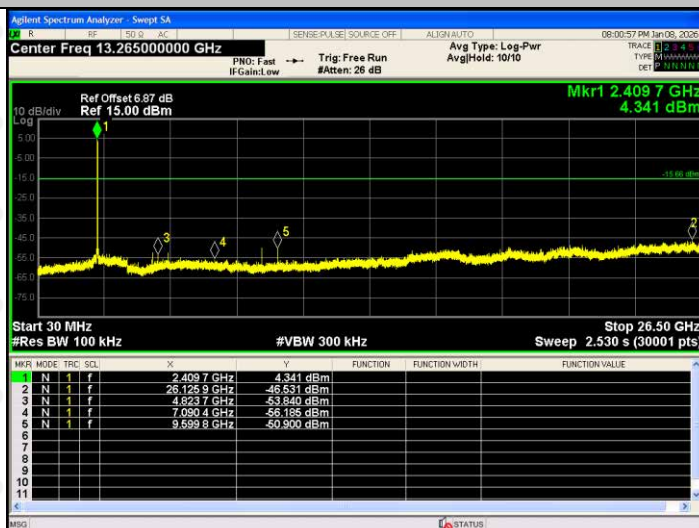
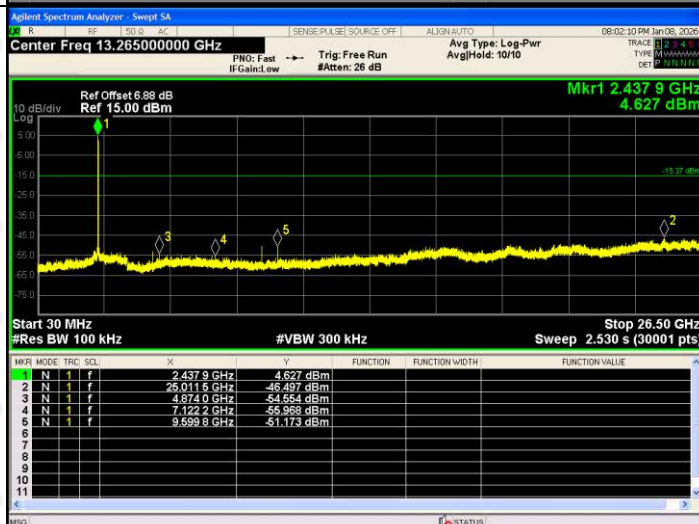


RF Conducted Spurious Emissions Graphs

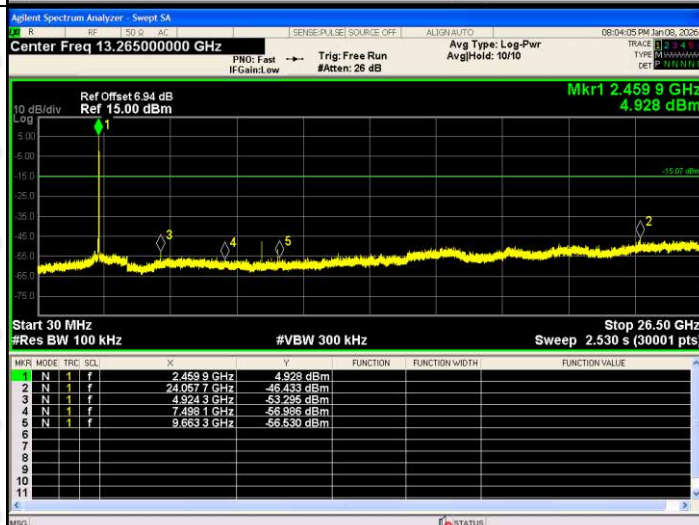
802.11b/LCH



802.11b/MCH

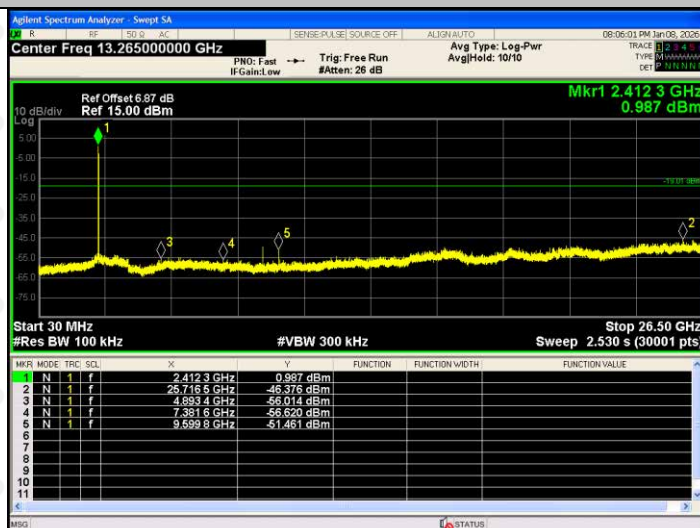


802.11b/HCH

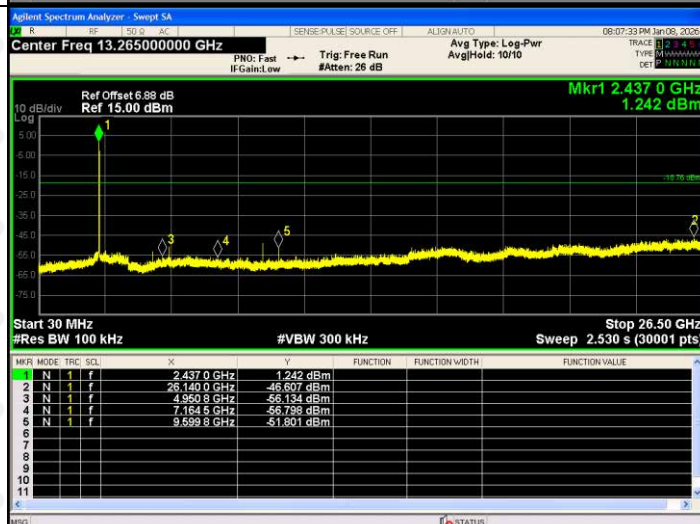


RF Conducted Spurious Emissions Graphs

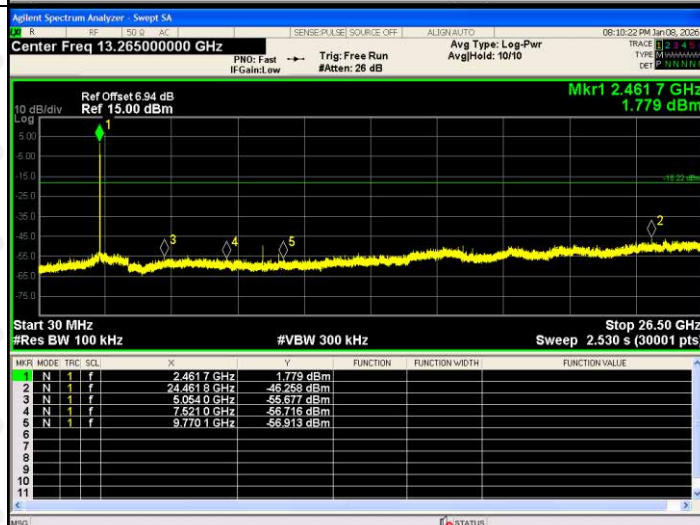
802.11g/LCH



802.11g/MCH

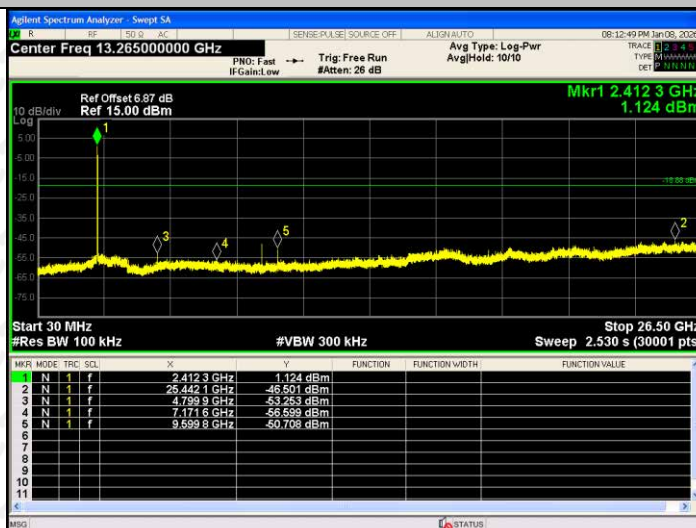


802.11g/HCH

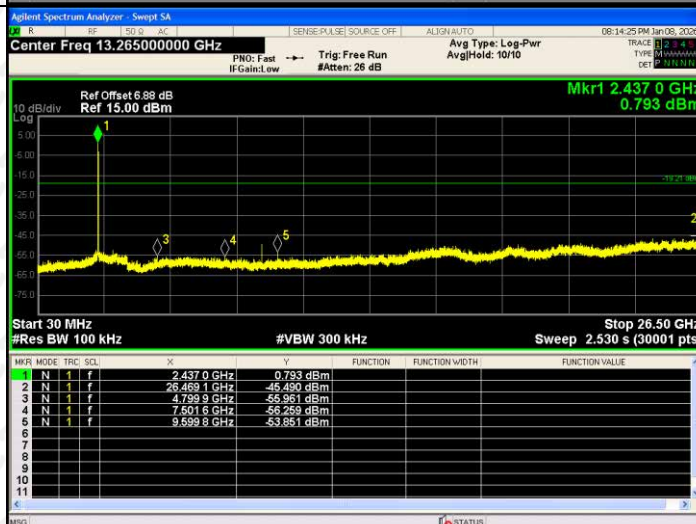


RF Conducted Spurious Emissions Graphs

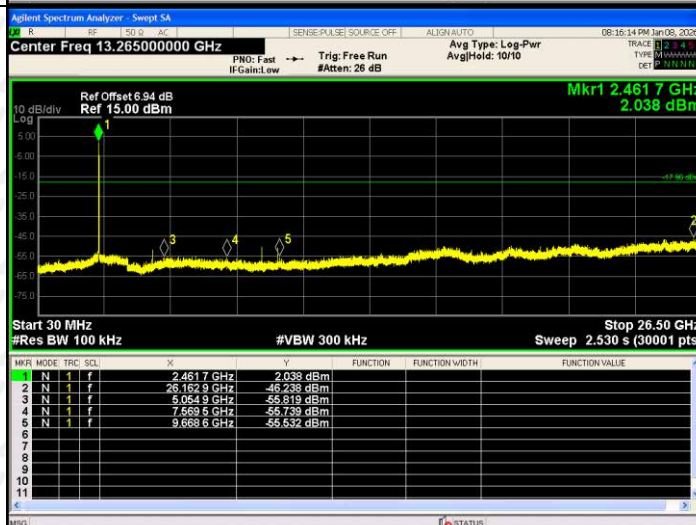
802.11n(HT20)/LCH

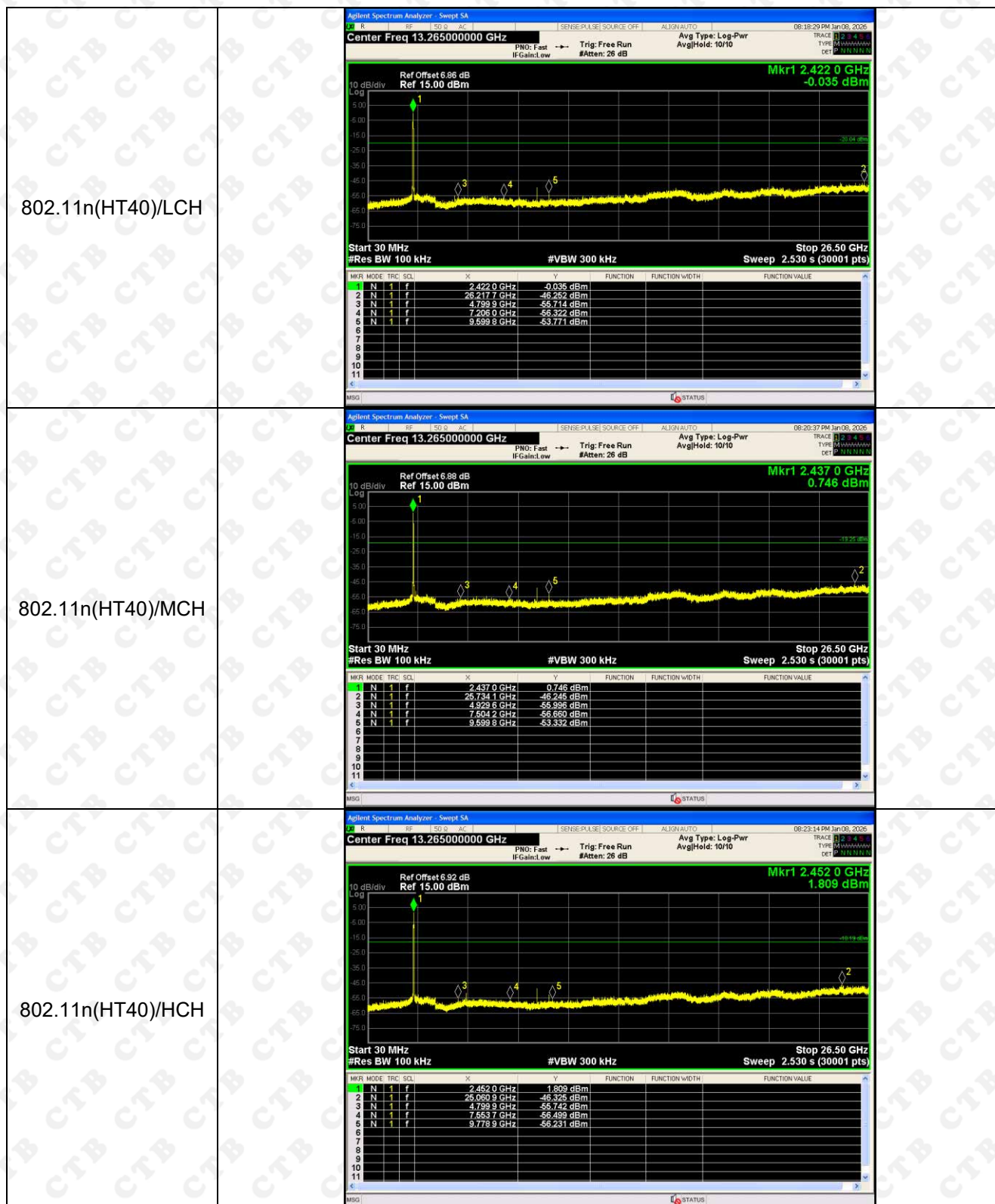


802.11n(HT20)/MCH



802.11n(HT20)/HCH

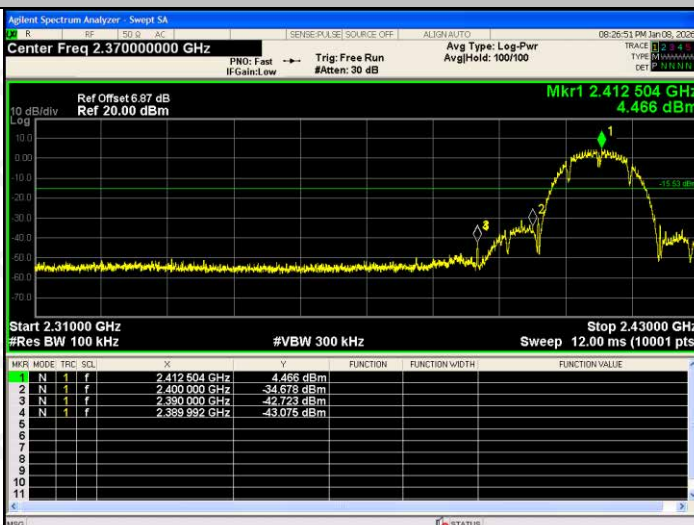




ANT2:

BAND EDGE Graphs

802.11b/LCH

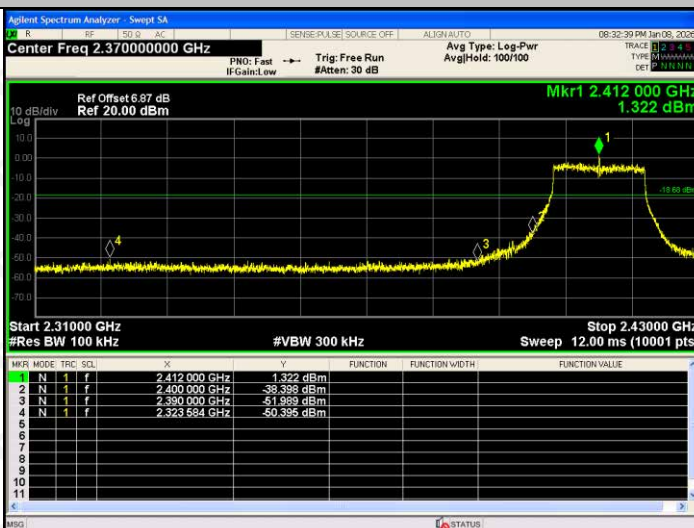


802.11b/HCH

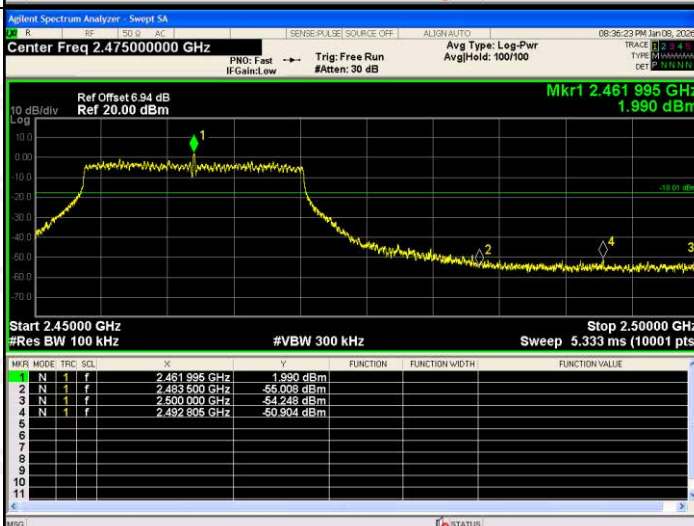


BAND EDGE Graphs

802.11g/LCH

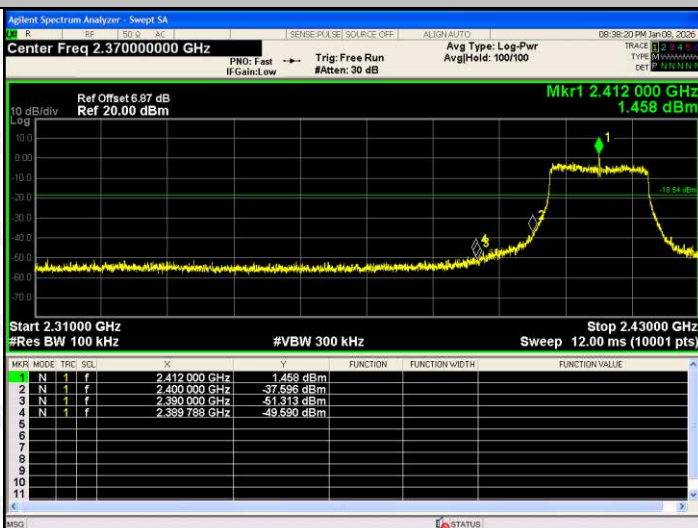


802.11g/HCH

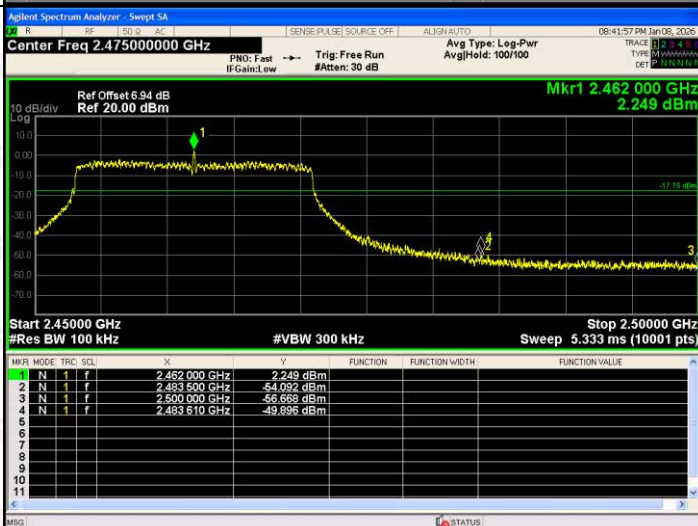


BAND EDGE Graphs

802.11n(HT20)/LCH

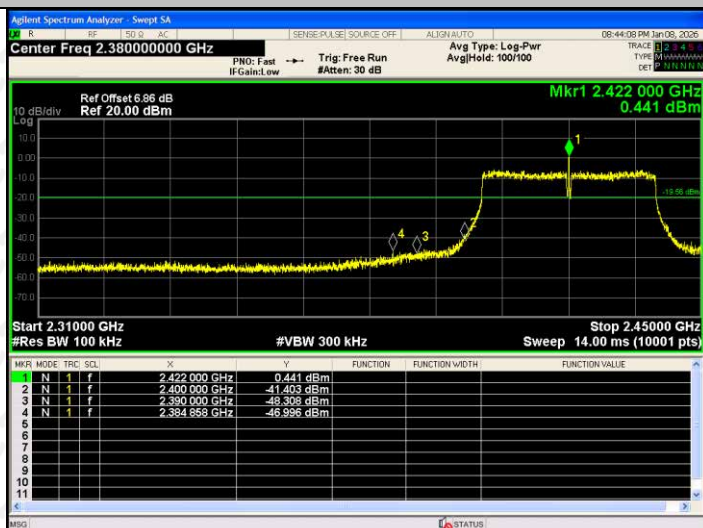


802.11n(HT20)/HCH

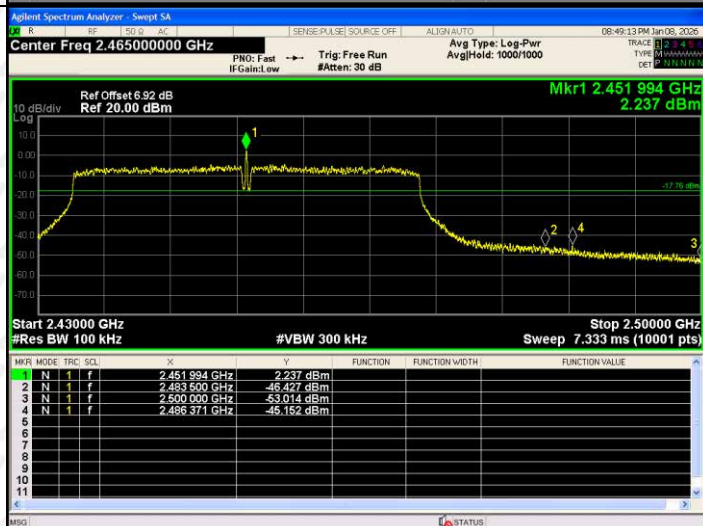


BAND EDGE Graphs

802.11n(HT40)/LCH

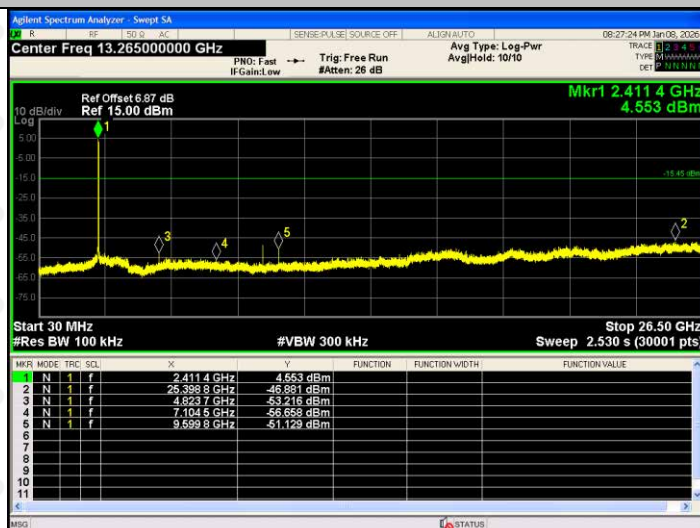


802.11n(HT40)/HCH

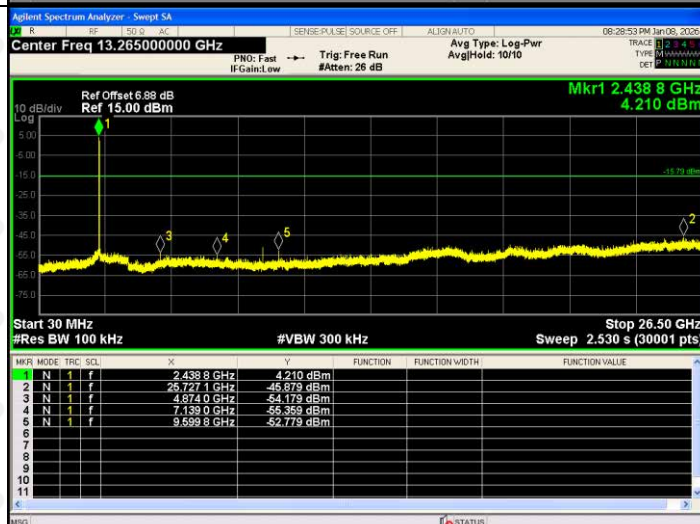


RF Conducted Spurious Emissions Graphs

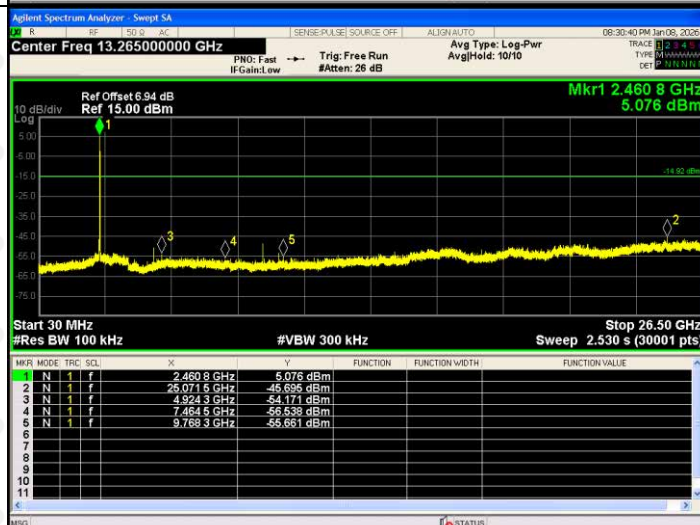
802.11b/LCH



802.11b/MCH

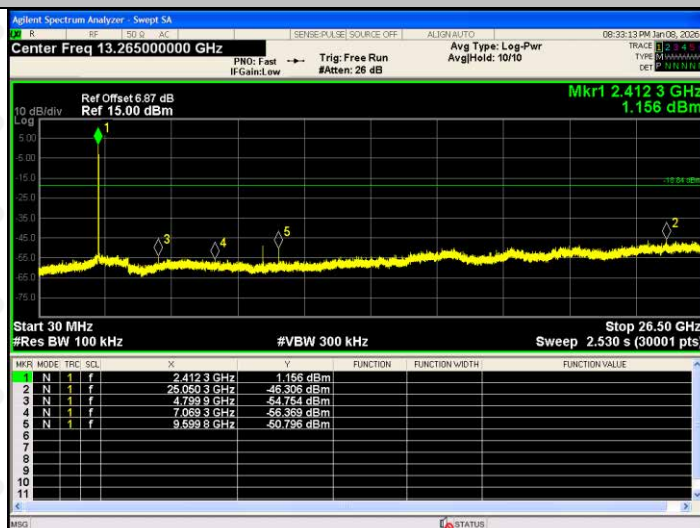


802.11b/HCH

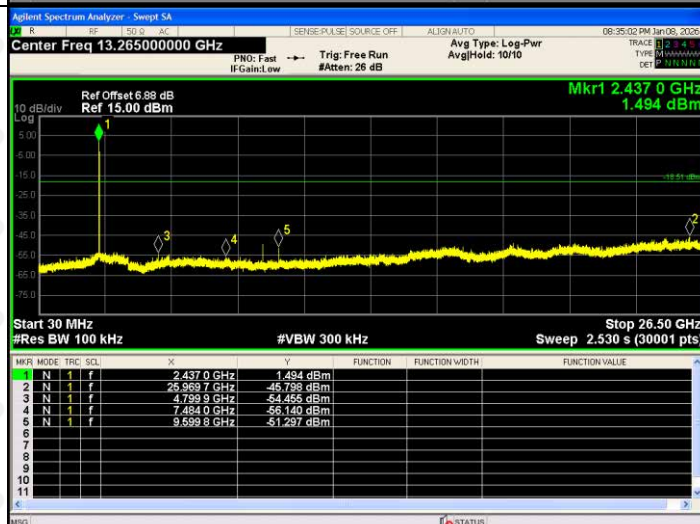


RF Conducted Spurious Emissions Graphs

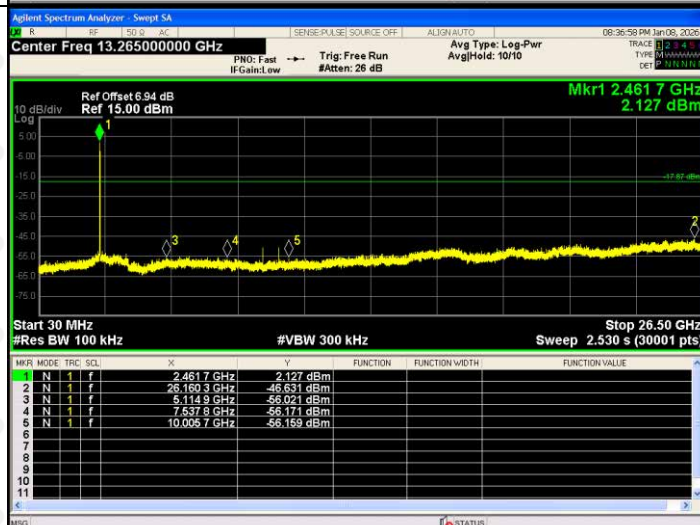
802.11g/LCH



802.11g/MCH

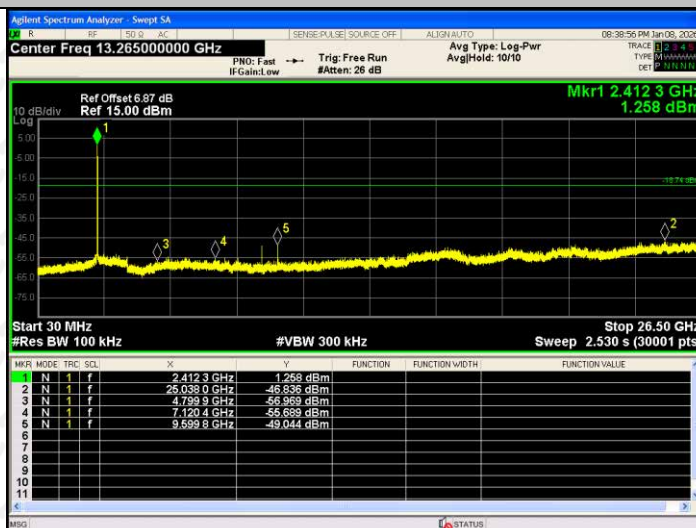


802.11g/HCH

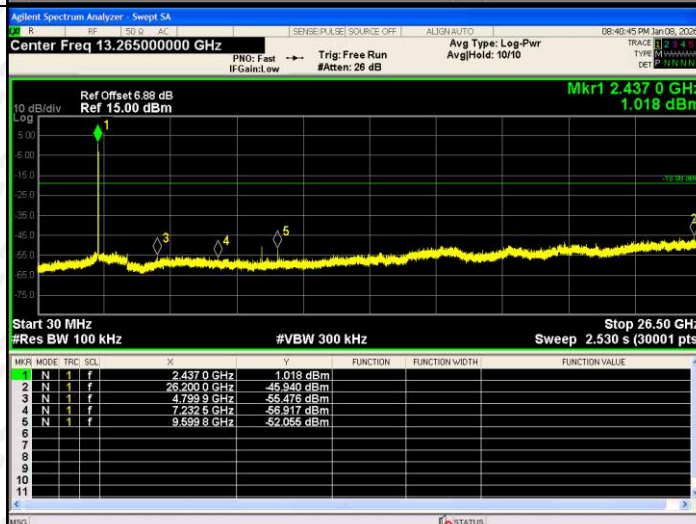


RF Conducted Spurious Emissions Graphs

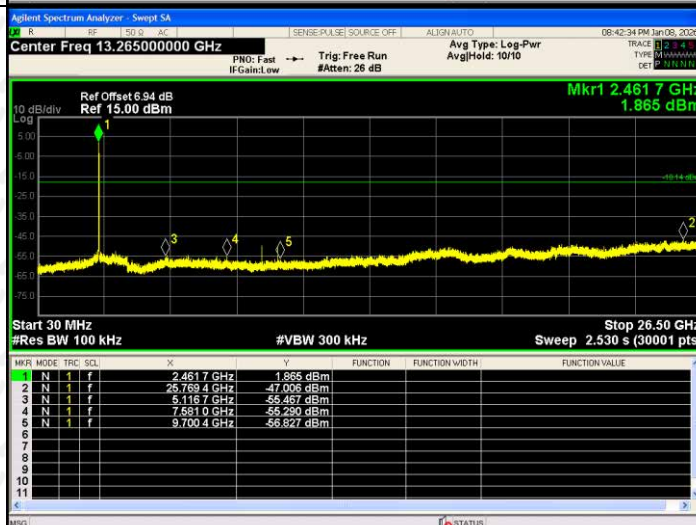
802.11n(HT20)/LCH



802.11n(HT20)/MCH

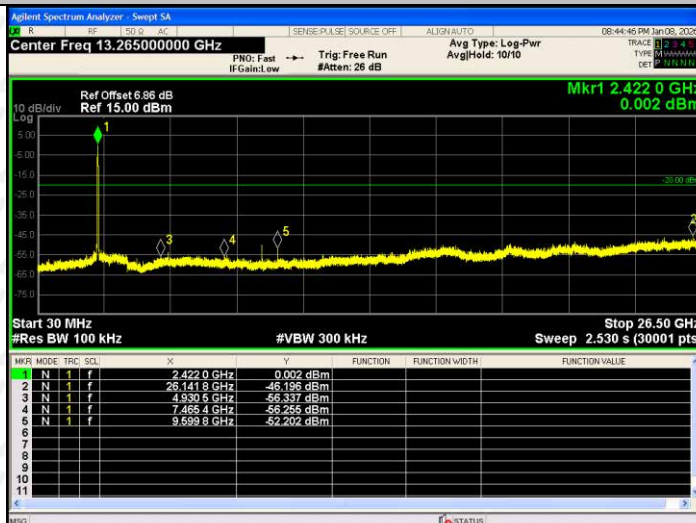


802.11n(HT20)/HCH

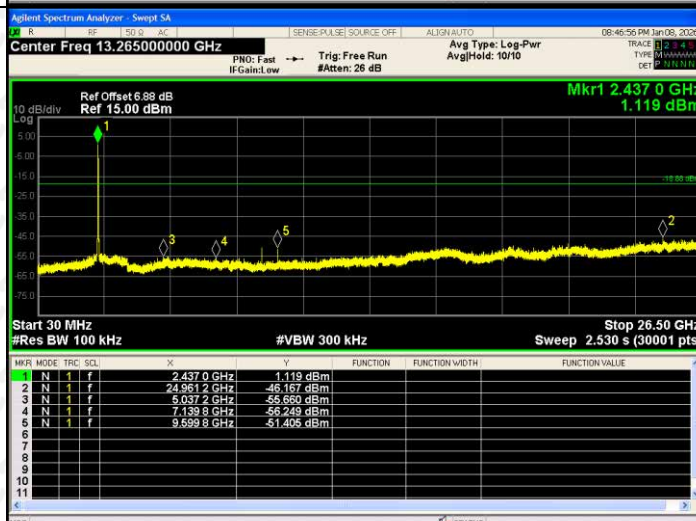


RF Conducted Spurious Emissions Graphs

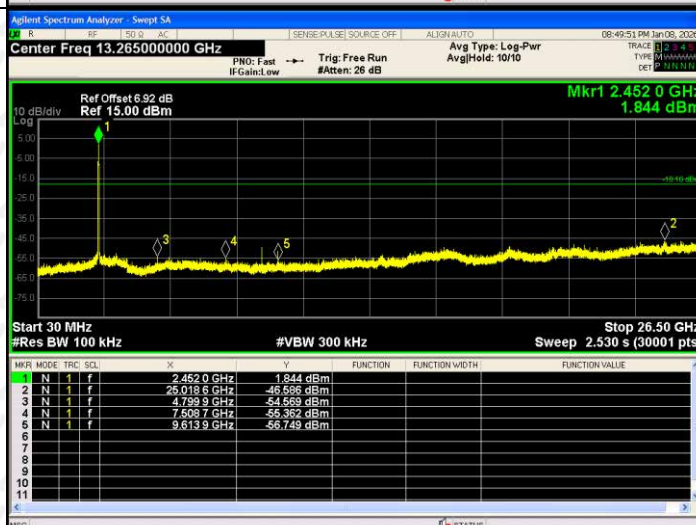
802.11n(HT40)/LCH



802.11n(HT40)/MCH



802.11n(HT40)/HCH



9. CONDUCTED OUTPUT POWER

9.1 Block Diagram Of Test Setup



9.2 Limit

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

9.3 Test procedure

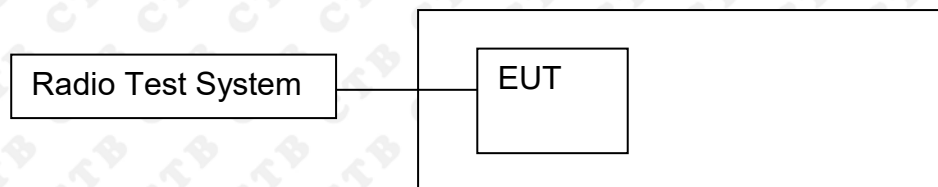
1. The EUT was directly connected to the Power meter

9.4 Test Result

Mode	Channel.	Maximum Peak Power [dBm] ant 1	Maximum Peak Power [dBm] ant 2	Total Power Peak Output Power(dBm)	Limit[dBm]
802.11b	LCH	18.882	18.299	/	30
	MCH	18.548	18.307	/	30
	HCH	19.047	18.927	/	30
802.11g	LCH	18.58	18.584	/	30
	MCH	18.56	18.66	/	30
	HCH	19.145	19.123	/	30
802.11n(HT20)	LCH	18.091	18.09	21.101	30
	MCH	18.159	18.046	21.113	30
	HCH	18.675	18.577	21.637	30
802.11n(HT40)	LCH	18.078	17.986	21.043	30
	MCH	19.094	19.052	22.083	30
	HCH	19.518	19.49	22.514	30

10. 6DB OCCUPIED BANDWIDTH

10.1 Block Diagram Of Test Setup



10.2 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

10.3 Test procedure

1. Rem1. Set RBW = 100 kHz.
2. Set the video bandwidth (VBW) $\geq 3 \times$ 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.

10.4 Test Result

ANT1:

Test Mode	Frequency	6dB Bandwidth (MHz)	Limit(kHz)	Result
802.11b	LCH	10.111	500	PASS
	MCH	10.093	500	PASS
	HCH	10.13	500	PASS
802.11g	LCH	16.417	500	PASS
	MCH	15.127	500	PASS
	HCH	15.177	500	PASS
802.11n(HT20)	LCH	15.655	500	PASS
	MCH	16.847	500	PASS
	HCH	13.517	500	PASS
802.11n(HT40)	LCH	34.348	500	PASS
	MCH	34.829	500	PASS
	HCH	25.595	500	PASS

ANT2:

Test Mode	Frequency	6dB Bandwidth (MHz)	Limit(kHz)	Result
802.11b	LCH	10.132	500	PASS
	MCH	10.096	500	PASS
	HCH	10.117	500	PASS
802.11g	LCH	16.381	500	PASS
	MCH	15.098	500	PASS
	HCH	15.414	500	PASS
802.11n(HT20)	LCH	15.403	500	PASS
	MCH	15.704	500	PASS
	HCH	16.311	500	PASS
802.11n(HT40)	LCH	34.991	500	PASS
	MCH	33.984	500	PASS
	HCH	28.55	500	PASS

ANT1:
Test Graph:



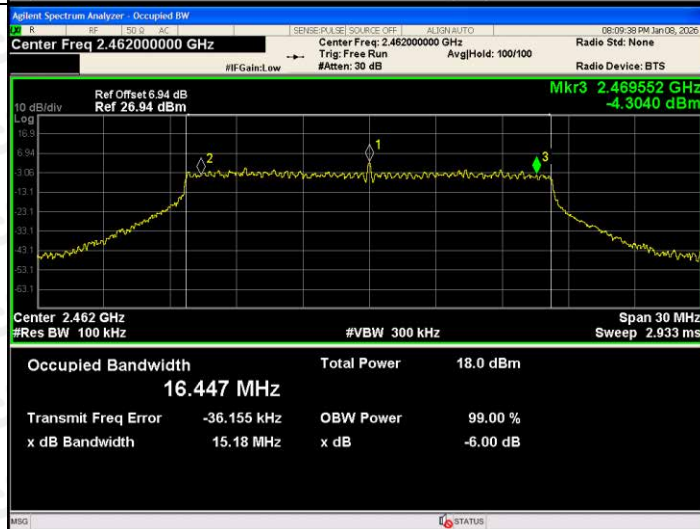
802.11g/LCH

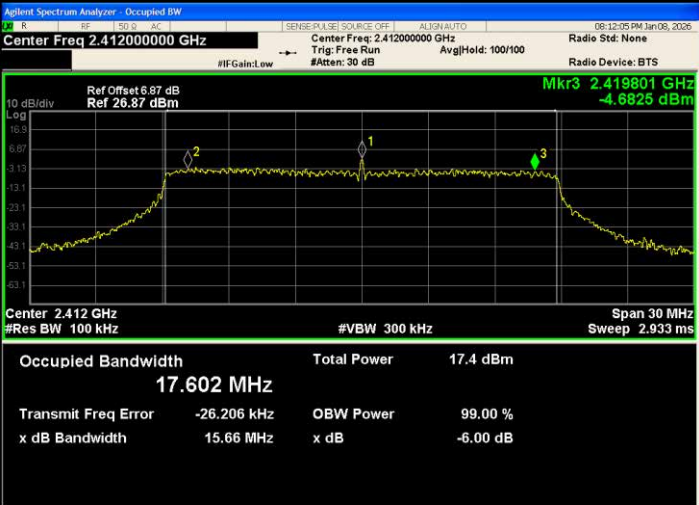
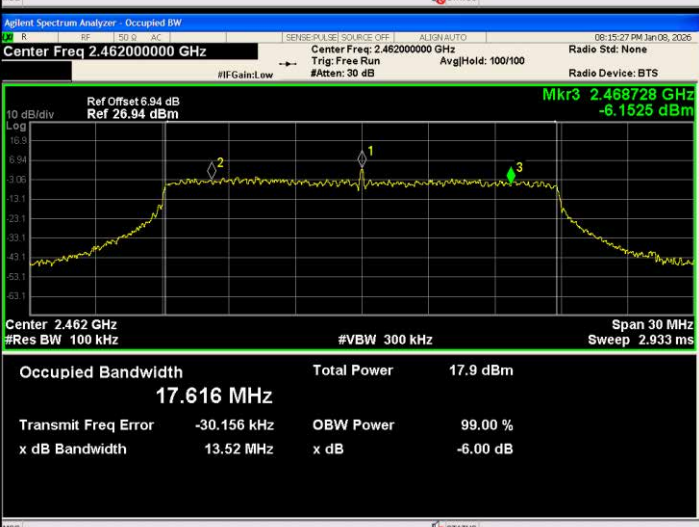


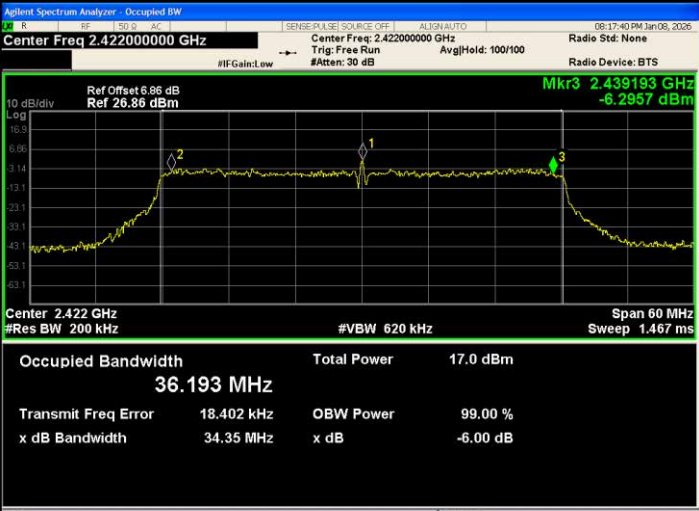
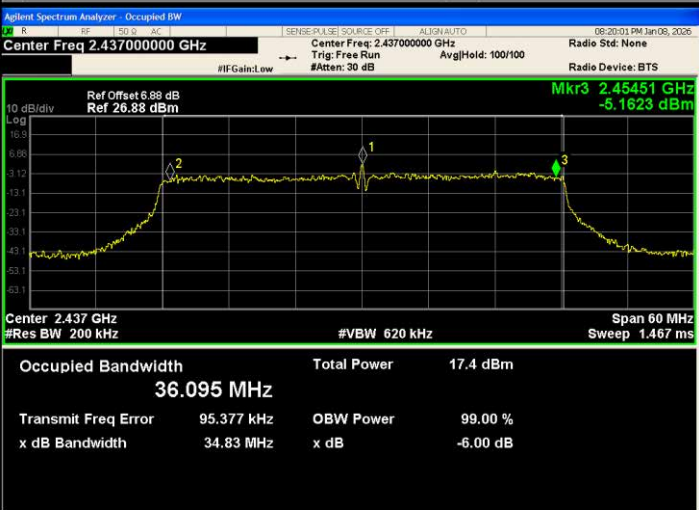
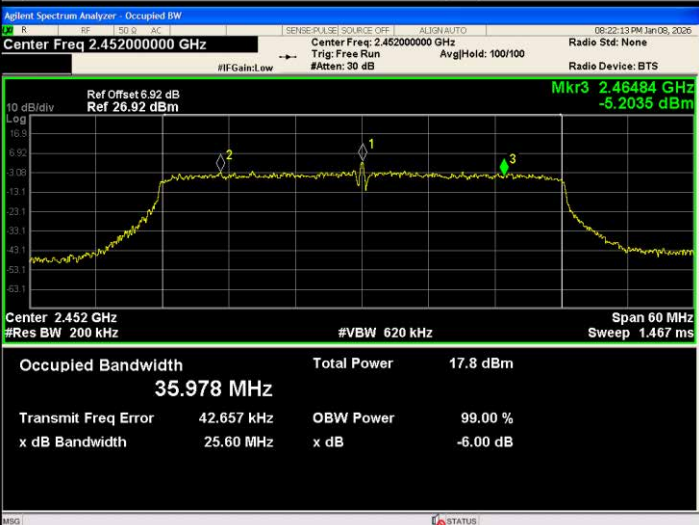
802.11g/MCH



802.11g/HCH

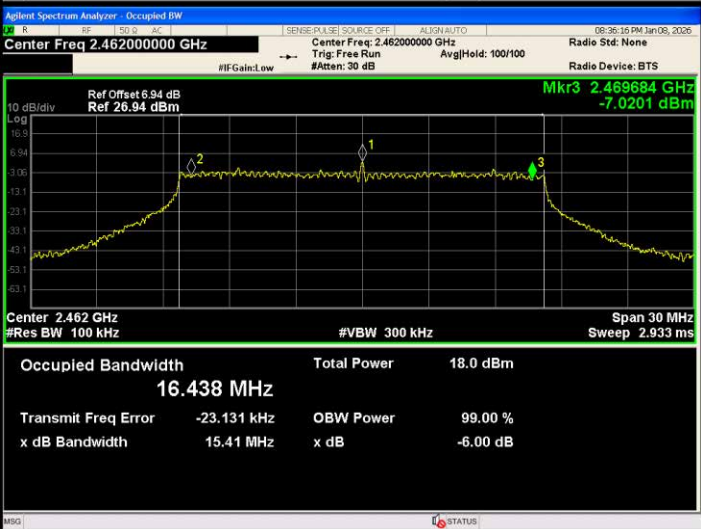


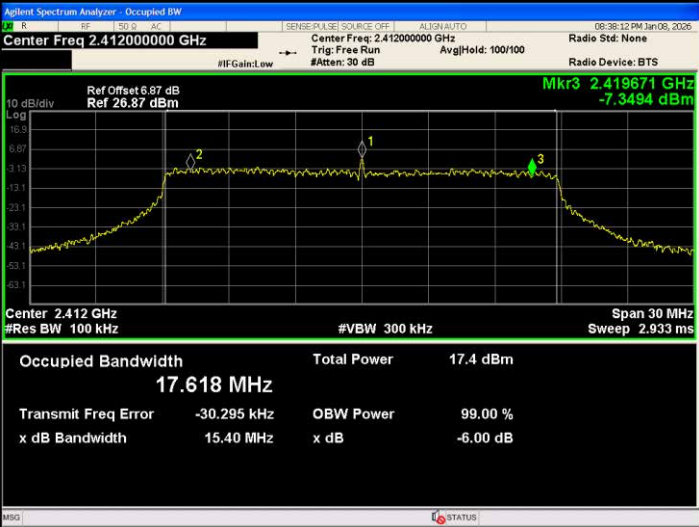
802.11n(HT20)/LCH	 Agilent Spectrum Analyzer - Occupied BW Center Freq 2.41200000 GHz Ref Offset 6.87 dB Ref 26.87 dBm Center Freq: 2.41200000 GHz Trig: Free Run #Atten: 30 dB Avg/Hold: 100/100 Radio Std: None Radio Device: BTS 10 dB/div Log Center 2.412 GHz #Res BW 100 kHz #VBW 300 kHz Span 30 MHz Sweep 2.933 ms Occupied Bandwidth 17.602 MHz Total Power 17.4 dBm Transmit Freq Error -26.206 kHz OBW Power 99.00 % x dB Bandwidth 15.66 MHz x dB -6.00 dB Mkr3 2.419801 GHz -4.6825 dBm
802.11n(HT20)/MCH	 Agilent Spectrum Analyzer - Occupied BW Center Freq 2.43700000 GHz Ref Offset 6.88 dB Ref 26.88 dBm Center Freq: 2.43700000 GHz Trig: Free Run #Atten: 30 dB Avg/Hold: 100/100 Radio Std: None Radio Device: BTS 10 dB/div Log Center 2.437 GHz #Res BW 100 kHz #VBW 300 kHz Span 30 MHz Sweep 2.933 ms Occupied Bandwidth 17.599 MHz Total Power 17.4 dBm Transmit Freq Error 19.022 kHz OBW Power 99.00 % x dB Bandwidth 16.85 MHz x dB -6.00 dB Mkr3 2.445442 GHz -3.9584 dBm
802.11n(HT20)/HCH	 Agilent Spectrum Analyzer - Occupied BW Center Freq 2.46200000 GHz Ref Offset 6.94 dB Ref 26.94 dBm Center Freq: 2.46200000 GHz Trig: Free Run #Atten: 30 dB Avg/Hold: 100/100 Radio Std: None Radio Device: BTS 10 dB/div Log Center 2.462 GHz #Res BW 100 kHz #VBW 300 kHz Span 30 MHz Sweep 2.933 ms Occupied Bandwidth 17.616 MHz Total Power 17.9 dBm Transmit Freq Error -30.156 kHz OBW Power 99.00 % x dB Bandwidth 13.52 MHz x dB -6.00 dB Mkr3 2.468728 GHz -6.1525 dBm

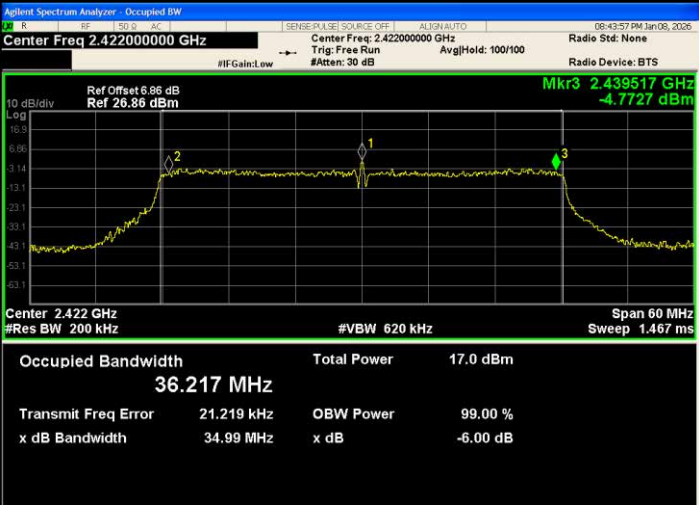
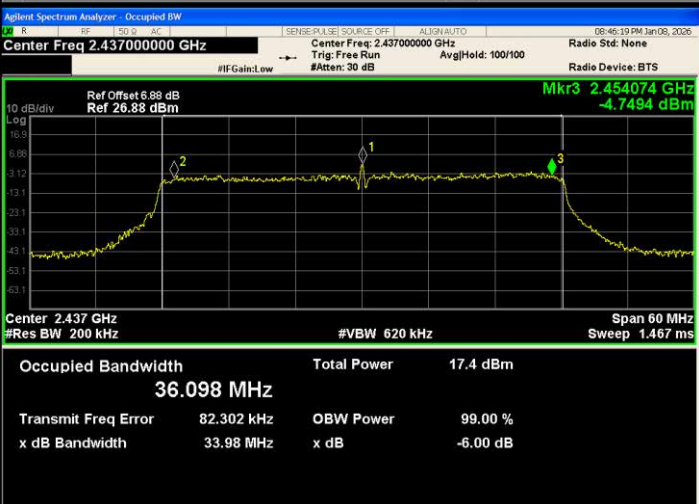
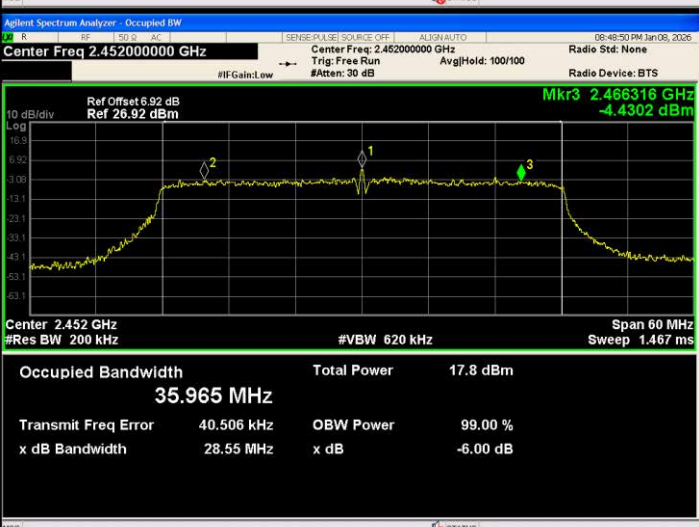
802.11n(HT40)/LCH	
802.11n(HT40)/MCH	
802.11n(HT40)/HCH	

ANT2:
Test Graph:



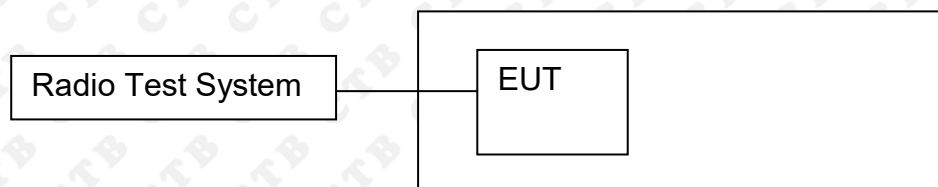
802.11g/LCH	 Agilent Spectrum Analyzer - Occupied BW Center Freq 2.41200000 GHz Ref Offset 6.87 dB Ref 26.87 dBm Mkr3 2.420159 GHz -4.6540 dBm Center 2.412 GHz #Res BW 100 kHz #VBW 300 kHz Span 30 MHz Sweep 2.933 ms Occupied Bandwidth 16.479 MHz Total Power 17.5 dBm Transmit Freq Error -31.760 kHz OBW Power 99.00 % x dB Bandwidth 16.38 MHz x dB -6.00 dB
802.11g/MCH	 Agilent Spectrum Analyzer - Occupied BW Center Freq 2.43700000 GHz Ref Offset 6.88 dB Ref 26.88 dBm Mkr3 2.444556 GHz -4.3172 dBm Center 2.437 GHz #Res BW 100 kHz #VBW 300 kHz Span 30 MHz Sweep 2.933 ms Occupied Bandwidth 16.451 MHz Total Power 17.5 dBm Transmit Freq Error 7.042 kHz OBW Power 99.00 % x dB Bandwidth 15.10 MHz x dB -6.00 dB
802.11g/HCH	 Agilent Spectrum Analyzer - Occupied BW Center Freq 2.46200000 GHz Ref Offset 6.94 dB Ref 26.94 dBm Mkr3 2.469684 GHz -7.0201 dBm Center 2.462 GHz #Res BW 100 kHz #VBW 300 kHz Span 30 MHz Sweep 2.933 ms Occupied Bandwidth 16.438 MHz Total Power 18.0 dBm Transmit Freq Error -23.131 kHz OBW Power 99.00 % x dB Bandwidth 15.41 MHz x dB -6.00 dB

802.11n(HT20)/LCH	 Agilent Spectrum Analyzer - Occupied BW Center Freq 2.412000000 GHz Center Freq: 2.412000000 GHz Trig: Free Run Avg/Hold: 100/100 Radio Std: None Radio Device: BTS Ref Offset: 6.87 dB Ref: 26.87 dBm Mkr3 2.419671 GHz -7.3494 dBm Center 2.412 GHz #Res BW 100 kHz #VBW 300 kHz Span 30 MHz Sweep 2.933 ms Occupied Bandwidth 17.618 MHz Total Power 17.4 dBm Transmit Freq Error -30.295 kHz OBW Power 99.00 % x dB Bandwidth 15.40 MHz x dB -6.00 dB
802.11n(HT20)/MCH	 Agilent Spectrum Analyzer - Occupied BW Center Freq 2.437000000 GHz Center Freq: 2.437000000 GHz Trig: Free Run Avg/Hold: 100/100 Radio Std: None Radio Device: BTS Ref Offset: 6.88 dB Ref: 26.88 dBm Mkr3 2.444867 GHz -4.5138 dBm Center 2.437 GHz #Res BW 100 kHz #VBW 300 kHz Span 30 MHz Sweep 2.933 ms Occupied Bandwidth 17.625 MHz Total Power 17.3 dBm Transmit Freq Error 14.905 kHz OBW Power 99.00 % x dB Bandwidth 15.70 MHz x dB -6.00 dB
802.11n(HT20)/HCH	 Agilent Spectrum Analyzer - Occupied BW Center Freq 2.462000000 GHz Center Freq: 2.462000000 GHz Trig: Free Run Avg/Hold: 100/100 Radio Std: None Radio Device: BTS Ref Offset: 6.94 dB Ref: 26.94 dBm Mkr3 2.470135 GHz -4.8157 dBm Center 2.462 GHz #Res BW 100 kHz #VBW 300 kHz Span 30 MHz Sweep 2.933 ms Occupied Bandwidth 17.605 MHz Total Power 17.9 dBm Transmit Freq Error -20.287 kHz OBW Power 99.00 % x dB Bandwidth 16.31 MHz x dB -6.00 dB

802.11n(HT40)/LCH	 Agilent Spectrum Analyzer - Occupied BW Center Freq 2.42200000 GHz Ref Offset 6.86 dB Ref 26.86 dBm Mkr3 2.439517 GHz -4.7727 dBm Center 2.422 GHz #Res BW 200 kHz #VBW 620 kHz Sweep 1.467 ms Occupied Bandwidth 36.217 MHz Total Power 17.0 dBm Transmit Freq Error 21.219 kHz OBW Power 99.00 % x dB Bandwidth 34.99 MHz x dB -6.00 dB
802.11n(HT40)/MCH	 Agilent Spectrum Analyzer - Occupied BW Center Freq 2.43700000 GHz Ref Offset 6.88 dB Ref 26.88 dBm Mkr3 2.454074 GHz -4.7494 dBm Center 2.437 GHz #Res BW 200 kHz #VBW 620 kHz Sweep 1.467 ms Occupied Bandwidth 36.098 MHz Total Power 17.4 dBm Transmit Freq Error 82.302 kHz OBW Power 99.00 % x dB Bandwidth 33.98 MHz x dB -6.00 dB
802.11n(HT40)/HCH	 Agilent Spectrum Analyzer - Occupied BW Center Freq 2.45200000 GHz Ref Offset 6.92 dB Ref 26.92 dBm Mkr3 2.466316 GHz -4.4302 dBm Center 2.452 GHz #Res BW 200 kHz #VBW 620 kHz Sweep 1.467 ms Occupied Bandwidth 35.965 MHz Total Power 17.8 dBm Transmit Freq Error 40.506 kHz OBW Power 99.00 % x dB Bandwidth 28.55 MHz x dB -6.00 dB

11. POWER SPECTRAL DENSITY

11.1 Block Diagram Of Test Setup



11.2 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

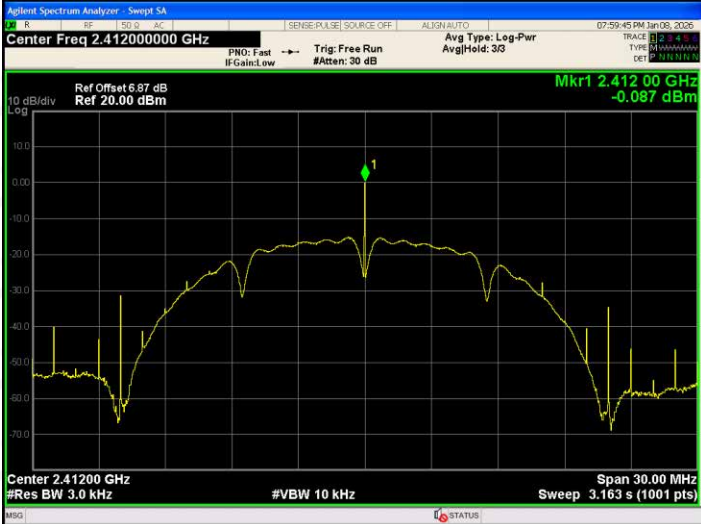
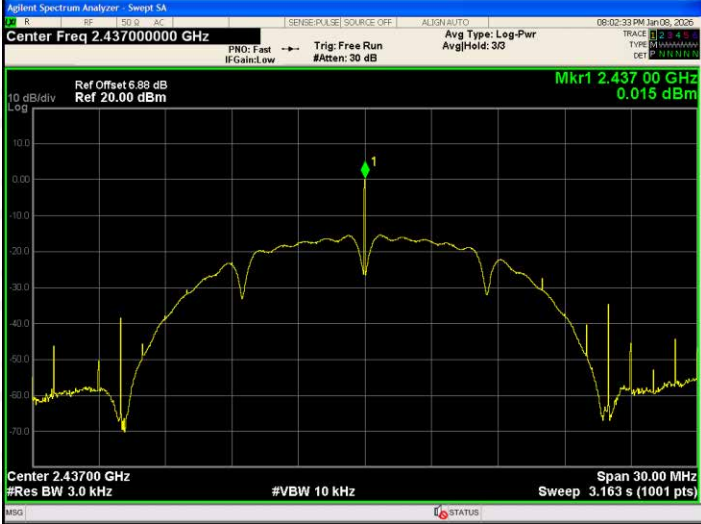
11.3 Test procedure

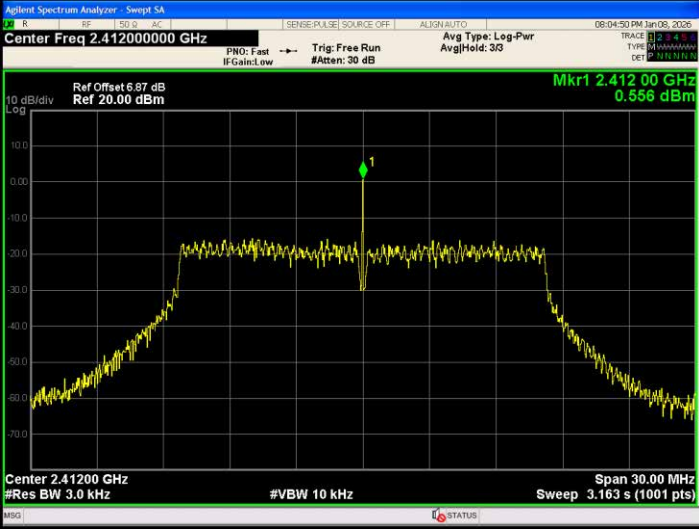
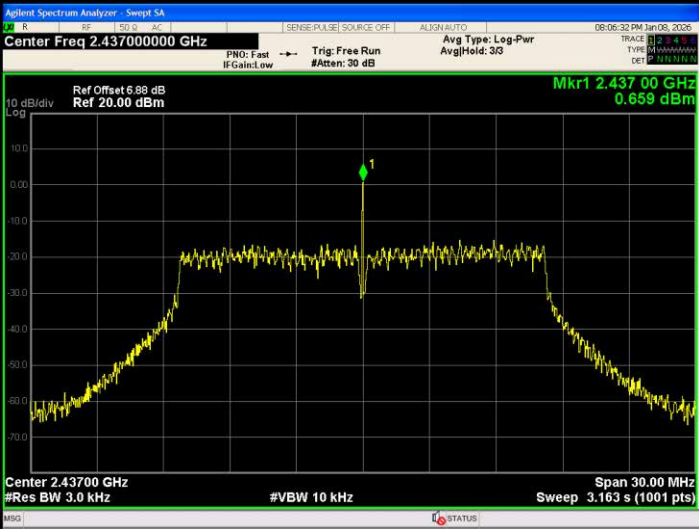
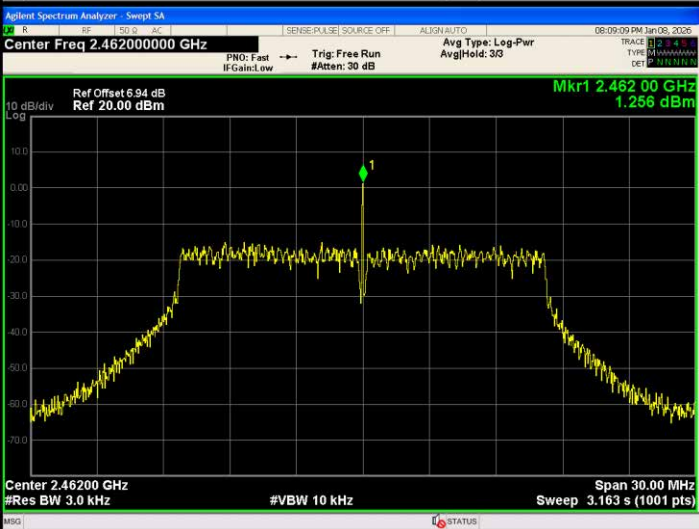
1. Set analyzer center frequency to DTS channel center frequency.
2. Set the span to 1.5 times the DTS bandwidth.
3. Set the RBW to: $3\text{ kHz} \leq \text{RBW} \leq 100\text{ kHz}$.
4. Set the VBW $\geq 3 \times \text{RBW}$.
5. Detector = Peak.
6. Sweep time = auto couple.
7. Trace mode = max hold.
8. Allow trace to fully stabilize.
9. Use the peak marker function to determine the maximum amplitude level within the RBW.
10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

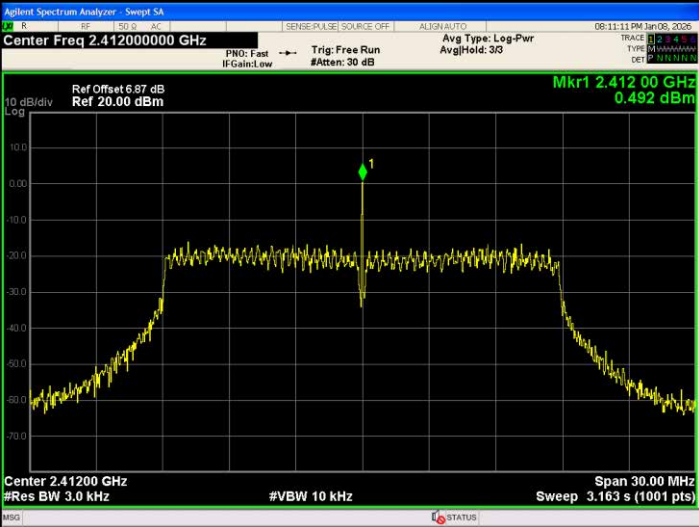
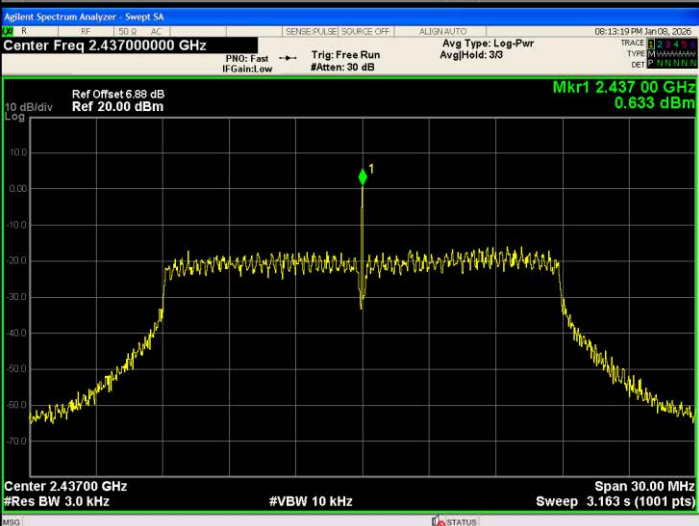
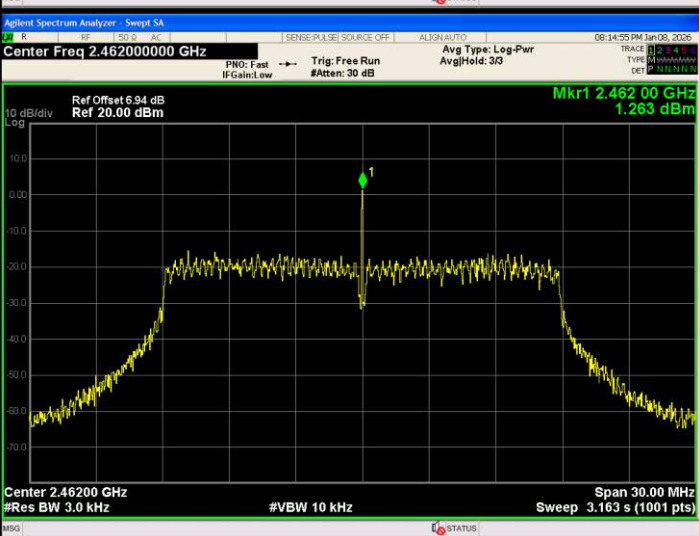
11.4 Test Result

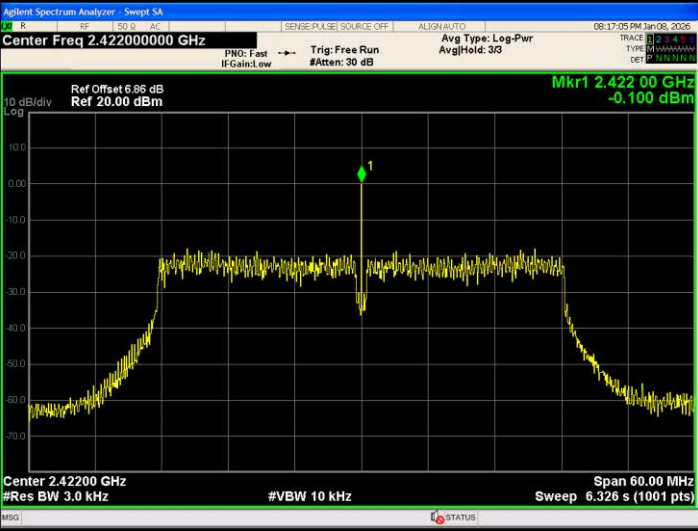
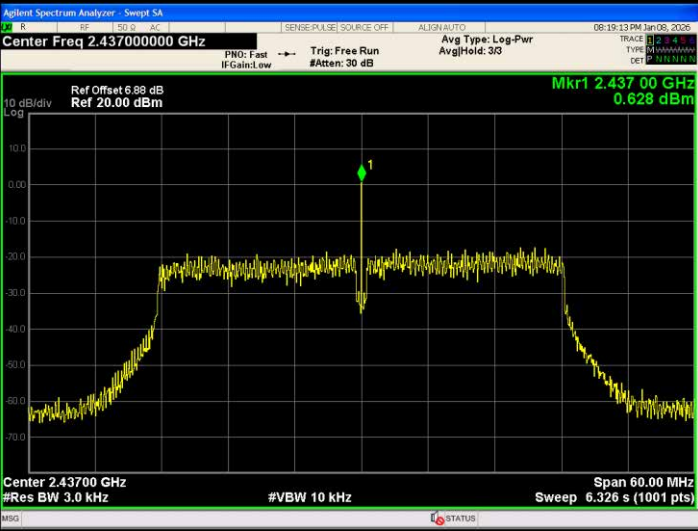
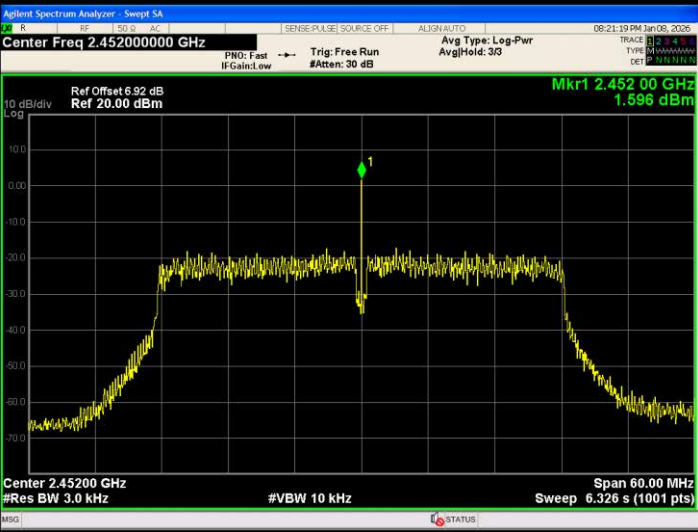
Mode	Channel.	Power Spectral Density [dBm /3kHz] ANT 1	Power Spectral Density [dBm /3kHz] ANT 2	Power Spectral Density [dBm /3kHz] Total	Limit(dBm)
802.11b	LCH	-0.087	-0.227	/	8
	MCH	0.015	0.025	/	8
	HCH	0.463	0.391	/	8
802.11g	LCH	0.556	0.598	/	8
	MCH	0.659	0.645	/	8
	HCH	1.256	1.257	/	8
802.11n(HT20)	LCH	0.492	0.488	3.500	8
	MCH	0.633	0.637	3.645	8
	HCH	1.263	1.12	4.202	8
802.11n(HT40)	LCH	-0.1	-0.118	2.901	8
	MCH	0.628	0.582	3.615	8
	HCH	1.596	1.595	4.606	8

ANT1:
Test Graph

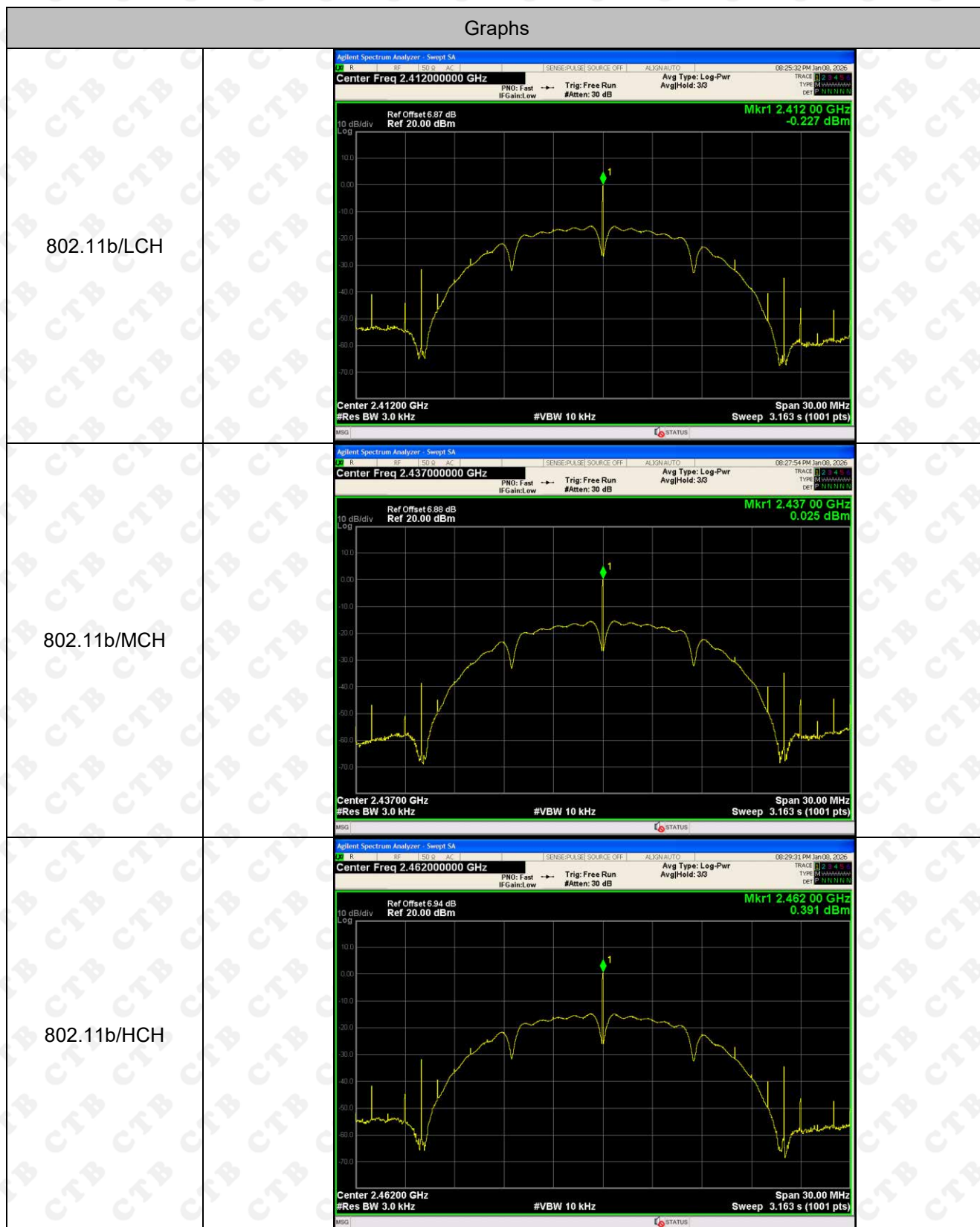
Graphs	
802.11b/LCH	 Agilent Spectrum Analyzer - Sweep SA Center Freq 2.41200000 GHz Ref Offset 6.87 dB Ref 20.00 dBm Mkr1 2.412 00 GHz -0.087 dBm Span 30.00 MHz Sweep 3.163 s (1001 pts)
802.11b/MCH	 Agilent Spectrum Analyzer - Sweep SA Center Freq 2.43700000 GHz Ref Offset 6.88 dB Ref 20.00 dBm Mkr1 2.437 00 GHz 0.015 dBm Span 30.00 MHz Sweep 3.163 s (1001 pts)
802.11b/HCH	 Agilent Spectrum Analyzer - Sweep SA Center Freq 2.46200000 GHz Ref Offset 6.94 dB Ref 20.00 dBm Mkr1 2.462 00 GHz 0.463 dBm Span 30.00 MHz Sweep 3.163 s (1001 pts)

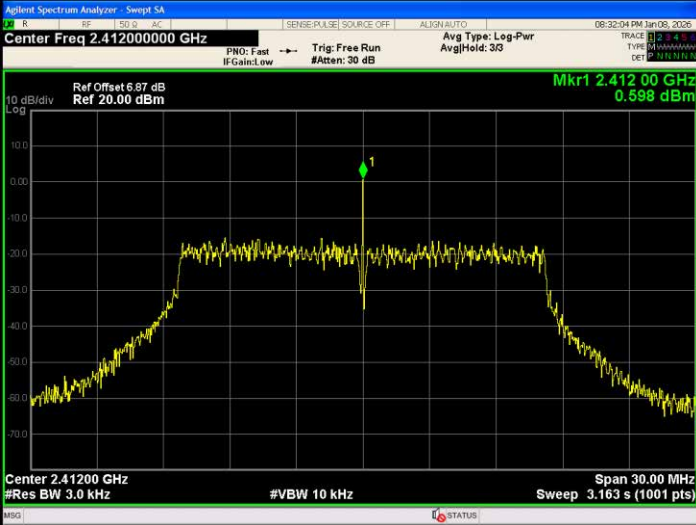
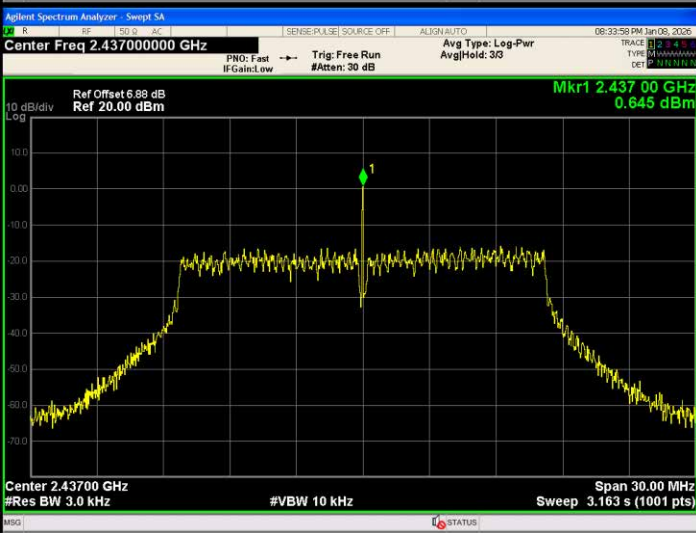
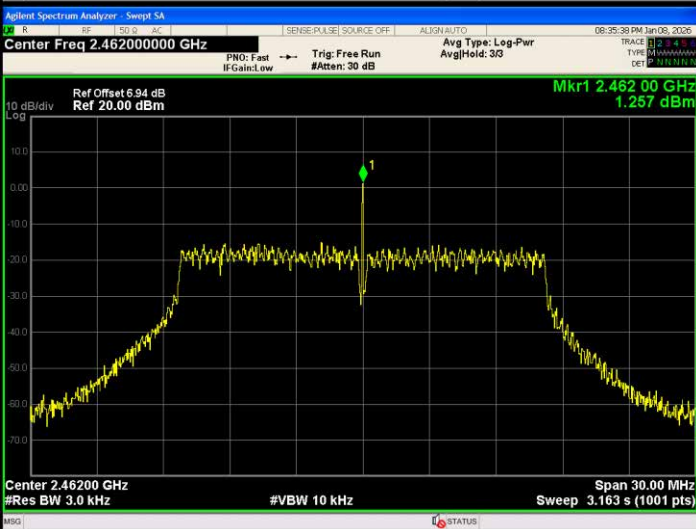
802.11g/LCH	
802.11g/MCH	
802.11g/HCH	

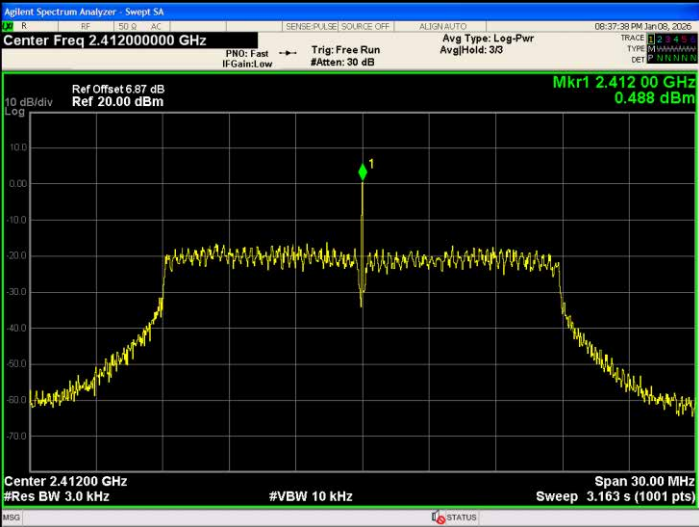
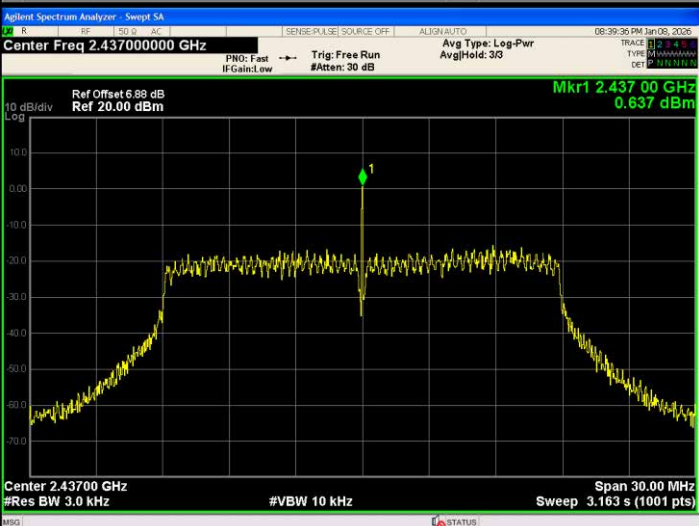
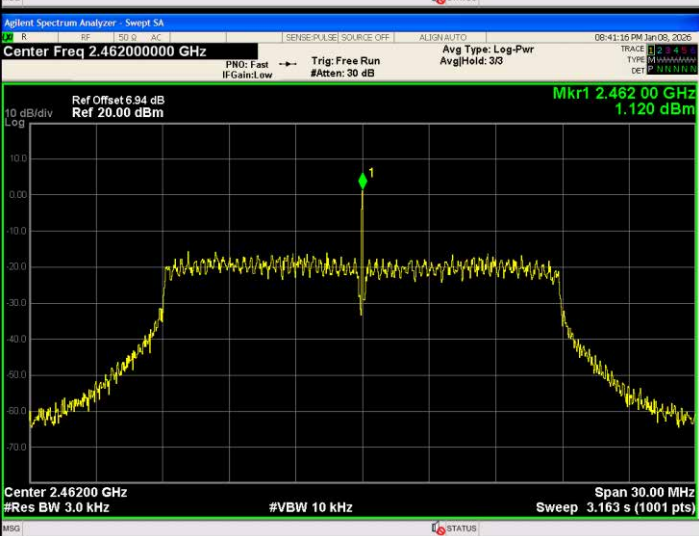
802.11n(HT20)/LCH	 Agilent Spectrum Analyzer - Sweep SA Center Freq 2.41200000 GHz Ref Offset 6.87 dB Ref 20.00 dBm Mkr1 2.412 00 GHz 0.492 dBm Center 2.41200 GHz #Res BW 3.0 kHz #VBW 10 kHz Span 30.00 MHz Sweep 3.163 s (1001 pts)
802.11n(HT20)/MCH	 Agilent Spectrum Analyzer - Sweep SA Center Freq 2.43700000 GHz Ref Offset 6.88 dB Ref 20.00 dBm Mkr1 2.437 00 GHz 0.633 dBm Center 2.43700 GHz #Res BW 3.0 kHz #VBW 10 kHz Span 30.00 MHz Sweep 3.163 s (1001 pts)
802.11n(HT20)/HCH	 Agilent Spectrum Analyzer - Sweep SA Center Freq 2.46200000 GHz Ref Offset 6.94 dB Ref 20.00 dBm Mkr1 2.462 00 GHz 1.263 dBm Center 2.46200 GHz #Res BW 3.0 kHz #VBW 10 kHz Span 30.00 MHz Sweep 3.163 s (1001 pts)

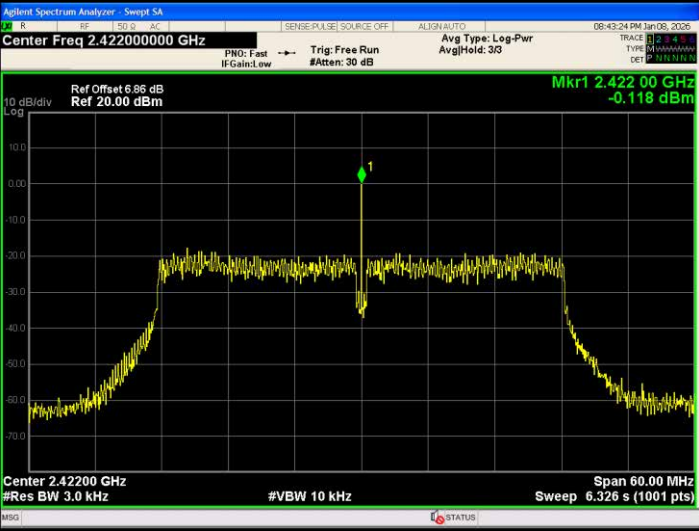
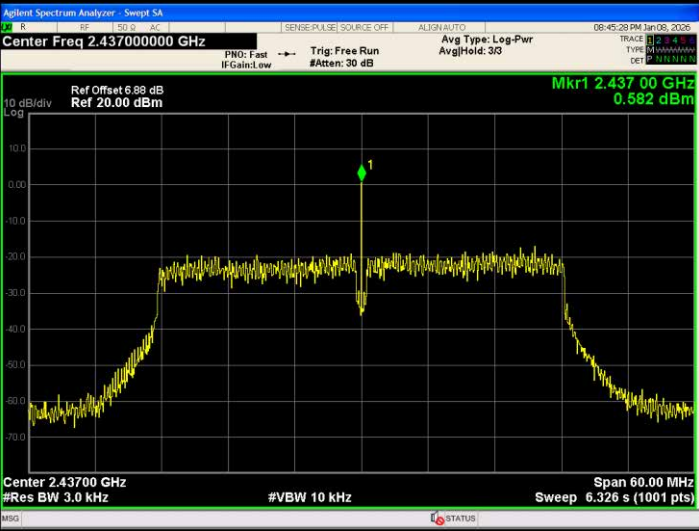
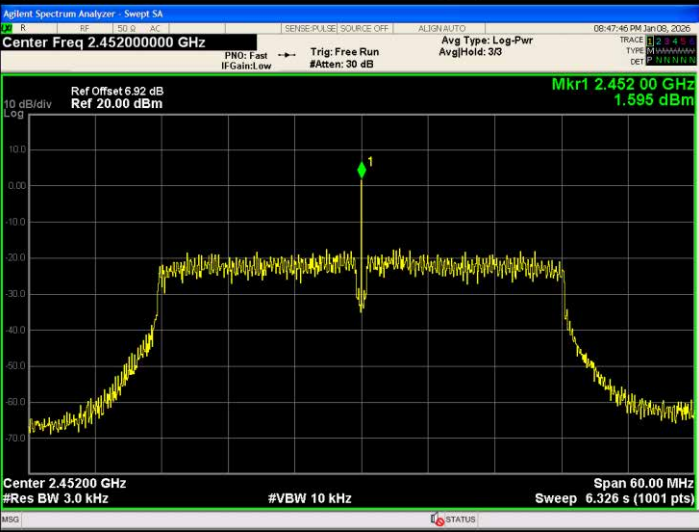
802.11n(HT40)/LCH	 Agilent Spectrum Analyzer - Sweep SA Center Freq 2.42200000 GHz Ref Offset 6.86 dB Ref 20.00 dBm Mkr1 2.422 00 GHz -0.100 dBm Center 2.42200 GHz #Res BW 3.0 kHz #VBW 10 kHz Span 60.00 MHz Sweep 6.326 s (1001 pts)
802.11n(HT40)/MCH	 Agilent Spectrum Analyzer - Sweep SA Center Freq 2.43700000 GHz Ref Offset 6.86 dB Ref 20.00 dBm Mkr1 2.437 00 GHz 0.628 dBm Center 2.43700 GHz #Res BW 3.0 kHz #VBW 10 kHz Span 60.00 MHz Sweep 6.326 s (1001 pts)
802.11n(HT40)/HCH	 Agilent Spectrum Analyzer - Sweep SA Center Freq 2.45200000 GHz Ref Offset 6.92 dB Ref 20.00 dBm Mkr1 2.452 00 GHz 1.596 dBm Center 2.45200 GHz #Res BW 3.0 kHz #VBW 10 kHz Span 60.00 MHz Sweep 6.326 s (1001 pts)

ANT 2: Test Graph



802.11g/LCH	
802.11g/MCH	
802.11g/HCH	

802.11n(HT20)/LCH	 Agilent Spectrum Analyzer - Sweep SA Center Freq 2.41200000 GHz Ref Offset 6.87 dB Ref 20.00 dBm Mkr1 2.412 00 GHz 0.488 dBm Center 2.41200 GHz #Res BW 3.0 kHz #VBW 10 kHz Span 30.00 MHz Sweep 3.163 s (1001 pts)
802.11n(HT20)/MCH	 Agilent Spectrum Analyzer - Sweep SA Center Freq 2.43700000 GHz Ref Offset 6.88 dB Ref 20.00 dBm Mkr1 2.437 00 GHz 0.637 dBm Center 2.43700 GHz #Res BW 3.0 kHz #VBW 10 kHz Span 30.00 MHz Sweep 3.163 s (1001 pts)
802.11n(HT20)/HCH	 Agilent Spectrum Analyzer - Sweep SA Center Freq 2.46200000 GHz Ref Offset 6.94 dB Ref 20.00 dBm Mkr1 2.462 00 GHz 1.120 dBm Center 2.46200 GHz #Res BW 3.0 kHz #VBW 10 kHz Span 30.00 MHz Sweep 3.163 s (1001 pts)

802.11n(HT40)/LCH	 Agilent Spectrum Analyzer - Sweep SA Center Freq 2.42200000 GHz Ref Offset 6.86 dB Ref 20.00 dBm Mkr1 2.422 00 GHz -0.118 dBm Center 2.42200 GHz #Res BW 3.0 kHz #VBW 10 kHz Span 60.00 MHz Sweep 6.326 s (1001 pts)
802.11n(HT40)/MCH	 Agilent Spectrum Analyzer - Sweep SA Center Freq 2.43700000 GHz Ref Offset 6.86 dB Ref 20.00 dBm Mkr1 2.437 00 GHz 0.582 dBm Center 2.43700 GHz #Res BW 3.0 kHz #VBW 10 kHz Span 60.00 MHz Sweep 6.326 s (1001 pts)
802.11n(HT40)/HCH	 Agilent Spectrum Analyzer - Sweep SA Center Freq 2.45200000 GHz Ref Offset 6.92 dB Ref 20.00 dBm Mkr1 2.452 00 GHz 1.595 dBm Center 2.45200 GHz #Res BW 3.0 kHz #VBW 10 kHz Span 60.00 MHz Sweep 6.326 s (1001 pts)

12. ANTENNA REQUIREMENT

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(b) (4) requirement:

The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

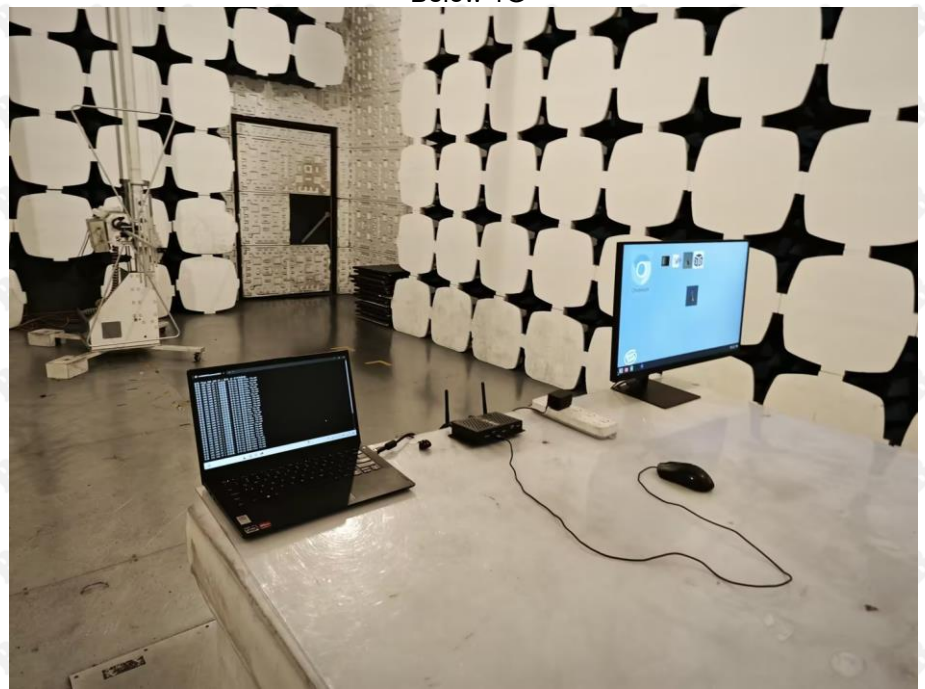
EUT Antenna:

The antenna is External antenna and no consideration of replacement. The best case gain of the antenna is 3.49dBi.

13. EUT TEST SETUP PHOTOGRAPHS

Radiated Emission

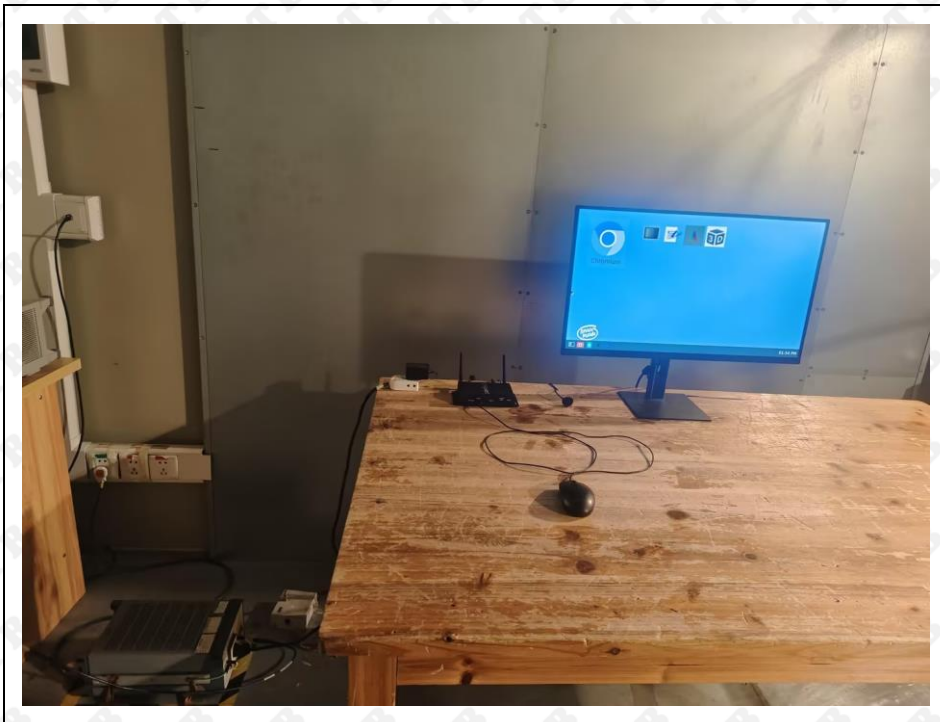
Below 1G



Above 1G



Conducted Emission



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