

Test Report

Verified code: 456082

Report No.: E20240724756701-2

Customer: Shenzhen H&T Intelligent Product Co., Ltd.

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Technology South 10th Rd., Hi-Tech Park, South Zone, Nanshan, Shenzhen City,
Guangdong Province, P. R. China

Sample Name: Presence Sensor S1

Sample Model: PS-SP1

Receive Sample Date: Jul.25,2024

Test Date: Aug.01,2024 ~ Oct.23,2024

Reference Document: CFR 47, FCC Part 15 Subpart C
RADIO FREQUENCY DEVICES:Subpart C—Intentional Radiators

Test Result: Pass

Prepared by: Wen Wenwen
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GRG METROLOGY & TEST GROUP CO., LTD.

Issued Date: 2024-11-05

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REPORT ISSUED HISTORY

Report Version	Report No.	Description	Compile Date
1.0	E20240724756701-2	Original Issue	2024-10-25

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1. TEST RESULT SUMMARY

Technical Requirements		
CFR 47, FCC Part 15 Subpart C ANSI C63.10-2013 KDB 558074 D01 15.247 Meas Guidance v05r02		
Item	Limit / Severity	Result
Antenna Requirement	§15.203	PASS ¹
Conducted Emissions	§15.207 (a)	PASS
Radiated Spurious Emission	§15.247(d) § 15.205 § 15.209	PASS
6 dB Bandwidth	§15.247 (a)(2)	PASS
Maximum Peak Output Power	§15.247(b)(3)	PASS
Power Spectral Density	§15.247(e)	PASS
Conducted band edges and Spurious Emission	§15.247(d)	PASS
Restricted bands of operation	§15.205 § 15.209 §15.247(d)	PASS

Note: The antenna is Internal FPC antenna. The max gain of antenna is 3.24dBi, which accordance 15.203 is considered sufficient to comply with the provisions of this section.

2. GENERAL DESCRIPTION OF EUT

2.1 APPLICANT

Name: Shenzhen H&T Intelligent Product Co., Ltd.
Address: 1004,10/F, Building D, Shenzhen Academy of Aerospace Technology, No. 6 Technology South 10th Rd., Hi-Tech Park, South Zone, Nanshan, Shenzhen City, Guangdong Province, P. R. China

2.2 MANUFACTURER

Name: Shenzhen H&T Intelligent Product Co., Ltd.
Address: 1004,10/F, Building D, Shenzhen Academy of Aerospace Technology, No. 6 Technology South 10th Rd., Hi-Tech Park, South Zone, Nanshan, Shenzhen City, Guangdong Province, P. R. China

2.3 FACTORY

Name: Shenzhen H&T Intelligent Product Co., Ltd.
Address: 1004,10/F, Building D, Shenzhen Academy of Aerospace Technology, No. 6 Technology South 10th Rd., Hi-Tech Park, South Zone, Nanshan, Shenzhen City, Guangdong Province, P. R. China

2.4 BASIC DESCRIPTION OF EQUIPMENT UNDER TEST

Product Name: Presence Sensor S1
Product Model: PS-SP1
Trade Name: /
Power Supply: DC 5V by USB port
FCC ID: 2BHYS888888888
Frequency Band: 2412MHz-2462MHz for 802.11b/g/n HT20
2422MHz-2452MHz: 802.11n HT40
Modulation Type: DSSS for 802.11b mode;
OFDM for 802.11g/n HT20/n HT40 mode
Antenna Specification: Internal FPC antenna with 3.24dBi gain (Max)
Maximum output Power: 21.72dBm
Temperature Range: -10 ℃ ~ +40 ℃
Hardware Version: V01
Software Version: 0.0.3.2

Sample submitting way: ☒ Provided by customer ☐ Sampling

Sample No: E20240724756701-0001, E20240724756701-0002

Note: The EUT antenna gain is provided by the applicant. This report is made solely on the basis of such data and/or information. We accept no responsibility for the authenticity

and completeness of the above data and information and the validity of the results and/or conclusions.

2.5 CHANNEL LIST

CH 1 – CH 11 for IEEE 802.11b, IEEE 802.11g, IEEE 802.11n HT20, CH 3 – CH 9 for IEEE 802.11n HT40							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2412	4	2427	7	2442	10	2457
2	2417	5	2432	8	2447	11	2462
3	2422	6	2437	9	2452		

2.6 TEST OPERATION MODE

Mode No.	Description of the modes
1	2.4G Wi-Fi TX mode

2.7 LOCAL SUPPORTIVE INSTRUMENTS

No.	Name of Equipment	Manufacturer	Model	Serial Number
A	Notebook	DELL	Latitude3400	8RZFJW2
B	Test board	/	/	/
C	Adapter	Hua wei	HW-050450C01 CA36YTJBR03003	/

No.	Cable Type	Qty.	Shielded Type	Ferrite Core(Qty.)	Length
1	USB cable	1	Yes	0	1.0m
2	Serial cable	1	No	0	0.5m
3	USB cable	1	No	0	1.0m

Note: The notebook is just used to produce fixed frequency transmitting.

2.8 CONFIGURATION OF SYSTEM UNDER TEST



Test software:

Software version
ESP 32

Power Setting:

Mode	Date Rate	Frequency (MHz)	Power Setting
802.11b	1M	2412	20
		2437	20
		2462	20
802.11g	6M	2412	25
		2437	25
		2462	25
802.11n HT20	MCS8	2412	25
		2437	25
		2462	25
802.11n HT40	MCS8	2422	20
		2437	20
		2452	20

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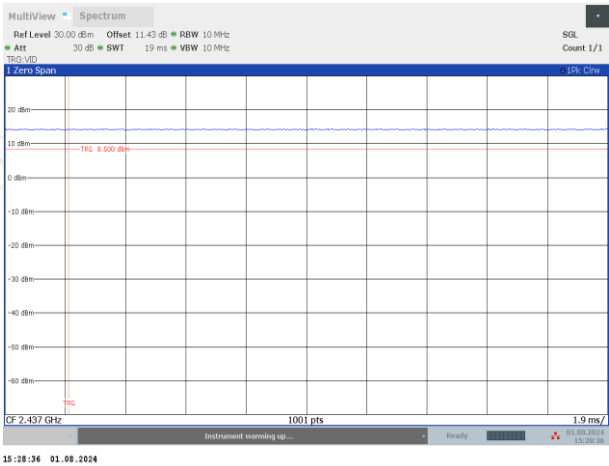
2.9 DUTY CYCLE

Environment: 25.3°C/59%RH/101.0kPa
Tested By: Qin tingting

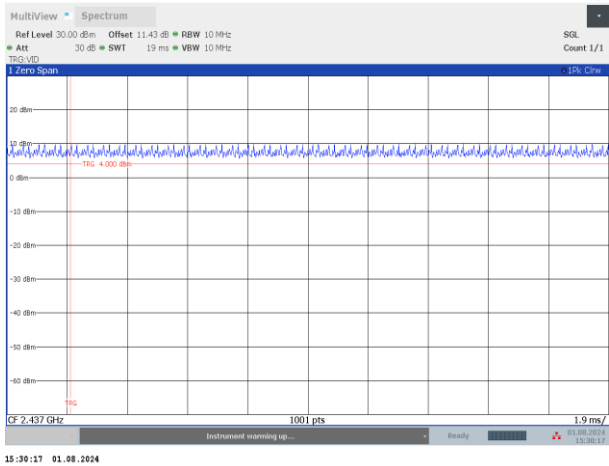
Voltage: DC 5V
Date: 2024-08-01

Test Mode	Frequency (MHz)	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	T [s]
802.11b	2437	19.00	19.00	100.00	0.019
802.11g	2437	19.00	19.00	100.00	0.019
802.11n HT20	2437	19.00	19.00	100.00	0.019
802.11n HT40	2437	19.00	19.00	100.00	0.019

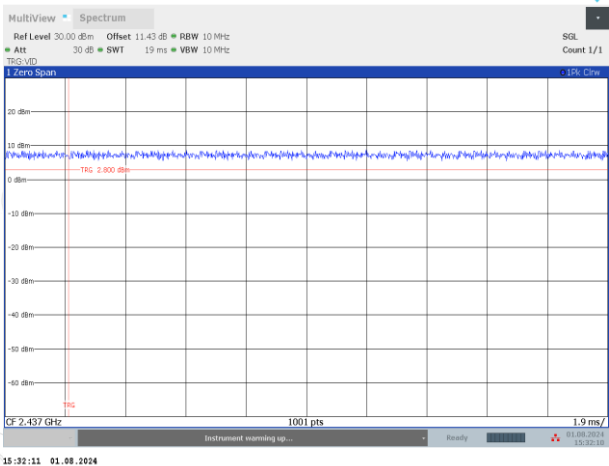
802.11b_Ant1_2437MHz



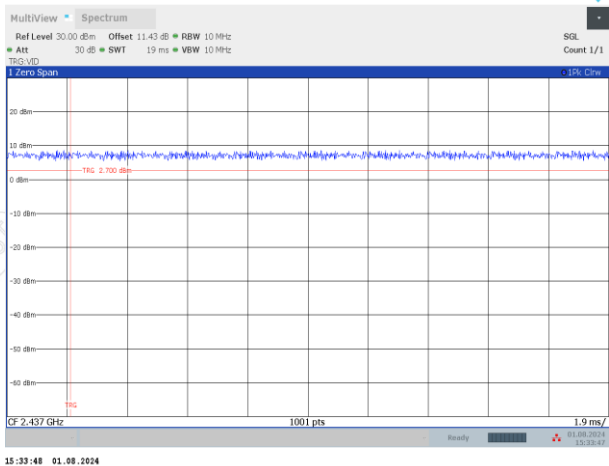
802.11g_Ant1_2437MHz



802.11n HT20_Ant1_2437MHz



802.11n HT40_Ant1_2437MHz



3. LABORATORY AND ACCREDITATIONS

3.1 LABORATORY

The tests & measurements refer to this report were performed by Shenzhen EMC Laboratory of Shenzhen EMC Laboratory of GRG METROLOGY & TEST GROUP CO., LTD.

Add : No.1301 Guanguang Road Xinlan Community, Guanlan Street, Longhua District
Shenzhen, 518110, People's Republic of China

P.C. : 518000

Tel : 0755-61180008

Fax : 0755-61180008

3.2 ACCREDITATIONS

Our laboratories are accredited and approved by the following approval agencies according to ISO/IEC 17025.

USA A2LA(Certificate#:2861.01)

The measuring facility of laboratories has been authorized or registered by the following approval agencies.

Canada ISED (Company Number: 24897, CAB identifier:CN0069)

USA FCC (Registration Number: 759402, Designation Number:CN1198)

Copies of granted accreditation certificates are available for downloading from our web site,
<http://www.grgtest.com>

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3.3 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

Measurement		Frequency	Uncertainty
Radiated Emission	X	9kHz~30MHz	4.4dB ¹⁾
	Y	9kHz~30MHz	4.4dB ¹⁾
	Z	9kHz~30MHz	4.4dB ¹⁾
	Horizontal	30MHz~200MHz	4.6dB ¹⁾
		200MHz~1000MHz	4.8dB ¹⁾
		1GHz~18GHz	5.0dB ¹⁾
		18GHz~26.5GHz	5.2dB ¹⁾
	Vertical	30MHz~200MHz	4.7dB ¹⁾
		200MHz~1000MHz	4.7dB ¹⁾
		1GHz~18GHz	5.1dB ¹⁾
		18GHz~26.5GHz	5.4dB ¹⁾

Measurement	Uncertainty
RF frequency	6.0×10^{-6}
RF power conducted	0.80dB
Power spectral density conducted	0.80dB
Occupied channel bandwidth	0.40dB
Unwanted emission, conducted	0.70dB
Humidity	6.0%
Temperature	2.0°C

Note:

¹⁾ This uncertainty represents an expanded uncertainty expressed at approximately the 95%.
This uncertainty represents an expanded uncertainty factor of $k=2$.

4. LIST OF USED TEST EQUIPMENT AT GRGT

Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Conducted Emissions				
EZ-EMC	EZ	CCS-3A1-CE	/	/
EMI Receiver	R&S	ESCI	100783	2025-07-19
LISN(EUT)	R&S	ENV216	101543	2025-07-10
Radiated Spurious Emission&Restricted bands of operation				
Loop Antenna	Schwarzbeck	FMZB 1513-60	1513-60-56	2025-05-07
Bi-log Antenna	Schwarzbeck	VULB9160	VULB9160-3402	2024-10-06
Horn Antenna	Schwarzbeck	BBHA 9120D	02143	2025-09-07
Test Receiver	R&S	ESR26	101758	2025-09-10
Spectrum Analyzer	R&S	FSW43	102072	2025-07-19
Board-Band Horn Antenna	Schwarzbeck	BBHA 9170	BBHA 9170-497	2024-09-18
Amplifier	SHIRONG ELECTRONIC	DLNA-30M1G-G 40	20200928001	2025-01-30
Amplifier	Tonscend	TAP01018048	AP20E8060075	2025-03-01
Amplifier	Tonscend	TAP184050	AP20E806071	2025-03-01
Amplifier	SHIRONG ELECTRONIC	DLNA-1G18G-G4 0	20200928005	2025-07-19
Test S/W	Tonscend	JS32-RE/5.0.0		
6 dB Bandwidth				
Spectrum Analyzer	R&S	FSW43	102072	2025-06-14
Maximum Peak Output Power				
Pulse power sensor	Anristu	MA2411B	1126150	2025-01-11
Power meter	Anristu	ML2495A	1204003	2025-01-11
Conducted band edges and Spurious Emission				
Spectrum Analyzer	R&S	FSW43	102072	2025-06-14
Power Spectral Density				
Spectrum Analyzer	R&S	FSW43	102072	2025-06-14

Note: The calibration interval of the above test instruments is 12 months.

5. CONDUCTED EMISSION MEASUREMENT

5.1 LIMITS

Frequency range	Limits (dB μ V)	
	Quasi-peak	Average
150kHz ~ 0.5MHz	66~56	56~46
0.5 MHz ~ 5 MHz	56	46
5 MHz ~ 30 MHz	60	50

NOTE: (1) The lower limit shall apply at the transition frequencies.

(2) The limit decreases in line with the logarithm of the frequency in the range of 150 kHz to 0.5MHz.

5.2 TEST PROCEDURES

Procedure of Preliminary Test

For measurement of the disturbance voltage the equipment under test (EUT) is connected to the power supply mains and any other extended network via one or more artificial network(s). An EUT, whether intended to be grounded or not, and which is to be used on a table is configured as follows:

– Either the bottom or the rear of the EUT shall be at a controlled distance of 40 cm from a reference ground plane. This ground plane is normally the wall or floor of a shielded room. It may also be a grounded metal plane of at least 2 m by 2 m. This is physically accomplished as follows:

1) place the EUT on a table of non-conducting material which is at least 80 cm high. Place the EUT so that it is 40 cm from the wall of the shielded room, or

2) place the EUT on a table of non-conducting material which is 40 cm high so that the bottom of the EUT is 40 cm above the ground plane;

– All other conductive surfaces of the EUT shall be at least 80 cm from the reference ground plane;

– The EUT are placed on the floor that one side of the housings is 40 cm from the vertical reference ground plane and other metallic parts;

– Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth forming a bundle 30 cm to 40 cm long, hanging approximately in the middle between the ground plane and the table.

– I/O cables that are connected to a peripheral shall be bundled in the centre. The end of the cable may be terminated if required using correct terminating impedance. The total length shall not exceed 1 m.

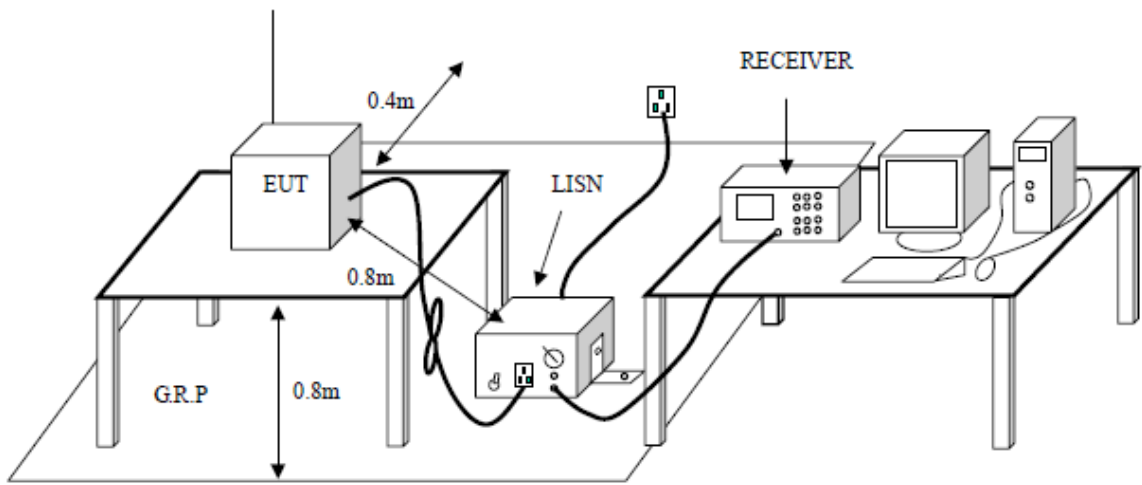
– Use serial board or connecting line to make EUT and notebook to communicate, according to the actual need to make EUT send constant frequency signal continuously.

The test mode(s) described in Item 2.6 were scanned during the preliminary test. After the preliminary scan, we found the test mode described in Item 2.6 producing the highest emission level. The EUT configuration and cable configuration of the above highest emission levels were recorded for reference of the final test.

Procedure of Final Test

EUT and support equipment were set up on the test bench as per the configuration with highest emission level in the preliminary test. A scan was taken on both power lines, recording at least the six highest emissions. Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit. The test data of the worst-case condition(s) was recorded.

5.3 TEST SETUP



5.4 DATA SAMPLE

Frequency (MHz)	QuasiPeak Reading (dBuV)	Average Reading (dBuV)	Correction Factor (dB)	QuasiPeak Result (dBuV)	Average Result (dBuV)	QuasiPeak Limit (dBuV)	Average Limit (dBuV)	QuasiPeak Margin (dB)	Average Margin (dB)	Remark (Pass/Fail)
X.XXXX	32.69	25.65	11.52	44.21	37.17	65.78	55.79	-21.57	-18.62	Pass

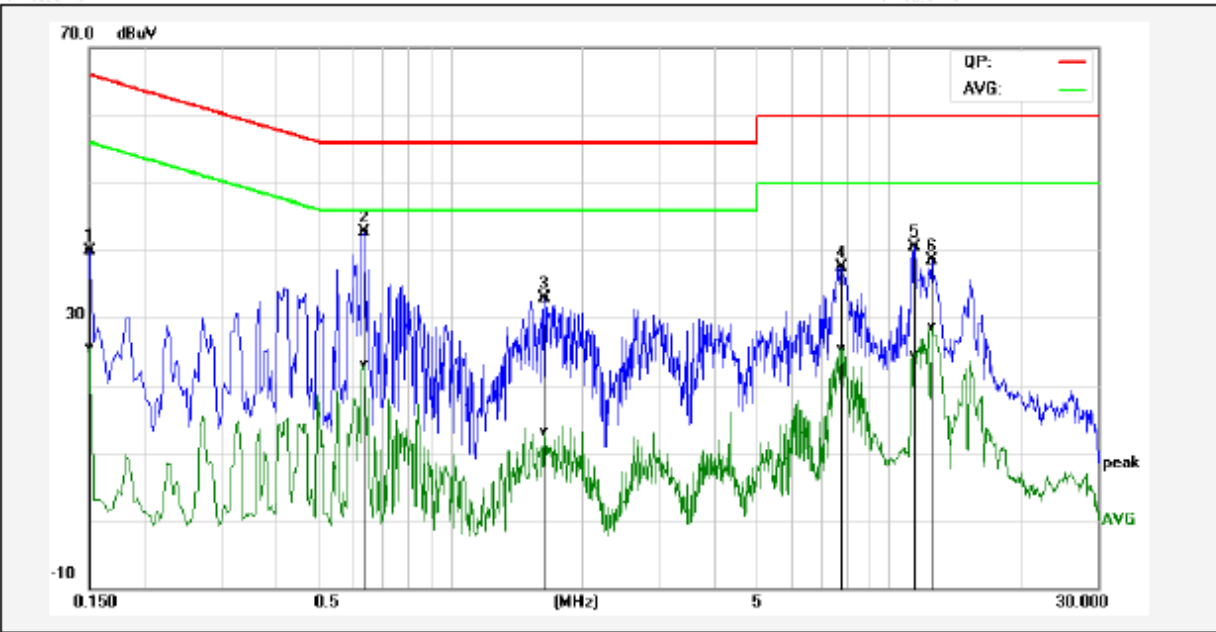
Factor = Insertion loss of LISN + Cable Loss
Result = Quasi-peak Reading/ Average Reading + Factor
Limit = Limit stated in standard
Margin = Result (dBuV) – Limit (dBuV)

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5.5 TEST RESULTS

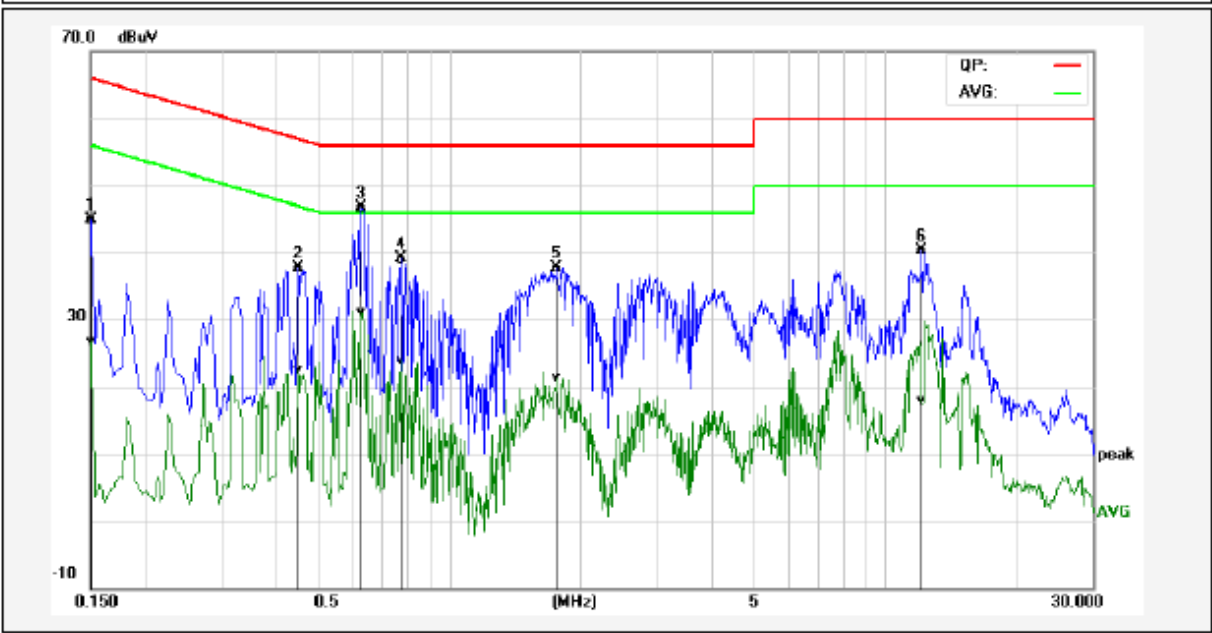
All models were pretested and only the worst modes and channels were recorded in this report. (IEEE 802.11n HT40 2422MHz).

Environmental Conditions	24.6°C/60%RH	Test Voltage	AC 120V/60Hz
Tested By	Wen wenwen	Line	L
Tested Date	2024-09-27	/	/



No.	Frequency (MHz)	QuasiPeak reading (dBuV)	Average reading (dBuV)	Correction factor (dB)	QuasiPeak result (dBuV)	Average result (dBuV)	QuasiPeak limit (dBuV)	Average limit (dBuV)	QuasiPeak margin (dB)	Average margin (dB)	Remark
1	0.1500	39.91	25.53	0.00	39.91	25.53	65.99	56.00	-26.08	-30.47	Pass
2*	0.6340	42.61	23.03	0.00	42.61	23.03	56.00	46.00	-13.39	-22.97	Pass
3	1.6420	32.99	13.12	0.00	32.99	13.12	56.00	46.00	-23.01	-32.88	Pass
4	7.8300	37.46	25.39	0.00	37.46	25.39	60.00	50.00	-22.54	-24.61	Pass
5	11.4580	40.55	24.47	0.00	40.55	24.47	60.00	50.00	-19.45	-25.53	Pass
6	12.5700	38.43	28.67	0.00	38.43	28.67	60.00	50.00	-21.57	-21.33	Pass

Environmental Conditions	24.6°C/60%RH	Test Voltage	AC 120V/60Hz
Tested By	Wen wenwen	Line	N
Tested Date	2024-09-27	/	/



No.	Frequency (MHz)	QuasiPeak reading (dBuV)	Average reading (dBuV)	Correction factor (dB)	QuasiPeak result (dBuV)	Average result (dBuV)	QuasiPeak limit (dBuV)	Average limit (dBuV)	QuasiPeak margin (dB)	Average margin (dB)	Remark
1	0.1500	44.99	26.76	0.00	44.99	26.76	65.99	56.00	-21.00	-29.24	Pass
2	0.4500	37.77	22.44	0.00	37.77	22.44	56.87	46.88	-19.10	-24.44	Pass
3*	0.6300	46.78	31.20	0.00	46.78	31.20	56.00	46.00	-9.22	-14.80	Pass
4	0.7780	39.00	23.99	0.00	39.00	23.99	56.00	46.00	-17.00	-22.01	Pass
5	1.7660	37.72	21.29	0.00	37.72	21.29	56.00	46.00	-18.28	-24.71	Pass
6	12.1380	40.37	17.92	0.00	40.37	17.92	60.00	50.00	-19.63	-32.08	Pass

6. RADIATED SPURIOUS EMISSIONS

6.1 LIMITS

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.

Frequency (MHz)	Quasi-peak($\mu\text{V/m}$)	Measurement distance(m)	Quasi-peak(dB $\mu\text{V/m}$)@distance 3m
0.009-0.490	$2400/F(\text{kHz})$	300	128.5~93.8
0.490-1.705	$24000/F(\text{kHz})$	30	73.8~63
1.705-30.0	30	30	69.5
30 ~ 88	100	3	40
88~216	150	3	43.5
216 ~ 960	200	3	46
Above 960	500	3	54

NOTE:

- (1) The emission limits for the ranges 9-90 kHz and 110-490 kHz are based on measurements employing a linear average detector.
- (2) The lower limit shall apply at the transition frequencies.
- (3) Above 18GHz test distance is 1m, so the Peak Limit= $74+20*\log(3/1)=83.54$ (dB $\mu\text{V/m}$).
The Avg Limit= $54+20*\log(3/1)=63.54$ (dB $\mu\text{V/m}$).

6.2 TEST PROCEDURES

1) Sequence of testing 9kHz to 30MHz

Setup:

- The equipment was set up to simulate a typical usage like described in the user manual or described by manufacturer.
- If the EUT is a tabletop system, a rotatable table with 0.8 m height is used.
- If the EUT is a floor standing device, it is placed on the ground.
- Use serial board or connecting line to make EUT and notebook to communicate, according to the actual need to make EUT send constant frequency signal continuously.
- The EUT is placed on a desktop position in the center of the turntable.
- The measurement distance is 3 meter.
- The EUT was set into operation.

Pre measurement:

- The turntable rotates from 0 ° to 360 °.
- The antenna height is 1.0 meter.
- At each turntable position the analyzer sweeps with peak detection to find the maximum of all emissions

Final measurement:

--- Identified emissions during the pre measurement the software maximizes by rotating the turntable position (0 °to 360 °) and by rotating the elevation axes (0 °to 360 °).

--- The final measurement will be done in the position (turntable and elevation) causing the highest emissions with QP detector.

--- The final levels, frequency, measuring time, bandwidth, turntable position, correction factor, margin to the limit and limit will be recorded. Also a plot with the graph of the pre measurement and the limit will be stored.

2) Sequence of testing 30MHz to 1GHz**Setup:**

--- The equipment was set up to simulate a typical usage like described in the user manual or described by manufacturer.

--- If the EUT is a tabletop system, a table with 0.8 m height is used, which is placed on the ground plane.

--- If the EUT is a floor standing device, it is placed on the ground plane with insulation between both.

--- Use serial board or connecting line to make EUT and notebook to communicate, according to the actual need to make EUT send constant frequency signal continuously.

--- The EUT is placed on a desktop position in the center of the turntable.

--- The measurement distance is 3 meter.

--- The EUT was set into operation.

Pre measurement:

--- The turntable rotates from 0 °to 360 °.

--- The antenna is polarized vertical and horizontal.

--- The antenna height changes from 1 to 4 meter.

--- At each turntable position, antenna polarization and height the analyzer sweeps three times in peak to find the maximum of all emissions.

Final measurement:

--- The final measurement will be performed with minimum the six highest peaks.

--- According to the maximum antenna and turntable positions of premeasurement the software maximize the peaks by changing turntable rotates from 0 °to 360 °and antenna movement between 1 and 4 meter.

--- The final measurement will be done with QP detector with an EMI receiver.

--- The final levels, frequency, measuring time, bandwidth, antenna height, antenna polarization, turntable angle, correction factor, margin to the limit and limit will be recorded. Also a plot with the graph of the premeasurement with marked maximum final measurements and the limit will be stored.

3) Sequence of testing 1GHz to 18GHz

Setup:

- The equipment was set up to simulate a typical usage like described in the user manual or described by manufacturer.
- If the EUT is a tabletop system, a rotatable table with 1.5 m height is used.
- If the EUT is a floor standing device, it is placed on the ground plane with insulation between both.
- Use serial board or connecting line to make EUT and notebook to communicate, according to the actual need to make EUT send constant frequency signal continuously.
- The EUT is placed on a desktop position in the center of the turntable.
- The measurement distance is 3 meter.
- The EUT was set into operation.

Pre measurement:

- The turntable rotates from 0 °to 360 °.
- The antenna is polarized vertical and horizontal.
- The antenna height scan range is 1 meter to 4 meter.
- At each turntable position and antenna polarization the analyzer sweeps with peak detection to find the maximum of all emissions.

Final measurement:

- The final measurement will be performed with minimum the six highest peaks.
- According to the maximum antenna and turntable positions of premeasurement the software maximize the peaks by changing turntable rotates from 0 °to 360 °and antenna movement between 1 and 4 meter. This procedure is repeated for both antenna polarizations.
- The final measurement will be done in the position (turntable, EUT-table and antenna polarization) causing the highest emissions with Peak and Average detector.
- The final levels, frequency, measuring time, bandwidth, turntable position, EUT-table position, antenna polarization, correction factor, margin to the limit and limit will be recorded. Also a plot with the graph of the pre measurement with marked maximum final measurements and the limit will be stored.

4) Sequence of testing above 18GHz

Setup:

- The equipment was set up to simulate a typical usage like described in the user manual or described by manufacturer.
- If the EUT is a tabletop system, a rotatable table with 1.5 m height is used.
- If the EUT is a floor standing device, it is placed on the ground plane with insulation between both.
- Use serial board or connecting line to make EUT and notebook to communicate, according to the actual need to make EUT send constant frequency signal continuously.
- The EUT is placed on a desktop position in the center of the turntable.
- The measurement distance is 1 meter.
- The EUT was set into operation.

Pre measurement:

--- The antenna is moved spherical over the EUT in different polarisations of the antenna.

Final measurement:

--- The final measurement will be performed at the position and antenna orientation for all detected emissions that were found during the premeasurements with Peak and Average detector.

--- The final levels, frequency, measuring time, bandwidth, correction factor, margin to the limit and limit will be recorded. Also a plot with the graph of the premeasurement and the limit will be stored.

NOTE:

(a).The frequency from 9KHz to 150KHz, Set RBW=300Hz(for Peak&AVG), RBW=300Hz(for Peak&AVG). the frequency from 150KHz to 30MHz, Set RBW=9KHz, RBW=9KHz, (for QP Detector).

(b).The frequency from 30MHz to 1GHz, Set RBW=120KHz, RBW=300KHz, (for QP Detector).

(c).The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for Unwanted Maximum Emissions Measurements above 1000MHz.

(d).If the EUT is configured to transmit with duty cycle $\geq 98\%$, set $VBW \leq RBW/100$ (i.e., 10kHz) but not less than 10 Hz.

(e).If the EUT duty cycle is $< 98\%$, set $VBW \geq 1/T$, Where T is defined in section 2.9.

(f).The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for Peak measurement.The AVG value measurement is based on duty cycle.

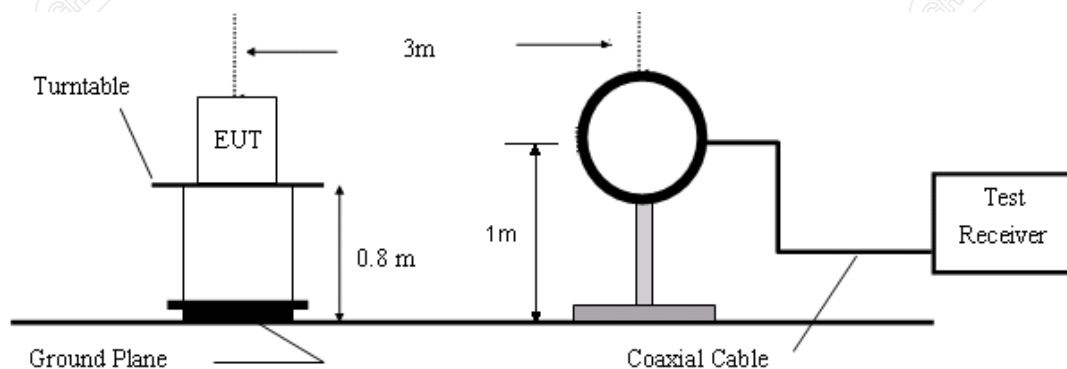
6.3 TEST SETUP

Figure 1. 9kHz to 30MHz radiated emissions test configuration

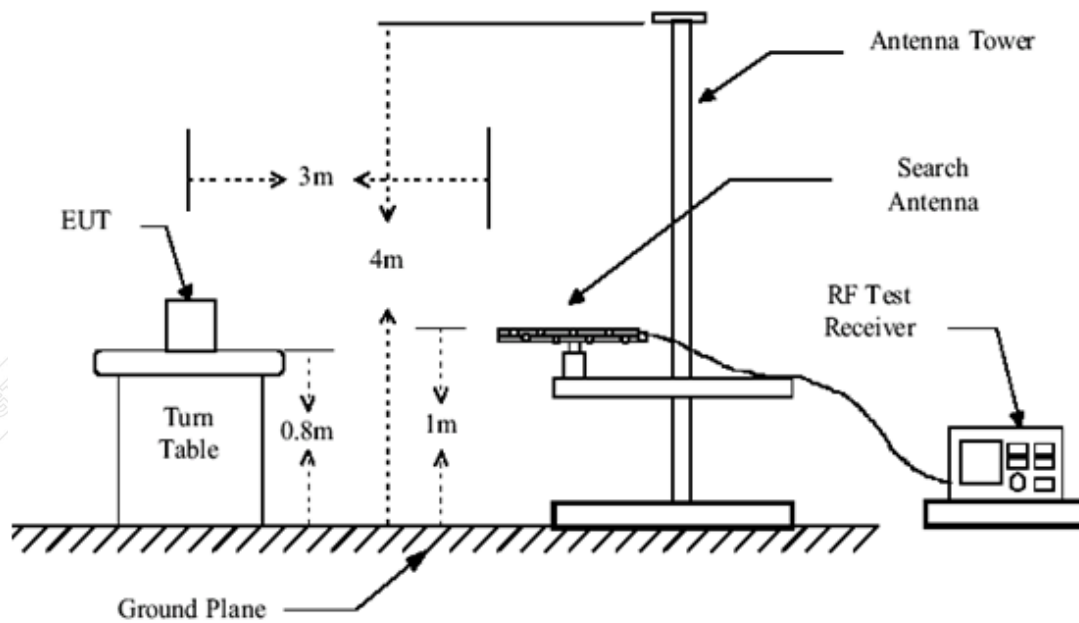


Figure 2. 30MHz to 1GHz radiated emissions test configuration

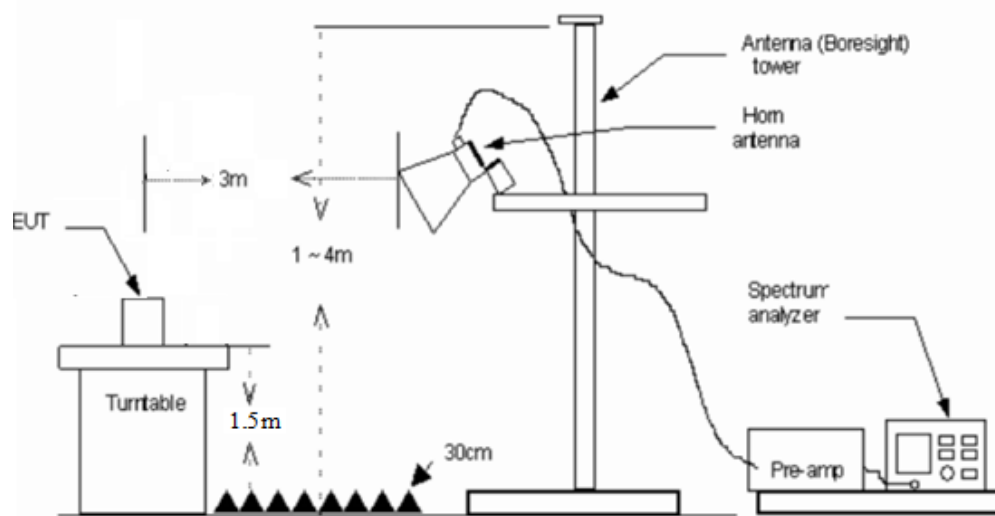


Figure 3. 1GHz to 18GHz radiated emissions test configuration

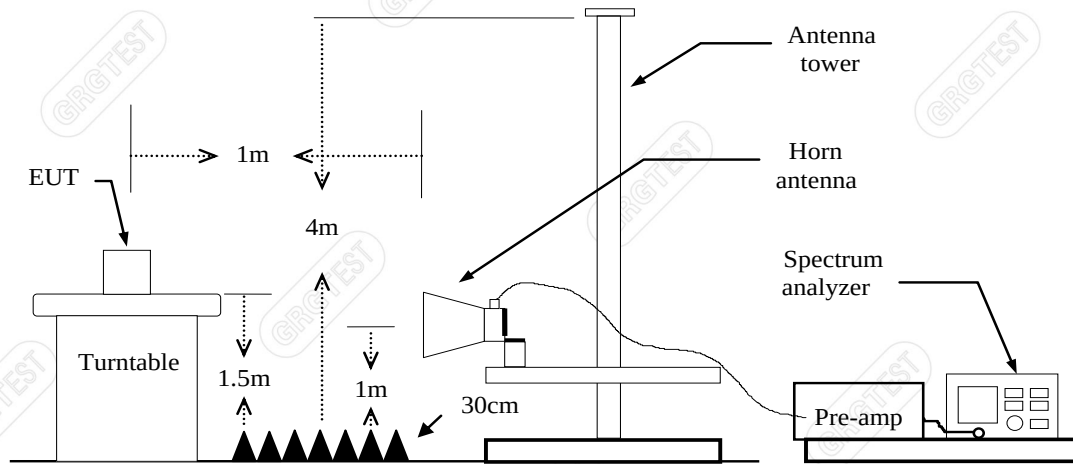


Figure 4. 18GHz to 26.5GHz radiated emissions test configuration

6.4 DATA SAMPLE

30MHz to 1GHz

NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Trace	Height [cm]	Angle [°]	Polarity	Verdict
xxx	86.5096	67.55	33.83	-33.72	40.00	6.17	QP	200	118	Horizontal	PASS

Frequency (MHz)	= Emission frequency in MHz
Reading (dBμV)	= Uncorrected Analyzer / Receiver reading
Factor (dB)	= Antenna factor + Cable loss – Amplifier gain
Level (dBμV/m)	= Reading (dBμV) + Factor (dB)
Limit (dBμV/m)	= Limit stated in standard
Margin (dB)	= Limit (dBμV/m) - Level (dBμV/m)
QP	= Quasi-peak Reading

Above 1GHz-18GHz

No.	Frequency (MHz)	Reading (dBμV/m)	Factor (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Remark	Pole
xxx	xxx	65.45	-11.12	54.33	74.00	-19.67	peak	Vertical
xxx	xxx	63.00	-11.12	51.88	54.00	-2.12	AVG	Vertical

Above 18GHz

No.	Frequency (MHz)	Reading (dBμV/m)	Factor (dB)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Remark	Pole
xxx	xxx	68.86	57.66	-11.20	83.54	25.88	peak	Vertical
xxx	xxx	68.89	-11.20	57.69	63.54	5.85	AVG	Vertical

Frequency (MHz)	= Emission frequency in MHz
Ant.Pol. (H/V)	= Antenna polarization
Reading (dBμV)	= Uncorrected Analyzer / Receiver reading
Correction Factor (dB/m)	= Antenna factor + Cable loss – Amplifier gain
Result (dBμV/m)	= Reading (dBμV) + Correction Factor (dB/m)
Limit (dBμV/m)	= Limit stated in standard

Margin (dB)	= Remark Result (dBuV/m) – Limit (dBuV/m)
Peak	= Peak Reading
QP	= Quasi-peak Reading
AVG	= Average Reading

6.5 TEST RESULTS

The test are under the EUT typical placement for ceiling mounted the EUT can rotate 90 °, 180 °, 270 ° etc. lying flat, standing on the table, etc. Only the worst case EUT lying flat results recorded in the report.

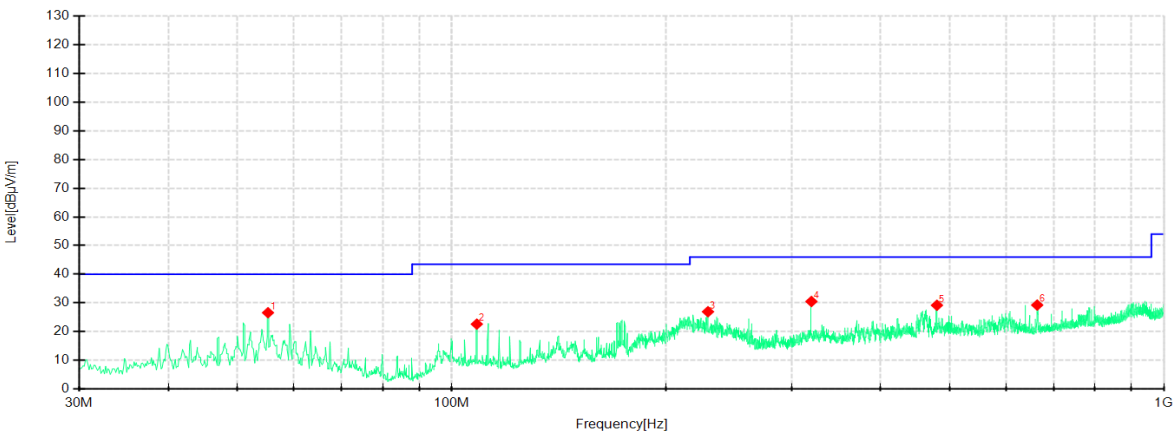


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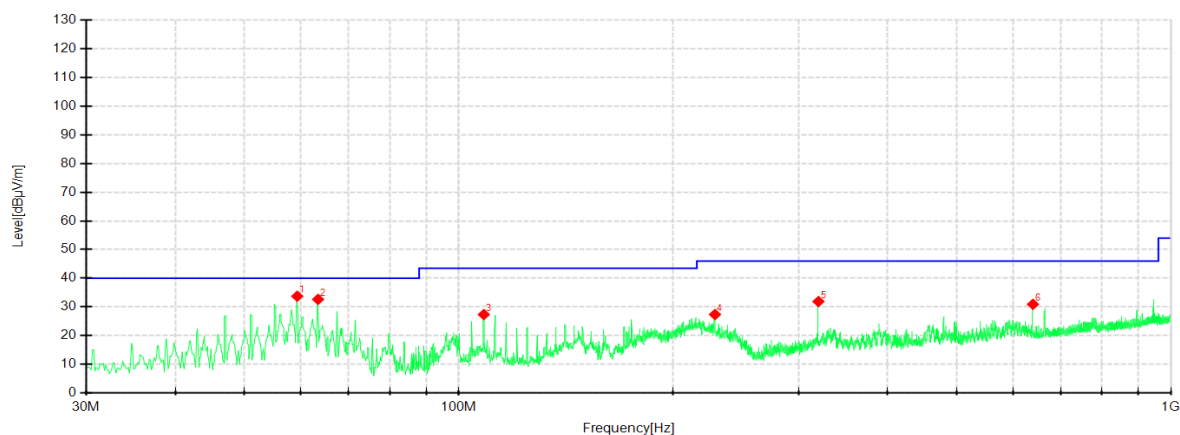
Below 1GHz:

All models were pretested and only the worst modes and channels were recorded in this report. (IEEE 802.11b 2437MHz).

Power supply:	DC 5V	Environmental Conditions:	24.3℃/64%RH/101.0kPa
Test Engineer:	Qin tingting	Test Date:	2024-08-24



NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Trace	Height [cm]	Angle [°]	Polarity	Verdict
1	55.2232	55.76	26.57	-29.19	40.00	13.43	QP	100	137	Horizontal	PASS
2	108.4586	53.39	22.60	-30.79	43.50	20.90	QP	200	340	Horizontal	PASS
3	228.9961	57.09	26.93	-30.16	46.00	19.07	QP	200	340	Horizontal	PASS
4	319.9450	57.35	30.49	-26.86	46.00	15.51	QP	100	19	Horizontal	PASS
5	480.0150	50.95	29.16	-21.79	46.00	16.84	QP	100	297	Horizontal	PASS
6	663.7317	47.78	29.23	-18.55	46.00	16.77	QP	100	326	Horizontal	PASS



NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Trace	Height [cm]	Angle [°]	Polarity	Verdict
1	59.3462	63.19	33.72	-29.47	40.00	6.28	QP	200	123	Vertical	PASS
2	63.4692	62.68	32.64	-30.04	40.00	7.36	QP	100	339	Vertical	PASS
3	108.4586	58.12	27.33	-30.79	43.50	16.17	QP	100	0	Vertical	PASS
4	228.9961	57.50	27.34	-30.16	46.00	18.66	QP	100	105	Vertical	PASS
5	319.9450	58.73	31.87	-26.86	46.00	14.13	QP	100	0	Vertical	PASS
6	640.0850	49.73	30.90	-18.83	46.00	15.10	QP	100	3	Vertical	PASS

Remark:

- 1 No emission found between lowest internal used/generated frequency to 30MHz.
- 2 Radiated emissions measured in frequency range from 9kHz to 1GHz were made with an instrument using Quasi-peak detector mode.
- 3 The IF bandwidth of Receiver between 30MHz to 1GHz was 120kHz.

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1GHz-18GHz:

Mode: IEEE 802.11b
Lowest Frequency (2412MHz)
Environment: 25.1°C/63%RH/101.0kPa
Tested By: Qin tingting

Voltage: DC 5V
Date: 2024-10-18

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1945.0000	48.45	44.59	-3.86	74.00	29.41	200	245	Horizontal
2	2502.4000	48.31	47.82	-0.49	74.00	26.18	200	284	Horizontal
3	3216.0000	64.82	51.83	-12.99	74.00	22.17	100	220	Horizontal
4	4824.0000	58.91	51.75	-7.16	74.00	22.25	200	85	Horizontal
5	7200.0000	53.81	54.91	1.10	74.00	19.09	200	98	Horizontal
6	15000.0000	41.08	52.92	11.84	74.00	21.08	200	148	Horizontal

AV Final Data List									
NO.	Freq. [MHz]	Factor [dB]	AV Reading [dBμV/m]	AV Value [dBμV/m]	AV Limit [dBμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity
1	3216.0000	-12.99	56.58	43.59	54.00	10.41	161	243.2	Horizontal
2	4823.6510	-7.16	52.44	45.28	54.00	8.72	146	77	Horizontal
3	7199.7900	1.10	51.78	52.88	54.00	1.12	200	142.8	Horizontal
4	14999.5700	11.84	32.03	43.87	54.00	10.13	200	126.3	Horizontal

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1563.0000	48.22	40.63	-7.59	74.00	33.37	200	41	Vertical
2	1961.0000	49.82	45.77	-4.05	74.00	28.23	100	113	Vertical
3	3216.0000	64.95	52.09	-12.86	74.00	21.91	100	349	Vertical
4	4824.0000	58.71	51.60	-7.11	74.00	22.40	100	97	Vertical
5	7200.0000	56.73	57.93	1.20	74.00	16.07	100	46	Vertical
6	15000.0000	41.73	54.37	12.64	74.00	19.63	200	99	Vertical

AV Final Data List									
NO.	Freq. [MHz]	Factor [dB]	AV Reading [dBμV/m]	AV Value [dBμV/m]	AV Limit [dBμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity
1	3216.0000	-12.86	64.17	51.31	54.00	2.69	121	348.2	Vertical
2	4824.0000	-7.11	53.06	45.95	54.00	8.05	153	52	Vertical
3	7199.7900	1.20	48.41	49.61	54.00	4.39	100	67.7	Vertical
4	14999.5700	12.64	29.52	42.16	54.00	11.84	200	117.6	Vertical

Mode: IEEE 802.11b
Middle Frequency (2437 MHz)
Environment: 25.1°C/63%RH/101.0kPa
Tested By: Qin tingting

Voltage: DC 5V
Date: 2024-10-18

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1931.4000	48.17	44.40	-3.77	74.00	29.60	100	360	Horizontal
2	2496.0000	47.94	47.53	-0.41	74.00	26.47	100	46	Horizontal
3	3249.0000	61.78	49.27	-12.51	74.00	24.73	100	222	Horizontal
4	4873.5000	58.86	51.83	-7.03	74.00	22.17	100	78	Horizontal
5	7200.0000	53.22	54.32	1.10	74.00	19.68	200	108	Horizontal
6	15000.0000	40.20	52.04	11.84	74.00	21.96	200	69	Horizontal

AV Final Data List									
NO.	Freq. [MHz]	Factor [dB]	AV Reading [dBμV/m]	AV Value [dBμV/m]	AV Limit [dBμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity
1	3249.3290	-12.51	59.85	47.34	54.00	6.66	171	209.3	Horizontal
2	4873.9935	-7.03	51.44	44.41	54.00	9.59	100	57	Horizontal
3	7199.7900	1.10	39.26	40.36	54.00	13.64	200	131	Horizontal
4	14999.5700	11.84	27.29	39.13	54.00	14.87	200	86.1	Horizontal

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1894.8000	47.93	44.13	-3.80	74.00	29.87	200	344	Vertical
2	2502.8000	47.99	47.50	-0.49	74.00	26.50	100	345	Vertical
3	3249.0000	60.45	48.33	-12.12	74.00	25.67	100	340	Vertical
4	4873.5000	57.01	50.02	-6.99	74.00	23.98	100	47	Vertical
5	7200.0000	56.71	57.91	1.20	74.00	16.09	100	47	Vertical
6	15000.0000	40.78	53.42	12.64	74.00	20.58	200	338	Vertical

AV Final Data List									
NO.	Freq. [MHz]	Factor [dB]	AV Reading [dBμV/m]	AV Value [dBμV/m]	AV Limit [dBμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity
1	3249.3760	-12.12	59.13	47.01	54.00	6.99	130	319.6	Vertical
2	4873.9935	-6.99	47.81	40.82	54.00	13.18	100	29.7	Vertical
3	7199.7900	1.20	48.04	49.24	54.00	4.76	100	22.5	Vertical
4	14999.5700	12.64	33.99	46.63	54.00	7.37	200	22.3	Vertical

Mode: IEEE 802.11b
Highest Frequency (2462MHz)
Environment: 25.1°C/63%RH/101.0kPa
Tested By: Qin tingting

Voltage: DC 5V
Date: 2024-10-18

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1886.2000	48.25	44.28	-3.97	74.00	29.72	200	60	Horizontal
2	2451.2000	48.27	47.44	-0.83	74.00	26.56	100	191	Horizontal
3	3282.0000	62.58	49.44	-13.14	74.00	24.56	100	225	Horizontal
4	4923.0000	58.47	51.75	-6.72	74.00	22.25	200	235	Horizontal
5	7200.0000	53.08	54.18	1.10	74.00	19.82	200	154	Horizontal
6	15000.0000	41.53	53.37	11.84	74.00	20.63	200	37	Horizontal

AV Final Data List									
NO.	Freq. [MHz]	Factor [dB]	AV Reading [dBμV/m]	AV Value [dBμV/m]	AV Limit [dBμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity
1	3282.0000	-13.14	57.03	43.89	54.00	10.11	100	225	Horizontal
2	4923.0000	-6.72	51.37	44.65	54.00	9.35	200	235	Horizontal
3	7199.7900	1.10	42.49	43.59	54.00	10.41	200	132.2	Horizontal
4	15000.0000	11.84	31.52	43.36	54.00	10.64	200	37	Horizontal

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1598.6000	49.22	41.26	-7.96	74.00	32.74	100	139	Vertical
2	2499.0000	47.36	46.97	-0.39	74.00	27.03	100	20	Vertical
3	3282.0000	61.96	49.41	-12.55	74.00	24.59	100	133	Vertical
4	4923.0000	60.36	53.78	-6.58	74.00	20.22	100	146	Vertical
5	7200.0000	56.15	57.35	1.20	74.00	16.65	100	44	Vertical
6	15000.0000	41.30	53.94	12.64	74.00	20.06	200	92	Vertical

AV Final Data List									
NO.	Freq. [MHz]	Factor [dB]	AV Reading [dBμV/m]	AV Value [dBμV/m]	AV Limit [dBμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity
1	3282.6650	-12.55	61.35	48.80	54.00	5.20	132	121.3	Vertical
2	4923.9970	-6.58	55.91	49.33	54.00	4.67	155	152.2	Vertical
3	7199.7900	1.20	50.07	51.27	54.00	2.73	100	175.7	Vertical
4	14999.5700	12.64	29.02	41.66	54.00	12.34	200	115.2	Vertical

Mode: IEEE 802.11g
Lowest Frequency (2412MHz)
Environment: 25.1°C/52%RH
Tested By: Qin tingting

Voltage: DC 5V
Date: 2024-10-23

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1712.4000	76.96	69.68	-7.28	74.00	4.32	200	155	Horizontal
2	2385.0000	52.90	50.00	-2.90	74.00	24.00	200	273	Horizontal
3	2844.6000	51.07	49.62	-1.45	74.00	24.38	100	24	Horizontal
4	3214.5000	64.10	51.09	-13.01	74.00	22.91	100	323	Horizontal
5	7200.0000	53.57	54.67	1.10	74.00	19.33	200	299	Horizontal
6	15000.0000	40.31	52.15	11.84	74.00	21.85	200	21	Horizontal

AV Final Data List									
NO.	Freq. [MHz]	Factor [dB]	AV Reading [dBμV/m]	AV Value [dBμV/m]	AV Limit [dBμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1715.4480	-7.28	55.86	48.58	54.00	5.42	200	110	Horizontal
2	2385.0000	-2.90	48.23	45.33	54.00	8.67	200	273	Horizontal
3	2844.6000	-1.45	45.87	44.42	54.00	9.58	100	24	Horizontal
4	3214.5000	-13.01	55.34	42.33	54.00	11.67	100	323	Horizontal
5	7199.7900	1.10	46.45	47.55	54.00	6.45	200	274.4	Horizontal
6	15000.0000	11.84	36.52	48.36	54.00	5.64	200	21	Horizontal

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1659.0000	57.59	49.55	-8.04	74.00	24.45	200	52	Vertical
2	1720.2000	78.17	70.87	-7.30	74.00	3.13	200	339	Vertical
3	2659.6000	51.03	48.72	-2.31	74.00	25.28	100	287	Vertical
4	3214.5000	66.12	53.23	-12.89	74.00	20.77	100	310	Vertical
5	7200.0000	56.60	57.80	1.20	74.00	16.20	200	347	Vertical
6	15000.0000	41.45	54.09	12.64	74.00	19.91	200	33	Vertical

AV Final Data List									
NO.	Freq. [MHz]	Factor [dB]	AV Reading [dBμV/m]	AV Value [dBμV/m]	AV Limit [dBμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1659.0000	-8.04	50.65	42.61	54.00	11.39	200	52	Vertical
2	1722.0670	-7.30	54.83	47.53	54.00	6.47	199	83.5	Vertical
3	2659.6000	-2.31	43.82	41.51	54.00	12.49	100	287	Vertical
4	3214.5000	-12.89	51.74	38.85	54.00	15.15	100	310	Vertical
5	7199.7900	1.20	51.58	52.78	54.00	1.22	200	338.8	Vertical
6	15000.0000	12.64	38.25	50.89	54.00	3.11	200	33	Vertical

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Mode: IEEE 802.11g
Middle Frequency (2437 MHz)
Environment: 25.1°C/52%RH
Tested By: Qin tingting

Voltage: DC 5V
Date: 2024-10-23

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1726.4000	79.78	72.63	-7.15	74.00	1.37	200	90	Horizontal
2	2661.0000	50.64	48.52	-2.12	74.00	25.48	100	78	Horizontal
3	3142.5000	61.78	48.79	-12.99	74.00	25.21	100	47	Horizontal
4	3249.0000	60.41	47.90	-12.51	74.00	26.10	100	321	Horizontal
5	7200.0000	54.39	55.49	1.10	74.00	18.51	200	58	Horizontal
6	15000.0000	39.92	51.76	11.84	74.00	22.24	200	335	Horizontal

AV Final Data List									
NO.	Freq. [MHz]	Factor [dB]	AV Reading [dBμV/m]	AV Value [dBμV/ m]	AV Limit [dBμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1718.3050	-7.15	48.53	41.38	54.00	12.62	200	134.9	Horizontal
2	2661.0000	-2.12	43.68	41.56	54.00	12.44	100	78	Horizontal
3	3142.5000	-12.99	47.36	34.37	54.00	19.63	100	47	Horizontal
4	7199.7900	1.10	48.14	49.24	54.00	4.76	200	81.9	Horizontal
5	15000.0000	11.84	36.52	48.36	54.00	5.64	200	335	Horizontal

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1660.0000	57.90	49.87	-8.03	74.00	24.13	200	51	Vertical
2	1728.8000	59.20	52.15	-7.05	74.00	21.85	200	168	Vertical
3	2996.4000	55.20	54.82	-0.38	74.00	19.18	200	38	Vertical
4	3249.0000	62.08	49.96	-12.12	74.00	24.04	100	313	Vertical
5	7200.0000	56.35	57.55	1.20	74.00	16.45	200	352	Vertical
6	15000.0000	42.27	54.91	12.64	74.00	19.09	200	34	Vertical

AV Final Data List									
NO.	Freq. [MHz]	Factor [dB]	AV Reading [dBμV/m]	AV Value [dBμV/m]	AV Limit [dBμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1660.0000	-8.03	52.47	44.44	54.00	9.56	200	51	Vertical
2	1728.8000	-7.05	56.32	49.27	54.00	4.73	200	168	Vertical
3	2996.4000	-0.38	45.96	45.58	54.00	8.42	200	38	Vertical
4	3249.0000	-12.12	49.85	37.73	54.00	16.27	100	313	Vertical
5	7199.7900	1.20	51.56	52.76	54.00	1.24	200	338.2	Vertical
6	15000.0000	12.64	36.84	49.48	54.00	4.52	200	34	Vertical

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Mode: IEEE 802.11g
Highest Frequency (2462MHz)
Environment: 25.1°C/52%RH
Tested By: Qin tingting

Voltage: DC 5V
Date: 2024-10-23

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1719.2000	77.79	70.57	-7.22	74.00	3.43	200	327	Horizontal
2	1891.4000	51.47	47.65	-3.82	74.00	26.35	100	49	Horizontal
3	2516.0000	49.41	48.25	-1.16	74.00	25.75	100	102	Horizontal
4	3282.0000	61.05	47.91	-13.14	74.00	26.09	100	322	Horizontal
5	7200.0000	53.62	54.72	1.10	74.00	19.28	200	59	Horizontal
6	15000.0000	39.74	51.58	11.84	74.00	22.42	200	32	Horizontal

AV Final Data List									
NO.	Freq. [MHz]	Factor [dB]	AV Reading [dBμV/m]	AV Value [dBμV/m]	AV Limit [dBμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1719.2000	-7.22	54.74	47.52	54.00	6.48	200	327	Horizontal
2	2516.0000	-1.16	43.65	42.49	54.00	11.51	100	102	Horizontal
3	7199.7900	1.10	48.12	49.22	54.00	4.78	200	80.9	Horizontal
4	15000.0000	11.84	38.14	49.98	54.00	4.02	200	32	Horizontal

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1728.0000	77.44	70.37	-7.07	74.00	3.63	200	1	Vertical
2	2521.4000	52.64	51.38	-1.26	74.00	22.62	100	74	Vertical
3	2997.4000	56.79	56.42	-0.37	74.00	17.58	100	7	Vertical
4	3282.0000	62.61	50.06	-12.55	74.00	23.94	100	314	Vertical
5	7200.0000	56.36	57.56	1.20	74.00	16.44	200	350	Vertical
6	15000.0000	42.54	55.18	12.64	74.00	18.82	200	33	Vertical

AV Final Data List									
NO.	Freq. [MHz]	Factor [dB]	AV Reading [dBμV/m]	AV Value [dBμV/m]	AV Limit [dBμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1728.0000	-7.07	55.32	48.25	54.00	5.75	200	1	Vertical
2	2521.4000	-1.26	49.64	48.38	54.00	5.62	100	74	Vertical
3	2997.4000	-0.37	47.21	46.84	54.00	7.16	100	7	Vertical
4	3282.0000	-12.55	45.62	33.07	54.00	20.93	100	314	Vertical
5	7199.7900	1.20	51.51	52.71	54.00	1.29	200	337.5	Vertical
6	15000.0000	12.64	38.14	50.78	54.00	3.22	200	33	Vertical

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Mode: IEEE 802.11n HT20
Lowest Frequency (2412MHz)
Environment: 25.1°C/52%RH
Tested By: Qin tingting

Voltage: DC 5V
Date: 2024-10-23

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1725.4000	74.05	66.90	-7.15	74.00	7.10	100	88	Horizontal
2	1890.8000	52.46	48.62	-3.84	74.00	25.38	100	273	Horizontal
3	2431.6000	49.75	48.32	-1.43	74.00	25.68	100	221	Horizontal
4	3216.0000	63.83	50.84	-12.99	74.00	23.16	100	325	Horizontal
5	7200.0000	53.28	54.38	1.10	74.00	19.62	200	60	Horizontal
6	15000.0000	40.41	52.25	11.84	74.00	21.75	200	298	Horizontal

AV Final Data List									
NO.	Freq. [MHz]	Factor [dB]	AV Reading [dBμV/m]	AV Value [dBμV/ m]	AV Limit [dBμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1725.4000	-7.15	54.65	47.50	54.00	6.50	100	88	Horizontal
2	1890.8000	-3.84	51.37	47.53	54.00	6.47	100	273	Horizontal
3	2431.6000	-1.43	46.28	44.85	54.00	9.15	100	221	Horizontal
4	3216.0000	-12.99	46.19	33.20	54.00	20.80	100	325	Horizontal
5	7199.7900	1.10	47.53	48.63	54.00	5.37	200	83.8	Horizontal
6	15000.0000	11.84	37.42	49.26	54.00	4.74	200	298	Horizontal

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1719.6000	59.38	52.06	-7.32	74.00	21.94	200	340	Vertical
2	1895.4000	73.99	70.20	-3.79	74.00	3.80	200	340	Vertical
3	3214.5000	65.61	52.72	-12.89	74.00	21.28	100	310	Vertical
4	3996.0000	56.25	46.09	-10.16	74.00	27.91	100	46	Vertical
5	7200.0000	56.20	57.40	1.20	74.00	16.60	200	350	Vertical
6	15000.0000	42.06	54.70	12.64	74.00	19.30	200	258	Vertical

AV Final Data List									
NO.	Freq. [MHz]	Factor [dB]	AV Reading [dBμV/m]	AV Value [dBμV/m]	AV Limit [dBμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1719.6000	-7.32	54.23	46.91	54.00	7.09	200	340	Vertical
2	1895.4000	-3.79	52.19	48.40	54.00	5.60	200	340	Vertical
3	3214.5000	-12.89	48.38	35.49	54.00	18.51	100	310	Vertical
4	7199.7900	1.20	51.33	52.53	54.00	1.47	200	336.8	Vertical
5	15000.0000	12.64	35.21	47.85	54.00	6.15	200	258	Vertical

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Mode: IEEE 802.11n HT20
Middle Frequency (2437 MHz)
Environment: 25.1°C/52%RH
Tested By: Qin tingting

Voltage: DC 5V
Date: 2024-10-23

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1661.6000	54.62	47.09	-7.53	74.00	26.91	100	103	Horizontal
2	1891.0000	51.44	47.61	-3.83	74.00	26.39	200	0	Horizontal
3	2662.2000	50.73	48.62	-2.11	74.00	25.38	100	77	Horizontal
4	3249.0000	60.21	47.70	-12.51	74.00	26.30	100	322	Horizontal
5	7200.0000	53.58	54.68	1.10	74.00	19.32	200	59	Horizontal
6	15000.0000	40.03	51.87	11.84	74.00	22.13	200	337	Horizontal

AV Final Data List									
NO.	Freq. [MHz]	Factor [dB]	AV Reading [dBμV/m]	AV Value [dBμV/m]	AV Limit [dBμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2662.2000	-2.11	43.26	41.15	54.00	12.85	100	77	Horizontal
2	7199.7900	1.10	47.77	48.87	54.00	5.13	200	82	Horizontal
3	15000.0000	11.84	35.47	47.31	54.00	6.69	200	337	Horizontal

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1660.6000	57.35	49.32	-8.03	74.00	24.68	100	63	Vertical
2	2659.6000	51.37	49.06	-2.31	74.00	24.94	100	103	Vertical
3	3249.0000	61.74	49.62	-12.12	74.00	24.38	100	323	Vertical
4	3994.5000	58.96	48.79	-10.17	74.00	25.21	100	218	Vertical
5	7200.0000	55.21	56.41	1.20	74.00	17.59	100	34	Vertical
6	15000.0000	42.21	54.85	12.64	74.00	19.15	200	283	Vertical

AV Final Data List									
NO.	Freq. [MHz]	Factor [dB]	AV Reading [dBμV/m]	AV Value [dBμV/m]	AV Limit [dBμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1660.6000	-8.03	46.23	38.20	54.00	15.80	100	63	Vertical
2	2659.6000	-2.31	45.17	42.86	54.00	11.14	100	103	Vertical
3	3249.0000	-12.12	46.74	34.62	54.00	19.38	100	323	Vertical
4	3994.5000	-10.17	47.56	37.39	54.00	16.61	100	218	Vertical
5	7199.7900	1.20	50.79	51.99	54.00	2.01	200	339	Vertical
6	15000.0000	12.64	36.42	49.06	54.00	4.94	200	283	Vertical

Mode: IEEE 802.11n HT20
Highest Frequency (2462MHz)
Environment: 25.1℃/52%RH
Tested By: Qin tingting

Voltage: DC 5V
Date: 2024-10-23

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1891.4000	50.82	47.00	-3.82	74.00	27.00	200	114	Horizontal
2	2660.6000	50.56	48.43	-2.13	74.00	25.57	100	157	Horizontal
3	3282.0000	60.75	47.61	-13.14	74.00	26.39	100	325	Horizontal
4	4923.0000	51.43	44.71	-6.72	74.00	29.29	100	88	Horizontal
5	7200.0000	54.14	55.24	1.10	74.00	18.76	200	298	Horizontal
6	15000.0000	40.24	52.08	11.84	74.00	21.92	200	325	Horizontal

AV Final Data List									
NO.	Freq. [MHz]	Factor [dB]	AV Reading [dBμV/m]	AV Value [dBμV/m]	AV Limit [dBμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2660.6000	-2.13	42.69	40.56	54.00	13.44	100	157	Horizontal
2	7200.0000	1.10	51.42	52.52	54.00	1.48	200	298	Horizontal
3	15000.0000	11.84	35.74	47.58	54.00	6.42	200	325	Horizontal

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1330.2000	55.78	47.69	-8.09	74.00	26.31	100	0	Vertical
2	1891.0000	50.75	46.86	-3.89	74.00	27.14	100	127	Vertical
3	2517.6000	51.31	50.21	-1.10	74.00	23.79	100	61	Vertical
4	3282.0000	62.59	50.04	-12.55	74.00	23.96	100	87	Vertical
5	7200.0000	55.95	57.15	1.20	74.00	16.85	100	34	Vertical
6	15000.0000	41.27	53.91	12.64	74.00	20.09	200	257	Vertical

AV Final Data List									
NO.	Freq. [MHz]	Factor [dB]	AV Reading [dBμV/m]	AV Value [dBμV/m]	AV Limit [dBμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2517.6000	-1.10	43.65	42.55	54.00	11.45	100	61	Vertical
2	3282.0000	-12.55	47.16	34.61	54.00	19.39	100	87	Vertical
3	7200.0000	1.20	50.17	51.37	54.00	2.63	100	34	Vertical
4	15000.0000	12.64	37.64	50.28	54.00	3.72	200	257	Vertical

Mode: IEEE 802.11n HT40
Lowest Frequency (2422MHz)
Environment: 25.1°C/52%RH
Tested By: Qin tingting

Voltage: DC 5V
Date: 2024-10-23

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1902.8000	48.05	44.45	-3.60	74.00	29.55	200	21	Horizontal
2	2618.2000	49.70	47.31	-2.39	74.00	26.69	100	270	Horizontal
3	3228.0000	65.62	52.81	-12.81	74.00	21.19	100	223	Horizontal
4	4837.5000	59.00	51.83	-7.17	74.00	22.17	100	81	Horizontal
5	7200.0000	53.92	55.02	1.10	74.00	18.98	200	118	Horizontal
6	9370.5000	40.06	47.48	7.42	74.00	26.52	200	14	Horizontal

AV Final Data List									
NO.	Freq. [MHz]	Factor [dB]	AV Reading [dBμV/m]	AV Value [dBμV/m]	AV Limit [dBμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity
1	3228.0000	-12.81	56.38	43.57	54.00	10.43	100	223	Horizontal
2	4843.9405	-7.17	48.04	40.87	54.00	13.13	163	63.4	Horizontal
3	7199.7900	1.10	49.13	50.23	54.00	3.77	200	162.2	Horizontal

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1992.0000	49.01	45.10	-3.91	74.00	28.90	200	245	Vertical
2	2501.0000	47.45	47.03	-0.42	74.00	26.97	200	348	Vertical
3	3228.0000	64.60	52.02	-12.58	74.00	21.98	100	339	Vertical
4	4837.5000	53.94	46.79	-7.15	74.00	27.21	200	69	Vertical
5	7200.0000	56.84	58.04	1.20	74.00	15.96	100	50	Vertical
6	15000.0000	40.84	53.48	12.64	74.00	20.52	200	0	Vertical

AV Final Data List									
NO.	Freq. [MHz]	Factor [dB]	AV Reading [dBμV/m]	AV Value [dBμV/m]	AV Limit [dBμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity
1	3228.0000	-12.58	58.10	45.52	54.00	8.48	100	339	Vertical
2	7199.7900	1.20	45.39	46.59	54.00	7.41	100	27.4	Vertical
3	15000.0000	12.64	32.67	45.31	54.00	8.69	200	0	Vertical

Mode: IEEE 802.11n HT40
Middle Frequency (2437 MHz)
Environment: 25.1°C/52%RH
Tested By: Qin tingting

Voltage: DC 5V
Date: 2024-10-23

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1196.4000	57.72	48.80	-8.92	74.00	25.20	100	89	Horizontal
2	1815.0000	54.44	48.75	-5.69	74.00	25.25	100	89	Horizontal
3	2656.4000	51.11	48.96	-2.15	74.00	25.04	100	116	Horizontal
4	3249.0000	61.08	48.57	-12.51	74.00	25.43	100	325	Horizontal
5	7200.0000	54.24	55.34	1.10	74.00	18.66	200	62	Horizontal
6	15000.0000	39.76	51.60	11.84	74.00	22.40	200	338	Horizontal

AV Final Data List									
NO.	Freq. [MHz]	Factor [dB]	AV Reading [dBμV/m]	AV Value [dBμV/ m]	AV Limit [dBμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1196.4000	-8.92	45.63	36.71	54.00	17.29	100	89	Horizontal
2	1815.0000	-5.69	47.58	41.89	54.00	12.11	100	89	Horizontal
3	2656.4000	-2.15	50.21	48.06	54.00	5.94	100	116	Horizontal
4	3249.0000	-12.51	54.39	41.88	54.00	12.12	100	325	Horizontal
5	7200.0000	1.10	51.34	52.44	54.00	1.56	200	62	Horizontal
6	15000.0000	11.84	35.17	47.01	54.00	6.99	200	338	Horizontal

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1332.6000	56.66	48.55	-8.11	74.00	25.45	200	11	Vertical
2	1890.4000	54.30	50.39	-3.91	74.00	23.61	100	222	Vertical
3	2843.8000	49.84	48.81	-1.03	74.00	25.19	100	88	Vertical
4	3249.0000	62.79	50.67	-12.12	74.00	23.33	100	309	Vertical
5	7200.0000	54.93	56.13	1.20	74.00	17.87	200	337	Vertical
6	15000.0000	41.44	54.08	12.64	74.00	19.92	200	34	Vertical

AV Final Data List									
NO.	Freq. [MHz]	Factor [dB]	AV Reading [dBμV/m]	AV Value [dBμV/m]	AV Limit [dBμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1332.6000	-8.11	45.36	37.25	54.00	16.75	200	11	Vertical
2	1890.4000	-3.91	48.21	44.30	54.00	9.70	100	222	Vertical
3	2843.8000	-1.03	47.12	46.09	54.00	7.91	100	88	Vertical
4	3249.0000	-12.12	50.28	38.16	54.00	15.84	100	309	Vertical
5	7200.0000	1.20	50.95	52.15	54.00	1.85	200	337	Vertical
6	15000.0000	12.64	36.24	48.88	54.00	5.12	200	34	Vertical

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Mode: IEEE 802.11n HT40
Highest Frequency (2452MHz)
Environment: 25.1°C/52%RH
Tested By: Qin tingting

Voltage: DC 5V
Date: 2024-10-23

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1728.0000	69.76	62.63	-7.13	74.00	11.37	100	169	Horizontal
2	1895.0000	54.31	50.59	-3.72	74.00	23.41	200	116	Horizontal
3	2655.0000	50.98	48.82	-2.16	74.00	25.18	100	61	Horizontal
4	3268.5000	61.43	48.56	-12.87	74.00	25.44	100	322	Horizontal
5	7200.0000	53.44	54.54	1.10	74.00	19.46	200	297	Horizontal
6	15000.0000	40.55	52.39	11.84	74.00	21.61	200	35	Horizontal

AV Final Data List									
NO.	Freq. [MHz]	Factor [dB]	AV Reading [dBμV/m]	AV Value [dBμV/m]	AV Limit [dBμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1728.0000	-7.13	53.17	46.04	54.00	7.96	100	169	Horizontal
2	1895.0000	-3.72	47.23	43.51	54.00	10.49	200	116	Horizontal
3	2655.0000	-2.16	45.39	43.23	54.00	10.77	100	61	Horizontal
4	3268.5000	-12.87	48.87	36.00	54.00	18.00	100	322	Horizontal
5	7200.0000	1.10	51.39	52.49	54.00	1.51	200	297	Horizontal
6	15000.0000	11.84	34.69	46.53	54.00	7.47	200	35	Horizontal

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1329.6000	56.78	48.69	-8.09	74.00	25.31	200	10	Vertical
2	1726.4000	60.06	52.94	-7.12	74.00	21.06	100	182	Vertical
3	3268.5000	63.35	50.99	-12.36	74.00	23.01	100	310	Vertical
4	3999.0000	58.05	47.92	-10.13	74.00	26.08	100	114	Vertical
5	7200.0000	55.18	56.38	1.20	74.00	17.62	200	336	Vertical
6	15000.0000	42.35	54.99	12.64	74.00	19.01	200	34	Vertical

AV Final Data List									
NO.	Freq. [MHz]	Factor [dB]	AV Reading [dBμV/m]	AV Value [dBμV/m]	AV Limit [dBμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1329.6000	-8.09	41.69	33.60	54.00	20.40	200	10	Vertical
2	1726.4000	-7.12	47.54	40.42	54.00	13.58	100	182	Vertical
3	3268.5000	-12.36	46.21	33.85	54.00	20.15	100	310	Vertical
4	7200.0000	1.20	50.76	51.96	54.00	2.04	200	336	Vertical
5	15000.0000	12.64	36.21	48.85	54.00	5.15	200	34	Vertical

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18GHz-26.5GHz:

Pre-scan all modes and recorded the worst case (IEEE 802.11n HT40 2422MHz) results in this report.
The peak test results is less than the average limits, so the average test results had not reported.

Environment: 24.2°C/60%RH/101.0kPa

Tested By: Qin tingting

Voltage: DC 5V

Date: 2024-08-27

Suspected Data List

NO.	Freq. [MHz]	Reading [dBμV/m]	Level for 1m [dBμV/m]	Level for 3m [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	18719.525	49.51	33.48	23.94	-16.03	74	50.06	100	95	Horizontal
2	19621.8	48.13	32.23	22.69	-15.90	74	51.31	100	258	Horizontal
3	20283.95	47.41	31.95	22.41	-15.46	74	51.59	100	32	Horizontal
4	21173.9	47.58	32.58	23.04	-15.00	74	50.96	100	161	Horizontal
5	23629.975	46.98	32.97	23.43	-14.01	74	50.57	100	209	Horizontal
6	25737.55	46.82	32.83	23.29	-13.99	74	50.71	100	32	Horizontal

Suspected Data List

NO.	Freq. [MHz]	Reading [dBμV/m]	Level for 1m [dBμV/m]	Level for 3m [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	18915.025	48.45	32.58	23.04	-15.87	74	50.96	100	301	Vertical
2	20184.5	47.8	32.72	23.18	-15.08	74	50.82	100	360	Vertical
3	21072.325	47.11	32.46	22.92	-14.65	74	51.08	100	108	Vertical
4	22807.6	46.65	32.91	23.37	-13.74	74	50.63	100	108	Vertical
5	24056.25	46.36	33.04	23.5	-13.32	74	50.50	100	190	Vertical
6	25778.35	46.56	33.36	23.82	-13.20	74	50.18	100	279	Vertical

Remark:

- 1 Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2 Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 3 Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
- 4 Above 18G test distance is 1m, so the Level for 3m= Level for 1m + 20*log(1/3)

7. 6DB BANDWIDTH

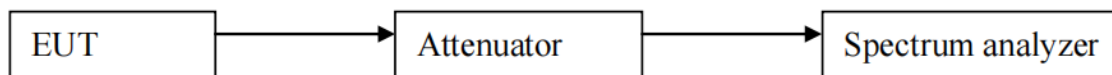
7.1 LIMITS

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.

7.2 TEST PROCEDURES

- 1) Remove the antenna from the EUT, and then connect a low loss RF cable from antenna port to the spectrum analyzer.
- 2) Set resolution bandwidth (RBW) = 100kHz. Set the video bandwidth (VBW) $\geq 3 \times$ RBW. Detector = Peak. Trace mode = max hold. Sweep = auto couple. Allow the trace to stabilize, record 6dB bandwidth value.
- 3) Repeat above procedures until all frequencies measured were complete.

7.3 TEST SETUP



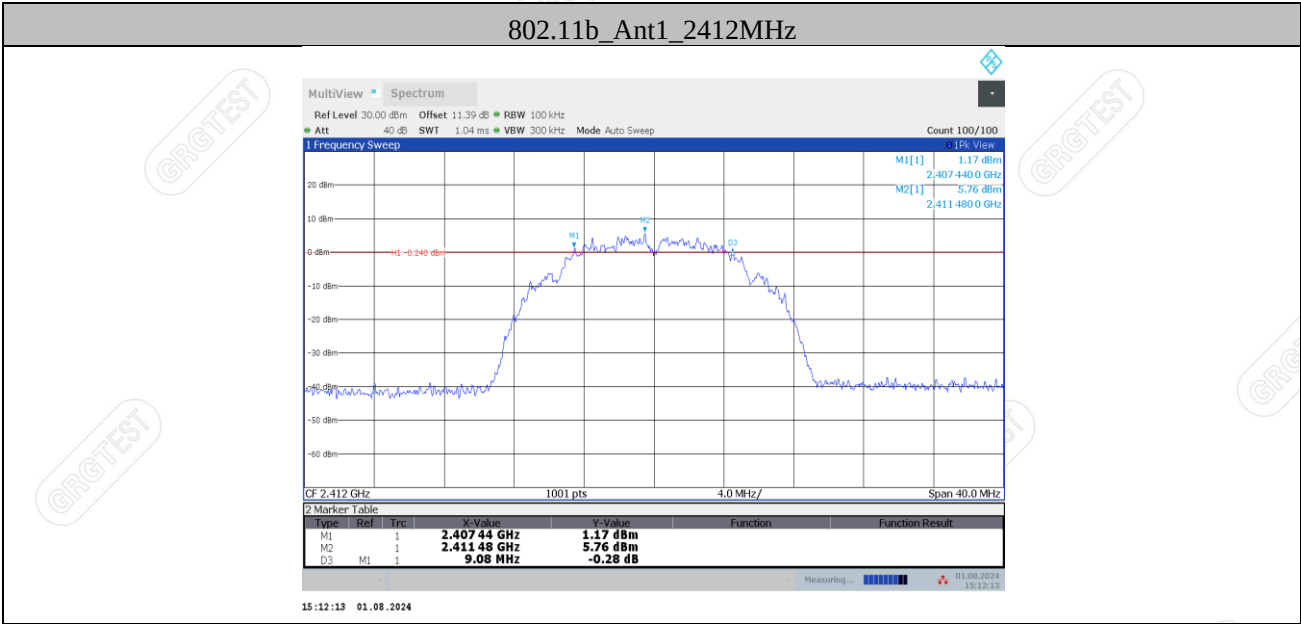
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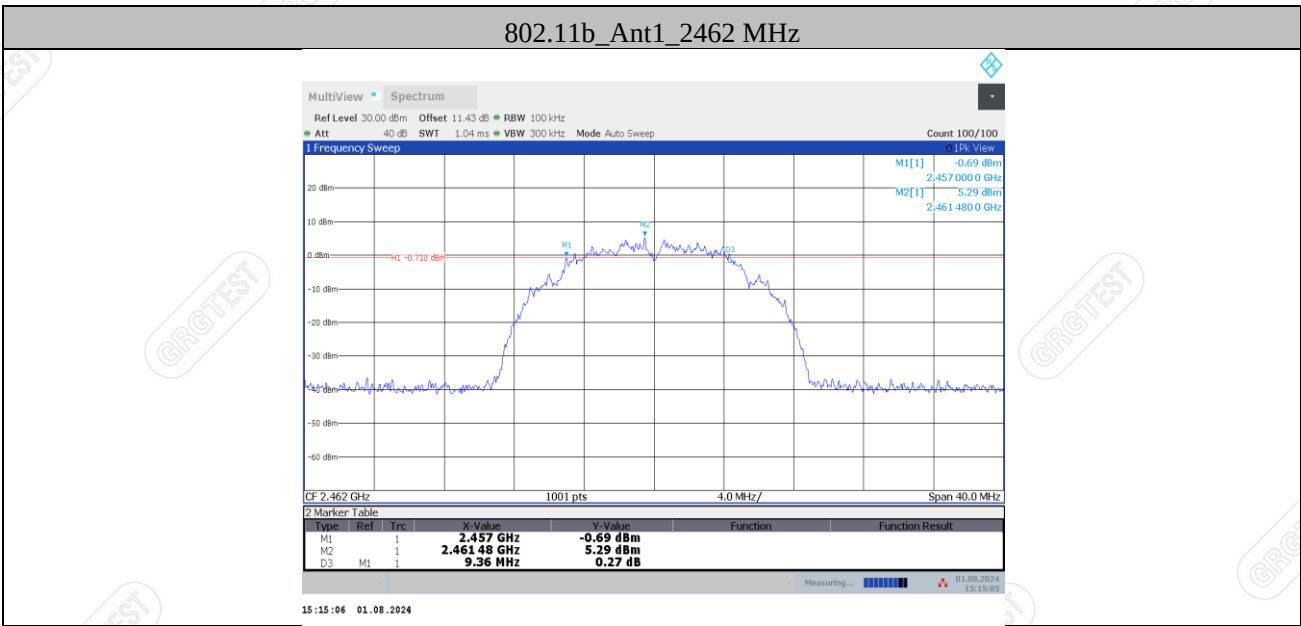
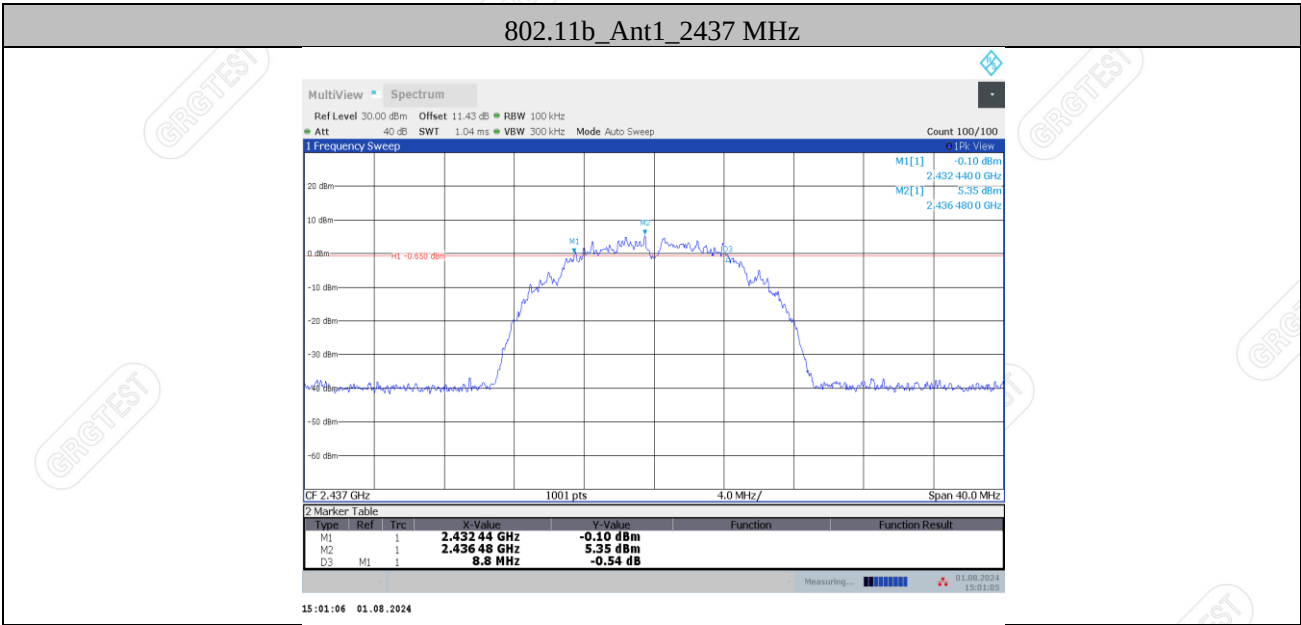
7.4 TEST RESULTS

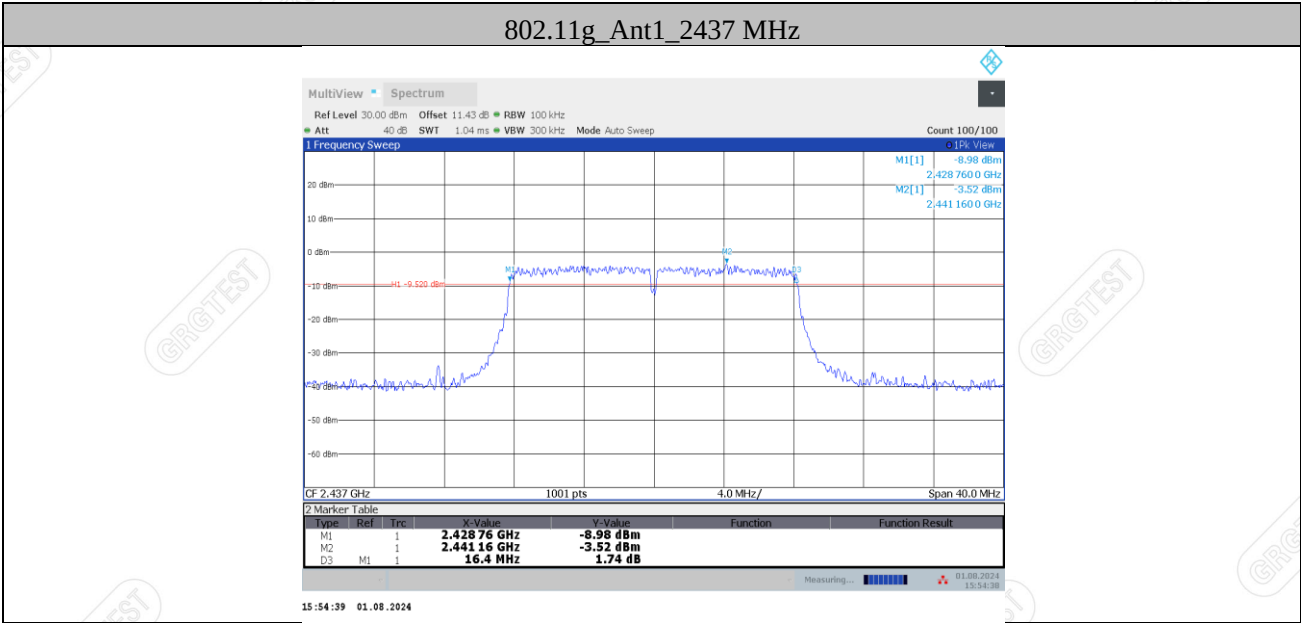
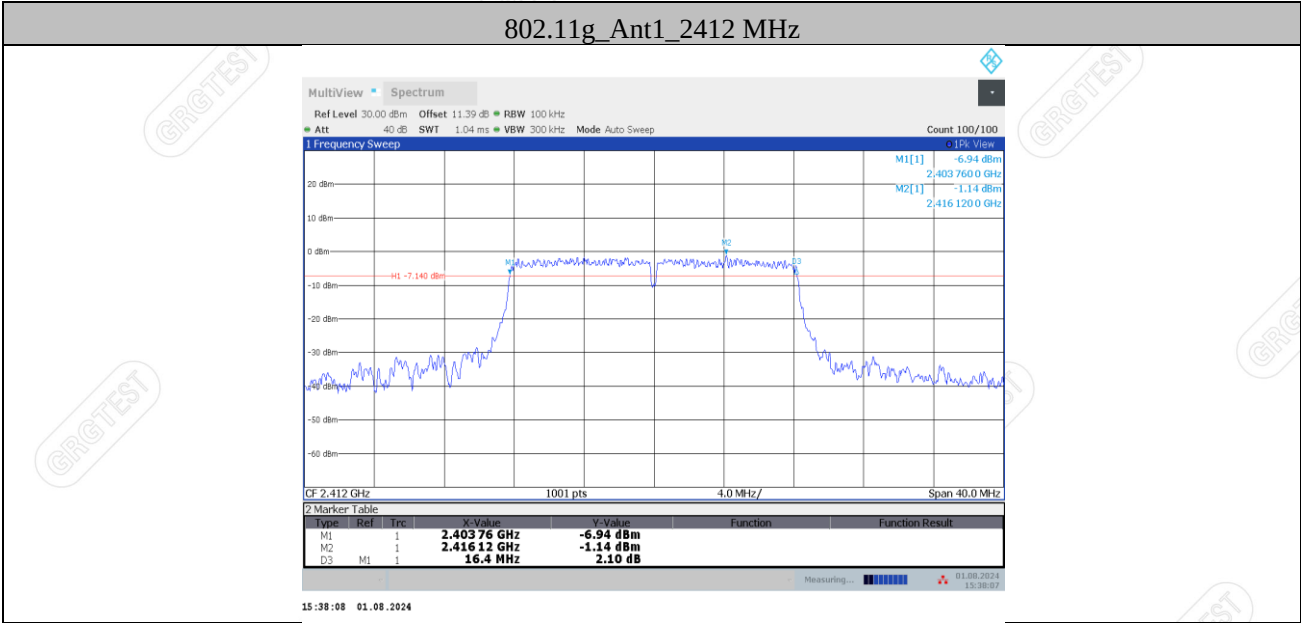
Environment: 25.3°C/59%RH/101.0kPa
Tested By: Qin tingting

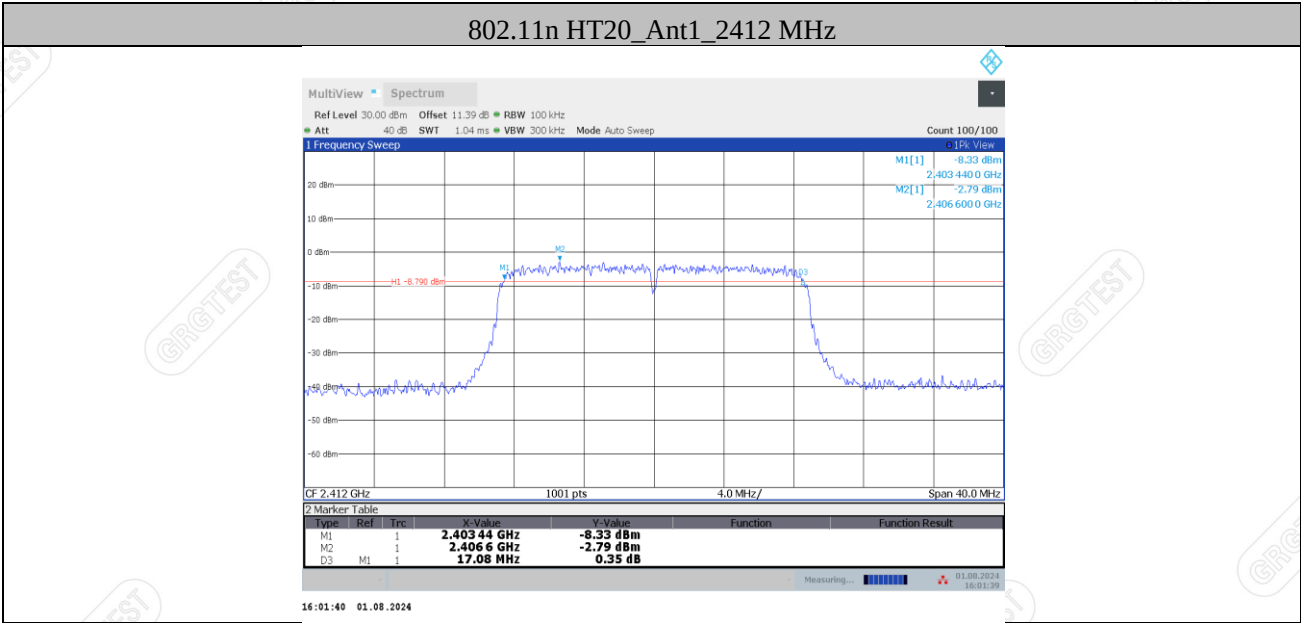
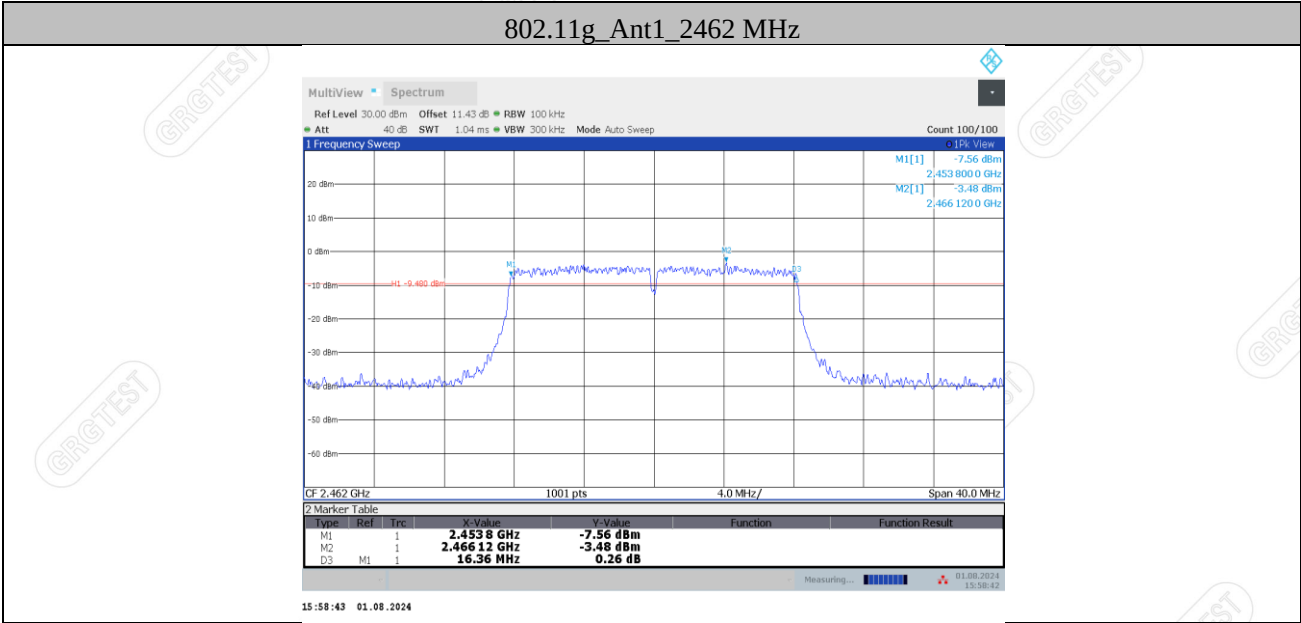
Voltage: DC 5V
Date: 2024-08-01

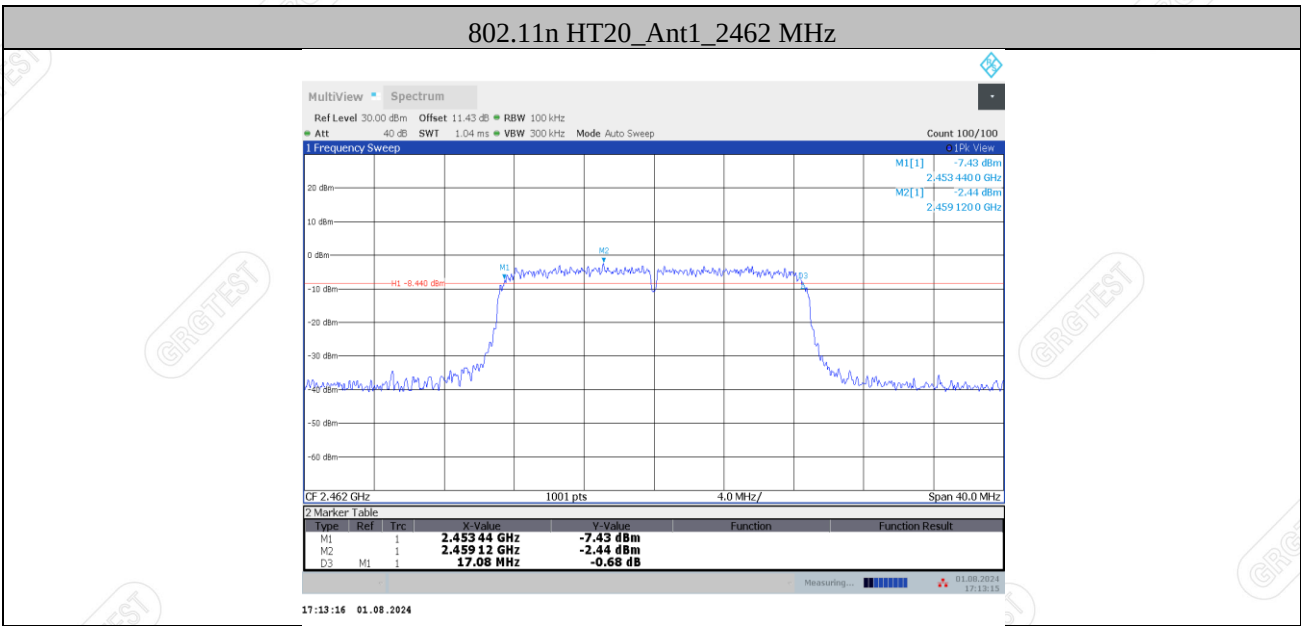
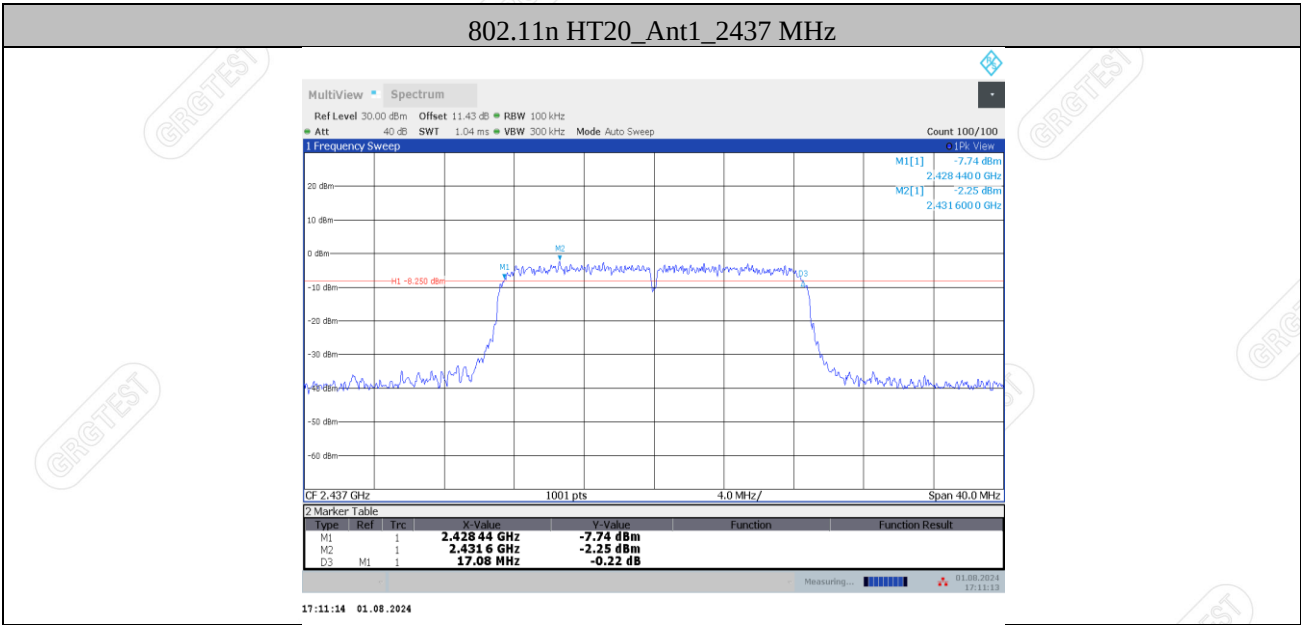
Test Mode	Antenna	Frequency[MHz]	DTS BW [MHz]	Limit[MHz]	Verdict
802.11b	Ant1	2412	9.08	≥0.5	PASS
		2437	8.80	≥0.5	PASS
		2462	9.36	≥0.5	PASS
802.11g	Ant1	2412	16.40	≥0.5	PASS
		2437	16.40	≥0.5	PASS
		2462	16.36	≥0.5	PASS
802.11n HT20	Ant1	2412	17.08	≥0.5	PASS
		2437	17.08	≥0.5	PASS
		2462	17.08	≥0.5	PASS
802.11n HT40	Ant1	2422	33.60	≥0.5	PASS
		2437	33.60	≥0.5	PASS
		2452	32.64	≥0.5	PASS

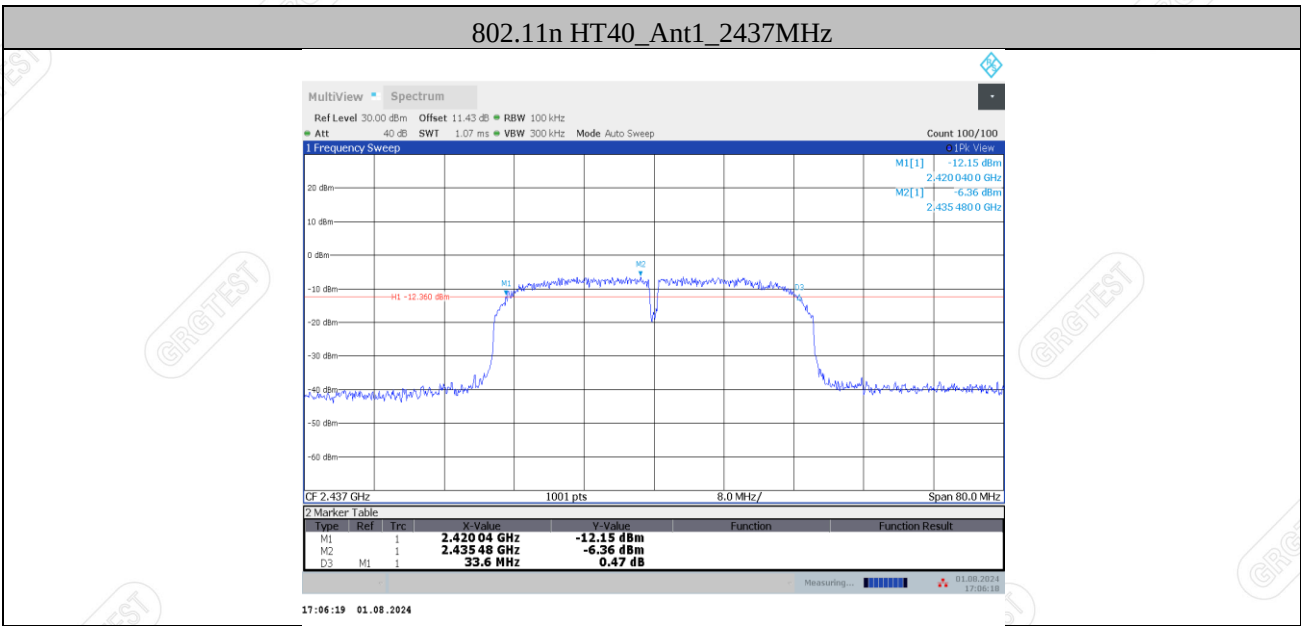
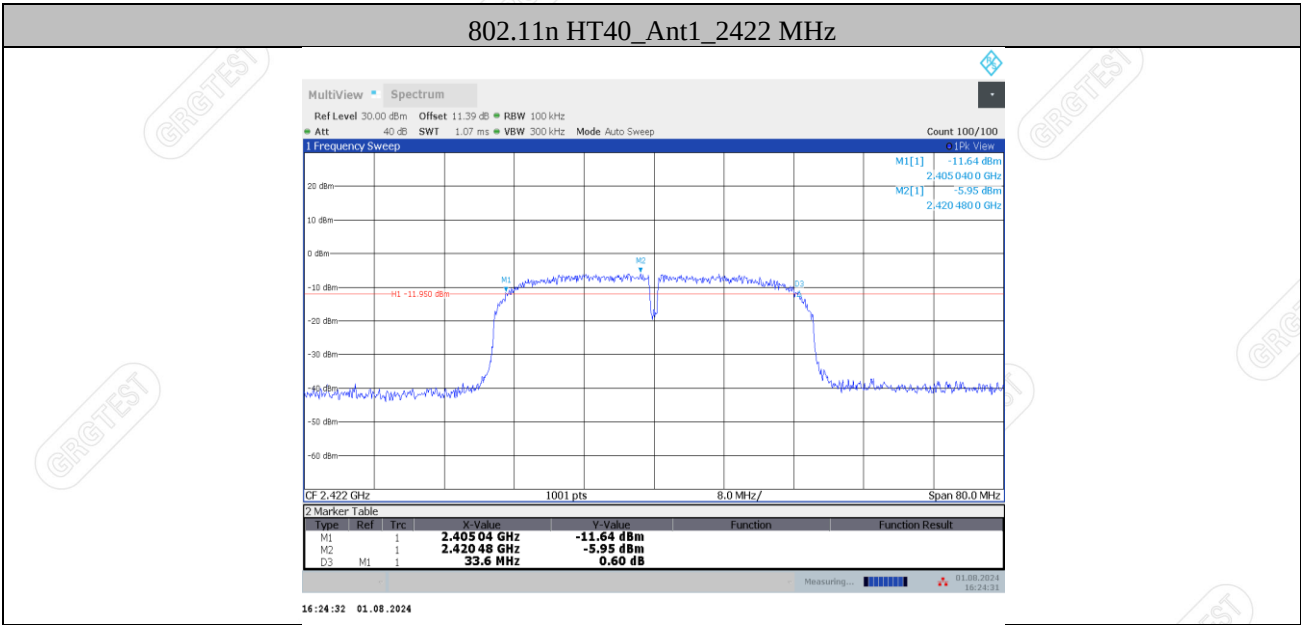


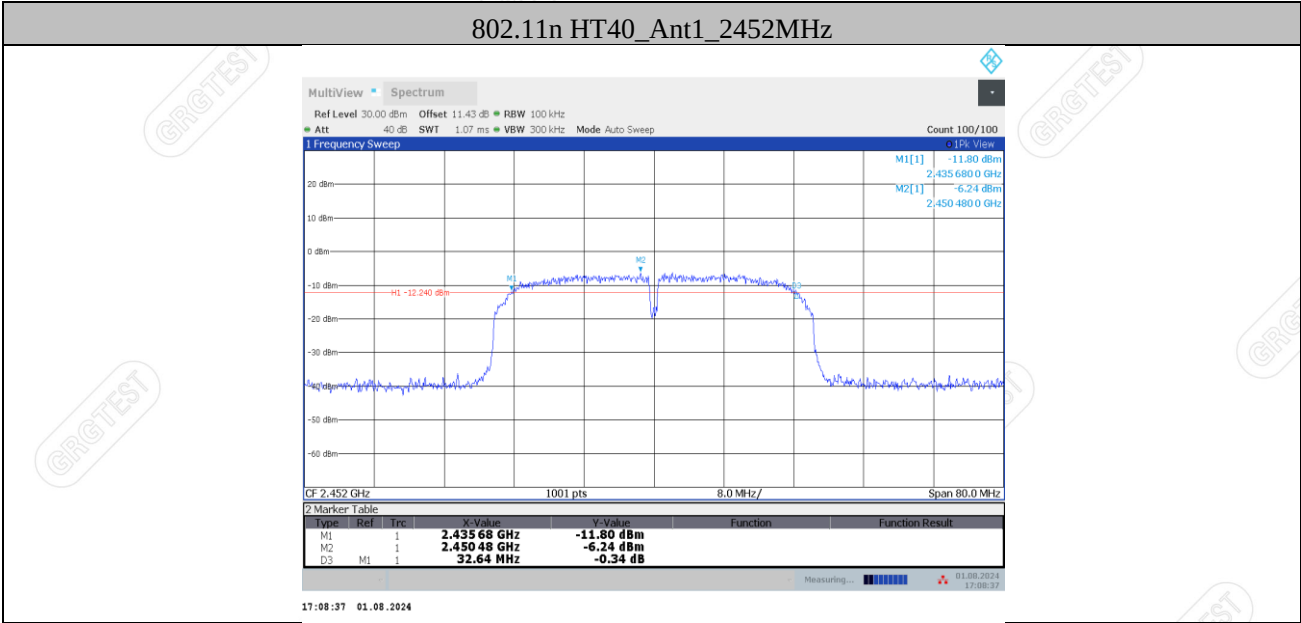












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8. MAXIMUM PEAK OUTPUT POWER

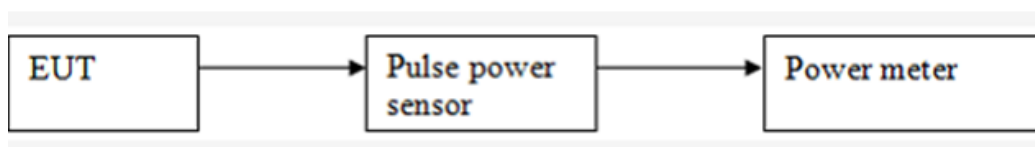
8.1 LIMITS

The maximum Peak output power measurement is 1W

8.2 TEST PROCEDURES

- 1) RF output of EUT was connected to the broadband peak RF power meter by RF cable and attenuator. The path loss was compensated to the results for each measurement.
- 2) Set to the maximum power setting and enable the EUT transmit continuously.
- 3) Measure the conducted output power and record the results in the test report.

8.3 TEST SETUP



8.4 TEST RESULT

Environment: 25.3°C/59%RH/101.0kPa

Tested By: Qin tingting

Voltage: DC 5V

Date: 2024-08-01

802.11b Mode:

Channel No.	Frequency (MHz)	Maximum output Power (dBm)	Peak / AVG	Limit	Result
1	2412	18.25	Peak	30dBm	Pass
6	2437	18.19			Pass
11	2462	17.68			Pass

802.11g Mode:

Channel No.	Frequency (MHz)	Maximum output Power (dBm)	Peak / AVG	Limit	Result
1	2412	21.28	Peak	30dBm	Pass
6	2437	21.06			Pass
11	2462	20.76			Pass

802.11n HT20 Mode:

Channel No.	Frequency (MHz)	Maximum output Power (dBm)	Peak / AVG	Limit	Result
1	2412	21.06	Peak	30dBm	Pass
6	2437	20.93			Pass
11	2462	20.61			Pass

802.11n HT40 Mode:

Channel No.	Frequency (MHz)	Maximum output Power (dBm)	Peak / AVG	Limit	Result
3	2422	21.72	Peak	30dBm	Pass
6	2437	21.53			Pass
9	2452	21.26			Pass

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9. POWER SPECTRAL DENSITY

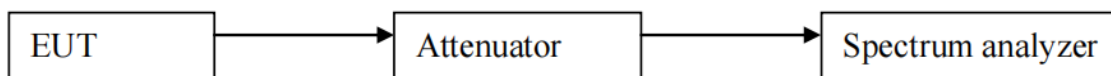
9.1 LIMITS

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. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

9.2 TEST PROCEDURES

- 1) Remove the antenna from the EUT, and then connect a low loss RF cable from antenna port to the spectrum analyzer.
- 2) Position the EUT was set without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
- 3) The following procedure shall be used if maximum peak conducted output power was used to determine compliance, and it is optional if the maximum conducted (average) output power was used to determine compliance:
 - a) Set analyzer center frequency to DTS channel center frequency.
 - b) Set the span to 1.5 times the DTS bandwidth.
 - c) Set the RBW to $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$.
 - d) Set the VBW $\geq [3 \times \text{RBW}]$.
 - e) Detector = average
 - f) Sweep time = auto couple.
 - g) Trace mode = max hold.
 - h) Allow trace to fully stabilize.
 - i) Use the peak marker function to determine the maximum amplitude level within the RBW.
 - j) If measured value exceeds requirement, then reduce RBW (but no less than 3 kHz) and repeat.
- 4) Repeat above procedures until all frequencies measured were complete.

9.3 TEST SETUP



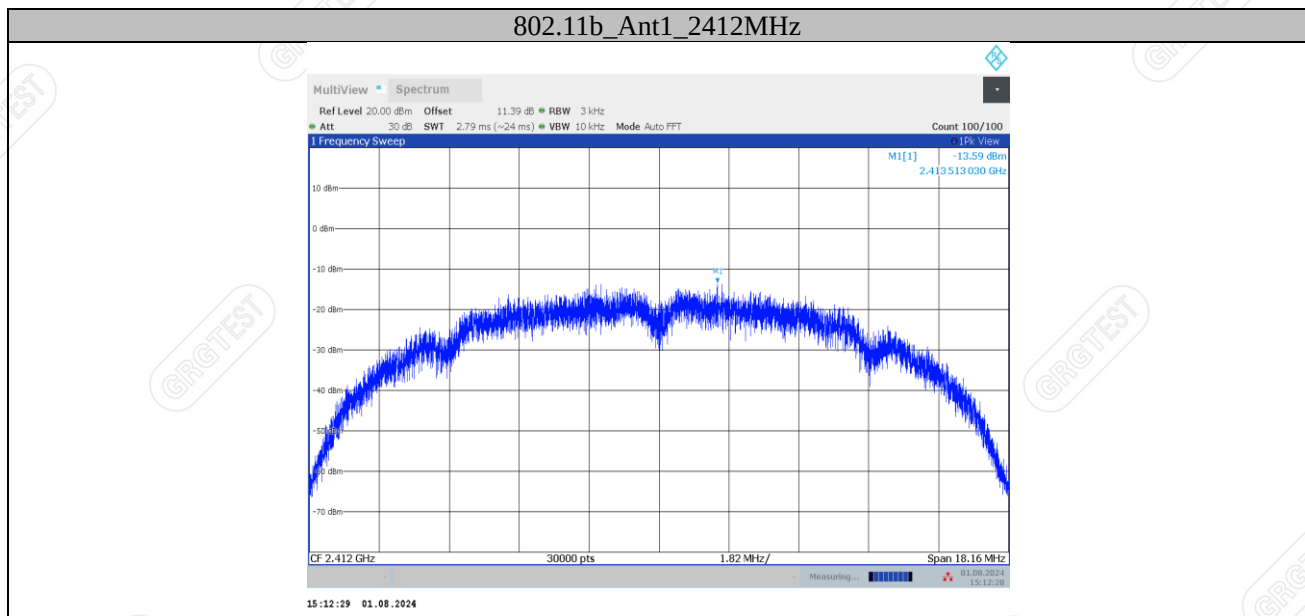
9.4 TEST RESULTS

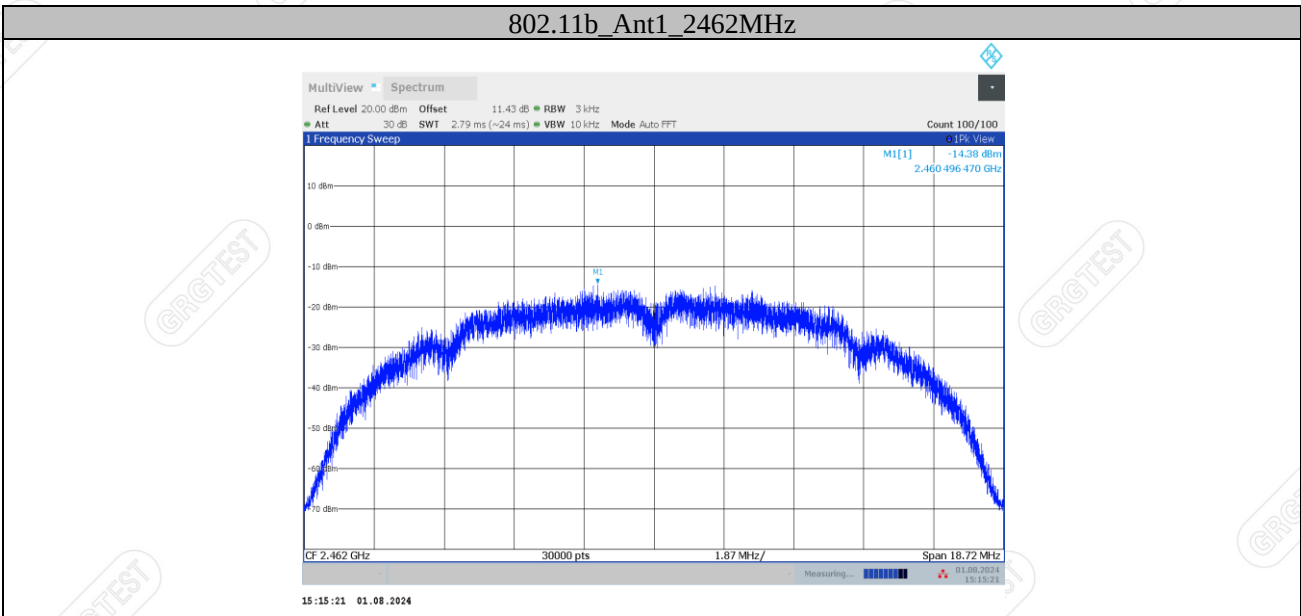
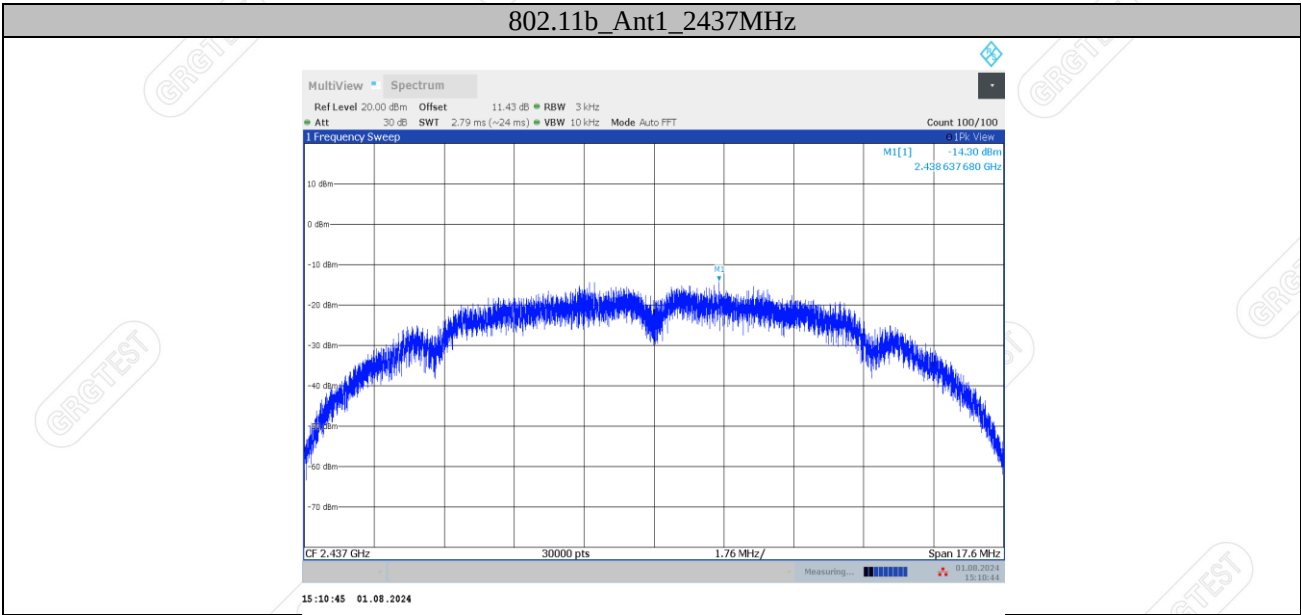
Environment: 25.3°C/59%RH/101.0kPa
Tested By: Qin tingting

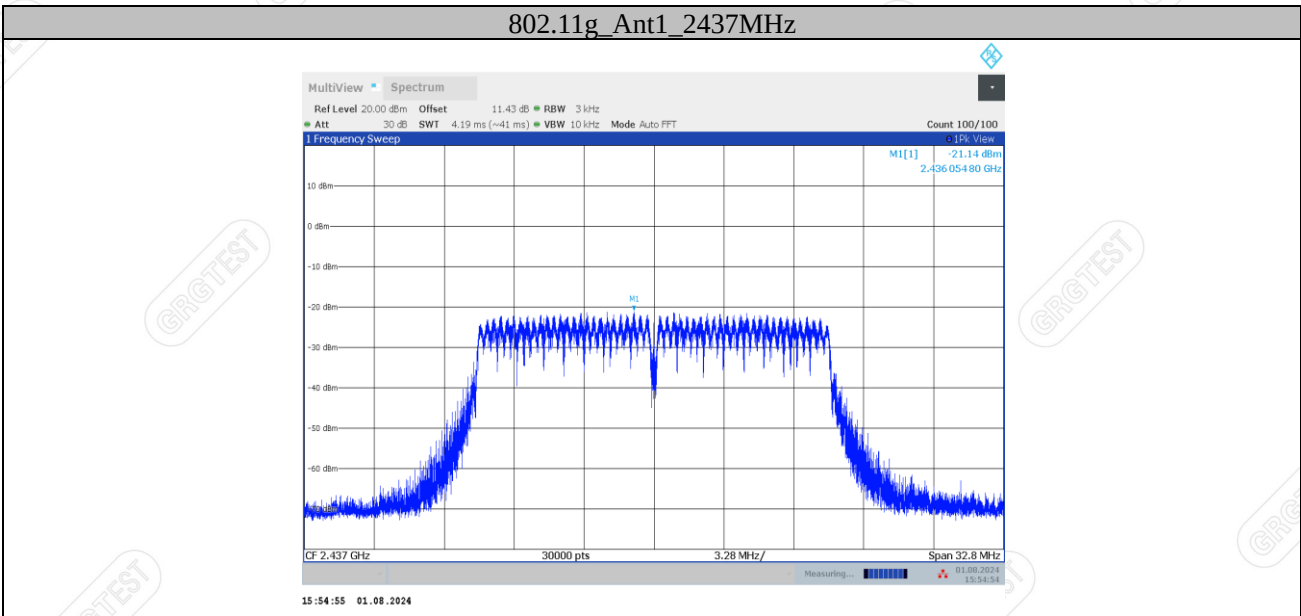
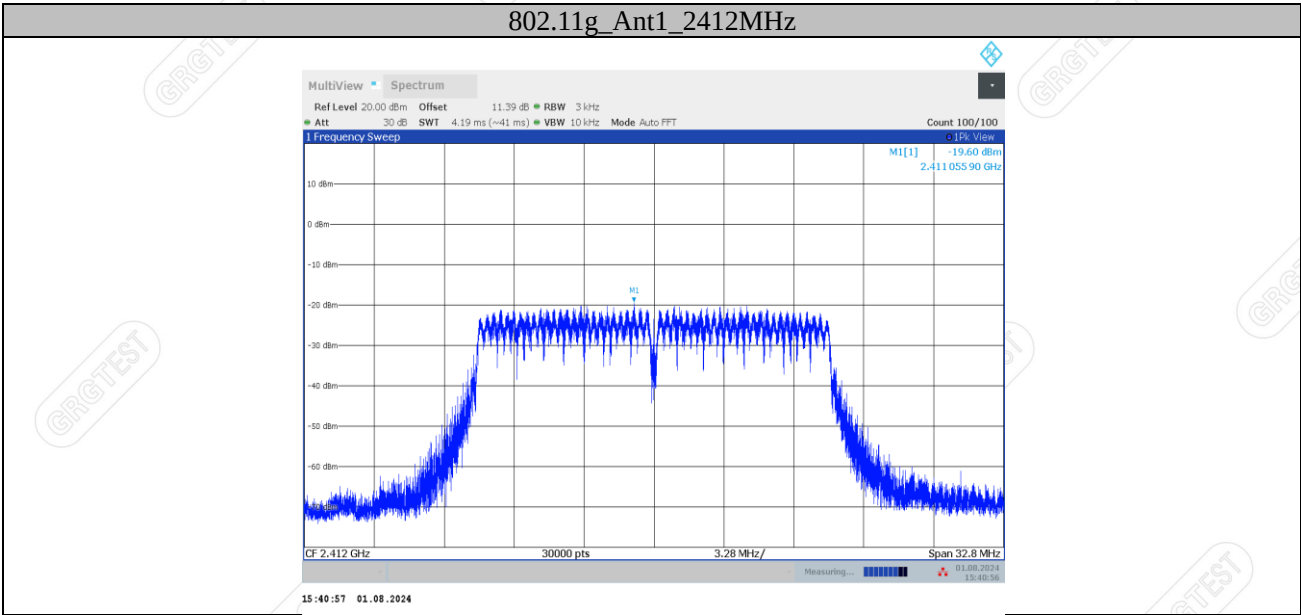
Voltage: DC 5V
Date: 2024-08-01

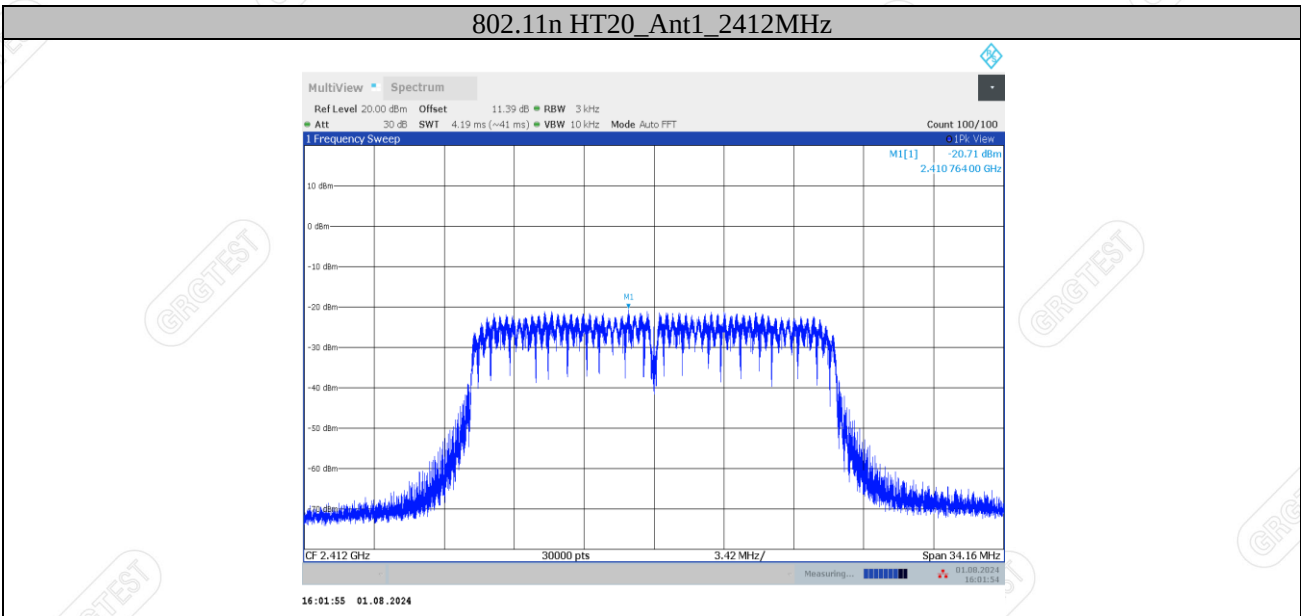
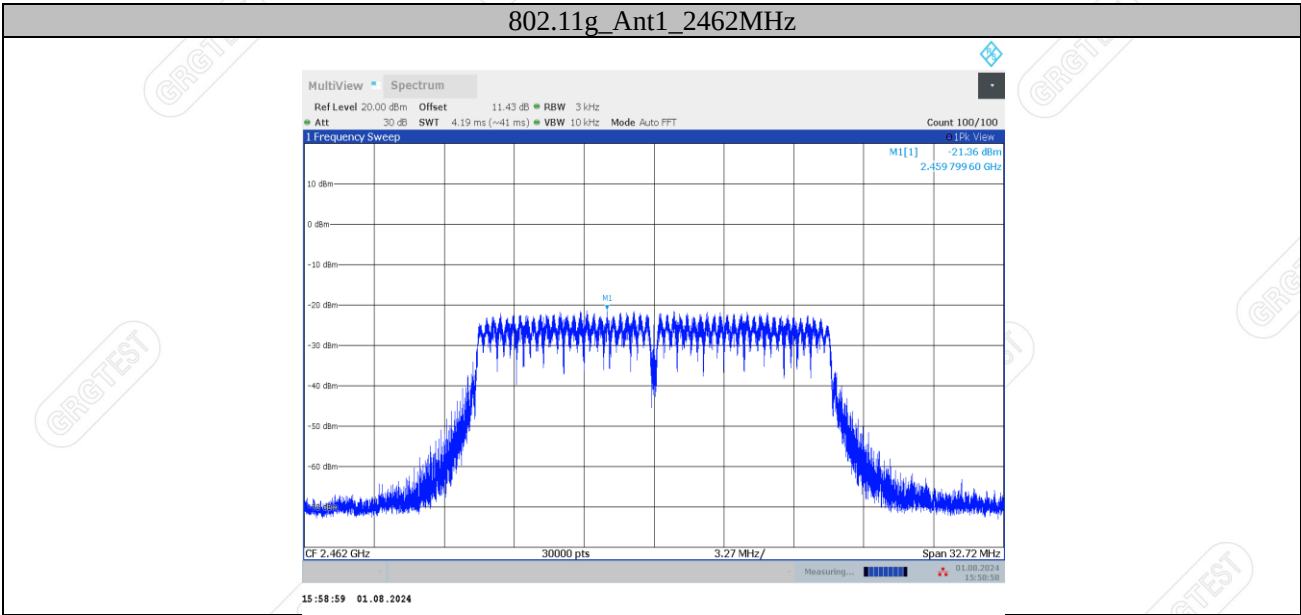
Test Mode	Antenna	Frequency [MHz]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
802.11b	Ant1	2412	-13.59	8.00	PASS
		2437	-14.30	8.00	PASS
		2462	-14.38	8.00	PASS
802.11g	Ant1	2412	-19.60	8.00	PASS
		2437	-21.14	8.00	PASS
		2462	-21.36	8.00	PASS
802.11n HT20	Ant1	2412	-20.71	8.00	PASS
		2437	-21.70	8.00	PASS
		2462	-21.73	8.00	PASS
802.11n HT40	Ant1	2422	-22.22	8.00	PASS
		2437	-22.31	8.00	PASS
		2452	-22.89	8.00	PASS

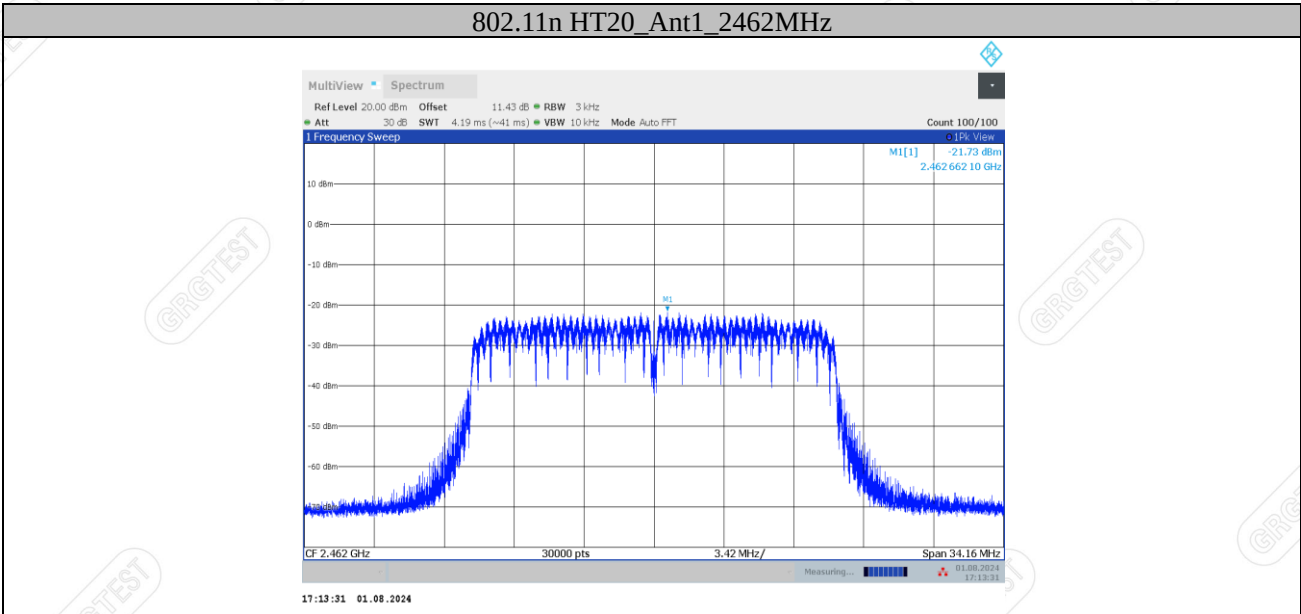
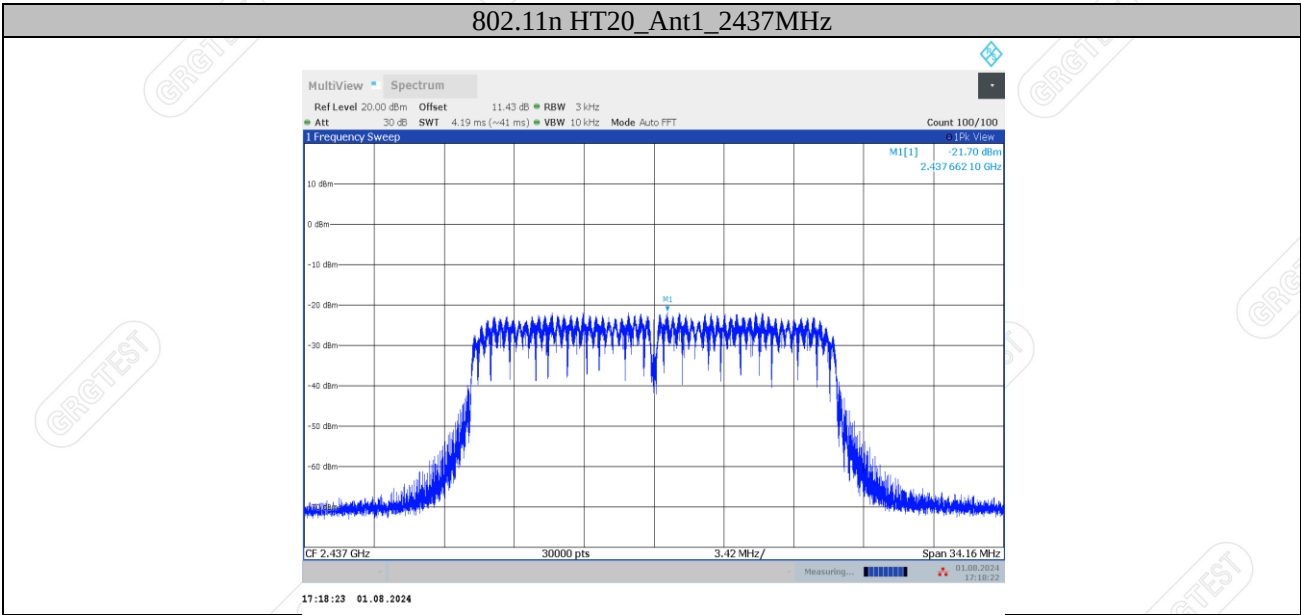
802.11b_Ant1_2412MHz

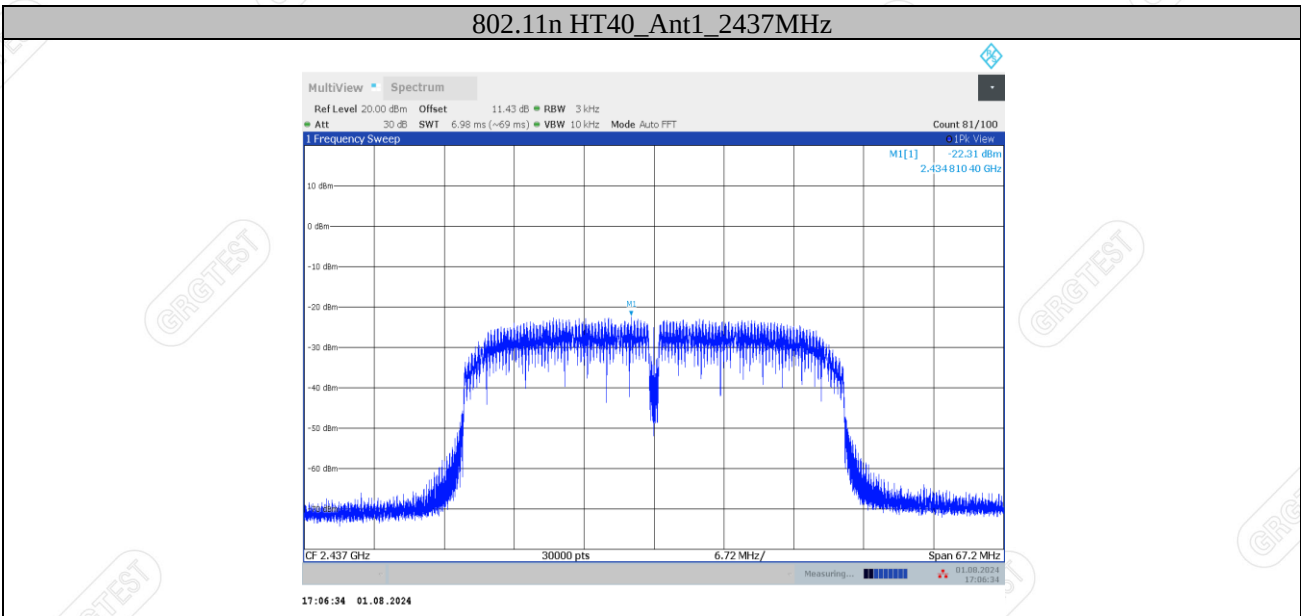
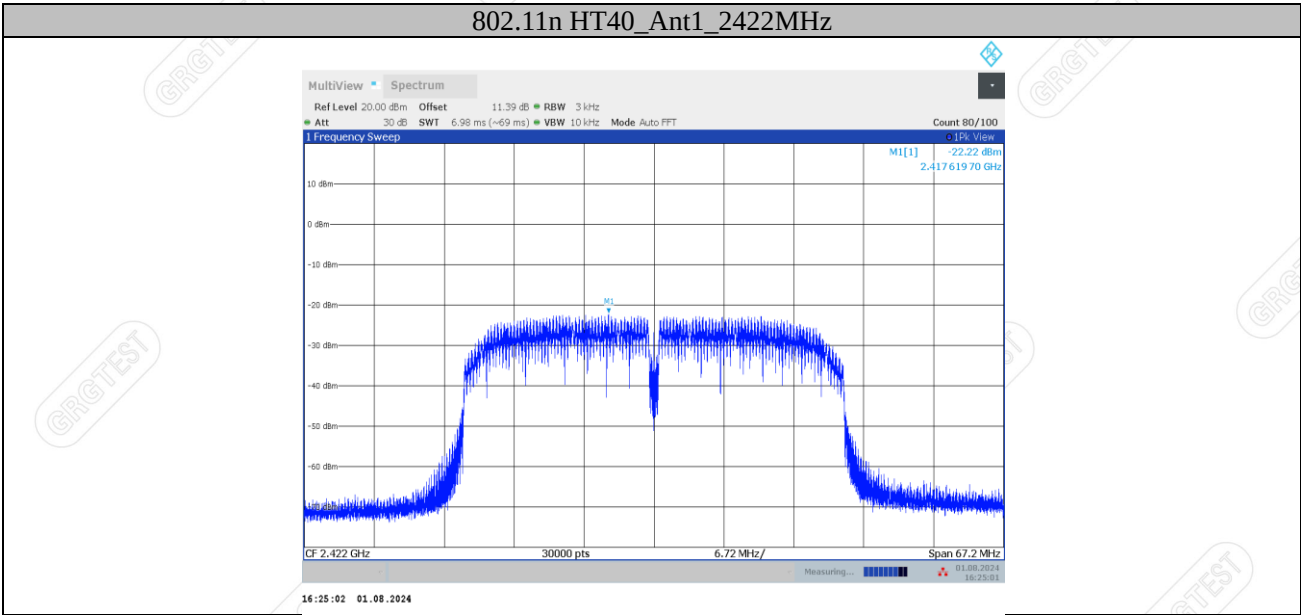


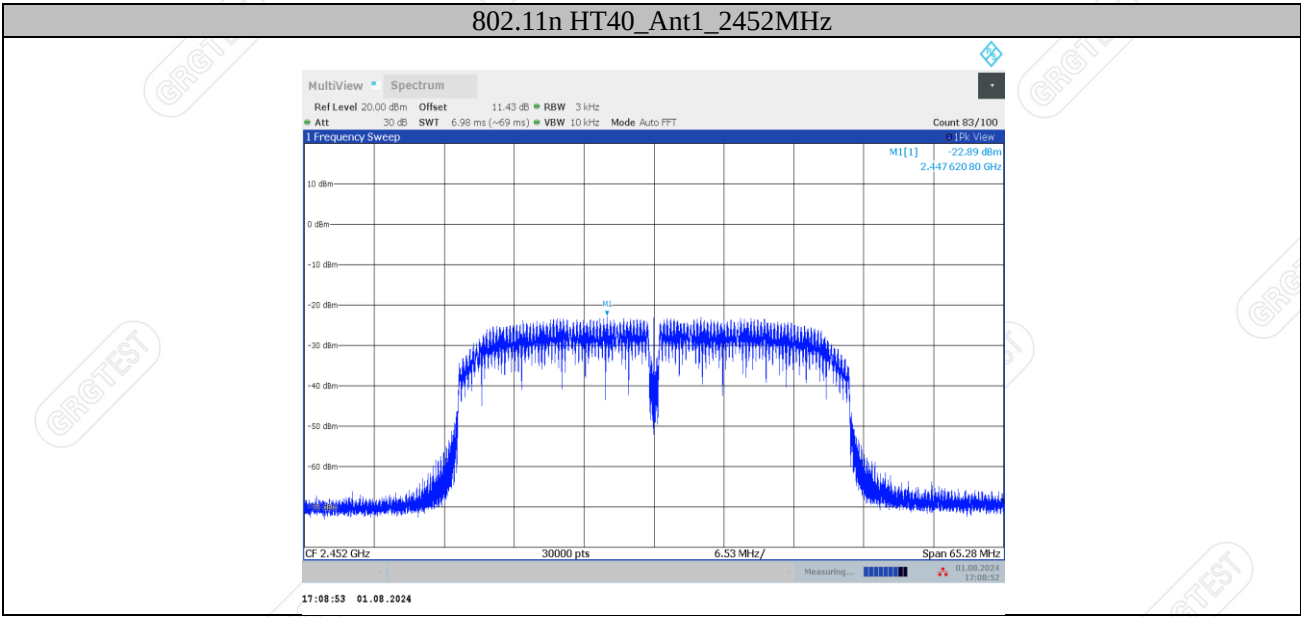












10. CONDUCTED BAND EDGES AND SPURIOUS EMISSIONS

10.1 LIMITS

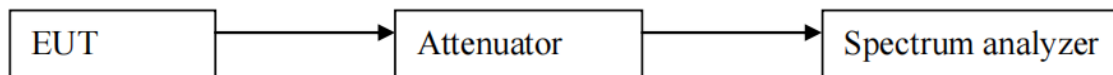
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the 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.

10.2 TEST PROCEDURES

Remove the antenna from the EUT and then connect a low attenuation cable from the antenna port to the spectrum.

- 1) Remove the antenna from the EUT and then connect a low attenuation cable from the antenna port to the spectrum.
- 2) Set the spectrum analyzer: RBW =100KHz; VBW =300KHz, Frequency range = 30MHz to 26.5GHz; Sweep = auto; Detector Function = Peak; Trace = Max hold.
- 3) Measure and record the results in the test report.
- 4) The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

10.3 TEST SETUP



10.4 TEST RESULTS

Environment: 25.3°C/59%RH/101.0kPa

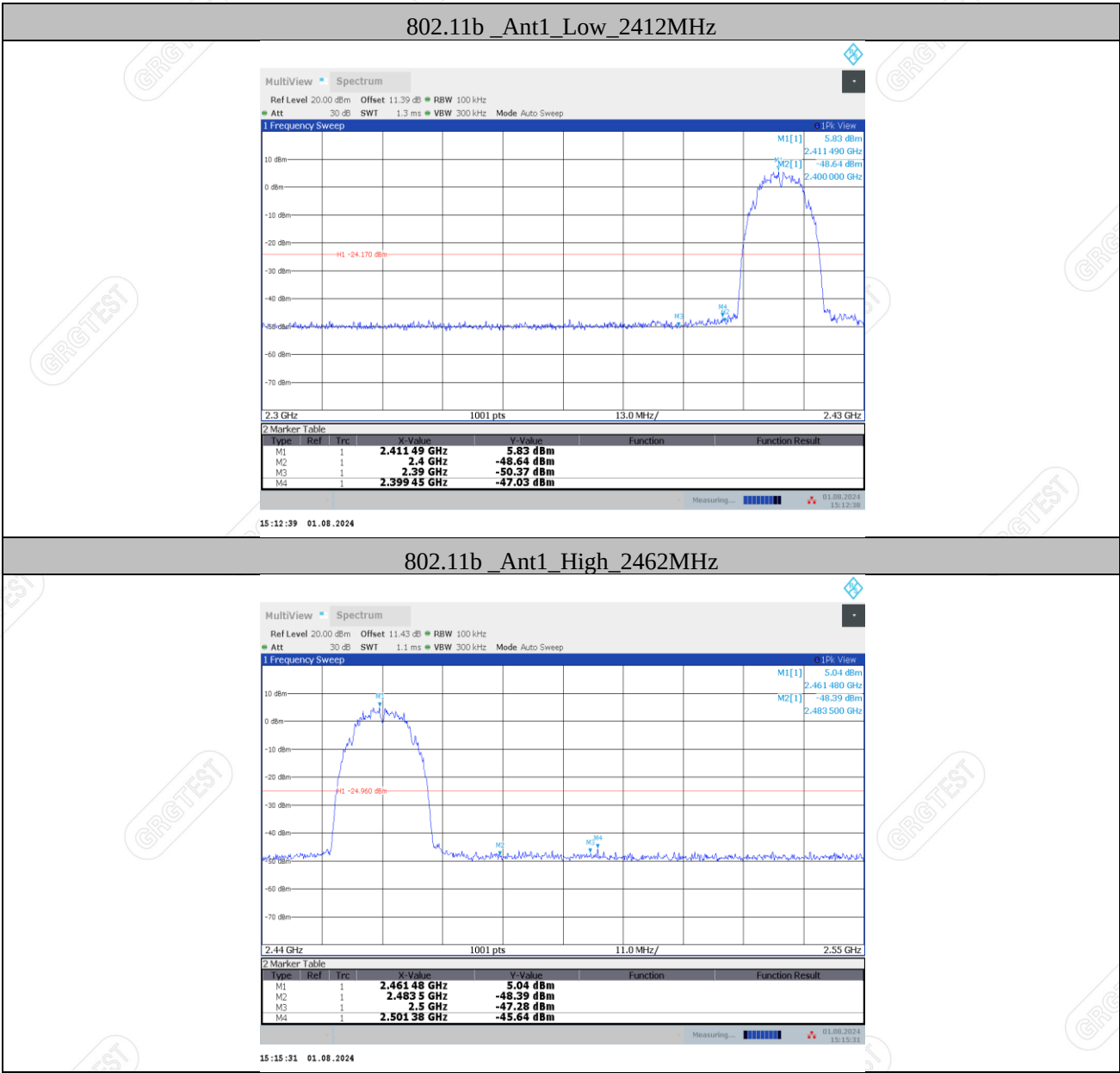
Tested By: Qin tingting

Voltage: DC 5V

Date: 2024-08-01

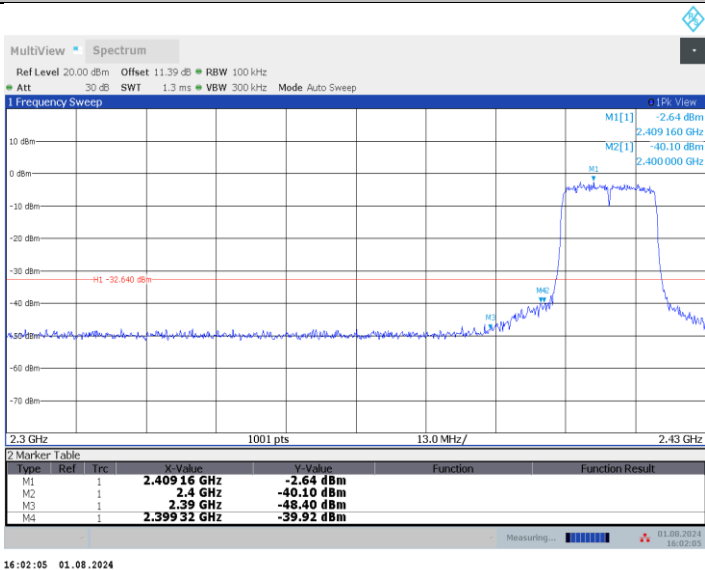
Band edge

Test Mode	Antenna	channel	Frequency [MHz]	Ref Level [dBm]	Result[dBm]	Limit[dBm]	Verdict
802.11b	Ant1	Low	2412	5.83	-47.03	≤-24.17	PASS
		High	2462	5.04	-45.64	≤-24.96	PASS
802.11g	Ant1	Low	2412	-2.44	-36.75	≤-32.44	PASS
		High	2462	-3.40	-45.02	≤-33.4	PASS
802.11n HT20	Ant1	Low	2412	-2.64	-39.92	≤-32.64	PASS
		High	2462	-3.61	-46.65	≤-33.61	PASS
802.11n HT40	Ant1	Low	2422	-5.44	-43.8	≤-35.44	PASS
		High	2452	-6.05	-45.08	≤-36.05	PASS

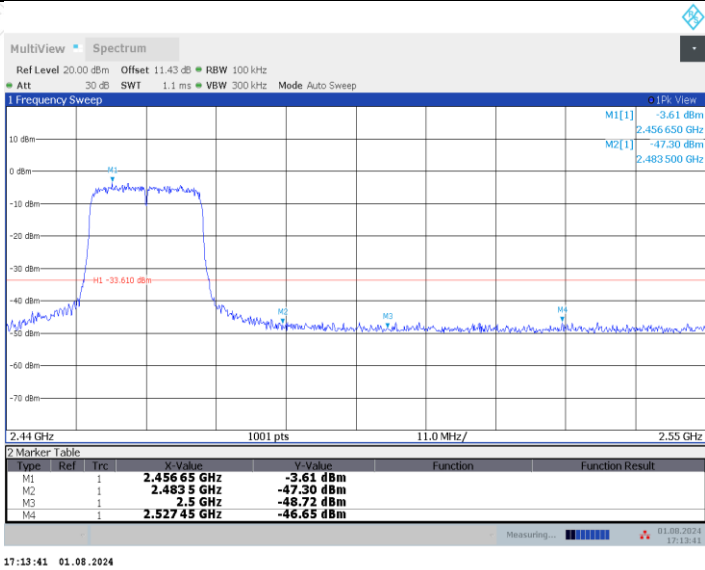




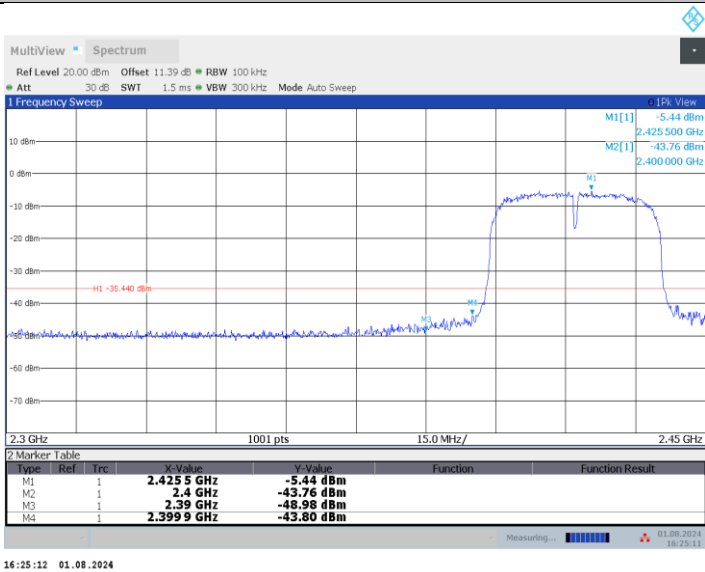
802.11n HT20_Ant1_Low_2412MHz



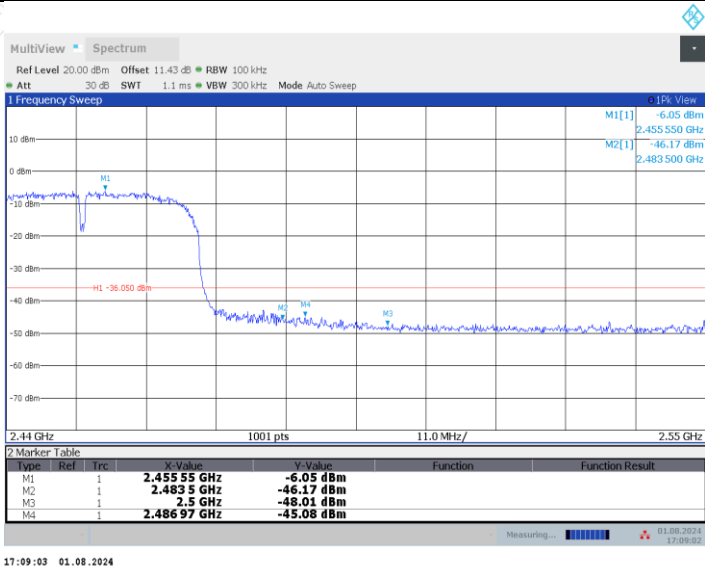
802.11n HT20_Ant1_High_2462MHz



802.11n HT40_Ant1_Low_2422MHz



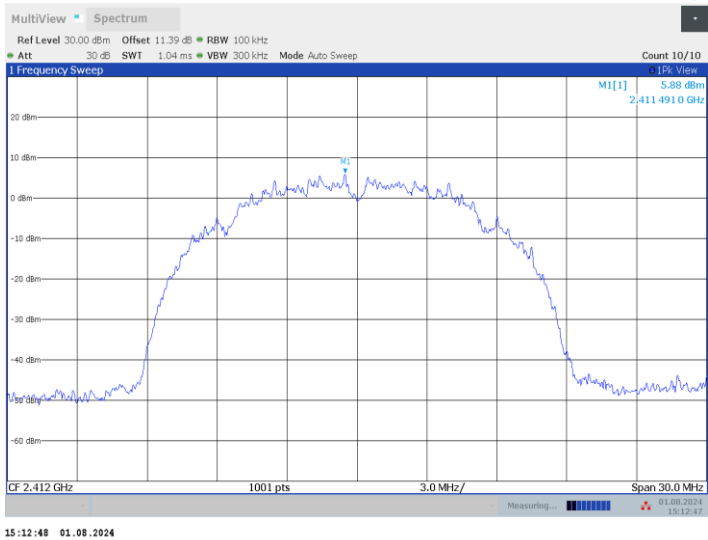
802.11n HT40_Ant1_High_2452MHz



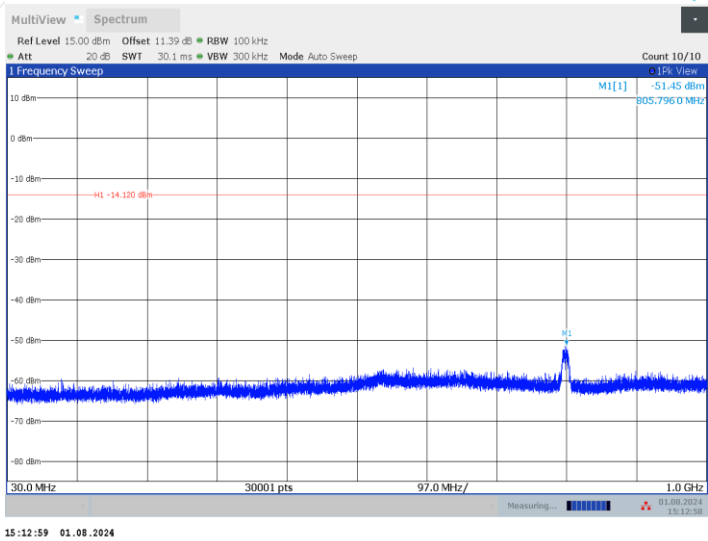
Conducted Spurious Emission:

Test Mode	Antenna	Frequency [MHz]	Frequency Range [Mhz]	Ref Level [dBm]	Result [dBm]	Limit [dBm]	Verdict
802.11b	Ant1	2412	Reference	5.88	5.88	---	PASS
			30~1000	5.88	-51.45	≤ -14.12	PASS
			1000~26500	5.88	-41.94	≤ -14.12	PASS
		2437	Reference	5.44	5.44	---	PASS
			30~1000	5.44	-51.14	≤ -14.56	PASS
			1000~26500	5.44	-41.51	≤ -14.56	PASS
		2462	Reference	5.14	5.14	---	PASS
			30~1000	5.14	-50.89	≤ -14.86	PASS
			1000~26500	5.14	-41.61	≤ -14.86	PASS
802.11g	Ant1	2412	Reference	-2.37	-2.37	---	PASS
			30~1000	-2.37	-54.51	≤ -22.37	PASS
			1000~26500	-2.37	-42.08	≤ -22.37	PASS
		2437	Reference	-3.20	-3.20	---	PASS
			30~1000	-3.20	-53.91	≤ -23.2	PASS
			1000~26500	-3.20	-41.16	≤ -23.2	PASS
		2462	Reference	-3.49	-3.49	---	PASS
			30~1000	-3.49	-54.22	≤ -23.49	PASS
			1000~26500	-3.49	-40.31	≤ -23.49	PASS
802.11n HT20	Ant1	2412	Reference	-2.53	-2.53	---	PASS
			30~1000	-2.53	-54.39	≤ -22.53	PASS
			1000~26500	-2.53	-42	≤ -22.53	PASS
		2437	Reference	-2.29	-2.29	---	PASS
			30~1000	-2.29	-54.27	≤ -22.29	PASS
			1000~26500	-2.29	-41.56	≤ -22.29	PASS
		2462	Reference	-3.56	-3.56	---	PASS
			30~1000	-3.56	-54.37	≤ -23.56	PASS
			1000~26500	-3.56	-40.52	≤ -23.56	PASS
802.11n HT40	Ant1	2422	Reference	-5.53	-5.53	---	PASS
			30~1000	-5.53	-55.67	≤ -25.53	PASS
			1000~26500	-5.53	-41.83	≤ -25.53	PASS
		2437	Reference	-5.97	-5.97	---	PASS
			30~1000	-5.97	-54.75	≤ -25.97	PASS
			1000~26500	-5.97	-40.86	≤ -25.97	PASS
		2452	Reference	-6.08	-6.08	---	PASS
			30~1000	-6.08	-55.32	≤ -26.08	PASS
			1000~26500	-6.08	-41.08	≤ -26.08	PASS

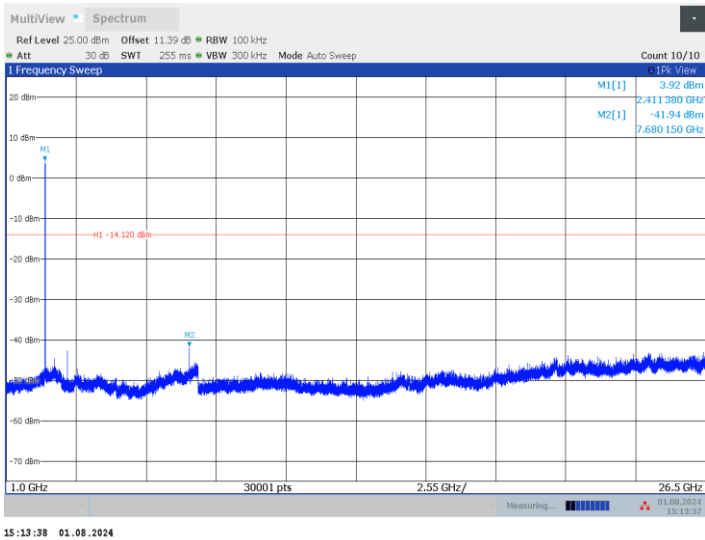
802.11b_Ant1_2412MHz_0~Reference



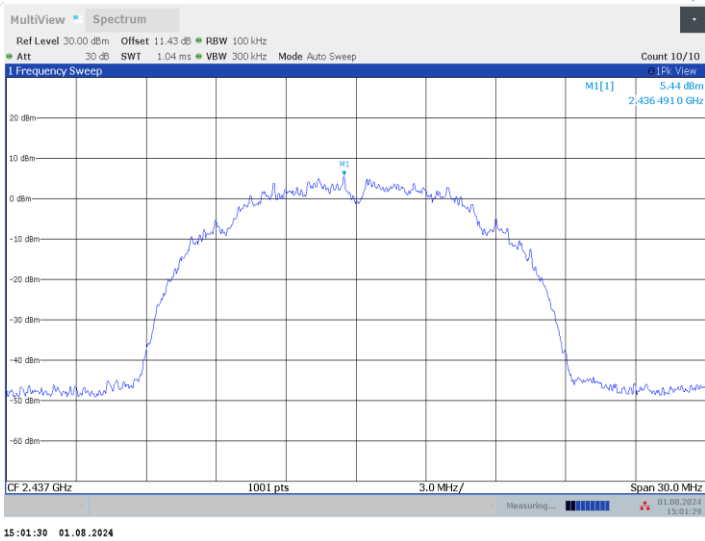
802.11b_Ant1_2412MHz_30~1000MHz



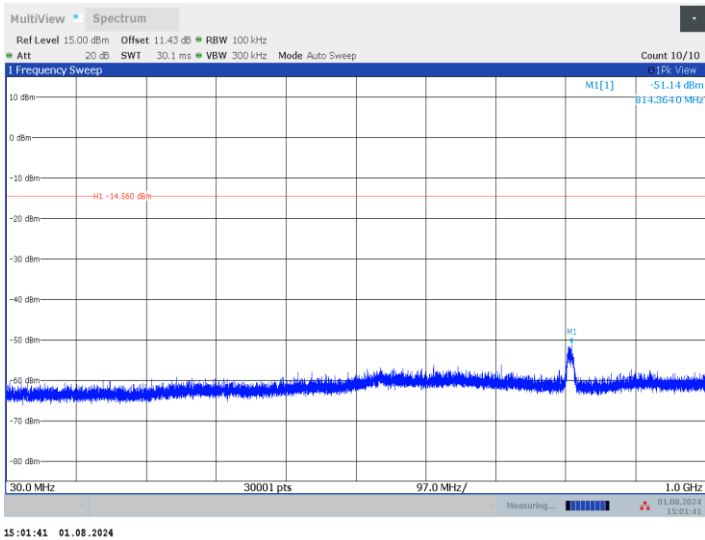
802.11b_Ant1_2412MHz_1000~26500 MHz



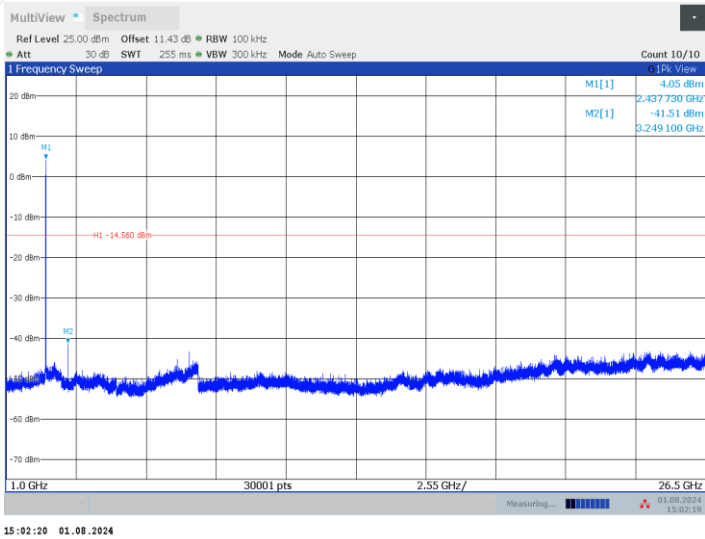
802.11b_Ant1_2437 MHz_0~Reference

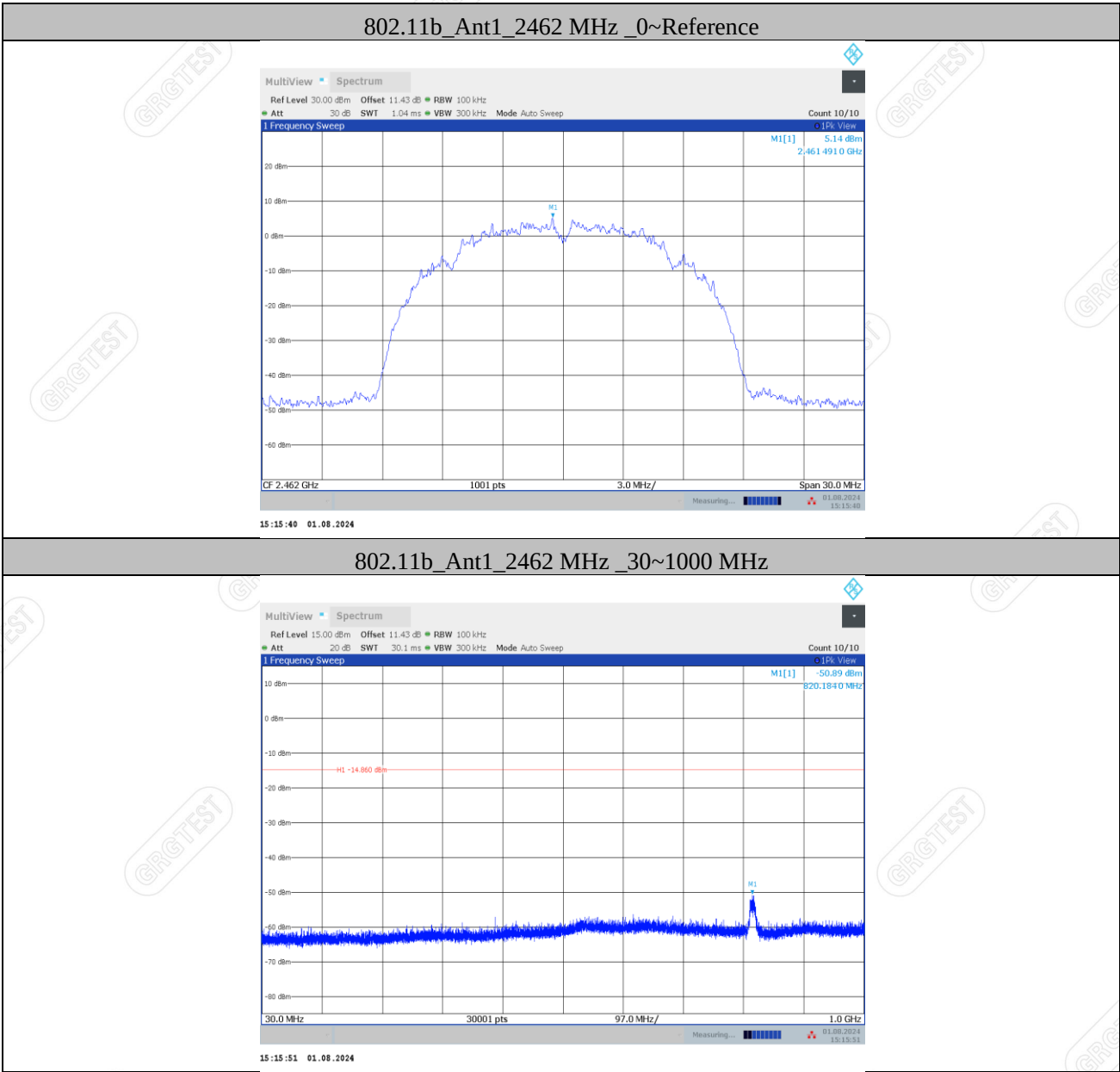


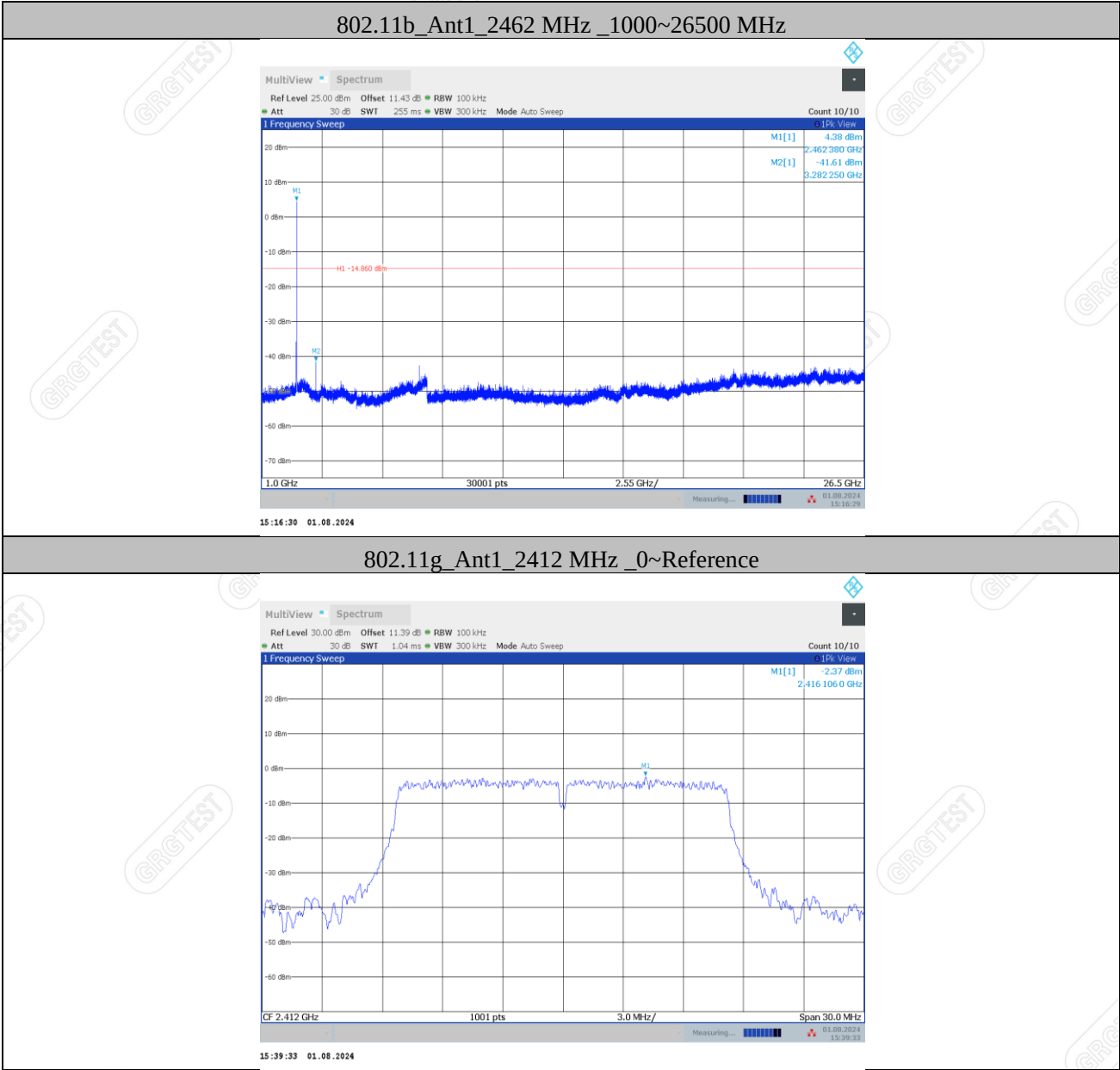
802.11b_Ant1_2437 MHz_30~1000 MHz



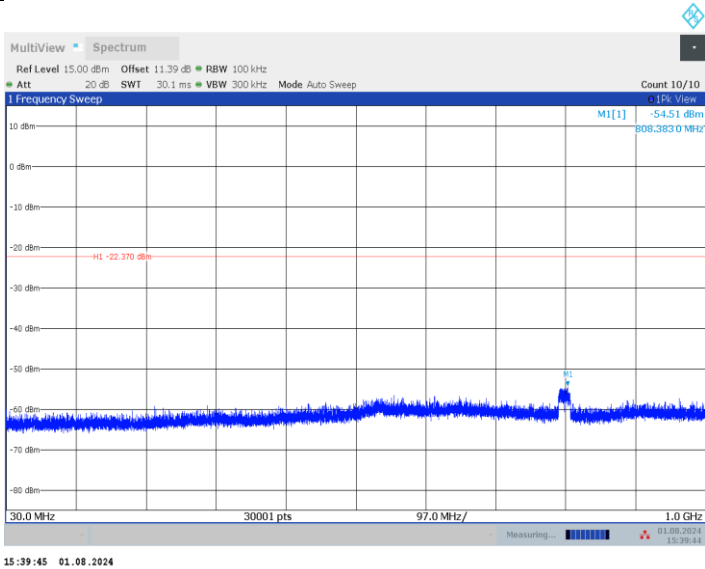
802.11b_Ant1_2437 MHz_1000~26500 MHz



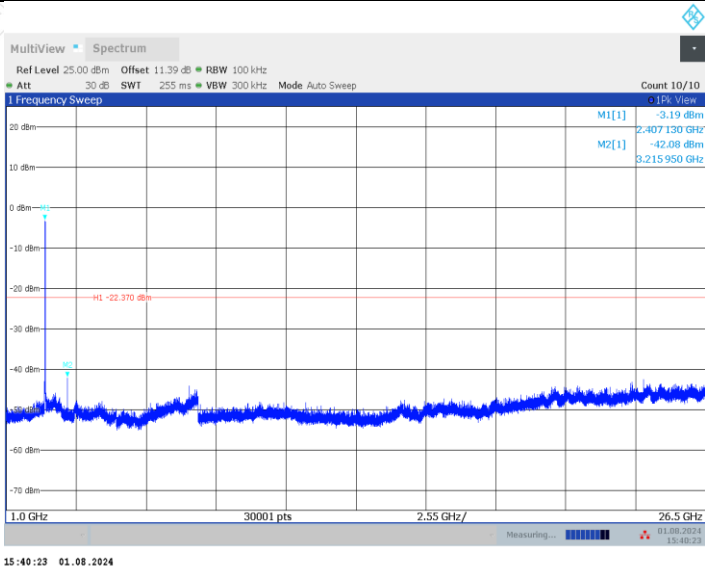


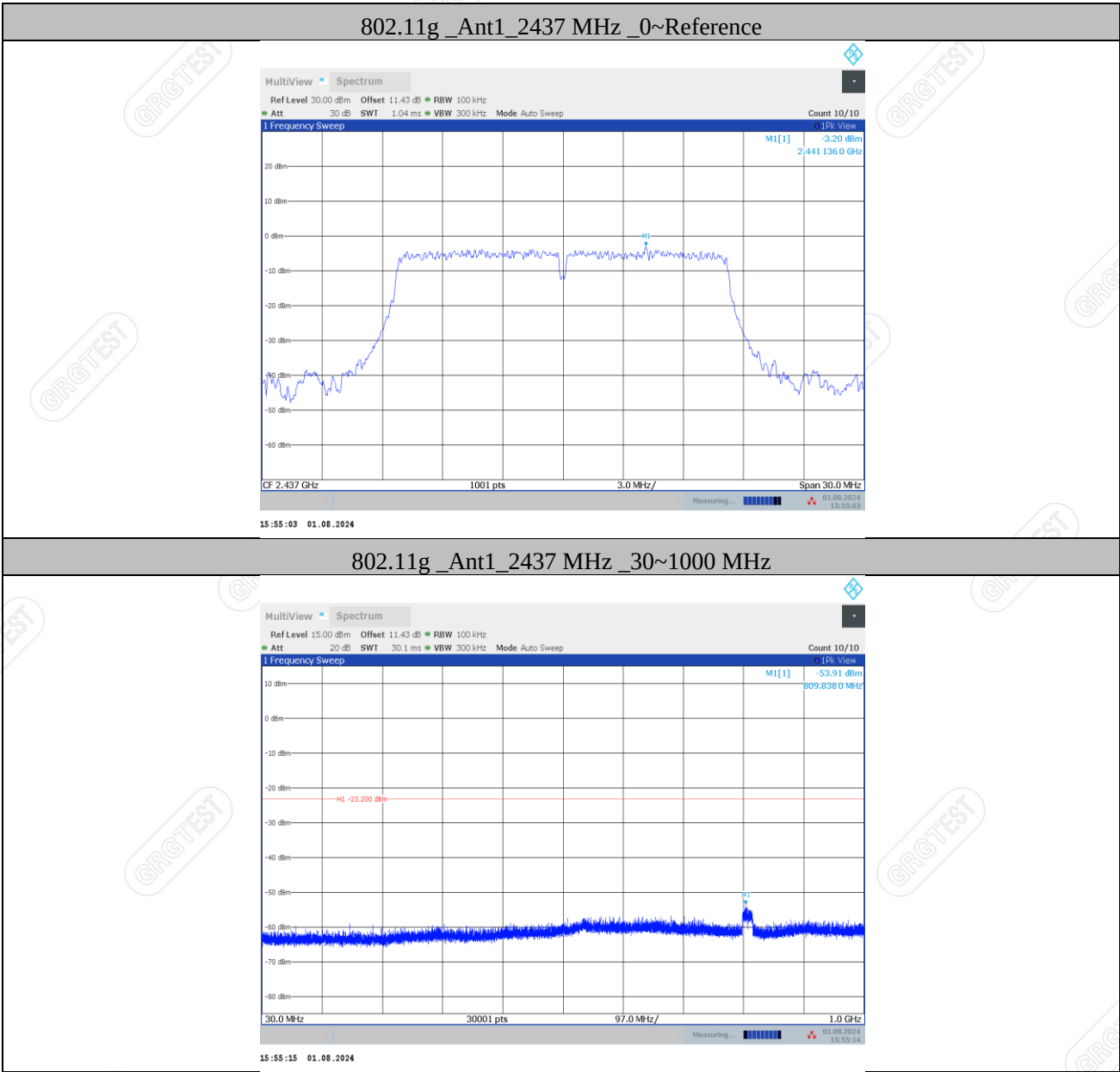


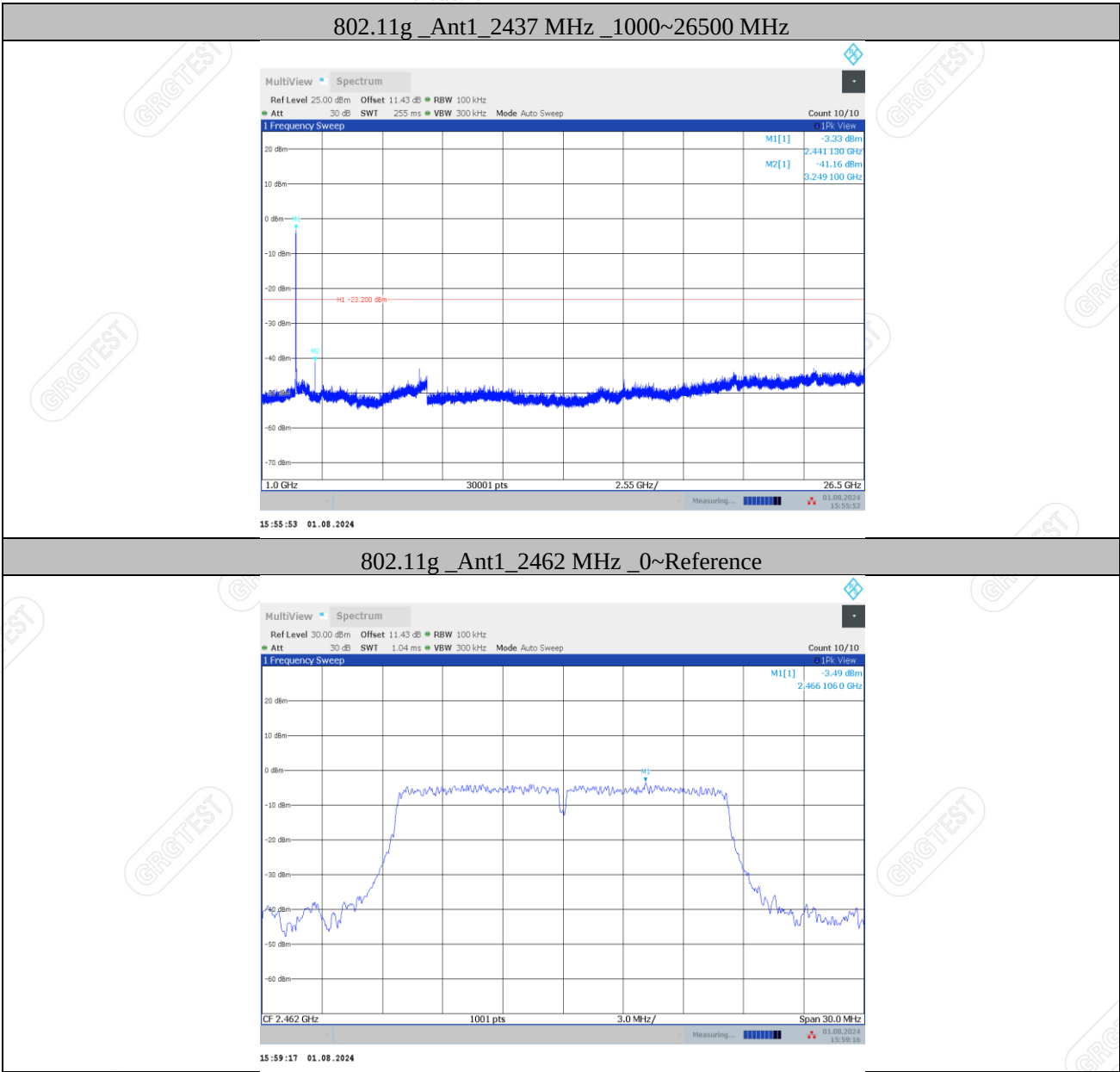
802.11g_Ant1_2412 MHz_30~1000 MHz



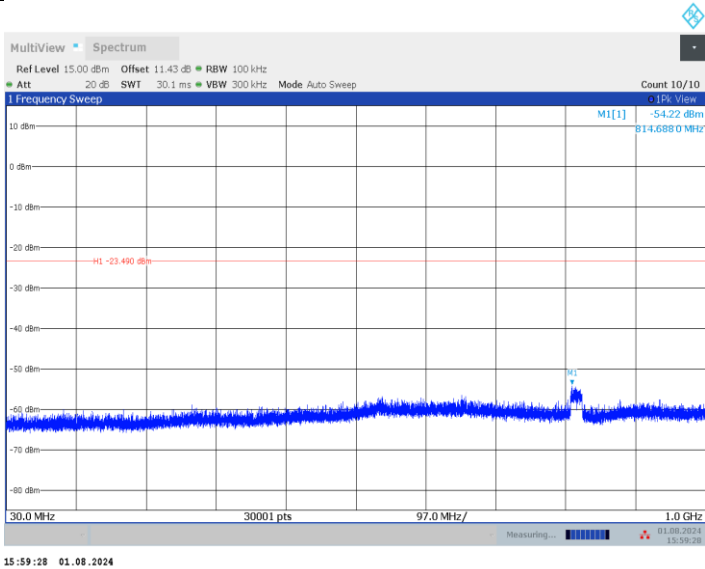
802.11g_Ant1_2412 MHz_1000~26500 MHz



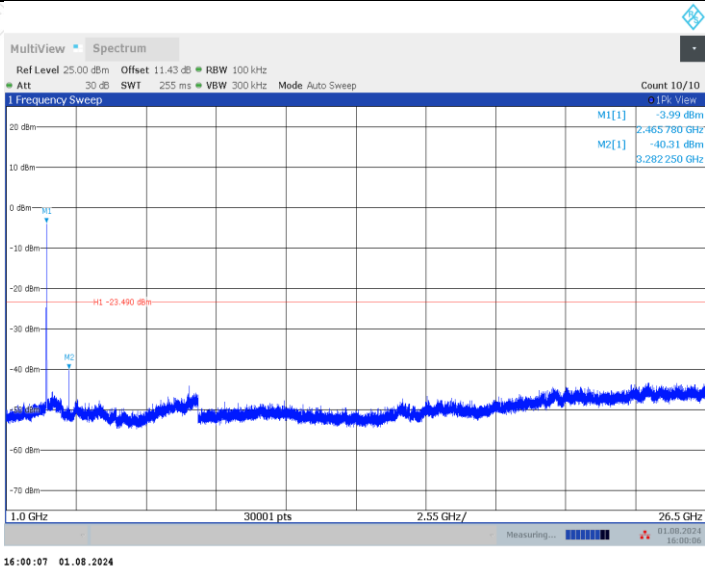




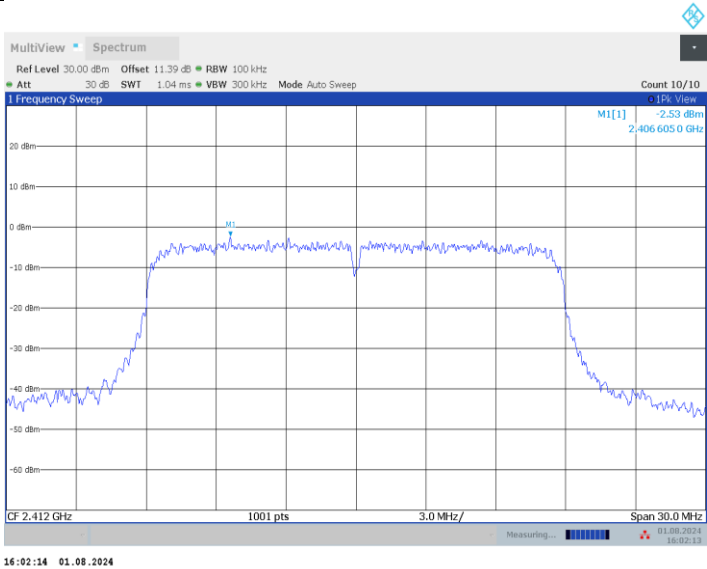
802.11g_Ant1_2462 MHz_30~1000 MHz



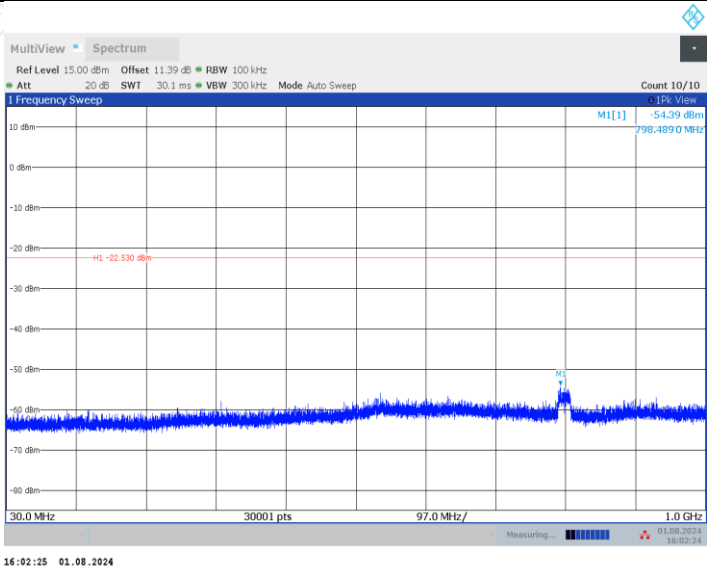
802.11g_Ant1_2462 MHz_1000~26500 MHz



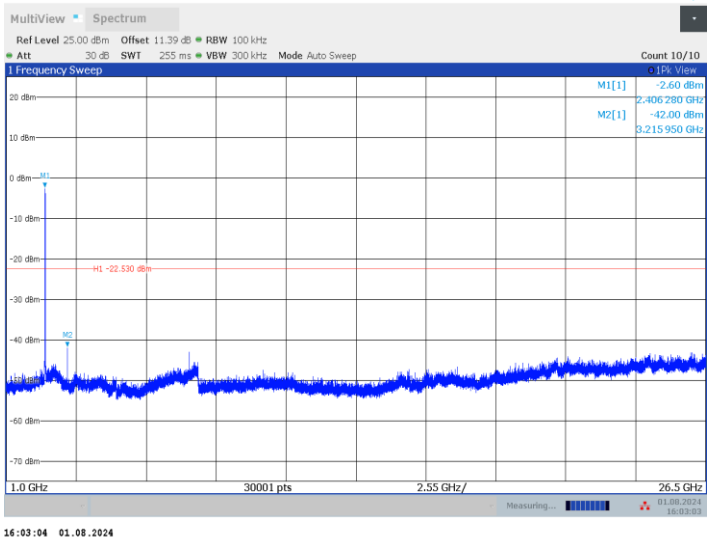
802.11n HT20_Ant1_2412 MHz_0~Reference



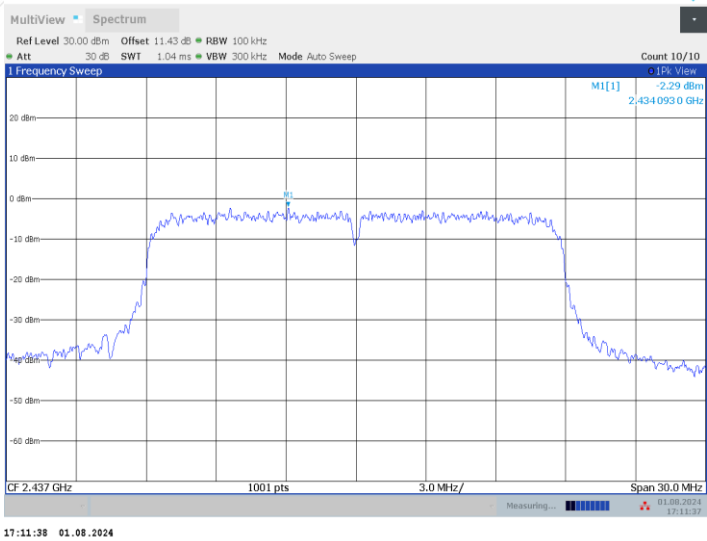
802.11n HT20_Ant1_2412 MHz_30~1000 MHz



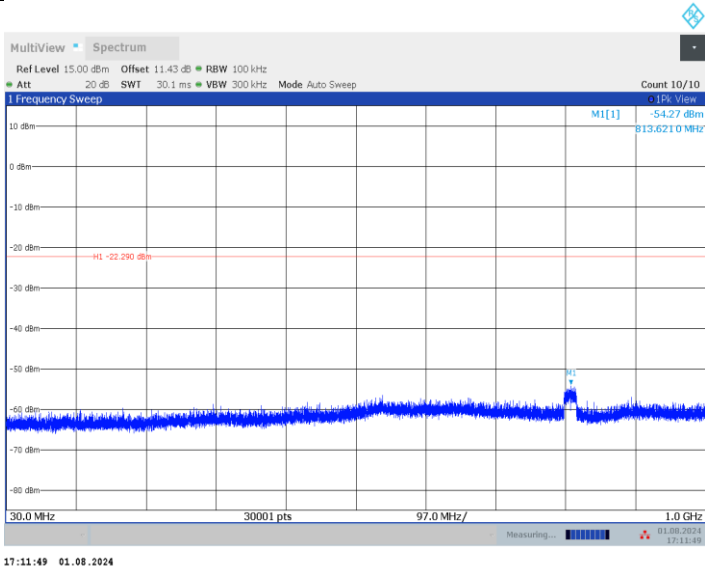
802.11n HT20_Ant1_2412 MHz_1000~26500 MHz



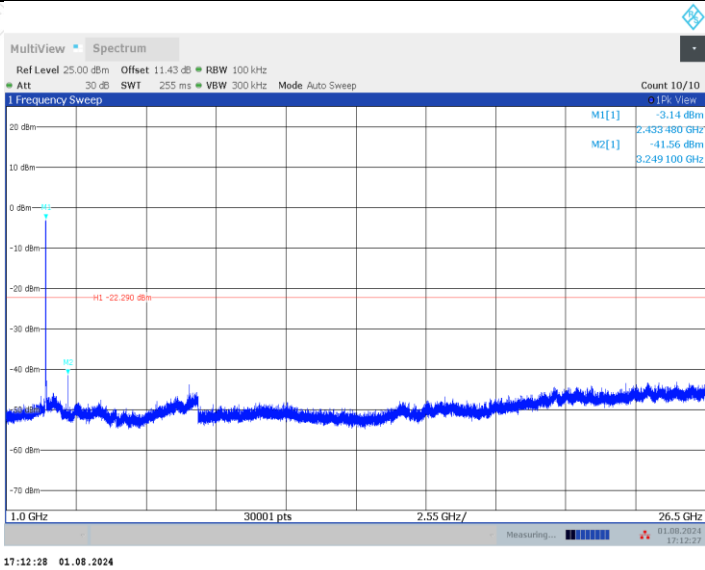
802.11n HT20_Ant1_2437 MHz_0~Reference



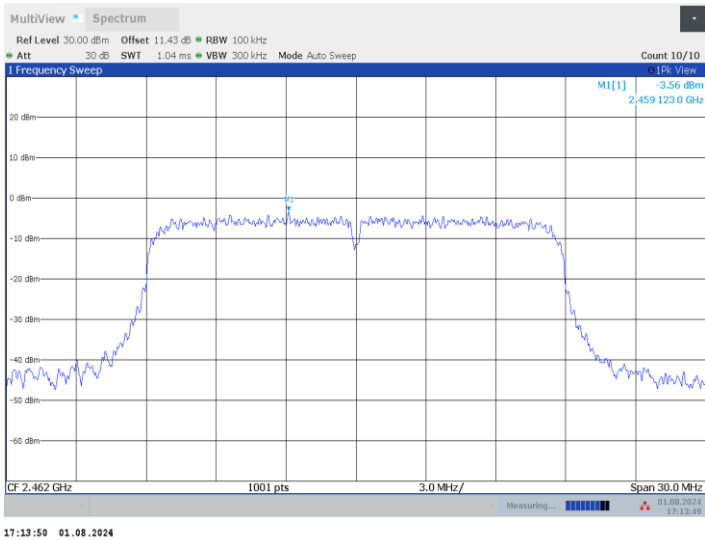
802.11n HT20_Ant1_2437 MHz_30~1000 MHz



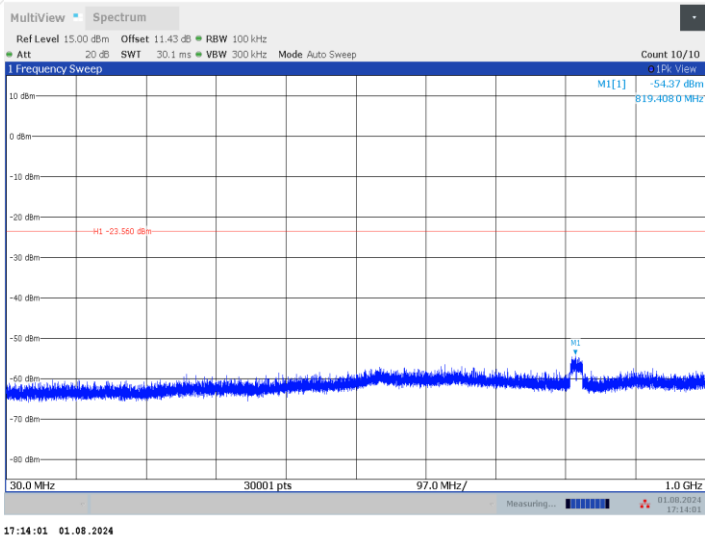
802.11n HT20_Ant1_2437 MHz_1000~26500 MHz



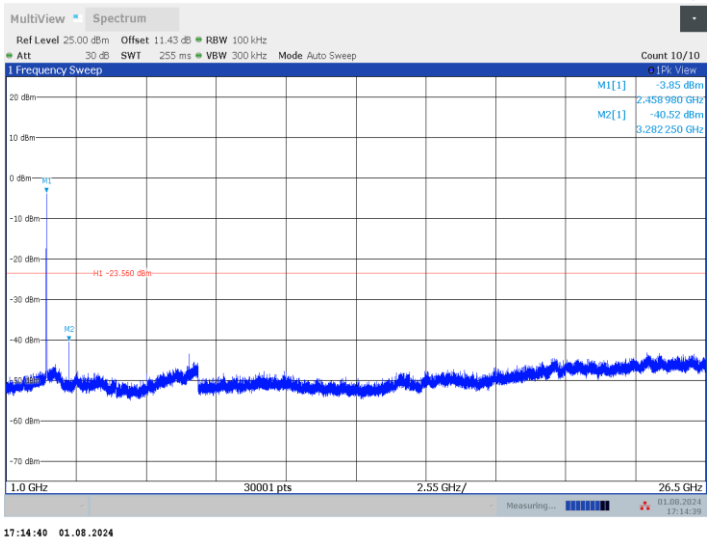
802.11n HT20_Ant1_2462 MHz_0~Reference



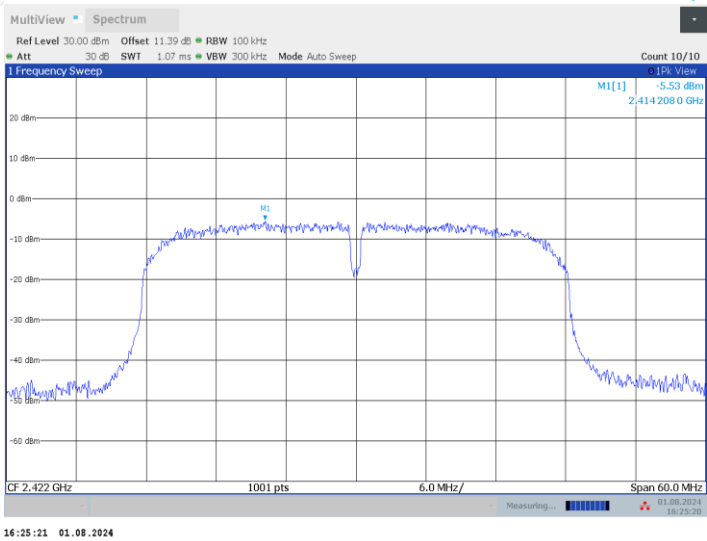
802.11n HT20_Ant1_2462 MHz_30~1000 MHz



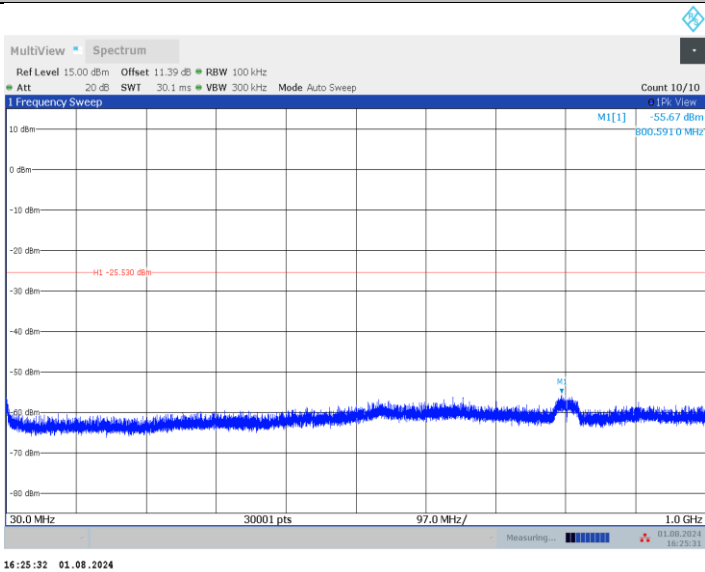
802.11n HT20_Ant1_2462 MHz_1000~26500 MHz



802.11n HT40_Ant1_2422 MHz_0~Reference



802.11n HT40_Ant1_2422 MHz_30~1000 MHz



802.11n HT40_Ant1_2422 MHz_1000~26500 MHz

