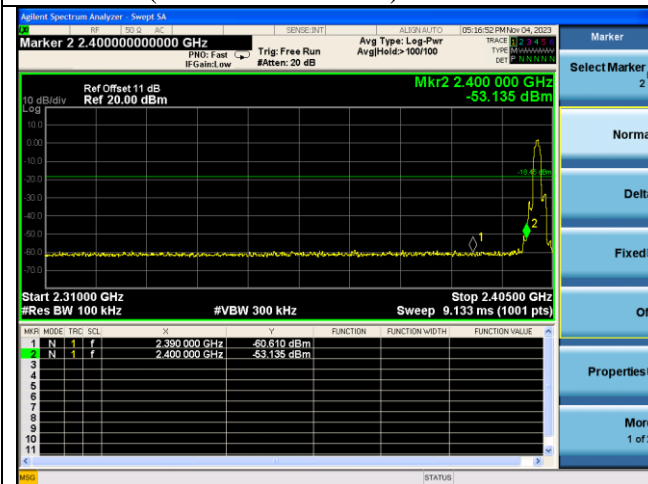
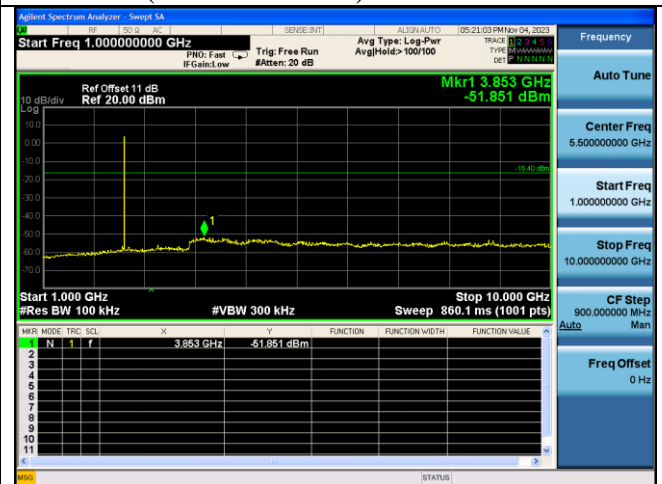


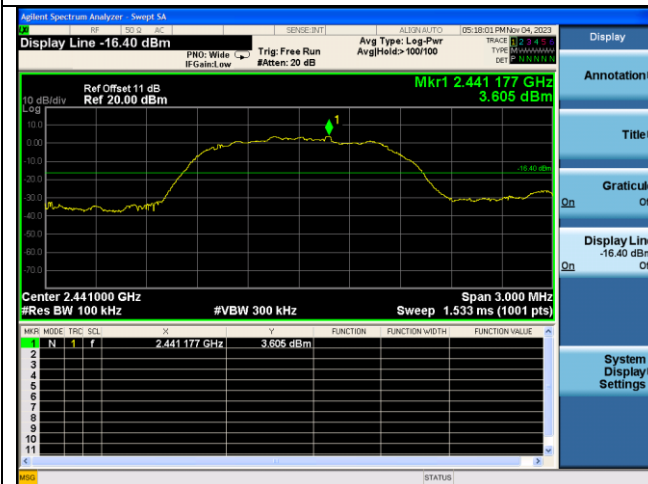
2402MHz(2.3GHz – 2.4GHz)



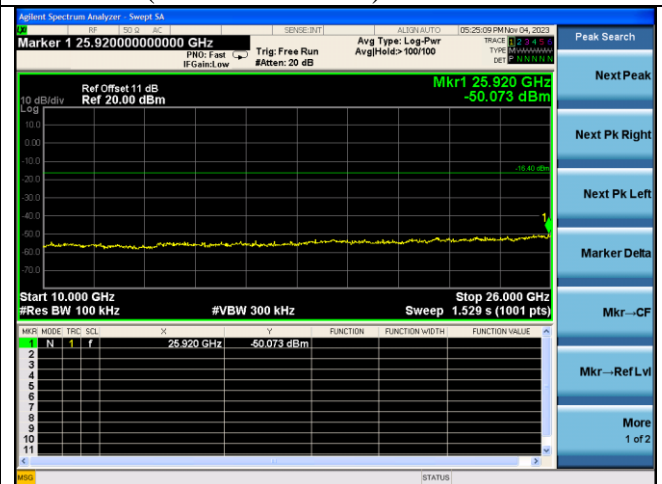
2441MHz(1GHz – 10GHz)



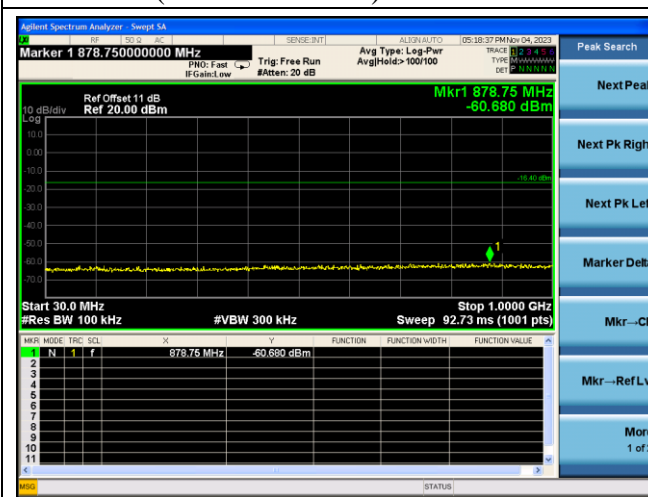
2441MHz



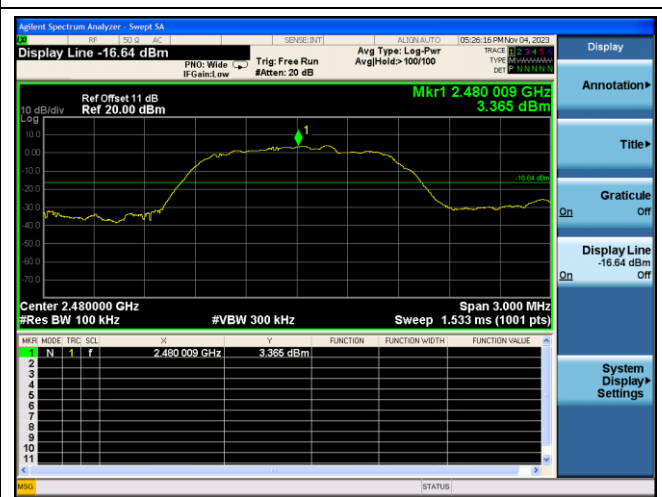
2441MHz(10GHz – 26GHz)



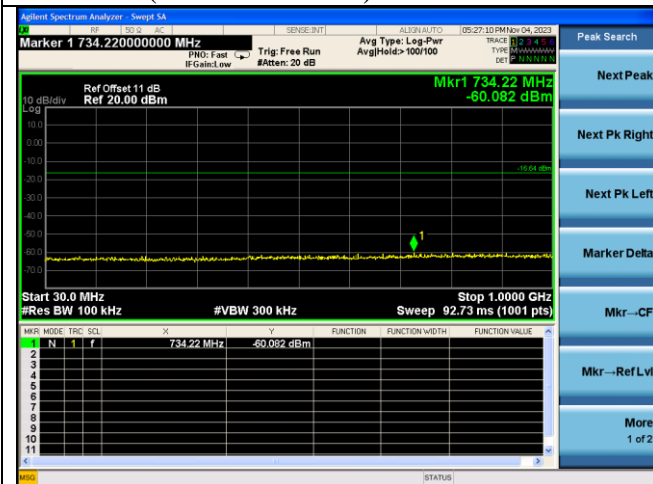
2441MHz (30MHz – 1GHz)



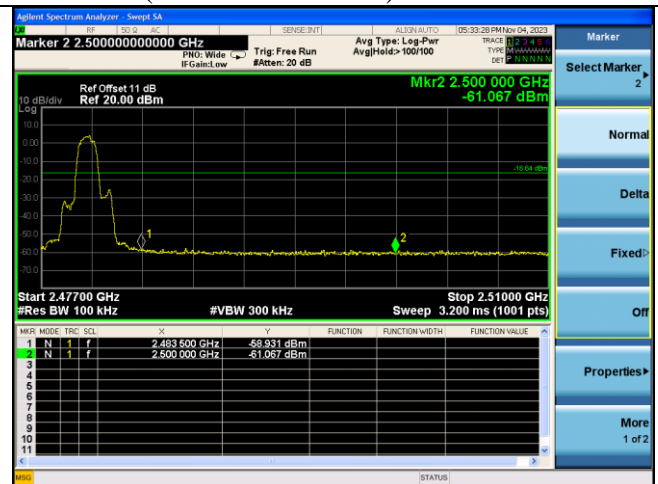
2480MHz



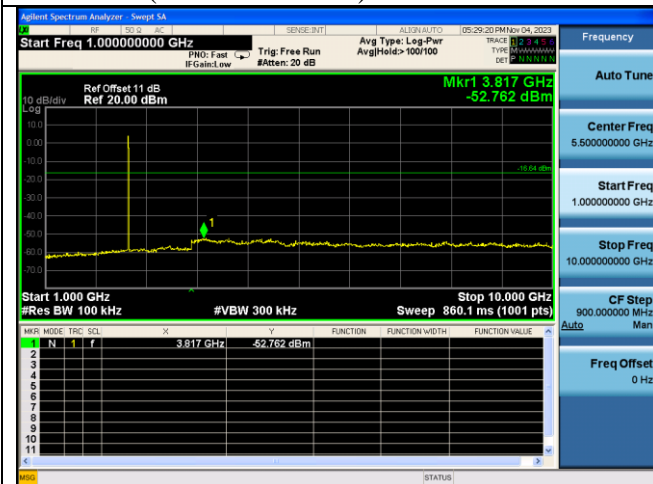
2480MHz(30MHz – 1GHz)



2480MHz(2.4GHz – 2.5GHz)

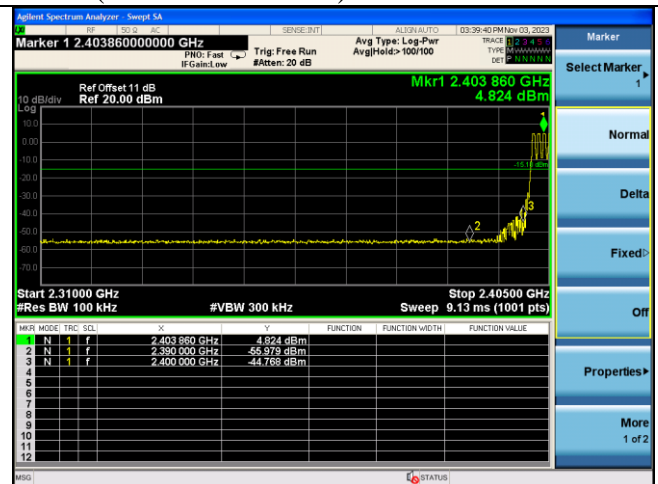


2480MHz(1GHz – 10GHz)

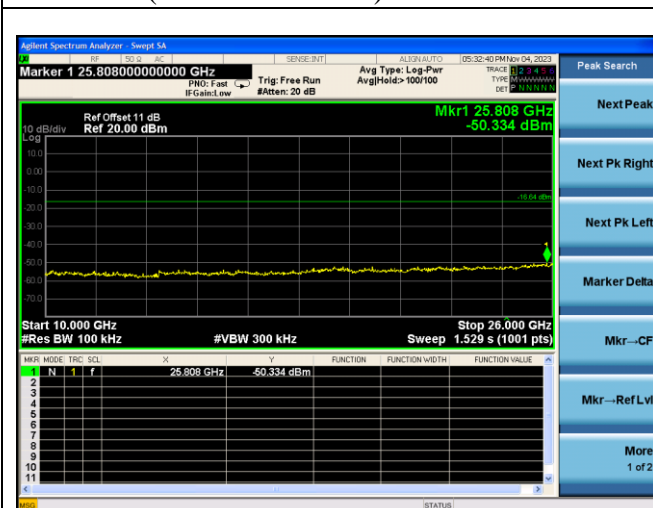


Hopping on

GFSK(2.3GHz – 2.4GHz)



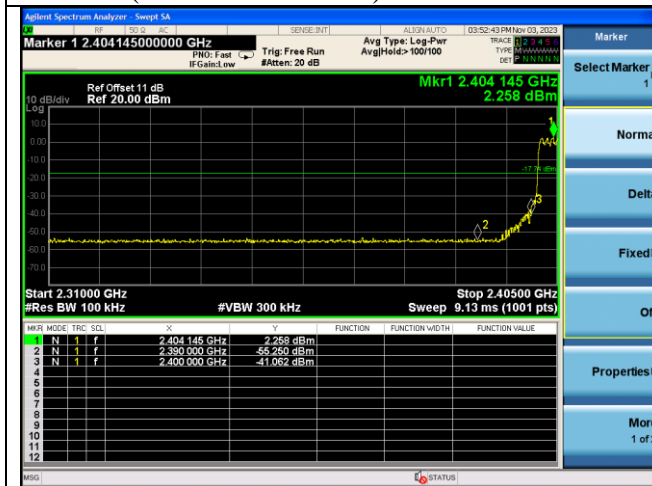
2480MHz(10GHz – 26GHz)



GFSK(2.4GHz – 2.5GHz)



8-DPSK(2.3GHz – 2.4GHz)



8-DPSK(2.4GHz – 2.5GHz)



6. 20 DB & 99% BANDWIDTH TEST

6.1.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	SUCOFLE X-106	505238/6	Apr.02,23	1 Year

6.2.Limit

Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§ 15.217 through 15.257 and in Subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated.

6.3.Test Procedure

Use the test method descried in ANSI C63.10 clause 7.8.7:

1. Connect the antenna port of the EUT to the spectrum analyzer.
2. Let the EUT transmit at Low/ Mid/ High channel with test software.
3. Setting of SA is following as: RBW: 30kHz / VBW: 100kHz
Sweep Mode: Continuous sweep
Detect mode: Positive peak
Trace mode: Max hold.
4. Use the occupied bandwidth function of the SA measure the 20dB bandwidth directly.

6.4. Test Results

EUT: Electronic paper display		
M/N: EP-C131		
Test date: 2023-10-27~31	Pressure: 102.5±1.0 kpa	Humidity: 53.6±3.0%
Tested by: Jason	Test site: RF site	Temperature: 22.4±0.6°C

Test Mode	Frequency (MHz)	20dB bandwidth (KHz)	Limit (KHz)
GFSK	2402	1049	N/A
	2441	1054	N/A
	2480	1058	N/A
8-DPSK	2402	1336	N/A
	2441	1339	N/A
	2480	1324	N/A

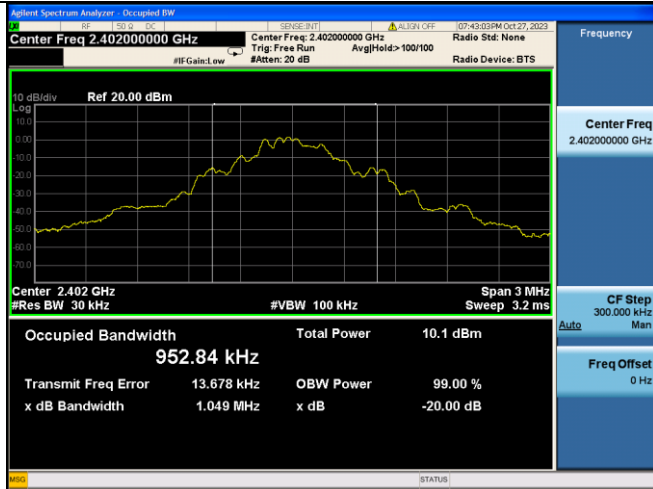
Conclusion: PASS

Test Mode	Frequency (MHz)	99% Bandwidth (KHz)	Limit (KHz)
GFSK	2402	952.84	N/A
	2441	958.65	N/A
	2480	960.28	N/A
8-DPSK	2402	1186.8	N/A
	2441	1213.7	N/A
	2480	1214.6	N/A

Conclusion: PASS

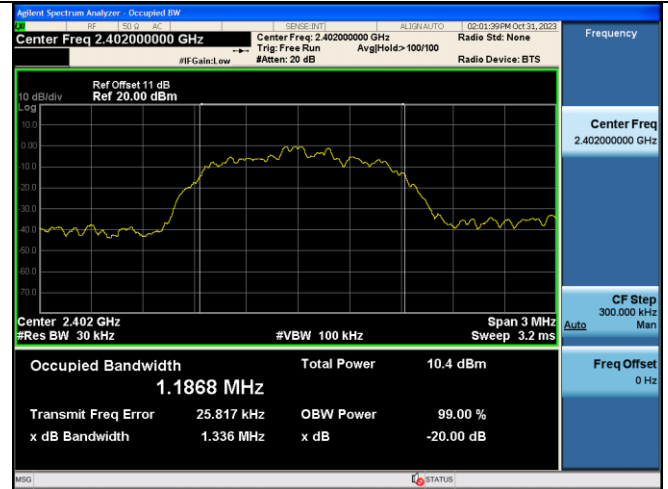
GFSK

2402MHz

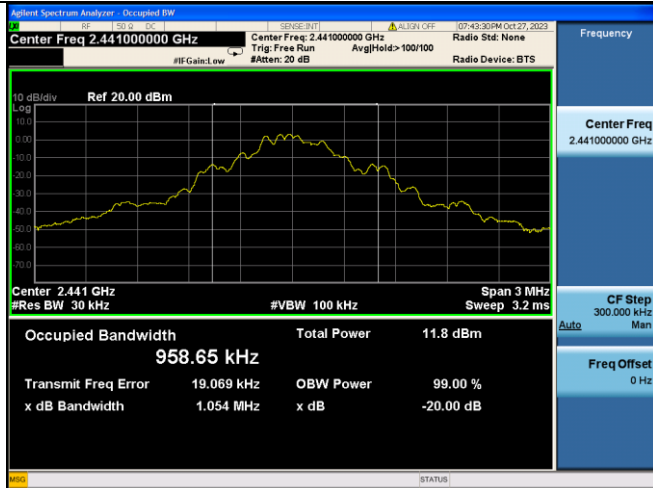


8-DPSK

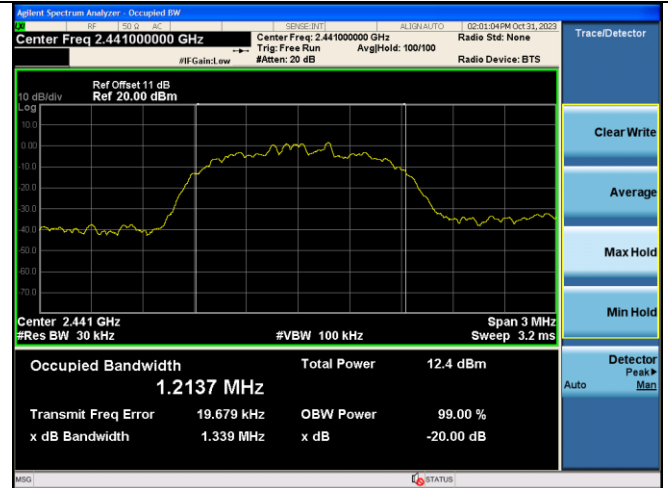
2402MHz



2441MHz



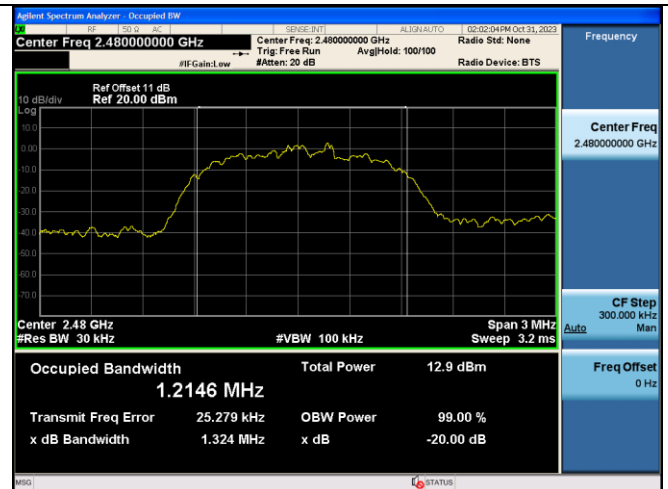
2441MHz



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.

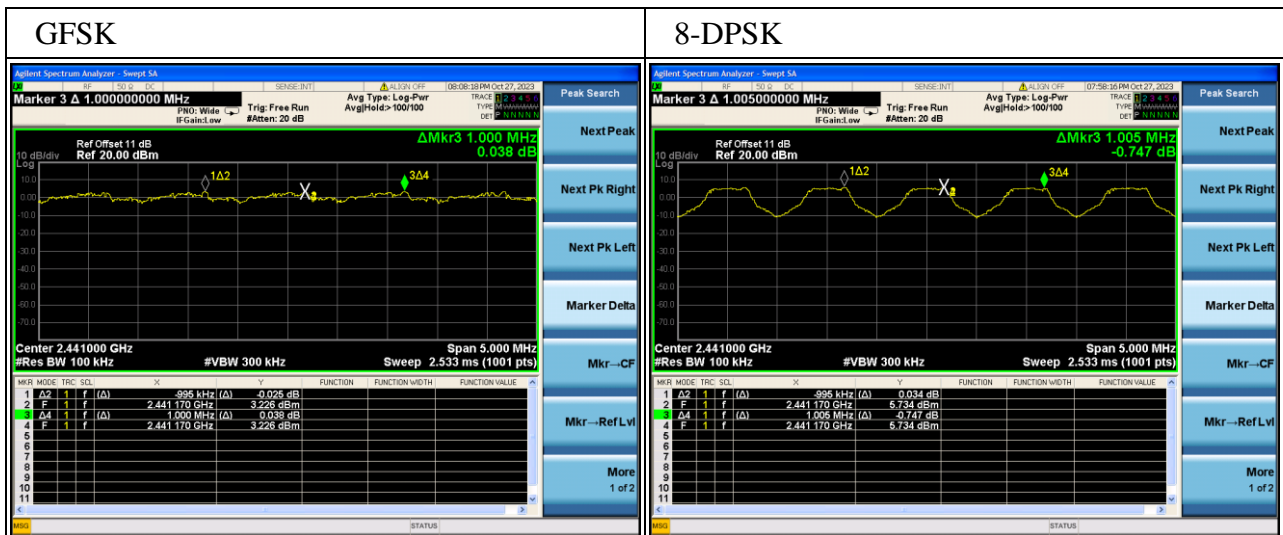
7.3. Test Procedure

Use the test method described 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 Low/ Mid/ High 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: Electronic paper display			
M/N: EP-C131			
Test date: 2023-10-27		Pressure: 102.5±1.0 kpa	Humidity: 53.6±3.0%
Tested by: Jason		Test site: RF site	Temperature: 22.4±0.6 °C
Test Mode	Channel separation	Limit(KHz)	Conclusion
GFSK	1.0MHz	705.333	PASS
8-DPSK	1.0MHz	892.667	PASS



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 described in ANSI C63.10 clause 7.8.3:

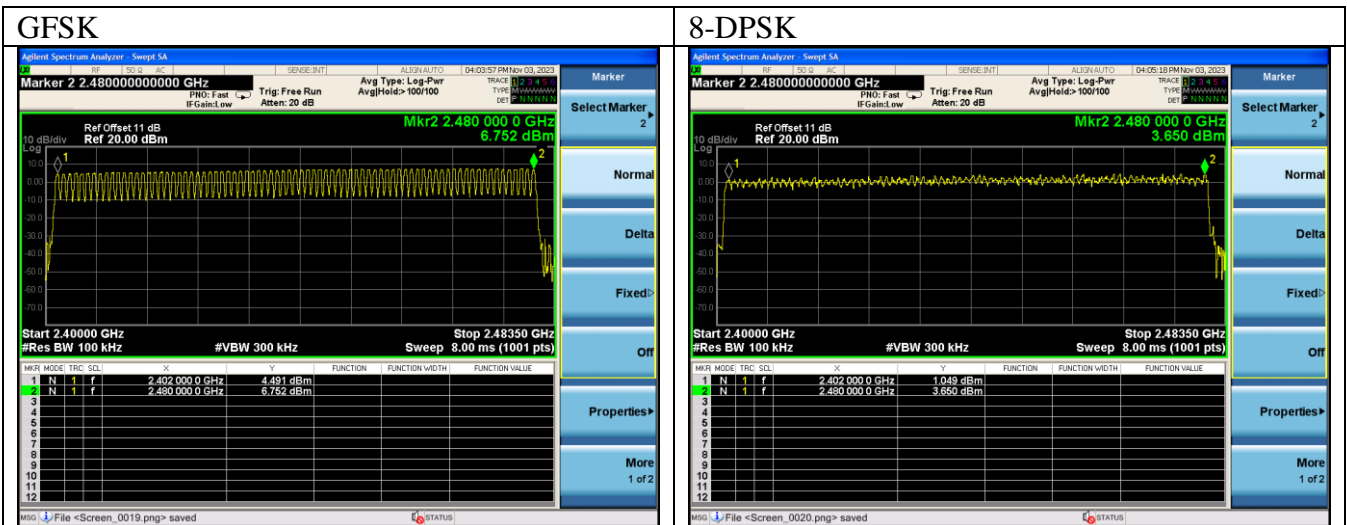
1. Connect the antenna of the EUT to Spectrum analyzer and let the EUT working at hopping mode.
2. Setting of SA is following as: RBW: 100kHz / VBW: 300kHz,
Start frequency: 2390MHz
Stop frequency: 2483.5MHz

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

8.4. Test Results

EUT: Electronic paper display		
M/N: EP-C131		
Test date: 2023-11-03	Pressure: 102.5±1.0 kpa	Humidity: 53.6±3.0%
Tested by: Jason	Test site: RF site	Temperature: 22.4±0.6℃

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



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 described 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

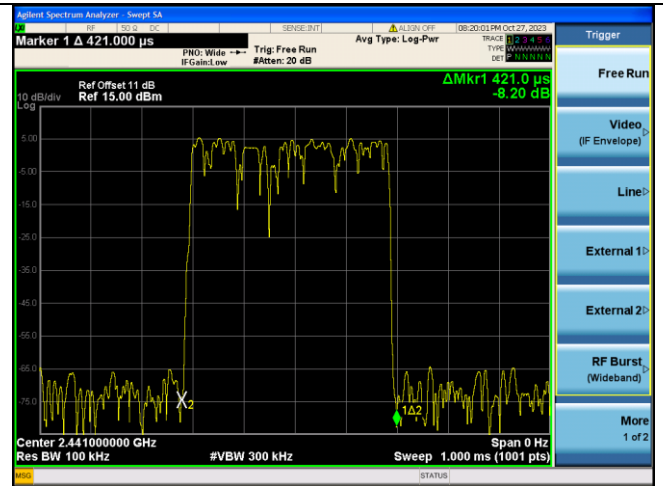
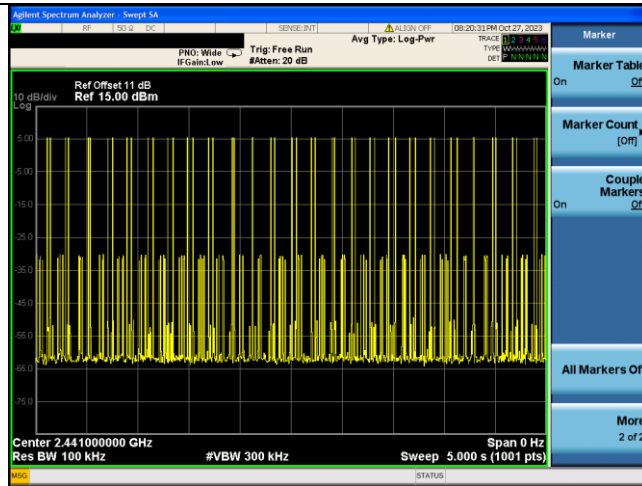
EUT: Electronic paper display		
M/N: EP-C131		
Test date: 2023-10-27	Pressure: 101.3±1.0 kpa	Humidity: 52.4±3.0%
Tested by: Jason	Test site: RF site	Temperature: 23.1±0.6℃

Mode		dwell time	Limit	Conclusion
GFSK	DH1	48 hops/5s*0.4s*79chanel* 0.421 ms =127.715ms	≦400ms	PASS
	DH3	20 hops/5s*0.4s*79chanel* 1.668 ms =210.835ms	≦400ms	PASS
	DH5	21 hops/5s*0.4s*79chanel* 2.925 ms =388.206ms	≦400ms	PASS
8-DPSK	3-DH1	51 hops/5s*0.4s*79chanel* 0.430 ms =138.598ms	≦400ms	PASS
	3-DH3	24 hops/5s*0.4s*79chanel* 1.671 ms =253.457ms	≦400ms	PASS
	3-DH5	15 hops/5s*0.4s*79chanel* 2.925 ms =277.290ms	≦400ms	PASS

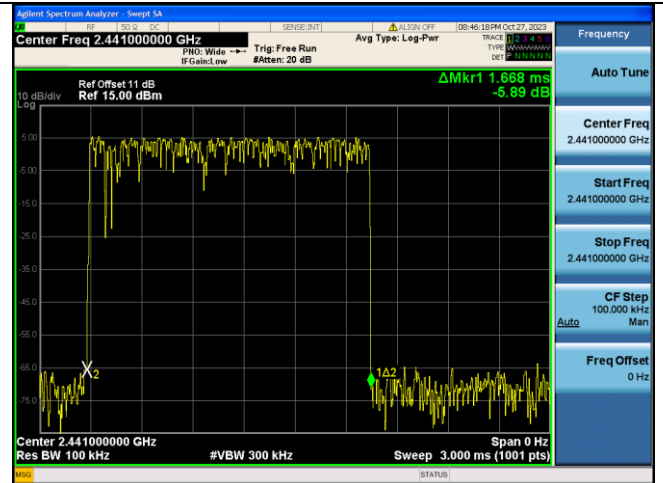
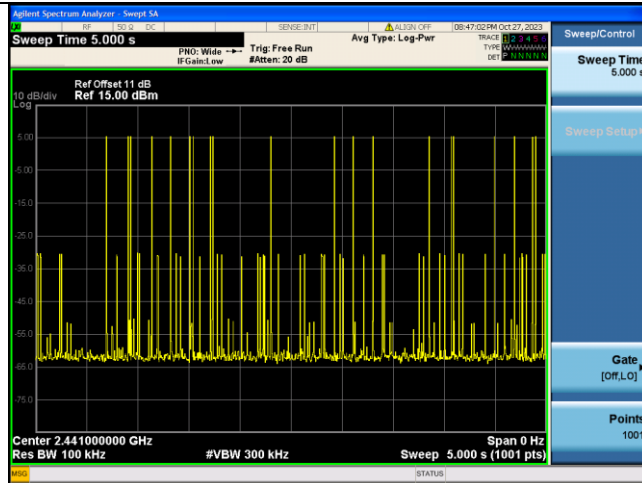
Note: All the lower levels were signaled from receiver and should not be considered in here.

GFSK

DH 1



DH 3



DH 5

