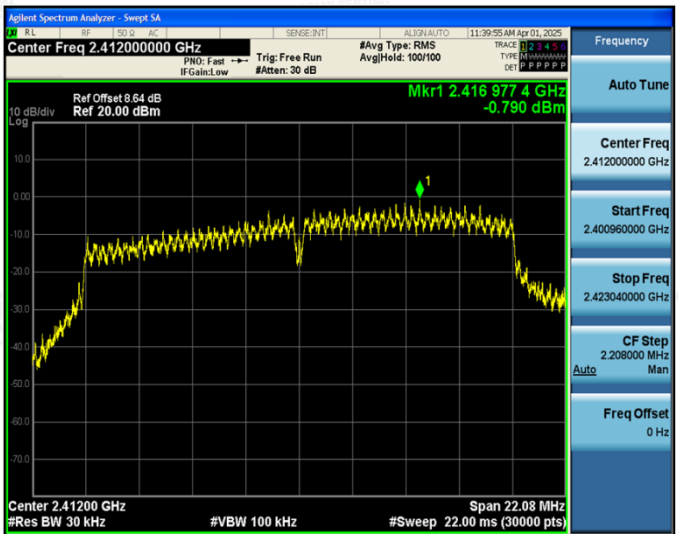
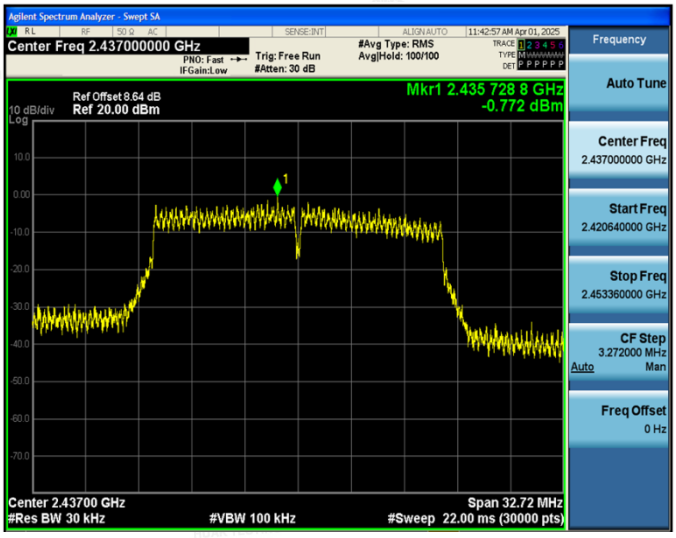
802.11n (HT20) Modulation

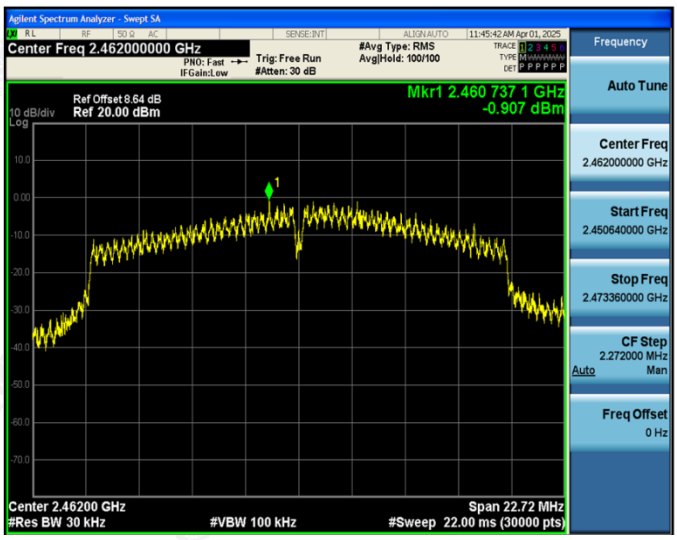
Lowest channel



Middle channel

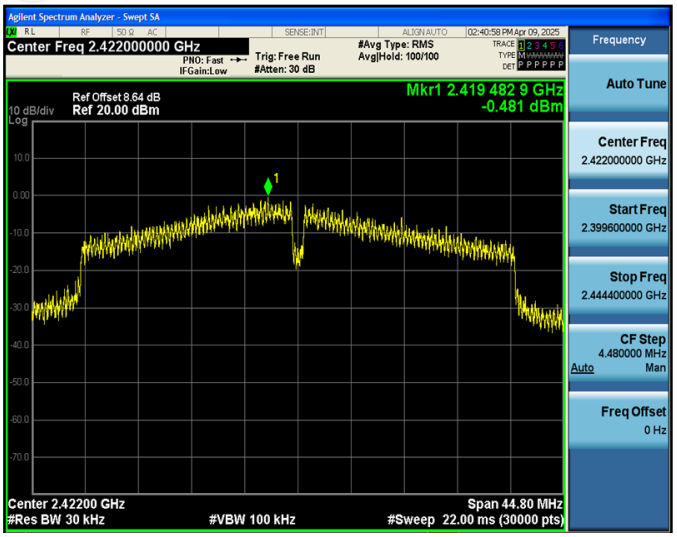


Highest channel

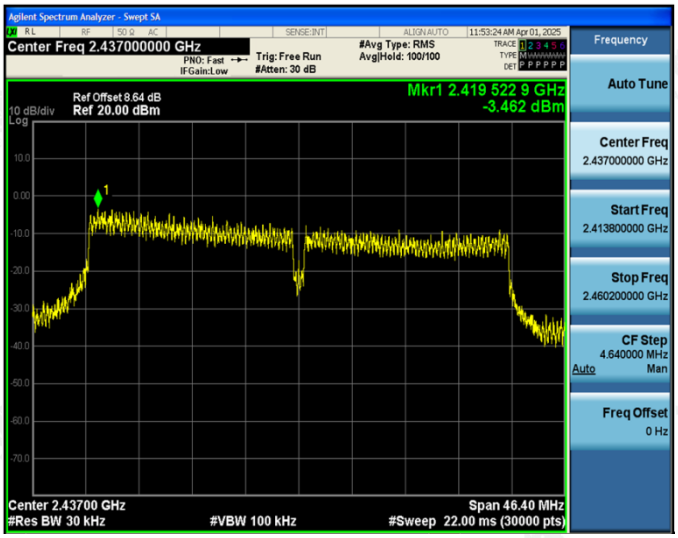


802.11n (HT40) Modulation

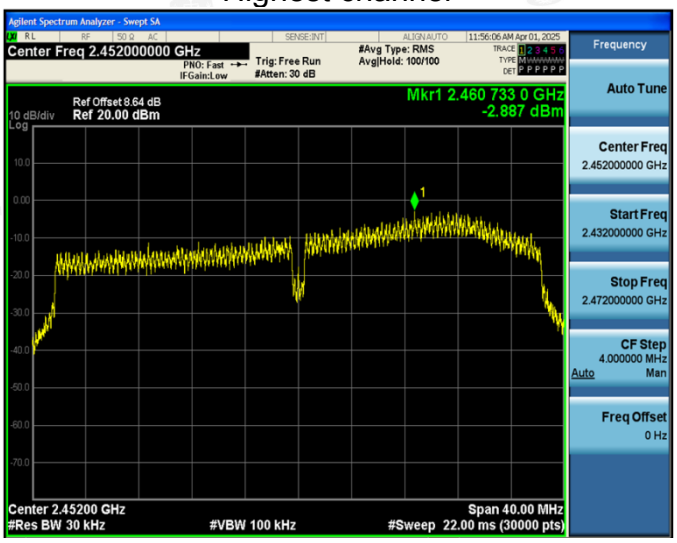
Lowest channel



Middle channel



Highest channel



4.6. Conducted Band Edge and Spurious Emission Measurement

Test Specification

Test Requirement:	FCC Part15 C Section 15.247 (d)
Test Method:	KDB 558074 D01 15.247 Meas Guidance v05r02
Limit:	In any 100 kHz bandwidth outside of the authorized frequency band, the emissions which fall in the non-restricted bands shall be attenuated at least 20 dB / 30dB relative to the maximum PSD level in 100 kHz by RF conducted measurement and radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a).
Test Setup:	
Test Mode:	Transmitting mode with modulation
Test Procedure:	1. The testing follows FCC KDB Publication 558074 D01 15.247 Meas Guidance v05r02. 2. The RF output of EUT was connected to the spectrum analyzer by RF cable. The path loss was compensated to the results for each measurement. 3. Set to the maximum power setting and enable the EUT transmit continuously. 4. Set RBW = 100 kHz, VBW=300 kHz, Peak Detector. Unwanted Emissions measured in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz when maximum peak conducted output power procedure is used. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30 dB instead of 20 dB per 15.247(d). 5. Measure and record the results in the test report. 6. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
Test Result:	PASS

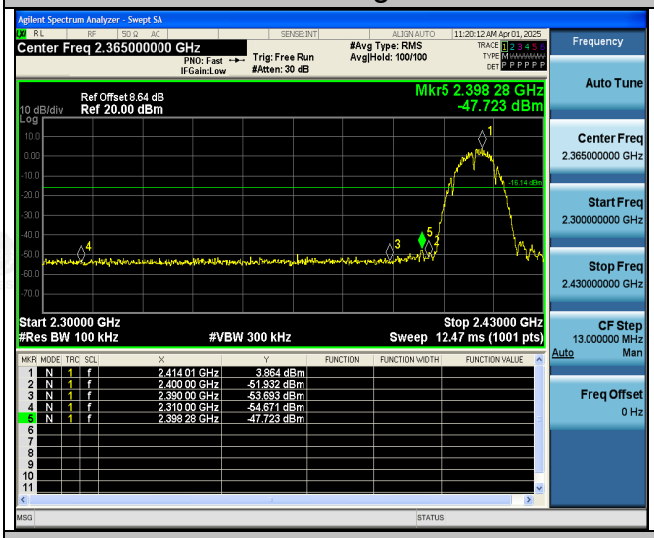
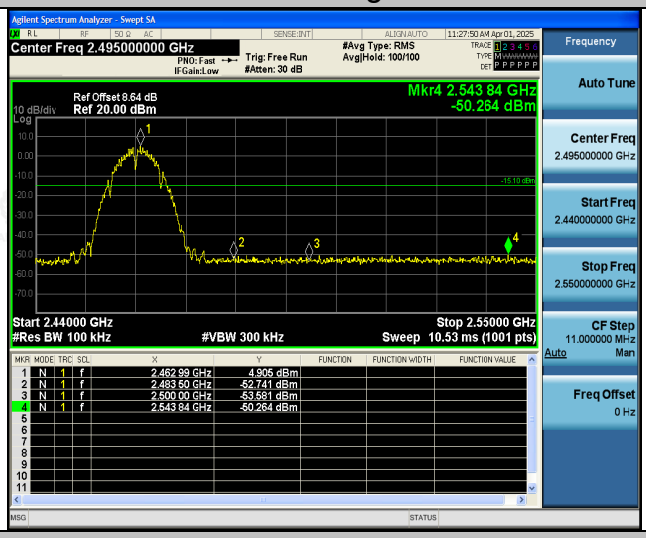
Test Instruments

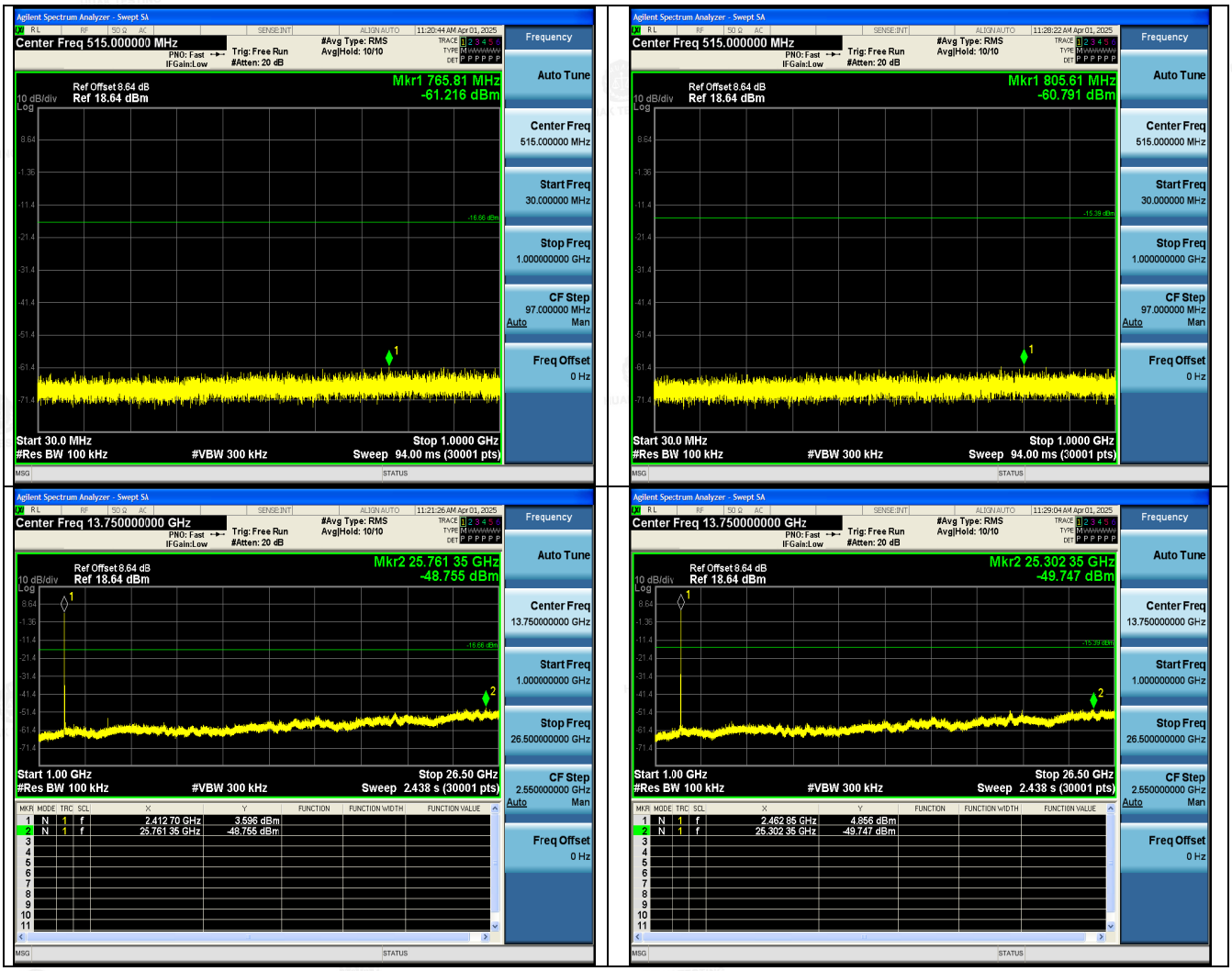
RF Test Room					
Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Date**	**Calibration Due**
Spectrum analyzer	Agilent	N9020A	HKE-025	Feb. 19, 2025	Feb. 18, 2026
RF cable	Times	1-40G	HKE-034	Feb. 19, 2025	Feb. 18, 2026
RF automatic control unit	Tonscend	JS0806-2	HKE-060	Feb. 19, 2025	Feb. 18, 2026
RF Test Software	Tonscend	JS1120-3 Version 3.5.39	HKE-083	N/A	N/A

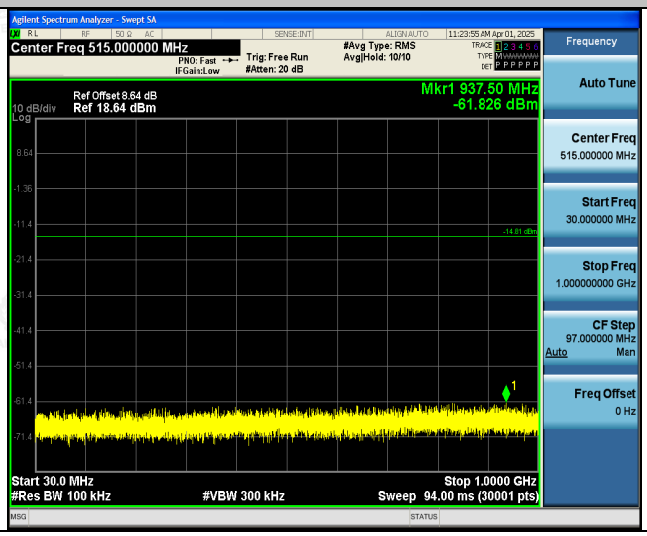
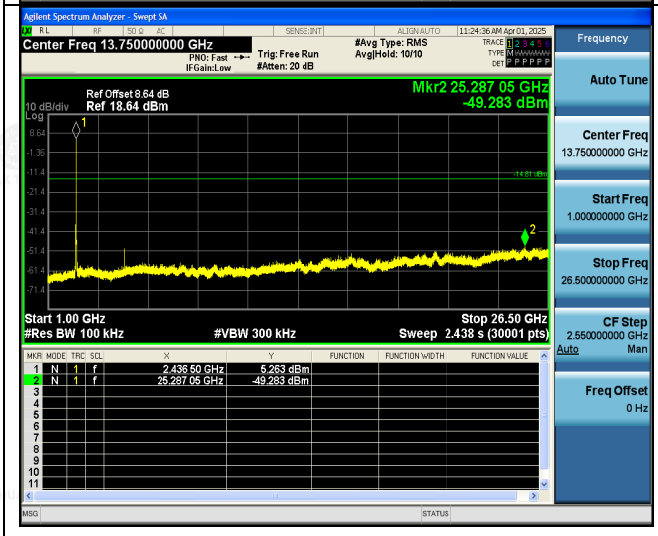
Note: *The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).*

Test Data

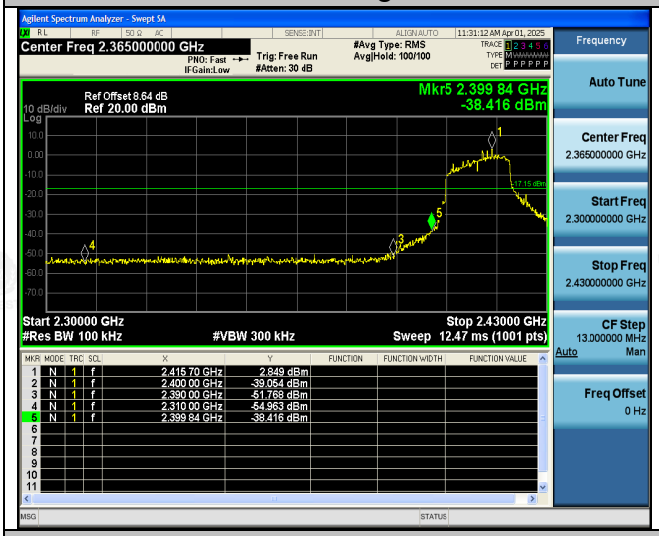
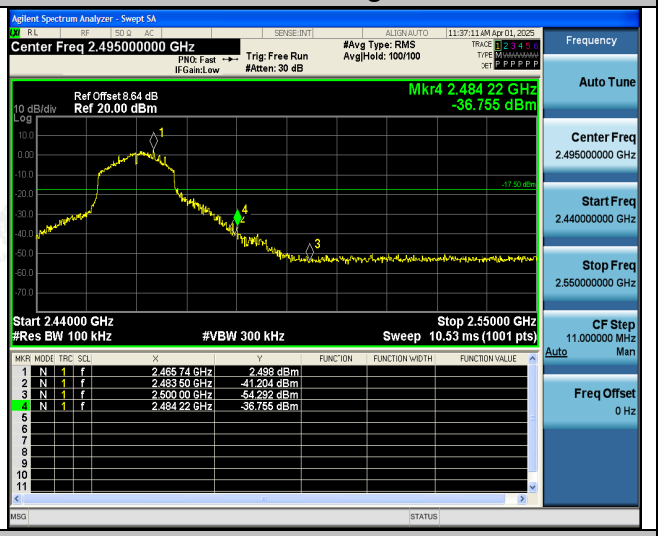
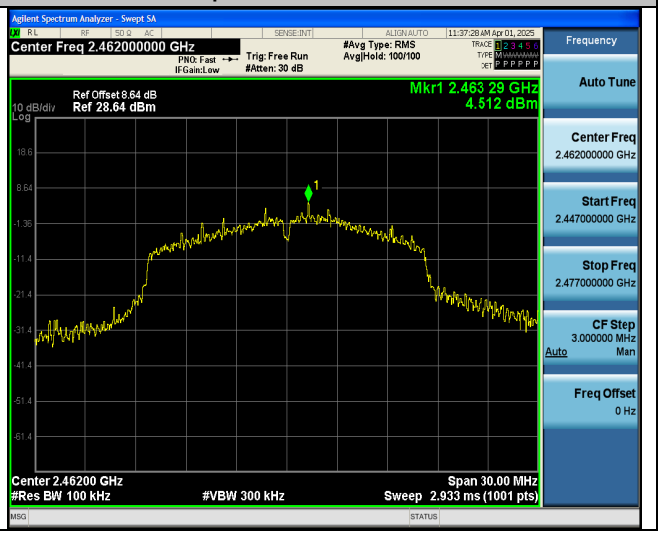
802.11b Modulation

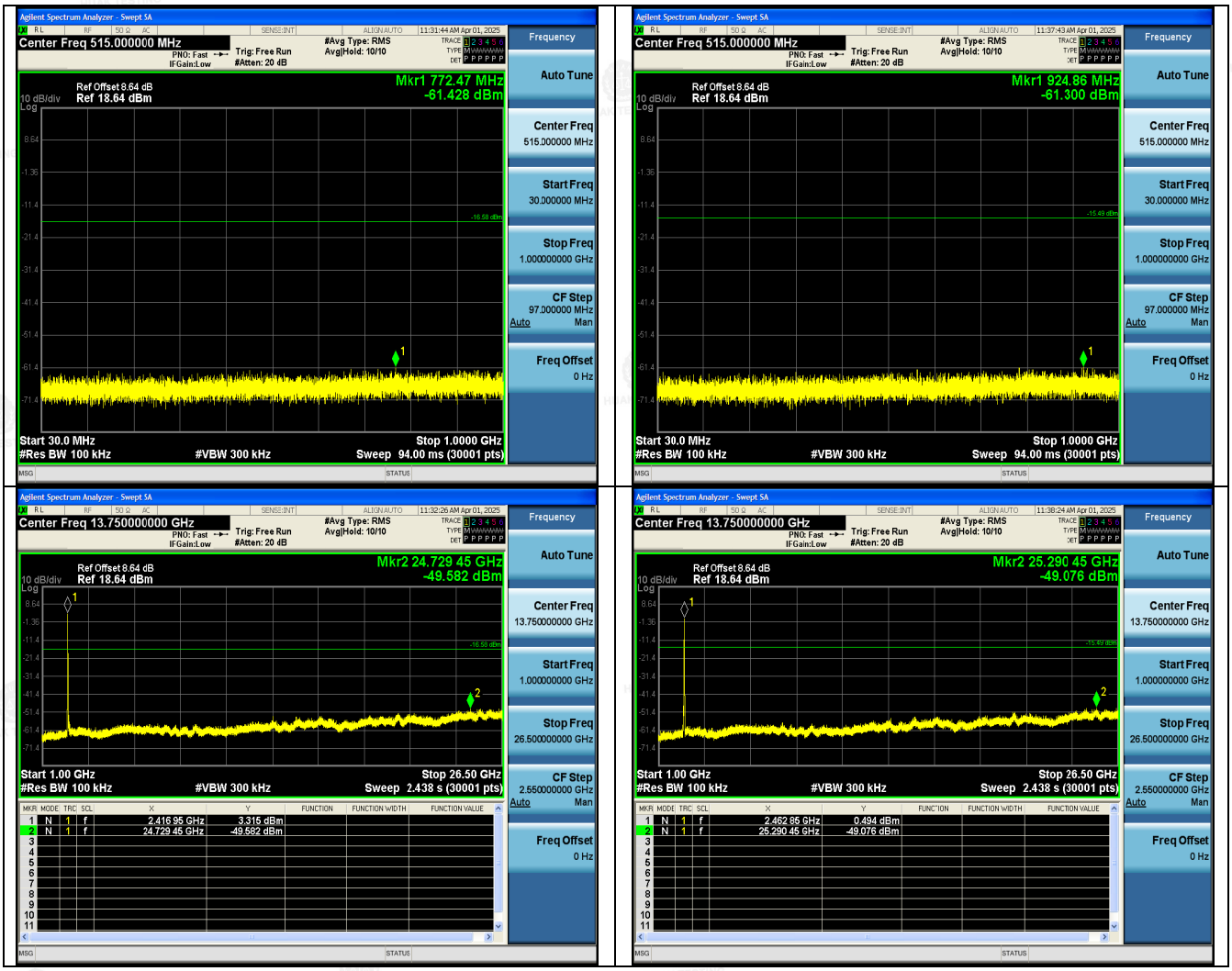
Lowest Channel	Highest Channel
Band Edge	Band Edge
	
Spurious Emission	Spurious Emission
	

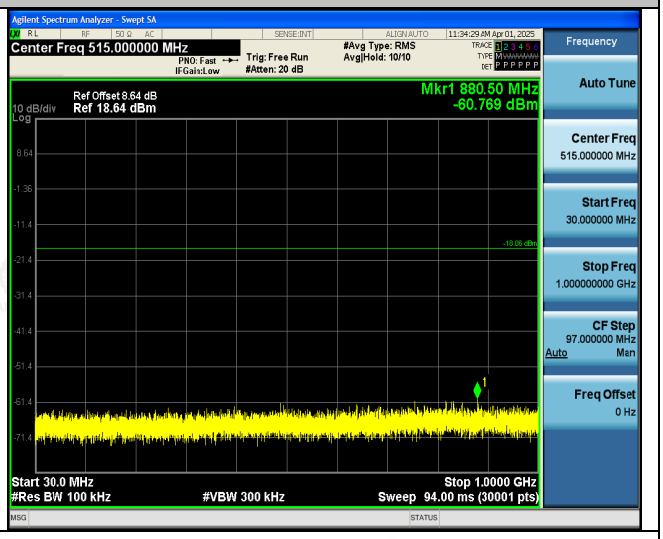
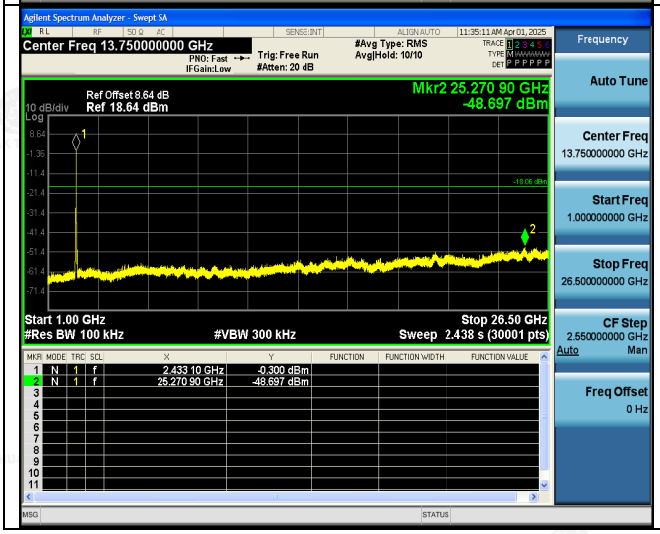


Middle Channel	
Spurious Emission	
	
	

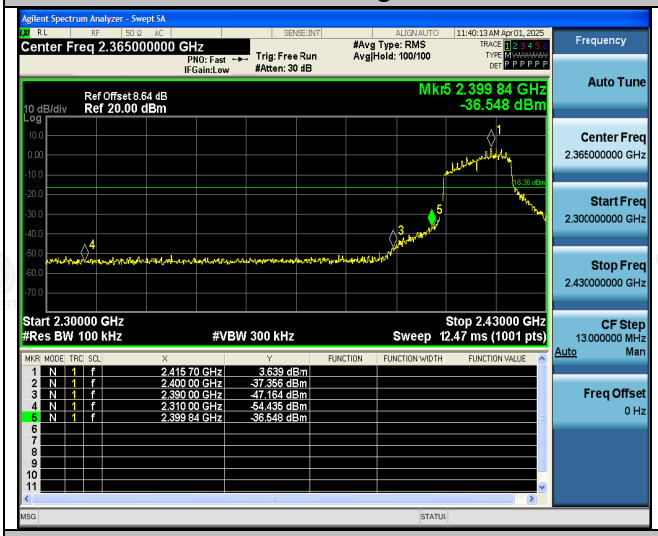
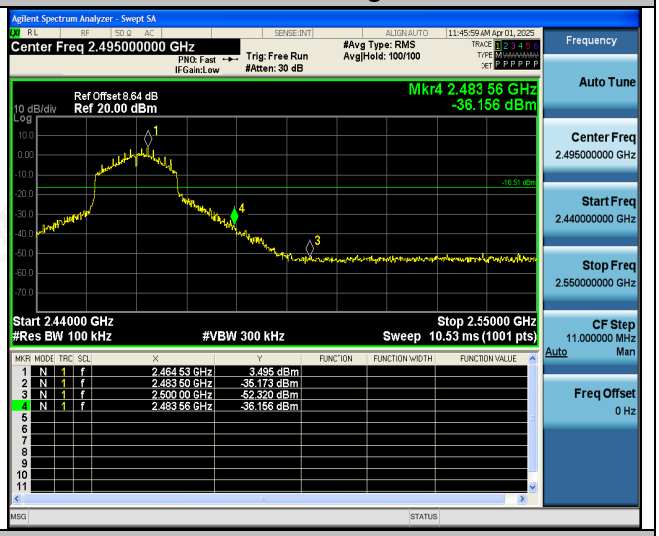
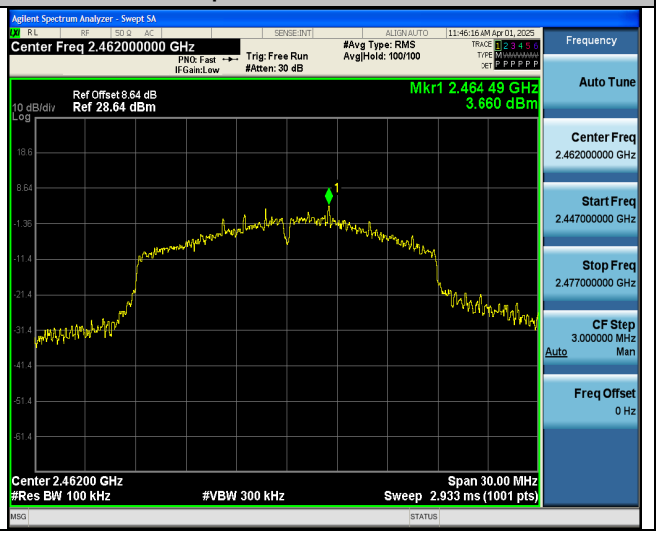
802.11g Modulation

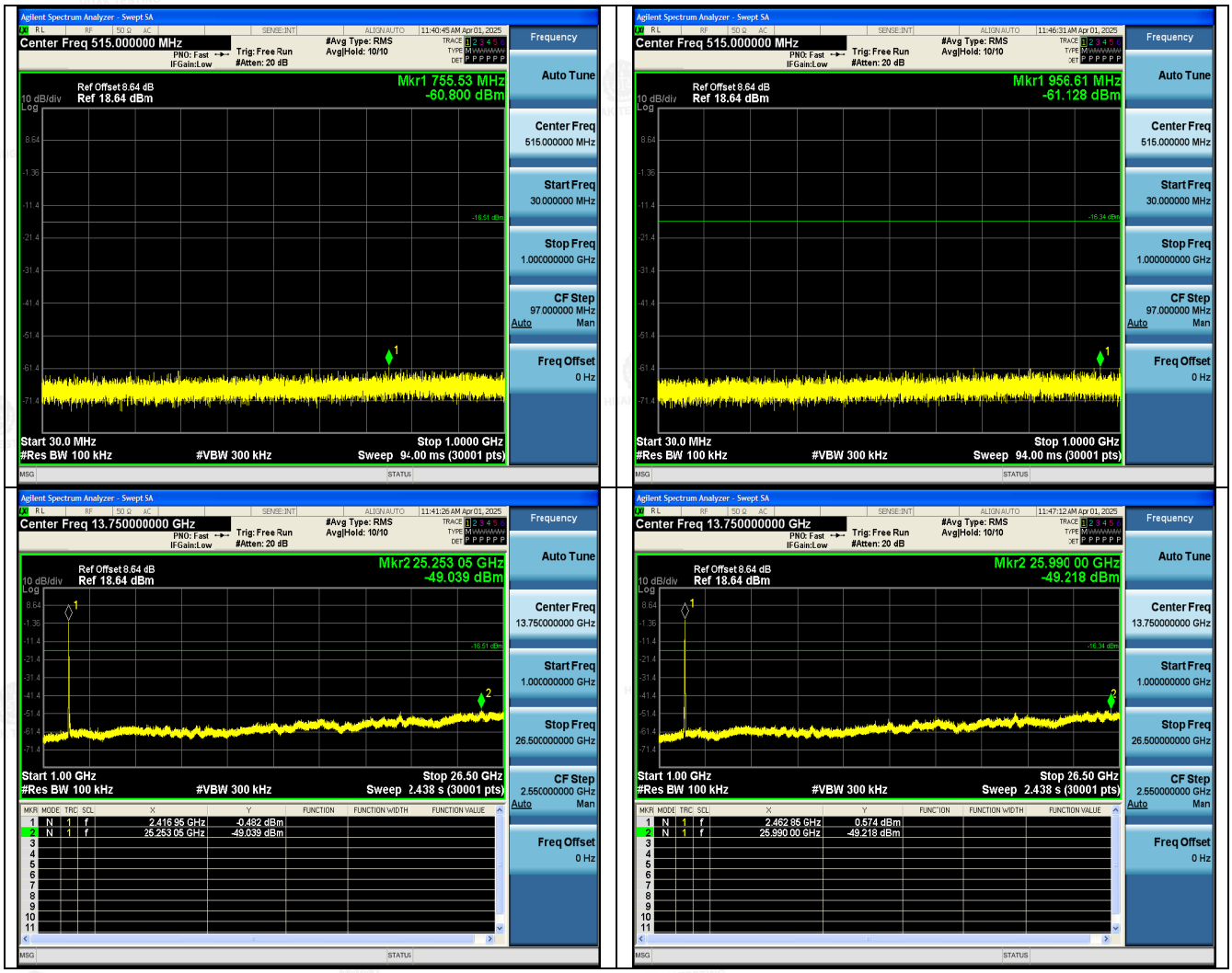
Lowest Channel	Highest Channel
Band Edge	Band Edge
	
Spurious Emission	Spurious Emission
	

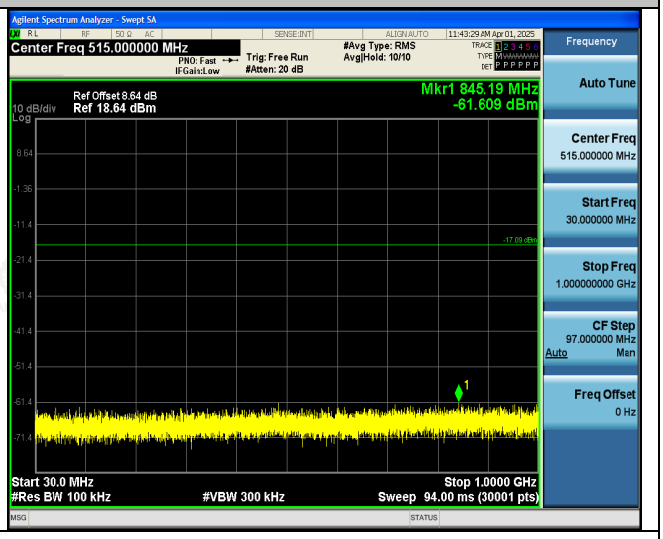
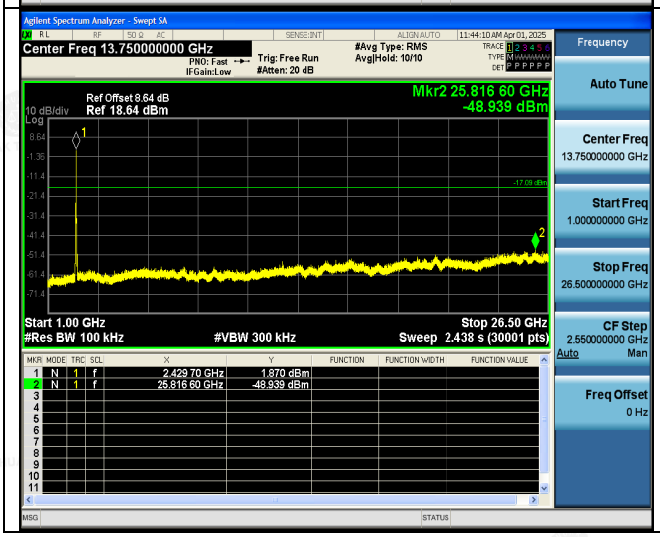


Middle Channel	
Spurious Emission	
	
	

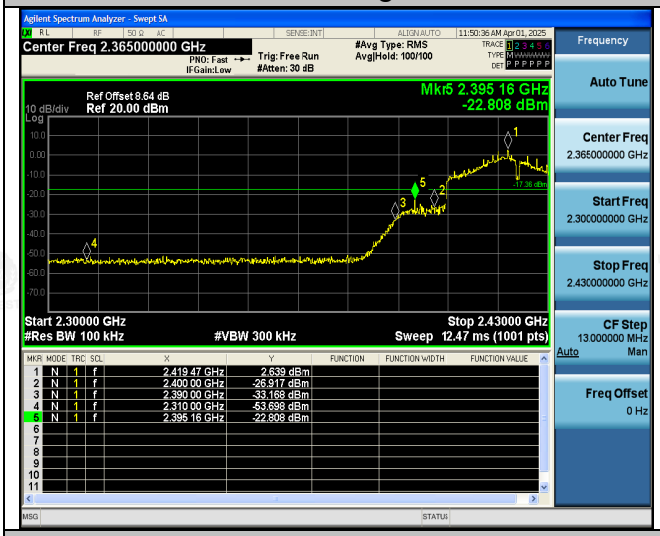
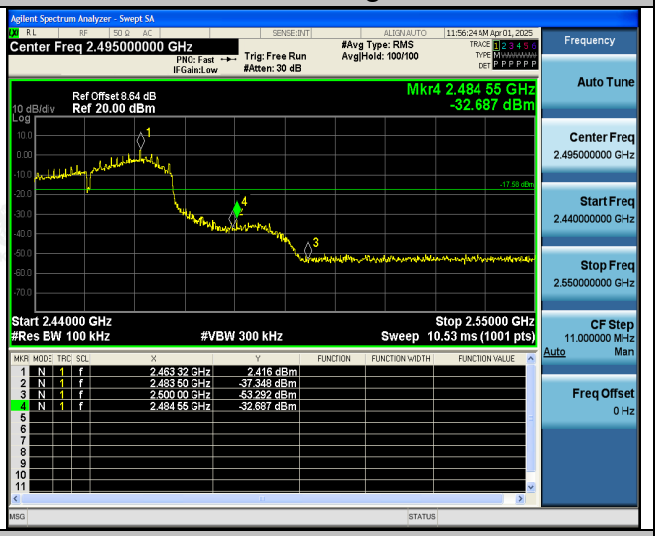
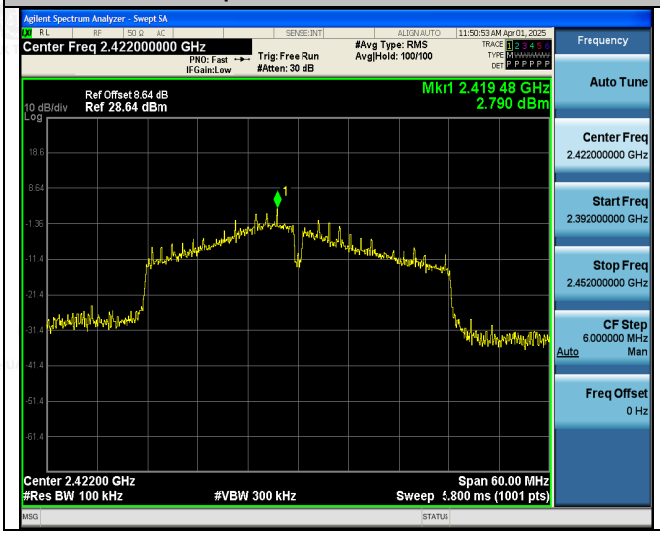
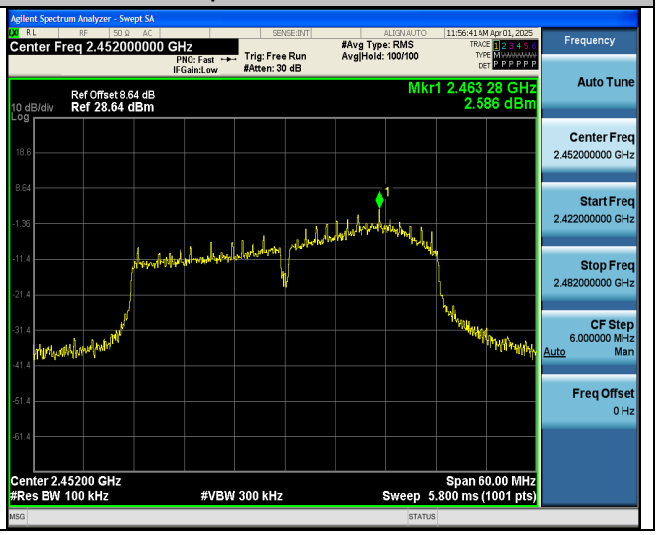
802.11n (HT20) Modulation

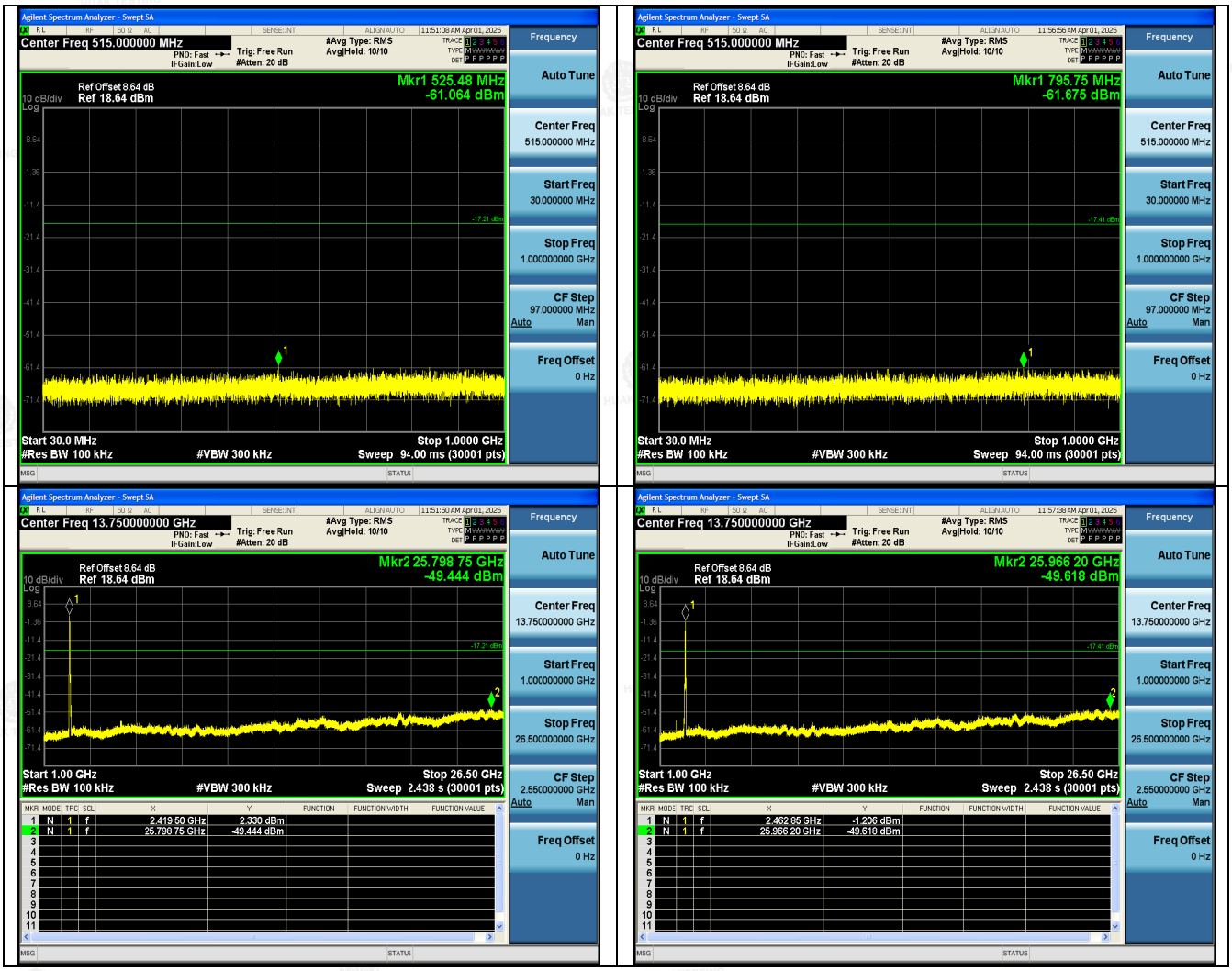
Lowest Channel	Highest Channel
Band Edge	Band Edge
	
Spurious Emission	Spurious Emission
	

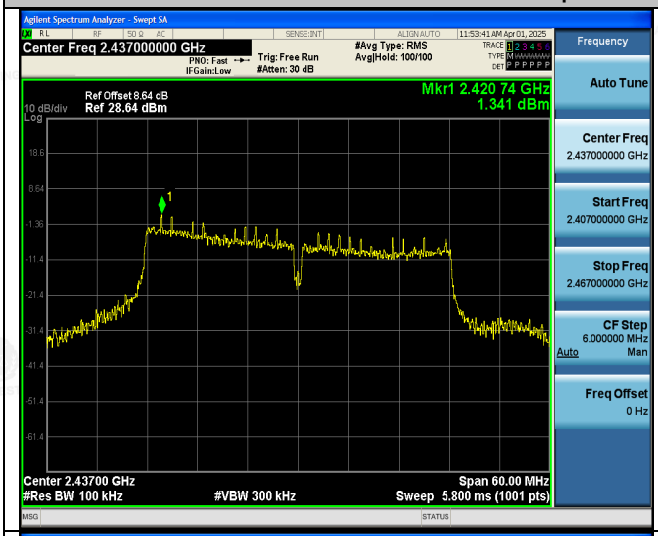
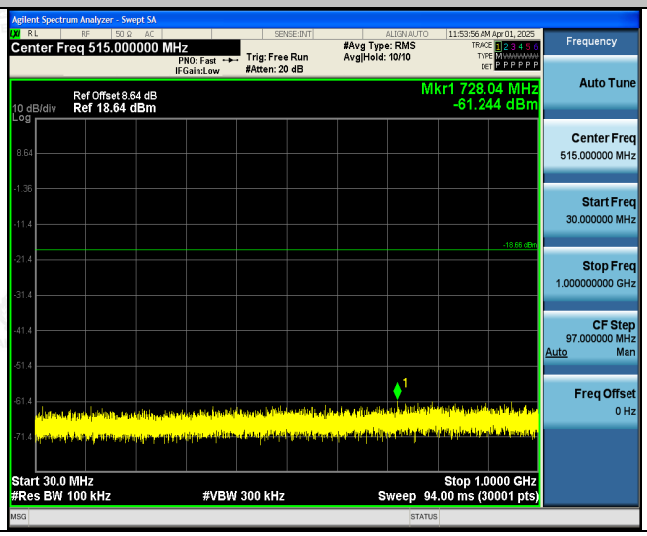
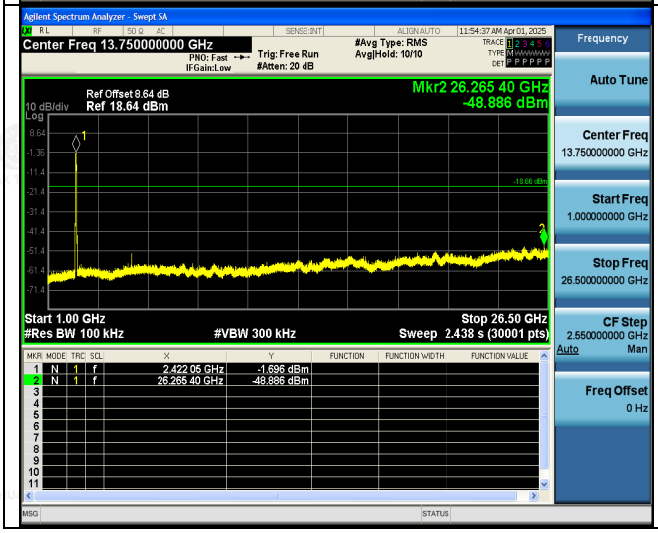


Middle Channel	
Spurious Emission	
	
	

802.11n (HT40) Modulation

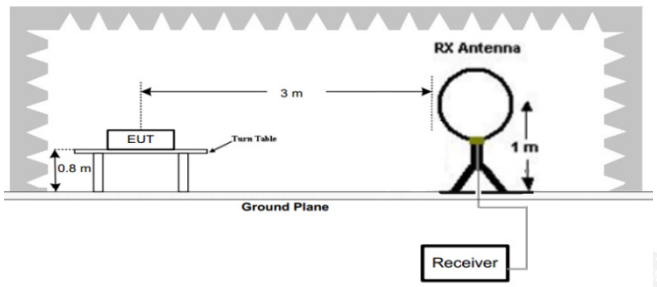
Lowest Channel	Highest Channel
Band Edge	Band Edge
	
Spurious Emission	Spurious Emission
	



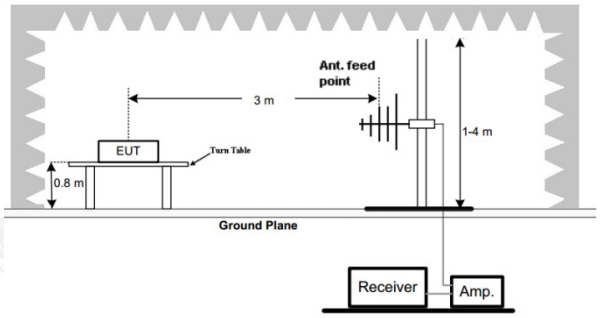
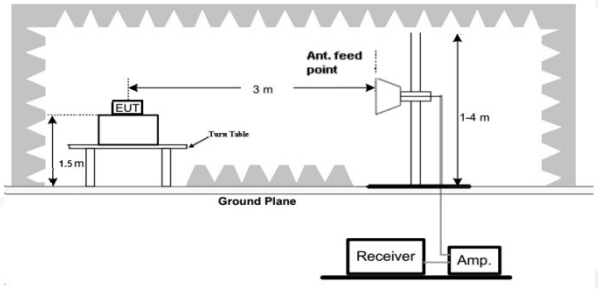
Middle Channel	
Spurious Emission	
	
	

4.7. Radiated Spurious Emission Measurement

Test Specification

<table>
<tr><td>Test Requirement:</td><td>FCC Part15 C Section 15.209</td></tr>
<tr><td>Test Method:</td><td>ANSI C63.10: 2013</td></tr>
<tr><td>Frequency Range:</td><td>9 kHz to 25 GHz</td></tr>
<tr><td>Measurement Distance:</td><td>3 m</td></tr>
<tr><td>Antenna Polarization:</td><td>Horizontal & Vertical</td></tr>
<tr><td>Operation mode:</td><td>Transmitting mode with modulation</td></tr>
<tr><td>Receiver Setup:</td><td>
<table>
<tr><td>Frequency</td><td>Detector</td><td>RBW</td><td>VBW</td><td>Remark</td></tr>
<tr><td>9kHz- 150kHz</td><td>Quasi-peak</td><td>200Hz</td><td>1kHz</td><td>Quasi-peak Value</td></tr>
<tr><td>150kHz-30MHz</td><td>Quasi-peak</td><td>9kHz</td><td>30kHz</td><td>Quasi-peak Value</td></tr>
<tr><td>30MHz-1GHz</td><td>Quasi-peak</td><td>120KHz</td><td>300KHz</td><td>Quasi-peak Value</td></tr>
<tr><td rowspan="2">Above 1GHz</td><td>Peak</td><td>1MHz</td><td>3MHz</td><td>Peak Value</td></tr>
<tr><td>Peak</td><td>1MHz</td><td>10Hz</td><td>Average Value</td></tr>
</table>
</td></tr>
<tr><td>Limit:</td><td>
<table>
<tr><td>Frequency</td><td>Field Strength (microvolts/meter)</td><td>Measurement Distance (meters)</td></tr>
<tr><td>0.009-0.490</td><td>2400/F(KHz)</td><td>300</td></tr>
<tr><td>0.490-1.705</td><td>24000/F(KHz)</td><td>30</td></tr>
<tr><td>1.705-30</td><td>30</td><td>30</td></tr>
<tr><td>30-88</td><td>100</td><td>3</td></tr>
<tr><td>88-216</td><td>150</td><td>3</td></tr>
<tr><td>216-960</td><td>200</td><td>3</td></tr>
<tr><td>Above 960</td><td>500</td><td>3</td></tr>
</table>
<table>
<tr><td>Frequency</td><td>Field Strength (microvolts/meter)</td><td>Measurement Distance (meters)</td><td>Detector</td></tr>
<tr><td rowspan="2">Above 1GHz</td><td>500</td><td>3</td><td>Average</td></tr>
<tr><td>5000</td><td>3</td><td>Peak</td></tr>
</table>
</td></tr>
<tr><td>Test setup:</td><td>For radiated emissions below 30MHz
 

30MHz to 1GHz</td></tr>
</table>

	 Above 1GHz 
Test Procedure:	1. For the radiated emission test below 1GHz: The EUT was placed on a turntable with 0.8 meter above ground. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high PASS filter are used for the test in order to get better signal level. 2. For the radiated emission test above 1GHz: Place the measurement antenna on a turntable with 1.5 meter above ground, which is away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal.

	The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane. 3. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level 4. For measurement below 1GHz, If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported. 5. Use the following spectrum analyzer settings: (1) Span shall wide enough to fully capture the emission being measured; (2) Set RBW=120 kHz for f < 1 GHz; VBW ≥RBW; Sweep = auto; Detector function = peak; Trace = max hold; (3) Set RBW = 1 MHz, VBW= 3MHz for f > 1 GHz for peak measurement. 6.For average measurement: VBW = 10 Hz, when duty cycle is no less than 98 percent.VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.
Test results:	PASS

Test Instruments

Radiated Emission Test Site (966)					
Name of Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Date**	**Calibration Due**
Spectrum analyzer	Agilent	N9020A	HKE-025	Feb. 19, 2025	Feb. 18, 2026
Spectrum analyzer	R&S	FSV3044	HKE-126	Feb. 19, 2025	Feb. 18, 2026
Preamplifier	EMCI	EMC051845S	HKE-006	Feb. 19, 2025	Feb. 18, 2026
Preamplifier	Schwarzbeck	BBV 9743	HKE-016	Feb. 19, 2025	Feb. 18, 2026
Preamplifier	A.H. Systems	SAS-574	HKE-182	Feb. 19, 2025	Feb. 18, 2026
6dB Attenuator	Pasternack	6db	HKE-184	Feb. 19, 2025	Feb. 18, 2026
EMI Test Receiver	Rohde & Schwarz	ESR-7	HKE-010	Feb. 19, 2025	Feb. 18, 2026
Broadband Antenna	Schwarzbeck	VULB9168	HKE-167	Feb. 21, 2024	Feb. 20, 2026
Loop Antenna	COM-POWER	AL-130R	HKE-014	Feb. 21, 2024	Feb. 20, 2026
Horn Antenna	Schwarzbeck	9120D	HKE-013	Feb. 21, 2024	Feb. 20, 2026
EMI Test Software	Tonscend	JS32-RE 5.0.0	HKE-082	N/A	N/A
RSE Test Software	Tonscend	JS36-RSE 5.0 .0	HKE-184	N/A	N/A

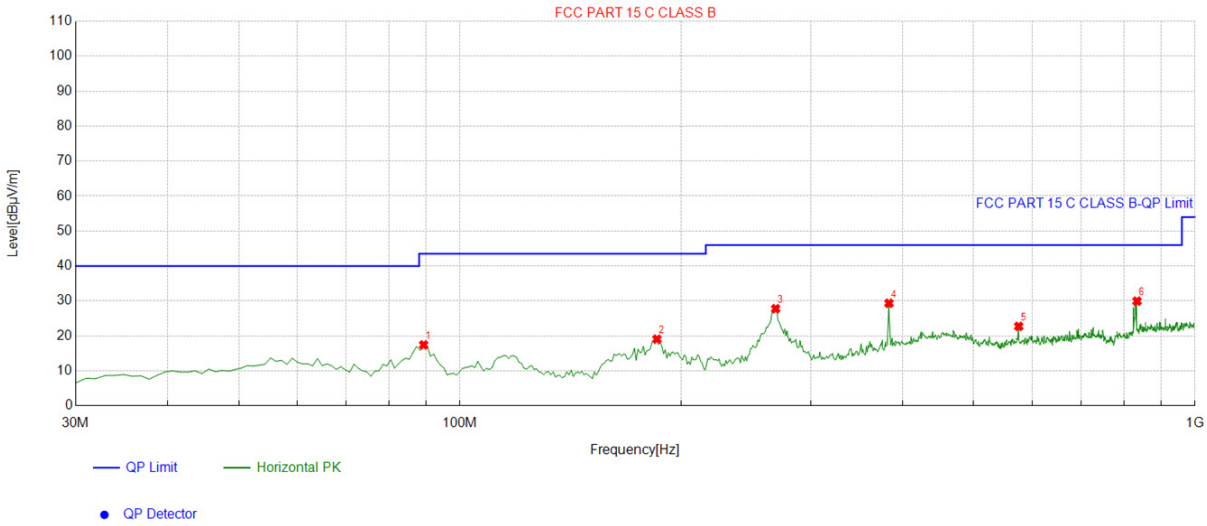
Note: *The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).*

Test Data

All the test modes completed for test. only the worst result of (802.11b at 2412MHz) was reported as below:

Below 1GHz

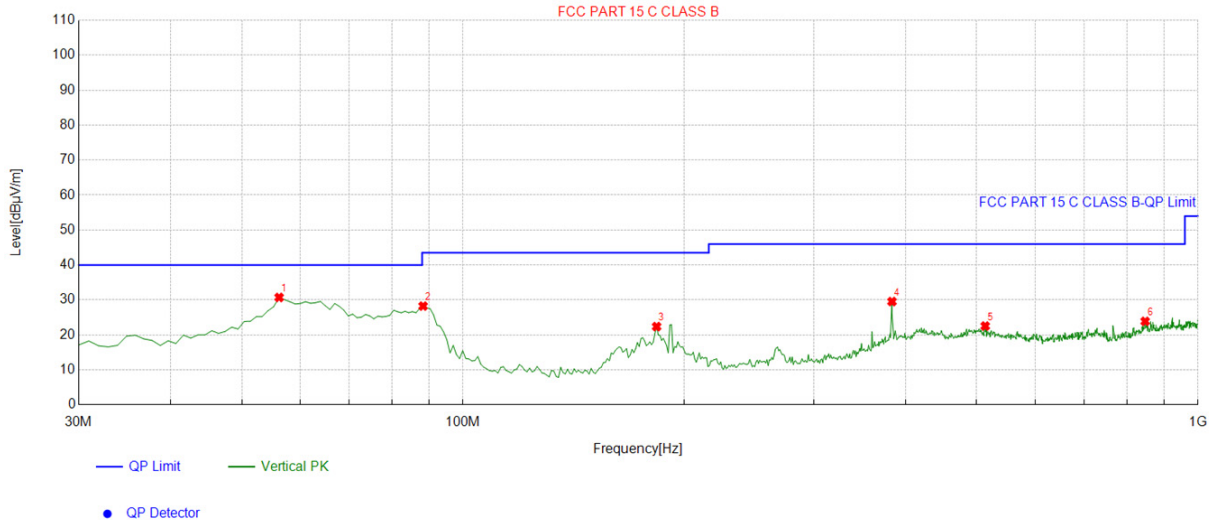
Test Model No.: I16 Pro max
Horizontal



Suspected List									
NO.	Freq. [MHz]	Factor [dB]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	89.229229	-16.75	34.18	17.43	43.50	26.07	100	330	Horizontal
2	185.35535	-15.96	35.03	19.07	43.50	24.43	100	74	Horizontal
3	268.85885	-12.63	40.40	27.77	46.00	18.23	100	229	Horizontal
4	383.43343	-9.11	38.46	29.35	46.00	16.65	100	28	Horizontal
5	575.68568	-5.53	28.27	22.74	46.00	23.26	100	62	Horizontal
6	833.96396	-2.60	32.54	29.94	46.00	16.06	100	254	Horizontal

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level

Vertical



Suspected List									
NO.	Freq. [MHz]	Factor [dB]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	56.216216	-13.94	44.66	30.72	40.00	9.28	100	132	Vertical
2	88.258258	-17.03	45.28	28.25	43.50	15.25	100	183	Vertical
3	183.41341	-15.63	38.01	22.38	43.50	21.12	100	118	Vertical
4	383.43343	-9.11	38.65	29.54	46.00	16.46	100	226	Vertical
5	513.54354	-8.01	30.55	22.54	46.00	23.46	100	223	Vertical
6	847.55755	-1.45	25.33	23.88	46.00	22.12	100	98	Vertical

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level

Harmonics and Spurious Emissions

Frequency Range (9kHz-30MHz)

Frequency (MHz)	Level@3m (dBµV/m)	Limit@3m (dBµV/m)
--	--	--
--	--	--
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Note:*1. Emission Level=Reading+ Cable loss-Antenna factor-Amp factor.*

2. The emission levels are 20 dB below the limit value, which are not reported. It is deemed to comply with the requirement.

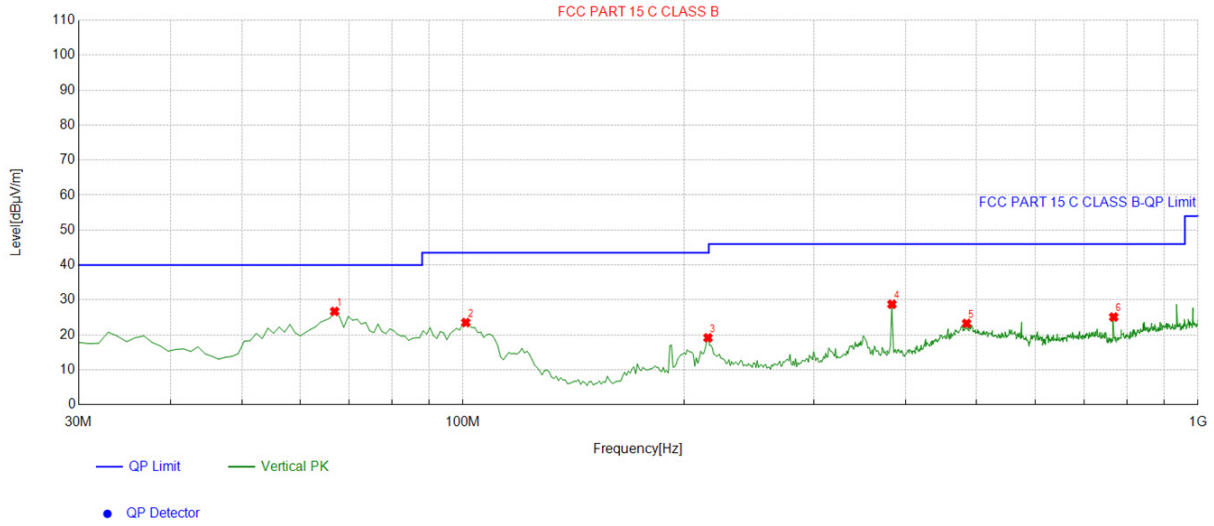
Series Model No.: S26 Ultra

Horizontal

Suspected List									
NO.	Freq. [MHz]	Factor [dB]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	55.245245	-14.00	25.40	11.40	40.00	28.60	100	11	Horizontal
2	103.79379	-14.69	33.05	18.36	43.50	25.14	100	360	Horizontal
3	216.42642	-14.69	35.41	20.72	46.00	25.28	100	233	Horizontal
4	338.76876	-10.40	35.13	24.73	46.00	21.27	100	68	Horizontal
5	383.43343	-9.11	48.82	39.71	46.00	6.29	100	45	Horizontal
6	767.93793	-4.54	36.24	31.70	46.00	14.30	100	233	Horizontal

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level

Vertical



Suspected List									
NO.	Freq. [MHz]	Factor [dB]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	66.896897	-16.17	42.88	26.71	40.00	13.29	100	102	Vertical
2	100.88088	-14.60	38.13	23.53	43.50	19.97	100	188	Vertical
3	215.45545	-14.72	33.90	19.18	43.50	24.32	100	349	Vertical
4	383.43343	-9.11	37.88	28.77	46.00	17.23	100	118	Vertical
5	484.41441	-7.98	31.27	23.29	46.00	22.71	100	266	Vertical
6	767.93793	-4.54	29.65	25.11	46.00	20.89	100	118	Vertical

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level

Harmonics and Spurious Emissions

Frequency Range (9kHz-30MHz)

Frequency (MHz)	Level@3m (dBµV/m)	Limit@3m (dBµV/m)
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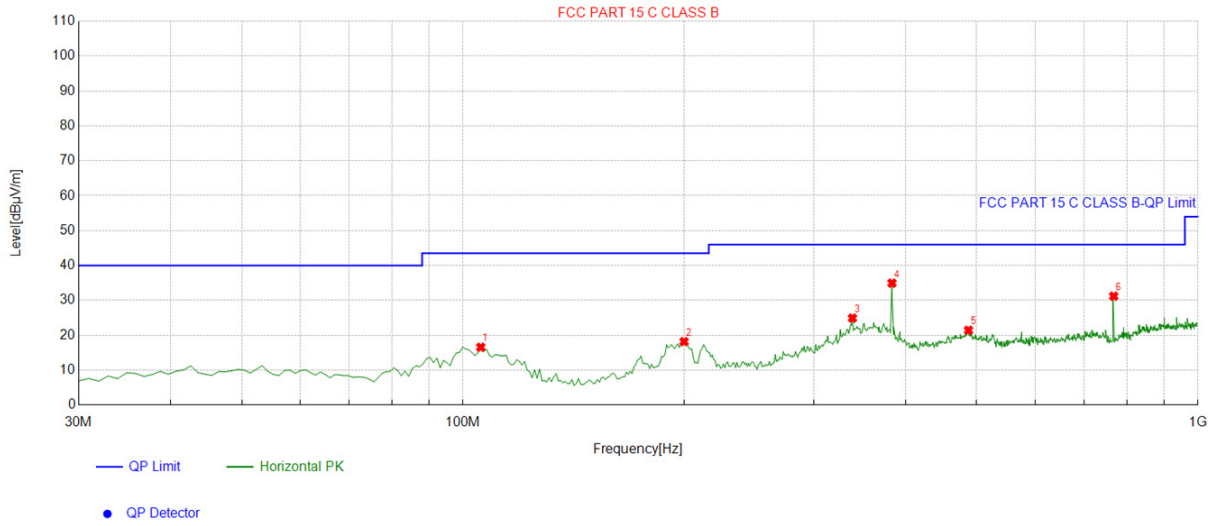
Note:*1. Emission Level=Reading+ Cable loss-Antenna factor-Amp factor.*

2. The emission levels are 20 dB below the limit value, which are not reported. It is deemed to comply with the requirement.

Series Model No.: Pixel 9

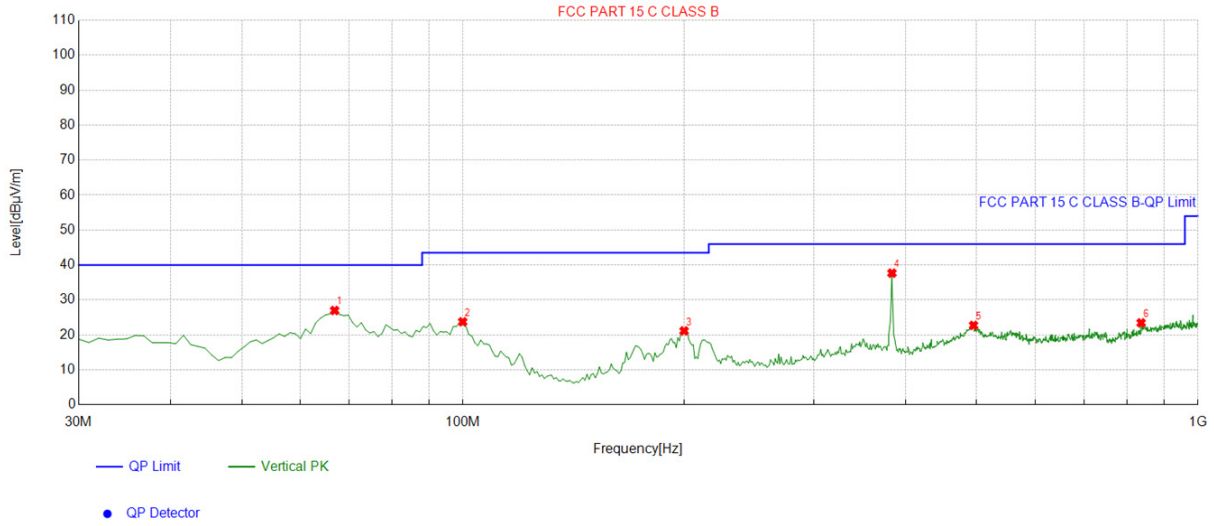
Horizontal



Suspected List									
NO.	Freq. [MHz]	Factor [dB]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	105.73573	-14.49	31.06	16.57	43.50	26.93	100	360	Horizontal
2	199.91992	-15.09	33.27	18.18	43.50	25.32	100	258	Horizontal
3	338.76876	-10.40	35.32	24.92	46.00	21.08	100	74	Horizontal
4	383.43343	-9.11	44.05	34.94	46.00	11.06	100	125	Horizontal
5	487.32732	-7.91	29.35	21.44	46.00	24.56	100	131	Horizontal
6	767.93793	-4.54	35.74	31.20	46.00	14.80	100	151	Horizontal

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level

Vertical



Suspected List									
NO.	Freq. [MHz]	Factor [dB]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	66.896897	-16.17	43.16	26.99	40.00	13.01	100	100	Vertical
2	99.90991	-14.70	38.44	23.74	43.50	19.76	100	196	Vertical
3	199.91992	-15.09	36.24	21.15	43.50	22.35	100	359	Vertical
4	383.43343	-9.11	46.78	37.67	46.00	8.33	100	28	Vertical
5	495.09509	-7.84	30.56	22.72	46.00	23.28	100	283	Vertical
6	836.87687	-2.49	25.94	23.45	46.00	22.55	100	31	Vertical

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level

Harmonics and Spurious Emissions

Frequency Range (9kHz-30MHz)

Frequency (MHz)	Level@3m (dBµV/m)	Limit@3m (dBµV/m)
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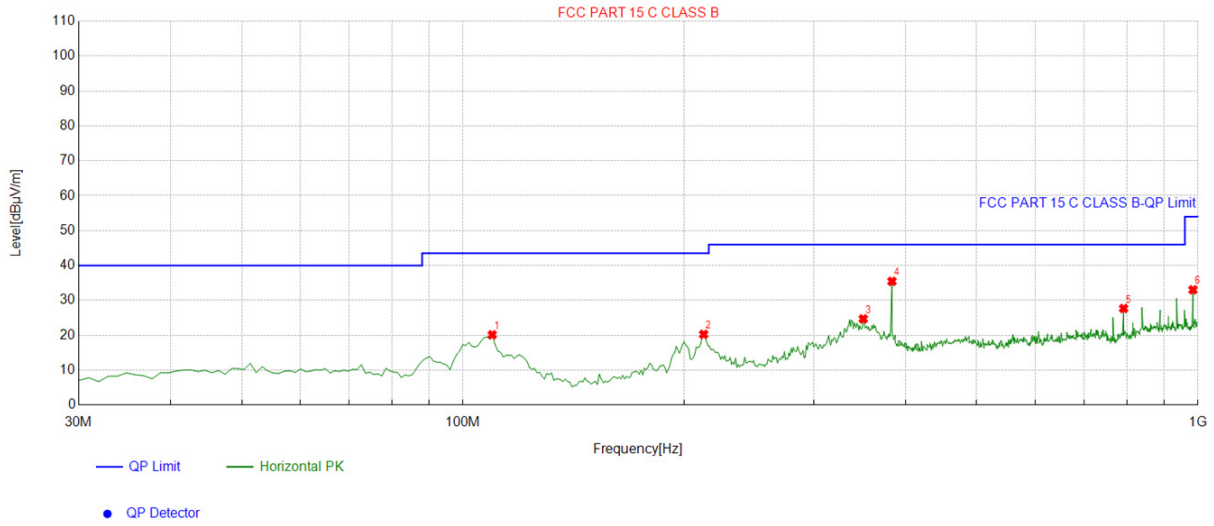
Note:*1. Emission Level=Reading+ Cable loss-Antenna factor-Amp factor.*

2. The emission levels are 20 dB below the limit value, which are not reported. It is deemed to comply with the requirement.

Series Model No.: SP30 Pro

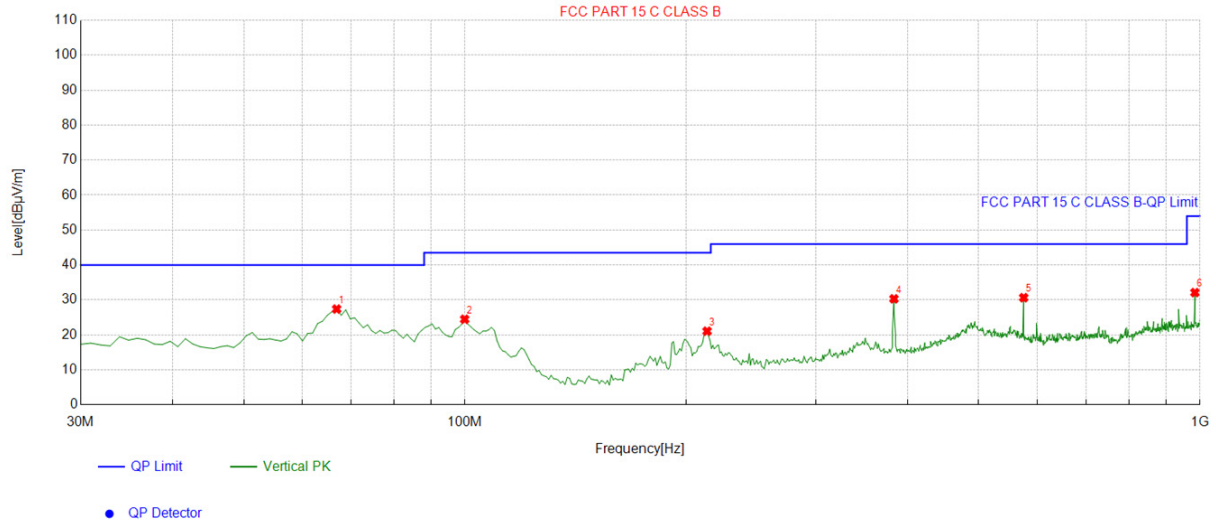
Horizontal



Suspected List									
NO.	Freq. [MHz]	Factor [dB]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	109.61962	-14.22	34.36	20.14	43.50	23.36	100	8	Horizontal
2	212.54254	-14.82	35.09	20.27	43.50	23.23	100	246	Horizontal
3	350.42042	-10.05	34.75	24.70	46.00	21.30	100	70	Horizontal
4	383.43343	-9.11	44.57	35.46	46.00	10.54	100	61	Horizontal
5	792.21221	-3.25	30.93	27.68	46.00	18.32	100	226	Horizontal
6	984.46446	-0.57	33.60	33.03	54.00	20.97	100	237	Horizontal

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level

Vertical



Suspected List									
NO.	Freq. [MHz]	Factor [dB]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	66.896897	-16.17	43.56	27.39	40.00	12.61	100	292	Vertical
2	99.90991	-14.70	39.17	24.47	43.50	19.03	100	163	Vertical
3	213.51351	-14.79	35.85	21.06	43.50	22.44	100	349	Vertical
4	383.43343	-9.11	39.42	30.31	46.00	15.69	100	264	Vertical
5	575.68568	-5.53	36.18	30.65	46.00	15.35	100	255	Vertical
6	984.46446	-0.57	32.68	32.11	54.00	21.89	100	180	Vertical

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level

Harmonics and Spurious Emissions

Frequency Range (9kHz-30MHz)

Frequency (MHz)	Level@3m (dBµV/m)	Limit@3m (dBµV/m)
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Note:*1. Emission Level=Reading+ Cable loss-Antenna factor-Amp factor.*

2. The emission levels are 20 dB below the limit value, which are not reported. It is deemed to comply with the requirement.

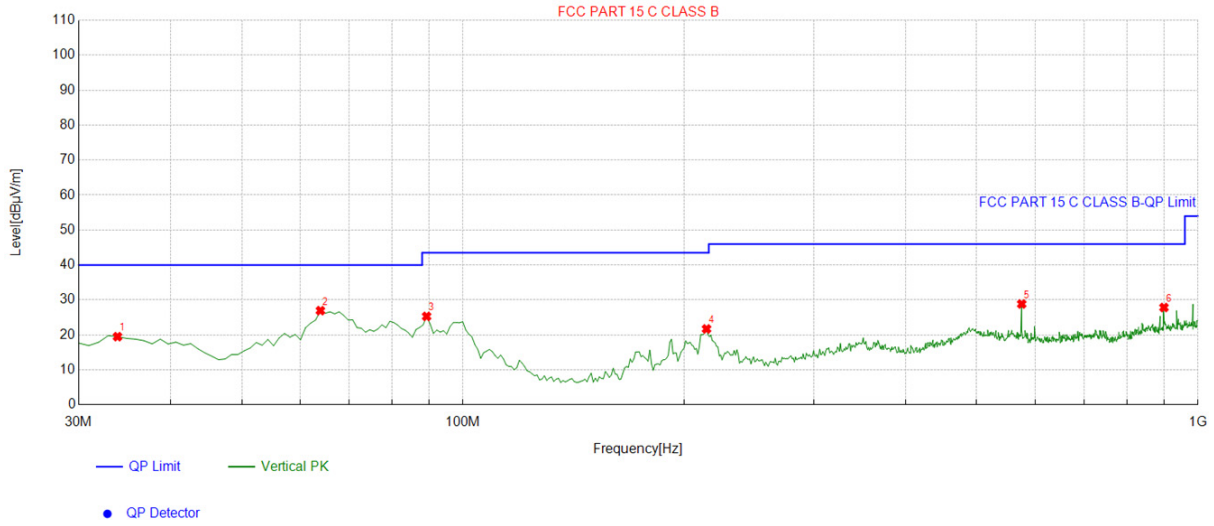
Series Model No.: MT Ultimate

Horizontal

Suspected List									
NO.	Freq. [MHz]	Factor [dB]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	100.88088	-14.60	30.28	15.68	43.50	27.82	100	359	Horizontal
2	214.48448	-14.76	34.20	19.44	43.50	24.06	100	276	Horizontal
3	383.43343	-9.11	45.89	36.78	46.00	9.22	100	308	Horizontal
4	575.68568	-5.53	31.08	25.55	46.00	20.45	100	119	Horizontal
5	767.93793	-4.54	41.12	36.58	46.00	9.42	100	119	Horizontal
6	984.46446	-0.57	28.29	27.72	54.00	26.28	100	90	Horizontal

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level

Vertical



Suspected List									
NO.	Freq. [MHz]	Factor [dB]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	33.883884	-15.16	34.66	19.50	40.00	20.50	100	124	Vertical
2	63.983984	-14.38	41.32	26.94	40.00	13.06	100	142	Vertical
3	89.229229	-16.75	42.05	25.30	43.50	18.20	100	240	Vertical
4	214.48448	-14.76	36.47	21.71	43.50	21.79	100	354	Vertical
5	575.68568	-5.53	34.37	28.84	46.00	17.16	100	293	Vertical
6	899.01901	-1.03	28.87	27.84	46.00	18.16	100	174	Vertical

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level

Harmonics and Spurious Emissions

Frequency Range (9kHz-30MHz)

Frequency (MHz)	Level@3m (dBµV/m)	Limit@3m (dBµV/m)
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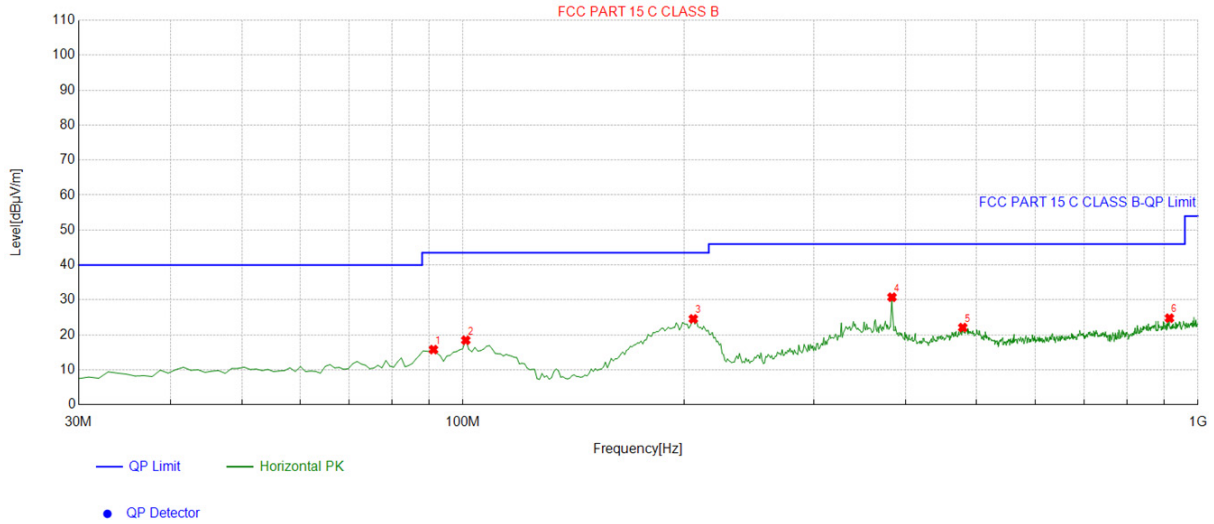
Note:*1. Emission Level=Reading+ Cable loss-Antenna factor-Amp factor.*

2. The emission levels are 20 dB below the limit value, which are not reported. It is deemed to comply with the requirement.

Series Model No.: M15 pro

Horizontal



Suspected List									
NO.	Freq. [MHz]	Factor [dB]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	91.171171	-16.91	32.71	15.80	43.50	27.70	100	40	Horizontal
2	100.88088	-14.60	33.08	18.48	43.50	25.02	100	349	Horizontal
3	205.74574	-15.25	39.82	24.57	43.50	18.93	100	284	Horizontal
4	383.43343	-9.11	39.89	30.78	46.00	15.22	100	212	Horizontal
5	478.58858	-8.26	30.36	22.10	46.00	23.90	100	290	Horizontal
6	914.55455	-0.95	25.74	24.79	46.00	21.21	100	3	Horizontal

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level