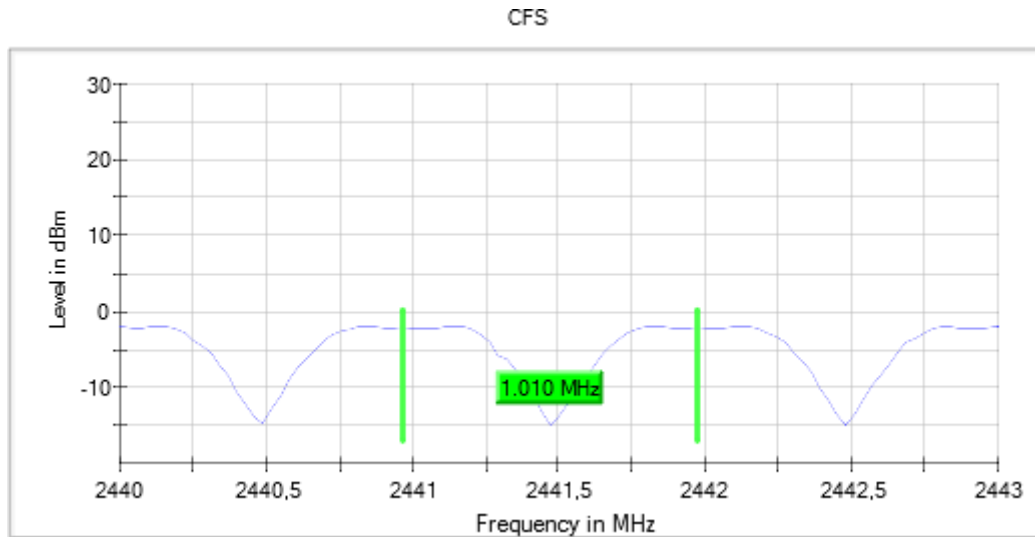
### Verdict

Pass

**Attachments**

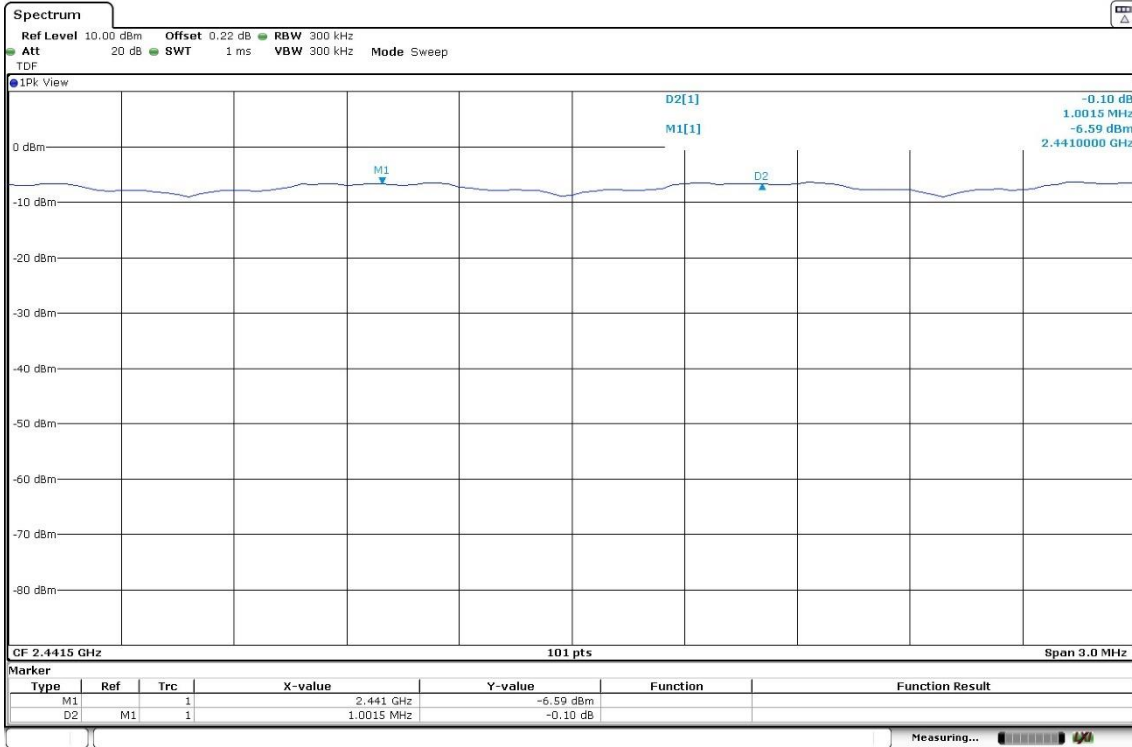
**Equipment Type = Frequency Hopping Spread Spectrum systems (DSS), Bandwidth MHz = 1, Modulation = BT (GFSK 1-DH5), Number of Transmission Chains = 1, Active Port = 1**

**Images:**



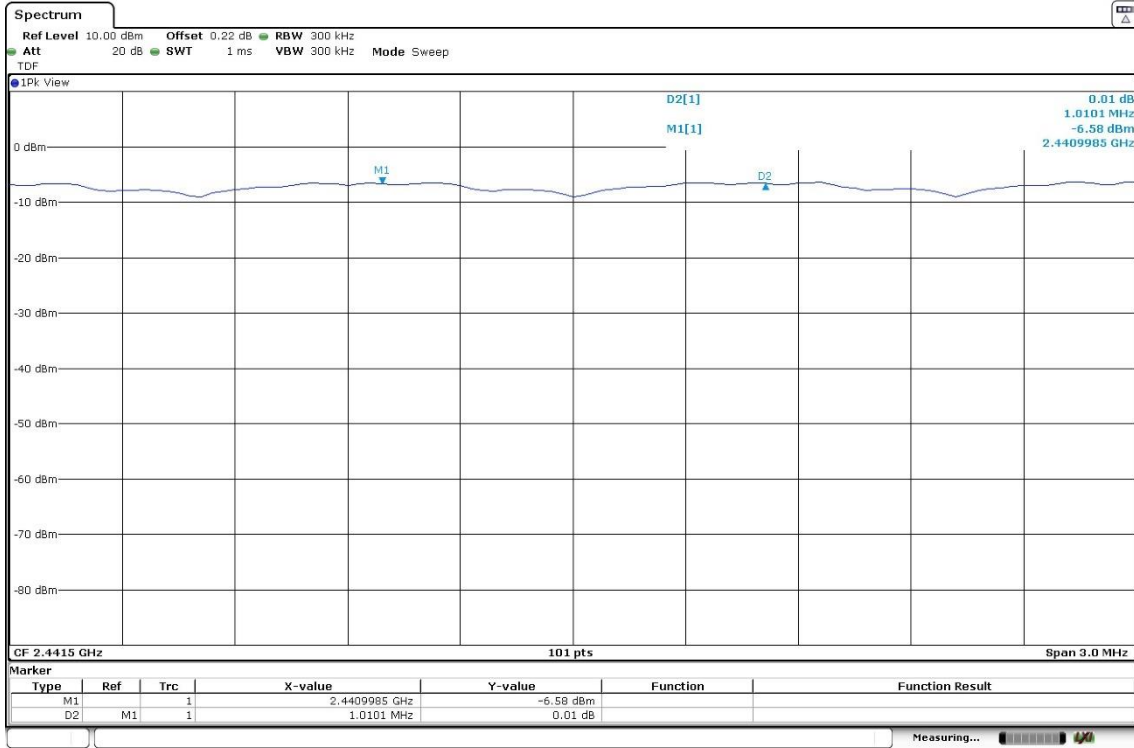
Equipment Type = Frequency Hopping Spread Spectrum systems (DSS), Bandwidth MHz = 1, Modulation = BT (Pi/4 DQPSK 2-DH5), Number of Transmission Chains = 1, Active Port = 1

Images:



Equipment Type = Frequency Hopping Spread Spectrum systems (DSS), Bandwidth MHz = 1, Modulation = BT (8DPSK 3-DH5), Number of Transmission Chains = 1, Active Port = 1

Images:



## FCC 15.247 (a) (1) (iii) Time of Occupancy (Dwell Time)

### Limits

The average time of occupancy on any channel shall not be greater than 0.4 seconds (400 ms) within a period of 0.4 seconds multiplied by the number of hopping channels employed =  $0.4 \times 79 = 31.6$  seconds.

### Results

The average time of occupancy was measured on low, middle and high channels for each modulation and worst case (highest Avg COT) is reported.

Modulation: BT (GFSK 1-DH5)

Operation Band (MHz)	Equipment	NHp	Avg COT (ms)
[2400, 2483.5]	Frequency Hopping Spread Spectrum systems (DSS)	106	307.820

Modulation: BT (Pi/4 DQPSK 2-DH5)

Operation Band (MHz)	Equipment	NHp	Avg COT (ms)
[2400, 2483.5]	Frequency Hopping Spread Spectrum systems (DSS)	102	202.760

Modulation: BT (8DPSK 3-DH5)

Operation Band (MHz)	Equipment	NHp	Avg COT (ms)
[2400, 2483.5]	Frequency Hopping Spread Spectrum systems (DSS)	105	217.520

### Verdict

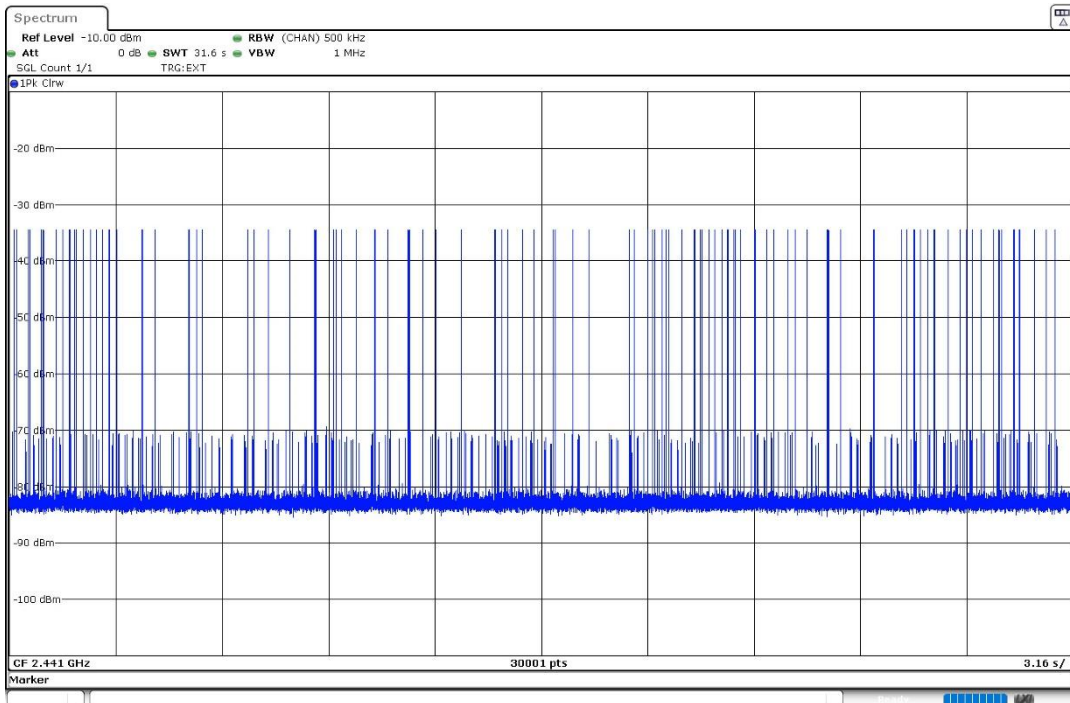
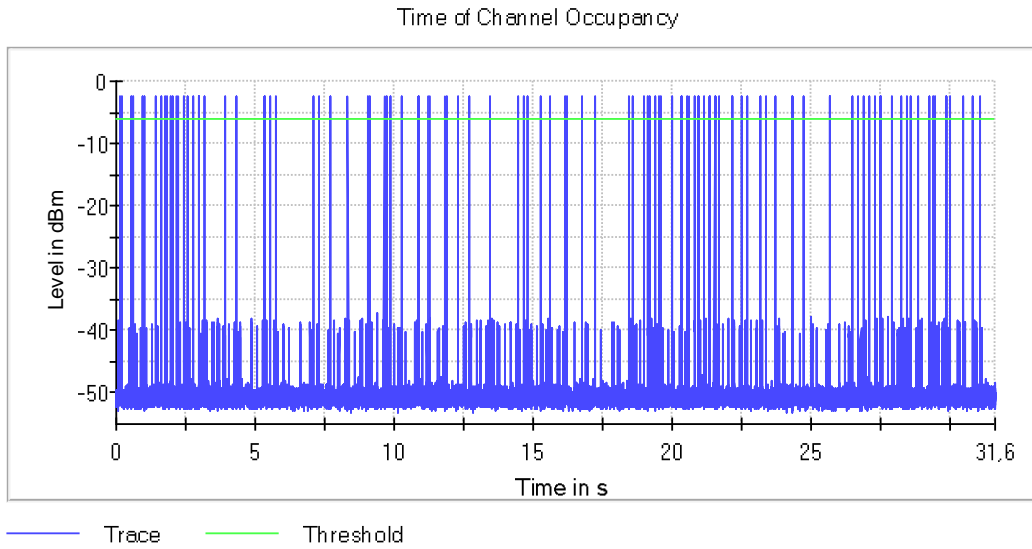
Pass



### Attachments

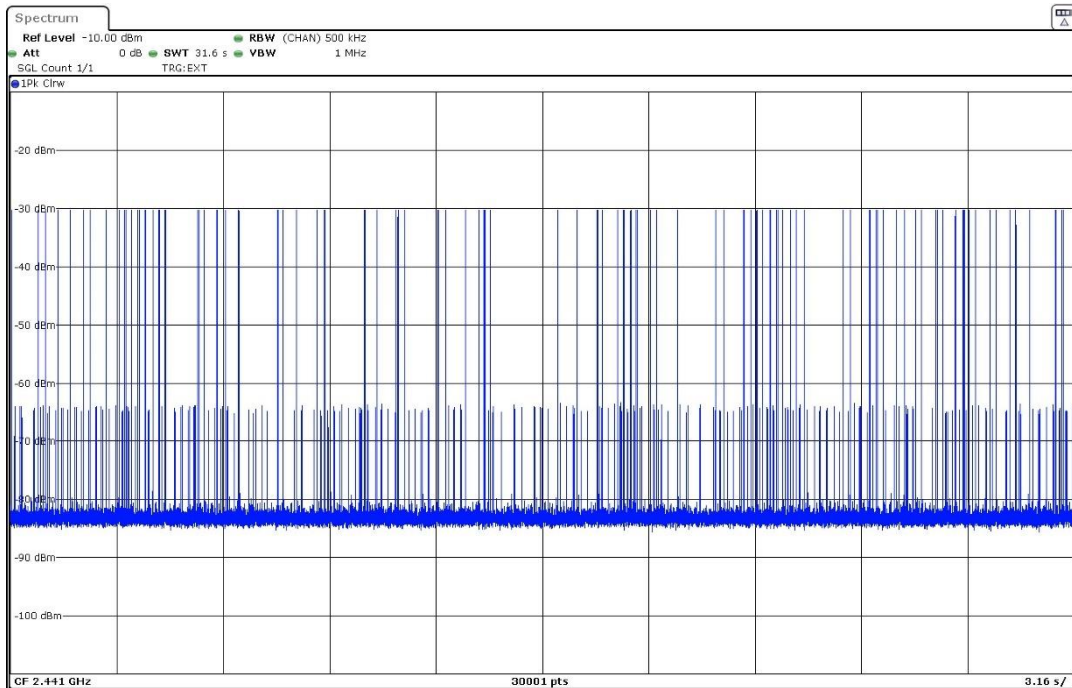
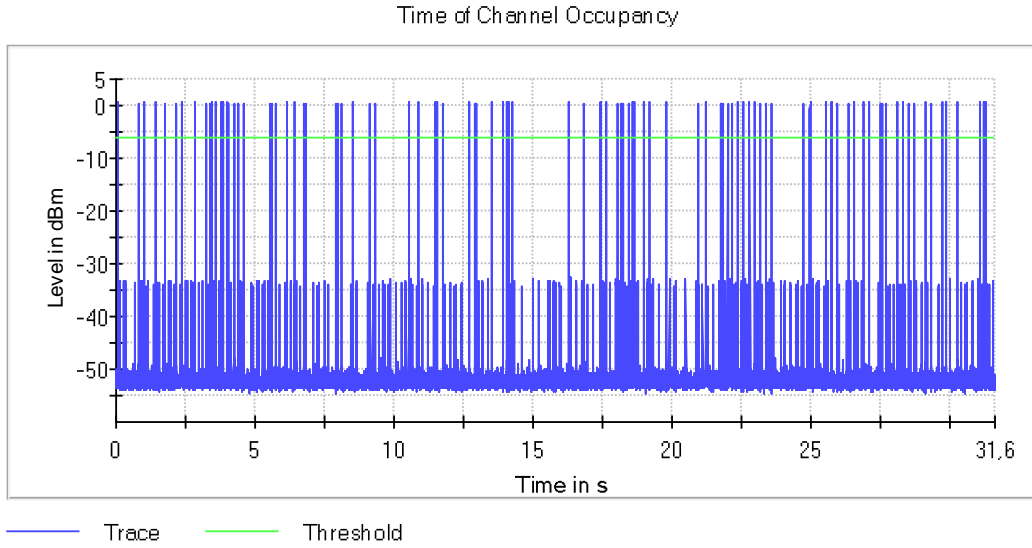
Equipment Type = Frequency Hopping Spread Spectrum systems (DSS), Bandwidth MHz = 1, Modulation = BT (GFSK 1-DH5), Number of Transmission Chains = 1, Active Port = 1

Images:



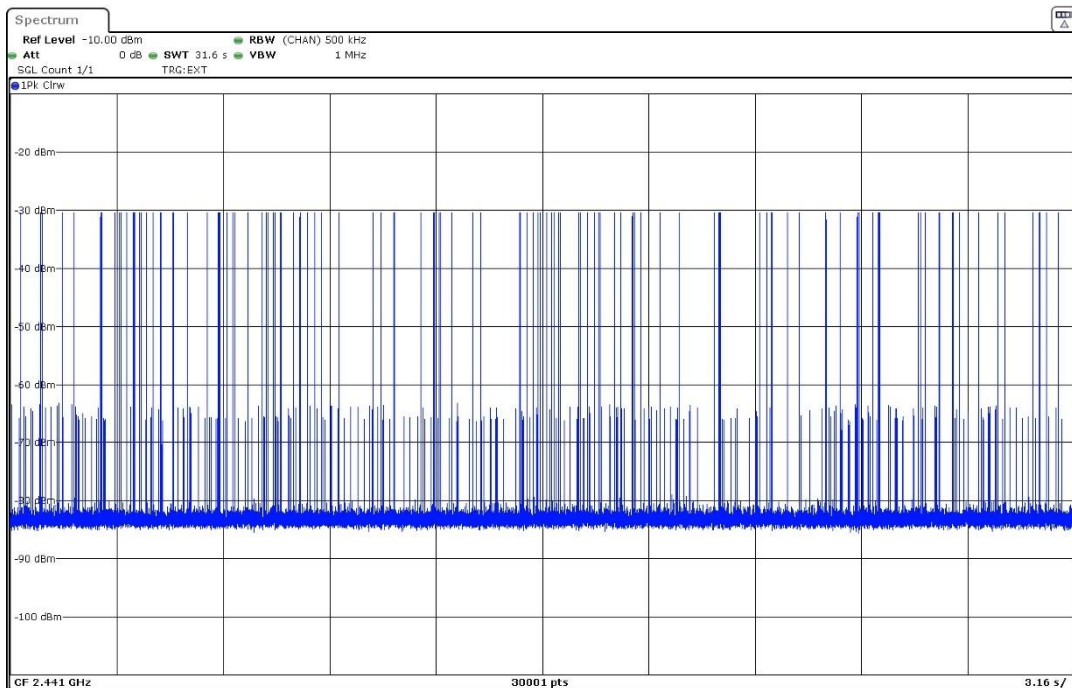
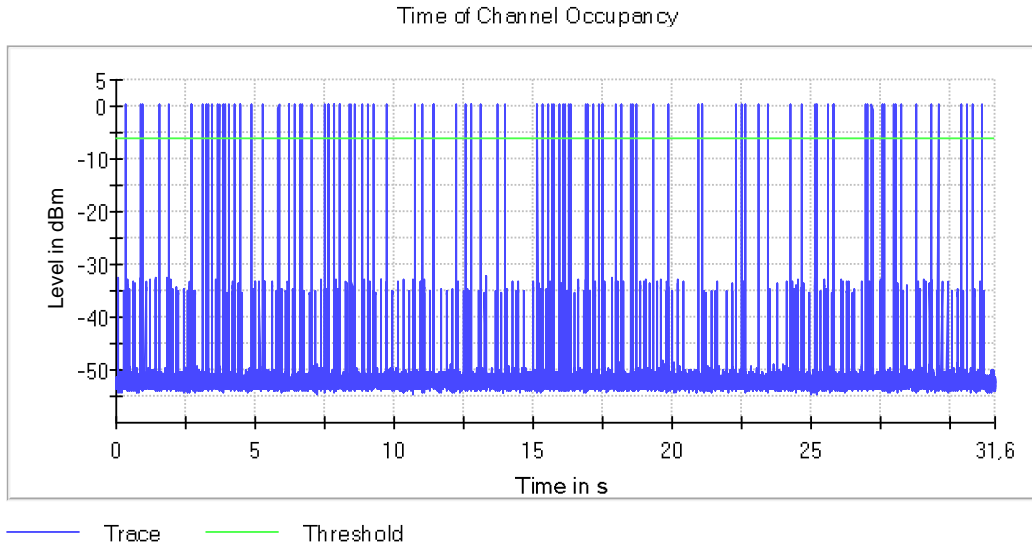
Equipment Type = Frequency Hopping Spread Spectrum systems (DSS), Bandwidth MHz = 1, Modulation = BT (Pi/4 DQPSK 2-DH5), Number of Transmission Chains = 1, Active Port = 1

Images:



Equipment Type = Frequency Hopping Spread Spectrum systems (DSS), Bandwidth MHz = 1, Modulation = BT (8DPSK 3-DH5), Number of Transmission Chains = 1, Active Port = 1

Images:



## FCC 15.247 (a) (1) (iii) Number of hopping channels

### Limits

Frequency hopping system in the 2400-2483.5 MHz band shall use at least 15 channels.

### Results

Modulation: BT (GFSK 1-DH5)

Operation Band (MHz)	Equipment	NHC
[2400, 2483.5]	Frequency Hopping Spread Spectrum systems (DSS)	79

Modulation: BT (Pi/4 DQPSK 2-DH5)

Operation Band (MHz)	Equipment	NHC
[2400, 2483.5]	Frequency Hopping Spread Spectrum systems (DSS)	79

Modulation: BT (8DPSK 3-DH5)

Operation Band (MHz)	Equipment	NHC
[2400, 2483.5]	Frequency Hopping Spread Spectrum systems (DSS)	79

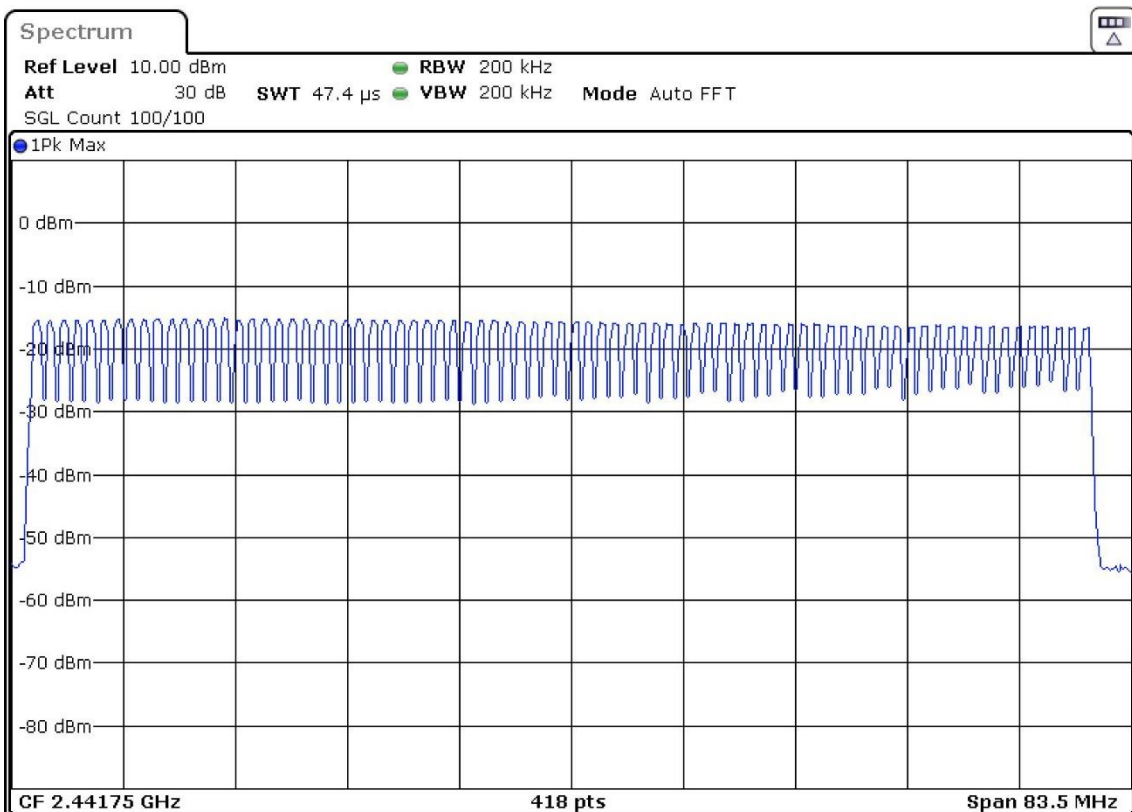
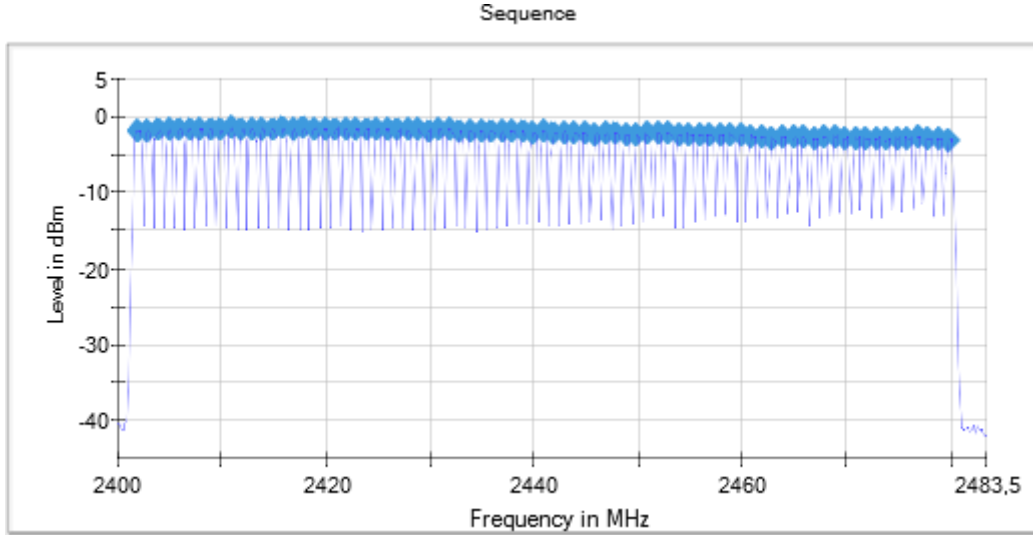
### Verdict

Pass

**Attachments**

**Equipment Type = Frequency Hopping Spread Spectrum systems (DSS), Bandwidth MHz = 1, Modulation = BT (GFSK 1-DH5), Number of Transmission Chains = 1, Active Port = 1**

**Images:**



Equipment Type = Frequency Hopping Spread Spectrum systems (DSS), Bandwidth MHz = 1, Modulation = BT (Pi/4 DQPSK 2-DH5), Number of Transmission Chains = 1, Active Port = 1

Images:

