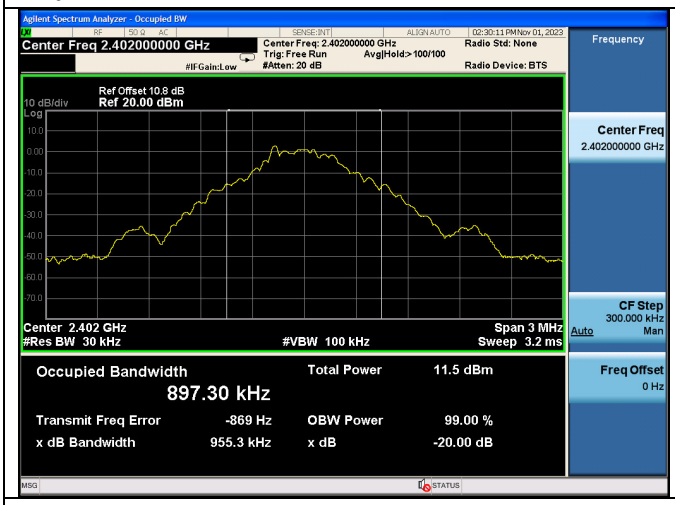
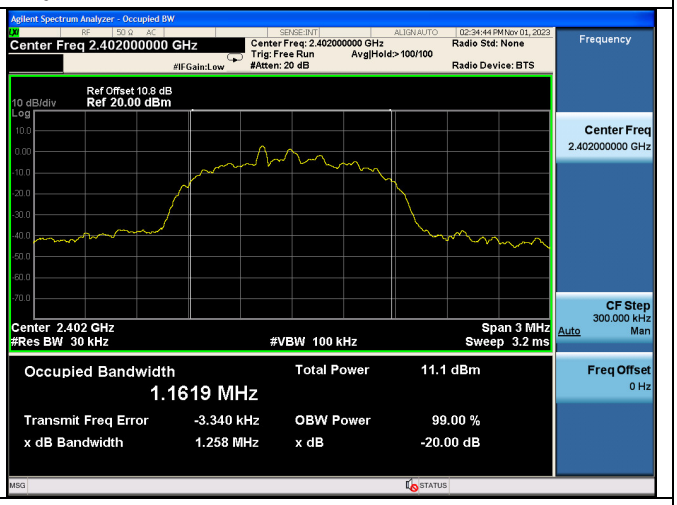
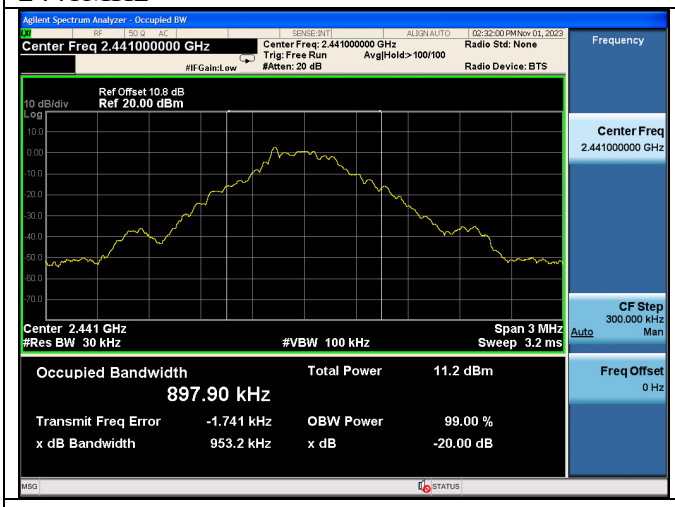
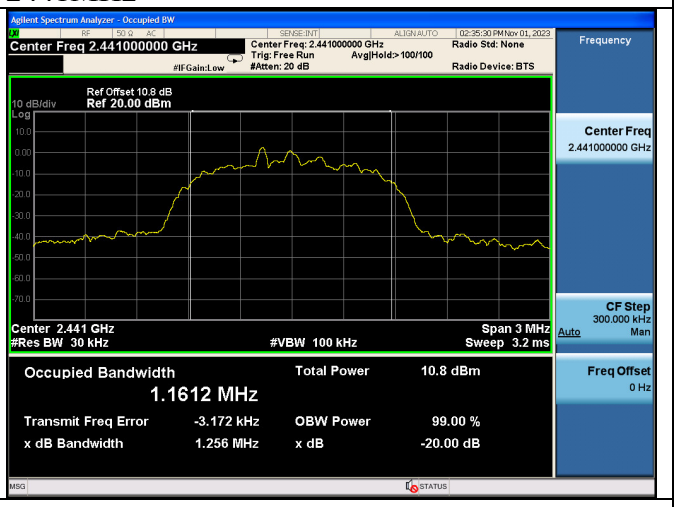
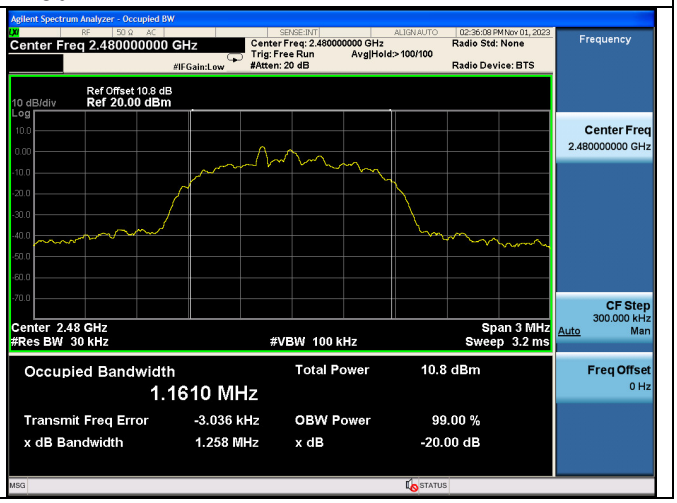
GFSK	8-DPSK
2402MHz	2402MHz
	
2441MHz	2441MHz
	
2480MHz	2480MHz
	

7. CARRIER FREQUENCY SEPARATION TEST

7.1.Test Equipments

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	PXA Signal Analyzer	Agilent	N9030A	MY51380221	Apr.01,23	1 Year
2.	RF Cable	HUBER+SUHNER	SUCOFLEX-106	505238/6	Apr.02,23	1 Year

7.2.Limit

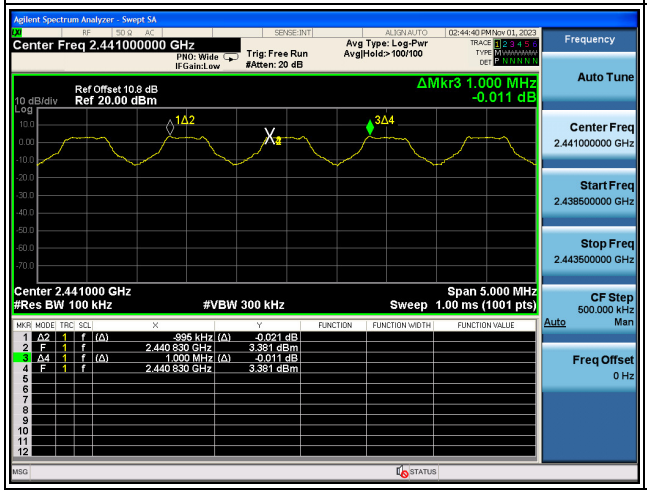
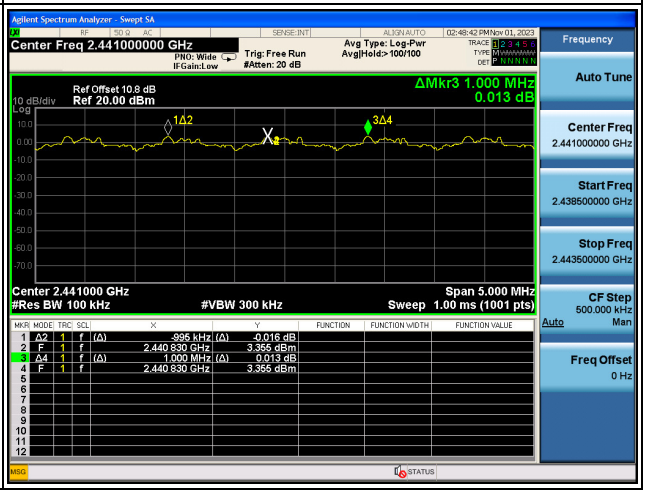
Frequency hopping systems shall have hopping channel carrier frequency separated by a minimum of 25kHz or the 20dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are 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.

7.3.Test Procedure

Use the test method descried in ANSI C63.10 clause 7.8.2:
1. Connect the antenna port of the EUT to the Spectrum analyzer.
2. Let the EUT transmit at Hopping channel.
3. Setting of SA is following as: RBW: 100kHz / VBW: 300kHz.Span: 5MHz
4. Use the mark Delta function of the SA measure out the channel separation.

7.4.Test Results.

EUT: Sound Bar			
M/N: HT-S100F			
Test date: 2023-11-01	Pressure: 101.3±1.0 kpa	Humidity: 52.4±3.0%	
Tested by: Carl	Test site: RF site	Temperature: 23.2±0.6℃	
Test Mode	Channel separation	Limit(KHz)	Conclusion
GFSK	1.0MHz	636.9	PASS
8-DPSK	1.0MHz	838.7	PASS

GFSK	8-DPSK
	

8. NUMBER OF HOPPING FREQUENCY TEST

8.1.Test Equipments

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	PXA Signal Analyzer	Agilent	N9030A	MY51380221	Apr.01,23	1 Year
2.	RF Cable	HUBER+SUHNER	SUCOFLEX-106	505238/6	Apr.02,23	1 Year

8.2.Limit

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

8.3.Test Procedure

Use the test method descried in ANSI C63.10 clause 7.8.3:

1. Connect the antenna of the EUT to Spectrum analyzer and let the EUT working at hopping mode.
2. Setting of SA is following as: RBW: 100kHz / VBW: 300kHz，
   Start frequency: 2390MHz
   Stop frequency: 2483.5MHz

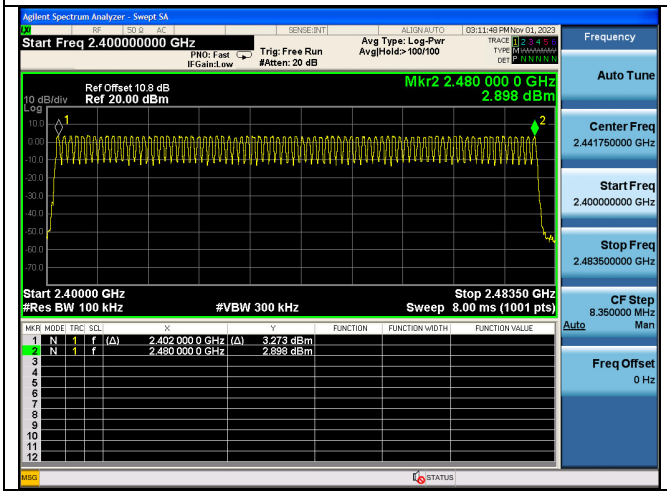
And waiting for the hopping trace until stability, count out the number of the hopping.

8.4.Test Results

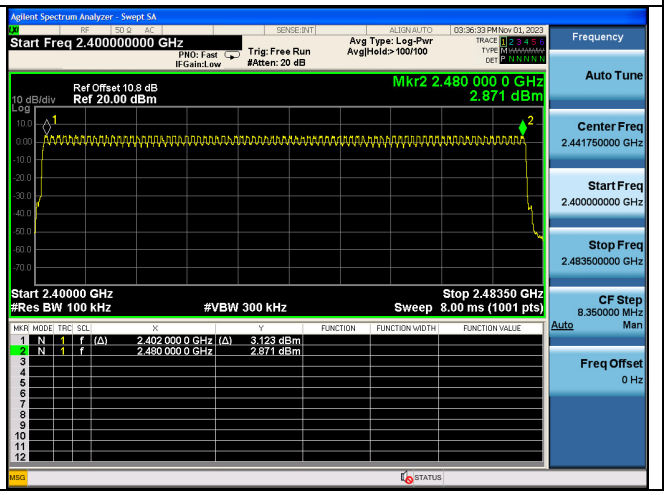
EUT: Sound Bar		
M/N: HT-S100F		
Test date: 2023-11-01	Pressure: 101.3±1.0 kpa	Humidity: 52.4±3.0%
Tested by: Carl	Test site: RF site	Temperature: 23.2±0.6℃

Test Mode	Number of channel	Limit	Conclusion
GFSK	79	≥15	PASS
8-DPSK	79	≥15	PASS

GFSK



8-DPSK



9. DWELL TIME

9.1.Test Equipments

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	PXA Signal Analyzer	Agilent	N9030A	MY51380221	Apr.01,23	1 Year
2.	RF Cable	HUBER+SUHNER	SUCOFLEX-106	505238/6	Apr.02,23	1 Year

9.2.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.

9.3.Test Procedure

Use the test method descried in ANSI C63.10 clause 7.8.4:

1. Connect the antenna of the EUT to Spectrum analyzer and let the EUT working at hopping mode.
2. Setting of SA is following as:
   RBW: 100kHz / VBW: 300kHz
   Sweep Mode: Single
   Detect mode: Positive peak
   Trace mode: Auto
   Span: 0Hz
   Sweep time: 5s and big enough to measure one hopping signal
3. Use below formula calculate the Dwell time
   Dwell time=Hopping number per second*0.4*channel number*Pulse bandwidth per hopping.

9.4.Test Results

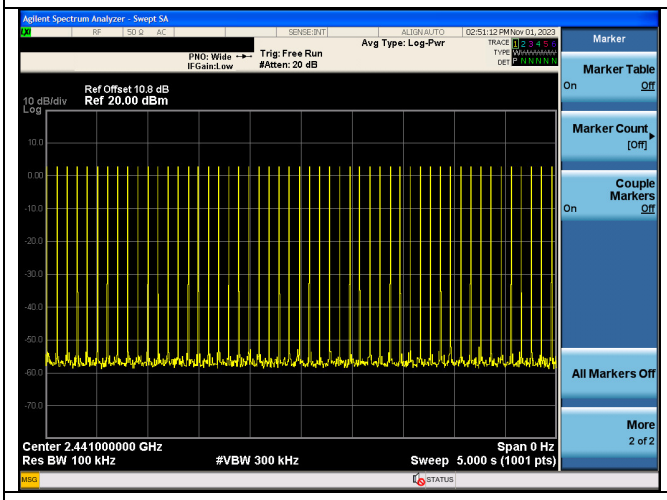
EUT: Sound Bar		
M/N: HT-S100F		
Test date: 2023-11-01	Pressure: 101.3±1.0 kpa	Humidity: 52.4±3.0%
Tested by: Carl	Test site: RF site	Temperature: 23.1±0.6℃

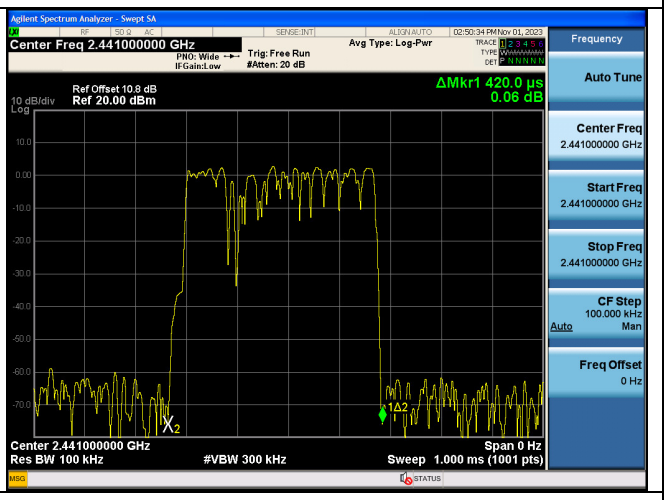
Mode		dwell time	Limit	Conclusion
GFSK	DH1	51 hops/5s*0.4s*79chanels* 0.420 ms =135.374ms	≦400ms	PASS
	DH3	25 hops/5s*0.4s*79chanels* 1.677 ms =264.966ms	≦400ms	PASS
	DH5	17 hops/5s*0.4s*79chanels* 2.920 ms =313.725ms	≦400ms	PASS
8-DPSK	3-DH1	50 hops/5s*0.4s*79chanels* 0.427 ms =134.932ms	≦400ms	PASS
	3-DH3	25 hops/5s*0.4s*79chanels* 1.701 ms =268.758ms	≦400ms	PASS
	3-DH5	17 hops/5s*0.4s*79chanels* 2.945 ms =316.411ms	≦400ms	PASS

Note: All the lower levels were signaled from receiver and should not be considered in here.

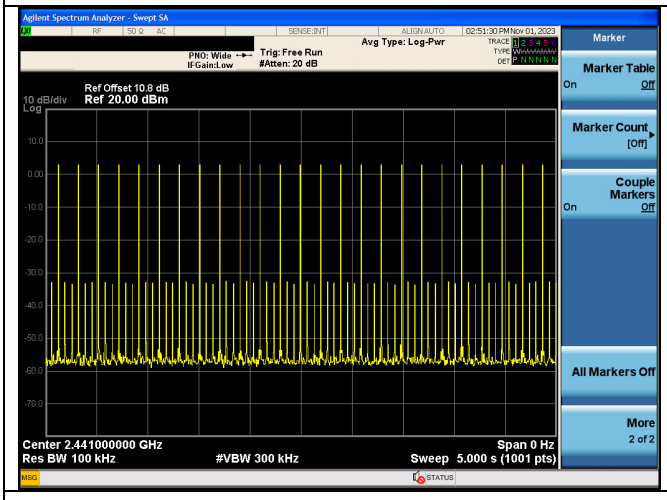
GFSK

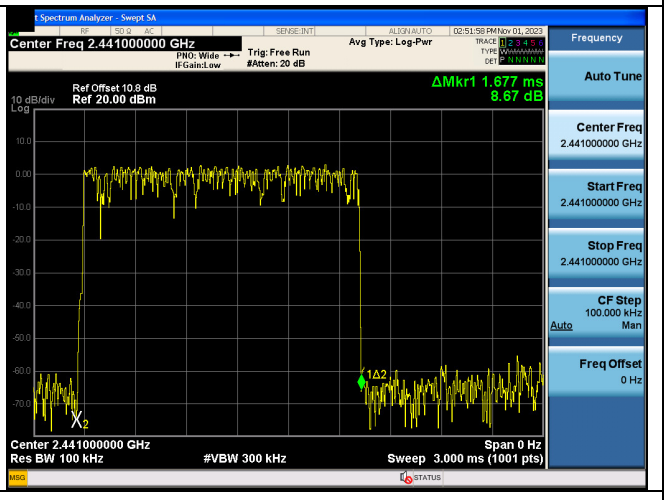
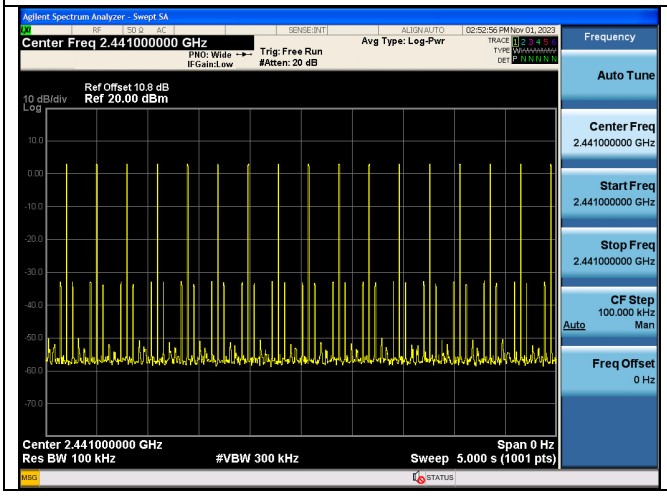
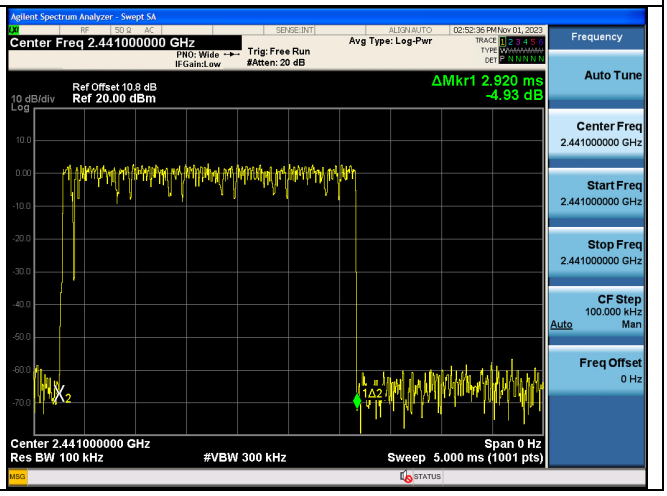
DH 1





DH 3





DH 5