FCC Part 15C
Measurement and Test Report

For

E-sun Sky Computer Technology (Shenzhen) Co., Ltd.

FCC ID:2BXLP-NEO

FCC Rule(s):	FCC Part 15C
Product Description:	Solode
Tested Model:	Neo
Report No.:	MAX260840706303RF
Tested Date:	Aug.01~11, 2026
Issued Date:	Aug. 11, 2026
Tested By:	Lris Yao/ Engineer
Reviewed By:	Levi Xiao / EMC Manager
Approved & Authorized By:	Salon Ouyang / PSQ Manager

Prepared By:

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1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

Client Information

Applicant:	E-sun Sky Computer Technology (Shenzhen) Co., Ltd.
Address of applicant:	Room1401, B Bldg, West Side, Shenzhen Tech Eco-Park, Yuehai, Nanshan, Shenzhen, Guangdong, China
Manufacturer:	E-sun Sky Computer Technology (Shenzhen) Co., Ltd.
Address of manufacturer:	Room1401, B Bldg, West Side, Shenzhen Tech Eco-Park, Yuehai, Nanshan, Shenzhen, Guangdong, China

General Description of EUT	
Product Name:	Solode
Trade Name:	N/A
Model No.:	Neo
Adding Model:	Pro，Ultra
Rated Voltage:	DC 12V by USB TAPY-C
Adapter information:	N/A

Technical Characteristics of EUT	
Support Standards:	802.11b, 802.11g, 802.11n
Frequency Range:	2412-2462MHz for 802.11b/g/n(HT20)
RF Output Power:	15.22dBm (Conducted)
Type of Modulation:	CCK, OFDM, QPSK, BPSK, 16QAM, 64QAM
Data Rate:	1-11Mbps, 6-54Mbps, up to 150Mbps
Quantity of Channels:	11 for 802.11b/g/n(HT20)
Channel Separation:	5MHz
Type of Antenna:	FPC Antennas
Antenna Gain:	ANT1:1.75dBi, ANT2:1.75dBi

1.2 Test Standards

The following report is prepared on behalf of the MAD Gaze (Shen Zhen) Limited in accordance with FCC Part 15, Subpart C, and section 15.203, 15.205, 15.207, 15.209 and 15.247 of the Federal Communication Commissions rules.

The objective is to determine compliance with FCC Part 15, Subpart C, and section 15.203, 15.205, 15.207, 15.209 and 15.247 of the Federal Communication Commissions rules.

Maintenance of compliance is the responsibility of the manufacturer. Any modification of the product, which result in lowering the emission, should be checked to ensure compliance has been maintained.

1.3 Test Methodology

All measurements contained in this report were conducted with ANSI C63.10-2020, American National Standard for Testing Unlicensed Wireless Devices, and ANSI C63.4-2014, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz. The measurement guide KDB 558074 D01 v05r02 for digital transmission systems shall be performed also.

1.4 Test Facility

MAXLAB TESTING CO., LTD.
1/F, Building B, Xinshidai GR Park, Shiyan Street,Bao'an District, Shenzhen, Guangdong,518052,People’s Republic of China

FCC Test Firm Registration Number: 562200
Designation Number: CN1338

Tel: 400-882-9628
Fax: 86-755-26508703

1.5 EUT Setup and Test Mode

The EUT was operated in the engineering mode to fix the Tx frequency that was for the purpose of the measurements. All testing shall be performed under maximum output power condition, and to measure its highest possible emissions level, more detailed description as follows:

Test Mode List		
Test Mode	Description	Remark
TM1	802.11b	2412MHz, 2437MHz, 2462MHz
TM2	802.11g	2412MHz, 2437MHz, 2462MHz
TM3	802.11n-HT20	2412MHz, 2437MHz, 2462MHz
Note: All test modes (different data rate and different modulation) are performed, but only the worst case is recorded in this report.		

Accessories Equipment List and Details			
Description	**Manufacturer**	**Model No.**	**Serial Number**
Accessories Cable List and Details			
Cable Description	**Length (m)**	**Shielded/Unshielded**	**With Core/Without Core**
USB Line	2m	Unshielded	Without Ferrite
EUT Cable List and Details			
Cable Description	**Length (m)**	**Shielded/Unshielded**	**With Core/Without Core**

Auxiliary Equipment List and Details			
Description	Manufacturer	Model	Serial Number
Notebook	Lenovo	Lenovo B490	BSTSZEMC-77

1.6 Measurement Uncertainty

Measurement uncertainty		
Parameter	Conditions	Uncertainty
RF Output Power	Conducted	±0.42dB
Occupied Bandwidth	Conducted	±1.5%
Power Spectral Density	Conducted	±1.8dB
Conducted Spurious Emission	Conducted	±2.17dB
Conducted Emissions	Conducted	±2.88dB
Transmitter Spurious Emissions	Radiated	±5.1dB

1.7 Test Equipment List and Details

Description	Manufacturer	Model	Serial No.	Cal Date	Due. Date
Communication Tester	Rohde & Schwarz	CMW500	100358	2025-10-25	2026-10-24
Spectrum Analyzer	R&S	FSP40	100550	2025-10-25	2026-10-24
Test Receiver	R&S	ESCI7	US47140102	2025-10-25	2026-10-24
Signal Generator	HP	83630B	3844A01028	2025-10-25	2026-10-24
Test Receiver	R&S	ESPI-3	100180	2025-10-25	2026-10-24
Amplifier	Agilent	8449B	4035A00116	2025-10-25	2026-10-24
Amplifier	HP	8447E	2945A02770	2025-10-25	2026-10-24
Signal Generator	IFR	2023A	202307/242	2025-10-25	2026-10-24
Broadband Antenna	SCHAFFNER	2774	2774	2025-10-25	2026-10-24
Biconical and log periodic antennas	ELECTRO-METRICS	EM-6917B-1	171	2025-10-25	2026-10-24
Horn Antenna	R&S	HF906	100253	2025-10-25	2026-10-24
Horn Antenna	EM	EM-6961	6462	2025-10-25	2026-10-24
LISN	R&S	ESH3-Z5	100196	2025-10-25	2026-10-24
LISN	COM-POWER	LI-115	02027	2025-10-25	2026-10-24
3m Semi-Anechoic Chamber	Chengyu Electron	9 (L)*6 (W)* 6 (H)	BSL086	2025-10-25	2026-10-24
Horn Antenna	A-INFOMW	LB-180400KF	BSL088	2025-10-25	2026-10-24
20dB Attenuator	ICPROBING	IATS1	BSL1003	2025-10-25	2026-10-24
POWER DIVIDER	Mini-circuits	PD-2SF-0010	N/A	2025-10-25	2026-10-24
POWER DIVIDER	Mini-circuits	PD-2SF-0010	N/A	2025-10-25	2026-10-24
Loop Antenna	Schwarz beck	FMZB 1516	9773	2025-10-25	2026-10-24

2. SUMMARY OF TEST RESULTS

FCC Rules	Description of Test Item	Result
§ 2.1093	RF Exposure	PASS
§ 15.203; § 15.247(b)(4)(i)	Antenna Requirement	PASS
§15.205	Restricted Band of Operation	PASS
§ 15.207(a)	Conducted Emission	PASS
§ 15.247(e)	Power Spectral Density	PASS
§ 15.247(a)(2)	6 dB Bandwidth	PASS
§ 15.247(b)(3)	RF Output Power	PASS
§ 15.209(a)	Radiated Emission	PASS
§ 15.247(d)	Band Edge (Out of Band Emissions)	PASS

Note: PASS: applicable, N/A: not applicable.

3. RF Exposure

3.1 Standard Applicable

According to § 1.1307(b)(1), system operating under the provisions of this section shall be operating in a manner that the public is not exposed to radio frequency energy level in excess limit for maximum permissible exposure.

3.2 Test Result

This product complied with the requirement of the RF exposure, please see the RF Exposure Report.

4. Antenna Requirement

4.1 Standard Applicable

According to FCC Part 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 an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

4.2 Evaluation Information

This product has a Dedicated Antennas, fulfill the requirement of this section.

5. Power Spectral Density

5.1 Standard Applicable

According to 15.247(a)(1)(iii), For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

5.2 Test Procedure

According to the KDB 558074 D01 v05r02, such specifications require that the same method as used to determine the conducted output power shall also be used to determine the power spectral density. The test method of power spectral density as below:

a) Set instrument center frequency to DTS channel center frequency.
b) Set span to at least 1.5 times the OBW.
c) Set RBW to: 3 kHz ≤ RBW ≤ 100 kHz. .
d) Set VBW ≥3 x RBW.
e) Detector = power averaging (RMS) or sample detector (when RMS not available).
f) Ensure that the number of measurement points in the sweep ≥ 2 x span/RBW.
g) Sweep time = auto couple.
h) Employ trace averaging (RMS) mode over a minimum of 100 traces.
i) Use the peak marker function to determine the maximum amplitude level.
j) If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat (note that this may require zooming in on the emission of interest and reducing the span in order to meet the minimum measurement point requirement as the RBW is reduced).

5.3 Environmental Conditions

Temperature:	26° C
Relative Humidity:	54%
ATM Pressure:	1011 mbar

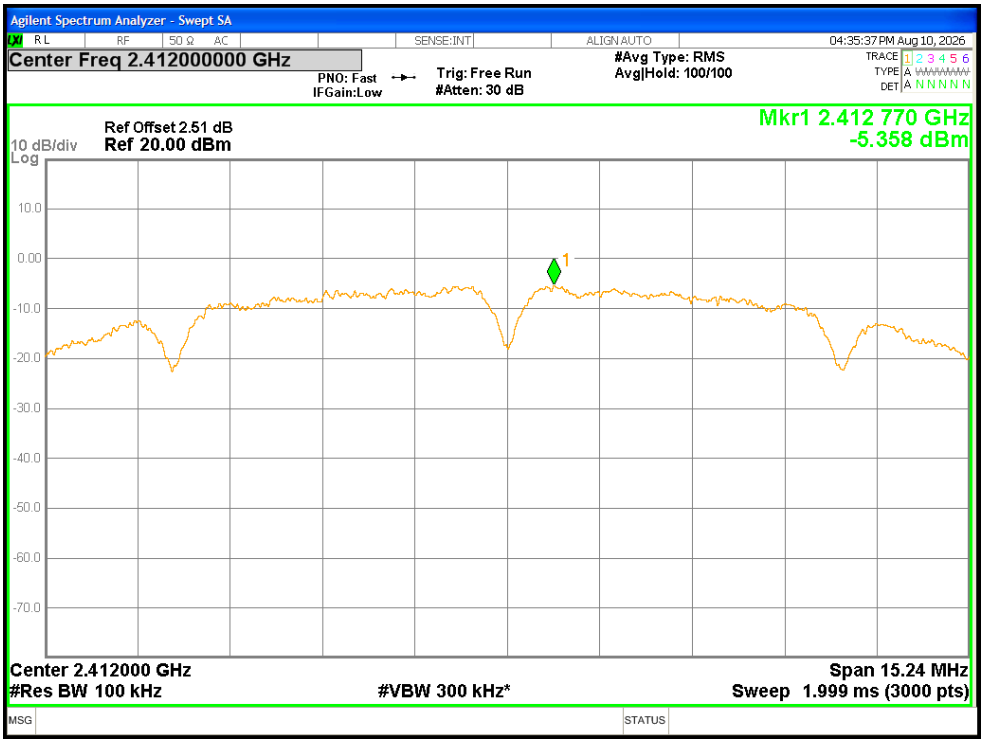
5.4 Summary of Test Results/Plots

Ant1：

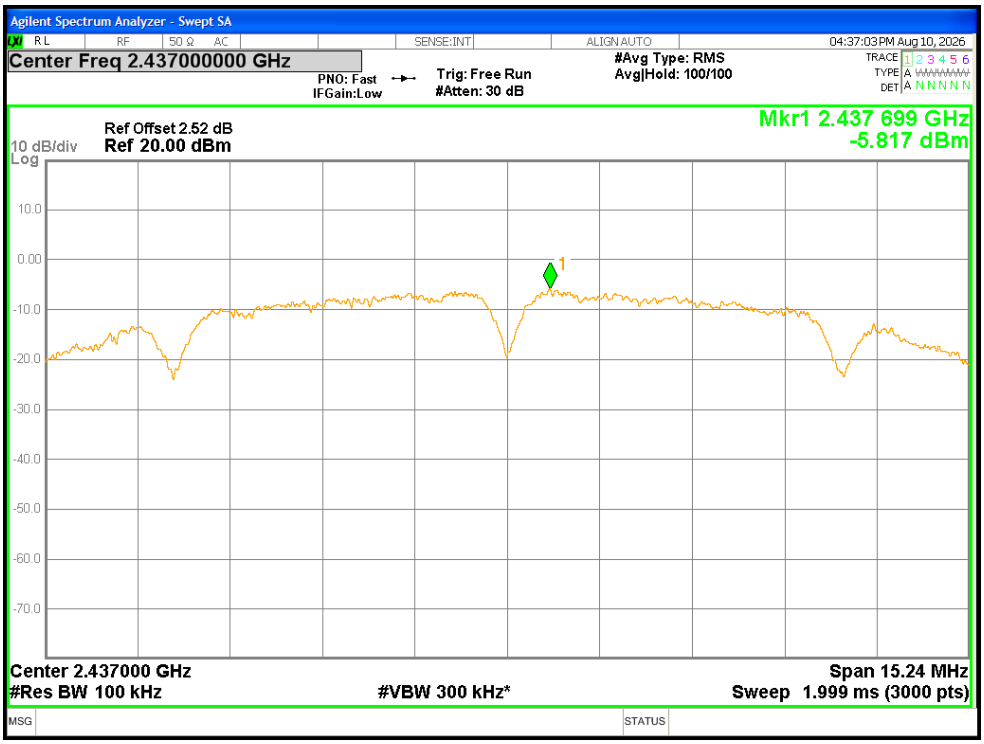
Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/100kHz)	Duty Factor (dB)	Total PSD (dBm/100kHz)	Limit (dBm/3kHz)	Verdict
NVNT	b	2412	Ant1	-5.36	0	-5.36	8	Pass
NVNT	b	2437	Ant1	-5.82	0	-5.82	8	Pass
NVNT	b	2462	Ant1	-6.51	0	-6.51	8	Pass
NVNT	g	2412	Ant1	-8.35	0	-8.35	8	Pass
NVNT	g	2437	Ant1	-8.61	0	-8.61	8	Pass
NVNT	g	2462	Ant1	-8.98	0	-8.98	8	Pass
NVNT	n20	2412	Ant1	-7.48	0	-7.48	8	Pass
NVNT	n20	2437	Ant1	-7.7	0	-7.7	8	Pass
NVNT	n20	2462	Ant1	-8.29	0	-8.29	8	Pass

Please refer to the following test plots:

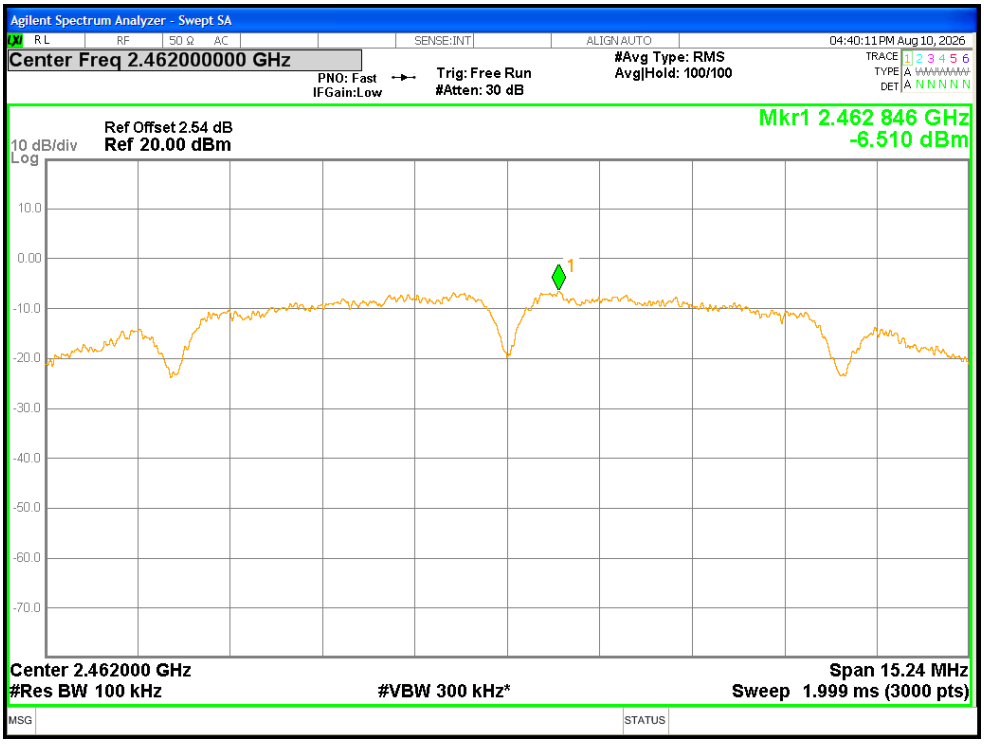
802.11b-Low Channel



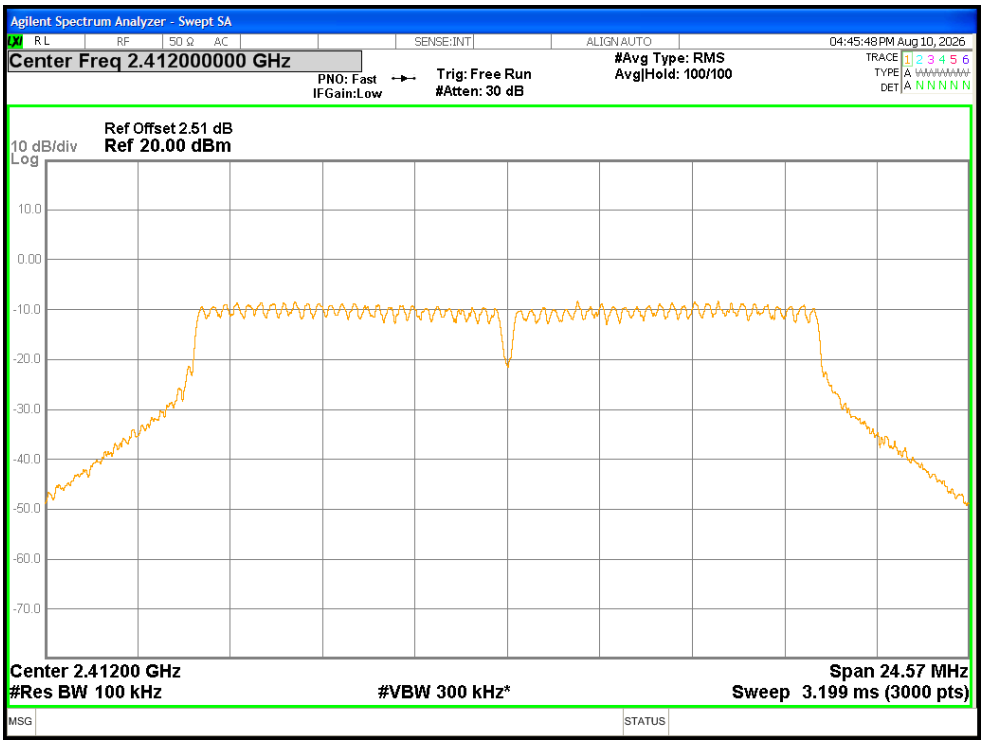
802.11b-Middle Channel



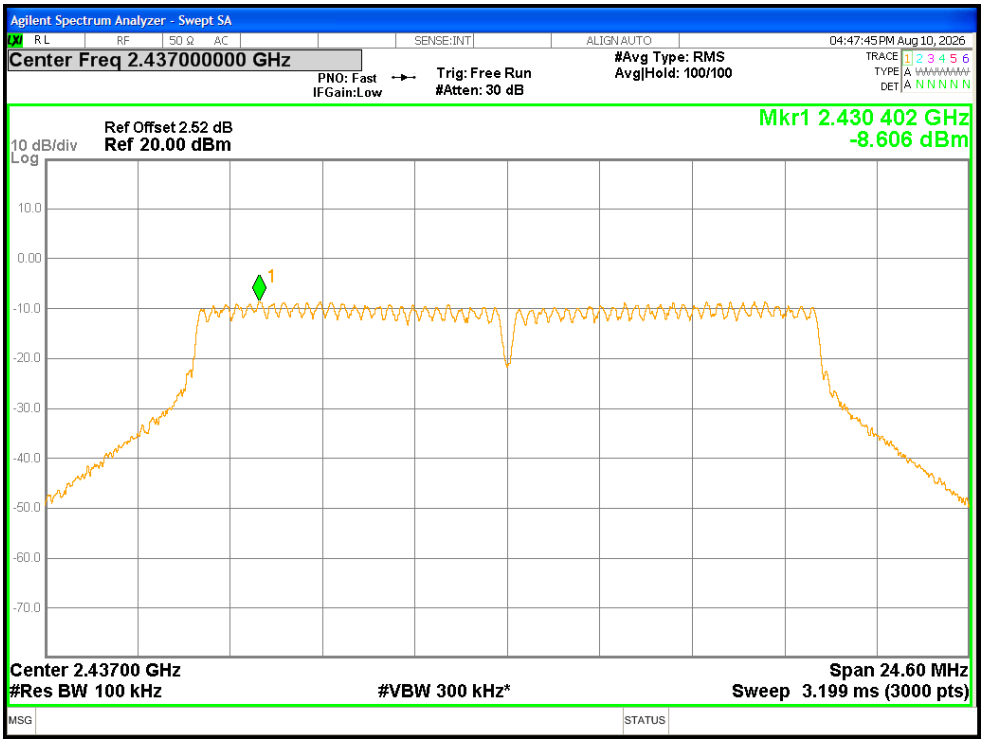
802.11b-High Channel



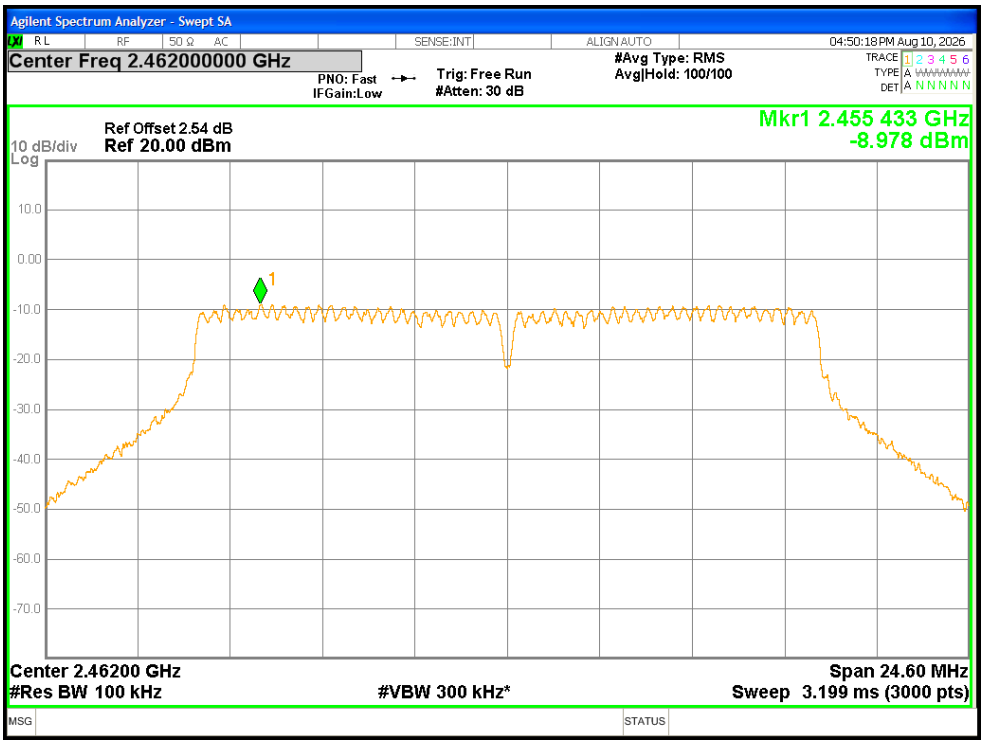
802.11g-Low Channel



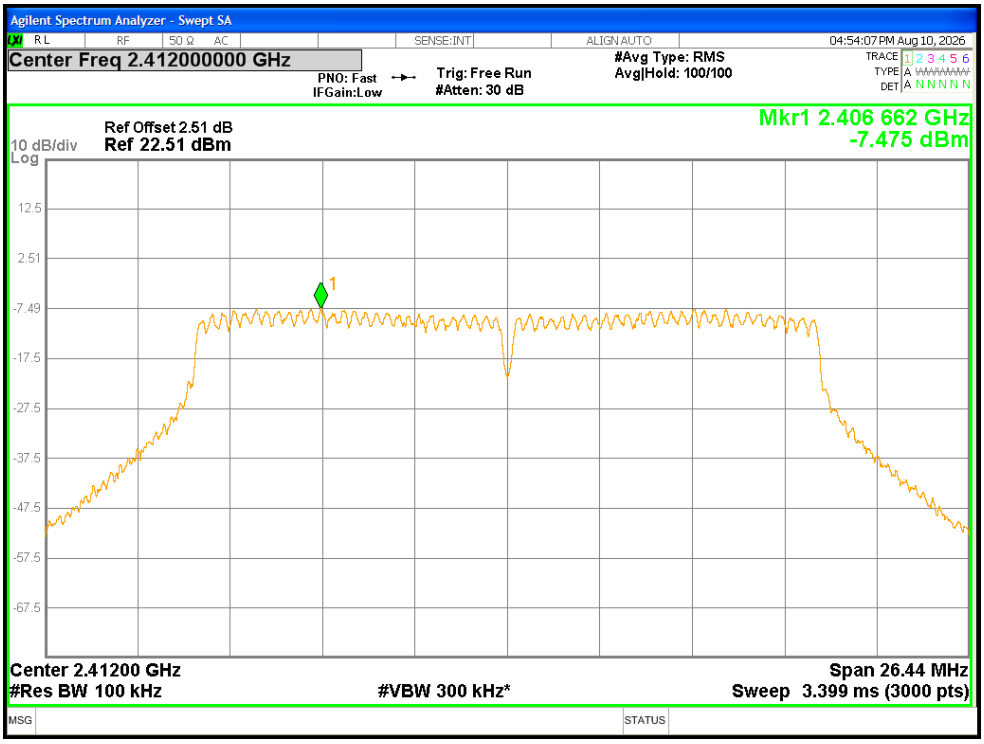
802.11g-Middle Channel



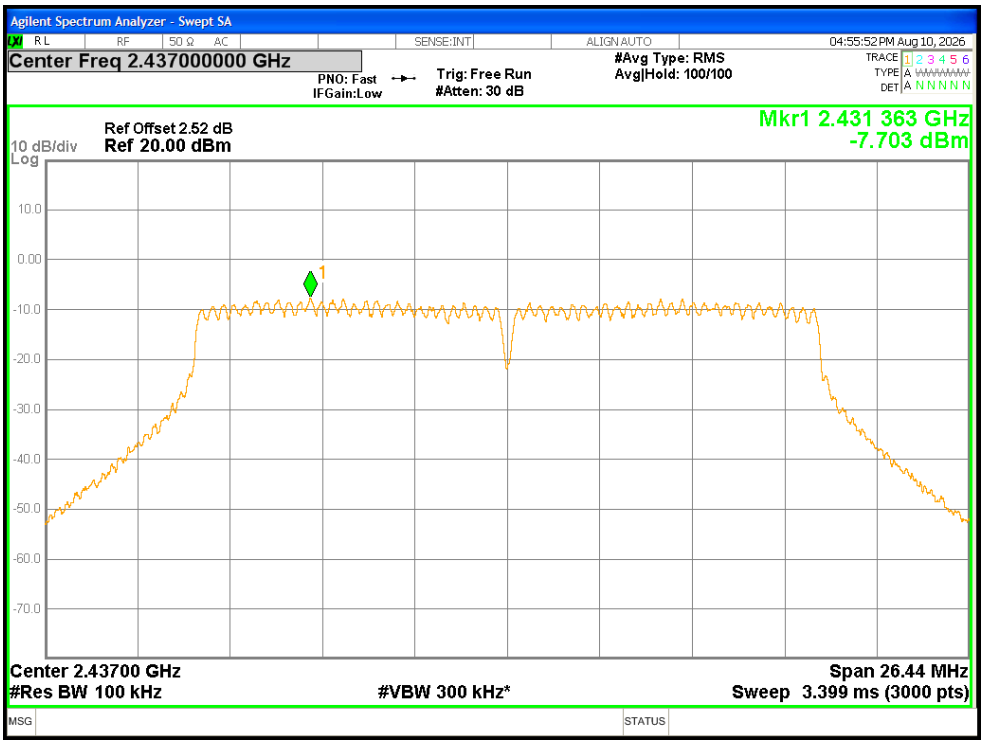
802.11g-High Channel



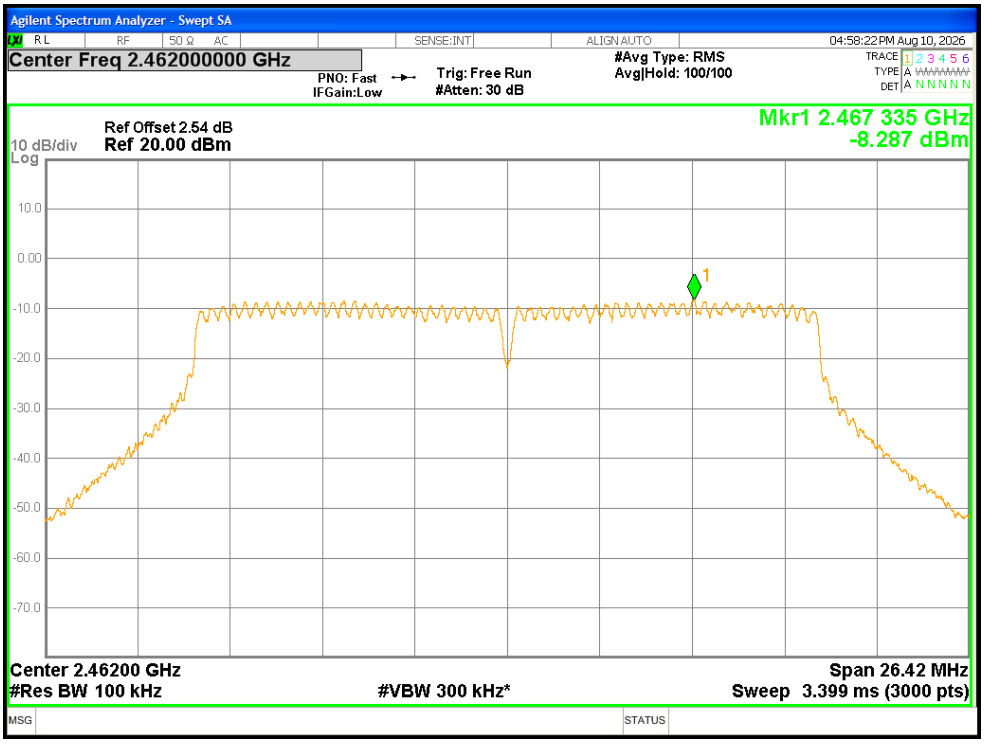
802.11n-HT20-Low Channel



802.11n-HT20-Middle Channel



802.11n-HT20-High Channel

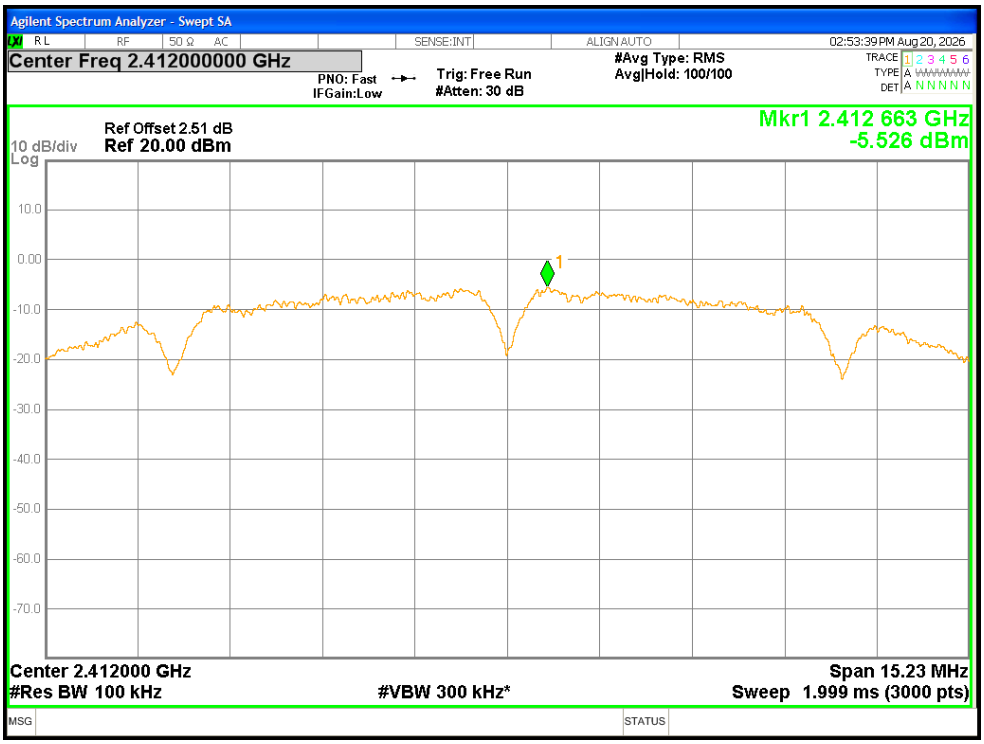


Ant2：

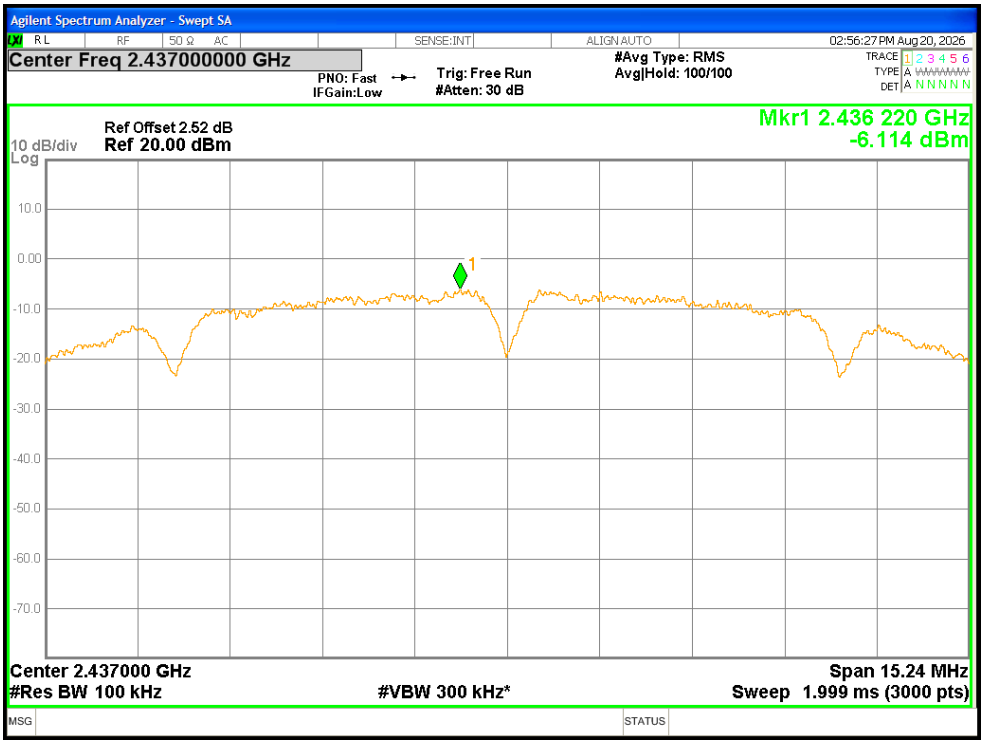
Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/100kHz)	Duty Factor (dB)	Total PSD (dBm/100kHz)	Limit (dBm/3kHz)	Verdict
NVNT	b	2412	Ant2	-5.53	0	-5.53	8	Pass
NVNT	b	2437	Ant2	-6.11	0	-6.11	8	Pass
NVNT	b	2462	Ant2	-5.83	0	-5.83	8	Pass
NVNT	g	2412	Ant2	-6.96	0	-6.96	8	Pass
NVNT	g	2437	Ant2	-7.28	0	-7.28	8	Pass
NVNT	g	2462	Ant2	-7.36	0	-7.36	8	Pass
NVNT	n20	2412	Ant2	-8.41	0	-8.41	8	Pass
NVNT	n20	2437	Ant2	-8.88	0	-8.88	8	Pass
NVNT	n20	2462	Ant2	-9.06	0	-9.06	8	Pass

Please refer to the following test plots:

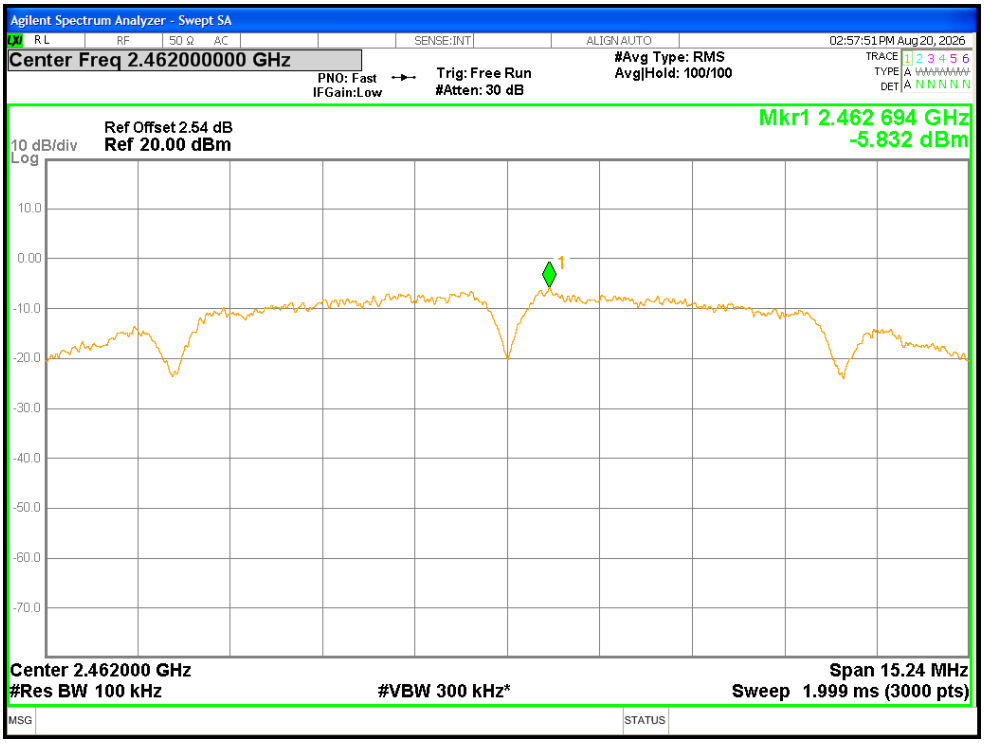
802.11b-Low Channel



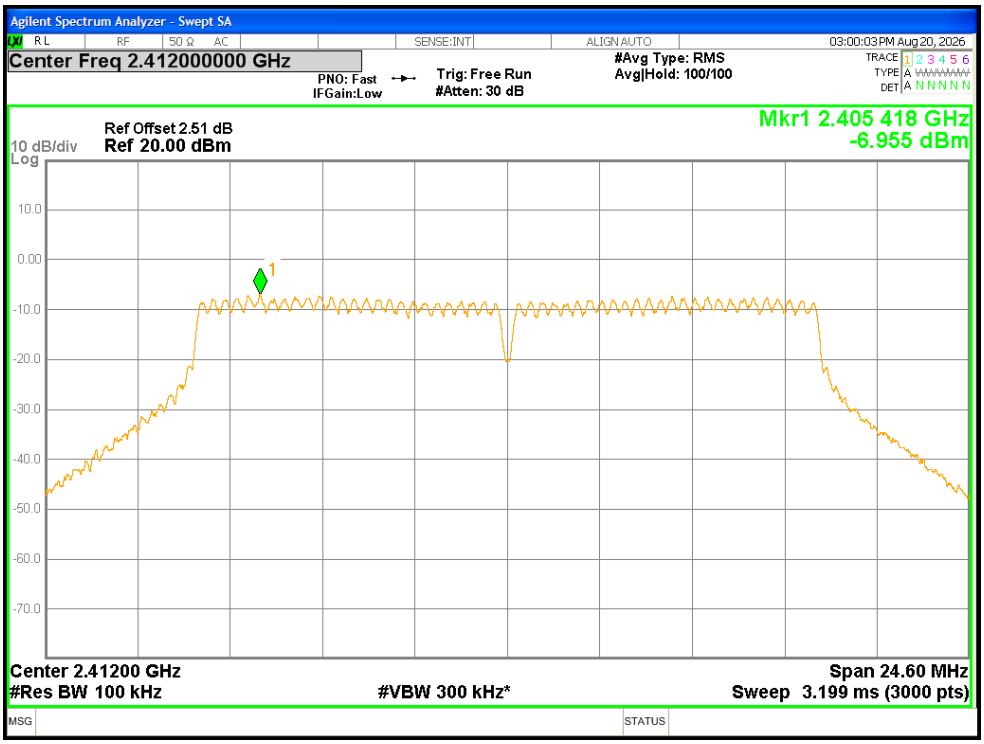
802.11b-Middle Channel



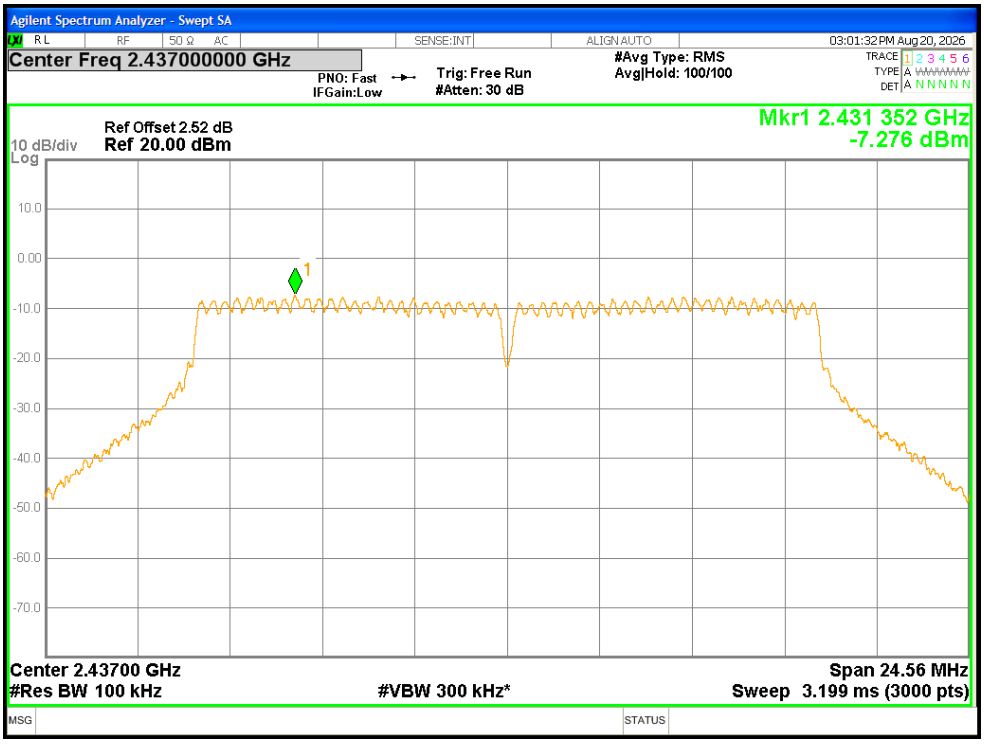
802.11b-High Channel



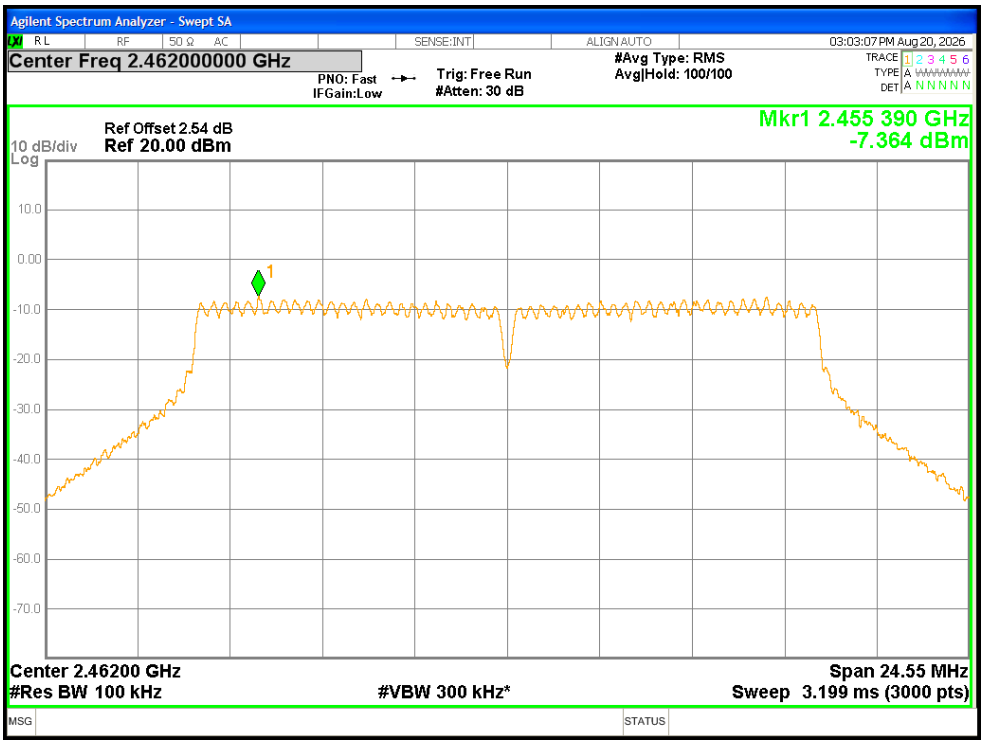
802.11g-Low Channel



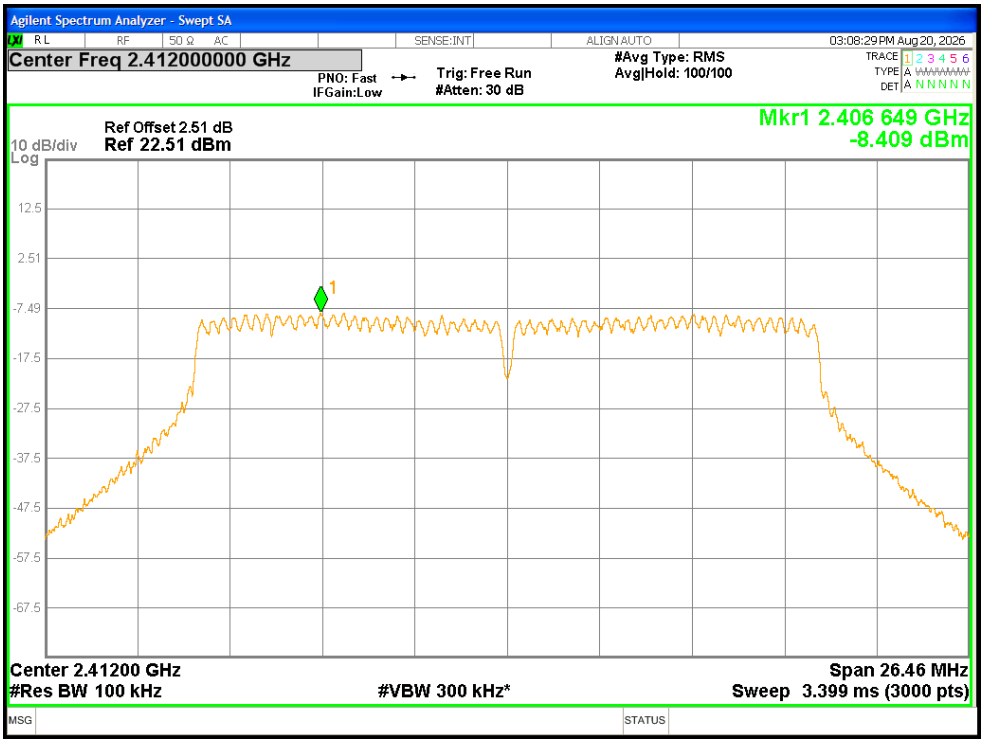
802.11g-Middle Channel



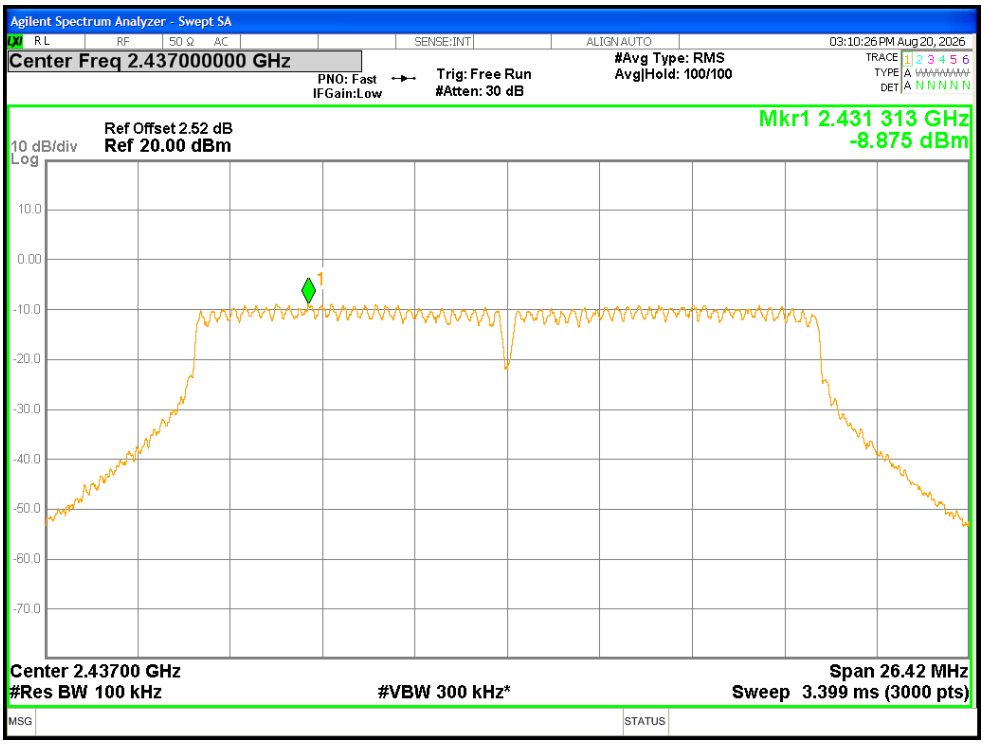
802.11g-High Channel



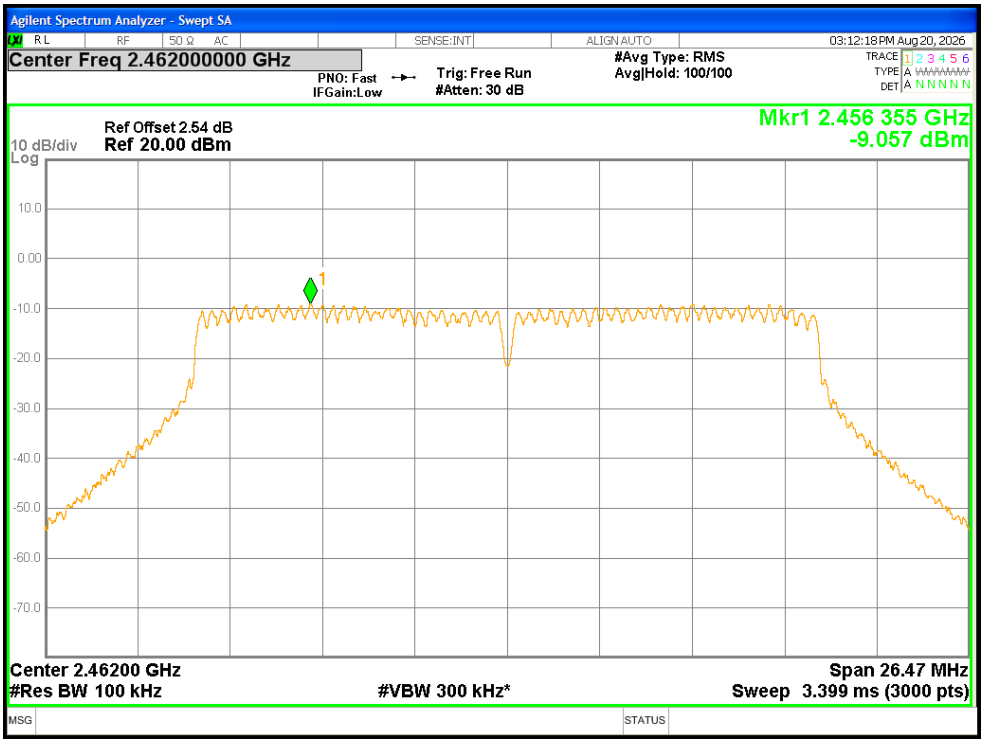
802.11n-HT20-Low Channel



802.11n-HT20-Middle Channel



802.11n-HT20-High Channel



MIMO PSD Results

Mode	Frequency (MHz)	Ant1 PSD (dBm/100kHz)	Ant2 PSD (dBm/100kHz)	Total PSD (dBm/100kHz)	Limit (dBm/3kHz)	Margin (dB)	Verdict
802.11b	2412	-5.36	-5.53	-2.44	8	10.44	PASS
802.11b	2437	-5.82	-6.11	-2.95	8	10.95	PASS
802.11b	2462	-6.51	-5.83	-3.14	8	11.14	PASS
802.11g	2412	-8.35	-6.96	-4.58	8	12.58	PASS
802.11g	2437	-8.61	-7.28	-4.86	8	12.86	PASS
802.11g	2462	-8.98	-7.36	-5.06	8	13.06	PASS
802.11n HT20	2412	-7.48	-8.41	-4.91	8	12.91	PASS
802.11n HT20	2437	-7.7	-8.88	-5.24	8	13.24	PASS
802.11n HT20	2462	-8.29	-9.06	-5.65	8	13.65	PASS

Note:

[1] All measured values are conducted PSD in dBm/100kHz at the antenna port. Duty cycle factor (0 dB) has been applied per KDB 558074 D01 Section 10.2 (the device transmits with ⩾98% duty cycle; no duty cycle correction required).

[2] Total PSD is calculated using the "Measure and Sum" method per KDB 662911 D01 Section E)2)a). The individual port spectra are summed in linear power units (mW) on a bin-by-bin basis across all active transmit

chains.

[3] Directional Gain Calculation: For 802.11b/g modes, the EUT employs CDD (Cyclic Delay Diversity) for dual-antenna transmissions. Per KDB 662911 D01 Section F)2)f), for PSD measurements: Array Gain = 10log(N_ANT/N_SS) = 3.01 dB; Directional Gain = 1.75 + 3.01 = 4.76 dBi. For 802.11n HT20/HT40 modes, the EUT employs standard MIMO with uncorrelated signals; Directional Gain = G_ANT = 1.75 dBi per KDB 662911 D01 Section F)2)a)(ii). The highest directional gain applicable is 4.76 dBi, which is ≤ 6 dBi; therefore, no reduction to the PSD limit is required per FCC Part 15.247(e).

[4] The PSD limit is 8 dBm/3kHz (conducted limit per FCC Part 15.247(e)). Margin = Limit – Total PSD. Positive margin indicates compliance.

6. 6dB Bandwidth

6.1 Standard Applicable

According to 15.247(a)(2). Systems using digital modulation techniques may operate in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

6.2 Test Procedure

a) Set RBW = 100 kHz.
b) Set the video bandwidth (VBW) ≥ 3 × RBW.
c) Detector = Peak.
d) Trace mode = max hold.
e) Sweep = auto couple.
f) Allow the trace to stabilize.
g) 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.

6.3 Environmental Conditions

Temperature:	25° C
Relative Humidity:	53%
ATM Pressure:	1018 mbar

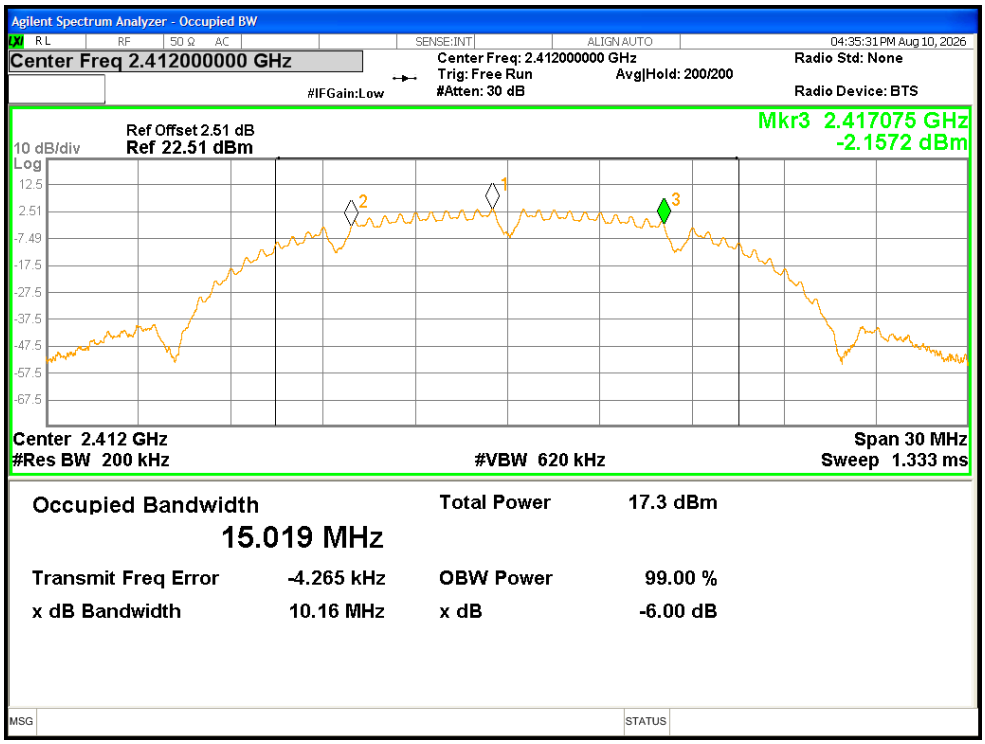
6.4 Summary of Test Results/Plots

Ant1

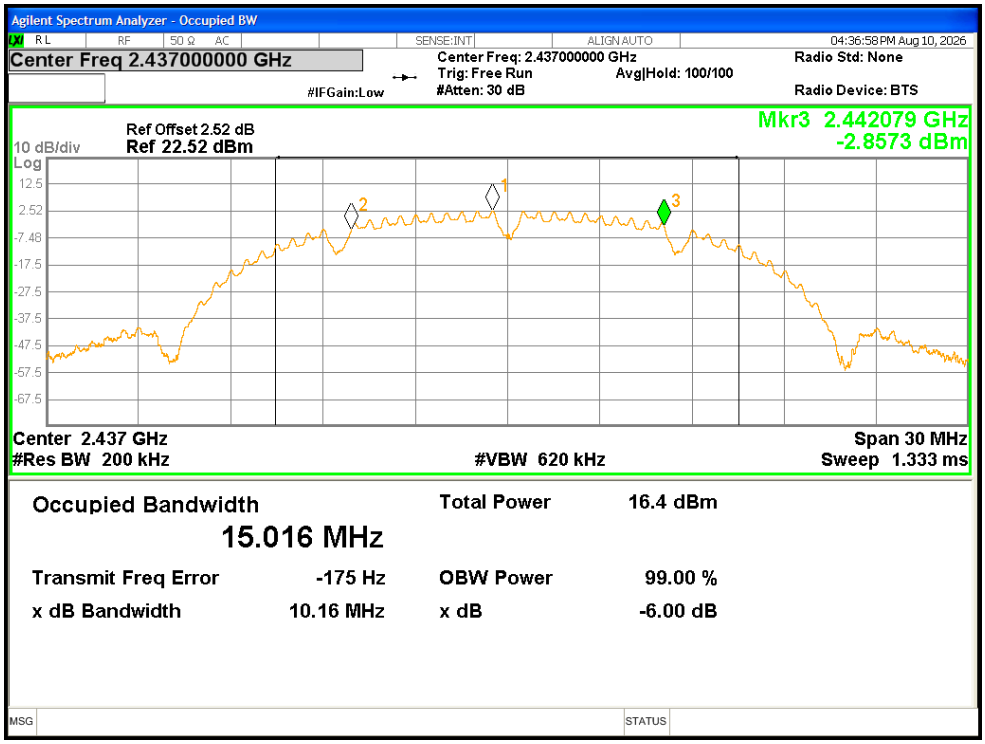
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	b	2412	Ant1	10.158	0.5	Pass
NVNT	b	2437	Ant1	10.158	0.5	Pass
NVNT	b	2462	Ant1	10.161	0.5	Pass
NVNT	g	2412	Ant1	16.378	0.5	Pass
NVNT	g	2437	Ant1	16.397	0.5	Pass
NVNT	g	2462	Ant1	16.401	0.5	Pass
NVNT	n20	2412	Ant1	17.626	0.5	Pass
NVNT	n20	2437	Ant1	17.625	0.5	Pass
NVNT	n20	2462	Ant1	17.616	0.5	Pass

Please refer to the following test plots:

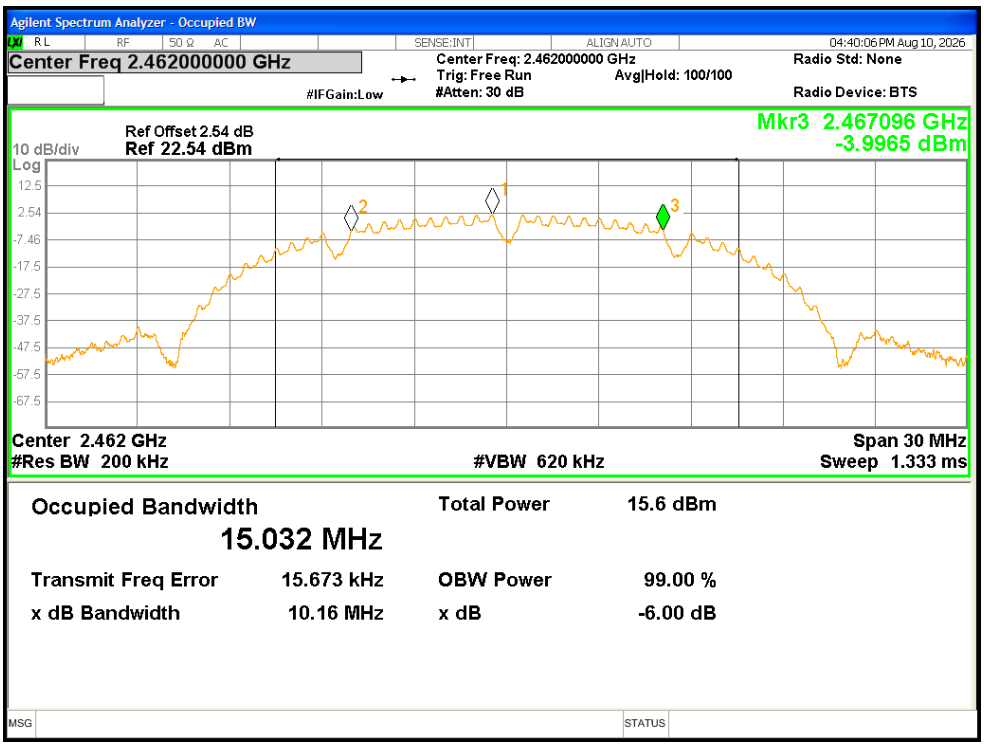
802.11b-Low Channel



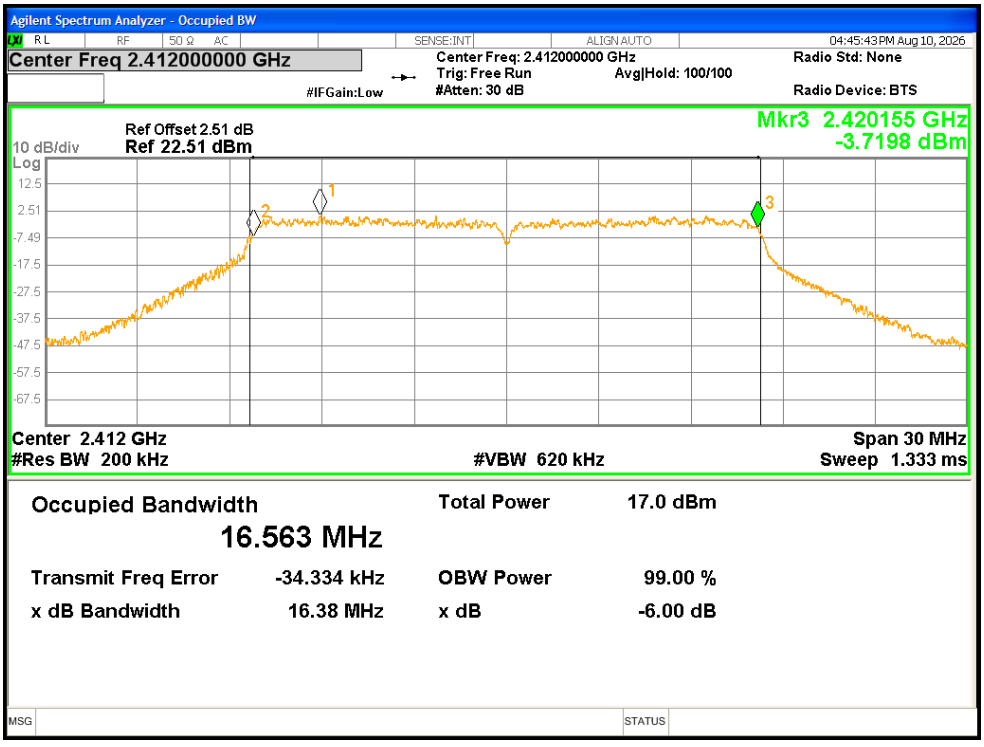
802.11b-Middle Channel



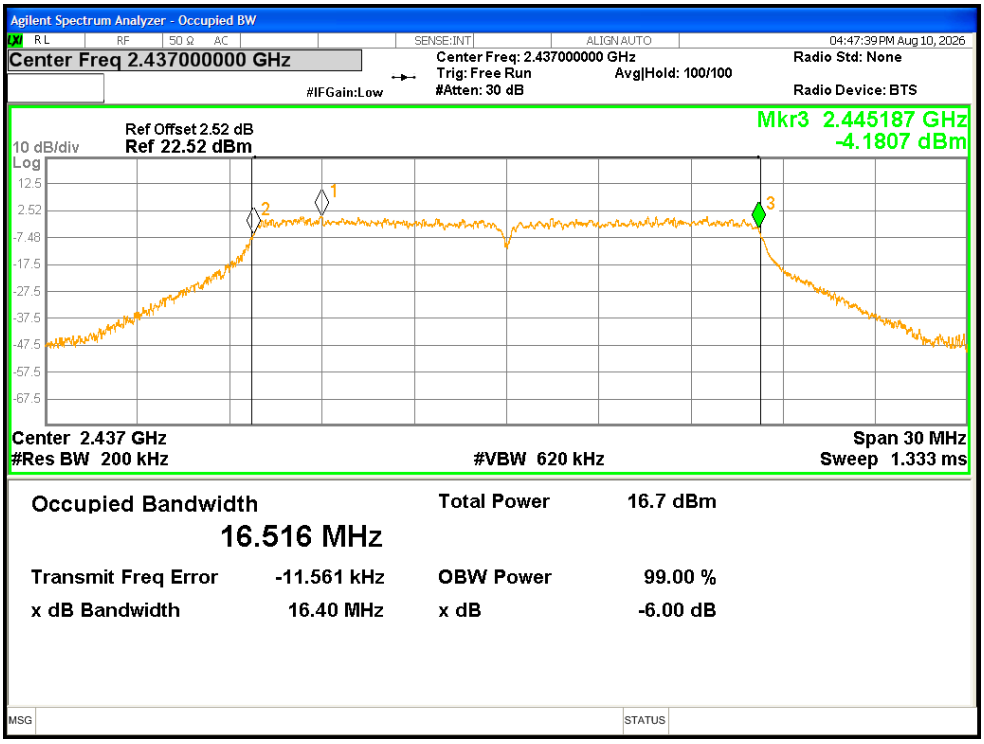
802.11b-High Channel



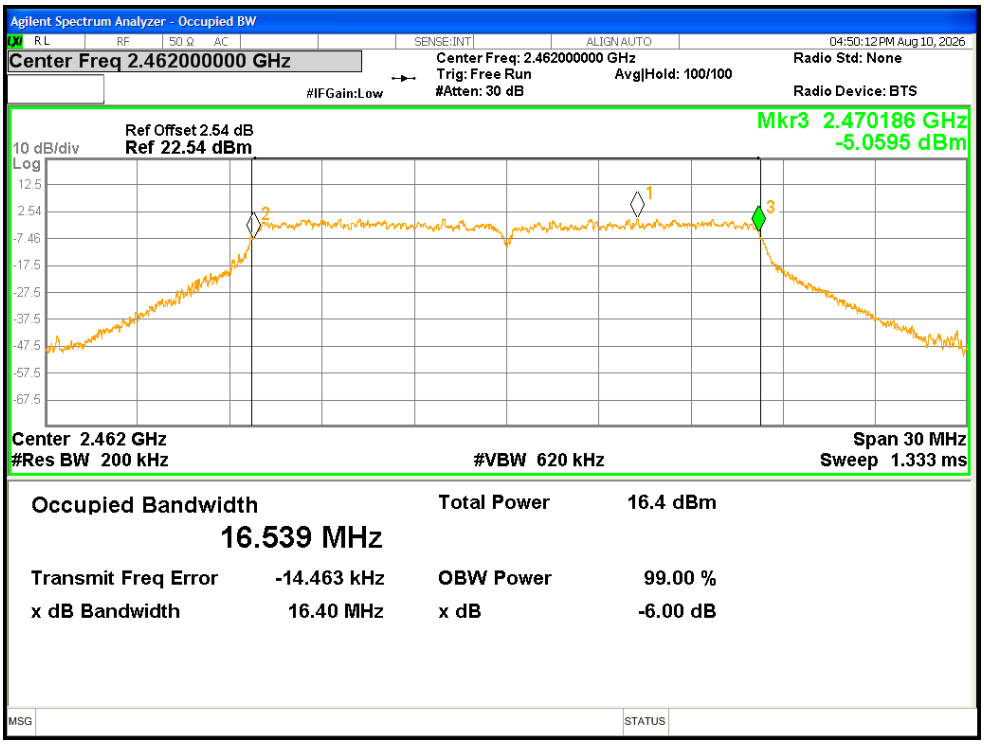
802.11g-Low Channel



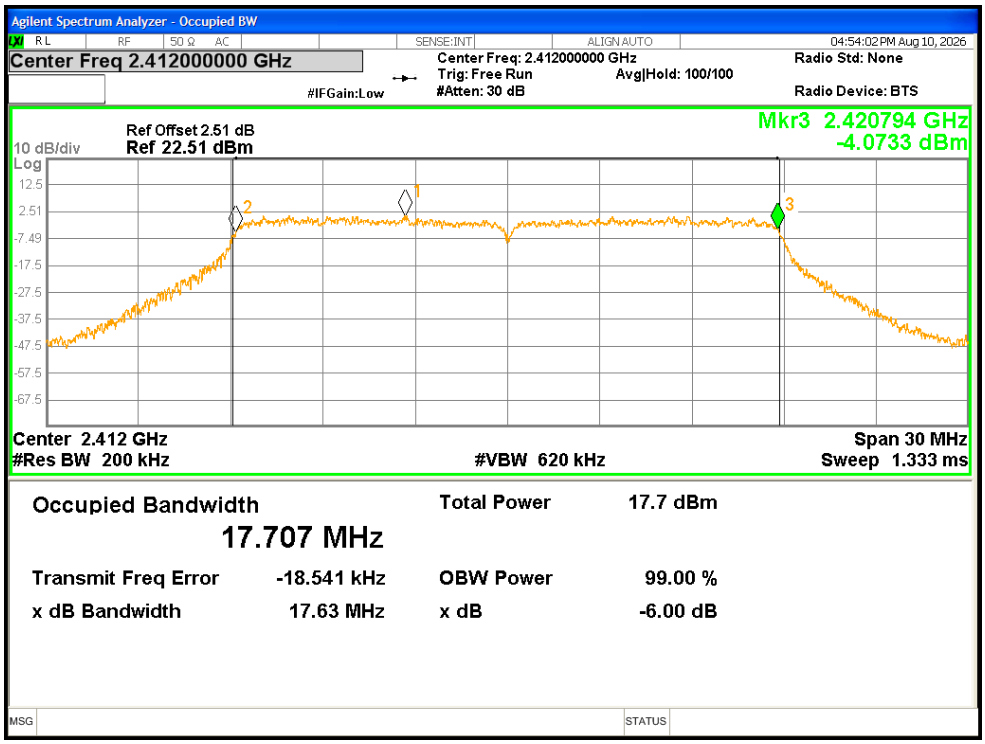
802.11g-Middle Channel



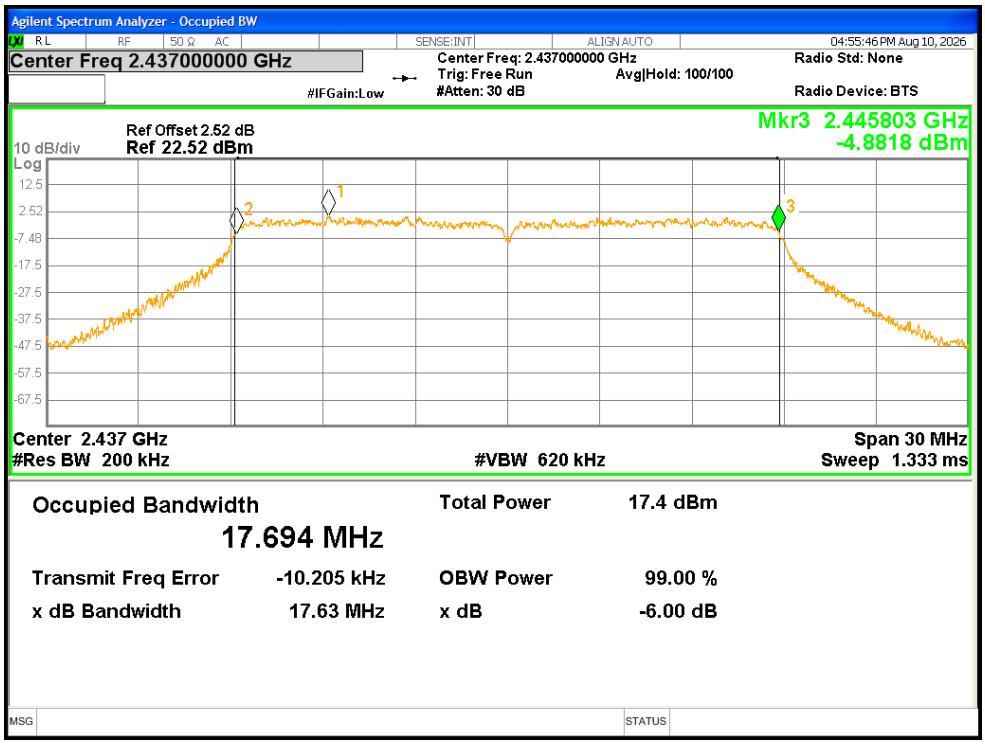
802.11g-High Channel



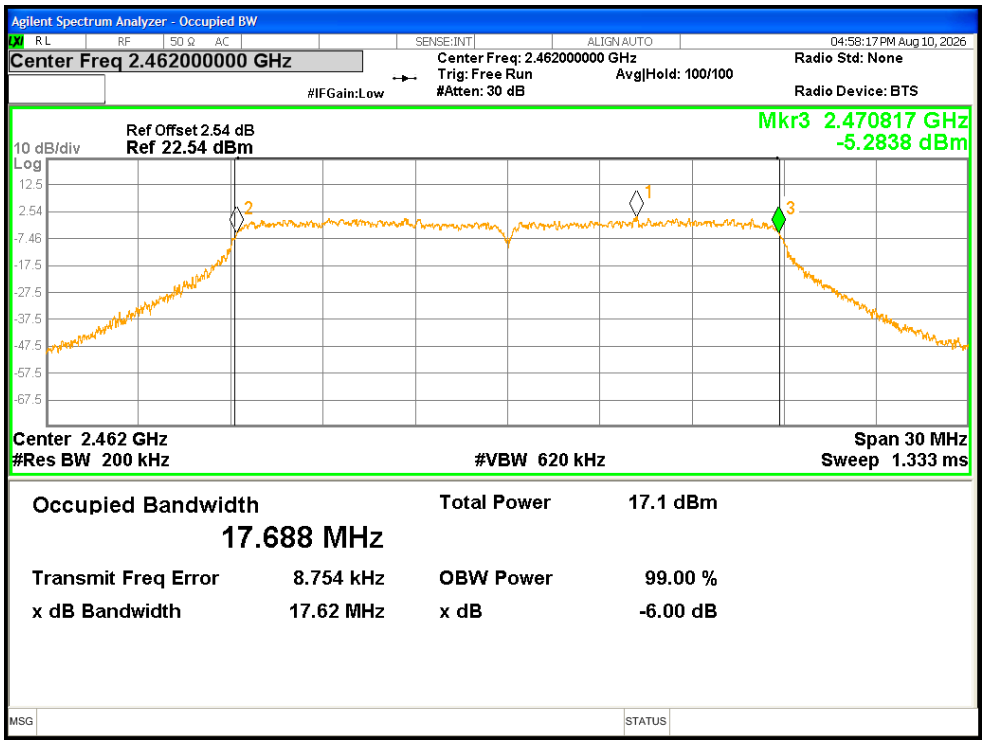
802.11n-HT20-Low Channel



802.11n-HT20-Middle Channel



802.11n-HT20-High Channel

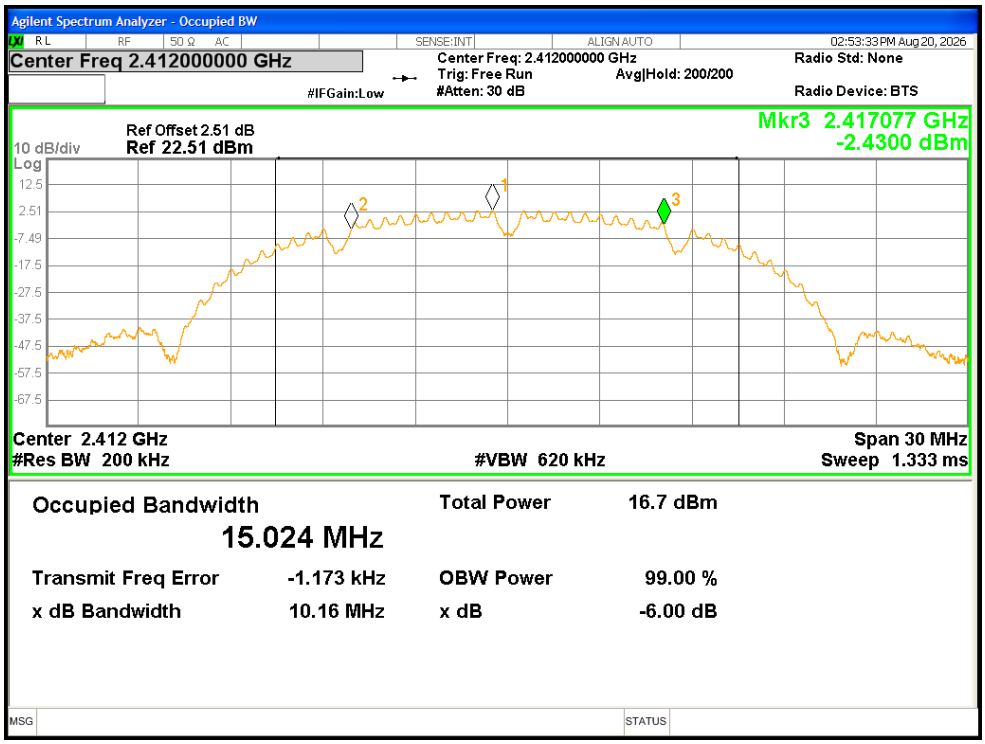


Ant2:

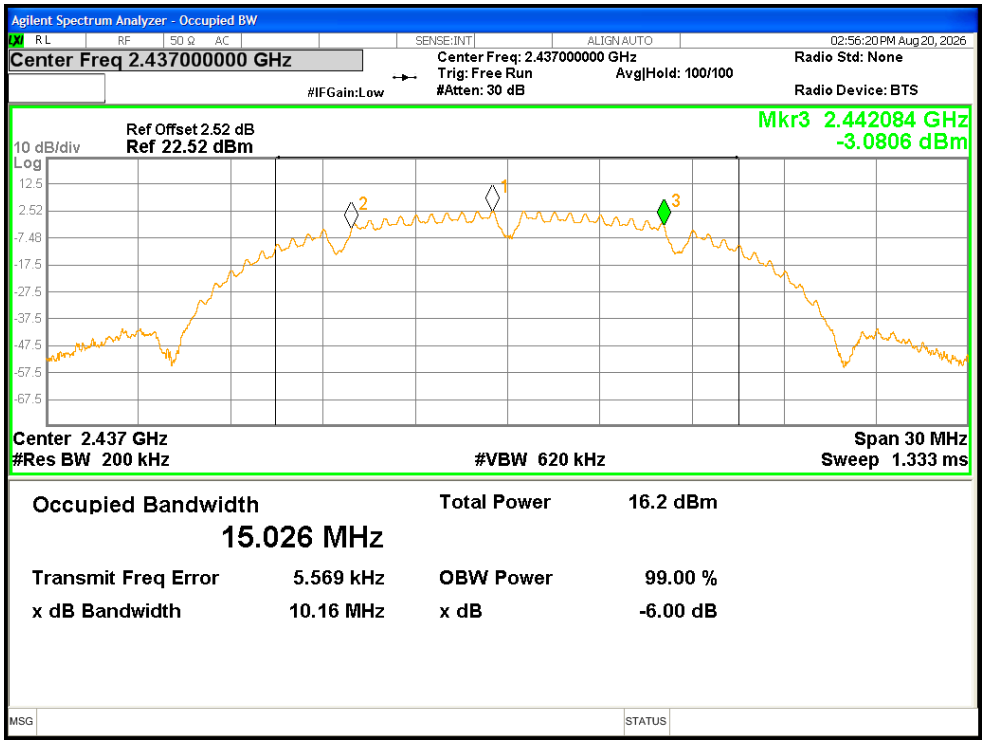
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	b	2412	Ant2	10.156	0.5	Pass
NVNT	b	2437	Ant2	10.157	0.5	Pass
NVNT	b	2462	Ant2	10.158	0.5	Pass
NVNT	g	2412	Ant2	16.399	0.5	Pass
NVNT	g	2437	Ant2	16.376	0.5	Pass
NVNT	g	2462	Ant2	16.367	0.5	Pass
NVNT	n20	2412	Ant2	17.64	0.5	Pass
NVNT	n20	2437	Ant2	17.615	0.5	Pass
NVNT	n20	2462	Ant2	17.647	0.5	Pass

Please refer to the following test plots:

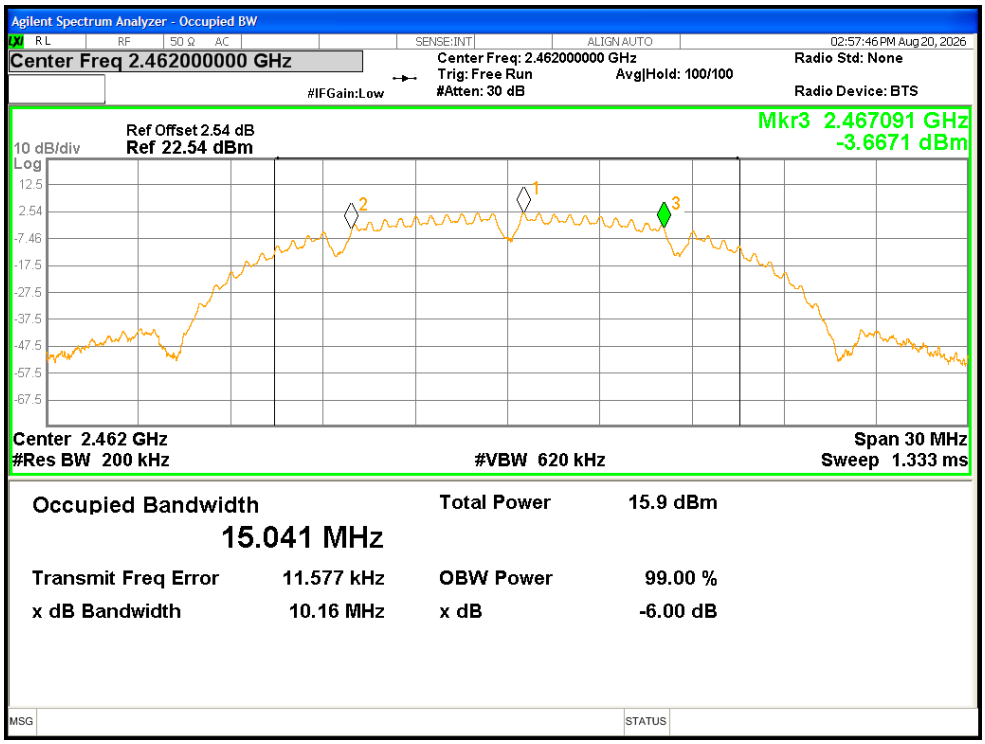
802.11b-Low Channel



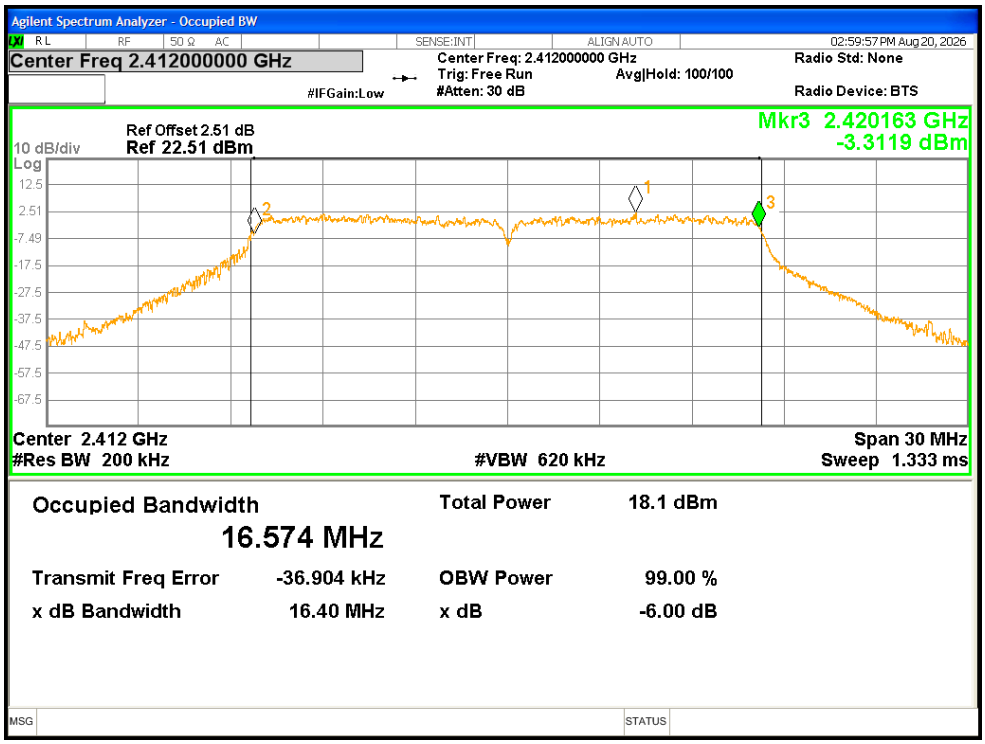
802.11b-Middle Channel



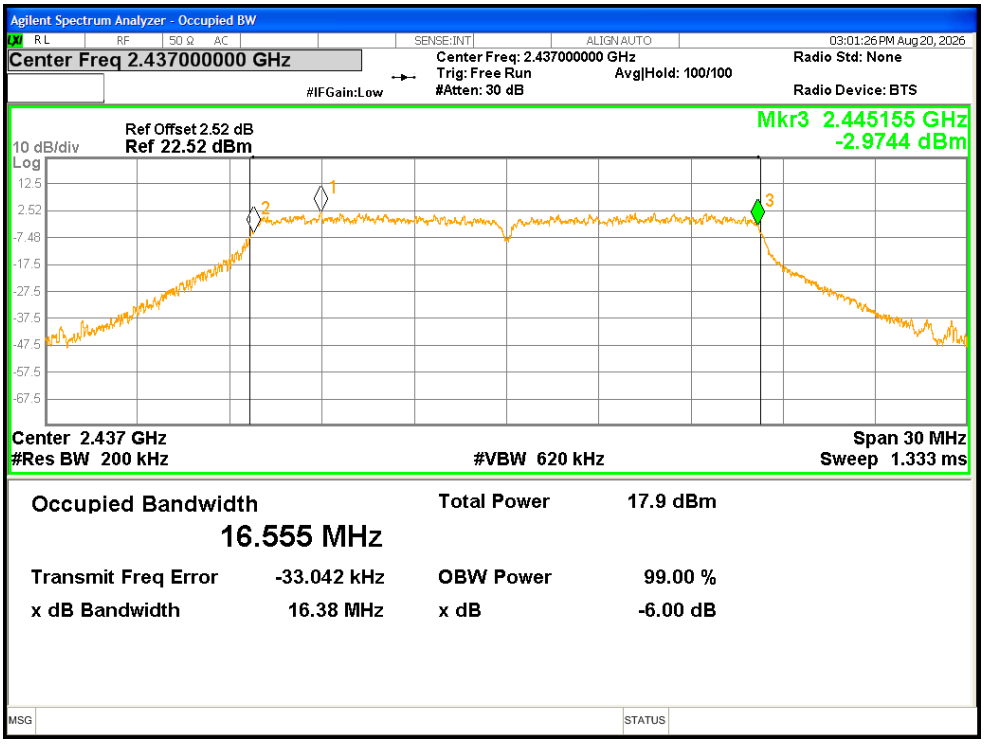
802.11b-High Channel



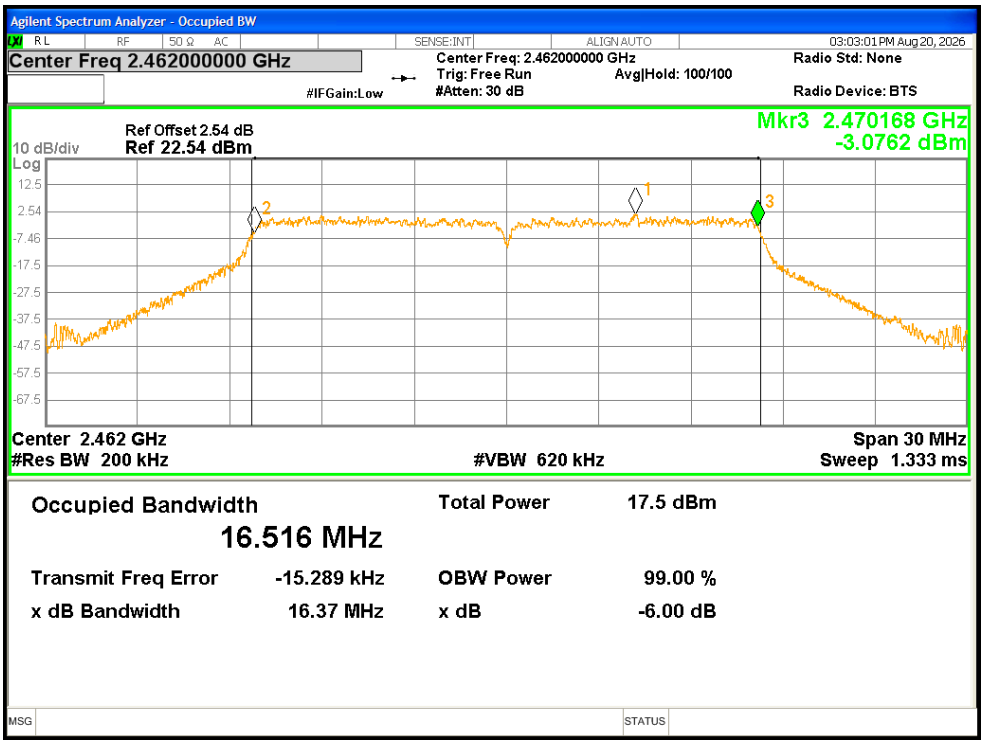
802.11g-Low Channel



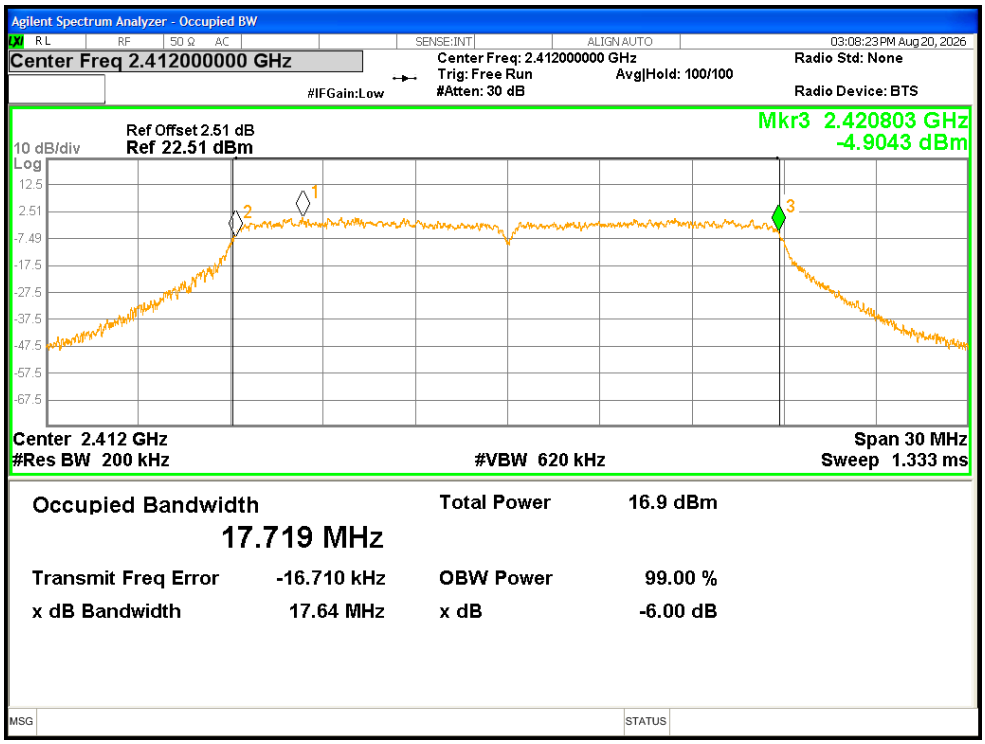
802.11g-Middle Channel



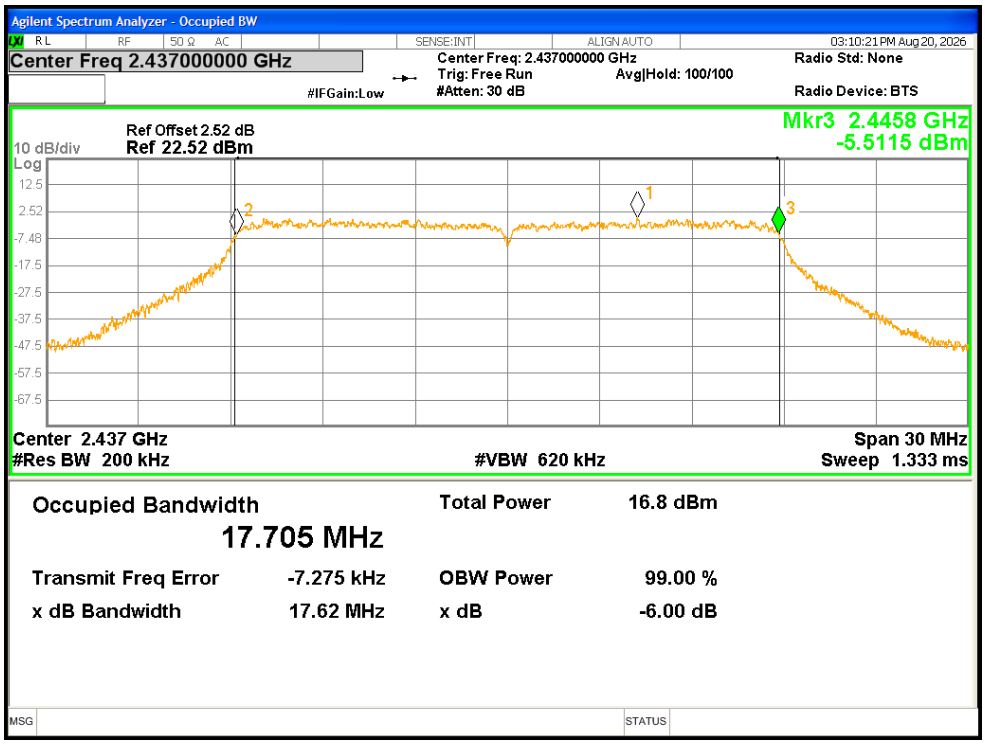
802.11g-High Channel



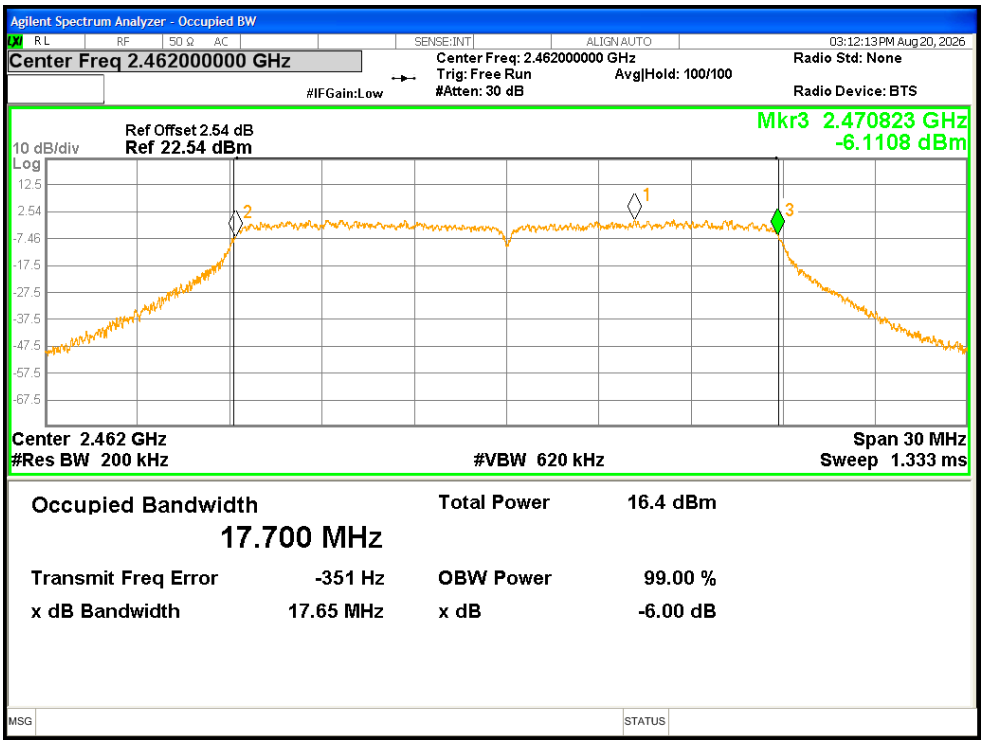
802.11n-HT20-Low Channel



802.11n-HT20-Middle Channel



802.11n-HT20-High Channel



7. RF Output Power

7.1 Standard Applicable

According to 15.247(b)(3). For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt.

7.2 Test Procedure

According to the KDB-558074 D01 v05r02, 9.2.2.2, when this option is exercised, the measured power is to be referenced to the OBW rather than the DTS bandwidth

a) Set span to at least 1.5 times the OBW.
b) Set RBW = 1-5% of the OBW, not to exceed 1 MHz.
c) Set VBW ≥ 3 x RBW.
d) Number of points in sweep ≥ 2 × span / RBW. (This gives bin-to-bin spacing ≤ RBW/2, so that narrowband signals are not lost between frequency bins.)
e) Sweep time = auto.
f) Detector = RMS (i.e., power averaging), if available. Otherwise, use sample detector mode.
g) If transmit duty cycle < 98 %, use a sweep trigger with the level set to enable triggering only on full power pulses. The transmitter shall operate at maximum power control level for the entire duration of every sweep. If the EUT transmits continuously (i.e., with no off intervals) or at duty cycle ≥ 98 %, and if each transmission is entirely at the maximum power control level, then the trigger shall be set to "free run".
h) Trace average at least 100 traces in power averaging (i.e., RMS) mode.
i) 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, sum the spectrum levels (in power units) at intervals equal to the RBW extending across the entire OBW of the spectrum.

7.3 Environmental Conditions

Temperature:	26° C
Relative Humidity:	57%
ATM Pressure:	1011 mbar

7.4 Summary of Test Results/Plots

Ant1:

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	b	2412	Ant1	12.52	0	12.52	30	Pass
NVNT	b	2437	Ant1	11.56	0	11.56	30	Pass
NVNT	b	2462	Ant1	10.82	0	10.82	30	Pass
NVNT	g	2412	Ant1	11.54	0	11.54	30	Pass
NVNT	g	2437	Ant1	11.3	0	11.3	30	Pass
NVNT	g	2462	Ant1	10.87	0	10.87	30	Pass
NVNT	n20	2412	Ant1	12.48	0	12.48	30	Pass
NVNT	n20	2437	Ant1	12.17	0	12.17	30	Pass
NVNT	n20	2462	Ant1	11.82	0	11.82	30	Pass

Ant2:

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	b	2412	Ant2	11.86	0	11.86	30	Pass
NVNT	b	2437	Ant2	11.44	0	11.44	30	Pass
NVNT	b	2462	Ant2	11.09	0	11.09	30	Pass
NVNT	g	2412	Ant2	12.67	0	12.67	30	Pass
NVNT	g	2437	Ant2	12.46	0	12.46	30	Pass
NVNT	g	2462	Ant2	12.1	0	12.1	30	Pass
NVNT	n20	2412	Ant2	11.62	0	11.62	30	Pass
NVNT	n20	2437	Ant2	11.43	0	11.43	30	Pass
NVNT	n20	2462	Ant2	11.06	0	11.06	30	Pass

MIMO Conducted Power Results

Mode	Frequency (MHz)	Ant1 Power (dBm)	Ant2 Power (dBm)	Total Power (dBm)	Limit (dBm)	Margin (dB)	Verdict
802.11b	2412	12.52	11.86	15.22	30.00	14.78	PASS
802.11b	2437	11.56	11.44	14.51	30.00	15.49	PASS
802.11b	2462	10.82	11.09	13.97	30.00	16.03	PASS
802.11g	2412	11.54	12.67	15.16	30.00	14.84	PASS
802.11g	2437	11.30	12.46	14.93	30.00	15.07	PASS
802.11g	2462	10.87	12.10	14.55	30.00	15.45	PASS
802.11n HT20	2412	12.48	11.62	15.09	30.00	14.91	PASS
802.11n HT20	2437	12.17	11.43	14.83	30.00	15.17	PASS
802.11n HT20	2462	11.82	11.06	14.47	30.00	15.53	PASS

Note

[1] All measured values are conducted output power in dBm at the antenna port. Duty cycle factor (0 dB) has been applied per KDB 558074 D01 Section 10.2 (the device transmits with ⩾98% duty cycle; no duty cycle correction required).

[2] Total Power is calculated using the "Measure and Sum" method per KDB 662911 D01 Section E)1). The individual port powers are summed in linear power units (mW) across all active transmit chains.

[3] Directional Gain Calculation: For 802.11b/g modes, the EUT employs CDD (Cyclic Delay Diversity) for dual-antenna transmissions. Per KDB 662911 D01 Section F)2)f)(i), for power measurements on IEEE 802.11 devices with N_ANT ≤ 4: Array Gain = 0 dB (i.e., no array gain); Directional Gain (Power) = G_ANT = 1.75 dBi. For 802.11n HT20 modes, the EUT employs standard MIMO with uncorrelated signals; Directional Gain (Power) = G_ANT = 1.75 dBi per KDB 662911 D01 Section F)2)a)(ii). The highest directional gain applicable is 1.75 dBi, which is ≤ 6 dBi; therefore, no reduction to the conducted power limit is required per FCC Part 15.247(b).

[4] The conducted power limit is 30 dBm per FCC Part 15.247(b). Margin = Limit – Total Power. Positive margin indicates compliance.

[5] EIRP = Total Conducted Power + Directional Gain (Power) = 15.22 + 1.75 = 16.97 dBm, which is below the 36 dBm EIRP limit per FCC Part 15.247(b).

8. Field Strength of Spurious Emissions

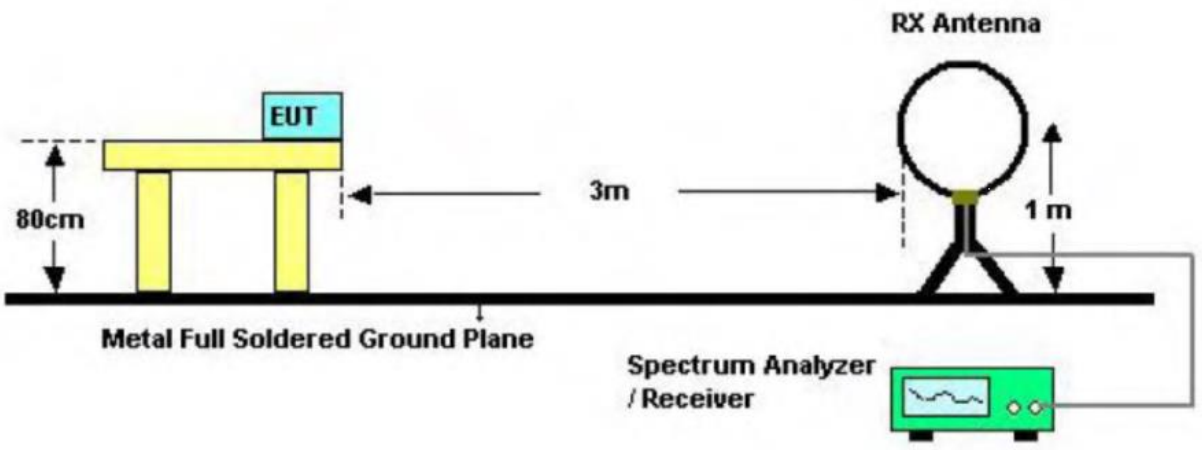
8.1 Standard Applicable

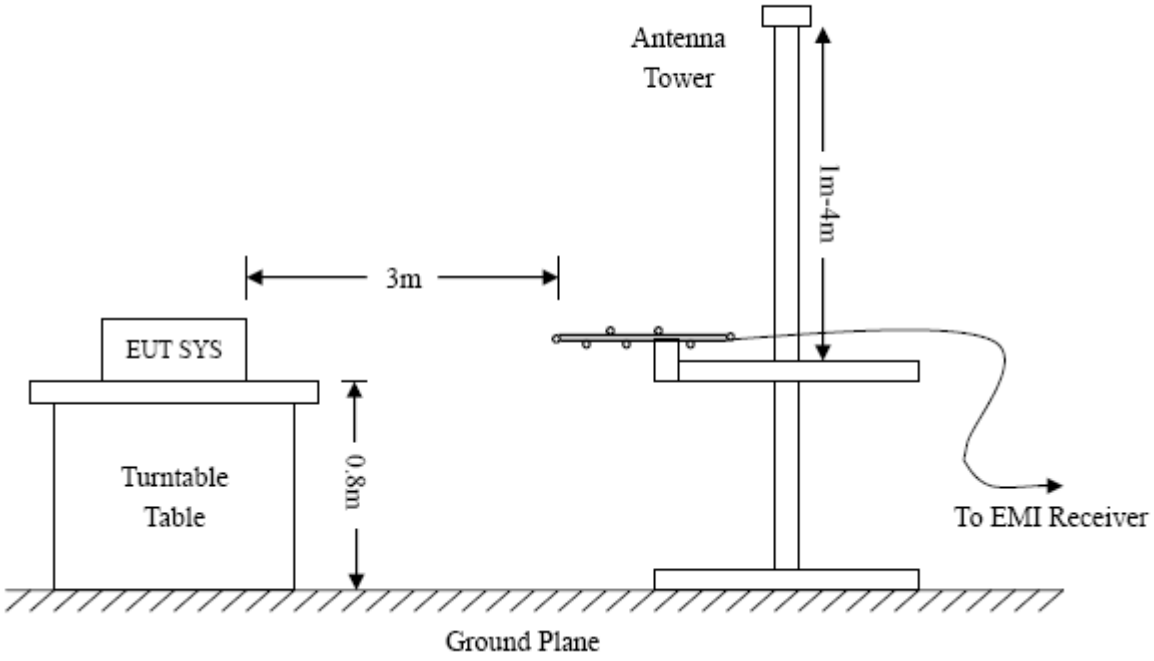
According to §15.247(d), in any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. 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 in §15.209(a).

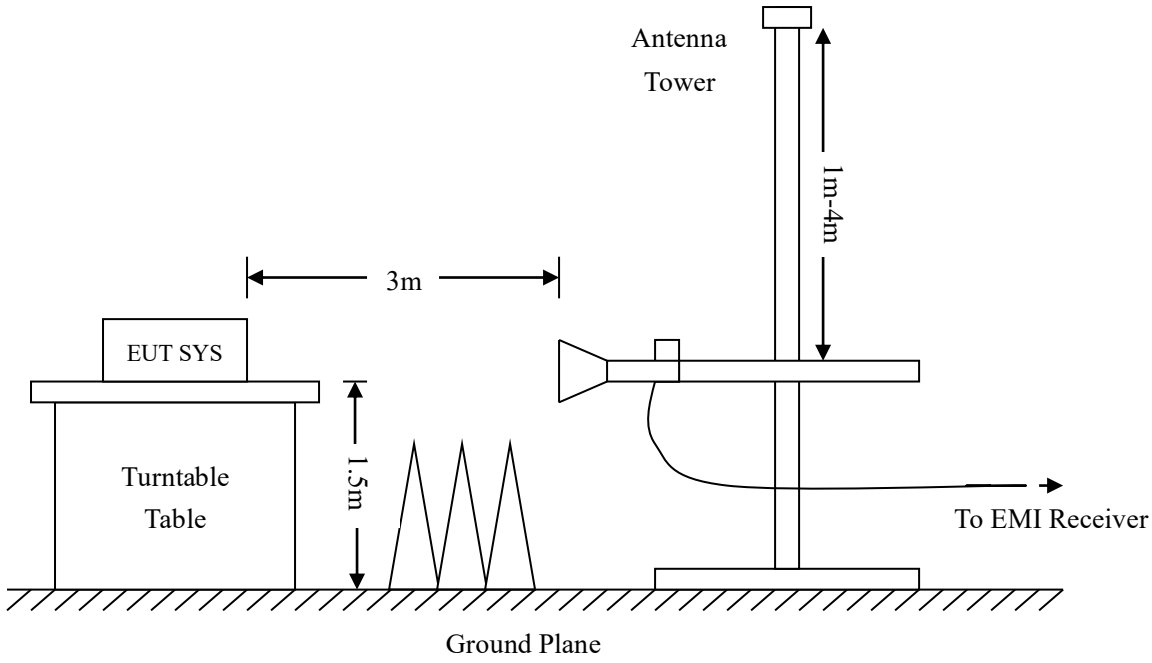
The emission limit in this paragraph is based on measurement instrumentation employing an average detector. The provisions in §15.35 for limiting peak emissions apply. Spurious Radiated Emissions measurements starting below or at the lowest crystal frequency.

8.2 Test Procedure

The setup of EUT is according with per ANSI C63.10-2020 measurement procedure. The specification used was with the FCC Part 15.205 15.247(a) and FCC Part 15.209 Limit.
The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.
The spacing between the peripherals was 10 cm.







Frequency :9kHz-30MHz	Frequency :30MHz-1GHz	Frequency :Above 1GHz
RBW=10KHz,	RBW=120KHz,	RBW=1MHz,
VBW =30KHz	VBW=300KHz	VBW=3MHz(Peak), 10Hz(AV)
Sweep time= Auto	Sweep time= Auto	Sweep time= Auto
Trace = max hold	Trace = max hold	Trace = max hold
Detector function = peak	Detector function = peak, QP	Detector function = peak, AV

8.3 Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and the Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

Corr. Ampl. = Indicated Reading + Ant. Factor + Cable Loss – Ampl. Gain

The "**Margin**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -6dBμV means the emission is 6dBμV below the maximum limit. The equation for margin calculation is as follows:

Margin = Corr. Ampl. – FCC Part 15 Limit

8.4 Environmental Conditions

Temperature:	25 °C
Relative Humidity:	52%
ATM Pressure:	1012 mbar

8.5 Summary of Test Results/Plots

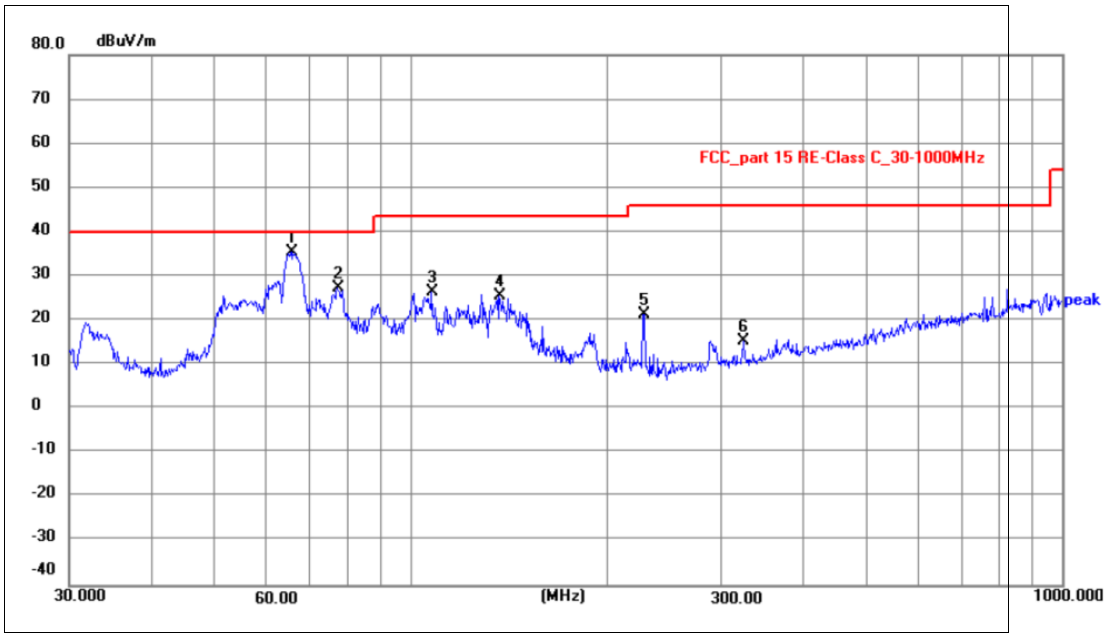
According to the data below, the FCC Part 15.205, 15.209 and 15.247 standards, and had the worst cases:

Note:
1. 802.11b/8021 lg/802.1 In (HT20)Mode all have been tested, Worst-case radiated emission below 1GHz is 802.11b(CDD) (CH Low) mode.
2. 802.11b/8021 lg/802.1 In (HT20)Mode all have been tested, Worst-case radiated emission above 1GHz is 802.11g(CDD) (CH Low, Middle, High) mode.
3. 802.11b/8021 lg/802.1 In (HT20)Mode all have been tested, Worst-case Radiation Restricted band is 802.11HT20 (CH Low, High) mode.

Plot of Radiated Emissions Test Data (30MHz to 1GHz)

Operating Condition: *802.11b(CDD) Transmitting Low Channel-2412MHz*

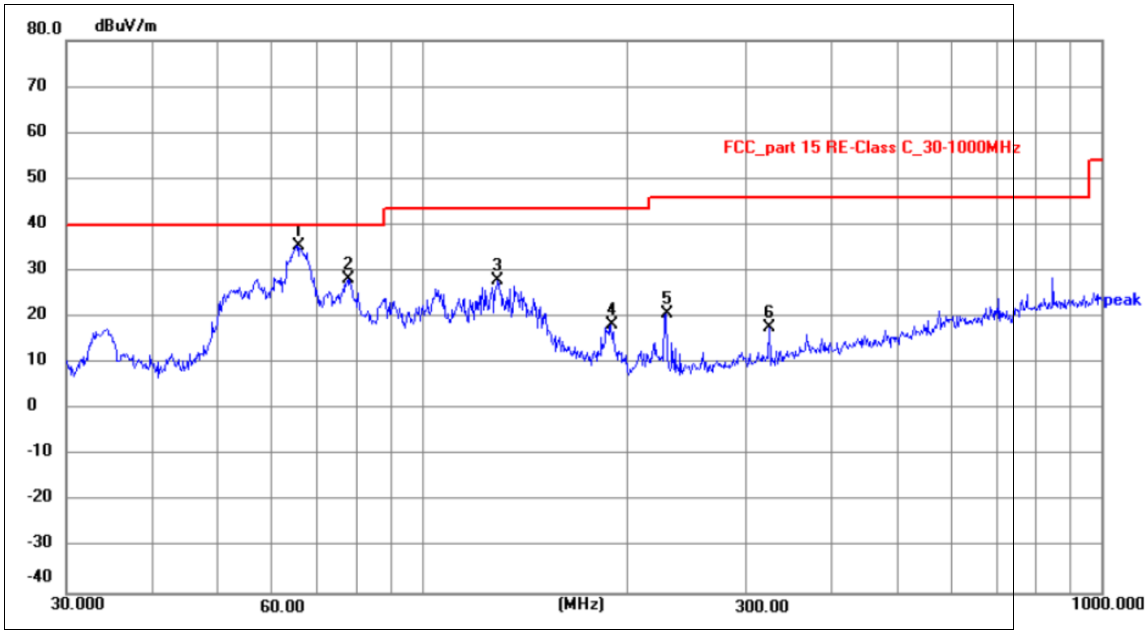
Test Specification: *Horizontal*



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	65.5727	53.48	-17.94	35.54	40.00	-4.46	peak
2	77.3212	47.37	-20.11	27.26	40.00	-12.74	peak
3	107.8877	45.56	-19.15	26.41	43.50	-17.09	peak
4	136.9391	42.41	-16.91	25.50	43.50	-18.00	peak
5	227.6906	40.18	-18.73	21.45	46.00	-24.55	peak
6	324.4560	30.36	-14.97	15.39	46.00	-30.61	peak

*:Maximum data x:Over limit !:over margin

Test Specification: *Vertical*



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	65.5727	53.29	-17.94	35.35	40.00	-4.65	peak
2	77.8654	48.57	-20.22	28.35	40.00	-11.65	peak
3	129.4677	45.24	-17.24	28.00	43.50	-15.50	peak
4	189.7385	37.05	-18.73	18.32	43.50	-25.18	peak
5	228.4904	39.53	-18.67	20.86	46.00	-25.14	peak
6	324.4560	32.63	-14.97	17.66	46.00	-28.34	peak

*:Maximum data x:Over limit !:over margin

Spurious Emissions Above 1GHz

Test Mode: 802.11g(CDD)

Frequency	Reading	Factor	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low channel-2412MHz							
4824	57.81	-4.36	53.45	74	-20.55	H	PK
4824	50.72	-4.36	46.36	54	-7.64	H	AV
7236	54.06	-0.63	53.43	74	-20.57	H	PK
7236	46.15	-0.63	45.52	54	-8.48	H	AV
4824	57.83	-4.36	53.47	74	-20.53	V	PK
4824	50.82	-4.36	46.46	54	-7.54	V	AV
7236	53.47	-0.63	52.84	74	-21.16	V	PK
7236	45.87	-0.63	45.24	54	-8.76	V	AV
Middle channel-2437MHz							
4874	58.24	-3.95	54.29	74	-19.71	H	PK
4874	50.67	-3.95	46.72	54	-7.28	H	AV
7311	54.03	-0.36	53.67	74	-20.33	H	PK
7311	41.68	-0.36	41.32	54	-12.68	H	AV
4874	58.34	-3.95	54.39	74	-19.61	V	PK
4874	49.14	-3.95	45.19	54	-8.81	V	AV
7311	54.61	-0.36	54.25	74	-19.75	V	PK
7311	45.57	-0.36	45.21	54	-8.79	V	AV
High channel-2462MHz							
4924	57.73	-3.95	53.78	74	-20.22	H	PK
4924	47.1	-3.95	43.15	54	-10.85	H	AV
7386	54.18	-0.36	53.82	74	-20.18	H	PK
7386	44.71	-0.36	44.35	54	-9.65	H	AV
4924	57.41	-3.95	53.46	74	-20.54	V	PK
4924	46.48	-3.95	42.53	54	-11.47	V	AV
7386	55.1	-0.36	54.74	74	-19.26	V	PK
7386	42.51	-0.36	42.15	54	-11.85	V	AV

Note:

1. Calculation of result is: Result (dBuV/m) = Reading (dBuV) + Correction Factor (dB).
2. Correction Factor (dB)= Antenna Factor (dB/m) + Cable Factor (dB) - Pre-amplifier Facto.
3. Testing is carried out with frequency rang 9kHz to the tenth harmonics, other than listed in the table above are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

Radiation Restricted band

Test Mode: 802.11(HT20)

Frequency(MHz):		2422		Polarity:	Horizontal	
Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB/m)	(dBμV/m)	(dBμV/m)	(dB)	
2310.00	60.93	-10.42	50.51	74	-23.49	PEAK
2310.00	52.28	-10.42	41.86	54	-12.14	AVG
2390.00	63.91	-10.29	53.62	74	-20.38	PEAK
2390.00	55.65	-10.29	45.36	54	-8.64	AVG

Frequency(MHz):		2422		Polarity:	Vertical	
Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB/m)	(dBμV/m)	(dBμV/m)	(dB)	
2310.00	62.13	-10.42	51.71	74	-22.29	PEAK
2310.00	53.71	-10.42	43.29	54	-10.71	AVG
2390.00	64.48	-10.29	54.19	74	-19.81	PEAK
2390.00	56.47	-10.29	46.18	54	-7.82	AVG

Frequency(MHz):		2452		Polarity:	Horizontal	
Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB/m)	(dBμV/m)	(dBμV/m)	(dB)	
2483.50	67.68	-10.63	57.05	74	-16.95	PEAK
2483.50	59.20	-10.63	48.57	54	-5.43	AVG
2500.00	63.01	-10.73	52.28	74	-21.72	PEAK
2500.00	54.28	-10.73	43.55	54	-10.45	AVG

Frequency(MHz):		2452		Polarity:	Vertical	
Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB/m)	(dBμV/m)	(dBμV/m)	(dB)	
2483.50	67.82	-10.63	57.19	74	-16.81	PEAK
2483.50	59.26	-10.63	48.63	54	-5.37	AVG
2500.00	63.60	-10.73	52.87	74	-21.13	PEAK
2500.00	54.82	-10.73	44.09	54	-9.91	AVG

Note:

1. Calculation of result is: Result (dBuV/m) = Reading (dBuV) + Correction Factor (dB).
2. Correction Factor (dB)= Antenna Factor (dB/m) + Cable Factor (dB) - Pre-amplifier Facto.

9. Out of Band Emissions

9.1 Standard Applicable

According to §15.247 (d) In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. 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 in §15.209(a).

9.2 Test Procedure

Connect the transmitter output to spectrum analyzer using a low loss RF cable, and set the spectrum analyzer to RBW=100 kHz, VBW= 300 kHz, peak detector, and max hold. Measurements utilizing these setting are made of the in-band reference level, bandedge and out-of-band emissions.

9.3 Environmental Conditions

Temperature:	23°C
Relative Humidity:	54%
ATM Pressure:	1011 mbar

9.4 Summary of Test Results/Plots

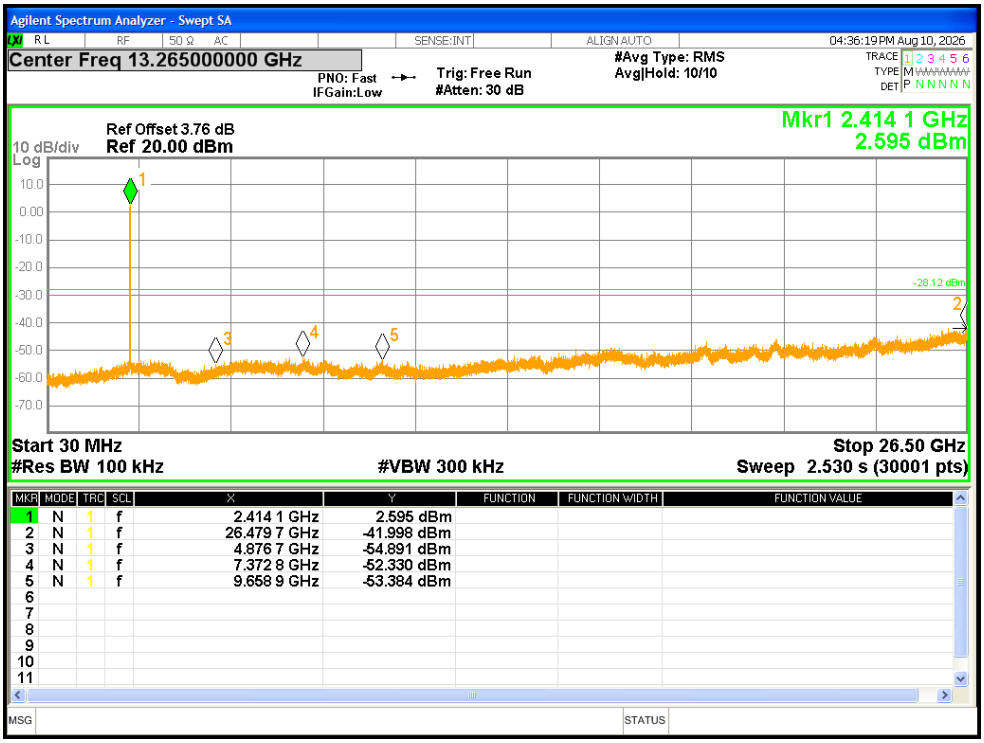
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant1	-42.99	-20	Pass
NVNT	b	2462	Ant1	-51.76	-20	Pass
NVNT	g	2412	Ant1	-32.89	-20	Pass
NVNT	g	2462	Ant1	-51.59	-20	Pass
NVNT	n20	2412	Ant1	-34.36	-20	Pass
NVNT	n20	2462	Ant1	-50.46	-20	Pass

Ant1:

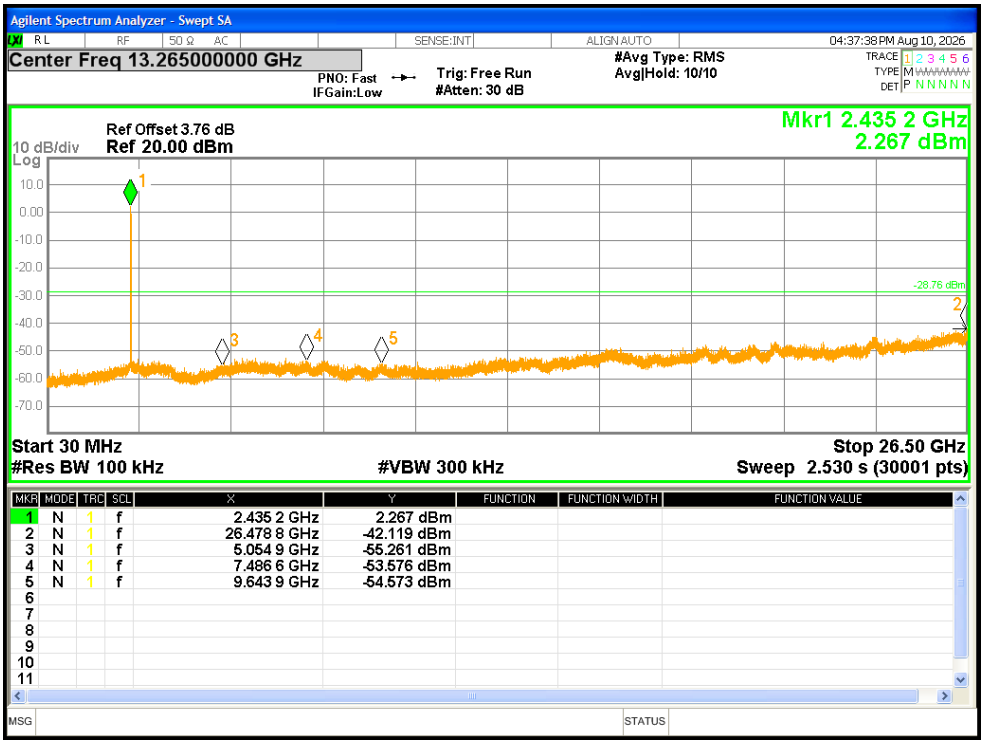
Spurious (Conducted)

802.11b-Lowest

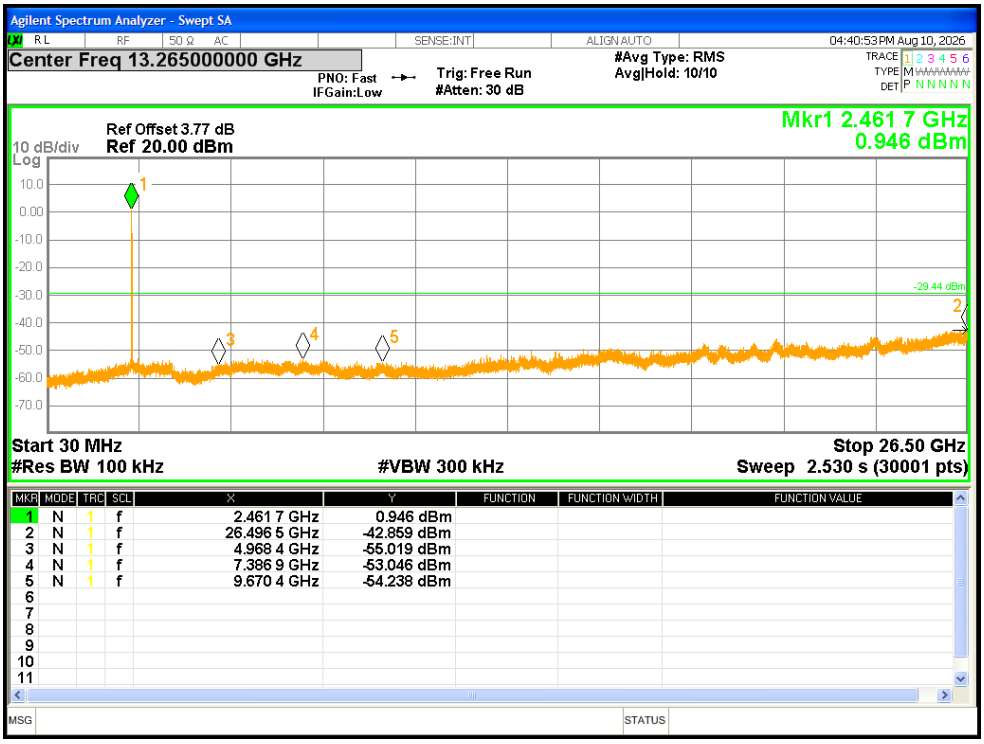
Lowest



Middle



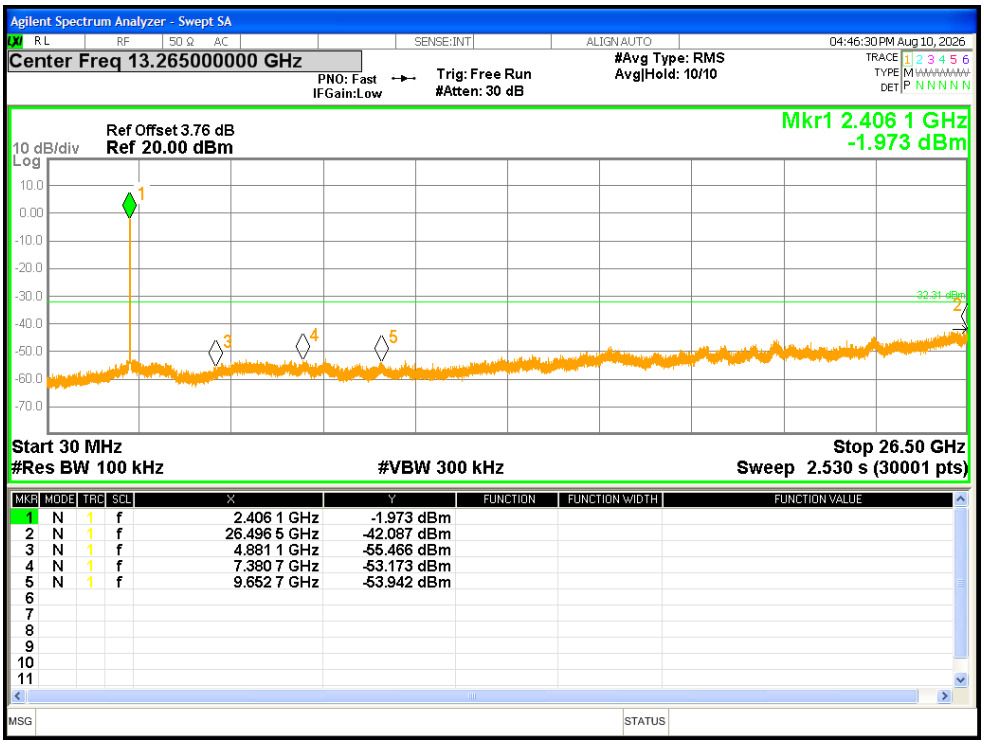
Highest



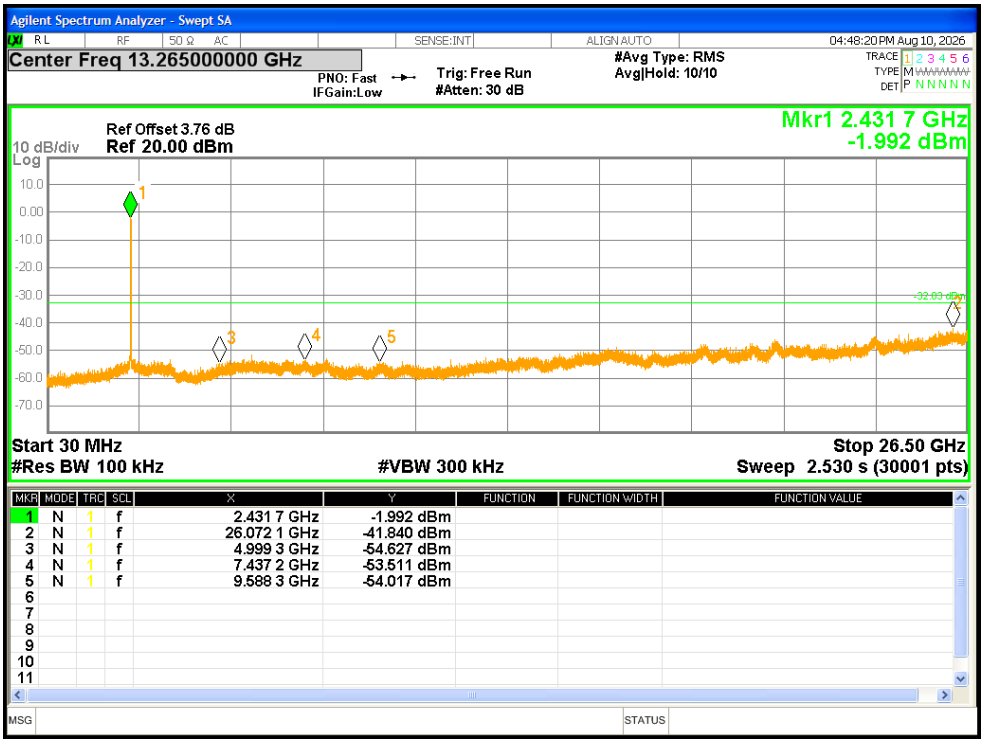
Spurious (Conducted)

802.11g-Lowest

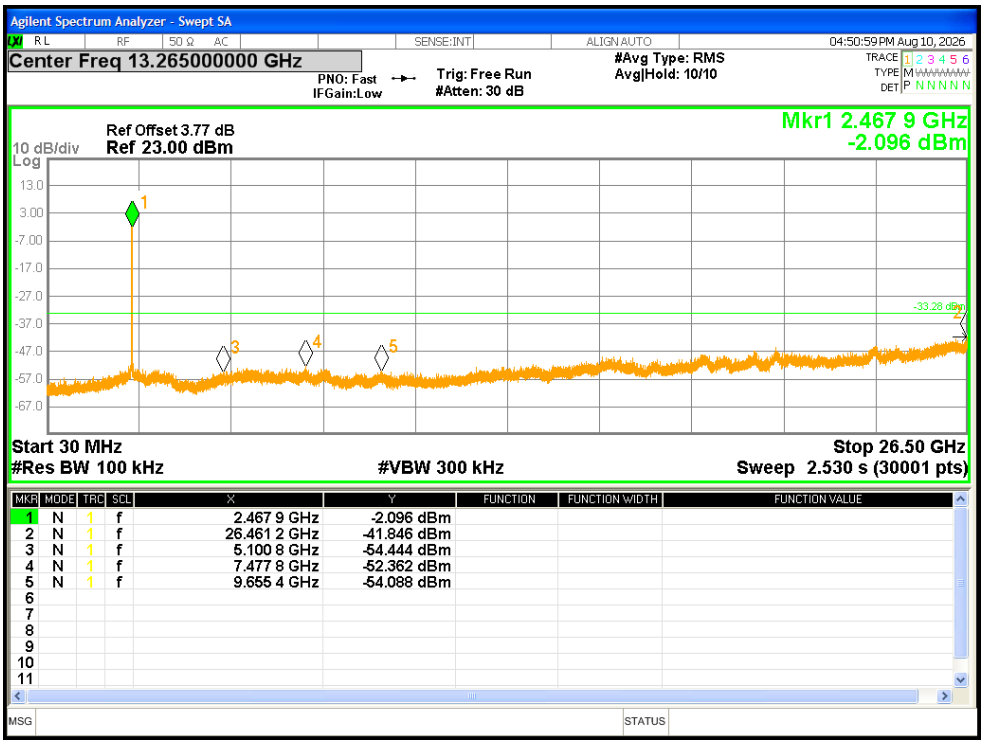
Lowest



Middle



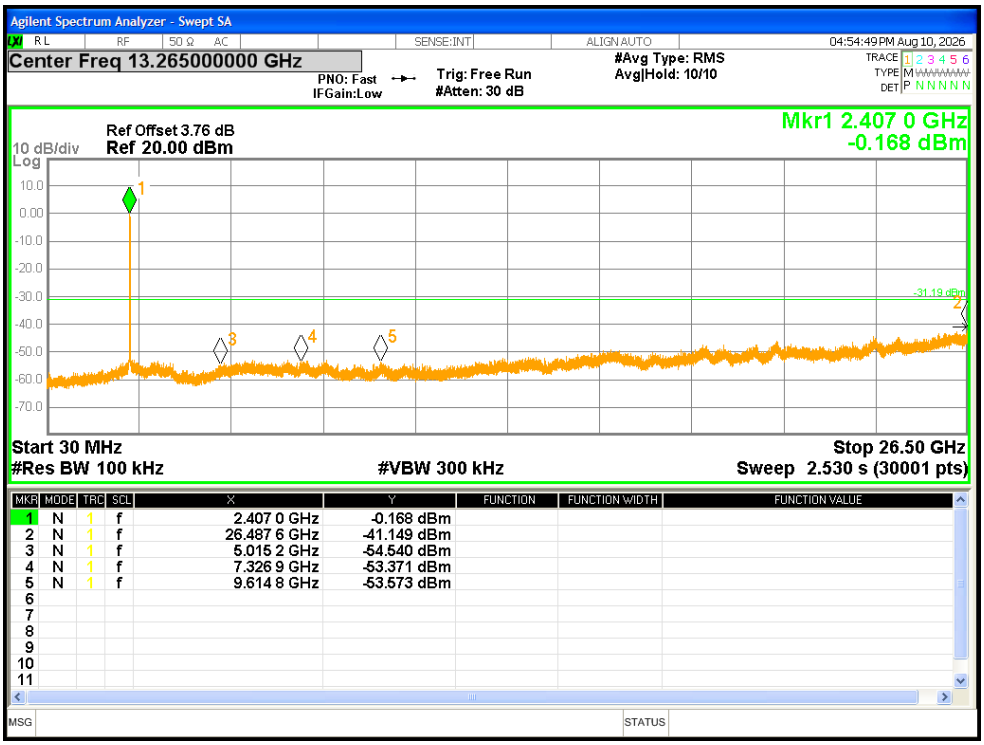
Highest



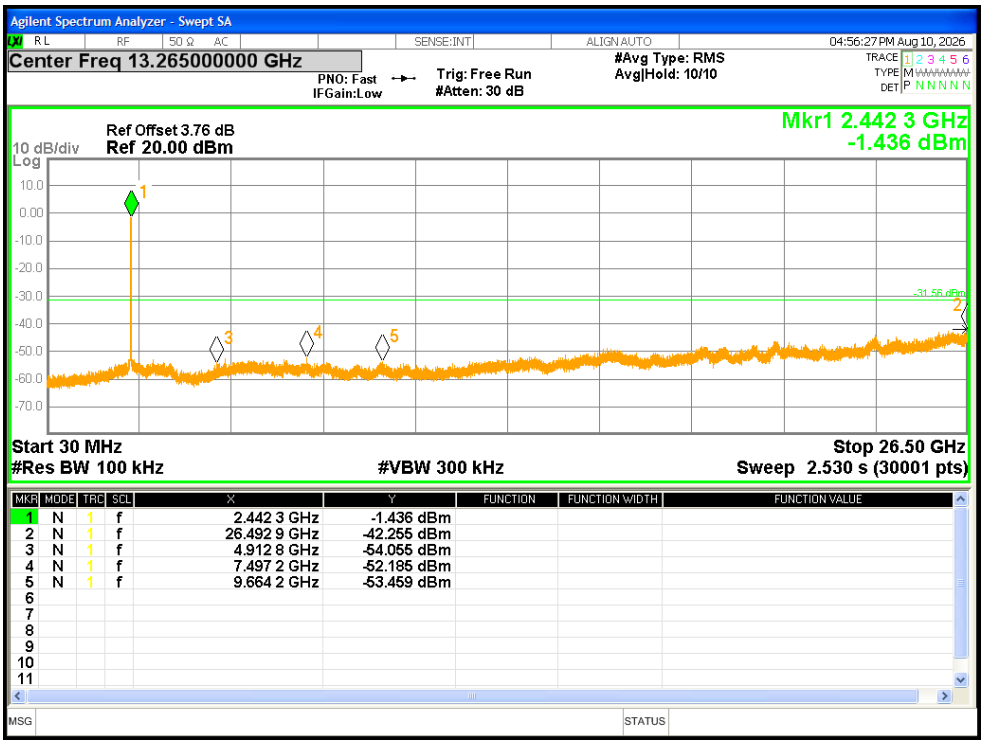
Spurious (Conducted)

802.11n-HT20-Lowest

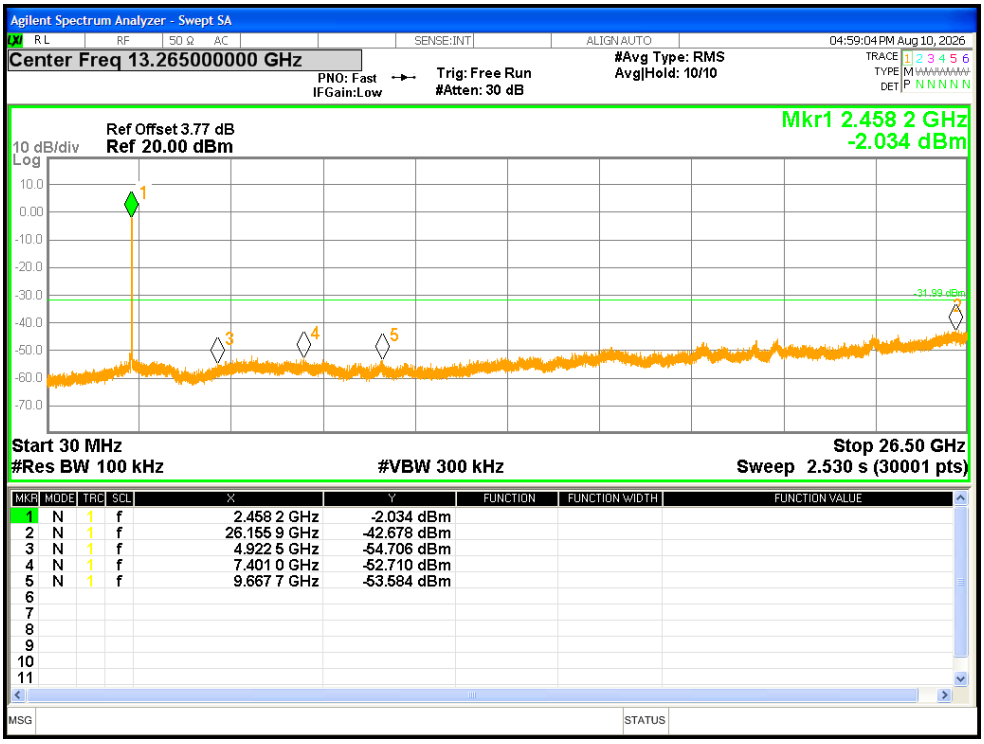
Lowest



Middle



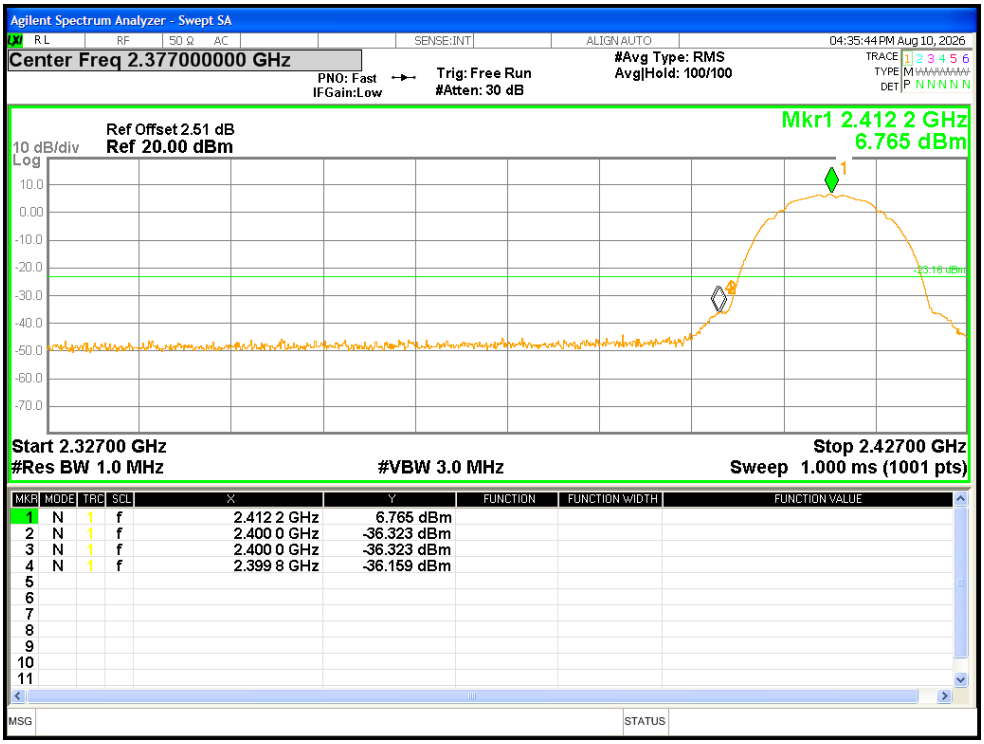
Highest



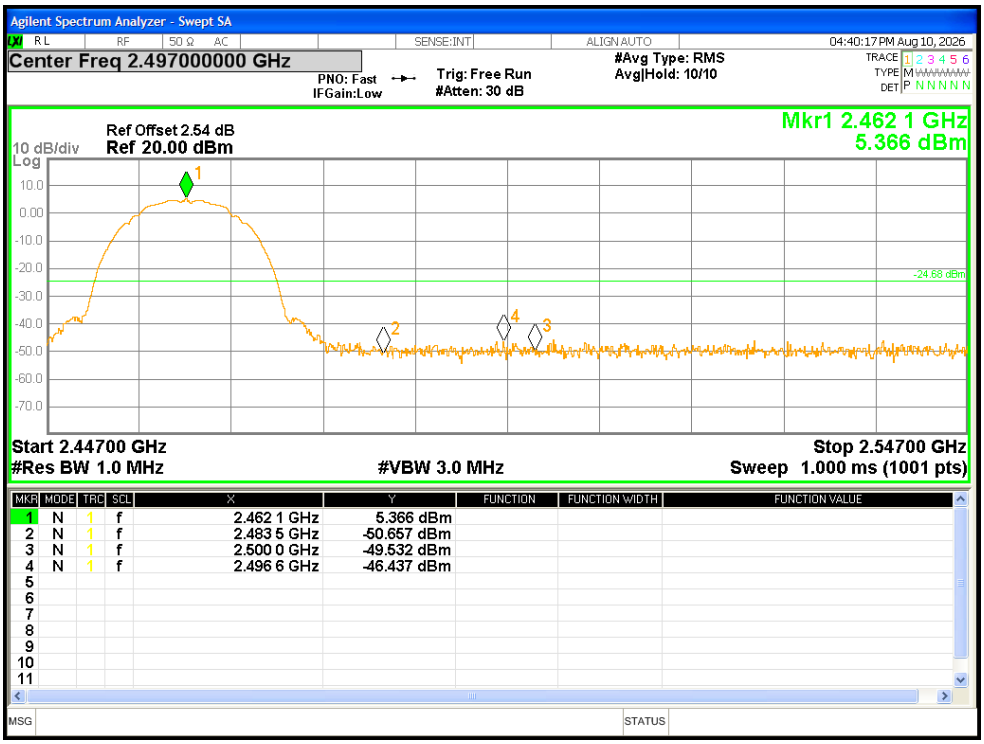
Bandedge (Conducted)

802.11b-Lowest

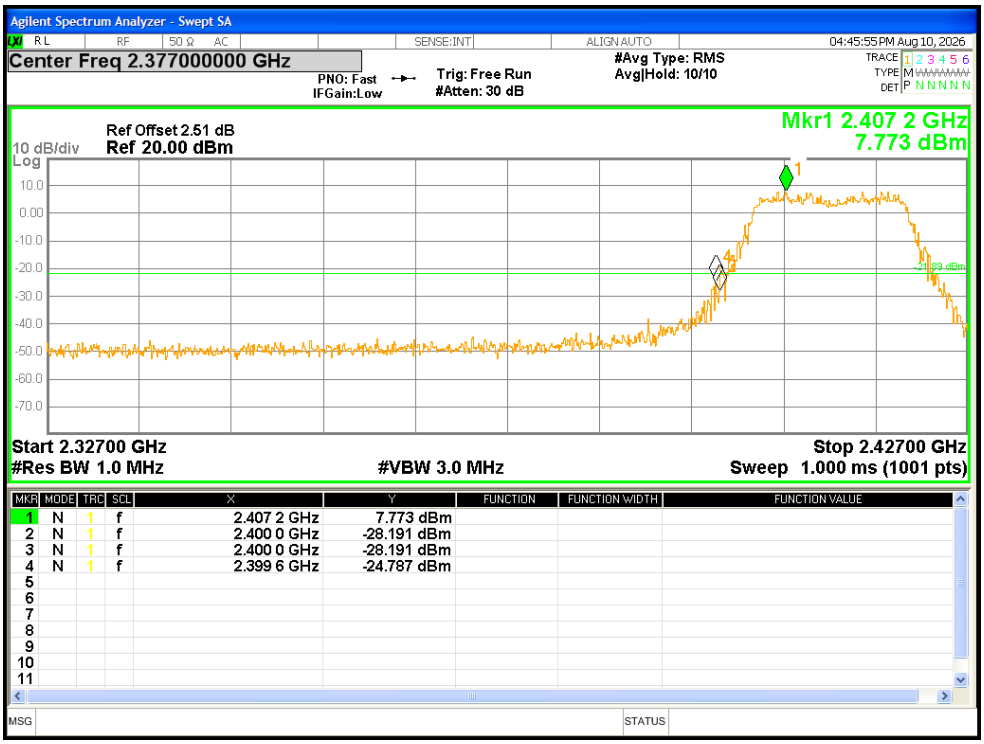
Lowest



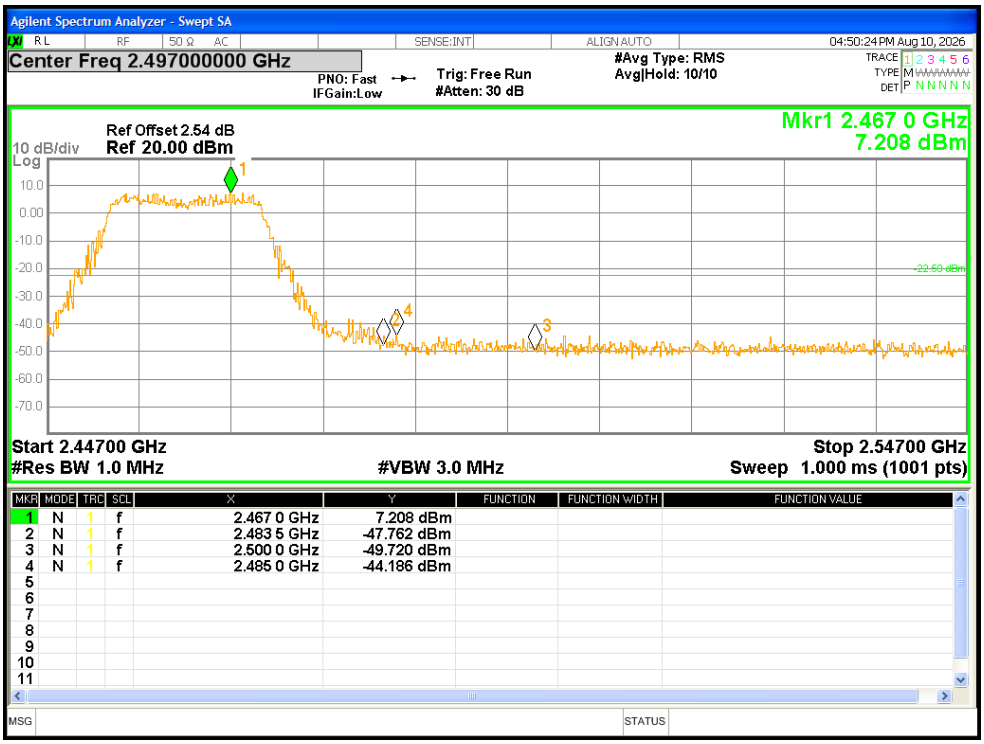
Highest



802.11g-Lowest

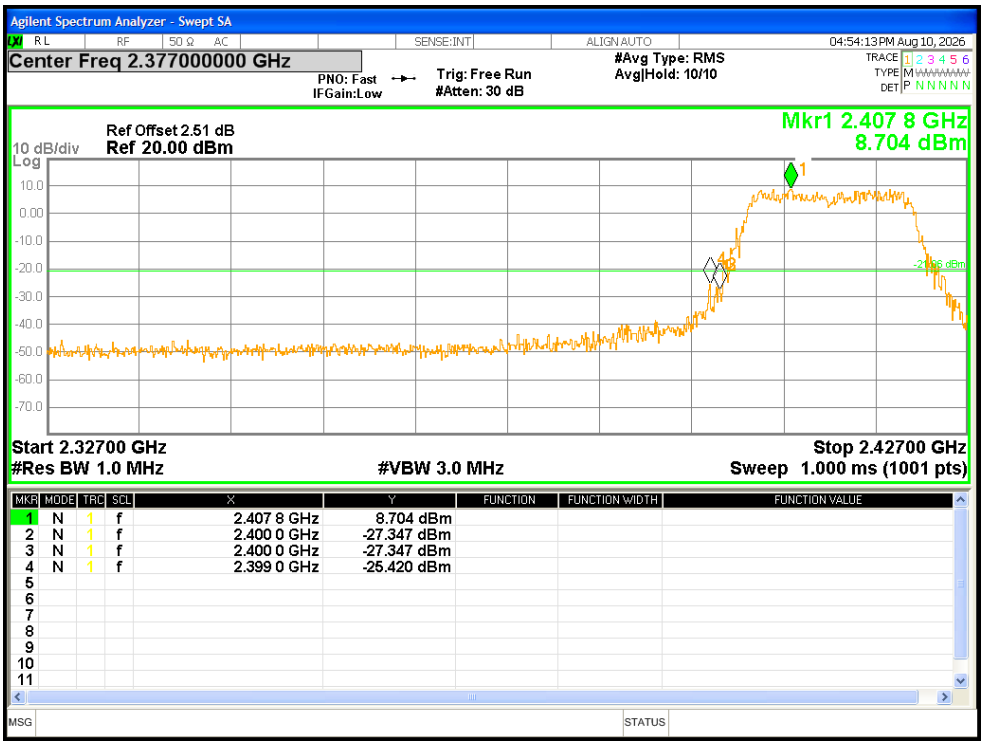


Highest

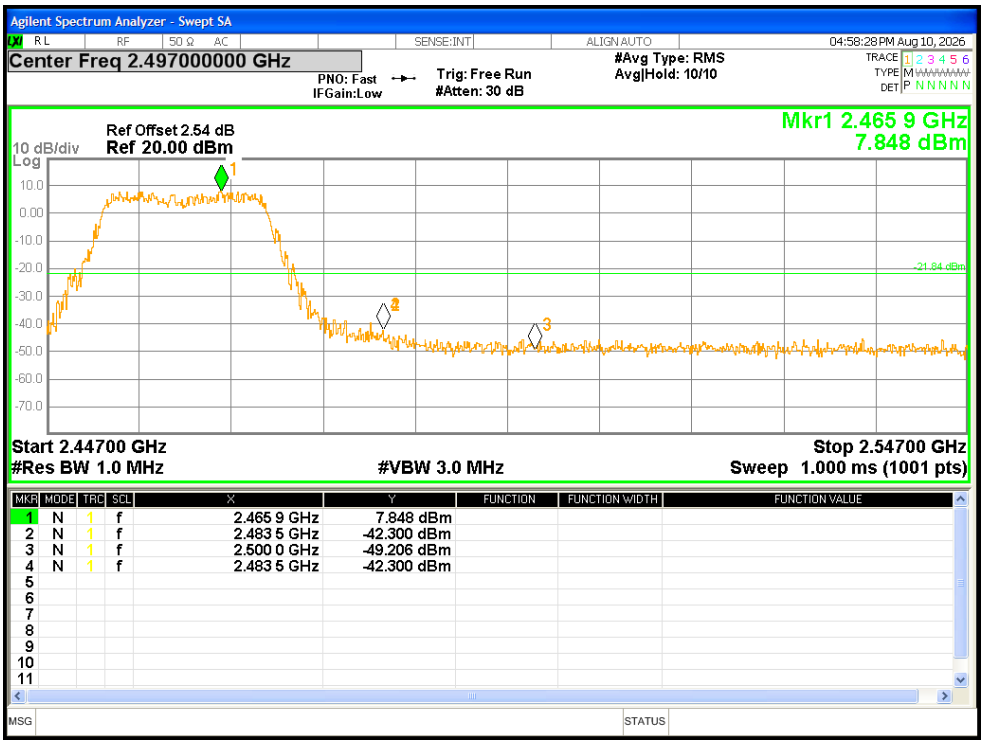


802.11n-HT20-Lowest

Lowest



Highest



Ant2:

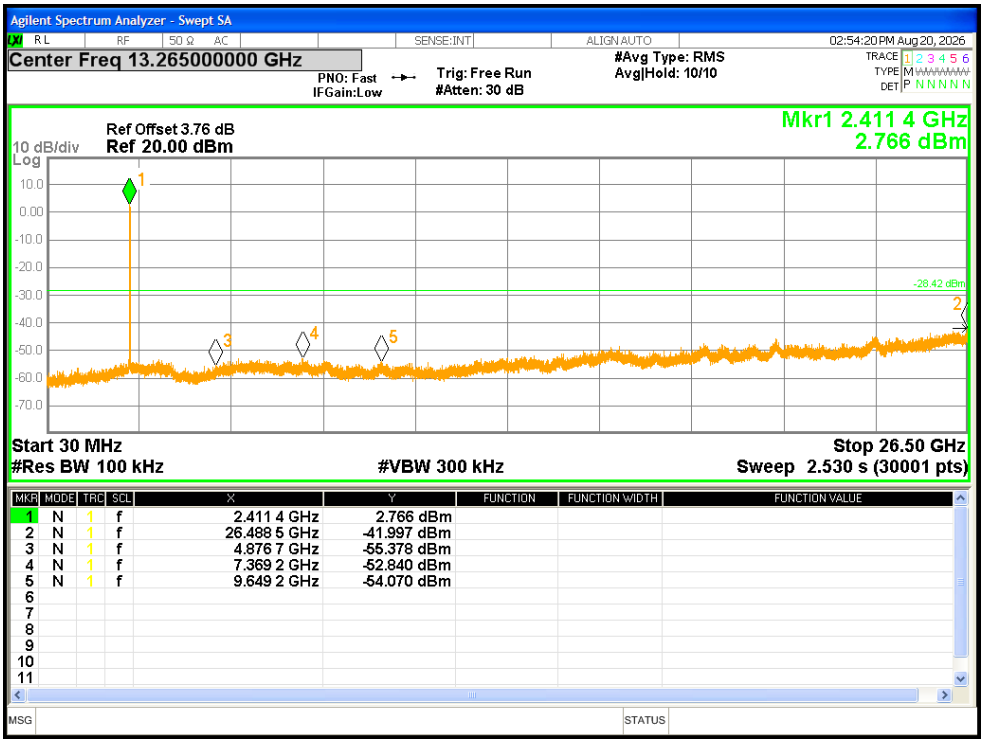
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant2	-42.99	-20	Pass
NVNT	b	2462	Ant2	-52.17	-20	Pass
NVNT	g	2412	Ant2	-33.27	-20	Pass
NVNT	g	2462	Ant2	-48.4	-20	Pass
NVNT	n20	2412	Ant2	-30.4	-20	Pass
NVNT	n20	2462	Ant2	-52.09	-20	Pass
NVNT	n40	2422	Ant2	-30.78	-20	Pass
NVNT	n40	2452	Ant2	-43.99	-20	Pass

Ant2:

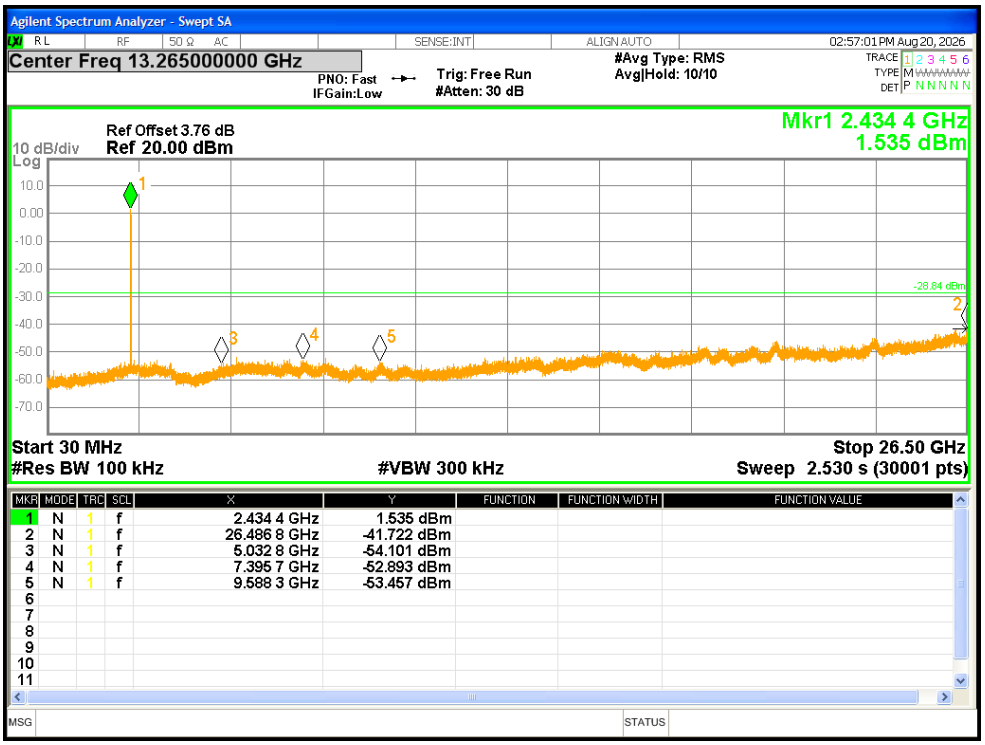
Spurious (Conducted)

802.11b-Lowest

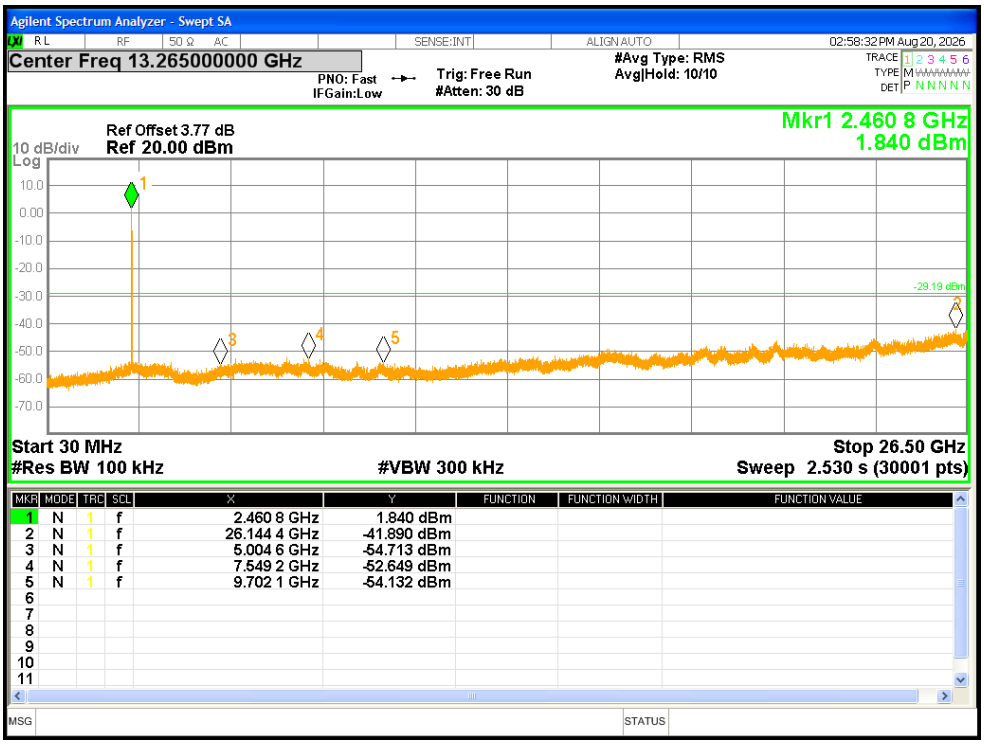
Lowest



Middle



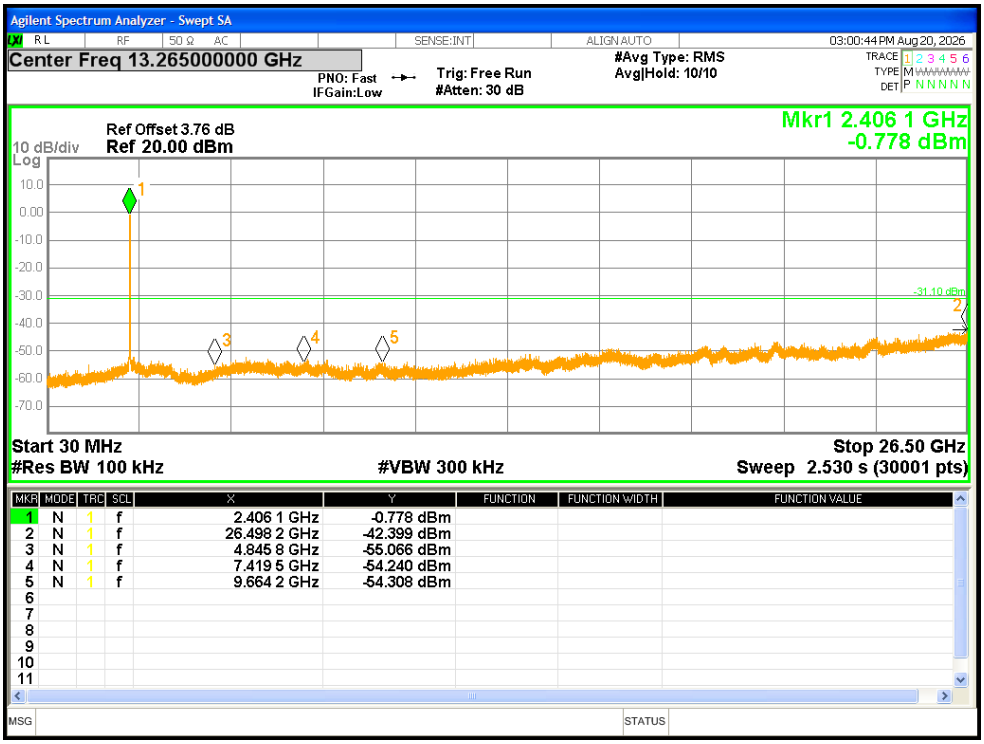
Highest



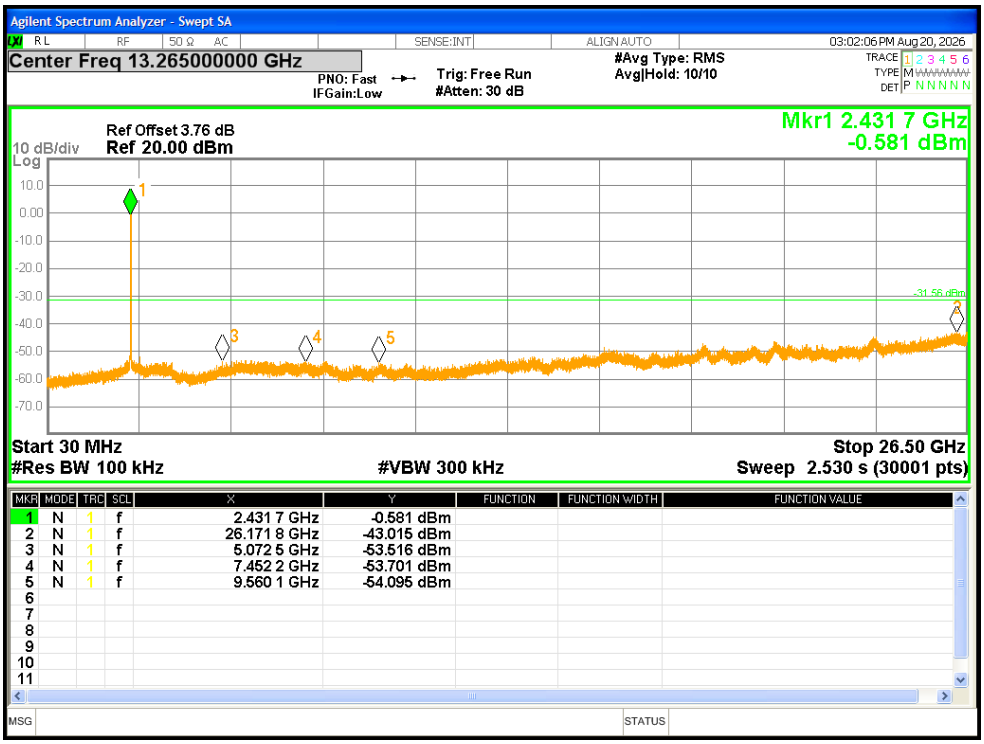
Spurious (Conducted)

802.11g-Lowest

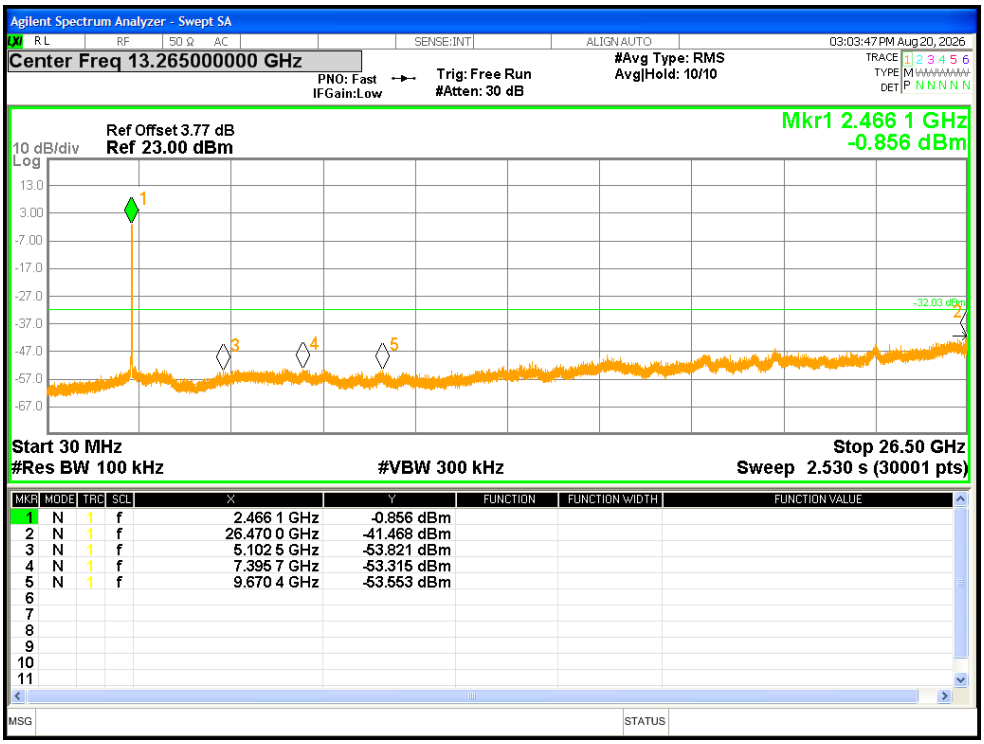
Lowest



Middle



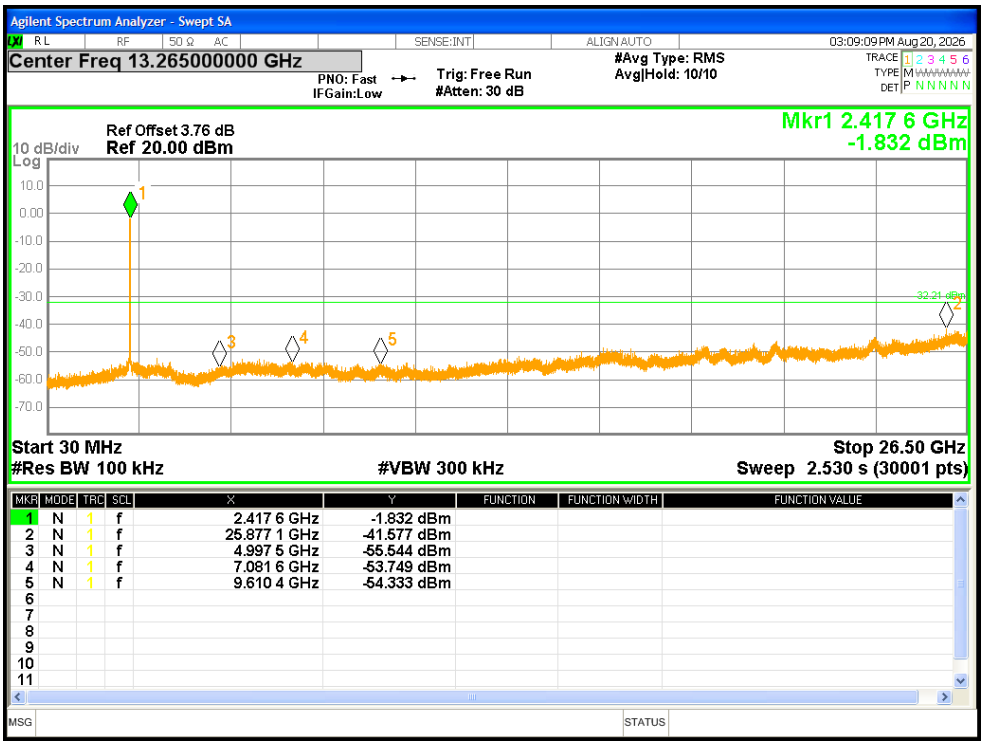
Highest



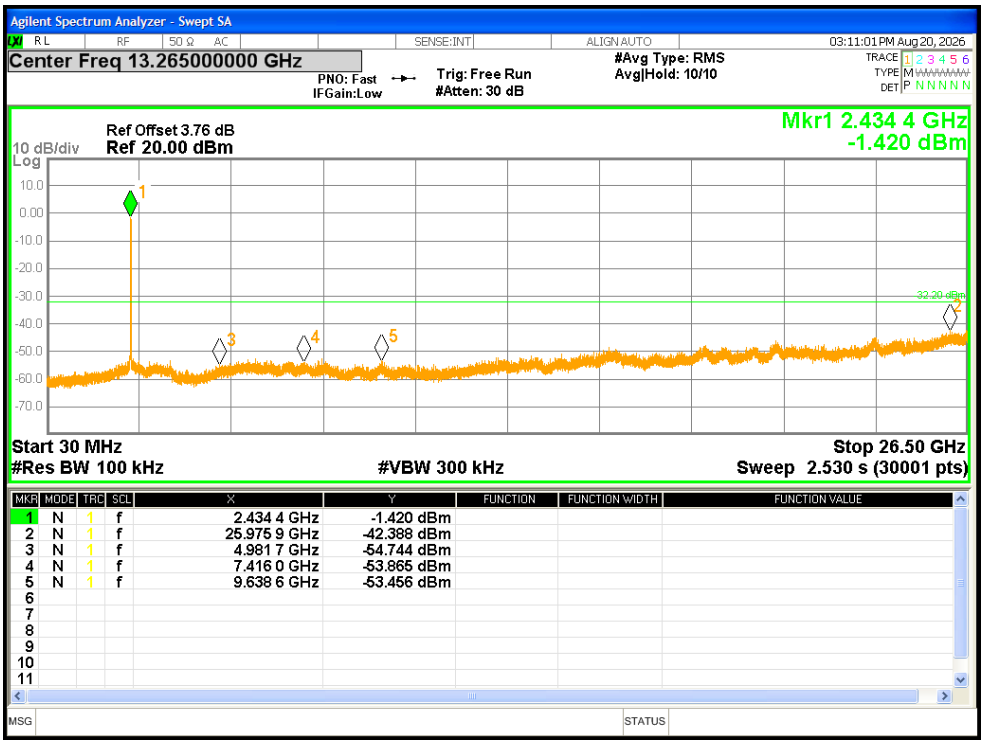
Spurious (Conducted)

802.11n-HT20-Lowest

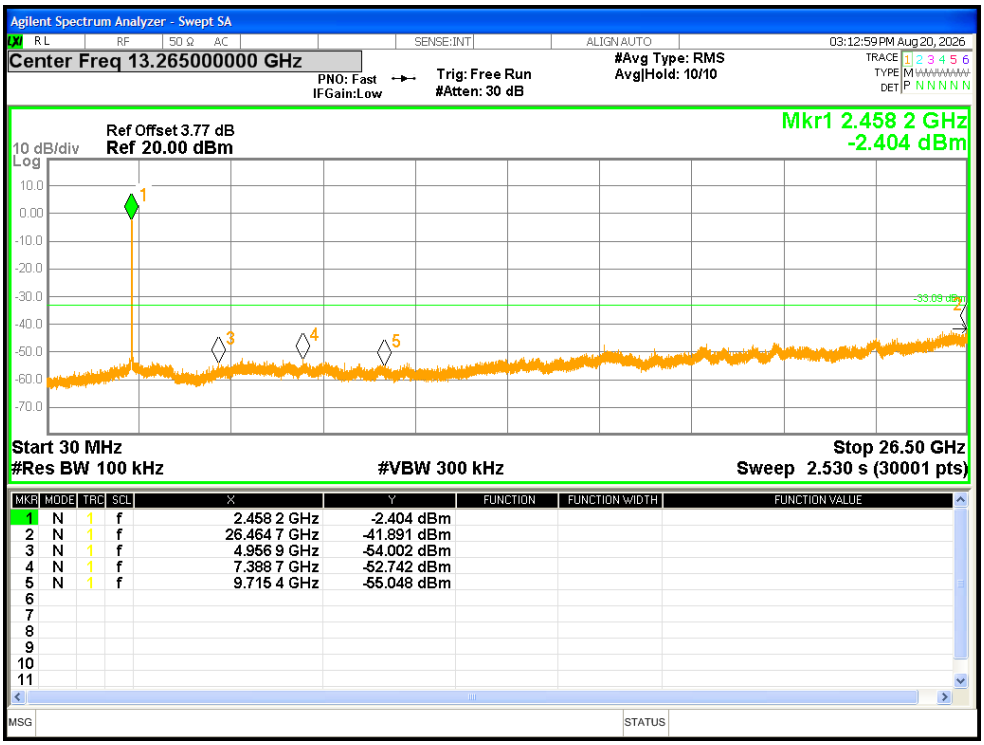
Lowest



Middle



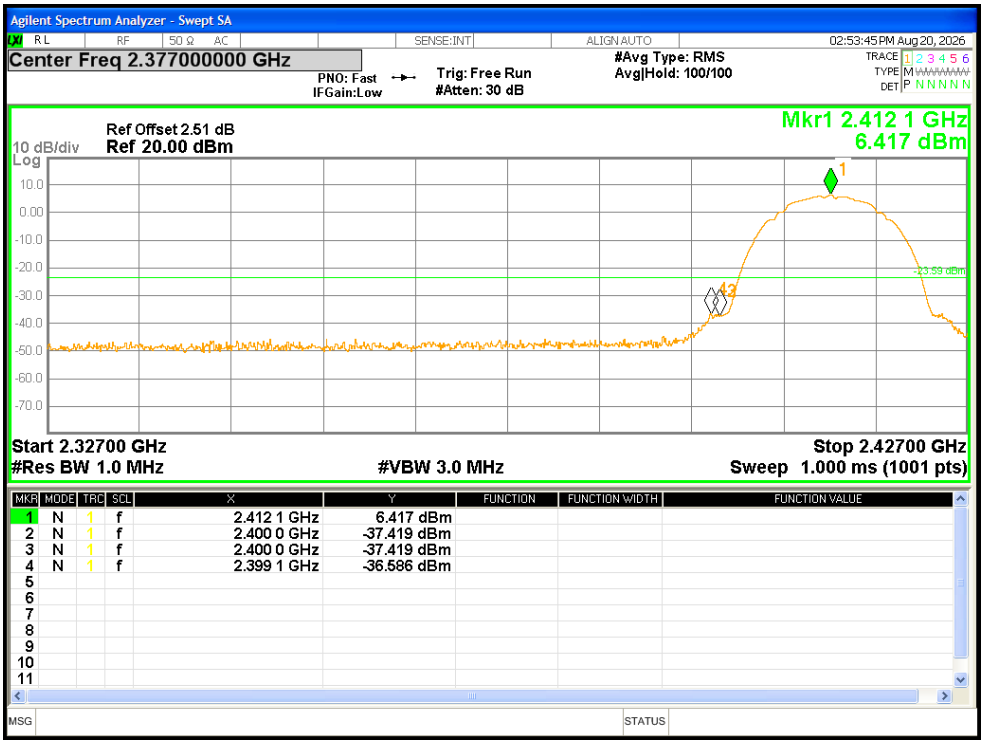
Highest



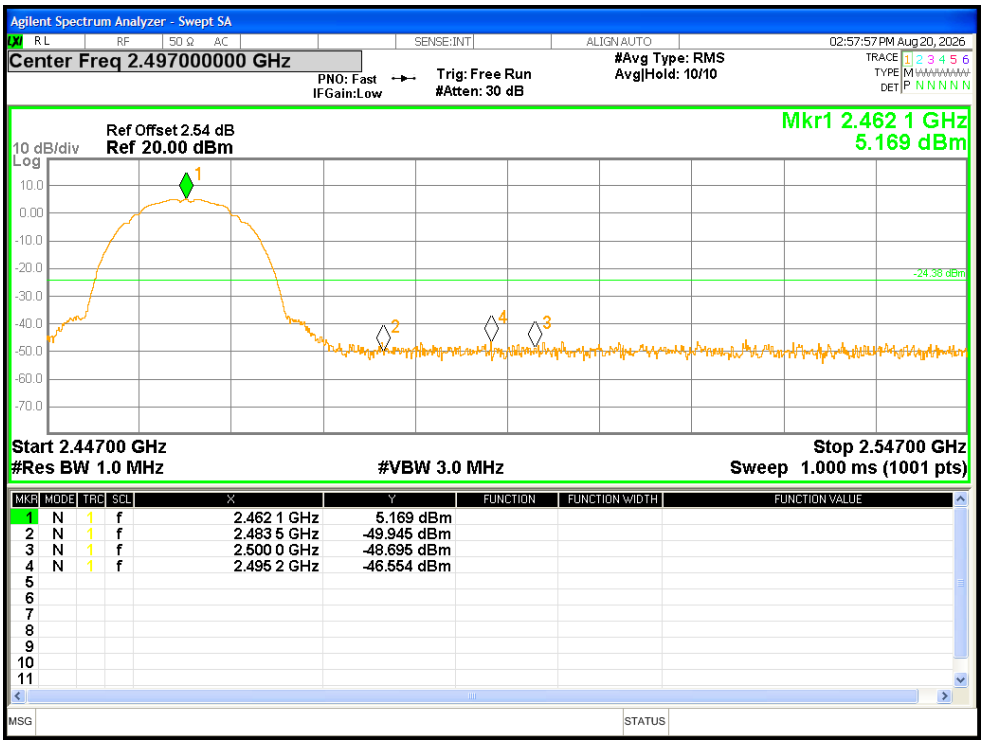
Bandedge (Conducted)

802.11b-Lowest

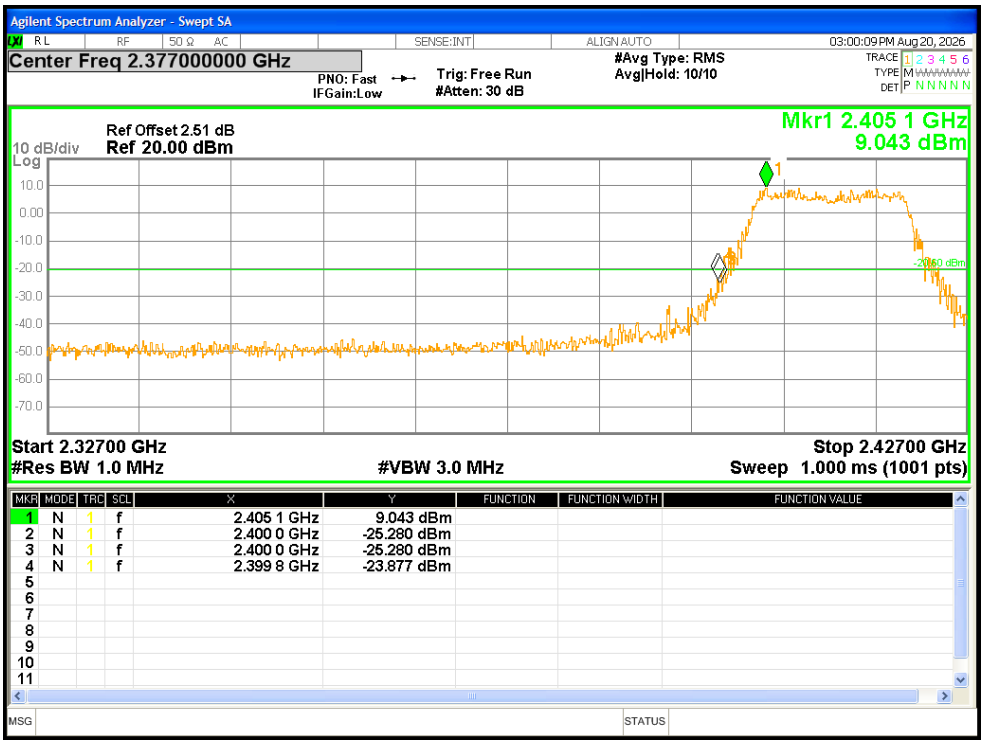
Lowest



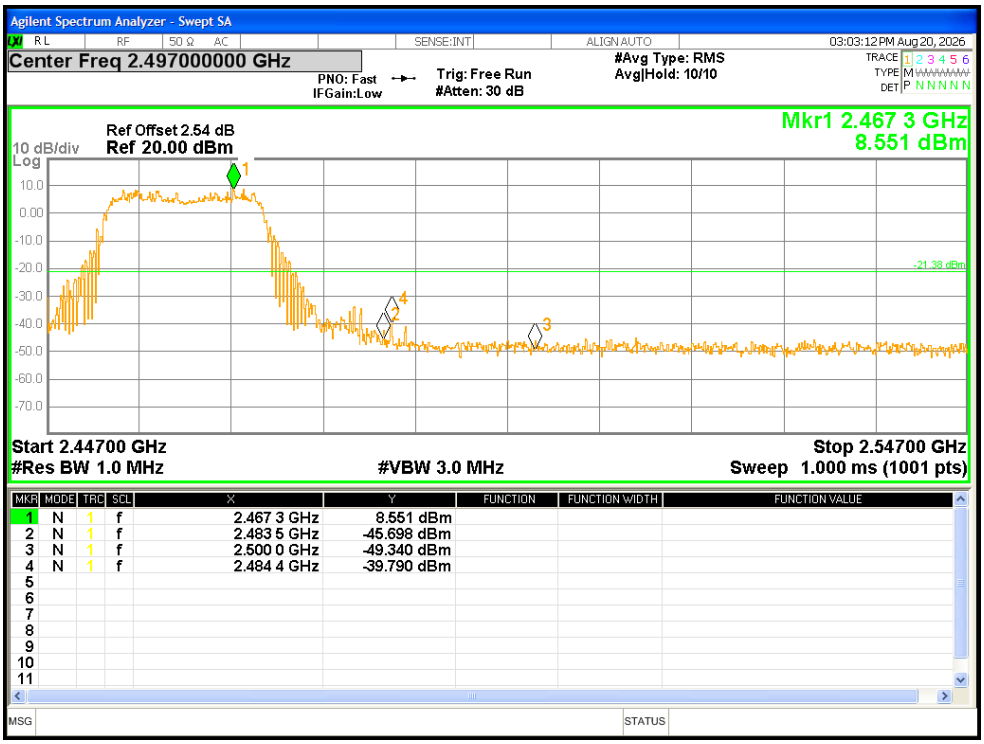
Highest



802.11g-Lowest

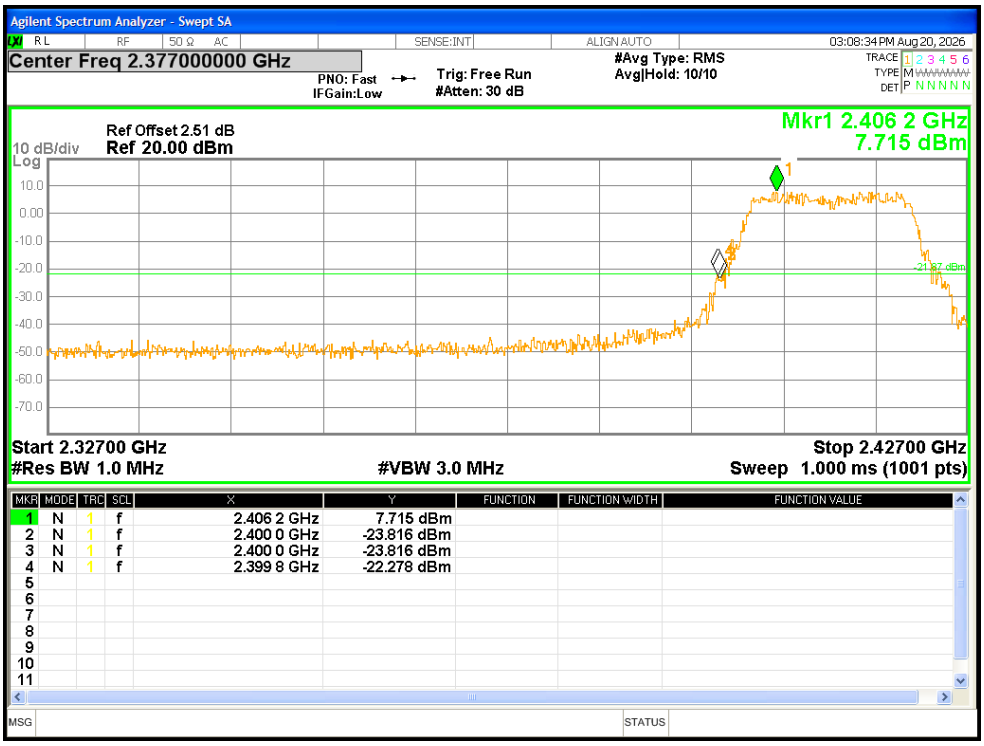


Highest

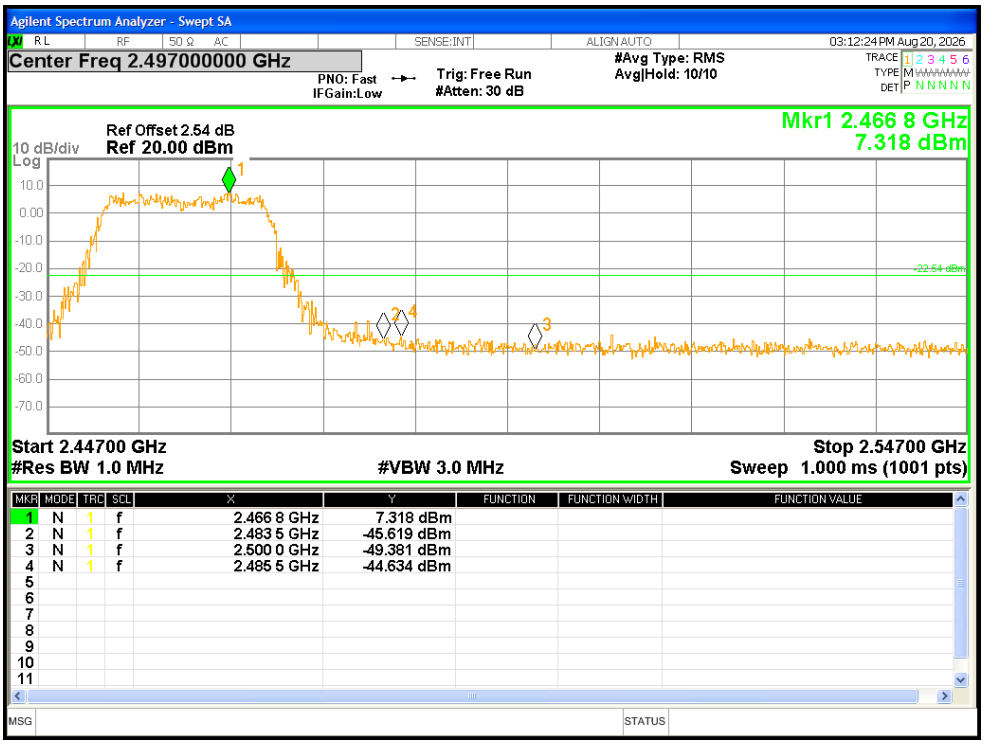


802.11n-HT20-Lowest

Lowest



Highest

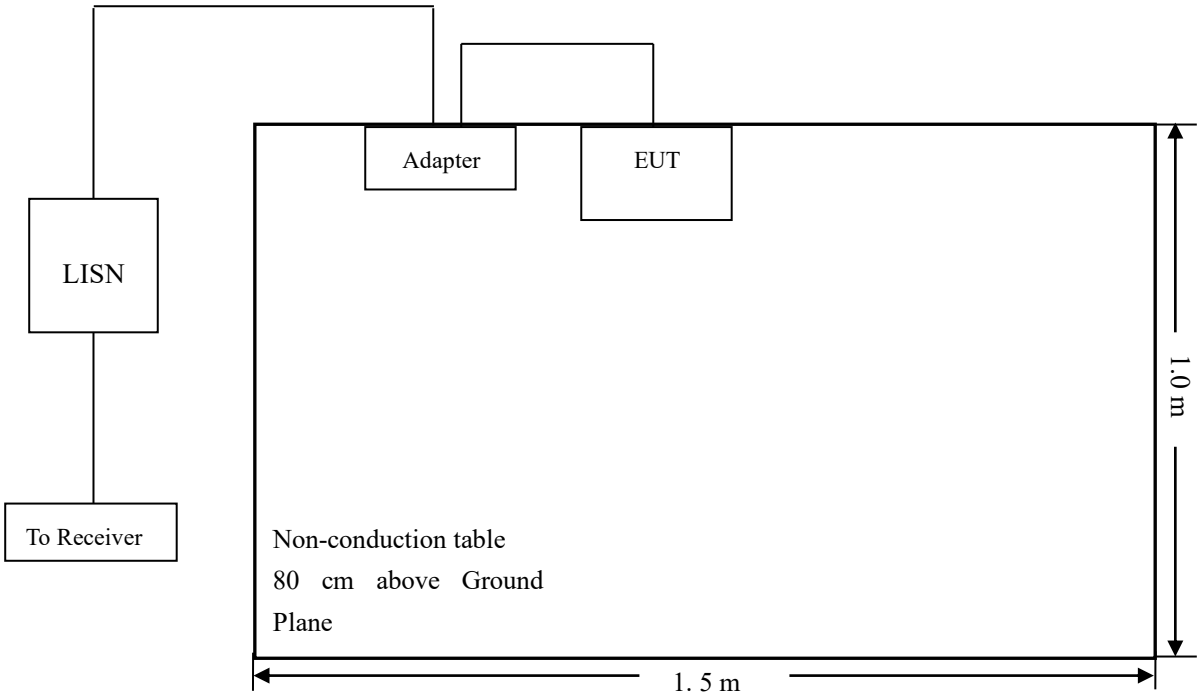

Agilent Spectrum Analyzer - Swept SA
Center Freq 2.497000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
#Avg Type: RMS
Avg|Hold: 10/10
03:12:24 PM Aug 20, 2026
Ref Offset 2.54 dB
10 dB/div
Ref 20.00 dBm
Log
Mkr1 2.466 8 GHz
7.318 dBm
-22.54 dBm
Start 2.44700 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Stop 2.54700 GHz
Sweep 1.000 ms (1001 pts)
1 N 1 f 2.466 8 GHz 7.318 dBm
2 N 1 f 2.483 5 GHz -45.619 dBm
3 N 1 f 2.500 0 GHz -49.381 dBm
4 N 1 f 2.485 5 GHz -44.634 dBm

10. Conducted Emissions

10.1 Test Procedure

The setup of EUT is according with per ANSI C63.4-2014 measurement procedure. The specification used was with the FCC Part 15.207 Limit.
The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.
The spacing between the peripherals was 10 cm.

10.2 Basic Test Setup Block Diagram



10.3 Environmental Conditions

Temperature:	25 °C
Relative Humidity:	52%
ATM Pressure:	1012 mbar

10.4 Test Receiver Setup

During the conducted emission test, the test receiver was set with the following configurations:

Start Frequency..... 150 kHz
Stop Frequency..... 30 MHz
Sweep Speed..... Auto
IF Bandwidth..... 10 kHz
Quasi-Peak Adapter Bandwidth ..... 9 kHz
Quasi-Peak Adapter Mode..... Normal

10.5 Summary of Test Results/Plots

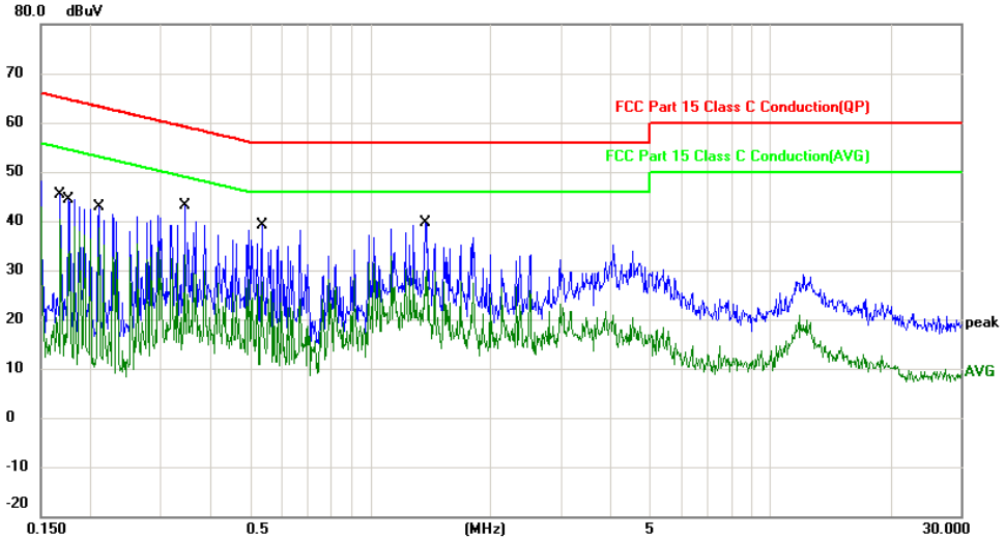
According to the data in section 10.6, the EUT complied with the FCC Part 15.207 Conducted margin for this device.

10.6 Conducted Emissions Test Data

Note: we are pre-scan all modes, the worst data is 802.11n HT20(Low) mode.

Plot of Conducted Emissions Test Data: 802.11n HT20(Low)

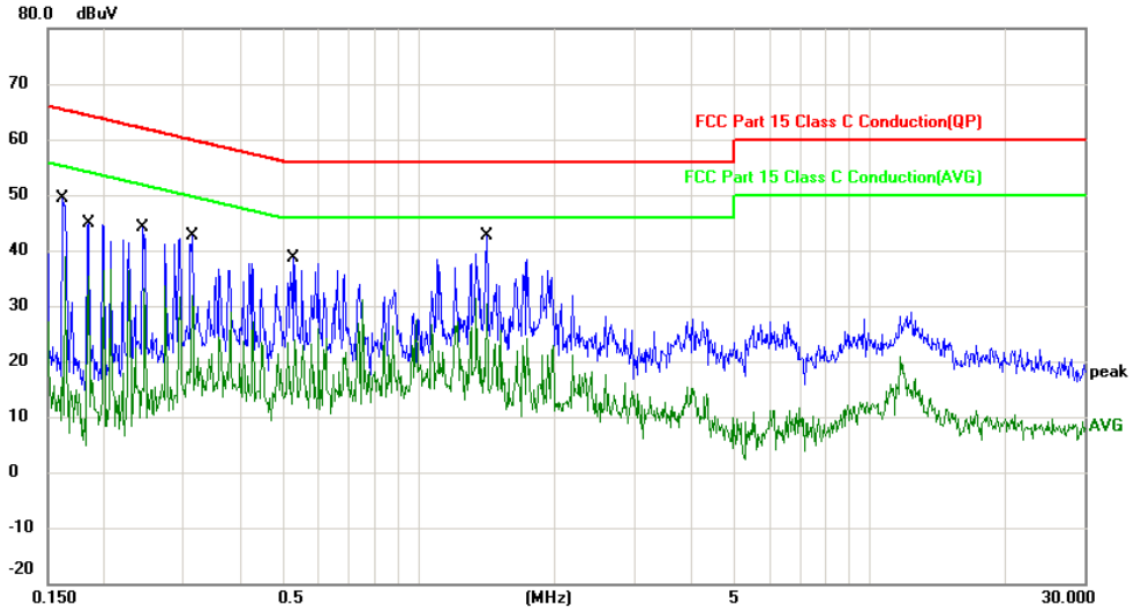
Test Specification: *Neutral*



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1		0.1676	45.17	0.26	45.43	65.07	-19.64	QP
2		0.1676	42.11	0.26	42.37	55.07	-12.70	AVG
3		0.1758	44.10	0.27	44.37	64.68	-20.31	QP
4		0.1758	41.55	0.27	41.82	54.68	-12.86	AVG
5		0.2094	42.58	0.29	42.87	63.23	-20.36	QP
6		0.2094	33.73	0.29	34.02	53.23	-19.21	AVG
7		0.3427	42.64	0.37	43.01	59.14	-16.13	QP
8	*	0.3427	40.77	0.37	41.14	49.14	-8.00	AVG
9		0.5350	38.67	0.44	39.11	56.00	-16.89	QP
10		0.5350	30.46	0.44	30.90	46.00	-15.10	AVG
11		1.3736	38.91	0.75	39.66	56.00	-16.34	QP
12		1.3736	28.63	0.75	29.38	46.00	-16.62	AVG

*:Maximum data x:Over limit !:over margin

Test Specification: *Live*



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1		0.1615	49.11	0.26	49.37	65.38	-16.01	QP
2		0.1615	39.54	0.26	39.80	55.38	-15.58	AVG
3		0.1844	44.64	0.27	44.91	64.28	-19.37	QP
4	*	0.1844	41.27	0.27	41.54	54.28	-12.74	AVG
5		0.2429	43.81	0.31	44.12	61.99	-17.87	QP
6		0.2429	35.09	0.31	35.40	51.99	-16.59	AVG
7		0.3133	42.29	0.35	42.64	59.88	-17.24	QP
8		0.3133	33.03	0.35	33.38	49.88	-16.50	AVG
9		0.5237	38.13	0.43	38.56	56.00	-17.44	QP
10		0.5237	30.64	0.43	31.07	46.00	-14.93	AVG
11		1.4107	41.91	0.74	42.65	56.00	-13.35	QP
12		1.4107	28.21	0.74	28.95	46.00	-17.05	AVG

*:Maximum data x:Over limit !:over margin

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