FCC - TEST REPORT

Report Number	:	**68.920.13.012.01**	Date of Issue:	27 May, 2013

Model	:	**BTP03 Mini**
Product Type	:	**Hercules Bluetooth Speaker**
Applicant	:	Guillemot Corporation S.A.
Address	:	Place du Granier, B.P 97143, Chantepie, 35171, France

Test Result	:	■ **Positive**	☐ **Negative**
Total pages including Appendices	:	45	

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2 Details about the Test Laboratory

Details about the Test Laboratory
Test Site 1

Company name: Jiangsu TÜV Product Service Ltd. Shenzhen Branch
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Shenzhen,P.R.C.

Telephone: 86 755 8828 6998
Fax: 86 755 828 5299

Test Site 2
Company name: Audix Technology (shenzhen) Co.,Ltd
Block Shenzhen, Science & Industry Park,
Nantou, Shenzhen,
Guangdong,
China

Telephone: 86 755 2663 9496
Fax: 86 755 2663 2877

3 Description of the Equipment under Test

Description of the Equipment Under Test

Product:	Hercules Bluetooth Speaker
Model no.:	BTP03 Mini
FCC ID:	NAM5061739
Brand Name:	Guillemot
Options and accessories:	NIL
Rating:	3.7VDC (Supplied by Li-ion rechargeable battery) 5VDC (Charged by PC USB Port)
RF Transmission Frequency:	2402-2480MHz
No. of Operated Channel:	79
Modulation:	GFSK, π/4-DQPSK, 8-DPSK
Duty Cycle:	35.34%
Antenna Type:	A mixture of Printed PCB antenna and Monopole antenna
Antenna Gain:	0dBi
Description of the EUT:	The Equipment Under Test (EUT) is a wireless speaker with Bluetooth function operated at 2.4GHz

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4 Summary of Test Standards

Test Standards	
FCC Part 15 Subpart C 10-1-2012 Edition	PART 15 - RADIO FREQUENCY DEVICES Subpart C - Intentional Radiators

All the test methods were according to Public Notice DA 00-705. Frequency Hopper Spread Spectrum Test Procedure released by FCC on March 30, 2000 and ANSI C63.10 (2009).

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5 Summary of Test Results

Technical Requirements					
FCC Part 15 Subpart C					
Test Condition	Pages	Test Site	Test Result		
			Pass	Fail	N/A
§15.207 Conducted emission AC power port	10	Site 2	☒	☐	☐
§15.247 (b) (1) Conducted peak output power	13	Site 2	☒	☐	☐
§15.247(a)(1) 20dB bandwidth	15	Site 2	☒	☐	☐
§15.247(a)(1) Carrier frequency separation	22	Site 2	☒	☐	☐
§15.247(a)(1)(iii) Number of hopping frequencies	24	Site 2	☒	☐	☐
§15.247(a)(1)(iii) Dwell Time	26	Site 2	☒	☐	☐
§15.247(a)(2) 6dB bandwidth*	---	---	☐	☐	☒
§15.247(e) Power spectral density*	---	---	☐	☐	☒
§15.247(d) Spurious RF conducted emissions	31	Site 2	☒	☐	☐
§15.247(d) Band edge	36	Site 2	☒	☐	☐
§15.247(d) & §15.209 Spurious radiated emissions for transmitter	41	Site 2	☒	☐	☐
§15.203 Antenna requirement	See note 1		☒	☐	☐

Remark 1: N/A – Not Applicable.
Note 1: The EUT uses a permanently mixture of PCB printed and Monopole antenna, which gain is 0dBi. According to §15.203, it is considered sufficiently to comply with the provisions of this section.

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6 General Remarks

Remarks

This submittal(s) (test report) is intended for FCC ID: NAM5061739 complies with Section 15.207, 15.209, 15.247 of the FCC Part 15, Subpart C Rules.

The model BTP03 Mini owned three colors (black/pink/red) are identical except their outlook color. The test was applied on representative black sample.

SUMMARY:

All tests according to the regulations cited on page 5 were

■ - Performed

☐ - **Not** Performed

The Equipment under Test

■ - **Fulfills** the general approval requirements.

☐ - **Does not** fulfill the general approval requirements.

Sample Received Date: 03 May, 2013

Testing Start Date: 06 May, 2013

Testing End Date: 20 May, 2013

- Jiangsu TÜV Product Service Ltd. – Shenzhen Branch -

Reviewed by:	Prepared by:	Tested by:
Cookies Bu	Felix Li	Leo Li
EMC Senior Project Engineer	EMC Project Engineer	EMC Test Engineer

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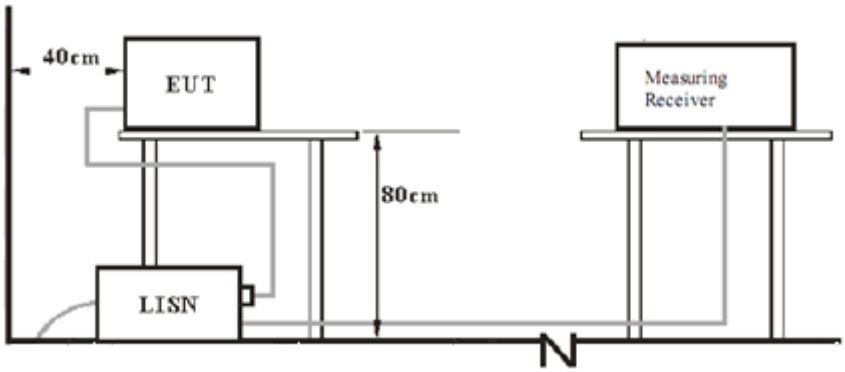
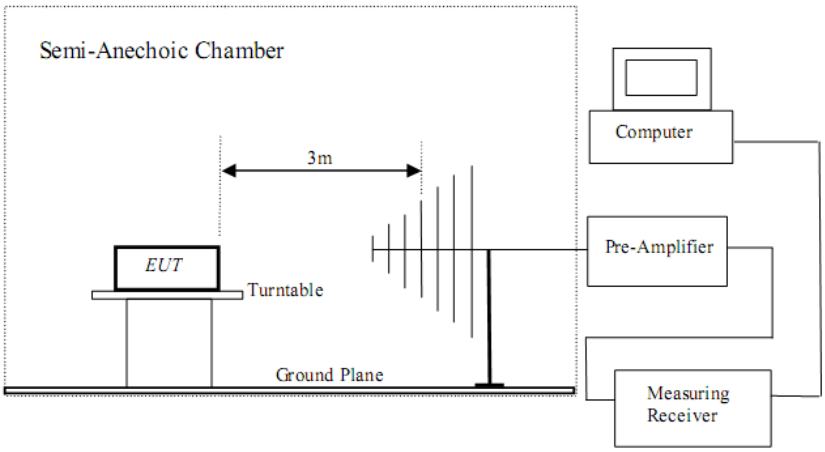
7 Test Setups

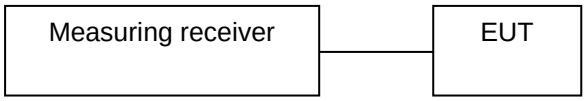
7.1 AC Power Line Conducted Emission test setups



7.2 Radiated test setups



7.3 Conducted RF test setups



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8 Systems test configuration

Auxiliary Equipment Used during Test:

DESCRIPTION	MANUFACTURER	MODEL NO.(SHIELD)	S/N(LENGTH)
NoteBook	Lenovo	X200	---

Test software: Blue test 3.0, which is used to control the EUT in continues transmitting mode.

The system was configured to hopping mode and non-hopping mode.

Hopping mode: Typical working mode (normal hopping status)

Non-hopping mode: The system was configured to operate at a signal channel transmitting. The test software allows the configuration and operation at the worst-case duty and the highest transmit power.

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9 Technical Requirement

9.1 Conducted Emission

Test Method

1. The EUT was placed on a table, which is 0.8m above ground plane
2. The power line of the EUT is connected to the AC mains through a Artificial Mains Network (A.M.N.).
3. Maximum procedure was performed to ensure EUT compliance
4. A EMI test receiver is used to test the emissions from both sides of AC line

Limit

According to §15.207, conducted emissions limit as below:

Frequency MHz	QP Limit dBµV	AV Limit dBµV
0.150-0.500	66-56*	56-46*
0.500-5	56	46
5-30	60	50

Decreasing linearly with logarithm of the frequency

Remark: This test was carried out in all the test modes, here only the worst test result was shown.

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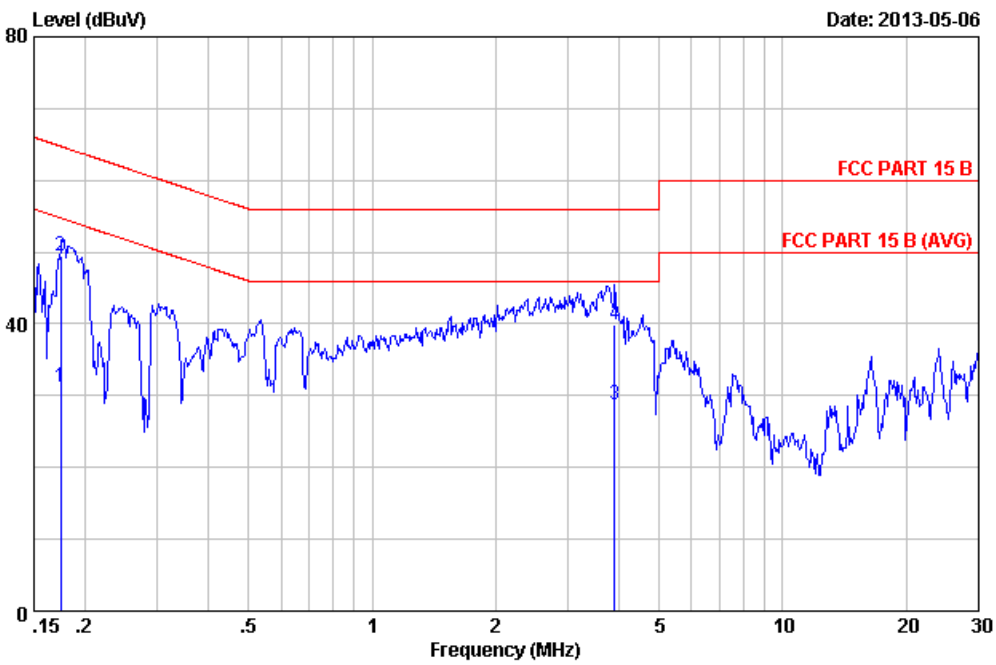
Conducted Emission

Product Type	:	Hercules Bluetooth Speaker
M/N	:	BTP03 Mini
Operating Condition	:	Charging and transmitting
Test specification		Live
Comment	:	AC 120V/60Hz



No	Freq (MHz)	LISN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV)	Limits (dBuV)	Margin (dB)	Remark
1	0.17400	0.19	0.14	30.90	31.23	54.77	23.54	Average
2	0.17400	0.19	0.14	49.20	49.53	64.77	15.24	QP
3	3.886	0.28	0.14	28.41	28.83	46.00	17.17	Average
4	3.886	0.28	0.14	39.41	39.83	56.00	16.17	QP

Remarks: 1.Emission Level=LISN Factor+Cable Loss+Reading.
2.If the average limit is met when useing a quasi-peak detector. the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.

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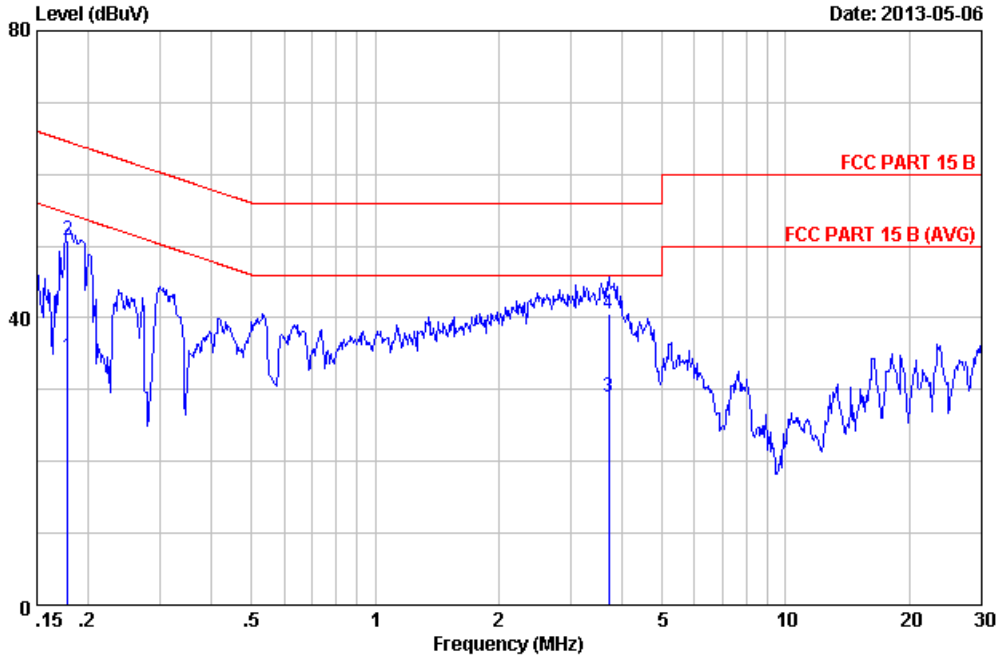
Conducted Emission

Product Type	:	Hercules Bluetooth Speaker
M/N	:	BTP03 Mini
Operating Condition	:	Charging and transmitting
Test specification		Neutral
Comment	:	AC 120V/60Hz



No	Freq (MHz)	LISN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV)	Limits (dBuV)	Margin (dB)	Remark
1	0.17800	0.21	0.14	34.20	34.55	54.58	20.03	Average
2	0.17800	0.21	0.14	50.40	50.75	64.58	13.83	QP
3	3.701	0.32	0.14	28.40	28.86	46.00	17.14	Average
4	3.701	0.32	0.14	40.10	40.56	56.00	15.44	QP

Remarks: 1.Emission Level=LISN Factor+Cable Loss+Reading.
2.If the average limit is met when useing a quasi-peak detector. the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.

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9.2 Conducted peak output power

Test Method

1. Use the following spectrum analyzer settings:
   Span = approximately 5 times the 20 dB bandwidth, centered on a hopping channel
   RBW > the 20 dB bandwidth of the emission being measured, VBW≥RBW,
   Sweep = auto, Detector function = peak, Trace = max hold
2. Add a correction factor to the display.
3. Allow the trace to stabilize. Use the marker-to-peak function to set the marker to the peak of the emission. The indicated level is the peak output power

Limits

According to §15.247 (b) (1), conducted peak output power limit as below:

Frequency Range MHz	Limit W	Limit dBm
2400-2483.5	≤1	≤30

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Conducted peak output power

Bluetooth Mode GFSK modulation Test Result

Frequency MHz	Conducted Peak Output Power dBm	Result
Low channel 2402MHz	3.70	Pass
Middle channel 2441MHz	4.02	Pass
High channel 2480MHz	4.05	Pass

Bluetooth Mode π/4-DQPSK modulation Test Result

Frequency MHz	Conducted Peak Output Power dBm	Result
Low channel 2402MHz	3.28	Pass
Middle channel 2441MHz	3.30	Pass
High channel 2480MHz	2.91	Pass

Bluetooth Mode 8-DPSK modulation Test Result

Frequency MHz	Conducted Peak Output Power dBm	Result
Low channel 2402MHz	3.48	Pass
Middle channel 2441MHz	3.56	Pass
High channel 2480MHz	3.26	Pass

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9.3 20 dB bandwidth and 99% Occupied Bandwidth

Test Method

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect it to measurement instrument. Then set it to any one convenient frequency within its operating range. Set a reference level on the measuring instrument equal to the highest peak value.
3. Measure the frequency difference of two frequencies that were attenuated 20 dB from the reference level. Record the frequency difference as the emission bandwidth.
4. Repeat above procedures until all frequencies measured were complete.

Limit

Limit [kHz]
N/A

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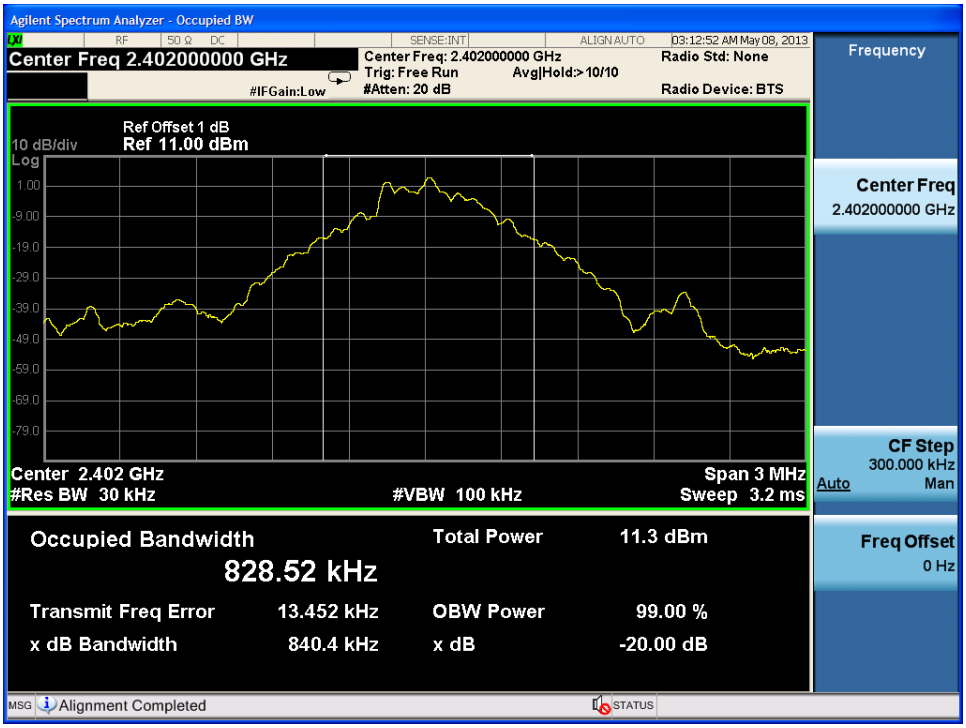
20 dB bandwidth and 99% Occupied Bandwidth

Bluetooth Mode GFSK Modulation test result

Frequency	20 dB Bandwidth	99% Bandwidth	Limit	Result
MHz	kHz	kHz	kHz	
2402	840.4	828.52	--	Pass
2441	839.8	828.17	--	Pass
2480	830.8	828.36	--	Pass



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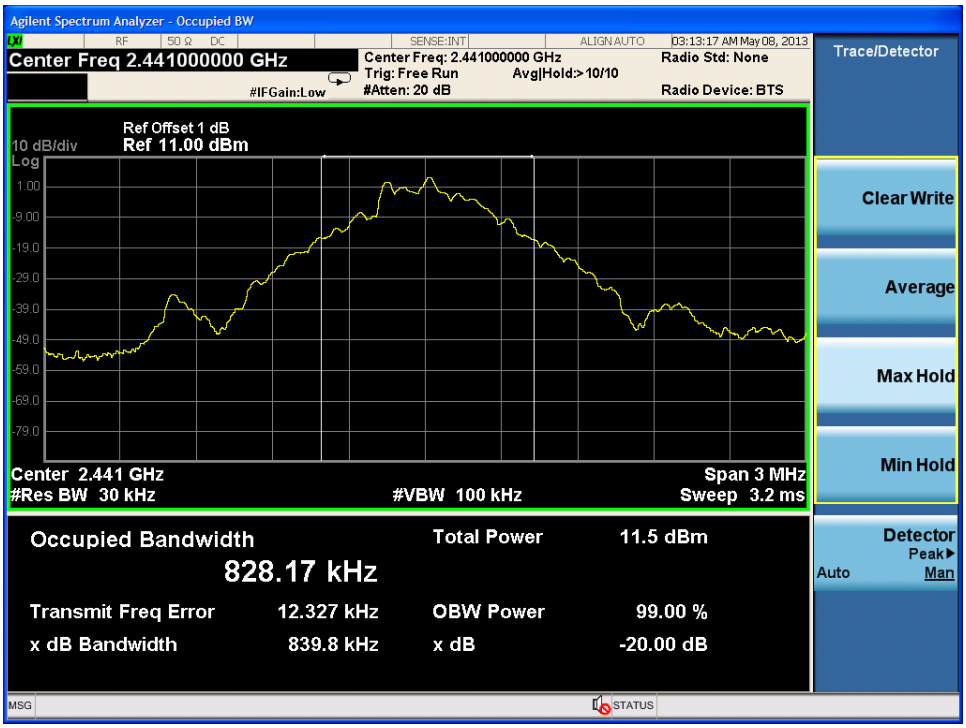
20 dB bandwidth and 99% Occupied Bandwidth



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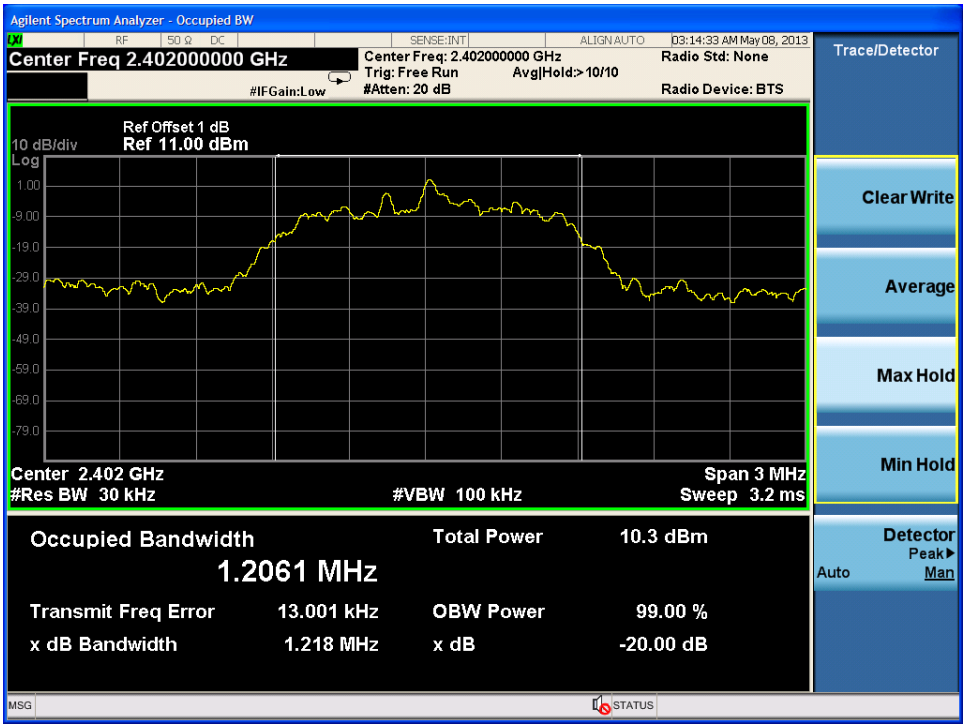
20 dB bandwidth and 99% Occupied Bandwidth

Bluetooth Mode π/4-DQPSK Modulation test result

Frequency	20 dB Bandwidth	99% Bandwidth	Limit	Result
MHz	kHz	kHz	kHz	
2402	1218	1206.1	--	Pass
2441	1215	1173.2	--	Pass
2480	1216	1167.2	--	Pass



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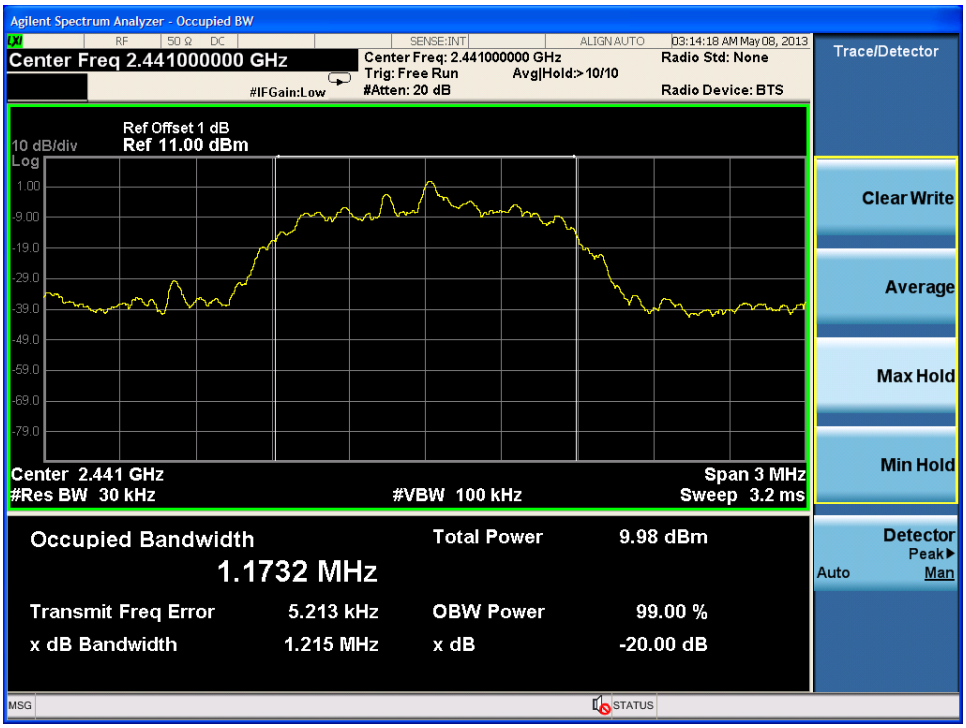
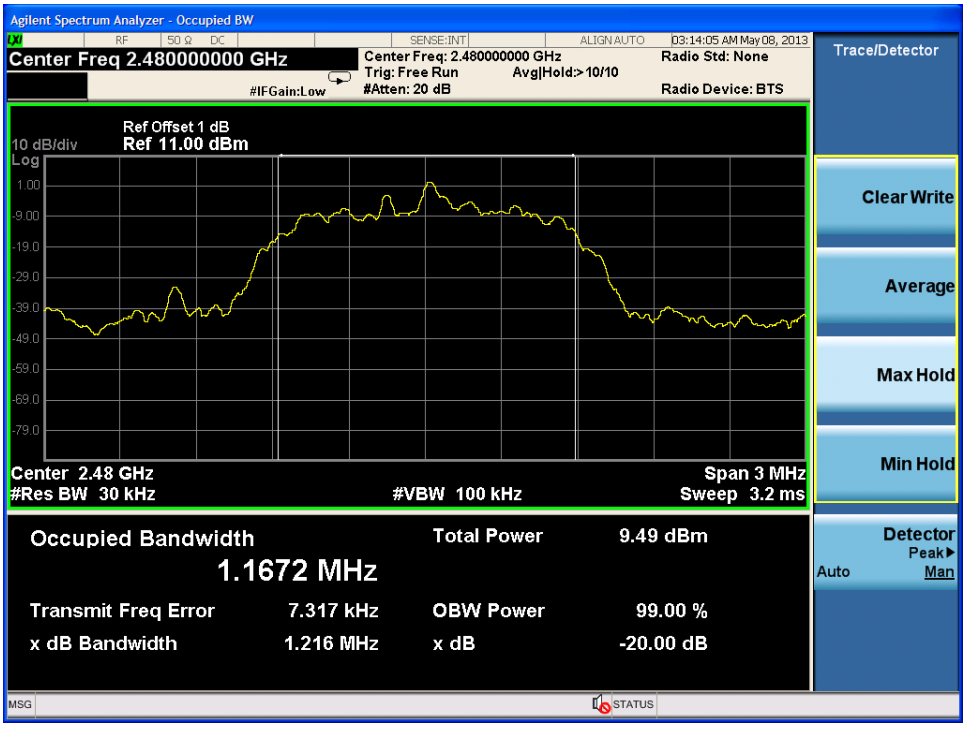
20 dB bandwidth and 99% Occupied Bandwidth





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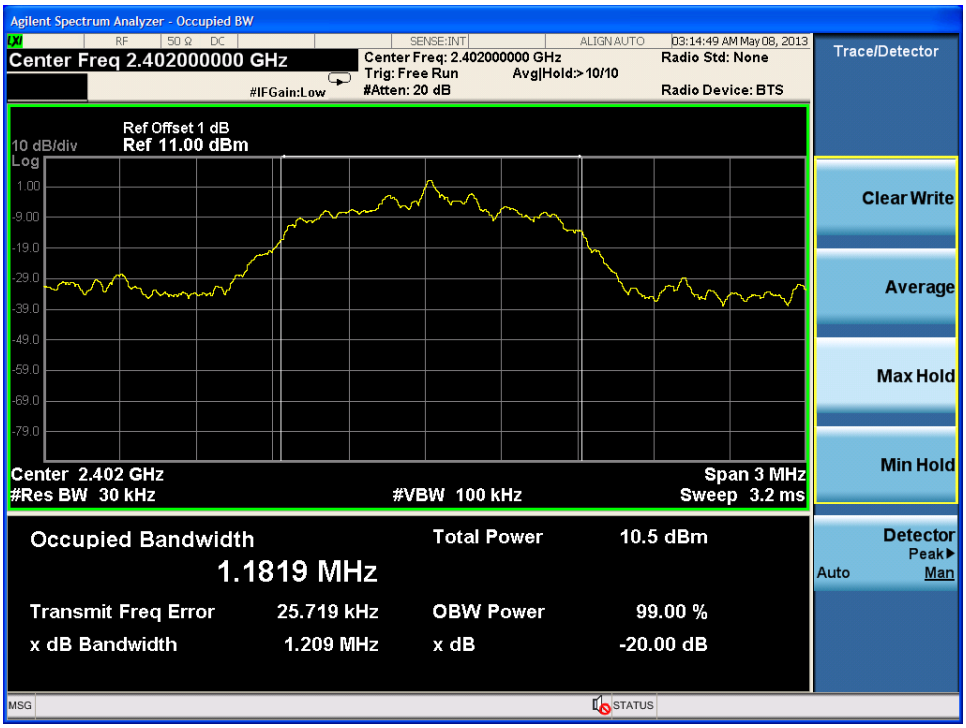
20 dB bandwidth and 99% Occupied Bandwidth

Bluetooth Mode 8-DPSK Modulation test result

Frequency	20 dB Bandwidth	99% Bandwidth	Limit	Result
MHz	kHz	kHz	kHz	
2402	1209	1181.9	--	Pass
2441	1212	1157.7	--	Pass
2480	1212	1151.4	--	Pass



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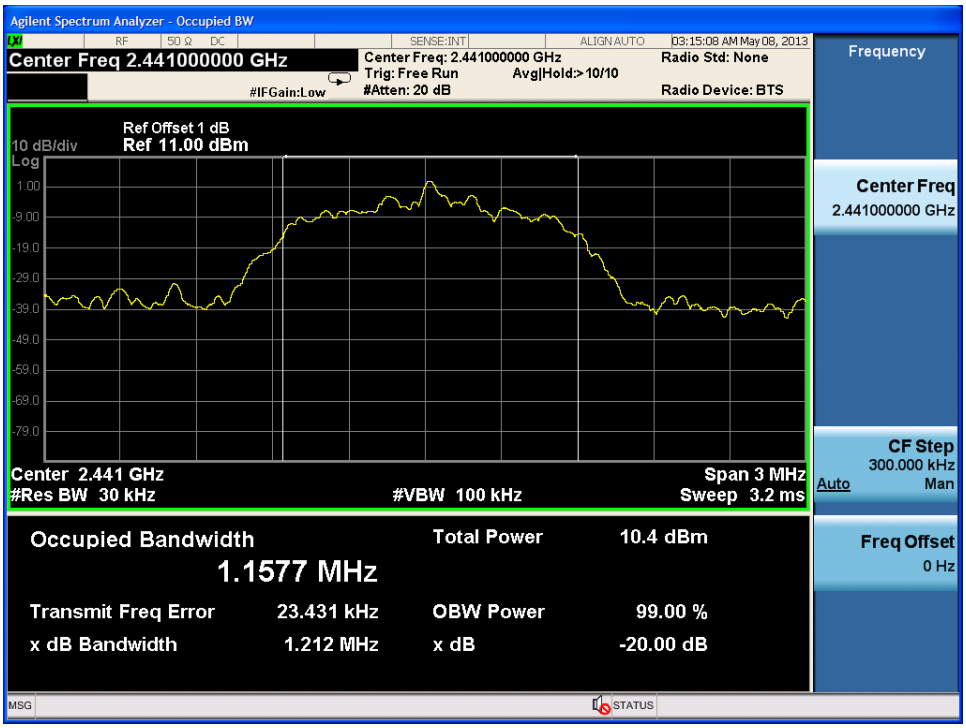
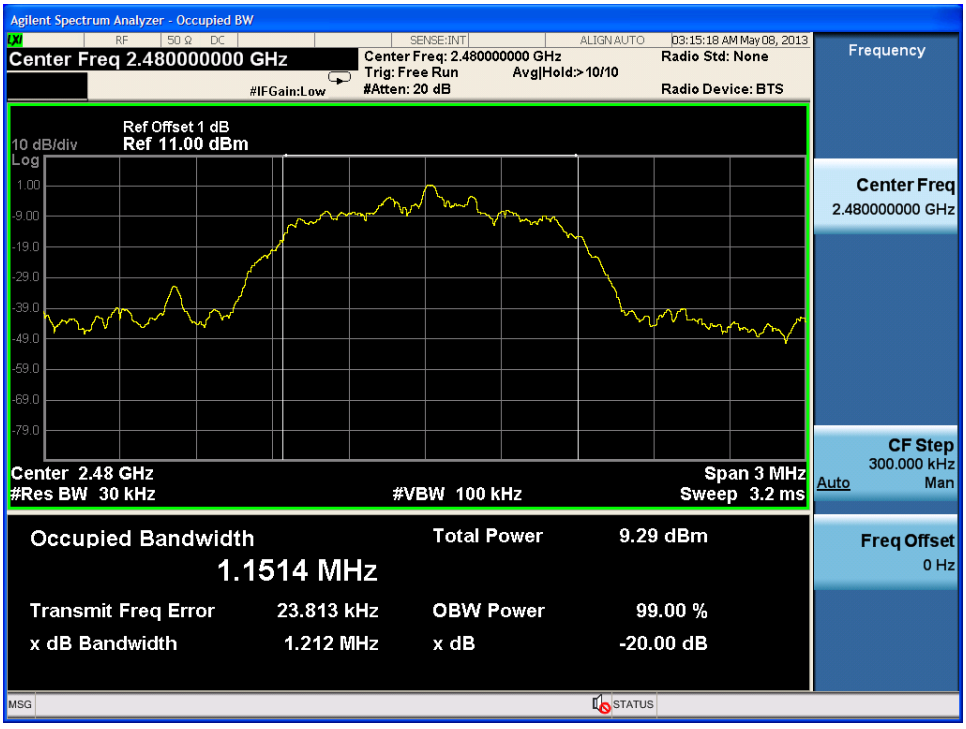
20 dB bandwidth and 99% Occupied Bandwidth





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9.4 Carrier Frequency Separation

Test Method

1. Use the following spectrum analyzer settings:
   Span = wide enough to capture the peaks of two adjacent channels, RBW ≥ 1% of the span, VBW) ≥RBW, Sweep = auto, Detector function = peak
2. By using the Max-Hold function record the separation of two adjacent channels.
3. Measure the frequency difference of these two adjacent channels by spectrum analyzer marker function.
4. Repeat above procedures until all frequencies measured were complete.

Limit

Limit kHz
⩾25KHz or 2/3 of the 20 dB bandwidth which is greater

GFSK Modulation Limit

Frequency MHz	2/3 of 20 dB Bandwidth kHz
2402	560.27
2441	559.87
2480	553.87

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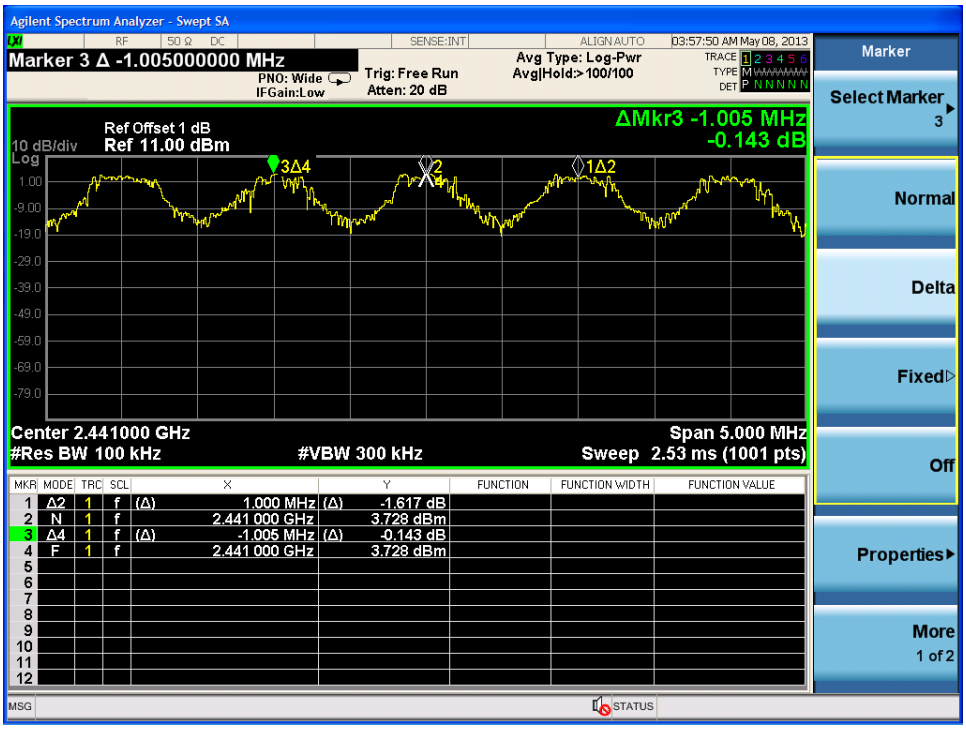
Carrier Frequency Separation

Test result: The measurement was performed on the typical modulation type GFSK to show compliance.

GFSK Modulation test result

Frequency MHz	Carrier Frequency Separation kHz	Result
2402	1000	Pass
2441	1000	Pass
2480	1000	Pass



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9.5 Number of hopping frequencies

Test Method

1. Use the following spectrum analyzer settings:
   Span = wide enough to capture the peaks of two adjacent channels, RBW ≥ 1% of the span, VBW) ≥RBW, Sweep = auto, Detector function = peak
2. Set the spectrum analyzer on Max-Hold Mode, and then keep the EUT in hopping mode.
3. Record all the signals from each channel until each one has been recorded.
4. Repeat above procedures until all frequencies measured were complete.

Limit

Limit number
⩾ 15

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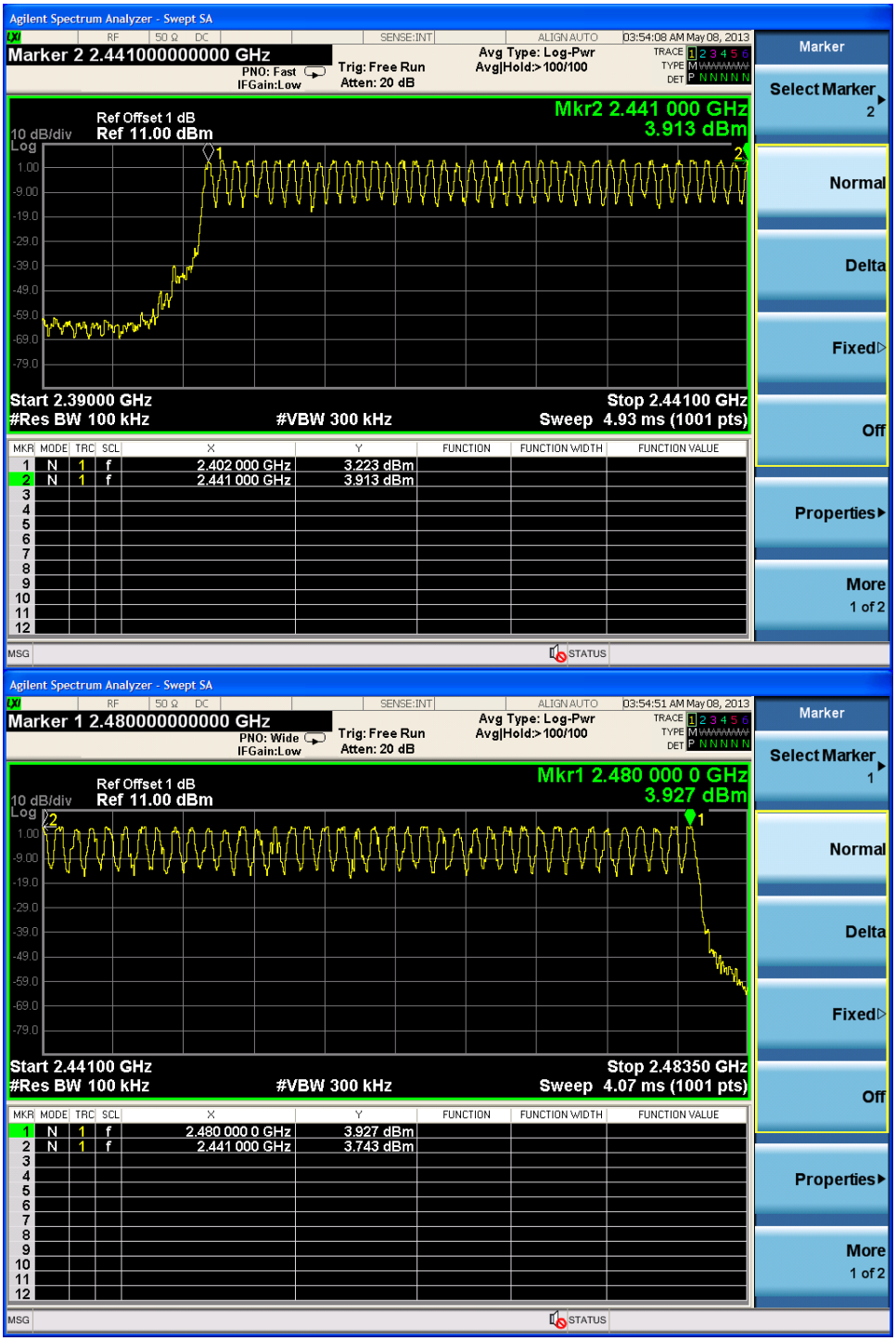
Number of hopping frequencies

Test result: The measurement was performed with the typical configuration (normal hopping status), and the total hopping channels is constant for the all modulation mode according with the Bluetooth Core Specification. Here GFSK modulation mode was used to show compliance.

Number of hopping frequencies	Result
79	Pass



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9.6 Dwell Time

Test Method

1. Use the following spectrum analyzer settings:
   Span = approximately 2 to 3 times the 20 dB bandwidth, centered on a hopping channel
   RBW ≥ 1% of the 20 dB bandwidth, VBW ≥RBW, Sweep = auto, Detector function = peak
   Trace = max hold
2. Adjust the center frequency of spectrum analyzer on any frequency be measured.
3. Measure the Dwell Time by spectrum analyzer Marker function.
4. Repeat above procedures until all frequencies measured were complete.

Limit

According to §15.247(a)(1)(iii), The average time of occupancy on any frequency shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.

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Dwell Time

Dwell time

The maximum dwell time shall be 0.4s.
According to the Bluetooth Core specification, the system operating on the DH5 mode owns the longest time in one transmission burst; therefore the worse result (DH5 mode) was reported to show compliance.

Test Result

Modulation	Packet Type	Reading (μs)	Test Result (ms)	Limit (ms)	Result
GFSK	DH5	2960	318.02	< 400	Pass
π/4-DQPSK	2DH5	2990	321.25	< 400	Pass
8-DPSK	3DH5	2965	318.56	< 400	Pass

Note:
A period time=79x0.4(s)=31.6(s)

DH5 time slot= 17(times)/5(s) *2960(μs) *31.6(s)=318.02(ms)
2DH5 time slot= 17(times)/5(s) *2990 (μs) *31.6(s)=321.25(ms)
3DH5 time slot= 17(times)/5(s) *2965 (μs) *31.6(s)=318.56(ms)

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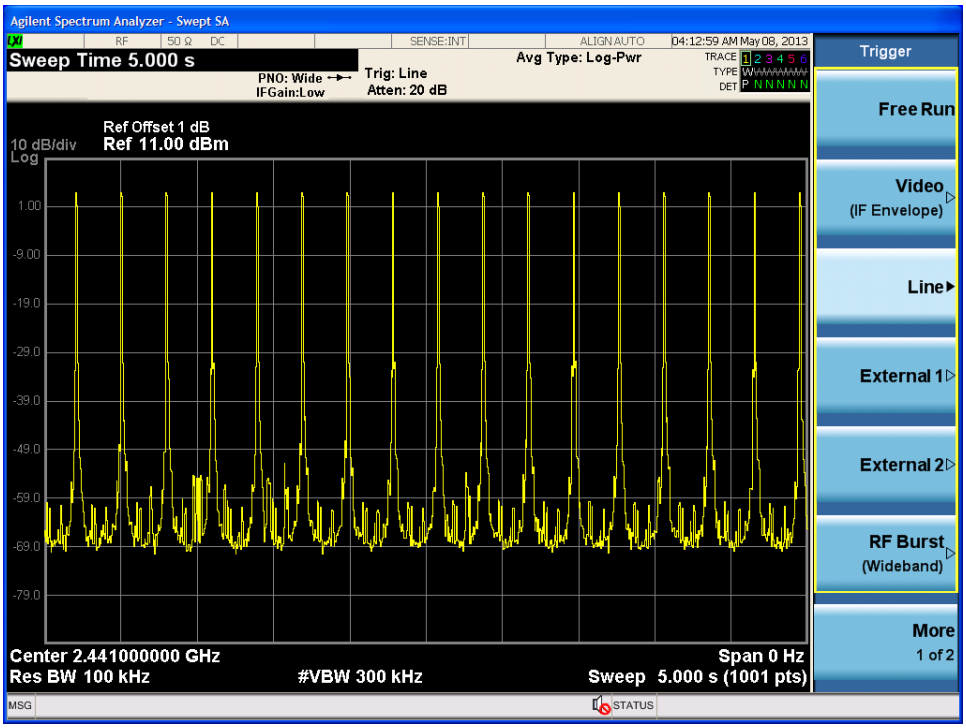
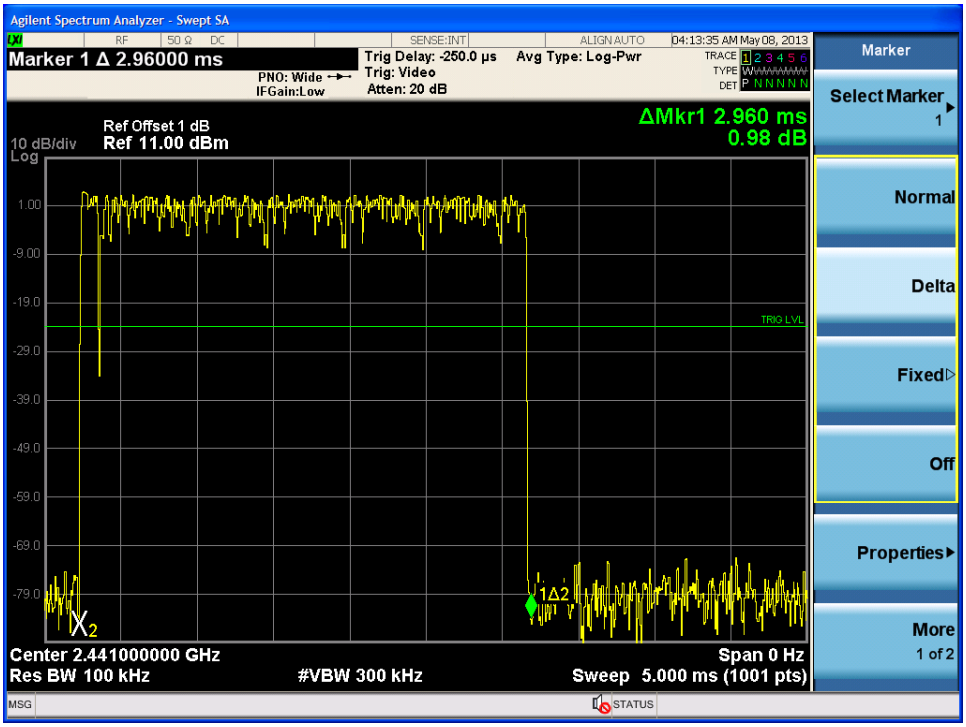
GFSK Modulation





DH5

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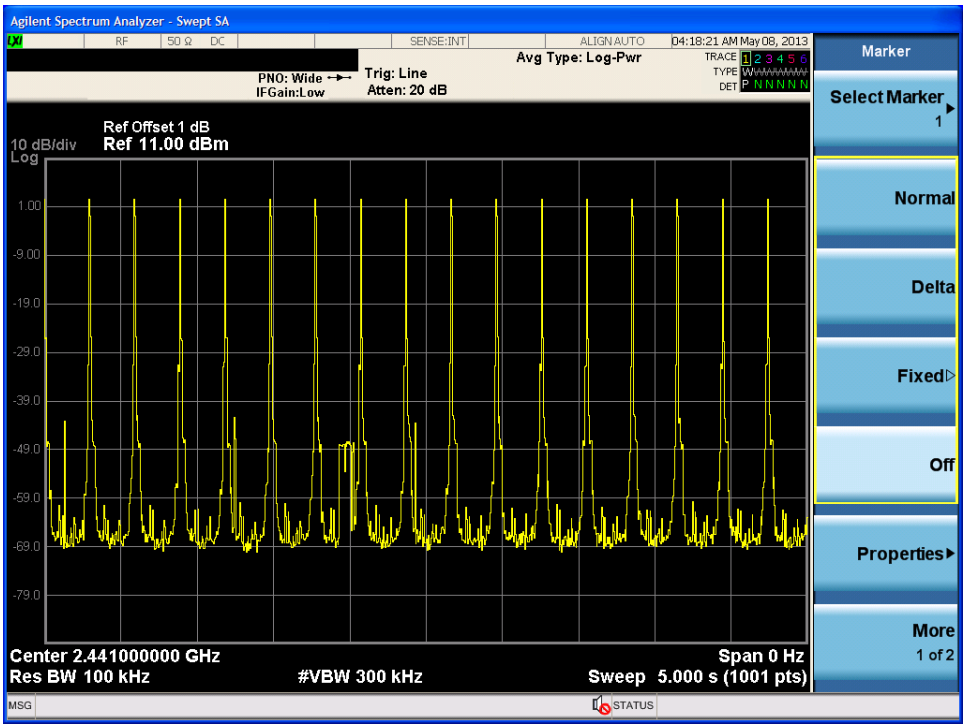
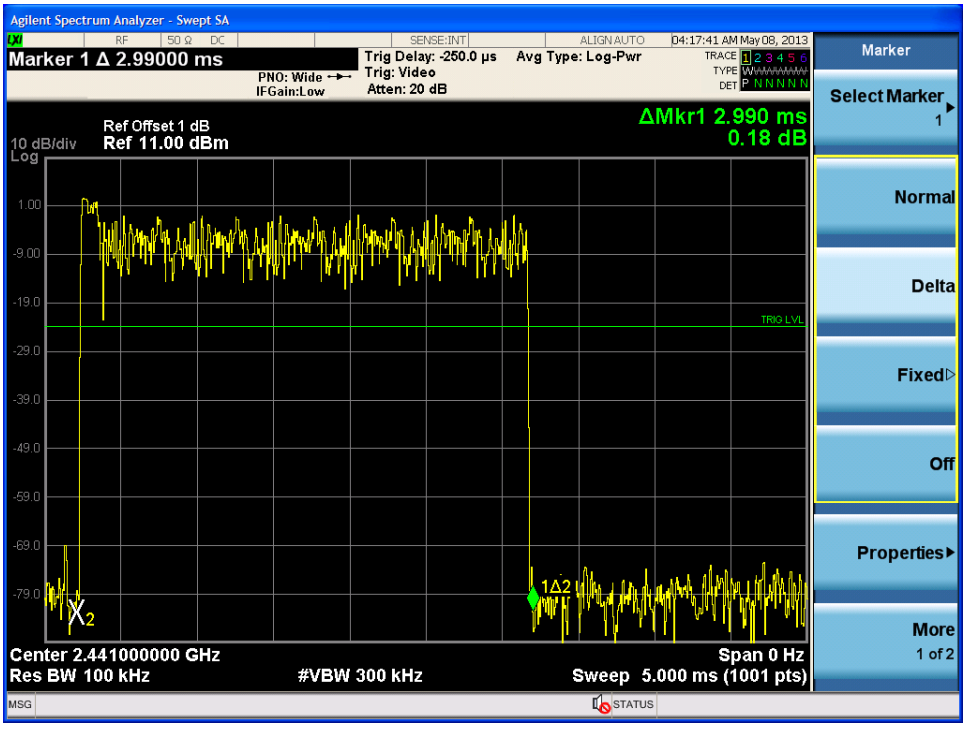
π/4-DQPSK Modulation





DH5

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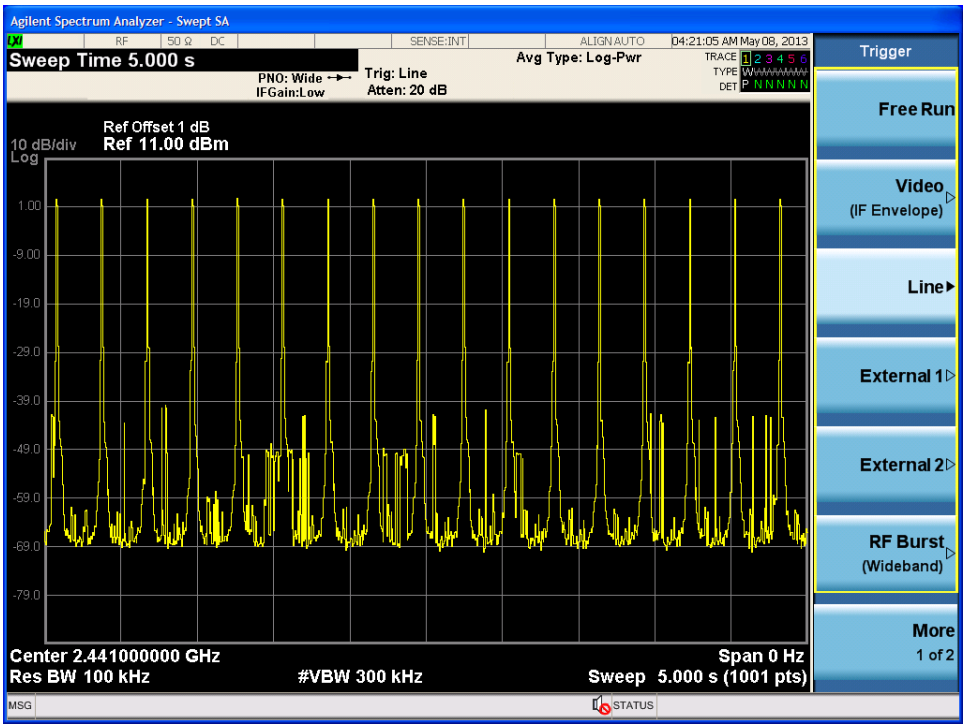
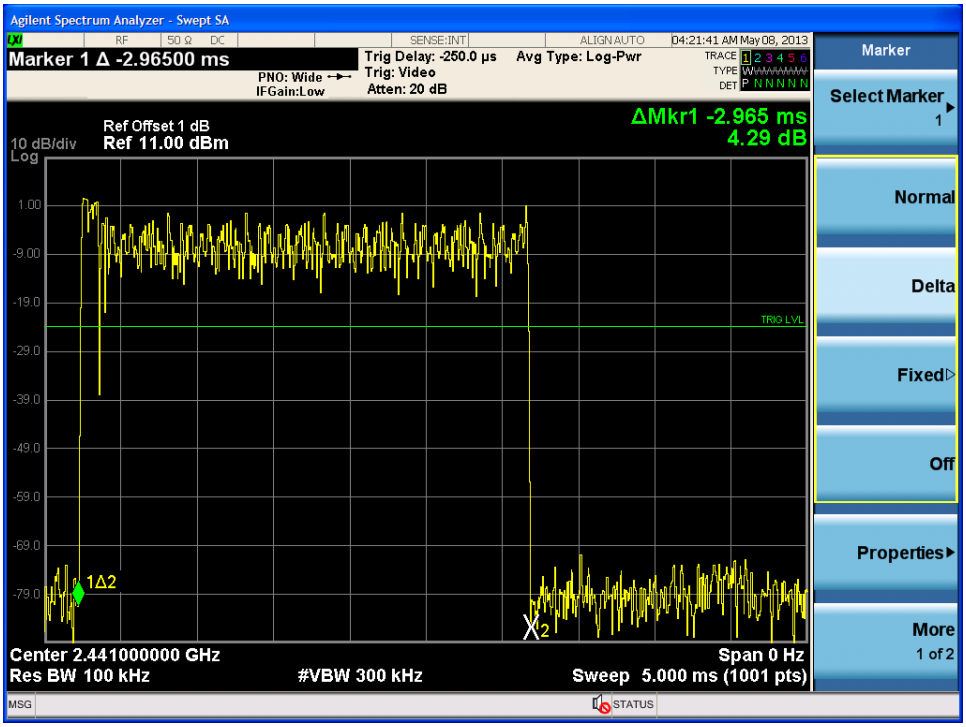
8-DPSK Modulation





DH5

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9.7 Spurious RF conducted emissions

Test Method

1. Use the following spectrum analyzer settings:
   Span = wide enough to capture the peak level of the in-band emission and all spurious emissions (e.g., harmonics) from the lowest frequency generated in the EUT up through the 10th harmonic. Typically, several plots are required to cover this entire span.
   RBW = 100 kHz, VBW≥RBW, Sweep = auto, Detector function = peak, Trace = max hold
2. Allow the trace to stabilize. Set the marker on the peak of any spurious emission recorded.
3. The level displayed must comply with the limit specified in this Section. Submit these plots.

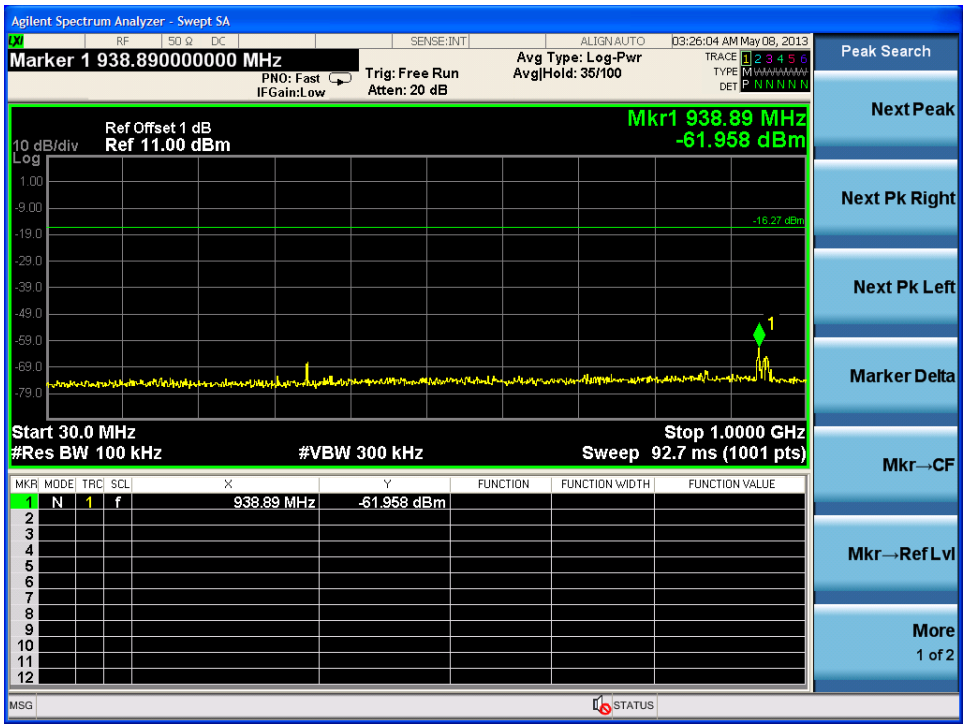
Limit

Frequency Range MHz	Limit (dBc)
30-25000	-20

Spurious RF conducted emissions

The only worse case (which is subject to the maximum EIRP) test result is listed in the report.

2402MHz



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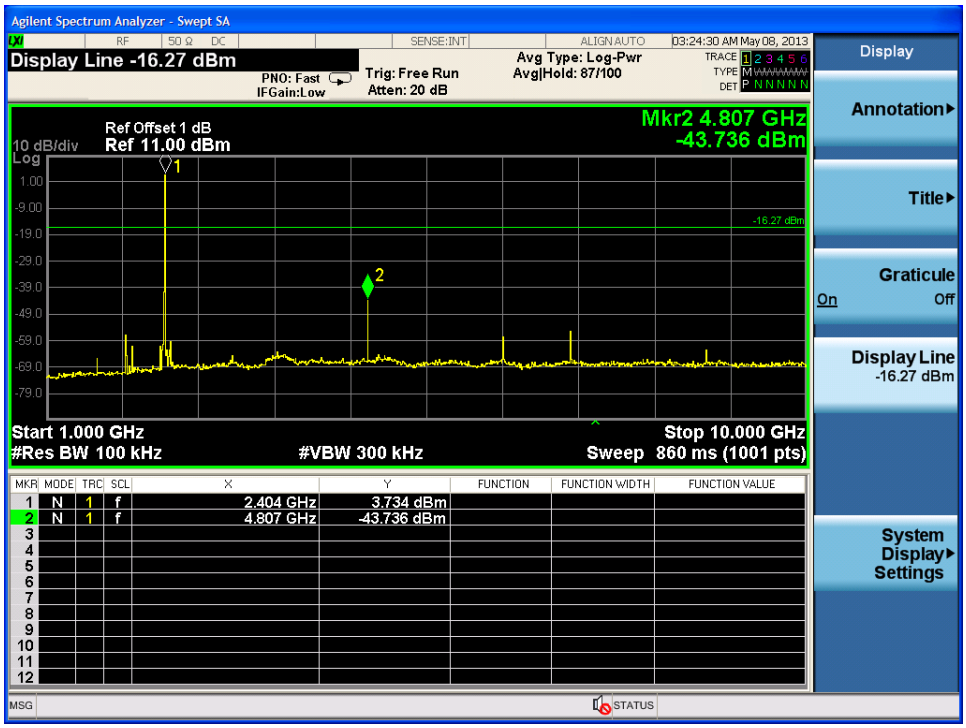

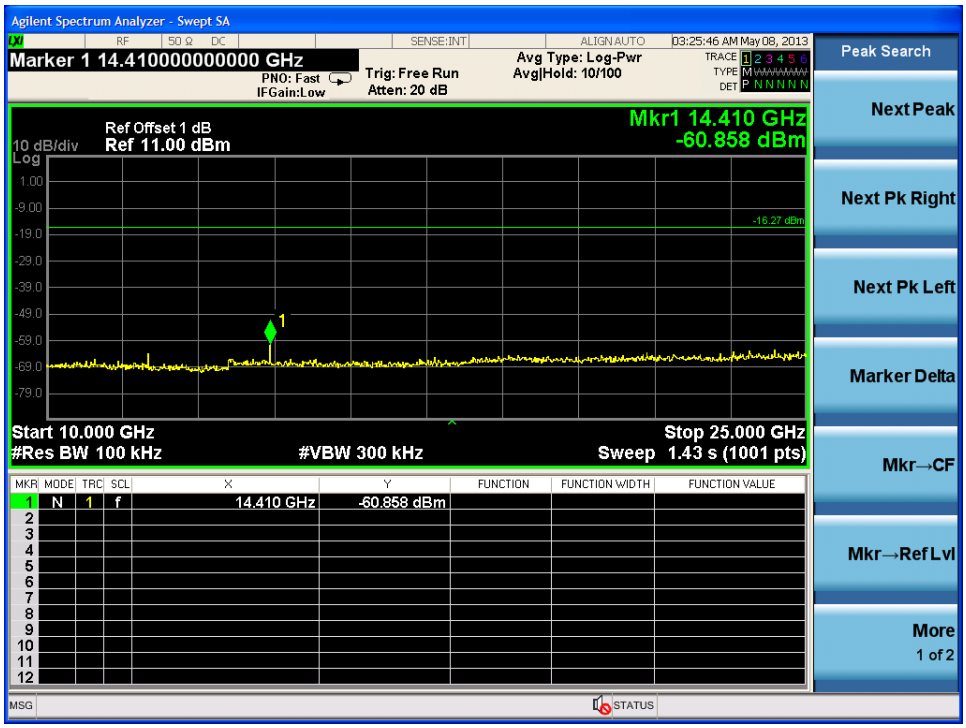

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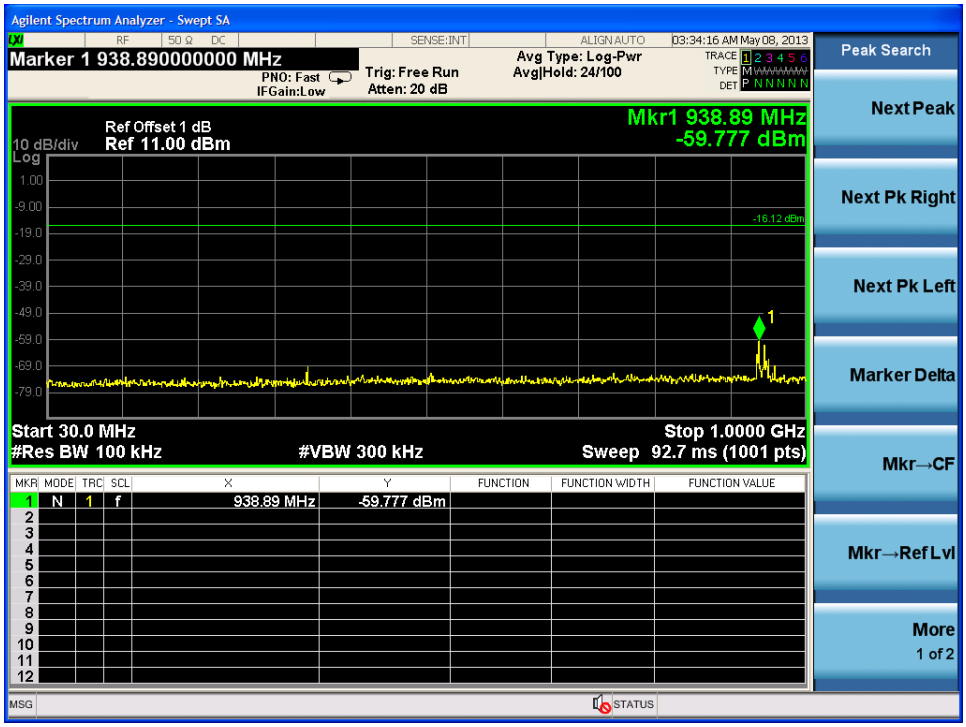
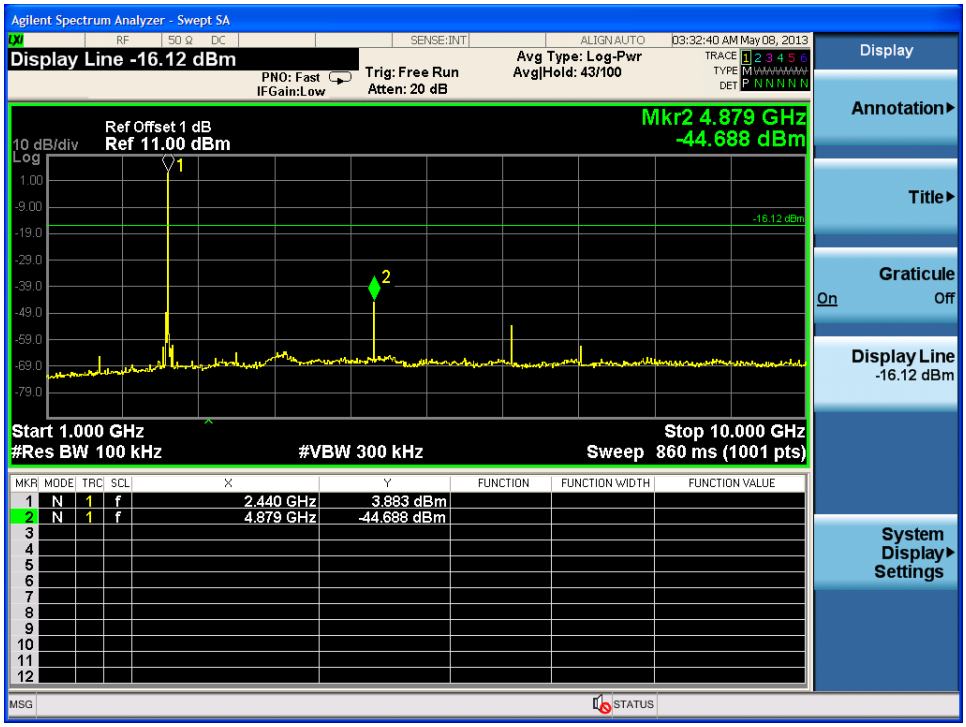
2441MHz





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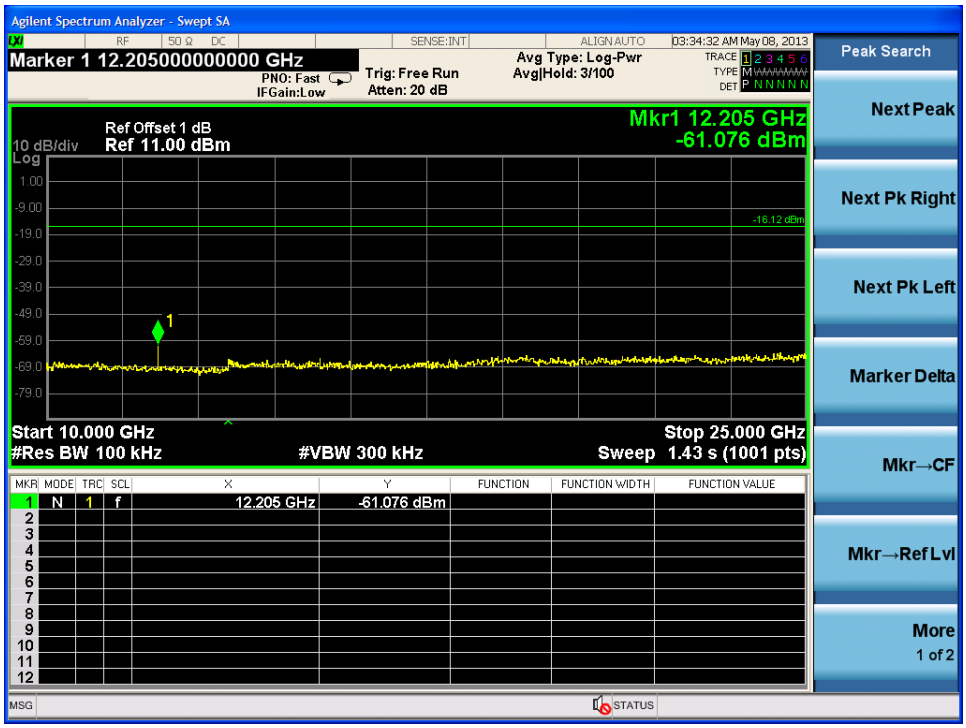
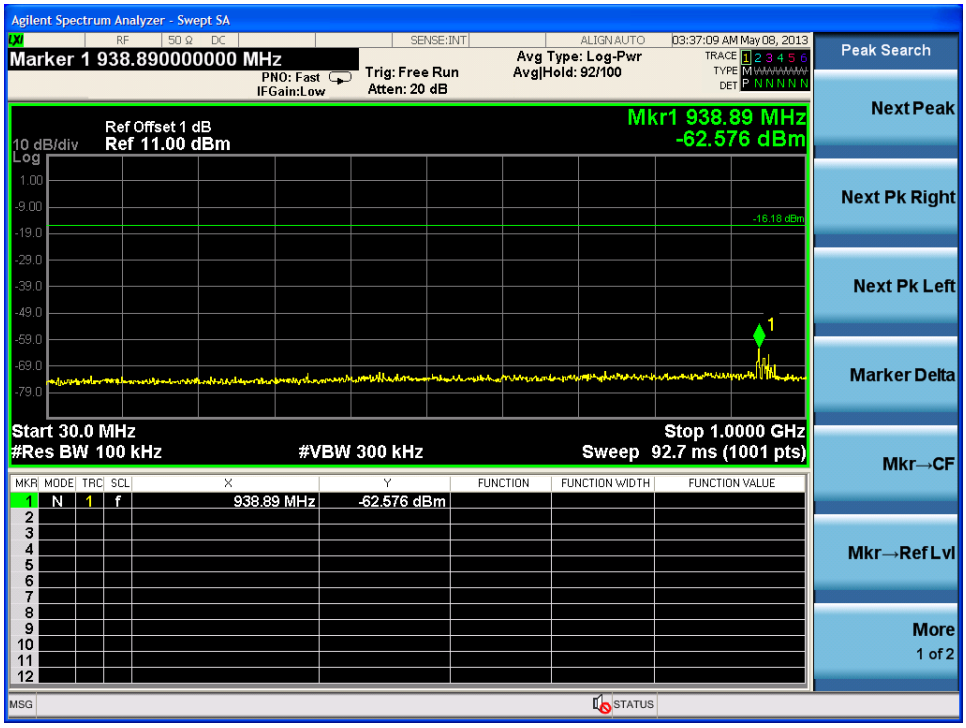


2480MHz



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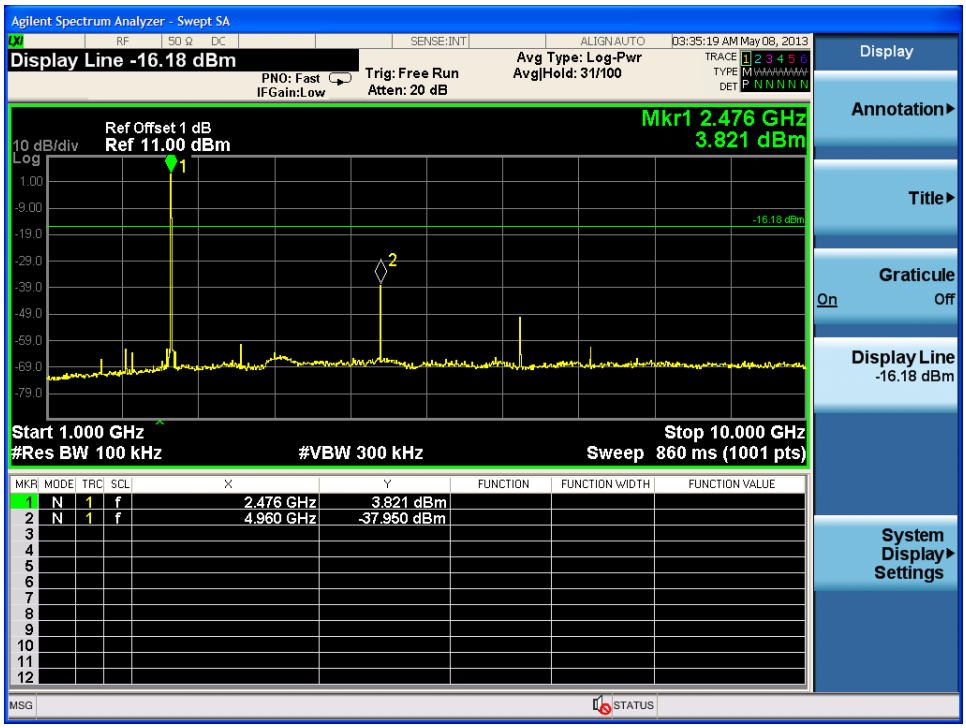

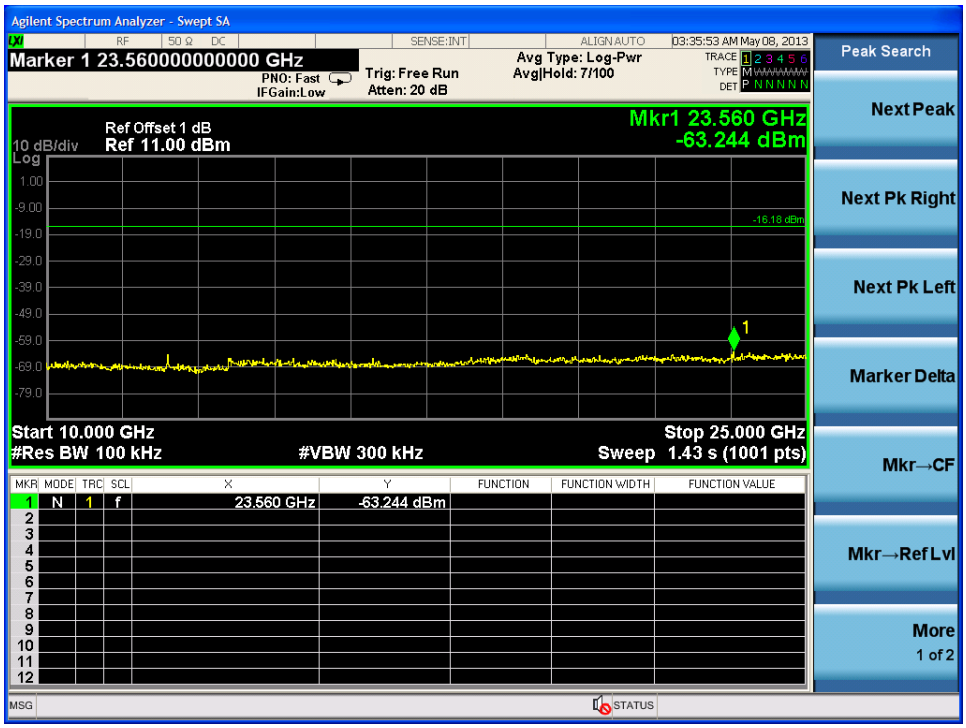

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9.8 Band edge

Test Method

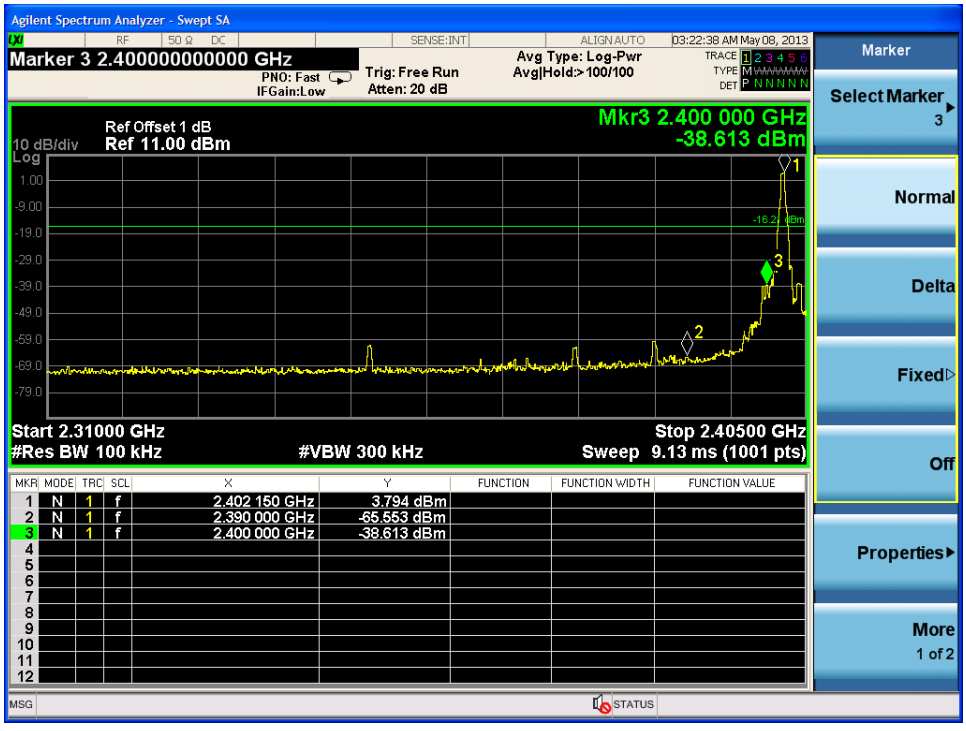
1 Use the following spectrum analyzer settings:
Span = wide enough to capture the peak level of the in-band emission and all spurious
RBW = 100 kHz, VBW≥RBW, Sweep = auto, Detector function = peak, Trace = max hold
2 Allow the trace to stabilize, use the peak and delta measurement to record the result.
3 The level displayed must comply with the limit specified in this Section. .
4 Repeat the test at the hopping off and hopping on mode, submit all the plots.

Limit

Frequency Range MHz	Limit (dBc)
30-25000	-20

Test result

GFSK
Hopping off-Lower channel:



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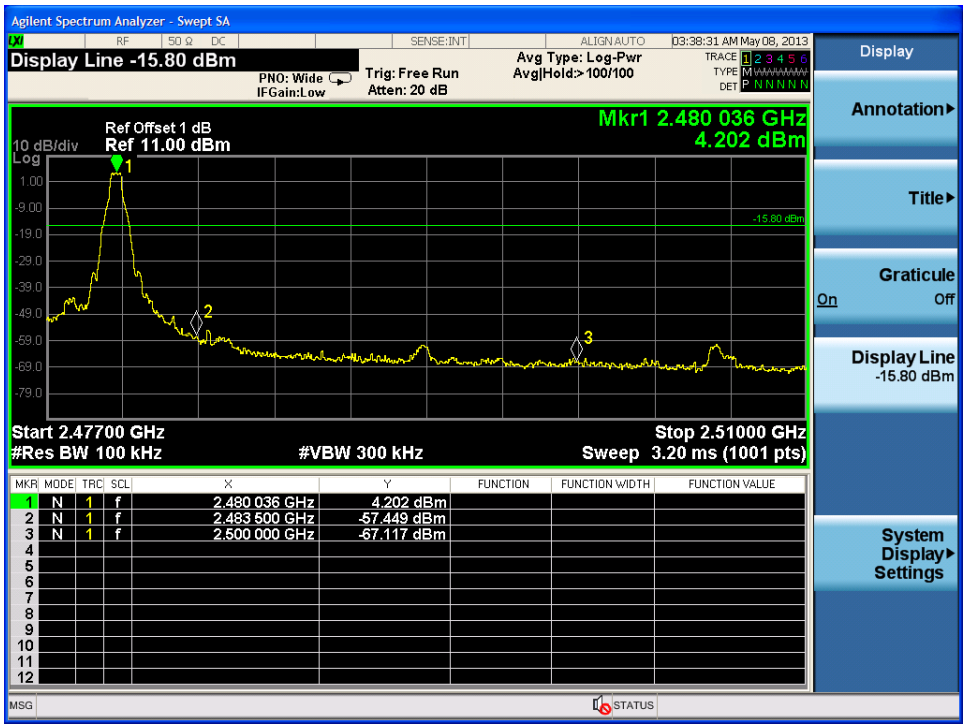
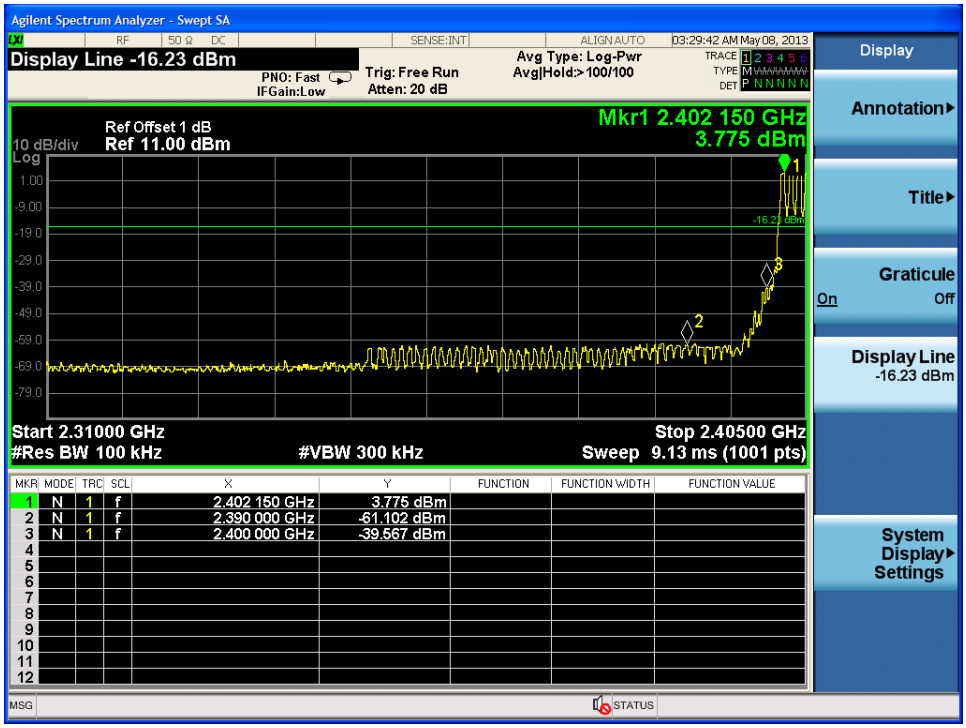
Hopping off-Higher channel:



Hopping on-Lower channel:



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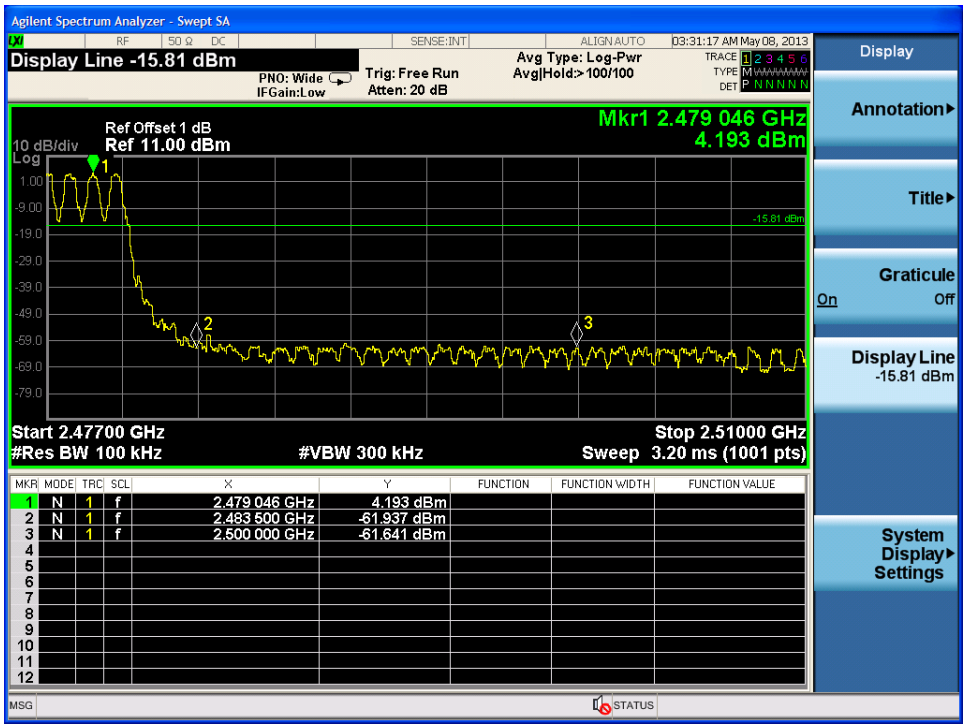
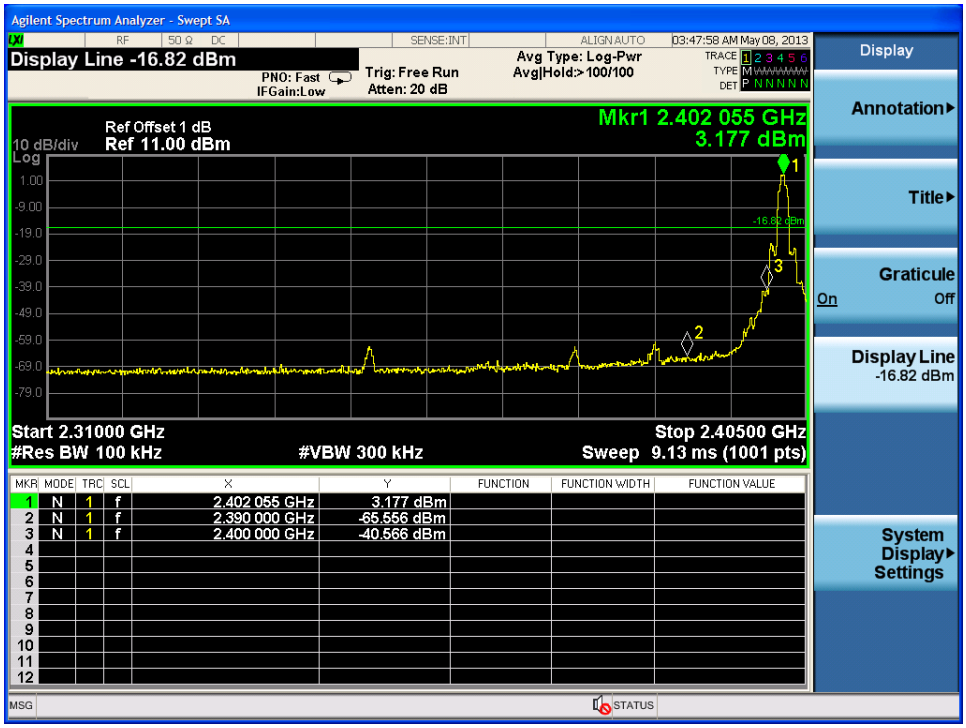
Hopping on-Higher channel:



8-DPSK

Hopping off-Lower channel:



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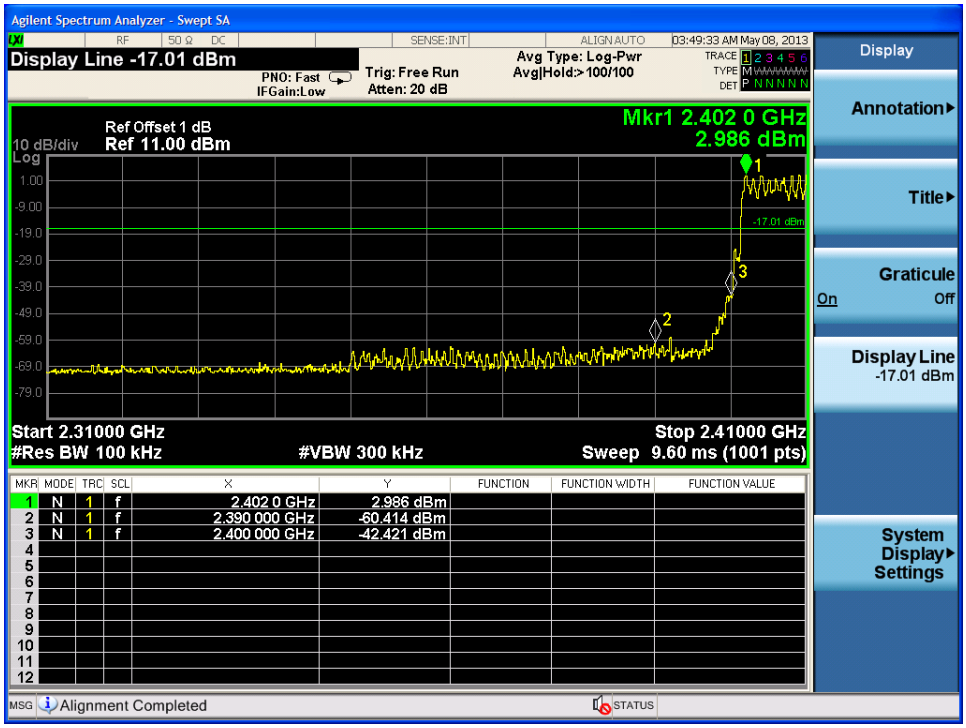
Hopping off-Higher channel:

Hopping on-Lower channel:



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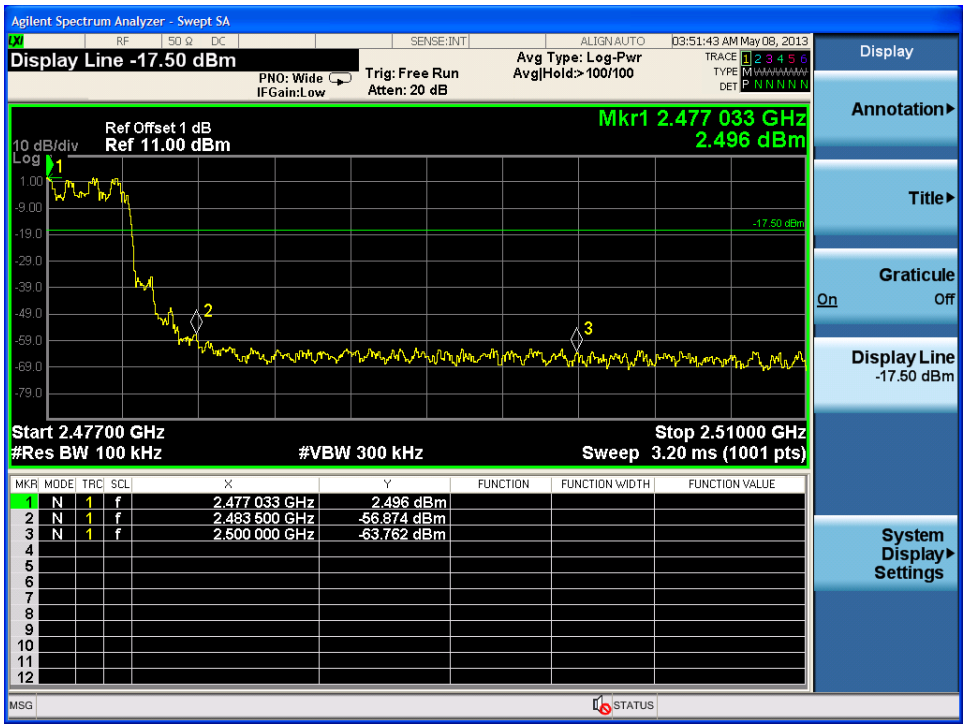
Hopping on-Higher channel:



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9.9 Spurious radiated emissions for transmitter

Test Method

1. The EUT is placed on a turntable, which is 0.8m above ground plane.
2. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emissions.
3. Use the following spectrum analyzer settings:
   Span = wide enough to fully capture the emission being measured, RBW = 1 MHz for f ≥ 1GHz, 100 kHz for f < 1 GHz, VBW ≥ RBW, Sweep = auto, Detector function = peak, Trace = max hold
4. Follow the guidelines in ANSI C63.4-1992 with respect to maximizing the emission by rotating the EUT, adjusting the measurement antenna height and polarization, etc.
   The peak reading of the emission, after being corrected by the antenna factor, cable loss, pre-amp gain, etc., is the peak field strength,submit this data. Each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
5. Set the VBW to 10 Hz, while maintaining all of the other instrument settings. This peak level, once corrected, must comply with the limit specified in Section 15.209. If the duty cycle per channel of the hopping signal is less than 100 ms, then the reading obtained with the 10 Hz VBW may be further adjusted by a “duty cycle correction factor”, derived from 20log(duty cycle/100 ms), in an effort to demonstrate compliance with the 15.209 limit. Submit this data.

Limit

According to part 15.247(d), the radio emission outside the operating frequency band shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power. Radiated emissions which fall in the restricted bands, as defined in section15.205, must comply with the radiated emission limits specified in section 15.209.

Frequency MHz	Field Strength uV/m	Field Strength dBµV/m	Detector
30-88	100	40	QP
88-216	150	43.5	QP
216-960	200	46	QP
960-1000	500	54	QP
Above 1000	500	54	AV
Above 1000	5000	74	PK

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Spurious radiated emissions for transmitter

According to C63.10, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement, so AV emission value did not show in below table if the peak value complies with average limit.

The only worse case (which is subject to the maximum EIRP) test result is listed in the report.

Transmitting spurious emission test result as below:

Bluetooth Mode GFSK Modulation 2402MHz Test Result

Frequency	Antenna Factor	Cable Loss	Amp. Factor	Reading	Emission Level	Polarization	Limit	Detector	Result
MHz	dB/m	dB	dB	dBuV	dBuV/m		dBµV/m		
2402	26.77	6.02	35.92	96.64	93.51	Horizontal	-	PK	-
2402	26.77	6.02	35.92	87.61	84.48	Horizontal	-	AV	-
2402	26.77	6.02	35.92	94.23	91.1	Vertical	-	PK	-
2402	26.77	6.02	35.92	85.2	82.07	Vertical	-	AV	-
*4804	32.47	8.67	35.72	48.55	53.97	Horizontal	74	PK	Pass
*4804	32.47	8.67	35.72	39.52	44.94	Horizontal	54	AV	Pass
*4804	32.47	8.67	35.72	44.32	49.74	Vertical	74	PK	Pass
*4804	32.47	8.67	35.72	35.29	40.71	Vertical	54	AV	Pass
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--

Bluetooth Mode GFSK Modulation 2441MHz Test Result

Frequency	Antenna Factor	Cable Loss	Amp. Factor	Reading	Emission Level	Polarization	Limit	Detector	Result
MHz	dB/m	dB	dB	dBuV	dBuV/m		dBµV/m		
2441	27.02	6.09	35.92	92.85	90.04	Horizontal	-	PK	-
2441	27.02	6.09	35.92	83.82	81.01	Horizontal	-	AV	-
2441	27.02	6.09	35.92	88.08	85.27	Vertical	-	PK	-
2441	27.02	6.09	35.92	79.05	76.24	Vertical	-	AV	-
*4882	32.64	8.74	35.69	47.56	53.25	Horizontal	74	PK	Pass
*4882	32.64	8.74	35.69	38.53	44.22	Horizontal	54	AV	Pass
*4882	32.64	8.74	35.69	44.26	49.95	Vertical	74	PK	Pass
*4882	32.64	8.74	35.69	35.23	40.92	Vertical	54	AV	Pass
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--

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Bluetooth Mode GFSK Modulation 2480MHz Test Result

Frequency	Antenna Factor	Cable Loss	Amp. Factor	Reading	Emission Level	Polarization	Limit	Detector	Result
MHz	dB/m	dB	dB	dBuV	dBuV/m		dBµV/m		
342.34	14.89	2.34	0	20.33	37.56	Horizontal	46	QP	Pass
359.80	15.39	2.40	0	16.50	34.29	Vertical	46	QP	Pass
2480	27.27	6.15	35.92	92.83	90.33	Horizontal	-	PK	-
2480	27.27	6.15	35.92	83.80	81.30	Horizontal	-	AV	-
2480	27.27	6.15	35.92	89.46	86.96	Vertical	-	PK	-
2480	27.27	6.15	35.92	80.43	77.93	Vertical	-	AV	-
*4960	32.81	8.81	35.66	52.84	58.8	Horizontal	74	PK	Pass
*4960	32.81	8.81	35.66	43.81	49.77	Horizontal	54	AV	Pass
*4960	32.81	8.81	35.66	51.85	57.81	Vertical	74	PK	Pass
*4960	32.81	8.81	35.66	42.82	48.78	Vertical	54	AV	Pass
--	--	--	--	--	--	--	--	--	--
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Remark:

(1) QP Emission Level= Antenna Factor +Cable Loss + Reading
PK Emission Level= Antenna Factor +Cable Loss - Amp. Factor + Reading
AV Emission Level= PK Emission Level+20log (dutycycle)

(2) Data of measurement within this frequency range shown “--” in the table above means the reading of emissions are attenuated more than 20db below the permissible limits or the field strength is too small to be measured.

(3) “*” means the emission(s) appear within the restrict bands shall follow the requirement of section 15.205.

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10 Test Equipment List

List of Test Instruments

ESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	CAL. DUE DATE
Spectrum	Agilent	E4446A	US44300459	May.08, 14
Amp	HP	8449B	3008A08495	May.08, 14
Antenna	EMCO	3115	9510-4580	May.17, 14
HF Cable	Hubersuhne	Sucoflex104	-	May.08, 14
Power Meter	Anritsu	ML2487A	6K00002472	May.08, 14
Power Sensor	Anritsu	MA2491A	033005	May.08, 14
Power meter	Agilent	436A	MY45100928	May.08, 14
Power Sensor	Agilent	8482B	MY41090514	May.08, 14
Power meter	Anritsu	ML2487A	6K00002472	May.08, 14
Power Sensor	Anritsu	ML2491A	032516	May.08, 14
Noise Figure	HP	8970B	3247U02193	May.08, 14
Noise Source	HP	346B	3318A13134	May.08, 14
Loop Antenna	Chase	HLA6120	1062	May.08, 14
Test Receiver	Rohde & Schwarz	ESHS10	838693/001	Oct.31, 13
L.I.S.N.#1	Rohde & Schwarz	ESH2-Z5	834066/011	Oct.31, 13
L.I.S.N.#3	Kyoritsu	KNW-242C	8-1920-1	May.08, 14
Terminator	Hubersuhner	50Ω	No. 1	May.08, 14
Terminator	Hubersuhner	50Ω	No. 2	May.08, 14
RF Cable	Fujikura	3D-2W	No.1	May.08, 14
Coaxial Switch	Anritsu	MP59B	M50564	May.08, 14
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100341	May.08, 14
Oscilloscope	Tektronix	TDS3052B	B026036	May.20, 14

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11 System Measurement Uncertainty

For a 95% confidence level, the measurement expanded uncertainties for defined systems, in accordance with the recommendations of ISO 17025 were:

System Measurement Uncertainty

Items		Extended Uncertainty
RE	Field strength (dBμV/m)	U=4.32dB (30MHz-25GHz)
CE	Disturbance Voltage (dBμV)	U=2.4dB

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