

Test Report

Verified code: 414594

Report No.: E20230711057201-9

Customer: Lumi United Technology Co., Ltd

Address: B1, Chongwen Park, Nanshan iPark, Liuxian Avenue, Taoyuan Residential District,
Nanshan District, Shenzhen, China

Sample Name: Camera E1

Sample Model: CH-C01E

Receive Sample Date: Jul.12,2023

Test Date: Jul.14,2023 ~ Aug.15,2023

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

Test Result: Pass

Prepared by: Huang Lifang
Huang Lifang

Reviewed by: Jiang Tao
Jiang Tao

Approved by: Xiao Liang
Xiao Liang



GRG METROLOGY & TEST GROUP CO., LTD.

Issued Date: 2023-08-25

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REPORT ISSUED HISTORY

Report Version	Report No.	Description	Compile Date
1.0	E20230711057201-9	Original Issue	2023-08-16

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1. TEST RESULT SUMMARY

Standard	Item	Limit / Severity	Result
CFR 47, FCC Part 15 Subpart C (§15.247) ANSI C63.10-2013 KDB 558074 D01 15.247 measurement guidance v05r02	Antenna Requirement	§15.203	PASS
	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: 1. The EUT antenna is IFA antenna. The max gain of Antenna is -0.07dBi which accordance 15.203 is considered sufficient to comply with the provisions of this section.

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2. GENERAL DESCRIPTION OF EUT

2.1 APPLICANT

Name: Lumi United Technology Co., Ltd
Address: B1, Chongwen Park, Nanshan iPark, Liuxian Avenue, Taoyuan Residential District, Nanshan District, Shenzhen, China

2.2 MANUFACTURER

Name: Lumi United Technology Co., Ltd
Address: B1, Chongwen Park, Nanshan iPark, Liuxian Avenue, Taoyuan Residential District, Nanshan District, Shenzhen, China

2.3 BASIC DESCRIPTION OF EQUIPMENT UNDER TEST

Product Name: Camera E1
Product Model: CH-C01E
Adding Model: /
Trade Name: Aqara
FCC ID: 2AKIT-CHC01E
Power Supply: DC 5V,2A
Frequency Band: 2412MHz-2462MHz for IEEE 802.11b/g/n HT20/ax HE20;
2422MHz-2452MHz for IEEE 802.11n HT40/ax HE40
Modulation Type: DSSS for IEEE 802.11b mode;
OFDM for IEEE 802.11g/n mode;
OFDMA for IEEE 802.11ax mode;
Antenna Specification: IFA antenna with -0.07dBi antenna gain(max)
Temperature Range: -10°C~+45°C
Hardware Version: YuYun-MAIN-01A-2
Software Version: 4.0.1_0026
Sample submitting way: ☒ Provided by customer ☐ Sampling
Sample No: E20230711057201-0002, E20230711057201-0005

Note: 1.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.The IEEE 802.11ax mode only supports full RU.

2.4 CHANNEL LIST

CH01 - CH11 for IEEE 802.11b, IEEE 802.11g, IEEE 802.11n HT20, IEEE 802.11ax HE20 CH03 – CH9 for IEEE 802.11n HT40, IEEE 802.11ax HE40							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	2412	04	2427	07	2442	10	2457
02	2417	05	2432	08	2447	11	2462
03	2422	06	2437	09	2452		

2.5 TEST OPERATION MODE

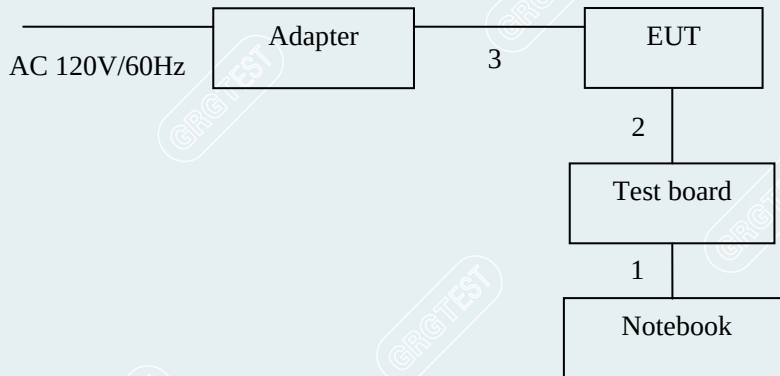
Mode No.	Description of the modes
1	2.4G Wi-Fi TX mode

2.6 LOCAL SUPPORTIVE INSTRUMENTS

Name of Equipment	Manufacturer	Model	Serial Number	Note
Notebook	DELL	Latitude3490	2095LR2	/
Test board	/	/	/	/
Adapter	Sangu	SG-0502000AP	/	/

No.	Cable Type	Qty.	Shielded Type	Ferrite Core(Qty.)	Length
1	USB extension cable	1	No	0	1.5m
2	DC cable	1	No	0	0.2m
3	Type C to USB cable	1	No	0	1.0m

2.7 CONFIGURATION OF SYSTEM UNDER TEST



Test software:

Software version
QCOM_V1.0

Power Setting:

Mode	Date Rate	Frequency (MHz)	Antenna 1 Power Setting
IEEE 802.11b	1M	2412	16
		2437	15
		2462	15
IEEE 802.11g	6M	2412	13
		2437	13
		2462	13
IEEE 802.11n HT20	MCS0	2412	12
		2437	12
		2462	12
IEEE 802.11n HT40	MCS0	2422	12
		2437	12
		2452	12
IEEE 802.11ax HE20	MCS0	2412	11
		2437	10
		2462	10
IEEE 802.11ax HE40	MCS0	2422	11
		2437	10
		2452	10

2.8 DUTY CYCLE

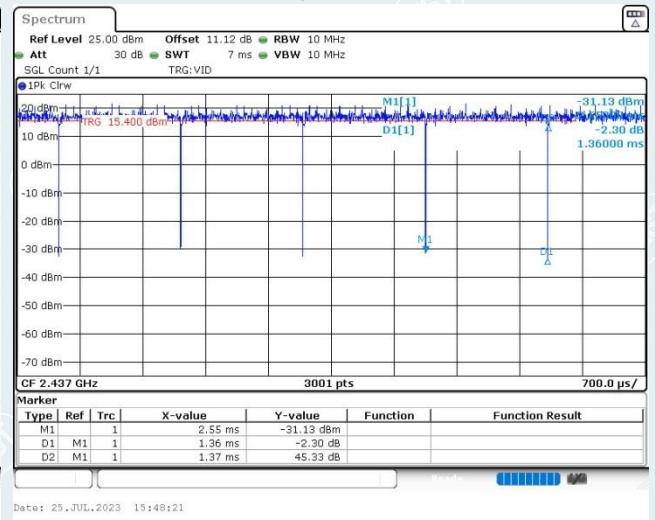
EUT Name	Camera E1	Model	CH-C01E
Environmental Conditions	30.8°C/57%RH	Test Voltage	AC 120V/60Hz
Tested By	Huang Tianmei	Tested Date	2023-07-25~2023-07-28

Test Mode	Antenna	Frequency [MHz]	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]
IEEE 802.11b	Ant1	2437	27.00	27.00	100.00
IEEE 802.11g	Ant1	2437	1.36	1.37	99.27
IEEE 802.11n HT20	Ant1	2437	1.26	1.27	99.21
IEEE 802.11n HT40	Ant1	2437	0.63	0.64	98.44
IEEE 802.11ax HE20	Ant1	2437	0.98	0.99	98.99
IEEE 802.11ax HE40	Ant1	2437	0.51	0.52	98.08

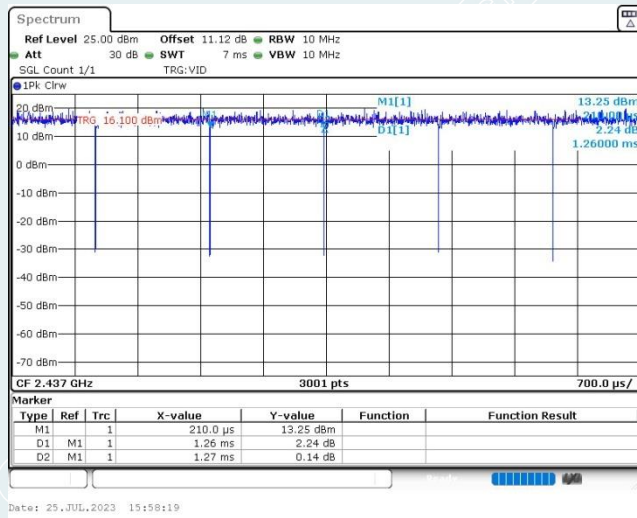
IEEE 802.11b_Ant1_2437MHz



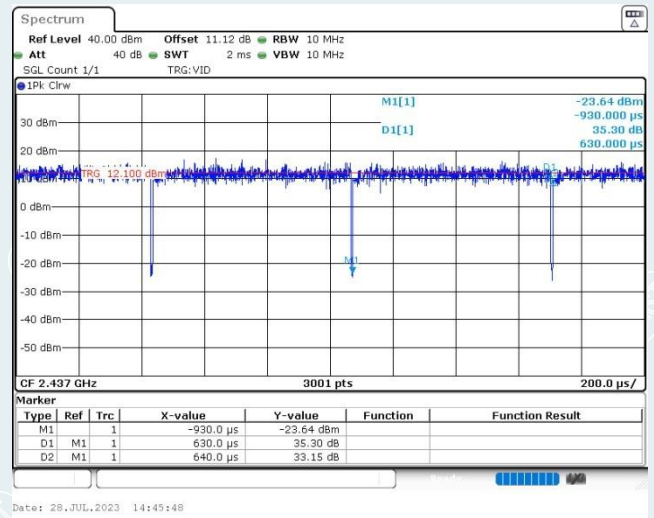
IEEE 802.11g_Ant1_2437MHz



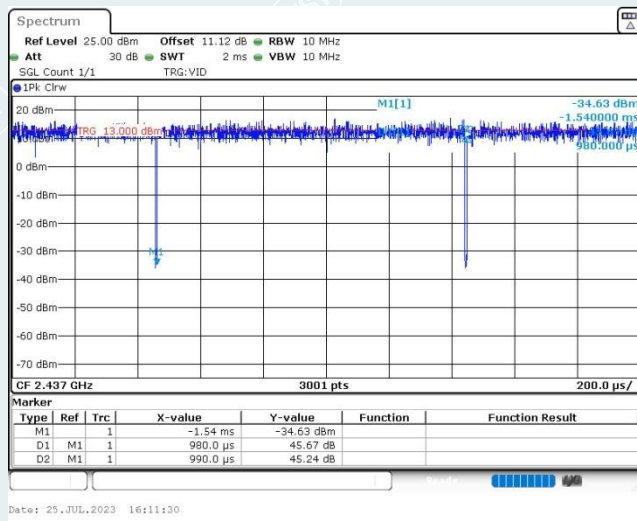
IEEE 802.11n HT20_Ant1_2437MHz



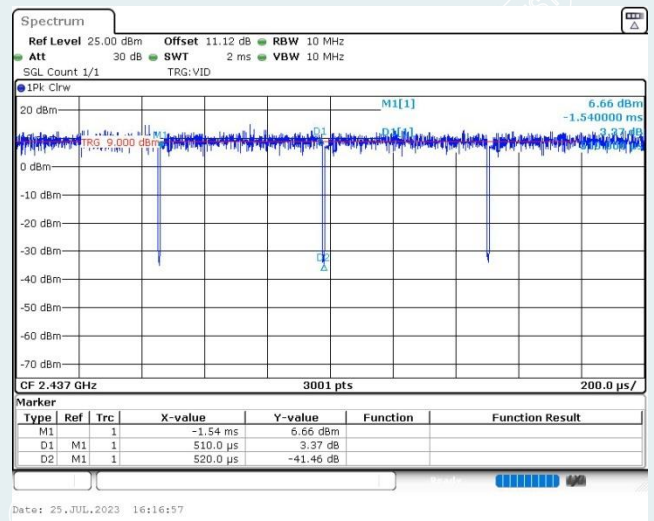
IEEE 802.11n HT40_Ant1_2437MHz



IEEE 802.11ax HE20_Ant1_2437MHz



IEEE 802.11ax HE40_Ant1_2437MHz



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3. LABORATORY AND ACCREDITATIONS

3.1 LABORATORY

The tests & measurements refer to this report were performed by 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. : 518110

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	Coplanar	9kHz~30MHz	4.4dB ¹⁾
	Coaxial	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⁾
Conduction Emission		150kHz~30MHz	3.3dB ¹⁾

Measurement	Uncertainty
RF frequency	6.0×10^{-6}
RF power conducted	0.78 dB
Power spectral density	0.78 dB
Occupied channel bandwidth	0.4 dB
Unwanted emission, conducted	0.68 dB
Humidity	6 %
Temperature	2 °C

Note:

¹⁾ This uncertainty represents an expanded uncertainty expressed at approximately the 95%.

This uncertainty represents an expanded uncertainty factor of $k=2$.

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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	2023-08-28
LISN(EUT)	R&S	ENV216	101543	2023-09-13
Radiated Spurious Emission&Restricted bands of operation				
Loop Antenna	Schwarzbeck	FMZB 1513-60	1513-60-56	2024-07-15
Preamplifier	SHIRONG ELECTRONIC	DLNA-30M1G-G41	20200928002	2023-08-19
Bi-log Antenna	Schwarzbeck	VULB9160	VULB9160-3402	2023-10-23
Horn Antenna	Schwarzbeck	BBHA 9120D	02143	2023-10-15
Test Receiver	R&S	ESR26	101758	2023-10-27
Board-Band Horn Antenna	Schwarzbeck	BBHA 9170	BBHA 9170-497	2023-10-14
Amplifier	Tonscend	TAP01018048	AP20E8060075	2024-04-11
Amplifier	Tonscend	TAP184050	AP20E806071	2024-04-16
Amplifier	SHIRONG ELECTRONIC	DLNA-1G18G-G40	20200928005	2023-08-27
Test S/W	Tonscend	JS32-RE/5.0.0		
6 dB Bandwidth & Power Spectral Density				
Spectrum Analyzer	R&S	FSV30	104381	2023-11-17
Automatic power	TONSCEND	JS0806-2	21B8060365	2023-11-17
BT/WIFI System	TONSCEND	JS1120-3	/	/
Output Power				
Pulse power sensor	Anristu	MA2411B	1126150	2024-02-12
Power meter	Anristu	NL2495A	1204003	2024-02-12
Conducted band edges and Spurious Emission				
Spectrum Analyzer	R&S	FSV30	104381	2023-11-17
Automatic power	TONSCEND	JS0806-2	21B8060365	2023-11-17
BT/WIFI System	TONSCEND	JS1120-3	/	/

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
0.5MHz~5MHz	56	46
5MHz~30MHz	60	50

5.2 TEST PROCEDURES

Procedure of Preliminary Test

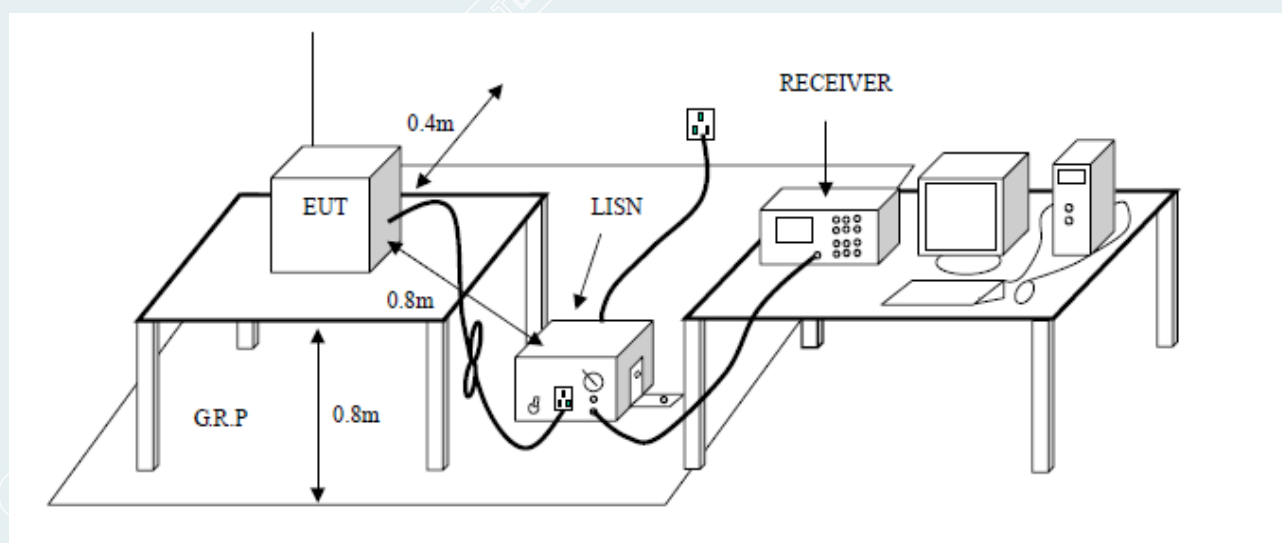
For measurement of the disturbance voltage the equipment under test (EUT) is connected to the power supply mains and any other extended network via one or more artificial network(s). An EUT, whether intended to be grounded or not, and which is to be used on a table is configured as follows:

- 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.
- The test mode(s) described in Item 2.5 were scanned during the preliminary test. After the preliminary scan, we found the test mode described in Item 2.5 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)

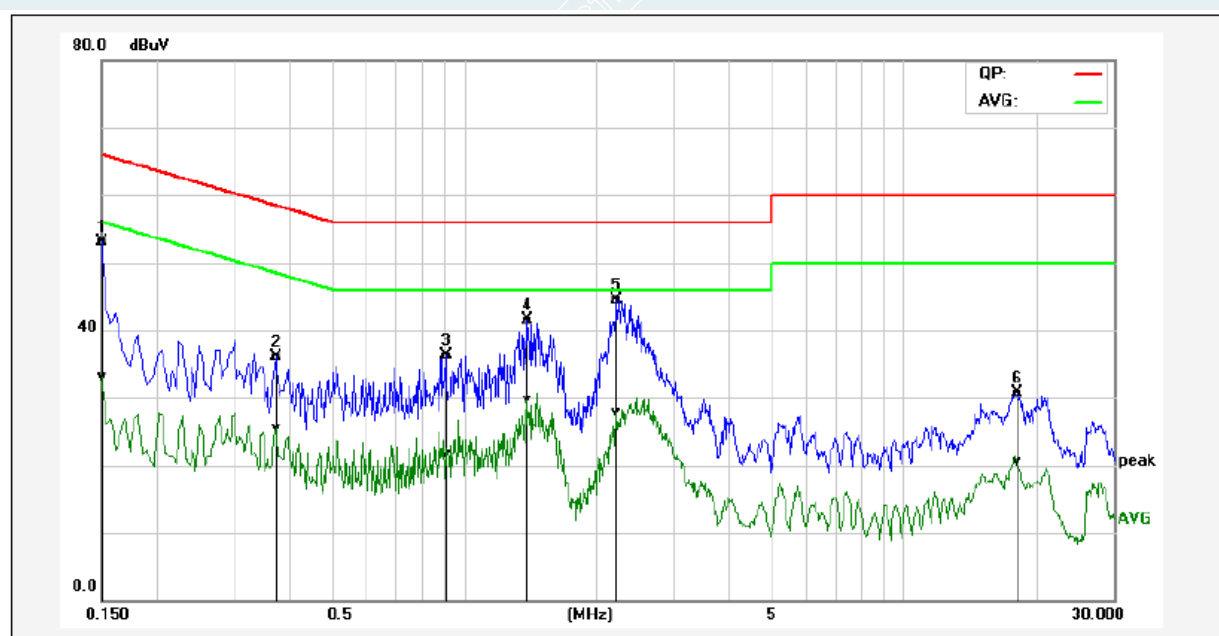
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5.5 TEST RESULTS

All models were pretested and only the worst modes and channels were recorded in this report. (IEEE 802.11g 2462MHz)

EUT Name	Camera E1	Model	CH-C01E
Environmental Conditions	23.8°C/54%RH	Test Mode	Mode 1
Tested By	Huang Xinlong	Line	L
Tested Date	2023-08-15	Test Voltage	AC 120V/60Hz

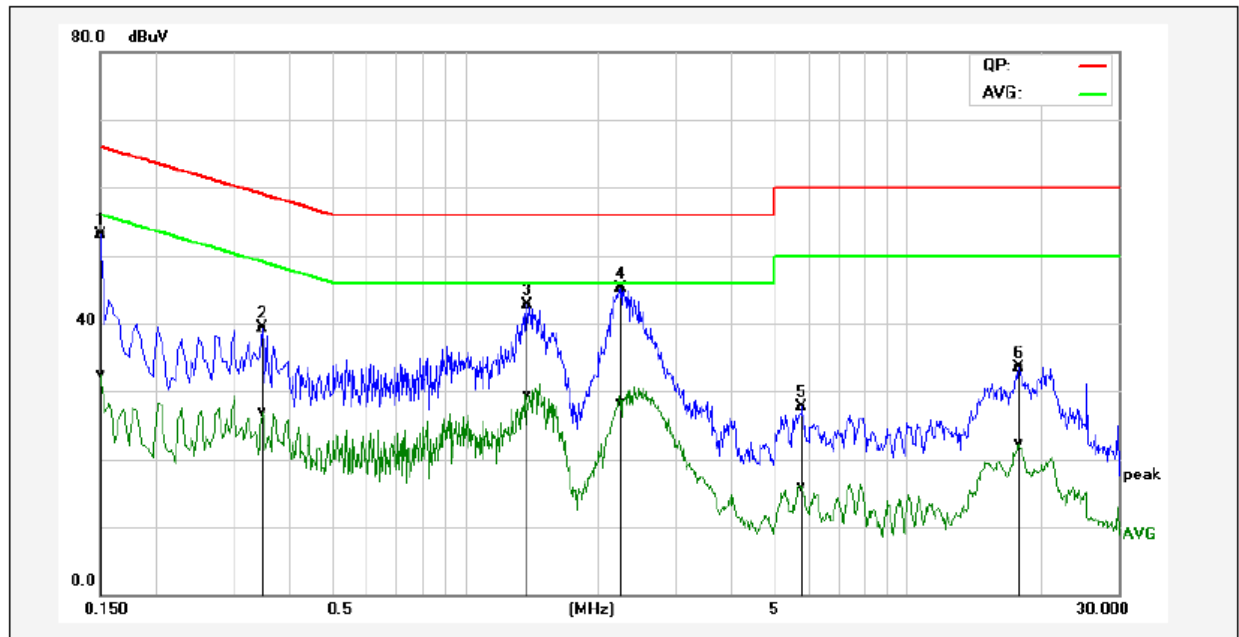
(The chart below shows the highest readings taken from the final data.)



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	43.46	23.52	9.66	53.12	33.18	65.99	56.00	-12.87	-22.82	Pass
2	0.3740	26.46	15.79	9.68	36.14	25.47	58.41	48.41	-22.27	-22.94	Pass
3	0.9100	26.53	12.09	9.70	36.23	21.79	56.00	46.00	-19.77	-24.21	Pass
4	1.3940	31.78	20.02	9.70	41.48	29.72	56.00	46.00	-14.52	-16.28	Pass
5*	2.2340	34.71	18.18	9.72	44.43	27.90	56.00	46.00	-11.57	-18.10	Pass
6	18.0820	20.70	10.66	9.93	30.63	20.59	60.00	50.00	-29.37	-29.41	Pass

EUT Name	Camera E1	Model	CH-C01E
Environmental Conditions	23.8°C/54%RH	Test Mode	Mode 1
Tested By	Huang Xinlong	Line	N
Tested Date	2023-08-15	Test Voltage	AC 120V/60Hz

(The chart below shows the highest readings taken from the final data.)



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	43.43	22.91	9.65	53.08	32.56	65.99	56.00	-12.91	-23.44	Pass
2	0.3500	29.62	17.15	9.66	39.28	26.81	58.96	48.96	-19.68	-22.15	Pass
3	1.3820	33.07	19.66	9.70	42.77	29.36	56.00	46.00	-13.23	-16.64	Pass
4*	2.2580	35.30	18.67	9.71	45.01	28.38	56.00	46.00	-10.99	-17.62	Pass
5	5.7819	17.92	6.10	9.78	27.70	15.88	60.00	50.00	-32.30	-34.12	Pass
6	17.9020	23.56	12.32	9.97	33.53	22.29	60.00	50.00	-26.47	-27.71	Pass

6. RADIATED SPURIOUS EMISSIONS

6.1 LIMITS

In any 100kHz 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 100kHz 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 30dB instead of 20dB. Attenuation below the general limits specified in §15.209(a) is not required.

Frequency (MHz)	Quasi-peak(μ V/m)	Measurement distance(m)	Quasi-peak(dB μ V/m)@distance 3m
0.009-0.490	2400/F(kHz)	300	128.5~93.8
0.490-1.705	24000/F(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 9-90kHz and 110-490kHz are based on measurements employing a linear average detector.
- (2) The lower limit shall apply at the transition frequencies.

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.
- The antenna is polarized Coplanar and Coaxial.
- 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 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 pre measurement 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.

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 frequency above 1GHz, for Peak detector: Set RBW=1MHz, RBW=3MHz.
- (d).The frequency above 1GHz, for Avg detector: Set RBW=1MHz, if the EUT is configured to transmit with duty cycle $\geq 98\%$, set $VBW \leq RBW/100$ (i.e.,10kHz) but not less than 10Hz. if the EUT duty cycle is $< 98\%$, set $VBW \geq 1/T$, Where T is defined in section 2.8.

----- The following blanks -----

6.3 TEST SETUP

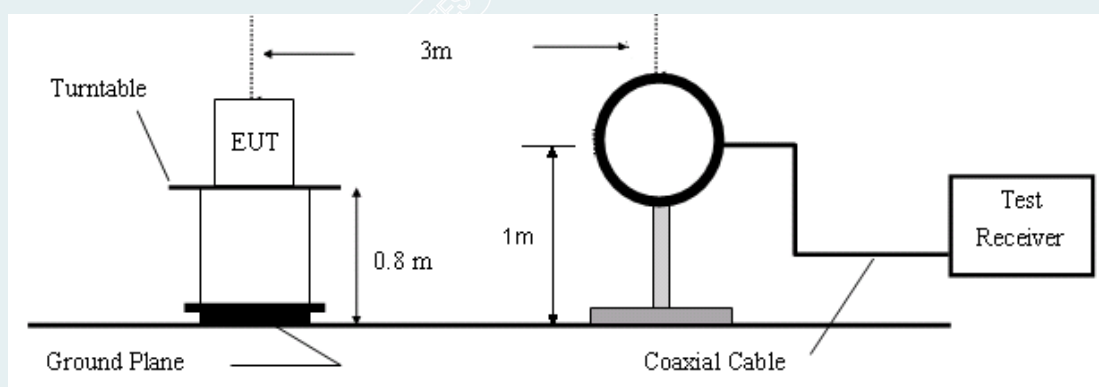


Figure 1. 9kHz to 30MHz radiated emissions test configuration

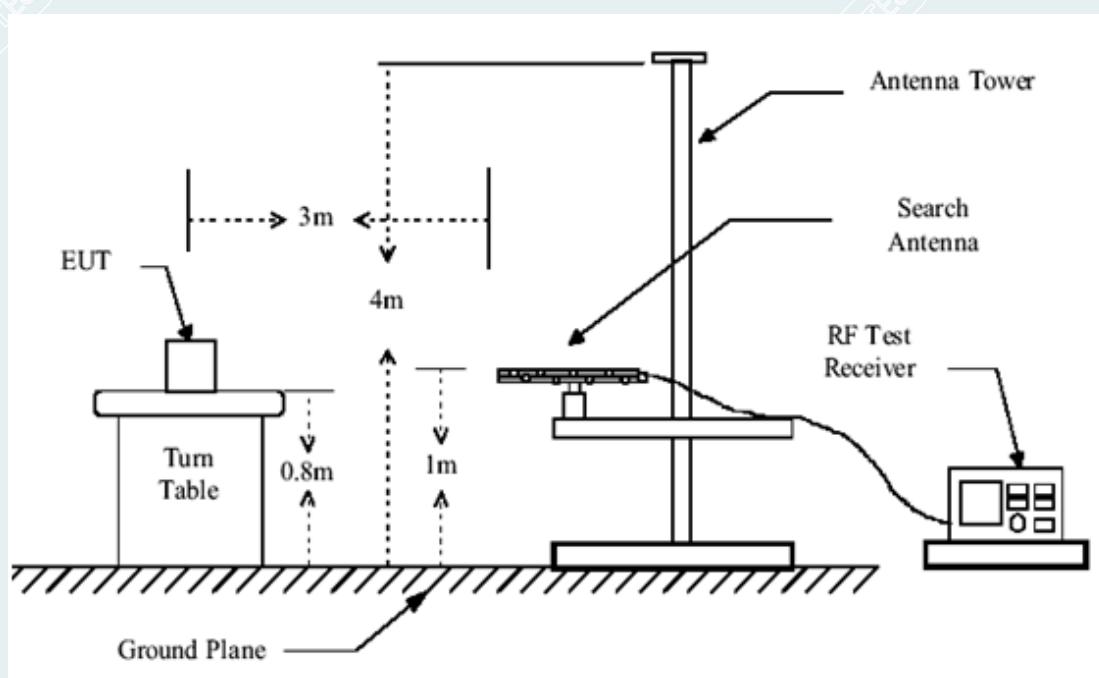


Figure 2. 30MHz to 1GHz radiated emissions test configuration

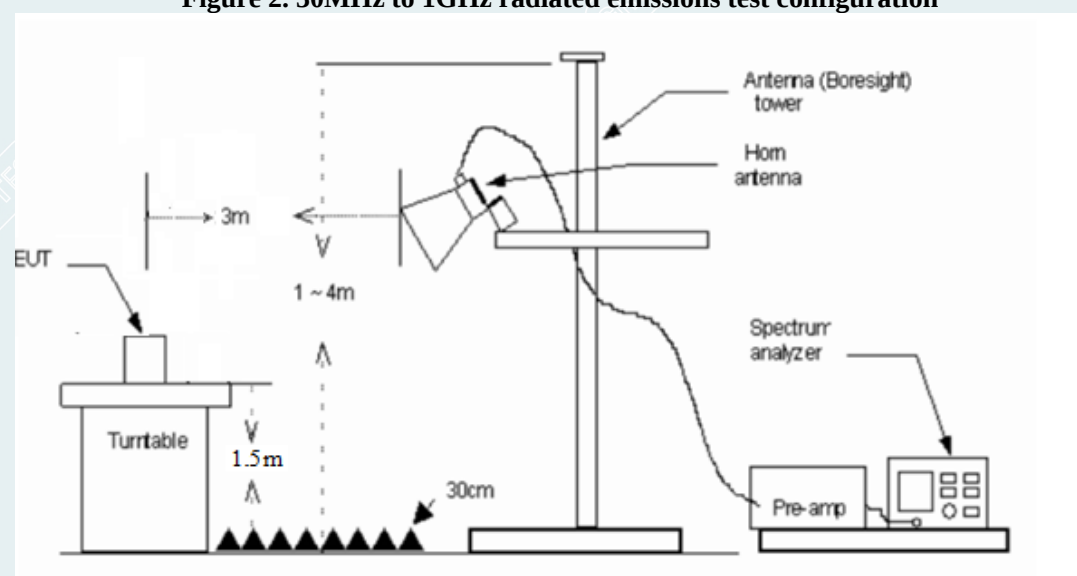


Figure 3. 1GHz to 18GHz radiated emissions test configuration

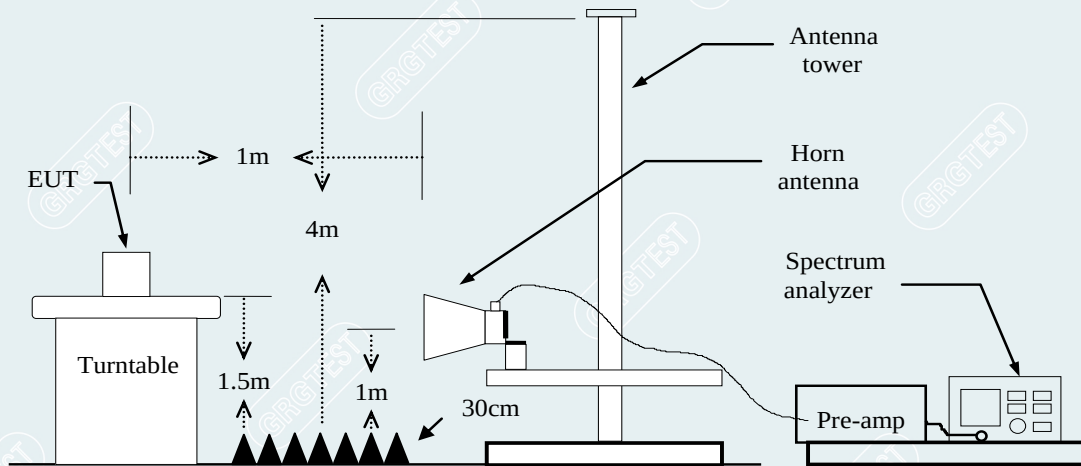


Figure 4.18GHz to 26.5GHz radiated emissions test configuration

6.4 DATA SAMPLE

30MHz to 1GHz

Suspected Data List										
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Trace	Height [cm]	Angle [°]	Polarity
xxxx	xxxx	66.85	31.09	-35.76	40.00	8.91	PK	200	351	Horizontal

Final Data List									
NO.	Freq. [MHz]	Factor [dB]	QP Reading [dBμV/m]	Level [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity
xxxx	xxxx	-31.57	71.28	39.71	46.00	6.29	100	196	Horizontal

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

1GHz-18GHz

No.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Remark
xxx	xxxx	78.01	55.30	-22.71	74.00	18.70	100	50	Horizontal	Peak
xxx	xxxx	66.37	43.66	-22.71	54.00	10.34	100	50	Horizontal	AVG

Above 18GHz**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	Remark
xxx	xxxx	54.49	42.38	32.84	-12.11	74	41.16	100	211	Horizontal	Peak
xxx	xxxx	43.99	31.88	22.34	-12.11	54	31.66	100	211	Horizontal	AVG

Frequency (MHz)

= Emission frequency in MHz

Reading (dBuV/m)

= Uncorrected Analyzer / Receiver reading

Factor (dB)

= Antenna factor + Cable loss – Amplifier gain

Level for 1m (dBuV/m)

= Reading (dBuV/m) + Factor (dB)

Level for 3m (dBuV/m)

= Level for 1m (dBuV/m) + 20*log(1/3)

Limit (dBuV/m)

= Limit stated in standard

Margin (dB)

= Limit (dBuV/m) – Level (dBuV/m)

Polarity

= Antenna polarization

Peak

= Peak Reading

AVG

= Average Reading

----- The following blanks -----

6.5 TEST RESULTS

Pre-scanned in three placement surfaces, Erect, Lateral standing, Handstand. The worst cases mode (Handstand) were recorded in this report.

Below 1GHz

All models were pretested and only the worst modes and channels were recorded in this report.
(IEEE 802.11g 2462MHz)

Mode: IEEE 802.11g

Highest Frequency (2462MHz)

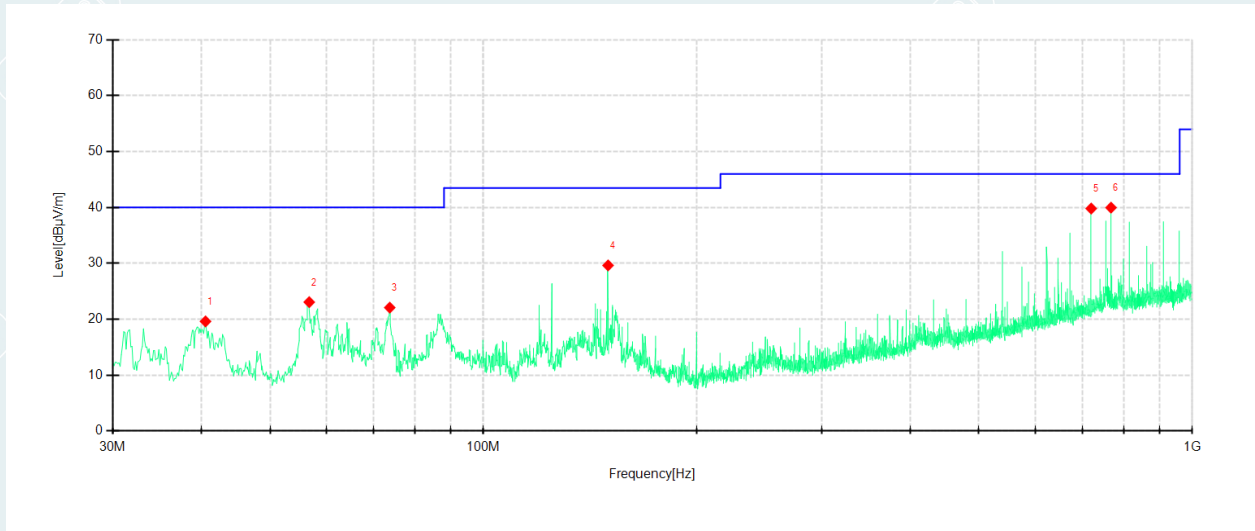
Environment: 26.1°C/56%RH

Test Engineer: Zhang Zishan

Date: 2023-08-07

Test Voltage: AC 120V/60Hz

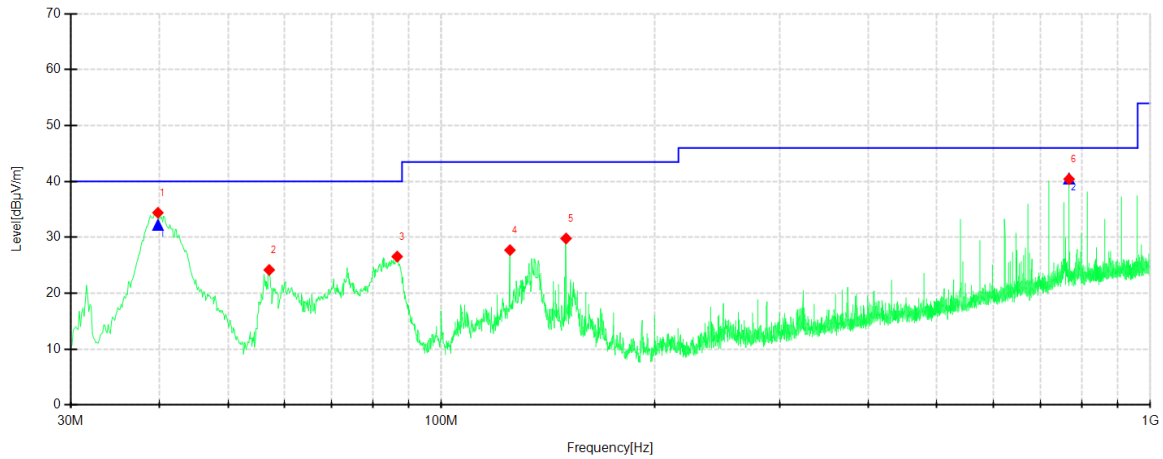
Probe : Horizontal



Suspected Data List										
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Trace	Height [cm]	Angle [°]	Polarity
1	40.5501	48.27	19.62	-28.65	40.00	20.38	PK	100	185	Horizontal
2	56.7996	51.95	23.07	-28.88	40.00	16.93	PK	200	273	Horizontal
3	73.7767	53.89	22.09	-31.80	40.00	17.91	PK	100	325	Horizontal
4	149.9312	57.48	29.64	-27.84	43.50	13.86	PK	100	116	Horizontal
5	720.1200	57.08	39.82	-17.26	46.00	6.18	PK	200	333	Horizontal
6	768.0198	56.61	39.98	-16.63	46.00	6.02	PK	100	196	Horizontal

Mode: IEEE 802.11g
 Highest Frequency (2462MHz)
 Environment: 26.1°C/56%RH
 Test Engineer: Zhang Zishan

Date: 2023-08-07
 Test Voltage: AC 120V/60Hz
 Probe : Vertical



Suspected Data List

NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Trace	Height [cm]	Angle [°]	Polarity
1	39.8225	63.08	34.41	-28.67	40.00	5.59	PK	100	263	Vertical
2	57.1634	53.08	24.18	-28.90	40.00	15.82	PK	100	15	Vertical
3	86.6308	59.84	26.57	-33.27	40.00	13.43	PK	200	234	Vertical
4	124.9506	57.20	27.72	-29.48	43.50	15.78	PK	100	115	Vertical
5	149.9312	57.65	29.81	-27.84	43.50	13.69	PK	100	155	Vertical
6	768.1410	57.06	40.43	-16.63	46.00	5.57	PK	100	342	Vertical

Final Data List

NO.	Freq. [MHz]	Factor [dB]	QP Reading [dBμV/m]	Level [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity
1	39.8254	-28.67	60.88	32.21	40.00	7.79	100	134.5	Vertical
2	768.0073	-16.63	57.13	40.50	46.00	5.50	154	70.9	Vertical

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.
Data of measurement within this frequency range shown “---” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 3 The IF bandwidth of Receiver between 30MHz to 1GHz was 120kHz.
- 4 If the margin of the pre test results is greater than 6db, it meets the requirements of quasipeak or average values, and final testing is no longer required.

1GHz-18GHz:

According to C63.10, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement, so AV emission value did not show in below table if the peak value complies with average limit.

Mode: IEEE 802.11b

Lowest Frequency (2412MHz)

Environment: 27.5°C/57%RH

Tested By:Zhang Qiang

Date: 2023-08-05

Voltage:AC 120V/60Hz

Suspected Data List

NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1777.4000	53.10	45.53	-7.57	74.00	28.47	200	283	Horizontal
2	2240.0000	49.52	45.77	-3.75	74.00	28.23	100	310	Horizontal
3	2657.4000	51.91	49.11	-2.80	74.00	24.89	100	57	Horizontal
4	4824.0000	52.11	49.82	-2.29	74.00	24.18	100	261	Horizontal
5	7189.5000	43.42	46.56	3.14	74.00	27.44	200	158	Horizontal
6	13165.5000	33.50	47.92	14.42	74.00	26.08	100	315	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	2657.4000	-2.80	44.25	41.45	54.00	12.55	100	57	Horizontal
2	4824.0000	-2.29	48.72	46.43	54.00	7.57	134	270.7	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	1195.8000	50.54	41.44	-9.10	74.00	32.56	100	334	Vertical
2	2655.4000	50.41	47.54	-2.87	74.00	26.46	100	66	Vertical
3	4824.0000	50.96	48.52	-2.44	74.00	25.48	100	249	Vertical
4	7306.5000	43.23	46.08	2.85	74.00	27.92	200	106	Vertical
5	10396.5000	35.89	46.15	10.26	74.00	27.85	100	273	Vertical
6	17890.5000	34.49	47.79	13.30	74.00	26.21	100	273	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	4823.9300	-2.44	47.74	45.30	54.00	8.70	100	252.7	Vertical

Mode: IEEE 802.11b
Middle Frequency (2437MHz)
Environment: 27.5°C/57%RH
Tested By:Zhang Qiang

Date: 2023-08-05
Voltage:AC 120V/60Hz

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1424.0000	48.69	40.73	-7.96	74.00	33.27	200	182	Horizontal
2	1995.2000	50.30	44.79	-5.51	74.00	29.21	100	76	Horizontal
3	2665.6000	50.65	47.86	-2.79	74.00	26.14	100	56	Horizontal
4	4873.5000	53.89	51.74	-2.15	74.00	22.26	100	323	Horizontal
5	6643.5000	45.53	46.21	0.68	74.00	27.79	100	23	Horizontal
6	15681.0000	36.56	47.94	11.38	74.00	26.06	200	334	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	4873.9235	-2.15	52.48	50.33	54.00	3.67	120	332.8	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	1665.4000	52.40	43.94	-8.46	74.00	30.06	200	191	Vertical
2	2159.2000	48.77	44.86	-3.91	74.00	29.14	100	329	Vertical
3	2995.8000	46.90	45.93	-0.97	74.00	28.07	100	235	Vertical
4	4873.5000	54.69	52.14	-2.55	74.00	21.86	100	220	Vertical
5	5314.5000	51.19	51.19	0.00	74.00	22.81	100	188	Vertical
6	17890.5000	35.49	48.79	13.30	74.00	25.21	100	273	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	4873.9935	-2.55	52.06	49.51	54.00	4.49	134	224.2	Vertical
2	5328.2665	0.00	37.45	37.45	54.00	16.55	100	194.1	Vertical
3	17890.5000	13.30	29.69	42.99	54.00	11.01	100	273	Vertical

Mode: IEEE 802.11b
Highest Frequency (2462MHz)
Environment: 27.5°C/57%RH
Tested By:Zhang Qiang

Date: 2023-08-05
Voltage:AC 120V/60Hz

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1659.6000	49.92	42.23	-7.69	74.00	31.77	200	209	Horizontal
2	2498.8000	50.11	47.31	-2.80	74.00	26.69	100	302	Horizontal
3	3595.5000	55.97	44.96	-11.01	74.00	29.04	100	16	Horizontal
4	4923.0000	54.10	52.38	-1.72	74.00	21.62	200	324	Horizontal
5	7191.0000	43.99	47.14	3.15	74.00	26.86	200	201	Horizontal
6	15649.5000	34.76	47.71	12.95	74.00	26.29	200	212	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	4924.1400	-1.72	53.74	52.02	54.00	1.98	158	318.8	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	1816.6000	55.41	48.10	-7.31	74.00	25.90	200	126	Vertical
2	2821.4000	48.55	47.00	-1.55	74.00	27.00	100	179	Vertical
3	3987.0000	59.04	50.49	-8.55	74.00	23.51	100	16	Vertical
4	4923.0000	53.57	51.40	-2.17	74.00	22.60	100	225	Vertical
5	5323.5000	50.60	50.59	-0.01	74.00	23.41	100	183	Vertical
6	17890.5000	35.49	48.79	13.30	74.00	25.21	100	273	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	1816.6000	-7.31	45.85	38.54	54.00	15.46	200	126	Vertical
2	3981.2880	-8.55	42.05	33.50	54.00	20.50	121	241.7	Vertical
3	4923.9970	-2.17	52.82	50.65	54.00	3.35	121	222.7	Vertical
4	5323.5000	-0.01	37.45	37.44	54.00	16.56	100	183	Vertical
5	17890.5000	13.30	28.99	42.29	54.00	11.71	100	273	Vertical

Mode: IEEE 802.11g
 Lowest Frequency (2412MHz)
 Environment: 27.5°C/57%RH
 Tested By:Zhang Qiang

Date: 2023-08-05
 Voltage:AC 120V/60Hz

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1661.2000	48.42	40.73	-7.69	74.00	33.27	100	136	Horizontal
2	2283.2000	47.39	44.18	-3.21	74.00	29.82	200	27	Horizontal
3	3597.0000	53.27	42.27	-11.00	74.00	31.73	100	15	Horizontal
4	5031.0000	46.27	46.72	0.45	74.00	27.28	200	15	Horizontal
5	7308.0000	43.00	45.97	2.97	74.00	28.03	200	305	Horizontal
6	15681.0000	37.06	48.44	11.38	74.00	25.56	200	334	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	15681.0000	11.38	29.65	41.03	54.00	12.97	200	334	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	1197.4000	50.78	41.72	-9.06	74.00	32.28	200	209	Vertical
2	2240.0000	49.16	45.05	-4.11	74.00	28.95	200	303	Vertical
3	2821.4000	48.76	47.21	-1.55	74.00	26.79	100	33	Vertical
4	4786.5000	56.18	53.41	-2.77	74.00	20.59	100	244	Vertical
5	6729.0000	46.15	46.82	0.67	74.00	27.18	100	17	Vertical
6	17890.5000	34.99	48.29	13.30	74.00	25.71	100	273	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	4785.4605	-2.77	40.34	37.57	54.00	16.43	101	248.7	Vertical
2	17890.5000	13.30	29.65	42.95	54.00	11.05	100	273	Vertical

Mode: IEEE 802.11g
Middle Frequency (2437MHz)
Environment: 27.5°C/57%RH
Tested By:Zhang Qiang

Date: 2023-08-05
Voltage:AC 120V/60Hz

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1161.2000	48.68	39.56	-9.12	74.00	34.44	100	260	Horizontal
2	1796.6000	54.25	46.69	-7.56	74.00	27.31	100	228	Horizontal
3	2240.0000	49.60	45.85	-3.75	74.00	28.15	100	209	Horizontal
4	5094.0000	46.19	46.37	0.18	74.00	27.63	100	334	Horizontal
5	7248.0000	43.00	45.96	2.96	74.00	28.04	100	172	Horizontal
6	15681.0000	36.56	47.94	11.38	74.00	26.06	200	334	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	1662.4000	52.67	44.21	-8.46	74.00	29.79	100	242	Vertical
2	2661.0000	54.42	51.59	-2.83	74.00	22.41	100	189	Vertical
3	3991.5000	62.52	53.98	-8.54	74.00	20.02	100	234	Vertical
4	4794.0000	50.30	47.77	-2.53	74.00	26.23	100	79	Vertical
5	7378.5000	42.39	46.18	3.79	74.00	27.82	100	172	Vertical
6	17890.5000	34.99	48.29	13.30	74.00	25.71	100	273	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	2661.0000	-2.83	44.23	41.40	54.00	12.60	100	189	Vertical
2	3985.7815	-8.54	45.11	36.57	54.00	17.43	100	239.2	Vertical
3	17890.5000	13.30	27.68	40.98	54.00	13.02	100	273	Vertical

Mode: IEEE 802.11g
Highest Frequency (2462MHz)
Environment: 27.5°C/57%RH
Tested By:Zhang Qiang

Date: 2023-08-05
Voltage:AC 120V/60Hz

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1898.0000	49.87	42.98	-6.89	74.00	31.02	100	346	Horizontal
2	2667.2000	49.88	47.08	-2.80	74.00	26.92	100	60	Horizontal
3	3996.0000	54.51	46.43	-8.08	74.00	27.57	100	16	Horizontal
4	5359.5000	47.16	46.97	-0.19	74.00	27.03	200	326	Horizontal
5	6721.5000	45.62	46.48	0.86	74.00	27.52	200	160	Horizontal
6	15681.0000	36.56	47.94	11.38	74.00	26.06	200	334	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	1261.6000	47.52	40.06	-7.46	74.00	33.94	100	147	Vertical
2	1813.2000	55.64	48.30	-7.34	74.00	25.70	100	313	Vertical
3	2826.6000	49.84	48.31	-1.53	74.00	25.69	100	240	Vertical
4	5211.0000	46.77	46.96	0.19	74.00	27.04	100	287	Vertical
5	6645.0000	46.81	47.43	0.62	74.00	26.57	100	37	Vertical
6	17890.5000	34.99	48.29	13.30	74.00	25.71	100	273	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	1813.2000	-7.34	48.25	40.91	54.00	13.09	100	313	Vertical
2	2826.6000	-1.53	44.21	42.68	54.00	11.32	100	240	Vertical
3	17890.5000	13.30	28.58	41.88	54.00	12.12	100	273	Vertical

Mode: IEEE 802.11n HT20
Lowest Frequency (2412MHz)
Environment: 27.5°C/57%RH
Tested By:Zhang Qiang

Date: 2023-08-05
Voltage:AC 120V/60Hz

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1355.4000	48.13	39.89	-8.24	74.00	34.11	100	128	Horizontal
2	1897.0000	47.75	40.86	-6.89	74.00	33.14	200	232	Horizontal
3	2911.8000	47.82	47.01	-0.81	74.00	26.99	200	220	Horizontal
4	3591.0000	55.29	44.29	-11.00	74.00	29.71	100	36	Horizontal
5	5047.5000	46.78	47.58	0.80	74.00	26.42	200	139	Horizontal
6	15681.0000	36.56	47.94	11.38	74.00	26.06	200	334	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	1196.8000	50.49	41.41	-9.08	74.00	32.59	100	210	Vertical
2	1899.2000	51.95	45.48	-6.47	74.00	28.52	200	32	Vertical
3	2828.2000	48.09	46.56	-1.53	74.00	27.44	100	199	Vertical
4	5319.0000	50.64	50.64	0.00	74.00	23.36	100	191	Vertical
5	7420.5000	42.63	46.25	3.62	74.00	27.75	200	264	Vertical
6	17890.5000	34.99	48.29	13.30	74.00	25.71	100	273	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	5319.0000	0.00	41.25	41.25	54.00	12.75	100	191	Vertical
2	17890.5000	13.30	29.65	42.95	54.00	11.05	100	273	Vertical

Mode: IEEE 802.11n HT20
Middle Frequency (2437 MHz)
Environment: 27.5°C/57%RH
Tested By:Zhang Qiang

Date: 2023-08-05
Voltage:AC 120V/60Hz

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	50.45	42.76	-7.69	74.00	31.24	100	188	Horizontal
2	2240.2000	49.74	45.99	-3.75	74.00	28.01	100	302	Horizontal
3	2991.0000	47.58	47.07	-0.51	74.00	26.93	100	312	Horizontal
4	5046.0000	46.56	47.32	0.76	74.00	26.68	200	141	Horizontal
5	7237.5000	42.74	45.77	3.03	74.00	28.23	100	14	Horizontal
6	15681.0000	35.56	46.94	11.38	74.00	27.06	200	334	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	1194.4000	53.88	44.74	-9.14	74.00	29.26	200	220	Vertical
2	2240.0000	49.27	45.16	-4.11	74.00	28.84	100	281	Vertical
3	2833.4000	49.15	47.63	-1.52	74.00	26.37	100	240	Vertical
4	4797.0000	52.12	49.70	-2.42	74.00	24.30	100	109	Vertical
5	6639.0000	46.18	46.89	0.71	74.00	27.11	100	67	Vertical
6	17890.5000	34.49	47.79	13.30	74.00	26.21	100	273	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	4797.0000	-2.42	50.26	47.84	54.00	6.16	100	109	Vertical

Mode: IEEE 802.11n HT20
 Highest Frequency (2462MHz)
 Environment: 27.5°C/57%RH
 Tested By:Zhang Qiang

Date: 2023-08-05
 Voltage:AC 120V/60Hz

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	50.19	42.50	-7.69	74.00	31.50	100	252	Horizontal
2	2374.6000	58.37	54.17	-4.20	74.00	19.83	100	295	Horizontal
3	2666.4000	53.63	50.83	-2.80	74.00	23.17	100	56	Horizontal
4	3987.0000	54.31	46.16	-8.15	74.00	27.84	100	223	Horizontal
5	5203.5000	48.24	48.66	0.42	74.00	25.34	200	343	Horizontal
6	15673.5000	39.92	51.68	11.76	74.00	22.32	100	13	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	2374.6000	-4.20	50.44	46.24	54.00	7.76	100	295	Horizontal
2	2666.4000	-2.80	44.25	41.45	54.00	12.55	100	56	Horizontal
3	5203.5000	0.42	41.25	41.67	54.00	12.33	200	343	Horizontal
4	15673.5000	11.76	29.69	41.45	54.00	12.55	100	13	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	1198.8000	54.08	45.05	-9.03	74.00	28.95	200	201	Vertical
2	2377.6000	59.81	55.94	-3.87	74.00	18.06	200	295	Vertical
3	2662.2000	53.59	50.76	-2.83	74.00	23.24	100	192	Vertical
4	4789.5000	49.69	47.01	-2.68	74.00	26.99	200	43	Vertical
5	5326.5000	49.45	49.44	-0.01	74.00	24.56	100	127	Vertical
6	17959.5000	37.83	51.32	13.49	74.00	22.68	200	323	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	2377.6000	-3.87	50.11	46.24	54.00	7.76	200	295	Vertical
2	2662.2000	-2.83	45.25	42.42	54.00	11.58	100	192	Vertical
3	5326.5000	-0.01	41.25	41.24	54.00	12.76	100	127	Vertical
4	17959.5000	13.49	29.58	43.07	54.00	10.93	200	323	Vertical

Mode: IEEE 802.11n HT40
Lowest Frequency (2422MHz)
Environment: 27.5°C/57%RH
Tested By:Zhang Qiang

Date: 2023-08-08
Voltage:AC 120V/60Hz

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1440.0000	56.42	48.44	-7.98	74.00	25.56	200	37	Horizontal
2	2385.2000	55.40	51.21	-4.19	74.00	22.79	200	16	Horizontal
3	2919.4000	48.42	47.65	-0.77	74.00	26.35	100	46	Horizontal
4	3984.0000	54.79	46.62	-8.17	74.00	27.38	200	108	Horizontal
5	5052.0000	47.73	48.55	0.82	74.00	25.45	100	188	Horizontal
6	15681.0000	39.56	50.94	11.38	74.00	23.06	200	334	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	1440.2500	-7.98	38.31	30.33	54.00	23.67	199	226.9	Horizontal
2	2382.5420	-4.19	42.50	38.31	54.00	15.69	118	320.4	Horizontal
3	5052.0000	0.82	41.27	42.09	54.00	11.91	100	188	Horizontal
4	15681.0000	11.38	28.51	39.89	54.00	14.11	200	334	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	1440.0000	55.88	47.38	-8.50	74.00	26.62	100	160	Vertical
2	1795.8000	54.80	47.31	-7.49	74.00	26.69	100	243	Vertical
3	2385.4000	54.88	51.08	-3.80	74.00	22.92	100	14	Vertical
4	3997.5000	53.73	45.18	-8.55	74.00	28.82	200	221	Vertical
5	5214.0000	48.51	48.72	0.21	74.00	25.28	200	334	Vertical
6	17890.5000	38.49	51.79	13.30	74.00	22.21	100	273	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	2383.0180	-3.80	44.04	40.24	54.00	13.76	100	46.3	Vertical
2	5214.0000	0.21	40.36	40.57	54.00	13.43	200	334	Vertical
3	17890.5000	13.30	24.58	37.88	54.00	16.12	100	273	Vertical

Mode: IEEE 802.11n HT40
 Middle Frequency (2437 MHz)
 Environment: 27.5°C/57%RH
 Tested By:Zhang Qiang

Date: 2023-08-08
 Voltage:AC 120V/60Hz

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1440.2000	56.14	48.16	-7.98	74.00	25.84	100	160	Horizontal
2	1798.6000	56.65	49.09	-7.56	74.00	24.91	100	212	Horizontal
3	2661.0000	50.91	48.12	-2.79	74.00	25.88	100	212	Horizontal
4	3996.0000	53.11	45.03	-8.08	74.00	28.97	100	233	Horizontal
5	5206.5000	47.93	48.39	0.46	74.00	25.61	200	161	Horizontal
6	13165.5000	37.50	51.92	14.42	74.00	22.08	100	315	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	1439.7830	-7.98	38.33	30.35	54.00	23.65	183	139.2	Horizontal
2	1794.6700	-7.56	41.98	34.42	54.00	19.58	100	206.1	Horizontal
3	2660.7300	-2.79	39.83	37.04	54.00	16.96	121	207.1	Horizontal
4	5206.5000	0.46	38.25	38.71	54.00	15.29	200	161	Horizontal
5	13165.5000	14.42	28.47	42.89	54.00	11.11	100	315	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	1196.4000	53.07	43.98	-9.09	74.00	30.02	200	252	Vertical
2	1440.0000	56.85	48.35	-8.50	74.00	25.65	100	272	Vertical
3	1659.2000	55.66	47.21	-8.45	74.00	26.79	200	200	Vertical
4	2658.2000	51.08	48.23	-2.85	74.00	25.77	200	200	Vertical
5	5052.0000	47.88	48.80	0.92	74.00	25.20	200	202	Vertical
6	17910.0000	38.41	51.96	13.55	74.00	22.04	100	180	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	1440.2500	-8.50	38.41	29.91	54.00	24.09	101	276.2	Vertical
2	2663.6240	-2.85	37.94	35.09	54.00	18.91	125	155	Vertical
3	5052.0000	0.92	37.25	38.17	54.00	15.83	200	202	Vertical
4	17910.0000	13.55	27.88	41.43	54.00	12.57	100	180	Vertical

Mode: IEEE 802.11n HT40
 Highest Frequency (2452MHz)
 Environment: 27.5°C/57%RH
 Tested By:Zhang Qiang

Date: 2023-08-08
 Voltage:AC 120V/60Hz

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1440.0000	55.95	47.97	-7.98	74.00	26.03	100	155	Horizontal
2	2496.4000	51.02	48.16	-2.86	74.00	25.84	100	344	Horizontal
3	2879.4000	47.65	46.62	-1.03	74.00	27.38	200	16	Horizontal
4	3993.0000	51.13	43.03	-8.10	74.00	30.97	200	130	Horizontal
5	5164.5000	47.77	48.08	0.31	74.00	25.92	100	141	Horizontal
6	15768.0000	40.34	51.00	10.66	74.00	23.00	200	130	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	2496.1830	-2.86	41.64	38.78	54.00	15.22	133	344.2	Horizontal
2	5164.5000	0.31	36.65	36.96	54.00	17.04	100	141	Horizontal
3	15768.0000	10.66	28.21	38.87	54.00	15.13	200	130	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	1440.0000	56.50	48.00	-8.50	74.00	26.00	100	324	Vertical
2	2496.4000	50.45	47.44	-3.01	74.00	26.56	100	324	Vertical
3	4269.0000	50.33	43.34	-6.99	74.00	30.66	100	201	Vertical
4	4794.0000	50.72	48.19	-2.53	74.00	25.81	100	360	Vertical
5	5035.5000	48.68	49.24	0.56	74.00	24.76	200	129	Vertical
6	17902.5000	37.77	51.32	13.55	74.00	22.68	100	181	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	4784.4260	-2.53	41.36	38.83	54.00	15.17	100	251.5	Vertical
2	5035.5000	0.56	35.57	36.13	54.00	17.87	200	129	Vertical
3	17902.5000	13.55	27.77	41.32	54.00	12.68	100	181	Vertical

Mode: IEEE 802.11ax HE20
Lowest Frequency (2412MHz)
Environment: 27.5°C/57%RH
Tested By:Zhang Qiang

Date: 2023-08-11
Voltage:AC 120V/60Hz

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1195.4000	51.47	42.47	-9.00	74.00	31.53	100	201	Horizontal
2	1666.0000	52.67	45.00	-7.67	74.00	29.00	200	120	Horizontal
3	2382.0000	51.69	47.50	-4.19	74.00	26.50	100	222	Horizontal
4	4824.0000	49.62	47.33	-2.29	74.00	26.67	100	209	Horizontal
5	5106.0000	49.39	49.50	0.11	74.00	24.50	200	78	Horizontal
6	15670.5000	39.19	51.10	11.91	74.00	22.90	100	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	5102.5270	0.11	37.79	37.90	54.00	16.10	145	105.4	Horizontal
2	15675.4875	11.91	28.61	40.52	54.00	13.48	161	71	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	1196.6000	56.07	46.99	-9.08	74.00	27.01	200	160	Vertical
2	1791.8000	55.16	47.65	-7.51	74.00	26.35	100	173	Vertical
3	2386.8000	50.05	46.26	-3.79	74.00	27.74	100	284	Vertical
4	3981.0000	52.72	44.18	-8.54	74.00	29.82	100	138	Vertical
5	4818.0000	49.58	47.17	-2.41	74.00	26.83	100	16	Vertical
6	17905.5000	37.58	51.13	13.55	74.00	22.87	200	160	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	17923.1225	13.55	26.77	40.32	54.00	13.68	131	142	Vertical

Mode: IEEE 802.11ax HE20
Middle Frequency (2437 MHz)
Environment: 27.5°C/57%RH
Tested By:Zhang Qiang

Date: 2023-08-11
Voltage:AC 120V/60Hz

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1194.8000	54.86	45.85	-9.01	74.00	28.15	100	116	Horizontal
2	2240.2000	50.54	46.79	-3.75	74.00	27.21	200	188	Horizontal
3	2921.2000	47.71	46.96	-0.75	74.00	27.04	200	228	Horizontal
4	5055.0000	47.66	48.43	0.77	74.00	25.57	200	323	Horizontal
5	7908.0000	43.79	48.36	4.57	74.00	25.64	200	232	Horizontal
6	15769.5000	40.59	51.23	10.64	74.00	22.77	200	59	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	5066.8510	0.77	37.17	37.94	54.00	16.06	112	343.7	Horizontal
2	7899.7600	4.57	32.59	37.16	54.00	16.84	198	199.5	Horizontal
3	15696.0125	10.64	28.69	39.33	54.00	14.67	105	86.5	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	1199.2000	54.96	45.95	-9.01	74.00	28.05	100	96	Vertical
2	1661.4000	55.95	47.49	-8.46	74.00	26.51	100	148	Vertical
3	2994.2000	48.09	47.12	-0.97	74.00	26.88	100	208	Vertical
4	5326.5000	50.16	50.15	-0.01	74.00	23.85	100	282	Vertical
5	8016.0000	43.17	48.38	5.21	74.00	25.62	200	171	Vertical
6	17922.0000	37.77	51.30	13.53	74.00	22.70	100	240	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	5330.6625	-0.01	38.93	38.92	54.00	15.08	100	284.7	Vertical
2	8008.1100	5.21	32.38	37.59	54.00	16.41	100	199.8	Vertical
3	17878.4900	13.53	27.19	40.72	54.00	13.28	114	265.5	Vertical

Mode: IEEE 802.11ax HE20
 Highest Frequency (2462MHz)
 Environment: 27.5°C/57%RH
 Tested By:Zhang Qiang

Date: 2023-08-11
 Voltage:AC 120V/60Hz

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1195.2000	57.06	48.05	-9.01	74.00	25.95	100	76	Horizontal
2	1658.6000	50.69	43.00	-7.69	74.00	31.00	200	118	Horizontal
3	2240.0000	49.31	45.56	-3.75	74.00	28.44	200	66	Horizontal
4	2998.4000	47.67	47.18	-0.49	74.00	26.82	100	56	Horizontal
5	5325.0000	49.65	49.69	0.04	74.00	24.31	100	181	Horizontal
6	17898.0000	38.39	50.04	11.65	74.00	23.96	200	222	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	1196.0130	-9.01	48.02	39.01	54.00	14.99	100	72.5	Horizontal
2	5319.9140	0.04	37.58	37.62	54.00	16.38	100	225.9	Horizontal
3	17889.1900	11.65	27.16	38.81	54.00	15.19	139	250	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	1199.0000	53.59	44.57	-9.02	74.00	29.43	100	168	Vertical
2	1828.8000	53.15	45.95	-7.20	74.00	28.05	100	158	Vertical
3	2495.8000	50.18	47.17	-3.01	74.00	26.83	100	240	Vertical
4	3324.0000	56.13	44.03	-12.10	74.00	29.97	100	324	Vertical
5	5313.0000	51.40	51.39	-0.01	74.00	22.61	100	188	Vertical
6	18000.0000	37.50	50.97	13.47	74.00	23.03	100	313	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	5325.4560	-0.01	40.62	40.61	54.00	13.39	101	184.4	Vertical
2	17927.4500	13.47	26.86	40.33	54.00	13.67	147	353.9	Vertical

Mode: IEEE 802.11ax HE40
 Lowest Frequency (2422MHz)
 Environment: 27.5°C/57%RH
 Tested By:Zhang Qiang

Date: 2023-08-11
 Voltage:AC 120V/60Hz

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1333.2000	51.38	42.95	-8.43	74.00	31.05	100	47	Horizontal
2	1659.4000	50.96	43.27	-7.69	74.00	30.73	200	37	Horizontal
3	2381.4000	54.69	50.50	-4.19	74.00	23.50	100	200	Horizontal
4	2916.2000	48.11	47.33	-0.78	74.00	26.67	100	220	Horizontal
5	5031.0000	48.17	48.62	0.45	74.00	25.38	200	68	Horizontal
6	15667.5000	38.84	50.90	12.06	74.00	23.10	200	50	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	2381.2970	-4.19	43.04	38.85	54.00	15.15	100	175.1	Horizontal
2	5031.0000	0.45	38.25	38.70	54.00	15.30	200	68	Horizontal
3	15667.5000	12.06	28.69	40.75	54.00	13.25	200	50	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	1199.4000	54.72	45.72	-9.00	74.00	28.28	200	312	Vertical
2	1663.8000	53.53	45.07	-8.46	74.00	28.93	200	139	Vertical
3	1828.6000	53.84	46.64	-7.20	74.00	27.36	100	144	Vertical
4	2380.8000	53.81	49.96	-3.85	74.00	24.04	200	250	Vertical
5	5044.5000	47.84	48.65	0.81	74.00	25.35	200	343	Vertical
6	17904.0000	36.59	50.15	13.56	74.00	23.85	200	343	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	2381.7650	-3.85	45.07	41.22	54.00	12.78	105	244.1	Vertical
2	5044.5000	0.81	38.56	39.37	54.00	14.63	200	343	Vertical
3	17904.0000	13.56	28.25	41.81	54.00	12.19	200	343	Vertical

Mode: IEEE 802.11ax HE40
Middle Frequency (2437 MHz)
Environment: 27.5°C/57%RH
Tested By:Zhang Qiang

Date: 2023-08-11
Voltage:AC 120V/60Hz

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1196.6000	51.49	42.49	-9.00	74.00	31.51	200	57	Horizontal
2	1660.4000	53.94	46.25	-7.69	74.00	27.75	100	271	Horizontal
3	2921.6000	48.73	47.97	-0.76	74.00	26.03	100	200	Horizontal
4	3993.0000	53.74	45.64	-8.10	74.00	28.36	100	161	Horizontal
5	5044.5000	47.89	48.63	0.74	74.00	25.37	100	274	Horizontal
6	15663.0000	38.94	51.23	12.29	74.00	22.77	100	294	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	5025.3005	0.74	37.73	38.47	54.00	15.53	181	269.7	Horizontal
2	15663.0000	12.29	29.66	41.95	54.00	12.05	100	294	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	1198.0000	55.90	46.86	-9.04	74.00	27.14	200	169	Vertical
2	1798.2000	55.10	47.62	-7.48	74.00	26.38	100	189	Vertical
3	2993.2000	48.64	47.67	-0.97	74.00	26.33	100	351	Vertical
4	3589.5000	59.80	48.58	-11.22	74.00	25.42	100	139	Vertical
5	5331.0000	53.03	53.01	-0.02	74.00	20.99	100	191	Vertical
6	17925.0000	38.12	51.65	13.53	74.00	22.35	200	8	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	3590.6945	-11.22	46.35	35.13	54.00	18.87	100	122.7	Vertical
2	5311.0180	-0.02	39.10	39.08	54.00	14.92	100	178.9	Vertical
3	17925.0000	13.53	30.25	43.78	54.00	10.22	200	8	Vertical

Mode: IEEE 802.11ax HE40
Highest Frequency (2452MHz)
Environment: 27.5°C/57%RH
Tested By:Zhang Qiang

Date: 2023-08-11
Voltage:AC 120V/60Hz

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1197.0000	52.41	43.41	-9.00	74.00	30.59	200	161	Horizontal
2	1660.6000	52.53	44.84	-7.69	74.00	29.16	200	50	Horizontal
3	2239.8000	48.88	45.14	-3.74	74.00	28.86	100	193	Horizontal
4	3994.5000	52.36	44.27	-8.09	74.00	29.73	100	250	Horizontal
5	5026.5000	48.08	48.44	0.36	74.00	25.56	200	207	Horizontal
6	15664.5000	38.62	50.83	12.21	74.00	23.17	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	5037.4115	0.36	37.47	37.83	54.00	16.17	145	251.7	Horizontal
2	15682.6375	12.21	28.73	40.94	54.00	13.06	159	158.8	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	1196.4000	52.98	43.89	-9.09	74.00	30.11	100	181	Vertical
2	1660.4000	56.07	47.62	-8.45	74.00	26.38	200	130	Vertical
3	2910.2000	47.77	46.50	-1.27	74.00	27.50	200	150	Vertical
4	4783.5000	50.84	47.97	-2.87	74.00	26.03	100	179	Vertical
5	5317.5000	48.83	48.82	-0.01	74.00	25.18	100	45	Vertical
6	17902.5000	37.57	51.12	13.55	74.00	22.88	200	87	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	5313.9605	-0.01	40.08	40.07	54.00	13.93	100	181.8	Vertical
2	17921.1575	13.55	26.88	40.43	54.00	13.57	112	115.5	Vertical

18GHz-26.5GHz:

Pre-scan all modes and recorded the worst case results in this report.(IEEE 802.11g)

The peak test results is less than the average limits, so the average test results had not reported.

Mode: IEEE 802.11g
 Lowest Frequency (2412MHz)
 Environment:27.5°C/57%RH
 Tested By:Zhang Zishan

Date: 2023-08-08
 Voltage:AC 120V/60Hz

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	18326.8250	47.58	29.67	20.13	-17.91	74	53.87	200	101	Horizontal
2	19916.7500	47.40	30.84	21.30	-16.56	74	52.70	100	245	Horizontal
3	22099.5500	44.24	28.57	19.03	-15.67	74	54.97	100	245	Horizontal
4	23099.1500	44.71	29.88	20.34	-14.83	74	53.66	100	76	Horizontal
5	24011.2000	45.61	31.38	21.84	-14.23	74	52.16	100	173	Horizontal
6	25946.6500	46.29	31.88	22.34	-14.41	74	51.66	100	295	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	18232.4750	48.11	30.01	20.47	-18.10	74	53.53	100	221	Vertical
2	19837.7000	46.85	29.98	20.44	-16.87	74	53.56	100	197	Vertical
3	21587.8500	44.50	28.62	19.08	-15.88	74	54.92	100	148	Vertical
4	23015.8500	44.71	29.97	20.43	-14.74	74	53.57	200	345	Vertical
5	24502.5000	45.58	31.35	21.81	-14.23	74	52.19	100	209	Vertical
6	25537.3750	45.41	31.35	21.81	-14.06	74	52.19	100	246	Vertical

Note:

Above 18G test distance is 1m, so the Level for 3m= Level for 1m + 20*log(1/3).

----- The following blanks -----

Mode: IEEE 802.11g
 Middle Frequency (2437MHz)
 Environment: 27.5°C / 57%RH
 Tested By: Zhang Zishan

Date: 2023-08-08
 Voltage: AC 120V/60Hz

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	18225.2500	48.40	30.30	20.76	-18.10	74	53.24	100	360	Horizontal
2	19921.8500	47.71	31.16	21.62	-16.55	74	52.38	200	137	Horizontal
3	21601.8750	44.82	28.90	19.36	-15.92	74	54.64	100	356	Horizontal
4	22949.5500	45.31	30.57	21.03	-14.74	74	52.97	100	332	Horizontal
5	24018.4250	45.82	31.59	22.05	-14.23	74	51.95	200	113	Horizontal
6	25305.7500	46.02	31.98	22.44	-14.04	74	51.56	100	282	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	18249.0500	47.24	29.16	19.62	-18.08	74	54.38	200	76	Vertical
2	19912.9250	47.15	30.32	20.78	-16.83	74	53.22	100	345	Vertical
3	22050.2500	44.56	28.74	19.20	-15.82	74	54.80	100	138	Vertical
4	23005.2250	44.07	29.34	19.80	-14.73	74	54.20	200	224	Vertical
5	24392.0000	45.40	31.15	21.61	-14.25	74	52.39	100	296	Vertical
6	25453.6500	45.50	31.43	21.89	-14.07	74	52.11	100	64	Vertical

Note:

Above 18G test distance is 1m, so the Level for 3m= Level for 1m + 20*log(1/3).

----- The following blanks -----

Mode: IEEE 802.11g
 Highest Frequency (2462MHz)
 Environment: 27.5°C / 57%RH
 Tested By: Zhang Zishan

Date: 2023-08-08
 Voltage: AC 120V/60Hz

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	18231.2000	47.90	29.80	20.26	-18.10	74	53.74	100	320	Horizontal
2	19896.3500	47.17	30.59	21.05	-16.58	74	52.95	100	148	Horizontal
3	21383.4250	44.22	28.38	18.84	-15.84	74	55.16	200	28	Horizontal
4	22964.4250	45.88	31.14	21.60	-14.74	74	52.40	100	333	Horizontal
5	24016.3000	45.53	31.30	21.76	-14.23	74	52.24	100	360	Horizontal
6	25201.6250	45.46	31.50	21.96	-13.96	74	52.04	200	40	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	18231.2000	48.19	30.08	20.54	-18.11	74	53.46	100	332	Vertical
2	19899.7500	47.24	30.40	20.86	-16.84	74	53.14	200	86	Vertical
3	21558.5250	44.49	28.62	19.08	-15.87	74	54.92	100	258	Vertical
4	23051.1250	45.04	30.30	20.76	-14.74	74	53.24	200	320	Vertical
5	25024.8250	45.39	31.43	21.89	-13.96	74	52.11	100	184	Vertical
6	25421.3500	45.50	31.42	21.88	-14.08	74	52.12	100	73	Vertical

Note:

Above 18G test distance is 1m, so the Level for 3m= Level for 1m + 20*log(1/3).

----- The following blanks -----

7. 6dB BANDWIDTH

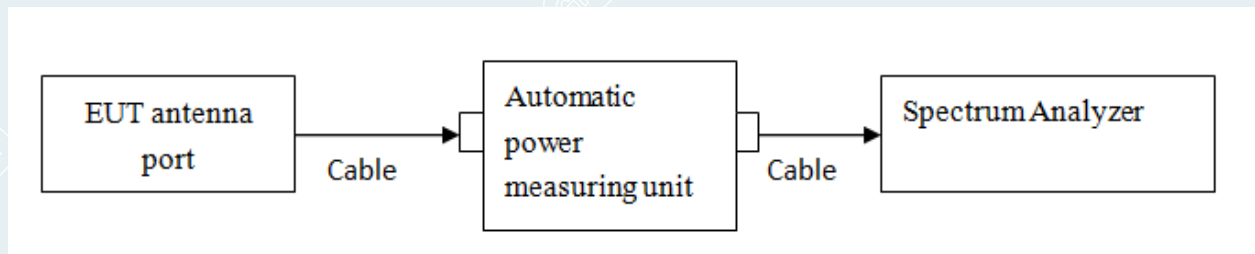
7.1 LIMITS

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



----- The following blanks -----

7.4 TEST RESULTS

Environment: 30.8°C/57%RH

Tested By: Huang Tianmei

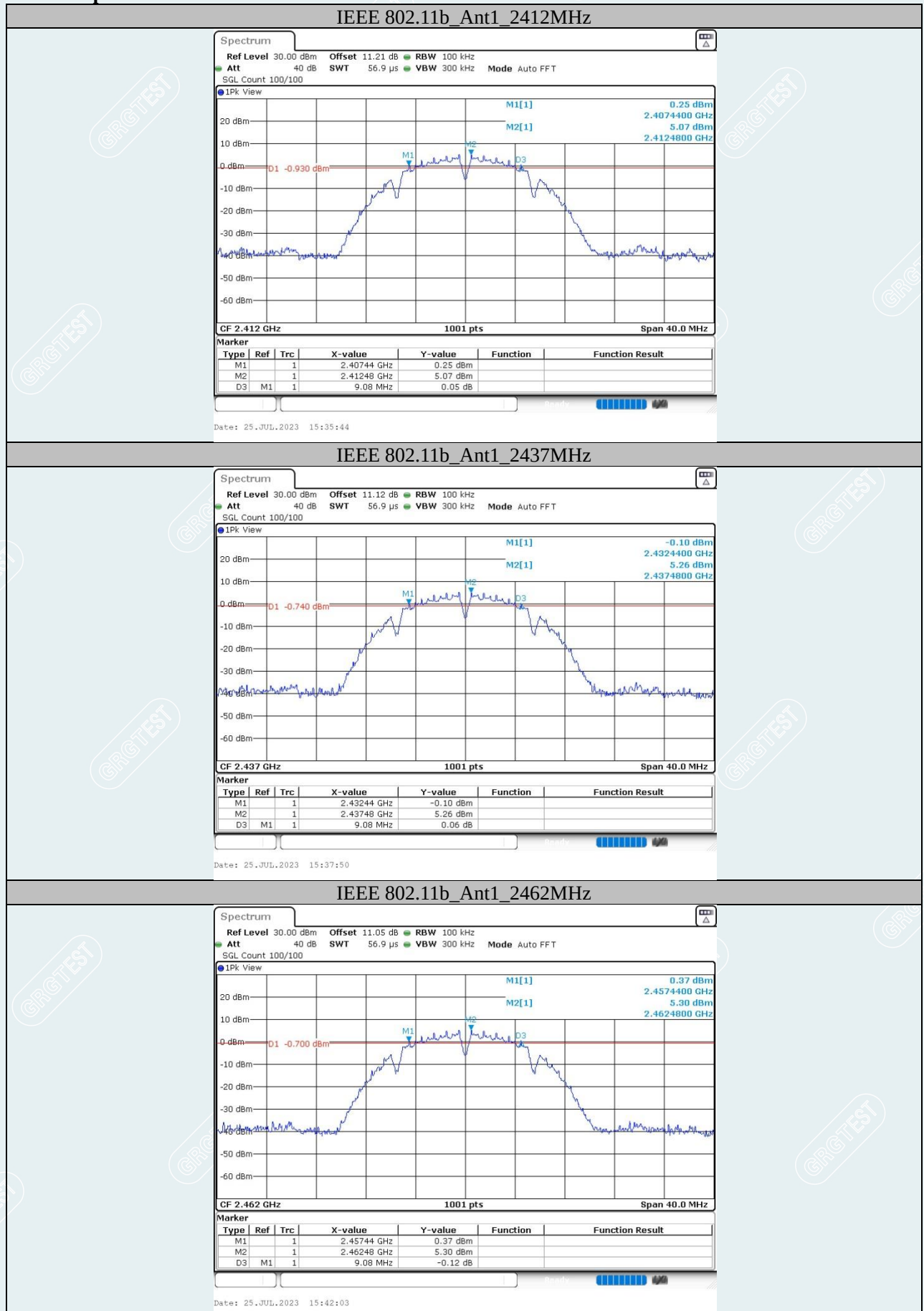
Voltage:AC 120V/60Hz

Date: 2023-07-25~2023-07-28

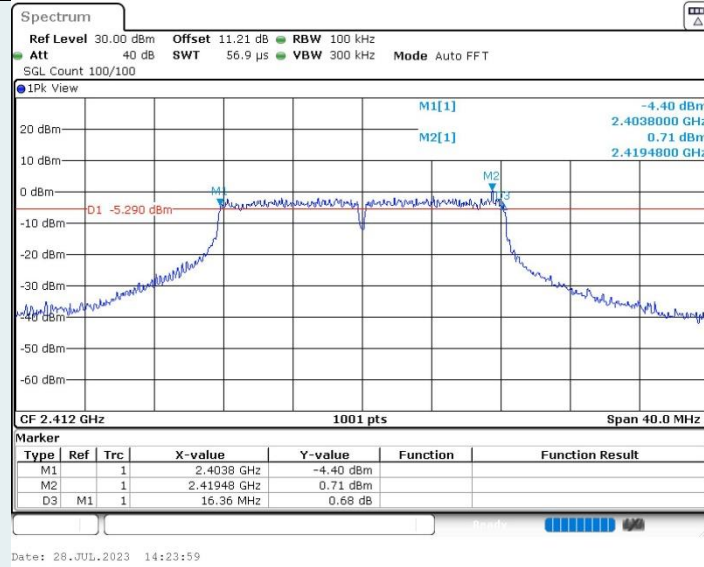
Test Mode	Antenna	Frequency [MHz]	DTS BW [MHz]	F _L [MHz]	F _H [MHz]	Limit[MHz]	Verdict
IEEE 802.11b	Ant1	2412	9.08	2407.44	2416.52	0.5	PASS
		2437	9.08	2432.44	2441.52	0.5	PASS
		2462	9.08	2457.44	2466.52	0.5	PASS
IEEE 802.11g	Ant1	2412	16.36	2403.80	2420.16	0.5	PASS
		2437	16.36	2428.80	2445.16	0.5	PASS
		2462	16.52	2453.72	2470.24	0.5	PASS
IEEE 802.11n HT20	Ant1	2412	17.76	2403.12	2420.88	0.5	PASS
		2437	17.64	2428.16	2445.80	0.5	PASS
		2462	17.76	2453.08	2470.84	0.5	PASS
IEEE 802.11n HT40	Ant1	2422	36.24	2403.92	2440.16	0.5	PASS
		2437	36.32	2418.84	2455.16	0.5	PASS
		2452	36.40	2433.76	2470.16	0.5	PASS
IEEE 802.11ax HE20	Ant1	2412	19.04	2402.48	2421.52	0.5	PASS
		2437	19.04	2427.48	2446.52	0.5	PASS
		2462	18.84	2452.56	2471.40	0.5	PASS
IEEE 802.11ax HE40	Ant1	2422	37.92	2403.12	2441.04	0.5	PASS
		2437	37.68	2418.36	2456.04	0.5	PASS
		2452	38.16	2432.88	2471.04	0.5	PASS

----- The following blanks -----

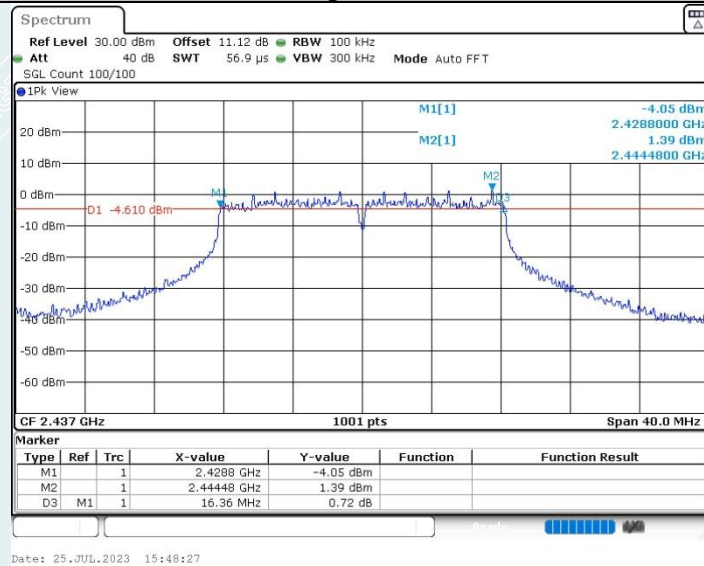
Test Graphs



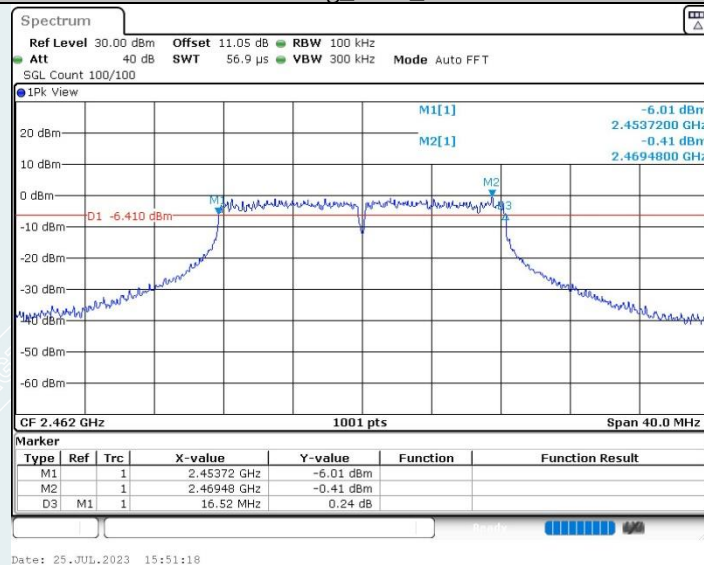
IEEE 802.11g_Ant1_2412MHz



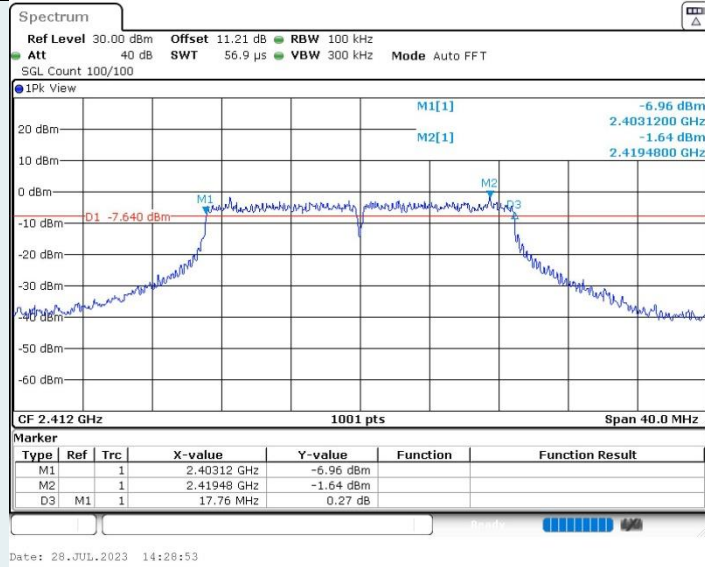
IEEE 802.11g_Ant1_2437MHz



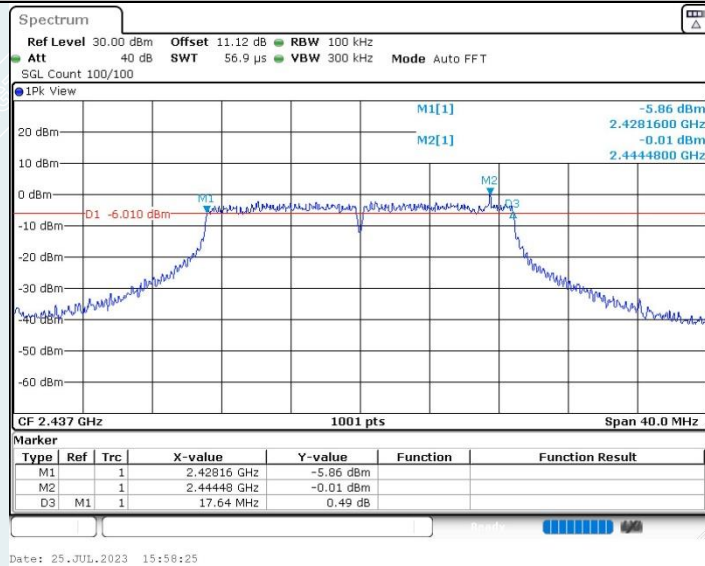
IEEE 802.11g_Ant1_2462MHz



IEEE 802.11n HT20_Ant1_2412MHz



IEEE 802.11n HT20_Ant1_2437MHz



IEEE 802.11n HT20_Ant1_2462MHz

