

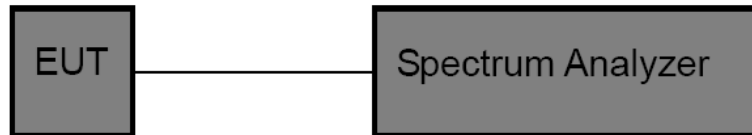


3.5. 20dB Bandwidth

Limit

N/A

Test Configuration



Test Procedure

1. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
2. OCB and 20dB Spectrum Setting:
 - (1) Set RBW = 1% ~ 5% occupied bandwidth.
 - (2) Set the video bandwidth (VBW) ≥ 3 RBW.
 - (3) Detector = Peak.
 - (4) Trace mode = Max hold.
 - (5) Sweep = Auto couple.

Note: The EUT was set to continuously transmitting in each mode and low, Middle and high channel for the test.

Test Mode

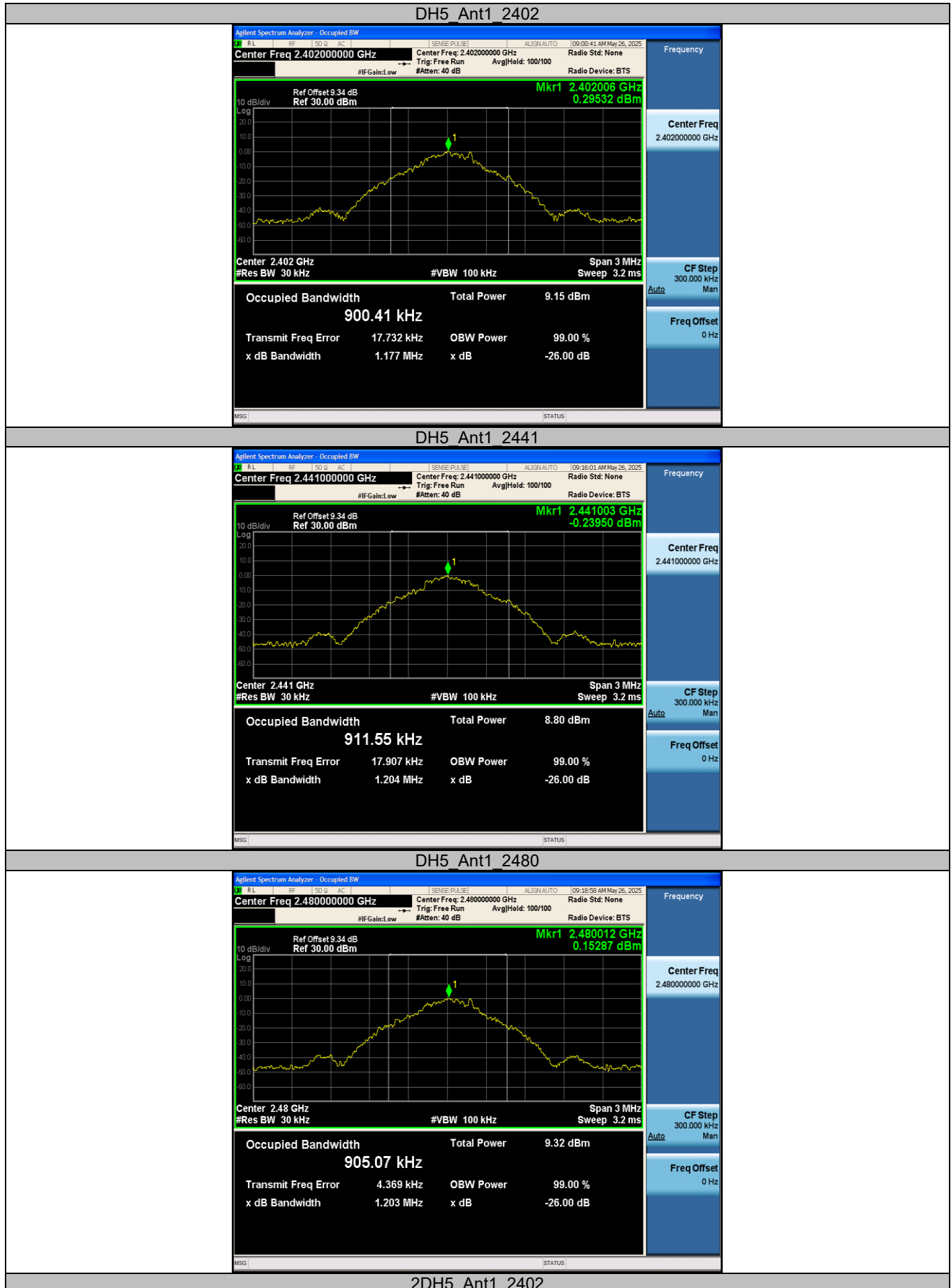
Please refer to the clause 2.4.

Test Result

Test Mode	Antenna	Freq(MHz)	OCB [MHz]	20dB BW [MHz]	20dB BW*2/3 [MHz]
DH5	Ant1	2402	0.90041	1.032	0.688
		2441	0.91155	0.996	0.664
		2480	0.90507	1.011	0.674
2DH5	Ant1	2402	1.1852	1.302	0.868
		2441	1.1842	1.281	0.854
		2480	1.1756	1.323	0.882
3DH5	Ant1	2402	1.1797	1.290	0.860
		2441	1.1768	1.290	0.860
		2480	1.1792	1.293	0.862



99% Bandwidth:



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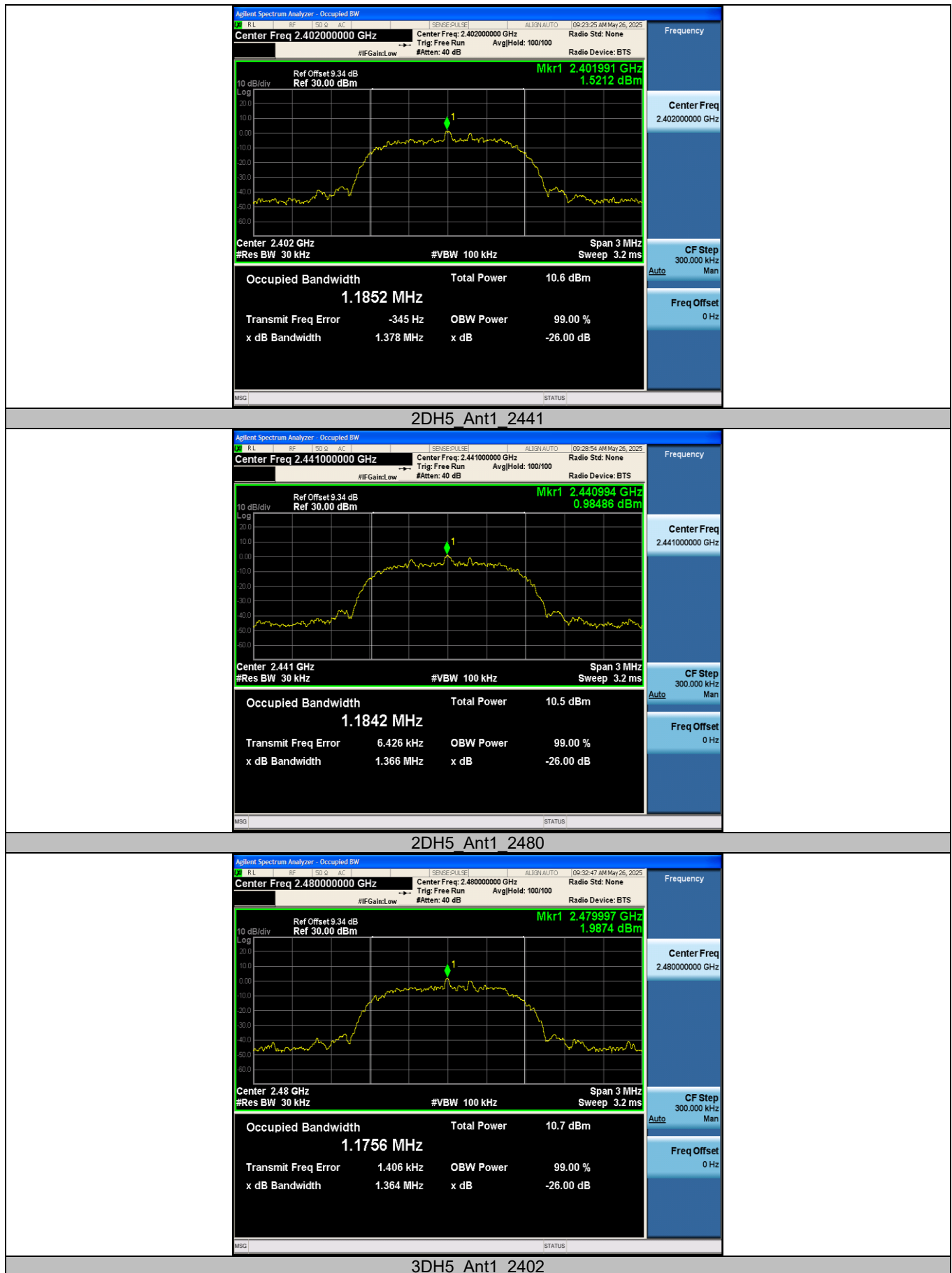
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20dB Bandwidth:



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2DH5 Ant1 2441



2DH5 Ant1 2480



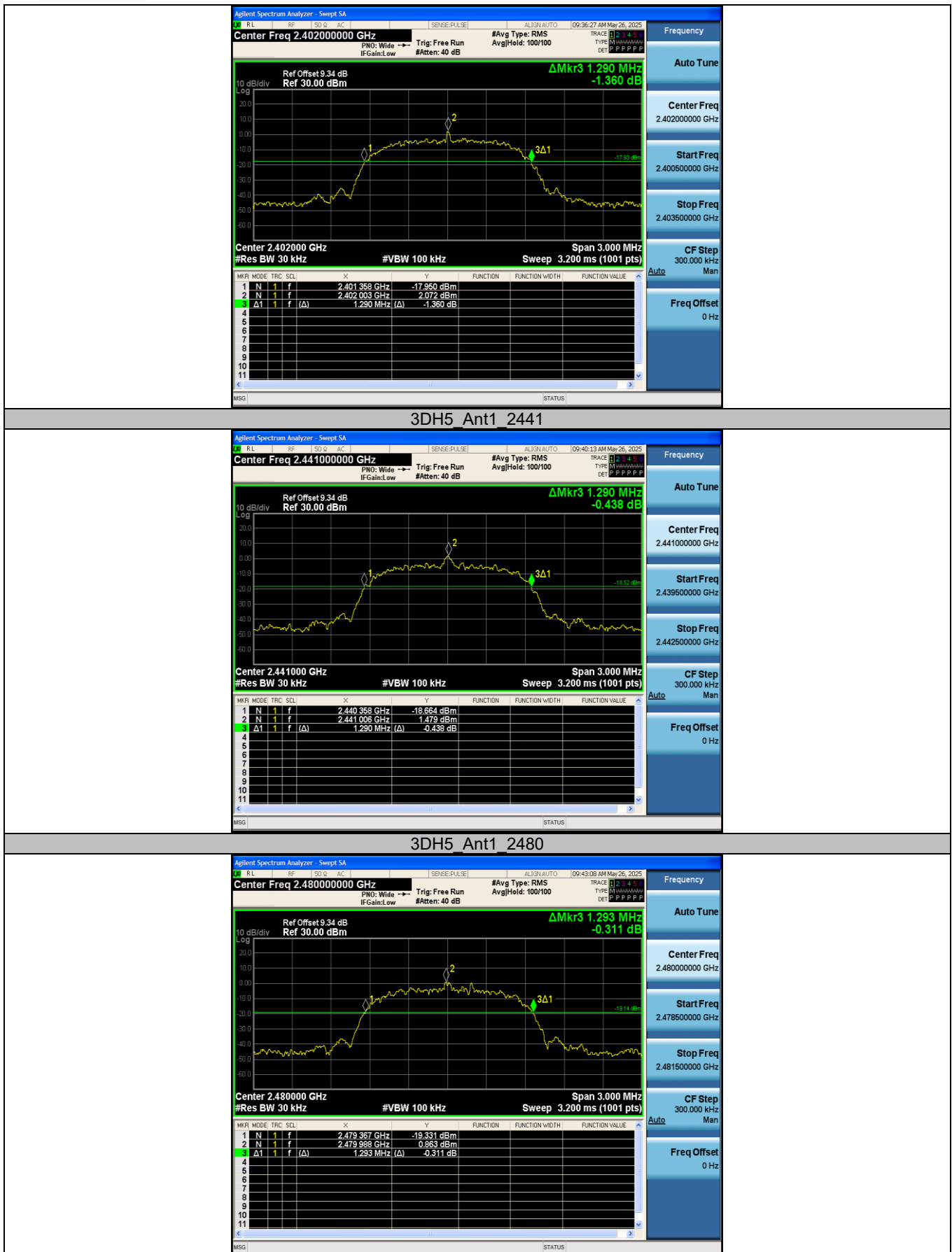
3DH5 Ant1 2402

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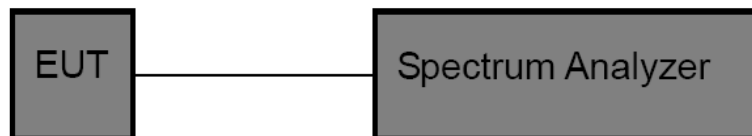
3.6. Channel Separation

Limit

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (a)(1) / RSS-247 5.1 b

Test Item	Limit	Frequency Range (MHz)
Channel Separation	>25kHz or >two-thirds of the 20 dB bandwidth Which is greater	2400~2483.5

Test Configuration



Test Procedure

1. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
2. Spectrum Setting:
 - (1) Set RBW = 100 kHz.
 - (2) Set the video bandwidth (VBW) ≥ 3 RBW.
 - (3) Detector = Peak.
 - (4) Trace mode = Max hold.
 - (5) Sweep = Auto couple.

Test Mode

Please refer to the clause 2.4.

Test Result

Test Mode	Antenna	Freq(MHz)	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	1.002	≥ 0.69	PASS
2DH5	Ant1	Hop	0.968	≥ 0.89	PASS
3DH5	Ant1	Hop	1.014	≥ 0.91	PASS



Test Graphs



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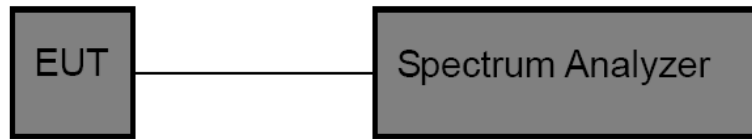
3.7. Number of Hopping Channel

Limit

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (a)(iii) / RSS-247 5.1 d

Section	Test Item	Limit
15.247 (a)(iii) RSS-247 5.1 d	Number of Hopping Channel	≥ 15

Test Configuration



Test Procedure

1. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
2. Spectrum Setting:
 - (1) Peak Detector: RBW=100 kHz, VBW \geq RBW, Sweep time= Auto.

Test Mode

Please refer to the clause 2.4.

Test Result

Test Mode	Antenna	Freq(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



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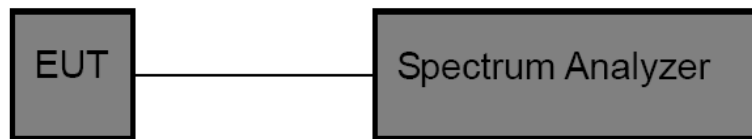
3.8. Dwell Time

Limit

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (a)(iii) / RSS-247 5.1 d

Section	Test Item	Limit
15.247 (a)(iii) RSS-247 5.1 d	Average Time of Occupancy	0.4 sec

Test Configuration



Test Procedure

1. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
2. Spectrum Setting:
 - (1) Spectrum Setting: RBW=1MHz, VBW \geq RBW.
 - (2) Use video trigger with the trigger level set to enable triggering only on full pulses.
 - (3) Sweep Time is more than once pulse time.
 - (4) Set the center frequency on any frequency would be measure and set the frequency span to zero.
 - (5) Measure the maximum time duration of one single pulse.
 - (6) Set the EUT for packet transmitting.

Test Mode

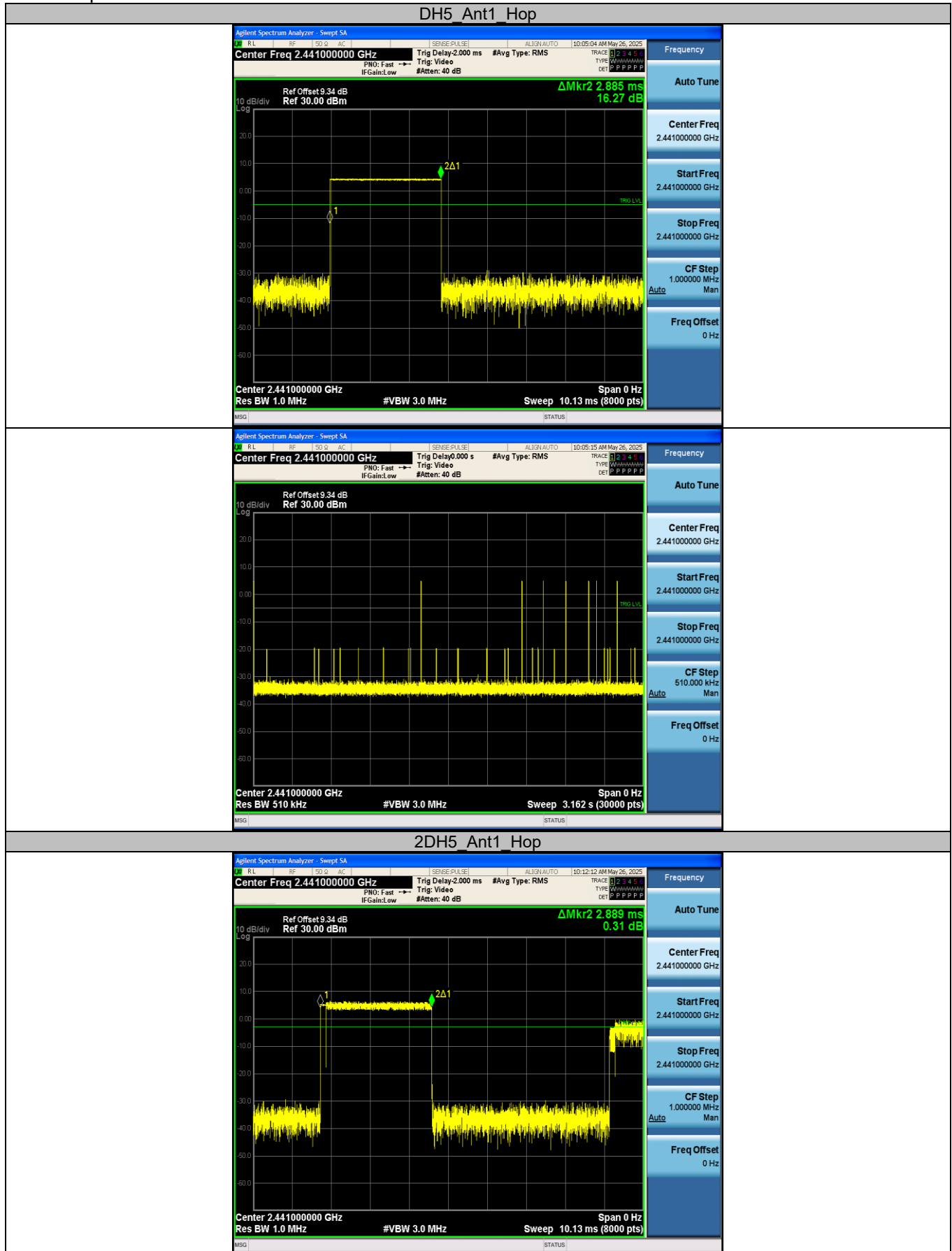
Please refer to the clause 2.4.

Test Result

Test Mode	Antenna	Freq(MHz)	Burst Width [ms]	Total Hops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant1	Hop	2.885	80	0.231	≤ 0.4	PASS
2DH5	Ant1	Hop	2.889	110	0.318	≤ 0.4	PASS
3DH5	Ant1	Hop	2.892	100	0.289	≤ 0.4	PASS



Test Graphs



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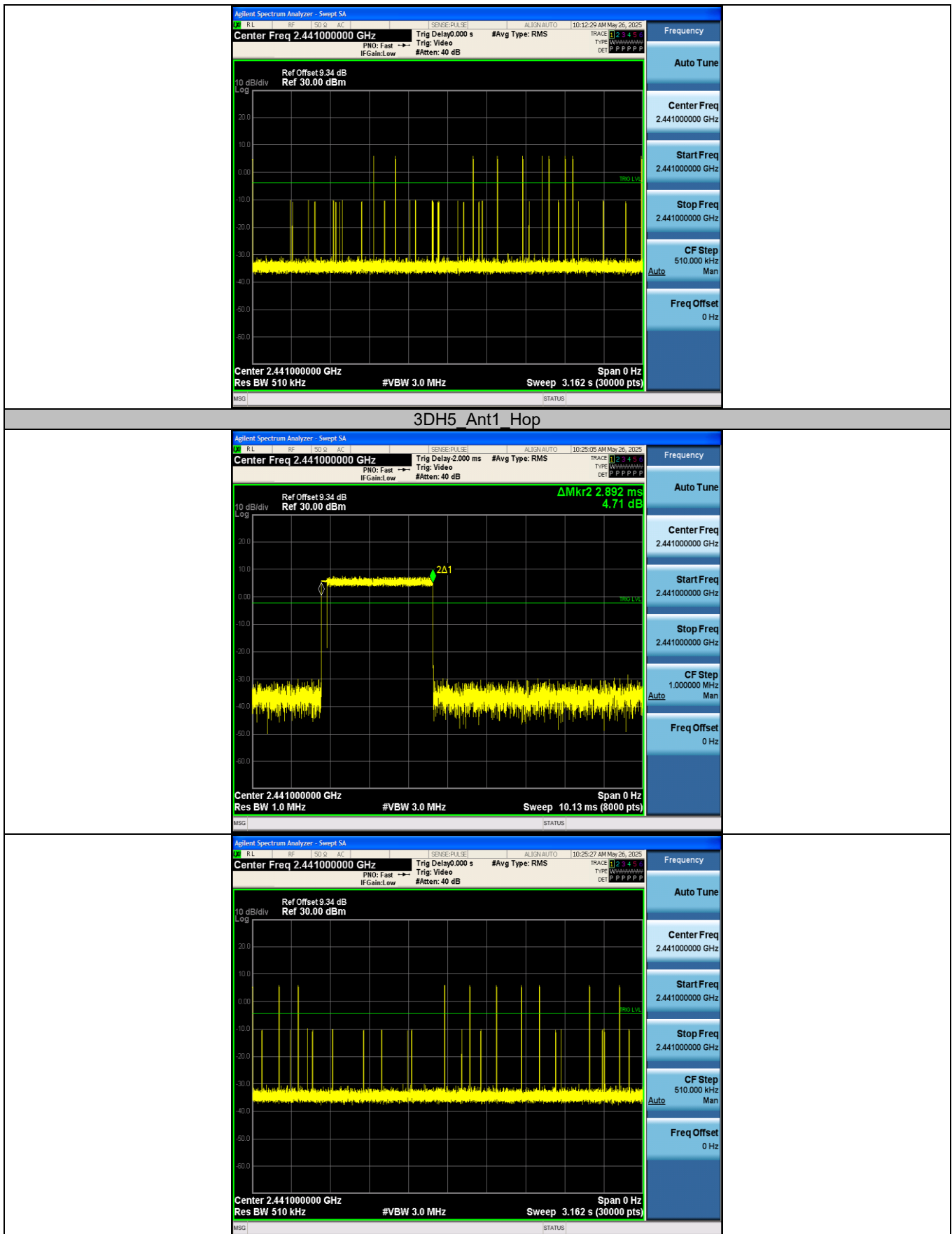
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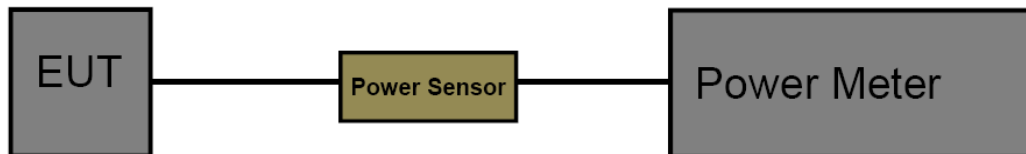
3.9. Maximum Output Power

Limit

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (b)(1) / RSS-247 5.4 b

Section	Test Item	Limit	Frequency Range (MHz)
FCC CFR 47 Part 15.247 (b)(1)	Maximum Conducted Output Power	Hopping Channels ≥ 75 , Power $< 1\text{W}$ (30dBm); Others $< 125\text{mW}$ (21dBm)	2400~2483.5
ISED RSS-247 5.4 d	Maximum Conducted Output Power	1 Watt or 30dBm	2400~2483.5
	EIRP	4 Watt or 36dBm	2400~2483.5

Test Configuration



Test Procedure

1. The maximum conducted output power may be measured using a broadband Peak RF power meter.
2. Peak power measurements were performed only when the EUT was transmitting at its peak power control level using a broadband power meter with a pulse sensor.
3. The power meter implemented triggering and gating capabilities which were set up such that power measurements were recorded only during the ON time of the transmitter.
Record the measurement data.

Test Mode

Please refer to the clause 2.4.

Test Result

Test Mode	Freq(MHz)	Peak Output Power[dBm]	Output Power Limit[dBm]	Verdict
DH5	2402	5.08	≤ 30	PASS
	2441	4.75	≤ 30	PASS
	2480	5.06	≤ 30	PASS
2DH5	2402	7.43	≤ 30	PASS
	2441	7.05	≤ 30	PASS
	2480	7.33	≤ 30	PASS
3DH5	2402	7.91	≤ 30	PASS
	2441	7.55	≤ 30	PASS
	2480	7.88	≤ 30	PASS

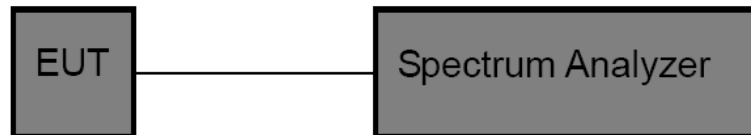


3.10. Duty Cycle

Limit

None, for report purposes only.

Test Configuration



Test Procedure

1. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
2. The EUT was directly connected to the Spectrum Analyzer and antenna output port as show in the block diagram above. The measurement according to section 10.2 of KDB 558074 D01 DTS Meas Guidance v05r02.
3. Spectrum Setting:
Set analyzer center frequency to test channel center frequency.
Set the span to 0Hz.
Set the RBW to 10MHz.
Set the VBW to 10MHz.
Detector: Peak.
Sweep time: Auto.
Allow trace to fully stabilize. Then use the peak marker function to determine the maximum amplitude level.

Test Mode

Please refer to the clause 2.4.

Test Result

Test Mode	Antenna	Freq(MHz)	ON Time [ms]	Period [ms]	Duty Cycle [%]	1/T Minimum VBW (kHz)	Final Setting for VBW (kHz)
DH5	Ant1	2402	2.88	3.74	77.01	0.35	1
		2441	2.88	3.74	77.01	0.35	1
		2480	2.88	3.74	77.01	0.35	1
2DH5	Ant1	2402	2.88	3.74	77.01	0.35	1
		2441	2.88	3.74	77.01	0.35	1
		2480	2.88	3.74	77.01	0.35	1
3DH5	Ant1	2402	2.88	3.74	77.01	0.35	1
		2441	2.88	3.74	77.01	0.35	1
		2480	2.88	3.74	77.01	0.35	1



Test Graphs



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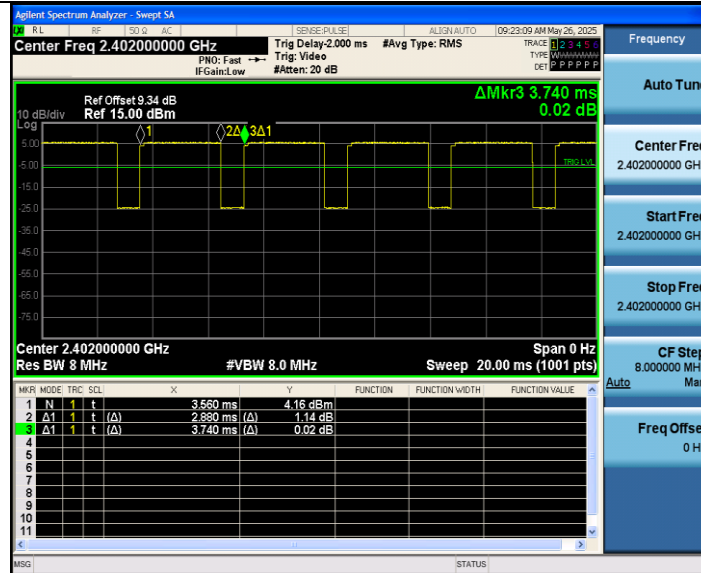
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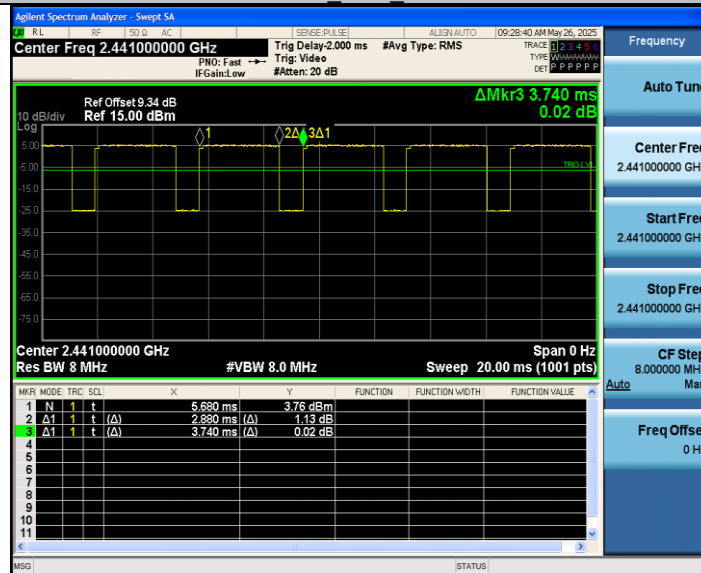
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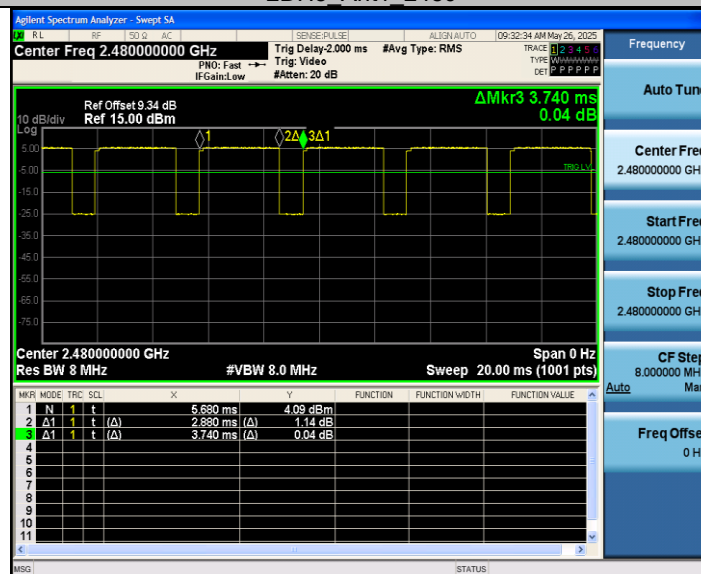
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2DH5 Ant1 2441



2DH5 Ant1 2480



3DH5 Ant1 2402

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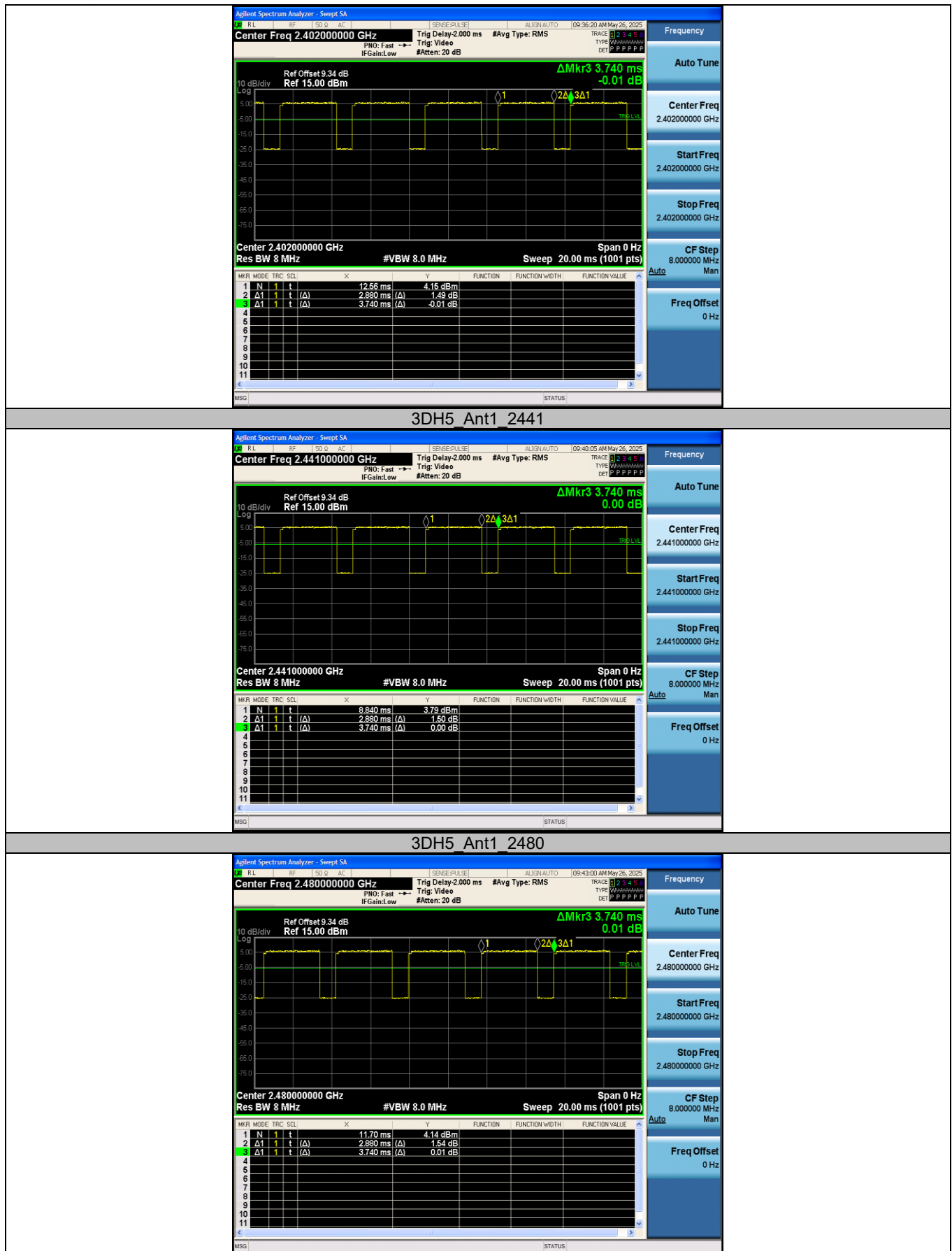
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3.11. Antenna Requirement

Requirement

FCC CFR Title 47 Part 15 Subpart C Section 15.203

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

FCC CFR Title 47 Part 15 Subpart C Section 15.247(c) (1)(i)

(i) Systems operating in the 2400~2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi.

Test Result

The directional gain of the antenna is less than 6dBi, please refer to the EUT internal photographs antenna photo.

*****THE END*****