9. CONDUCTED BAND EDGE AND SPURIOUS EMISSION

Test Requirement:	FCC Part15 C Section 15.247 (d)
Test Method:	KDB558074 D0115.247 Meas Guidancev05r02

9.1 APPLICABLE STANDARD

in any 100 kHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator in operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, In addition, radiated emissions which fall in the restricted bands, as defined in§15.205(a), must also comply with the radiated emission limits specified in15.209(a).

9.2 TEST PROCEDURE

Using the following spectrum analyzer setting:

A) Set the RBW = 100KHz.
B) Set the VBW = 300KHz.
C) Sweep time = auto couple.
D) Detector function = peak.
E) Trace mode = max hold.
F) Allow trace to fully stabilize.

9.3 DEVIATION FROM STANDARD

No deviation.

9.4 TEST SETUP

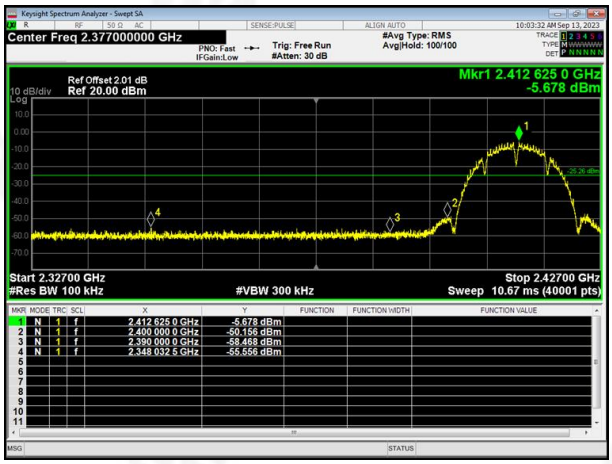
9.5 EUT OPERATION CONDITIONS

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.

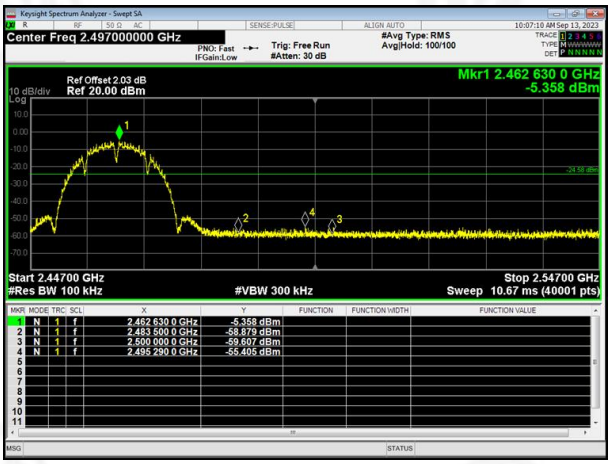
9.6 TEST RESULTS

Test plot as follows:

Test mode:	802.11b

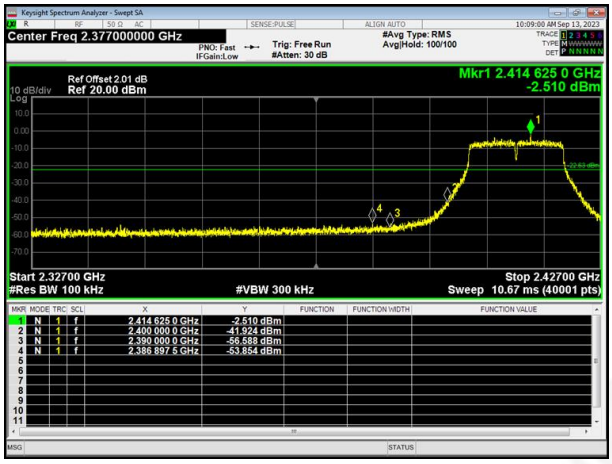


Lowest channel

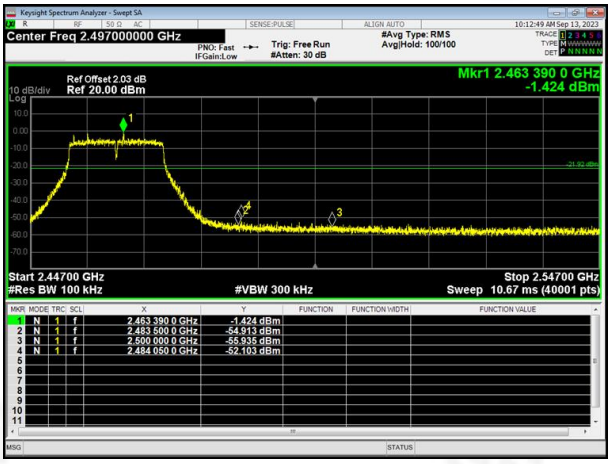


Highest channel

Test mode:	802.11g

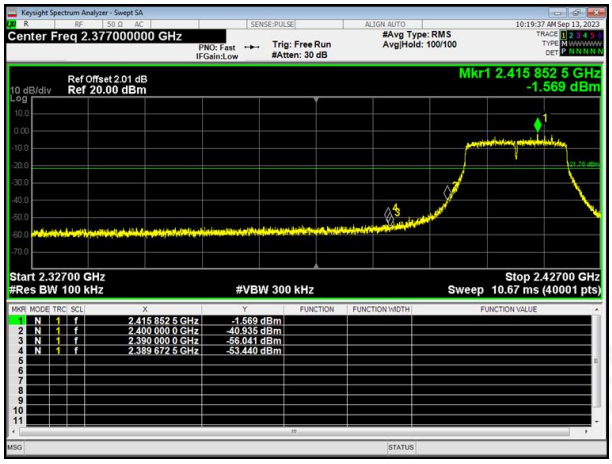


Lowest channel

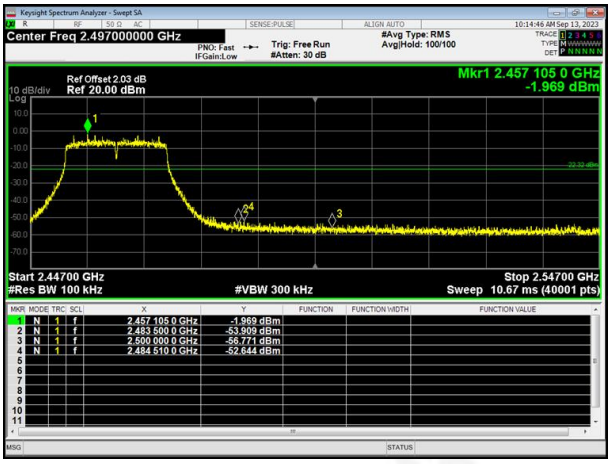


Highest channel

Test mode:	802.11n(HT20)

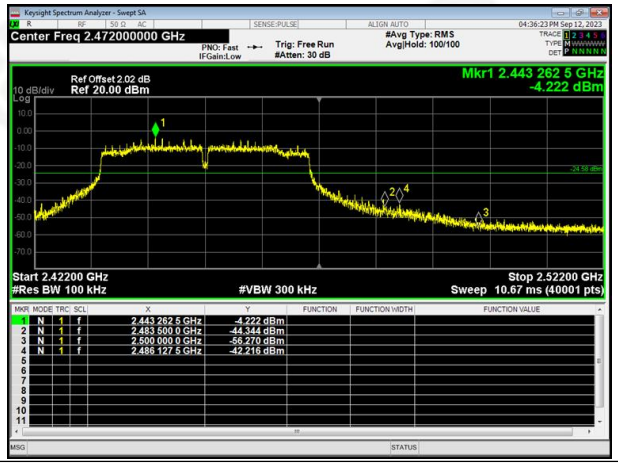


Lowest channel

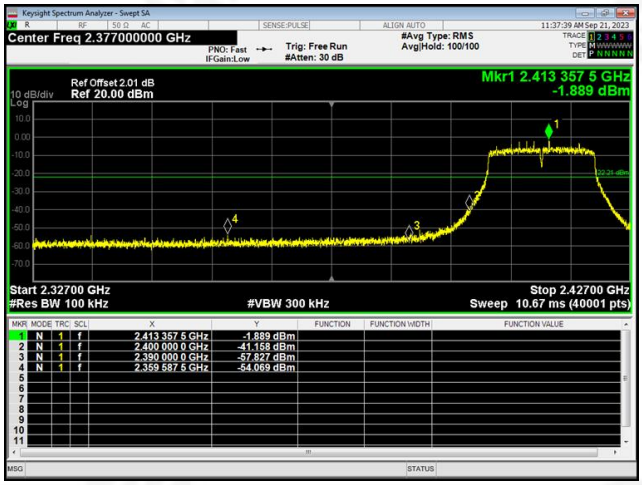


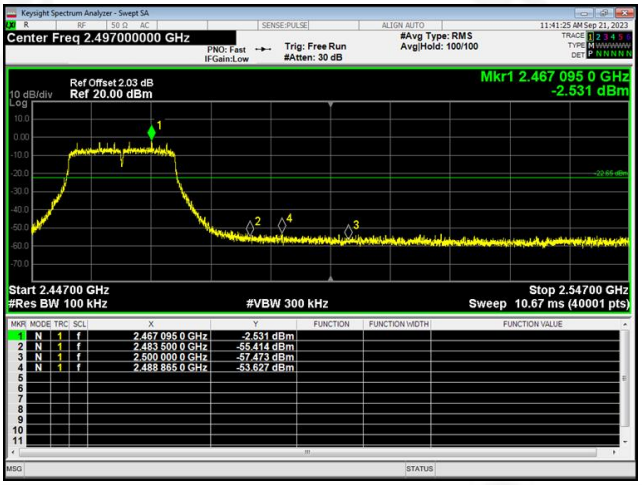
Highest channel

Test mode:	802.11n(HT40)

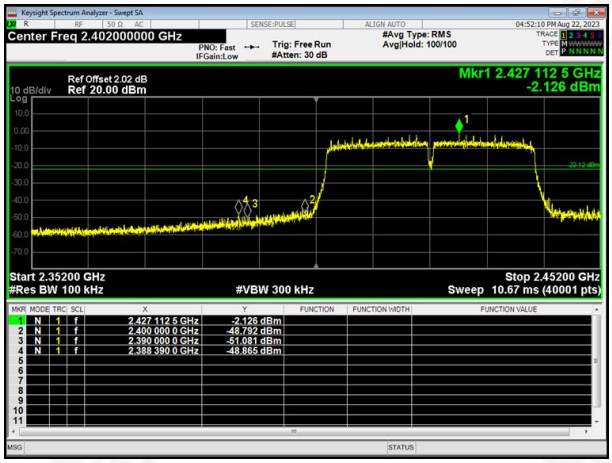


Test mode:	802.11ax(HE20)

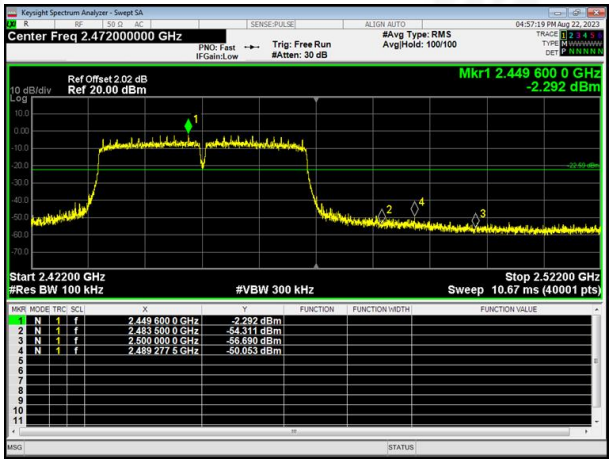




Test mode:	802.11ax(HE40)



Lowest channel



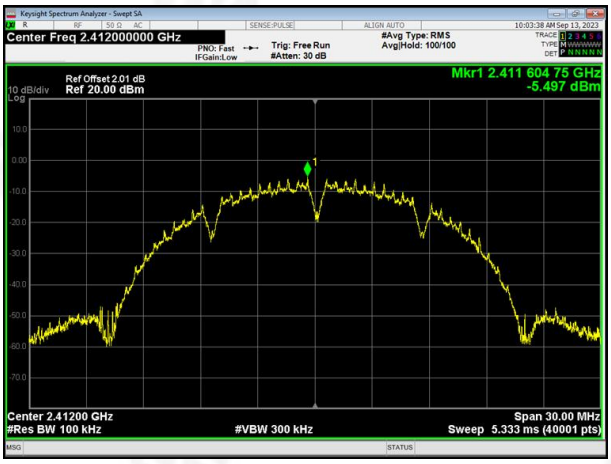
Highest channel

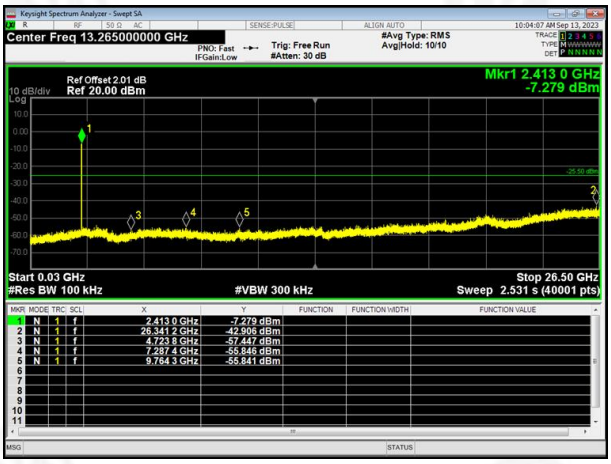
Note: Only the worst data recorded was ANT 1.
Both of ANT 1&2 has been tested. The worst ANT1 has attenuated 3db below the limit. So the MIMO mode deemed to passed.

Test plot as follows:

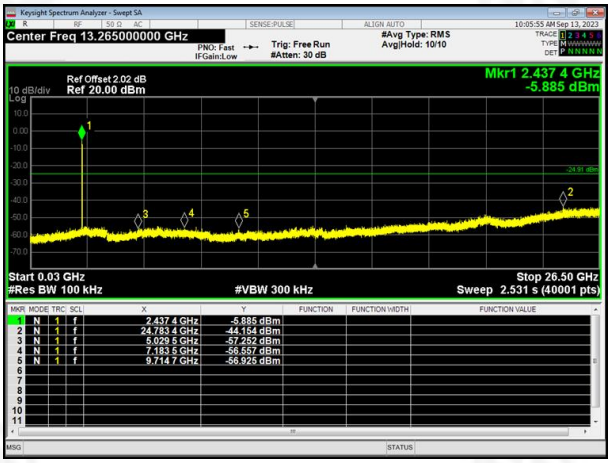
802.11b

Lowest channel

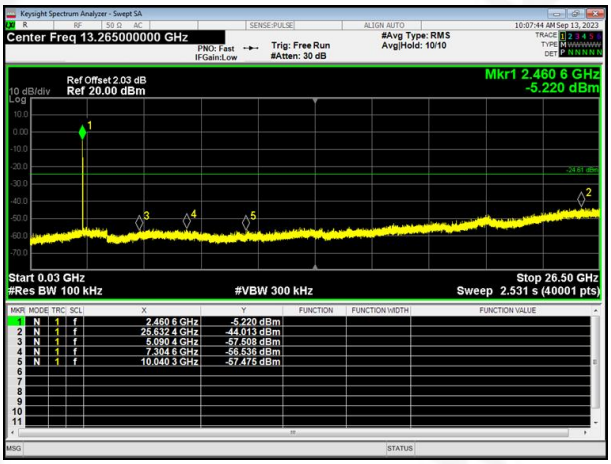




Middle channel



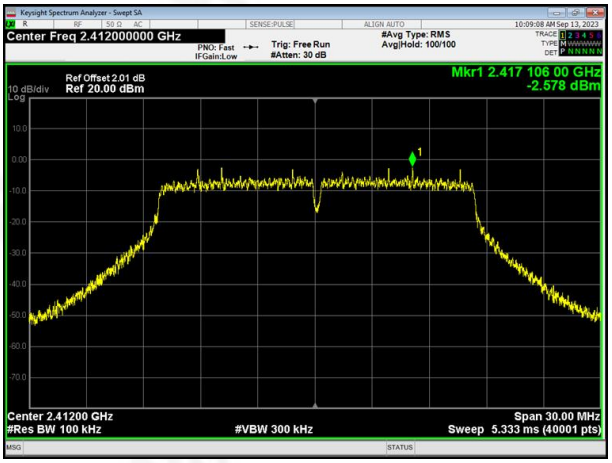
Highest channel

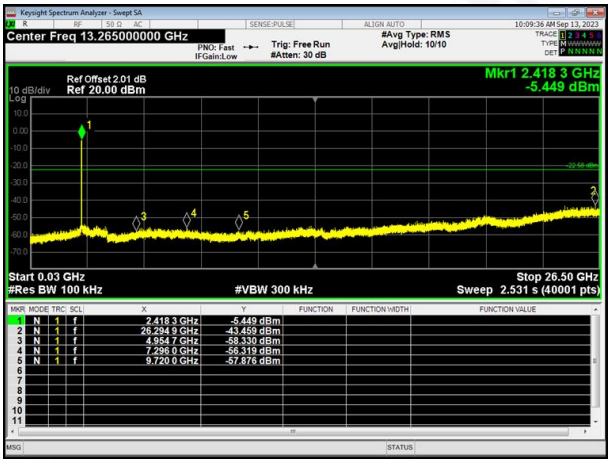


Note: Only the worst data recorded was ANT 1.

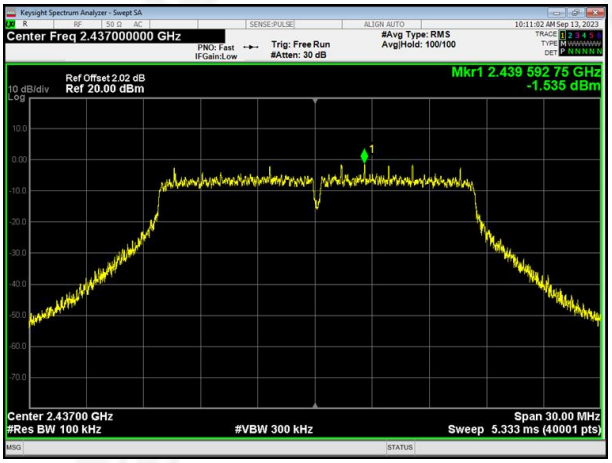
802.11g

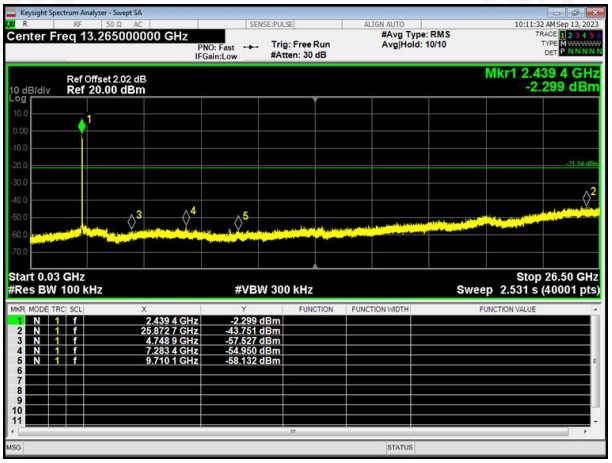
Lowest channel



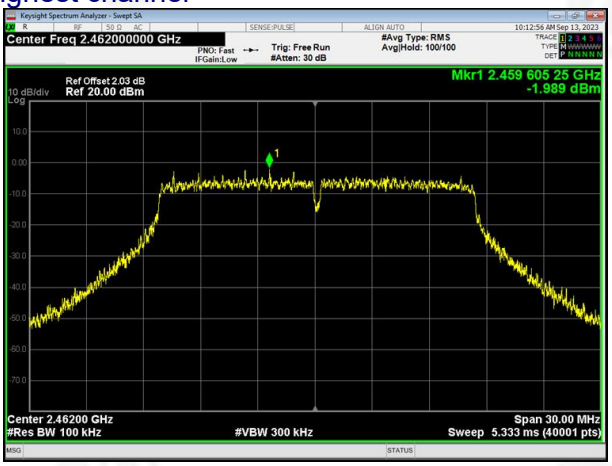


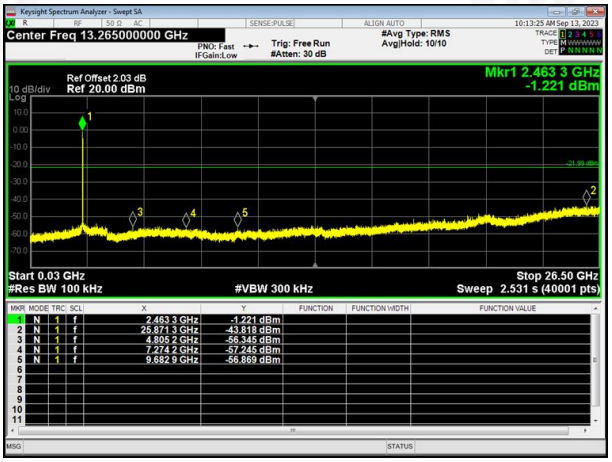
Middle channel





Highest channel

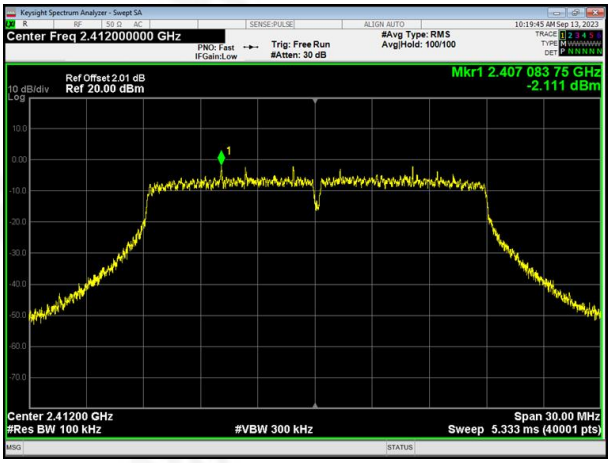


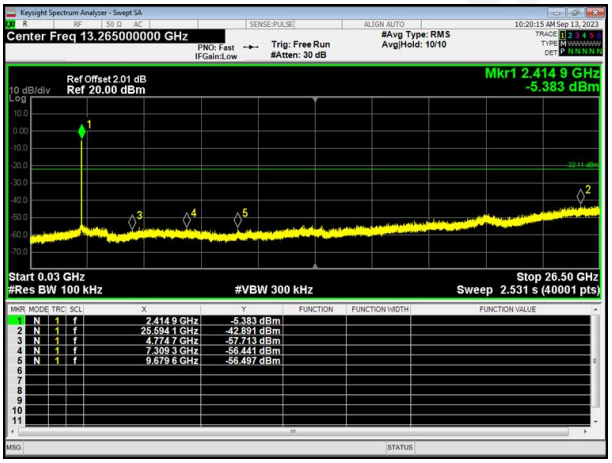


Note: Only the worst data recorded was ANT 1.

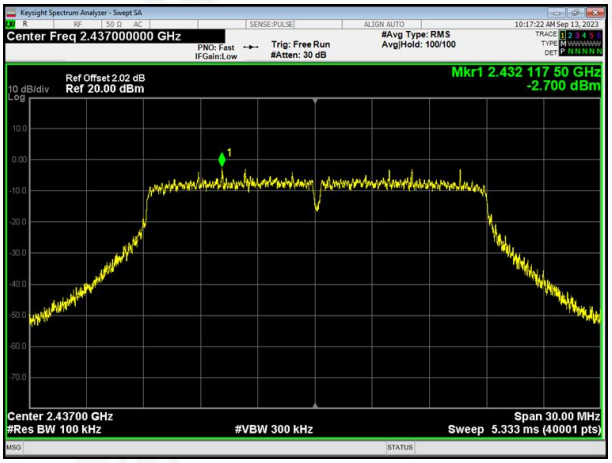
802.11n(HT20)

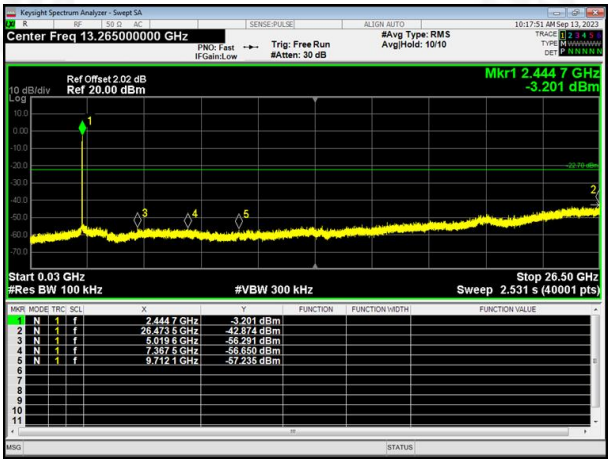
Lowest channel



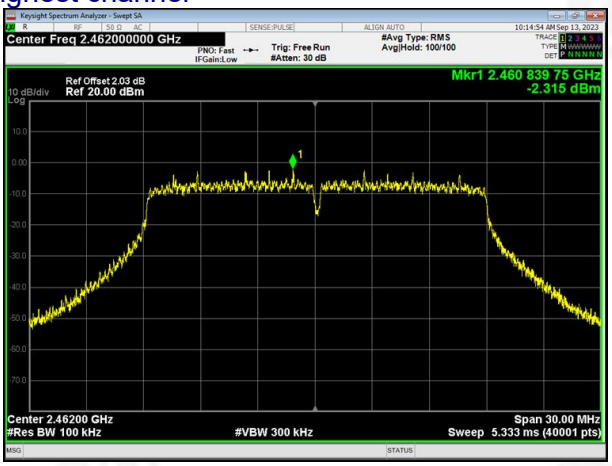


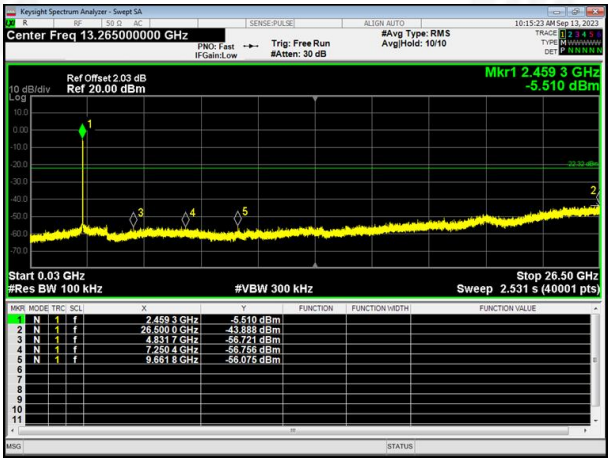
Middle channel





Highest channel

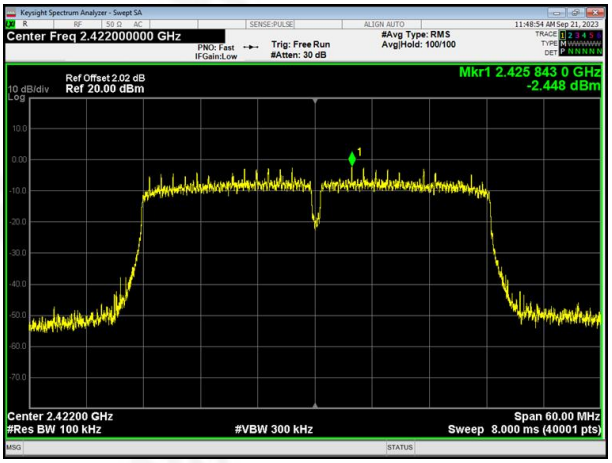


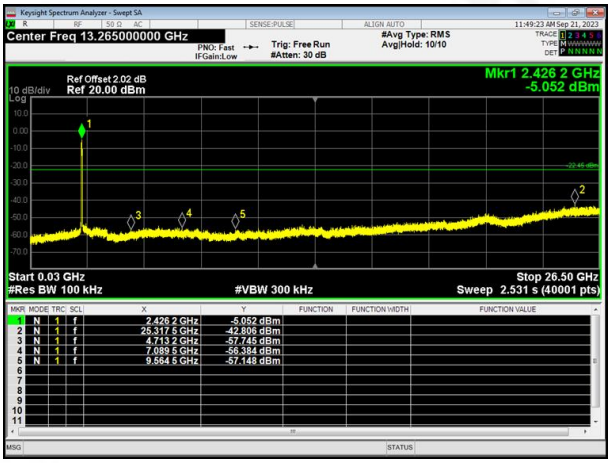


Note: Only the worst data recorded was MIMO.

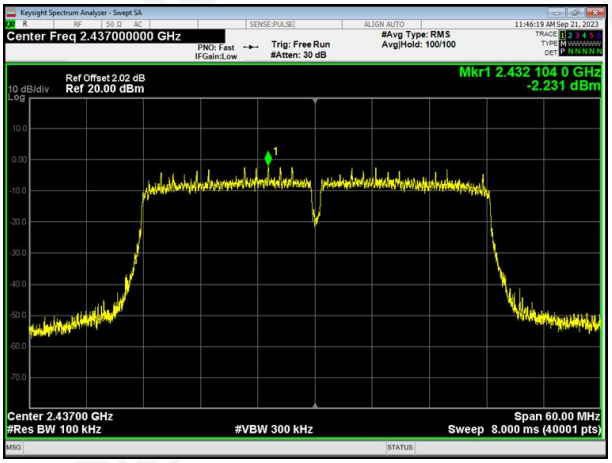
802.11n(HT40)

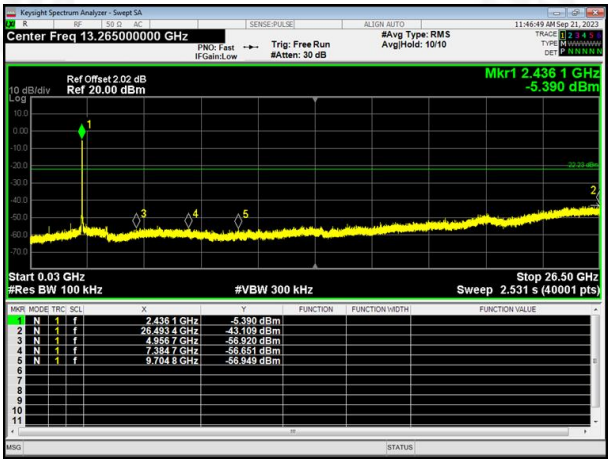
Lowest channel



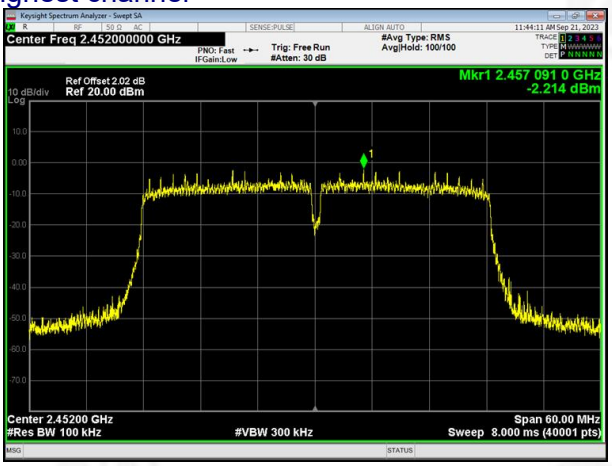


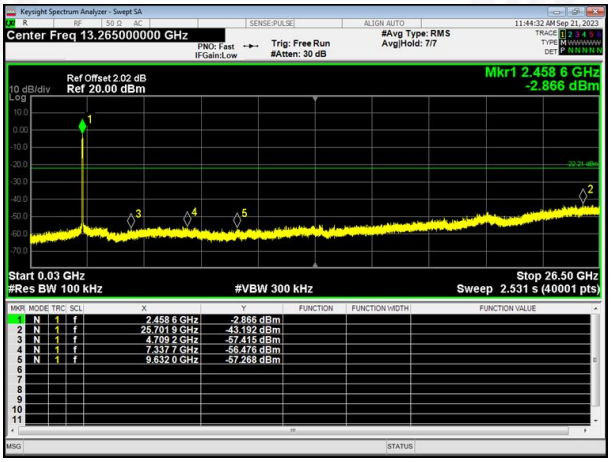
Middle channel





Highest channel

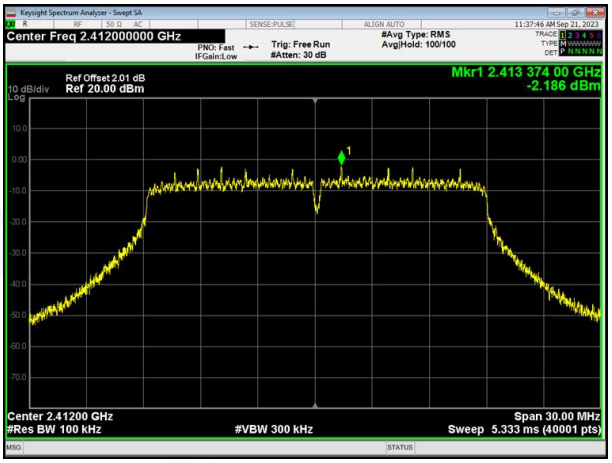


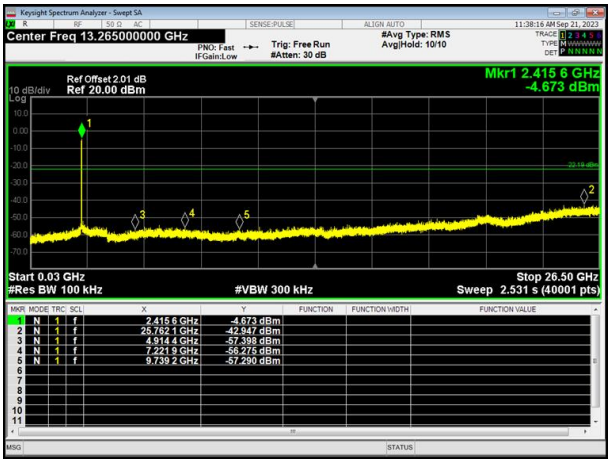


Note: Only the worst data recorded was MIMO.

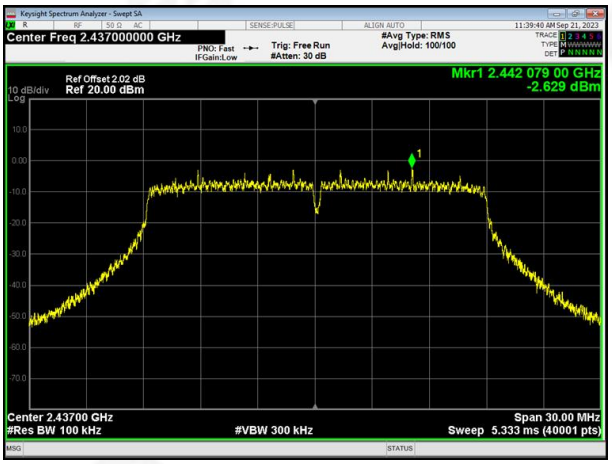
802.11ax(HE20)

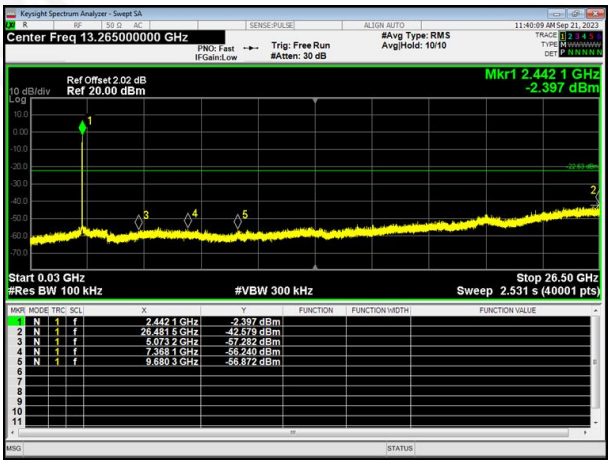
Lowest channel



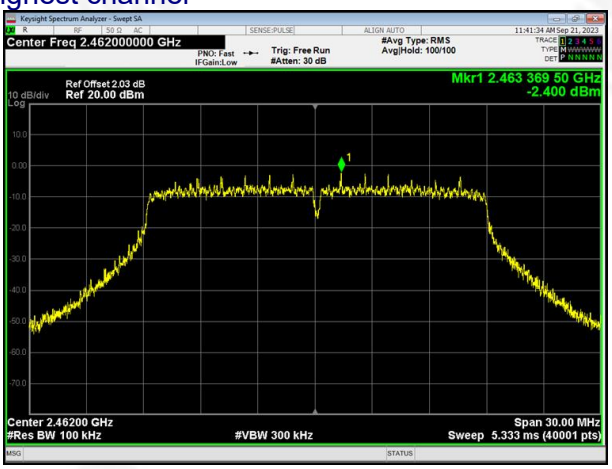


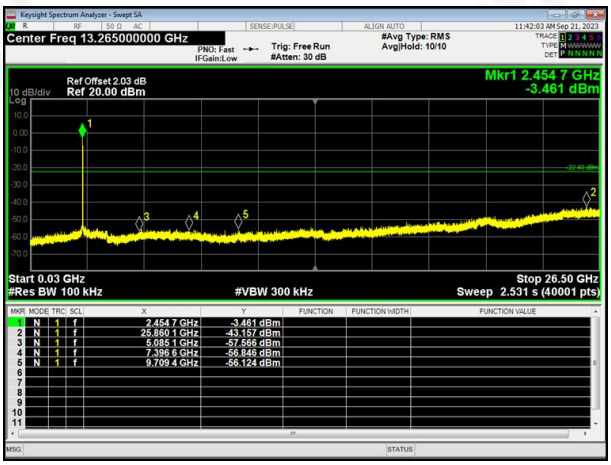
Middle channel





Highest channel

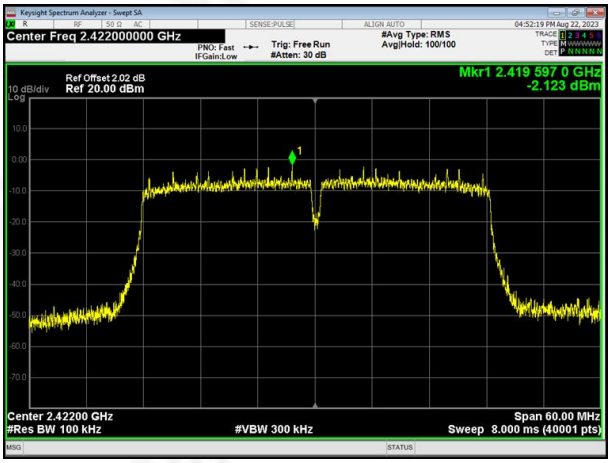


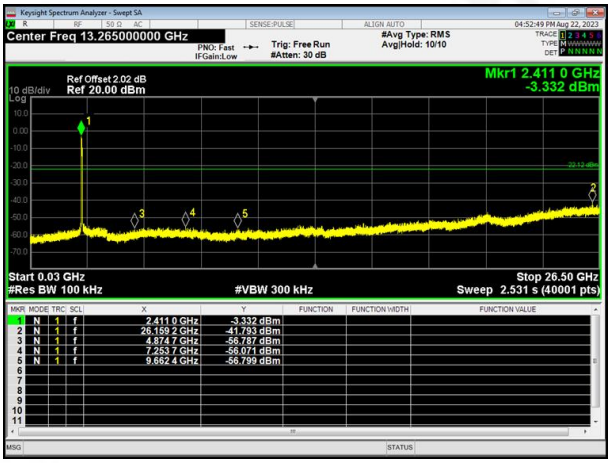


Note: Only the worst data recorded was MIMO.

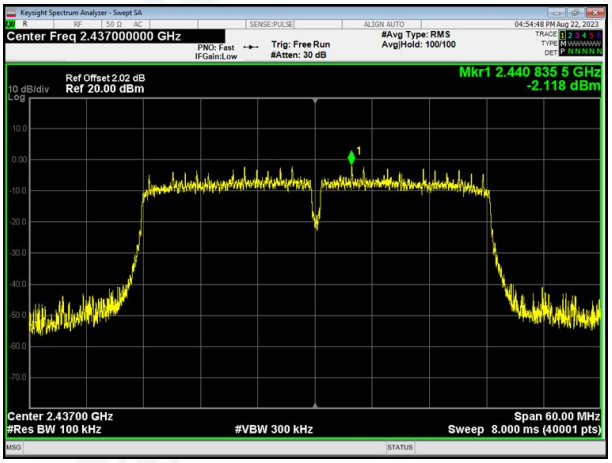
802.11ax(HE40)

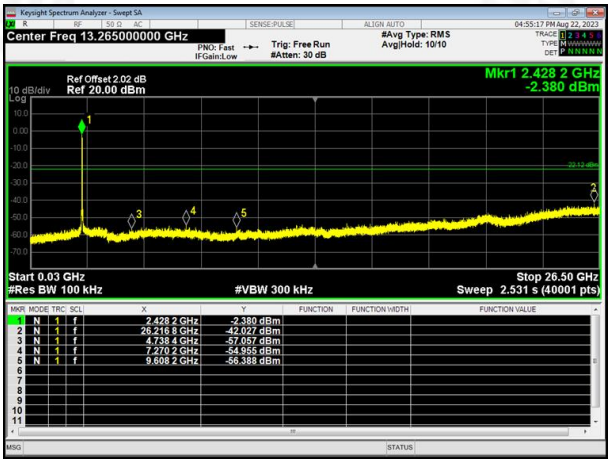
Lowest channel



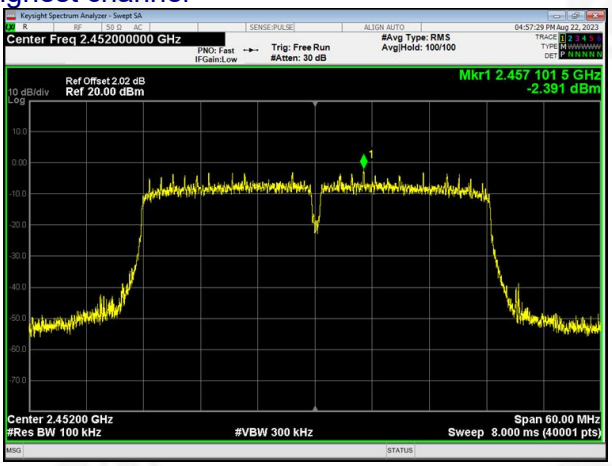


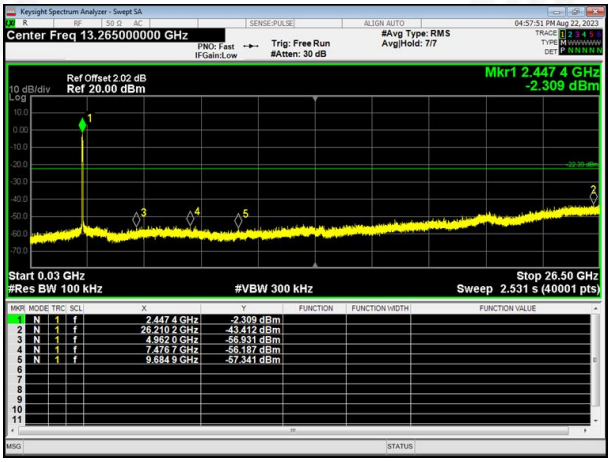
Middle channel





Highest channel





Note: Only the worst data recorded was MIMO.

10. DUTY CYCLE

Test Method:	ANSI C63.10:2013

10.1 APPLIED PROCEDURES / LIMIT

Measurements of duty cycle and transmission duration shall be performed using one of the following techniques:

a) A diode detector and an oscilloscope that together have a sufficiently short response time to permit accurate measurements of the ON and OFF times of the transmitted signal.

b) The zero-span mode on a spectrum analyzer or EMI receiver if the response time and spacing between bins on the sweep are sufficient to permit accurate measurements of the ON and OFF times of the transmitted signal:

1) Set the center frequency of the instrument to the center frequency of the transmission.

2) Set RBW ≥ OBW if possible; otherwise, set RBW to the largest available value.

3) Set VBW ≥ RBW. Set detector = peak or average.

4) The zero-span measurement method shall not be used unless both RBW and VBW are > 50/*T* and the number of sweep points across duration *T* exceeds 100. (For example, if VBW and/or RBW are limited to 3 MHz, then the zero-span method of measuring the duty cycle shall not be used if $T \leq 16.7$ µs.)

10.2 DEVIATION FROM STANDARD

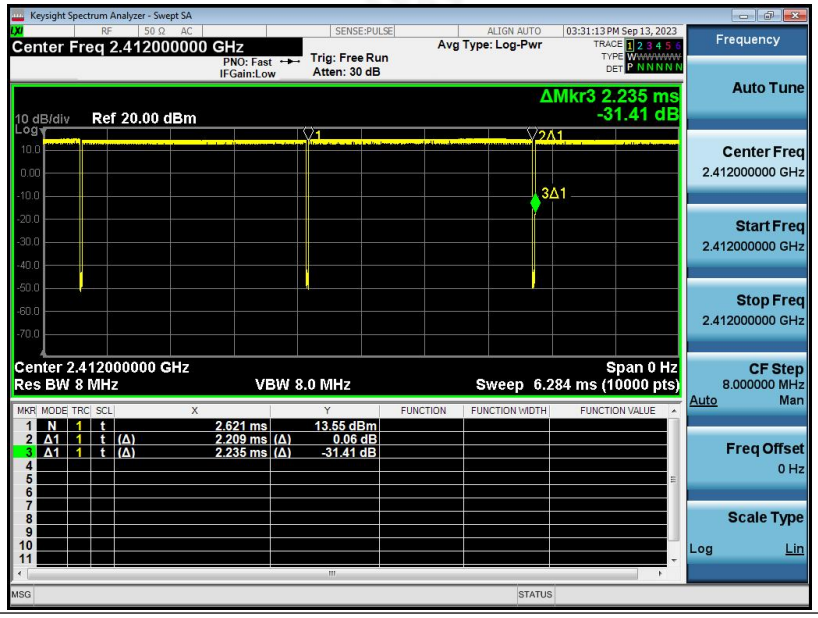
No deviation.

10.3 TEST SETUP

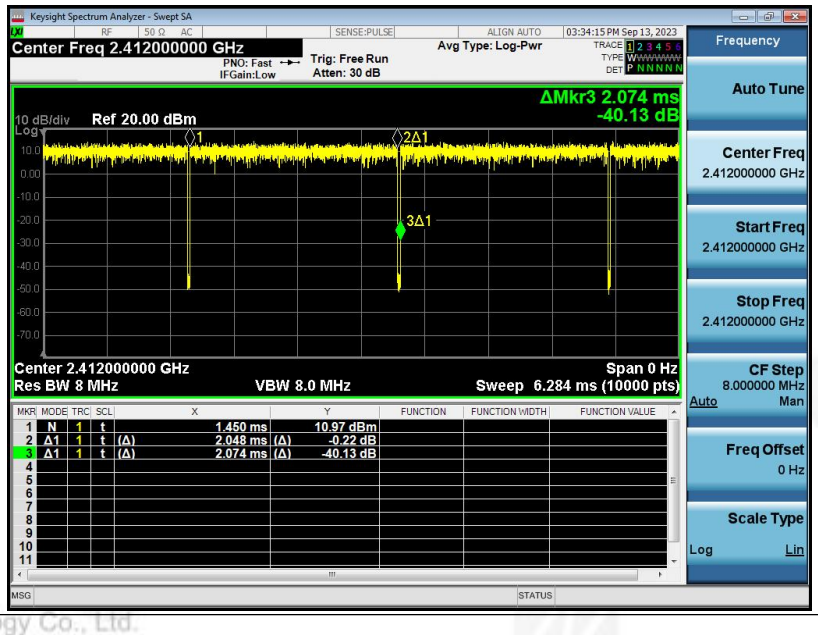
10.4 TEST RESULTS

Mode	Frequency (MHz)	Duty Cycle (%)
802.11b	2412	98.84
802.11g	2412	98.75
802.11n20	2412	98.66
802.11n40	2422	97.92
802.11ax20	2412	96.45

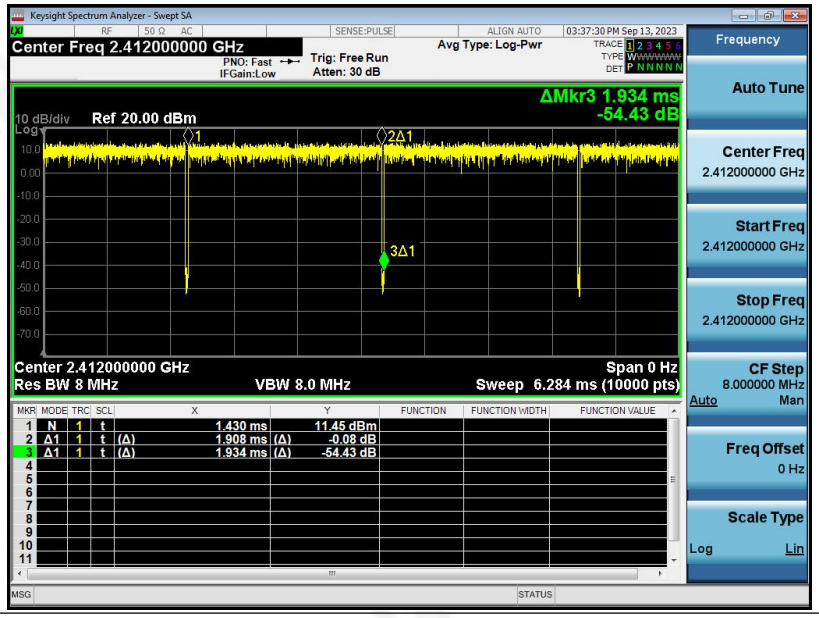
802.11b 2412MHz(ANT1)



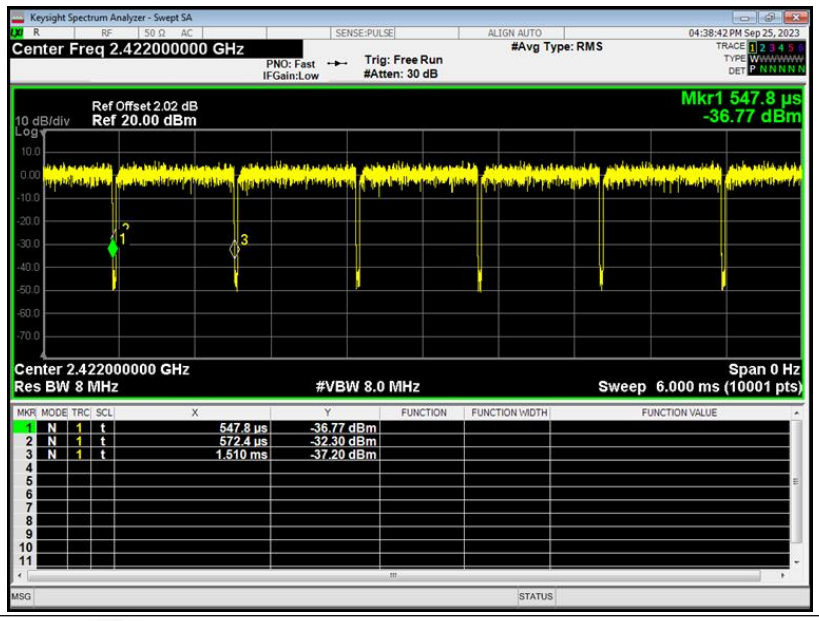
802.11g 2412MHz(ANT1)



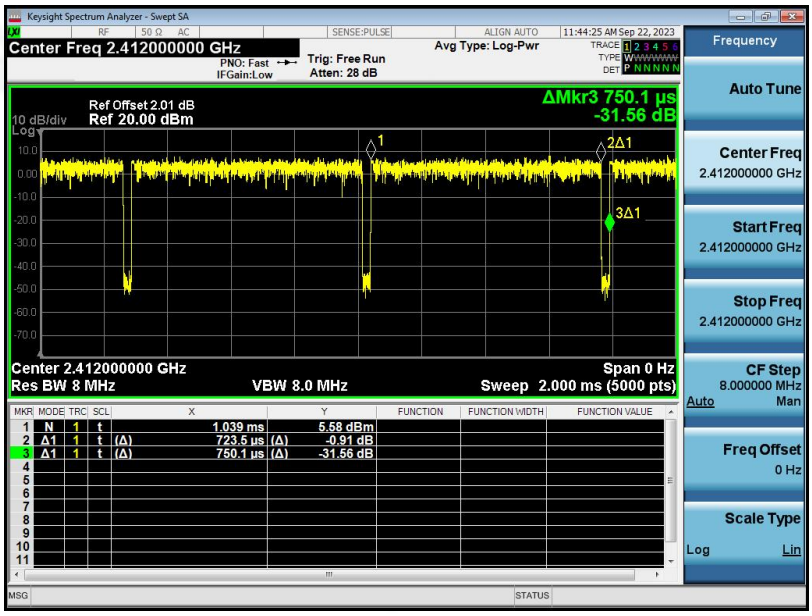
802.11n20 2412MHz(MIMO)



802.11n40 2422MHz (MIMO)



802.11ax(HE20)	2412MHz(MIMO)



Note: All mode have been tested, and the report only reflects the worst case data.

Duty Cycle = Ton / Total*100%

11. ANTENNA REQUIREMENT

Standard requirement:	FCC Part15 C Section 15.203 /247(c)
15.203 requirement: 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 an 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. 15.247(c) (1)(i) requirement: (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.	
EUT Antenna:	
The antenna is External Antenna, the best case gain of the antenna is 2.0 dBi, reference to the appendix II for details	

12. TEST SETUP PHOTO

Reference to the appendix I for details.

13. EUT CONSTRUCTIONAL DETAILS

Reference to the appendix II for details.

※※※※※ END OF REPORT ※※※※※