

TEST REPORT



DT&C Co., Ltd.

42, Yurim-ro, 154Beon-gil, Cheoin-gu, Yongin-si, Gyeonggi-do, Korea, 17042
Tel : 031-321-2664, Fax : 031-321-1664

1. Report No : DRTFCC1808-0200
2. Customer
 - Name : LG Electronics USA, Inc.
 - Address : 1000 Sylvan Ave. Englewood Cliffs, New Jersey, United States 07632
3. Use of Report : FCC Original Grant
4. Product Name / Model Name : Mobile Phone / SS1805
FCC ID : ZNFSS1805
5. Test Method Used : ANSI C63.10-2013
Test Specification : FCC Part 15 Subpart C.247
6. Date of Test : 2018.07.12 ~ 2018.07.27
7. Testing Environment : See appended test report.
8. Test Result : Refer to the attached test result.

Affirmation	Tested by	Reviewed by
	Name : SunGeun Lee  (Signature)	Name : Geunki Son  (Signature)

The test results presented in this test report are limited only to the sample supplied by applicant and the use of this test report is inhibited other than its purpose. This test report shall not be reproduced except in full, without the written approval of DT&C Co., Ltd.

2018 . 08 . 08 .

DT&C Co., Ltd.

If this report is required to confirmation of authenticity, please contact to report@dtnc.net

Test Report Version

Test Report No.	Date	Description
DRTFCC1808-0200	Aug. 08, 2018	Initial issue

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1. General Information

1.1 Testing Laboratory

DT&C Co., Ltd.		
The 3 m test site and conducted measurement facility used to collect the radiated data are located at the 42, Yurim-ro, 154beon-gil, Cheoin-gu, Yongin-si, Gyeonggi-do, Korea 17042. The test site comply with the requirements of § 2.948 according to ANSI C63.4-2014.		
- FCC MRA Accredited Test Firm No. : KR0034		
www.dtnet.net		
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1.2 Testing Environment

Ambient Condition	
▪ Temperature	+23 °C ~ +26 °C
▪ Relative Humidity	40 % ~ 47 %

1.3 Measurement Uncertainty

The measurement uncertainties shown below were calculated in accordance with requirements of ANSI C63.4-2014 and ANSI C63.10-2013. All measurement uncertainty values are shown with a coverage factor of $k = 2$ to indicate a 95 % level of confidence.

Test items	Measurement uncertainty
Transmitter Output Power	0.9 dB (The confidence level is about 95 %, $k = 2$)
Conducted spurious emission	0.9 dB (The confidence level is about 95 %, $k = 2$)
AC conducted emission	2.4 dB (The confidence level is about 95 %, $k = 2$)
Radiated spurious emission (1 GHz Below)	5.1 dB (The confidence level is about 95 %, $k = 2$)
Radiated spurious emission (1 GHz ~ 18 GHz)	5.4 dB (The confidence level is about 95 %, $k = 2$)
Radiated spurious emission (18 GHz Above)	5.3 dB (The confidence level is about 95 %, $k = 2$)

1.4 Details of Applicant

Applicant : LG Electronics USA, Inc.
Address : 1000 Sylvan Ave. Englewood Cliffs, New Jersey, United States 07632
Contact person : Kyung-Su Han

1.5 Description of EUT

EUT	Mobile Phone
Model Name	SS1805
Add Model Name	NA
Serial Number	Identical prototype
Power Supply	DC 3.85 V
Frequency Range	2402 MHz ~ 2480 MHz
Modulation Technique	GFSK, $\pi/4$ DQPSK, 8DPSK
Number of Channels	79
Antenna Type	PIFA Antenna
Antenna Gain	PK : -4.24 dBi

1.6 Declaration by the applicant / manufacturer

- NA

1.7 Information about the FHSS characteristics

- This Bluetooth module has been tested by a Bluetooth Qualification Lab, and we confirm the following :

A) The hopping sequence is pseudorandom

Note 1 : Pseudorandom Frequency Hopping Sequence Table as below:

Channel: 08, 24, 40, 56, 42, 54, 72, 09, 01, 11, 33, 41, 34, 42, 65, 73, 53, 69, 06, 22, 04,
20, 36, 52, 38, 46, 70, 78, 68, 76, 21, 29, 10, 26, 41, 58, 44, 60, 76, 13, 03, 11,
35, 43, 37, 45, 69, 77, 52, 71, 08, 24, 06, 24, 48, 56, 45, 46, 70, 01, 72, 06, 25,
33, 12, 28, 49, 60, 45, 58, 74, 13, 05, 18, 37, 49 etc

.. The System receiver have input bandwidths that match the hopping channel bandwidths of
Their corresponding transmitters and shift frequencies in synchronizati on with the transmit
Ted signals.

B) All channels are used equally on average

C) The receiver input bandwidth equals the transmit bandwidth

D) The receiver hops in sequenc e with the transmit signal

- 15.247(g) : In accordance with the Bluetooth Industry Standard, the system is designed to comply with all of the regulations in Section 15.247 when the transmitter is presented with a continuous data (or information) system.
- 15.247(h) : In accordance with the Bluetooth Industry Standard, the system does not coordinate its channels selection / hopping sequence with other frequency hopping systems for the express purpose of avoiding the simultaneous occupancy of individual hopping frequencies by multiple transmitters.
- 15.247(h) : The EUT employs Adaptive Frequency Hopping (AFH) which identifies sources of interference namely devices operating in 802.11 WLAN and excludes them from the list of available channels. The process of re-mapping reduces the number of test channels from 79 channels to a minimum number of 20 channels.

1.8 Test Equipment List

Type	Manufacturer	Model	Cal.Date (yy/mm/dd)	Next.Cal.Date (yy/mm/dd)	S/N
Spectrum Analyzer	Agilent Technologies	N9020A	17/12/28	18/12/28	MY50200816
Spectrum Analyzer	Agilent Technologies	N9020A	17/09/05	18/09/05	MY46471251
Multimeter	FLUKE	17B	17/12/26	18/12/26	26030065WS
BlueTooth Tester	TESCOM	TC-3000C	17/12/26	18/12/26	3000C000396
Signal Generator	Rohde Schwarz	SMBV100A	17/12/27	18/12/27	255571
Signal Generator	ANRITSU	MG3695C	18/02/12	19/02/12	173501
Power Splitter	Anritsu	K241B	18/07/05	19/07/05	1701102
Thermohygrometer	BODYCOM	BJ5478	18/01/02	19/01/02	090205-4
Thermohygrometer	BODYCOM	BJ5478	18/01/03	19/01/03	120612-1
Loop Antenna	Schwarzbeck	FMZB1513	18/01/30	20/01/30	1513-128
Biglog Antenna	Schwarzbeck	VULB 9160	18/07/13	20/07/13	3359
HORN ANT	ETS	3117	18/05/10	20/05/10	140394
HORN ANT	A.H.Systems	SAS-574	17/07/31	19/07/31	155
PreAmplifier	Agilent Technologies	8449B	17/09/05	18/09/05	3008A02108
PreAmplifier	TSJ	MLA-010K01-B01-27	18/03/05	19/03/05	1844539
PULSE LIMITER	Rohde Schwarz	ESH3-Z2	17/09/29	18/09/29	101333
LISN	SCHWARZBECK	NNLK 8121	18/03/20	19/03/20	6183
EMI Test Receiver	Rohde Schwarz	ESR7	18/02/13	19/02/13	101061
High-pass filter	Wainwright	WHKX12-2580-3000-18000-80SS	17/09/05	18/09/05	3
High-pass filter	Wainwright	WHNX6-6320-8000-26500-40CC	17/09/05	18/09/05	1
Power Meter & Wide Bandwidth Sensor	Anritsu	ML2495A	17/12/27	18/12/27	1306007
		MA2490A			1249001
Cable	DT&C	CABLE	18/03/26	19/03/26	RF-68
Cable	DT&C	CABLE	18/03/26	19/03/26	P-IN
Cable	DT&C	CABLE	18/03/26	19/03/26	RF-71
Cable	DT&C	CABLE	18/06/22	19/06/22	RF-82
Cable	DT&C	CABLE	18/06/22	19/06/22	C-016-4
Cable	DT&C	CABLE	18/06/22	19/06/22	RF-81
Cable	Radiall	TESTPRO3	18/06/22	19/06/22	RF-74
Cable	Radiall	TESTPRO3	18/06/22	19/06/22	RF-66

Note1: The measurement antennas were calibrated in accordance to the requirements of ANSI C63.5-2017

Note2: The cable is not a regular calibration item, so it has been calibrated by DT & C itself.

1.9 Summary of Test Results

FCC Part RSS Std.	Parameter	Limit (Using in 2400~ 2483.5 MHz)	Test Condition	Status Note 1
15.247(a) RSS-247(5.1)	Carrier Frequency Separation	≥ 25 kHz or $\geq$ Two thirds of the 20 dB BW, whichever is greater.	Conducted	C
	Number of Hopping Frequencies	≥ 15 hops		C
	20 dB Bandwidth	N/A		C
	Dwell Time	≤ 0.4 seconds		C
15.247(b) RSS-247(5.4)	Transmitter Output Power	For FCC ≤ 1 Watt , if CHs ≥ 75 Others ≤ 0.125 W For IC if CHs ≥ 75 ≤ 1 Watt For Conducted Power ≤ 4 Watt For e.i.r.p, Others ≤ 0.125 W For Conducted Power. ≤ 0.5 Watt For e.i.r.p		C
15.247(d) RSS-247(5.5)	Conducted Spurious Emissions	The radiated emission to any 100 kHz of out-band shall be at least 20 dB below the highest in-band spectral density.		C
RSS Gen(6.7)	Occupied Bandwidth (99 %)	N/A		NA
15.247(d) 15.205 & 209 RSS-247(5.5) RSS-Gen (8.9 & 8.10)	Radiated Spurious Emissions	FCC 15.209 Limits	Radiated	C ^{Note3}
15.207 RSS-Gen(8.8)	AC Conducted Emissions	FCC 15.207 Limits	AC Line Conducted	C
15.203	Antenna Requirements	FCC 15.203	-	C

Note 1 : C = Comply NC = Not Comply NT = Not Tested NA = Not Applicable

Note 2 : For radiated emission tests below 30 MHz were performed on semi-anechoic chamber which is correlated With OATS.

Note 3 : This test item was performed in each axis and the worst case data was reported.

1.10 Conclusion of worst-case and operation mode

The EUT has three type of modulation (GFSK, $\pi/4$ DQPSK and 8DPSK).

Therefore all applicable requirements were tested with all the modulations.

And packet type was tested at the worst case(DH5).

The field strength of spurious emission was measured in three orthogonal EUT positions (X-axis, Y-axis and Z-axis).

Tested frequency information,

- Hopping Function : Enable

	TX Frequency (MHz)	RX Frequency (MHz)
Hopping Band	2402 ~ 2480	2402 ~ 2480

- Hopping Function : Disable

	TX Frequency (MHz)	RX Frequency (MHz)
Lowest Channel	2402	2402
Middle Channel	2441	2441
Highest Channel	2480	2480

2. Maximum Peak Output Power Measurement

2.1 Test Setup

Refer to the APPENDIX I.

2.2 Limit

■ FCC Requirements

The maximum peak output power of the intentional radiator shall not exceed the following :

1. §15.247(a)(1), 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.
2. §15.247(b)(1), For frequency hopping systems operating in the 2400 – 2483.5 MHz employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725 – 5805 MHz band : 1 Watt.

■ IC Requirements

1. RSS-247(5.4), For FHSS operating in the band 2400 - 2483.5 MHz, the maximum peak conducted output power shall not exceed 1.0 W and the e.i.r.p. shall not exceed 4 W if the hopset uses 75 or more hopping channels the maximum peak conducted output power shall not exceed 0.125 W and the e.i.r.p. shall not exceed 0.5 W if the hopset uses less than 75 hopping channels

2.3 Test Procedure

1. The RF output power was measured with a spectrum analyzer connected to the RF Antenna connector (conducted measurement) while EUT was operating in transmit mode at the appropriate center frequency, A spectrum analyzer was used to record the shape of the transmit signal.
2. The peak output power of the fundamental frequency was measured with the spectrum analyzer using ;
Span = approximately 5 times of the 20 dB bandwidth, centered on a hopping channel
RBW $\geq$ 20 dB BW
VBW $\geq$ RBW
Sweep = auto
Detector function = peak
Trace = max hold

2.4 Test Results

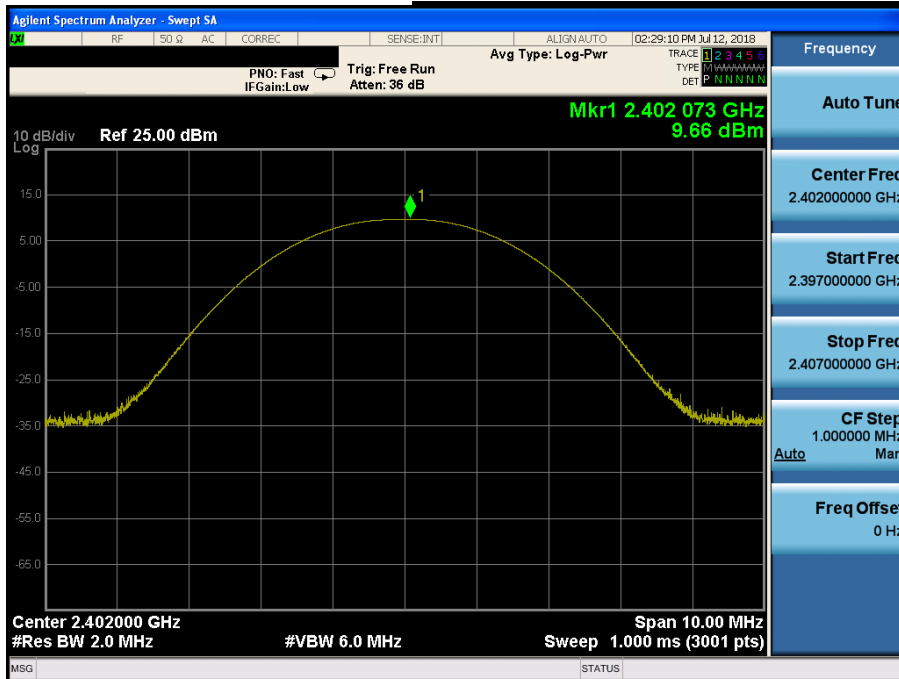
Modulation	Tested Channel	Burst Average Output Power		Peak Output Power	
		dBm	mW	dBm	mW
<u>GFSK</u>	Lowest	9.34	8.59	9.66	9.25
	Middle	10.69	11.72	10.79	11.99
	Highest	9.06	8.05	9.67	9.27
<u>$\pi/4$DQPSK</u>	Lowest	8.75	7.50	10.84	12.13
	Middle	10.15	10.35	12.15	16.41
	Highest	8.50	7.08	10.97	12.50
<u>8DPSK</u>	Lowest	8.77	7.53	11.02	12.65
	Middle	10.15	10.35	12.38	17.30
	Highest	8.51	7.10	11.19	13.15

Note 1 The frame average output power was tested using an average power meter for reference only.

Note 2 : See next pages for actual measured spectrum plots.

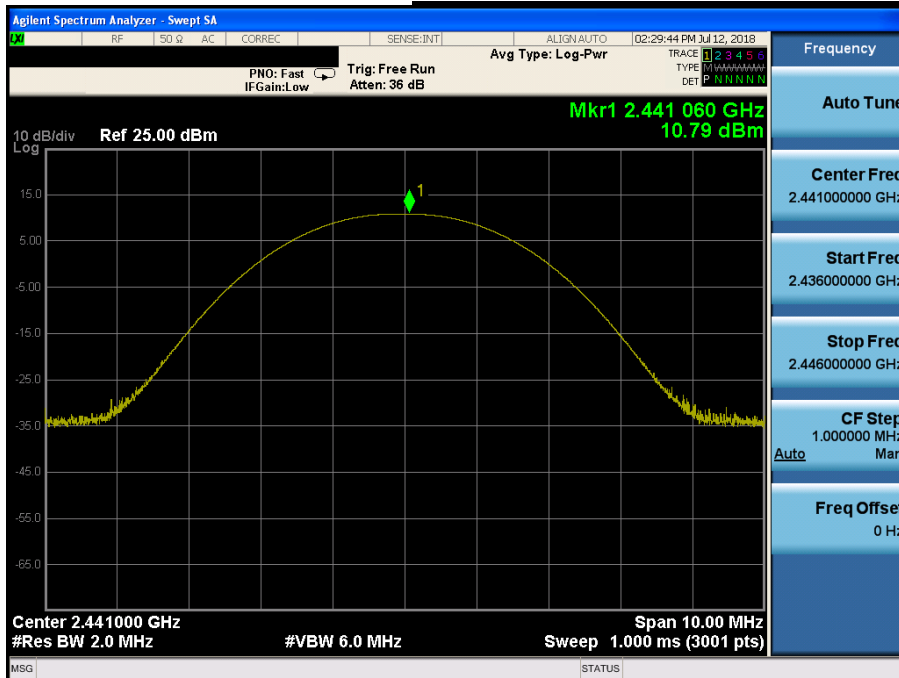
Peak Output Power

Lowest Channel & Modulation : GFSK

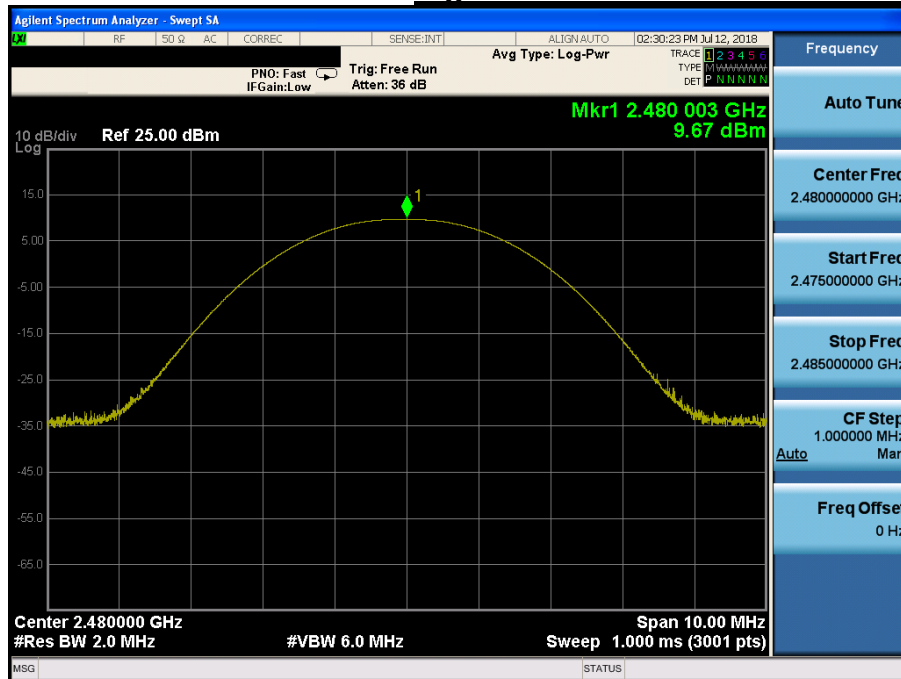


Peak Output Power

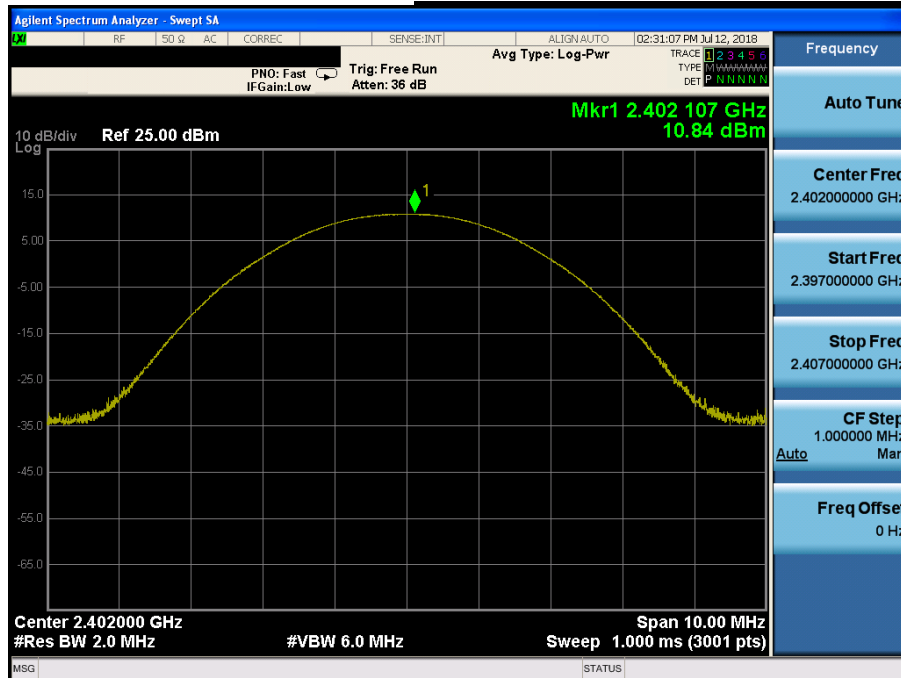
Middle Channel & Modulation : GFSK



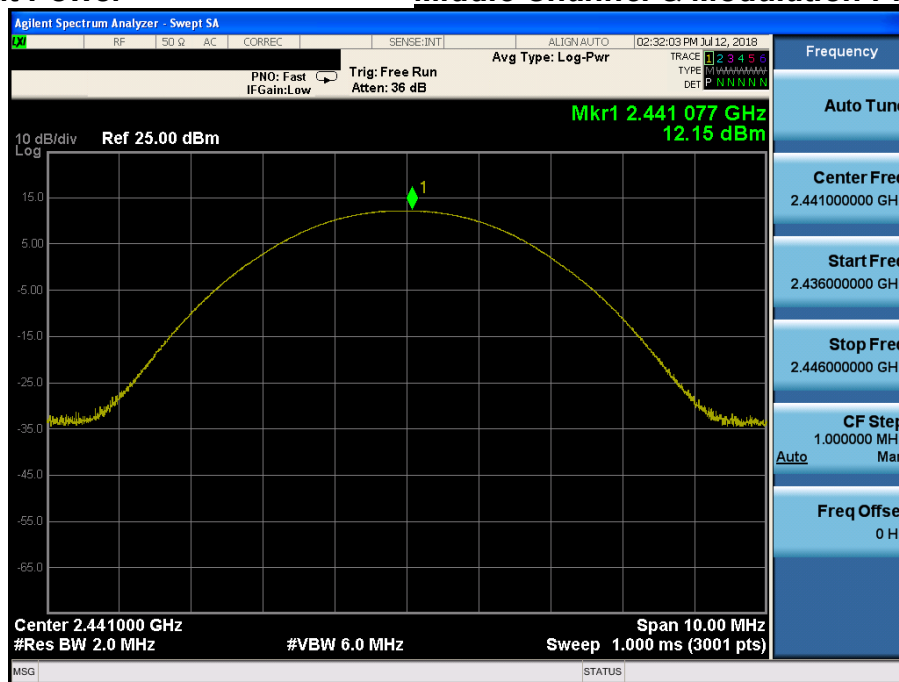
Peak Output Power

Highest Channel & Modulation : GFSK

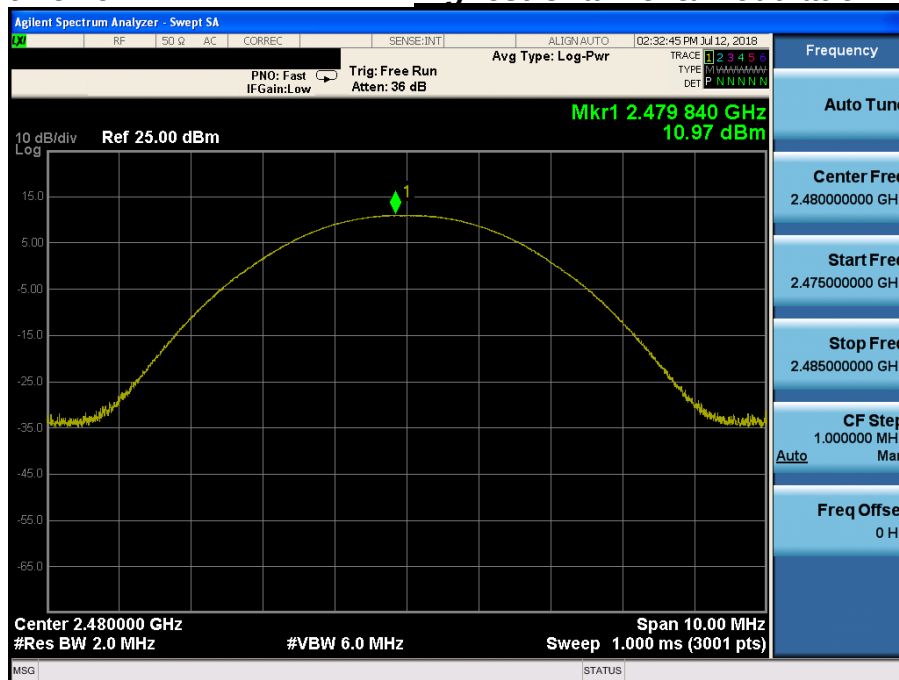
Peak Output Power

Lowest Channel & Modulation : $\pi/4$ DQPSK

Peak Output Power

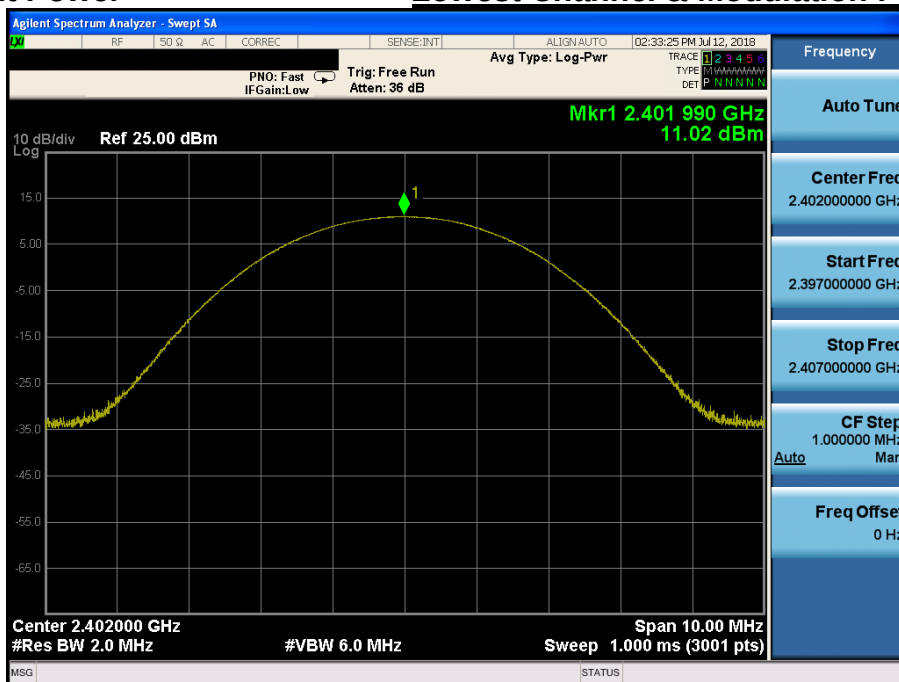
Middle Channel & Modulation : $\pi/4$ DQPSK

Peak Output Power

Highest Channel & Modulation : $\pi/4$ DQPSK

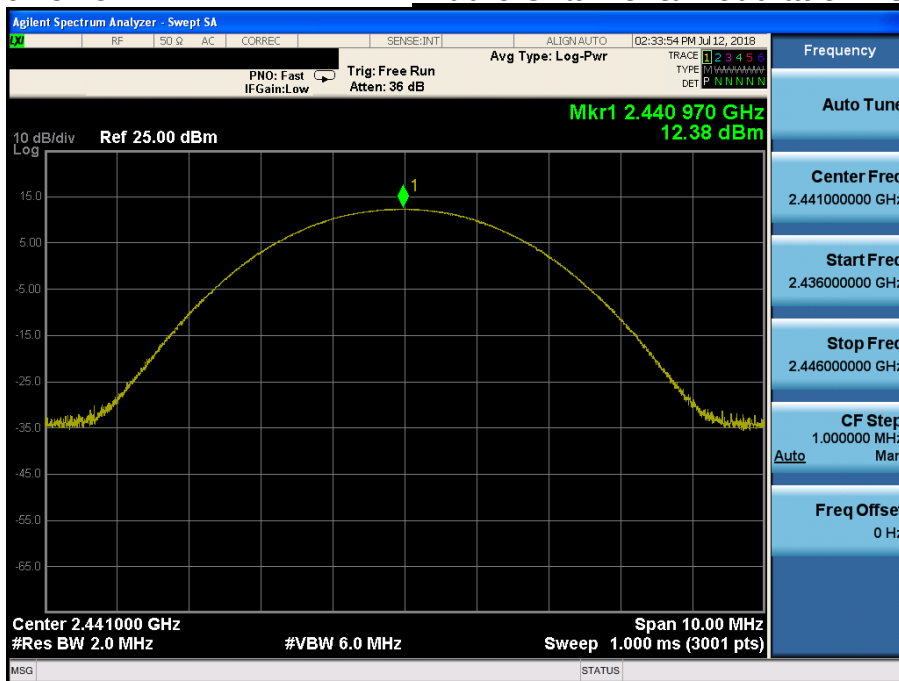
Peak Output Power

Lowest Channel & Modulation : 8DPSK



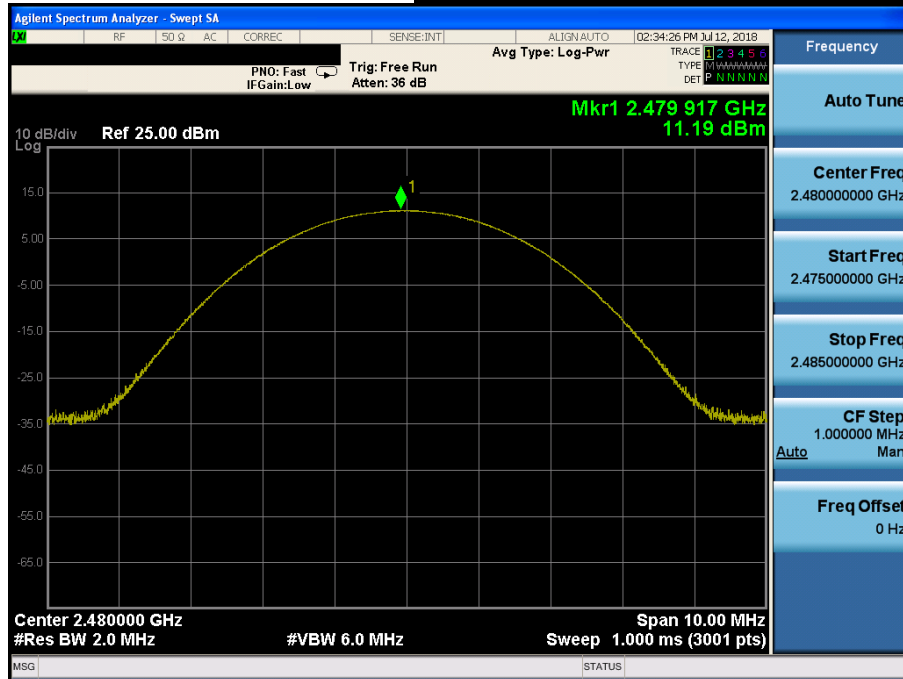
Peak Output Power

Middle Channel & Modulation : 8DPSK



Peak Output Power

Highest Channel & Modulation : 8DPSK



3. 20 dB BW & Occupied BW

3.1 Test Setup

Refer to the APPENDIX I.

3.2 Limit

Limit : Not Applicable

3.3 Test Procedure

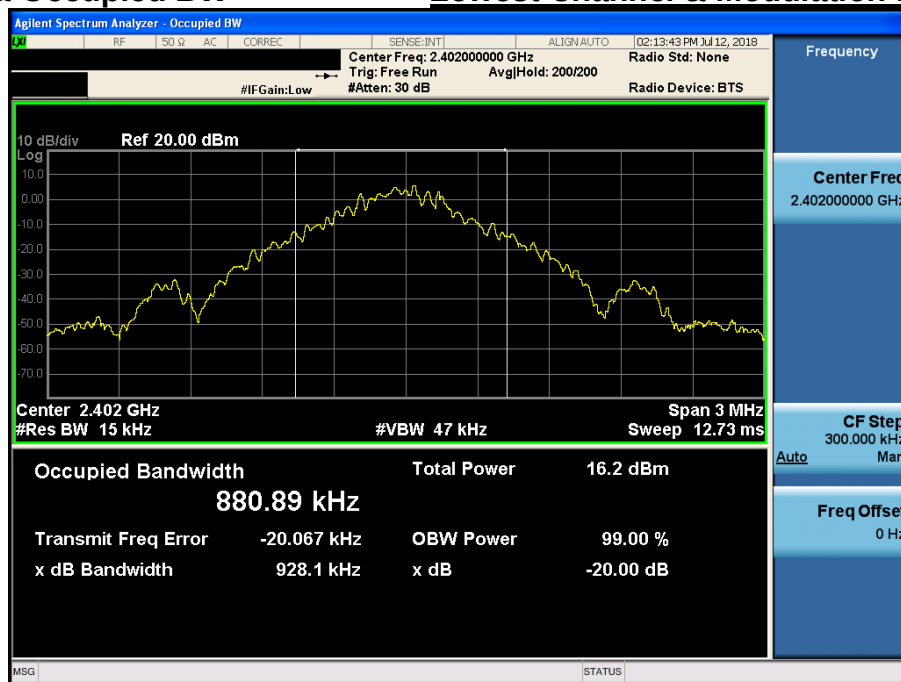
1. The 20 dB bandwidth & Occupied bandwidth were measured with a spectrum analyzer connected to RF antenna Connector(conducted measurement) while EUT was operating in transmit mode. The analyzer center frequency was set to the EUT carrier frequency, using the analyzer.
2. The bandwidth of the fundamental frequency was measured with the spectrum analyzer using below setting:
RBW = 1% to 5% of the 20 dB BW & Occupied BW
VBW $\geq 3 \times$ RBW
Span = between two times and five times the 20 dB bandwidth & Occupied BW
Sweep = auto
Detector function = peak
Trace = max hold

3.4 Test Results

Modulation	Tested Channel	20 dB BW (MHz)
<u>GFSK</u>	Lowest	0.928
	Middle	0.926
	Highest	0.927
<u>$\pi/4$DQPSK</u>	Lowest	1.330
	Middle	1.319
	Highest	1.321
<u>8DPSK</u>	Lowest	1.290
	Middle	1.319
	Highest	1.287

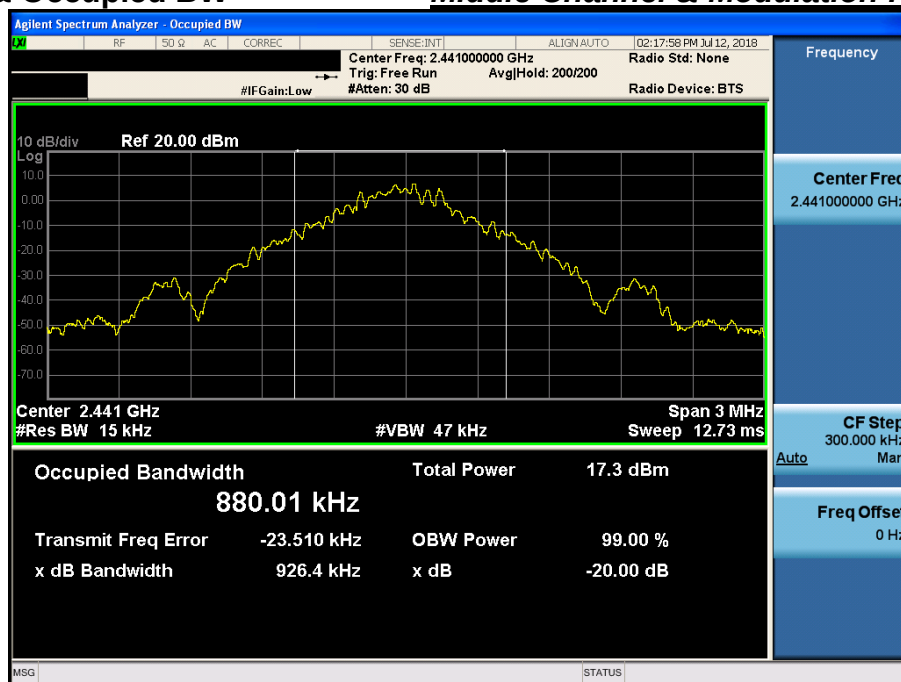
20 dB BW & Occupied BW

Lowest Channel & Modulation : GFSK



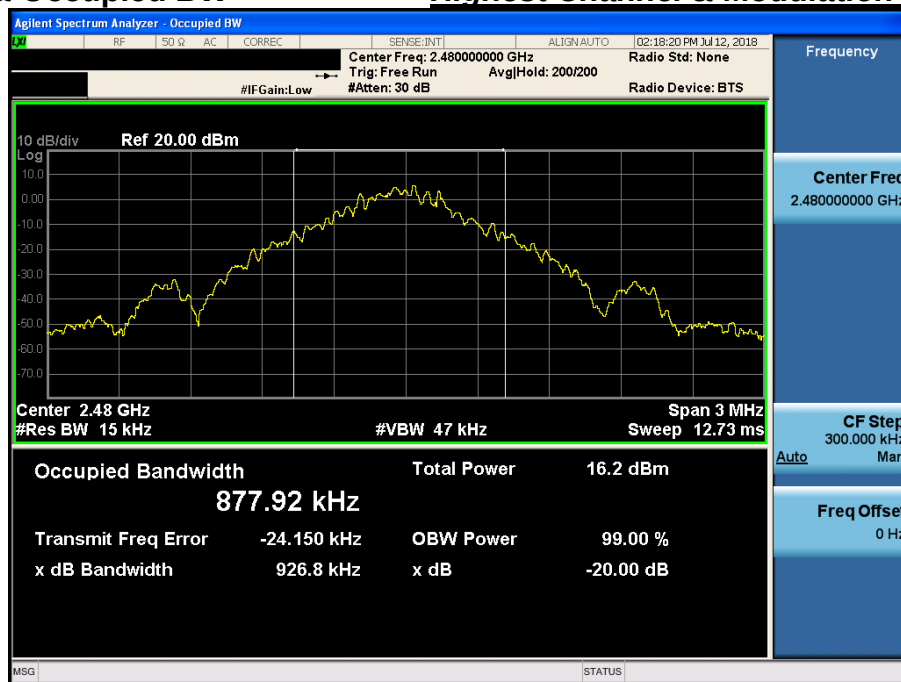
20 dB BW & Occupied BW

Middle Channel & Modulation : GFSK



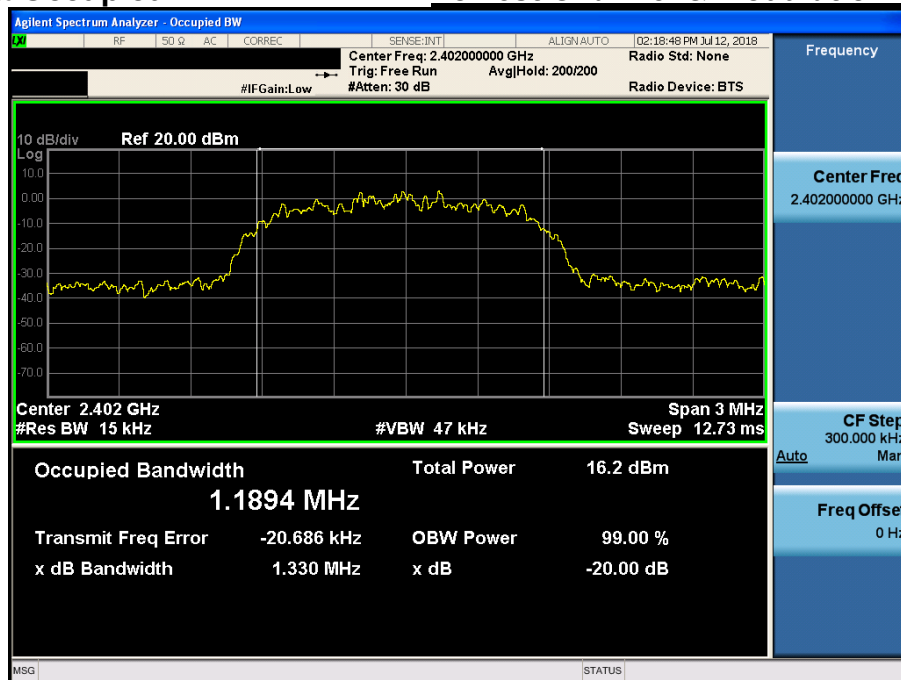
20 dB BW & Occupied BW

Highest Channel & Modulation : GFSK



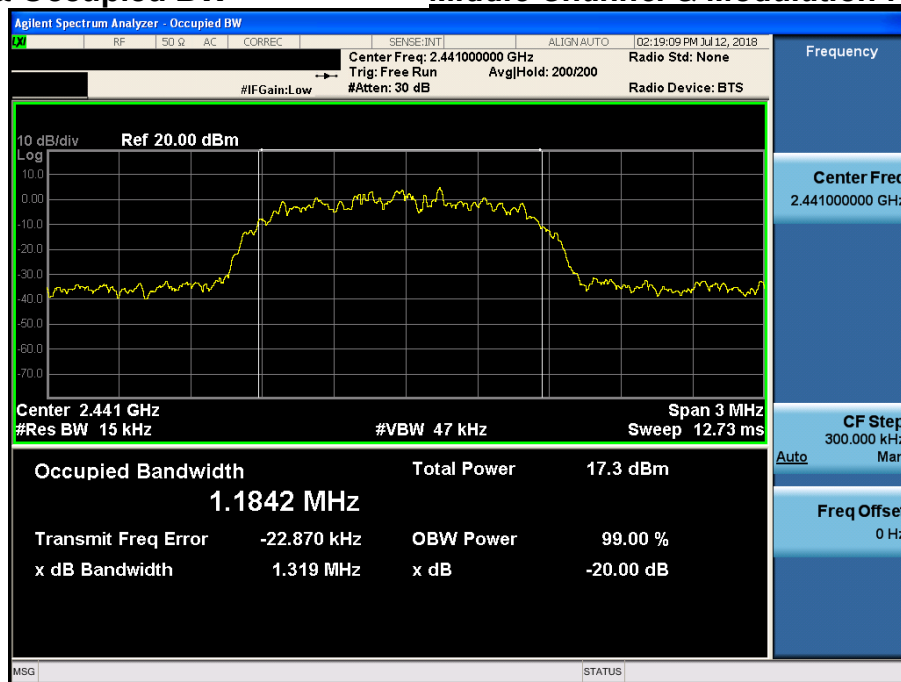
20 dB BW & Occupied BW

Lowest Channel & Modulation : $\pi/4$ DQPSK



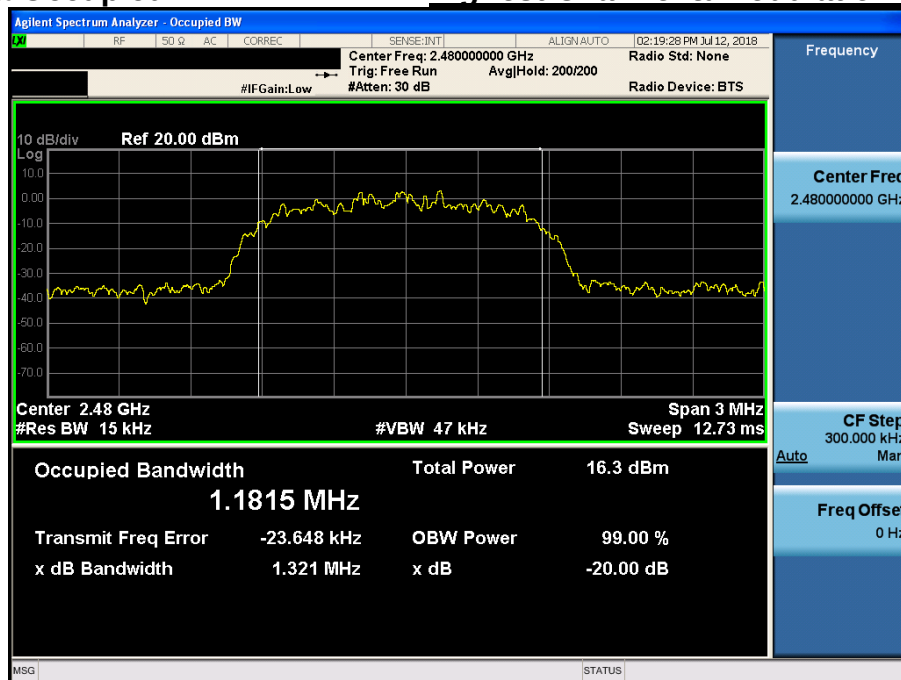
20 dB BW & Occupied BW

Middle Channel & Modulation : $\pi/4$ DQPSK



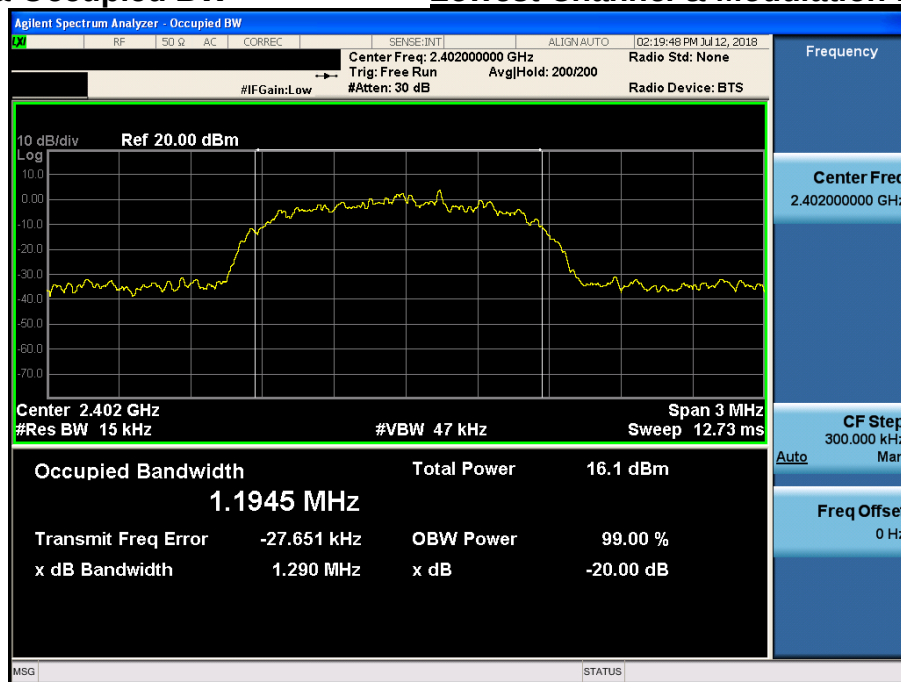
20 dB BW & Occupied BW

Highest Channel & Modulation : $\pi/4$ DQPSK



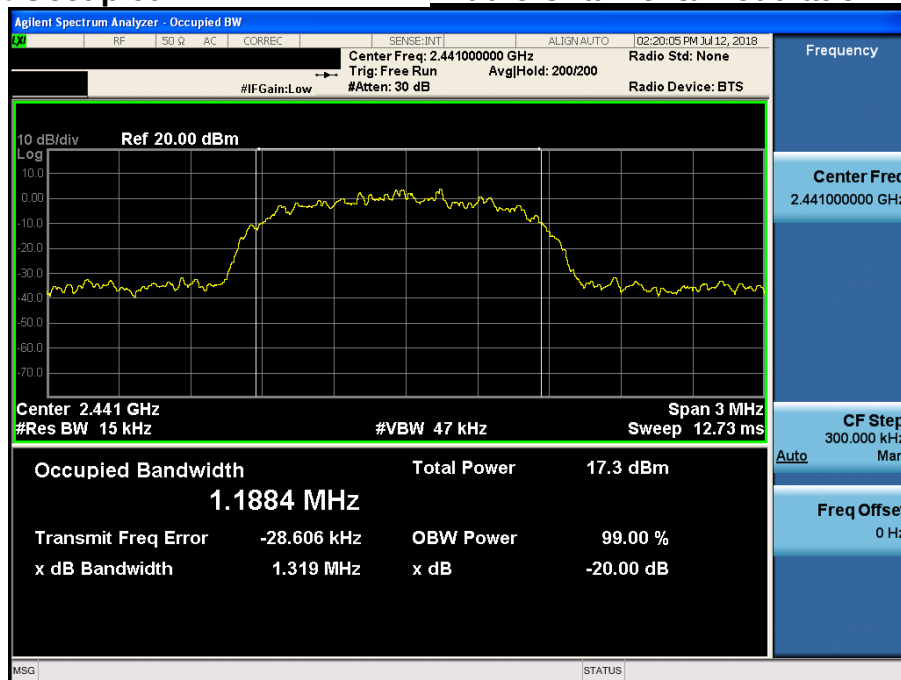
20 dB BW & Occupied BW

Lowest Channel & Modulation : 8DPSK



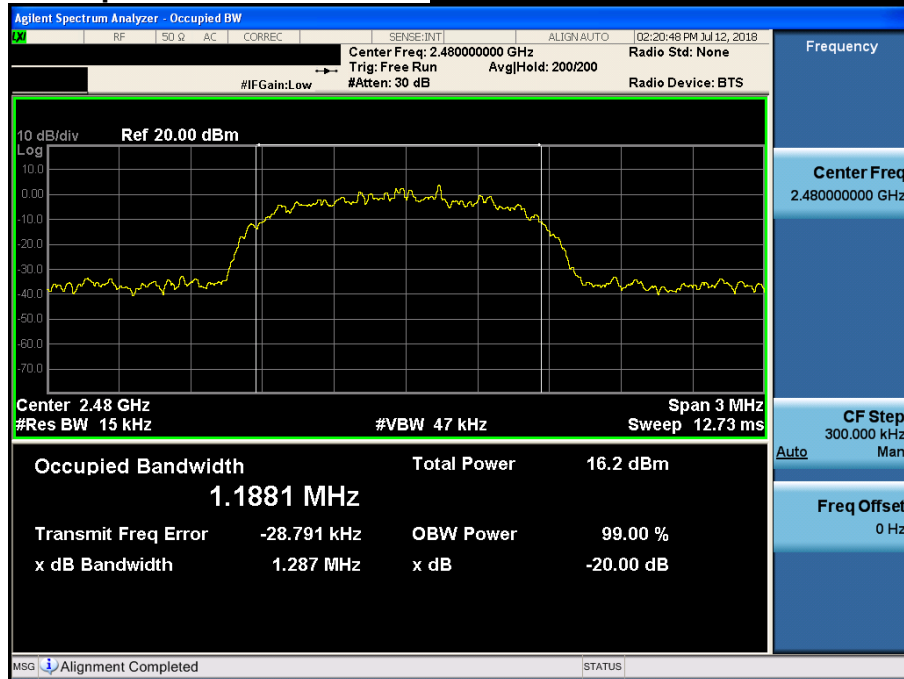
20 dB BW & Occupied BW

Middle Channel & Modulation : 8DPSK



20 dB BW & Occupied BW

Highest Channel & Modulation : 8DPSK



4. Carrier Frequency Separation

4.1 Test Setup

Refer to the APPENDIX I.

4.2 Limit

Limit : ≥ 25 kHz or $\geq$ Two-Thirds of the 20 dB BW whichever is greater.

4.3 Procedure

The carrier frequency separation was measured with a spectrum analyzer connected to the antenna terminal, while EUT had its hopping function enabled.

After the trace being stable, the reading value between the peaks of the adjacent channels using the marker-delta function was recorded as the measurement results.

The spectrum analyzer is set to :

Span = wide enough to capture the peaks of two adjacent channels

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.

VBW $\geq$ RBW

Sweep = auto

Detector function = peak

Trace = max hold

4.4 Test Results

FH mode

Hopping Mode	Modulation	Peak of center channel (MHz)	Peak of adjacent Channel (MHz)	Test Result (MHz)
Enable	GFSK	2440.990	2441.990	1.000
	$\pi/4$ DQPSK	2440.818	2441.818	1.000
	8DPSK	2441.137	2442.137	1.000

AFH mode

Hopping Mode	Modulation	Peak of center channel (MHz)	Peak of adjacent Channel (MHz)	Test Result (MHz)
Enable	GFSK	2410.992	2411.992	1.000
	$\pi/4$ DQPSK	2410.821	2411.821	1.000
	8DPSK	2411.137	2412.137	1.000

Note 1 : See next pages for actual measured spectrum

- Minimum Standard :

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

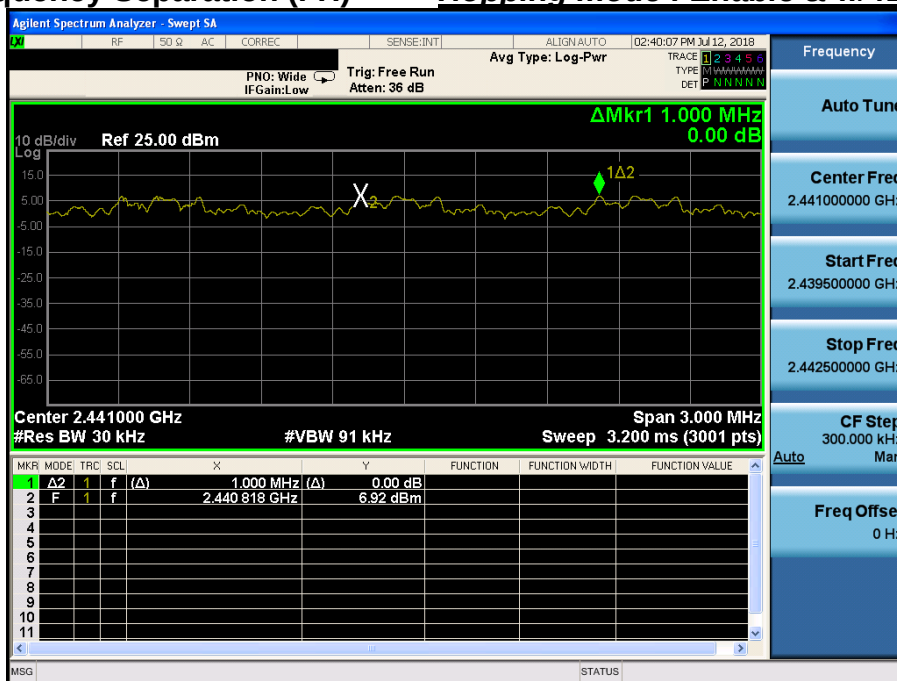
Carrier Frequency Separation (FH)

Hopping mode : Enable & GFSK



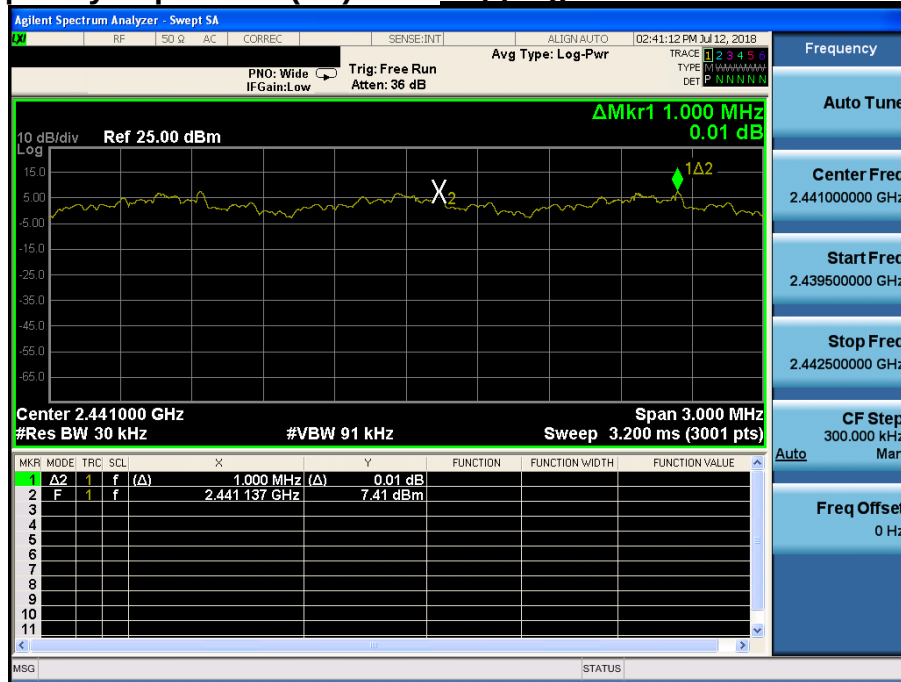
Carrier Frequency Separation (FH)

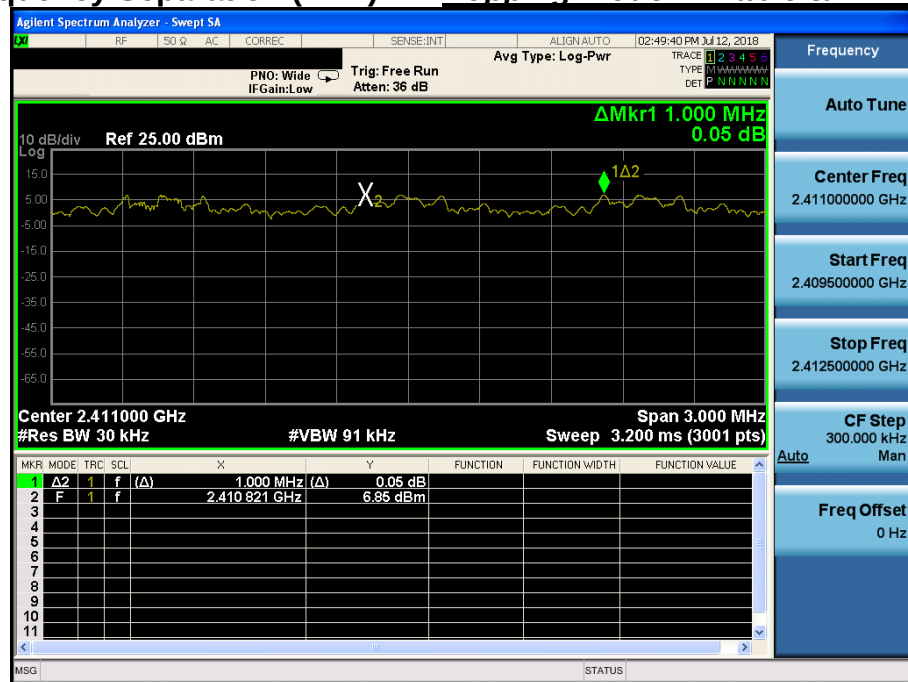
Hopping mode : Enable & $\pi/4$ DQPSK



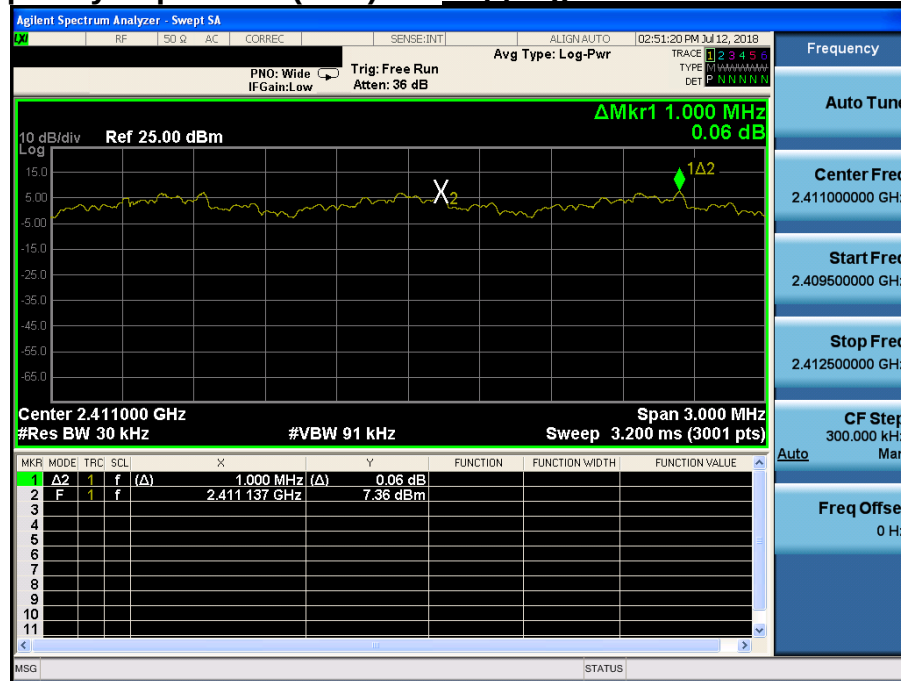
Carrier Frequency Separation (FH)

Hopping mode : Enable & 8DPSK



Carrier Frequency Separation (AFH) *Hopping mode : Enable & GFSK***Carrier Frequency Separation (AFH) *Hopping mode : Enable & $\pi/4$ DQPSK***

Carrier Frequency Separation (AFH) *Hopping mode : Enable & 8DPSK*



5. Number of Hopping Frequencies

5.1 Test Setup

Refer to the APPENDIX I.

5.2 Limit

Limit : ≥ 15 hops

5.3 Procedure

The number of hopping frequencies was measured with a spectrum analyzer connected to the antenna terminal, while EUT had its hopping function enabled.

To get higher resolution, two frequency ranges for FH mode within the 2400 ~ 2483.5 MHz were examined.

The spectrum analyzer is set to :

Span for FH mode = 50 MHz Start Frequency = 2391.5 MHz, Stop Frequency = 2441.5 MHz

Start Frequency = 2441.5 MHz, Stop Frequency = 2491.5 MHz

Span for AFH mode = 30 MHz Start Frequency = 2396.0 MHz, Stop Frequency = 2426.0 MHz

RBW = To identify clearly the individual channels, set the RBW to less than 30% of the channel spacing or the 20 dB bandwidth, whichever is smaller.

VBW $\geq$ RBW

Sweep = auto

Detector function = peak

Trace = max hold

5.4 Test Results

FH mode

Hopping mode	Modulation	Test Result (Total Hops)
Enable	GFSK	79
	$\pi/4$ DQPSK	79
	8DPSK	79

AFH mode

Hopping mode	Modulation	Test Result (Total Hops)
Enable	GFSK	20
	$\pi/4$ DQPSK	20
	8DPSK	20

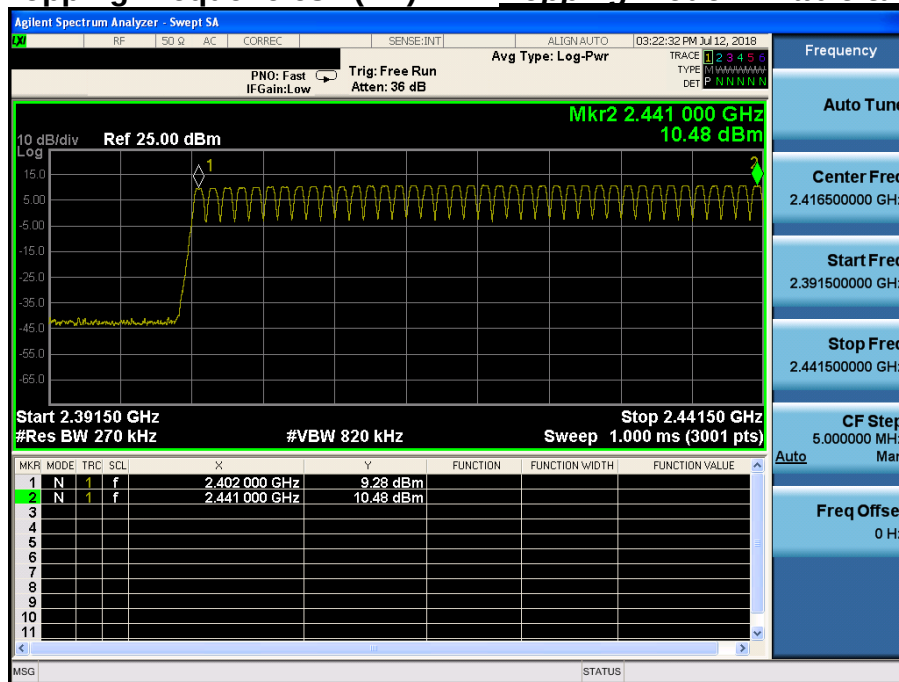
Note 1 : See next pages for actual measured spectrum plots.

- Minimum Standard :

At least 15 hops

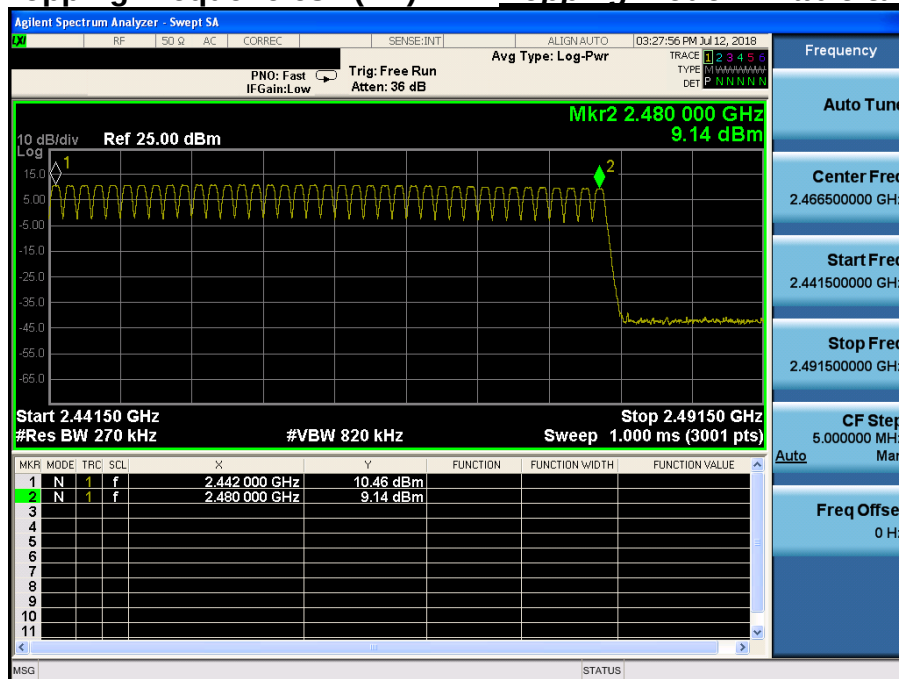
Number of Hopping Frequencies 1(FH)

Hopping mode : Enable & GFSK

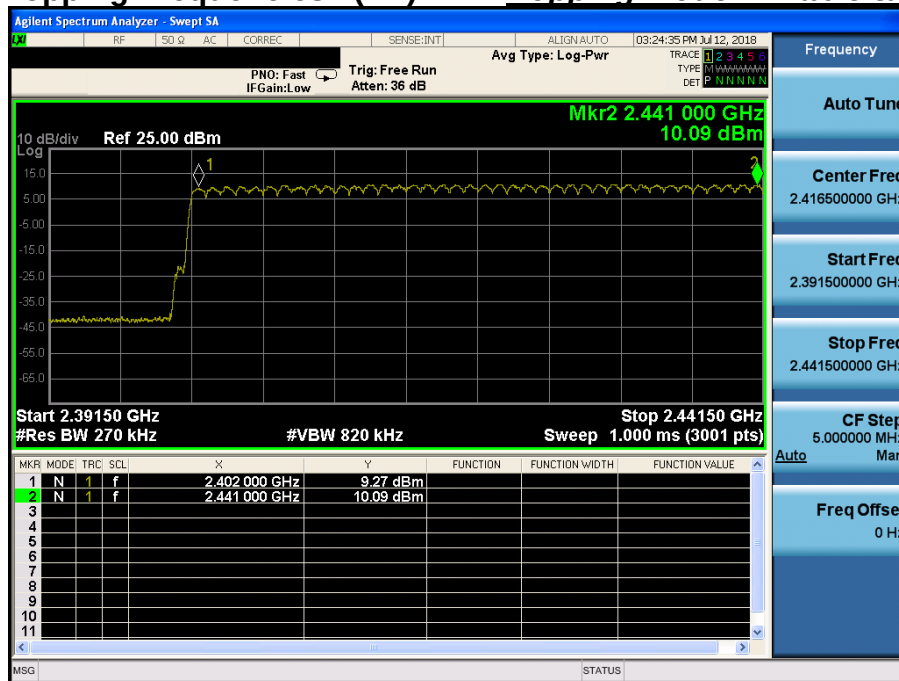


Number of Hopping Frequencies 2(FH)

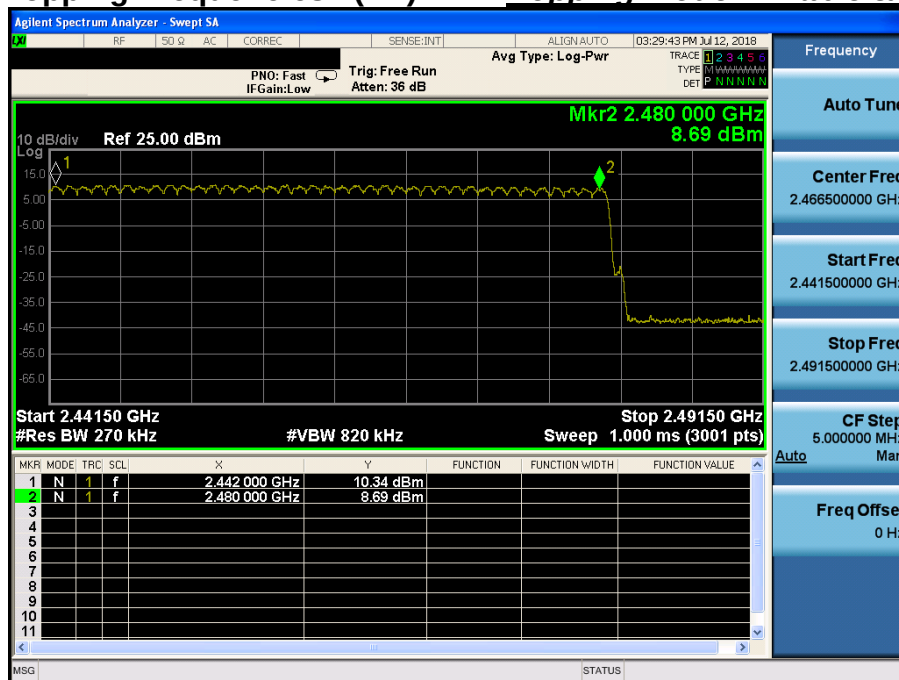
Hopping mode : Enable & GFSK



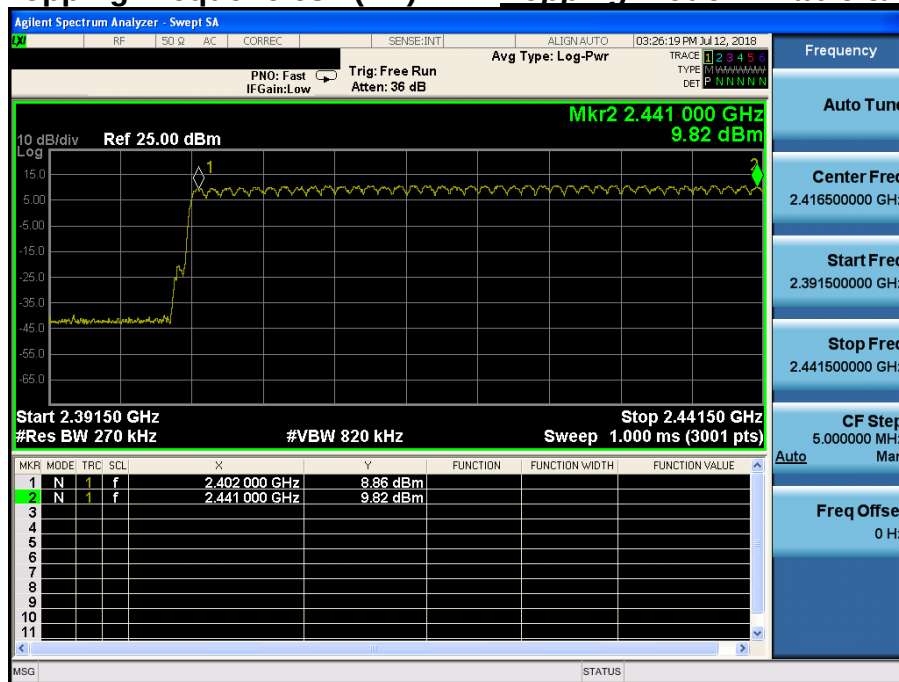
Number of Hopping Frequencies 1(FH)

Hopping mode : Enable & $\pi/4$ DQPSK

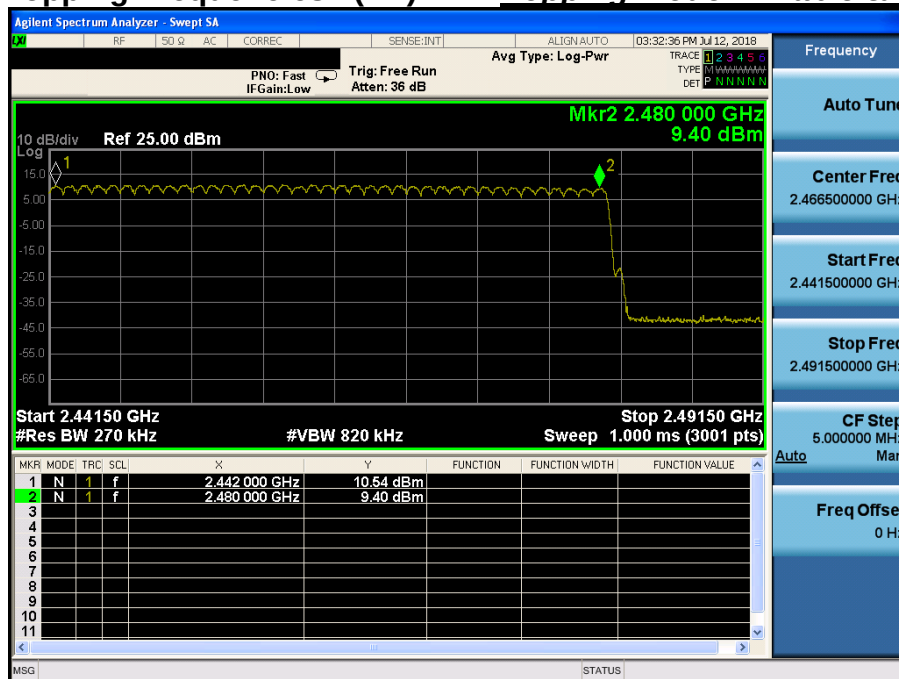
Number of Hopping Frequencies 2(FH)

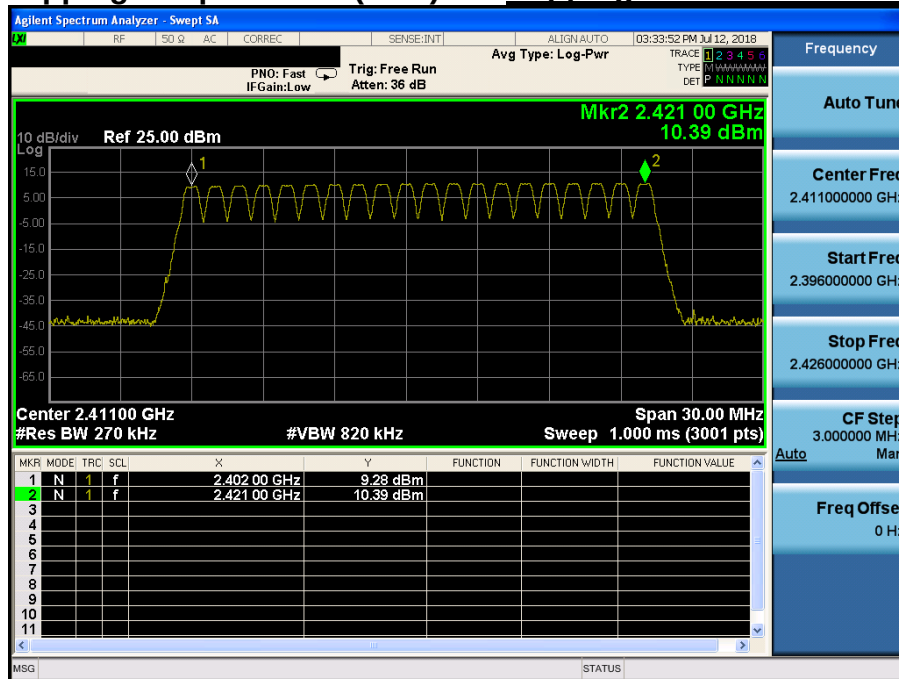
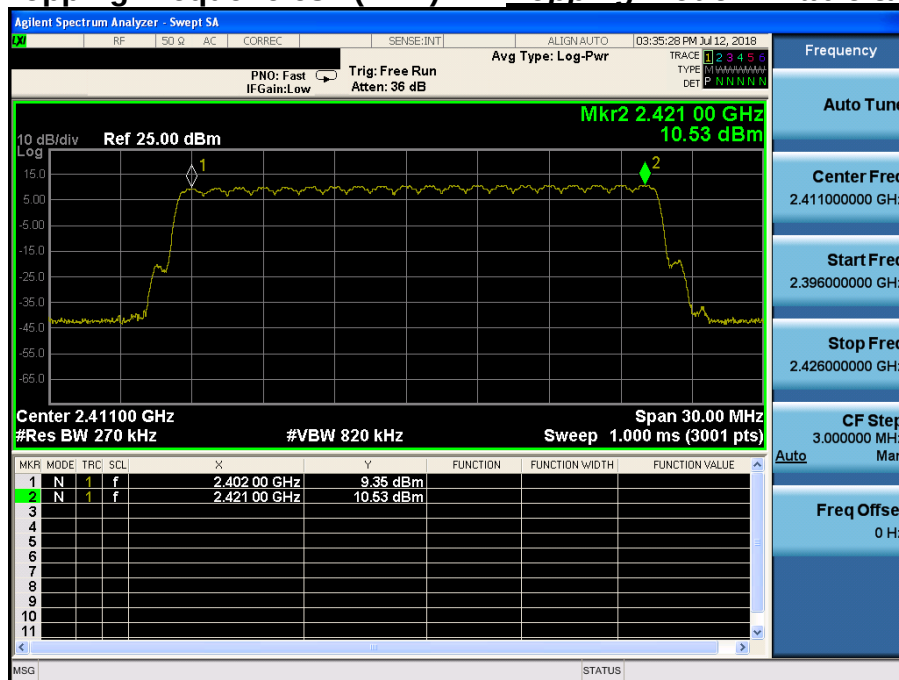
Hopping mode : Enable & $\pi/4$ DQPSK

Hopping mode : Enable & 8DPSK

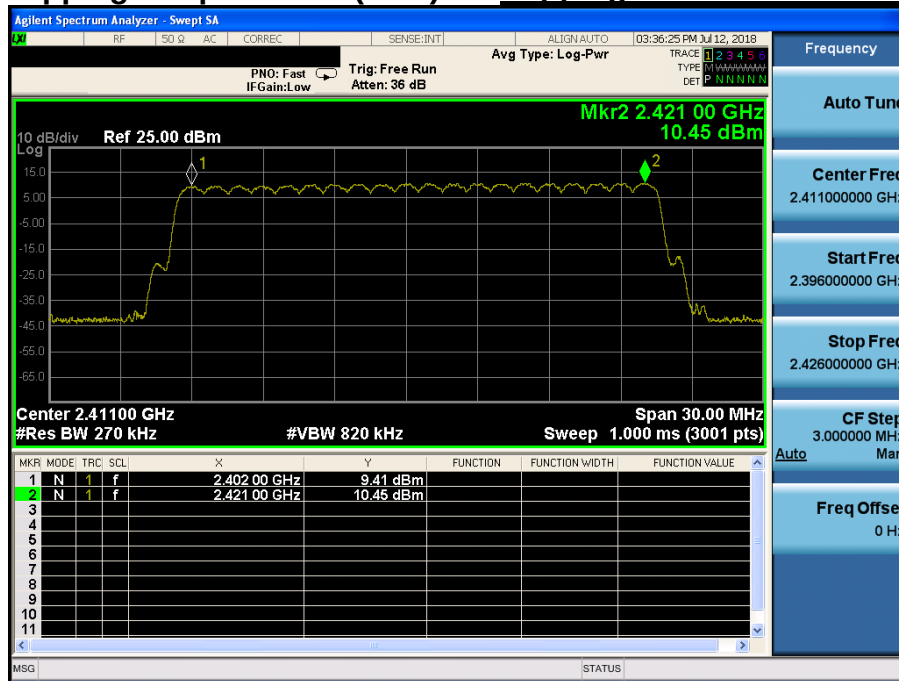


Hopping mode : Enable & 8DPSK



Number of Hopping Frequencies 1(AFH) *Hopping mode : Enable & GFSK***Number of Hopping Frequencies 1(AFH) *Hopping mode : Enable & $\pi/4$ DQPSK***

Number of Hopping Frequencies 1(AFH) *Hopping mode : Enable & 8DPSK*



6. Time of Occupancy (Dwell Time)

6.1 Test Setup

Refer to the APPENDIX I.

6.2 Limit

The maximum permissible time of occupancy is 400 ms within a period of 400 ms multiplied by the number of hopping channels employed.

6.3 Test Procedure

The dwell time was measured with a spectrum analyzer connected to the antenna terminal, while EUT had its hopping function enabled.

The spectrum analyzer is set to :

Center frequency = 2441 MHz, 2411 MHz Span = zero

RBW = 1 MHz (RBW shall be $\leq$ channel spacing and where possible RBW should be set $\gg 1 / T$, where T is the expected dwell time per channel)

VBW $\geq$ RBW

Detector function = peak

Trace = max hold

6.4 Test Results

FH mode

Hopping mode	Packet Type	Number of hopping Channels	Burst On Time (ms)	Period (ms)	Test Result (sec)
Enable	DH 5	79	2.880	3.750	0.307
	2 DH 5	79	2.880	3.750	0.307
	3 DH 5	79	2.880	3.750	0.307

AFH mode

Hopping mode	Packet Type	Number of hopping Channels	Burst On Time (ms)	Period (ms)	Test Result (sec)
Enable	DH 5	20	2.880	3.750	0.154
	2 DH 5	20	2.880	3.750	0.154
	3 DH 5	20	2.880	3.750	0.154

Note 1 : Dwell Time = $0.4 \times \text{Hopping channel} \times \text{Burst ON time} \times$

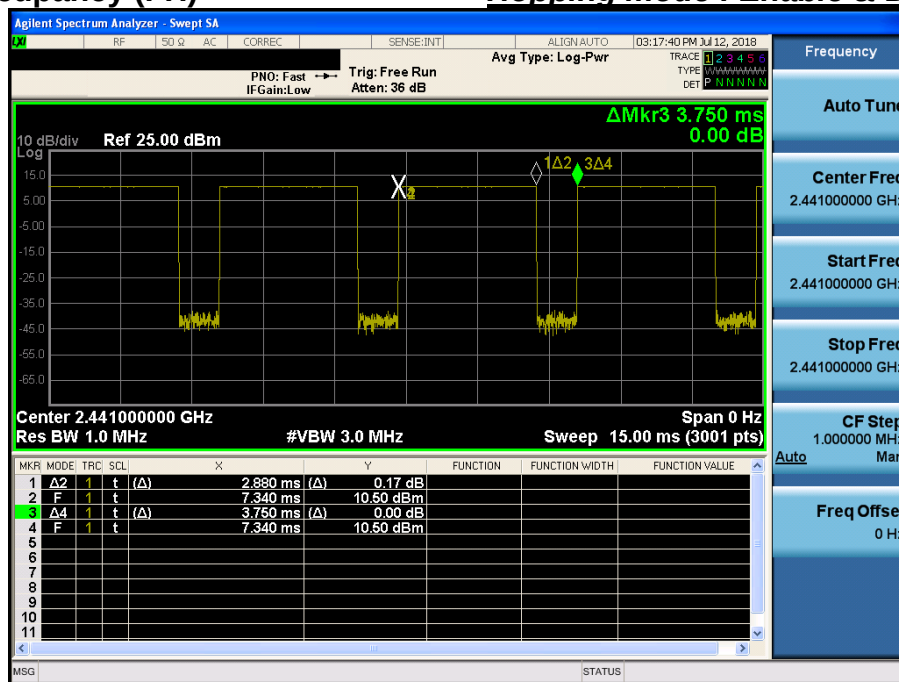
$((\text{Hopping rate} \div \text{Time slots}) \div \text{Hopping channel})$

- Time slots for DH5 = 6 slots (TX = 5 slot / RX = 1 slot)

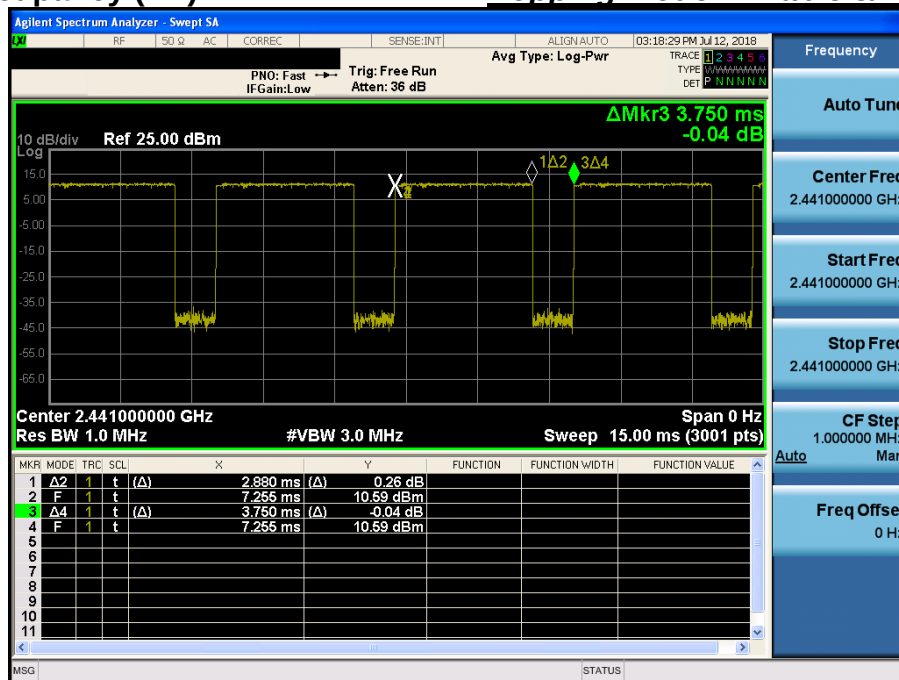
- Hopping Rate = 1600 for FH mode & 800 for AFH mode

Note 2 : See next pages for actual measured spectrum plots.

Time of Occupancy (FH)

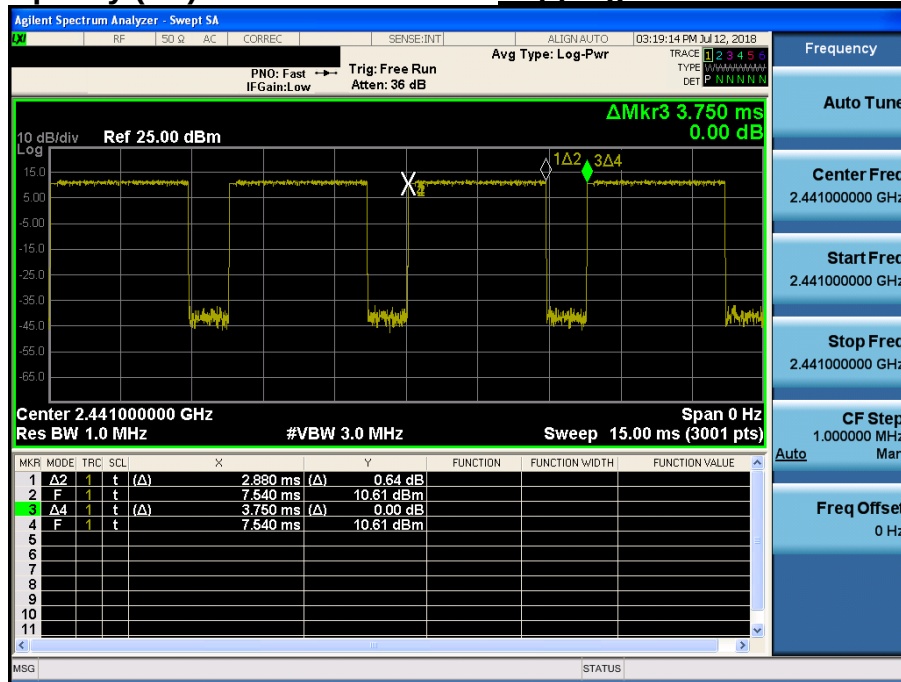
Hopping mode : Enable & DH5

Time of Occupancy (FH)

Hopping mode : Enable & 2-DH5

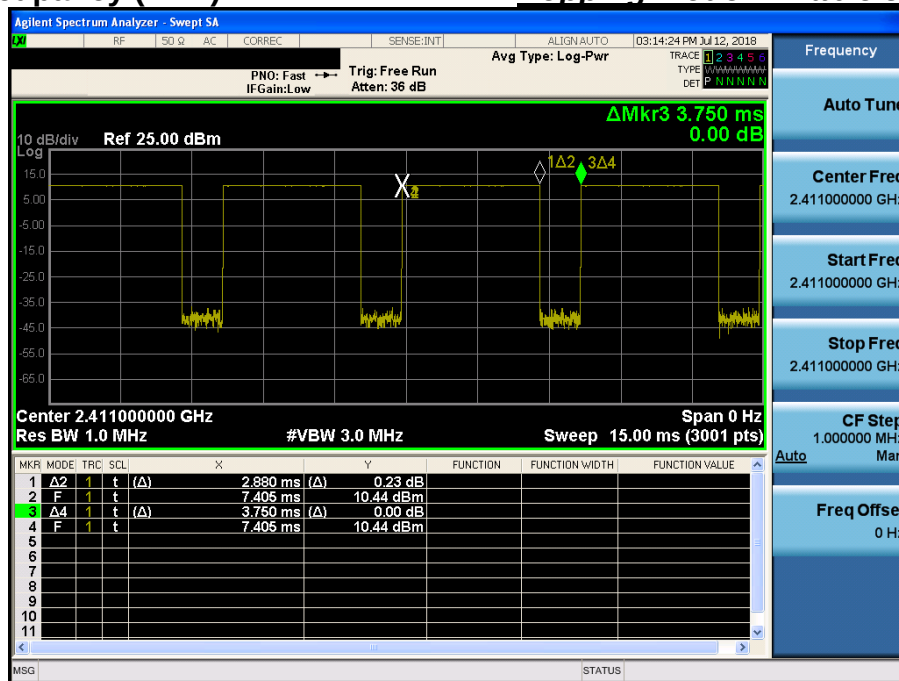
Time of Occupancy (FH)

Hopping mode : Enable & 3-DH5



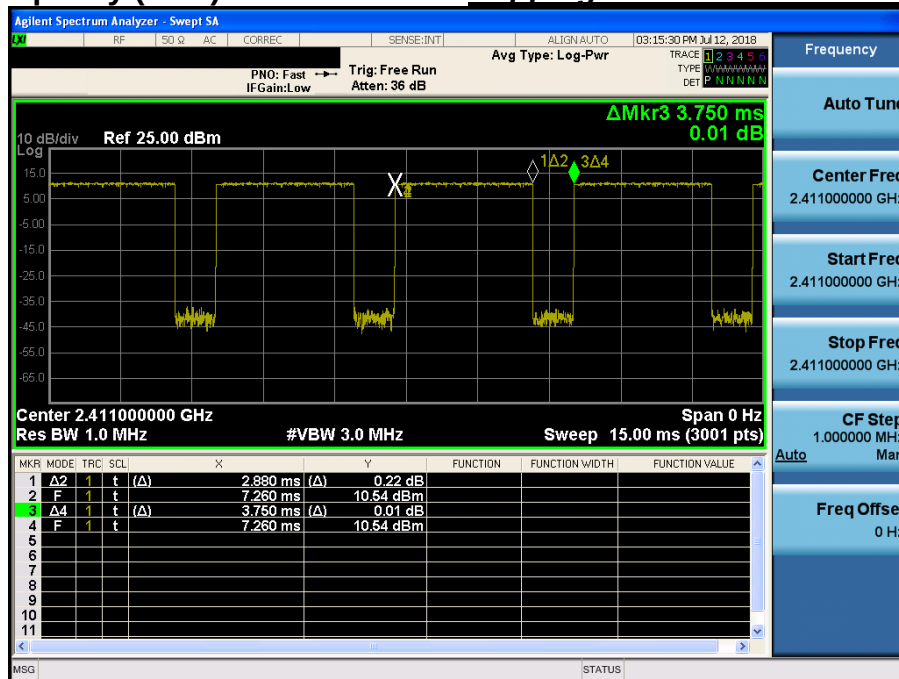
Time of Occupancy (AFH)

Hopping mode : Enable & DH5

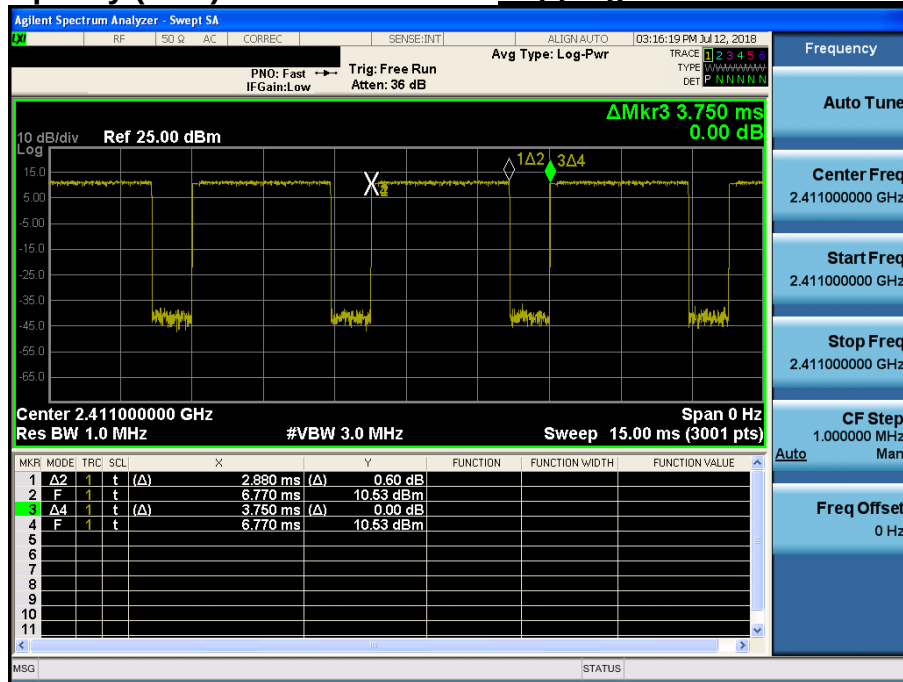


Time of Occupancy (AFH)

Hopping mode : Enable & 2-DH5



Time of Occupancy (AFH)

Hopping mode : Enable & 3-DH5

7. Transmitter Radiated Spurious Emissions and Conducted Spurious Emission

7.1 Test Setup

Refer to the APPENDIX I.

7.2 Limit

According to §15.247(d), in any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator 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, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph(b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in section §15.209(a) is not required. In addition, radiated emission which in the restricted band, as define in section §15.205(a), must also comply the radiated emission limits specified in section §15.209(a) (see section §15.205(c))

According to § 15.209(a), except as provided elsewhere in this Subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table

Frequency (MHz)	Limit (uV/m)	Measurement Distance (meter)
0.009 ~ 0.490	2400/F (kHz)	300
0.490 ~ 1705	24000/F (kHz)	30
1705 ~ 30.0	30	30
30 ~ 88	100 **	3
88 ~ 216	150 **	3
216 ~ 960	200 **	3
Above 960	500	3

** Except as provided in 15.209(g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54 - 72 MHz, 76 - 88 MHz, 174 - 216 MHz or 470 - 806 MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g. 15.231 and 15.241.

According to § 15.205(a) and (b), only spurious emissions are permitted in any of the frequency bands listed below :

MHz	MHz	MHz	MHz	GHz	GHz
0.009 ~ 0.110	8.41425 ~ 8.41475	108 ~ 121.94	1300 ~ 1427	4.5 ~ 5.15	14.47 ~ 14.5
0.495 ~ 0.505	12.29 ~ 12.293	123 ~ 138	1435 ~ 1626.5	5.35 ~ 5.46	15.35 ~ 16.2
2.1735 ~ 2.1905	12.51975 ~ 12.52025	149.9 ~ 150.05	1645.5 ~ 1646.5	7.25 ~ 7.75	17.7 ~ 21.4
4.125 ~ 4.128	12.57675 ~ 12.57725	156.52475 ~ 156.52525	1660 ~ 1710	8.025 ~ 8.5	22.01 ~ 23.12
4.17725 ~ 4.17775	13.36 ~ 13.41	156.7 ~ 156.9	1718.8 ~ 1722.2	9.0 ~ 9.2	23.6 ~ 24.0
4.20725 ~ 4.20775	16.42 ~ 16.423	162.0125 ~ 167.17	2200 ~ 2300	9.3 ~ 9.5	31.2 ~ 31.8
6.215 ~ 6.218	16.69475 ~ 16.69525	167.72 ~ 173.2	2310 ~ 2390	10.6 ~ 12.7	36.43 ~ 36.5
6.26775 ~ 6.26825	16.80425 ~ 16.80475	240 ~ 285	2483.5 ~ 2500	13.25 ~ 13.4	Above 38.6
6.31175 ~ 6.31225	25.5 ~ 25.67	322 ~ 335.4	2655 ~ 2900		
8.291 ~ 8.294	37.5 ~ 38.25	399.90 ~ 410	3260 ~ 3267		
8.362 ~ 8.366	73 ~ 74.6	608 ~ 614	3332 ~ 3339		
8.37625 ~ 8.38675	74.8 ~ 75.2	960 ~ 1240	3345.8 ~ 3358		
			3600 ~ 4400		

The field strength of emissions appearing within these frequency bands shall not exceed the limits shown in §15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in §15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in §15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in §15.35 apply to these measurements.