



Test Graphs:

L:

DH5-Ant1-2402-PASS



DH5-Ant1-2441-PASS



DH5-Ant1-2480-PASS



2DH5-Ant1-2402-PASS



2DH5-Ant1-2441-PASS



2DH5-Ant1-2480-PASS



3DH5-Ant1-2402-PASS



3DH5-Ant1-2441-PASS



3DH5-Ant1-2480-PASS



Report No.: PTC25052716602E-FC01



R:

DH5-Ant1-2402-PASS



DH5-Ant1-2441-PASS



DH5-Ant1-2480-PASS



2DH5-Ant1-2402-PASS



2DH5-Ant1-2441-PASS



2DH5-Ant1-2480-PASS



3DH5-Ant1-2402-PASS



3DH5-Ant1-2441-PASS



3DH5-Ant1-2480-PASS

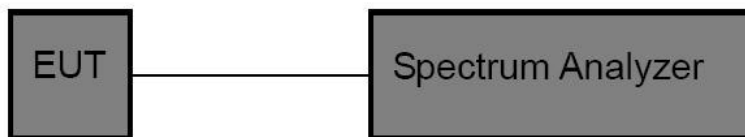


9 20DB Occupy Bandwidth Test

9.1 Test Standard

Test Standard	FCC Part15 C Section 15.247 (a)(1)
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9.2 Test Setup



9.3 Test Procedure

Using the following spectrum analyzer settings:

1. Span= approximately 2 to 3 times the 20dB bandwidth, centered on a hopping channel.
2. Set the RBW = 30 kHz.
3. Set the VBW = 100 kHz.
4. Sweep time = auto couple.
5. Detector function = peak.
6. Trace mode = max hold.
7. Allow trace to fully stabilize.

9.4 Test Data

Test Item	:	20dB BW	Test Mode	:	CH Low ~ CH High
Test Voltage	:	3.7V	Temperature	:	24.5°C
Test Result	:	PASS	Humidity	:	55%RH



L:

TestMode	Antenna	Frequency[MHz]	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.963	2401.505	2402.468	---	---
DH5	Ant1	2441	0.969	2440.496	2441.465	---	---
DH5	Ant1	2480	0.960	2479.505	2480.465	---	---
2DH5	Ant1	2402	1.212	2401.367	2402.579	---	---
2DH5	Ant1	2441	1.272	2440.346	2441.618	---	---
2DH5	Ant1	2480	1.314	2479.316	2480.630	---	---
3DH5	Ant1	2402	1.305	2401.325	2402.630	---	---
3DH5	Ant1	2441	1.221	2440.367	2441.588	---	---
3DH5	Ant1	2480	1.293	2479.334	2480.627	---	---

R:

TestMode	Antenna	Frequency[MHz]	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.948	2401.511	2402.459	---	---
DH5	Ant1	2441	0.948	2440.508	2441.456	---	---
DH5	Ant1	2480	0.936	2479.517	2480.453	---	---
2DH5	Ant1	2402	1.329	2401.307	2402.636	---	---
2DH5	Ant1	2441	1.206	2440.373	2441.579	---	---
2DH5	Ant1	2480	1.281	2479.346	2480.627	---	---
3DH5	Ant1	2402	1.287	2401.331	2402.618	---	---
3DH5	Ant1	2441	1.293	2440.340	2441.633	---	---
3DH5	Ant1	2480	1.251	2479.340	2480.591	---	---



Test Graphs:

L:

DH5-Ant1-2402



DH5-Ant1-2441



DH5-Ant1-2480



2DH5-Ant1-2402



2DH5-Ant1-2441



2DH5-Ant1-2480



3DH5-Ant1-2402



3DH5-Ant1-2441



3DH5-Ant1-2480



R:

DH5-Ant1-2402





DH5-Ant1-2441



DH5-Ant1-2480



2DH5-Ant1-2402



2DH5-Ant1-2441



2DH5-Ant1-2480



3DH5-Ant1-2402



3DH5-Ant1-2441



3DH5-Ant1-2480



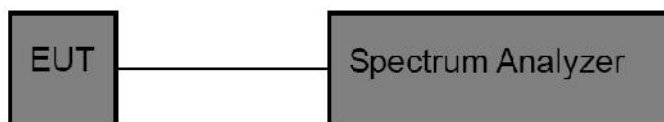


10 Carrier Frequency Separation Test

10.1 Test Standard and Limit

Test Standard	FCC Part15 C Section 15.247 (a)(1)
Test Limit	>25KHz or >two-thirds of the 20 dB bandwidth

10.2 Test Setup



10.3 Test Procedure

The EUT must have its hopping function enabled. Using the following spectrum analyzer settings:

1. Span= Wide enough to capture the peaks of two adjacent channels
2. Set the RBW = 300 kHz.
3. Set the VBW = 300 kHz.
4. Sweep time = auto couple.
5. Detector function = peak.
6. Trace mode = max hold.
7. Allow trace to fully stabilize.

10.4 Test Data

Test Item	:	Frequency Separation	Test Mode	:	CH Low ~ CH High
Test Voltage	:	3.7V	Temperature	:	24.5°C
Test Result	:	PASS	Humidity	:	55%RH



L:

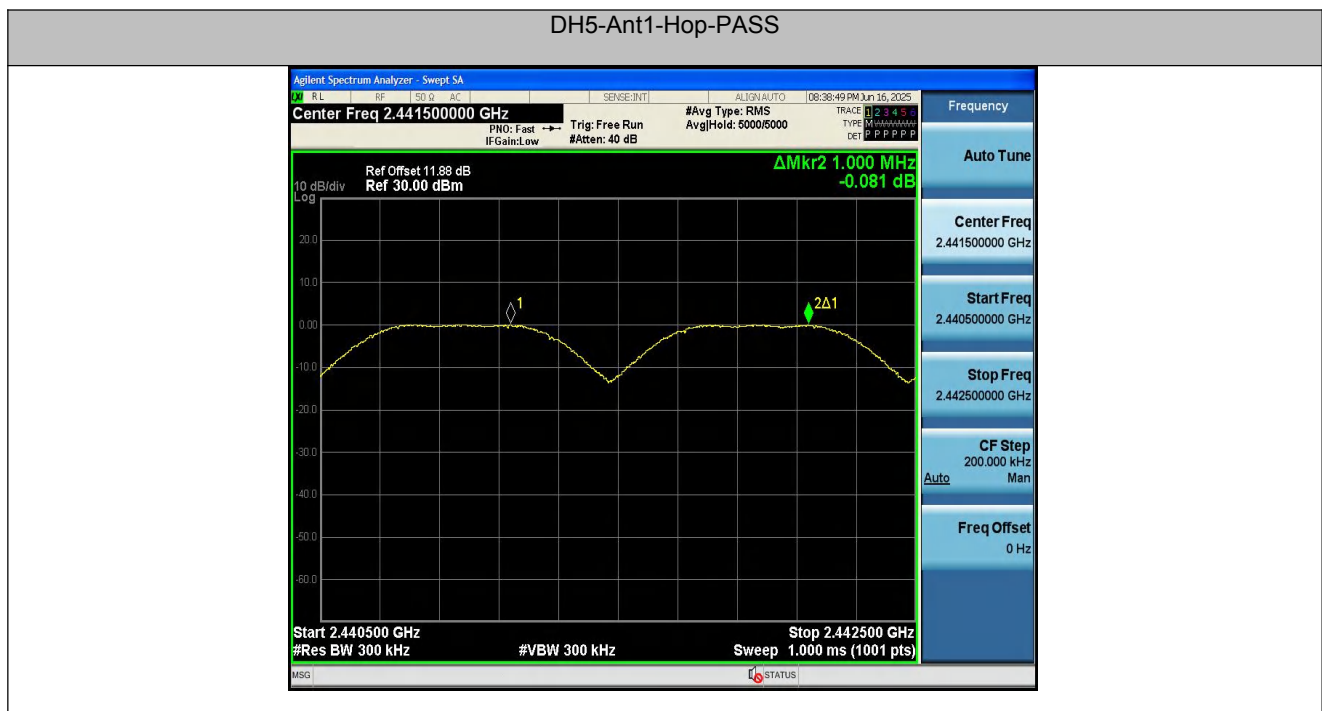
TestMode	Antenna	Frequency[MHz]	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	1.000	≥ 0.646	PASS
2DH5	Ant1	Hop	1.106	≥ 0.876	PASS
3DH5	Ant1	Hop	1.028	≥ 0.870	PASS

R:

TestMode	Antenna	Frequency[MHz]	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	0.846	≥ 0.632	PASS
2DH5	Ant1	Hop	1.302	≥ 0.886	PASS
3DH5	Ant1	Hop	0.994	≥ 0.862	PASS

Test Graphs:

L:





2DH5-Ant1-Hop-PASS



3DH5-Ant1-Hop-PASS





R:

DH5-Ant1-Hop-PASS



2DH5-Ant1-Hop-PASS



3DH5-Ant1-Hop-PASS



Report No.: PTC25052716602E-FC01



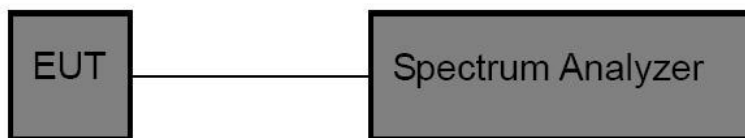


11 Number of Hopping Channel Test

11.1 Test Standard and Limit

Test Standard	FCC Part15 C Section 15.247 (a)(1)
Test Limit	>15 channels

11.2 Test Setup



11.3 Test Procedure

The EUT must have its hopping function enabled. Using the following spectrum analyzer setting:

1. Span= the frequency band of operation
2. Set the RBW = 300kHz.
3. Set the VBW = 300kHz.
4. Sweep time = auto couple.
5. Detector function = peak.
6. Trace mode = max hold.
7. Allow trace to fully stabilize.



11.4 Test Data

Test Item	: Number of Hopping Frequency	Test Mode	: CH Low ~ CH High
Test Voltage	: 3.7V	Temperature	: 24.5°C
Test Result	: PASS	Humidity	: 55%RH

L:

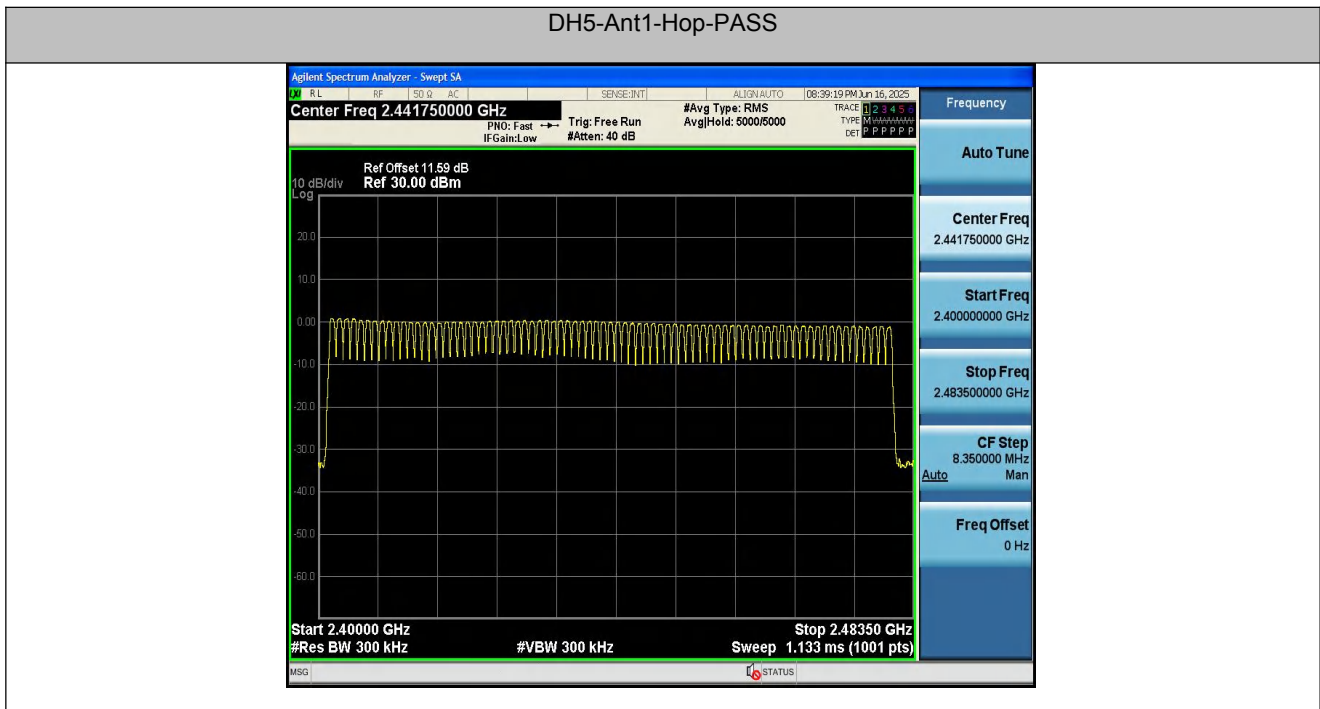
TestMode	Antenna	Frequency[MHz]	Result[Num]	Limit[Num]	Verdict
DH5	Ant1	Hop	79	≥15	PASS
2DH5	Ant1	Hop	79	≥15	PASS
3DH5	Ant1	Hop	79	≥15	PASS

R:

TestMode	Antenna	Frequency[MHz]	Result[Num]	Limit[Num]	Verdict
DH5	Ant1	Hop	79	≥15	PASS
2DH5	Ant1	Hop	79	≥15	PASS
3DH5	Ant1	Hop	79	≥15	PASS

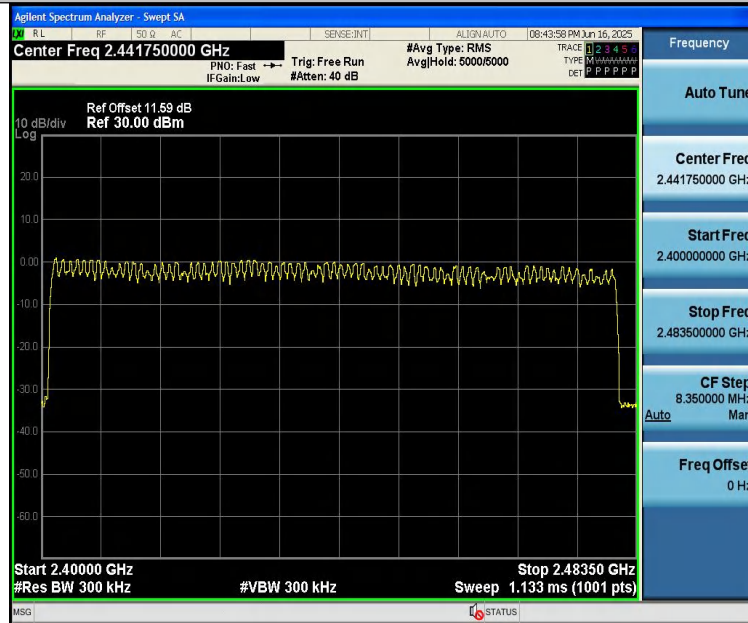
Test Graphs:

L:

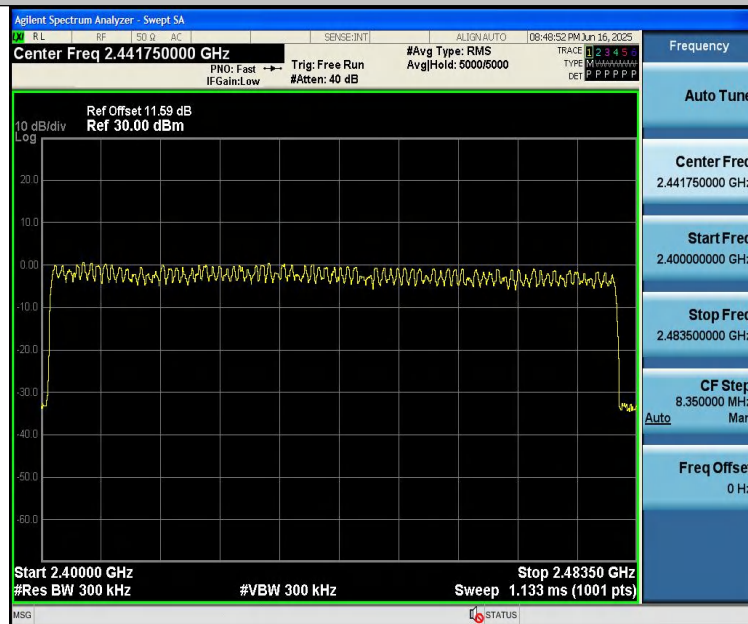




2DH5-Ant1-Hop-PASS



3DH5-Ant1-Hop-PASS



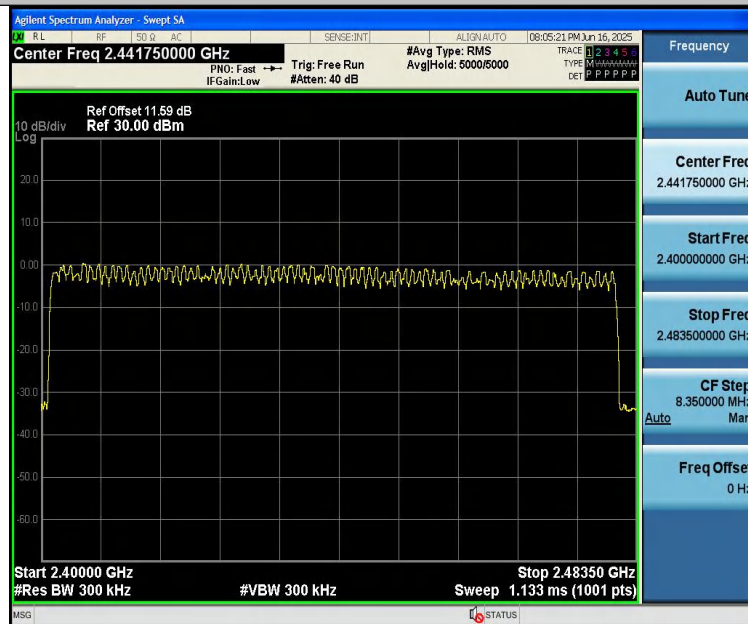


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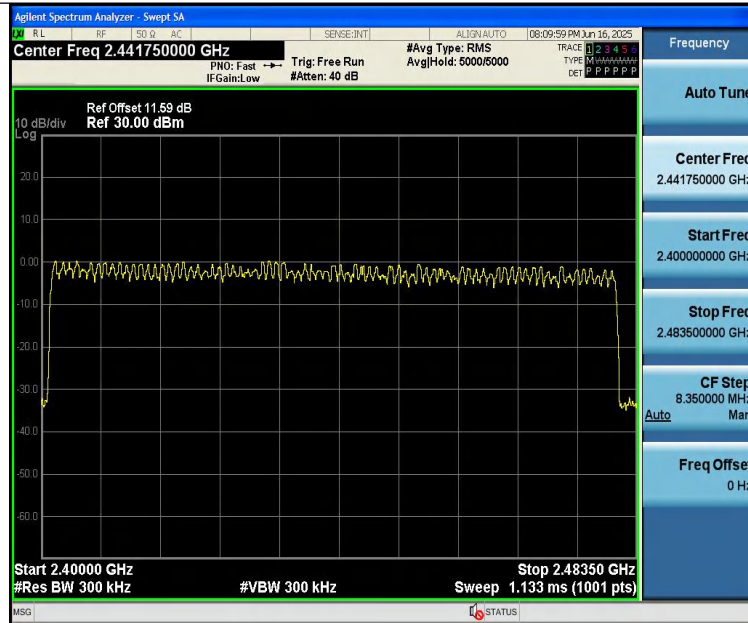
DH5-Ant1-Hop-PASS



2DH5-Ant1-Hop-PASS



3DH5-Ant1-Hop-PASS



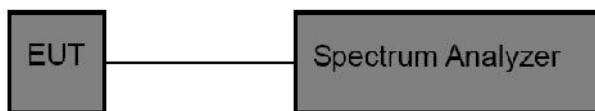


12 Dwell Time Test

12.1 Test Standard and Limit

Test Standard	FCC Part15 C Section 15.247 (a)(1)
Test Limit	0.4 sec

12.2 Test Setup



12.3 Test Procedure

The EUT must have its hopping function enabled. Use the following spectrum analyzer settings:

1. Span= zero span, centered on a hopping channel
2. Set the RBW = 1 MHz.
3. Set the VBW = 3 MHz.
4. Sweep time = as necessary to capture the entire dwell time per hopping channel.
5. Detector function = peak.
6. Trace mode = clear write.
7. Allow trace to fully stabilize.



12.4 Test Data

Test Item : Time of Occupancy
Test Voltage : 3.7V
Test Result : PASS

Test Mode : CH Low ~ CH High
Temperature : 24.5°C
Humidity : 55%RH

L:

TestMode	Antenna	Frequency[MHz]	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant1	Hop	2.910	106.67	0.31	≤0.4	PASS
2DH5	Ant1	Hop	2.915	106.67	0.311	≤0.4	PASS
3DH5	Ant1	Hop	2.917	106.67	0.311	≤0.4	PASS
DH1	Ant1	Hop	0.405	320	0.13	≤0.4	PASS
2DH1	Ant1	Hop	0.415	320	0.133	≤0.4	PASS
3DH1	Ant1	Hop	0.417	320	0.133	≤0.4	PASS
DH3	Ant1	Hop	1.661	160	0.266	≤0.4	PASS
2DH3	Ant1	Hop	1.668	160	0.267	≤0.4	PASS
3DH3	Ant1	Hop	1.667	160	0.267	≤0.4	PASS

R:

TestMode	Antenna	Frequency[MHz]	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant1	Hop	2.910	106.67	0.31	≤0.4	PASS
2DH5	Ant1	Hop	2.914	106.67	0.311	≤0.4	PASS
3DH5	Ant1	Hop	2.918	106.67	0.311	≤0.4	PASS
DH1	Ant1	Hop	0.404	320	0.129	≤0.4	PASS
2DH1	Ant1	Hop	0.415	320	0.133	≤0.4	PASS
3DH1	Ant1	Hop	0.417	320	0.133	≤0.4	PASS
DH3	Ant1	Hop	1.661	160	0.266	≤0.4	PASS
2DH3	Ant1	Hop	1.667	160	0.267	≤0.4	PASS
3DH3	Ant1	Hop	1.667	160	0.267	≤0.4	PASS

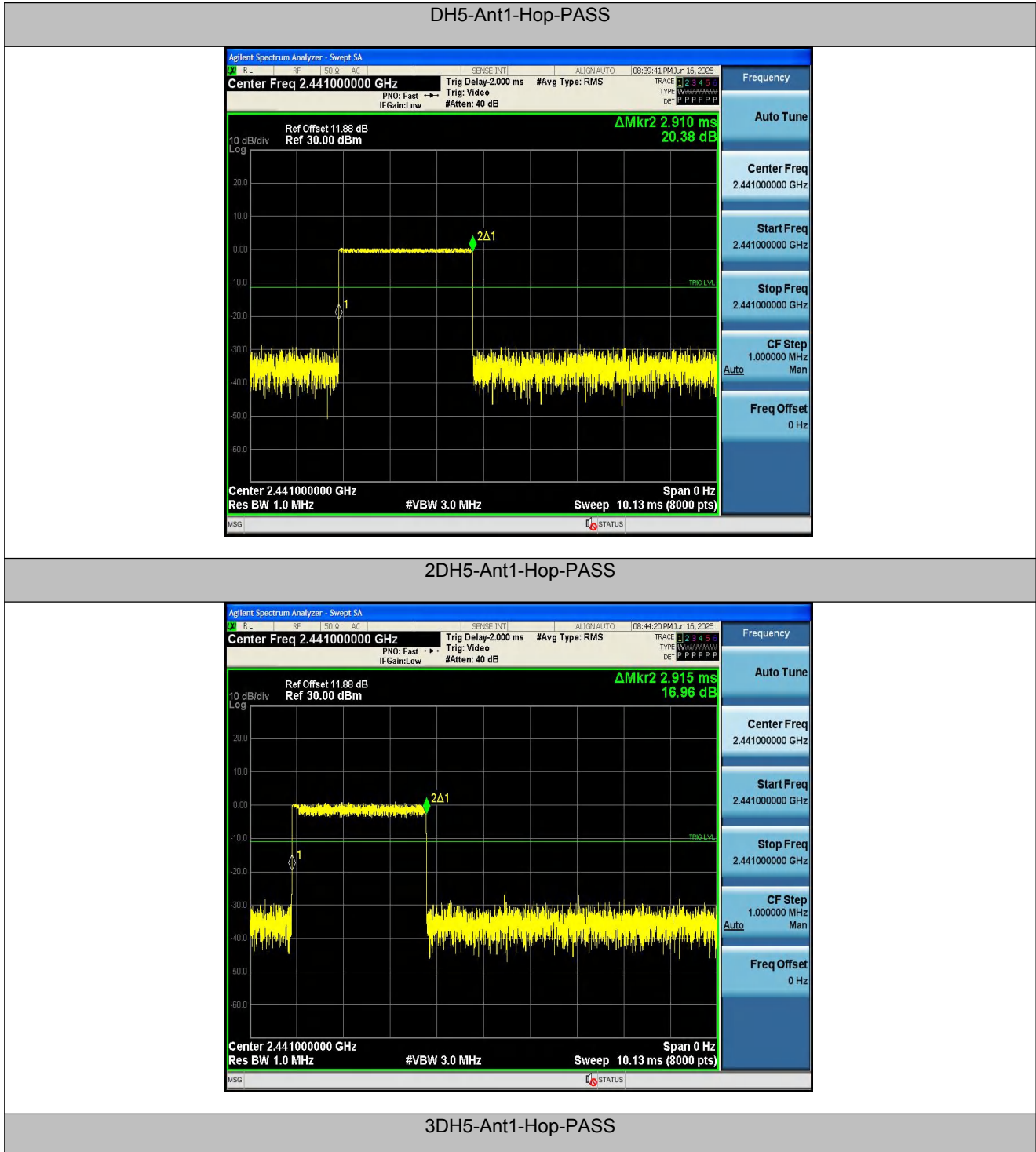
Note:

- 1.DH1/2DH1/3DH1 Dwell Time: Reading * (1600/2)*31.6/(channel number).
- 2.DH3/2DH3/3DH3 Dwell Time: Reading * (1600/4)*31.6/(channel number).
- 3.DH5/2DH5/3DH5 Dwell Time: Reading * (1600/6)*31.6/(channel number).



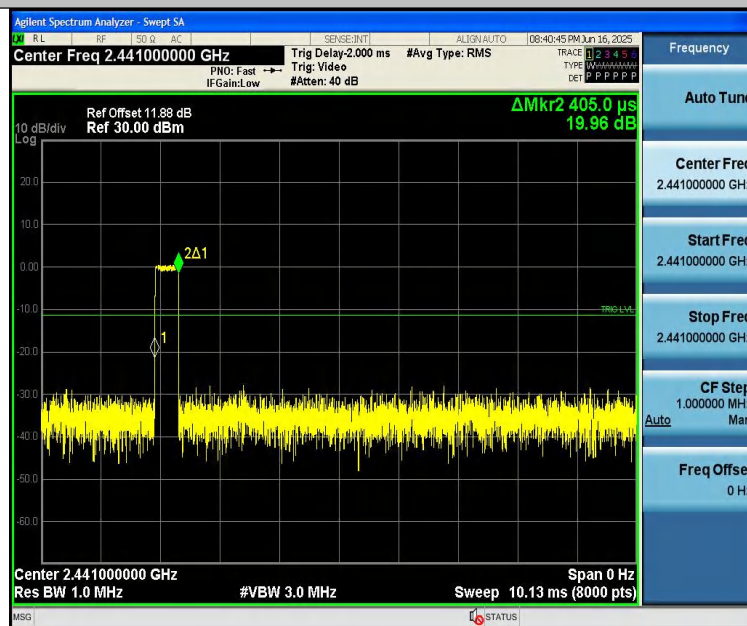
Test Graphs:

L:

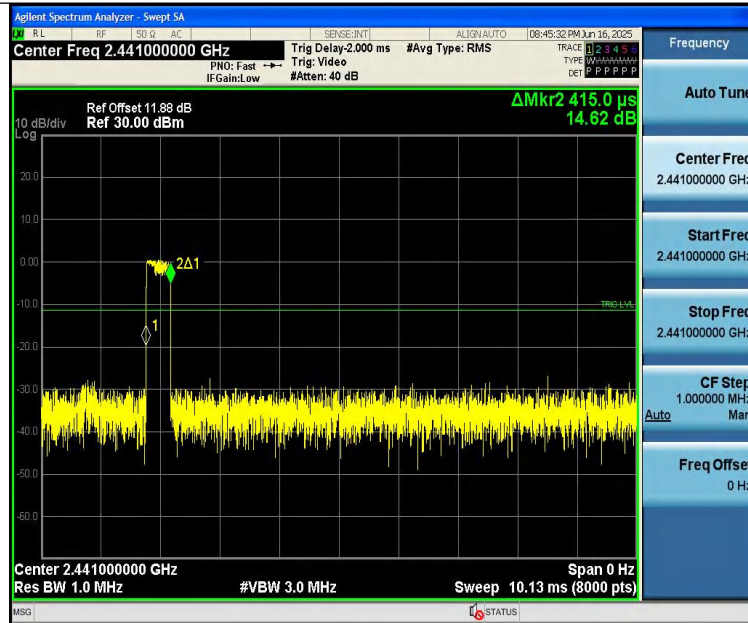




DH1-Ant1-Hop-PASS



2DH1-Ant1-Hop-PASS



3DH1-Ant1-Hop-PASS



DH3-Ant1-Hop-PASS



2DH3-Ant1-Hop-PASS



3DH3-Ant1-Hop-PASS