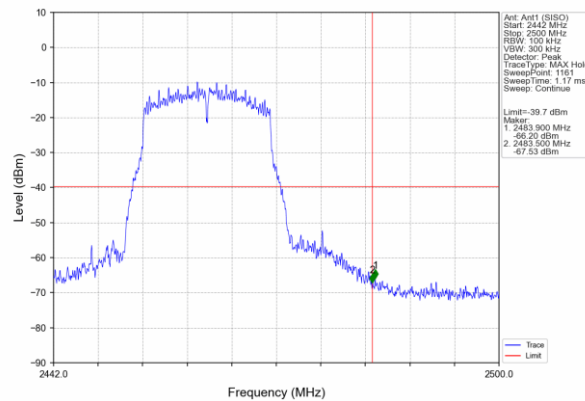
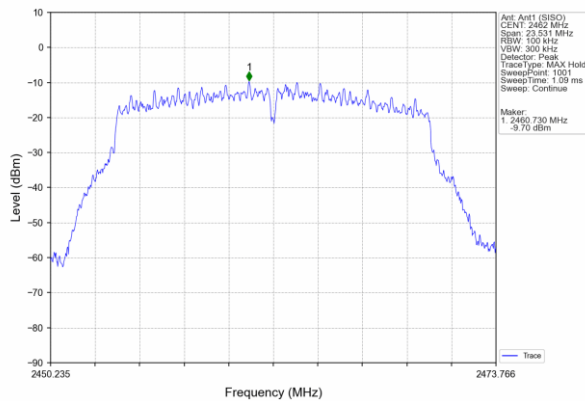
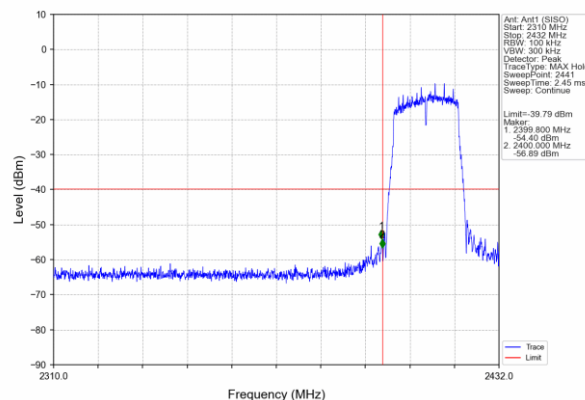
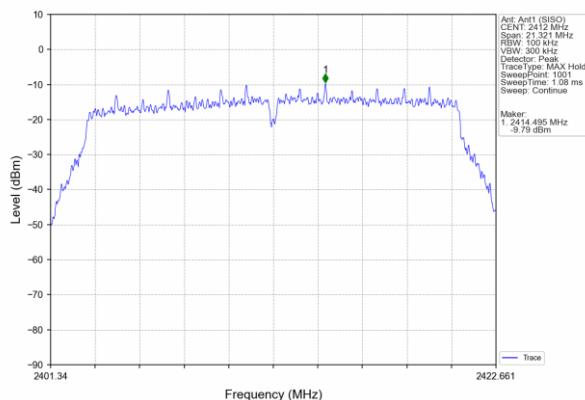




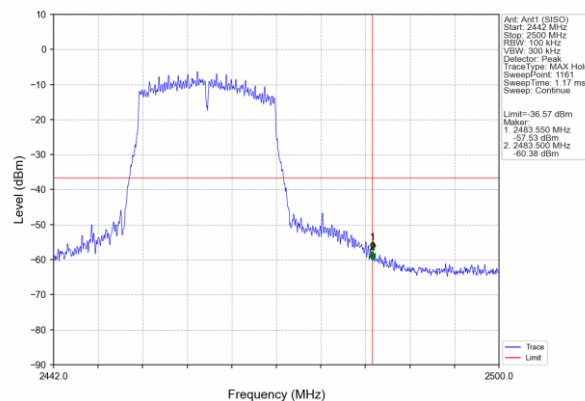
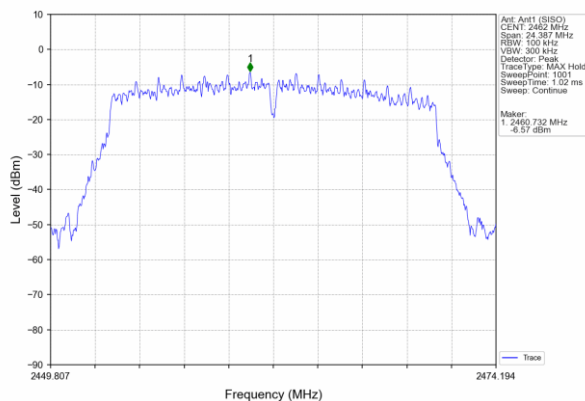
802.11g 2462MHz



802.11n 20 2412MHz

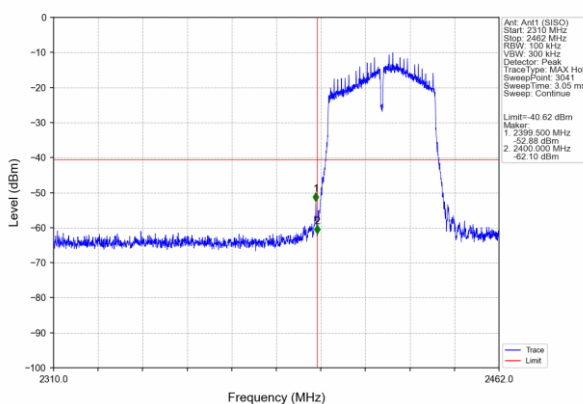
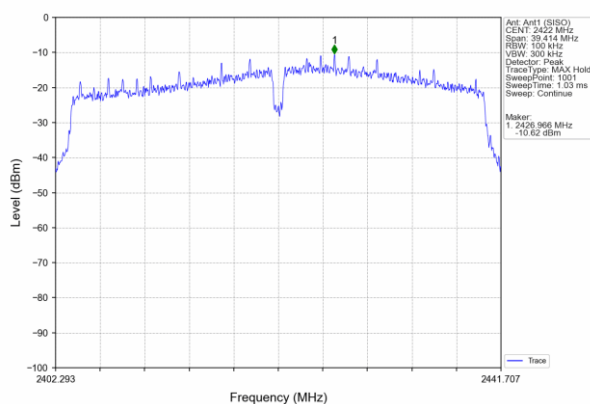


802.11n20 2462MHz

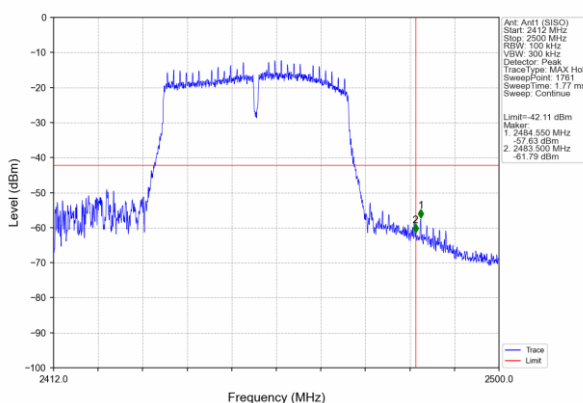
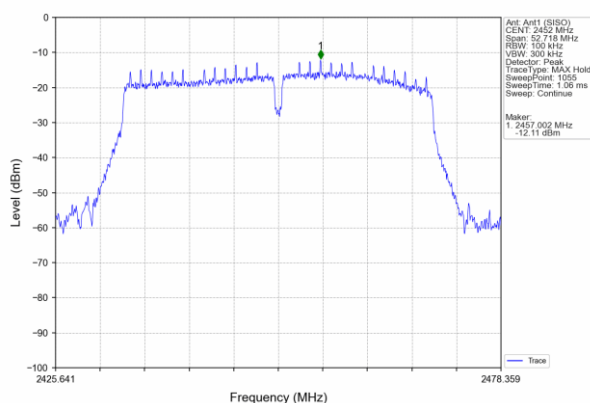




802.11n 40 2422MHz



802.11n40 2452MHz



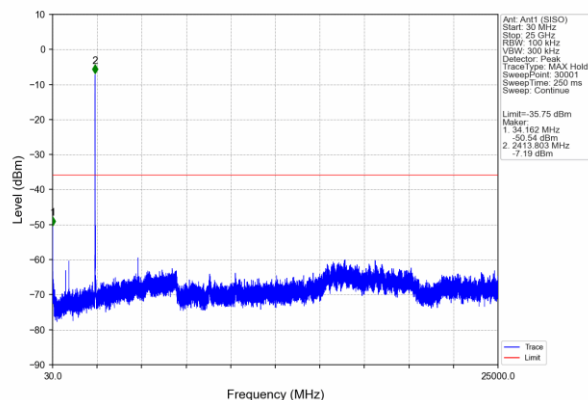
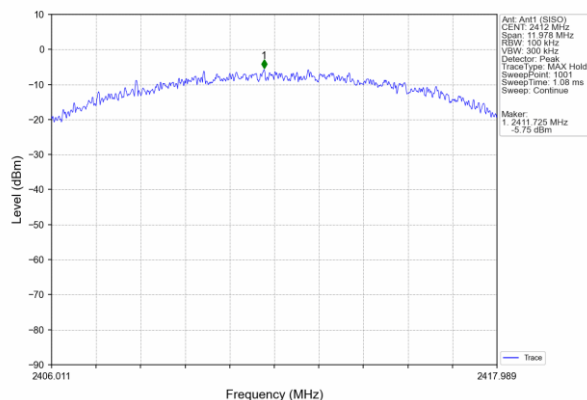


For Conducted

During the test, pre-scan the all modulation, and found the 802.11b mode which it is worse case.

Test Mode: 802.11b

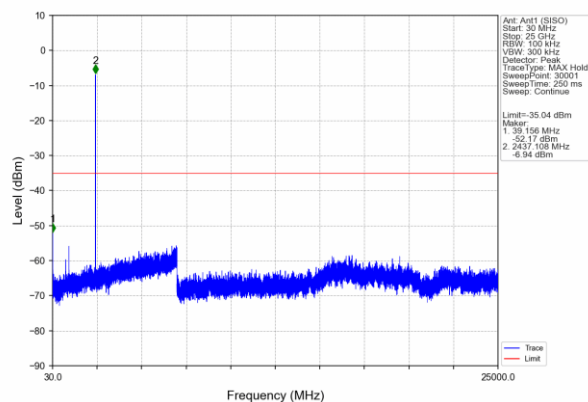
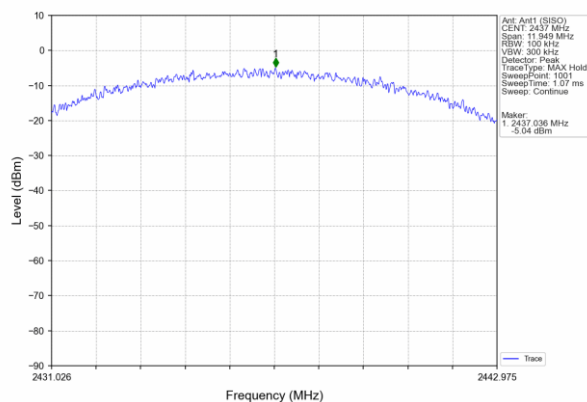
Lowest channel



0.03GHz~26.5GHz

Test channel: 802.11b

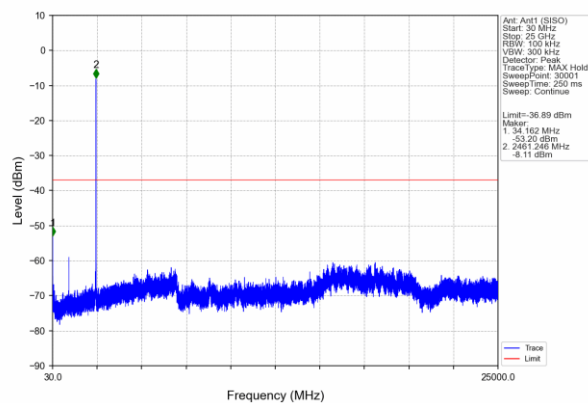
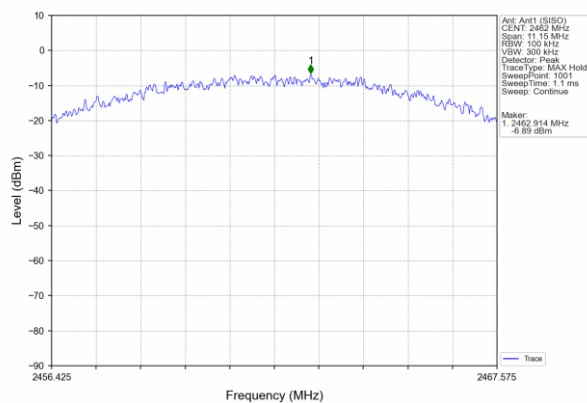
Middle channel



0.03GHz~26.5GHz

Test channel: 802.11b

Highest channel



0.03GHz~26.5GHz



4. AVERAGE OUTPUT POWER

4.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247 (b)(3)	Average Output Power	1 watt or 30dBm	2400-2483.5	PASS

4.1.1 TEST PROCEDURE

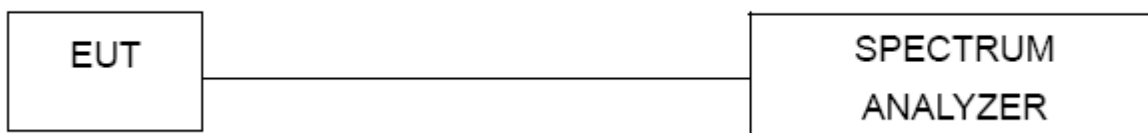
Method AVGSA-2 uses trace averaging across ON and OFF times of the EUT transmissions, followed by duty cycle correction. The procedure for this method is as follows:

- Measure the duty cycle D of the transmitter output signal as described in 11.6.
- Set span to >1.5 times the OBW.
- Set RBW = 1% to 5% of the OBW, but do not exceed 1 MHz.
- Set VBW $\geq [3 \times \text{RBW}]$.
- Number of points in sweep $\geq [2 \times \text{span} / \text{RBW}]$. (This gives bin-to-bin spacing $\leq \text{RBW} / 2$, so that narrowband signals are not lost between frequency bins.)
- Sweep time = auto.
- Detector = Power averaging (rms), if available. Otherwise, use the sample detector mode.
- Do not use sweep triggering. Allow the sweep to "free run."
- Trace average at least 100 traces in power averaging (rms) mode; however, the number of traces to be averaged shall be increased above 100 until trace is stabilized so that the average accurately represents the true average over the ON and OFF periods of the transmitter.
- Compute power by integrating the spectrum across the OBW of the signal using the instrument's band-power measurement function with band limits set equal to the OBW band-edges. If the instrument does not have a band-power function, then sum the spectrum levels (in power units) at intervals equal to the RBW extending across the entire OBW of the spectrum.
- Add $[10 \log (1 / D)]$, where D is the duty cycle, to the measured power to compute the average power during the actual transmission times (because the measurement represents an average over both the ON and OFF times of the transmission). For example, add $[10 \log (1/0.25)] = 6 \text{ dB}$ if the duty cycle is 25%.

4.1.2 DEVIATION FROM STANDARD

No deviation.

4.1.3 TEST SETUP



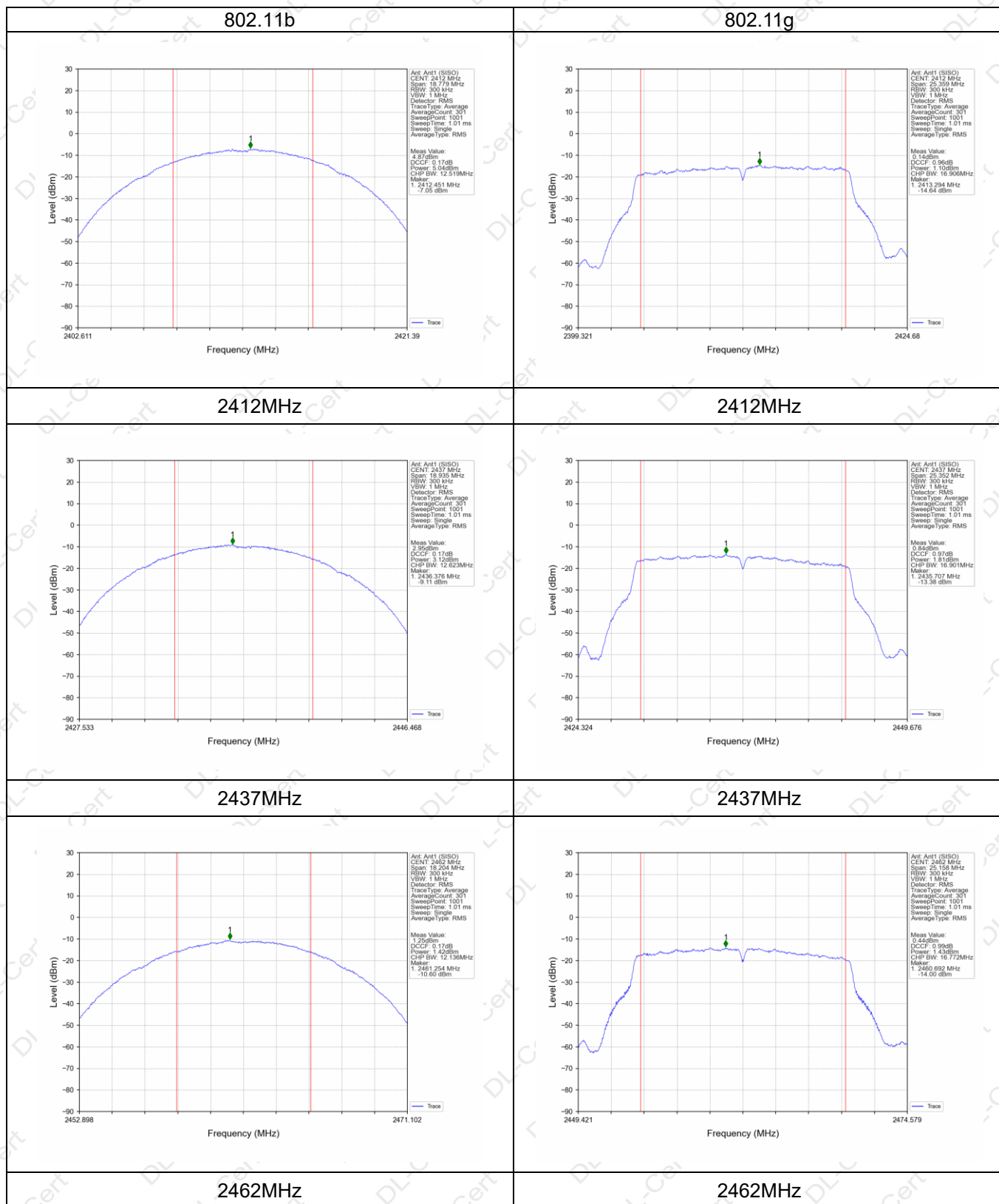
4.1.4 EUT OPERATION CONDITIONS

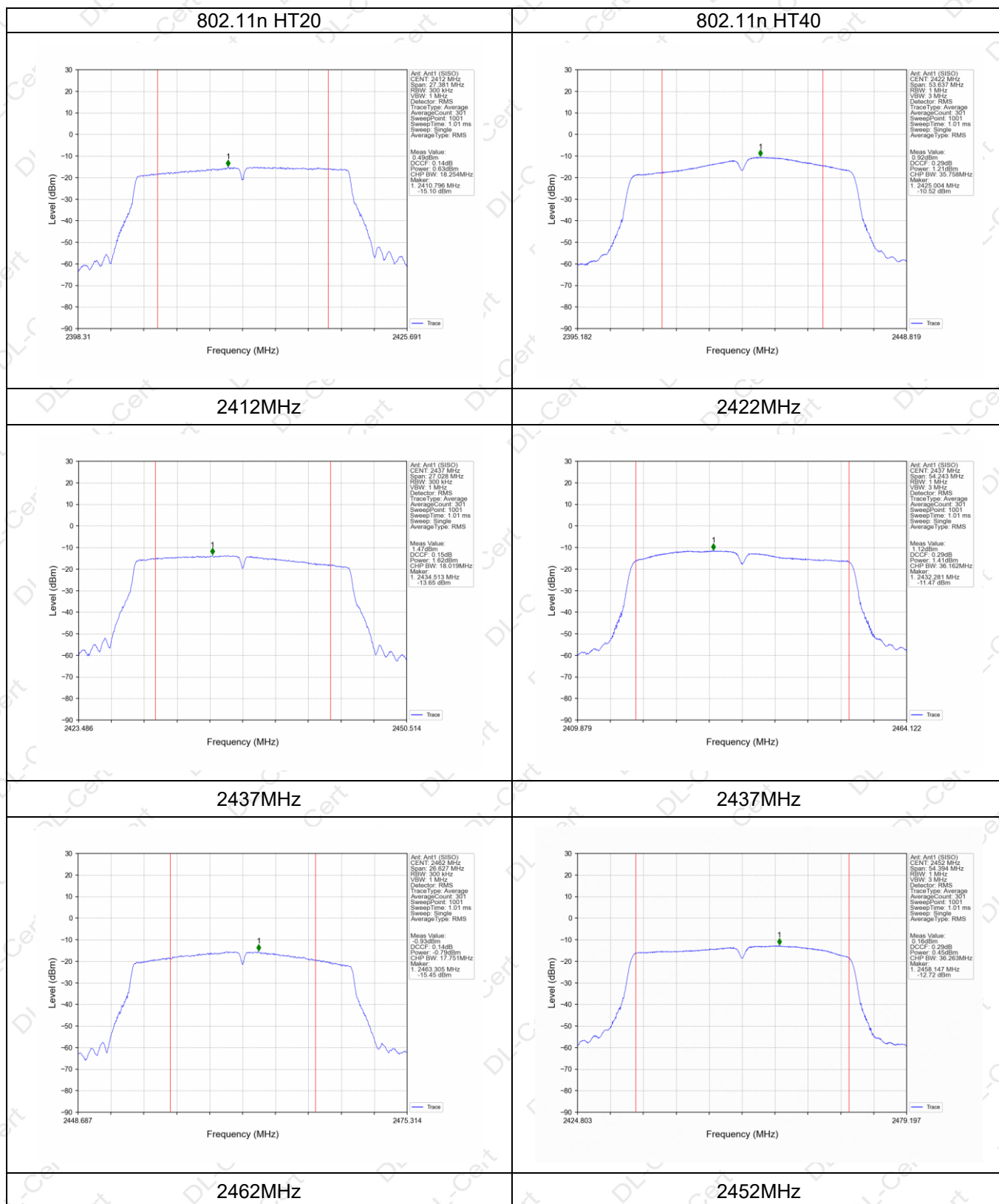
The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

**4.1.5 TEST RESULTS**

Temperature:	25 °C	Relative Humidity:	60%
Pressure:	1012 hPa	Test Voltage :	AC 120V/60Hz

Mode	Test Channel	Average Output Power (dBm)	LIMIT (dBm)
802.11b	Low	5.04	30.00
	Middle	3.12	30.00
	High	1.42	30.00
802.11g	Low	1.10	30.00
	Middle	1.81	30.00
	High	1.43	30.00
802.11n HT20	Low	0.63	30.00
	Middle	1.62	30.00
	High	-0.79	30.00
802.11n HT40	Low	1.21	30.00
	Middle	1.41	30.00
	High	0.45	30.00







5. POWER SPECTRAL DENSITY TEST

5.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247	Power Spectral Density	8 dBm (in any 3KHz)	2400-2483.5	PASS

Spectrum Parameters	Setting
Attenuation	Auto
Span Frequency	= the frequency band of operation
RB	RBW $\geq$ 3kHz
VB	VBW $\geq$ 3RBW
Detector	power averaging (rms) or sample detector (when rms not available).
Trace	rms/average
Sweep Time	Auto

5.1.1 TEST PROCEDURE

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,

5.1.2 DEVIATION FROM STANDARD

No deviation.

5.1.3 TEST SETUP

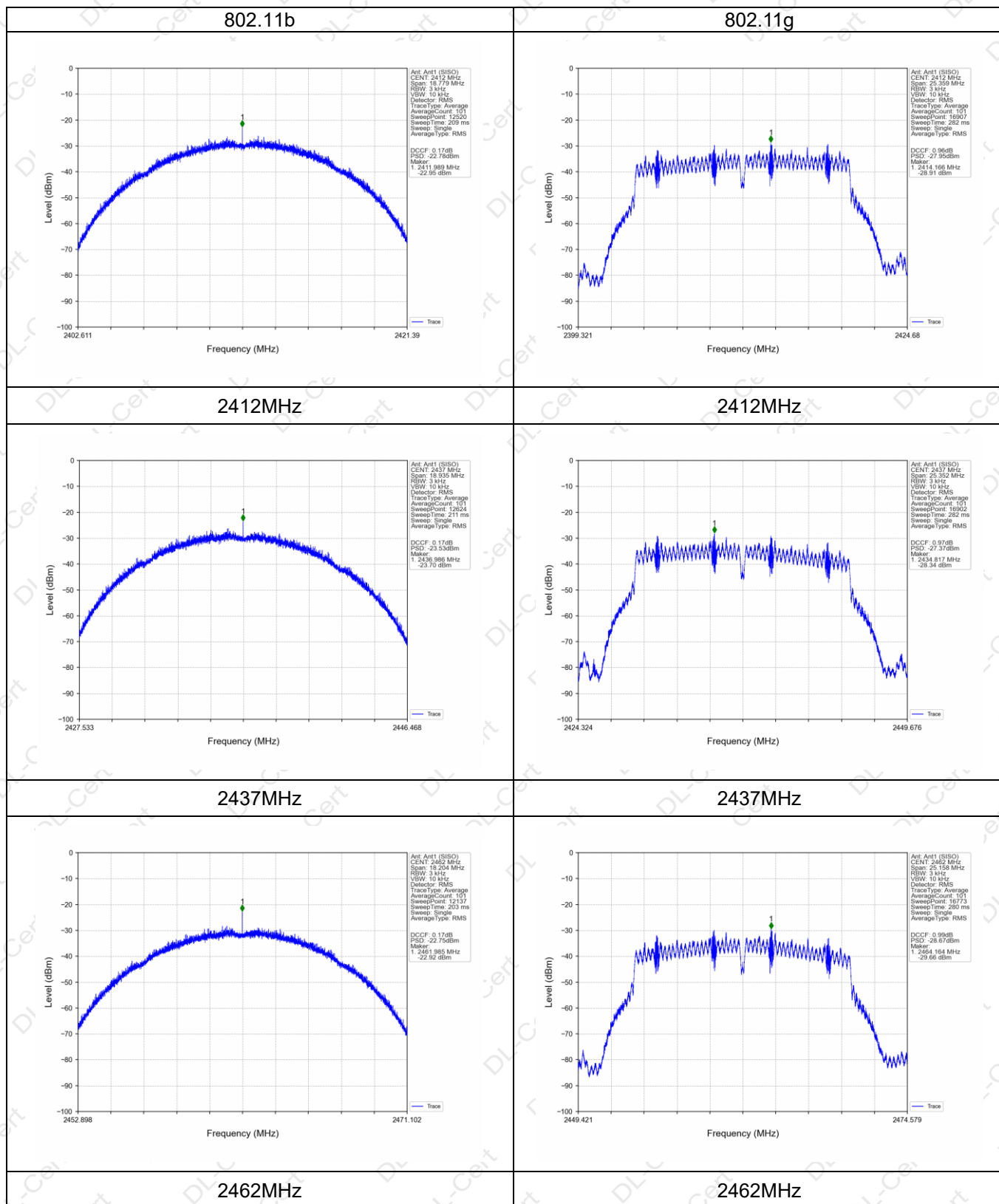


5.1.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

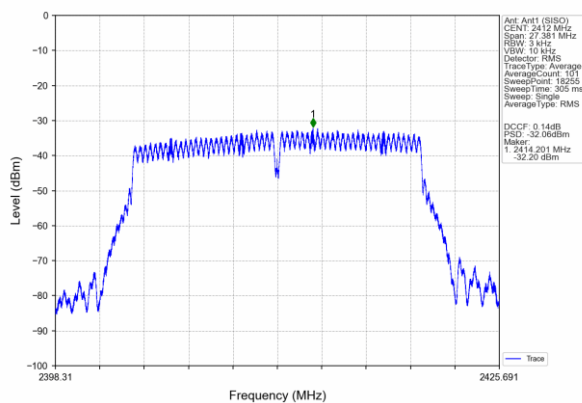
**5.1.5 TEST RESULTS**

Mode	Test Channel	Test Result (dBm/3kHz)	Limit (dBm/3kHz)	Result
802.11b	Low	-22.78	8	PASS
	Middle	-23.53	8	PASS
	High	-22.75	8	PASS
802.11g	Low	-27.95	8	PASS
	Middle	-27.37	8	PASS
	High	-28.67	8	PASS
802.11n20	Low	-32.06	8	PASS
	Middle	-31.14	8	PASS
	High	-32.67	8	PASS
802.11n40	Low	-30.57	8	PASS
	Middle	-31.14	8	PASS
	High	-32.76	8	PASS

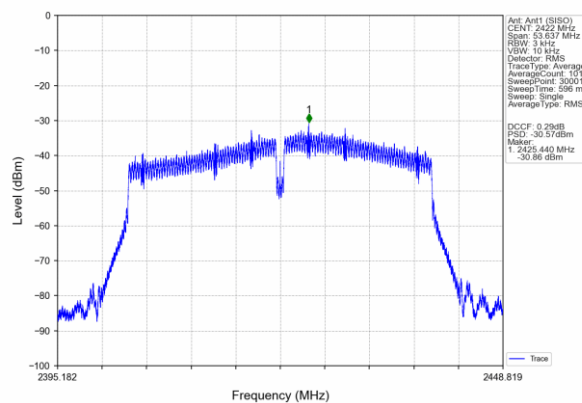




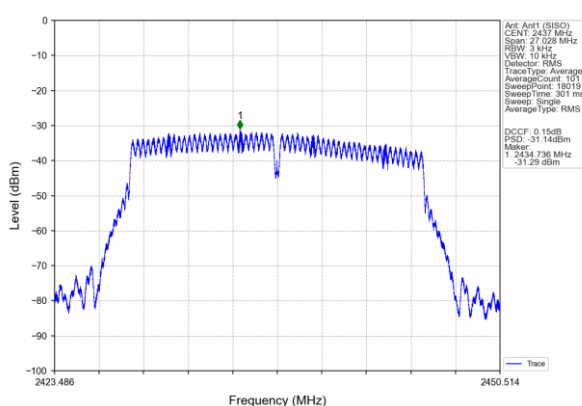
802.11n HT20



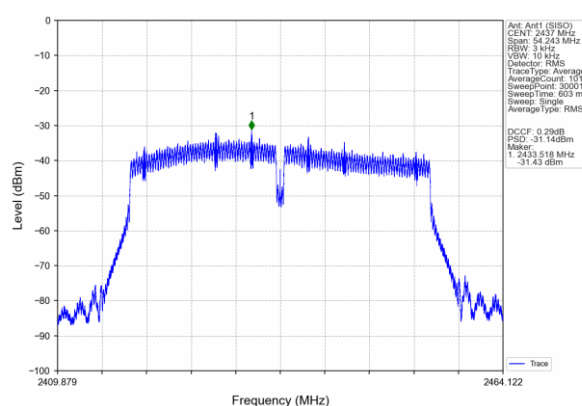
802.11n HT40



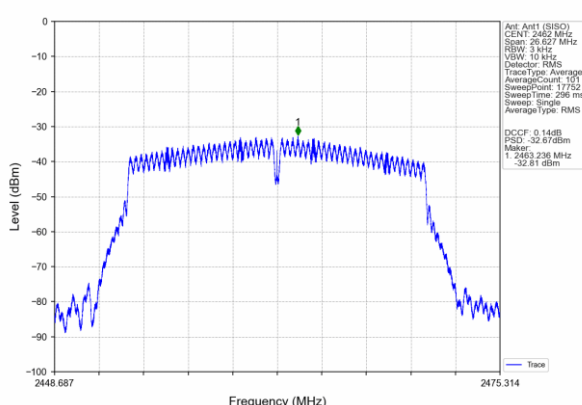
2412MHz



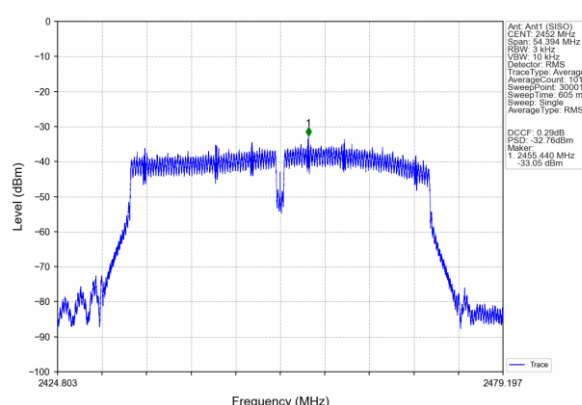
2422MHz



2437MHz



2437MHz



2462MHz



2452MHz





6. 6DB BANDWIDTH TEST

6.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range(MHz)	Result
15.247(a)(2)	Bandwidth	$\geq 500\text{KHz}$ (6dB bandwidth)	2400-2483.5	PASS

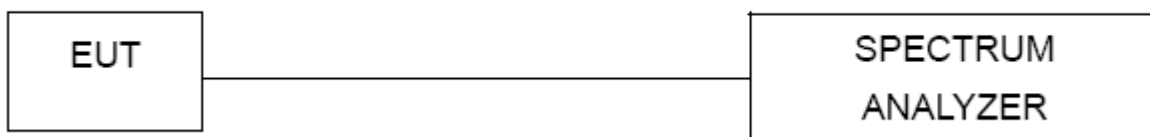
6.1.1 TEST PROCEDURE

1. Set RBW = 100 kHz.
2. Set the video bandwidth (VBW) $\geq$ RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Allow the trace to stabilize.
7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

6.1.2 DEVIATION FROM STANDARD

No deviation.

6.1.3 TEST SETUP



6.1.4 EUT OPERATION CONDITIONS

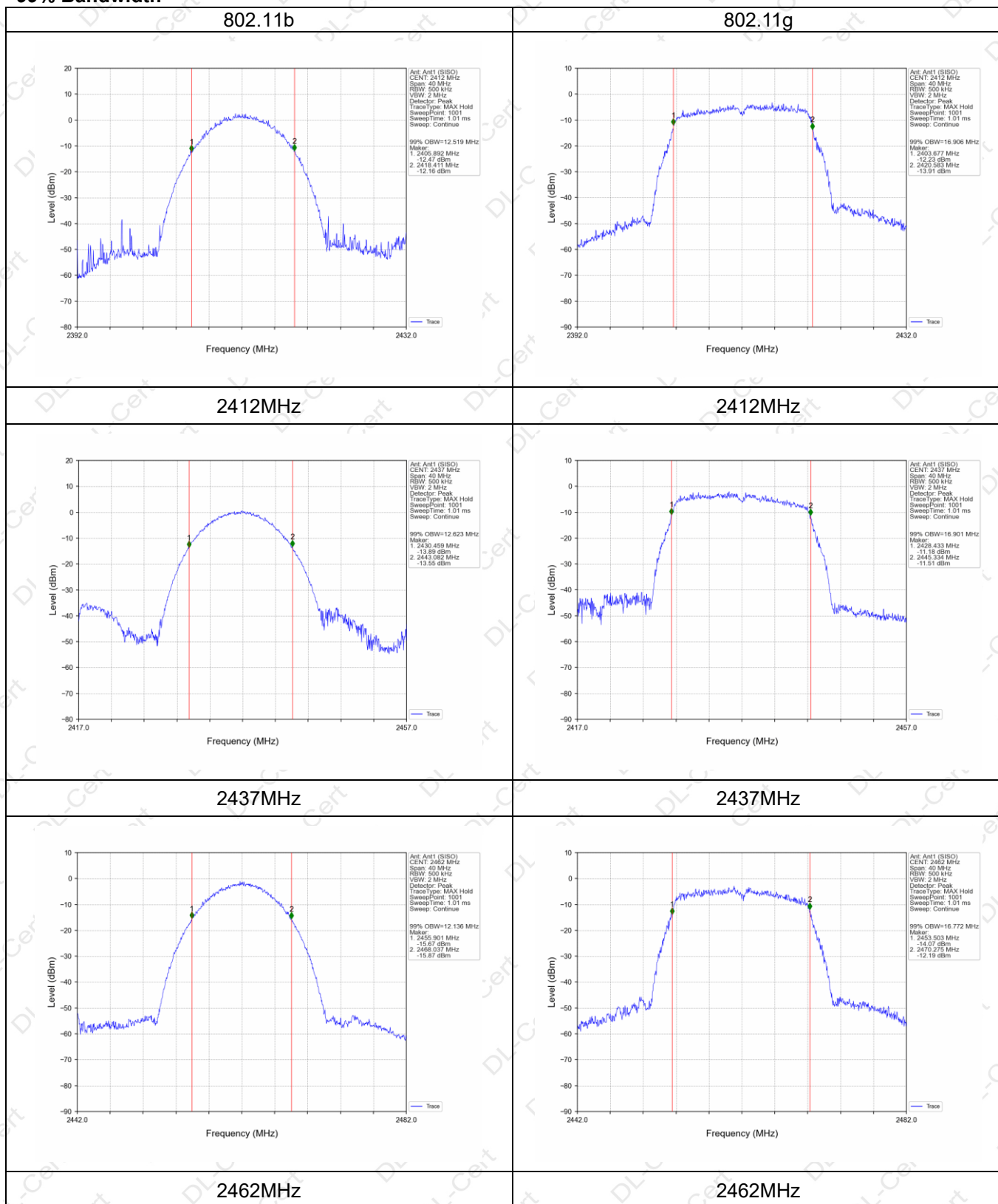
The EUT tested system was configured as the statements of 2.3 Unless otherwise a special operating condition is specified in the follows during the testing.

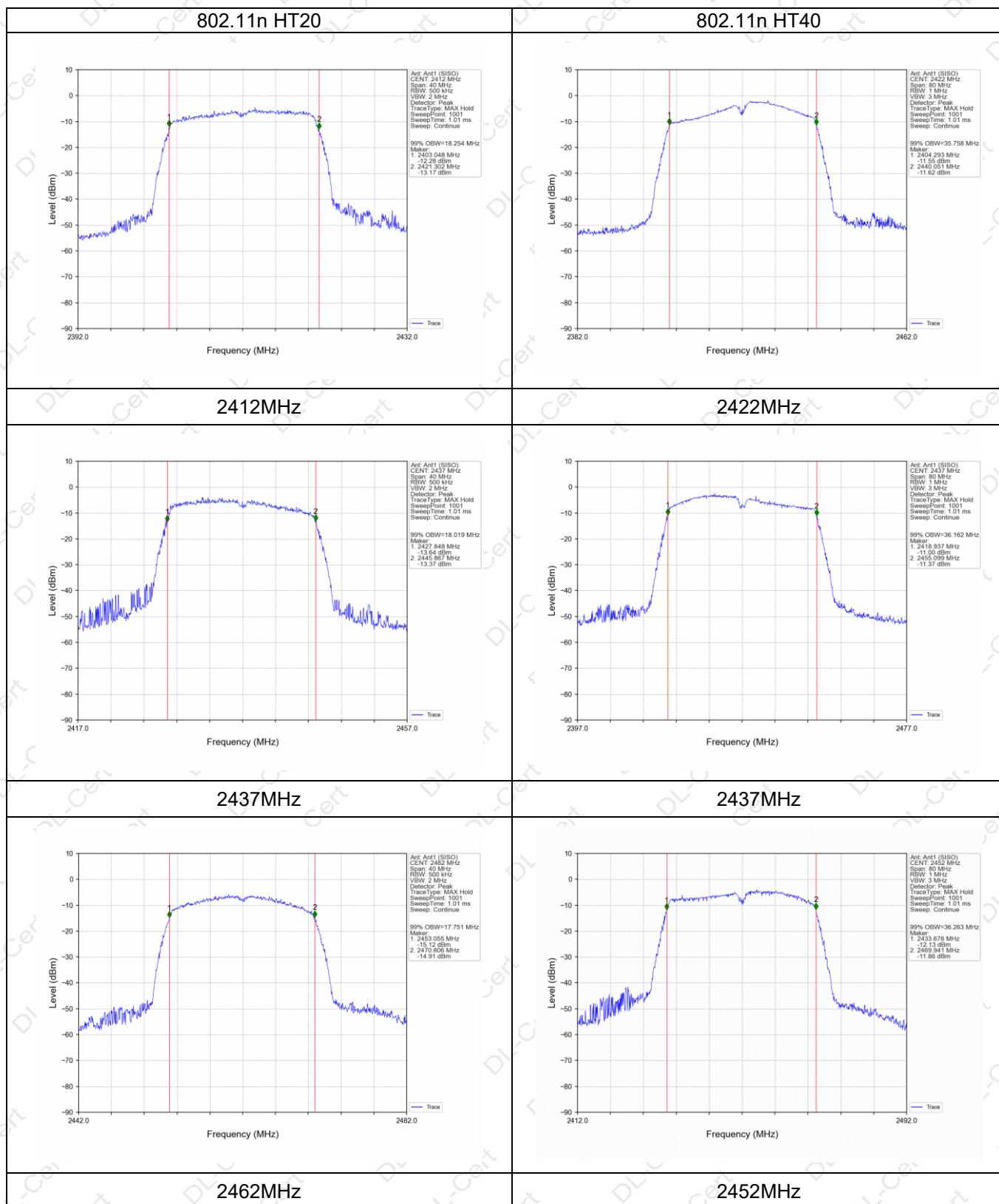
**6.1.5 TEST RESULTS**

	Test Channel	6dB Bandwidth (MHz)	99%Bandwidth (MHz)	Limit (MHz)	Result
802.11b	Low	7.985	12.519	0.5	Pass
	Middle	7.966	12.623	0.5	Pass
	High	7.433	12.136	0.5	Pass
802.11g	Low	15.821	16.906	0.5	Pass
	Middle	15.773	16.901	0.5	Pass
	High	15.687	16.772	0.5	Pass
802.11n HT20	Low	14.214	18.254	0.5	Pass
	Middle	14.459	18.019	0.5	Pass
	High	11.747	17.751	0.5	Pass
802.11n HT40	Low	26.276	35.758	0.5	Pass
	Middle	35.129	36.162	0.5	Pass
	High	35.145	36.263	0.5	Pass



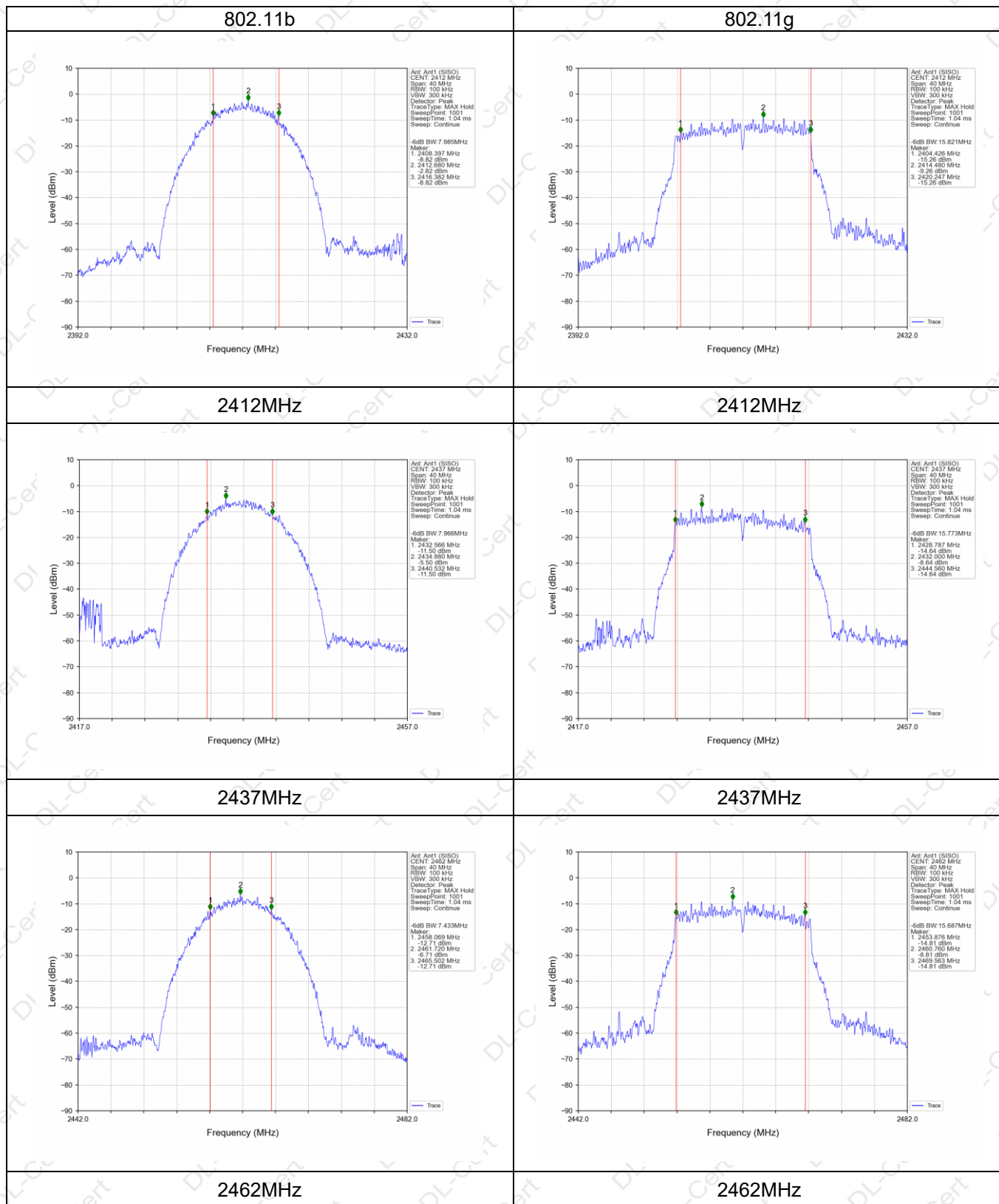
99% Bandwidth

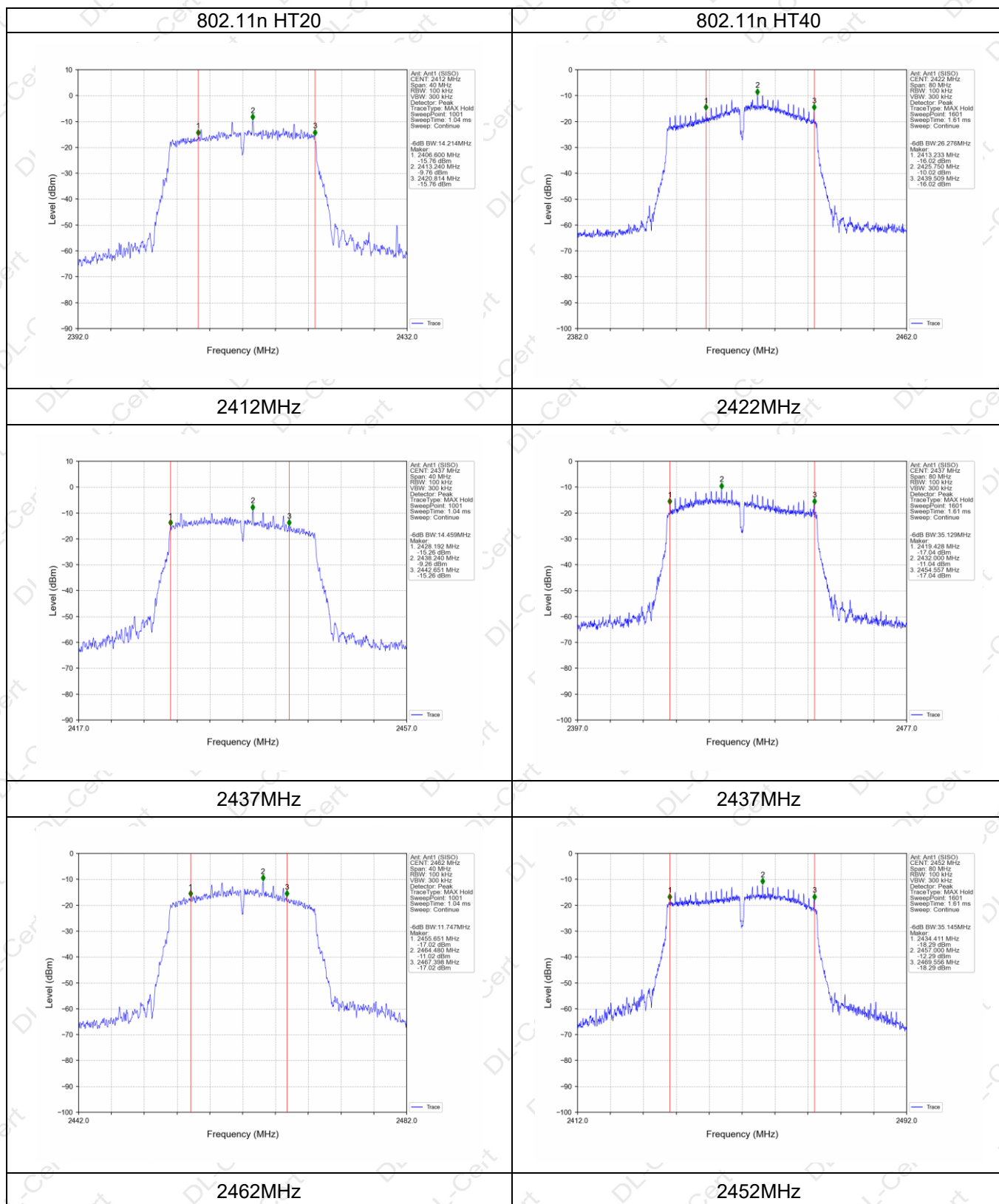






6dB Bandwidth







7. DUTY CYCLE TEST SIGNAL

7.1 APPLIED PROCEDURES / LIMIT

Pre-analysis Check: While conducting average power measurement, duty cycle of each mode shall be checked to ensure its duty cycle in order to compensate for the loss due to insufficient ratio of duty cycle. All duty cycle is pre-scanned, and result as obtained below shows only the most representative ones where duty cycle is conducted as the given transmission with given virtual operation that expresses the percentage.

7.1.1 TEST PROCEDURE

1. Set RBW = 10 MHz.
2. Set the video bandwidth (VBW) $\geq$ RBW.
3. Detector = Peak.
4. Sweep = auto couple.
5. Allow the trace to stabilize.
6. Span=0

7.1.2 DEVIATION FROM STANDARD

No deviation.

7.1.3 TEST SETUP

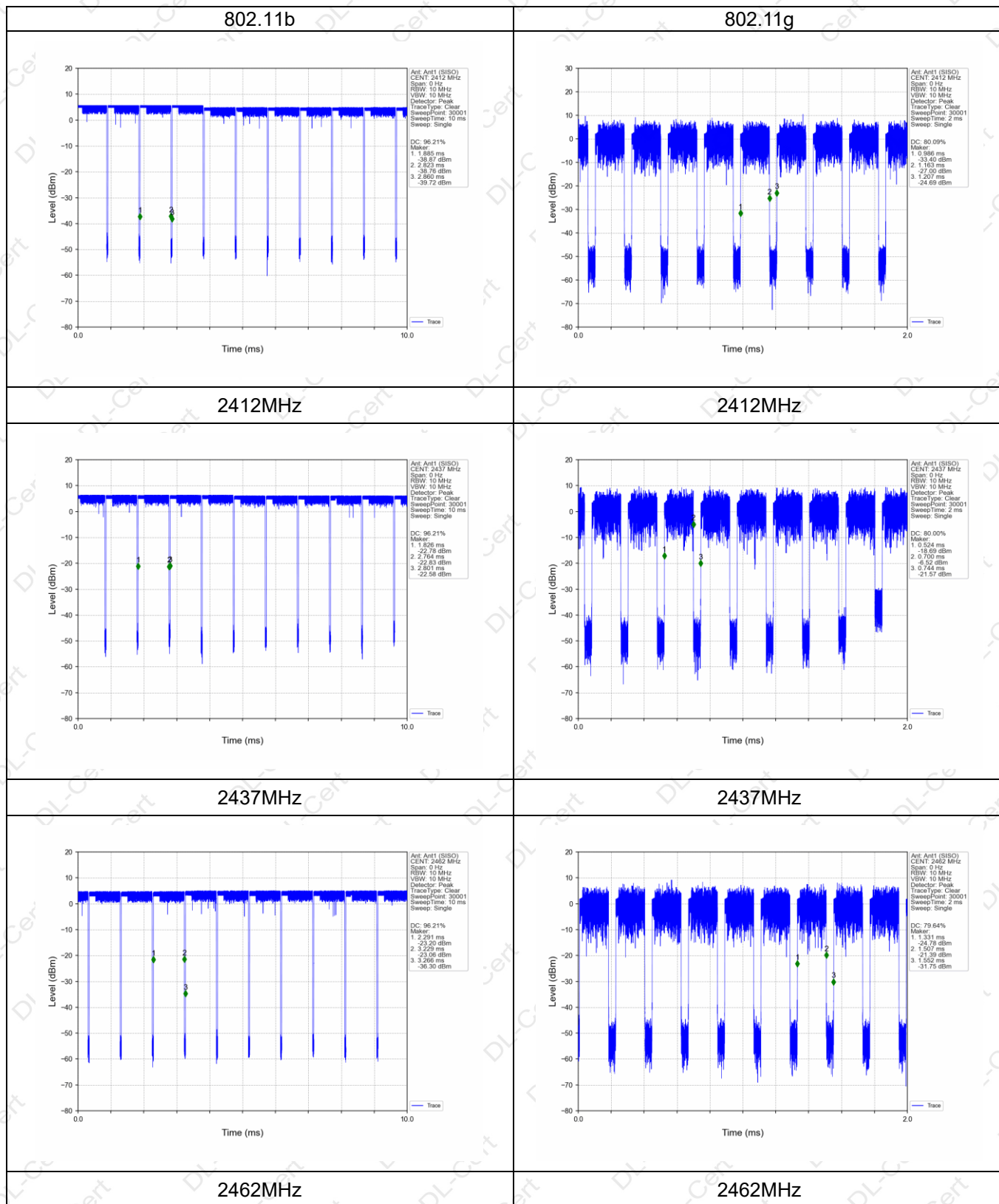


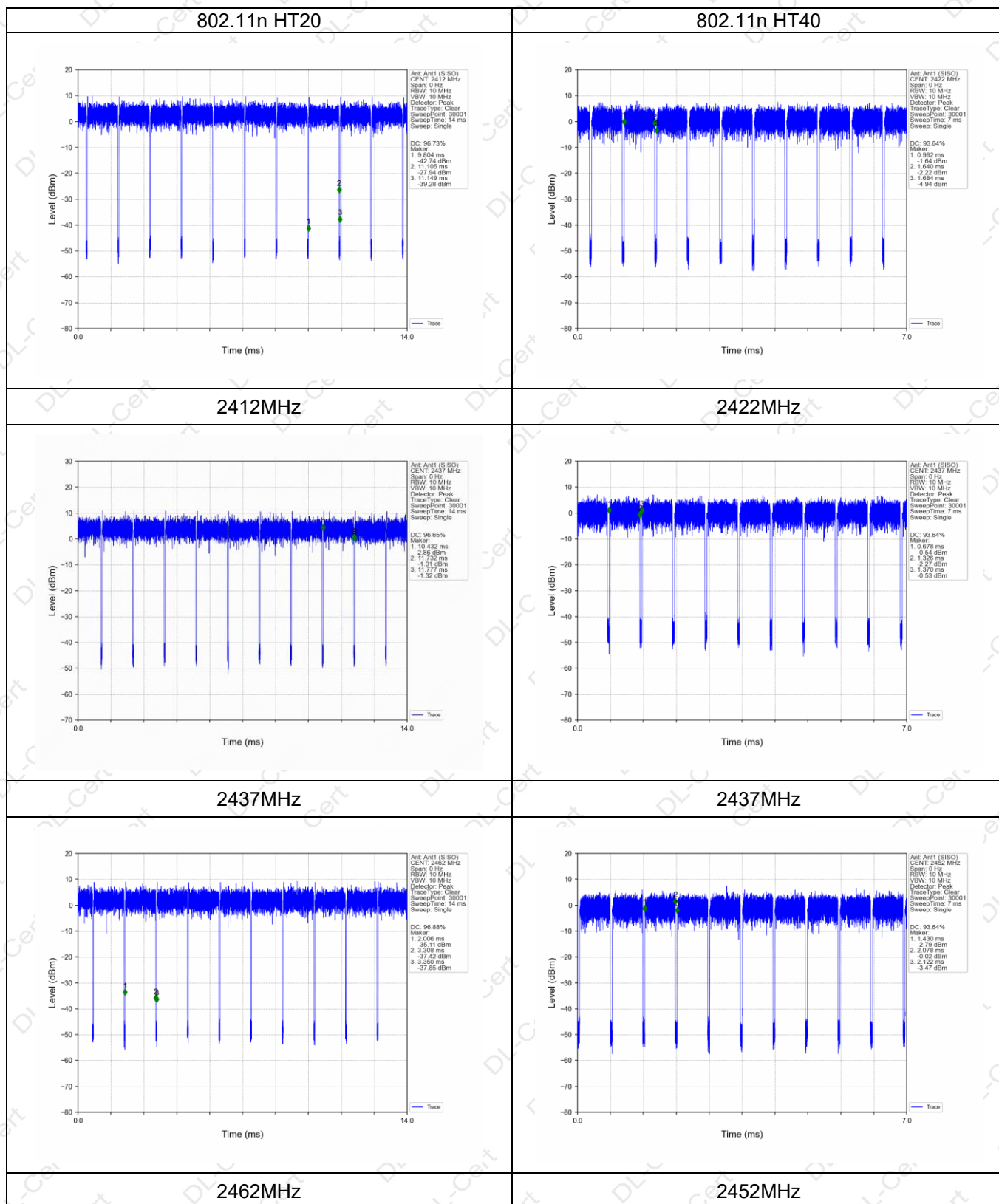
7.1.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.3 Unless otherwise a special operating condition is specified in the follows during the testing.

**7.1.5 TEST RESULTS**

Mode	Test Channel	Duty Cycle(%)	Duty Fator (dB) $10 * \log (1/ \text{Duty cycle})$
802.11b	Low	96.21	0.17
	Middle	96.21	0.17
	High	96.21	0.17
802.11g	Low	80.09	0.96
	Middle	80.00	0.97
	High	79.64	0.99
802.11n HT20	Low	96.73	0.14
	Middle	96.65	0.15
	High	96.88	0.14
802.11n HT40	Low	93.64	0.29
	Middle	93.64	0.29
	High	93.64	0.29







8. ANTENNA REQUIREMENT

8.1 STANDARD REQUIREMENT

15.203 requirement: For intentional device, according to 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.

8.2 EUT ANTENNA

The EUT antenna is Internal Antenna, It comply with the standard requirement.

9. TEST SEUUP PHOTO

Reference to the appendix I for details.

10. EUT PHOTO

Reference to the appendix II for details.

***** END OF REPORT *****