

FCC 47 CFR PART 15 SUBPART C ISED RSS-247 Issue 2

CERTIFICATION TEST REPORT

For

Robotic Vacuum Cleaner

MODEL NUMBER: S270RR

PROJECT NUMBER: 4790162811

REPORT NUMBER: 4790162811-1

FCC ID: 2AN2O-S270RR01

IC: 23317-S270RR01

HVIN: S270RR-BLM6

ISSUE DATE: Dec. 09, 2021

Prepared for

Beijing Roborock Technology Co., Ltd.

Prepared by

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Revision History

Rev.	Issue Date	Revisions	Revised By
V0	12/09/2021	Initial Issue	



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1. ATTESTATION OF TEST RESULTS

Applicant Information

Company Name: Beijing Roborock Technology Co., Ltd.

Address: Floor 6, Suite 6016, 6017, 6018, Building C, Kangjian Baosheng

Plaza, No. 8 Heiguan Road, Haidian District, 100192 Beijing,

P.R. China

Manufacturer Information

Company Name: Beijing Roborock Technology Co., Ltd.

Address: Floor 6, Suite 6016, 6017, 6018, Building C, Kangjian Baosheng

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P.R. China

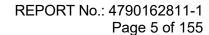
EUT Description

Product Name: Robotic Vacuum Cleaner

Model Name: S270RR
Sample Number: 4361812
Data of Receipt Sample: Nov. 02, 2021

Test Date: Nov. 10, 2021 ~ Dec. 09, 2021

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
CFR 47 Part 15 Subpart C	PASS
ISED RSS-247 Issue 2	PASS
ISED RSS-GEN Issue 5	PASS





Summary of Test Results Clause Test Items **FCC Rules** Test Results FCC 15.247 (a) (2) 6dB Bandwidth and RSS-247 Clause 5.2 (a) 1 **PASS** 99% Occupied Bandwidth RSS-Gen Clause 6.7 FCC 15.247 (b) (3) RSS-247 Clause 5.4 (d) 2 Conducted Power **PASS** RSS-Gen Clause 6.12 FCC 15.247 (e) 3 Power Spectral Density **PASS** RSS-247 Clause 5.2 (b) FCC 15.247 (d) Conducted Band edge And 4 RSS-247 Clause 5.5 **PASS** Spurious emission RSS-GEN Clause 6.13 FCC 15.247 (d) FCC 15.209 FCC 15.205 Radiated Band edges and Spurious 5 **PASS** emission RSS-247 Clause 5.5 **RSS-GEN Clause 8.9** RSS-GEN Clause 6.13 Conducted Emission Test for AC FCC 15.207 6 **PASS Power Port** RSS-GEN Clause 8.8 FCC 15.203 7 Antenna Requirement **PASS RSS-GEN Clause 6.8**

Remark:

Laboratory Leader

Prepared By:	Reviewed By:			
Tom Tang	Leon Wu			
Tom Tang Project Engineer	Leon Wu Senior Project Engineer			
Authorized By:				
Chris Zhong				
Chris Zhong				

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.



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2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with KDB 558074 D01 15.247 Meas Guidance v05r02, 414788 D01 Radiated Test Site v01r01, CFR 47 FCC Part 2, CFR 47 FCC Part 15, ANSI C63.10-2013, ISED RSS-247 Issue 2 and ISED RSS-GEN Issue 5.

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 CAB No.: CN0073) 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.
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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.



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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-18GHz)		
(1.6.12 to 200112) (morado i directionida officioni)	4.2dB (18GHz-26.5GHz)		

Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.



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5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

Product Name:	Robotic Vacuum Cleaner
Model No.:	S270RR
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 software of EUT:	CMD (manufacturer declare)
Antenna Type:	FPC Antenna
	2.82 dBi
Antenna Gain:	Remark: This data is provided by customer and our lab isn't responsible for this data.

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]	16.72	
1	IEEE 802.11G	1-11[11]	13.14	
1	IEEE 802.11N HT20	1-11[11]	12.80	
1	IEEE 802.11N HT40	3-9[7]	8.86	

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				



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5.4. TEST CHANNEL CONFIGURATION

Test Mode	Test Channel (MHz)
	LCH: CH01 2412
IEEE 802.11B	MCH: CH06 2437
	HCH: CH11 2462
	LCH: CH01 2412
IEEE 802.11G	MCH: CH06 2437
	HCH: CH11 2462
	LCH: CH01 2412
IEEE 802.11N HT20	MCH: CH06 2437
	HCH: CH11 2462
	LCH: CH03 2422
IEEE 802.11N HT40	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			CMD					
NA 1 1 C	Transmit		Test Channel					
Modulation Mode	Antenna Number			lz	NCB: 40MHz			
Wiode		CH 1	CH 6	CH 11	CH 3	CH 6	CH 9	
802.11B	1	default	default	default				
802.11G 1		51	51	51	/			
802.11N HT20	1	51	51	51				
802.11N HT40	1		/	_	4C 4C 4C			



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5.6. DESCRIPTION OF AVAILABLE ANTENNAS

Ant.	Frequency (MHz)	Antenna Type	Antenna Gain (dBi)
1	2400-2483.5	FPC Antenna	2.82

Note: This data is provided by customer and our lab isn't responsible for this data.

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

5.8. TEST ENVIRONMENT

Environment Parameter	Selected Values During Tests		
Relative Humidity	55	5 ~ 65%	
Atmospheric Pressure:	1025Pa		
Temperature	TN	23 ~ 28°C	
	VL	N/A	
Voltage:	VN	AC 120V	
	VH	N/A	

Note: VL= Lower Extreme Test Voltage

VN= Nominal Voltage

VH= Upper Extreme Test Voltage

TN= Normal Temperature



5.9. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Item	Equipment	Brand Name	Model Name	Description
1	Laptop	ThinkPad	E590	N/A

I/O PORT

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

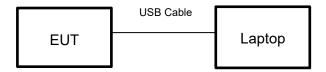
ACCESSORY

Item	Accessory	Brand Name	Model Name	Description
1	Dock Charger	Roborock	CDZ11RR	INPUT:100-240VAC 50-60Hz OUTPUT:20VDC 1.2A 28W

TEST SETUP

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

SETUP DIAGRAM FOR TESTS





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5.10. MEASURING INSTRUMENT AND SOFTWARE USED

	Conducted Emissions (Instrument)							
Used	Equipment	Manufacturer	Model		Serial No.	Upper Last Cal.	Last Cal.	Next Cal.
V	EMI Test Receiver	R&S	ESR	3	126700	2020-12-05	2021-12-04	2022-12-03
V	Two-Line V-Network	R&S	ENV2	16	126701	2020-12-05	2021-12-04	2022-12-03
V	Artificial Mains Networks	R&S	ENY8	31	126711	2020-12-05	2021-12-04	2022-12-03
				Soft	ware			
Used	Des	cription		Ма	nufacturer	Name	Version	
V	Test Software for 0	Conducted distur	bance		R&S	EMC32	Ver. 9.25	
		Ra	diated E	missi	ions (Instrum	nent)		
Used	Equipment	Manufacturer	Model	No.	Serial No.	Upper Last Cal.	Last Cal.	Next Cal.
$\overline{\checkmark}$	Spectrum Analyzer	Keysight	N9010	0B	155727	2020-05-10	2021-05-09	2022-05-08
$\overline{\checkmark}$	EMI test receiver	R&S	ESR2	26	126703	2020-12-05	2021-12-04	2022-12-03
V	Receiver Antenna (9kHz-30MHz)	Schwarzbeck	FMZB 1	513	155456	2018-06-15	2021-06-03	2022-06-02
V	Receiver Antenna (30MHz-1GHz)	SunAR RF Motion	JB1		177821	N/A	2019-01-28	2022-01-27
V	Receiver Antenna (1GHz-18GHz)	R&S	HF90)7	126705	2018-01-29	2019-01-28	2022-01-27
V	Receiver Antenna (18GHz-26.5GHz)	Schwarzbeck	BBHA9	170	126706	2018-01-06	2019-01-05	2022-01-04
V	Pre-amplification (To 18GHz)	Compliance Direction System Inc.	PAP-1G ²	18-50	177825	2019-03-18	2020-12-05	2022-03-25
V	Pre-amplification (To 26.5GHz)	R&S	SCU-2	.6D	135391	2020-12-04	2021-12-05	2022-12-06
V	Band Reject Filter	Wainwright	WRCJ' 2350-24 2483.5-25 4083	400- 533.5-	1	2020-05-10	2021-05-09	2022-05-08
V	Highpass Filter	Wainwright	WHKX 2700-30 18000-4	-000	2	2020-05-10	2021-05-09	2022-05-08
				Soft	ware			
Used		ription		nufac	turer	Name	Version	
V	Test Software for R	adiated disturbar		Tonsce		TS+	Ver. 2.5	
			Oth	er ins	truments	1		
Used	Equipment	Manufacturer	Model	No.	Serial No.	Upper Last Cal.	Last Cal.	Next Cal.
V	Spectrum Analyzer	Keysight	N9010	0B	155368	2020-05-10	2021-05-09	2022-05-08
V	Power Meter	Keysight	U2021	XA	155370	2020-05-10	2021-05-09	2022-05-08



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6. MEASUREMENT METHODS

No.	Test Item	KDB Name	Section
1	6dB Bandwidth and 99% Occupied 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



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7. ANTENNA PORT TEST RESULTS

7.1. ON TIME AND DUTY CYCLE

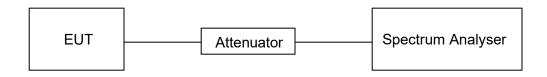
LIMITS

None; for reporting purposes only

PROCEDURE

FCC KDB 558074 Zero-Span Spectrum Analyzer Method

TEST SETUP



TEST ENVIRONMENT

Temperature	21°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	0.936	0.9557	0.9794	97.94%	0.09	1.1	2
11G	1.391	1.410	0.9865	98.65%	0.06	0.7	0.01
802.11N HT20	5.079	5.102	0.9955	99.55%	0.02	0.2	0.01
802.11N HT40	100.3	100.3	1	100%	0	0.01	0.01

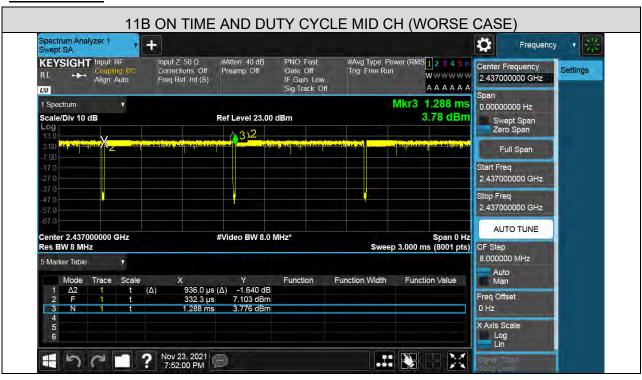
Note: 1) Duty Cycle Correction Factor=10log(1/x).

2) Where: x is Duty Cycle(Linear)

3) Where: T is On Time (transmit duration)



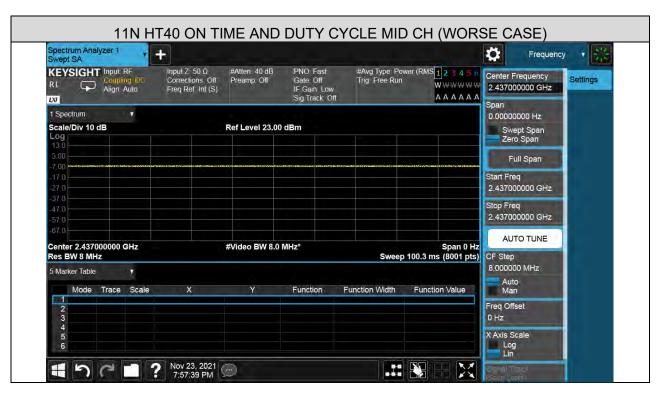
TEST GRAPHS













7.2. 6 dB BANDWIDTH AND 99% OCCUPIED BANDWIDTH

LIMITS

FCC Part15 (15.247), Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	
CFR 47 FCC 15.247(a)(2) ISED RSS-247 5.2 (a)	6dB Bandwidth	>= 500KHz	2400-2483.5	
ISED RSS-Gen Clause 6.7	99 % Occupied Bandwidth	For reporting purposes only	2400-2483.5	

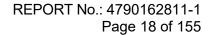
TEST PROCEDURE

Refer to ANSI C63.10-2013 clause 11.8 for DTS bandwidth and clause 6.9 for Occupied Bandwidth.

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

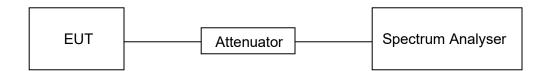
Center Frequency	The centre frequency of the channel under test
Frequency Span	Between 0.5 times and 1.5 times the OBW
Detector	Peak
IRRW	For 6 dB Bandwidth: 100 kHz For 99 % Occupied Bandwidth: 1 % to 5 % of the occupied bandwidth
IV/BW/	For 6 dB Bandwidth: ≥3 × RBW For 99 % Occupied Bandwidth: ≥3 × RBW
Trace	Max hold
Sweep	Auto couple

- a) Use the 99 % power bandwidth function of the instrument, allow the trace to stabilize and report the measured bandwidth.
- b) 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



TEST ENVIRONMENT

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

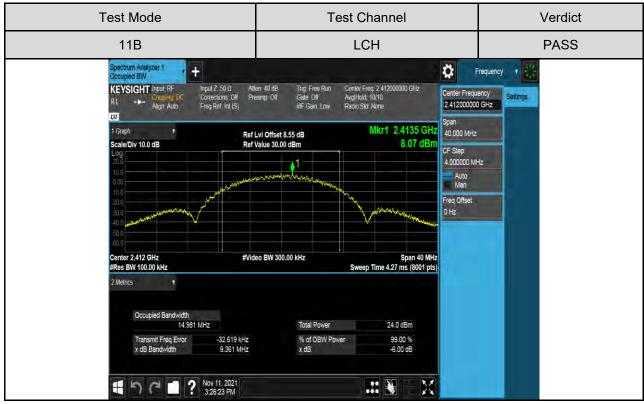
TEST RESULTS TABLE

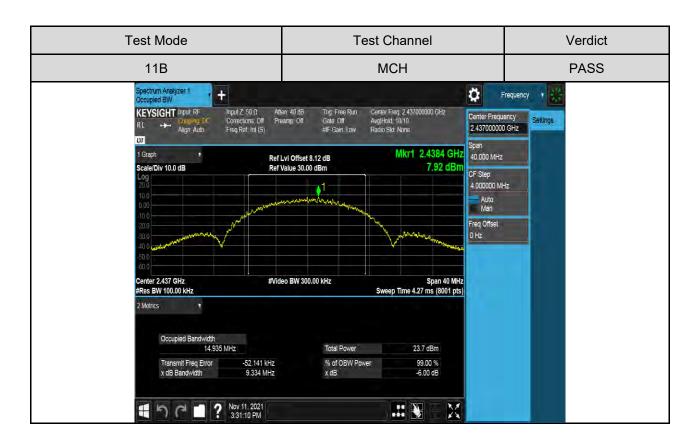
Test Mode	Test Channel	6dB bandwidth (MHz)	99% bandwidth (MHz)	Result
	LCH	9.361	14.924	Pass
11B	MCH	9.334	14.844	Pass
	HCH	9.340	14.930	Pass
	LCH	16.26	16.628	Pass
11G	MCH	16.28	16.611	Pass
	HCH	16.03	16.605	Pass
	LCH	17.56	17.699	Pass
11N HT20	MCH	17.52	17.686	Pass
	HCH	17.25	17.687	Pass
	LCH	36.37	36.201	Pass
11N HT40	MCH	36.35	36.177	Pass
	HCH	36.34	36.263	Pass



TEST GRAPHS

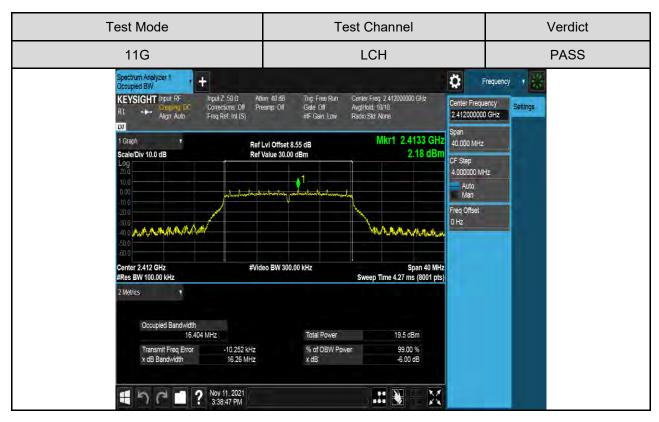
6dB Bandwdith



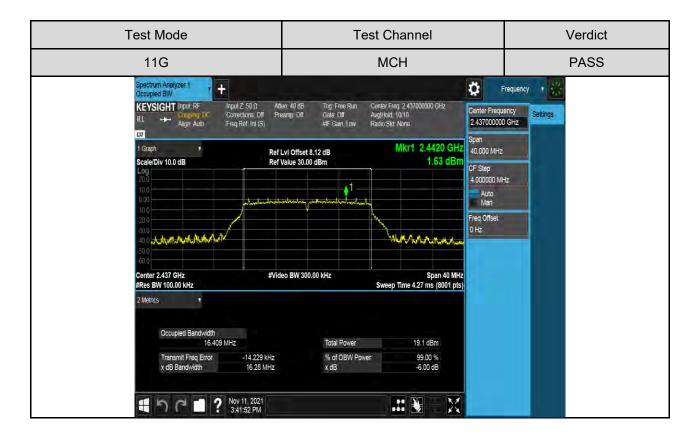






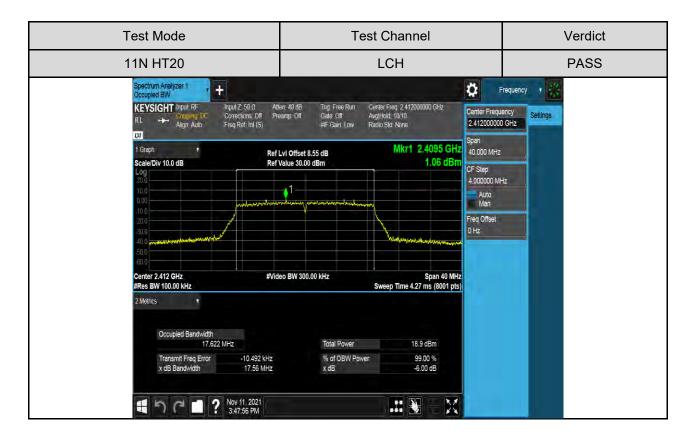


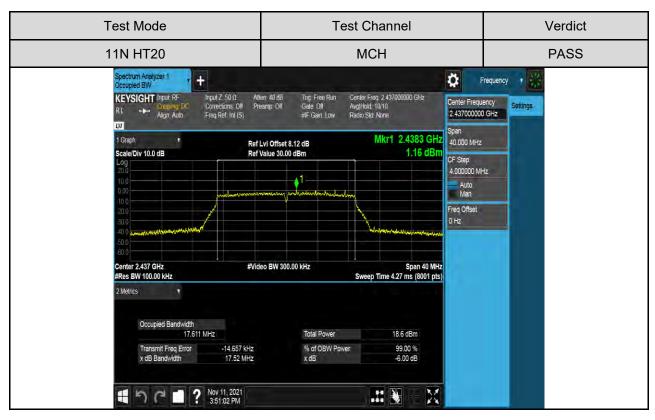






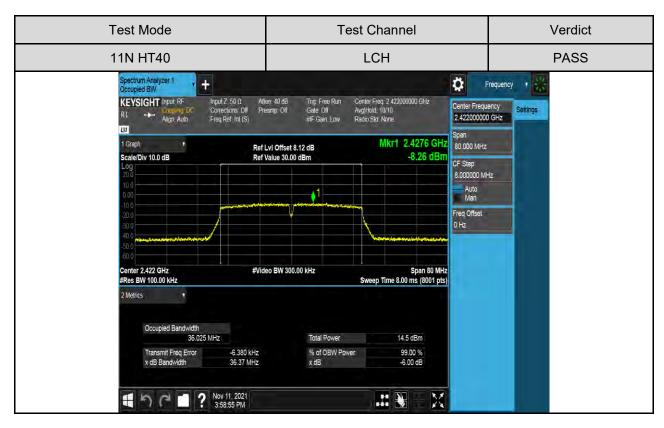




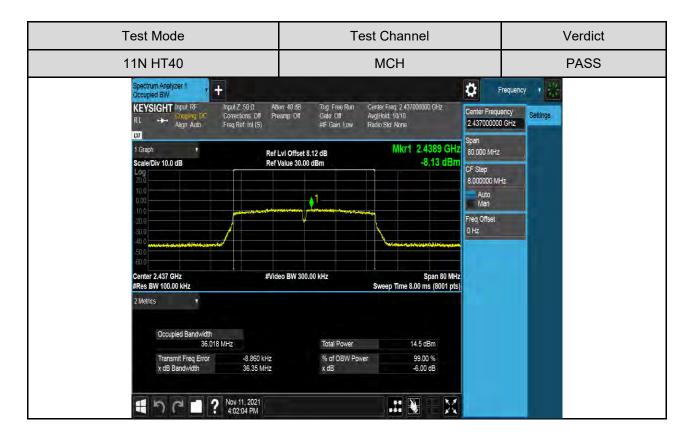


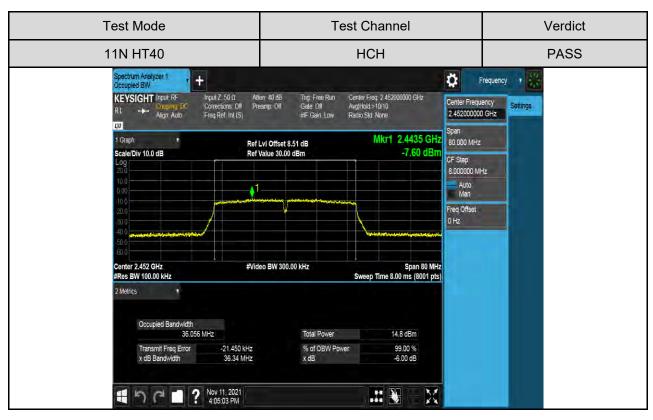








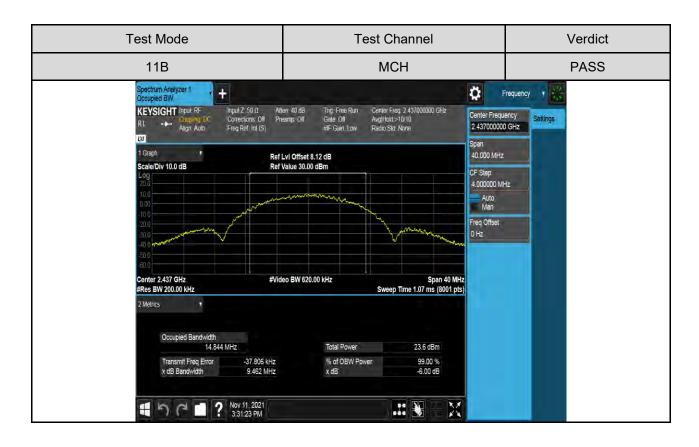




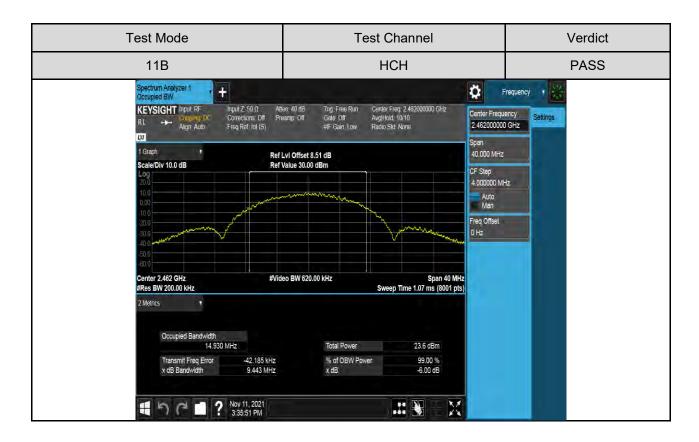


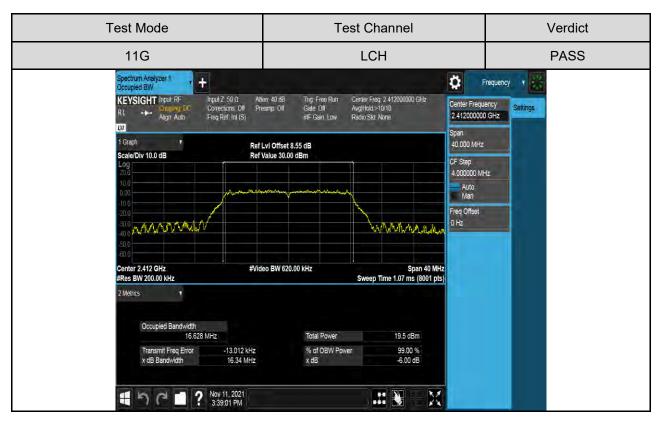
99% Bandwidth



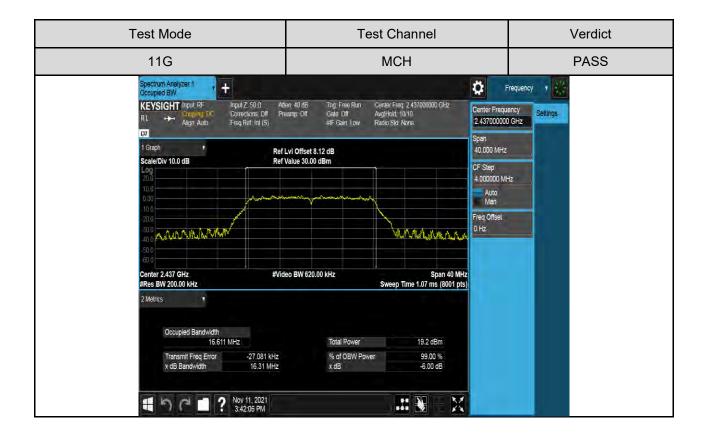


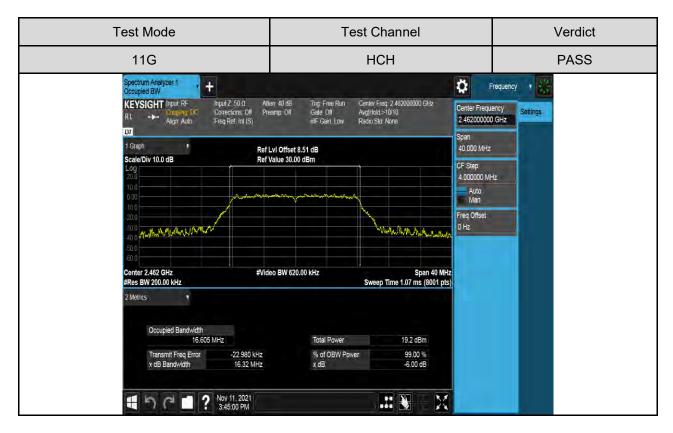










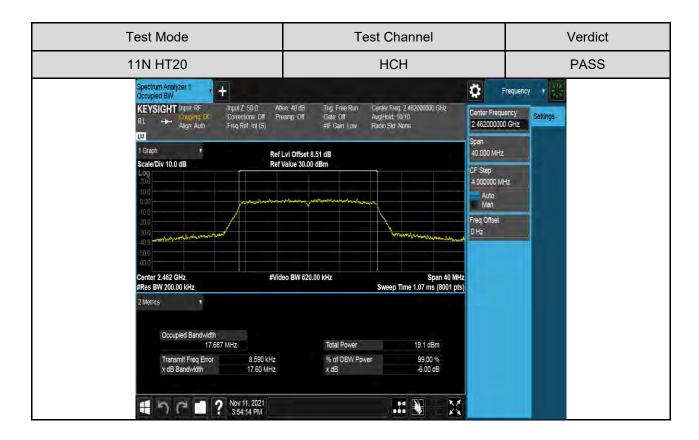


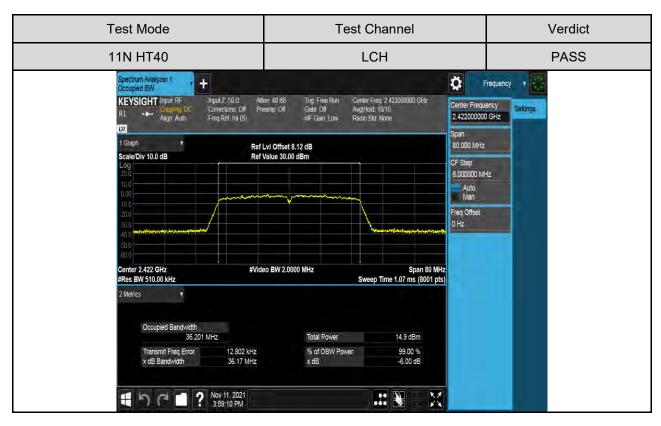




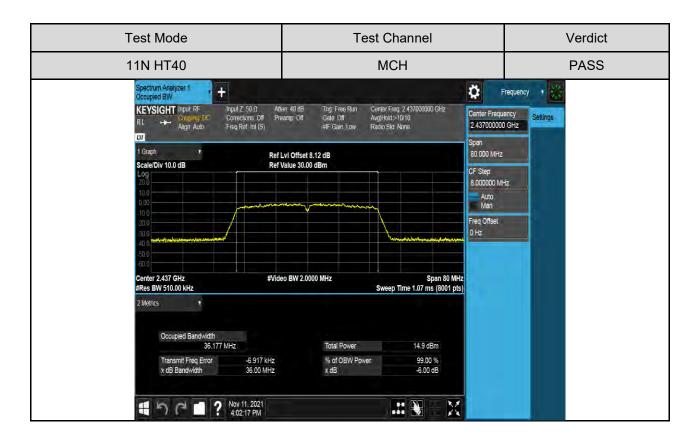














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7.3. CONDUCTED OUTPUT POWER

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

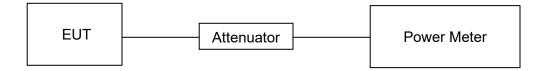
Place the EUT on the table and set it in the transmitting mode.

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.

AVG Detector use for AVG result.

TEST SETUP





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TEST ENVIRONMENT

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

TEST RESULTS TABLE

Test Mode	Test Channel	Measurement Output Power (AV)	10log(1/x) Factor	Maximum Conducted Output Power (AV)	LIMIT
		dBm	dBm	dBm	dBm
	LCH	16.63	0.09	16.72	30
11B	MCH	16.34	0.09	16.43	30
	HCH	16.21	0.09	16.30	30
	LCH	13.05	0.09	13.14	30
11G	MCH	12.70	0.06	12.76	30
	HCH	12.68	0.06	12.74	30
	LCH	12.78	0.02	12.80	30
11n HT20	MCH	12.54	0.02	12.56	30
	HCH	12.58	0.02	12.60	30
	LCH	8.69	0	8.69	30
11n HT40	MCH	8.64	0	8.64	30
	HCH	8.86	0	8.86	30

Remark:

- 1) For all the test results has been adjusted the duty cycle factor.
- 2) For Correction Factor is refer to the result in section 7.2

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7.4. POWER SPECTRAL DENSITY

LIMITS

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

TEST PROCEDURE

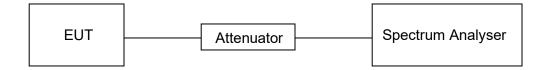
Refer to FCC KDB 558074, connect the UUT to the spectrum analyser and use the following settings:

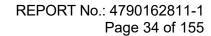
Center Frequency	The centre frequency of the channel under test	
Detector	Peak	
RBW	3 kHz ≤ RBW ≤100 kHz	
VBW	≥3 × RBW	
Span	1.5 x DTS bandwidth	
Trace	Max hold	
Sweep time	Auto couple.	

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 SETUP







TEST ENVIRONMENT

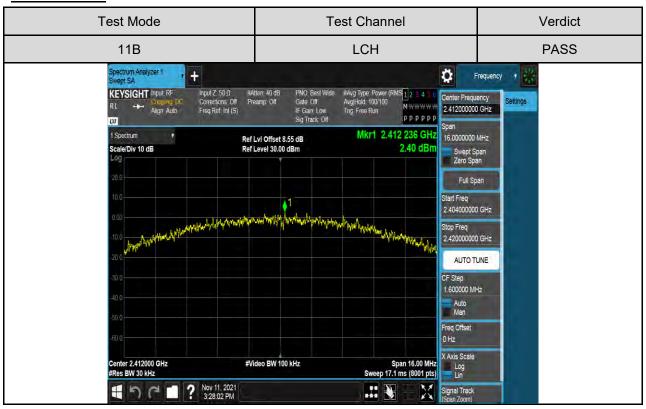
Temperature	22°C	Relative Humidity	56%
Atmosphere Pressure	101kPa	Test Voltage	AC 120V

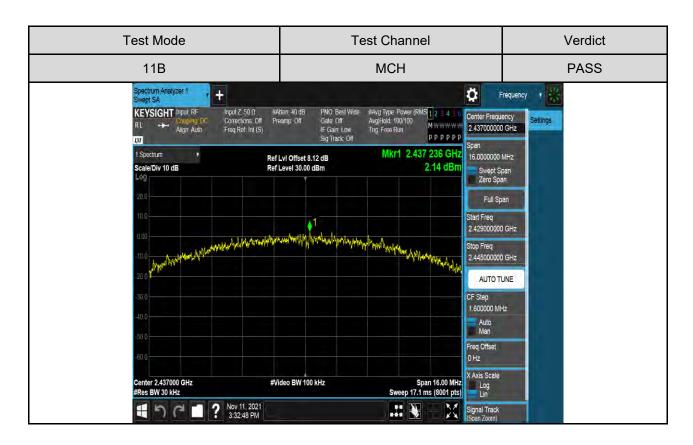
TEST RESULTS TABLE

Test Mode	Test Channel	Maximum Peak power spectral density (dBm/30kHz)	Result
	LCH	2.40	Pass
11B	MCH	2.14	Pass
	HCH	2.06	Pass
	LCH	-3.29	Pass
11G	MCH	-2.78	Pass
	HCH	-3.06	Pass
	LCH	-3.46	Pass
11n HT20	MCH	-4.02	Pass
	HCH	-3.61	Pass
	LCH	-11.27	Pass
11n HT40	MCH	-11.13	Pass
	HCH	-10.95	Pass



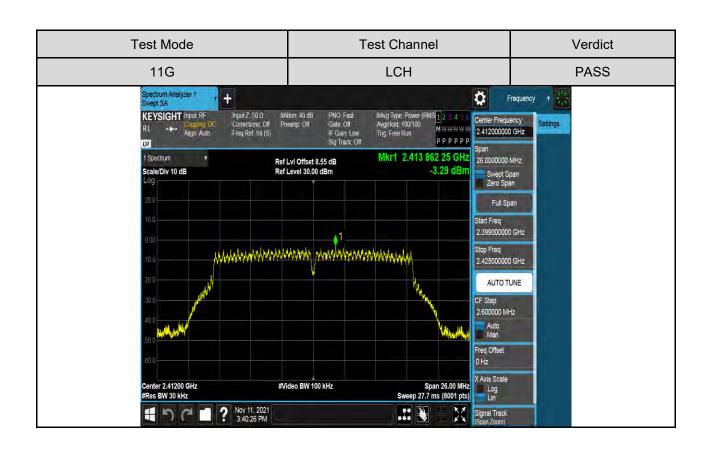
TEST GRAPHS





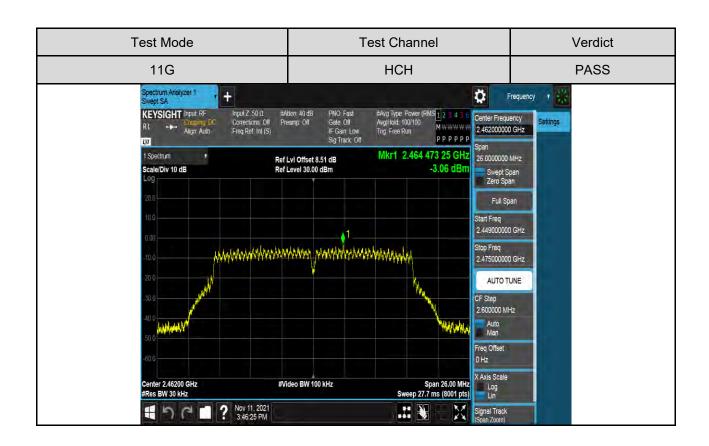


Test Mode Test Channel Verdict 11B **HCH PASS** Spectrum Analyzer Swept SA Ö Frequency Input Z: 50 Ω Corrections: Off Freq Ref. Int (S) #Atten: 40 dB Preamp: Off KEYSIGHT Input: RF 2.462000000 GHz IF Gain: Low Sig Track: Off PPPPPP DU Mkr1 2.463 352 GHz 1 Spectrum Ref Lvl Offset 8.51 dB Ref Level 30.00 dBm 16.0000000 MHz Scale/Div 10 dB 2.06 dBr Swept Span Zero Span Full Span Start Freq 2.454000000 GHz Stop Freq 2.470000000 GHz AUTO TUNE 1.600000 MHz Auto Man Freq Offset 0 Hz X Axis Scal Center 2.462000 GHz #Video BW 100 kHz Span 16.00 MHz Log Lin #Res BW 30 kHz Sweep 17.1 ms (8001 pts) ? Nov 11, 2021 3:37:16 PM 50 # 🐧





Test Mode Test Channel Verdict 11G **MCH PASS** Spectrum Analyzer Swept SA Ö Frequency Input Z: 50 Ω Corrections: Off Freq Ref. Int (S) #Atten: 40 dB Preamp: Off KEYSIGHT Input: RF 2.437000000 GHz IF Gain: Low Sig Track: Off PPPPPP DU Mkr1 2.439 483 00 GHz 1 Spectrum Ref Lvl Offset 8.12 dB Ref Level 30.00 dBm 26.0000000 MHz Scale/Div 10 dB -2.78 dBr Swept Span Zero Span Full Span Start Freq 2.424000000 GHz MANAHAN MANAHANAN Stop Freq 2.450000000 GHz AUTO TUNE 2.600000 MHz Auto Man Freq Offset X Axis Scale Center 2.43700 GHz #Video BW 100 kHz Span 26.00 MHz Log Lin #Res BW 30 kHz Sweep 27.7 ms (8001 pts) ? Nov 11, 2021 3:43:32 PM # 🐧 П

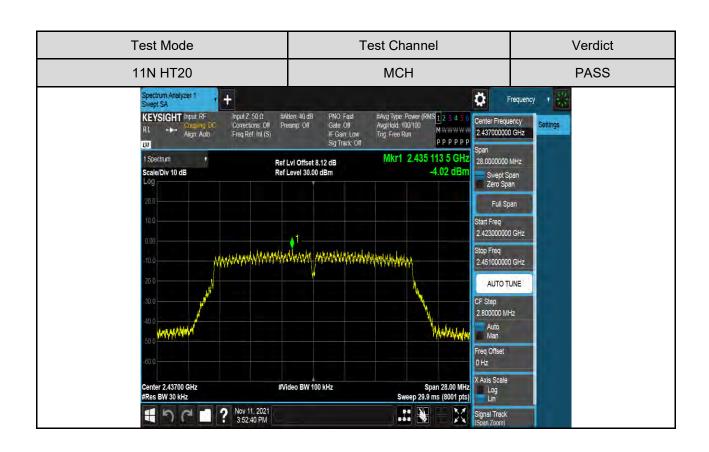




50

Test Mode Test Channel Verdict 11N HT20 LCH **PASS** Spectrum Analyzer 1 Swept SA Ö Frequency Input Z: 50 Ω Corrections: Off Freq Ref. Int (S) #Atten: 40 dB Preamp: Off KEYSIGHT Input: RF 2.412000000 GHz IF Gain: Low Sig Track: Off PPPPPP DU Mkr1 2.410 113 5 GHz 1 Spectrum Ref Lvi Offset 8.55 dB Ref Level 30.00 dBm 28.0000000 MHz -3.46 dBr Scale/Div 10 dB Swept Span Zero Span Full Span Start Freq 2.398000000 GHz ************************* Stop Freq 2.426000000 GHz AUTO TUNE 2.800000 MHz Auto Man Freq Offset X Axis Scale Center 2.41200 GHz #Video BW 100 kHz Span 28.00 MHz Log Lin #Res BW 30 kHz Sweep 29.9 ms (8001 pts) ? Nov 11, 2021 3:49:37 PM

🐧



X Axis Scale

Log Lin

Span 28.00 MHz

Sweep 29.9 ms (8001 pts)

🐧



Center 2.46200 GHz

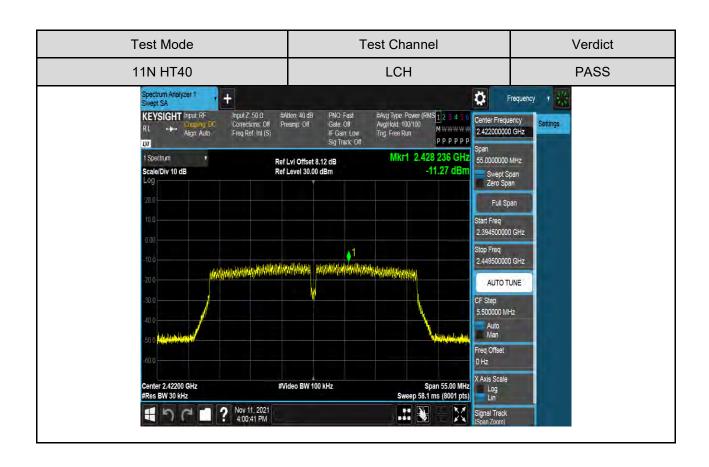
50

? Nov 11, 2021 3:55:41 PM

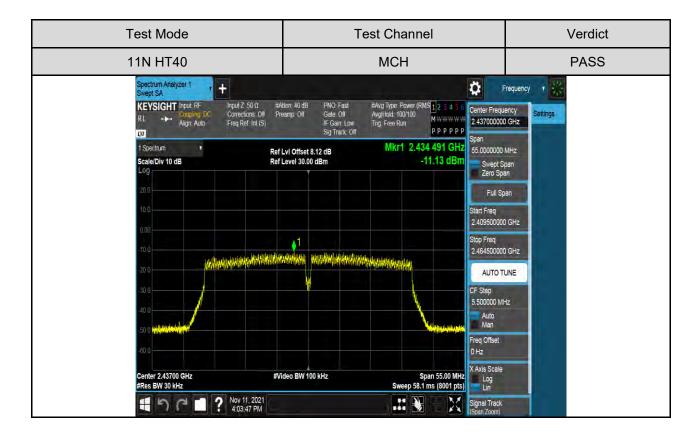
#Res BW 30 kHz

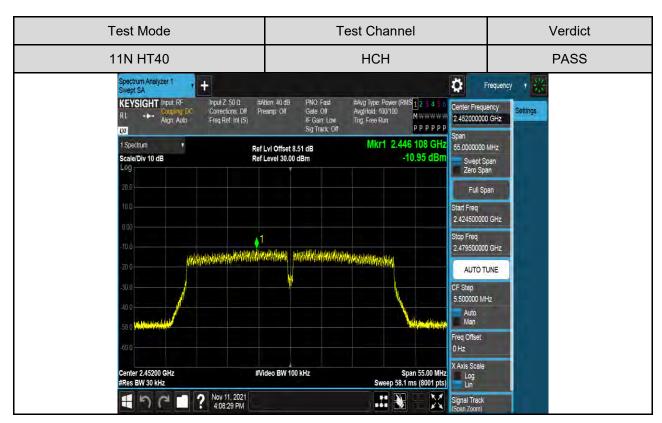
Test Mode Test Channel Verdict 11N HT20 **HCH PASS** Spectrum Analyzer 1 Swept SA Ö Frequency Input Z: 50 Ω Corrections: Off Freq Ref. Int (S) #Atten: 40 dB Preamp: Off KEYSIGHT Input: RF 2.462000000 GHz IF Gain: Low Sig Track: Off PPPPPP DU Mkr1 2.460 117 0 GHz 1 Spectrum Ref Lvl Offset 8.51 dB Ref Level 30.00 dBm 28.0000000 MHz Scale/Div 10 dB -3.61 dBr Swept Span Zero Span Full Span Start Freq 2.448000000 GHz Stop Freq 2.476000000 GHz AUTO TUNE 2.800000 MHz Auto Man Freq Offset

#Video BW 100 kHz











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.

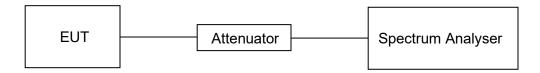
settings:

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

1.5020	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





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TEST ENVIRONMENT

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

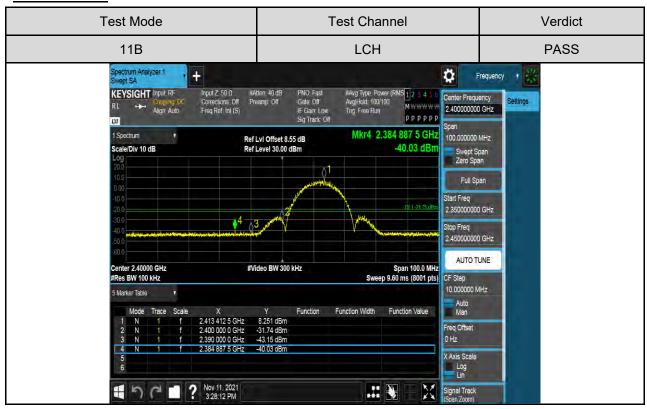
PART I: CONDUCTED BANDEDGE

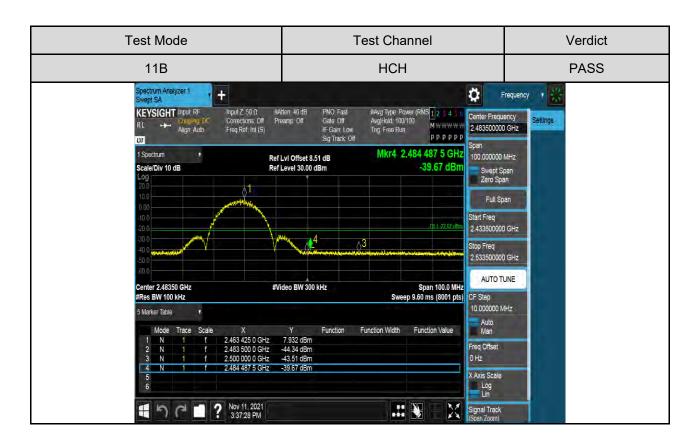
TEST RESULTS TABLE

Test Mode	Test Channel	Result	Verdict
11B	LCH	Refer to the Test Graph	PASS
IID	HCH	Refer to the Test Graph	PASS
11G	LCH	Refer to the Test Graph	PASS
HG	HCH	Refer to the Test Graph	PASS
11N HT20	LCH	Refer to the Test Graph	PASS
TIN HIZU	HCH	Refer to the Test Graph	PASS
11N HT40	LCH	Refer to the Test Graph	PASS
IIIN 1140	HCH	Refer to the Test Graph	PASS



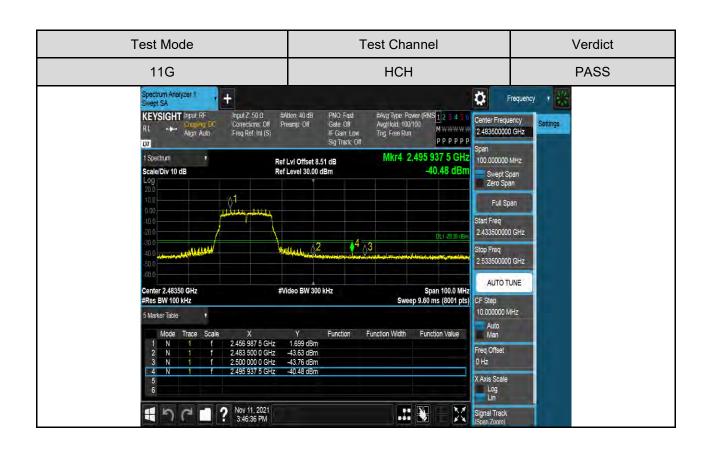
TEST GRAPHS





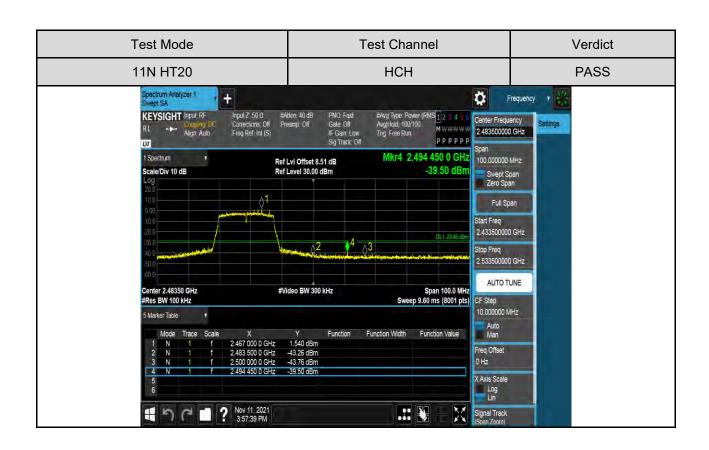


Test Mode Test Channel Verdict 11G LCH **PASS** Spectrum Analyzer Swept SA Ö Frequency Input Z' 50 Ω Corrections: Off Freq Ref. Int (S) #Atten: 40 dB Preamp: Off KEYSIGHT Input RF 2.400000000 GHz IF Gain: Low Sig Track: Off PPPPPP DU Mkr4 2.354 687 5 GHz 1 Spectrum Ref LvI Offset 8.55 dB Ref Level 30.00 dBm 100.000000 MHz Scale/Div 10 dB Swept Span Zero Span Full Span Start Freq 2.350000000 GHz 3 Stop Freq 2.450000000 GHz AUTO TUNE Span 100.0 MHz Sweep 9.60 ms (8001 pts) enter 2.40000 GHz #Video BW 300 kHz #Res BW 100 kHz 10.000000 MHz Auto Man Function Function Width Function Value 2.416 987 5 GHz 2.400 000 0 GHz 2.390 000 0 GHz 2.080 dBm -40.88 dBm -43.79 dBm req Offset X Axis Scal Log Lin Nov 11, 2021 3:40:36 PM X ? 50 # 1





Test Mode Test Channel Verdict 11N HT20 LCH **PASS** Spectrum Analyzer 1 Swept SA Ö Frequency Input Z: 50 Ω Corrections Off Freq Ref: Int (S) #Atten: 40 dB Preamp: Off KEYSIGHT Input RF 2.400000000 GHz IF Gain: Low Sig Track: Off PPPPPP DU Mkr4 2.388 087 5 GHz 1 Spectrum Ref LvI Offset 8.55 dB Ref Level 30.00 dBm 100.000000 MHz Scale/Div 10 dB -40.70 dB Swept Span Zero Span Full Span Start Freq 2.350000000 GHz 43 Stop Freq 2.450000000 GHz AUTO TUNE Span 100.0 MHz Sweep 9.60 ms (8001 pts) enter 2.40000 GHz #Video BW 300 kHz #Res BW 100 kHz 10.000000 MHz Auto Man Function Function Width Function Value 2.413 287 5 GHz 2.400 000 0 GHz 2.390 000 0 GHz 1.925 dBm req Offset -37.91 dBm -43.16 dBm X Axis Scal Log Lin Nov 11, 2021 3:49:48 PM M ? 50 # 1





Test Mode Test Channel Verdict 11N HT40 LCH **PASS** Spectrum Analyzer 1 Swept SA Ö Frequency Input Z: 50 Ω Corrections Off Freq Ref: Int (S) #Atten: 40 dB Preamp: Off KEYSIGHT Input RF 2.400000000 GHz IF Gain: Low Sig Track: Off PPPPPP DU Mkr4 2.360 337 5 GHz 1 Spectrum Ref LvI Offset 8.12 dB Ref Level 30.00 dBm 100.000000 MHz Scale/Div 10 dB -42.03 dB Swept Span Zero Span Full Span Start Freq 2.350000000 GHz Stop Freq 2.450000000 GHz AUTO TUNE Span 100.0 MHz Sweep 9.60 ms (8001 pts) enter 2.40000 GHz #Video BW 300 kHz #Res BW 100 kHz 10.000000 MHz Auto Man Function Function Width Function Value 2.413 500 0 GHz 2.400 000 0 GHz 2.390 000 0 GHz req Offset -42.80 dBm -43.79 dBm X Axis Scal Log Lin

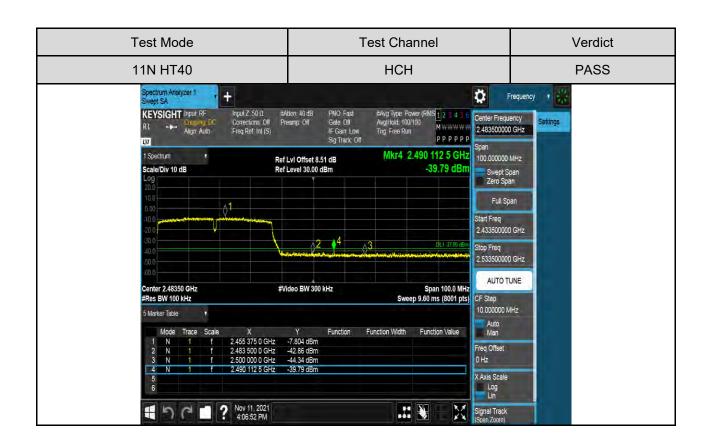
M

1

?

50

Nov 11, 2021 4:00:51 PM

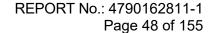




PART II: CONDUCTED EMISSION

TEST RESULTS TABLE

Test Mode	Test Channel	Result	Verdict
	LCH	Refer to the Test Graph	PASS
11B	MCH	Refer to the Test Graph	PASS
	HCH	Refer to the Test Graph	PASS
	LCH	Refer to the Test Graph	PASS
11G	MCH	Refer to the Test Graph	PASS
	HCH	Refer to the Test Graph	PASS
	LCH	Refer to the Test Graph	PASS
11N HT20	MCH	Refer to the Test Graph	PASS
	HCH	Refer to the Test Graph	PASS
	LCH	Refer to the Test Graph	PASS
11N HT40	MCH	Refer to the Test Graph	PASS
	HCH	Refer to the Test Graph	PASS





TEST GRAPHS

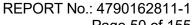
Test Mode	Channel	Verdict
11B	LCH	PASS













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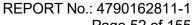
Test Mode	Channel	Verdict
11B	MCH	PASS













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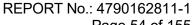
Test Mode	Channel	Verdict
11B	HCH	PASS







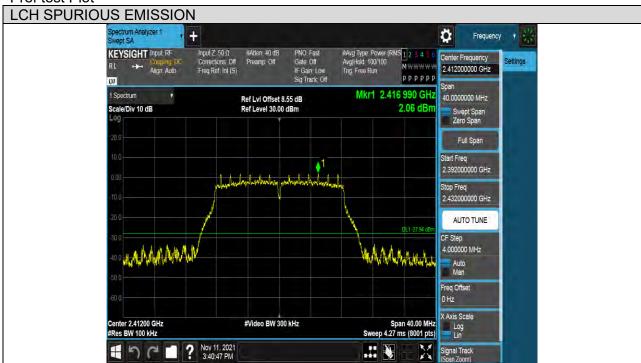






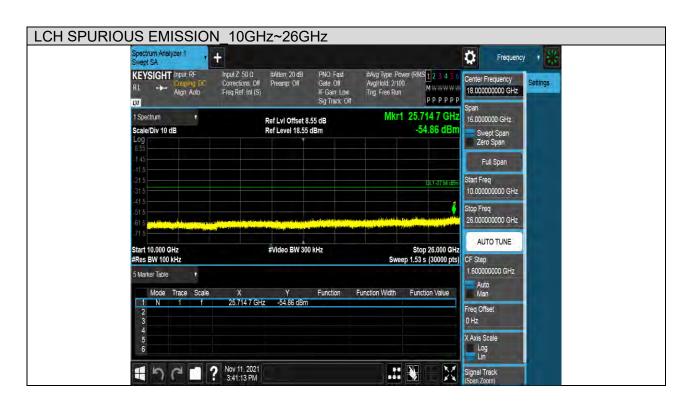
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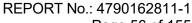
Test Mode	Channel	Verdict
11G	LCH	PASS











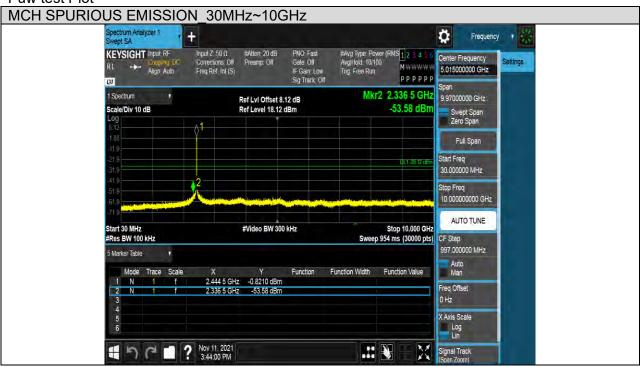


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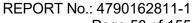
Test Mode	Channel	Verdict
11G	MCH	PASS













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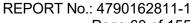
Test Mode	Channel	Verdict
11G	HCH	PASS











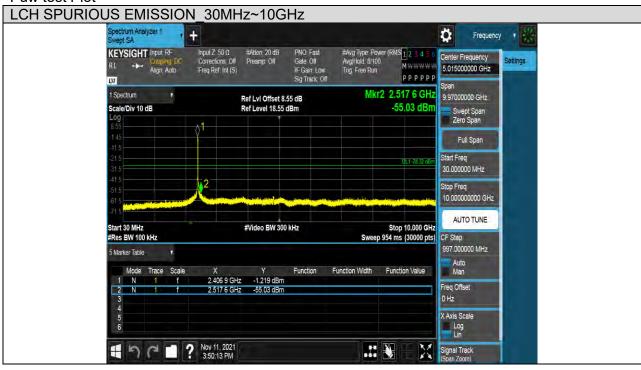


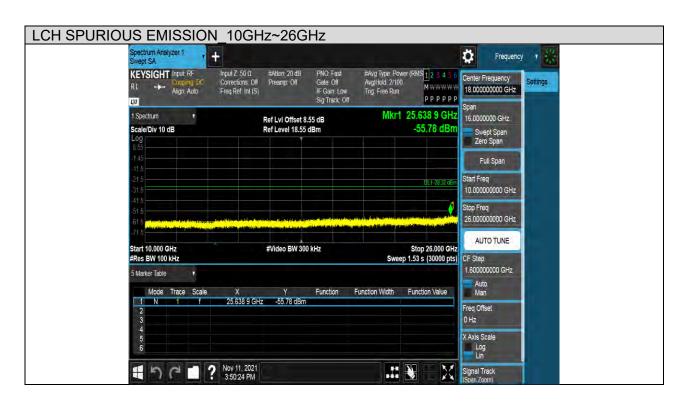
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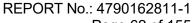
Test Mode	Channel	Verdict
11N HT20	120 I LON I PASS	







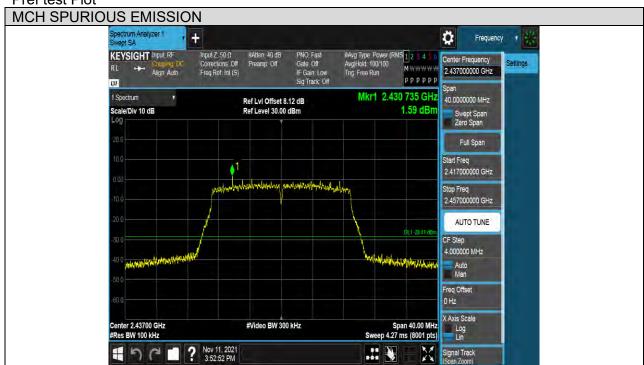






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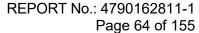
Test Mode	Channel	Verdict
11N HT20	TIN FIZU I WICH I PASS	













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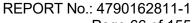
Test Mode	Channel	Verdict
11N HT20	HCH	PASS







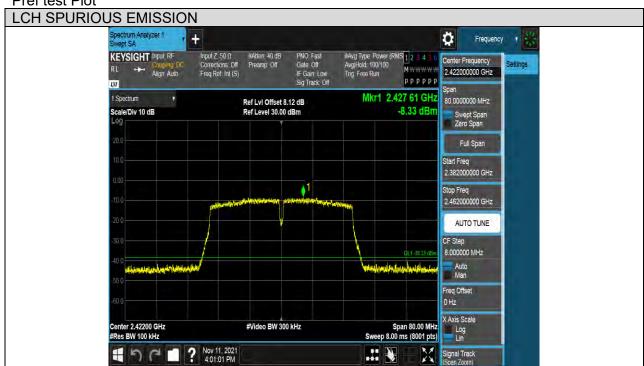




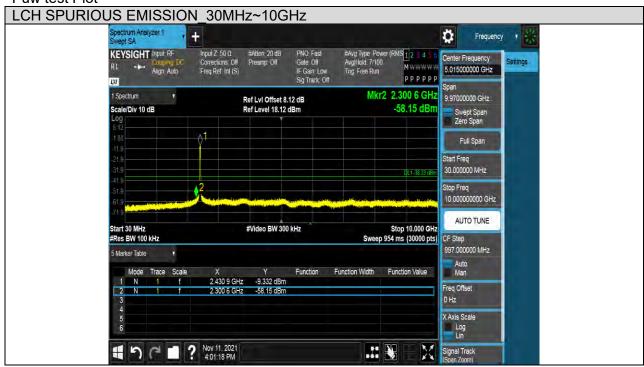


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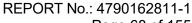
Test Mode	Channel	Verdict
11N HT40	LCH	PASS







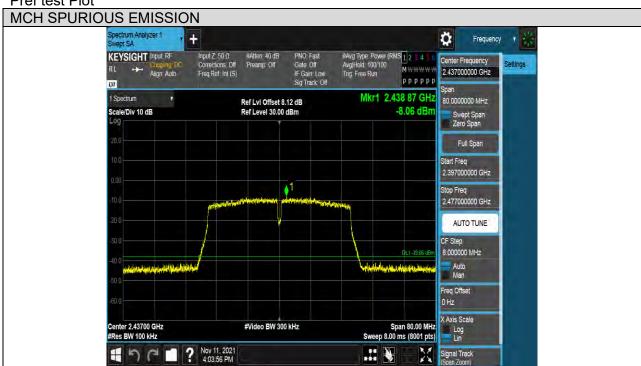






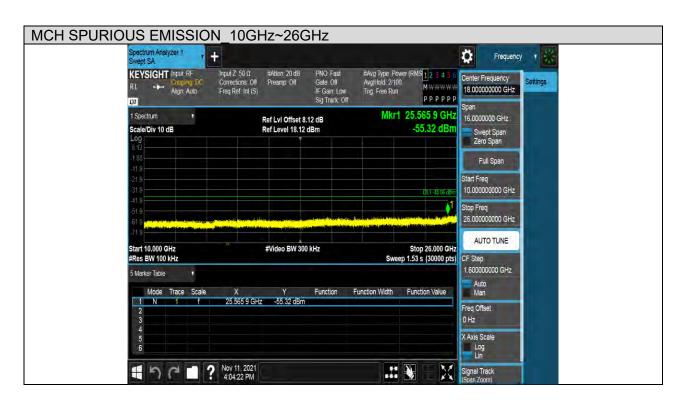
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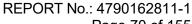
Test Mode	Channel	Verdict
11N HT40	11N HT40 MCH PASS	







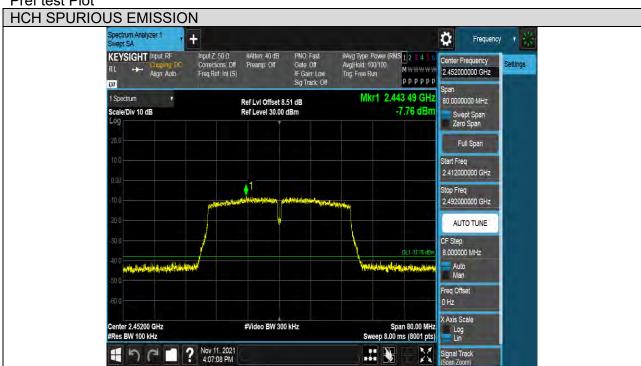




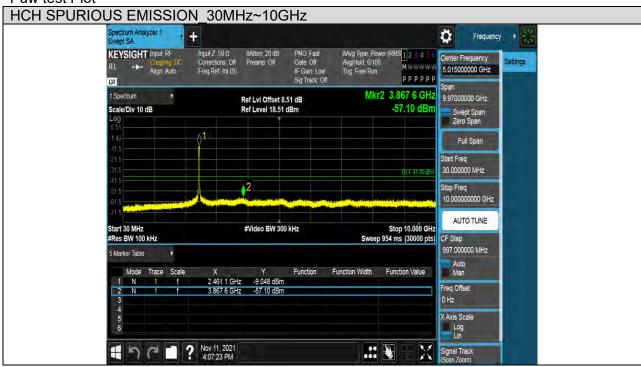


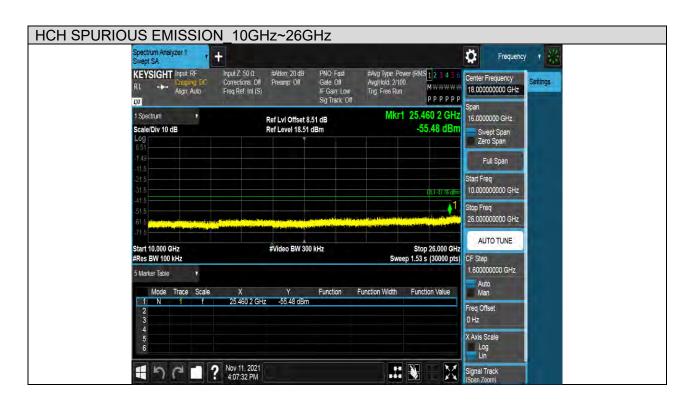
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Test Mode	Channel	Verdict
11N HT40		











7.6. RADIATED TEST RESULTS

7.6.1. LIMITS AND PROCEDURE

LIMITS

Please refer to FCC §15.205 and §15.209, ISED RSS-247 Clause 5.5, ISED RSS-GEN Clause 8.9&6.13 (Transmitter)

Radiation Disturbance Test Limit for ISED (9kHz-1GHz)

Except where otherwise indicated in the applicable RSS, radiated emissions shall comply with the field strength limits shown in table 5 and table 6. Additionally, the level of any transmitter unwanted emission shall not exceed the level of the transmitter's fundamental emission.

Table 5 – General field strength limits at frequencies above 30 MHz		
Frequency (MHz)	Field strength (μV/m at 3 m)	
30 - 88	100	
88 - 216	150	
216 - 960	200	
Above 960	500	

Table 6 – General field strength limits at frequencies below 30 MHz		
Frequency	Magnetic field strength (H-Field) (μA/m)	Measurement distance (m)
9 - 490 kHz ^{Note 1}	6.37/F (F in kHz)	300
490 - 1705 kHz	63.7/F (F in kHz)	30
1.705 - 30 MHz	0.08	30

Note 1: The emission limits for the ranges 9-90 kHz and 110-490 kHz are based on measurements employing a linear average detector.



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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.



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Radiation Disturbance Test Limit for FCC (Above 1G)

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

Restricted bands of operation

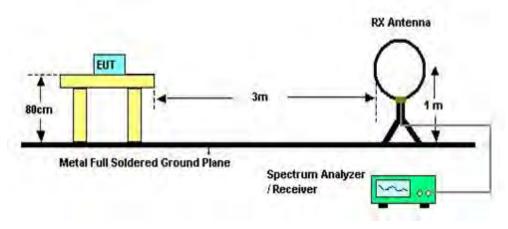
MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
¹ 0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	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: ¹Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz. ²Above 38.6c



TEST SETUP AND PROCEDURE

Below 30MHz



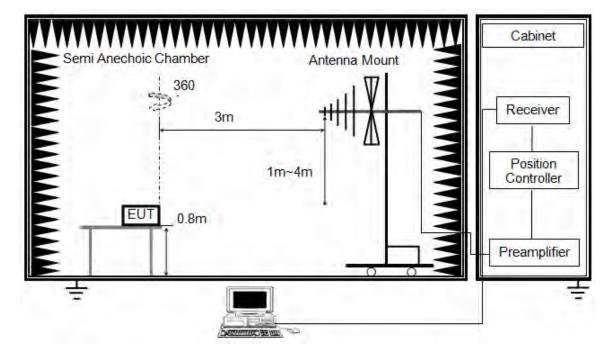
The setting of the spectrum analyser

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)



Below 1G



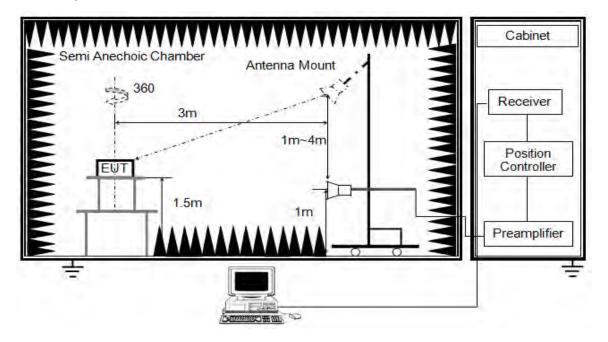
The setting of the spectrum analyser

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)



Above 1G



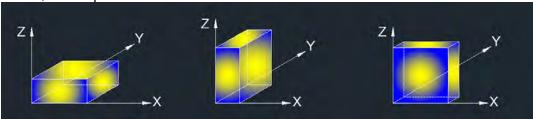
The setting of the spectrum analyser

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

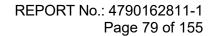
- 1. The testing follows the guidelines in ANSI C63.10-2013.
- 2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better 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)



X axis, Y axis positions:



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





7.6.2. TEST ENVIRONMENT

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

7.6.3. RESTRICTED BANDEDGE

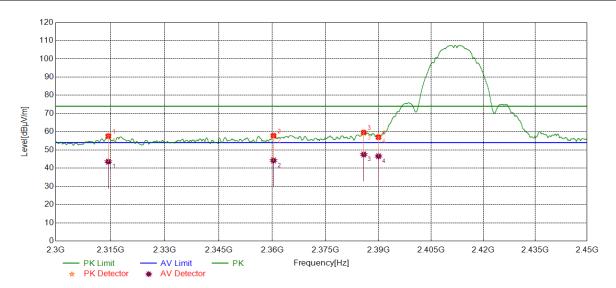
TEST RESULT TABLE

Test Mode	Channel	Puw(dBm)	Verdict
	LCH	<limit< td=""><td>PASS</td></limit<>	PASS
11B	MCH	<limit< td=""><td>PASS</td></limit<>	PASS
	HCH	<limit< td=""><td>PASS</td></limit<>	PASS
	LCH	<limit< td=""><td>PASS</td></limit<>	PASS
11G	MCH	<limit< td=""><td>PASS</td></limit<>	PASS
	HCH	<limit< td=""><td>PASS</td></limit<>	PASS
	LCH	<limit< td=""><td>PASS</td></limit<>	PASS
11N HT20	MCH	<limit< td=""><td>PASS</td></limit<>	PASS
	HCH	<limit< td=""><td>PASS</td></limit<>	PASS
	LCH	<limit< td=""><td>PASS</td></limit<>	PASS
11N HT40	MCH	<limit< td=""><td>PASS</td></limit<>	PASS
	HCH	<limit< td=""><td>PASS</td></limit<>	PASS



TEST GRAPHS

Test Mode	Channel	Polarization	Verdict
11B	LCH	Horizontal	PASS



PK Result:

1 TO TOO GIL.							
No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2314.4206	45.20	12.32	57.52	74.00	-16.48	Horizontal
2	2360.3450	45.06	12.78	57.84	74.00	-16.16	Horizontal
3	2385.8237	46.51	13.06	59.57	74.00	-14.43	Horizontal
4	2390.0000	43.87	13.07	56.94	74.00	-17.06	Horizontal

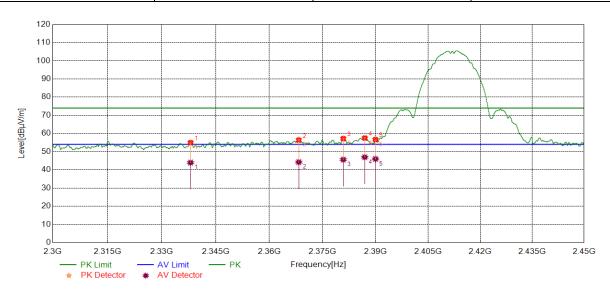
AV Result:

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2314.4206	31.25	12.32	43.57	54.00	-10.43	Horizontal
2	2360.3450	31.46	12.78	44.24	54.00	-9.76	Horizontal
3	2385.8237	34.45	13.06	47.51	54.00	-6.49	Horizontal
4	2390.0000	33.52	13.07	46.59	54.00	-7.41	Horizontal

- 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.



Test Mode	Channel	Polarization	Verdict
11B	LCH	Vertical	PASS



No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2338.0110	42.40	12.57	54.97	74.00	-19.03	Vertical
2	2368.2960	43.43	12.90	56.33	74.00	-17.67	Vertical
3	2380.8601	44.09	13.06	57.15	74.00	-16.85	Vertical
4	2386.9485	44.44	13.06	57.50	74.00	-16.50	Vertical
5	2390.0000	43.58	13.07	56.65	74.00	-17.35	Vertical

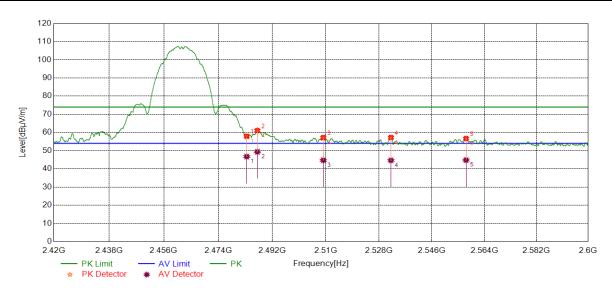
AV Result:

	7.7.1.000									
No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark			
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]				
1	2338.0110	31.42	12.57	43.99	54.00	-10.01	Vertical			
2	2368.2960	31.36	12.90	44.26	54.00	-9.74	Vertical			
3	2380.8601	32.58	13.06	45.64	54.00	-8.36	Vertical			
4	2386.9485	33.92	13.07	46.99	54.00	-7.01	Vertical			
5	2390.0000	32.94	13.07	46.01	54.00	-7.99	Vertical			

- 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.



Test Mode Channel		Polarization	Verdict	
11B	HCH	Horizontal	PASS	



No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2483.5000	44.99	12.97	57.96	74.00	-16.04	Horizontal
2	2487.0584	48.06	12.98	61.04	74.00	-12.96	Horizontal
3	2509.1561	44.00	13.20	57.20	74.00	-16.80	Horizontal
4	2532.0415	43.80	13.42	57.22	74.00	-16.78	Horizontal
5	2557.6947	43.27	13.40	56.67	74.00	-17.33	Horizontal

AV Result:

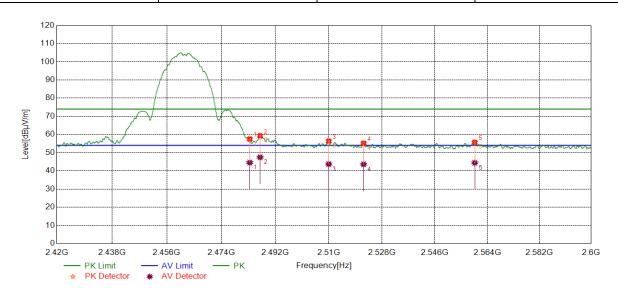
	7.7.1.000									
No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark			
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]				
1	2483.5000	33.79	12.97	46.76	54.00	-7.24	Horizontal			
2	2487.0584	36.37	12.98	49.35	54.00	-4.65	Horizontal			
3	2509.1561	31.53	13.20	44.73	54.00	-9.27	Horizontal			
4	2532.0415	31.27	13.42	44.69	54.00	-9.31	Horizontal			
5	2557.6947	31.42	13.40	44.82	54.00	-9.18	Horizontal			

- 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.



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	44.54	12.97	57.51	74.00	-16.49	Vertical
2	2486.9684	46.27	12.98	59.25	74.00	-14.75	Vertical
3	2509.9887	43.12	13.20	56.32	74.00	-17.68	Vertical
4	2521.7577	41.94	13.25	55.19	74.00	-18.81	Vertical
5	2559.6525	42.24	13.41	55.65	74.00	-18.35	Vertical

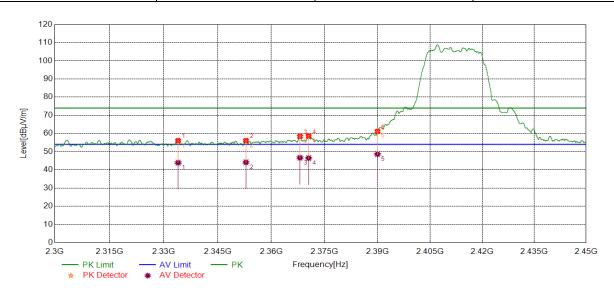
AV Result:

			_				
No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2483.5000	31.56	12.97	44.53	54.00	-9.47	Vertical
2	2486.9684	34.53	12.98	47.51	54.00	-6.49	Vertical
3	2509.9887	30.52	13.20	43.72	54.00	-10.28	Vertical
4	2521.7577	30.37	13.25	43.62	54.00	-10.38	Vertical
5	2559.6525	31.02	13.41	44.43	54.00	-9.57	Vertical

- 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.



Test Mode Channel		Polarization	Verdict	
11G	11G LCH		PASS	



No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2333.9980	43.56	12.52	56.08	74.00	-17.92	Horizontal
2	2352.9004	43.37	12.71	56.08	74.00	-17.92	Horizontal
3	2368.0710	45.45	12.90	58.35	74.00	-15.65	Horizontal
4	2370.5088	45.60	12.93	58.53	74.00	-15.47	Horizontal
5	2390.0000	48.03	13.07	61.10	74.00	-12.90	Horizontal

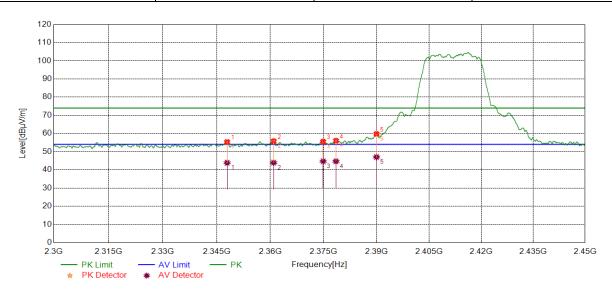
AV Result:

	7.7.1.000									
No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark			
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]				
1	2333.9980	31.42	12.52	43.94	54.00	-10.06	Horizontal			
2	2352.9004	31.45	12.71	44.16	54.00	-9.84	Horizontal			
3	2368.0710	33.75	12.90	46.65	54.00	-7.35	Horizontal			
4	2370.5088	33.56	12.93	46.49	54.00	-7.51	Horizontal			
5	2390.0000	35.57	13.07	48.64	54.00	-5.36	Horizontal			

- 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.



Test Mode Channel		Polarization	Verdict	
11G	LCH	Vertical	PASS	



No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2347.9122	42.68	12.67	55.35	74.00	-18.65	Vertical
2	2360.9451	42.98	12.79	55.77	74.00	-18.23	Vertical
3	2374.8969	42.59	12.99	55.58	74.00	-18.42	Vertical
4	2378.5161	42.96	13.04	56.00	74.00	-18.00	Vertical
5	2390.0000	46.73	13.07	59.80	74.00	-14.20	Vertical

AV Result:

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2347.9122	31.22	12.67	43.89	54.00	-10.11	Vertical
2	2360.9451	31.14	12.79	43.93	54.00	-10.07	Vertical
3	2374.8969	31.75	12.99	44.74	54.00	-9.26	Vertical
4	2378.5161	31.68	13.04	44.72	54.00	-9.28	Vertical
5	2390.0000	33.98	13.07	47.05	54.00	-6.95	Vertical

- 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.