FCC 47 CFR PART 15 SUBPART C

CERTIFICATION TEST REPORT

For

CONSUMER CAMERA

MODEL NUMBER: IPC-A26LP-C

ADDITIONAL MODEL NUMBER:
IPC-A26LP-C-imou, IPC-A26LN-C-imou, IPC-A26LN-C,
IPC-TA26L-C-LC, IPC-A26L-C-LC, LC-K26L-C, TP7S-C

PROJECT NUMBER: 4789973747

REPORT NUMBER: 4789973747-37

FCC ID: 2AVYF-IPC-AX6L-C

ISSUE DATE: Jun. 16, 2021

Prepared for

Hangzhou Huacheng Network Technology Co., Ltd.

Prepared by

UL-CCIC COMPANY LIMITED
No. 2, Chengwan Road, Suzhou Industrial Park, People's Republic of China
Tel: +86 512-6808 6400
Fax: +86 512-6808 4099
Website: www.ul.com

The results reported herein have been performed in accordance with the laboratory's terms of accreditation. This report shall not be reproduced except in full without the written approval of the Laboratory. The results in this report apply to the test sample(s) mentioned above at the time of the testing period only and are not to be used to indicate applicability to other similar products.

Revision History

Rev.	Issue Date	Revisions	Revised By
V0	06/16/2021	Initial Issue	

This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

TABLE OF CONTENTS

This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

1. ATTESTATION OF TEST RESULTS

Applicant Information

Company Name:	Hangzhou Huacheng Network Technology Co., Ltd.
Address:	No.2930, Nanhuan Road, Binjiang District, Hangzhou, China

Manufacturer Information

Company Name:	Hangzhou Huacheng Network Technology Co., Ltd.
Address:	No.2930, Nanhuan Road, Binjiang District, Hangzhou, China

EUT Description

Product Name	CONSUMER CAMERA
Model Name	IPC-A26LP-C
Additional No.	IPC-A26LP-C-imou, IPC-A26LN-C-imou, IPC-A26LN-C, IPC-TA26L-C-LC, IPC-A26L-C-LC, LC-K26L-C, TP7S-C
Sample Number	3967011
Data of Receipt Sample	Jun. 05, 2021
Test Date	Jun. 06, 2021 ~ Jun. 15, 2021

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
CFR 47 Part 15 Subpart C	PASS

This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

Summary of Test Results			
Clause	Test Items	FCC Rules	Test Results
1	6db DTS Bandwidth	FCC 15.247 (a) (2)	PASS
2	Conducted Power	FCC 15.247 (b) (3)	PASS
3	Power Spectral Density	FCC 15.247 (e)	PASS
4	Conducted Band edge And Spurious emission	FCC 15.247 (d)	PASS
5	Radiated Band edges and Spurious emission	FCC 15.247 (d) FCC 15.209 FCC 15.205	PASS
6	Conducted Emission Test For AC Power Port	FCC 15.207	PASS
7	Antenna Requirement	FCC 15.203	PASS
Remark: 1) The measurement result for the sample received is <Pass> according to < ANSI C63.10-2013, FCC CFR 47 Part 2, FCC CFR 47 Part 15C> when <Accuracy Method> decision rule is applied.			

Prepared By:

Jason Yang
Engineer

Reviewed By:

Tom Tang
Project Engineer

Authorized By:

Chris Zhong
Laboratory Leader

This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with FCC KDB 558074 D01 15.247 Meas Guidance v05r02, KDB 414788 D01 Radiated Test Site v01r01, ANSI C63.10-2013, FCC CFR 47 Part 2, FCC CFR 47 Part 15.

3. FACILITIES AND ACCREDITATION

Accreditation Certificate	**A2LA (Certificate No.: 4829.01)** **UL-CCIC COMPANY LIMITED has been assessed and proved to be in compliance with A2LA.** **FCC (FCC Designation No.: CN1247)** **UL-CCIC COMPANY LIMITED has been recognized to perform compliance testing on equipment subject to the Commission's Declaration of Conformity (DoC) and Certification rules.** **IC (IC Designation No.: 25056)** **UL-CCIC COMPANY LIMITED has been recognized to perform compliance testing on equipment subject to the Commission's Declaration of Conformity (DoC) and Certification rules.**

Note 1: All tests measurement facilities use to collect the measurement data are located at No. 2, Chengwan Road, Suzhou Industrial Park, Suzhou 215122, People's Republic of China

Note 2: For below 30MHz, lab had performed measurements at test anechoic chamber and comparing to measurements obtained on an open field site. These measurements below 30MHz had been correlated to measurements performed on an OFS.

Note 3: The test anechoic chamber in UL-CCIC COMPANY LIMITED had been calibrated and compared to the open field sites and the test anechoic chamber is shown to be equivalent to or worst case from the open field site.

This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

4.2. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

Test Item	Uncertainty
Conduction emission	3.1dB
Radiation Emission test(include Fundamental emission) (9KHz-30MHz)	3.3dB
Radiation Emission test(include Fundamental emission) (30MHz-1GHz)	3.3dB
Radiation Emission test (1GHz to 26GHz)(include Fundamental emission)	3.9dB (1GHz-18Gz)
	4.2dB (18GHz-26.5Gz)
Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.	

This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

Product Name:	CONSUMER CAMERA
Model No.:	IPC-A26LP-C
Operating Frequency:	IEEE 802.11b/g/n(HT20): 2412MHz to 2462MHz IEEE 802.11n(HT40): 2422MHz to 2452MHz
Type of Modulation:	IEEE for 802.11b: DSSS (CCK, DQPSK, DBPSK) IEEE for 802.11g: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE for 802.11n (HT20 and HT40): OFDM (64QAM, 16QAM, QPSK, BPSK)
Channels Step:	Channels with 5MHz step
Sample Type:	Fixed production
Test power grade:	N/A
Test software of EUT:	Secure CRT (manufacturer declare)
Antenna Type:	IFA Antenna
Antenna Gain:	2.84 dBi

Remark:
Model No.:

No.:	Name:	No.:	Name:	No.:	Name:
1	IPC-A26LP-C	2	IPC-A26LP-C-imou	3	IPC-A26LN-C-imou
4	IPC-A26LN-C	5	IPC-TA26L-C-LC	6	IPC-A26L-C-LC
7	LC-K26L-C	8	TP7S-C		

Only the main model IPC-A26LP-C was tested and only the data of this model is shown in this test report. Since Their material, types of encloser, antenna location, electrical circuit design, layout, components used and internal wiring are identical, only the model name and software are different and the user can't change the RF parameters or others access the software setting.

This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

5.2. MAXIMUM OUTPUT POWER

Number of Transmit Chains (NTX)	IEE Std. 802.11	Channel Number	Max AVG Conducted Power (dBm)
1	IEEE 802.11B	1-11[11]	14.12
1	IEEE 802.11G	1-11[11]	11.28
1	IEEE 802.11nHT20	1-11[11]	11.27
1	IEEE 802.11nHT40	3-9[7]	10.45

5.3. CHANNEL LIST

Channel List for 802.11b/g/n (20 MHz)							
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		

Channel List for 802.11n (40 MHz)							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
3	2422	5	2432	7	2442	9	2452
4	2427	6	2437	8	2447		

This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

5.4. TEST CHANNEL CONFIGURATION

Test Mode	Test Channel (MHz)
IEEE 802.11B	LCH: CH01 2412
	MCH: CH06 2437
	HCH: CH11 2462
IEEE 802.11G	LCH: CH01 2412
	MCH: CH06 2437
	HCH: CH11 2462
IEEE 802.11n HT20	LCH: CH01 2412
	MCH: CH06 2437
	HCH: CH11 2462
IEEE 802.11n HT40	LCH: CH03 2422
	MCH: CH06 2437
	HCH: CH09 2452

5.5. THE WORSE CASE POWER SETTING PARAMETER

The Worse Case Power Setting Parameter under 2400 ~ 2483.5MHz Band							
Test Software		SecureCRT					
Modulation Mode	Transmit Antenna Number	Test Channel					
		NCB: 20MHz			NCB: 40MHz		
		CH 1	CH 6	CH 11	CH 3	CH 6	CH 9
802.11b	1	N/A	N/A	N/A	/		
802.11g	1	N/A	N/A	N/A			
802.11n HT20	1	N/A	N/A	N/A			
802.11n HT40	1	/			N/A	N/A	N/A

This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

5.6. DESCRIPTION OF AVAILABLE ANTENNAS

Ant.	Frequency (MHz)	Antenna Type	Antenna Gain (dBi)
1	2400-2483.5	IFA Antenna	2.84

Test Mode	Transmit and Receive Mode	Description
IEEE 802.11b	☒1TX, 1RX	Antenna1 can be used as transmitting/receiving antenna independently.
IEEE 802.11g	☒1TX, 1RX	Antenna1 can be used as transmitting/receiving antenna independently.
IEEE 802.11N (HT20)	☒1TX, 1RX	Antenna1 can be used as transmitting/receiving antenna independently.
IEEE 802.11N (HT40)	☒1TX, 1RX	Antenna1 can be used as transmitting/receiving antenna independently.

5.7. THE WORSE CASE CONFIGURATIONS

For WIFI module, the worst-case data rates as provided by the client were:

802.11b mode: 1 Mbps
802.11g mode: 6 Mbps
802.11n HT20 mode: MCS0
802.11n HT40 mode: MCS0

This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

5.8. TEST ENVIRONMENT

Environment Parameter	Selected Values During Tests	
Relative Humidity	55 ~ 65%	
Atmospheric Pressure:	1025Pa	
Temperature	TN	23 ~ 28°C
Voltage :	VL	N/A
	VN	AC 120V
	VH	N/A

Note: VL= Lower Extreme Test Voltage
VN= Nominal Voltage
VH= Upper Extreme Test Voltage
TN= Normal Temperature

This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

5.9. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Item	Equipment	Brand Name	Model Name	Description
1	Laptop	ThinkPad	E590	N/A
2	SD Card	N/A	N/A	Supply by UL Lab

I/O PORT

Cable No	Port	Connector Type	Cable Type	Cable Length(m)	Remarks
1	USB	USB to TTL	USB	100cm Length	N/A
2	LAN	LAN	LAN	100cm Length	N/A

ACCESSORY

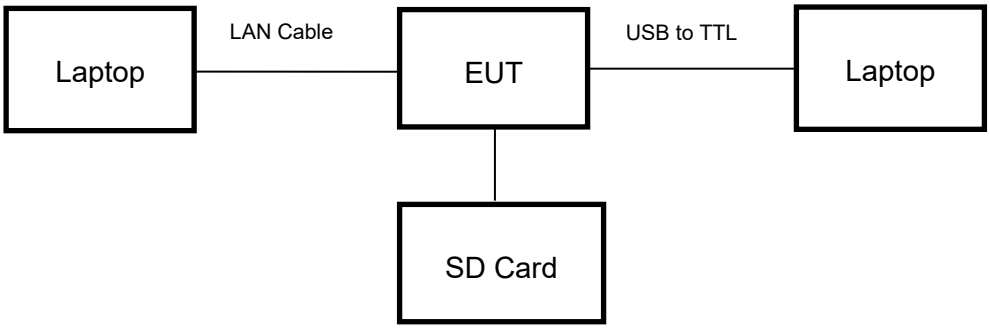
Item	Accessory	Brand Name	Model Name	Description
1	AC Adapter	MASS POWER	E010-1D050150VUU	INPUT:100-240V~, 50/60Hz, 0.3A OUTPUT:5.0V⎓1.5A

This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

TEST SETUP

The EUT can work in an engineer mode with a software through a table PC.

SETUP DIAGRAM FOR TESTS



This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

5.10. MEASURING INSTRUMENT AND SOFTWARE USED

Conducted Emissions (Instrument)							
Used	Equipment	Manufacturer	Model No.	Serial No.	Upper Last Cal.	Last Cal.	Next Cal.
☑	EMI Test Receiver	R&S	ESR3	126700	2019-12-12	2020-12-11	2021-12-10
☑	Two-Line V-Network	R&S	ENV216	126701	2019-12-12	2020-12-11	2021-12-10
☑	Artificial Mains Networks	R&S	ENY81	126711	2019-12-12	2020-12-11	2021-12-10
Software							
Used	Description		Manufacturer	Name	Version		
☑	Test Software for Conducted disturbance		R&S	EMC32	Ver. 9.25		
Radiated Emissions (Instrument)							
Used	Equipment	Manufacturer	Model No.	Serial No.	Upper Last Cal.	Last Cal.	Next Cal.
☑	Spectrum Analyzer	Keysight	N9010B	MY57110128	2019-05-29	2020-05-28	2021-05-27
☑	EMI test receiver	R&S	ESR26	1267603	2019-12-22	2020-12-21	2021-12-20
☑	Receiver Antenna (9kHz-30MHz)	Schwarzbeck	FMZB 1513	513-265	2019-06-16	2020-06-15	2021-06-14
☑	Receiver Antenna (30MHz-1GHz)	SunAR RF Motion	JB1	126704	N/A	2019-01-28	2022-01-27
☑	Receiver Antenna (1GHz-18GHz)	R&S	HF907	126705	2019-01-26	2020-01-26	2021-01-25
☑	Receiver Antenna (18GHz-26.5GHz)	Schwarzbeck	BBHA9170	126706	2019-02-06	2020-02-05	2021-02-04
☑	Receiver Antenna (26.5GHz-40GHz)	TOYO	HAP 26-40W	00000012	2019-07-23	2020-07-22	2021-07-21
☑	Pre-amplification (To 1GHz)	R&S	SCU-03D	134666	2019-02-06	2020-02-05	2021-02-04
☑	Pre-amplification (To 18GHz)	Compliance Direction System Inc.	PAP-1G18-50	14140-13467	2019-03-18	2020-03-17	2021-03-16
☑	Pre-amplification (To 26.5GHz)	R&S	SCU-26D	134668	2019-02-06	2020-02-05	2021-02-04
☑	Band Reject Filter	Wainwright	WRCJV8-2350-2400-2483.5-2533.5-40SS	1	2019-05-29	2020-05-28	2021-05-27
☑	Highpass Filter	Wainwright	WHKX10-2700-3000-18000-40SS	2	2019-05-29	2020-05-28	2021-05-27
Software							
Used	Description		Manufacturer	Name	Version		
☑	Test Software for Radiated disturbance		Tonscend	JS32	V1.0		
Other instruments							
Used	Equipment	Manufacturer	Model No.	Serial No.	Upper Last Cal.	Last Cal.	Next Cal.
☑	Spectrum Analyzer	Keysight	N9010B	MY57110128	2019-05-29	2020-05-28	2021-05-27
☑	Power Meter	Keysight	U2021XA	MY57110002	2019-06-12	2020-06-11	2021-06-10

This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

6. MEASUREMENT METHODS

No.	Test Item	KDB Name	Section
1	6dB Bandwidth	KDB 558074 D01 15.247 Meas Guidance v05r02	8.2
2	Output Power	KDB 558074 D01 15.247 Meas Guidance v05r02	8.3.1.3/8.3.2.3
3	Power Spectral Density	KDB 558074 D01 15.247 Meas Guidance v05r02	8.4
4	Out-of-band emissions in non-restricted bands	KDB 558074 D01 15.247 Meas Guidance v05r02	8.5
5	Out-of-band emissions in restricted bands	KDB 558074 D01 15.247 Meas Guidance v05r02	8.6
6	Band-edge	KDB 558074 D01 15.247 Meas Guidance v05r02	8.7
7	Conducted Emission Test For AC Power Port	ANSI C63.10-2013	6.2

This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

7. ANTENNA PORT TEST RESULTS

7.1. ON TIME AND DUTY CYCLE

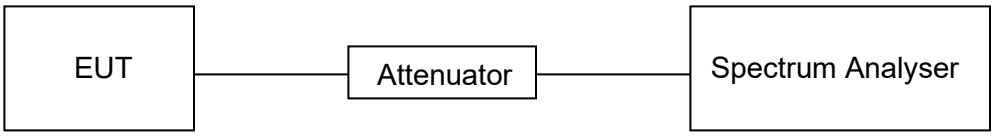
LIMITS

None; for reporting purposes only

PROCEDURE

FCC KDB 558074 Zero-Span Spectrum Analyzer Method

TEST SETUP



TEST ENVIRONMENT

Temperature	22°C	Relative Humidity	56%
Atmosphere Pressure	101kPa	Test Voltage	AC 120V

TEST RESULTS TABLE

Mode	On Time (msec)	Period (msec)	Duty Cycle x (Linear)	Duty Cycle (%)	Duty Cycle Correction Factor (db)	1/T Minimum VBW (kHz)	Final VBW (kHz)
11B	100.3	100.3	1	100%	0	0.01	0.01
11G	100.3	100.3	1	100%	0	0.01	0.01
802.11n HT20	100.3	100.3	1	100%	0	0.01	0.01
802.11n HT40	100.3	100.3	1	100%	0	0.01	0.01

Note: 1) Duty Cycle Correction Factor=10log(1/x).
2) Where: x is Duty Cycle(Linear)
3) Where: T is On Time (transmit duration)

This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

TEST GRAPHS

11B ON TIME AND DUTY CYCLE MID CH (WORSE CASE)

11G ON TIME AND DUTY CYCLE MID CH (WORSE CASE)

This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

11N (HT20) ON TIME AND DUTY CYCLE MID CH (WORSE CASE)

11N (HT40) ON TIME AND DUTY CYCLE MID CH (WORSE CASE)

This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

7.2. 6 dB BANDWIDTH

LIMITS

FCC Part15 (15.247), Subpart C			
Section	Test Item	Limit	Frequency Range (MHz)
FCC 15.247(a)(2)	6dB Bandwidth	>= 500KHz	2400-2483.5

TEST PROCEDURE

Refer to ANSI C63.10-2013 clause 11.8 for DTS bandwidth.

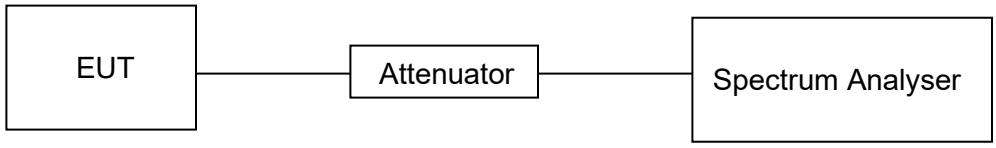
Connect the EUT to the spectrum analyser and use the following settings:

Center Frequency	The centre frequency of the channel under test
Frequency Span	Between 0.5 times and 1.5 times the OBW
Detector	Peak
RBW	For 6 dB Bandwidth :100K
VBW	For 6dB Bandwidth : ≥3 × RBW
Trace	Max hold
Sweep	Auto couple

Allow the trace to stabilize and measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

.

TEST SETUP



This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

TEST ENVIRONMENT

Temperature	22°C	Relative Humidity	56%
Atmosphere Pressure	101kPa	Test Voltage	AC 120V

TEST RESULTS TABLE

Test Mode	Test Channel	6dB bandwidth (MHz)	Result
11B	LCH	9.055	Pass
	MCH	9.064	Pass
	HCH	9.066	Pass
11G	LCH	16.56	Pass
	MCH	16.56	Pass
	HCH	16.57	Pass
11N HT20	LCH	17.72	Pass
	MCH	17.72	Pass
	HCH	17.73	Pass
11N HT40	LCH	36.44	Pass
	MCH	36.45	Pass
	HCH	36.44	Pass

This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

TEST GRAPHS

6dB Bandwdith

Test Mode	Test Channel	Verdict
11B	LCH	PASS

Test Mode	Test Channel	Verdict
11B	MCH	PASS

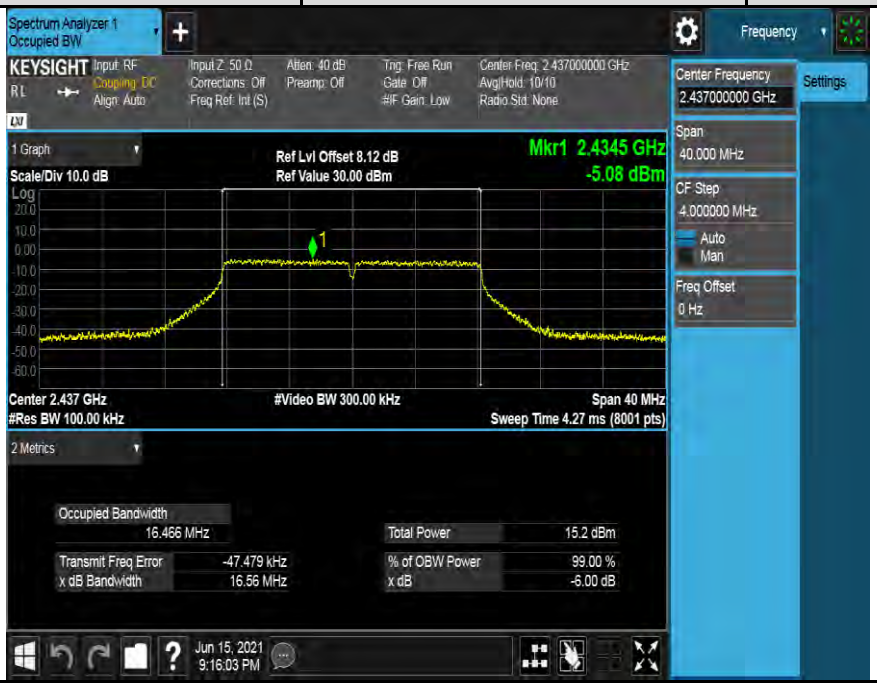
This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

Test Mode	Test Channel	Verdict
11B	HCH	PASS

Test Mode	Test Channel	Verdict
11G	LCH	PASS

This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

Test Mode	Test Channel	Verdict
11G	MCH	PASS



Test Mode	Test Channel	Verdict
11G	HCH	PASS

This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

Test Mode	Test Channel	Verdict
11N HT20	LCH	PASS

Test Mode	Test Channel	Verdict
11N HT20	MCH	PASS

This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

Test Mode	Test Channel	Verdict
11N HT20	HCH	PASS

Test Mode	Test Channel	Verdict
11N HT40	LCH	PASS

This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

Test Mode	Test Channel	Verdict
11N HT40	MCH	PASS

Test Mode	Test Channel	Verdict
11N HT40	HCH	PASS

This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

7.3. CONDUCTED OUTPUT POWER

LIMITS

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

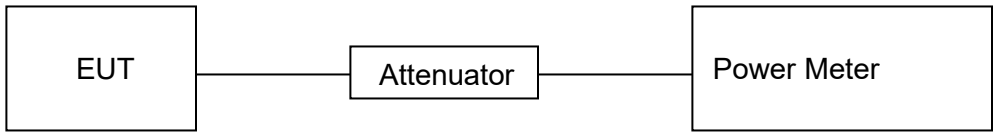
TEST PROCEDURE

Place the EUT on the table and set it in the transmitting mode.
Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the Power sensor.
Measure the power of each channel.
Peak Detector use for Peak result.
AVG Detector use for AVG result.

TEST ENVIRONMENT

Temperature	22°C	Relative Humidity	56%
Atmosphere Pressure	101kPa	Test Voltage	AC 120V

TEST SETUP



This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

TEST RESULTS TABLE

Test Mode	Test Channel	Maximum Conducted Output Power (AV)	LIMIT
		dBm	dBm
11B	LCH	14.12	30
	MCH	12.27	30
	HCH	11.23	30
11G	LCH	11.28	30
	MCH	9.10	30
	HCH	8.74	30
11n HT20	LCH	11.27	30
	MCH	9.10	30
	HCH	8.73	30
11n HT40	LCH	10.45	30
	MCH	9.36	30
	HCH	9.66	30

This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

7.4. POWER SPECTRAL DENSITY

LIMITS

FCC Part15 (15.247), Subpart C			
Section	Test Item	Limit	Frequency Range (MHz)
FCC §15.247 (e)	Power Spectral Density	8 dBm/3 kHz	2400-2483.5

TEST PROCEDURE

Refer to FCC KDB 558074, connect the UUT to the spectrum analyser and use the following settings:

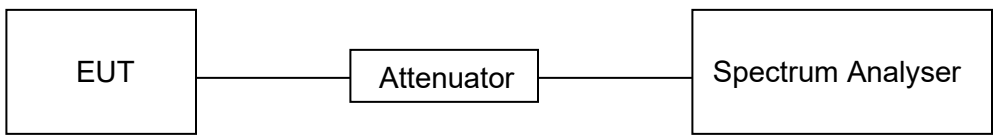
Center Frequency	The centre frequency of the channel under test
Detector	Peak
RBW	3 kHz ≤ RBW ≤100 kHz
VBW	≥3 × RBW
Span	1.5 x DTS bandwidth
Trace	Max hold
Sweep time	Auto couple.

Allow trace to fully stabilize and use the peak marker function to determine the maximum amplitude level within the RBW.
If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

TEST ENVIRONMENT

Temperature	22°C	Relative Humidity	56%
Atmosphere Pressure	101kPa	Test Voltage	AC 120V

TEST SETUP



This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

TEST RESULTS TABLE

Test Mode	Test Channel	Maximum Peak power spectral density (dBm/30kHz)	Result
11B	LCH	-0.50	Pass
	MCH	-2.22	Pass
	HCH	-3.16	Pass
11G	LCH	-5.71	Pass
	MCH	-7.85	Pass
	HCH	-8.24	Pass
11n HT20	LCH	-5.43	Pass
	MCH	-7.72	Pass
	HCH	-8.02	Pass
11n HT40	LCH	-8.80	Pass
	MCH	-9.89	Pass
	HCH	-10.00	Pass

This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

TEST GRAPHS

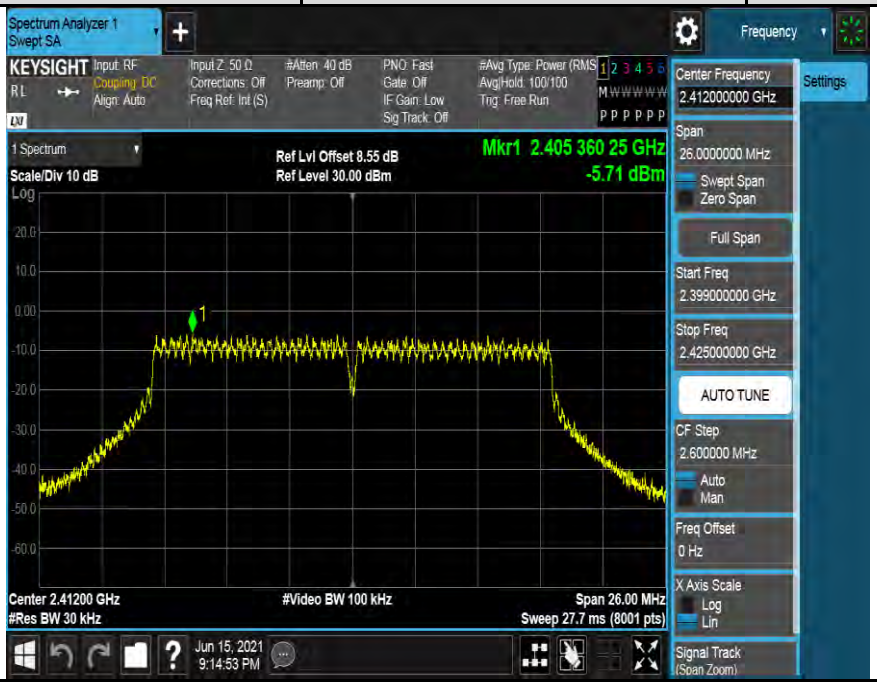
Test Mode	Test Channel	Verdict
11B	LCH	PASS

Test Mode	Test Channel	Verdict
11B	MCH	PASS

This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

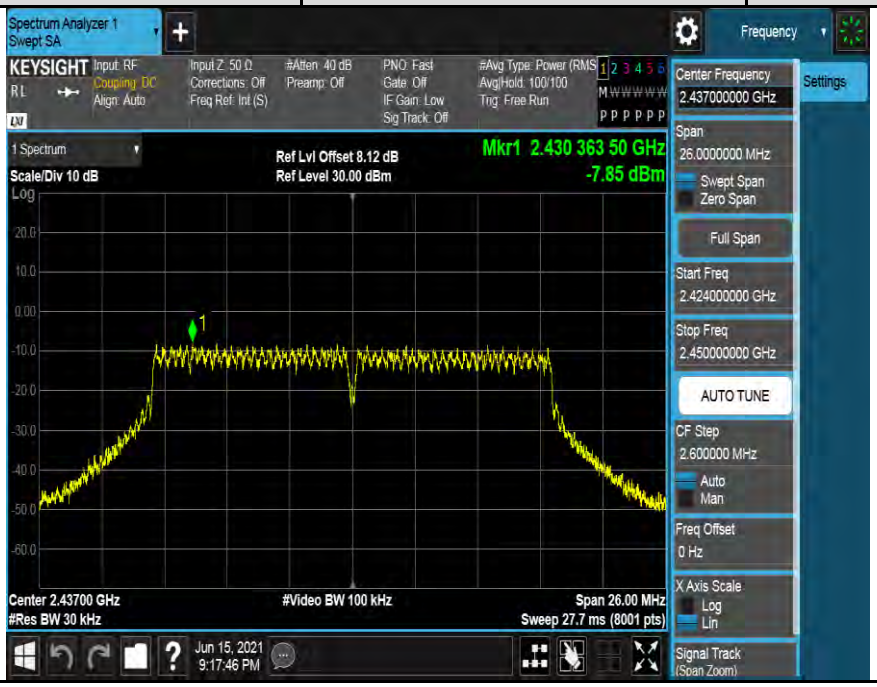
Test Mode	Test Channel	Verdict
11B	HCH	PASS

Test Mode	Test Channel	Verdict
11G	LCH	PASS

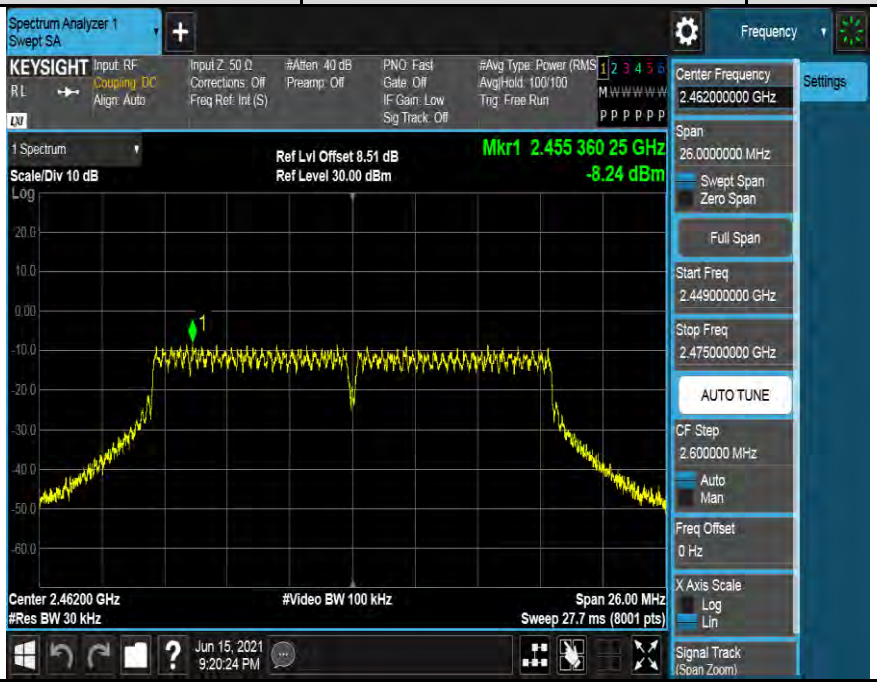


This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

Test Mode	Test Channel	Verdict
11G	MCH	PASS

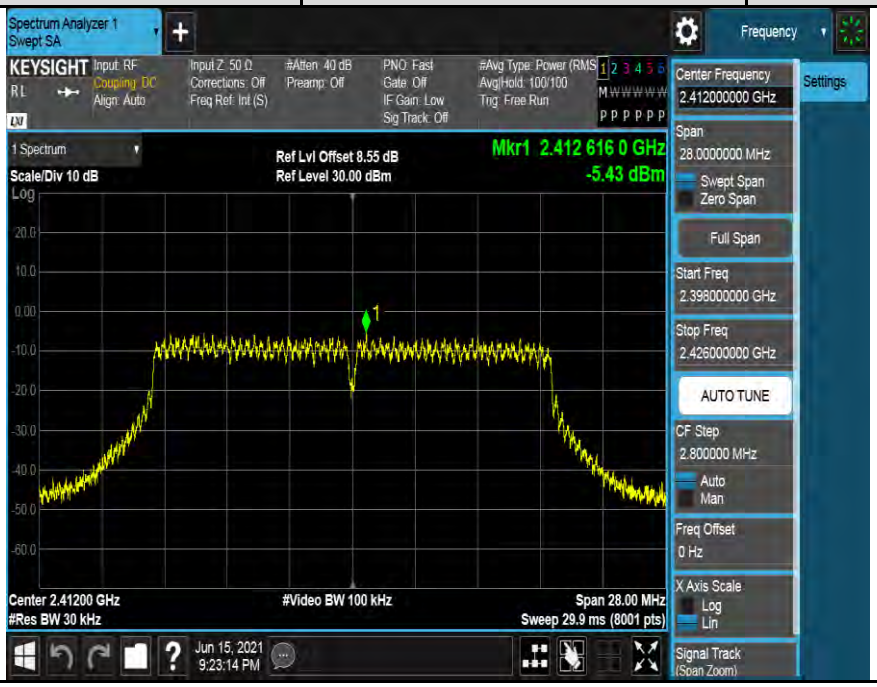


Test Mode	Test Channel	Verdict
11G	HCH	PASS

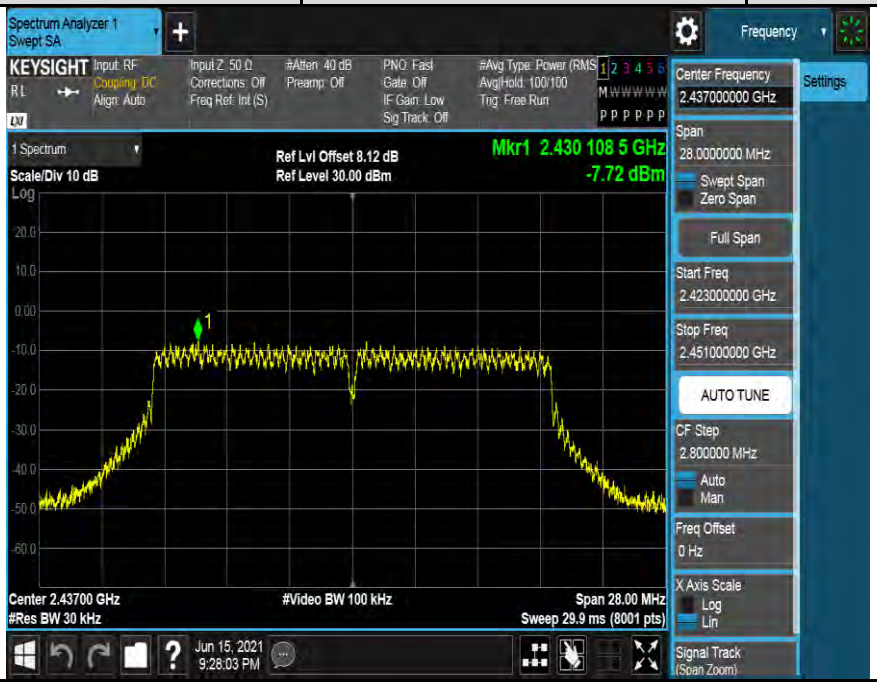


This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

Test Mode	Test Channel	Verdict
11N HT20	LCH	PASS

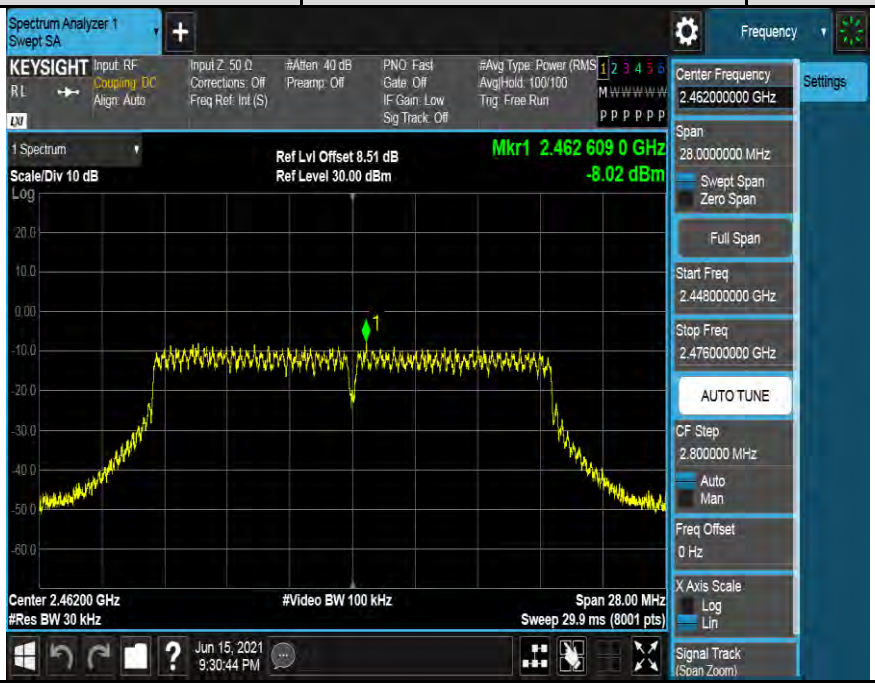


Test Mode	Test Channel	Verdict
11N HT20	MCH	PASS

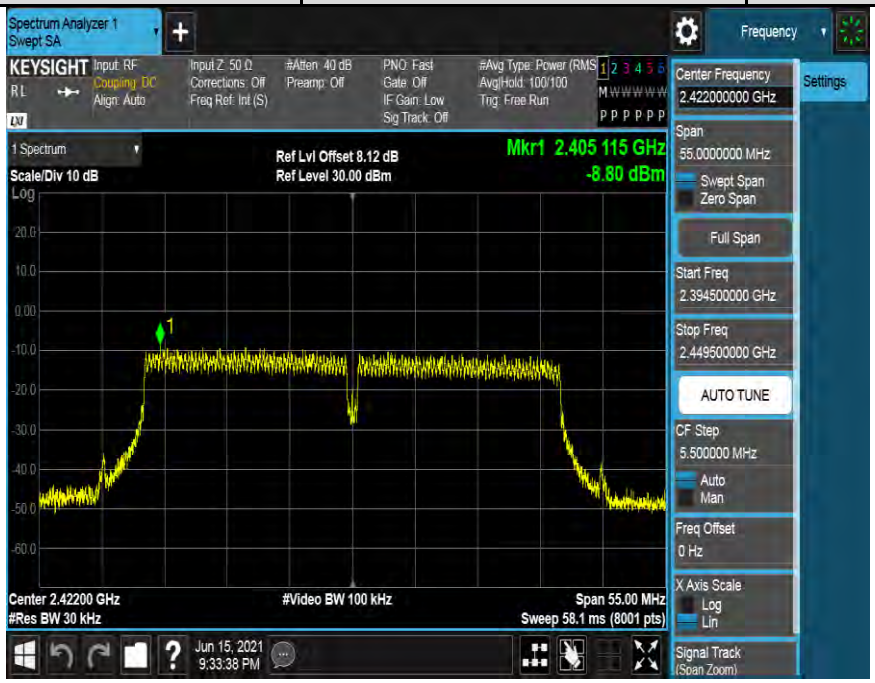


This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

Test Mode	Test Channel	Verdict
11N HT20	HCH	PASS



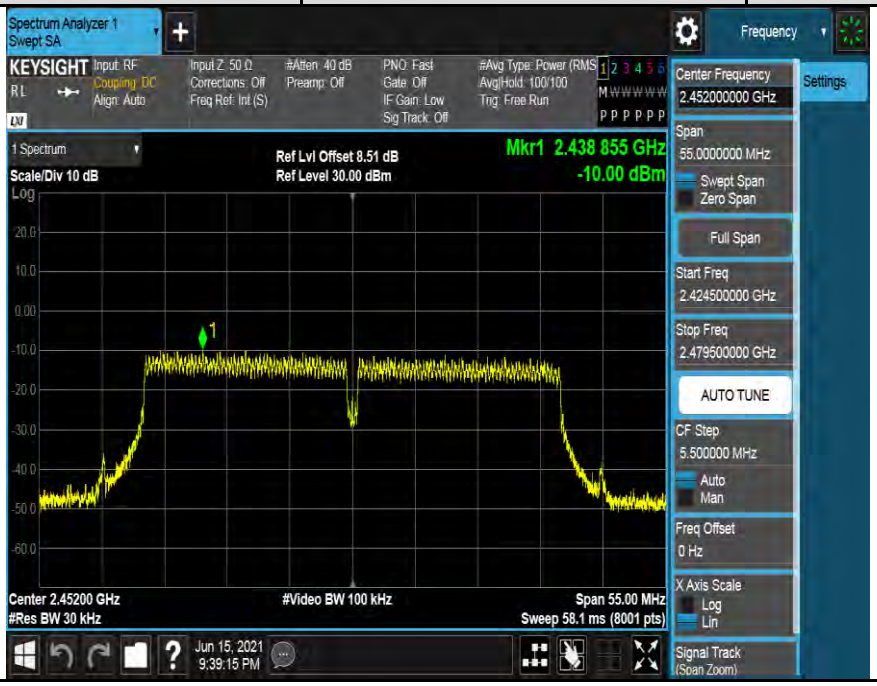
Test Mode	Test Channel	Verdict
11N HT40	LCH	PASS



This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

Test Mode	Test Channel	Verdict
11N HT40	MCH	PASS

Test Mode	Test Channel	Verdict
11N HT40	HCH	PASS



This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

7.5. CONDUCTED BANDEDGE AND SPURIOUS EMISSIONS

LIMITS

FCC Part15 (15.247), Subpart C		
Section	Test Item	Limit
FCC §15.247 (d)	Conducted Bandedge and Spurious Emissions	30 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power

TEST PROCEDURE

Refer to FCC KDB 558074, connect the UUT to the spectrum analyser and use the following

Center Frequency	The centre frequency of the channel under test
Detector	Peak
RBW	100K
VBW	≥3 × RBW
Span	1.5 x DTS bandwidth
Trace	Max hold
Sweep time	Auto couple.

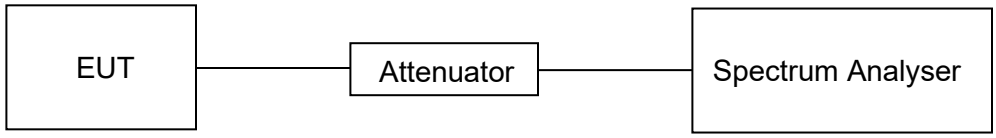
settings:

Use the peak marker function to determine the maximum PSD level.

Span	Set the center frequency and span to encompass frequency range to be measured
Detector	Peak
RBW	100K
VBW	≥3 × RBW
measurement points	≥span/RBW
Trace	Max hold
Sweep time	Auto couple.

Use the peak marker function to determine the maximum amplitude level.

TEST SETUP



This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

TEST ENVIRONMENT

Temperature	22°C	Relative Humidity	56%
Atmosphere Pressure	101kPa	Test Voltage	AC 120V

PART I: CONDUCTED BANDEDGE

TEST RESULTS TABLE

Test Mode	Test Channel	Carrier Power[dBm]	Max. Spurious Level [dBm]	Limit [dBm]	Verdict
11B	LCH	4.683	-41.37	-25.32	PASS
	HCH	1.967	-41.19	-28.03	PASS
11G	LCH	-2.874	-41.44	-32.87	PASS
	HCH	-5.403	-40.36	-35.40	PASS
11N HT20	LCH	-2.612	-40.45	-32.61	PASS
	HCH	-5.283	-41.02	-35.28	PASS
11N HT40	LCH	-6.454	-40.48	-36.45	PASS
	HCH	-7.198	-41.38	-37.20	PASS

This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

TEST GRAPHS

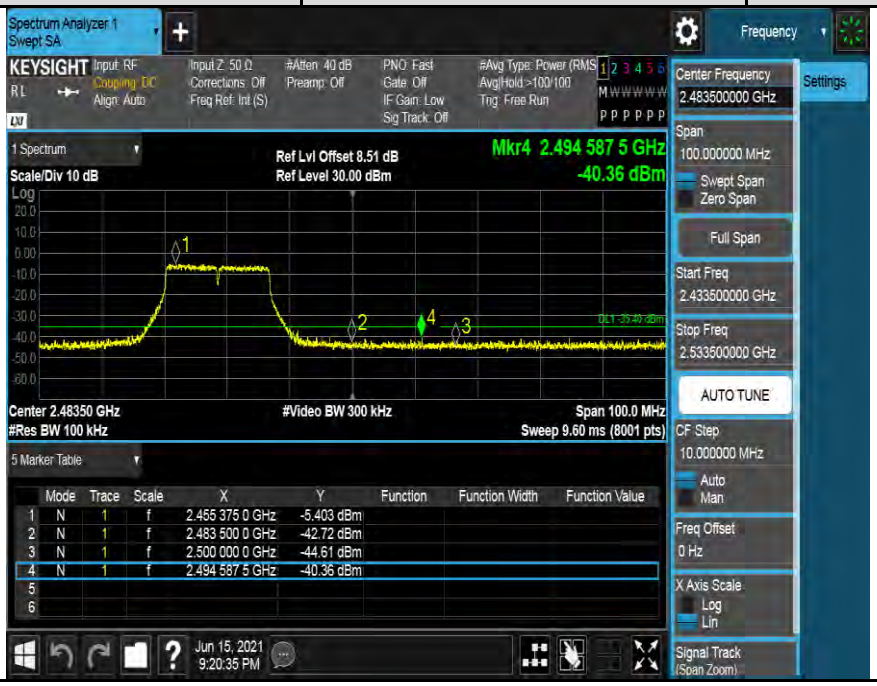
Test Mode	Test Channel	Verdict
11B	LCH	PASS

Test Mode	Test Channel	Verdict
11B	HCH	PASS

This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

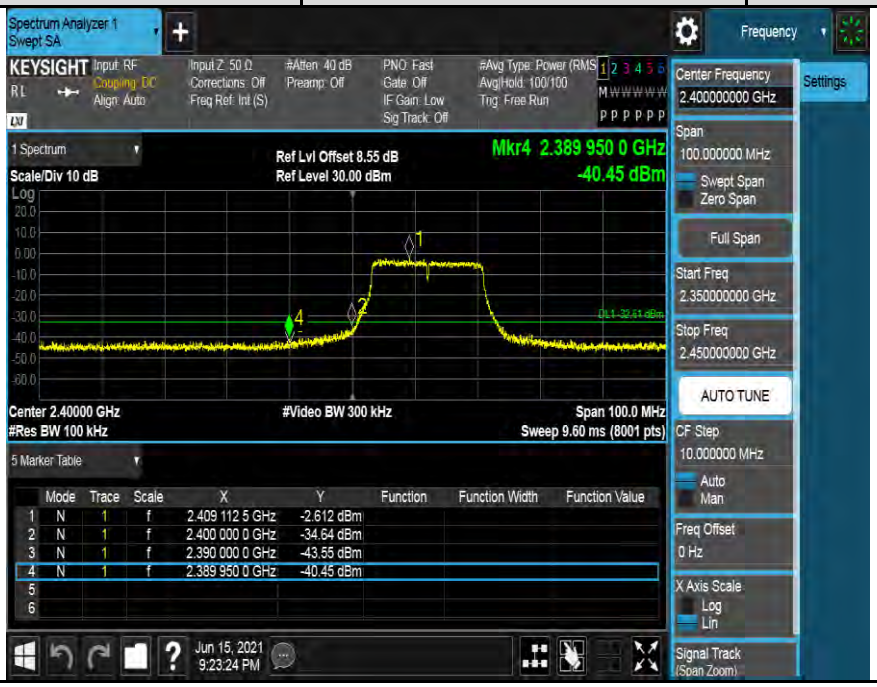
Test Mode	Test Channel	Verdict
11G	LCH	PASS

Test Mode	Test Channel	Verdict
11G	HCH	PASS

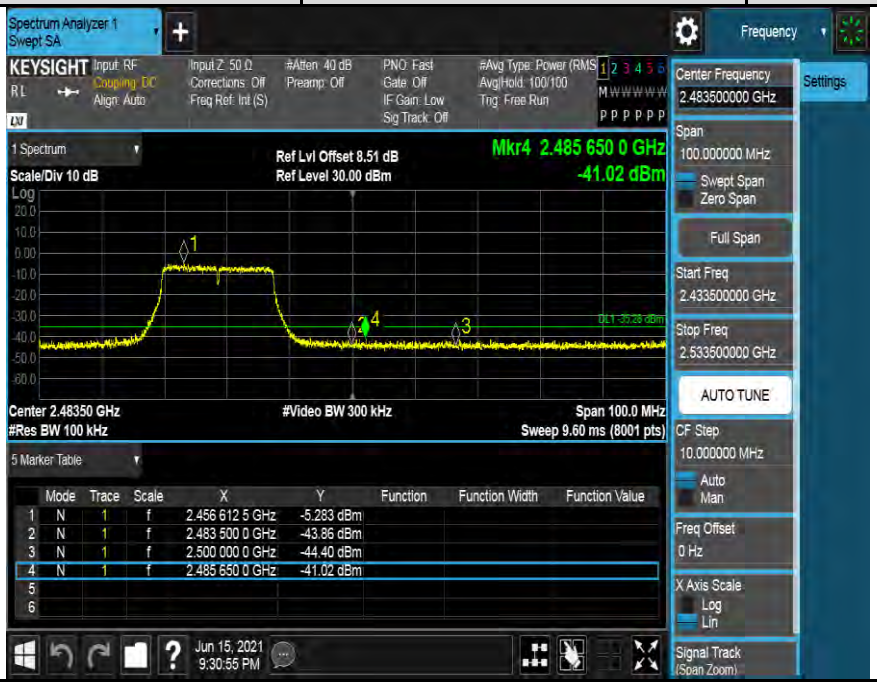


This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

Test Mode	Test Channel	Verdict
11N HT20	LCH	PASS



Test Mode	Test Channel	Verdict
11N HT20	HCH	PASS



This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

Test Mode	Test Channel	Verdict
11N HT40	LCH	PASS

Test Mode	Test Channel	Verdict
11N HT40	HCH	PASS

This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

PART II: CONDUCTED EMISSION

TEST RESULTS TABLE

Test Mode	Channel	Pref(dBm)	Puw(dBm)	Verdict
11B	LCH	4.56	<Limit	PASS
	MCH	2.89	<Limit	PASS
	HCH	1.96	<Limit	PASS
11G	LCH	-2.92	<Limit	PASS
	MCH	-5.06	<Limit	PASS
	HCH	-5.53	<Limit	PASS
11N HT20	LCH	-2.53	<Limit	PASS
	MCH	-4.56	<Limit	PASS
	HCH	-5.02	<Limit	PASS
11N HT40	LCH	-6.41	<Limit	PASS
	MCH	-7.44	<Limit	PASS
	HCH	-6.64	<Limit	PASS

TEST GRAPHS

Test Mode	Channel	Verdict
11B	LCH	PASS

Pref test Plot

LCH SPURIOUS EMISSION

This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

Puw test Plot

LCH SPURIOUS EMISSION_30MHz~10GHz

LCH SPURIOUS EMISSION_10GHz~26GHz

This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

Test Mode	Channel	Verdict
11B	MCH	PASS

Pref test Plot

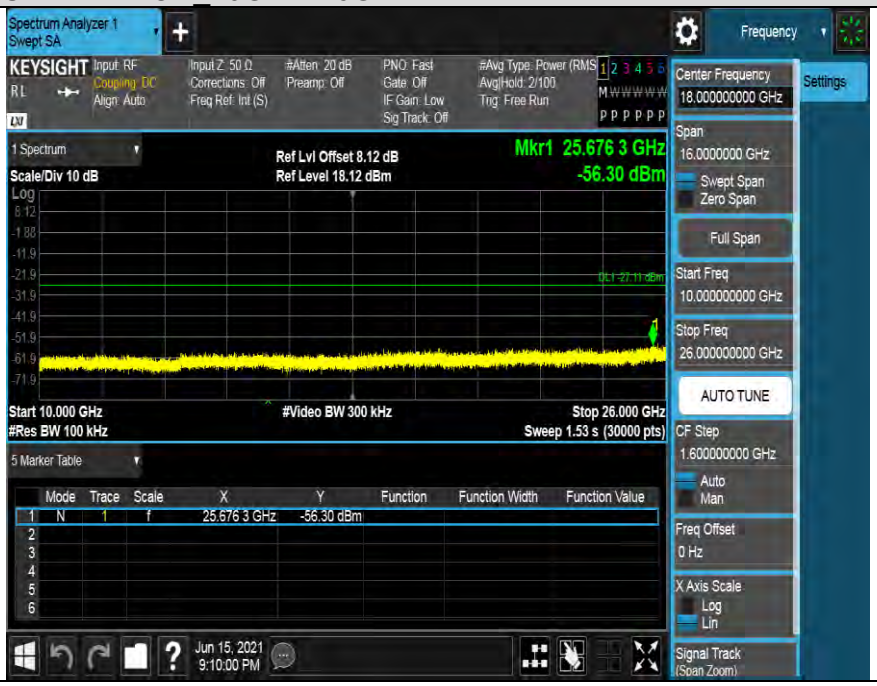
MCH SPURIOUS EMISSION


This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

Puw test Plot

MCH SPURIOUS EMISSION_30MHz~10GHz

MCH SPURIOUS EMISSION_10GHz~26GHz



This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

Test Mode	Channel	Verdict
11B	HCH	PASS

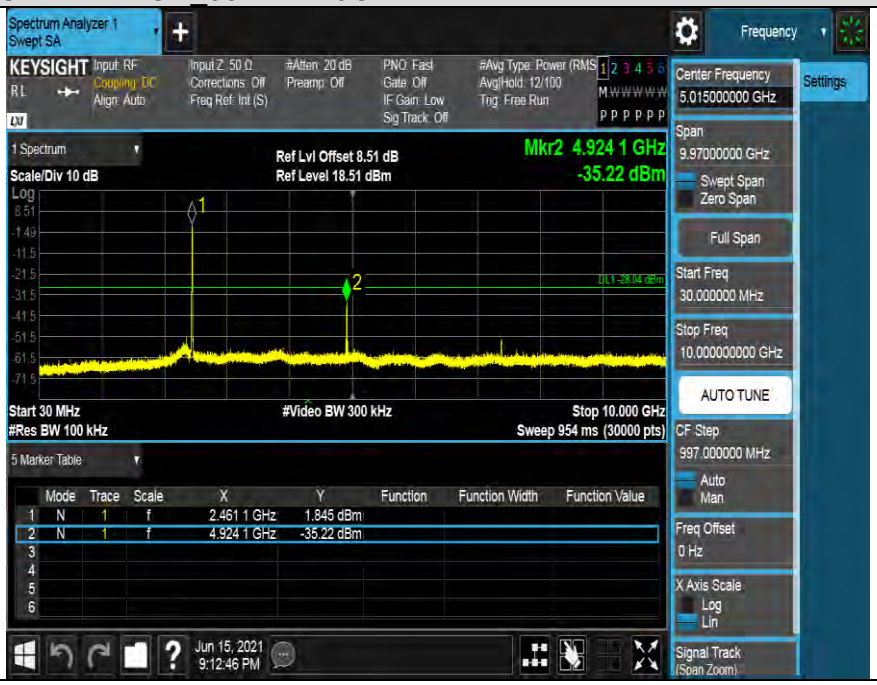
Pref test Plot

HCH SPURIOUS EMISSION

This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

Puw test Plot

HCH SPURIOUS EMISSION_30MHz~10GHz



HCH SPURIOUS EMISSION_10GHz~26GHz

This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

Test Mode	Channel	Verdict
11G	LCH	PASS

Pref test Plot

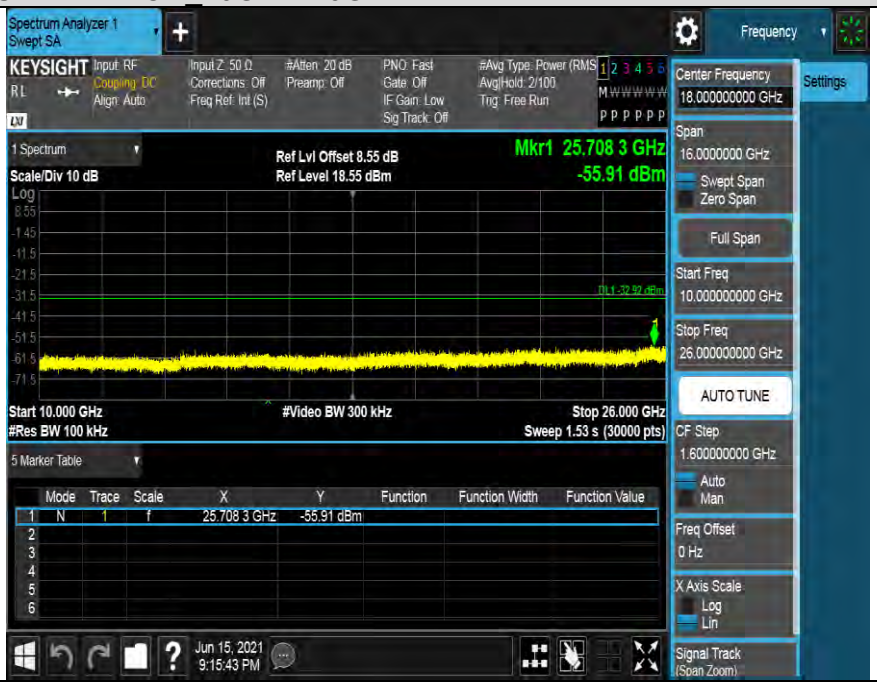
LCH SPURIOUS EMISSION


This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

Puw test Plot

LCH SPURIOUS EMISSION_30MHz~10GHz

LCH SPURIOUS EMISSION_10GHz~26GHz

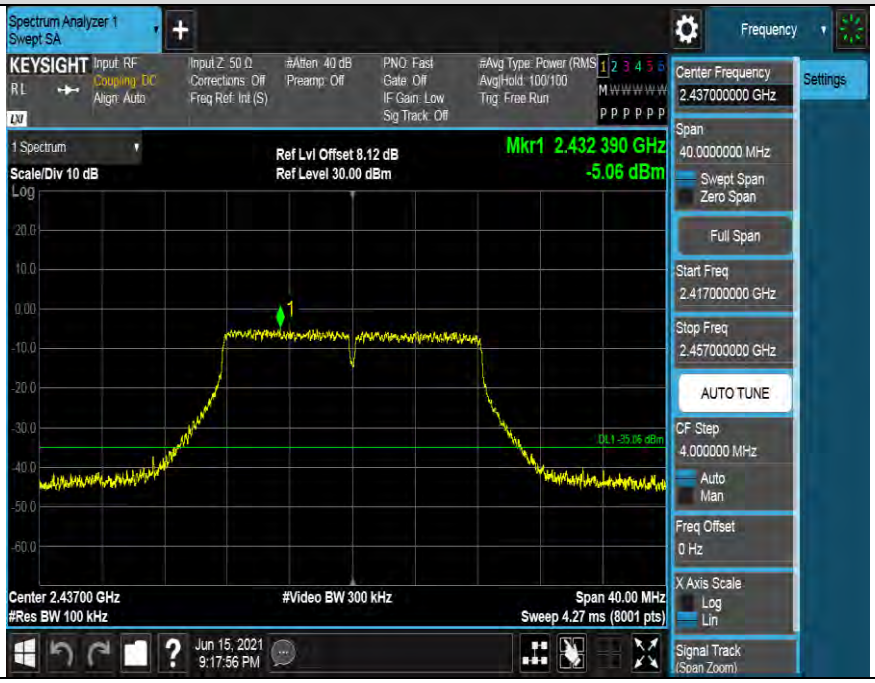


This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

Test Mode	Channel	Verdict
11G	MCH	PASS

Pref test Plot

MCH SPURIOUS EMISSION

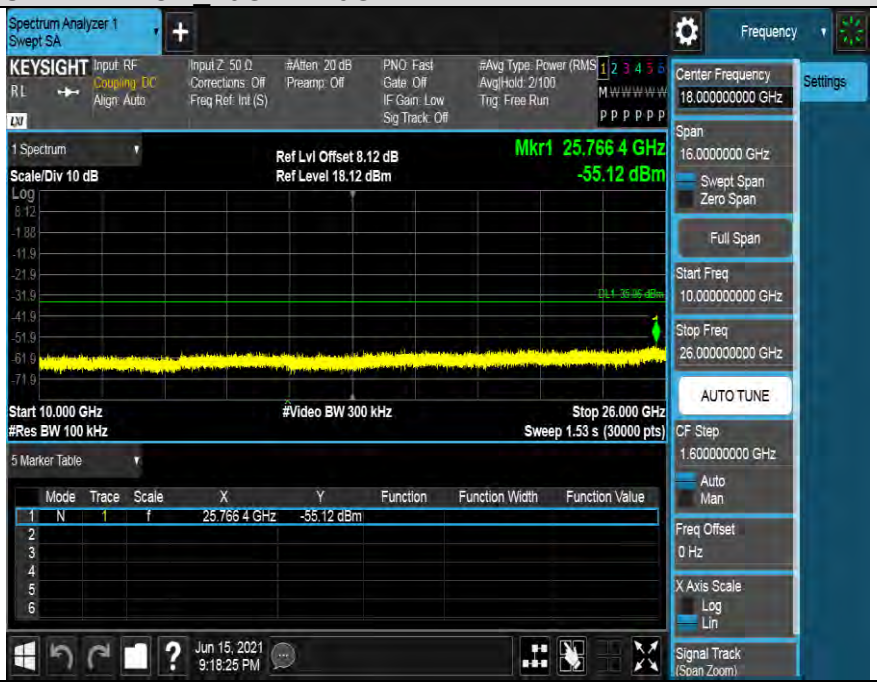


This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

Puw test Plot

MCH SPURIOUS EMISSION_30MHz~10GHz

MCH SPURIOUS EMISSION_10GHz~26GHz



This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

Test Mode	Channel	Verdict
11G	HCH	PASS

Pref test Plot

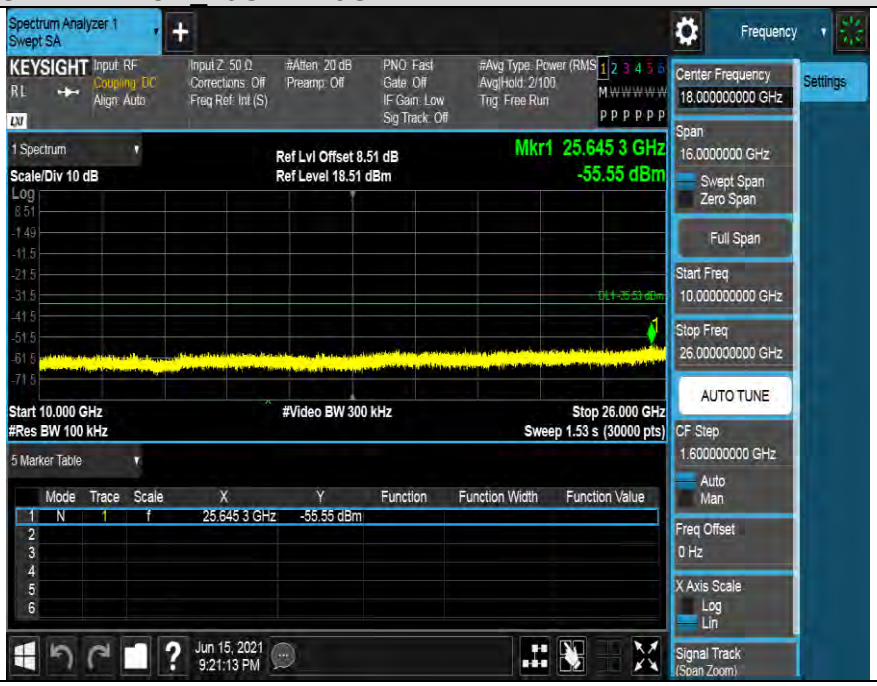
HCH SPURIOUS EMISSION

This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

Puw test Plot

HCH SPURIOUS EMISSION_30MHz~10GHz

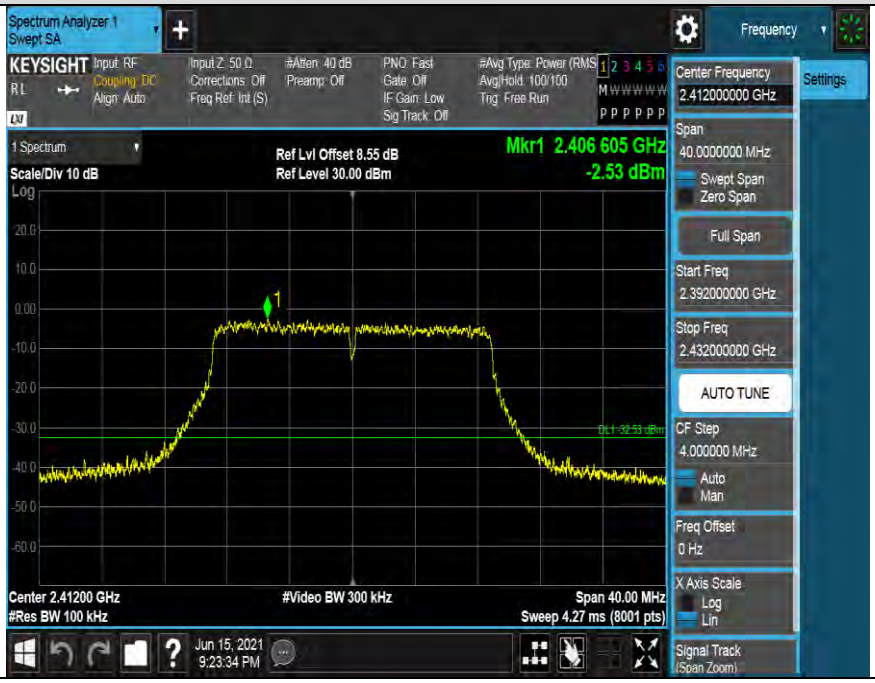
HCH SPURIOUS EMISSION_10GHz~26GHz



This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

Test Mode	Channel	Verdict
11N HT20	LCH	PASS

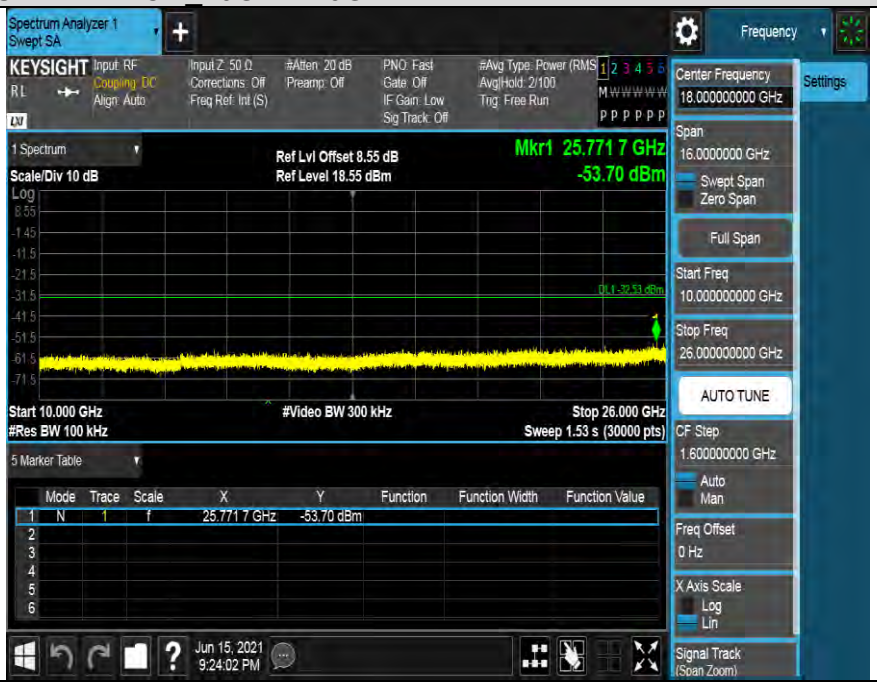
Pref test Plot

LCH SPURIOUS EMISSION


This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

Puw test Plot

LCH SPURIOUS EMISSION_30MHz~10GHz


LCH SPURIOUS EMISSION_10GHz~26GHz


This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

Test Mode	Channel	Verdict
11N HT20	MCH	PASS

Pref test Plot

MCH SPURIOUS EMISSION

This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

Puw test Plot

MCH SPURIOUS EMISSION_30MHz~10GHz


MCH SPURIOUS EMISSION_10GHz~26GHz


This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

Test Mode	Channel	Verdict
11N HT20	HCH	PASS

Pref test Plot

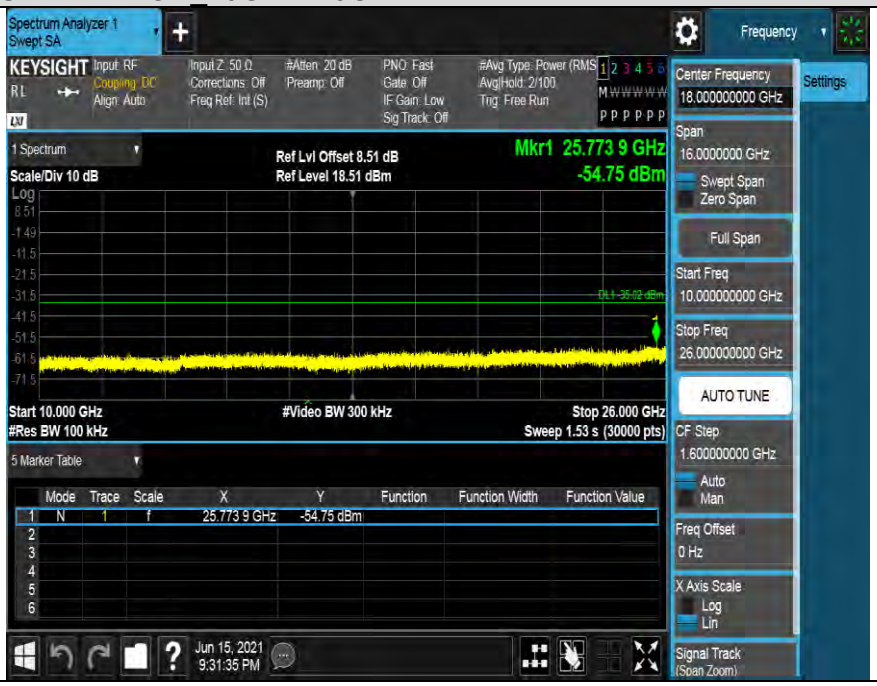
HCH SPURIOUS EMISSION

This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

Puw test Plot

HCH SPURIOUS EMISSION_30MHz~10GHz

HCH SPURIOUS EMISSION_10GHz~26GHz



This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

Test Mode	Channel	Verdict
11N HT40	LCH	PASS

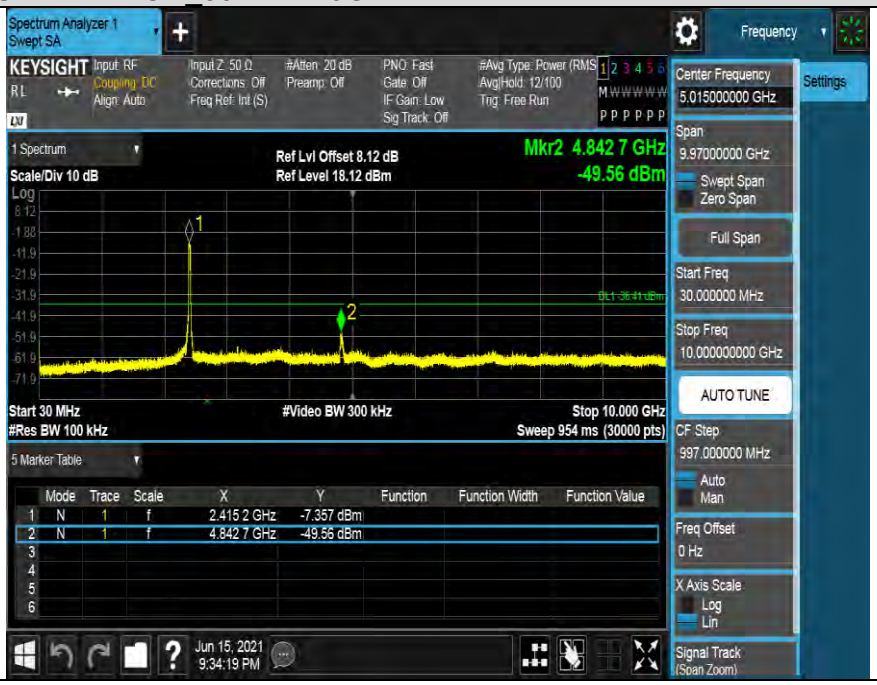
Pref test Plot

LCH SPURIOUS EMISSION

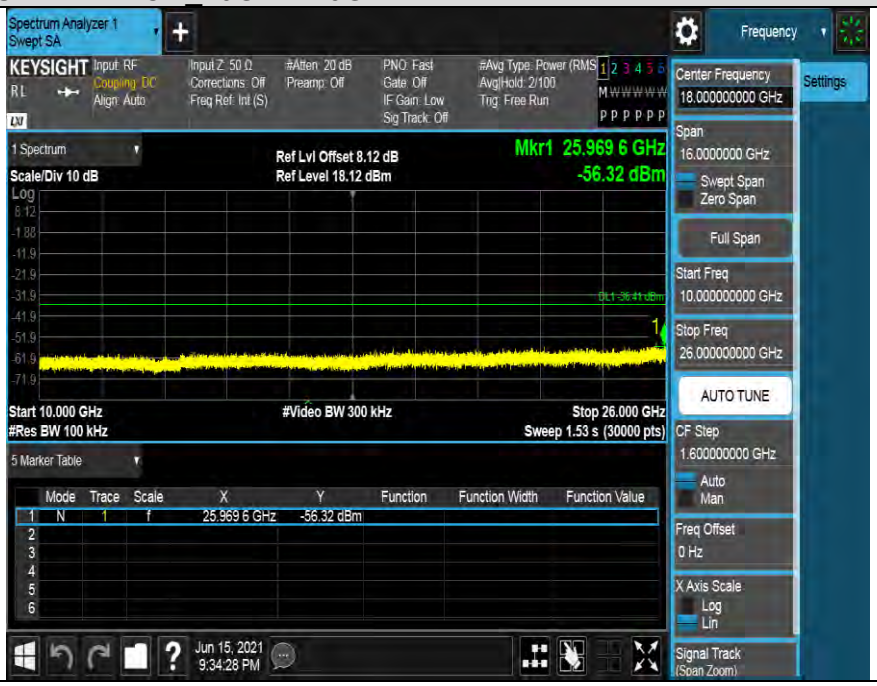

This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

Puw test Plot

LCH SPURIOUS EMISSION_30MHz~10GHz



LCH SPURIOUS EMISSION_10GHz~26GHz

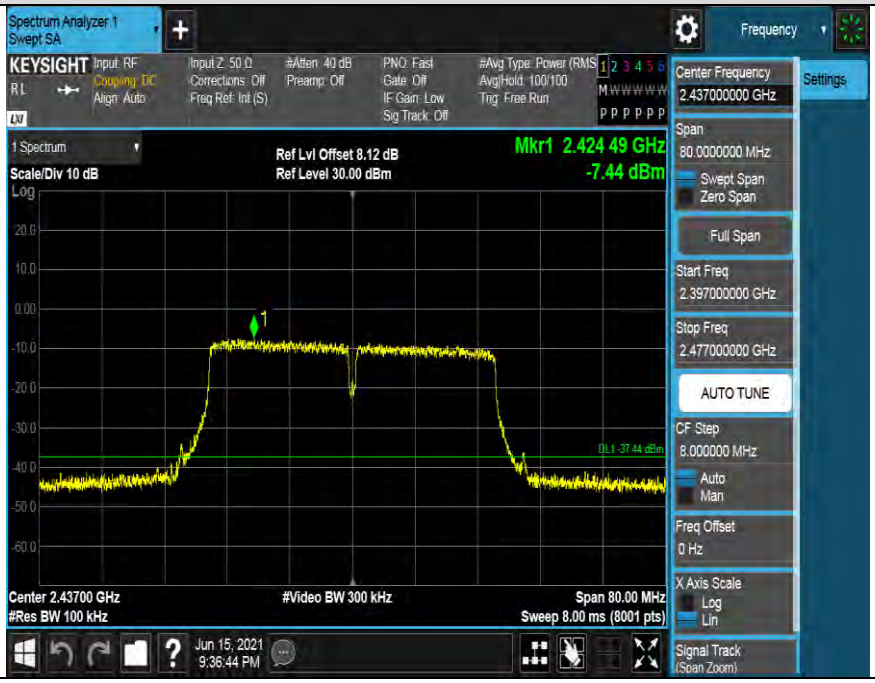


This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

Test Mode	Channel	Verdict
11N HT40	MCH	PASS

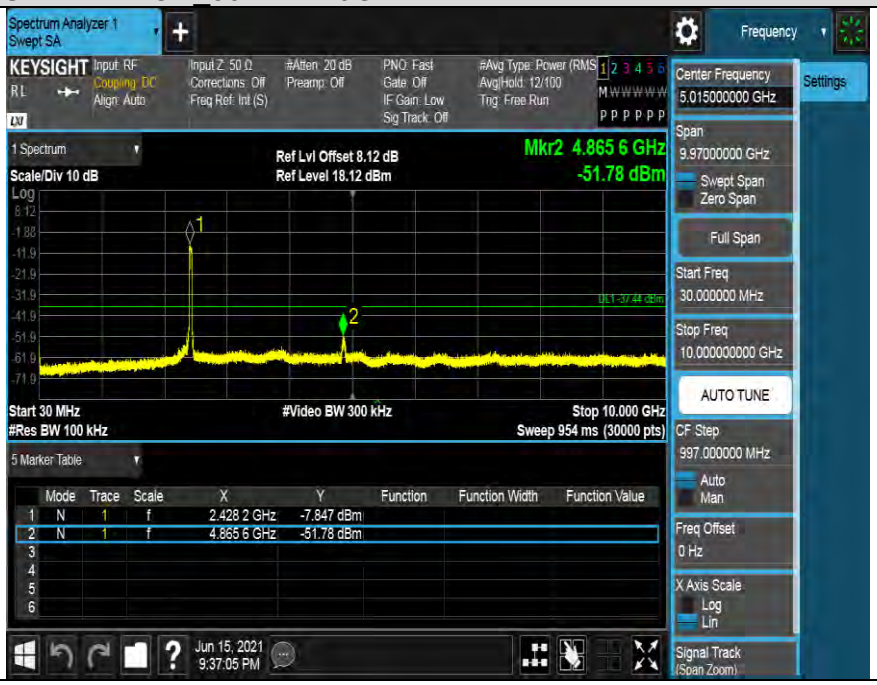
Pref test Plot

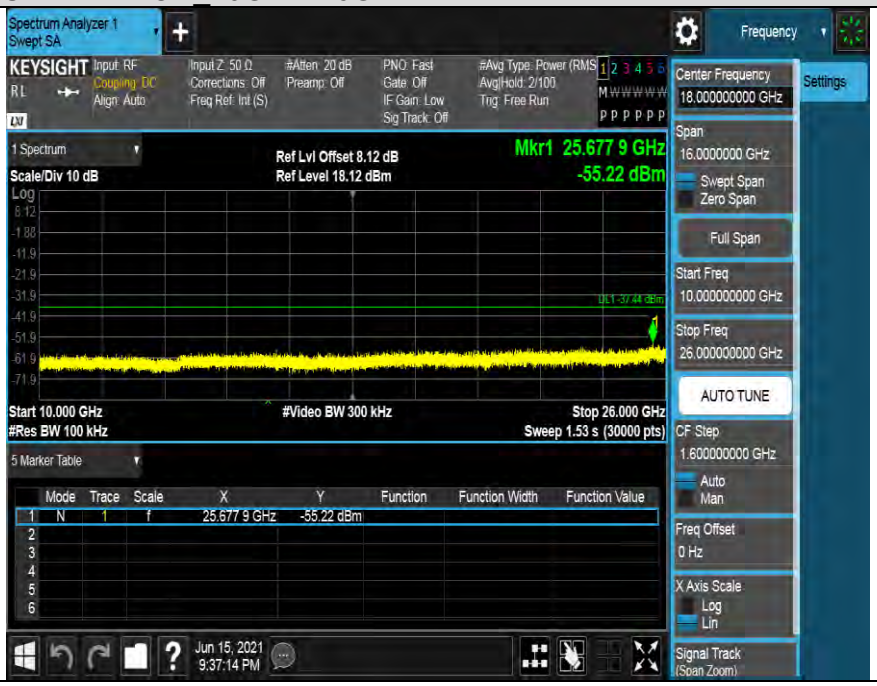
MCH SPURIOUS EMISSION



This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

Puw test Plot

MCH SPURIOUS EMISSION_30MHz~10GHz


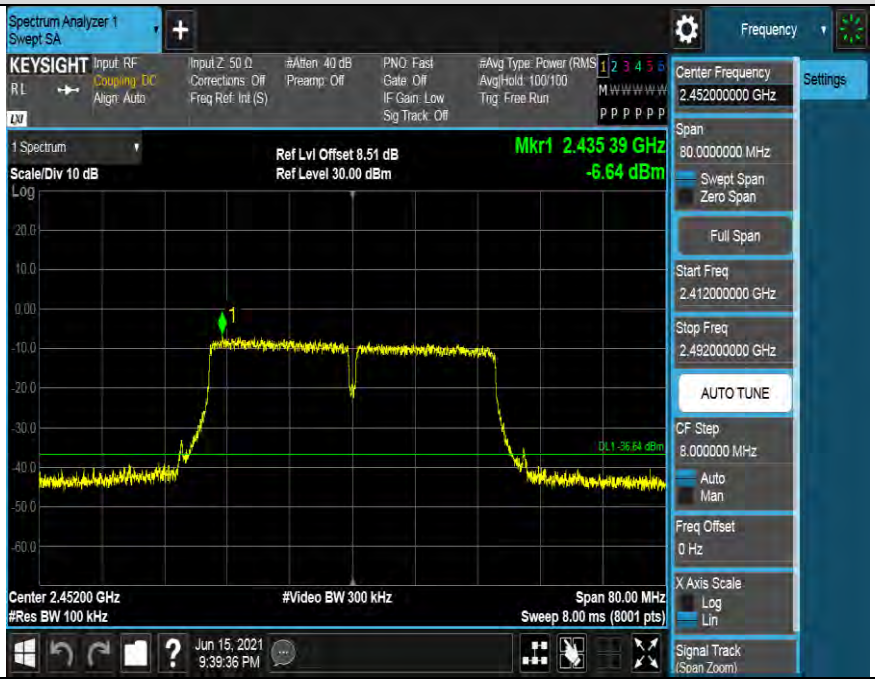
MCH SPURIOUS EMISSION_10GHz~26GHz


This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

Test Mode	Channel	Verdict
11N HT40	HCH	PASS

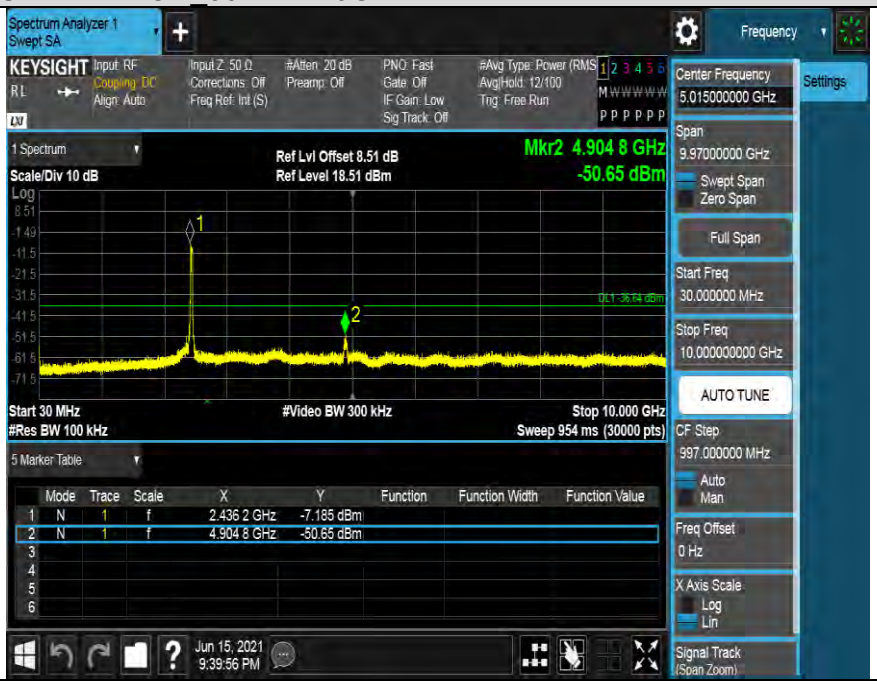
Pref test Plot

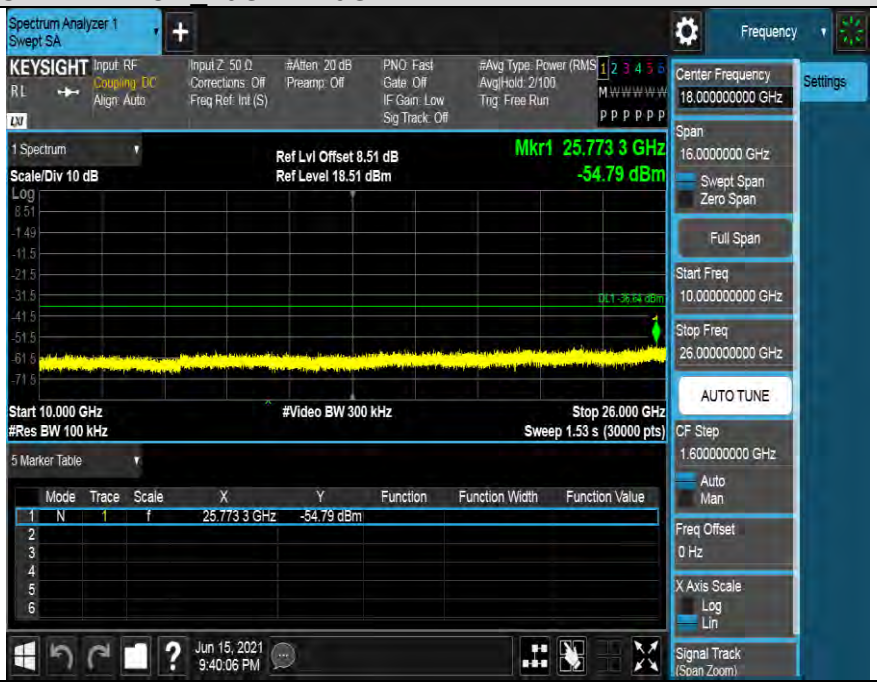
HCH SPURIOUS EMISSION



This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

Puw test Plot

HCH SPURIOUS EMISSION_30MHz~10GHz


HCH SPURIOUS EMISSION_10GHz~26GHz


This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

7.6. RADIATED TEST RESULTS

7.6.1. LIMITS AND PROCEDURE

LIMITS

Please refer to FCC §15.205 and §15.209

Please refer to FCC KDB 558074

Radiation Disturbance Test Limit for FCC (Class B)(9KHz-1GHz)

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
960~1000	500	3

Note: 1) At frequencies at or above 30 MHz, measurements may be performed at a distance other than what is specified provided: measurements are not made in the near field except where it can be shown that near field measurements are appropriate due to the characteristics of the device; and it can be demonstrated that the signal levels needed to be measured at the distance employed can be detected by the measurement equipment. Measurements shall not be performed at a distance greater than 30 meters unless it can be further demonstrated that measurements at a distance of 30 meters or less are impractical. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse linear-distance for field strength measurements; inverse-linear-distance-squared for power density measurements).

(2) At frequencies below 30 MHz, measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field. Pending the development of an appropriate measurement procedure for measurements performed below 30 MHz, when performing measurements at a closer distance than specified, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade). This paragraph (f) shall not apply to Access BPL devices operating below 30 MHz.

This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

Radiation Disturbance Test Limit for FCC (Above 1G)

Frequency (MHz)	dB(uV/m) (at 3 meters)	
	Peak	Average
Above 1000	74	54

Restricted bands of operation

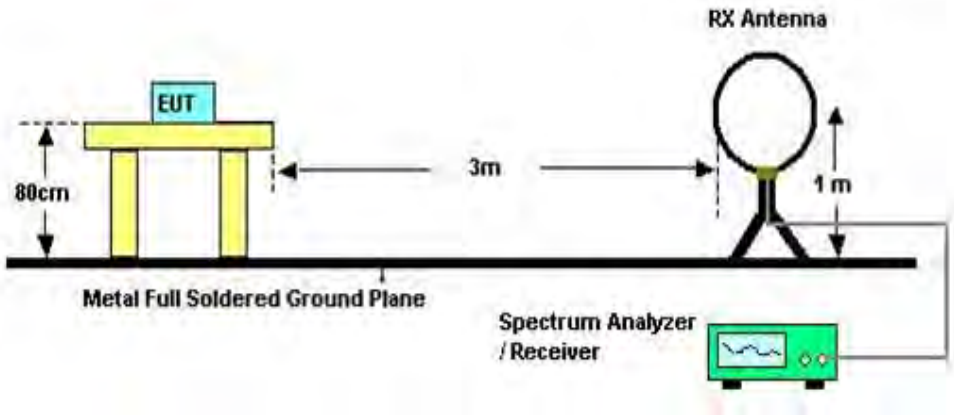
MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
[1]0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	([2])
13.36-13.41			

Note: [1]Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.
[2]Above 38.6c

This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

TEST SETUP AND PROCEDURE

Below 30MHz



The setting of the spectrum analyser

RBW	200Hz (From 9kHz to 0.15MHz)/ 9KHz (From 0.15MHz to 30MHz)
VBW	200Hz (From 9kHz to 0.15MHz)/ 9KHz (From 0.15MHz to 30MHz)
Sweep	Auto
Detector	Peak/QP/ Average
Trace	Max hold

1. The testing follows the guidelines in ANSI C63.10-2013

2. The EUT was arranged to its worst case and then turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both Horizontal, Face-on and Face-off polarizations of the antenna are set to make the measurement.

3. The EUT was placed on a turntable with 0.8 meter above ground.

4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a 1m height antenna tower.

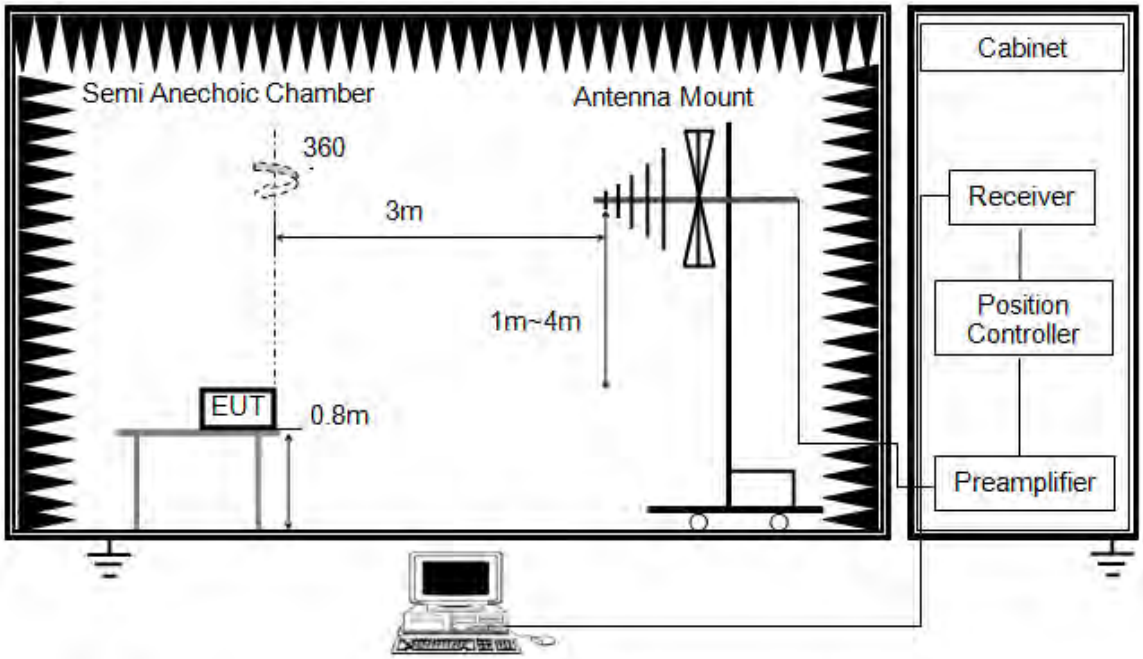
5. The radiated emission limits are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector

6. For measurement below 1GHz, the initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured. If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.

7. For the actual test configuration, please refer to the related item in this test report (Photographs of the Test Configuration)

This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

Below 1G



The setting of the spectrum analyser

RBW	120K
VBW	300K
Sweep	Auto
Detector	Peak/QP
Trace	Max hold

1. The testing follows the guidelines in ANSI C63.10-2013.

2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

3. The EUT was placed on a turntable with 0.8 meter above ground.

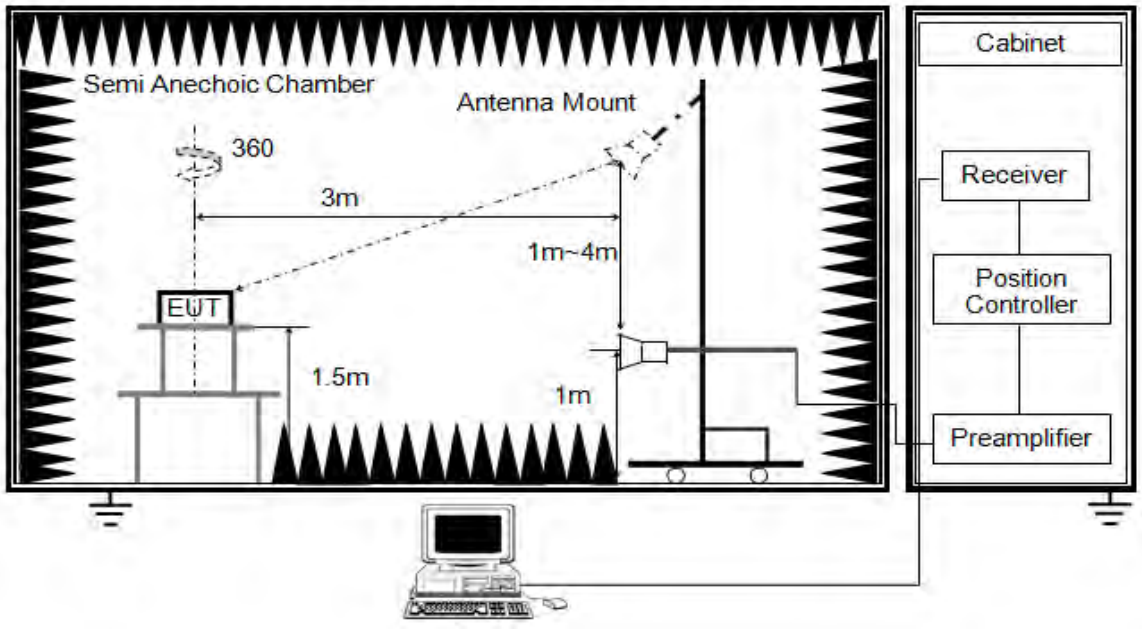
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.

5. For measurement below 1GHz, the initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured. If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.

6. For the actual test configuration, please refer to the related item in this test report (Photographs of the Test Configuration)

This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

Above 1G



The setting of the spectrum analyser

RBW	1M
VBW	PEAK:3M AVG: See note6
Sweep	Auto
Detector	Peak/Average(10Hz)
Trace	Max hold

1. The testing follows the guidelines in ANSI C63.10-2013.

2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

3. The EUT was placed on a turntable with 1.5m above ground.

4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.

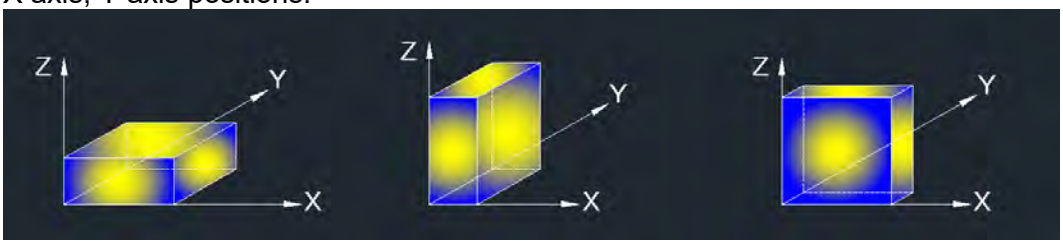
5. For measurement above 1GHz, the emission measurement will be measured by the peak detector. This peak level, once corrected, must comply with the limit specified in Section 15.209.

6. For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 3 MHz for peak measurements and 1 MHz resolution bandwidth with set VBW ≤RBW/100, but not less than list in section 7.1 with average detector, max hold to run for at least 50 traces for average measurements.

7. For the actual test configuration, please refer to the related item in this test report (Photographs of the Test Configuration)

This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

X axis, Y axis positions:



Note: For all radiated test, EUT in each of two orthogonal axis emissions had been tested, but only the worse case (X axis) data recorded in the report.

This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

7.6.2. TEST ENVIRONMENT

Temperature	22°C	Relative Humidity	56%
Atmosphere Pressure	101kPa	Test Voltage	AC 120V

7.6.3. RESTRICTED BANDEDGE

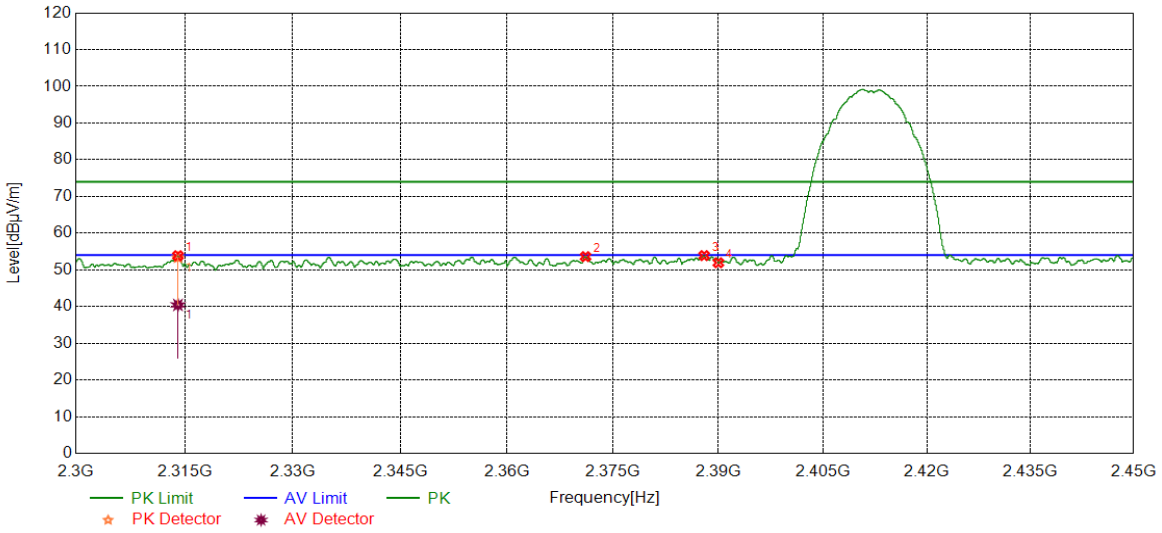
TEST RESULT TABLE

Test Mode	Channel	Puw(dBm)	Verdict
11B	LCH	<Limit	PASS
	MCH	<Limit	PASS
	HCH	<Limit	PASS
11G	LCH	<Limit	PASS
	MCH	<Limit	PASS
	HCH	<Limit	PASS
11N HT20	LCH	<Limit	PASS
	MCH	<Limit	PASS
	HCH	<Limit	PASS
11N HT40	LCH	<Limit	PASS
	MCH	<Limit	PASS
	HCH	<Limit	PASS

This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

TEST GRAPHS

Test Mode	Channel	Polarization	Verdict
11B	LCH	Horizontal	PASS



PK Result:

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2314.0643	41.53	12.32	53.85	74.00	-20.15	Horizontal
2	2371.1089	40.66	12.94	53.60	74.00	-20.40	Horizontal
3	2387.9672	40.82	13.07	53.89	74.00	-20.11	Horizontal
4	2390.0000	38.86	13.07	51.93	74.00	-22.07	Horizontal

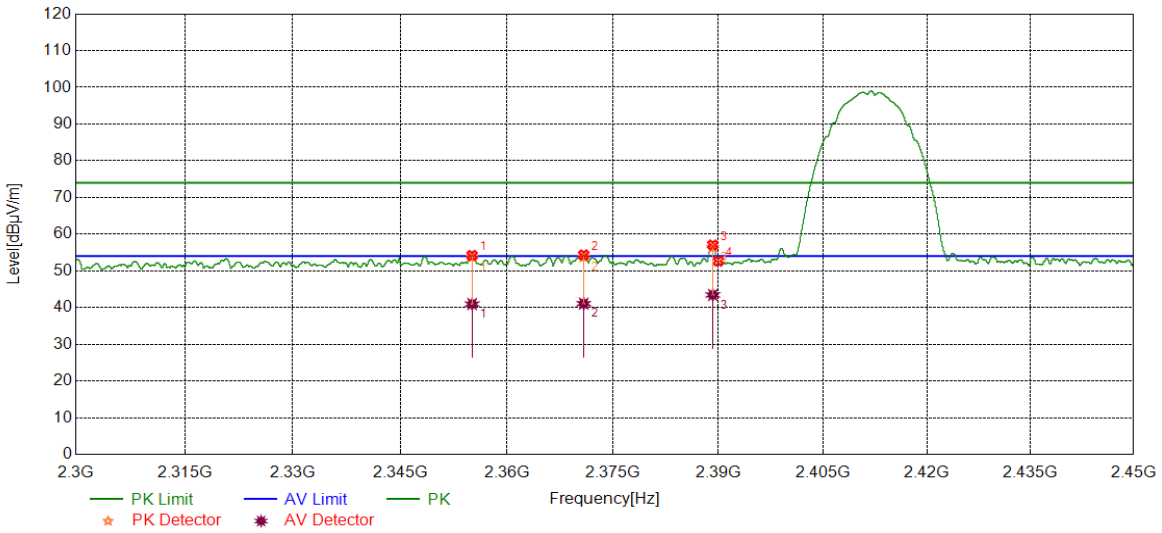
AV Result:

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2314.0643	28.12	12.32	40.44	54.00	-13.56	Horizontal

Note: 1. Peak detector: RBW: 1 MHz, VBW: 3 MHz;
2. Average detector: RBW: 1 MHz, VBW: 1/T MHz(refer to clause 7.1.);
3. Measurement = Reading Level + Correct Factor;
4. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

Test Mode	Channel	Polarization	Verdict
11B	LCH	Vertical	PASS



PK Result:

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2355.0944	41.49	12.73	54.22	74.00	-19.78	Vertical
2	2370.8464	41.42	12.94	54.36	74.00	-19.64	Vertical
3	2389.2049	43.99	13.07	57.06	74.00	-16.94	Vertical
4	2390.0000	39.57	13.07	52.64	74.00	-21.36	Vertical

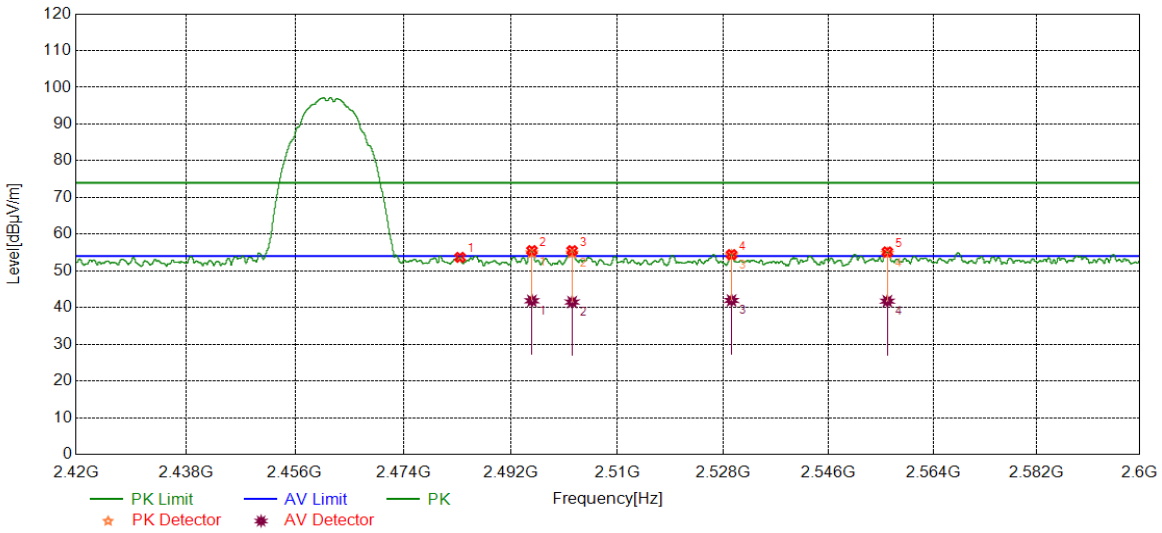
AV Result:

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2355.0944	28.23	12.73	40.96	54.00	-13.04	Vertical
2	2370.8464	28.13	12.94	41.07	54.00	-12.93	Vertical
3	2389.2049	30.36	13.07	43.43	54.00	-10.57	Vertical

Note: 1. Peak detector: RBW: 1 MHz, VBW: 3 MHz;
2. Average detector: RBW: 1 MHz, VBW: 1/T MHz(refer to clause 7.1.);
3. Measurement = Reading Level + Correct Factor;
4. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

Test Mode	Channel	Polarization	Verdict
11B	HCH	Horizontal	PASS



PK Result:

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2483.5000	40.71	12.97	53.68	74.00	-20.32	Horizontal
2	2495.5644	42.45	13.08	55.53	74.00	-18.47	Horizontal
3	2502.3378	42.36	13.15	55.51	74.00	-18.49	Horizontal
4	2529.3862	41.03	13.41	54.44	74.00	-19.56	Horizontal
5	2556.0970	41.78	13.39	55.17	74.00	-18.83	Horizontal

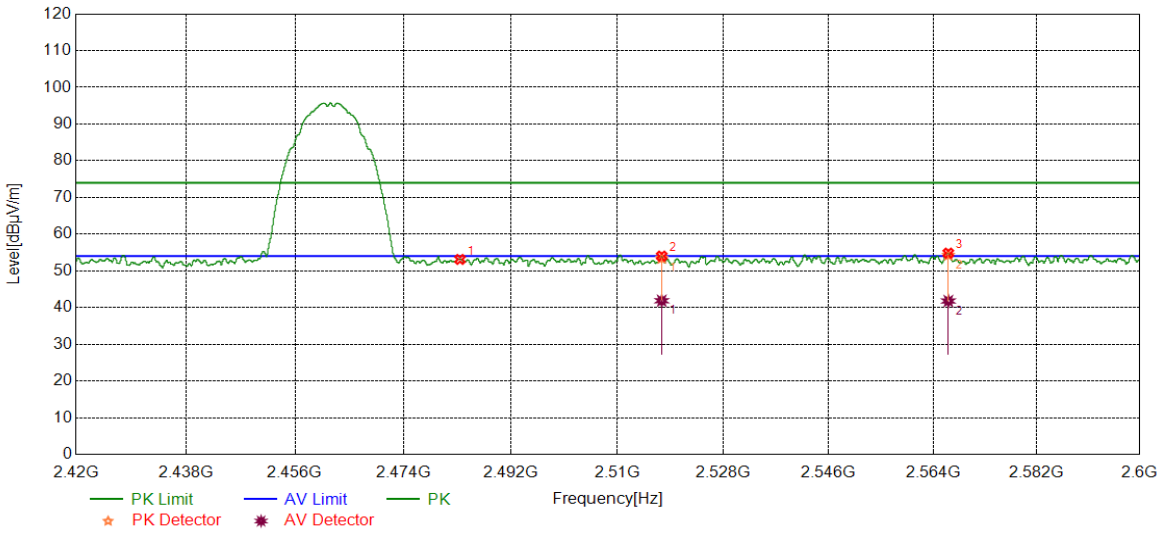
AV Result:

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2495.5644	28.77	13.08	41.85	54.00	-12.15	Horizontal
2	2502.3378	28.35	13.15	41.50	54.00	-12.50	Horizontal
3	2529.3862	28.54	13.41	41.95	54.00	-12.05	Horizontal
4	2556.0970	28.36	13.39	41.75	54.00	-12.25	Horizontal

Note: 1. Peak detector: RBW: 1 MHz, VBW: 3 MHz;
2. Average detector: RBW: 1 MHz, VBW: 1/T MHz(refer to clause 7.1.);
3. Measurement = Reading Level + Correct Factor;
4. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

Test Mode	Channel	Polarization	Verdict
11B	HCH	Vertical	PASS



PK Result:

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2483.5000	40.15	12.97	53.12	74.00	-20.88	Vertical
2	2517.5047	40.82	13.21	54.03	74.00	-19.97	Vertical
3	2566.6283	41.39	13.44	54.83	74.00	-19.17	Vertical

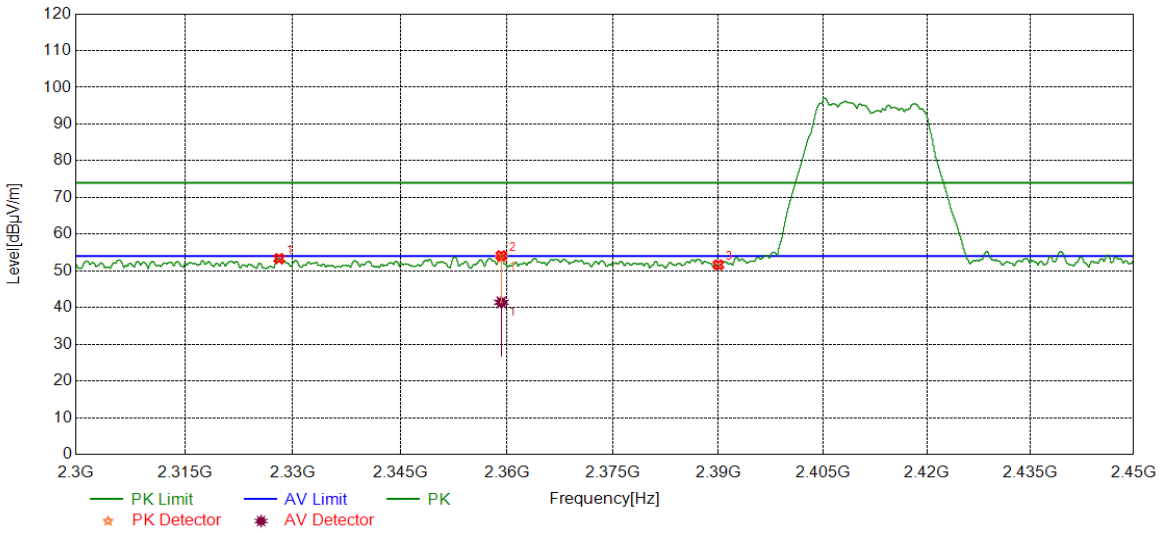
AV Result:

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2517.5047	28.65	13.21	41.86	54.00	-12.14	Vertical
2	2566.6283	28.34	13.44	41.78	54.00	-12.22	Vertical

Note: 1. Peak detector: RBW: 1 MHz, VBW: 3 MHz;
2. Average detector: RBW: 1 MHz, VBW: 1/T MHz(refer to clause 7.1.);
3. Measurement = Reading Level + Correct Factor;
4. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

Test Mode	Channel	Polarization	Verdict
11G	LCH	Horizontal	PASS



PK Result:

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2328.0910	40.91	12.45	53.36	74.00	-20.64	Horizontal
2	2359.2012	41.37	12.77	54.14	74.00	-19.86	Horizontal
3	2390.0000	38.58	13.07	51.65	74.00	-22.35	Horizontal

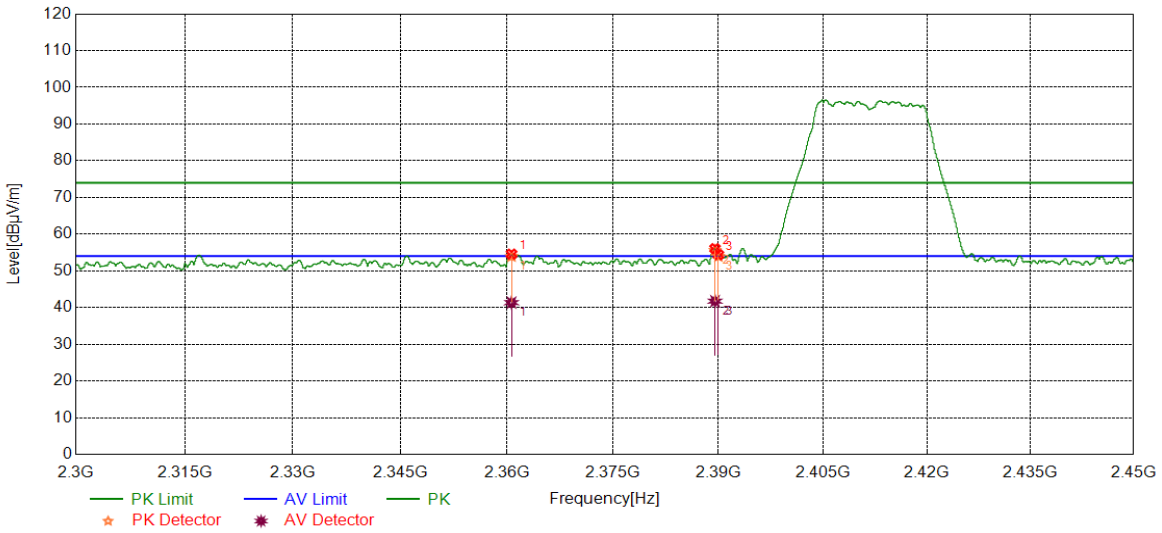
AV Result:

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2359.2012	28.66	12.77	41.43	54.00	-12.57	Horizontal

Note: 1. Peak detector: RBW: 1 MHz, VBW: 3 MHz;
2. Average detector: RBW: 1 MHz, VBW: 1/T MHz(refer to clause 7.1.);
3. Measurement = Reading Level + Correct Factor;
4. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

Test Mode	Channel	Polarization	Verdict
11G	LCH	Vertical	PASS



PK Result:

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2360.6451	41.79	12.78	54.57	74.00	-19.43	Vertical
2	2389.5237	42.99	13.07	56.06	74.00	-17.94	Vertical
3	2390.0000	41.32	13.07	54.39	74.00	-19.61	Vertical

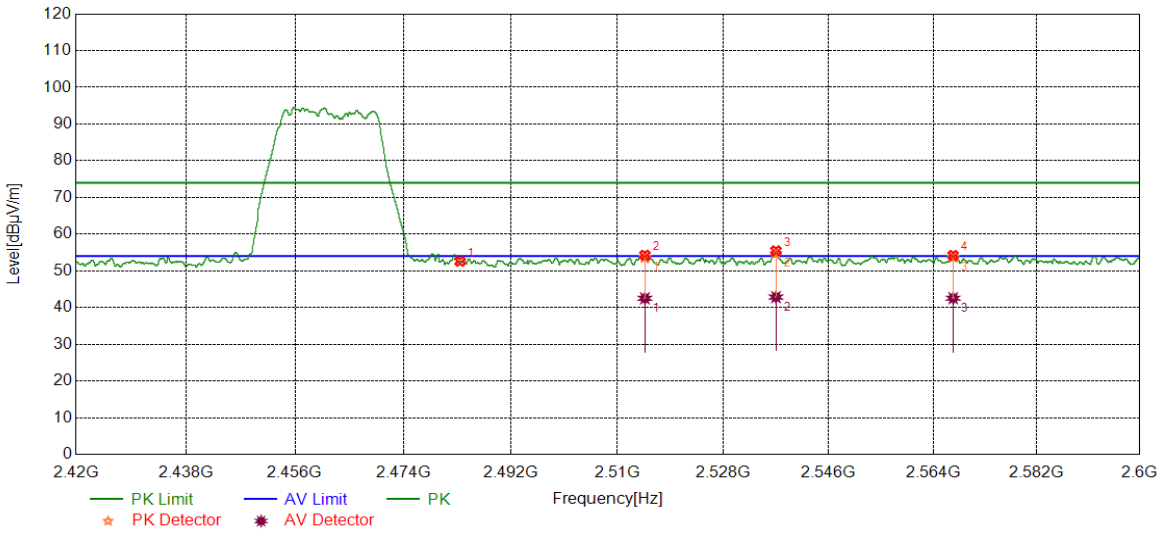
AV Result:

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2360.6451	28.56	12.78	41.34	54.00	-12.66	Vertical
2	2389.5237	28.67	13.07	41.74	54.00	-12.26	Vertical
3	2390.0000	28.72	13.07	41.79	54.00	-12.21	Vertical

Note: 1. Peak detector: RBW: 1 MHz, VBW: 3 MHz;
2. Average detector: RBW: 1 MHz, VBW: 1/T MHz(refer to clause 7.1.);
3. Measurement = Reading Level + Correct Factor;
4. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

Test Mode	Channel	Polarization	Verdict
11G	HCH	Horizontal	PASS



PK Result:

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2483.5000	39.62	12.97	52.59	74.00	-21.41	Horizontal
2	2514.6468	41.06	13.21	54.27	74.00	-19.73	Horizontal
3	2536.9696	42.05	13.42	55.47	74.00	-18.53	Horizontal
4	2567.4609	40.78	13.44	54.22	74.00	-19.78	Horizontal

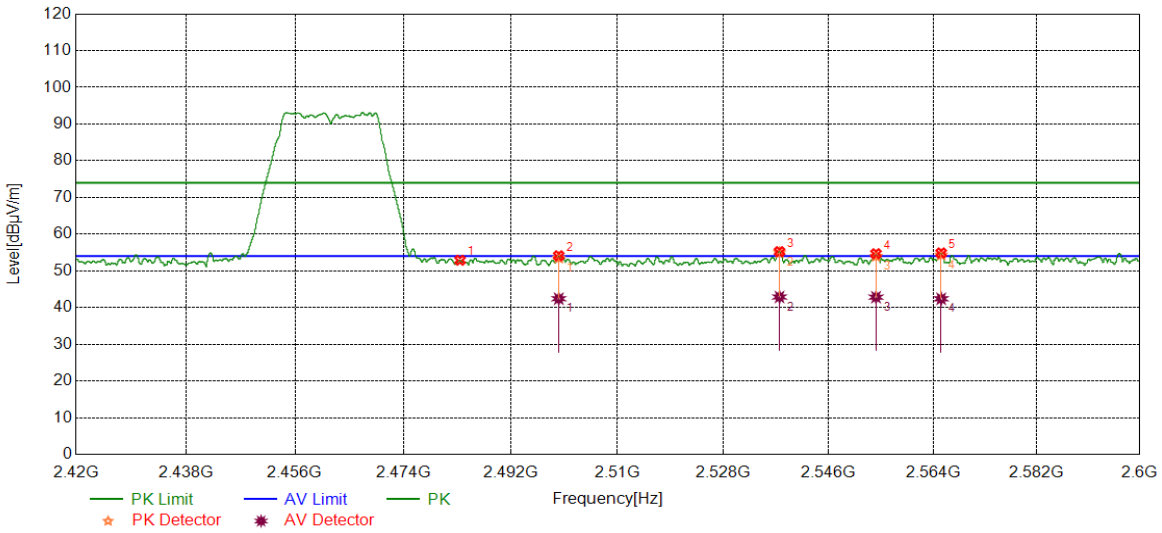
AV Result:

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2514.6468	29.31	13.21	42.52	54.00	-11.48	Horizontal
2	2536.9696	29.43	13.42	42.85	54.00	-11.15	Horizontal
3	2567.4609	29.11	13.44	42.55	54.00	-11.45	Horizontal

Note: 1. Peak detector: RBW: 1 MHz, VBW: 3 MHz;
2. Average detector: RBW: 1 MHz, VBW: 1/T MHz(refer to clause 7.1.);
3. Measurement = Reading Level + Correct Factor;
4. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

Test Mode	Channel	Polarization	Verdict
11G	HCH	Vertical	PASS



PK Result:

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2483.5000	39.92	12.97	52.89	74.00	-21.11	Vertical
2	2500.0875	40.98	13.14	54.12	74.00	-19.88	Vertical
3	2537.5772	41.82	13.42	55.24	74.00	-18.76	Vertical
4	2554.1393	41.30	13.38	54.68	74.00	-19.32	Vertical
5	2565.3907	41.45	13.43	54.88	74.00	-19.12	Vertical

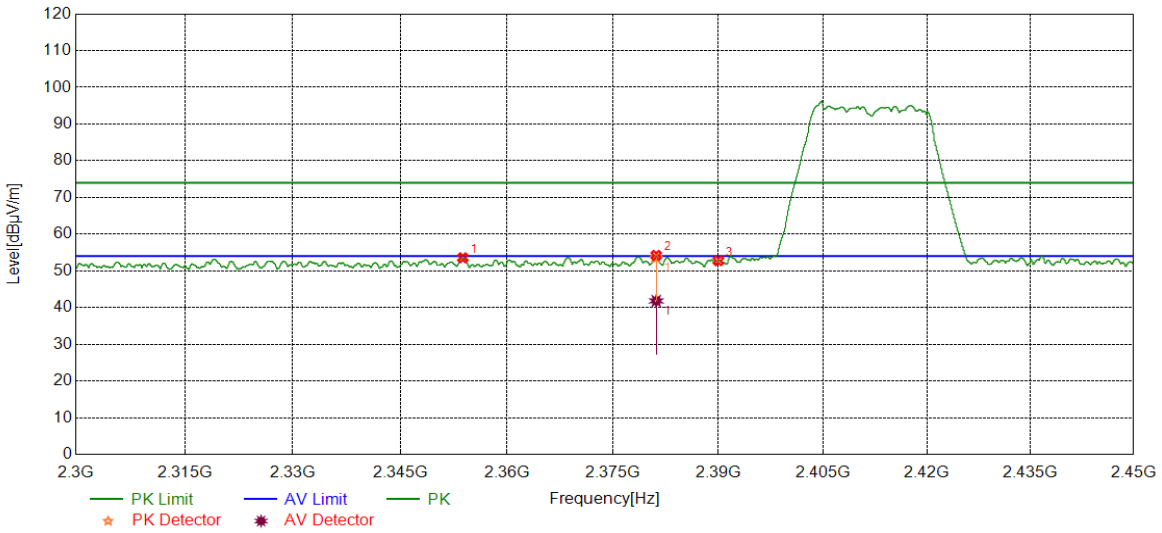
AV Result:

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2500.0875	29.27	13.14	42.41	54.00	-11.59	Vertical
2	2537.5772	29.46	13.42	42.88	54.00	-11.12	Vertical
3	2554.1393	29.45	13.38	42.83	54.00	-11.17	Vertical
4	2565.3907	28.96	13.43	42.39	54.00	-11.61	Vertical

Note: 1. Peak detector: RBW: 1 MHz, VBW: 3 MHz;
2. Average detector: RBW: 1 MHz, VBW: 1/T MHz(refer to clause 7.1.);
3. Measurement = Reading Level + Correct Factor;
4. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

Test Mode	Channel	Polarization	Verdict
11N HT20	LCH	Horizontal	PASS



PK Result:

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2353.7817	40.84	12.72	53.56	74.00	-20.44	Horizontal
2	2381.1414	41.16	13.06	54.22	74.00	-19.78	Horizontal
3	2390.0000	39.68	13.07	52.75	74.00	-21.25	Horizontal

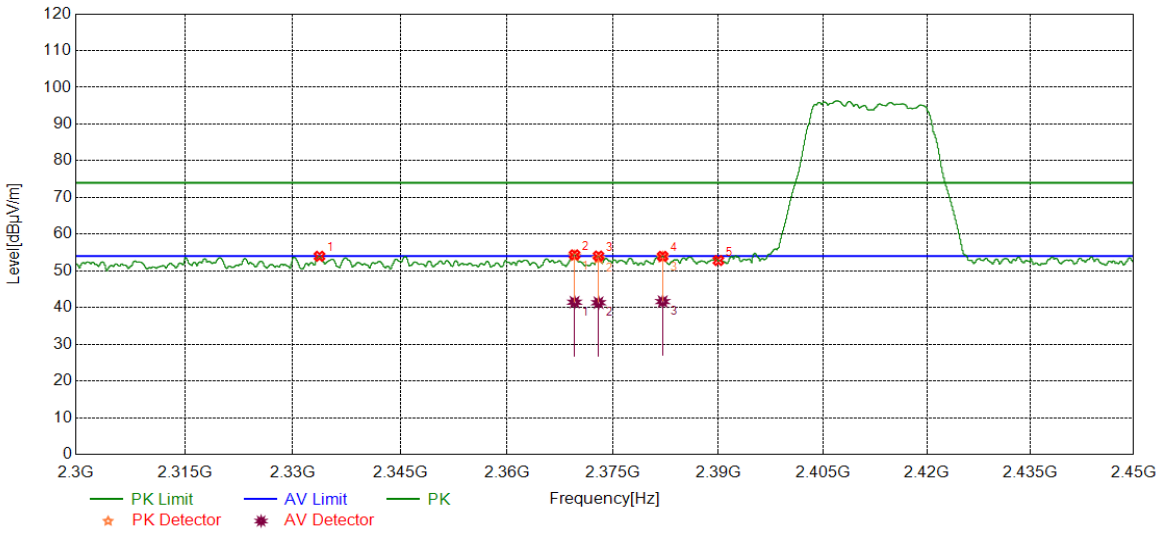
AV Result:

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2381.1414	28.75	13.06	41.81	54.00	-12.19	Horizontal

Note: 1. Peak detector: RBW: 1 MHz, VBW: 3 MHz;
2. Average detector: RBW: 1 MHz, VBW: 1/T MHz(refer to clause 7.1.);
3. Measurement = Reading Level + Correct Factor;
4. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

Test Mode	Channel	Polarization	Verdict
11N HT20	LCH	Vertical	PASS



PK Result:

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2333.7167	41.46	12.52	53.98	74.00	-20.02	Vertical
2	2369.5524	41.45	12.92	54.37	74.00	-19.63	Vertical
3	2372.9466	41.08	12.97	54.05	74.00	-19.95	Vertical
4	2382.0603	40.91	13.06	53.97	74.00	-20.03	Vertical
5	2390.0000	39.75	13.07	52.82	74.00	-21.18	Vertical

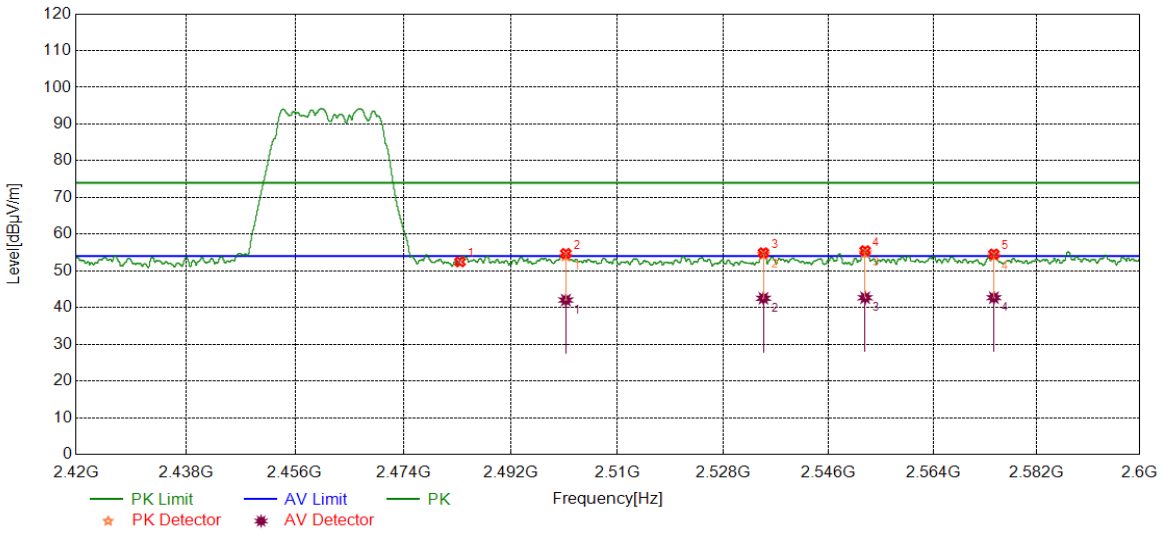
AV Result:

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2369.5524	28.54	12.92	41.46	54.00	-12.54	Vertical
2	2372.9466	28.36	12.97	41.33	54.00	-12.67	Vertical
3	2382.0603	28.57	13.06	41.63	54.00	-12.37	Vertical

Note: 1. Peak detector: RBW: 1 MHz, VBW: 3 MHz;
2. Average detector: RBW: 1 MHz, VBW: 1/T MHz(refer to clause 7.1.);
3. Measurement = Reading Level + Correct Factor;
4. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

Test Mode	Channel	Polarization	Verdict
11N HT20	HCH	Horizontal	PASS



PK Result:

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2483.5000	39.48	12.97	52.45	74.00	-21.55	Horizontal
2	2501.2802	41.58	13.15	54.73	74.00	-19.27	Horizontal
3	2534.8319	41.49	13.42	54.91	74.00	-19.09	Horizontal
4	2552.2715	42.13	13.36	55.49	74.00	-18.51	Horizontal
5	2574.5268	41.13	13.45	54.58	74.00	-19.42	Horizontal

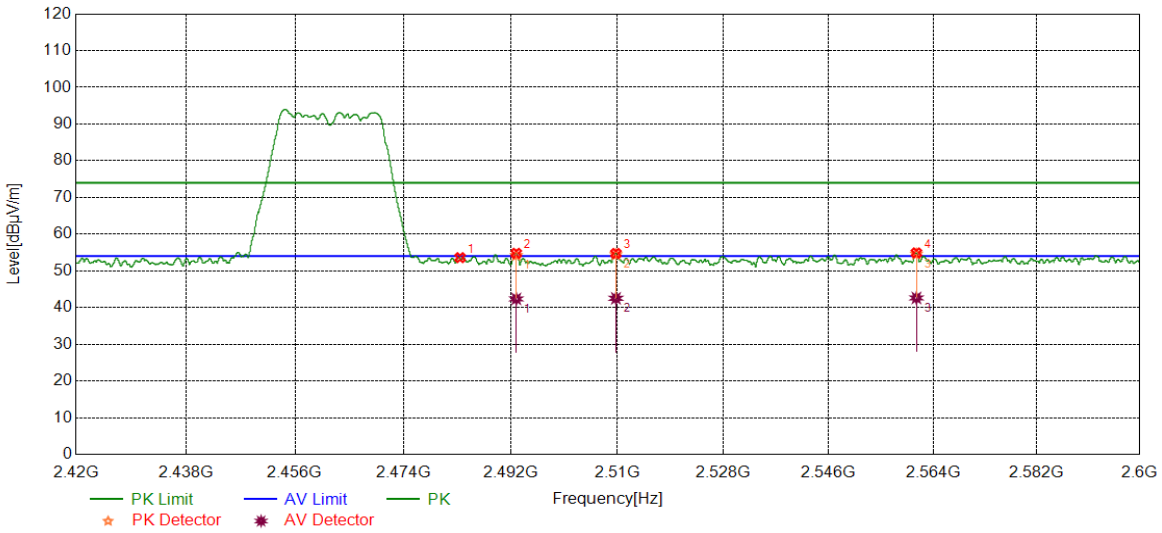
AV Result:

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2501.2802	28.89	13.15	42.04	54.00	-11.96	Horizontal
2	2534.8319	29.11	13.42	42.53	54.00	-11.47	Horizontal
3	2552.2715	29.32	13.36	42.68	54.00	-11.32	Horizontal
4	2574.5268	29.24	13.45	42.69	54.00	-11.31	Horizontal

Note: 1. Peak detector: RBW: 1 MHz, VBW: 3 MHz;
2. Average detector: RBW: 1 MHz, VBW: 1/T MHz(refer to clause 7.1.);
3. Measurement = Reading Level + Correct Factor;
4. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

Test Mode	Channel	Polarization	Verdict
11N HT20	HCH	Vertical	PASS



PK Result:

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2483.5000	40.63	12.97	53.60	74.00	-20.40	Vertical
2	2492.9316	41.74	13.04	54.78	74.00	-19.22	Vertical
3	2509.7412	41.55	13.20	54.75	74.00	-19.25	Vertical
4	2561.1151	41.48	13.42	54.90	74.00	-19.10	Vertical

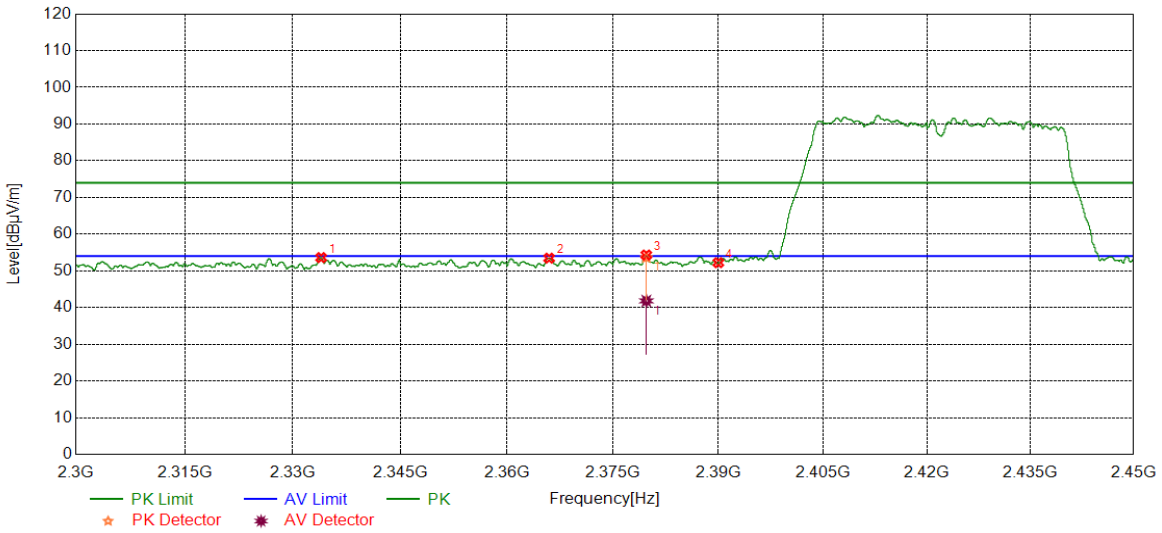
AV Result:

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2492.9316	29.32	13.04	42.36	54.00	-11.64	Vertical
2	2509.7412	29.32	13.20	42.52	54.00	-11.48	Vertical
3	2561.1151	29.20	13.42	42.62	54.00	-11.38	Vertical

Note: 1. Peak detector: RBW: 1 MHz, VBW: 3 MHz;
2. Average detector: RBW: 1 MHz, VBW: 1/T MHz(refer to clause 7.1.);
3. Measurement = Reading Level + Correct Factor;
4. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

Test Mode	Channel	Polarization	Verdict
11N HT40	LCH	Horizontal	PASS



PK Result:

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2333.9417	41.09	12.52	53.61	74.00	-20.39	Horizontal
2	2365.9520	40.59	12.87	53.46	74.00	-20.54	Horizontal
3	2379.7350	41.26	13.06	54.32	74.00	-19.68	Horizontal
4	2390.0000	39.16	13.07	52.23	74.00	-21.77	Horizontal

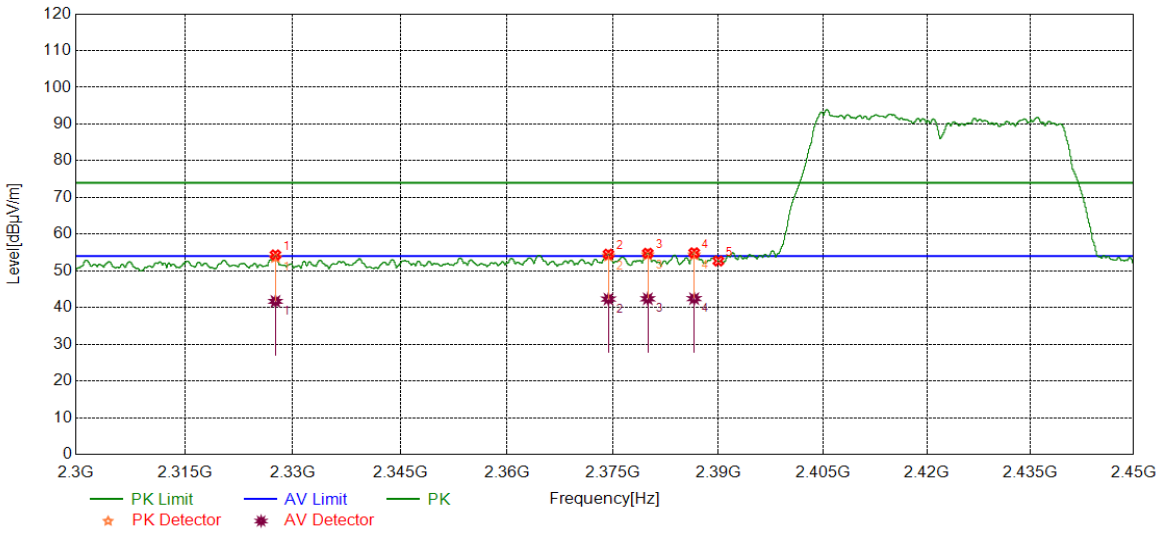
AV Result:

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2379.7350	28.76	13.06	41.82	54.00	-12.18	Horizontal

Note: 1. Peak detector: RBW: 1 MHz, VBW: 3 MHz;
2. Average detector: RBW: 1 MHz, VBW: 1/T MHz(refer to clause 7.1.);
3. Measurement = Reading Level + Correct Factor;
4. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

Test Mode	Channel	Polarization	Verdict
11N HT40	LCH	Vertical	PASS



PK Result:

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2327.5847	41.91	12.44	54.35	74.00	-19.65	Vertical
2	2374.3530	41.57	12.99	54.56	74.00	-19.44	Vertical
3	2379.9412	41.74	13.06	54.80	74.00	-19.20	Vertical
4	2386.5421	41.86	13.06	54.92	74.00	-19.08	Vertical
5	2390.0000	39.62	13.07	52.69	74.00	-21.31	Vertical

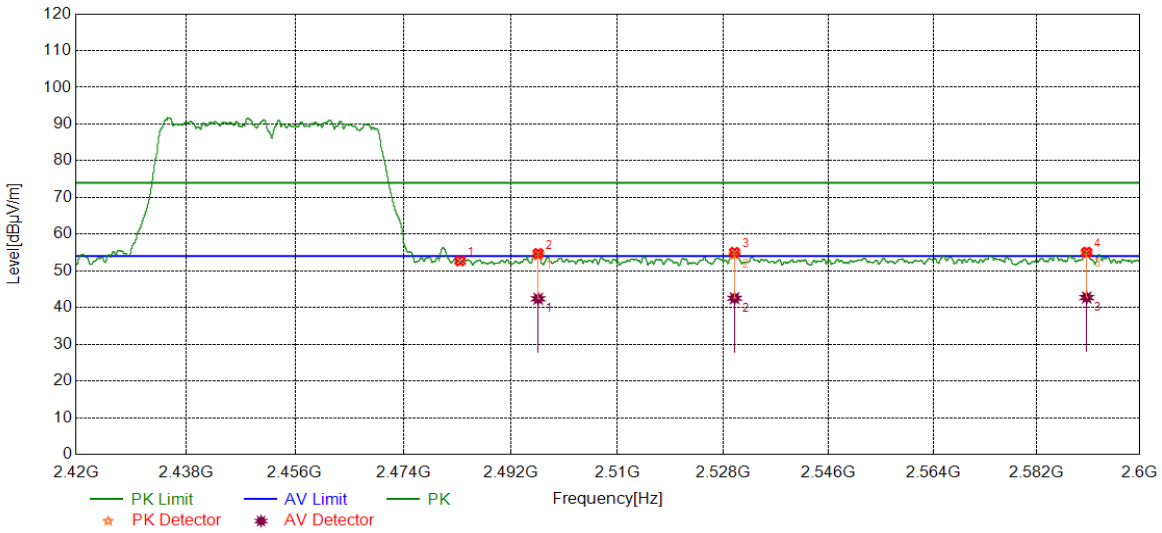
AV Result:

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2327.5847	29.25	12.44	41.69	54.00	-12.31	Vertical
2	2374.3530	29.32	12.99	42.31	54.00	-11.69	Vertical
3	2379.9412	29.34	13.06	42.40	54.00	-11.60	Vertical
4	2386.5421	29.37	13.06	42.43	54.00	-11.57	Vertical

Note: 1. Peak detector: RBW: 1 MHz, VBW: 3 MHz;
2. Average detector: RBW: 1 MHz, VBW: 1/T MHz(refer to clause 7.1.);
3. Measurement = Reading Level + Correct Factor;
4. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

Test Mode	Channel	Polarization	Verdict
11N HT40	HCH	Horizontal	PASS



PK Result:

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2483.5000	39.74	12.97	52.71	74.00	-21.29	Horizontal
2	2496.6221	41.65	13.09	54.74	74.00	-19.26	Horizontal
3	2529.9037	41.63	13.42	55.05	74.00	-18.95	Horizontal
4	2590.6838	41.56	13.52	55.08	74.00	-18.92	Horizontal

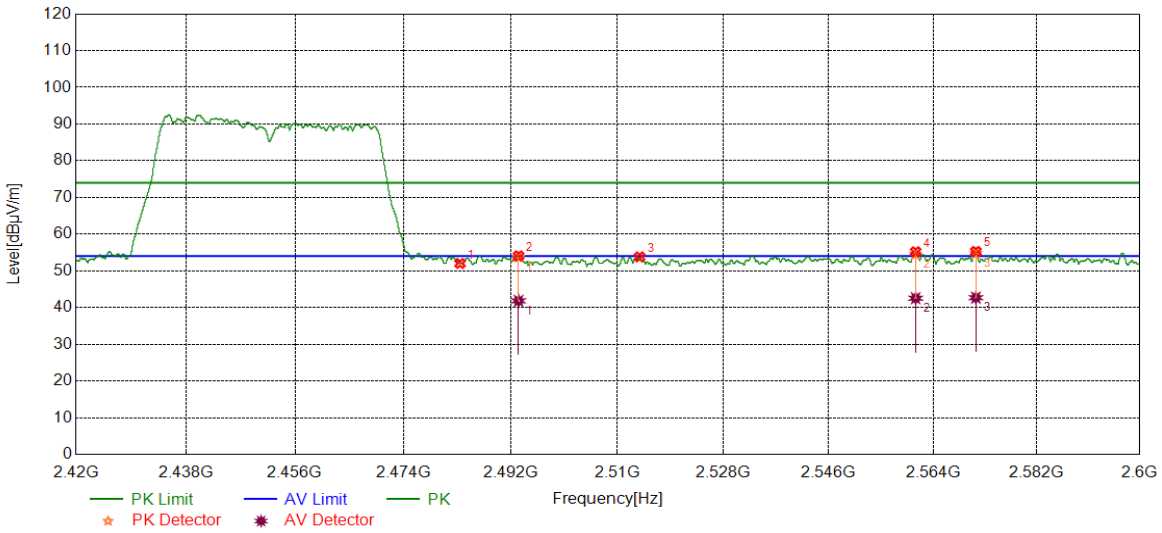
AV Result:

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2496.6221	29.31	13.09	42.40	54.00	-11.60	Horizontal
2	2529.9037	29.12	13.42	42.54	54.00	-11.46	Horizontal
3	2590.6838	29.21	13.52	42.73	54.00	-11.27	Horizontal

Note: 1. Peak detector: RBW: 1 MHz, VBW: 3 MHz;
2. Average detector: RBW: 1 MHz, VBW: 1/T MHz(refer to clause 7.1.);
3. Measurement = Reading Level + Correct Factor;
4. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

Test Mode	Channel	Polarization	Verdict
11N HT40	HCH	Vertical	PASS



PK Result:

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2483.5000	39.05	12.97	52.02	74.00	-21.98	Vertical
2	2493.3142	41.05	13.04	54.09	74.00	-19.91	Vertical
3	2513.7467	40.60	13.21	53.81	74.00	-20.19	Vertical
4	2560.9801	41.79	13.42	55.21	74.00	-18.79	Vertical
5	2571.3989	41.83	13.45	55.28	74.00	-18.72	Vertical

AV Result:

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2493.3142	28.79	13.04	41.83	54.00	-12.17	Vertical
2	2560.9801	29.13	13.42	42.55	54.00	-11.45	Vertical
3	2571.3989	29.24	13.45	42.69	54.00	-11.31	Vertical

Note: 1. Peak detector: RBW: 1 MHz, VBW: 3 MHz;
2. Average detector: RBW: 1 MHz, VBW: 1/T MHz(refer to clause 7.1.);
3. Measurement = Reading Level + Correct Factor;
4. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.

7.6.4. SPURIOUS EMISSIONS

TEST RESULTS TABLE

1) For 1GHz~18GHz

Test Mode	Channel	Puw(dBm)	Verdict
11B	LCH	<Limit	PASS
	MCH	<Limit	PASS
	HCH	<Limit	PASS
11G	LCH	<Limit	PASS
	MCH	<Limit	PASS
	HCH	<Limit	PASS
11N HT20	LCH	<Limit	PASS
	MCH	<Limit	PASS
	HCH	<Limit	PASS
11N HT40	LCH	<Limit	PASS
	MCH	<Limit	PASS
	HCH	<Limit	PASS

2) For 9KHz~30MHz

Test Mode	Channel	Puw(dBm)	Verdict
11B	LCH	<Limit	PASS

Remark:
1) Through pre-testing all the test modes and test channels, but only the data of the worst case is included in this test report.

3) For 30MHz~1GHz

Test Mode	Channel	Puw(dBm)	Verdict
11B	LCH	<Limit	PASS

Remark:
1) Through pre-testing all the test modes and test channels, but only the data of the worst case is included in this test report.

4) For 18GHz~26.5GHz

Test Mode	Channel	Puw(dBm)	Verdict
11B	LCH	<Limit	PASS

Remark:
1) Through pre-testing all the test modes and test channels, but only the data of the worst case is included in this test report.

This report shall not be reproduced except in full, without the written approval of UL-CCIC COMPANY LIMITED.