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

CERTIFICATION TEST REPORT

For

Smart Cordless Vacuum & Washer

MODEL NUMBER: FW103000US

ADDITIONAL MODEL NUMBER: FW103700US

PROJECT NUMBER: 4790554902

REPORT NUMBER: 4790554902-1

FCC ID: 2AV7A-FS11

IC: 26039- FS11

ISSUE DATE: Nov. 10, 2022

Prepared for

Tineco Intelligent Technology Co., Ltd.

Prepared by

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Revision History

Rev.	Issue Date	Revisions	Revised By
V0	11/10/2022	Initial Issue	

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1. ATTESTATION OF TEST RESULTS

Company Name:	Tineco Intelligent Technology Co., Ltd.
Address:	NO 108 SHI HU RD (W) WU ZHONG ZONE SUZHOU JIANGSU 215128, CHINA.
Factory Information	
Company Name:	Tineco Intelligent Technology Co., Ltd.
Address:	NO 108 SHI HU RD (W) WU ZHONG ZONE SUZHOU JIANGSU 215128, CHINA.
EUT Description	
Product Name:	Smart Cordless Vacuum & Washer
Model Number:	FW103000US
Additional Model Number:	FW103700US
Model Difference	Only the main model FW103000US 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 number is different.
Sample Number:	5487085
Data of Receipt Sample:	Nov.01, 2022
Date Tested:	Nov.01, 2022 –Nov.10, 2022

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
1	6db DTS Bandwidth and 99% Bandwidth	FCC 15.247 (a) (2) RSS-247 Clause 5.2 (a) RSS-Gen Clause 6.7	Complied
2	Conducted (average)Output Power	FCC 15.247 (b) (3) RSS-247 Clause 5.4 (d) RSS-Gen Clause 6.12	Complied
3	Power Spectral Density	FCC 15.247 (e) RSS-247 Clause 5.2 (b)	Complied
4	Conducted Band edge And Spurious emission	FCC 15.247 (d) RSS-247 Clause 5.5 RSS-GEN Clause 6.13	Complied
5	Radiated Band edges and Spurious emission	FCC 15.247 (d) FCC 15.209 FCC 15.205 RSS-247 Clause 5.5 RSS-GEN Clause 8.9 RSS-GEN Clause 6.13	Complied
6	Conducted Emission Test For AC Power Port	FCC 15.207 RSS-GEN Clause 8.8	Complied
7	Antenna Requirement	FCC 15.203 RSS-GEN Clause 6.8	Complied
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, ISED RSS-GEN, ISED RSS-247> when <Accuracy Method> decision rule is applied.			

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Chris Zhong
EMC&RF Lab Operations Manager

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, ISED RSS-GEN ISSUE 5, ISED RSS-247 ISSUE 2.

3. FACILITIES AND ACCREDITATION

Test Location	**UL-CCIC Company Limited, EMC&RF Lab**
Address	**No. 2, Chengwan Road, Suzhou Industrial Park, Suzhou 215122 ,China**
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.**

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.

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)	3.4dB
Radiation Emission test(include Fundamental emission) (30MHz-1GHz)	3.4dB
Radiation Emission test (1GHz to 26GHz)(include Fundamental emission)	3.7dB (1GHz-18Gz)
	4.0dB (18GHz-26.5Gz)
Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.	

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

Product Name:	Smart Cordless Vacuum & Washer
Model No.:	FW103000US
Operating Frequency:	IEEE 802.11b/g/n(HT20): 2412MHz to 2462MHz
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: OFDM (64QAM, 16QAM, QPSK, BPSK)
Channels Step:	Channels with 5MHz step
Test software of EUT:	EspRFtestTool_2.0 (manufacturer declare)
Antenna Type:	PCB antenna
Antenna Gain:	2dBi
	Remark: This data is provided by customer and our lab isn't responsible for this data
Test Voltage	AC120V

5.2. MAXIMUM OUTPUT POWER

Number of Transmit Chains (NTX)	IEE Std. 802.11	Channel Number	Max AV Conducted Power (dBm)
1	IEEE 802.11B SISO	1-11[11]	13.61
1	IEEE 802.11G SISO	1-11[11]	13.39
1	IEEE 802.11nHT20	1-11[11]	13.21

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		

5.4. TEST CHANNEL CONFIGURATION

Test Mode	Test Channel	Frequency
WiFi TX(802.11b)	CH 1, CH 6, CH 11	2412MHz, 2437MHz, 2462MHz
WiFi TX(802.11g)	CH 1, CH 6, CH 11	2412MHz, 2437MHz, 2462MHz
WiFi TX(802.11n HT20)	CH 1, CH 6, CH 11	2412MHz, 2437MHz, 2462MHz

5.5. THE WORSE CASE POWER SETTING PARAMETER

The Worse Case Power Setting Parameter under 2400 ~ 2483.5MHz Band							
Test Software		EspRFtestTool					
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	Default	Default	Default	/		
802.11g	1	Default	Default	Default			
802.11n HT20	1	Default	Default	Default			

Remark: The value list above is the setting of att in the software.

5.6. DESCRIPTION OF AVAILABLE ANTENNAS

Ant.	Frequency (MHz)	Antenna Type	Antenna Gain (dBi)
1	2400-2483.5	PCB antenna	2

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.

5.7. THE WORSE CASE CONFIGURATIONS

For the product, there two transmission antennas, and pre-testing both of them, only the worse data for the antenna is recorded in the report.

Worst-case data rates as provided by the client were:

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

5.8. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Item	Equipment	Brand Name	Model Name	Description
1	Laptop	ThinkPad	E590	N/A
2	Fixed Frequency Board	N/A	N/A	Supply by Customer
3	USB Cable	N/A	N/A	Supply by UL Lab(100cm length)

I/O PORT

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

ACCESSORY

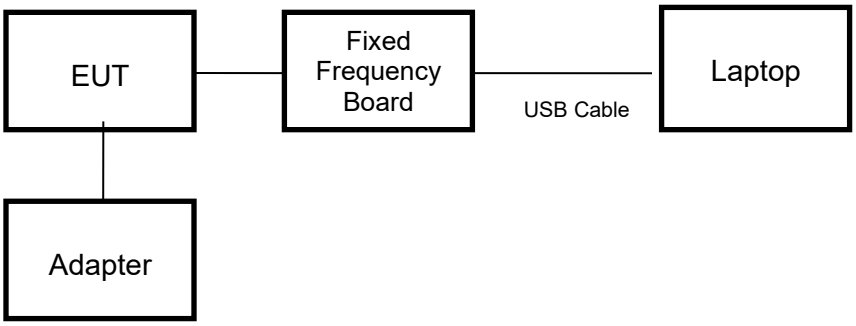
Item	Accessory	Brand Name	Model Name	Description
1	AC/DC ADAPTOR	Class 2 Power Supply	KL-WA260100-A3	INPUT:100-240V~, 50/60Hz, 1.2A OUTPUT:26.0V⎓1.0A
2	AC/DC ADAPTOR	Class 2 Power Supply	S030-1B260100HU	INPUT:100-240V~, 50/60Hz, 0.8A OUTPUT:26.0V⎓1.0A

Remark: Pre-testing both models of the adapters and find the model: S030-1B260100HU which is worse, so only the data of worse model: S030-1B260100HU is included in this report.

TEST SETUP

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

SETUP DIAGRAM FOR TESTS



5.9. 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	2020-12-05	2021-12-04	2022-12-03
☑	Two-Line V-Network	R&S	ENV216	126701	2020-12-05	2021-12-04	2022-12-03

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	155727	2021-05-09	2022-04-09	2023-04-08
☑	EMI test receiver	R&S	ESR7	221694	/	2022-05-20	2023-05-19
☑	EMI test receiver	R&S	ESR26	126703	2020-12-05	2021-12-04	2022-12-03
☑	Receiver Antenna (9kHz-30MHz)	Schwarzbeck	FMZB 1513	155456	2018-06-15	2021-06-03	2024-06-02
☑	Receiver Antenna (30MHz-1GHz)	Schwarzbeck	VULB 9163	126704	2019-02-15	2022-01-18	2025-01-17
☑	Receiver Antenna (1GHz-18GHz)	R&S	HF907	126705	2018-01-29	2022-02-28	2025-02-27
☑	Receiver Antenna (18GHz-26.5GHz)	ETS	3160-10	155565	2019-01-05	2021-07-15	2024-07-14
☑	Pre-amplification (To 18GHz)	R&S	SCU-18D	134667	2021-12-04	2022-12-03	2023-12-02
☑	Pre-amplification (To 18GHz)	Tonsend	TAP01018050	224539	/	2022-10-20	2023-10-19
☑	Pre-amplification (To 26.5GHz)	R&S	SCU-26D	135391	2021-12-05	2022-12-04	2022-12-03
☑	Band Reject Filter	Wainwright	WRCJV8-2350-2400-2483.5-2533.5-40SS	1	2021-05-09	2022-04-09	2023-04-08
☑	Highpass Filter	Wainwright	WHKX10-2700-3000-18000-40SS	2	2021-05-09	2022-04-09	2023-04-08
☑	Attenuator	Wainwright	BW-N1-W5+	3	2021-05-09	2022-05-08	2023-05-07

Software					
Used	Description	Manufacturer	Name	Version	
☑	Test Software for Radiated disturbance	Tonscend	JS36-RSE	4.0.0.1	

Other Instruments							
Used	Equipment	Manufacturer	Model No.	Serial No.	Upper Last Cal.	Last Cal.	Next Cal.
☑	Spectrum Analyzer	Keysight	N9010B	155368	2021-05-09	2022-04-09	2023-04-08

☑	Attenuator	PASTERNACK	PE7087-6	1624	/	2022-05-23	2023-05-22

6. MEASUREMENT METHODS

No.	Test Item	KDB Name	Section
1	6dB Bandwidth and 99% Bandwidth	KDB 558074 D01 15.247 Meas Guidance v05r02	8.2
2	Conducted (average)Output Power	KDB 558074 D01 15.247 Meas Guidance v05r02	8.3.2.2 (Method AVGSA-2)
3	Power Spectral Density	KDB 558074 D01 15.247 Meas Guidance v05r02	8.4 (Method PKPSD)
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

7. ANTENNA PORT TEST RESULTS

7.1. TEST ENVIRONMENT

Environment Parameter	Selected Values During Tests
Relative Humidity	66.1%
Atmospheric Pressure:	109kPa
Temperature	23.4°C
Test Voltage	AC120V

7.2. ON TIME AND DUTY CYCLE

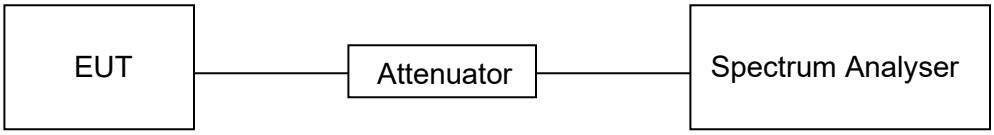
LIMITS

None; for reporting purposes only

PROCEDURE

FCC KDB 558074 Zero-Span Spectrum Analyzer Method

TEST SETUP

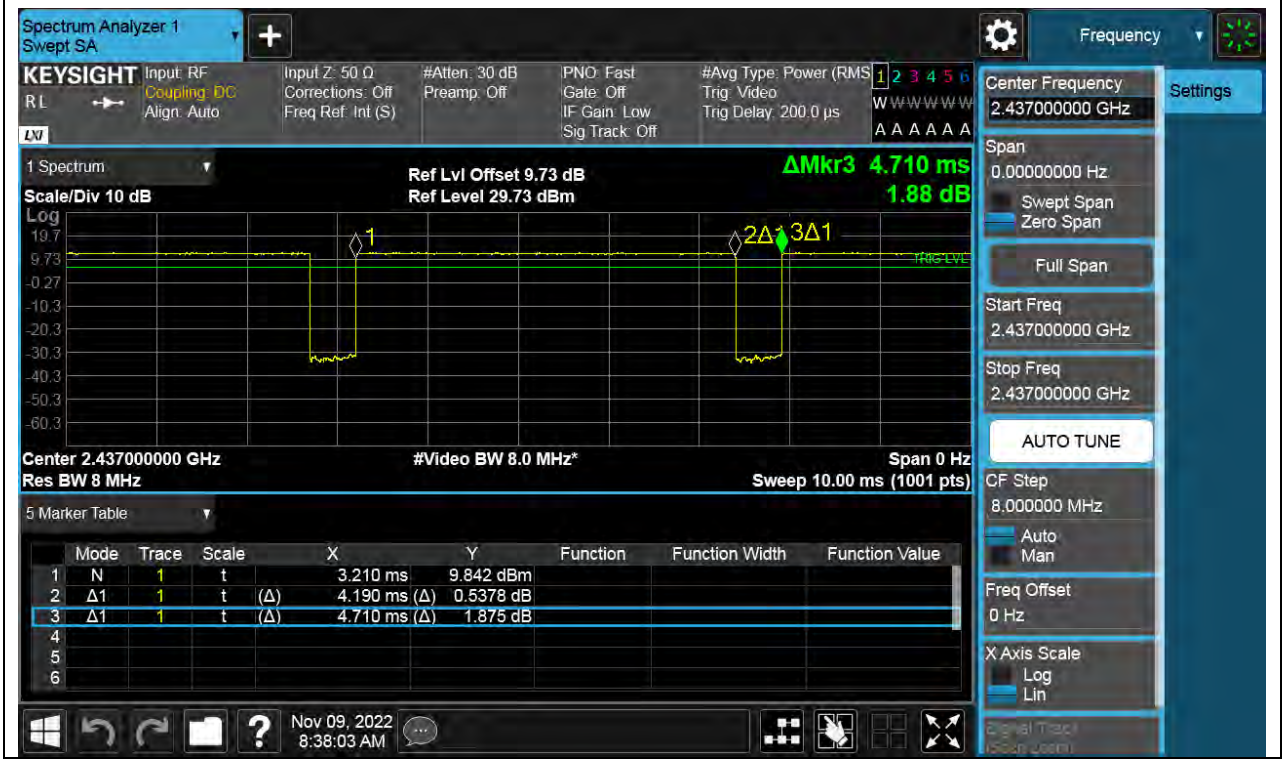


RESULTS

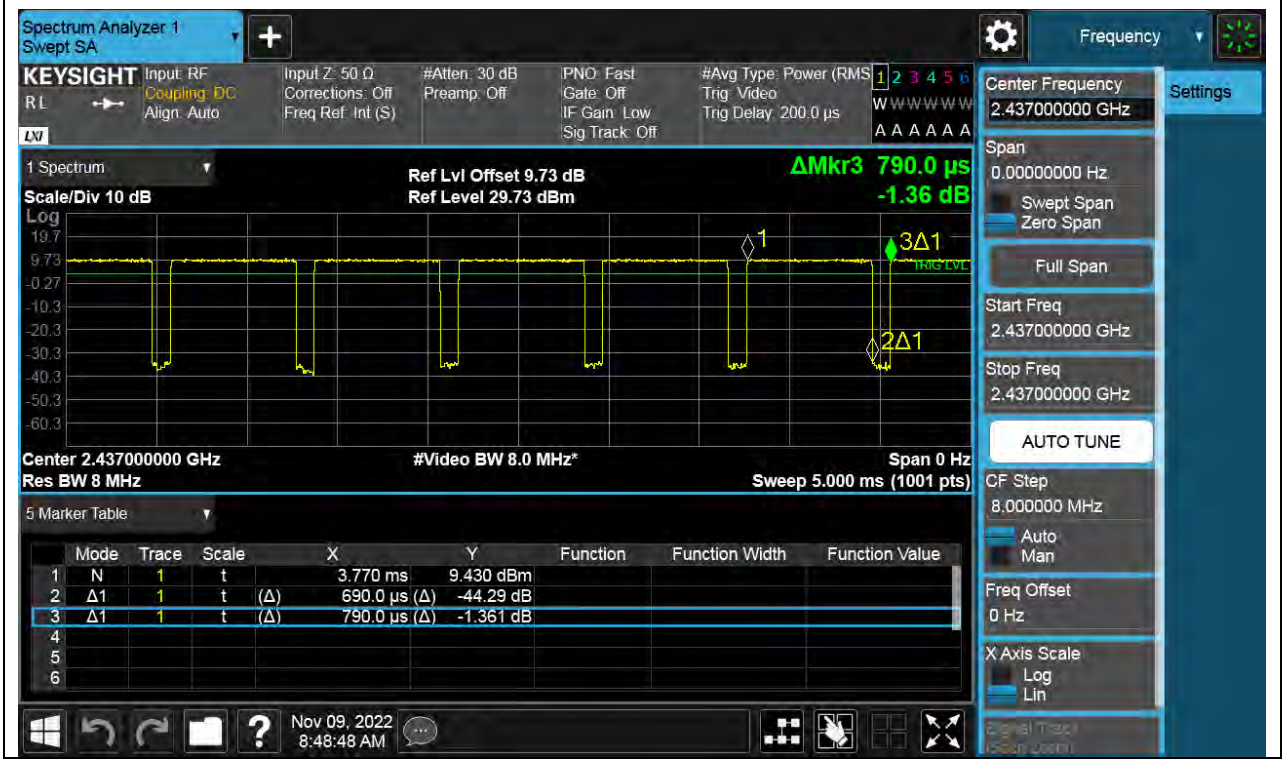
Mode	On Time (msec)	Period (msec)	Duty Cycle x (Linear)	Duty Cycle (%)	Duty Cycle Correction Factor (db)	1/T Minimum VBW (KHz)	Final Minimum VBW (KHz)
11B	4.19	4.71	0.89	89	0.51	0.239	1
11G	0.69	0.79	0.87	87	0.60	1.449	2
11N HT20	0.65	0.76	0.86	86	0.66	1.538	2

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

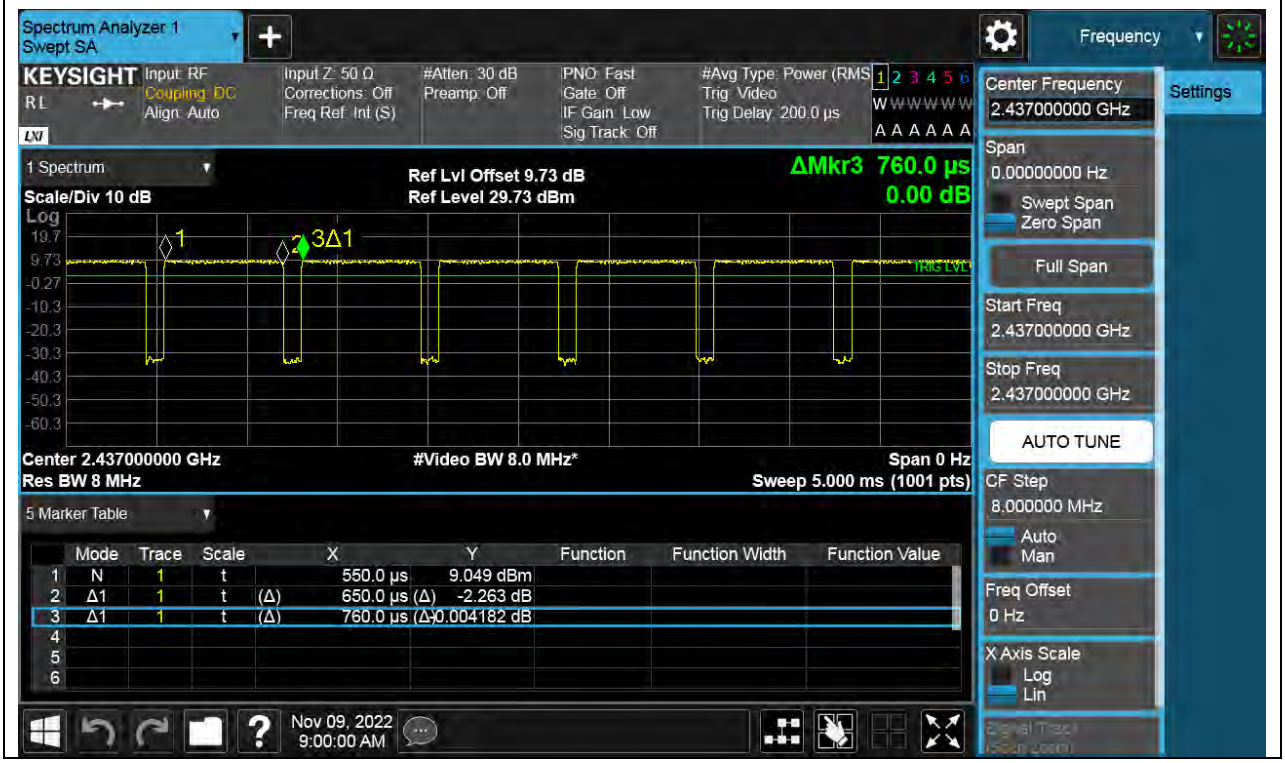
11B ON TIME AND DUTY CYCLE MID CH (WORSE CASE)



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



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



7.3. 6 dB BANDWIDTH AND 99% BANDWIDTH

LIMITS

FCC Part15 (15.247) Subpart C, ISED RSS-247 Issue 2			
Section	Test Item	Limit	Frequency Range (MHz)
FCC 15.247(a)(2)	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 FCC KDB 558074, connect the UUT to the spectrum analyzer and use the following settings:

Center Frequency	The centre frequency of the channel under test
Detector	Peak
RBW	For 6dB Bandwidth :100K For 99% Occupied Bandwidth :1% to 5% of the occupied bandwidth
VBW	For 6dB Bandwidth : ≥3 × RBW For 99% Occupied Bandwidth : approximately 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.

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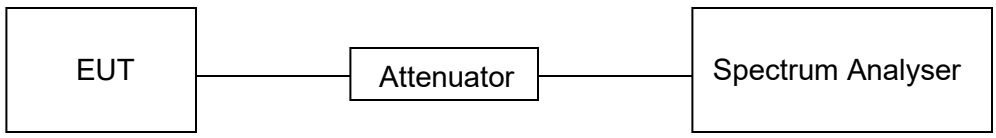
TEST SETUP



RESULTS

Test Mode	Test Channel	6dB bandwidth (MHz)	99% bandwidth (MHz)	Result
11B	LCH	8.544	10.603	Pass
	MCH	8.559	10.523	Pass
	HCH	9.040	10.548	Pass
11G	LCH	15.816	16.404	Pass
	MCH	15.681	16.392	Pass
	HCH	15.479	16.394	Pass
11N HT20	LCH	16.523	17.363	Pass
	MCH	15.675	17.304	Pass
	HCH	15.787	17.304	Pass

Test Graphs
For 6dB Bandwidth part:

Test Mode	Test Channel	Verdict
11B	LCH	PASS

Test Mode	Test Channel	Verdict
11B	MCH	PASS

Test Mode	Test Channel	Verdict
11B	HCH	PASS

Test Mode	Test Channel	Verdict
11G	LCH	PASS

Test Mode	Test Channel	Verdict
11G	MCH	PASS

Test Mode	Test Channel	Verdict
11G	HCH	PASS

Test Mode	Test Channel	Verdict
11N HT20	LCH	PASS

Test Mode	Test Channel	Verdict
11N HT20	MCH	PASS

Test Mode	Test Channel	Verdict
11N HT20	HCH	PASS

For 99% Bandwidth part:

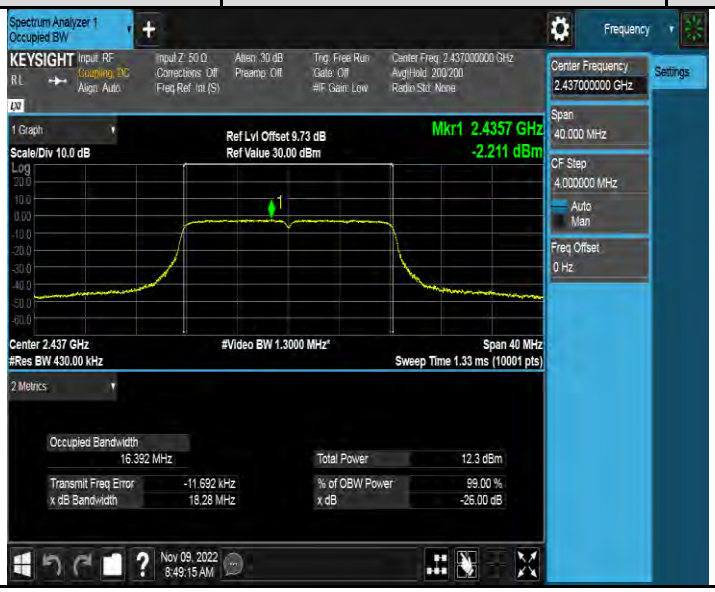
Test Mode	Test Channel	Verdict
11B	LCH	PASS

Test Mode	Test Channel	Verdict
11B	MCH	PASS

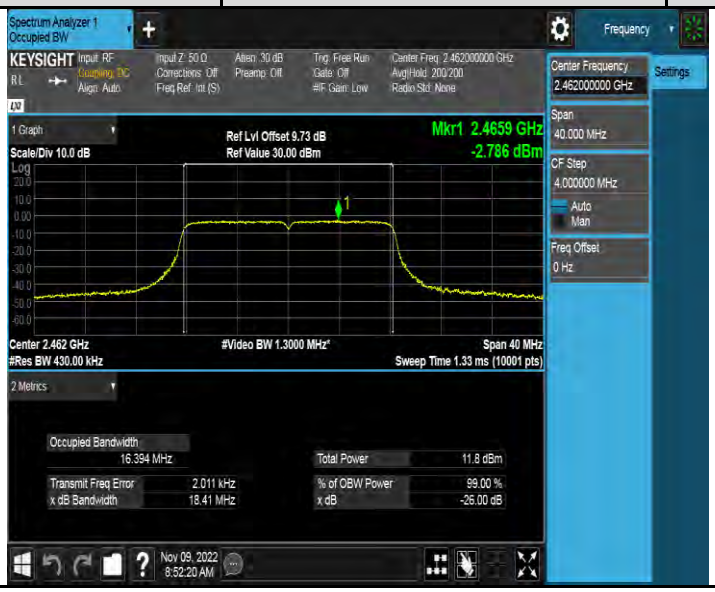
Test Mode	Test Channel	Verdict
11B	HCH	PASS

Test Mode	Test Channel	Verdict
11G	LCH	PASS

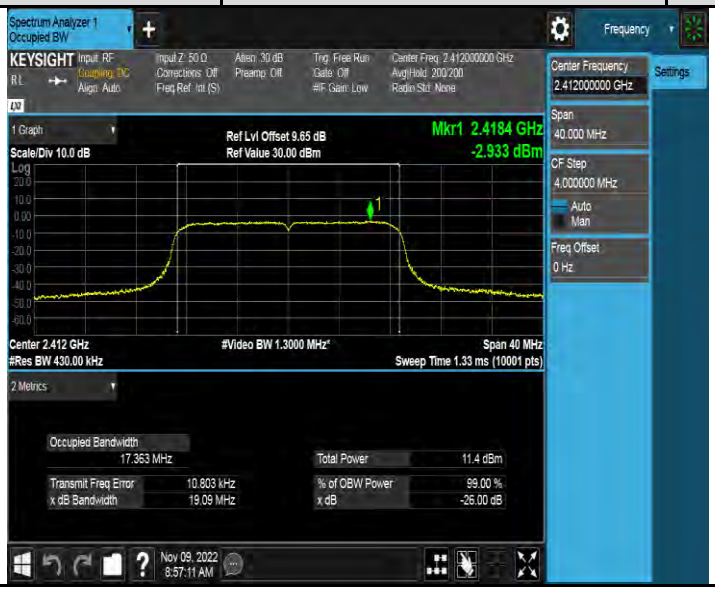
Test Mode	Test Channel	Verdict
11G	MCH	PASS



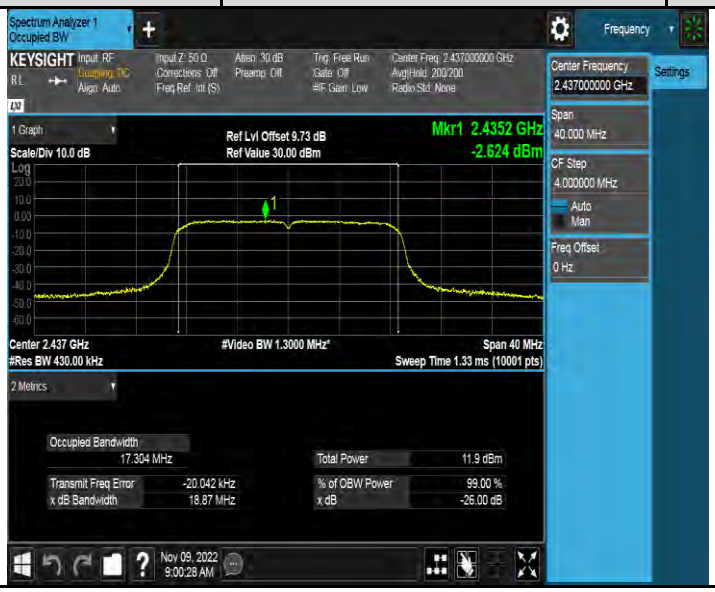
Test Mode	Test Channel	Verdict
11G	HCH	PASS



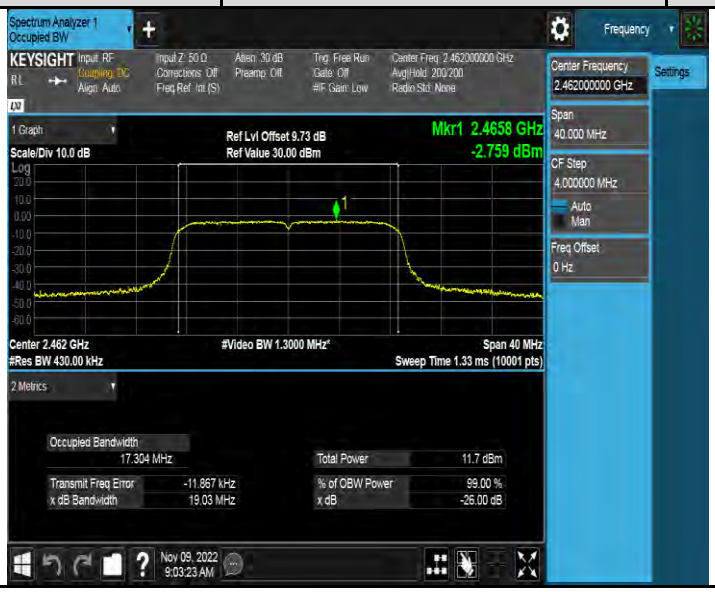
Test Mode	Test Channel	Verdict
11N HT20	LCH	PASS



Test Mode	Test Channel	Verdict
11N HT20	MCH	PASS



Test Mode	Test Channel	Verdict
11N HT20	HCH	PASS



7.4. CONDUCTED (AVERAGE) OUTPUT POWER

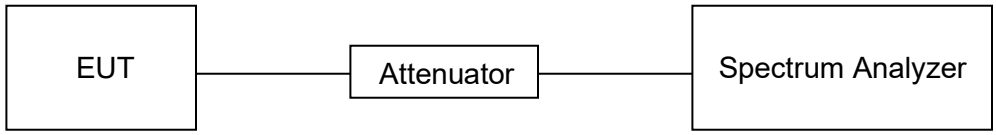
LIMITS

FCC Part15 (15.247) Subpart C , ISED RSS-247 ISSUE 2			
Section	Test Item	Limit	Frequency Range (MHz)
FCC 15.247(b)(3) ISED RSS-247 5.4 (d) RSS-Gen Clause 6.12	Output Power	1 watt or 30dBm	2400-2483.5

TEST PROCEDURE

Method AVGSA-2 uses trace averaging across ON and OFF times of the EUT transmissions, followed by duty cycle correction. The procedure for this method is as follows:
a) Measure the duty cycle D of the transmitter output signal as described in 11.6.
b) Set span to at least 1.5 times the OBW.
c) Set RBW = 1% to 5% of the OBW, not to exceed 1 MHz.
d) Set VBW ≥ [3 × RBW].
e) Number of points in sweep ≥ [2 × span / RBW]. (This gives bin-to-bin spacing ≤ RBW / 2, so that narrowband signals are not lost between frequency bins.)
f) Sweep time = auto.
g) Detector = RMS (i.e., power averaging), if available. Otherwise, use the sample detector mode.
h) Do not use sweep triggering. Allow the sweep to "free run."
i) Trace average at least 100 traces in power averaging (rms) mode; however, the number of traces to be averaged shall be increased above 100 as needed such that the average accurately represents the true average over the ON and OFF periods of the transmitter.
j) Compute power by integrating the spectrum across the OBW of the signal using the instrument's band power measurement function with band limits set equal to the OBW band edges. If the instrument does not have a band power function, then sum the spectrum levels (in power units) at intervals equal to the RBW extending across the entire OBW of the spectrum.
k) Add [10 log (1 / D)], where D is the duty cycle, to the measured power to compute the average power during the actual transmission times (because the measurement represents an average over both the ON and OFF times of the transmission). For example, add [10 log (1/0.25)] = 6 dB if the duty cycle is 25%.

TEST SETUP



RESULTS

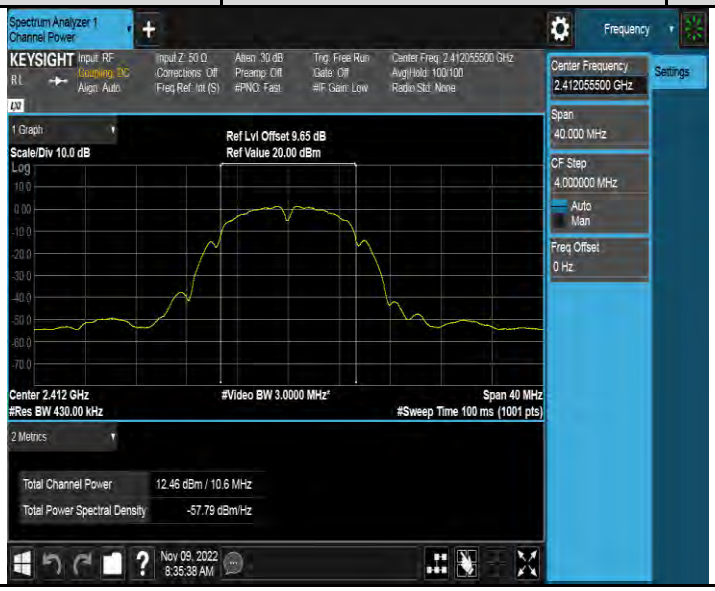
For Normal Testing Part:

Test Mode	Test Channel	Measurement Output Power (AV)	10log(1/x) Factor	Maximum Conducted Output Power (AV)	Result
		dBm	dB	dBm	
11B	LCH	12.46	0.51	12.97	Pass
	MCH	13.10	0.51	13.61	Pass
	HCH	12.67	0.51	13.18	Pass
11G	LCH	12.16	0.60	12.76	Pass
	MCH	12.79	0.60	13.39	Pass
	HCH	12.31	0.60	12.91	Pass
11N HT20	LCH	12.09	0.66	12.75	Pass
	MCH	12.55	0.66	13.21	Pass
	HCH	12.23	0.66	12.89	Pass

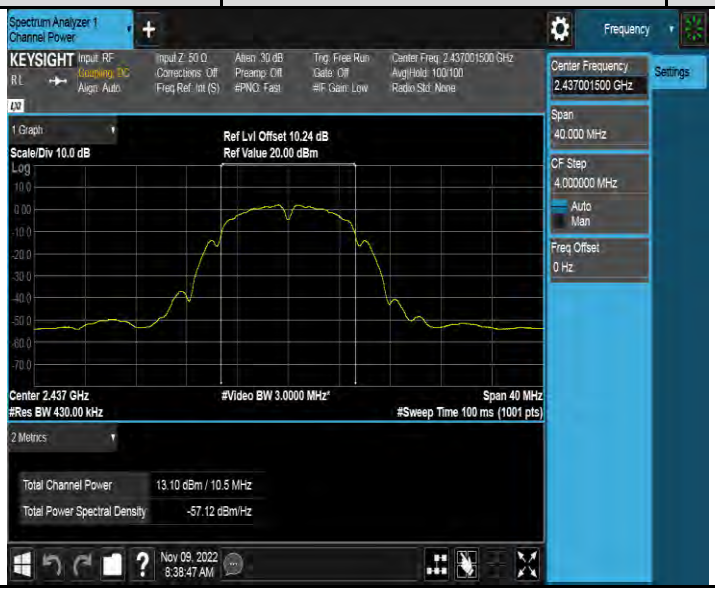
Remark:
1) For all the test results has been adjusted the duty cycle factor.
2) For Correction Factor is refer to the result in section 7.2

Test Graphs:

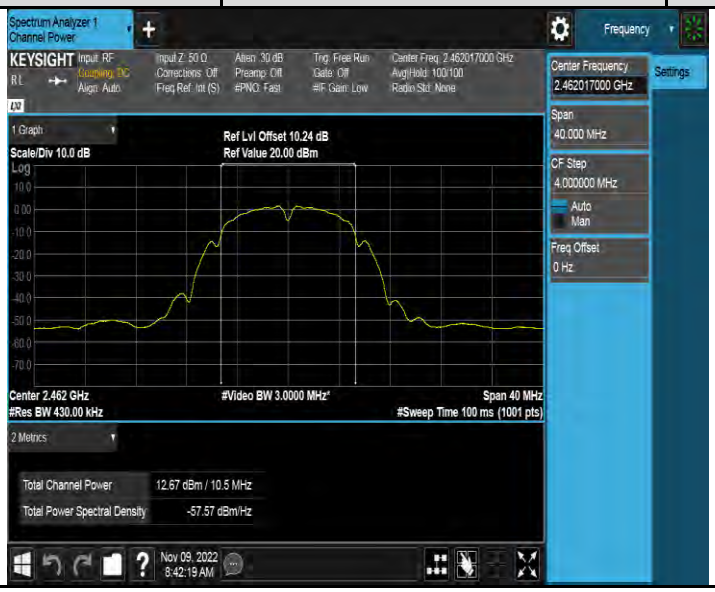
Test Mode	Test Channel	Verdict
11B	LCH	PASS



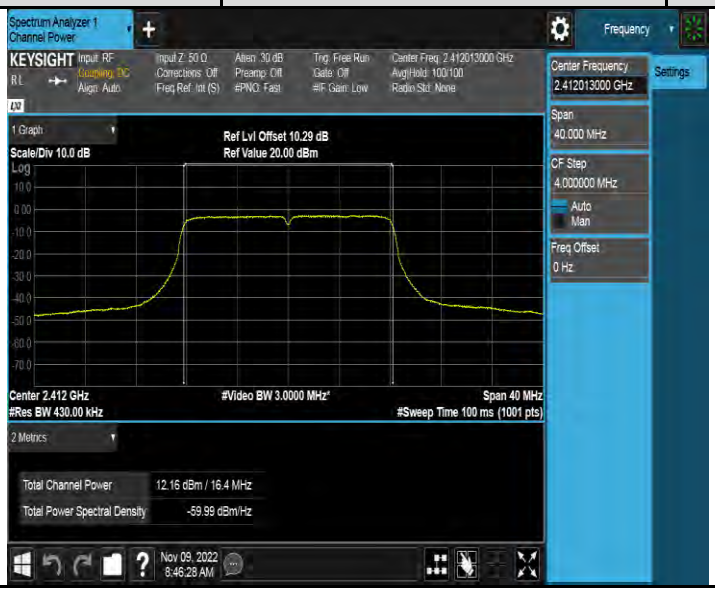
Test Mode	Test Channel	Verdict
11B	MCH	PASS



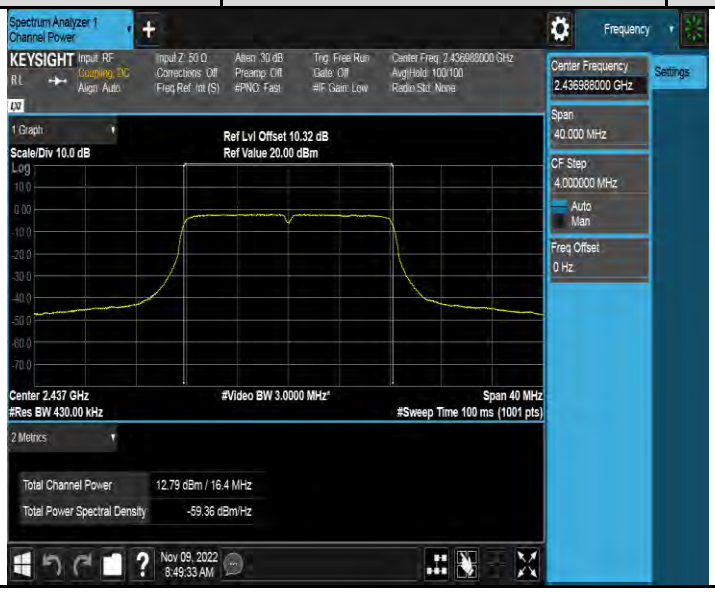
Test Mode	Test Channel	Verdict
11B	HCH	PASS



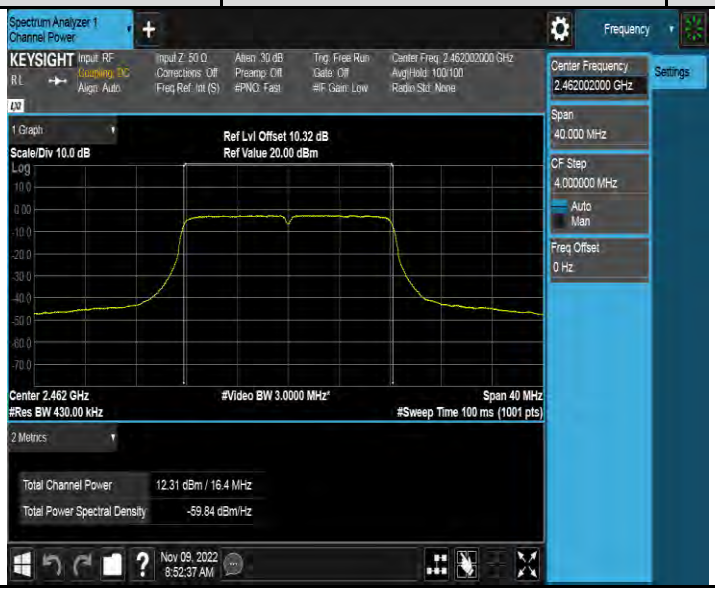
Test Mode	Test Channel	Verdict
11G	LCH	PASS



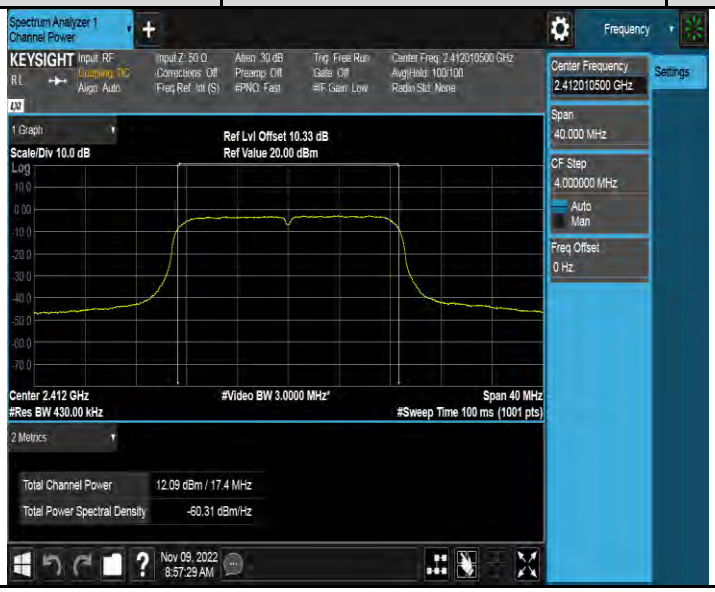
Test Mode	Test Channel	Verdict
11G	MCH	PASS



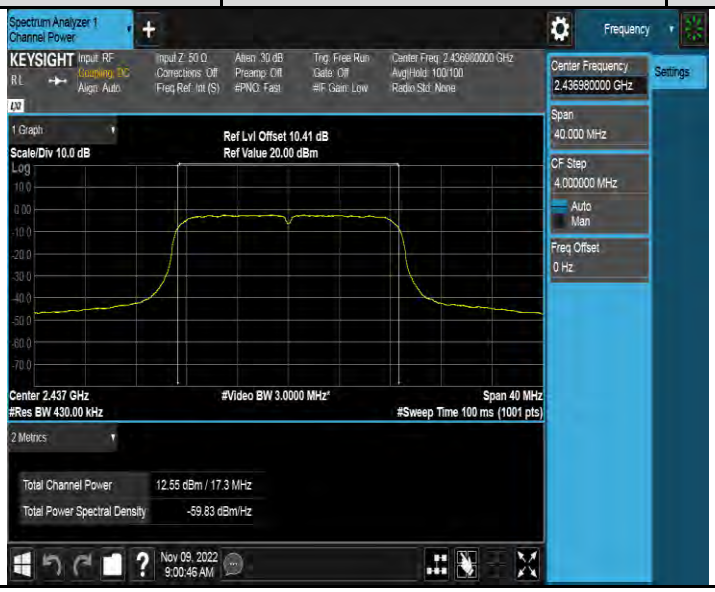
Test Mode	Test Channel	Verdict
11G	HCH	PASS



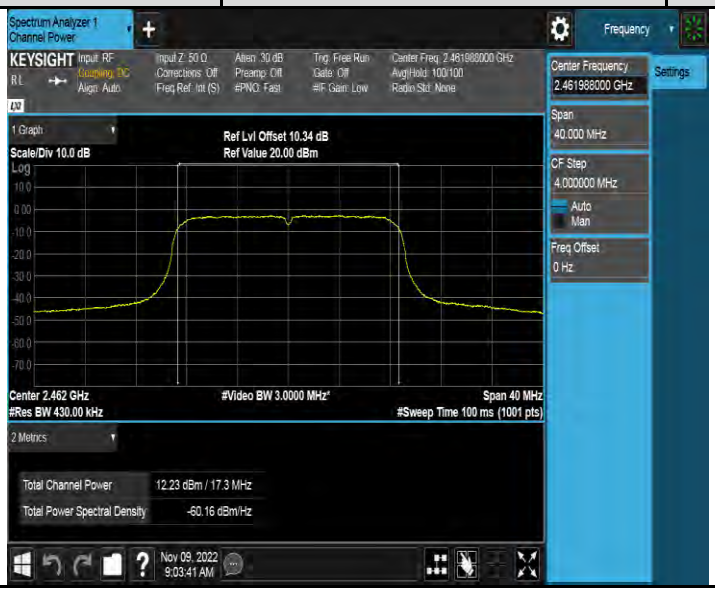
Test Mode	Test Channel	Verdict
11N HT20	LCH	PASS



Test Mode	Test Channel	Verdict
11N HT20	MCH	PASS



Test Mode	Test Channel	Verdict
11N HT20	HCH	PASS



7.5. POWER SPECTRAL DENSITY

LIMITS

FCC Part15 (15.247) Subpart C, ISED RSS-247 ISSUE 2			
Section	Test Item	Limit	Frequency Range (MHz)
FCC §15.247 (e) ISED RSS-247 5.2 (b)	Power Spectral Density	8 dBm in any 3 kHz band	2400-2483.5

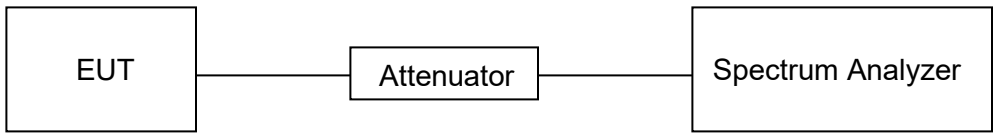
TEST PROCEDURE

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



RESULTS

For Normal Testing Part:

Test Mode	Test Channel	Maximum Peak power spectral density (dBm/30kHz)	Result
11B	LCH	1.50	Pass
	MCH	1.64	Pass
	HCH	1.24	Pass
11G	LCH	-4.10	Pass
	MCH	-3.50	Pass
	HCH	-3.84	Pass
11N HT20	LCH	-3.14	Pass
	MCH	-3.05	Pass
	HCH	-3.06	Pass

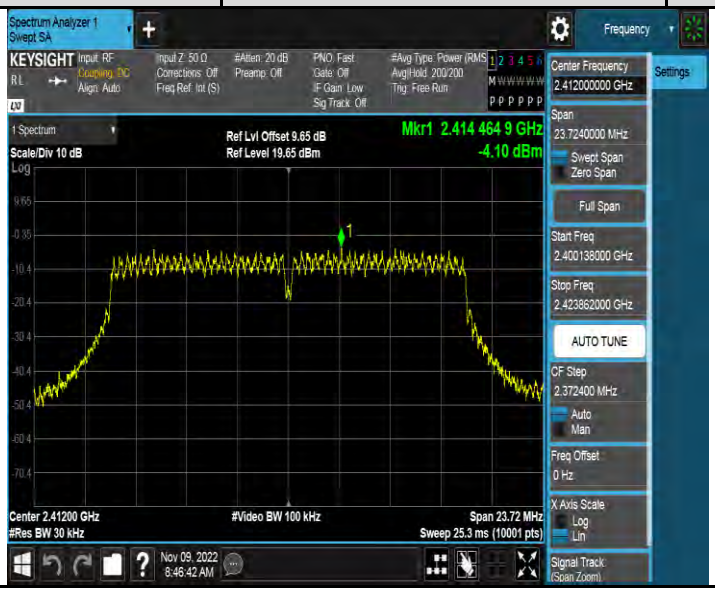
Test Graphs:

Test Mode	Test Channel	Verdict
11B	LCH	PASS

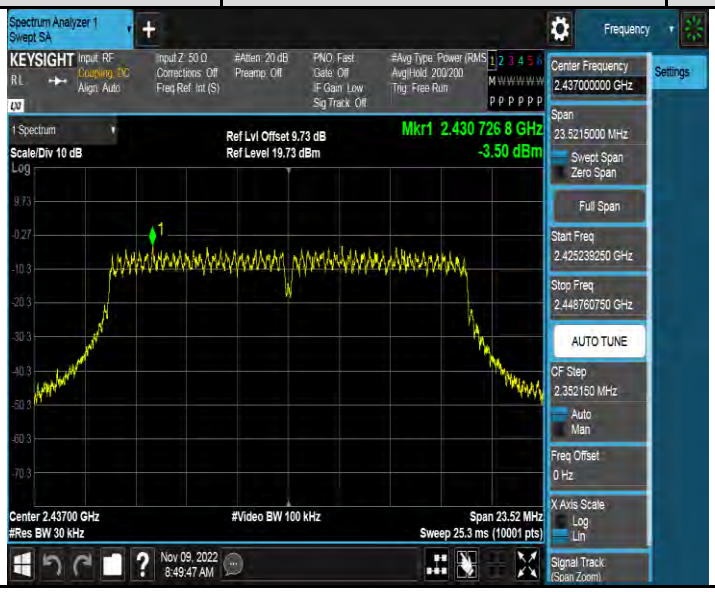
Test Mode	Test Channel	Verdict
11B	MCH	PASS

Test Mode	Test Channel	Verdict
11B	HCH	PASS

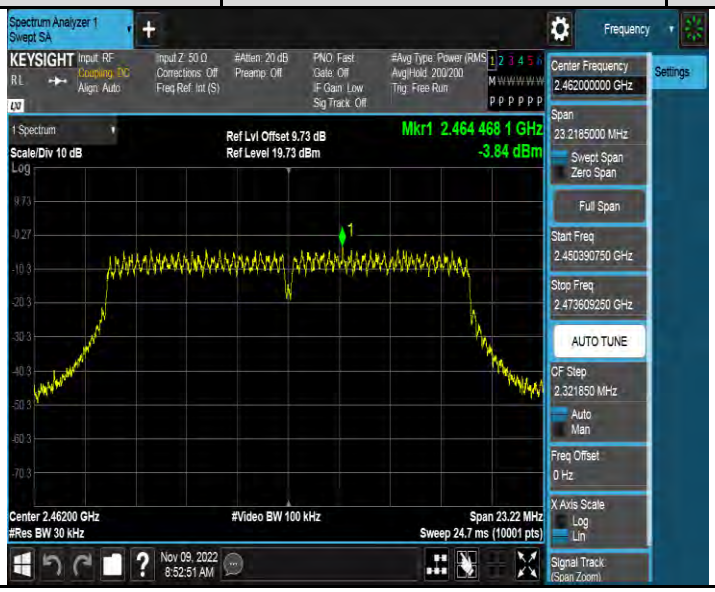
Test Mode	Test Channel	Verdict
11G	LCH	PASS



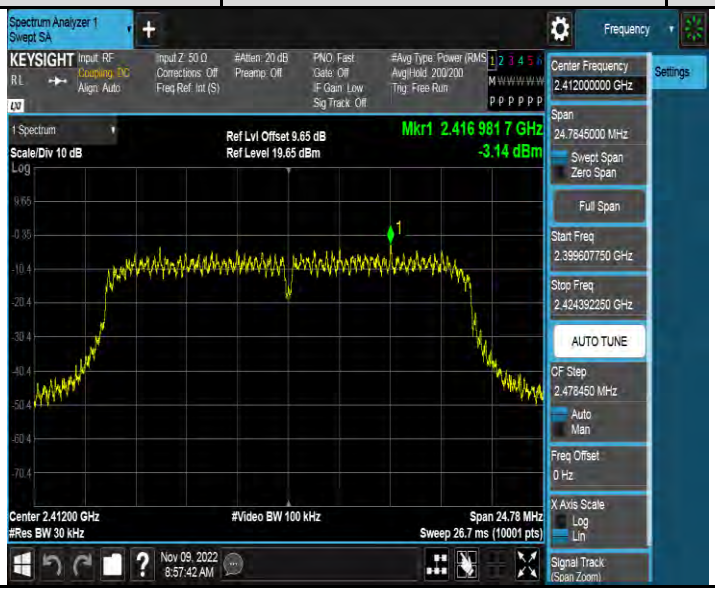
Test Mode	Test Channel	Verdict
11G	MCH	PASS



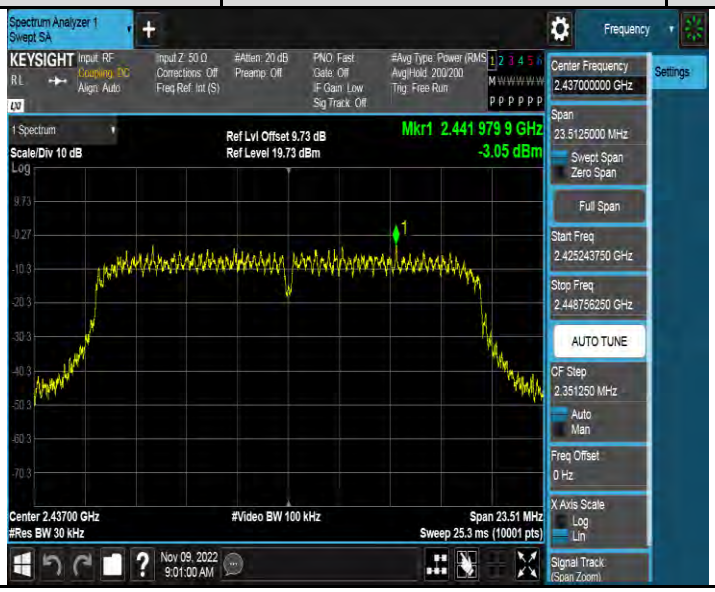
Test Mode	Test Channel	Verdict
11G	HCH	PASS



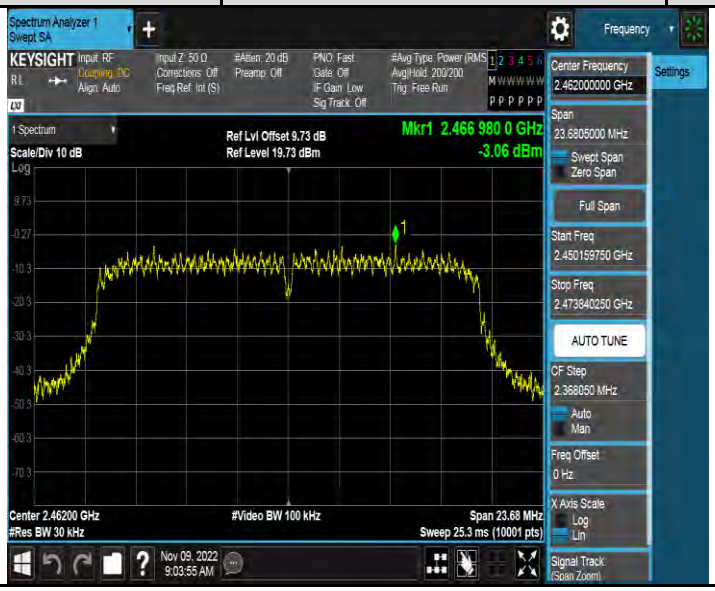
Test Mode	Test Channel	Verdict
11N HT20	LCH	PASS



Test Mode	Test Channel	Verdict
11N HT20	MCH	PASS



Test Mode	Test Channel	Verdict
11N HT20	HCH	PASS



7.6. CONDUCTED BANDEDGE AND SPURIOUS EMISSIONS

LIMITS

FCC Part15 (15.247) Subpart C, ISED RSS-247 ISSUE 2		
Section	Test Item	Limit
FCC §15.247 (d) RSS-247 Clause 5.5 RSS-GEN Clause 6.13	Conducted Bandedge and Spurious Emissions	At least 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.

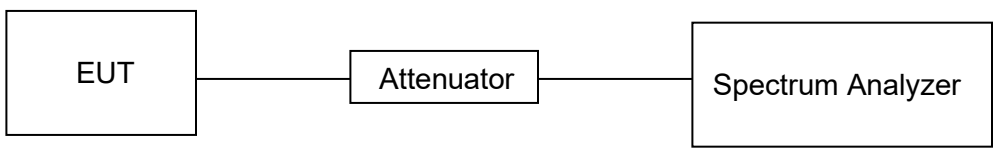
settings:

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



Part I :Conducted Bandedge

RESULTS TABLE

Test Mode	Test Antenna	Test Channel	Test Result	Verdict
11B	Antenna 1	LCH	See the test graphs	PASS
		HCH	See the test graphs	PASS
11G	Antenna 1	LCH	See the test graphs	PASS
		HCH	See the test graphs	PASS
11N HT20	Antenna 1	LCH	See the test graphs	PASS
		HCH	See the test graphs	PASS

TEST GRAPHS

Test Mode	Test Channel	Verdict
11B	LCH	PASS

Test Mode	Test Channel	Verdict
11B	HCH	PASS

Test Mode	Test Channel	Verdict
11G	LCH	PASS

Test Mode	Test Channel	Verdict
11G	HCH	PASS

Test Mode	Test Channel	Verdict
11N HT20	LCH	PASS

Test Mode	Test Channel	Verdict
11N HT20	HCH	PASS

Part II :Conducted Emission

Test Result Table

Test Mode	Test Antenna	Channel	Pref(dBm)	Puw(dBm)	Verdict
11B SISO	Antenna 1	LCH	See the test graphs	<Limit	PASS
		MCH	See the test graphs	<Limit	PASS
		HCH	See the test graphs	<Limit	PASS
11G SISO	Antenna 1	LCH	See the test graphs	<Limit	PASS
		MCH	See the test graphs	<Limit	PASS
		HCH	See the test graphs	<Limit	PASS
11N HT20	Antenna 1	LCH	See the test graphs	<Limit	PASS
		MCH	See the test graphs	<Limit	PASS
		HCH	See the test graphs	<Limit	PASS

Test Plots

Test Mode	Channel	Verdict
11B	LCH	PASS

Pref test Plot

LCH SPURIOUS EMISSION

Puw test Plot

LCH SPURIOUS EMISSION_30MHz~1GHz

LCH SPURIOUS EMISSION_1GHz~26GHz

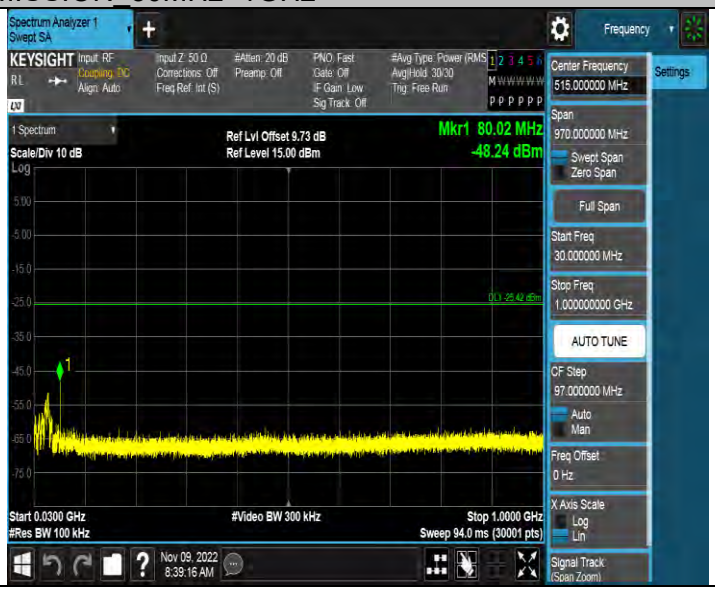
Test Mode	Channel	Verdict
11B	MCH	PASS

Pref test Plot

MCH SPURIOUS EMISSION

Puw test Plot

MCH SPURIOUS EMISSION_30MHz~1GHz



MCH SPURIOUS EMISSION_1GHz~26GHz

Test Mode	Channel	Verdict
11B	HCH	PASS

Pref test Plot

HCH SPURIOUS EMISSION

Puw test Plot

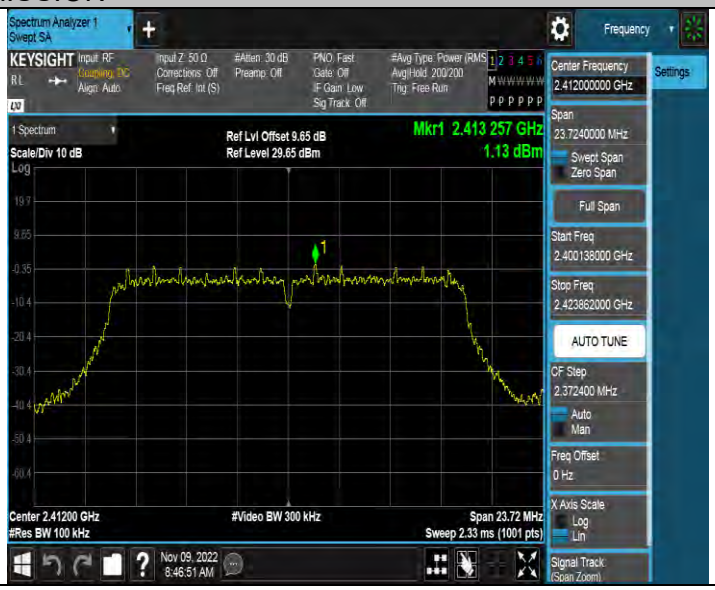
HCH SPURIOUS EMISSION_30MHz~1GHz

HCH SPURIOUS EMISSION_1GHz~26GHz

Test Mode	Channel	Verdict
11G	LCH	PASS

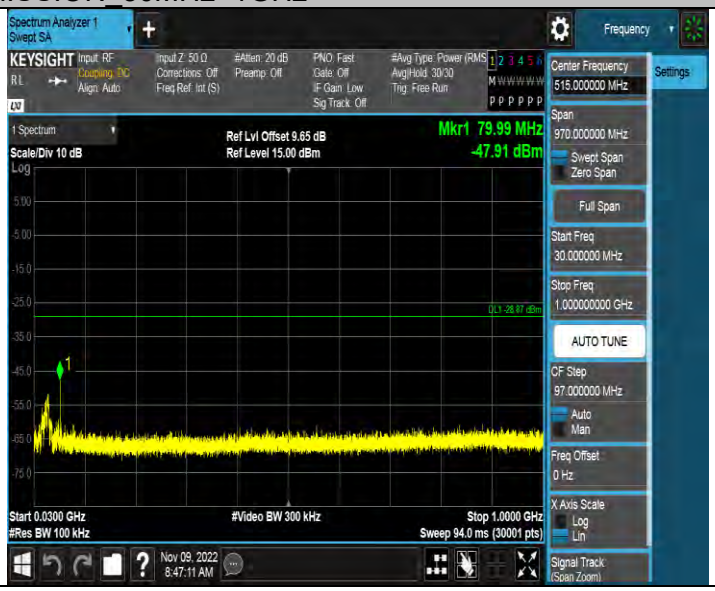
Pref test Plot

LCH SPURIOUS EMISSION



Puw test Plot

LCH SPURIOUS EMISSION_30MHz~1GHz



LCH SPURIOUS EMISSION_1GHz~26GHz

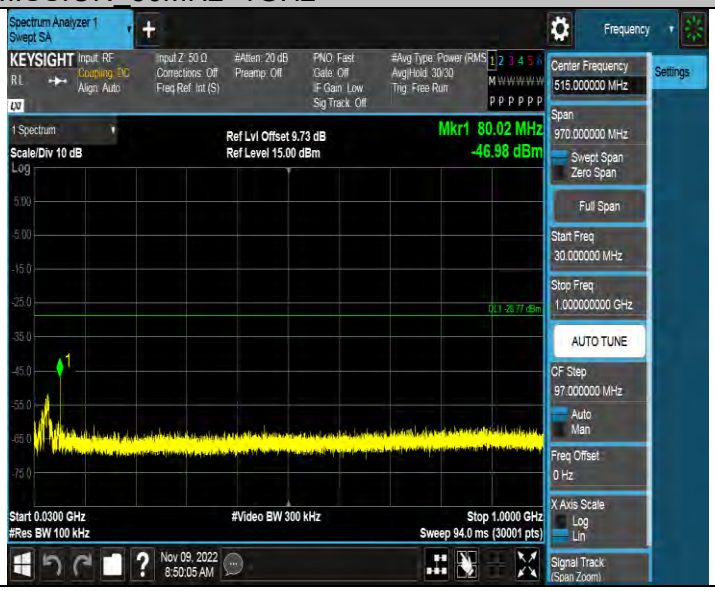
Test Mode	Channel	Verdict
11G	MCH	PASS

Pref test Plot

MCH SPURIOUS EMISSION

Puw test Plot

MCH SPURIOUS EMISSION_30MHz~1GHz



MCH SPURIOUS EMISSION_1GHz~26GHz

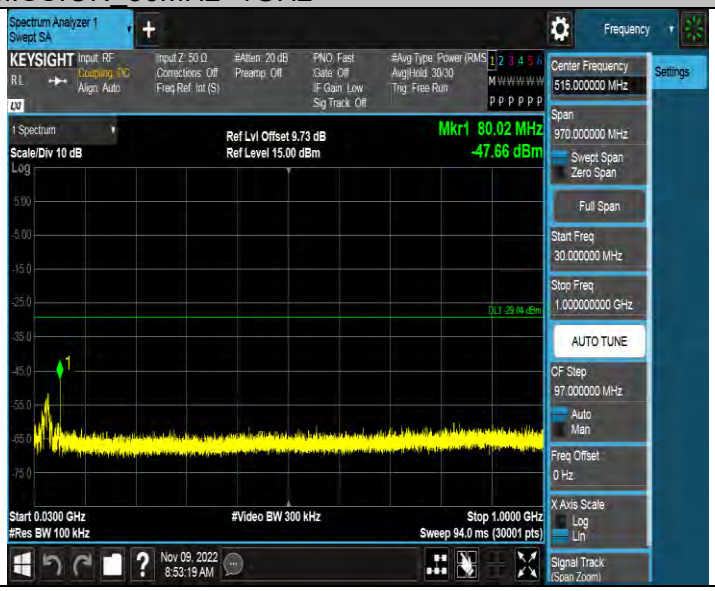
Test Mode	Channel	Verdict
11G	HCH	PASS

Pref test Plot

HCH SPURIOUS EMISSION

Puw test Plot

HCH SPURIOUS EMISSION_30MHz~1GHz



HCH SPURIOUS EMISSION_1GHz~26GHz

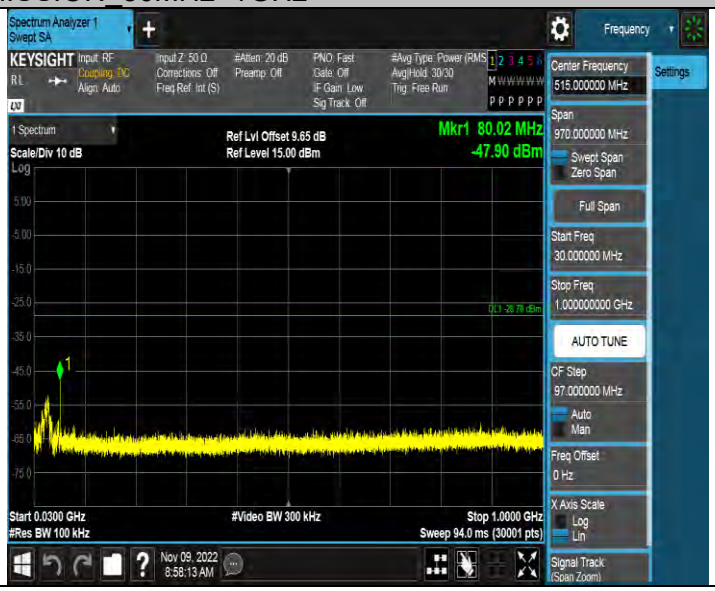
Test Mode	Channel	Verdict
11N HT20	LCH	PASS

Pref test Plot

LCH SPURIOUS EMISSION

Puw test Plot

LCH SPURIOUS EMISSION_30MHz~1GHz



LCH SPURIOUS EMISSION_1GHz~26GHz

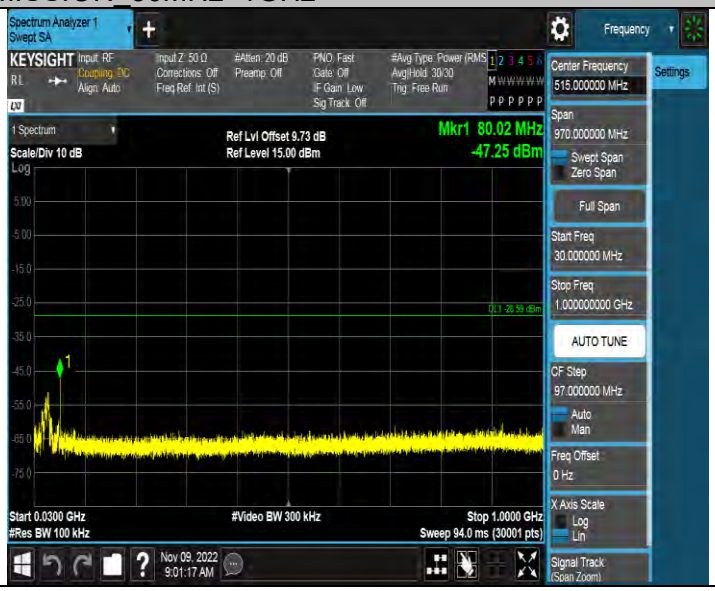
Test Mode	Channel	Verdict
11N HT20	MCH	PASS

Pref test Plot

MCH SPURIOUS EMISSION

Puw test Plot

MCH SPURIOUS EMISSION_30MHz~1GHz



MCH SPURIOUS EMISSION_1GHz~26GHz

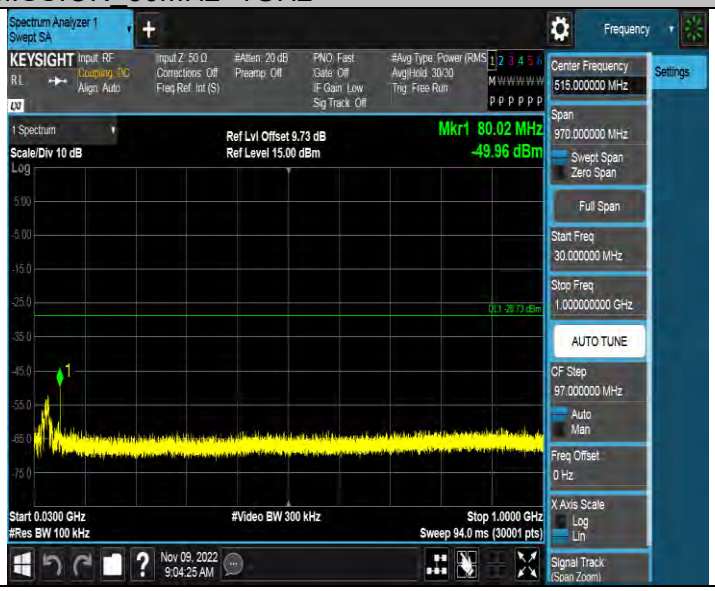
Test Mode	Channel	Verdict
11N HT20	HCH	PASS

Pref test Plot

HCH SPURIOUS EMISSION

Puw test Plot

HCH SPURIOUS EMISSION_30MHz~1GHz



HCH SPURIOUS EMISSION_1GHz~26GHz

7.7. RADIATED TEST RESULTS

7.7.1. 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.

Please refer to FCC KDB 558074

Radiation Disturbance Test Limit for FCC (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.

Radiation Disturbance Test Limit for FCC (Above 1G)

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

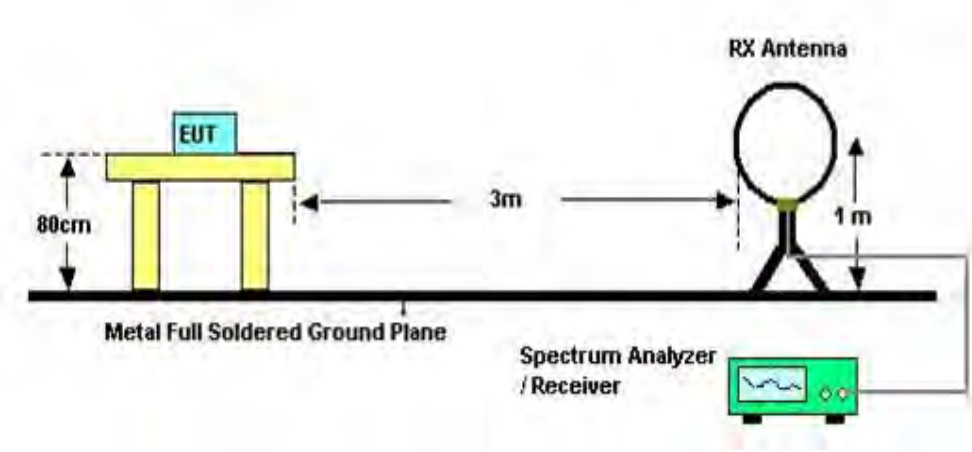
Restricted bands of operation

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

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.

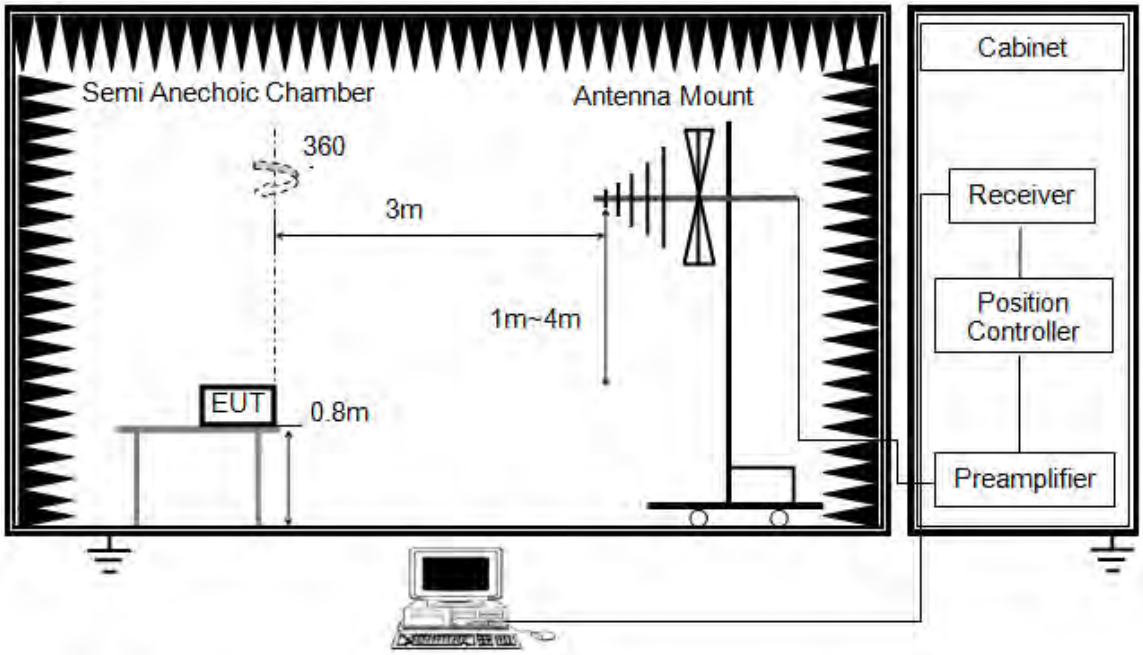
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a 1m height antenna tower.

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.

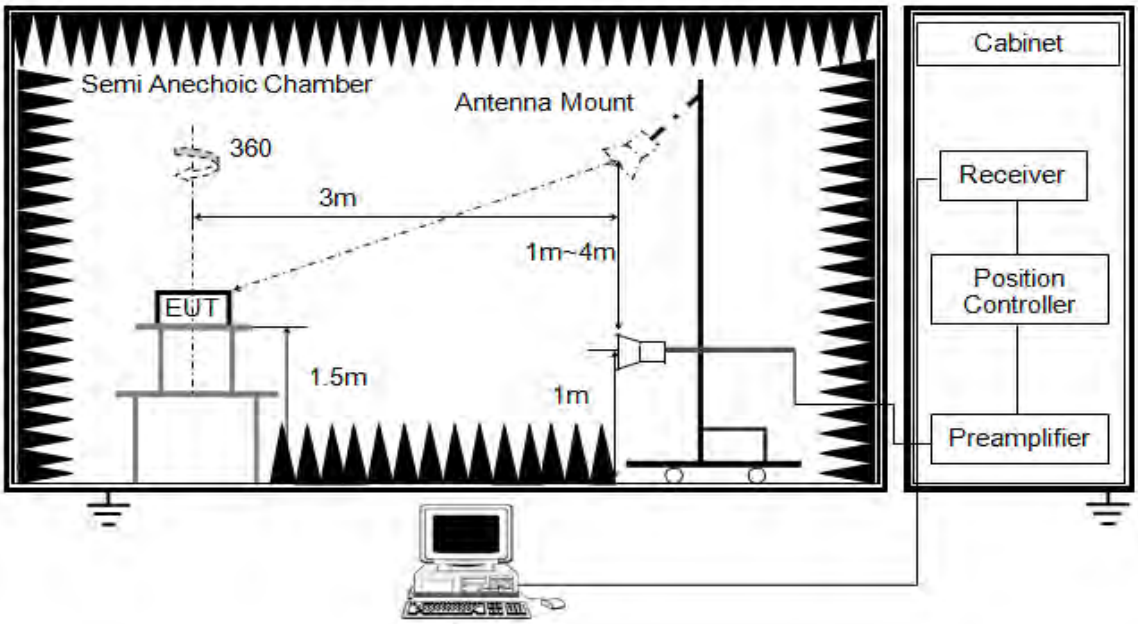
3. The EUT was placed on a turntable with 0.8 meter above ground.

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 AVG: See note6
Sweep	Auto
Detector	Peak
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.

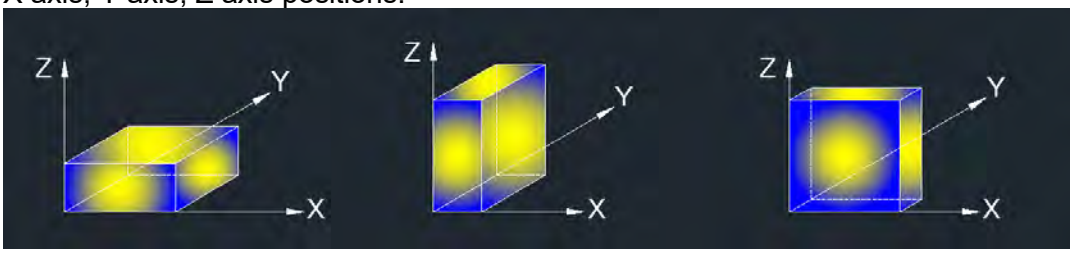
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.

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 video bandwidth ≥1/T but not less than the setting list in section 7.2 when use peak detector, max hold to be run for at least [50*(1/Duty Cycle)] traces for average measurements. For the Duty Cycle need to refer the results in section 7.2.

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, Z axis positions:



Note: For all radiated test, the EUT can only working in Z axis.

7.7.2. RESTRICTED BANDEDGE

TEST ENVIRONMENT

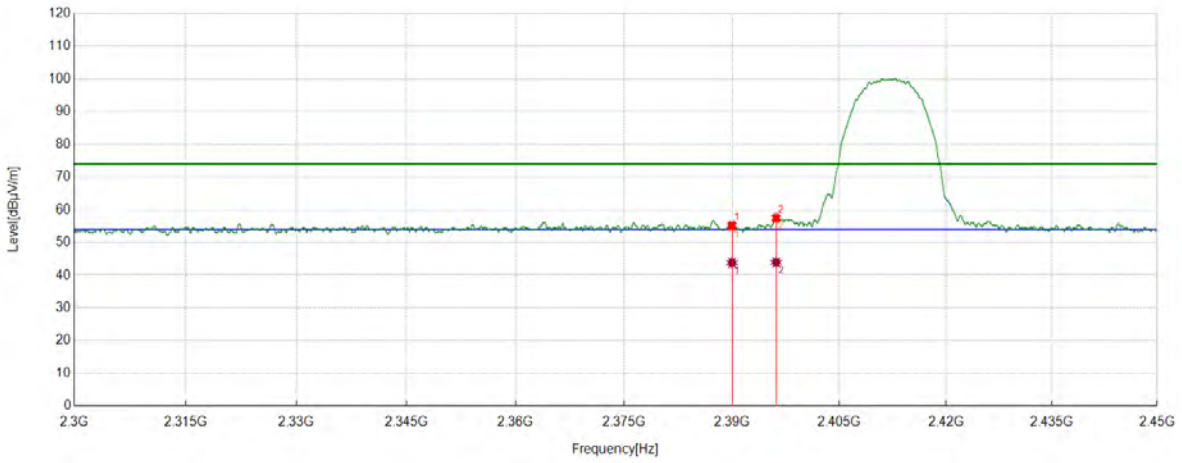
Environment Parameter	Selected Values During Tests
Relative Humidity	54.6%
Atmospheric Pressure:	102KPa
Temperature	21°C

Test Result Table

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

Test Graphs:

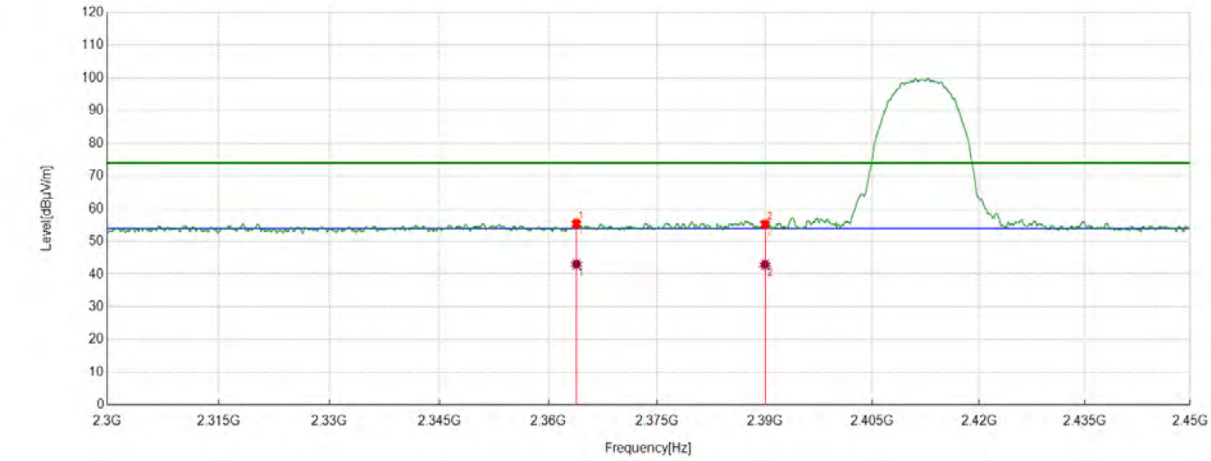
Test Mode	Channel	Polarization	Verdict
11B	LCH	Horizontal	PASS



No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2390.0000	43.99	11.25	55.24	74.00	-18.76	peak
		32.54	11.25	43.79	54.00	-10.21	average
2	2396.162	46.26	11.17	57.43	74.00	-16.57	peak
		32.72	11.17	43.89	54.00	-10.11	average

Note: 1. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
2. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
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.

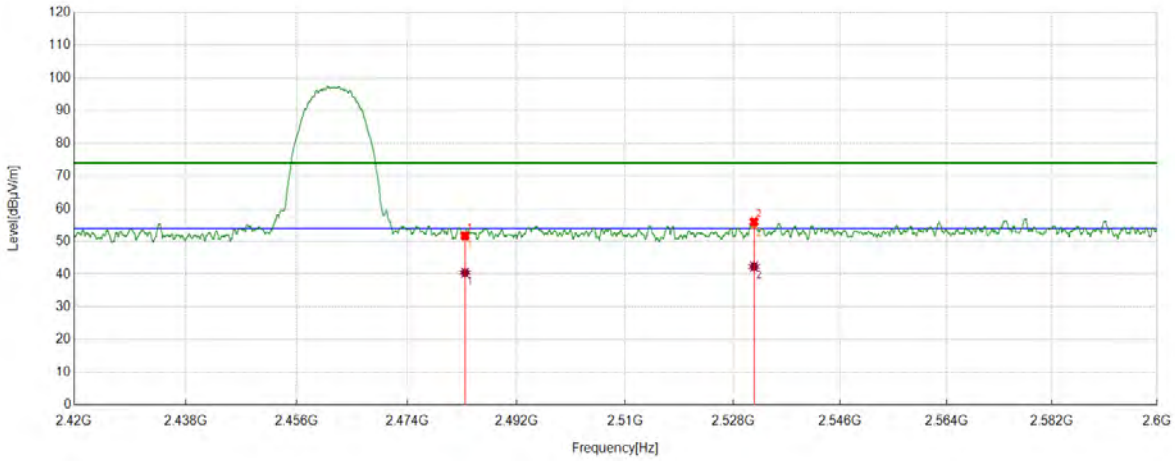
Test Mode	Channel	Polarization	Verdict
11B	LCH	Vertical	PASS



No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2363.8517	44.28	11.19	55.47	74.00	-18.53	peak
		31.85	11.19	43.04	54.00	-10.96	average
2	2390.0000	44.01	11.25	55.26	74.00	-18.74	peak
		31.67	11.25	42.92	54.00	-11.08	average

Note: 1. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
2. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
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.

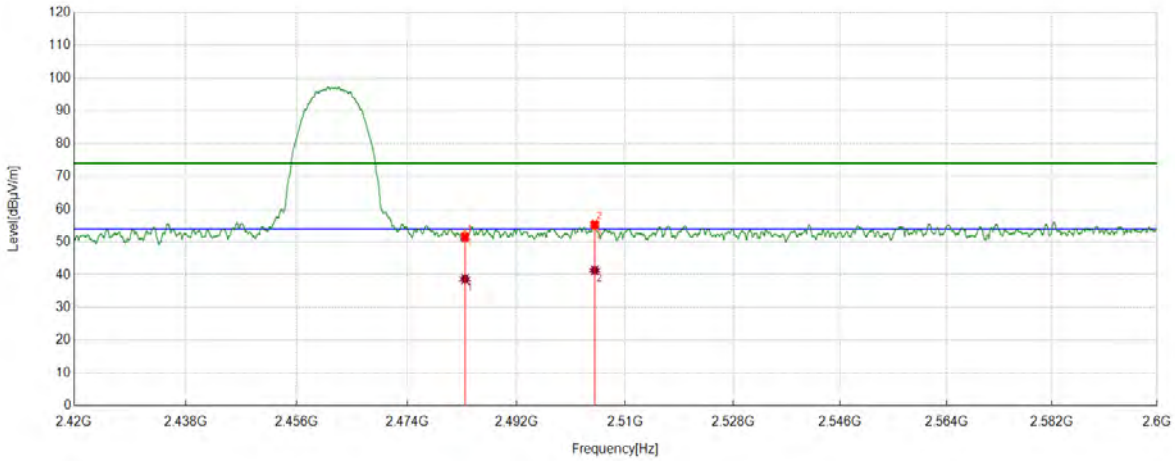
Test Mode	Channel	Polarization	Verdict
11B	HCH	Horizontal	PASS



No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.5000	40.44	11.28	51.72	74.00	-22.28	peak
		29.15	11.28	40.43	54.00	-13.57	average
2	2531.5014	44.18	11.87	56.05	74.00	-17.95	peak
		30.46	11.87	42.33	54.00	-11.67	average

Note: 1. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
2. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
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.

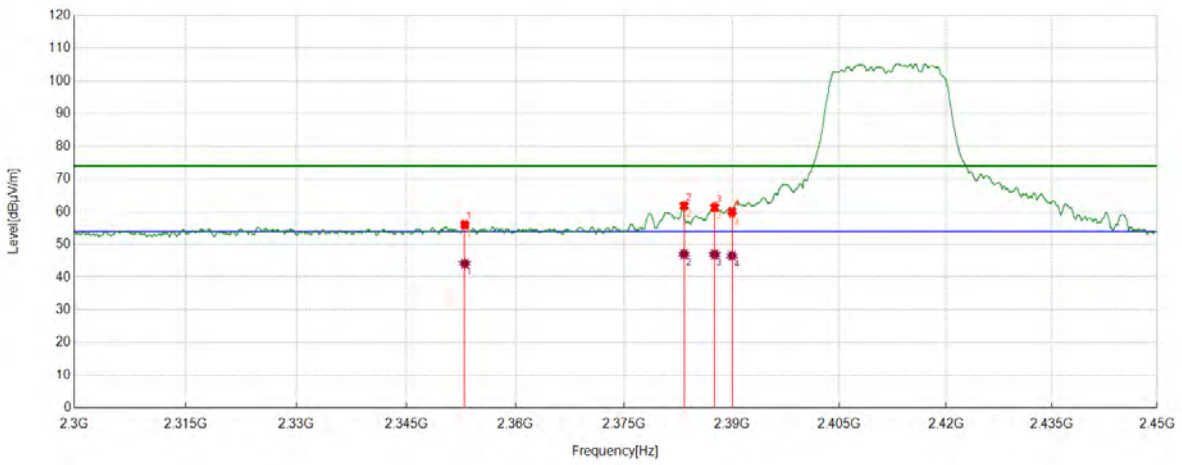
Test Mode	Channel	Polarization	Verdict
11B	HCH	Vertical	PASS



No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.5000	40.16	11.28	51.44	74.00	-22.56	peak
		27.40	11.28	38.68	54.00	-15.32	average
2	2504.9256	43.88	11.48	55.36	74.00	-18.64	peak
		29.85	11.48	41.33	54.00	-12.67	average

Note: 1. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
2. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
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.

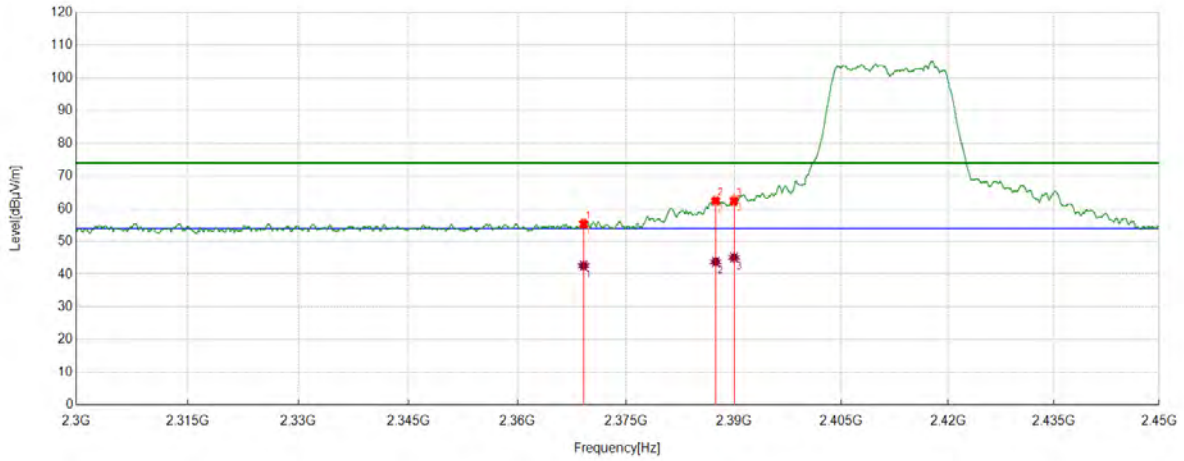
Test Mode	Channel	Polarization	Verdict
11G	LCH	Horizontal	PASS



No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2353.0316	44.94	11.15	56.09	74.00	-17.91	peak
		33.01	11.15	44.16	54.00	-9.84	average
2	2383.3167	50.45	11.29	61.74	74.00	-12.26	peak
		35.78	11.29	47.07	54.00	-6.93	average
3	2387.5734	50.02	11.26	61.28	74.00	-12.72	peak
		35.70	11.26	46.96	54.00	-7.04	average
4	2390.0000	48.80	11.25	60.05	74.00	-13.95	peak
		35.28	11.25	46.53	54.00	-7.47	average

Note: 1. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
2. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
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.

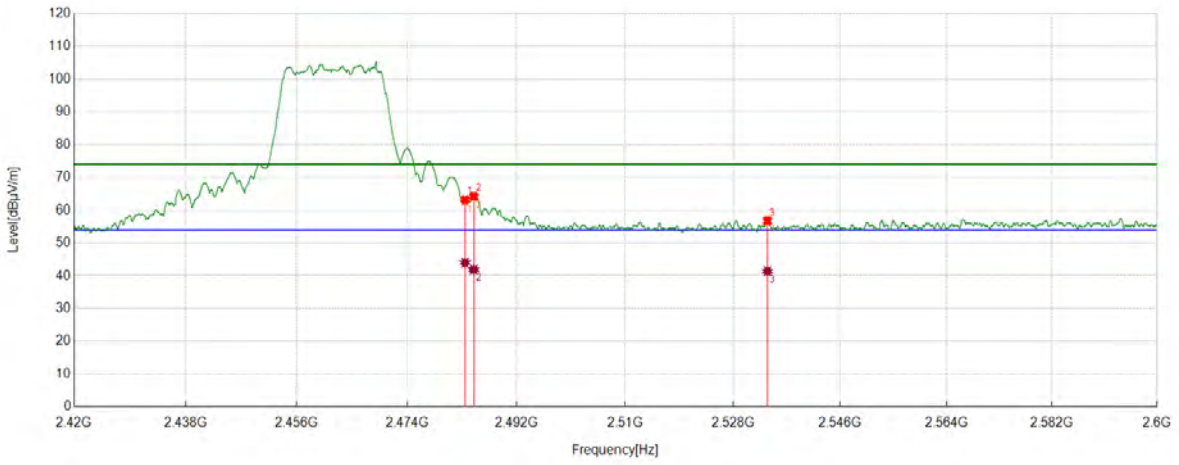
Test Mode	Channel	Polarization	Verdict
11G	LCH	Vertical	PASS



No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2369.1211	44.13	11.26	55.39	74.00	-18.61	peak
		31.33	11.26	42.59	54.00	-11.41	average
2	2387.4422	51.18	11.27	62.45	74.00	-11.55	peak
		32.48	11.27	43.75	54.00	-10.25	average
3	2390.0000	51.06	11.25	62.31	74.00	-11.69	peak
		33.84	11.25	45.09	54.00	-8.91	average

Note: 1. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
2. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
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.

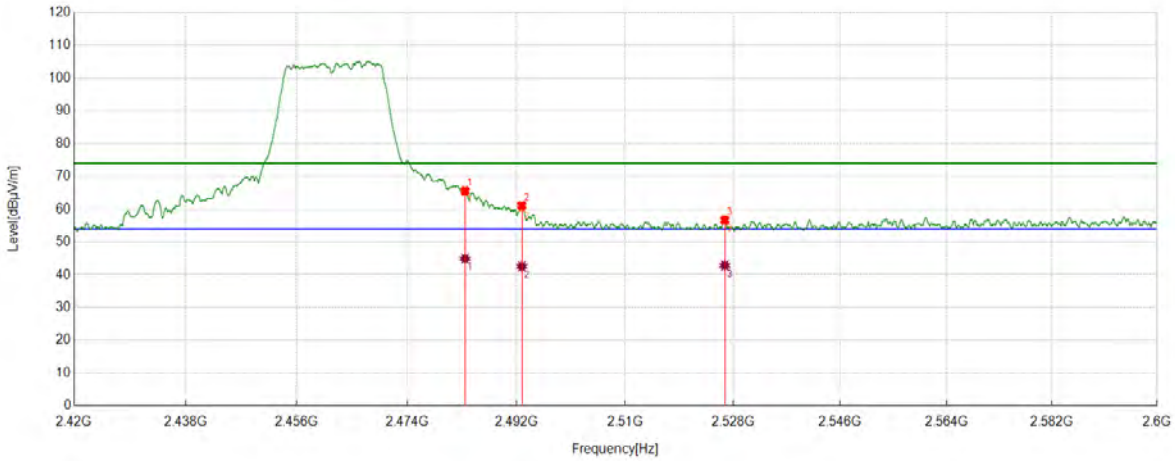
Test Mode	Channel	Polarization	Verdict
11G	HCH	Horizontal	PASS



No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.5000	51.91	11.28	63.19	74.00	-10.81	peak
		32.69	11.28	43.97	54.00	-10.03	average
2	2484.9431	52.90	11.30	64.20	74.00	-9.80	peak
		30.56	11.30	41.86	54.00	-12.14	average
3	2533.7517	44.88	11.87	56.75	74.00	-17.25	peak
		29.53	11.87	41.40	54.00	-12.60	average

Note: 1. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
2. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
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.

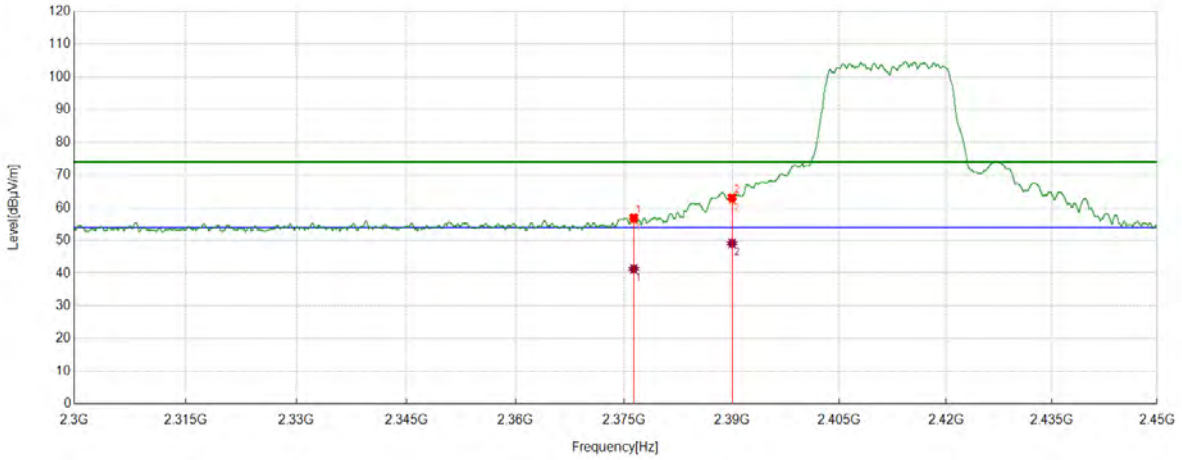
Test Mode	Channel	Polarization	Verdict
11G	HCH	Vertical	PASS



No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.5000	54.28	11.28	65.56	74.00	-8.44	peak
		33.66	11.28	44.94	54.00	-9.06	average
2	2492.8641	49.63	11.42	61.05	74.00	-12.95	peak
		31.13	11.42	42.55	54.00	-11.45	average
3	2526.5958	44.90	11.77	56.67	74.00	-17.33	peak
		31.07	11.77	42.84	54.00	-11.16	average

Note: 1. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
2. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
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.

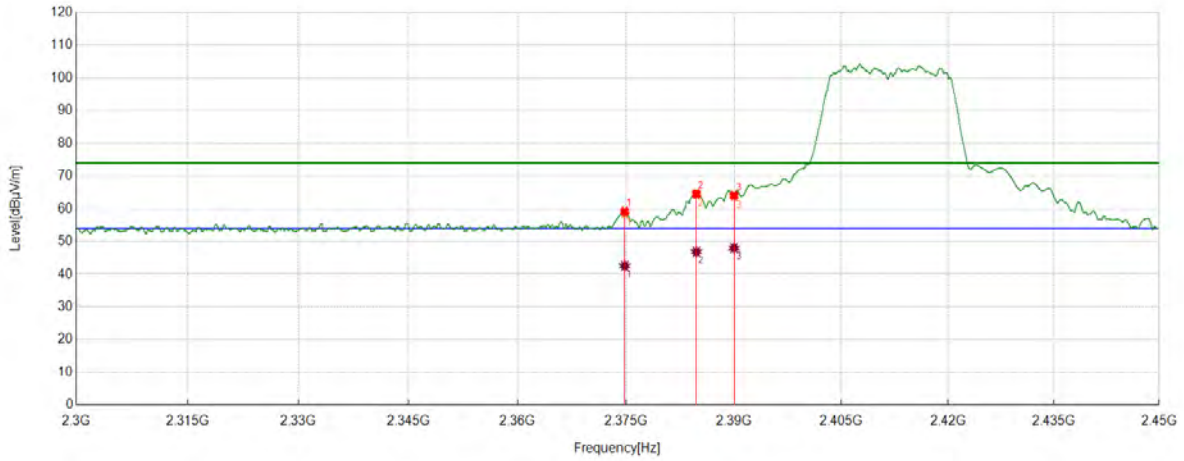
Test Mode	Channel	Polarization	Verdict
11N HT20	LCH	Horizontal	PASS



No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2376.3408	45.65	11.30	56.95	74.00	-17.05	peak
		29.99	11.30	41.29	54.00	-12.71	average
2	2390.0000	51.82	11.25	63.07	74.00	-10.93	peak
		37.87	11.25	49.12	54.00	-4.88	average

Note: 1. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
2. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
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.

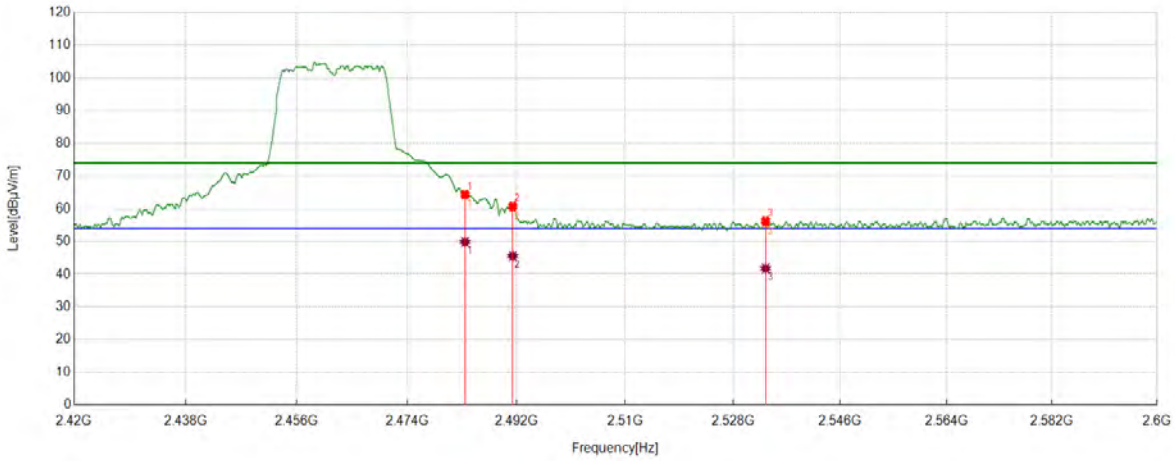
Test Mode	Channel	Polarization	Verdict
11N HT20	LCH	Vertical	PASS



No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2374.8031	47.87	11.29	59.16	74.00	-14.84	peak
		31.23	11.29	42.52	54.00	-11.48	average
2	2384.7606	53.21	11.29	64.50	74.00	-9.50	peak
		35.56	11.29	46.85	54.00	-7.15	average
3	2390.0000	52.81	11.25	64.06	74.00	-9.94	peak
		36.73	11.25	47.98	54.00	-6.02	average

Note: 1. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
2. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
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.

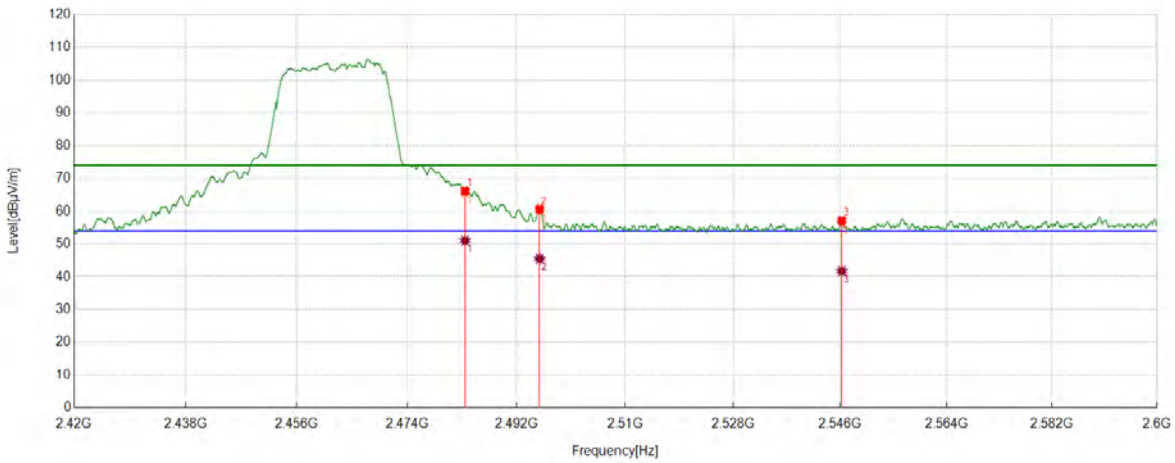
Test Mode	Channel	Polarization	Verdict
11N HT20	HCH	Horizontal	PASS



No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.5000	53.06	11.28	64.34	74.00	-9.66	peak
		38.55	11.28	49.83	54.00	-4.17	average
2	2491.3564	49.33	11.40	60.73	74.00	-13.27	peak
		34.12	11.40	45.52	54.00	-8.48	average
3	2533.4367	44.39	11.87	56.26	74.00	-17.74	peak
		29.87	11.87	41.74	54.00	-12.26	average

Note: 1. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
2. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
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
11N HT20	HCH	Vertical	PASS



No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.5000	54.86	11.28	66.14	74.00	-7.86	peak
		39.76	11.28	51.04	54.00	-2.96	average
2	2495.812	49.19	11.43	60.62	74.00	-13.38	peak
		34.01	11.43	45.44	54.00	-8.56	average
3	2546.2633	45.33	11.82	57.15	74.00	-16.85	peak
		29.88	11.82	41.70	54.00	-12.30	average

Note: 1. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
2. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
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.

7.7.3. SPURIOUS EMISSIONS

Test Result Table:

1) For 1GHz~3GHz

Environment Parameter	Selected Values During Tests
Relative Humidity	54.6%
Atmospheric Pressure:	102KPa
Temperature	21°C

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

2) For 3GHz~18GHz

Environment Parameter	Selected Values During Tests
Relative Humidity	54.6%
Atmospheric Pressure:	102KPa
Temperature	21°C

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

3) For 18GHz~26.5GHz

Environment Parameter	Selected Values During Tests
Relative Humidity	54.6%
Atmospheric Pressure:	102KPa
Temperature	21°C

Test Mode	Channel	Puw(dBm)	Verdict
11B	MCH	<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 30MHz~1GHz

Environment Parameter	Selected Values During Tests
Relative Humidity	55%
Atmospheric Pressure:	102KPa
Temperature	21.3°C

Test Mode	Channel	Puw(dBm)	Verdict
11B	MCH	<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.

5) For 9KHz~30MHz

Environment Parameter	Selected Values During Tests
Relative Humidity	55%
Atmospheric Pressure:	102KPa
Temperature	21.3°C

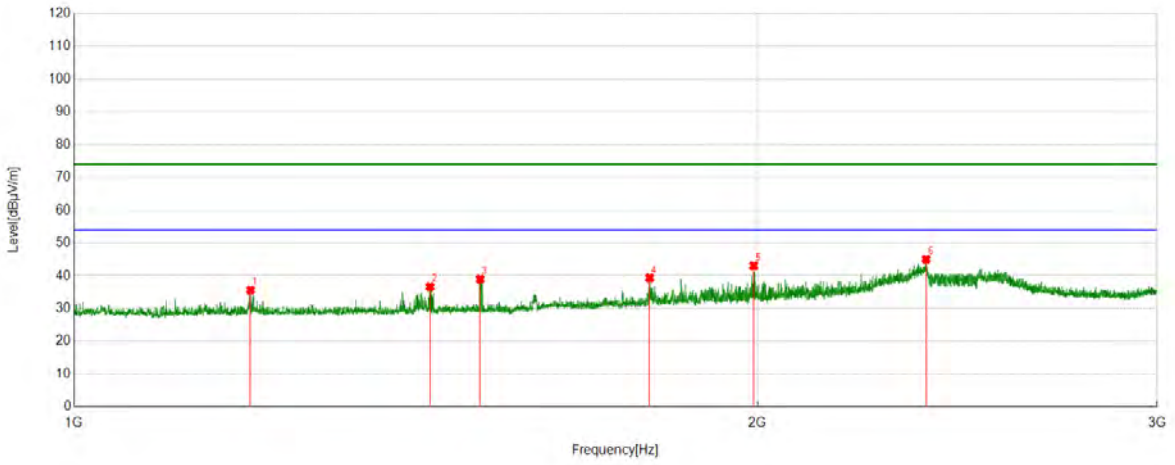
Test Mode	Channel	Puw(dBm)	Verdict
11B	MCH	<Limit	PASS

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.

Part I: 1GHz~3GHz

HARMONICS AND SPURIOUS EMISSIONS

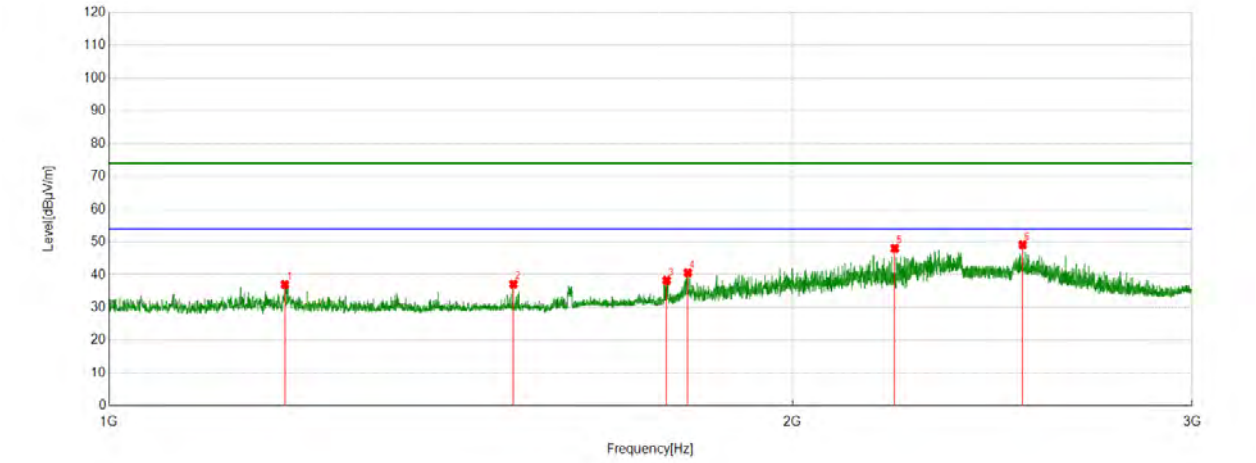
Test Mode	Channel	Polarization	Verdict
11B	LCH	Horizontal	PASS



No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1196.0245	58.18	-22.56	35.62	74.00	-38.38	peak
2	1435.0544	57.64	-21.01	36.63	74.00	-37.37	peak
3	1509.8137	59.57	-20.59	38.98	74.00	-35.02	peak
4	1793.0991	57.90	-18.57	39.33	74.00	-34.67	peak
5	1992.6241	60.61	-17.58	43.03	74.00	-30.97	peak
6	2373.4217	60.29	-15.29	45.00	74.00	-29.00	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
4. Peak: Peak detector.
5. AVG: VBW refer to section 7.2.
6. For below 3GHz part, filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band Reject Filter losses
. The proper operation of the transmitter prior to adding the filter to the measurement chain.
7. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

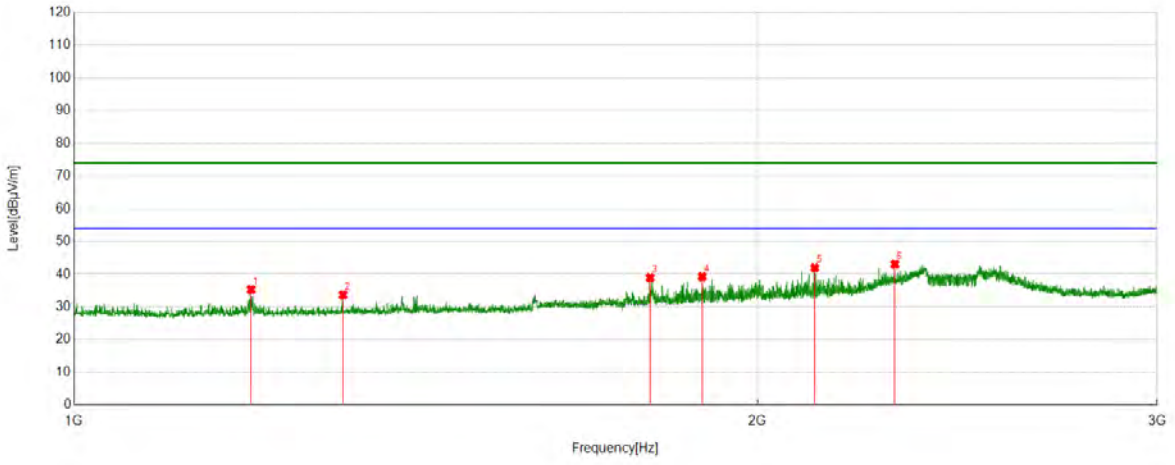
Test Mode	Channel	Polarization	Verdict
11B	LCH	Vertical	PASS



No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1195.2744	59.58	-22.56	37.02	74.00	-36.98	peak
2	1507.0634	57.73	-20.62	37.11	74.00	-36.89	peak
3	1760.5951	57.31	-19.00	38.31	74.00	-35.69	peak
4	1798.8499	59.10	-18.50	40.60	74.00	-33.40	peak
5	2218.9024	64.73	-16.72	48.01	74.00	-25.99	peak
6	2526.4408	63.50	-14.33	49.17	74.00	-24.83	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
4. Peak: Peak detector.
5. AVG: VBW refer to section 7.2.
6. For below 3GHz part, filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band Reject Filter losses
. The proper operation of the transmitter prior to adding the filter to the measurement chain.
7. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

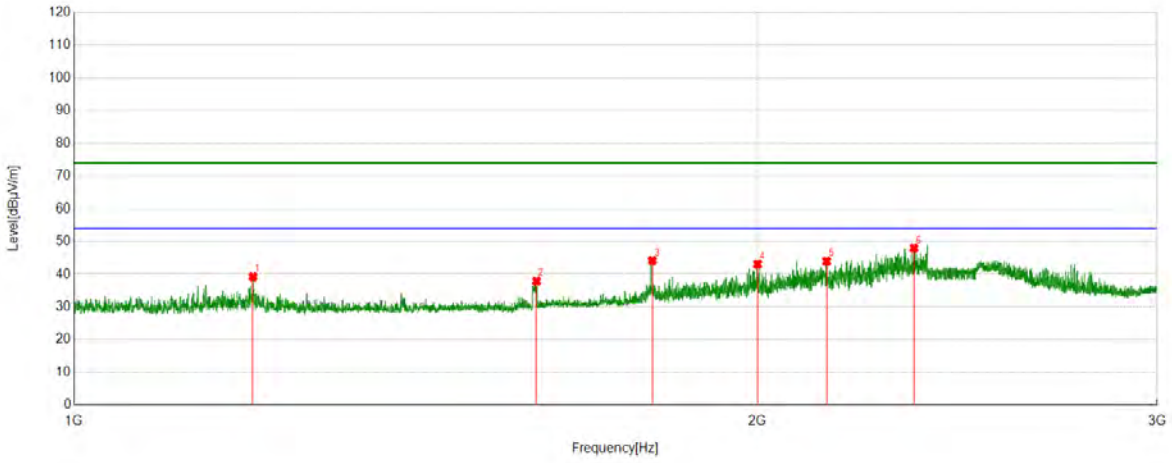
Test Mode	Channel	Polarization	Verdict
11B	MCH	Horizontal	PASS



No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1196.7746	57.84	-22.56	35.28	74.00	-38.72	peak
2	1313.7892	55.29	-21.59	33.70	74.00	-40.30	peak
3	1793.8492	57.51	-18.57	38.94	74.00	-35.06	peak
4	1891.1114	57.39	-18.17	39.22	74.00	-34.78	peak
5	2119.89	58.84	-16.89	41.95	74.00	-32.05	peak
6	2299.4124	59.26	-16.22	43.04	74.00	-30.96	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
4. Peak: Peak detector.
5. AVG: VBW refer to section 7.2.
6. For below 3GHz part, filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band Reject Filter losses
. The proper operation of the transmitter prior to adding the filter to the measurement chain.
7. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

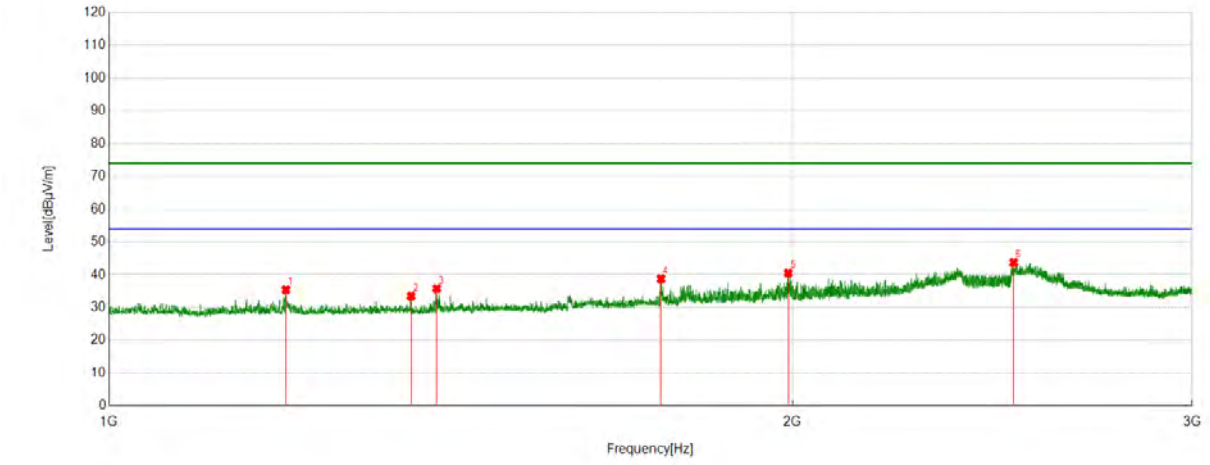
Test Mode	Channel	Polarization	Verdict
11B	MCH	Vertical	PASS



No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1199.0249	61.75	-22.56	39.19	74.00	-34.81	peak
2	1598.5748	57.54	-19.69	37.85	74.00	-36.15	peak
3	1797.8497	62.69	-18.51	44.18	74.00	-29.82	peak
4	2000.375	60.53	-17.47	43.06	74.00	-30.94	peak
5	2145.6432	60.82	-16.86	43.96	74.00	-30.04	peak
6	2344.4181	63.95	-16.03	47.92	74.00	-26.08	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
4. Peak: Peak detector.
5. AVG: VBW refer to section 7.2.
6. For below 3GHz part, filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band Reject Filter losses
. The proper operation of the transmitter prior to adding the filter to the measurement chain.
7. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

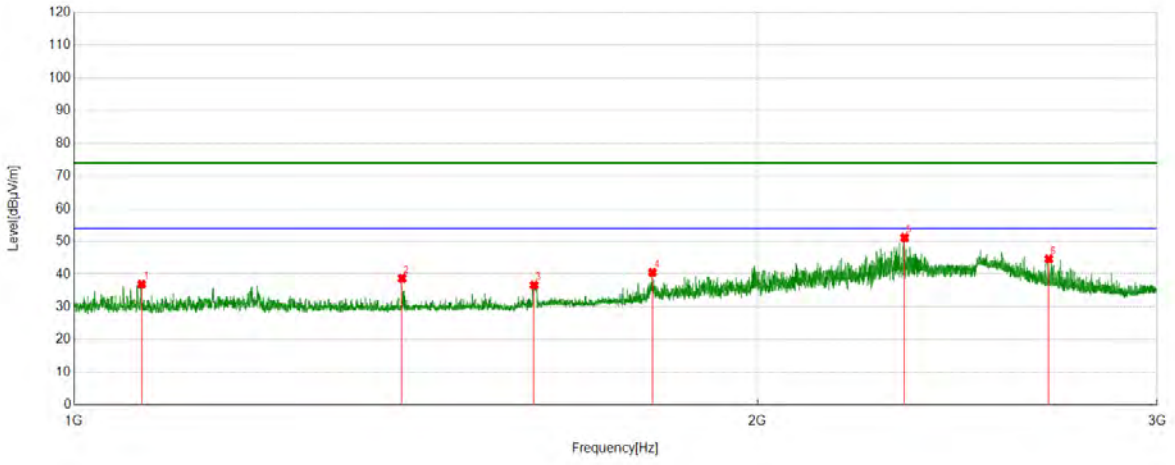
Test Mode	Channel	Polarization	Verdict
11B	HCH	Horizontal	PASS



No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1196.5246	57.99	-22.56	35.43	74.00	-38.57	peak
2	1358.5448	54.76	-21.29	33.47	74.00	-40.53	peak
3	1394.2993	57.06	-21.28	35.78	74.00	-38.22	peak
4	1750.5938	57.91	-19.16	38.75	74.00	-35.25	peak
5	1991.624	58.13	-17.60	40.53	74.00	-33.47	peak
6	2503.4379	57.95	-14.27	43.68	74.00	-30.32	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
4. Peak: Peak detector.
5. AVG: VBW refer to section 7.2.
6. For below 3GHz part, filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band Reject Filter losses
. The proper operation of the transmitter prior to adding the filter to the measurement chain.
7. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

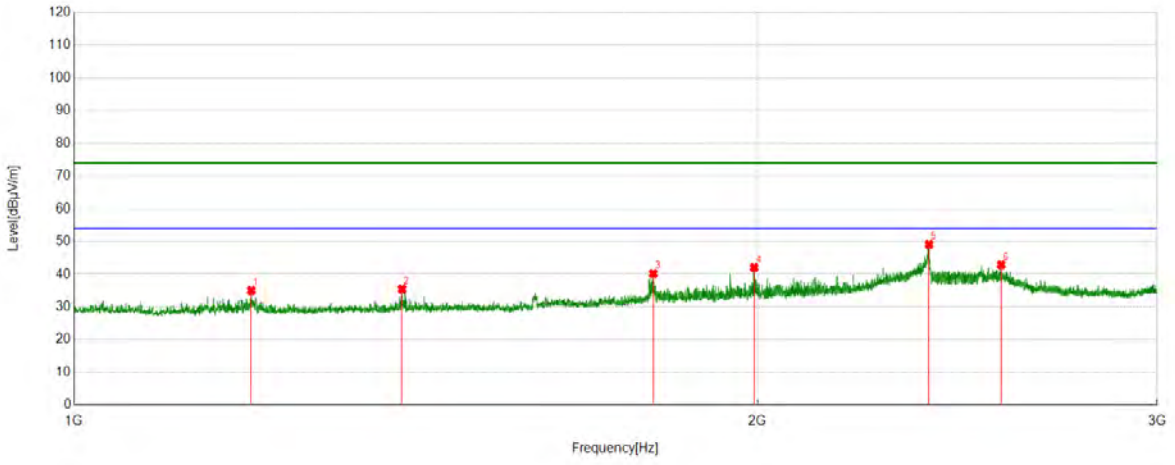
Test Mode	Channel	Polarization	Verdict
11B	HCH	Vertical	PASS



No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1071.0089	59.50	-22.58	36.92	74.00	-37.08	peak
2	1394.7994	59.96	-21.25	38.71	74.00	-35.29	peak
3	1594.5743	56.52	-19.85	36.67	74.00	-37.33	peak
4	1798.0998	59.05	-18.51	40.54	74.00	-33.46	peak
5	2322.1653	67.25	-16.05	51.20	74.00	-22.80	peak
6	2687.961	58.90	-14.22	44.68	74.00	-29.32	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
4. Peak: Peak detector.
5. AVG: VBW refer to section 7.2.
6. For below 3GHz part, filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band Reject Filter losses
. The proper operation of the transmitter prior to adding the filter to the measurement chain.
7. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

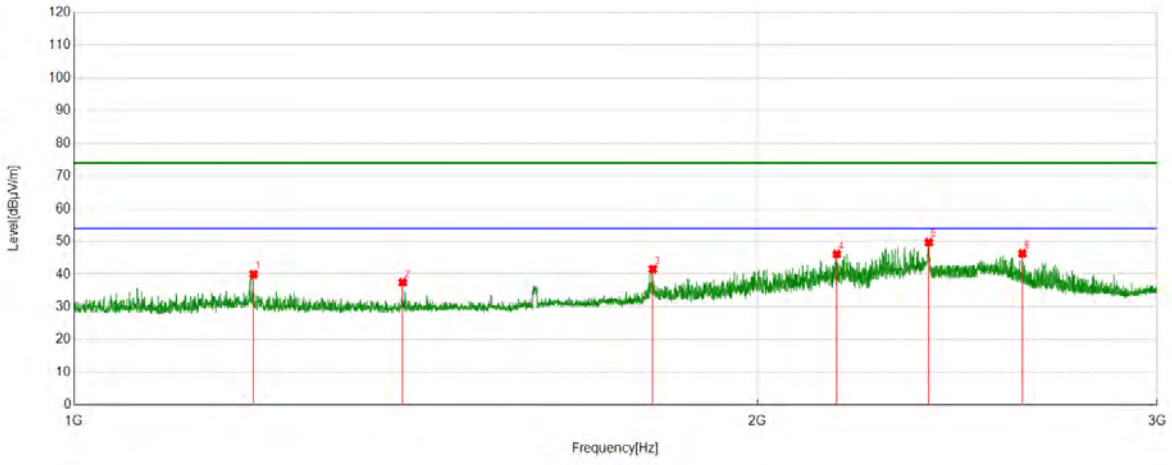
Test Mode	Channel	Polarization	Verdict
11G	LCH	Horizontal	PASS



No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1197.0246	57.54	-22.56	34.98	74.00	-39.02	peak
2	1394.7994	56.69	-21.25	35.44	74.00	-38.56	peak
3	1799.6	58.65	-18.48	40.17	74.00	-33.83	peak
4	1993.6242	59.60	-17.57	42.03	74.00	-31.97	peak
5	2380.4226	64.42	-15.29	49.13	74.00	-24.87	peak
6	2561.1951	57.49	-14.62	42.87	74.00	-31.13	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
4. Peak: Peak detector.
5. AVG: VBW refer to section 7.2.
6. For below 3GHz part, filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band Reject Filter losses
. The proper operation of the transmitter prior to adding the filter to the measurement chain.
7. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

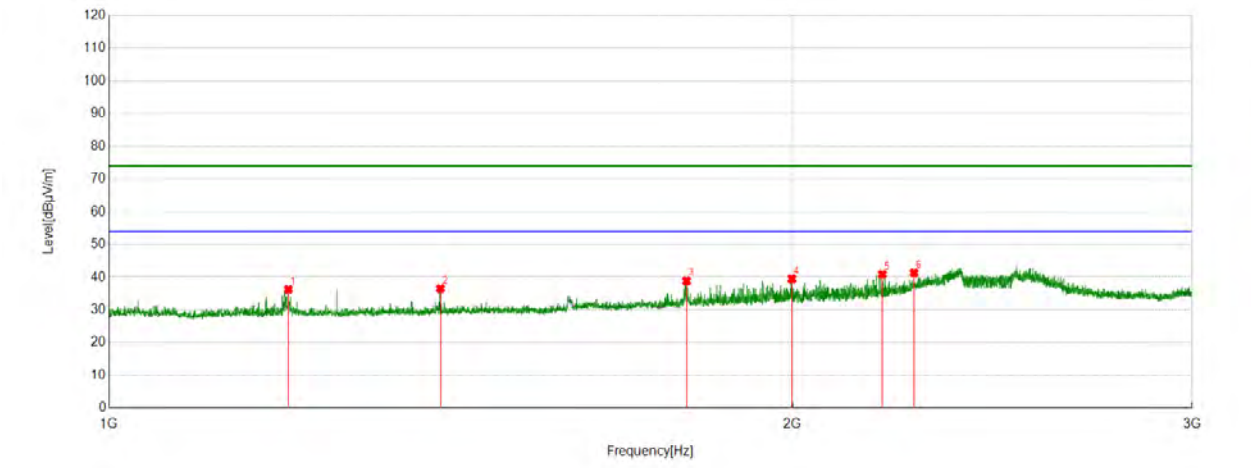
Test Mode	Channel	Polarization	Verdict
11G	LCH	Vertical	PASS



No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1199.775	62.55	-22.57	39.98	74.00	-34.02	peak
2	1395.7995	58.70	-21.21	37.49	74.00	-36.51	peak
3	1798.8499	60.03	-18.50	41.53	74.00	-32.47	peak
4	2167.896	63.05	-16.91	46.14	74.00	-27.86	peak
5	2379.9225	65.05	-15.29	49.76	74.00	-24.24	peak
6	2616.9521	60.27	-13.98	46.29	74.00	-27.71	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
4. Peak: Peak detector.
5. AVG: VBW refer to section 7.2.
6. For below 3GHz part, filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band Reject Filter losses
. The proper operation of the transmitter prior to adding the filter to the measurement chain.
7. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

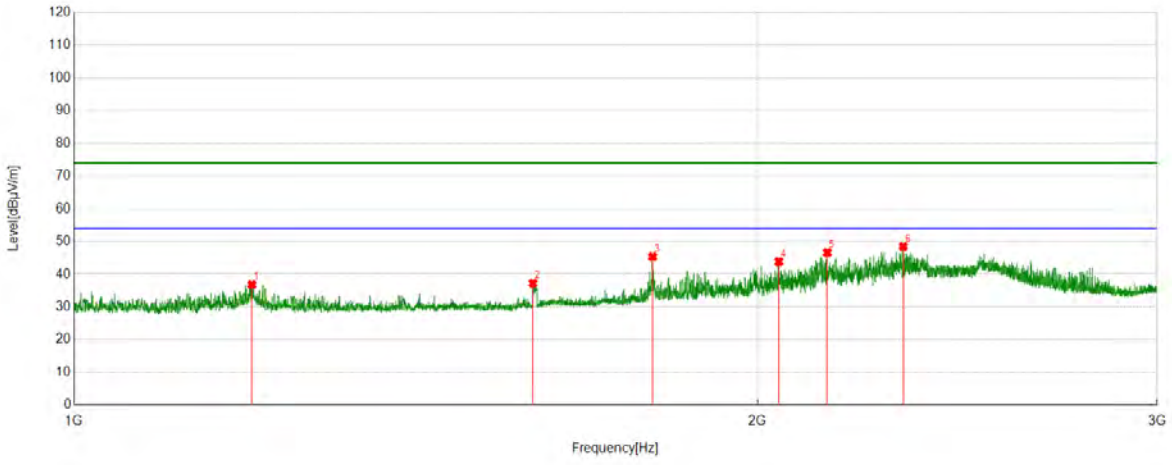
Test Mode	Channel	Polarization	Verdict
11G	MCH	Horizontal	PASS



No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1199.5249	58.84	-22.57	36.27	74.00	-37.73	peak
2	1399.5499	57.54	-21.05	36.49	74.00	-37.51	peak
3	1796.3495	57.38	-18.52	38.86	74.00	-35.14	peak
4	1999.1249	56.93	-17.49	39.44	74.00	-34.56	peak
5	2190.8989	57.74	-16.88	40.86	74.00	-33.14	peak
6	2262.6578	57.84	-16.51	41.33	74.00	-32.67	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
4. Peak: Peak detector.
5. AVG: VBW refer to section 7.2.
6. For below 3GHz part, filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band Reject Filter losses
. The proper operation of the transmitter prior to adding the filter to the measurement chain.
7. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

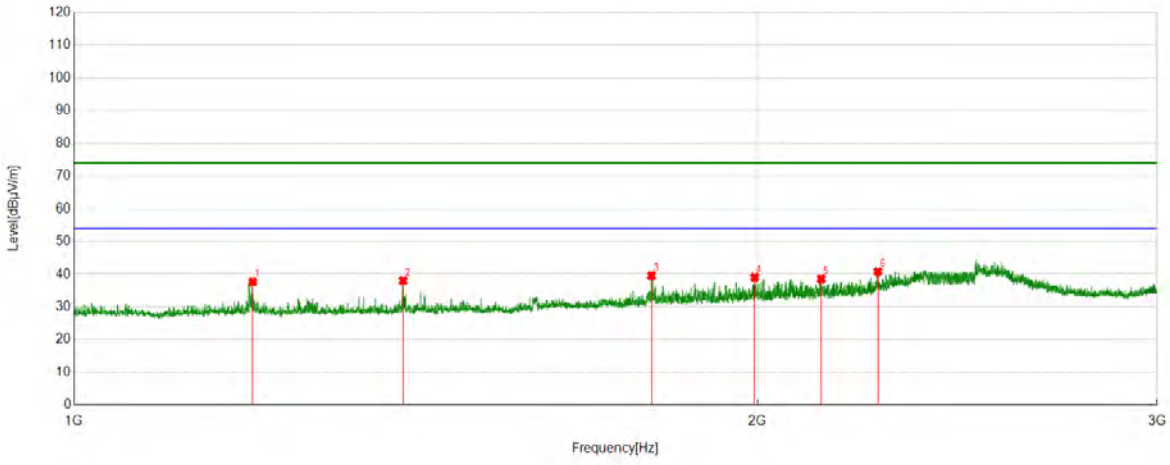
Test Mode	Channel	Polarization	Verdict
11G	MCH	Vertical	PASS



No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1197.7747	59.39	-22.56	36.83	74.00	-37.17	peak
2	1592.8241	57.12	-19.91	37.21	74.00	-36.79	peak
3	1798.3498	63.88	-18.50	45.38	74.00	-28.62	peak
4	2044.1305	60.54	-16.73	43.81	74.00	-30.19	peak
5	2147.1434	63.46	-16.87	46.59	74.00	-27.41	peak
6	2318.9149	64.51	-16.03	48.48	74.00	-25.52	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
4. Peak: Peak detector.
5. AVG: VBW refer to section 7.2.
6. For below 3GHz part, filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band Reject Filter losses
. The proper operation of the transmitter prior to adding the filter to the measurement chain.
7. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

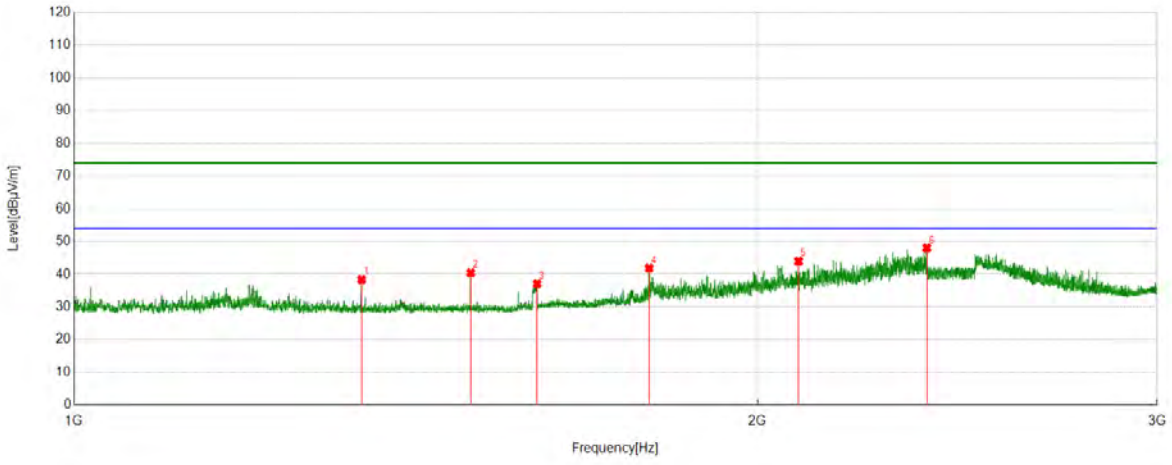
Test Mode	Channel	Polarization	Verdict
11G	HCH	Horizontal	PASS



No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1198.7748	60.21	-22.56	37.65	74.00	-36.35	peak
2	1396.2995	59.23	-21.19	38.04	74.00	-35.96	peak
3	1796.3495	58.06	-18.52	39.54	74.00	-34.46	peak
4	1994.6243	56.59	-17.55	39.04	74.00	-34.96	peak
5	2133.8917	55.28	-16.76	38.52	74.00	-35.48	peak
6	2260.1575	57.31	-16.52	40.79	74.00	-33.21	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
4. Peak: Peak detector.
5. AVG: VBW refer to section 7.2.
6. For below 3GHz part, filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band Reject Filter losses
. The proper operation of the transmitter prior to adding the filter to the measurement chain.
7. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

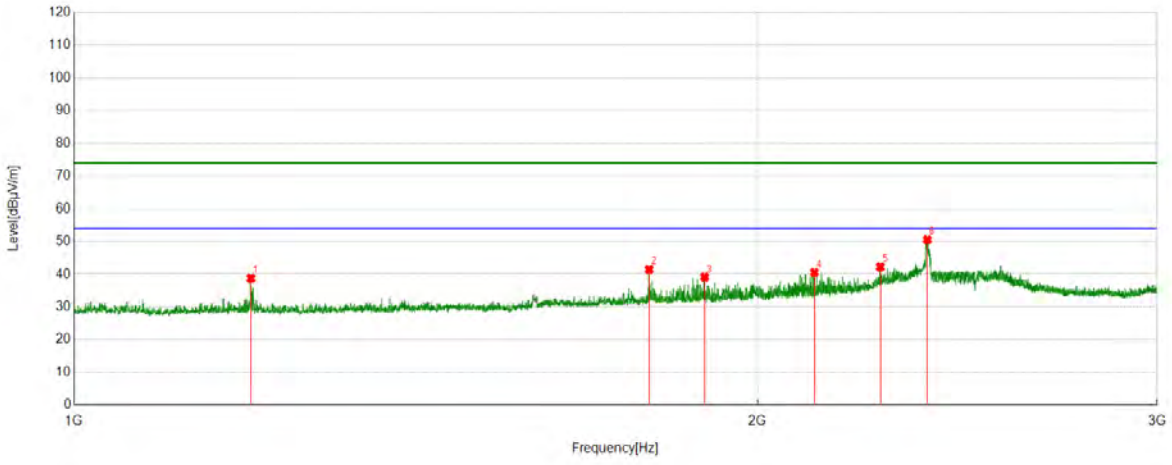
Test Mode	Channel	Polarization	Verdict
11G	HCH	Vertical	PASS



No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1338.7923	59.81	-21.45	38.36	74.00	-35.64	peak
2	1495.5619	61.11	-20.68	40.43	74.00	-33.57	peak
3	1599.5749	56.71	-19.66	37.05	74.00	-36.95	peak
4	1792.099	60.42	-18.59	41.83	74.00	-32.17	peak
5	2085.3857	60.99	-17.06	43.93	74.00	-30.07	peak
6	2375.1719	63.26	-15.29	47.97	74.00	-26.03	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
4. Peak: Peak detector.
5. AVG: VBW refer to section 7.2.
6. For below 3GHz part, filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band Reject Filter losses
. The proper operation of the transmitter prior to adding the filter to the measurement chain.
7. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

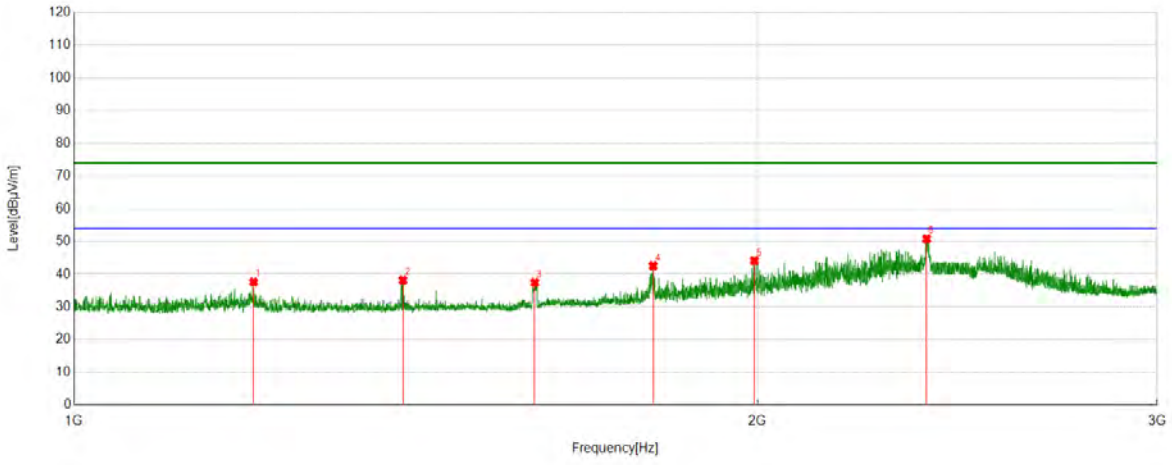
Test Mode	Channel	Polarization	Verdict
11N HT20	LCH	Horizontal	PASS



No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1196.5246	61.29	-22.56	38.73	74.00	-35.27	peak
2	1792.099	60.01	-18.59	41.42	74.00	-32.58	peak
3	1895.862	57.26	-18.15	39.11	74.00	-34.89	peak
4	2119.1399	57.45	-16.90	40.55	74.00	-33.45	peak
5	2265.6582	58.73	-16.51	42.22	74.00	-31.78	peak
6	2376.4221	65.83	-15.29	50.54	74.00	-23.46	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
4. Peak: Peak detector.
5. AVG: VBW refer to section 7.2.
6. For below 3GHz part, filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band Reject Filter losses
. The proper operation of the transmitter prior to adding the filter to the measurement chain.
7. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

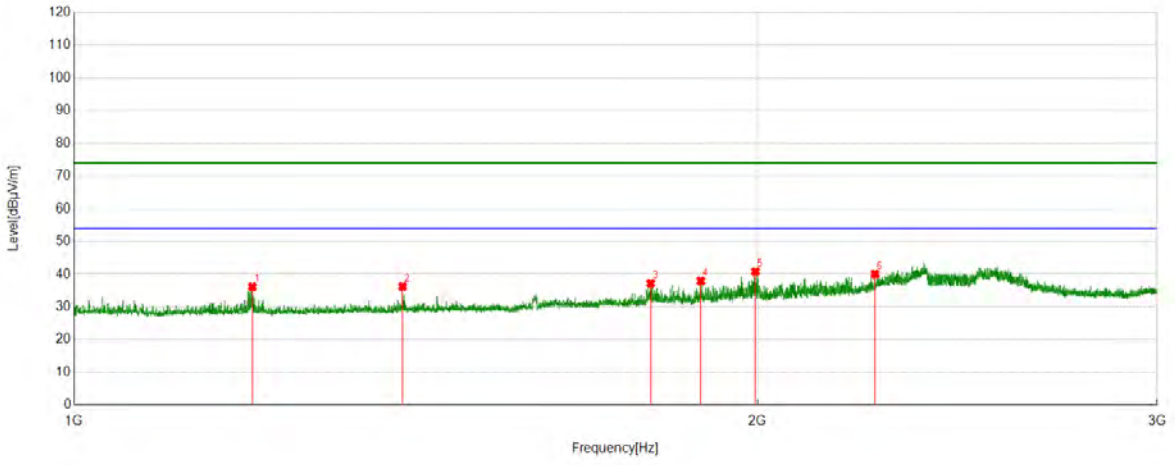
Test Mode	Channel	Polarization	Verdict
11N HT20	LCH	Vertical	PASS



No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1199.775	60.18	-22.57	37.61	74.00	-36.39	peak
2	1396.0495	59.38	-21.20	38.18	74.00	-35.82	peak
3	1595.8245	57.26	-19.80	37.46	74.00	-36.54	peak
4	1799.3499	61.06	-18.49	42.57	74.00	-31.43	peak
5	1994.1243	61.73	-17.57	44.16	74.00	-29.84	peak
6	2374.6718	66.08	-15.29	50.79	74.00	-23.21	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
4. Peak: Peak detector.
5. AVG: VBW refer to section 7.2.
6. For below 3GHz part, filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band Reject Filter losses
. The proper operation of the transmitter prior to adding the filter to the measurement chain.
7. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

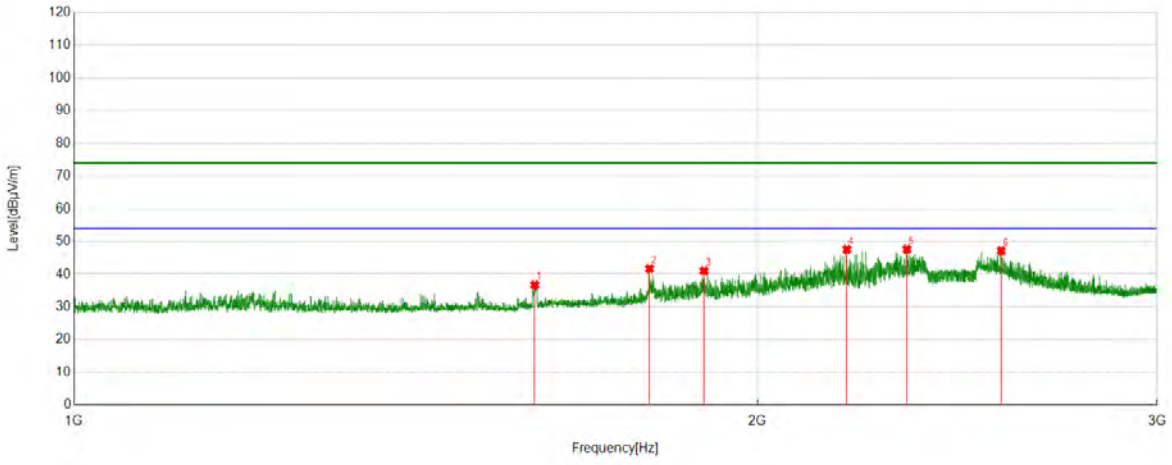
Test Mode	Channel	Polarization	Verdict
11N HT20	MCH	Horizontal	PASS



No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1198.2748	58.72	-22.56	36.16	74.00	-37.84	peak
2	1395.5494	57.47	-21.22	36.25	74.00	-37.75	peak
3	1794.8494	55.72	-18.55	37.17	74.00	-36.83	peak
4	1888.6111	56.13	-18.21	37.92	74.00	-36.08	peak
5	1996.1245	58.30	-17.53	40.77	74.00	-33.23	peak
6	2253.6567	56.61	-16.56	40.05	74.00	-33.95	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
4. Peak: Peak detector.
5. AVG: VBW refer to section 7.2.
6. For below 3GHz part, filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band Reject Filter losses
. The proper operation of the transmitter prior to adding the filter to the measurement chain.
7. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

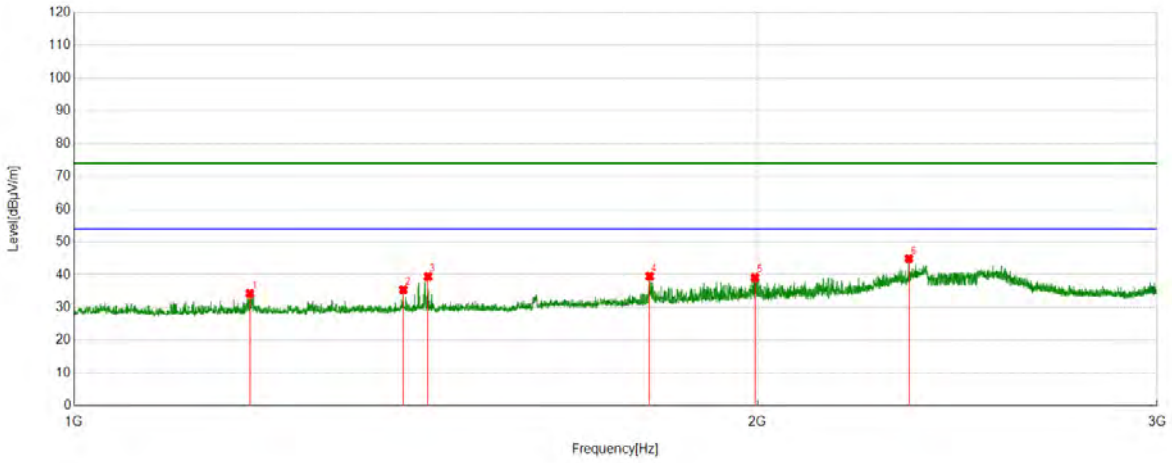
Test Mode	Channel	Polarization	Verdict
11N HT20	MCH	Vertical	PASS



No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1595.8245	56.52	-19.80	36.72	74.00	-37.28	peak
2	1792.8491	60.25	-18.57	41.68	74.00	-32.32	peak
3	1894.6118	59.18	-18.16	41.02	74.00	-32.98	peak
4	2190.1488	64.43	-16.88	47.55	74.00	-26.45	peak
5	2327.666	63.71	-16.10	47.61	74.00	-26.39	peak
6	2561.4452	61.76	-14.62	47.14	74.00	-26.86	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
4. Peak: Peak detector.
5. AVG: VBW refer to section 7.2.
6. For below 3GHz part, filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band Reject Filter losses
. The proper operation of the transmitter prior to adding the filter to the measurement chain.
7. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

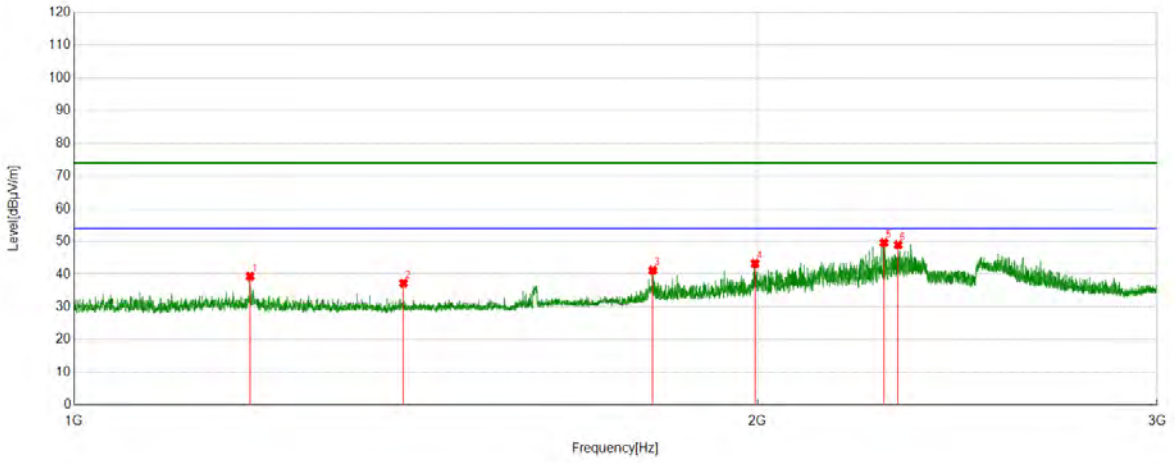
Test Mode	Channel	Polarization	Verdict
11N HT20	HCH	Horizontal	PASS



No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1195.2744	56.83	-22.56	34.27	74.00	-39.73	peak
2	1396.5496	56.61	-21.18	35.43	74.00	-38.57	peak
3	1432.054	60.48	-21.06	39.42	74.00	-34.58	peak
4	1793.0991	58.11	-18.57	39.54	74.00	-34.46	peak
5	1995.1244	56.68	-17.55	39.13	74.00	-34.87	peak
6	2332.4166	61.05	-16.12	44.93	74.00	-29.07	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
4. Peak: Peak detector.
5. AVG: VBW refer to section 7.2.
6. For below 3GHz part, filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band Reject Filter losses
. The proper operation of the transmitter prior to adding the filter to the measurement chain.
7. 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
11N HT20	HCH	Vertical	PASS



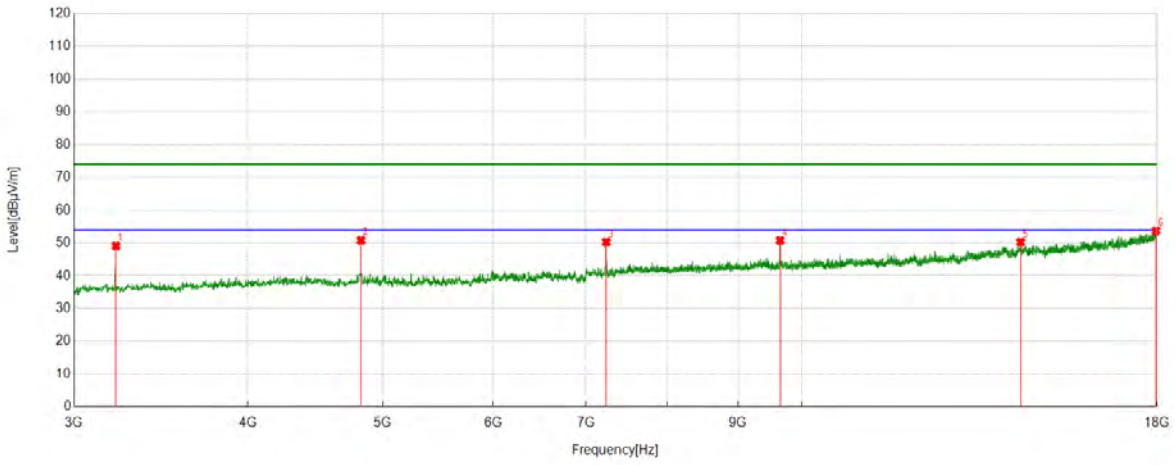
No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1195.5244	61.87	-22.56	39.31	74.00	-34.69	peak
2	1396.7996	58.39	-21.17	37.22	74.00	-36.78	peak
3	1798.8499	59.67	-18.50	41.17	74.00	-32.83	peak
4	1995.3744	60.81	-17.55	43.26	74.00	-30.74	peak
5	2274.1593	66.11	-16.47	49.64	74.00	-24.36	peak
6	2307.1634	65.10	-16.13	48.97	74.00	-25.03	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
4. Peak: Peak detector.
5. AVG: VBW refer to section 7.2.
6. For below 3GHz part, filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band Reject Filter losses
. The proper operation of the transmitter prior to adding the filter to the measurement chain.
7. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

Part II: 3GHz~18GHz

HARMONICS AND SPURIOUS EMISSIONS

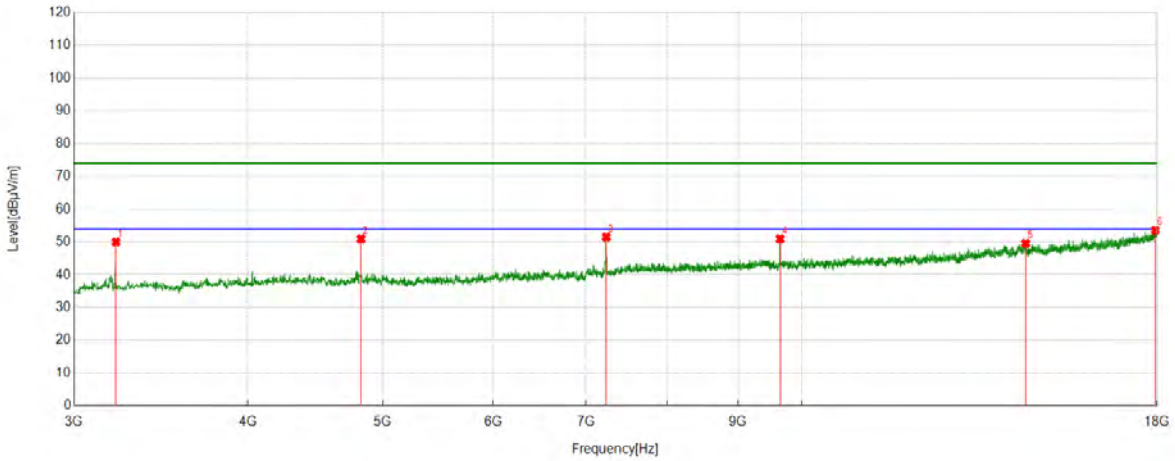
Test Mode	Channel	Polarization	Verdict
11B	LCH	Horizontal	PASS



No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3215.652	60.61	-11.50	49.11	74.00	-24.89	peak
2	4822.7278	57.22	-6.42	50.80	74.00	-23.20	peak
3	7236.1545	52.27	-2.01	50.26	74.00	-23.74	peak
4	9647.706	49.38	1.37	50.75	74.00	-23.25	peak
5	14363.9205	40.90	9.35	50.25	74.00	-23.75	peak
6	17968.121	36.86	16.84	53.70	74.00	-20.30	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
4. Peak: Peak detector.
5. AVG: VBW refer to section 7.2.
6. For above 3GHz part, filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for HPF losses. The proper operation of the transmitter prior to adding the filter to the measurement chain.
7. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

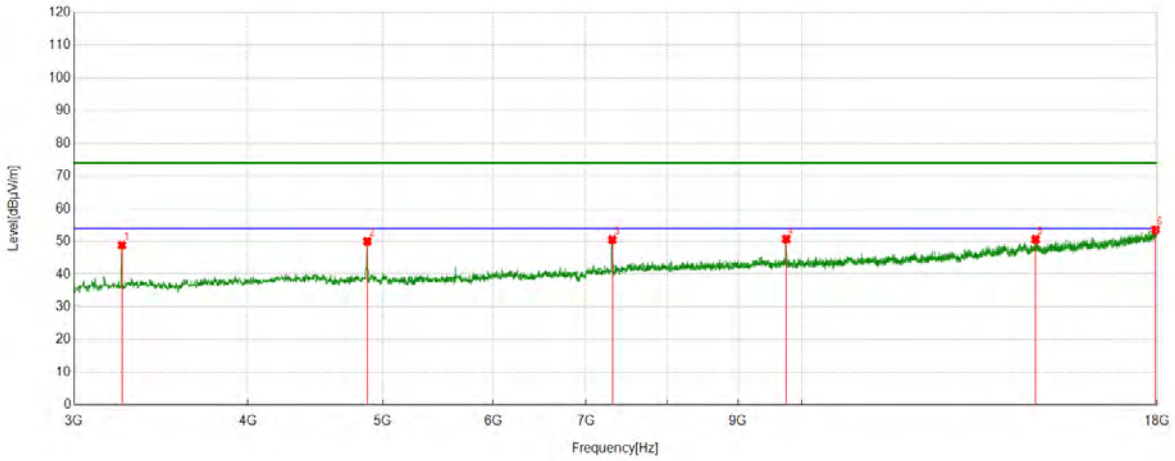
Test Mode	Channel	Polarization	Verdict
11B	LCH	Vertical	PASS



No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3215.652	61.48	-11.50	49.98	74.00	-24.02	peak
2	4822.7278	57.37	-6.42	50.95	74.00	-23.05	peak
3	7236.1545	53.50	-2.01	51.49	74.00	-22.51	peak
4	9647.706	49.61	1.37	50.98	74.00	-23.02	peak
5	14483.9355	40.02	9.55	49.57	74.00	-24.43	peak
6	17947.4934	37.05	16.51	53.56	74.00	-20.44	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
4. Peak: Peak detector.
5. AVG: VBW refer to section 7.2.
6. For above 3GHz part, filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for HPF losses. The proper operation of the transmitter prior to adding the filter to the measurement chain.
7. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

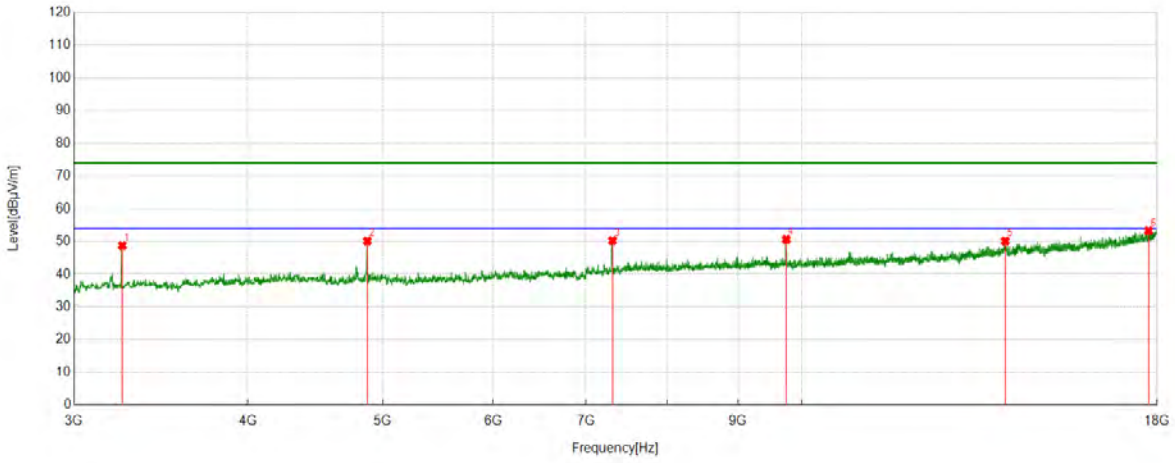
Test Mode	Channel	Polarization	Verdict
11B	MCH	Horizontal	PASS



No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3247.5309	60.30	-11.41	48.89	74.00	-25.11	peak
2	4873.3592	56.42	-6.40	50.02	74.00	-23.98	peak
3	7309.2887	52.68	-2.16	50.52	74.00	-23.48	peak
4	9747.0934	49.12	1.60	50.72	74.00	-23.28	peak
5	14722.0903	41.16	9.47	50.63	74.00	-23.37	peak
6	17953.1191	36.98	16.60	53.58	74.00	-20.42	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
4. Peak: Peak detector.
5. AVG: VBW refer to section 7.2.
6. For above 3GHz part, filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for HPF losses. The proper operation of the transmitter prior to adding the filter to the measurement chain.
7. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

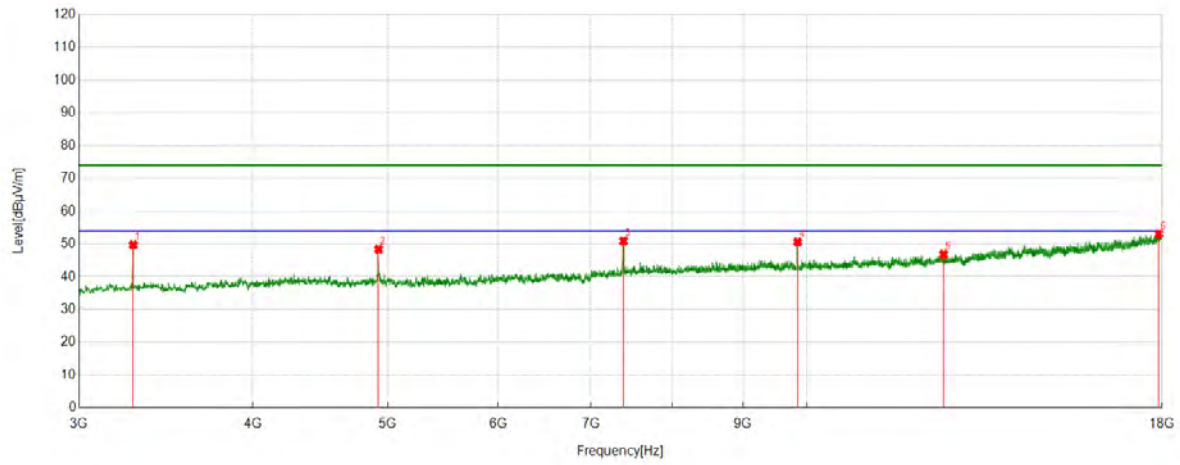
Test Mode	Channel	Polarization	Verdict
11B	MCH	Vertical	PASS



No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3249.4062	60.20	-11.47	48.73	74.00	-25.27	peak
2	4873.3592	56.51	-6.40	50.11	74.00	-23.89	peak
3	7311.1639	52.39	-2.15	50.24	74.00	-23.76	peak
4	9747.0934	48.99	1.60	50.59	74.00	-23.41	peak
5	14002.0002	40.99	9.11	50.10	74.00	-23.90	peak
6	17748.7186	37.63	15.65	53.28	74.00	-20.72	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
4. Peak: Peak detector.
5. AVG: VBW refer to section 7.2.
6. For above 3GHz part, filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for HPF losses. The proper operation of the transmitter prior to adding the filter to the measurement chain.
7. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

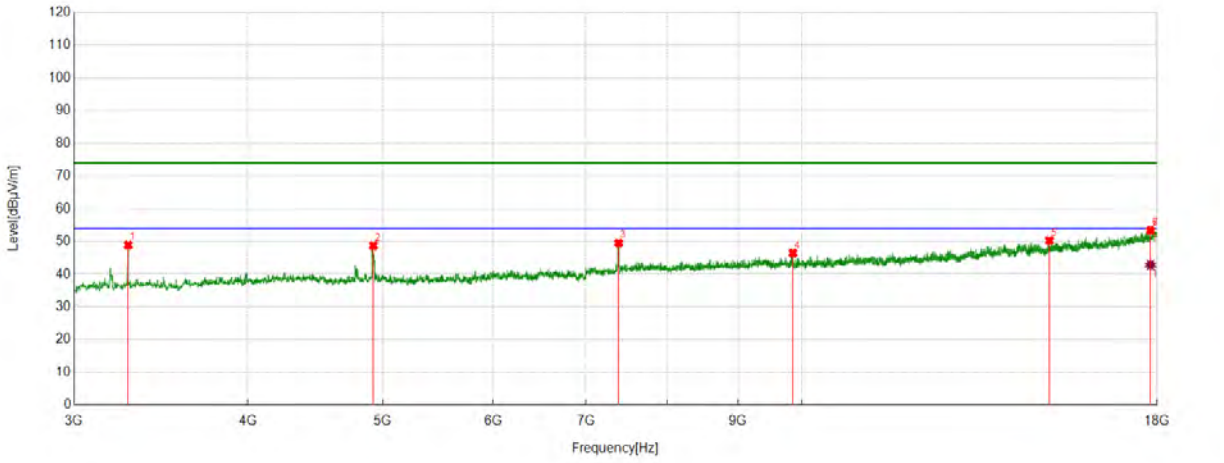
Test Mode	Channel	Polarization	Verdict
11B	HCH	Horizontal	PASS



No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3281.2852	60.40	-10.66	49.74	74.00	-24.26	peak
2	4923.9905	54.56	-6.18	48.38	74.00	-25.62	peak
3	7384.298	52.79	-1.88	50.91	74.00	-23.09	peak
4	9848.356	49.07	1.55	50.62	74.00	-23.38	peak
5	12539.3174	41.44	5.42	46.86	74.00	-27.14	peak
6	17906.2383	36.64	16.40	53.04	74.00	-20.96	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
4. Peak: Peak detector.
5. AVG: VBW refer to section 7.2.
6. For above 3GHz part, filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for HPF losses. The proper operation of the transmitter prior to adding the filter to the measurement chain.
7. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

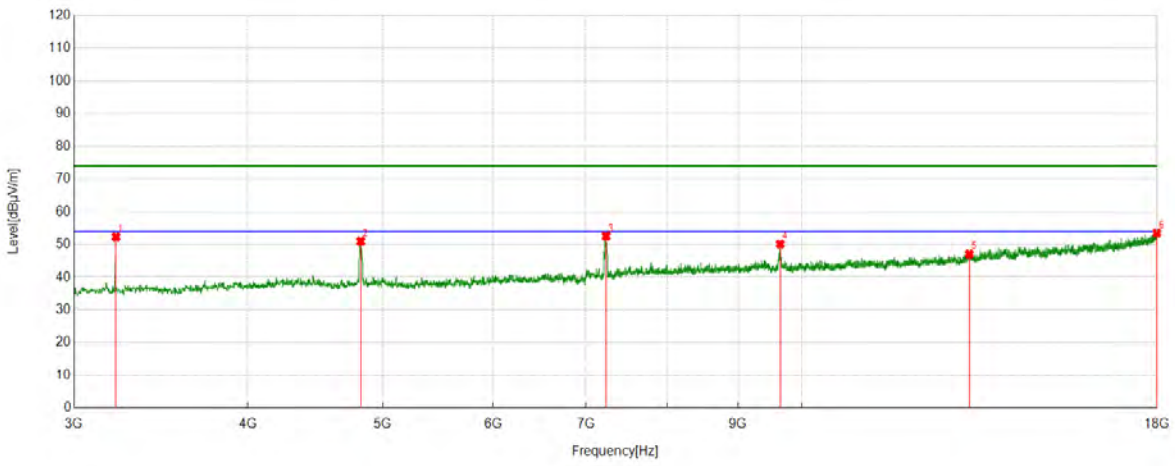
Test Mode	Channel	Polarization	Verdict
11B	HCH	Vertical	PASS



No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3281.2852	59.57	-10.66	48.91	74.00	-25.09	peak
2	4922.1153	54.87	-6.17	48.70	74.00	-25.30	peak
3	7386.1733	51.36	-1.85	49.51	74.00	-24.49	peak
4	9853.9817	44.86	1.59	46.45	74.00	-27.55	peak
5	15063.3829	40.61	9.64	50.25	74.00	-23.75	peak
6	17804.9756	37.68	15.74	53.42	74.00	-20.58	peak
		27.07	15.74	42.81	54.00	-11.19	average

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
4. Peak: Peak detector.
5. AVG: VBW refer to section 7.2.
6. For above 3GHz part, filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for HPF losses. The proper operation of the transmitter prior to adding the filter to the measurement chain.
7. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

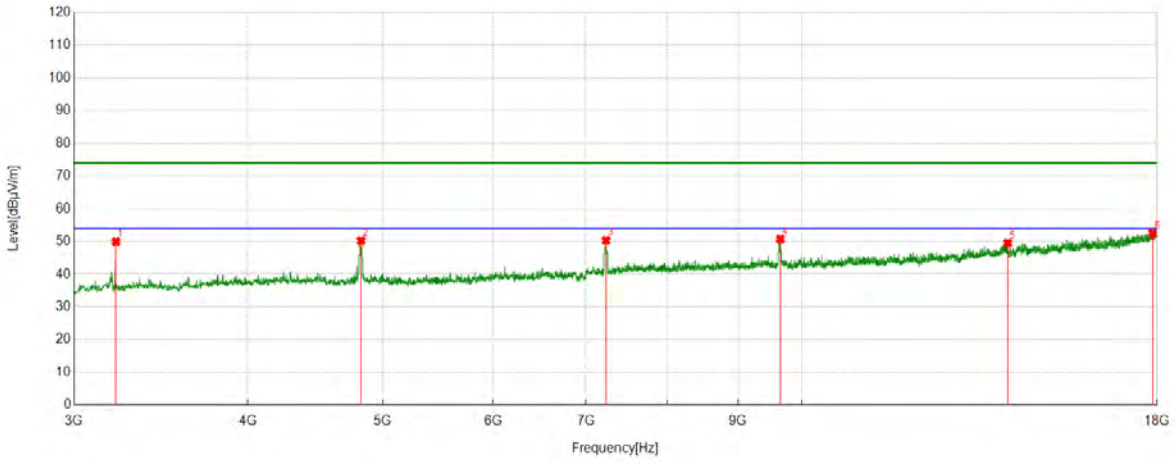
Test Mode	Channel	Polarization	Verdict
11G	LCH	Horizontal	PASS



No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3215.652	63.78	-11.50	52.28	74.00	-21.72	peak
2	4820.8526	57.45	-6.44	51.01	74.00	-22.99	peak
3	7234.2793	54.56	-2.02	52.54	74.00	-21.46	peak
4	9649.5812	48.73	1.39	50.12	74.00	-20.88	peak
5	13193.7742	40.43	6.62	47.05	74.00	-26.95	peak
6	17992.4991	36.92	16.58	53.50	74.00	-20.50	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
4. Peak: Peak detector.
5. AVG: VBW refer to section 7.2.
6. For above 3GHz part, filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for HPF losses. The proper operation of the transmitter prior to adding the filter to the measurement chain.
7. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

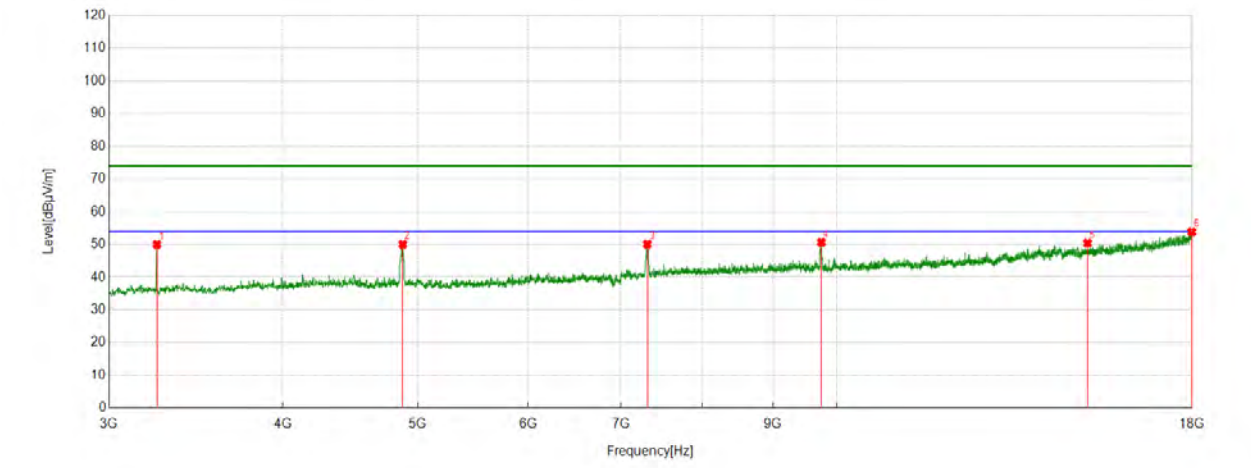
Test Mode	Channel	Polarization	Verdict
11G	LCH	Vertical	PASS



No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3215.652	61.43	-11.50	49.93	74.00	-24.07	peak
2	4822.7278	56.62	-6.42	50.20	74.00	-23.80	peak
3	7234.2793	52.33	-2.02	50.31	74.00	-20.19	peak
4	9651.4564	49.34	1.38	50.72	74.00	-23.28	peak
5	14058.2573	40.39	9.11	49.50	74.00	-24.50	peak
6	17870.6088	35.55	16.94	52.49	74.00	-21.51	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
4. Peak: Peak detector.
5. AVG: VBW refer to section 7.2.
6. For above 3GHz part, filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for HPF losses. The proper operation of the transmitter prior to adding the filter to the measurement chain.
7. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

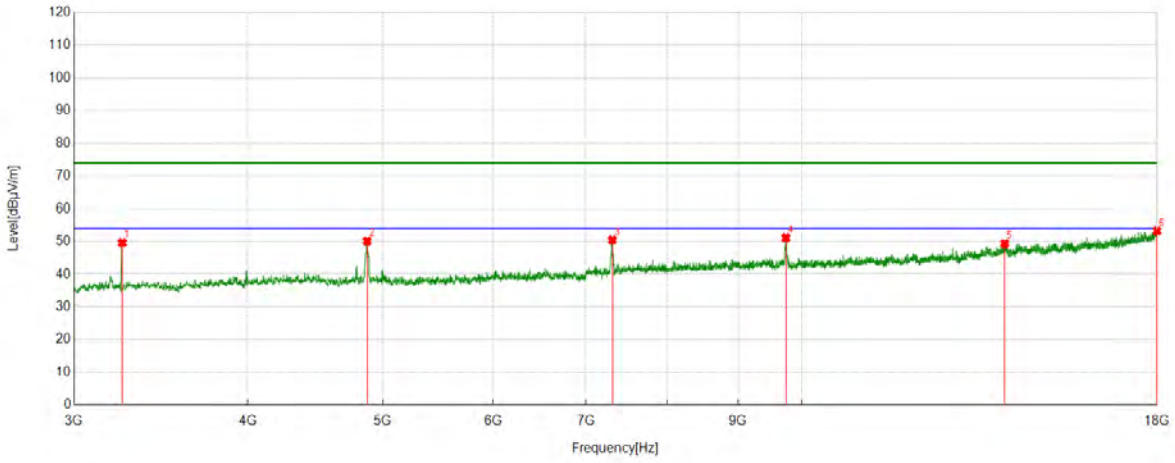
Test Mode	Channel	Polarization	Verdict
11G	MCH	Horizontal	PASS



No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3247.5309	61.40	-11.41	49.99	74.00	-24.01	peak
2	4877.1096	56.36	-6.34	50.02	74.00	-23.98	peak
3	7309.2887	52.23	-2.16	50.07	74.00	-23.93	peak
4	9748.9686	49.11	1.54	50.65	74.00	-23.35	peak
5	15142.1428	40.62	9.80	50.42	74.00	-23.58	peak
6	17990.6238	37.28	16.58	53.86	74.00	-20.14	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
4. Peak: Peak detector.
5. AVG: VBW refer to section 7.2.
6. For above 3GHz part, filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for HPF losses. The proper operation of the transmitter prior to adding the filter to the measurement chain.
7. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

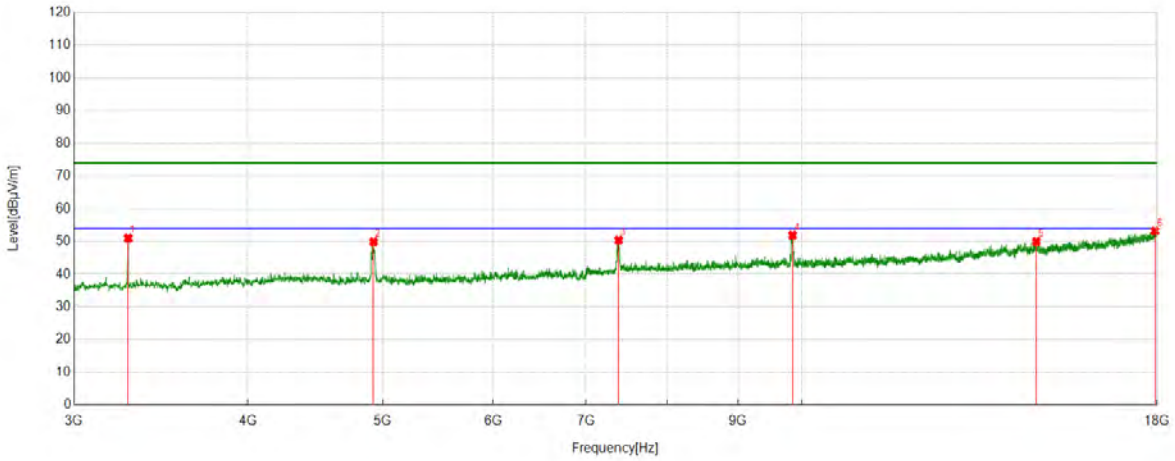
Test Mode	Channel	Polarization	Verdict
11G	MCH	Vertical	PASS



No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3249.4062	61.08	-11.47	49.61	74.00	-24.39	peak
2	4871.4839	56.51	-6.43	50.08	74.00	-23.92	peak
3	7309.2887	52.63	-2.16	50.47	74.00	-23.53	peak
4	9741.4677	49.40	1.75	51.15	74.00	-22.85	peak
5	13990.7488	40.31	9.01	49.32	74.00	-24.68	peak
6	17998.1248	36.67	16.58	53.25	74.00	-20.75	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
4. Peak: Peak detector.
5. AVG: VBW refer to section 7.2.
6. For above 3GHz part, filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for HPF losses. The proper operation of the transmitter prior to adding the filter to the measurement chain.
7. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

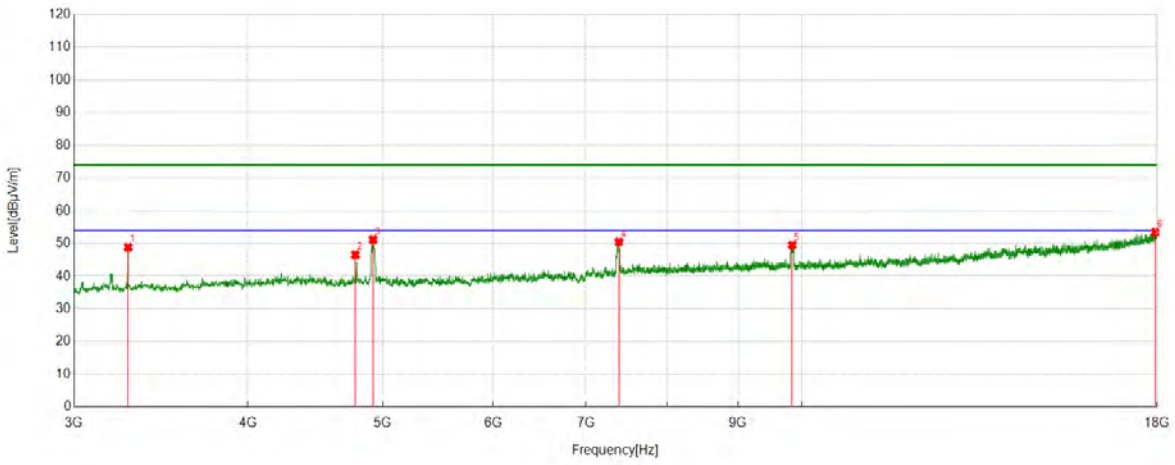
Test Mode	Channel	Polarization	Verdict
11G	HCH	Horizontal	PASS



No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3281.2852	61.69	-10.66	51.03	74.00	-22.97	peak
2	4923.9905	56.08	-6.18	49.90	74.00	-24.10	peak
3	7386.1733	52.26	-1.85	50.41	74.00	-23.59	peak
4	9848.356	50.38	1.55	51.93	74.00	-22.07	peak
5	14742.7178	40.16	9.80	49.96	74.00	-24.04	peak
6	17938.1173	36.60	16.61	53.21	74.00	-20.79	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
4. Peak: Peak detector.
5. AVG: VBW refer to section 7.2.
6. For above 3GHz part, filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for HPF losses. The proper operation of the transmitter prior to adding the filter to the measurement chain.
7. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

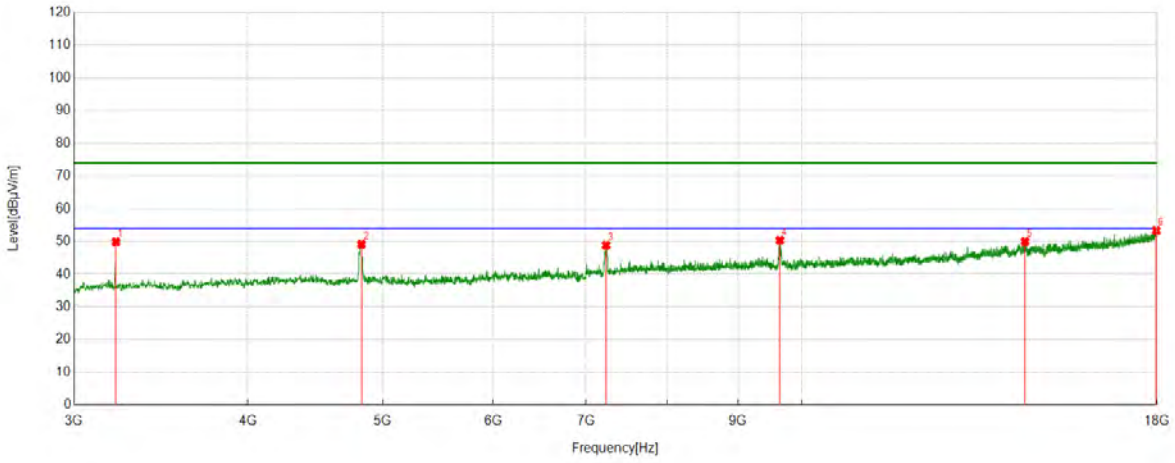
Test Mode	Channel	Polarization	Verdict
11G	HCH	Vertical	PASS



No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3281.2852	59.50	-10.66	48.84	74.00	-25.16	peak
2	4777.7222	53.14	-6.62	46.52	74.00	-27.48	peak
3	4920.24	57.39	-6.18	51.21	74.00	-22.79	peak
4	7389.9237	52.26	-1.78	50.48	74.00	-23.52	peak
5	9842.7303	47.88	1.61	49.49	74.00	-24.51	peak
6	17945.6182	36.94	16.52	53.46	74.00	-20.54	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
4. Peak: Peak detector.
5. AVG: VBW refer to section 7.2.
6. For above 3GHz part, filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for HPF losses. The proper operation of the transmitter prior to adding the filter to the measurement chain.
7. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

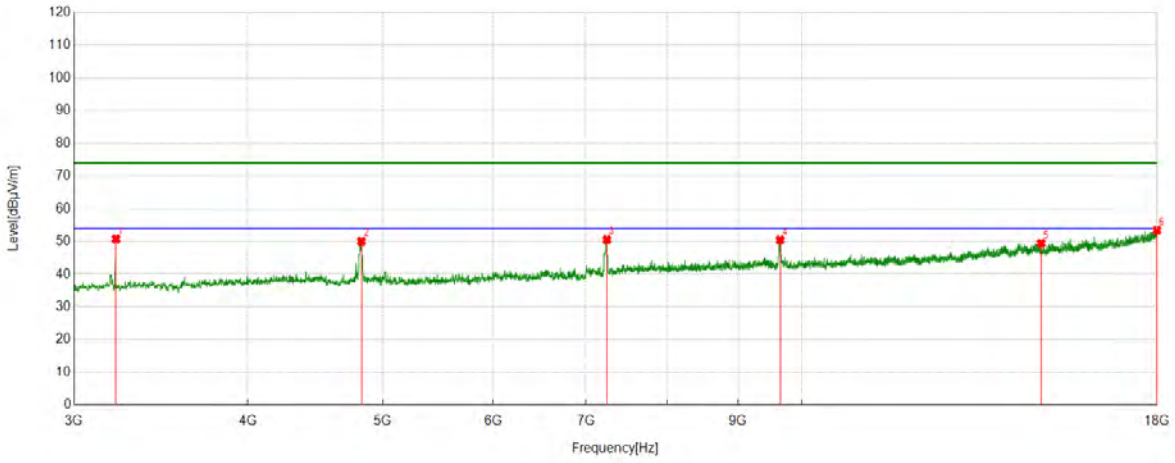
Test Mode	Channel	Polarization	Verdict
11N HT20	LCH	Horizontal	PASS



No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3215.652	61.38	-11.50	49.88	74.00	-24.12	peak
2	4826.4783	55.55	-6.40	49.15	74.00	-24.85	peak
3	7234.2793	50.86	-2.02	48.84	74.00	-25.16	peak
4	9643.9555	49.02	1.34	50.36	74.00	-23.64	peak
5	14467.0584	40.29	9.68	49.97	74.00	-24.03	peak
6	17977.4972	36.55	16.78	53.33	74.00	-20.67	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
4. Peak: Peak detector.
5. AVG: VBW refer to section 7.2.
6. For above 3GHz part, filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for HPF losses. The proper operation of the transmitter prior to adding the filter to the measurement chain.
7. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

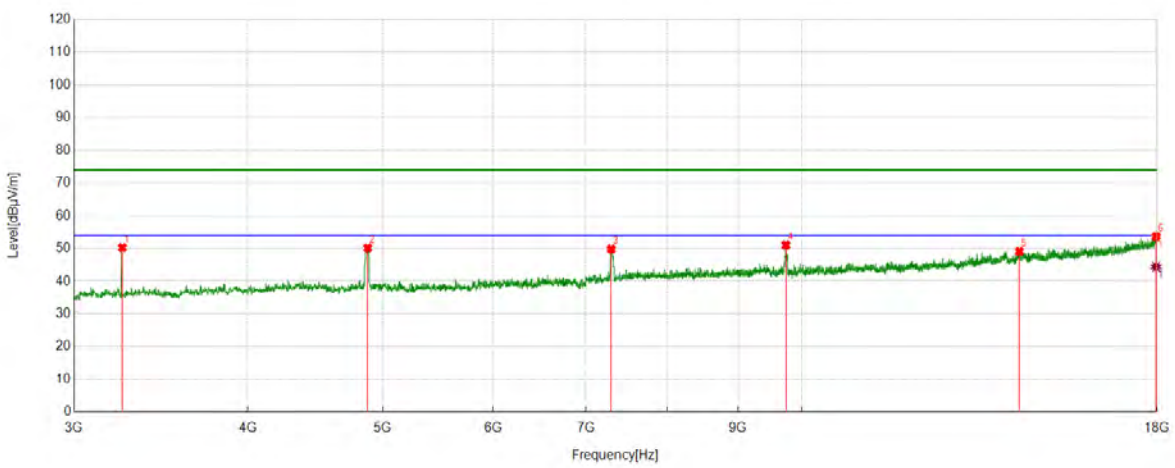
Test Mode	Channel	Polarization	Verdict
11N HT20	LCH	Vertical	PASS



No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3215.652	62.24	-11.50	50.74	74.00	-23.26	peak
2	4826.4783	56.43	-6.40	50.03	74.00	-23.97	peak
3	7243.6555	52.55	-2.01	50.54	74.00	-23.46	peak
4	9647.706	49.10	1.37	50.47	74.00	-23.53	peak
5	14858.9824	40.02	9.41	49.43	74.00	-24.57	peak
6	17994.3743	36.88	16.57	53.45	74.00	-20.55	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
4. Peak: Peak detector.
5. AVG: VBW refer to section 7.2.
6. For above 3GHz part, filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for HPF losses. The proper operation of the transmitter prior to adding the filter to the measurement chain.
7. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

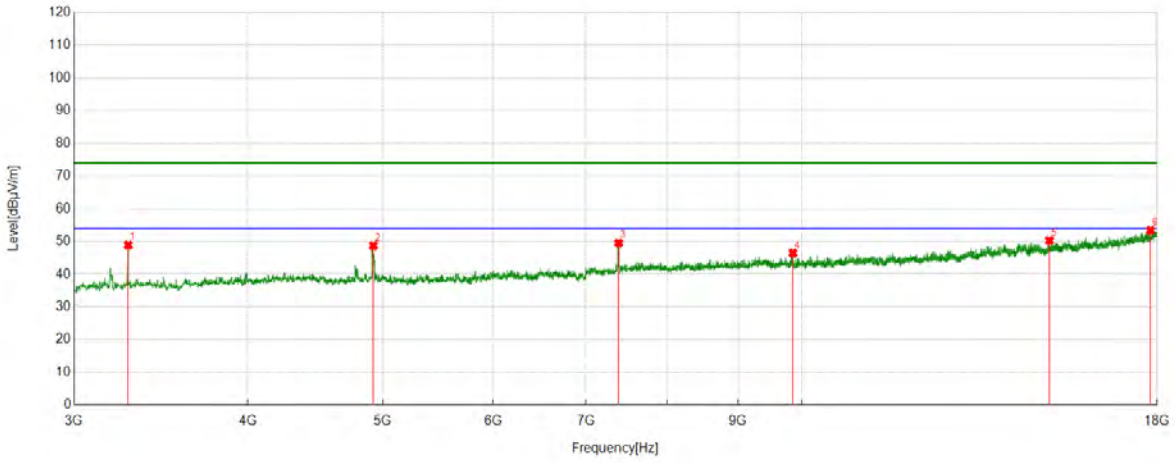
Test Mode	Channel	Polarization	Verdict
11N HT20	MCH	Horizontal	PASS



No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3249.4062	61.72	-11.47	50.25	74.00	-23.75	peak
2	4877.1096	56.47	-6.34	50.13	74.00	-23.87	peak
3	7296.162	51.90	-2.08	49.82	74.00	-24.18	peak
4	9741.4677	49.30	1.75	51.05	74.00	-22.95	peak
5	14333.9167	39.61	9.51	49.12	74.00	-24.88	peak
6	17969.9962	36.83	16.84	53.67	74.00	-20.33	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
4. Peak: Peak detector.
5. AVG: VBW refer to section 7.2.
6. For above 3GHz part, filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for HPF losses. The proper operation of the transmitter prior to adding the filter to the measurement chain.
7. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

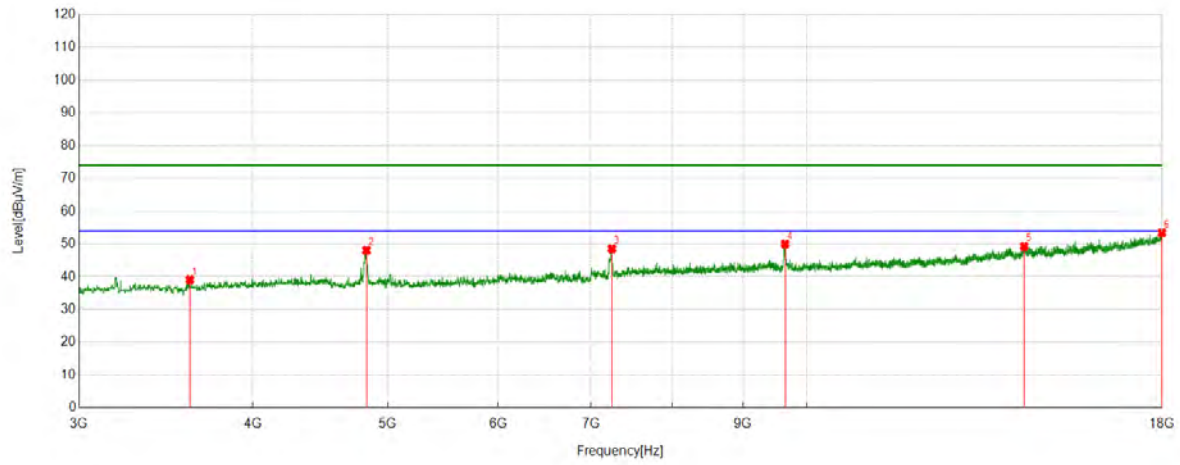
Test Mode	Channel	Polarization	Verdict
11N HT20	MCH	Vertical	PASS



No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3281.2852	59.57	-10.66	48.91	74.00	-25.09	peak
2	4922.1153	54.87	-6.17	48.70	74.00	-25.30	peak
3	7386.1733	51.36	-1.85	49.51	74.00	-24.49	peak
4	9853.9817	44.86	1.59	46.45	74.00	-27.55	peak
5	15063.3829	40.61	9.64	50.25	74.00	-23.75	peak
6	17804.9756	37.68	15.74	53.42	74.00	-20.58	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
4. Peak: Peak detector.
5. AVG: VBW refer to section 7.2.
6. For above 3GHz part, filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for HPF losses. The proper operation of the transmitter prior to adding the filter to the measurement chain.
7. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

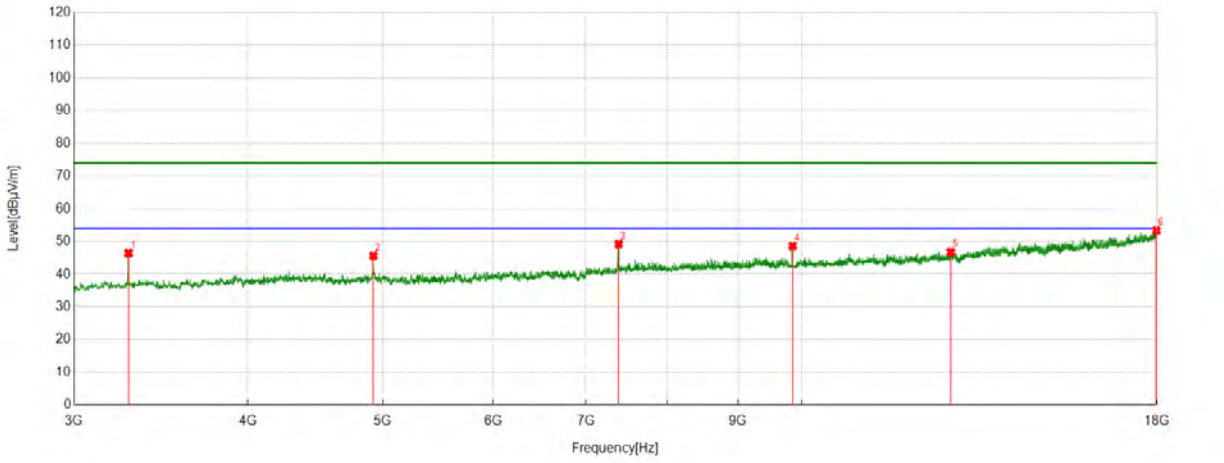
Test Mode	Channel	Polarization	Verdict
11N HT20	HCH	Horizontal	PASS



No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3603.8255	49.22	-10.15	39.07	74.00	-34.93	peak
2	4826.4783	54.43	-6.40	48.03	74.00	-25.97	peak
3	7243.6555	50.55	-2.01	48.54	74.00	-25.46	peak
4	9647.706	48.60	1.37	49.97	74.00	-24.03	peak
5	14328.291	39.80	9.46	49.26	74.00	-24.74	peak
6	17994.3743	36.88	16.57	53.45	74.00	-20.55	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
4. Peak: Peak detector.
5. AVG: VBW refer to section 7.2.
6. For above 3GHz part, filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for HPF losses. The proper operation of the transmitter prior to adding the filter to the measurement chain.
7. 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
11N HT20	HCH	Vertical	PASS



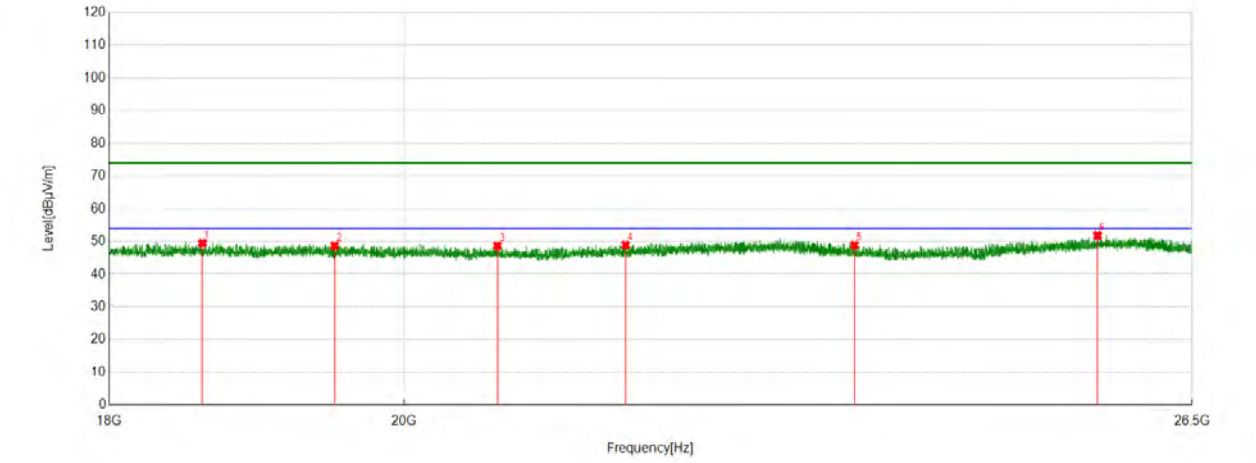
No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3283.1604	57.14	-10.72	46.42	74.00	-27.58	peak
2	4922.1153	51.77	-6.17	45.60	74.00	-28.40	peak
3	7386.1733	51.04	-1.85	49.19	74.00	-24.81	peak
4	9848.356	47.07	1.55	48.62	74.00	-25.38	peak
5	12796.2245	41.19	5.58	46.77	74.00	-27.23	peak
6	17979.3724	36.58	16.77	53.35	74.00	-20.65	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
4. Peak: Peak detector.
5. AVG: VBW refer to section 7.2.
6. For above 3GHz part, filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for HPF losses. The proper operation of the transmitter prior to adding the filter to the measurement chain.
7. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

Part III: 18GHz~26.5GHz

SPURIOUS EMISSIONS 18GHz TO 26.5GHz (WORST-CASE CONFIGURATION)

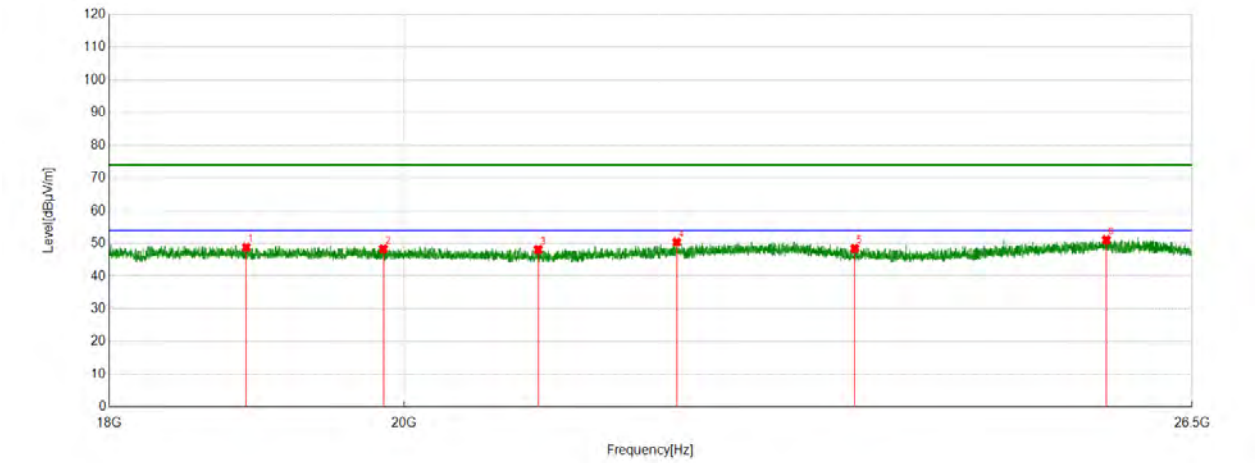
Test Mode	Channel	Polarization	Verdict
11B	MCH	Horizontal	PASS



No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	18610.361	50.46	-0.97	49.49	74.00	-24.51	peak
2	19509.751	49.41	-0.72	48.69	74.00	-25.31	peak
3	20678.6179	49.51	-0.85	48.66	74.00	-25.34	peak
4	21646.8647	49.25	-0.31	48.94	74.00	-25.06	peak
5	23490.6991	48.99	-0.10	48.89	74.00	-25.11	peak
6	25620.162	50.79	1.05	51.84	74.00	-22.16	peak

Note: 1.If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
2. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
3. Measurement = Reading Level + Correct Factor.

Test Mode	Channel	Polarization	Verdict
11B	MCH	Vertical	PASS



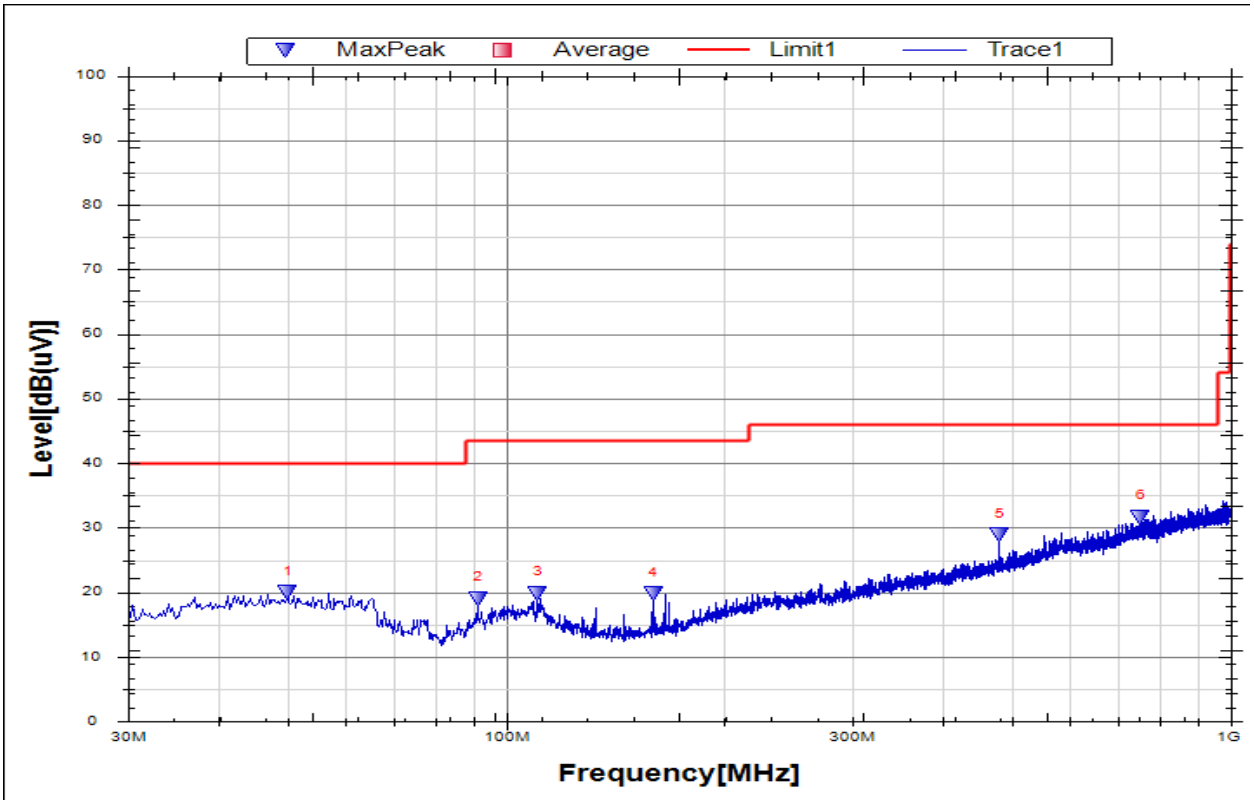
No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	18904.4904	49.94	-1.11	48.83	74.00	-25.17	peak
2	19852.3352	48.97	-0.60	48.37	74.00	-25.63	peak
3	20981.2481	49.11	-0.99	48.12	74.00	-25.88	peak
4	22045.5546	50.20	0.23	50.43	74.00	-23.57	peak
5	23492.3992	48.61	-0.11	48.50	74.00	-25.50	peak
6	25700.9201	49.95	1.18	51.13	74.00	-22.87	peak

Note: 1.If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
2. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
3. Measurement = Reading Level + Correct Factor.

Part IV: 30MHz~1GHz

SPURIOUS EMISSIONS 30M TO 1GHHz (WORST-CASE CONFIGURATION)

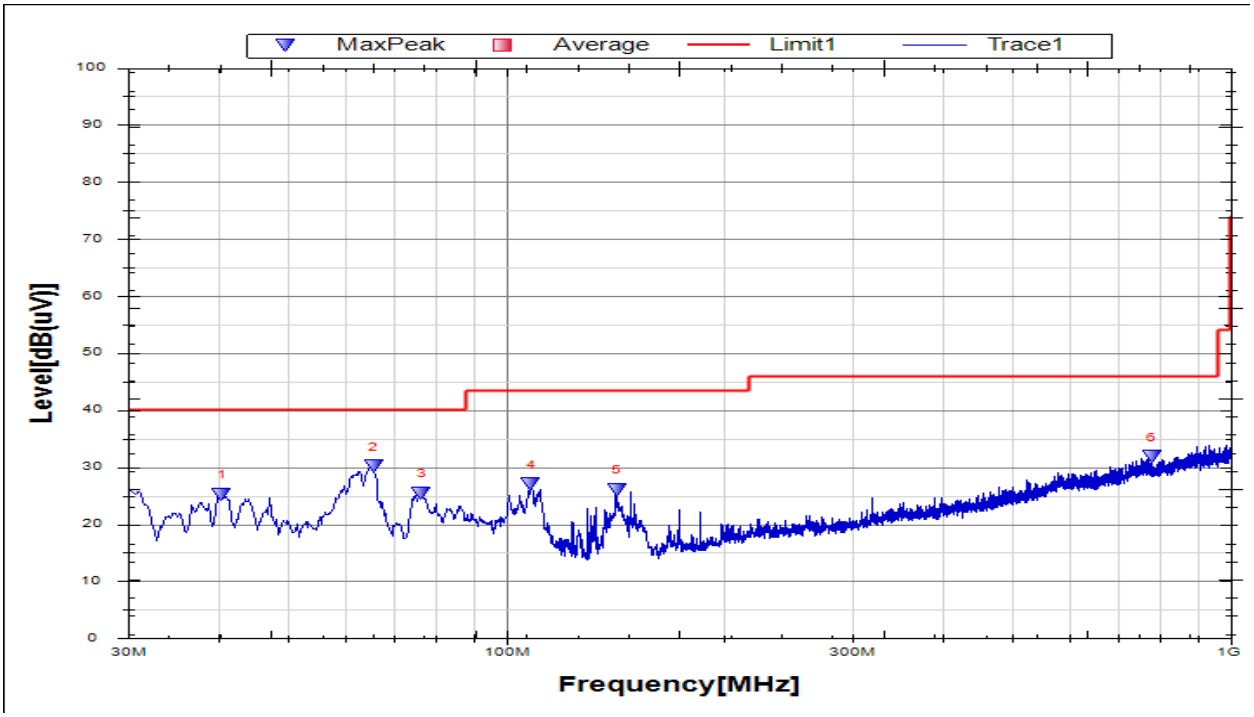
Test Mode	Channel	Polarization	Verdict
11B	MCH	Horizontal	PASS



No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	49.8900	-1.08	21.03	19.95	40.00	-20.05	peak
2	91.3679	1.93	17.12	19.05	43.50	-24.45	peak
3	110.5303	1.45	18.34	19.79	43.50	-23.71	peak
4	159.2850	3.90	15.85	19.75	43.50	-23.75	peak
5	479.9507	3.66	25.23	28.89	46.00	-17.11	peak
6	751.619	1.57	30.08	31.65	46.00	-14.35	peak

Note: 1. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.
2. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.
3. Measurement = Reading Level + Correct Factor.

Test Mode	Channel	Polarization	Verdict
11B	MCH	Vertical	PASS



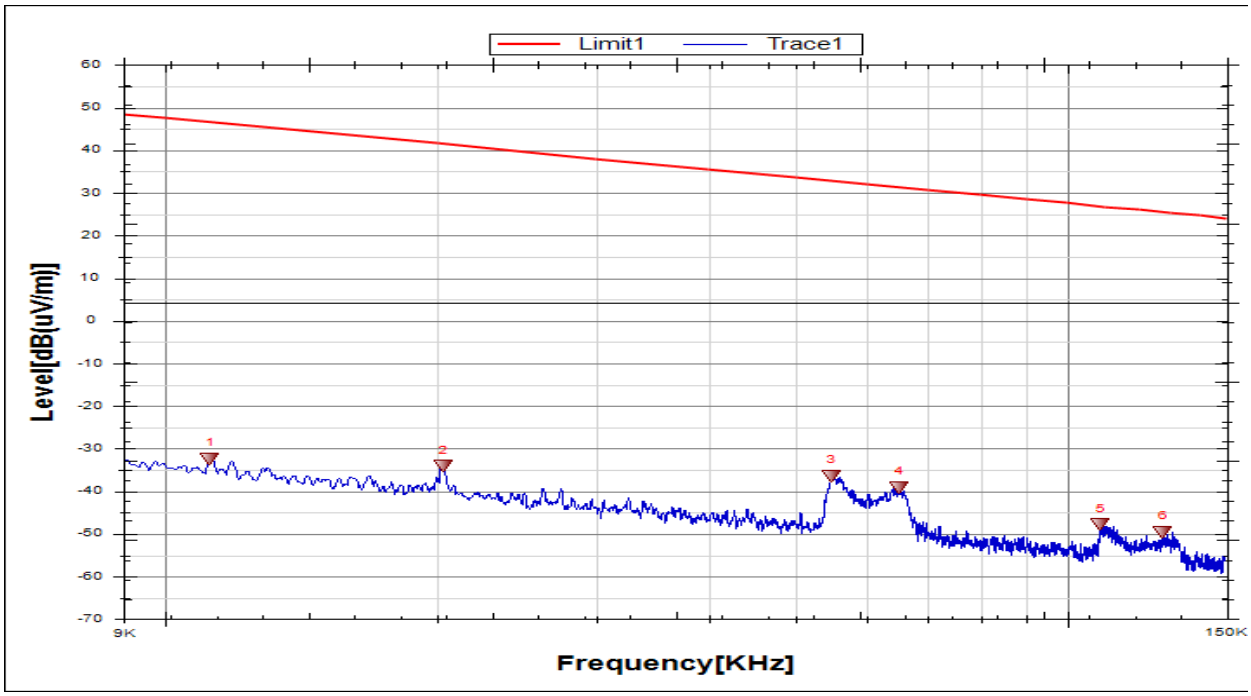
No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	40.4301	5.23	20	25.23	40.00	-14.77	peak
2	65.4139	12.33	17.84	30.17	40.00	-9.83	peak
3	76.3292	10.66	14.75	25.41	40.00	-14.59	peak
4	108.1046	8.5	18.51	27.01	43.50	-16.49	peak
5	141.8206	10.75	15.31	26.06	43.50	-17.44	peak
6	777.3304	1.78	30.08	31.86	46.00	-14.14	peak

Note: 1. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.
2. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.
3. Measurement = Reading Level + Correct Factor.

Part V: 9KHz~30MHz

SPURIOUS EMISSIONS Below 30MHz (WORST CASE CONFIGURATION-FACE ON)

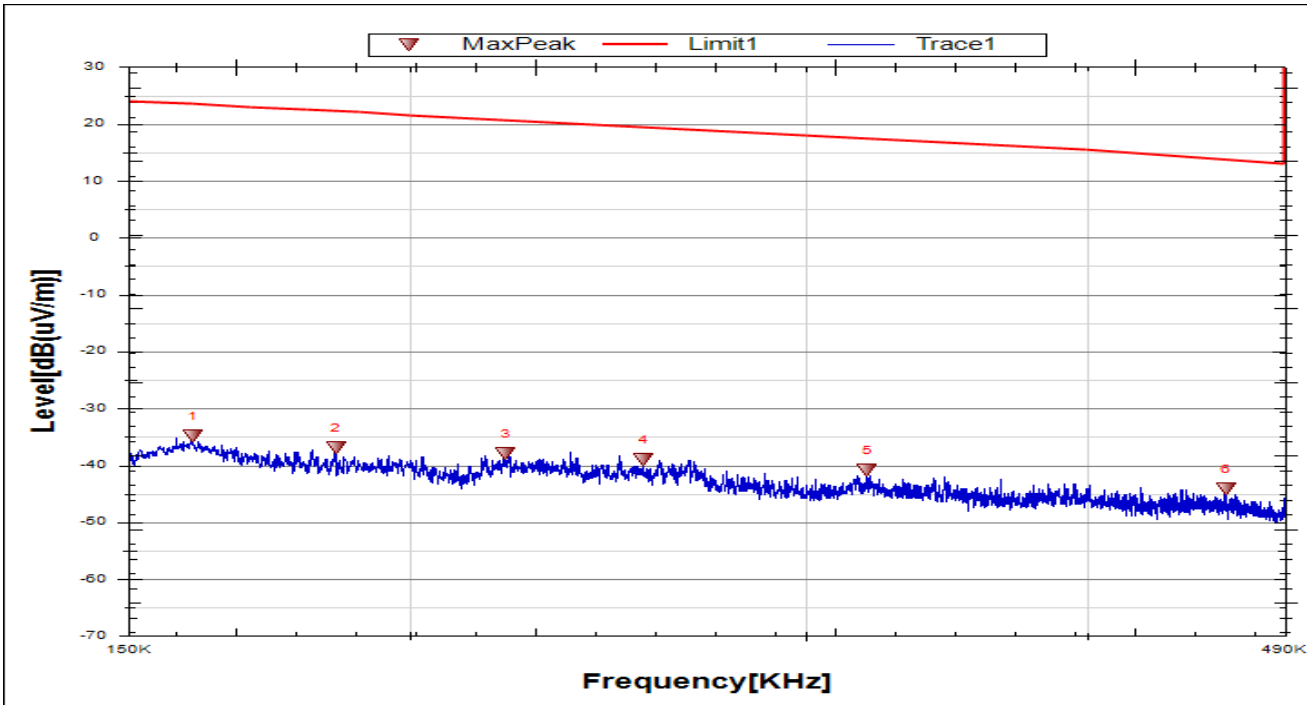
Test Mode	Channel	Frequency Range	Verdict
11B	MCH	9KHz~150KHz	PASS



No.	Frequency	Reading Level	Correct Factor	FCC Result	FCC Limit	IC Result	IC Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dBuA/m)	(dBuA/m)	(dB)	
1	0.0112	29.46	-61.90	-32.44	46.88	-83.94	-4.62	-79.32	peak
2	0.0203	27.68	-61.81	-34.13	41.47	-85.63	-10.03	-75.60	peak
3	0.0547	25.39	-61.73	-36.34	32.88	-87.84	-18.62	-69.22	peak
4	0.0650	22.74	-61.76	-39.02	31.38	-90.52	-20.12	-70.40	peak
5	0.1087	13.95	-61.81	-47.86	26.89	-99.36	-24.61	-74.75	peak
6	0.1275	12.26	-61.82	-49.56	25.50	-101.06	-26.00	-75.06	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. Result 300m= Result 3m-80 dBuV/m
3. If Peak Result complies with AV and QP limit, AV and QP Result are deemed to comply with AV limit.
4. All 3 polarizations(Horizontal, Face-on and Face-off) of the loop antenna had been tested, but only the worst data recorded in the report
5. The limits in CFR 47, Part 15, Subpart C, paragraph 15.209 (a), are identical to those in RSS-GEN Section 8.9, Table 6, since the measurements are performed in terms of magnetic field strength and converted to electric field strength levels (as reported in the table) using the free space impedance of 377Ω. For example, the measurement frequency X KHz resulted in a level of Y dBuV/m, which is equivalent to Y-51.5 = Z dBuA/m, which has the same margin, W dB, to the corresponding RSS-GEN Table 6 limit as it has to be 15.209(a) limit.

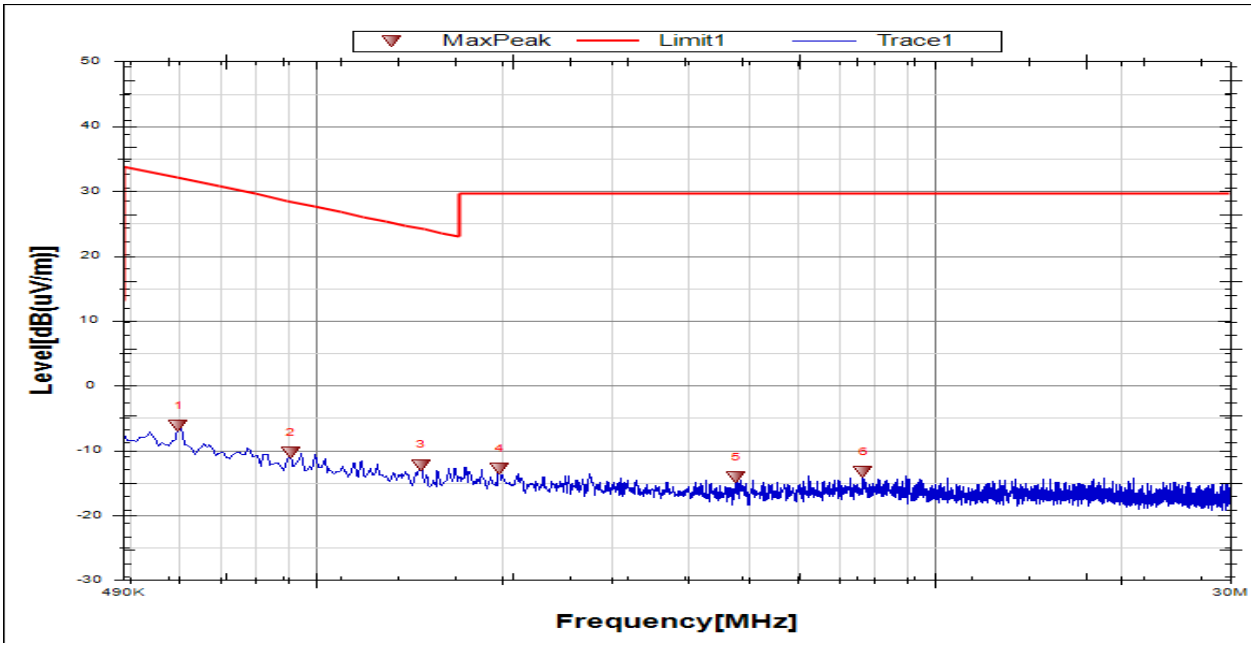
Test Mode	Channel	Frequency Range	Verdict
11B	MCH	150KHz~490Hz	PASS



No.	Frequency	Reading Level	Correct Factor	FCC Result	FCC Limit	IC Result	IC Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dBuA/m)	(dBuA/m)	(dB)	
1	0.1601	27.03	-61.84	-34.81	23.51	-86.31	-27.99	-58.32	peak
2	0.1853	25.03	-61.85	-36.82	22.25	-88.32	-29.25	-59.07	peak
3	0.2206	23.9	-61.87	-37.97	20.85	-89.47	-30.65	-58.82	peak
4	0.254	22.9	-61.89	-38.99	19.68	-90.49	-31.82	-58.67	peak
5	0.3195	21.15	-61.91	-40.76	17.57	-92.26	-33.93	-58.33	peak
6	0.4612	17.77	-61.87	-44.1	13.87	-95.60	-37.63	-57.97	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. Result 300m= Result 3m-80 dBuV/m
3. If Peak Result complies with AV and QP limit, AV and QP Result are deemed to comply with AV limit.
4. All 3 polarizations(Horizontal, Face-on and Face-off) of the loop antenna had been tested, but only the worst data recorded in the report
5. The limits in CFR 47, Part 15, Subpart C, paragraph 15.209 (a), are identical to those in RSS-GEN Section 8.9, Table 6, since the measurements are performed in terms of magnetic field strength and converted to electric field strength levels (as reported in the table) using the free space impedance of 377Ω. For example, the measurement frequency X KHz resulted in a level of Y dBuV/m, which is equivalent to Y-51.5 = Z dBuA/m, which has the same margin, W dB, to the corresponding RSS-GEN Table 6 limit as it has to be 15.209(a) limit.

Test Mode	Channel	Frequency Range	Verdict
11B	MCH	490KHz~30MHz	PASS



No.	Frequency	Reading Level	Correct Factor	FCC Result	FCC Limit	IC Result	IC Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dBuA/m)	(dBuA/m)	(dB)	
1	0.6007	15.7	-21.88	-6.18	32.03	-57.68	-19.47	-38.21	peak
2	0.9106	11.51	-21.85	-10.34	28.42	-61.84	-23.08	-38.76	peak
3	1.4788	9.59	-21.82	-12.23	24.21	-63.73	-27.29	-36.44	peak
4	1.9806	9.07	-21.81	-12.74	29.54	-64.24	-21.96	-42.28	peak
5	4.7772	7.54	-21.72	-14.18	29.54	-65.68	-21.96	-43.72	peak
6	7.6771	8.43	-21.7	-13.27	29.54	-64.77	-21.96	-42.81	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. Result 30m= Result 3m-40 dBuV/m
3. If Peak Result complies with AV and QP limit, AV and QP Result are deemed to comply with AV limit.
4. All 3 polarizations(Horizontal, Face-on and Face-off) of the loop antenna had been tested, but only the worst data recorded in the report
5. The limits in CFR 47, Part 15, Subpart C, paragraph 15.209 (a), are identical to those in RSS-GEN Section 8.9, Table 6, since the measurements are performed in terms of magnetic field strength and converted to electric field strength levels (as reported in the table) using the free space impedance of 377Ω;. For example, the measurement frequency X KHz resulted in a level of Y dBuV/m, which is equivalent to Y-51.5 = Z dBuA/m, which has the same margin, W dB, to the corresponding RSS-GEN Table 6 limit as it has to be 15.209(a) limit.

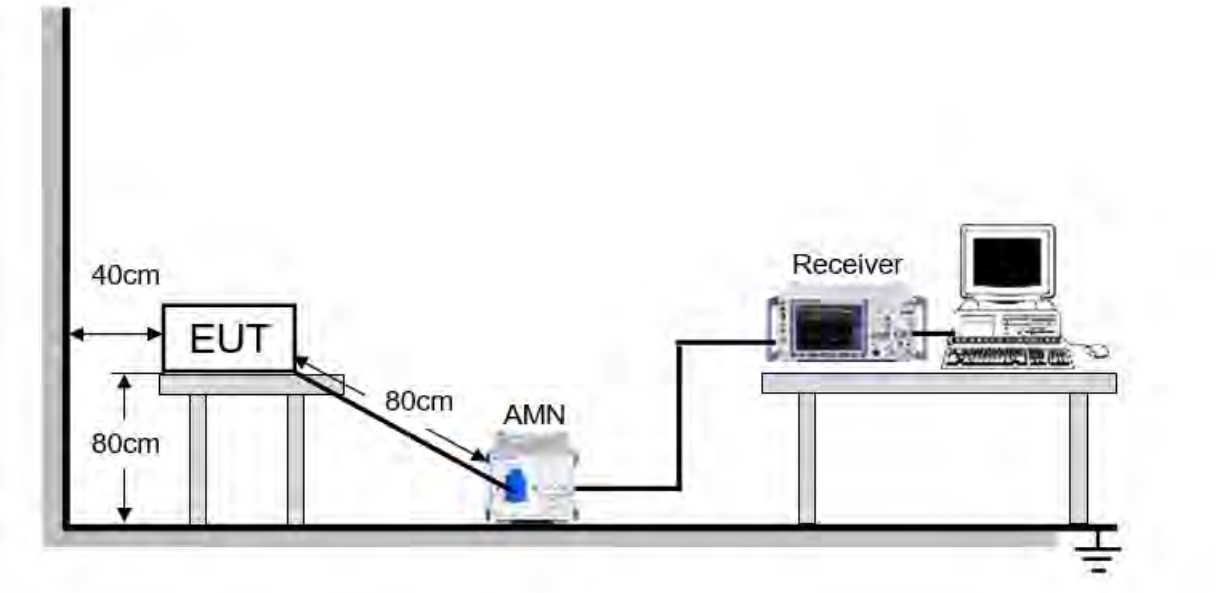
8. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

Please refer to FCC §15.207 (a), ISED RSS-Gen Clause 8.8

FREQUENCY (MHz)	Limit (dBuV)	
	Quasi-peak	Average
0.15 -0.5	66 - 56 *	56 - 46 *
0.50 -5.0	56.00	46.00
5.0 -30.0	60.00	50.00

TEST SETUP AND PROCEDURE



The EUT is put on a table of non-conducting material that is 80cm high. The vertical conducting wall of shielding is located 40cm to the rear of the EUT. The power line of the EUT is connected to the AC mains through a Artificial Mains Network (A.M.N.). A EMI Measurement Receiver (R&S Test Receiver ESR3) is used to test the emissions from both sides of AC line. According to the requirements in Section 6.2 of ANSI C63.10-2013.Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR Quasi-Peak and average detector mode. The bandwidth of EMI test receiver is set at 9kHz.

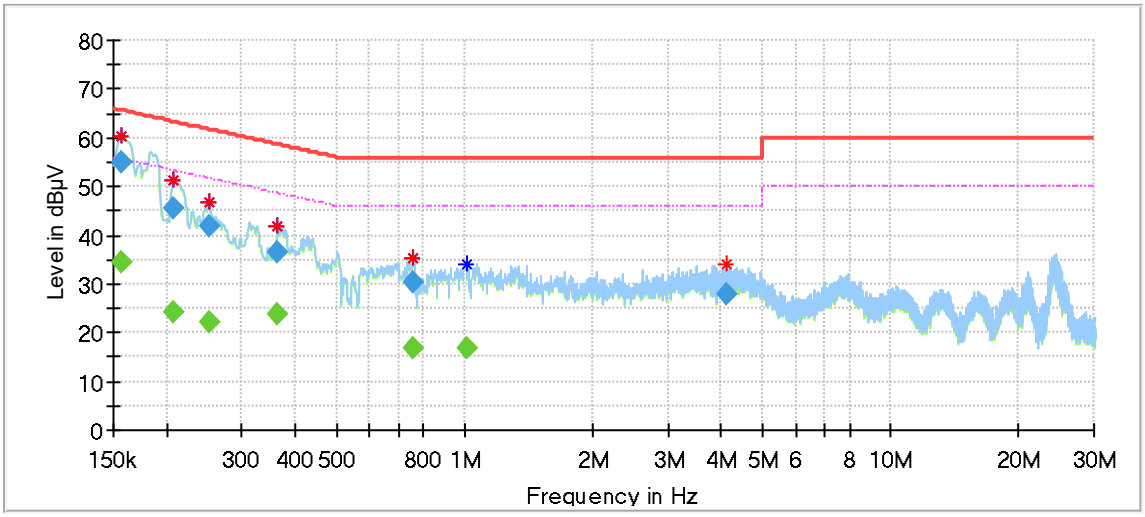
The arrangement of the equipment is installed to meet the standards and operating in a manner, which tends to maximize its emission characteristics in a normal application.

TEST ENVIRONMENT:

Environment Parameter	Selected Values During Tests
Relative Humidity	50.4%
Atmospheric Pressure:	102.1Kpa
Temperature	22.8℃

TEST RESULTS (WORST CASE CONFIGURATION)

For L Line:

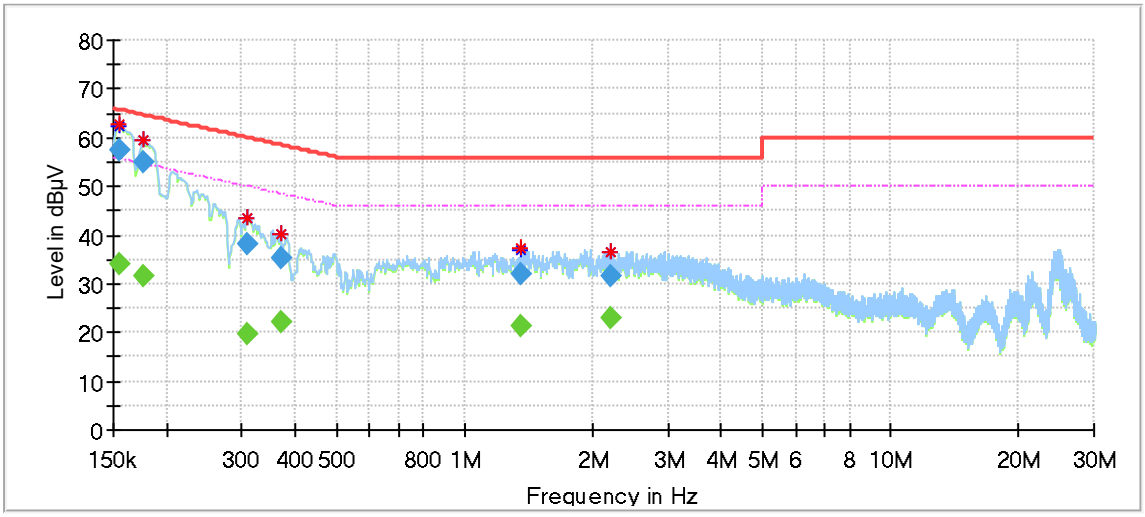


Final_Result

Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.155970	---	34.29	55.68	21.39	1000.0	9.000	L1	OFF	9.6
0.155970	55.00	---	65.68	10.67	1000.0	9.000	L1	OFF	9.6
0.208208	---	24.02	53.28	29.26	1000.0	9.000	L1	OFF	9.5
0.208208	45.37	---	63.28	17.91	1000.0	9.000	L1	OFF	9.5
0.251490	---	22.15	51.71	29.56	1000.0	9.000	L1	OFF	9.5
0.251490	41.69	---	61.71	20.01	1000.0	9.000	L1	OFF	9.5
0.364920	36.34	---	58.62	22.28	1000.0	9.000	L1	OFF	9.6
0.364920	---	23.91	48.62	24.71	1000.0	9.000	L1	OFF	9.6
0.758940	30.51	---	56.00	25.49	1000.0	9.000	L1	OFF	9.6
0.758940	---	16.66	46.00	29.34	1000.0	9.000	L1	OFF	9.6
1.017143	---	16.99	46.00	29.01	1000.0	9.000	L1	OFF	9.5
4.134975	28.04	---	56.00	27.96	1000.0	9.000	L1	OFF	9.8

Note: 1. If QP Result complies with AV limit, AV Result is deemed to comply with AV limit.
2. Test setup: RBW: 200 Hz (9 kHz—150 kHz), 9 kHz (150 kHz—30 MHz).
3. Step size: 80Hz (0.009MHz-0.15MHz), 4 kHz (0.15MHz-30MHz), Scan time: auto.
4. The extension cord/outlet strip was calibrated with the LISN as required by ANSI C63.10:2013 Clause 6.2.2.
5. Pre-testing all test modes and channels, and find the MCH of 11B mode which is the worst case, so only the worst case is included in this test report.

For N Line:



Final_Result

Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.154478	---	34.00	55.76	21.75	1000.0	9.000	N	OFF	9.5
0.154478	57.54	---	65.76	8.22	1000.0	9.000	N	OFF	9.5
0.176865	---	31.49	54.63	23.14	1000.0	9.000	N	OFF	9.5
0.176865	54.81	---	64.63	9.82	1000.0	9.000	N	OFF	9.5
0.309698	---	19.57	49.98	30.41	1000.0	9.000	N	OFF	9.6
0.309698	37.98	---	59.98	22.00	1000.0	9.000	N	OFF	9.6
0.369398	35.15	---	58.51	23.37	1000.0	9.000	N	OFF	9.5
0.369398	---	21.96	48.51	26.55	1000.0	9.000	N	OFF	9.5
1.361910	32.06	---	56.00	23.94	1000.0	9.000	N	OFF	9.6
1.361910	---	21.54	46.00	24.46	1000.0	9.000	N	OFF	9.6
2.200695	---	22.96	46.00	23.04	1000.0	9.000	N	OFF	9.5
2.200695	31.57	---	56.00	24.43	1000.0	9.000	N	OFF	9.5

Note: 1. If QP Result complies with AV limit, AV Result is deemed to comply with AV limit.
2. Test setup: RBW: 200 Hz (9 kHz—150 kHz), 9 kHz (150 kHz—30 MHz).
3. Step size: 80Hz (0.009MHz-0.15MHz), 4 kHz (0.15MHz-30MHz), Scan time: auto.
4. The extension cord/outlet strip was calibrated with the LISN as required by ANSI C63.10:2013 Clause 6.2.2.
5. Pre-testing all test modes and channels, and find the MCH of 11B mode swhich is the worst case, so only the worst case is included in this test report.

9. ANTENNA REQUIREMENTS

APPLICABLE REQUIREMENTS

Please refer to FCC §15.203
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

Please refer to FCC §15.247(b)(4)
The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

ANTENNA CONNECTOR

EUT has a EUT with one PCB antenna.

ANTENNA GAIN

The antenna gain of EUT is less than 6 dBi

END OF REPORT