FCC Test Report

FCC ID	:	**SQG-WB50NBT**
Equipment	:	**Wireless 802.11abgn + BT4.1 intelligent module**
Model No.	:	**WB50NBT**
Brand Name	:	**Laird Technologies**
Applicant	:	**Laird Technologies**
Address	:	**W66N220 Commerce Court, Cedarburg, Wisconsin 53012, USA**
Standard	:	**47 CFR FCC Part 15.247**
Received Date	:	**Dec. 30, 2015**
Tested Date	:	**Jan. 27 ~ Mar. 31, 2016**

We, International Certification Corp., would like to declare that the tested sample has been evaluated and in compliance with the requirement of the above standards. The test results contained in this report refer exclusively to the product. It may be duplicated completely for legal use with the approval of the applicant. It shall not be reproduced except in full without the written approval of our laboratory.

Approved & Reviewed by:

Gary Chang / Manager

Testing Laboratory
2732

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Release Record

Report No.	Version	Description	Issued Date
FR631002AC	Rev. 01	Initial issue	Apr. 15, 2016
FR631002AC	Rev. 02	Modified address of applicant.	May 03, 2016

Summary of Test Results

FCC Rules	Test Items	Measured	Result
15.207	Conducted Emissions	[dBuV]: 19.428MHz 24.77 (Margin -25.23dB) - AV	Pass
15.247(d) 15.209	Radiated Emissions	[dBuV/m at 3m]: 2483.50MHz 73.97 (Margin -0.03dB) - PK	Pass
15.247(b)(3)	Maximum Output Power	Max Power [dBm]: 25.96	Pass
15.247(a)(2)	6dB Bandwidth	Meet the requirement of limit	Pass
15.247(e)	Power Spectral Density	Meet the requirement of limit	Pass
15.203	Antenna Requirement	Meet the requirement of limit	Pass

1 General Description

1.1 Information

1.1.1 Specification of the Equipment under Test (EUT)

RF General Information					
Frequency Range (MHz)	**IEEE Std. 802.11**	**Ch. Freq. (MHz)**	**Channel Number**	**Transmit Chains (N_{TX})**	**Data Rate / MCS**
2400-2483.5	b	2412-2462	1-11 [11]	1 2	1-11 Mbps
2400-2483.5	g	2412-2462	1-11 [11]	1 2	6-54 Mbps
2400-2483.5	n (HT20)	2412-2462	1-11 [11]	1 2 2	MCS 0-7 MCS 0-7 MCS 8-15
Note 1: RF output power specifies that Maximum Peak Conducted Output Power. Note 2: 802.11b uses a combination of DSSS-DBPSK, DQPSK, CCK modulation. Note 3: 802.11g/n uses a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation. Note 4: The device supports TX antenna diversity function. The conducted power of single chain is same for 1TX and 2TX operating mode. Therefore, Ant1+Ant2 configuration is chosen for final testing.					

1.1.2 Antenna Details

Ant. No.	Model	Type	Connector	Operating Frequencies (MHz) / Antenna Gain (dBi)				
				2400~2483.5	5150~5250	5250~5350	5470~5725	5725~5850
1	Laird MAF94051	Dipole	RP-SMA	2.1	2.4	2.6	3.4	3.4
2	Laird NanoBlade-IP04	PCB Dipole	IPEX MHF	2	3.9	3.9	4	4
3	Laird MAF95310 Mini NanoBlade Flex	PCB Dipole	IPEX MHF	2.79	3.38	3.38	3.38	3.38
4	Laird NanoBlue-IP04	PCB Dipole	IPEX MHF	2	---	---	---	---
5	Ethertronics WLAN_1000146	Isolated Magnetic Dipole	IPEX MHF	2.5	3.5	3.5	3.5	3.5

Note: Ant. No. 1, 3 & 5 were for 2.4G final test.
Ant. No. 1, 2 & 5 were for 5G final test.

1.1.3 Power Supply Type of Equipment under Test (EUT)

Power Supply Type	3.3Vdc from host

1.1.4 Accessories

N/A

1.1.5 Channel List

Channel	Frequency(MHz)
1	2412
2	2417
3	2422
4	2427
5	2432
6	2437
7	2442
8	2447
9	2452
10	2457
11	2462

1.1.6 Test Tool and Duty Cycle

Test Tool	ART2 GUI, V2.3		
Duty Cycle and Duty Factor	Mode	Duty cycle (%)	Duty factor (dB)
	11b	99.52%	0.02
	11g	98.11%	0.08
	HT20	98.23%	0.08

1.1.7 Power Setting

Modulation Mode	Test Frequency (MHz)	Power Set
11b	2412	18.5
11b	2437	20
11b	2462	19.5
11g	2412	18
11g	2437	21.5
11g	2462	16
HT20	2412	17
HT20	2437	21.5
HT20	2462	16

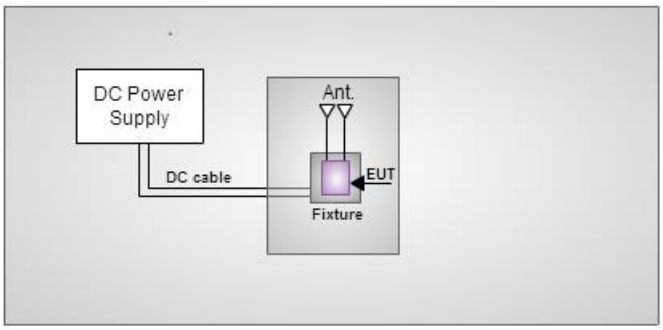
1.2 Local Support Equipment List

Support Equipment List						
No.	**Equipment**	**Brand**	**Model**	**S/N**	**FCC ID**	**Signal cable / Length (m)**
1	DC Power Supply	GW INSTEK	GPC-3060D	EM884797	---	---
2	Notebook	DELL	Latitude E6430	9ZFB4X1	DoC	---
3	Fixture	---	---	---	---	---

Note: Fixture is provided by applicant.

1.3 Test Setup Chart

Test Setup Diagram



Note: The support notebook was disconnected from EUT and removed from test table when EUT is set to transmit continuously.

1.4 The Equipment List

Test Item	Conducted Emission				
Test Site	Conduction room 1 / (CO01-WS)				
Tested Date	Mar. 31, 2016				
Instrument	**Manufacturer**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
EMC Receiver	R&S	ESCS 30	100169	Oct. 21, 2015	Oct. 20, 2016
LISN	SCHWARZBECK	Schwarzbeck 8127	8127-667	Nov. 13, 2015	Nov. 12, 2016
RF Cable-CON	EMC	EMCCFD300-BM-BM-6000	50821	Dec. 21, 2015	Dec. 20, 2016
Measurement Software	AUDIX	e3	6.120210k	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

Test Item	Radiated Emission				
Test Site	966 chamber 3 / (03CH03-WS)				
Tested Date	Jan. 27, 2016				
Instrument	**Manufacturer**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
Spectrum Analyzer	Agilent	N9010A	MY53400091	Sep. 14, 2015	Sep. 13, 2016
Receiver	Agilent	N9038A	MY53290044	Oct. 14, 2015	Oct. 13, 2016
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-563	Dec. 29, 2015	Dec. 28, 2016
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1206	Feb. 03, 2015	Feb. 02, 2016
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170517	Nov. 04, 2015	Nov. 03, 2016
Preamplifier	EMC	EMC02325	980187	Sep. 21, 2015	Sep. 20, 2016
Preamplifier	Agilent	83017A	MY53270014	Sep. 07, 2015	Sep. 06, 2016
Preamplifier	EMC	EMC184045B	980192	Sep. 01, 2015	Aug. 31, 2016
RF cable-3M	HUBER+SUHNER	SUCOFLEX104	MY22620/4	Feb. 09, 2015	Feb. 08, 2016
RF cable-8M	HUBER+SUHNER	SUCOFLEX104	MY22600/4	Feb. 09, 2015	Feb. 08, 2016
RF cable-1M	HUBER+SUHNER	SUCOFLEX104	MY22624/4	Feb. 09, 2015	Feb. 08, 2016
LF cable-0.8M	EMC	EMC8D-NM-NM-800	EMC8D-NM-NM-800-001	Feb. 09, 2015	Feb. 08, 2016
LF cable-3M	EMC	EMC8D-NM-NM-3000	131103	Feb. 09, 2015	Feb. 08, 2016
LF cable-13M	EMC	EMC8D-NM-NM-13000	131104	Feb. 09, 2015	Feb. 08, 2016
Measurement Software	AUDIX	e3	6.120210g	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

Test Item	Radiated Emission				
Test Site	966 chamber 3 / (03CH03-WS)				
Tested Date	Mar. 21, 2016				
Instrument	**Manufacturer**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
Spectrum Analyzer	Agilent	N9010A	MY53400091	Sep. 14, 2015	Sep. 13, 2016
Receiver	Agilent	N9038A	MY53290044	Oct. 14, 2015	Oct. 13, 2016
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-563	Dec. 29, 2015	Dec. 28, 2016
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1206	Feb. 24, 2016	Feb. 23, 2017
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170517	Nov. 04, 2015	Nov. 03, 2016
Preamplifier	EMC	EMC02325	980187	Sep. 21, 2015	Sep. 20, 2016
Preamplifier	Agilent	83017A	MY53270014	Sep. 07, 2015	Sep. 06, 2016
Preamplifier	EMC	EMC184045B	980192	Sep. 01, 2015	Aug. 31, 2016
RF cable-3M	HUBER+SUHNER	SUCOFLEX104	MY22620/4	Feb. 05, 2016	Feb. 04, 2017
RF cable-8M	HUBER+SUHNER	SUCOFLEX104	MY22600/4	Feb. 05, 2016	Feb. 04, 2017
RF cable-1M	HUBER+SUHNER	SUCOFLEX104	MY22624/4	Feb. 05, 2016	Feb. 04, 2017
LF cable-0.8M	EMC	EMC8D-NM-NM-800	EMC8D-NM-NM-800-001	Feb. 05, 2016	Feb. 04, 2017
LF cable-3M	EMC	EMC8D-NM-NM-3000	131103	Feb. 05, 2016	Feb. 04, 2017
LF cable-13M	EMC	EMC8D-NM-NM-13000	131104	Feb. 05, 2016	Feb. 04, 2017
Measurement Software	AUDIX	e3	6.120210g	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

Test Item	RF Conducted				
Test Site	(TH01-WS)				
Tested Date	Mar. 21 ~ Mar. 23, 2016				
Instrument	**Manufacturer**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
Spectrum Analyzer	R&S	FSV40	101063	Feb. 17, 2016	Feb. 16, 2017
Power Meter	Anritsu	ML2495A	1241002	Sep. 21, 2015	Sep. 20, 2016
Power Sensor	Anritsu	MA2411B	1207366	Sep. 21, 2015	Sep. 20, 2016
DC POWER SOURCE	GW INSTEK	GPC-3060D	EM884797	Oct. 20, 2015	Oct. 19, 2016
Measurement Software	Sporton	Sporton_1	1.3.30	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

1.5 Test Standards

According to the specification of EUT, the EUT must comply with following standards and KDB documents.

47 CFR FCC Part 15.247
ANSI C63.10-2013
FCC KDB 558074 D01 DTS Meas Guidance v03r04
FCC KDB 662911 D01 Multiple Transmitter Output v02r01

1.6 Measurement Uncertainty

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2)

Measurement Uncertainty	
Parameters	**Uncertainty**
Bandwidth	±34.134 Hz
Conducted power	±0.808 dB
Power density	±0.463 dB
Conducted emission	±2.670 dB
AC conducted emission	±2.90 dB
Radiated emission ≤ 1GHz	±3.66 dB
Radiated emission > 1GHz	±5.37 dB

2 Test Configuration

2.1 Testing Condition

Test Item	Test Site	Ambient Condition	Tested By
AC Conduction	CO01-WS	20°C / 60%	Alex Tsai
Radiated Emissions	03CH03-WS	19-20°C / 64-65%	Anderson Hong Warren Lee Aska Huang
RF Conducted	TH01-WS	21°C / 64%	Alex Huang

- FCC site registration No.: 207696
- IC site registration No.: 10807C-1

2.2 The Worst Test Modes and Channel Details

Test item	Modulation Mode	Test Frequency (MHz)	Data Rate	Test Configuration
Conducted Emissions	11g	2437	6 Mbps	2
Radiated Emissions ≤1GHz	11g	2437	6 Mbps	1, 2, 3
Radiated Emissions >1GHz	11b 11g HT20	2412 / 2437 / 2462 2412 / 2437 / 2462 2412 / 2437 / 2462	1 Mbps 6 Mbps MCS 0	1, 2, 3
Maximum Output Power 6dB bandwidth Power spectral density	11b 11g HT20	2412 / 2437 / 2462 2412 / 2437 / 2462 2412 / 2437 / 2462	1 Mbps 6 Mbps MCS 0	2

NOTE:

1. The EUT was pretested with 3 orientations placed on the table for the radiated emission measurement – X, Y, and Z-plane. The **Z-plane** results were found as the worst case and were shown in this report.
2. The following antennas are used for final testing for this module: (See item 1.1.2 for more details.)
   1) Configuration 1 : Dipole antenna
   2) Configuration 2 : PCB Dipole antenna
   3) Configuration 3 : Isolated Magnetic Dipole antenna

3 Transmitter Test Results

3.1 Conducted Emissions

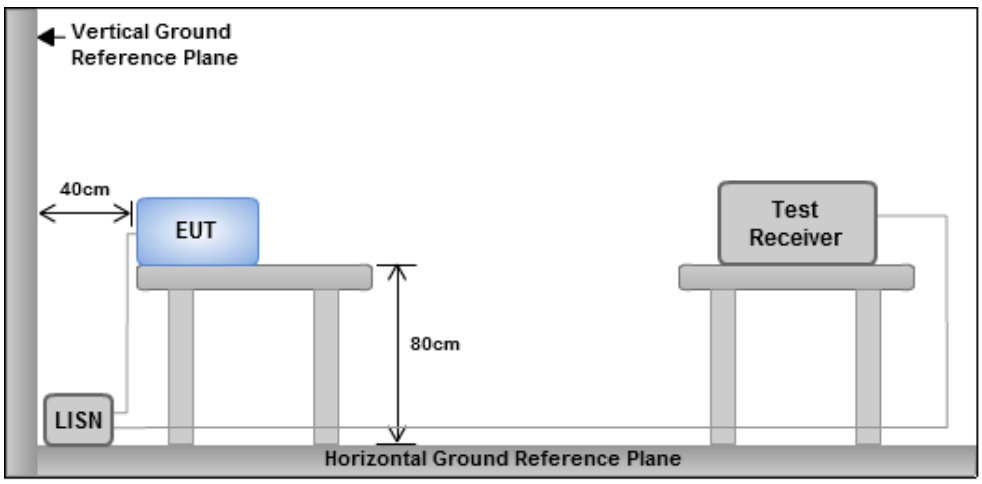
3.1.1 Limit of Conducted Emissions

Conducted Emissions Limit		
Frequency Emission (MHz)	**Quasi-Peak**	**Average**
0.15-0.5	66 - 56 *	56 - 46 *
0.5-5	56	46
5-30	60	50
Note 1: * Decreases with the logarithm of the frequency.		

3.1.2 Test Procedures

1. The device is placed on a test table, raised 80 cm above the reference ground plane. The vertical conducting plane is located 40 cm to the rear of the device.
2. The device is connected to line impedance stabilization network (LISN) and other accessories are connected to other LISN. Measured levels of AC power line conducted emission are across the 50 Ω LISN port.
3. AC conducted emission measurements is made over frequency range from 150 kHz to 30 MHz.
4. This measurement was performed with AC 120V / 60Hz.

3.1.3 Test Setup

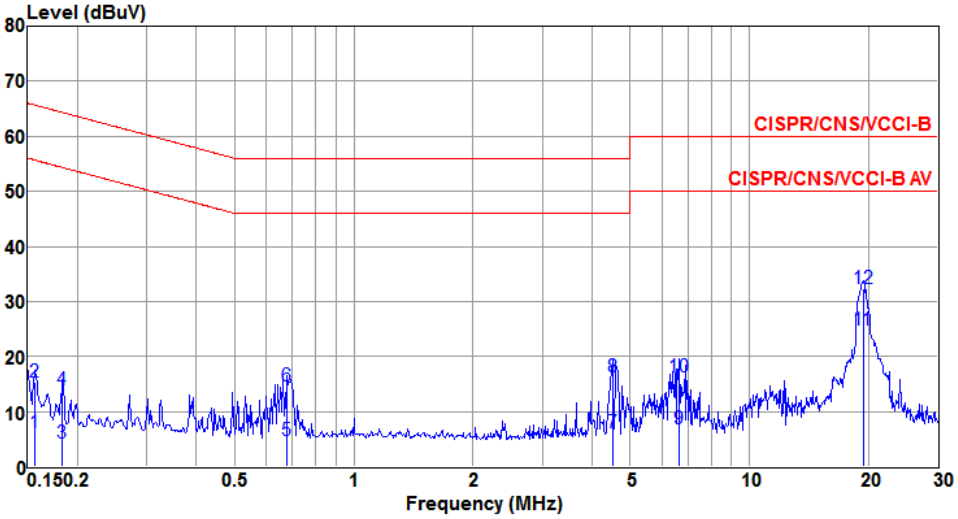


Note: 1. Support units were connected to second LISN.

2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes

3.1.4 Test Result of Conducted Emissions

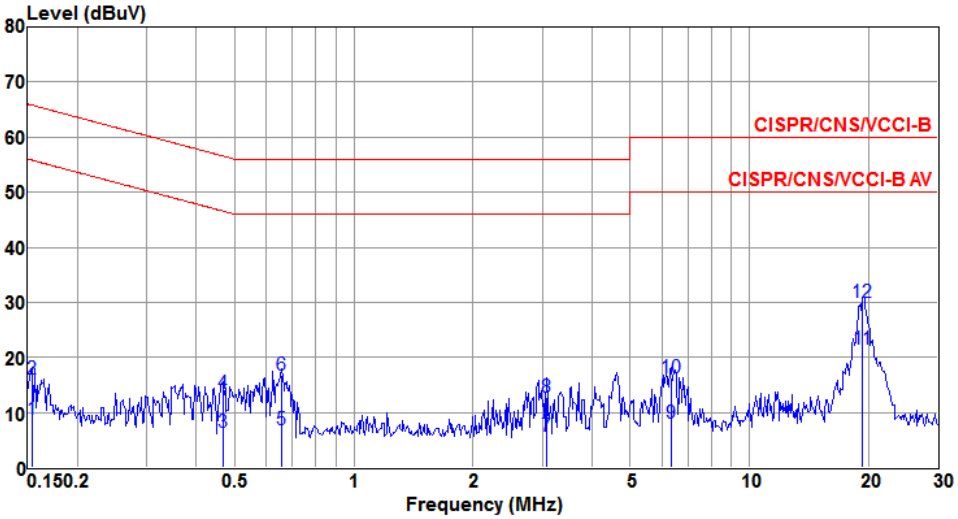
Modulation	11g	Test Freq. (MHz)	2437
Power Phase	Line		



	Freq	Level	Limit Line	Over Limit	Read Level	LISN factor	cable loss	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB	dB	
1	0.156	6.04	55.65	-49.61	5.91	0.11	0.02	Average
2	0.156	15.36	65.65	-50.29	15.23	0.11	0.02	QP
3	0.183	4.26	54.33	-50.07	4.13	0.11	0.02	Average
4	0.183	13.90	64.33	-50.43	13.77	0.11	0.02	QP
5	0.675	4.72	46.00	-41.28	4.54	0.13	0.05	Average
6	0.675	14.57	56.00	-41.43	14.39	0.13	0.05	QP
7	4.501	6.21	46.00	-39.79	5.89	0.20	0.12	Average
8	4.501	16.29	56.00	-39.71	15.97	0.20	0.12	QP
9	6.627	6.87	50.00	-43.13	6.51	0.22	0.14	Average
10	6.627	16.32	60.00	-43.68	15.96	0.22	0.14	QP
11@	19.428	24.77	50.00	-25.23	24.24	0.36	0.17	Average
12	19.428	32.39	60.00	-27.61	31.86	0.36	0.17	QP

Note 1: Level (dBuV) = Read Level (dBuV) + LISN Factor (dB) + Cable Loss (dB).
2: Over Limit (dB) = Level (dBuV) – Limit Line (dBuV).

Modulation	11g	Test Freq. (MHz)	2437
Power Phase	Neutral		



	Freq	Level	Limit Line	Over Limit	Read Level	LISN factor	cable loss	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB	dB	
1	0.154	8.82	55.78	-46.96	8.67	0.13	0.02	Average
2	0.154	16.07	65.78	-49.71	15.92	0.13	0.02	QP
3	0.466	6.47	46.58	-40.11	6.29	0.14	0.04	Average
4	0.466	13.48	56.58	-43.10	13.30	0.14	0.04	QP
5	0.654	6.97	46.00	-39.03	6.79	0.13	0.05	Average
6	0.654	16.71	56.00	-39.29	16.53	0.13	0.05	QP
7	3.074	5.56	46.00	-40.44	5.29	0.17	0.10	Average
8	3.074	12.73	56.00	-43.27	12.46	0.17	0.10	QP
9	6.352	7.94	50.00	-42.06	7.58	0.22	0.14	Average
10	6.352	16.32	60.00	-43.68	15.96	0.22	0.14	QP
11@	19.319	21.51	50.00	-28.49	20.95	0.39	0.17	Average
12	19.319	29.88	60.00	-30.12	29.32	0.39	0.17	QP

Note 1: Level (dBuV) = Read Level (dBuV) + LISN Factor (dB) + Cable Loss (dB).
2: Over Limit (dB) = Level (dBuV) – Limit Line (dBuV).

3.2 6dB and Occupied Bandwidth

3.2.1 Limit of 6dB Bandwidth

The minimum 6dB bandwidth shall be at least 500 kHz.

3.2.2 Test Procedures

6dB Bandwidth

1. Set resolution bandwidth (RBW) = 100 kHz, Video bandwidth = 300 kHz.
2. Detector = Peak, Trace mode = max hold.
3. Sweep = auto couple, Allow the trace to stabilize.
4. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower) that are attenuated by 6dB relative to the maximum level measured in the fundamental emission.

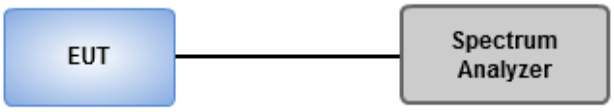
Occupied Bandwidth

1. Set resolution bandwidth (RBW) = 300 kHz, Video bandwidth = 1 MHz.
2. Detector = Sample, Trace mode = max hold.

3 Sweep = auto couple, Allow the trace to stabilize.

4. Use the OBW measurement function of spectrum analyzer to measure the occupied bandwidth.

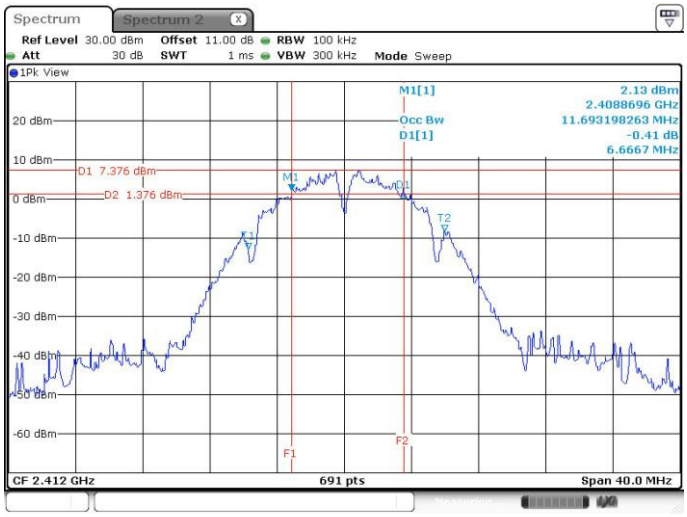
3.2.3 Test Setup



3.2.4 Test Result of 6dB and Occupied Bandwidth

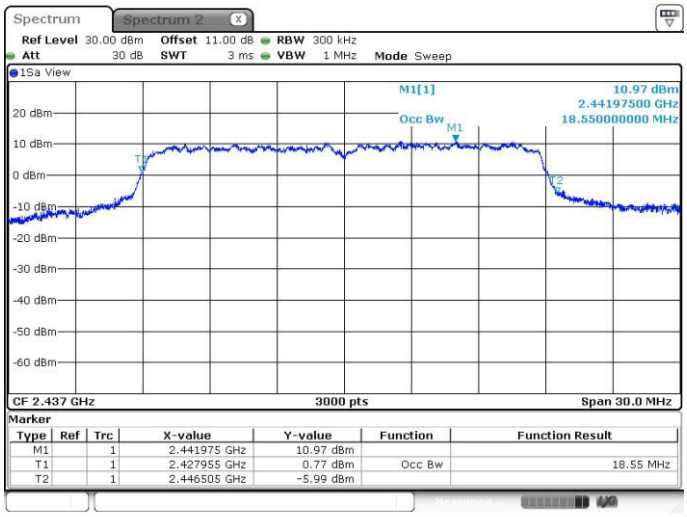
Modulation Mode	N_{TX}	Freq. (MHz)	6dB Bandwidth (MHz)				Limit (kHz)
			Chain 0	Chain 1	Chain 2	Chain 3	
11b	2	2412	6.67	7.19	---	---	500
11b	2	2437	7.36	7.07	---	---	500
11b	2	2462	7.54	7.13	---	---	500
11g	2	2412	16.35	16.35	---	---	500
11g	2	2437	16.35	16.35	---	---	500
11g	2	2462	16.35	16.35	---	---	500
HT20	2	2412	17.62	17.16	---	---	500
HT20	2	2437	17.22	17.22	---	---	500
HT20	2	2462	17.16	17.51	---	---	500

Worst Plot



Modulation Mode	N_{TX}	Freq. (MHz)	99% Occupied Bandwidth (MHz)			
			Chain 0	Chain 1	Chain 2	Chain 3
11b	2	2412	11.81	12.04	---	---
11b	2	2437	12.37	12.37	---	---
11b	2	2462	12.09	12.04	---	---
11g	2	2412	16.57	16.64	---	---
11g	2	2437	17.70	17.48	---	---
11g	2	2462	16.54	16.59	---	---
HT20	2	2412	17.71	17.79	---	---
HT20	2	2437	18.55	18.37	---	---
HT20	2	2462	17.69	17.75	---	---

Worst Plot



3.3 RF Output Power

3.3.1 Limit of RF Output Power

Conducted power shall not exceed 1Watt.

☒ Antenna gain <= 6dBi, no any corresponding reduction is in output power limit.

☐ Antenna gain > 6dBi

☐ Non Fixed, point to point operations.
The conducted output power from the intentional radiator shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dB

☐ Fixed, point to point operations
Systems operating in the 2400–2483.5 MHz band that are used exclusively for fixed, point-to-point Operations, maximum peak output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi.

Systems operating in the 5725–5850 MHz band that are used exclusively for fixed, point-to-point operations ,no any corresponding reduction is in transmitter peak output power

3.3.2 Test Procedures

☒ Maximum Peak Conducted Output Power

☐ **Spectrum analyzer**

1. Set RBW = 1MHz, VBW = 3MHz, Detector = Peak.
2. Sweep time = auto, Trace mode = max hold, Allow trace to fully stabilize.
3. Use the spectrum analyzer channel power measurement function with the band limits set equal to the DTS bandwidth edges.

☒ **Power meter**

1. A broadband Peak RF power meter is used for output power measurement. The video bandwidth of power meter is greater than DTS bandwidth of EUT. If duty cycle of test signal is not 100 %, trigger and gating function of power meter will be enabled to capture transmission burst for measuring output power.

☒ Maximum Conducted Output Power (For reference only)

☒ **Power meter**

1. A broadband Average RF power meter is used for output power measurement. The video bandwidth of power meter is greater than DTS bandwidth of EUT. If duty cycle of test signal is not 100 %, trigger and gating function of power meter will be enabled to capture transmission burst for measuring output power.

3.3.3 Test Setup

3.3.4 Test Result of Maximum Output Power

Modulation Mode	N_{TX}	Freq. (MHz)	Peak conducted Output Power (dBm)							Ant. Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)
			Chain 0	Chain 1	Chain 2	Chain 3	Total Power (mW)	Total Power (dBm)	Limit (dBm)			
11b	2	2412	20.61	20.65	---	---	231.225	23.64	30.00	2.79	26.43	36.00
11b	2	2437	21.51	21.73	---	---	290.515	24.63	30.00	2.79	27.42	36.00
11b	2	2462	21.39	21.43	---	---	276.716	24.42	30.00	2.79	27.21	36.00
11g	2	2412	21.65	21.86	---	---	299.679	24.77	30.00	2.79	27.56	36.00
11g	2	2437	22.93	22.96	---	---	394.033	**25.96**	30.00	2.79	28.75	36.00
11g	2	2462	21.24	21.19	---	---	264.568	24.23	30.00	2.79	27.02	36.00
HT20	2	2412	21.34	21.98	---	---	293.906	24.68	30.00	2.79	27.47	36.00
HT20	2	2437	22.91	22.89	---	---	389.970	25.91	30.00	2.79	28.70	36.00
HT20	2	2462	21.12	21.01	---	---	255.602	24.08	30.00	2.79	26.87	36.00

Modulation Mode	N_{TX}	Freq. (MHz)	Conducted (Average) Output Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)
			Chain 0	Chain 1	Chain 2	Chain 3			
11b	2	2412	17.18	17.29	---	---	105.819	20.25	---
11b	2	2437	18.71	18.92	---	---	152.285	21.83	---
11b	2	2462	18.38	18.41	---	---	138.208	21.41	---
11g	2	2412	16.21	16.65	---	---	88.021	19.45	---
11g	2	2437	19.52	19.21	---	---	172.905	22.38	---
11g	2	2462	15.58	15.25	---	---	69.638	18.43	---
HT20	2	2412	15.99	16.51	---	---	84.490	19.27	---
HT20	2	2437	19.66	19.58	---	---	183.252	**22.63**	---
HT20	2	2462	15.24	15.13	---	---	66.003	18.20	---

Note: Conducted average output power is for reference only.

3.4 Power Spectral Density

3.4.1 Limit of Power Spectral Density

Power spectral density shall not be greater than 8 dBm in any 3 kHz band.

3.4.2 Test Procedures

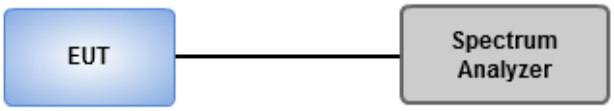
☒ Maximum peak conducted output power was used to demonstrate compliance to the fundamental output power limit.

1. Set the RBW = 3kHz, VBW = 10kHz.
2. Detector = Peak, Sweep time = auto couple.
3. Trace mode = max hold, allow trace to fully stabilize.
4. Use the peak marker function to determine the maximum amplitude level.

☐ Maximum (average) conducted output power was used to demonstrate compliance to the fundamental output power limit.

1. Set the RBW = 100kHz, VBW = 300 kHz.
2. Detector = RMS, Sweep time = auto couple.
3. Perform the measurement over a single sweep.
4. Use the peak marker function to determine the maximum amplitude level.

3.4.3 Test Setup

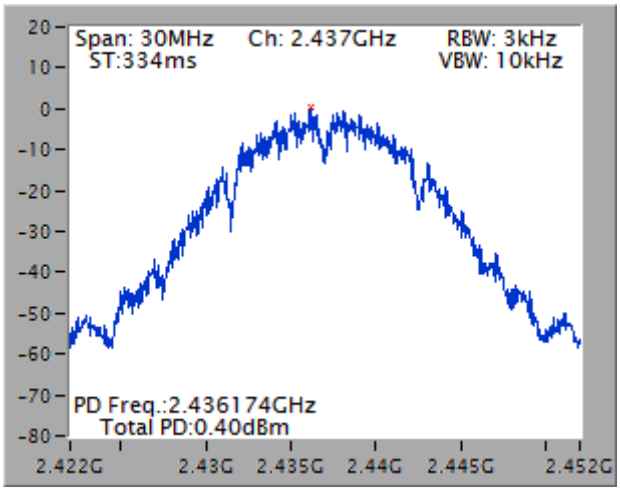


3.4.4 Test Result of Power Spectral Density

Modulation Mode	N_{TX}	Freq. (MHz)	Total Power Spectral Density (dBm/3kHz)	Limit (dBm/3kHz)
11b	2	2412	-1.46	8.00
11b	2	2437	0.40	8.00
11b	2	2462	0.20	8.00
11g	2	2412	-9.42	8.00
11g	2	2437	-5.81	8.00
11g	2	2462	-8.73	8.00
HT20	2	2412	-9.96	8.00
HT20	2	2437	-5.40	8.00
HT20	2	2462	-7.72	8.00

Note: Test result is bin-by-bin summing measured value of each TX port.

Worst Plots



3.5 Unwanted Emissions into Restricted Frequency Bands

3.5.1 Limit of Unwanted Emissions into Restricted Frequency Bands

Restricted Band Emissions Limit			
Frequency Range (MHz)	**Field Strength (uV/m)**	**Field Strength (dBuV/m)**	**Measure Distance (m)**
0.009~0.490	2400/F(kHz)	48.5 - 13.8	300
0.490~1.705	24000/F(kHz)	33.8 - 23	30
1.705~30.0	30	29	30
30~88	100	40	3
88~216	150	43.5	3
216~960	200	46	3
Above 960	500	54	3

Note 1:
Qusai-Peak value is measured for frequency below 1GHz except for 9–90 kHz, 110–490 kHz frequency band. Peak and average value are measured for frequency above 1GHz. The limit on average radio frequency emission is as above table. The limit on peak radio frequency emissions is 20 dB above the maximum permitted average emission limit
Note 2:
Measurements may be performed at a distance other than what is specified provided. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor as below, Frequency at or above 30 MHz: 20 dB/decade Frequency below 30 MHz: 40 dB/decade.

3.5.2 Test Procedures

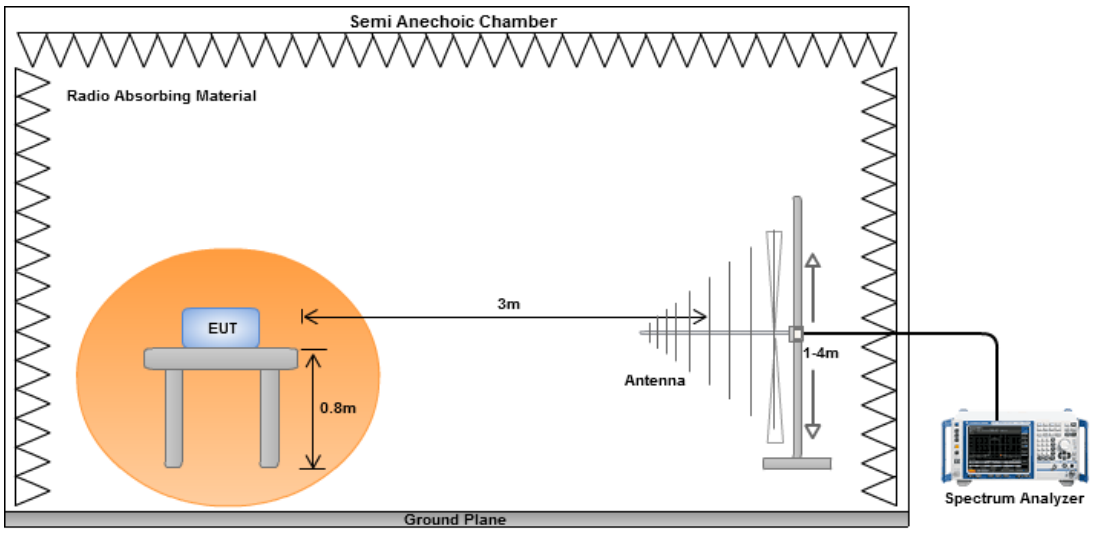
1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission frequency. The EUT is placed at test table. For emissions testing at or below 1 GHz, the table height is 80 cm above the reference ground plane. For emission measurements above 1 GHz, the table height is 1.5 m
2. Measurement is made with the antenna positioned in both the horizontal and vertical planes of polarization. The measurement antenna is varied in height (1m ~ 4m) above the reference ground plane to obtain the maximum signal strength. Distance between EUT and antenna is 3 m.
3. This investigation is performed with the EUT rotated 360°, the antenna height scanned between 1 m and 4 m, and the antenna rotated to repeat the measurements for both the horizontal and vertical antenna polarizations.

Note:

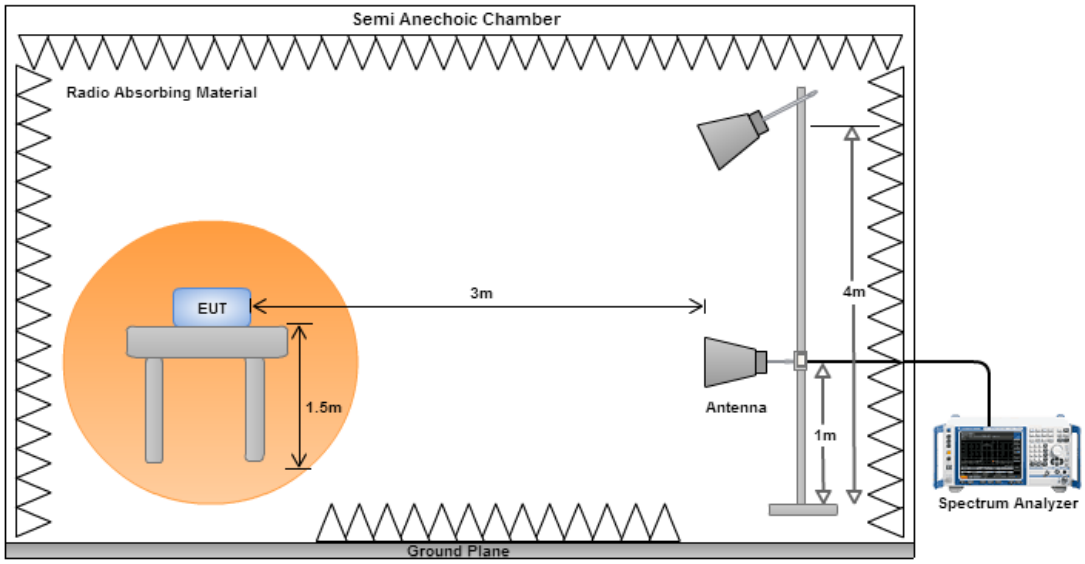
1. 120kHz measurement bandwidth of test receiver and Quasi-peak detector is for radiated emission below 1GHz.
2. RBW=1MHz, VBW=3MHz and Peak detector is for peak measured value of radiated emission above 1GHz.
3. RBW=1MHz, VBW=1/T and Peak detector is for average measured value of radiated emission above 1GHz.

3.5.3 Test Setup

Radiated Emissions below 1 GHz



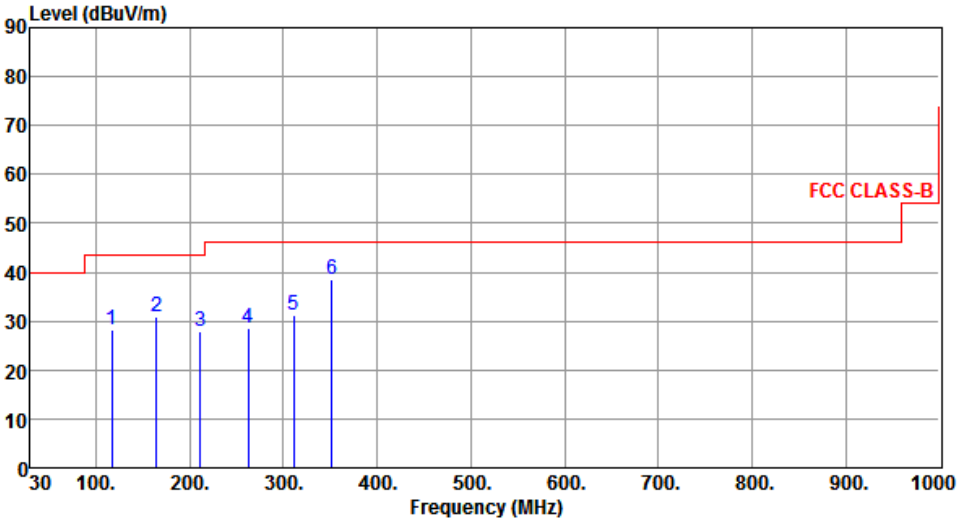
Radiated Emissions above 1 GHz



Test Configuration 1: Dipole antenna

3.5.4 Transmitter Radiated Unwanted Emissions (Below 1GHz)

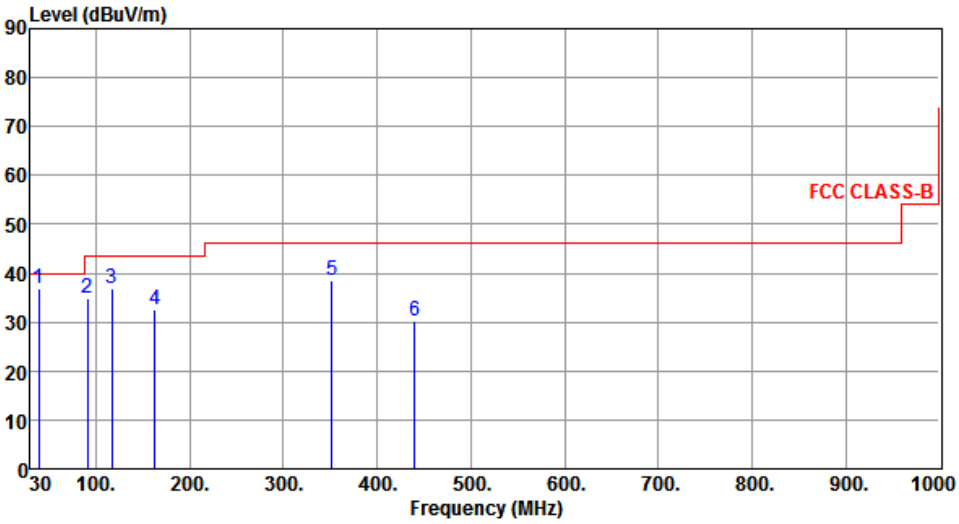
Modulation	11g	Test Freq. (MHz)	2437
Polarization	Horizontal	Test Configuration	1



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	117.30	28.25	43.50	-15.25	44.11	-15.86	Peak	---	---
2	164.83	30.87	43.50	-12.63	44.45	-13.58	Peak	---	---
3	211.39	27.85	43.50	-15.65	43.93	-16.08	Peak	---	---
4	262.80	28.64	46.00	-17.36	42.69	-14.05	Peak	---	---
5	311.30	31.18	46.00	-14.82	43.70	-12.52	Peak	---	---
6	352.04	38.38	46.00	-7.62	49.79	-11.41	Peak	---	---

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

Modulation	11g	Test Freq. (MHz)	2437
Polarization	Vertical	Test Configuration	1

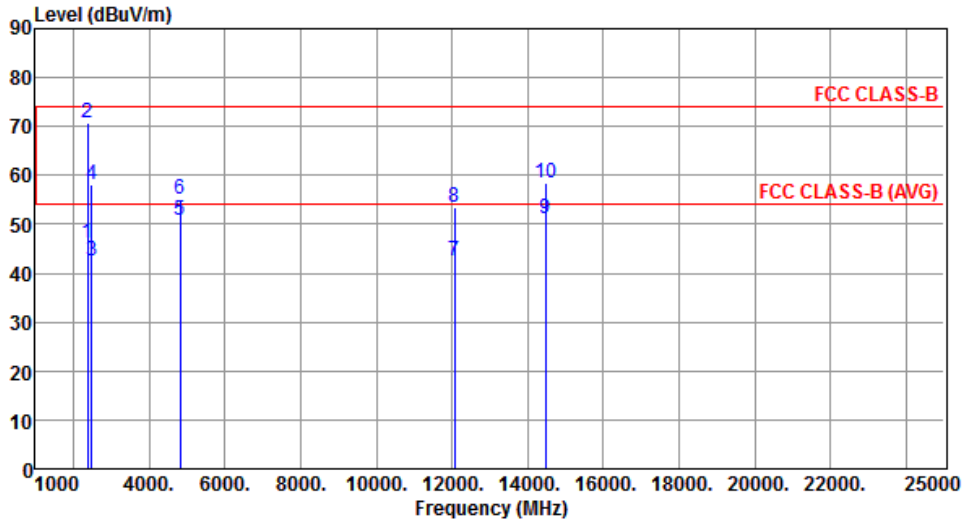


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	38.73	36.97	40.00	-3.03	50.43	-13.46	QP	100	10
2	91.11	34.91	43.50	-8.59	54.37	-19.46	Peak	---	---
3	117.30	36.72	43.50	-6.78	52.58	-15.86	Peak	---	---
4	162.89	32.65	43.50	-10.85	46.11	-13.46	Peak	---	---
5	352.04	38.54	46.00	-7.46	49.95	-11.41	Peak	---	---
6	440.31	30.33	46.00	-15.67	39.40	-9.07	Peak	---	---

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

3.5.5 Transmitter Radiated Unwanted Emissions (Above 1GHz) for 11b

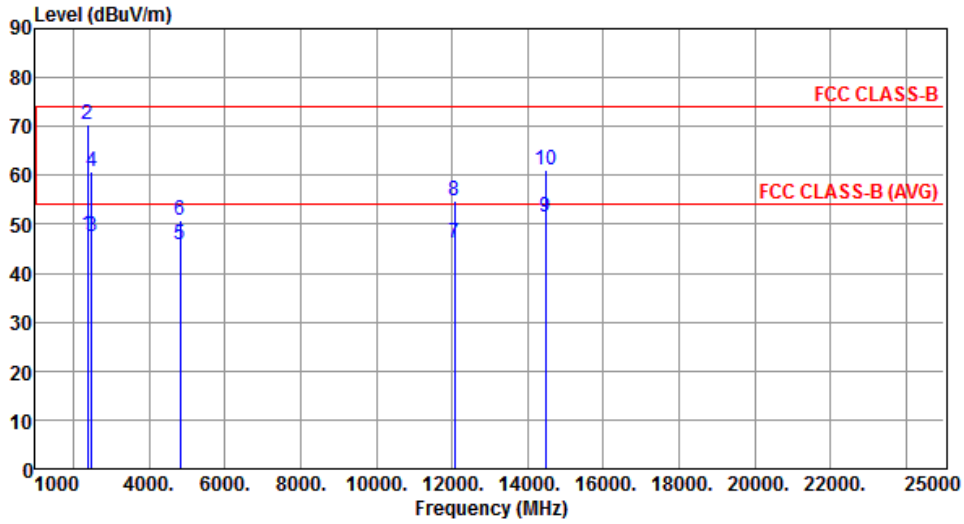
Modulation	11b	Test Freq. (MHz)	2412
Polarization	Horizontal	Test Configuration	1



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	46.28	54.00	-7.72	47.64	-1.36	Average	150	155
2	2390.00	70.79	74.00	-3.21	72.15	-1.36	Peak	150	155
3	2483.50	42.49	54.00	-11.51	43.51	-1.02	Average	150	155
4	2483.50	58.14	74.00	-15.86	59.16	-1.02	Peak	150	155
5	4824.00	50.72	54.00	-3.28	44.78	5.94	Average	240	176
6	4824.00	55.21	74.00	-18.79	49.27	5.94	Peak	240	176
7	12060.00	42.40	54.00	-11.60	26.43	15.97	Average	233	118
8	12060.00	53.57	74.00	-20.43	37.60	15.97	Peak	233	118
9	14472.00	51.26	54.00	-2.74	31.85	19.41	Average	114	174
10	14472.00	58.54	74.00	-15.46	39.13	19.41	Peak	114	174

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

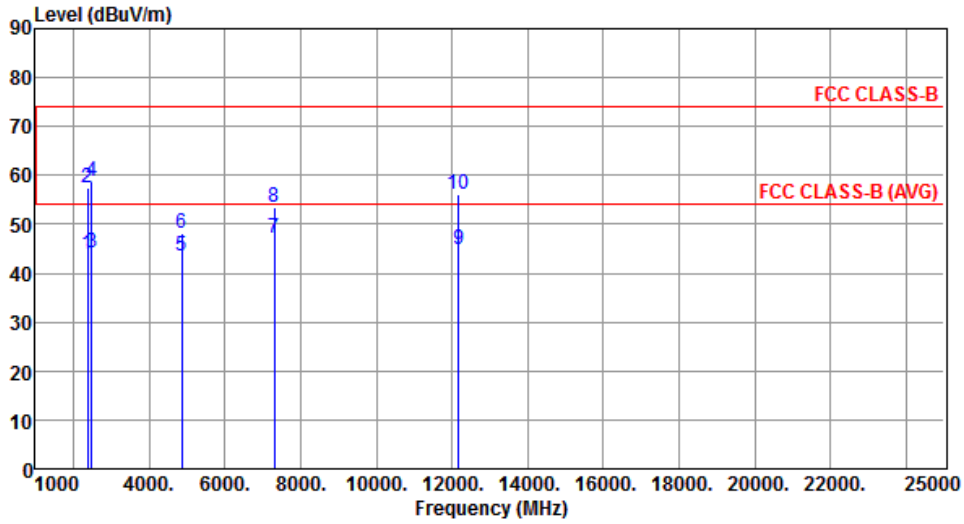
Modulation	11b	Test Freq. (MHz)	2412
Polarization	Vertical	Test Configuration	1



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	47.90	54.00	-6.10	49.26	-1.36	Average	112	177
2	2390.00	70.42	74.00	-3.58	71.78	-1.36	Peak	112	177
3	2483.50	47.49	54.00	-6.51	48.51	-1.02	Average	112	177
4	2483.50	60.79	74.00	-13.21	61.81	-1.02	Peak	112	177
5	4824.00	45.72	54.00	-8.28	39.78	5.94	Average	182	335
6	4824.00	50.72	74.00	-23.28	44.78	5.94	Peak	182	335
7	12060.00	46.12	54.00	-7.88	30.15	15.97	Average	282	143
8	12060.00	54.94	74.00	-19.06	38.97	15.97	Peak	282	143
9	14472.00	51.54	54.00	-2.46	32.13	19.41	Average	186	206
10	14472.00	60.95	74.00	-13.05	41.54	19.41	Peak	186	206

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

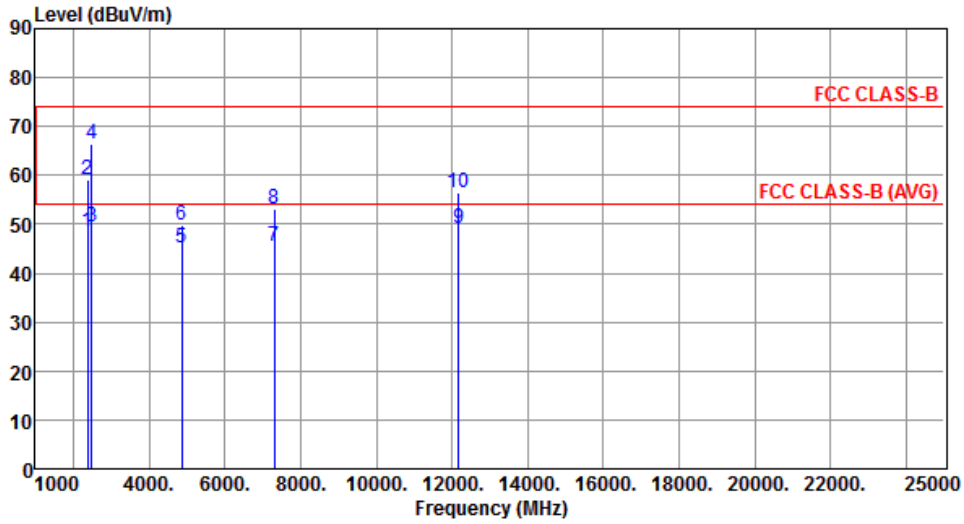
Modulation	11b	Test Freq. (MHz)	2437
Polarization	Horizontal	Test Configuration	1



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2385.00	43.87	54.00	-10.13	45.26	-1.39	Average	115	19
2	2385.00	57.39	74.00	-16.61	58.78	-1.39	Peak	115	19
3	2483.50	44.24	54.00	-9.76	45.26	-1.02	Average	115	19
4	2483.50	58.72	74.00	-15.28	59.74	-1.02	Peak	115	19
5	4874.00	43.48	54.00	-10.52	37.51	5.97	Average	204	189
6	4874.00	48.11	74.00	-25.89	42.14	5.97	Peak	204	189
7	7311.00	47.16	54.00	-6.84	36.41	10.75	Average	156	147
8	7311.00	53.52	74.00	-20.48	42.77	10.75	Peak	156	147
9	12185.00	44.67	54.00	-9.33	28.83	15.84	Average	244	224
10	12185.00	56.18	74.00	-17.82	40.34	15.84	Peak	244	224

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

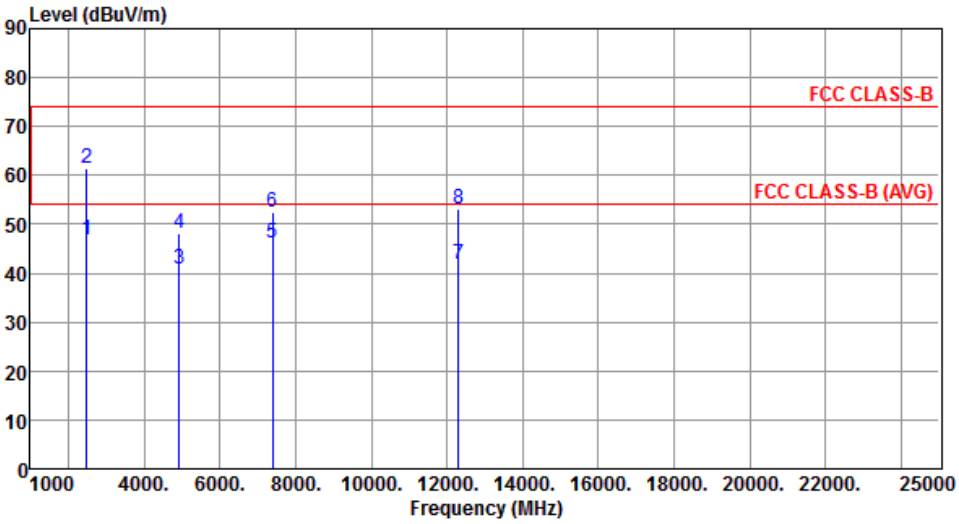
Modulation	11b	Test Freq. (MHz)	2437
Polarization	Vertical	Test Configuration	1



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2385.00	48.34	54.00	-5.66	49.73	-1.39	Average	120	179
2	2385.00	59.22	74.00	-14.78	60.61	-1.39	Peak	120	179
3	2483.50	49.34	54.00	-4.66	50.36	-1.02	Average	120	179
4	2483.50	66.31	74.00	-7.69	67.33	-1.02	Peak	120	179
5	4874.00	45.31	54.00	-8.69	39.34	5.97	Average	174	340
6	4874.00	49.78	74.00	-24.22	43.81	5.97	Peak	174	340
7	7311.00	45.47	54.00	-8.53	34.72	10.75	Average	164	243
8	7311.00	53.08	74.00	-20.92	42.33	10.75	Peak	164	243
9	12185.00	49.08	54.00	-4.92	33.24	15.84	Average	281	153
10	12185.00	56.55	74.00	-17.45	40.71	15.84	Peak	281	153

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

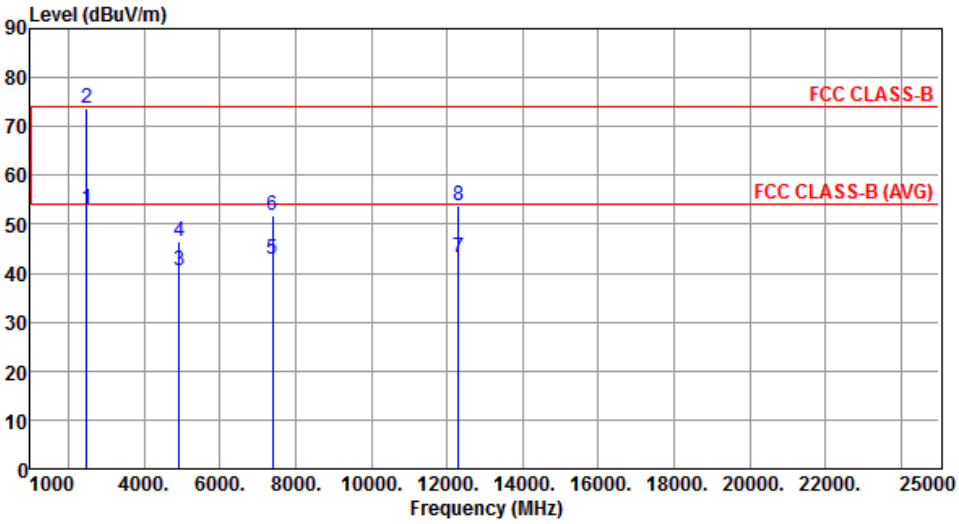
Modulation	11b	Test Freq. (MHz)	2462
Polarization	Horizontal	Test Configuration	1



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2483.50	46.74	54.00	-7.26	47.76	-1.02	Average	150	166
2	2483.50	61.41	74.00	-12.59	62.43	-1.02	Peak	150	166
3	4924.00	40.81	54.00	-13.19	34.80	6.01	Average	139	174
4	4924.00	48.18	74.00	-25.82	42.17	6.01	Peak	139	174
5	7386.00	46.32	54.00	-7.68	35.42	10.90	Average	164	139
6	7386.00	52.34	74.00	-21.66	41.44	10.90	Peak	164	139
7	12310.00	41.92	54.00	-12.08	26.22	15.70	Average	240	342
8	12310.00	53.25	74.00	-20.75	37.55	15.70	Peak	240	342

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	11b	Test Freq. (MHz)	2462
Polarization	Vertical	Test Configuration	1

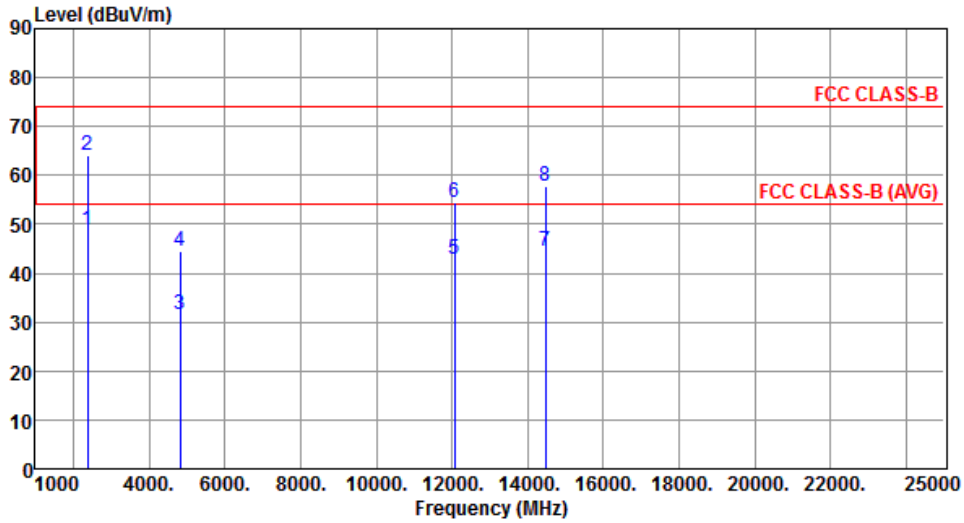


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2483.50	53.20	54.00	-0.80	54.22	-1.02	Average	108	177
2	2483.50	73.71	74.00	-0.29	74.73	-1.02	Peak	108	177
3	4924.00	40.44	54.00	-13.56	34.43	6.01	Average	210	53
4	4924.00	46.54	74.00	-27.46	40.53	6.01	Peak	210	53
5	7386.00	42.86	54.00	-11.14	31.96	10.90	Average	213	9
6	7386.00	51.70	74.00	-22.30	40.80	10.90	Peak	213	9
7	12310.00	43.06	54.00	-10.94	27.36	15.70	Average	263	134
8	12310.00	53.76	74.00	-20.24	38.06	15.70	Peak	263	134

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

3.5.6 Transmitter Radiated Unwanted Emissions (Above 1GHz) for 11g

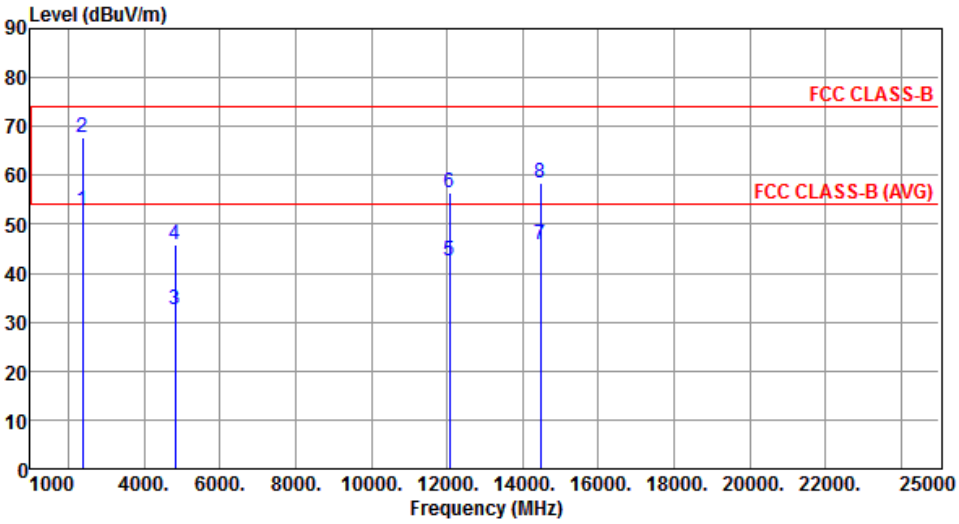
Modulation	11g	Test Freq. (MHz)	2412
Polarization	Horizontal	Test Configuration	1



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	48.75	54.00	-5.25	50.11	-1.36	Average	150	166
2	2390.00	64.16	74.00	-9.84	65.52	-1.36	Peak	150	166
3	4824.00	31.59	54.00	-22.41	25.65	5.94	Average	100	168
4	4824.00	44.55	74.00	-29.45	38.61	5.94	Peak	100	168
5	12060.00	42.82	54.00	-11.18	26.85	15.97	Average	155	138
6	12060.00	54.54	74.00	-19.46	38.57	15.97	Peak	155	138
7	14472.00	44.53	54.00	-9.47	25.12	19.41	Average	160	242
8	14472.00	57.88	74.00	-16.12	38.47	19.41	Peak	160	242

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

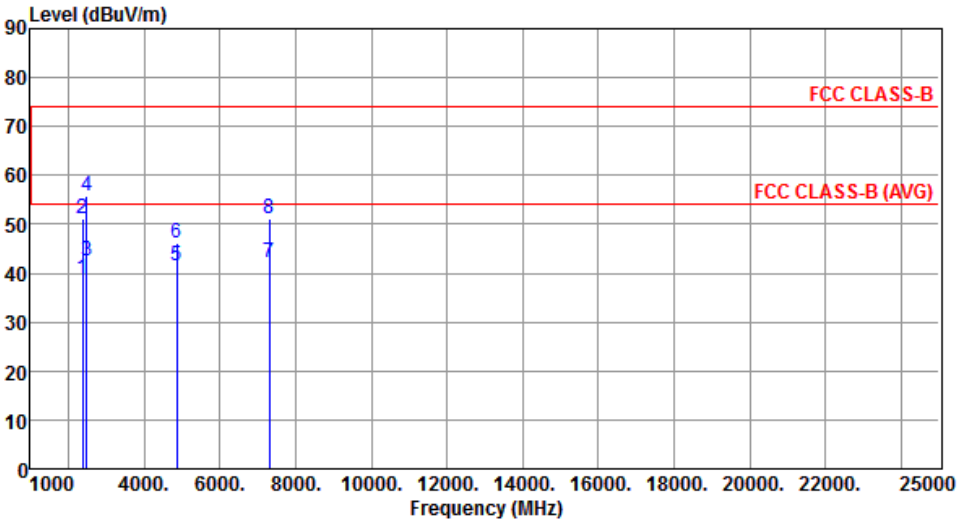
Modulation	11g	Test Freq. (MHz)	2412
Polarization	Vertical	Test Configuration	1



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	52.90	54.00	-1.10	54.26	-1.36	Average	129	180
2	2390.00	67.78	74.00	-6.22	69.14	-1.36	Peak	129	180
3	4824.00	32.55	54.00	-21.45	26.61	5.94	Average	177	196
4	4824.00	45.76	74.00	-28.24	39.82	5.94	Peak	177	196
5	12060.00	42.65	54.00	-11.35	26.68	15.97	Average	192	216
6	12060.00	56.45	74.00	-17.55	40.48	15.97	Peak	192	216
7	14472.00	45.96	54.00	-8.04	26.55	19.41	Average	133	217
8	14472.00	58.37	74.00	-15.63	38.96	19.41	Peak	133	217

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

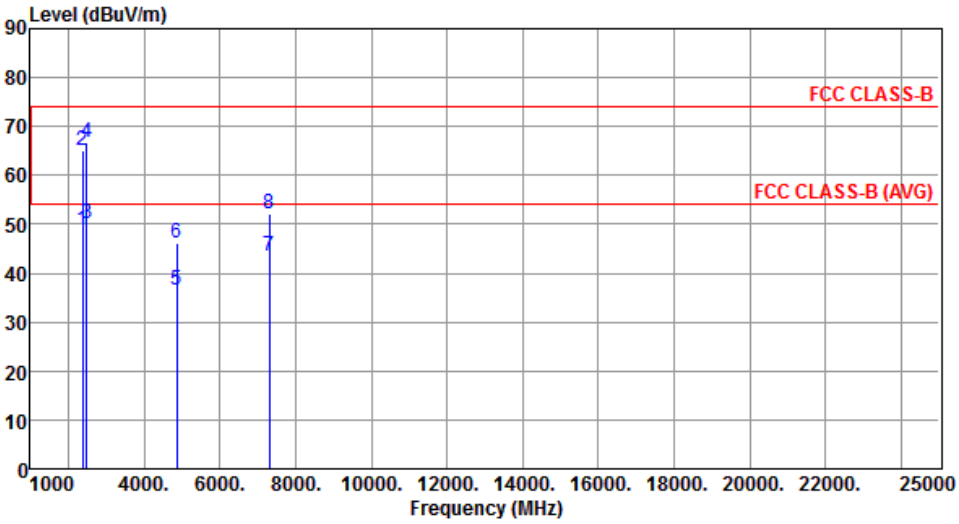
Modulation	11g	Test Freq. (MHz)	2437
Polarization	Horizontal	Test Configuration	1



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	38.75	54.00	-15.25	40.11	-1.36	Average	200	185
2	2390.00	51.10	74.00	-22.90	52.46	-1.36	Peak	200	185
3	2483.50	42.63	54.00	-11.37	43.65	-1.02	Average	200	185
4	2483.50	55.70	74.00	-18.30	56.72	-1.02	Peak	200	185
5	4874.00	41.47	54.00	-12.53	35.50	5.97	Average	152	178
6	4874.00	46.23	74.00	-27.77	40.26	5.97	Peak	152	178
7	7311.00	42.27	54.00	-11.73	31.52	10.75	Average	254	147
8	7311.00	51.05	74.00	-22.95	40.30	10.75	Peak	254	147

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

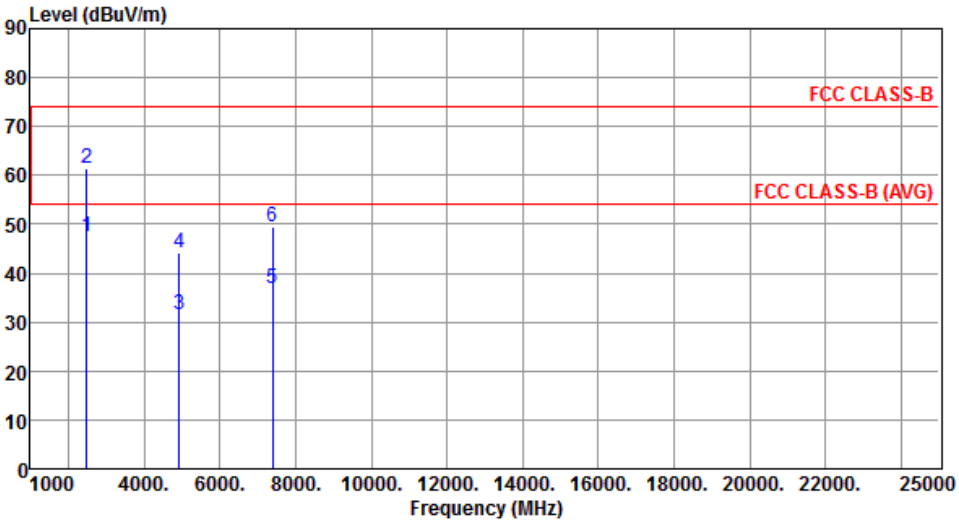
Modulation	11g	Test Freq. (MHz)	2437
Polarization	Vertical	Test Configuration	1



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	48.73	54.00	-5.27	50.09	-1.36	Average	125	188
2	2390.00	65.19	74.00	-8.81	66.55	-1.36	Peak	125	188
3	2483.50	50.23	54.00	-3.77	51.25	-1.02	Average	125	188
4	2483.50	66.67	74.00	-7.33	67.69	-1.02	Peak	125	188
5	4874.00	36.53	54.00	-17.47	30.56	5.97	Average	293	101
6	4874.00	46.23	74.00	-27.77	40.26	5.97	Peak	293	101
7	7311.00	43.41	54.00	-10.59	32.66	10.75	Average	156	320
8	7311.00	52.05	74.00	-21.95	41.30	10.75	Peak	156	320

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

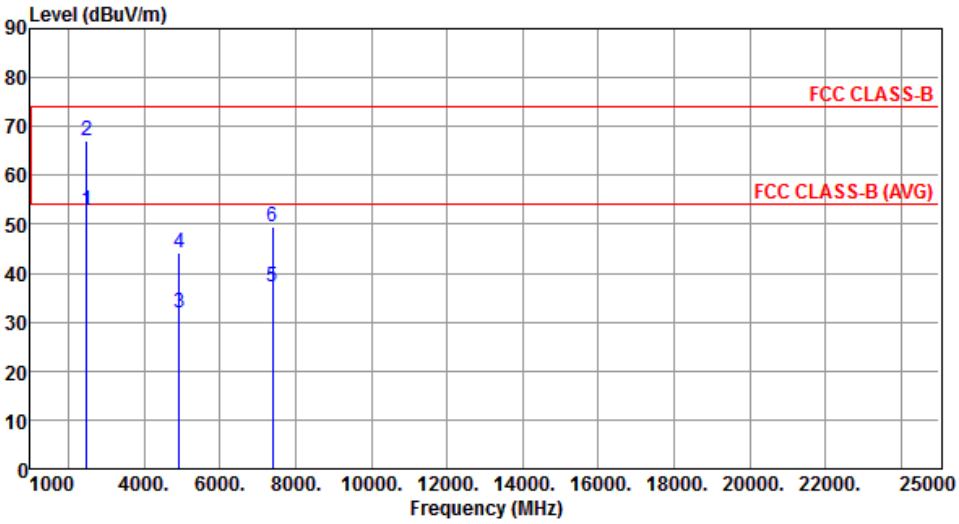
Modulation	11g	Test Freq. (MHz)	2462
Polarization	Horizontal	Test Configuration	1



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2483.50	47.63	54.00	-6.37	48.65	-1.02	Average	150	172
2	2483.50	61.35	74.00	-12.65	62.37	-1.02	Peak	150	172
3	4924.00	31.67	54.00	-22.33	25.66	6.01	Average	100	196
4	4924.00	44.32	74.00	-29.68	38.31	6.01	Peak	100	196
5	7386.00	37.02	54.00	-16.98	26.12	10.90	Average	100	162
6	7386.00	49.43	74.00	-24.57	38.53	10.90	Peak	100	162

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	11g	Test Freq. (MHz)	2462
Polarization	Vertical	Test Configuration	1

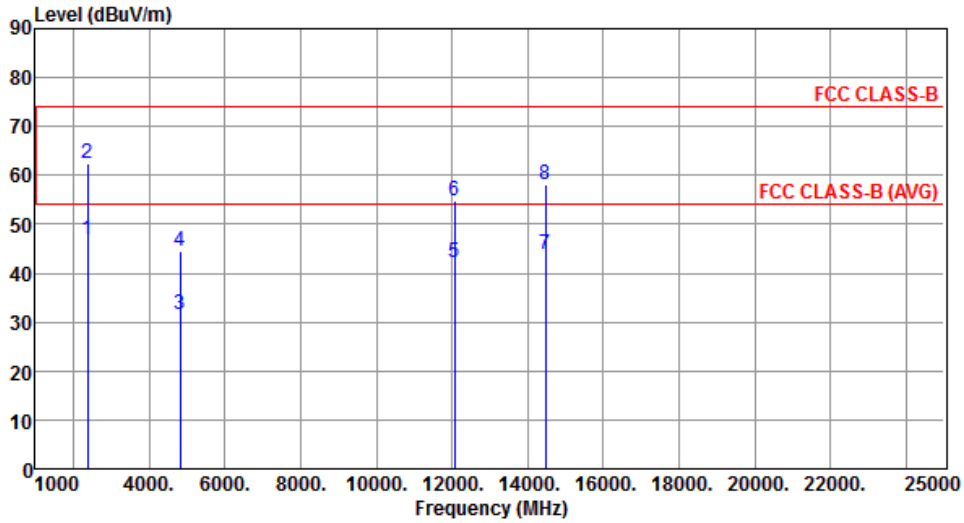


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2483.50	52.85	54.00	-1.15	53.65	-0.80	Average	229	87
2	2483.50	67.04	74.00	-6.96	68.06	-1.02	Peak	229	87
3	4924.00	31.74	54.00	-22.26	25.73	6.01	Average	155	222
4	4924.00	44.29	74.00	-29.71	38.28	6.01	Peak	155	222
5	7386.00	37.14	54.00	-16.86	26.24	10.90	Average	133	138
6	7386.00	49.57	74.00	-24.43	38.67	10.90	Peak	133	138

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

3.5.7 Transmitter Radiated Unwanted Emissions (Above 1GHz) for HT20

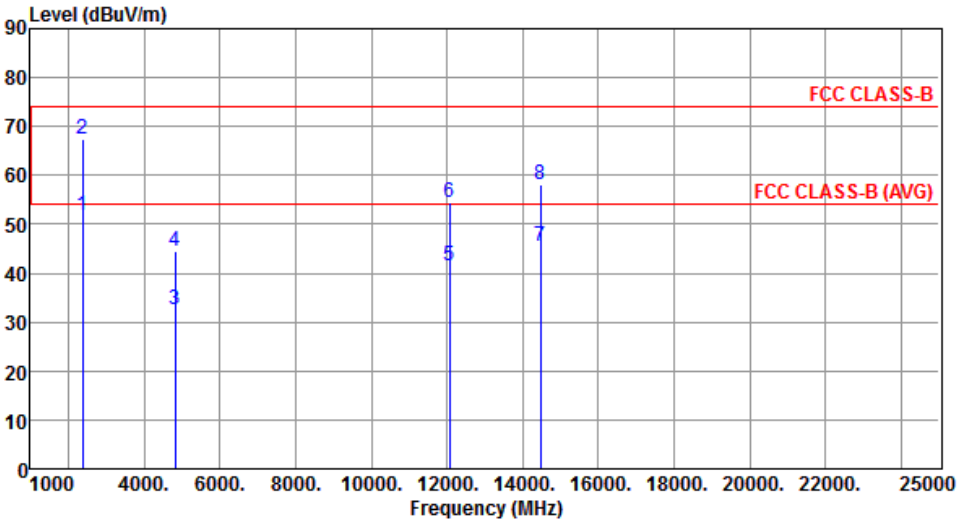
Modulation	HT20	Test Freq. (MHz)	2412
Polarization	Horizontal	Test Configuration	1



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	46.84	54.00	-7.16	48.20	-1.36	Average	155	161
2	2390.00	62.35	74.00	-11.65	63.71	-1.36	Peak	155	161
3	4824.00	31.56	54.00	-22.44	25.62	5.94	Average	138	147
4	4824.00	44.46	74.00	-29.54	38.52	5.94	Peak	138	147
5	12060.00	42.19	54.00	-11.81	26.22	15.97	Average	155	138
6	12060.00	54.68	74.00	-19.32	38.71	15.97	Peak	155	138
7	14472.00	43.77	54.00	-10.23	24.36	19.41	Average	138	157
8	14472.00	57.98	74.00	-16.02	38.57	19.41	Peak	138	157

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

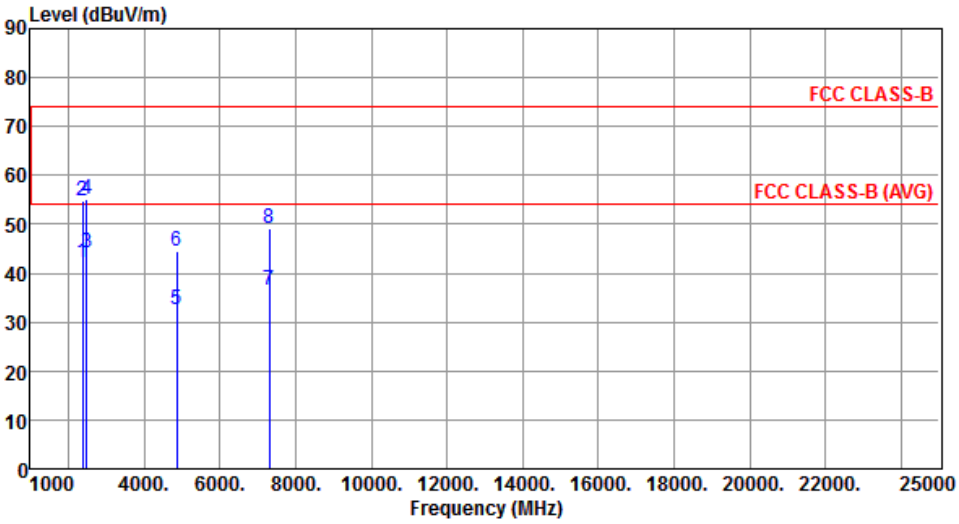
Modulation	HT20	Test Freq. (MHz)	2412
Polarization	Vertical	Test Configuration	1



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	51.93	54.00	-2.07	53.29	-1.36	Average	124	183
2	2390.00	67.54	74.00	-6.46	68.90	-1.36	Peak	124	183
3	4824.00	32.46	54.00	-21.54	26.52	5.94	Average	163	222
4	4824.00	44.59	74.00	-29.41	38.65	5.94	Peak	163	222
5	12060.00	41.64	54.00	-12.36	25.67	15.97	Average	138	147
6	12060.00	54.59	74.00	-19.41	38.62	15.97	Peak	138	147
7	14472.00	45.66	54.00	-8.34	26.25	19.41	Average	168	153
8	14472.00	58.02	74.00	-15.98	38.61	19.41	Peak	168	153

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

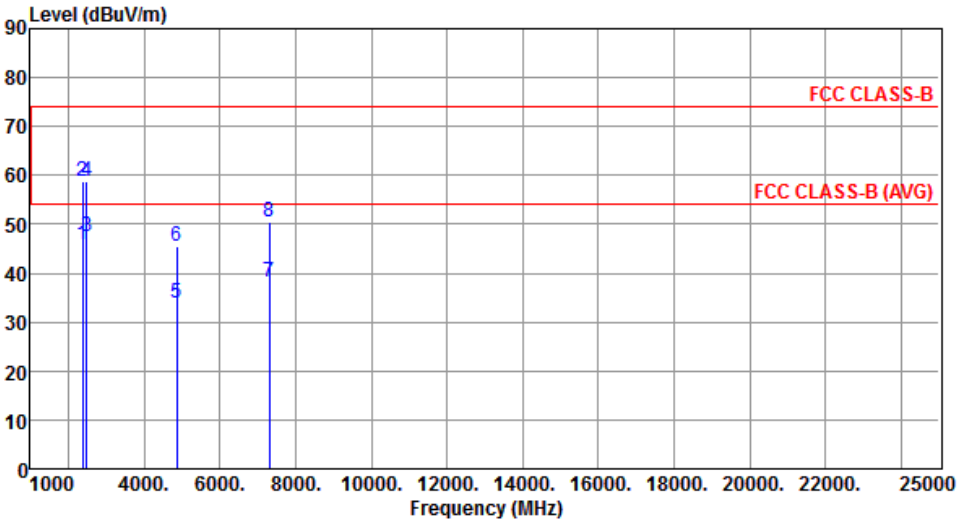
Modulation	HT20	Test Freq. (MHz)	2437
Polarization	Horizontal	Test Configuration	1



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	42.15	54.00	-11.85	43.51	-1.36	Average	150	162
2	2390.00	54.88	74.00	-19.12	56.24	-1.36	Peak	150	162
3	2483.50	44.18	54.00	-9.82	45.20	-1.02	Average	150	162
4	2483.50	55.28	74.00	-18.72	56.30	-1.02	Peak	150	162
5	4874.00	32.49	54.00	-21.51	26.52	5.97	Average	100	162
6	4874.00	44.49	74.00	-29.51	38.52	5.97	Peak	100	162
7	7311.00	36.40	54.00	-17.60	25.65	10.75	Average	165	162
8	7311.00	49.27	74.00	-24.73	38.52	10.75	Peak	165	162

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

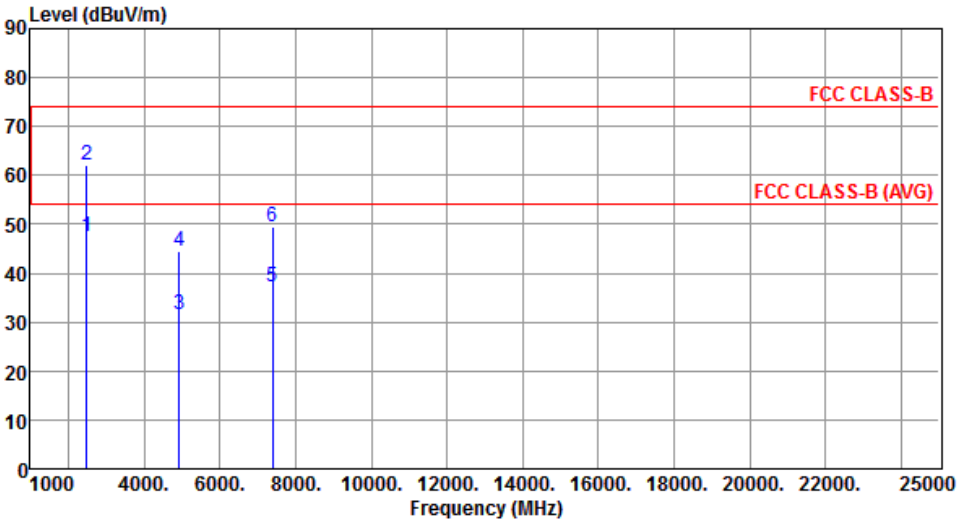
Modulation	HT20	Test Freq. (MHz)	2437
Polarization	Vertical	Test Configuration	1



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	45.98	54.00	-8.02	47.34	-1.36	Average	228	85
2	2390.00	58.92	74.00	-15.08	60.28	-1.36	Peak	228	85
3	2483.50	47.56	54.00	-6.44	48.58	-1.02	Average	228	85
4	2483.50	58.72	74.00	-15.28	59.74	-1.02	Peak	228	85
5	4874.00	33.87	54.00	-20.13	27.90	5.97	Average	123	250
6	4874.00	45.65	74.00	-28.35	39.68	5.97	Peak	123	250
7	7311.00	38.34	54.00	-15.66	27.59	10.75	Average	267	187
8	7311.00	50.34	74.00	-23.66	39.59	10.75	Peak	267	187

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

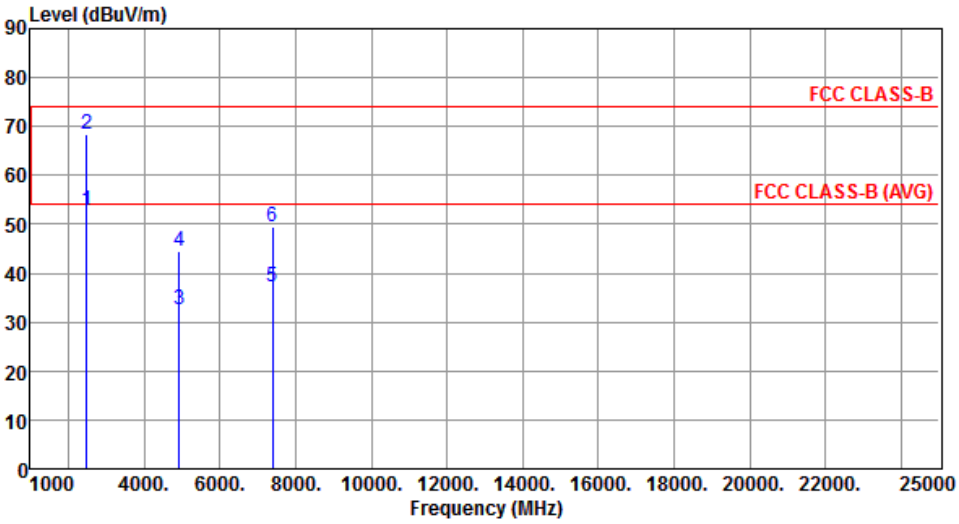
Modulation	HT20	Test Freq. (MHz)	2462
Polarization	Horizontal	Test Configuration	1



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2483.50	47.49	54.00	-6.51	48.51	-1.02	Average	150	183
2	2483.50	62.22	74.00	-11.78	63.24	-1.02	Peak	150	183
3	4924.00	31.63	54.00	-22.37	25.62	6.01	Average	166	216
4	4924.00	44.63	74.00	-29.37	38.62	6.01	Peak	166	216
5	7386.00	37.16	54.00	-16.84	26.26	10.90	Average	182	125
6	7386.00	49.43	74.00	-24.57	38.53	10.90	Peak	182	125

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	HT20	Test Freq. (MHz)	2462
Polarization	Vertical	Test Configuration	1



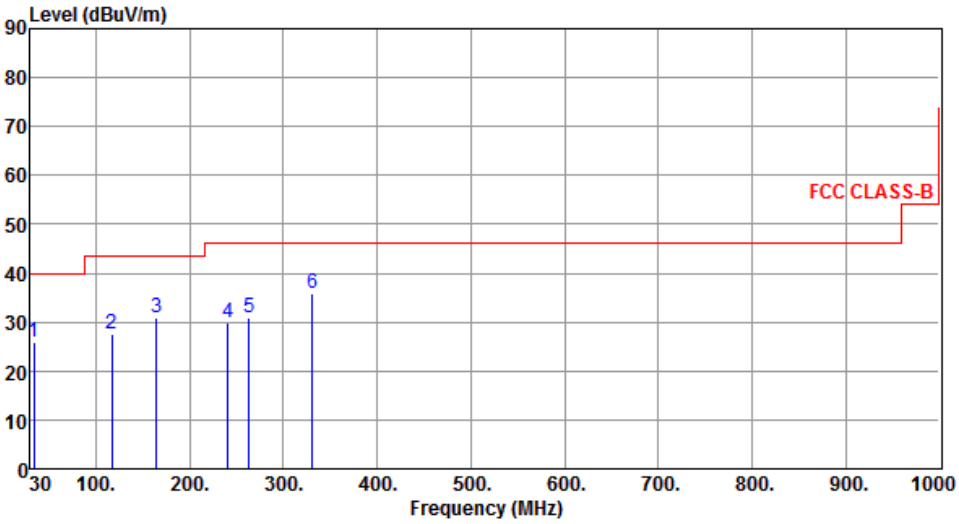
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2483.50	52.81	54.00	-1.19	53.61	-0.80	Average	224	94
2	2483.50	68.27	74.00	-5.73	69.29	-1.02	Peak	224	94
3	4924.00	32.39	54.00	-21.61	26.38	6.01	Average	162	216
4	4924.00	44.42	74.00	-29.58	38.41	6.01	Peak	162	216
5	7386.00	37.28	54.00	-16.72	26.38	10.90	Average	172	196
6	7386.00	49.42	74.00	-24.58	38.52	10.90	Peak	172	196

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Test Configuration 2: PCB Dipole antenna

3.5.8 Transmitter Radiated Unwanted Emissions (Below 1GHz)

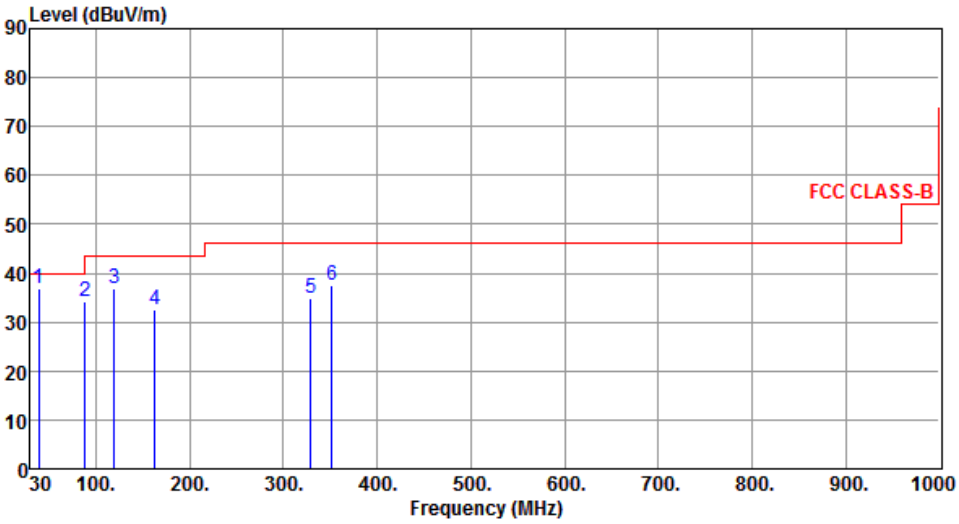
Modulation	11g	**Test Freq. (MHz)**	2437
Polarization	Horizontal	**Test Configuration**	2



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	33.88	25.94	40.00	-14.06	39.86	-13.92	Peak	---	---
2	117.30	27.72	43.50	-15.78	43.58	-15.86	Peak	---	---
3	164.83	30.90	43.50	-12.60	44.48	-13.58	Peak	---	---
4	240.49	29.99	46.00	-16.01	44.72	-14.73	Peak	---	---
5	263.77	30.74	46.00	-15.26	44.74	-14.00	Peak	---	---
6	330.70	36.02	46.00	-9.98	48.01	-11.99	Peak	---	---

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

Modulation	11g	Test Freq. (MHz)	2437
Polarization	Vertical	Test Configuration	2

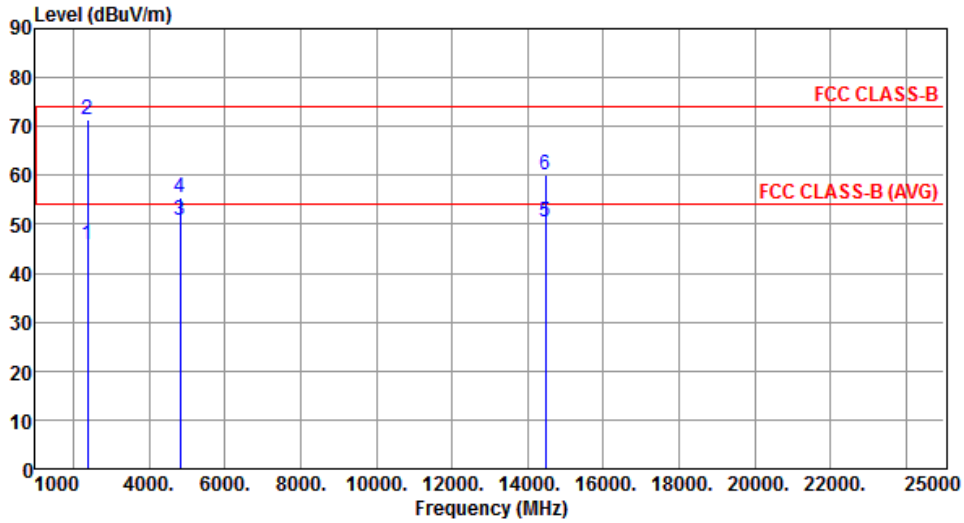


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	38.56	36.89	40.00	-3.11	50.36	-13.47	QP	100	11
2	88.20	34.05	43.50	-9.45	53.28	-19.23	Peak	---	---
3	119.24	36.93	43.50	-6.57	52.61	-15.68	Peak	---	---
4	162.89	32.59	43.50	-10.91	46.05	-13.46	Peak	---	---
5	328.76	34.95	46.00	-11.05	46.99	-12.04	Peak	---	---
6	352.04	37.60	46.00	-8.40	49.01	-11.41	Peak	---	---

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

3.5.9 Transmitter Radiated Unwanted Emissions (Above 1GHz) for 11b

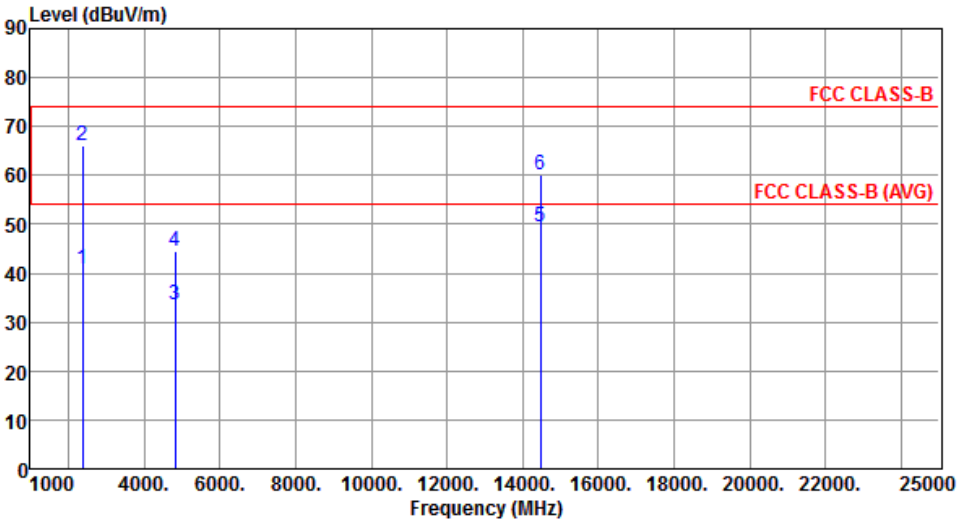
Modulation	11b	Test Freq. (MHz)	2412
Polarization	Horizontal	Test Configuration	2



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	45.96	54.00	-8.04	47.32	-1.36	Average	106	3
2	2390.00	71.30	74.00	-2.70	72.66	-1.36	Peak	106	3
3	4824.00	50.74	54.00	-3.26	44.80	5.94	Average	164	180
4	4824.00	55.47	74.00	-18.53	49.53	5.94	Peak	164	180
5	14472.00	50.62	54.00	-3.38	31.21	19.41	Average	100	179
6	14472.00	60.00	74.00	-14.00	40.59	19.41	Peak	100	179

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

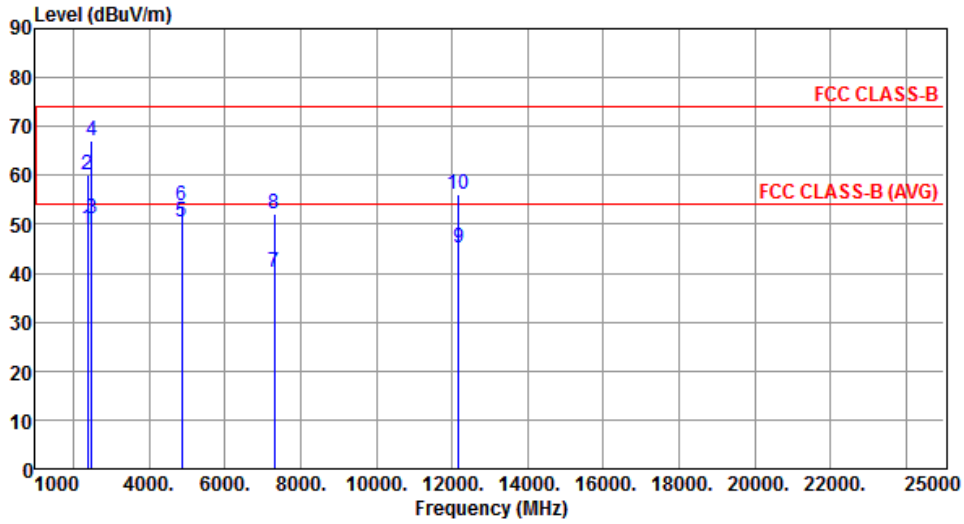
Modulation	11b	Test Freq. (MHz)	2412
Polarization	Vertical	Test Configuration	2



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	40.93	54.00	-13.07	42.29	-1.36	Average	146	202
2	2390.00	66.00	74.00	-8.00	67.36	-1.36	Peak	146	202
3	4824.00	33.59	54.00	-20.41	27.65	5.94	Average	152	168
4	4824.00	44.36	74.00	-29.64	38.42	5.94	Peak	152	168
5	14472.00	49.54	54.00	-4.46	30.13	19.41	Average	100	26
6	14472.00	59.95	74.00	-14.05	40.54	19.41	Peak	100	26

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

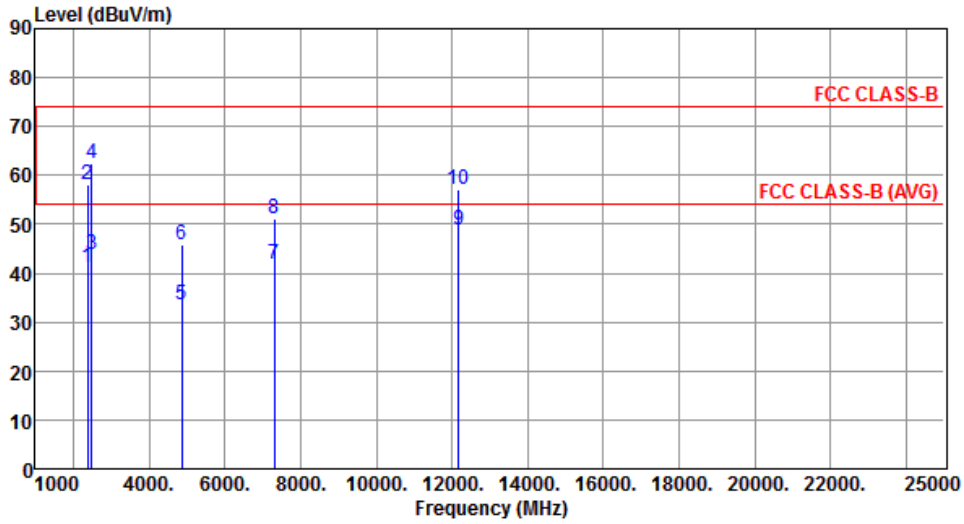
Modulation	11b	Test Freq. (MHz)	2437
Polarization	Horizontal	Test Configuration	2



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	49.31	54.00	-4.69	50.67	-1.36	Average	285	186
2	2390.00	60.25	74.00	-13.75	61.61	-1.36	Peak	285	186
3	2483.50	51.22	54.00	-2.78	52.24	-1.02	Average	285	186
4	2483.50	67.21	74.00	-6.79	68.23	-1.02	Peak	285	186
5	4874.00	50.35	54.00	-3.65	44.38	5.97	Average	200	63
6	4874.00	53.93	74.00	-20.07	47.96	5.97	Peak	200	63
7	7311.00	40.19	54.00	-13.81	29.44	10.75	Average	183	215
8	7311.00	52.13	74.00	-21.87	41.38	10.75	Peak	183	215
9	12185.00	45.18	54.00	-8.82	29.34	15.84	Average	177	168
10	12185.00	56.28	74.00	-17.72	40.44	15.84	Peak	177	168

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

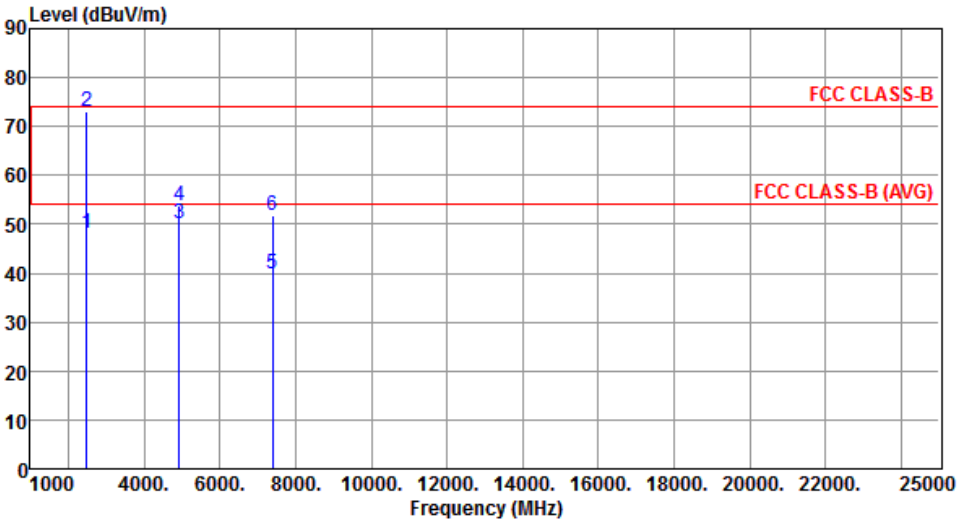
Modulation	11b	Test Freq. (MHz)	2437
Polarization	Vertical	Test Configuration	2



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	41.31	54.00	-12.69	42.67	-1.36	Average	146	225
2	2390.00	57.96	74.00	-16.04	59.32	-1.36	Peak	146	225
3	2483.50	43.70	54.00	-10.30	44.72	-1.02	Average	146	225
4	2483.50	62.33	74.00	-11.67	63.35	-1.02	Peak	146	225
5	4874.00	33.63	54.00	-20.37	27.66	5.97	Average	258	174
6	4874.00	45.85	74.00	-28.15	39.88	5.97	Peak	258	174
7	7311.00	42.01	54.00	-11.99	31.26	10.75	Average	216	207
8	7311.00	51.01	74.00	-22.99	40.26	10.75	Peak	216	207
9	12185.00	48.72	54.00	-5.28	32.88	15.84	Average	220	155
10	12185.00	57.09	74.00	-16.91	41.25	15.84	Peak	220	155

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

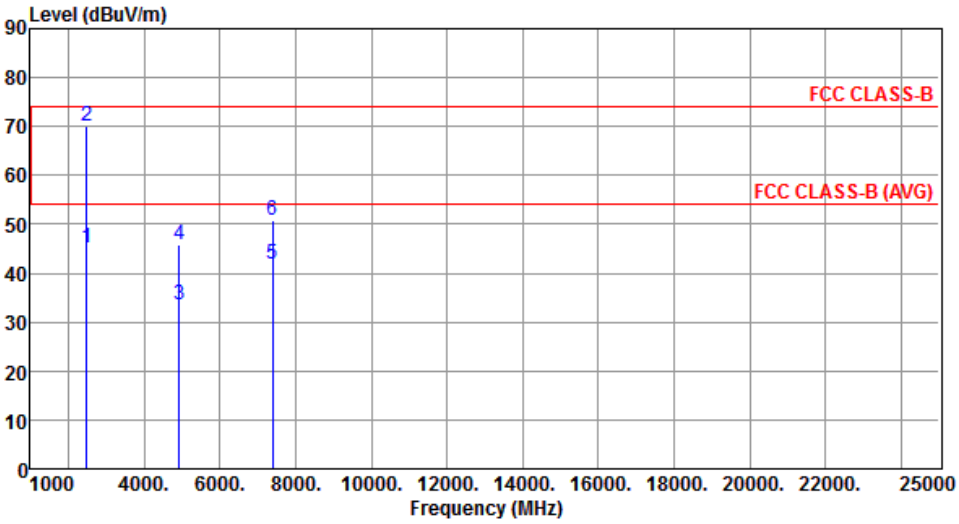
Modulation	11b	Test Freq. (MHz)	2462
Polarization	Horizontal	Test Configuration	2



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2483.50	48.30	54.00	-5.70	49.32	-1.02	Average	215	8
2	2483.50	73.11	74.00	-0.89	74.13	-1.02	Peak	215	8
3	4924.00	50.16	54.00	-3.84	44.15	6.01	Average	203	56
4	4924.00	53.78	74.00	-20.22	47.77	6.01	Peak	203	56
5	7386.00	40.01	54.00	-13.99	29.11	10.90	Average	181	212
6	7386.00	51.82	74.00	-22.18	40.92	10.90	Peak	181	212

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	11b	**Test Freq. (MHz)**	2462
Polarization	Vertical	**Test Configuration**	2

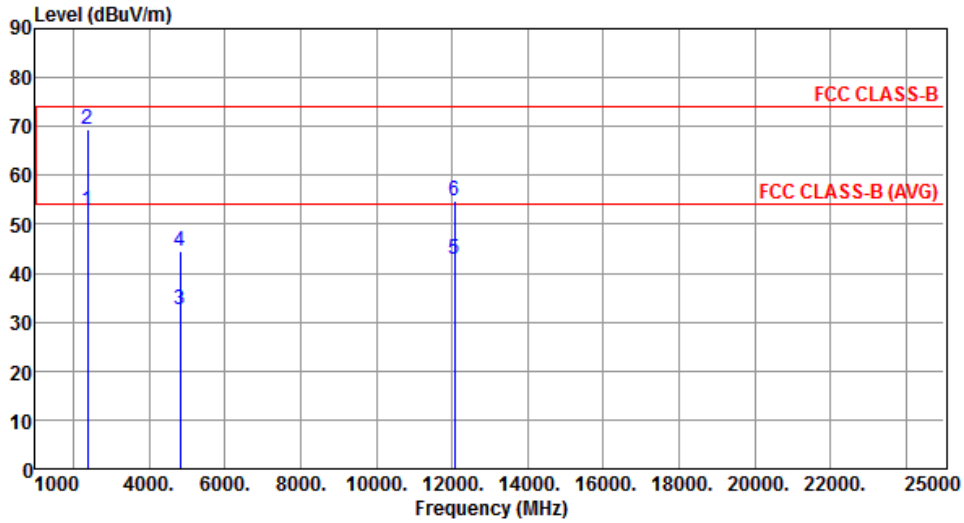


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2483.50	45.01	54.00	-8.99	46.03	-1.02	Average	304	139
2	2483.50	70.09	74.00	-3.91	71.11	-1.02	Peak	304	139
3	4924.00	33.45	54.00	-20.55	27.44	6.01	Average	253	171
4	4924.00	45.72	74.00	-28.28	39.71	6.01	Peak	253	171
5	7386.00	41.75	54.00	-12.25	30.85	10.90	Average	212	203
6	7386.00	50.82	74.00	-23.18	39.92	10.90	Peak	212	203

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

3.5.10 Transmitter Radiated Unwanted Emissions (Above 1GHz) for 11g

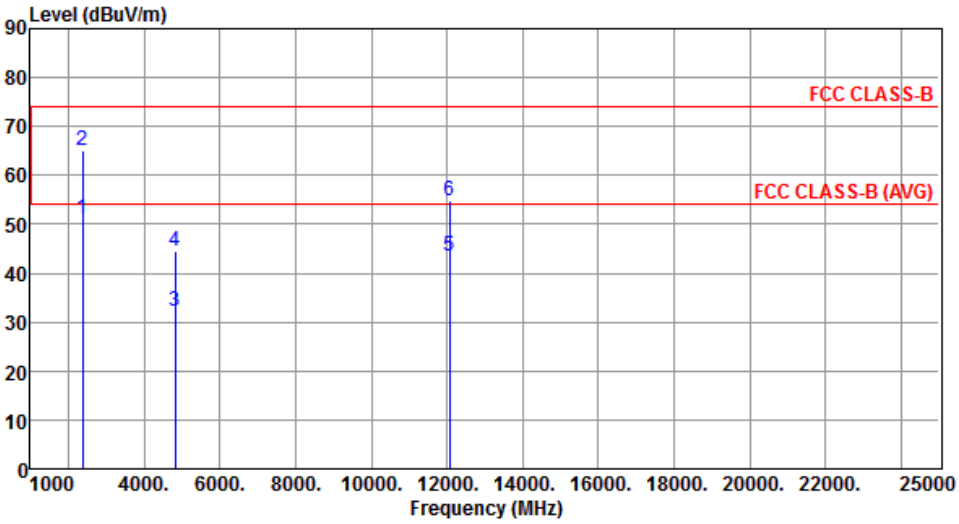
Modulation	11g	Test Freq. (MHz)	2412
Polarization	Horizontal	Test Configuration	2



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	52.69	54.00	-1.31	54.05	-1.36	Average	123	188
2	2390.00	69.45	74.00	-4.55	70.81	-1.36	Peak	123	188
3	4824.00	32.46	54.00	-21.54	26.52	5.94	Average	155	136
4	4824.00	44.56	74.00	-29.44	38.62	5.94	Peak	155	136
5	12060.00	42.68	54.00	-11.32	26.71	15.97	Average	171	216
6	12060.00	54.93	74.00	-19.07	38.96	15.97	Peak	171	216

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

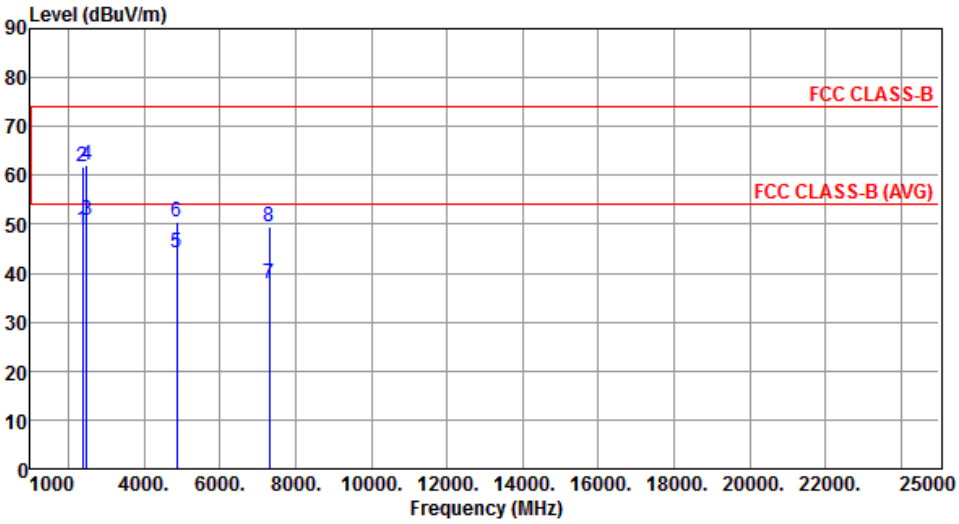
Modulation	11g	Test Freq. (MHz)	2412
Polarization	Vertical	Test Configuration	2



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	51.28	54.00	-2.72	52.64	-1.36	Average	148	204
2	2390.00	64.99	74.00	-9.01	66.35	-1.36	Peak	148	204
3	4824.00	32.32	54.00	-21.68	26.38	5.94	Average	152	163
4	4824.00	44.36	74.00	-29.64	38.42	5.94	Peak	152	163
5	12060.00	43.41	54.00	-10.59	27.44	15.97	Average	139	256
6	12060.00	54.65	74.00	-19.35	38.68	15.97	Peak	139	256

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

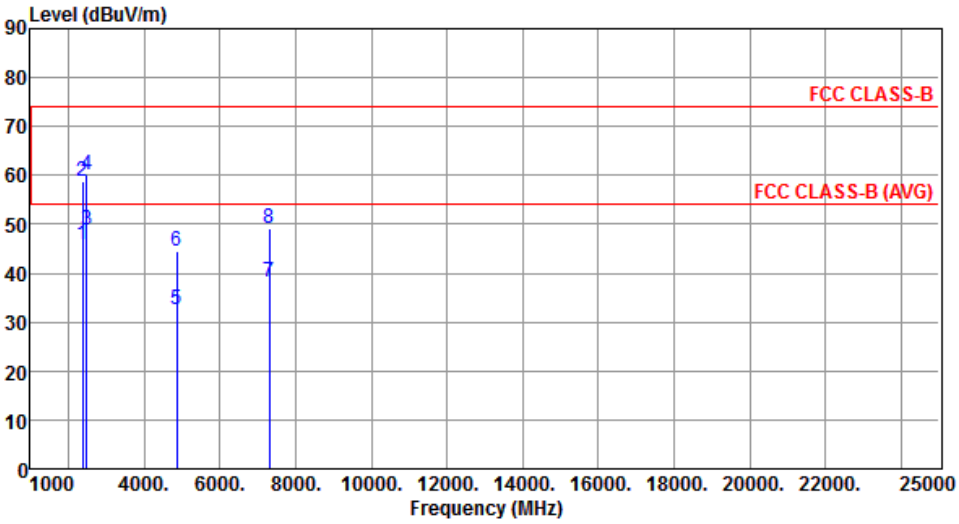
Modulation	11g	Test Freq. (MHz)	2437
Polarization	Horizontal	Test Configuration	2



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	48.85	54.00	-5.15	50.21	-1.36	Average	156	13
2	2390.00	61.78	74.00	-12.22	63.14	-1.36	Peak	156	13
3	2483.50	50.72	54.00	-3.28	51.74	-1.02	Average	156	13
4	2483.50	62.16	74.00	-11.84	63.18	-1.02	Peak	156	13
5	4874.00	44.13	54.00	-9.87	38.16	5.97	Average	172	162
6	4874.00	50.35	74.00	-23.65	44.38	5.97	Peak	172	162
7	7311.00	37.91	54.00	-16.09	27.16	10.75	Average	153	216
8	7311.00	49.37	74.00	-24.63	38.62	10.75	Peak	153	216

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

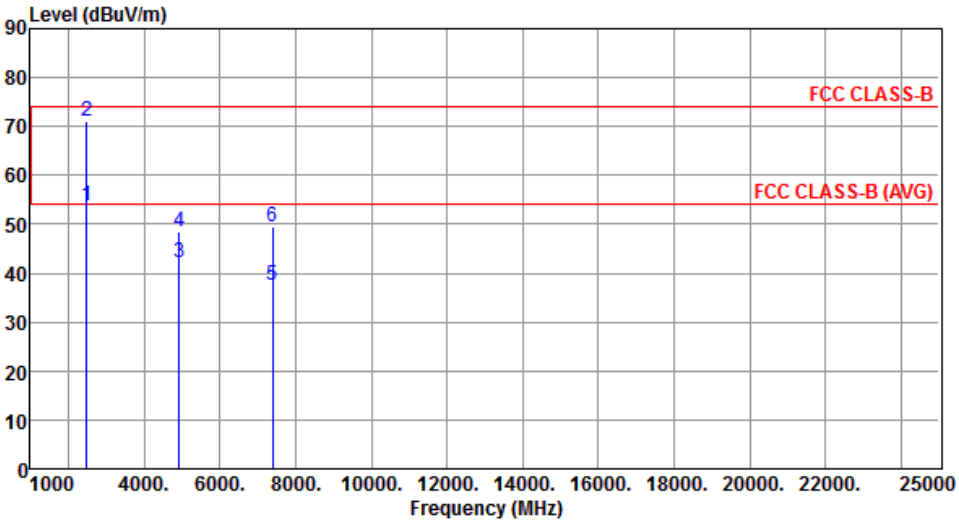
Modulation	11g	Test Freq. (MHz)	2437
Polarization	Vertical	Test Configuration	2



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	45.73	54.00	-8.27	47.09	-1.36	Average	327	102
2	2390.00	58.83	74.00	-15.17	60.19	-1.36	Peak	327	102
3	2483.50	48.79	54.00	-5.21	49.81	-1.02	Average	327	102
4	2483.50	60.12	74.00	-13.88	61.14	-1.02	Peak	327	102
5	4874.00	32.69	54.00	-21.31	26.72	5.97	Average	162	352
6	4874.00	44.44	74.00	-29.56	38.47	5.97	Peak	162	352
7	7311.00	38.16	54.00	-15.84	27.41	10.75	Average	189	216
8	7311.00	49.10	74.00	-24.90	38.35	10.75	Peak	189	216

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

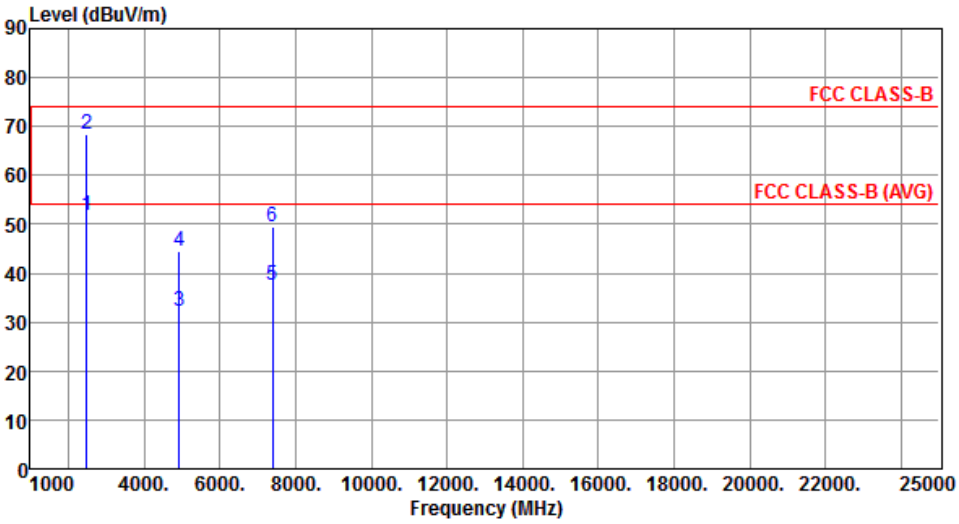
Modulation	11g	Test Freq. (MHz)	2462
Polarization	Horizontal	Test Configuration	2



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2483.50	53.83	54.00	-0.17	54.85	-1.02	Average	152	199
2	2483.50	70.97	74.00	-3.03	71.99	-1.02	Peak	152	199
3	4924.00	42.34	54.00	-11.66	36.33	6.01	Average	163	156
4	4924.00	48.59	74.00	-25.41	42.58	6.01	Peak	163	156
5	7386.00	37.45	54.00	-16.55	26.55	10.90	Average	162	252
6	7386.00	49.39	74.00	-24.61	38.49	10.90	Peak	162	252

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	11g	Test Freq. (MHz)	2462
Polarization	Vertical	Test Configuration	2

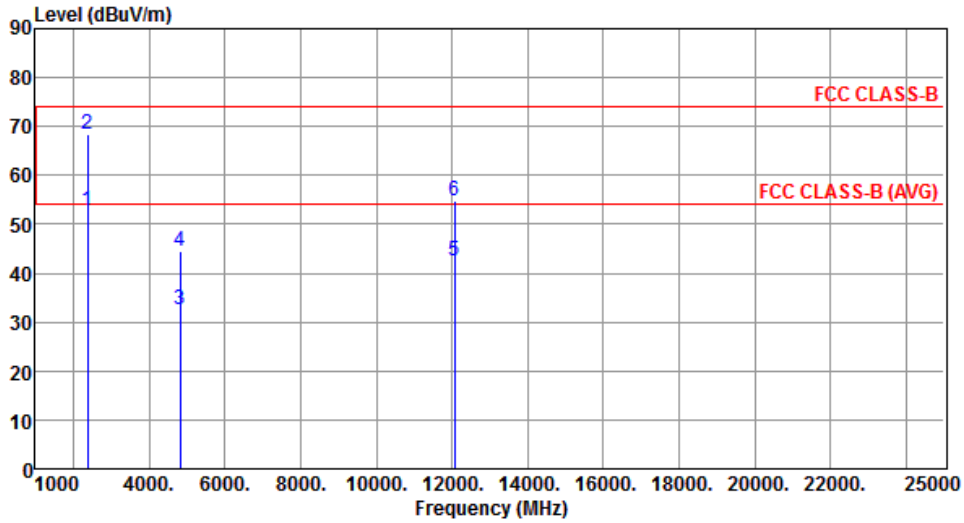


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2483.50	51.86	54.00	-2.14	52.88	-1.02	Average	326	100
2	2483.50	68.49	74.00	-5.51	69.51	-1.02	Peak	326	100
3	4924.00	32.34	54.00	-21.66	26.33	6.01	Average	168	252
4	4924.00	44.42	74.00	-29.58	38.41	6.01	Peak	168	252
5	7386.00	37.45	54.00	-16.55	26.55	10.90	Average	152	142
6	7386.00	49.55	74.00	-24.45	38.65	10.90	Peak	152	142

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

3.5.11 Transmitter Radiated Unwanted Emissions (Above 1GHz) for HT20

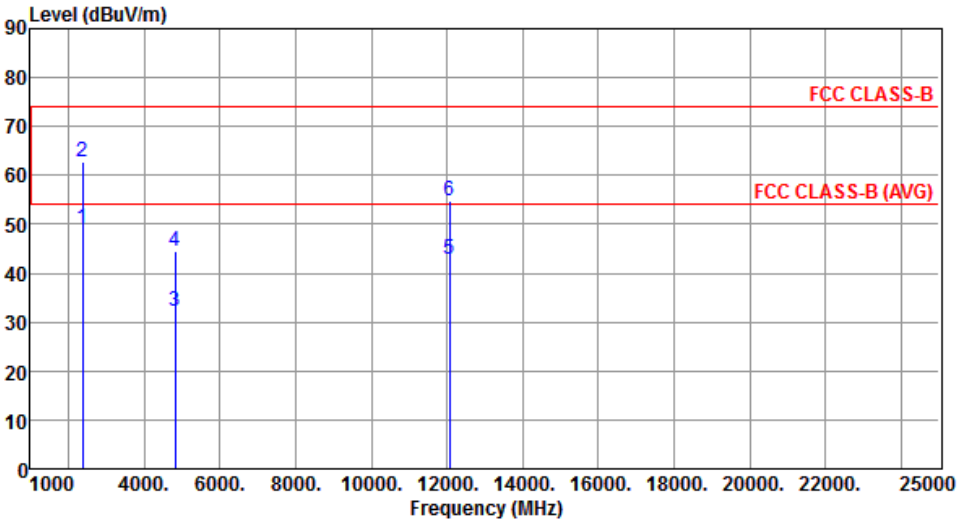
Modulation	HT20	Test Freq. (MHz)	2412
Polarization	Horizontal	Test Configuration	2



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	52.77	54.00	-1.23	54.13	-1.36	Average	110	190
2	2390.00	68.53	74.00	-5.47	69.89	-1.36	Peak	110	190
3	4824.00	32.46	54.00	-21.54	26.52	5.94	Average	162	153
4	4824.00	44.38	74.00	-29.62	38.44	5.94	Peak	162	153
5	12060.00	42.52	54.00	-11.48	26.55	15.97	Average	138	147
6	12060.00	54.64	74.00	-19.36	38.67	15.97	Peak	138	147

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

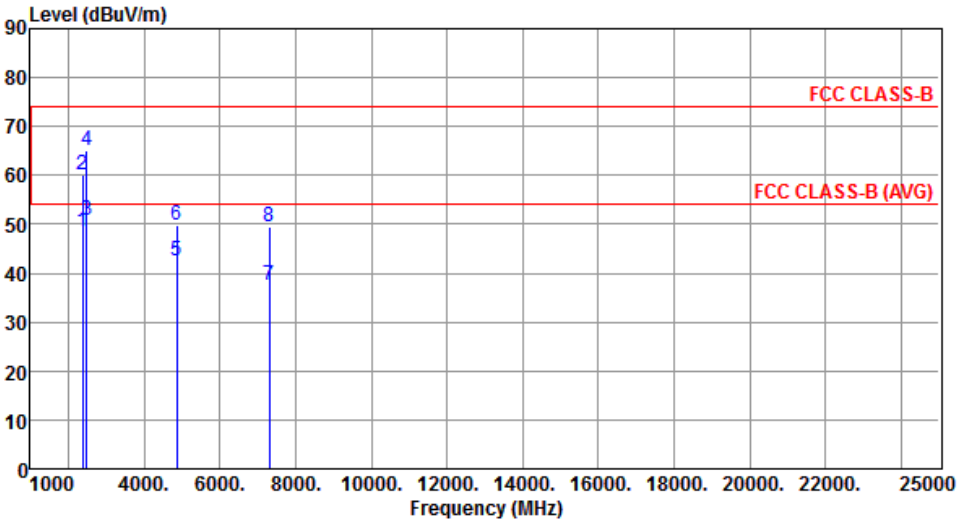
Modulation	HT20	Test Freq. (MHz)	2412
Polarization	Vertical	Test Configuration	2



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	48.99	54.00	-5.01	50.35	-1.36	Average	316	109
2	2390.00	62.89	74.00	-11.11	64.25	-1.36	Peak	316	109
3	4824.00	32.32	54.00	-21.68	26.38	5.94	Average	155	142
4	4824.00	44.55	74.00	-29.45	38.61	5.94	Peak	155	142
5	12060.00	42.79	54.00	-11.21	26.82	15.97	Average	172	193
6	12060.00	54.68	74.00	-19.32	38.71	15.97	Peak	172	193

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

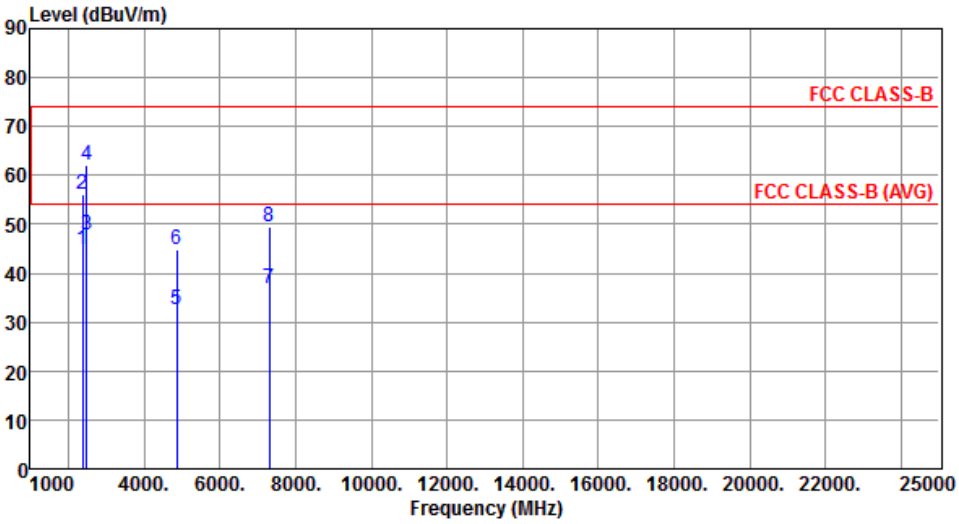
Modulation	HT20	Test Freq. (MHz)	2437
Polarization	Horizontal	Test Configuration	2



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	48.63	54.00	-5.37	49.99	-1.36	Average	234	11
2	2390.00	60.11	74.00	-13.89	61.47	-1.36	Peak	234	11
3	2483.50	50.87	54.00	-3.13	51.89	-1.02	Average	234	11
4	2483.50	65.15	74.00	-8.85	66.17	-1.02	Peak	234	11
5	4874.00	42.56	54.00	-11.44	36.59	5.97	Average	168	216
6	4874.00	49.68	74.00	-24.32	43.71	5.97	Peak	168	216
7	7311.00	37.43	54.00	-16.57	26.68	10.75	Average	163	221
8	7311.00	49.33	74.00	-24.67	38.58	10.75	Peak	163	221

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

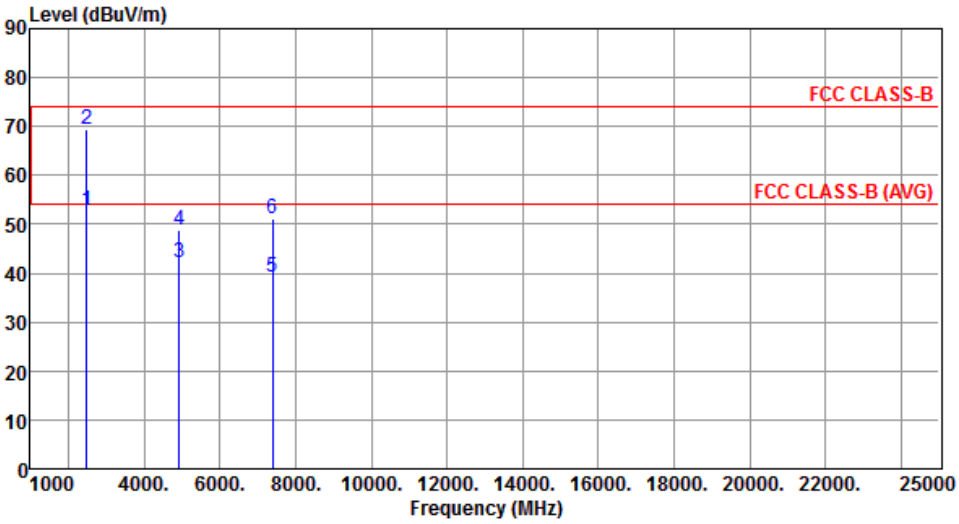
Modulation	HT20	Test Freq. (MHz)	2437
Polarization	Vertical	Test Configuration	2



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	44.80	54.00	-9.20	46.16	-1.36	Average	325	101
2	2390.00	56.20	74.00	-17.80	57.56	-1.36	Peak	325	101
3	2483.50	47.94	54.00	-6.06	48.96	-1.02	Average	325	101
4	2483.50	62.10	74.00	-11.90	63.12	-1.02	Peak	325	101
5	4874.00	32.65	54.00	-21.35	26.68	5.97	Average	162	139
6	4874.00	44.72	74.00	-29.28	38.75	5.97	Peak	162	139
7	7311.00	37.01	54.00	-16.99	26.26	10.75	Average	20	142
8	7311.00	49.38	74.00	-24.62	38.63	10.75	Peak	20	142

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

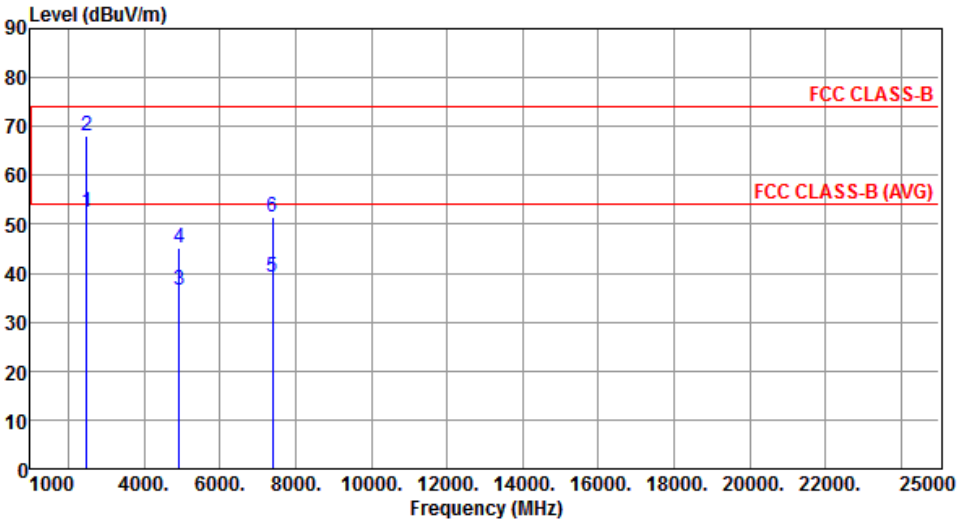
Modulation	HT20	Test Freq. (MHz)	2462
Polarization	Horizontal	Test Configuration	2



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2483.50	52.87	54.00	-1.13	53.89	-1.02	Average	115	179
2	2483.50	69.37	74.00	-4.63	70.39	-1.02	Peak	115	179
3	4924.00	42.33	54.00	-11.67	36.32	6.01	Average	182	153
4	4924.00	48.66	74.00	-25.34	42.65	6.01	Peak	182	153
5	7386.00	39.32	54.00	-14.68	28.42	10.90	Average	168	182
6	7386.00	51.23	74.00	-22.77	40.33	10.90	Peak	168	182

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	HT20	Test Freq. (MHz)	2462
Polarization	Vertical	Test Configuration	2



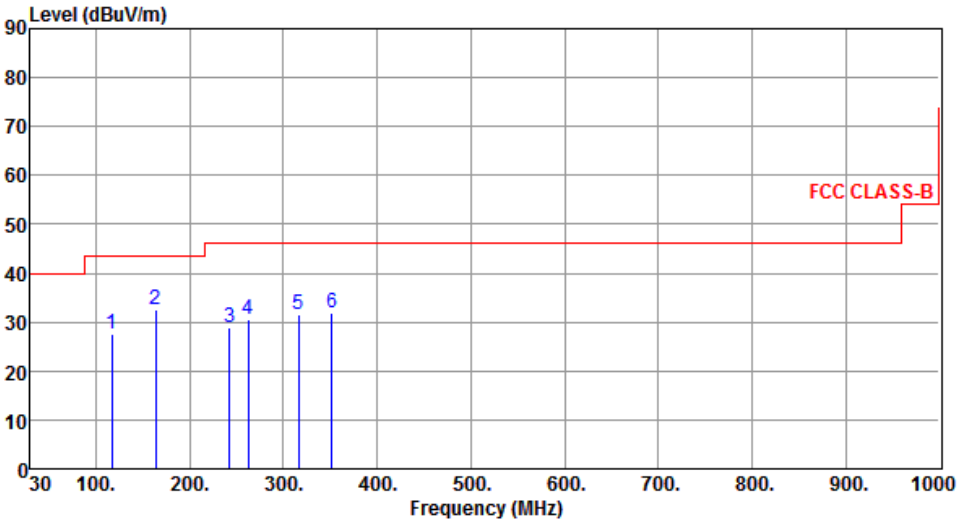
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2483.50	52.36	54.00	-1.64	53.38	-1.02	Average	313	100
2	2483.50	68.10	74.00	-5.90	69.12	-1.02	Peak	313	100
3	4924.00	36.39	54.00	-17.61	30.38	6.01	Average	146	218
4	4924.00	45.32	74.00	-28.68	39.31	6.01	Peak	146	218
5	7386.00	39.31	54.00	-14.69	28.41	10.90	Average	163	312
6	7386.00	51.34	74.00	-22.66	40.44	10.90	Peak	163	312

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Test Configuration 3: Isolated Magnetic Dipole antenna

3.5.12 Transmitter Radiated Unwanted Emissions (Below 1GHz)

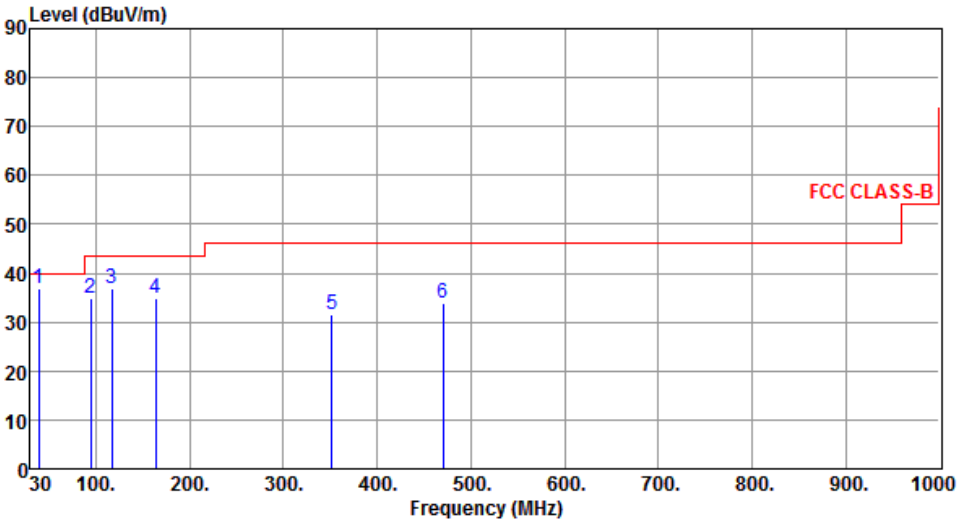
Modulation	11g	Test Freq. (MHz)	2437
Polarization	Horizontal	Test Configuration	3



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	117.30	27.68	43.50	-15.82	43.54	-15.86	Peak	---	---
2	163.86	32.68	43.50	-10.82	46.20	-13.52	Peak	---	---
3	242.43	28.78	46.00	-17.22	43.47	-14.69	Peak	---	---
4	262.80	30.54	46.00	-15.46	44.59	-14.05	Peak	---	---
5	316.15	31.55	46.00	-14.45	43.93	-12.38	Peak	---	---
6	352.04	31.92	46.00	-14.08	43.33	-11.41	Peak	---	---

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

Modulation	11g	Test Freq. (MHz)	2437
Polarization	Vertical	Test Configuration	3

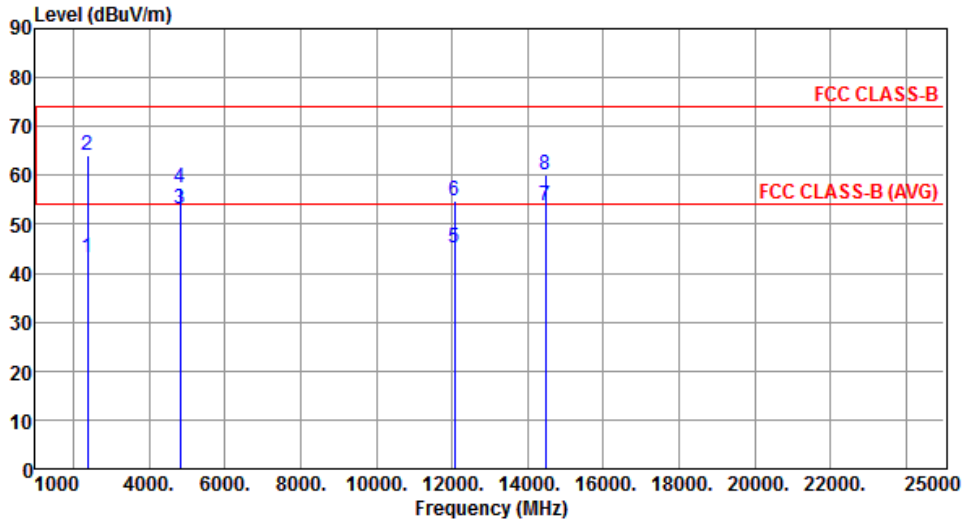


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	38.73	36.76	40.00	-3.24	50.22	-13.46	QP	100	4
2	94.02	34.73	43.50	-8.77	53.78	-19.05	Peak	---	---
3	117.30	36.84	43.50	-6.66	52.70	-15.86	Peak	---	---
4	163.86	34.84	43.50	-8.66	48.36	-13.52	Peak	---	---
5	352.04	31.54	46.00	-14.46	42.95	-11.41	Peak	---	---
6	470.38	33.79	46.00	-12.21	42.22	-8.43	Peak	---	---

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

3.5.13 Transmitter Radiated Unwanted Emissions (Above 1GHz) for 11b

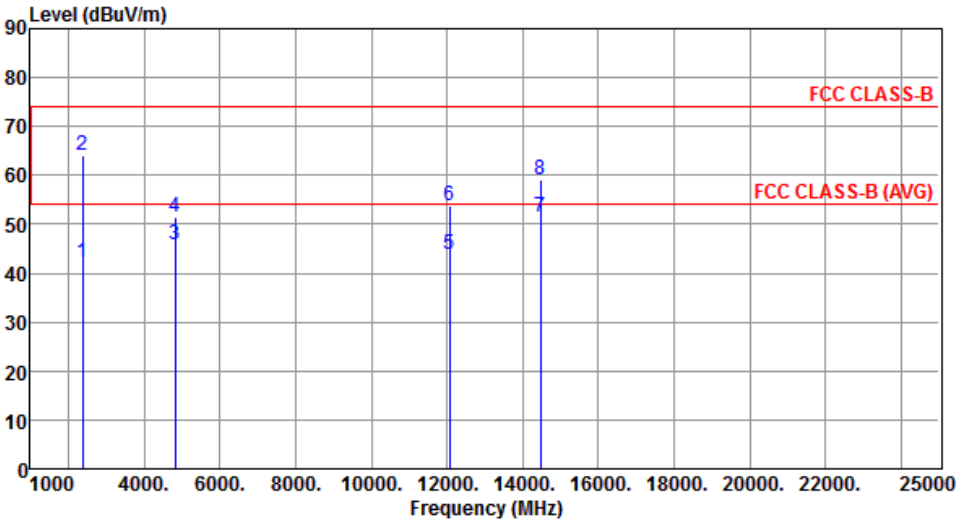
Modulation	11b	Test Freq. (MHz)	2412
Polarization	Horizontal	Test Configuration	3



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	43.33	54.00	-10.67	44.69	-1.36	Average	151	4
2	2390.00	64.03	74.00	-9.97	65.39	-1.36	Peak	151	4
3	4824.00	53.07	54.00	-0.93	47.13	5.94	Average	285	183
4	4824.00	57.49	74.00	-16.51	51.55	5.94	Peak	285	183
5	12060.00	45.14	54.00	-8.86	29.17	15.97	Average	131	1
6	12060.00	54.72	74.00	-19.28	38.75	15.97	Peak	131	1
7	14472.00	53.67	54.00	-0.33	34.26	19.41	Average	123	179
8	14472.00	60.21	74.00	-13.79	40.80	19.41	Peak	123	179

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

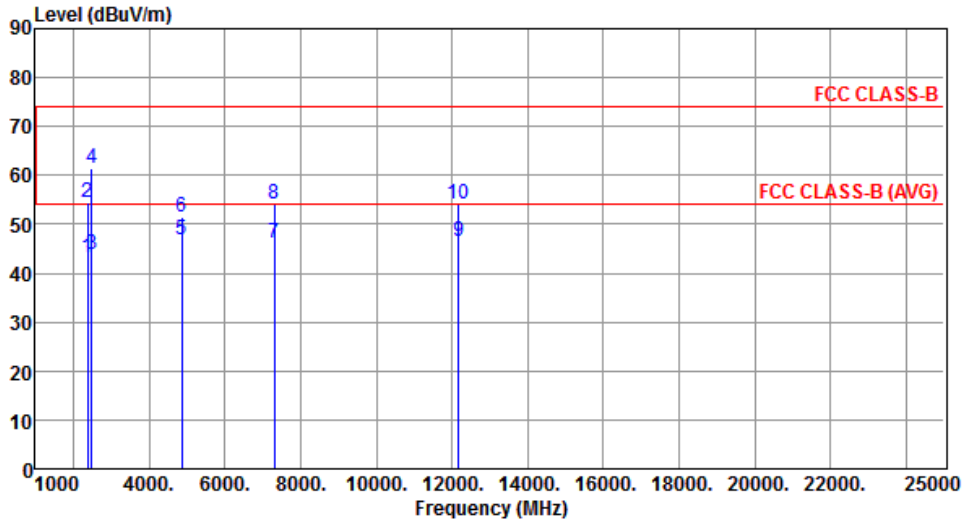
Modulation	11b	Test Freq. (MHz)	2412
Polarization	Vertical	Test Configuration	3



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	42.08	54.00	-11.92	43.44	-1.36	Average	148	83
2	2390.00	64.17	74.00	-9.83	65.53	-1.36	Peak	148	83
3	4824.00	45.89	54.00	-8.11	39.95	5.94	Average	229	83
4	4824.00	51.61	74.00	-22.39	45.67	5.94	Peak	229	83
5	12060.00	43.77	54.00	-10.23	27.80	15.97	Average	213	345
6	12060.00	53.83	74.00	-20.17	37.86	15.97	Peak	213	345
7	14472.00	51.38	54.00	-2.62	31.97	19.41	Average	284	28
8	14472.00	59.28	74.00	-14.72	39.87	19.41	Peak	284	28

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

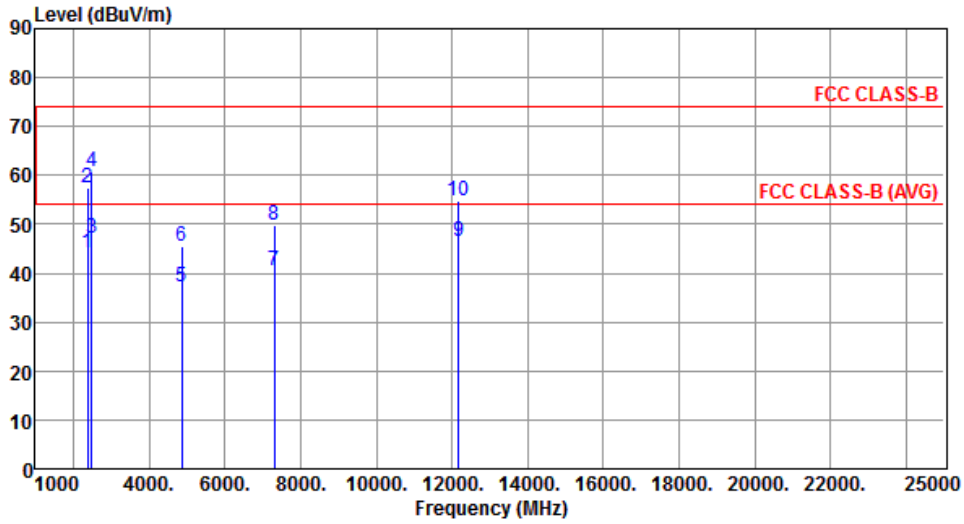
Modulation	11b	Test Freq. (MHz)	2437
Polarization	Horizontal	Test Configuration	3



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2385.00	43.13	54.00	-10.87	44.52	-1.39	Average	148	4
2	2385.00	54.49	74.00	-19.51	55.88	-1.39	Peak	148	4
3	2483.50	43.69	54.00	-10.31	44.71	-1.02	Average	148	4
4	2483.50	61.53	74.00	-12.47	62.55	-1.02	Peak	148	4
5	4874.00	46.89	54.00	-7.11	40.92	5.97	Average	283	191
6	4874.00	51.36	74.00	-22.64	45.39	5.97	Peak	283	191
7	7311.00	46.02	54.00	-7.98	35.27	10.75	Average	188	156
8	7311.00	54.23	74.00	-19.77	43.48	10.75	Peak	188	156
9	12185.00	46.63	54.00	-7.37	30.79	15.84	Average	197	211
10	12185.00	54.23	74.00	-19.77	38.39	15.84	Peak	197	211

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

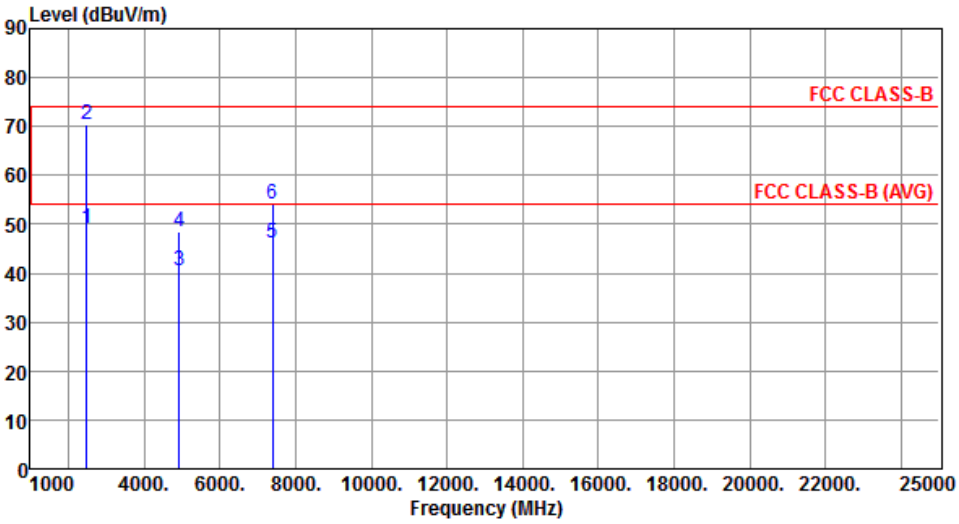
Modulation	11b	Test Freq. (MHz)	2437
Polarization	Vertical	Test Configuration	3



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2385.00	44.33	54.00	-9.67	45.72	-1.39	Average	240	60
2	2385.00	57.32	74.00	-16.68	58.71	-1.39	Peak	240	60
3	2483.50	47.11	54.00	-6.89	48.13	-1.02	Average	240	60
4	2483.50	60.91	74.00	-13.09	61.93	-1.02	Peak	240	60
5	4874.00	37.27	54.00	-16.73	31.30	5.97	Average	240	60
6	4874.00	45.53	74.00	-28.47	39.56	5.97	Peak	240	60
7	7311.00	40.42	54.00	-13.58	29.67	10.75	Average	206	258
8	7311.00	49.66	74.00	-24.34	38.91	10.75	Peak	206	258
9	12185.00	46.61	54.00	-7.39	30.77	15.84	Average	198	24
10	12185.00	54.80	74.00	-19.20	38.96	15.84	Peak	198	24

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

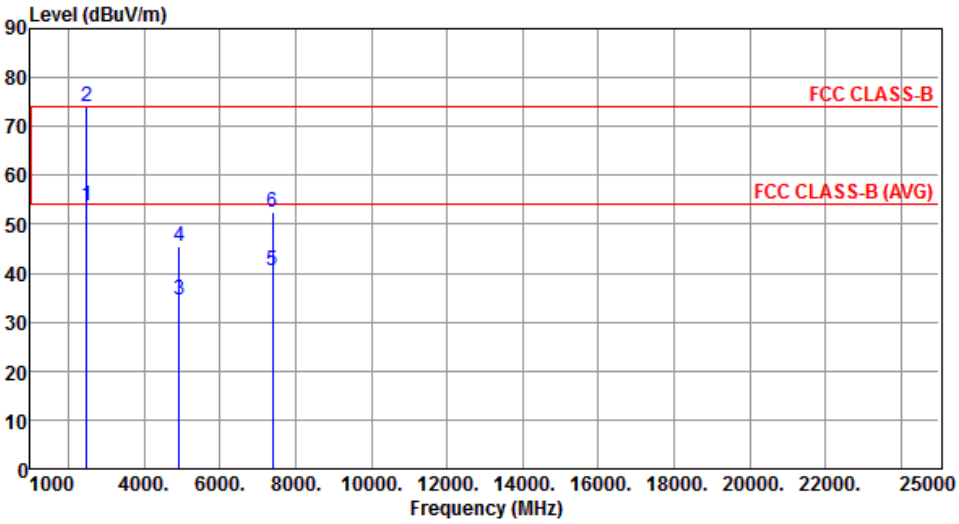
Modulation	11b	Test Freq. (MHz)	2462
Polarization	Horizontal	Test Configuration	3



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2483.50	49.17	54.00	-4.83	50.19	-1.02	Average	162	20
2	2483.50	70.53	74.00	-3.47	71.55	-1.02	Peak	162	20
3	4924.00	40.37	54.00	-13.63	34.36	6.01	Average	250	178
4	4924.00	48.57	74.00	-25.43	42.56	6.01	Peak	250	178
5	7386.00	46.13	54.00	-7.87	35.23	10.90	Average	159	154
6	7386.00	54.26	74.00	-19.74	43.36	10.90	Peak	159	154

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	11b	Test Freq. (MHz)	2462
Polarization	Vertical	Test Configuration	3

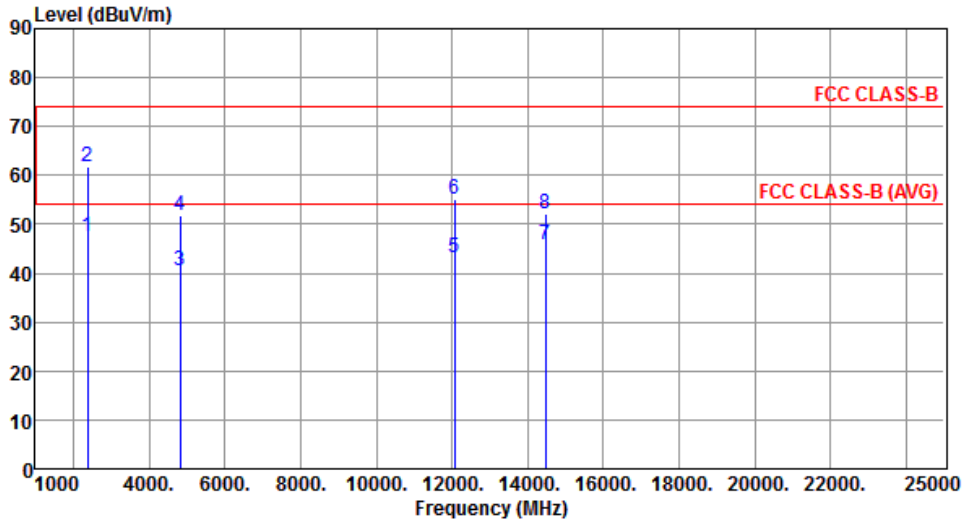


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2483.50	53.86	54.00	-0.14	54.88	-1.02	Average	300	123
2	2483.50	73.97	74.00	-0.03	74.99	-1.02	Peak	300	123
3	4924.00	34.51	54.00	-19.49	28.50	6.01	Average	300	123
4	4924.00	45.37	74.00	-28.63	39.36	6.01	Peak	300	123
5	7386.00	40.50	54.00	-13.50	29.60	10.90	Average	175	257
6	7386.00	52.40	74.00	-21.60	41.50	10.90	Peak	305	257

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

3.5.14 Transmitter Radiated Unwanted Emissions (Above 1GHz) for 11g

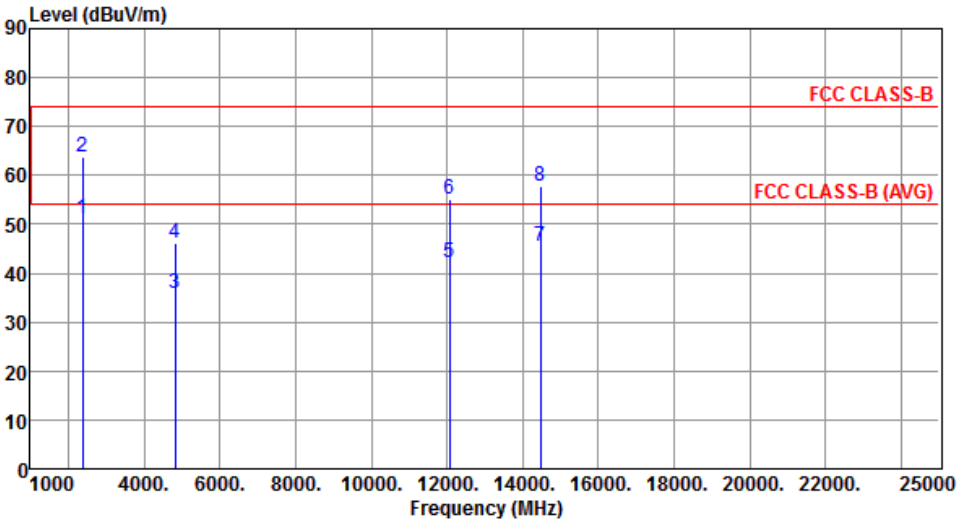
Modulation	11g	Test Freq. (MHz)	2412
Polarization	Horizontal	Test Configuration	3



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	47.66	54.00	-6.34	49.02	-1.36	Average	148	6
2	2390.00	61.83	74.00	-12.17	63.19	-1.36	Peak	148	6
3	4824.00	40.54	54.00	-13.46	34.60	5.94	Average	292	194
4	4824.00	51.67	74.00	-22.33	45.73	5.94	Peak	292	194
5	12060.00	43.03	54.00	-10.97	27.06	15.97	Average	263	157
6	12060.00	55.23	74.00	-18.77	39.26	15.97	Peak	263	157
7	14472.00	45.76	54.00	-8.24	26.35	19.41	Average	285	22
8	14472.00	52.01	74.00	-21.99	32.60	19.41	Peak	285	22

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

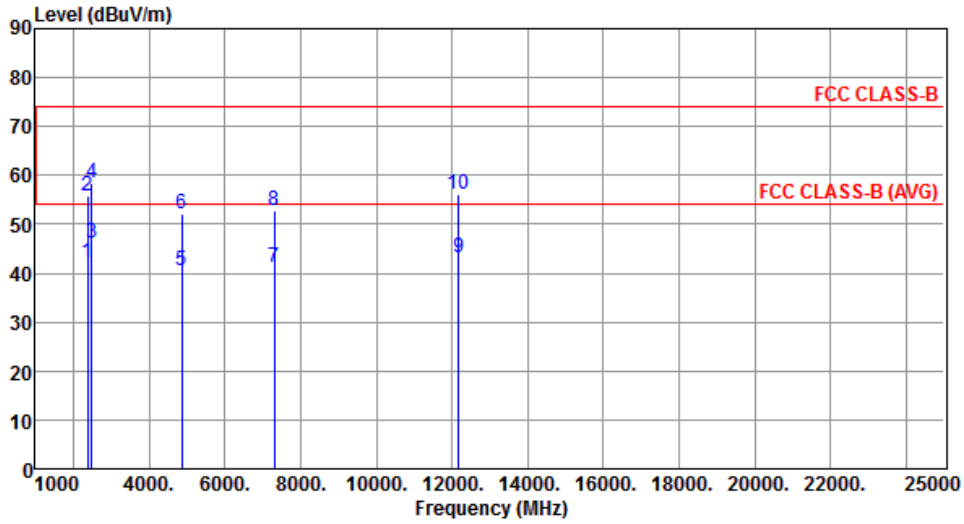
Modulation	11g	Test Freq. (MHz)	2412
Polarization	Vertical	Test Configuration	3



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	51.25	54.00	-2.75	52.61	-1.36	Average	169	249
2	2390.00	63.86	74.00	-10.14	65.22	-1.36	Peak	169	249
3	4824.00	35.74	54.00	-18.26	29.80	5.94	Average	291	85
4	4824.00	46.30	74.00	-27.70	40.36	5.94	Peak	291	85
5	12060.00	42.33	54.00	-11.67	26.36	15.97	Average	236	187
6	12060.00	55.28	74.00	-18.72	39.31	15.97	Peak	236	187
7	14472.00	45.49	54.00	-8.51	26.08	19.41	Average	276	257
8	14472.00	57.93	74.00	-16.07	38.52	19.41	Peak	276	257

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

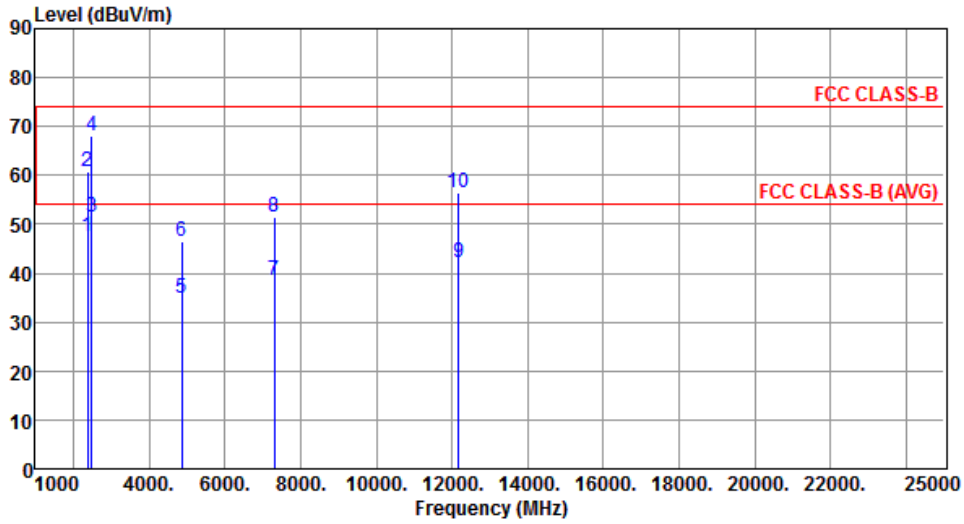
Modulation	11g	Test Freq. (MHz)	2437
Polarization	Horizontal	Test Configuration	3



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	42.03	54.00	-11.97	43.39	-1.36	Average	164	20
2	2390.00	55.93	74.00	-18.07	57.29	-1.36	Peak	164	20
3	2483.50	46.25	54.00	-7.75	47.27	-1.02	Average	164	20
4	2483.50	58.54	74.00	-15.46	59.56	-1.02	Peak	164	20
5	4874.00	40.58	54.00	-13.42	34.61	5.97	Average	265	181
6	4874.00	52.17	74.00	-21.83	46.20	5.97	Peak	265	181
7	7311.00	41.10	54.00	-12.90	30.35	10.75	Average	155	167
8	7311.00	52.65	74.00	-21.35	41.90	10.75	Peak	155	167
9	12185.00	43.19	54.00	-10.81	27.35	15.84	Average	199	222
10	12185.00	56.13	74.00	-17.87	40.29	15.84	Peak	199	222

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

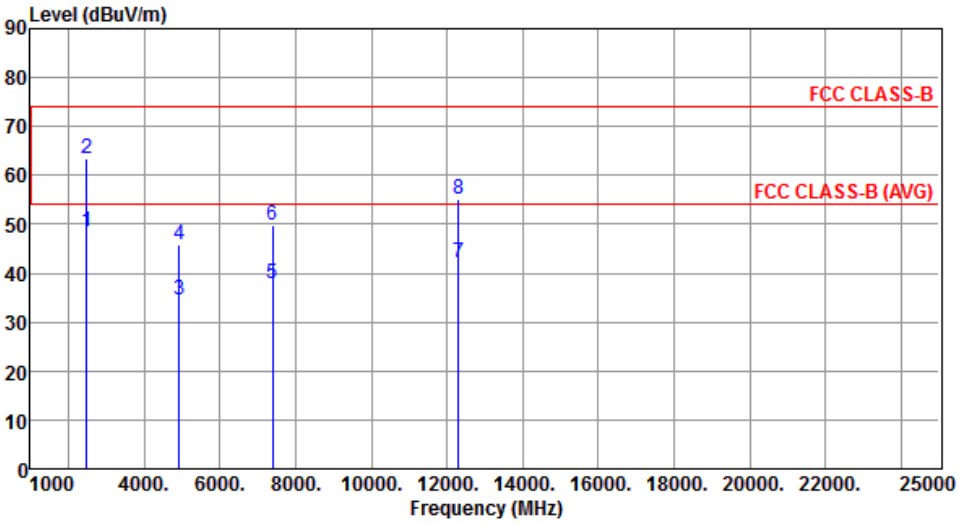
Modulation	11g	Test Freq. (MHz)	2437
Polarization	Vertical	Test Configuration	3



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	47.33	54.00	-6.67	48.69	-1.36	Average	156	258
2	2390.00	60.93	74.00	-13.07	62.29	-1.36	Peak	156	258
3	2483.50	51.45	54.00	-2.55	52.47	-1.02	Average	156	258
4	2483.50	68.03	74.00	-5.97	69.05	-1.02	Peak	156	258
5	4874.00	34.92	54.00	-19.08	28.95	5.97	Average	282	218
6	4874.00	46.57	74.00	-27.43	40.60	5.97	Peak	282	218
7	7311.00	38.43	54.00	-15.57	27.68	10.75	Average	256	258
8	7311.00	51.35	74.00	-22.65	40.60	10.75	Peak	256	258
9	12185.00	42.10	54.00	-11.90	26.26	15.84	Average	197	185
10	12185.00	56.46	74.00	-17.54	40.62	15.84	Peak	197	185

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

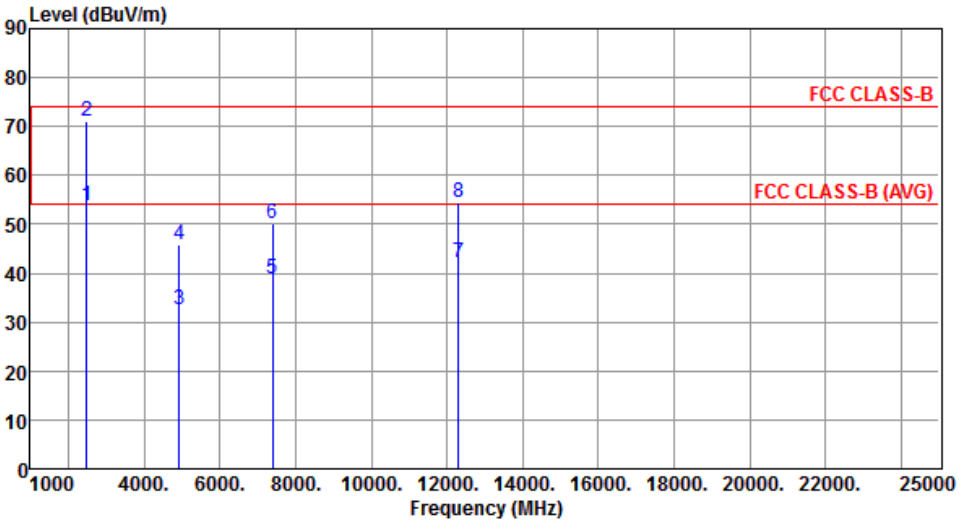
Modulation	11g	Test Freq. (MHz)	2462
Polarization	Horizontal	Test Configuration	3



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2483.50	48.33	54.00	-5.67	49.35	-1.02	Average	212	18
2	2483.50	63.27	74.00	-10.73	64.29	-1.02	Peak	212	18
3	4924.00	34.44	54.00	-19.56	28.43	6.01	Average	303	193
4	4924.00	45.75	74.00	-28.25	39.74	6.01	Peak	303	193
5	7386.00	37.88	54.00	-16.12	26.98	10.90	Average	281	165
6	7386.00	49.80	74.00	-24.20	38.90	10.90	Peak	281	165
7	12310.00	42.25	54.00	-11.75	26.55	15.70	Average	251	188
8	12310.00	55.15	74.00	-18.85	39.45	15.70	Peak	251	188

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	11g	Test Freq. (MHz)	2462
Polarization	Vertical	Test Configuration	3

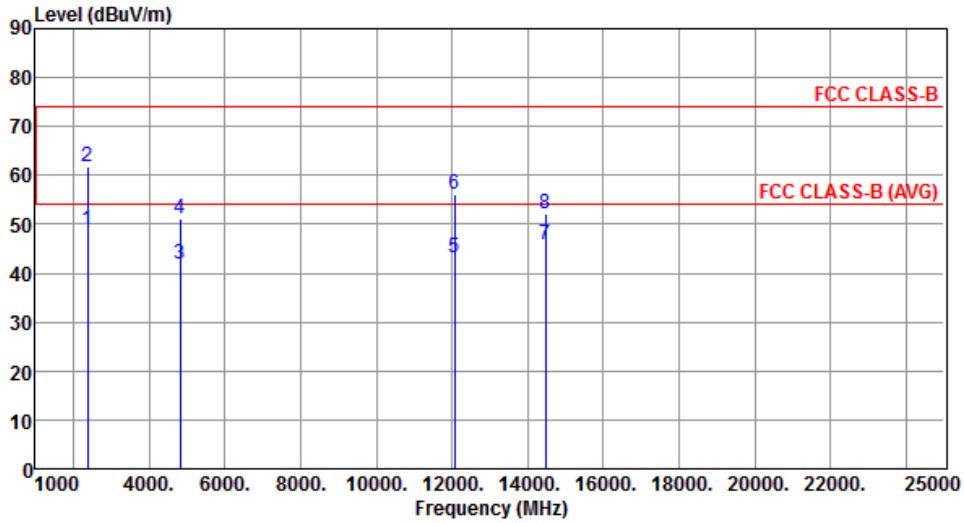


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2483.50	53.73	54.00	-0.27	54.75	-1.02	Average	155	280
2	2483.50	71.09	74.00	-2.91	72.11	-1.02	Peak	155	280
3	4924.00	32.60	54.00	-21.40	26.59	6.01	Average	295	221
4	4924.00	45.82	74.00	-28.18	39.81	6.01	Peak	295	221
5	7386.00	38.70	54.00	-15.30	27.80	10.90	Average	132	175
6	7386.00	50.15	74.00	-23.85	39.25	10.90	Peak	132	175
7	12310.00	42.08	54.00	-11.92	26.38	15.70	Average	165	332
8	12310.00	54.56	74.00	-19.44	38.86	15.70	Peak	156	332

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

3.5.15 Transmitter Radiated Unwanted Emissions (Above 1GHz) for HT20

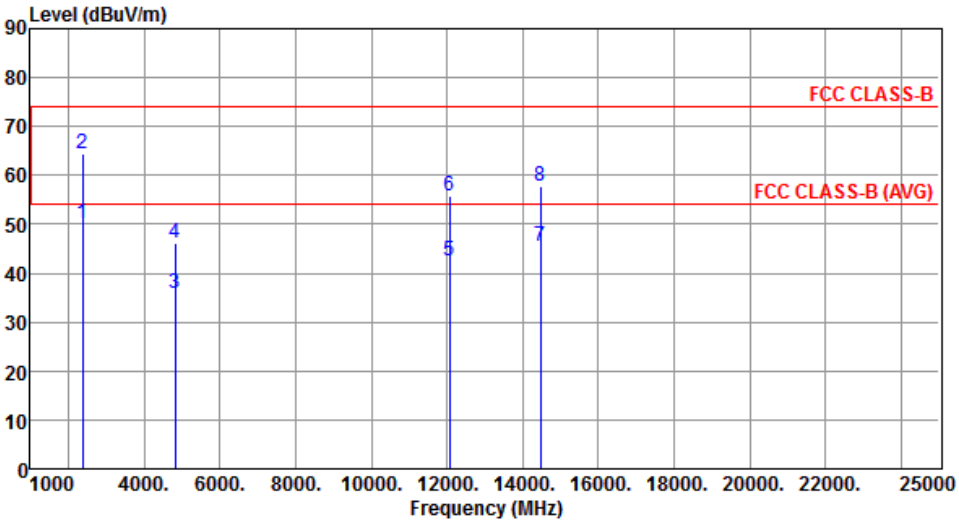
Modulation	HT20	Test Freq. (MHz)	2412
Polarization	Horizontal	Test Configuration	3



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	48.73	54.00	-5.27	50.09	-1.36	Average	150	20
2	2390.00	61.87	74.00	-12.13	63.23	-1.36	Peak	150	20
3	4824.00	41.74	54.00	-12.26	35.80	5.94	Average	289	192
4	4824.00	51.20	74.00	-22.80	45.26	5.94	Peak	289	192
5	12060.00	43.33	54.00	-10.67	27.36	15.97	Average	259	172
6	12060.00	56.27	74.00	-17.73	40.30	15.97	Peak	259	172
7	14472.00	45.76	54.00	-8.24	26.35	19.41	Average	285	22
8	14472.00	52.01	74.00	-21.99	32.60	19.41	Peak	285	22

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

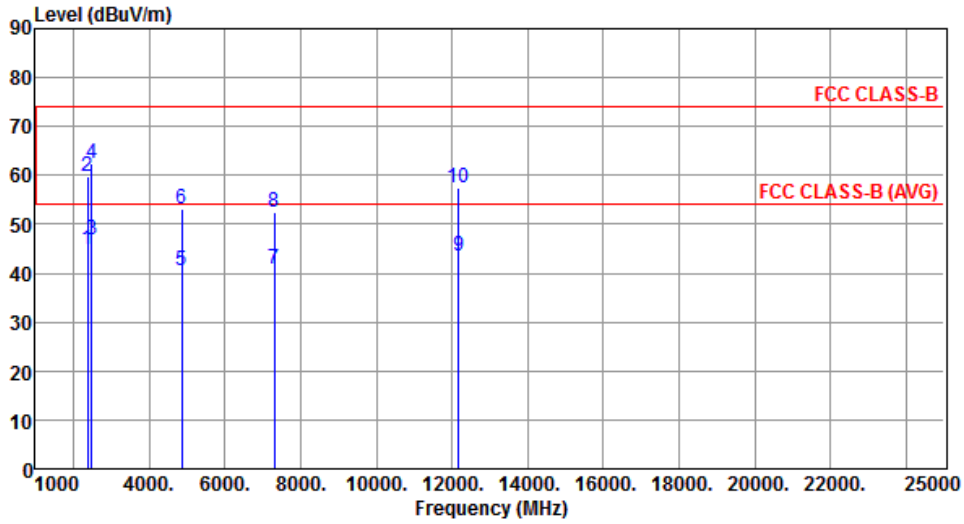
Modulation	HT20	**Test Freq. (MHz)**	2412
Polarization	Vertical	**Test Configuration**	3



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	50.22	54.00	-3.78	51.58	-1.36	Average	158	257
2	2390.00	64.29	74.00	-9.71	65.65	-1.36	Peak	158	257
3	4824.00	35.72	54.00	-18.28	29.78	5.94	Average	287	104
4	4824.00	46.30	74.00	-27.70	40.36	5.94	Peak	287	104
5	12060.00	42.45	54.00	-11.55	26.48	15.97	Average	228	192
6	12060.00	55.71	74.00	-18.29	39.74	15.97	Peak	228	192
7	14472.00	45.49	54.00	-8.51	26.08	19.41	Average	276	257
8	14472.00	57.93	74.00	-16.07	38.52	19.41	Peak	276	257

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

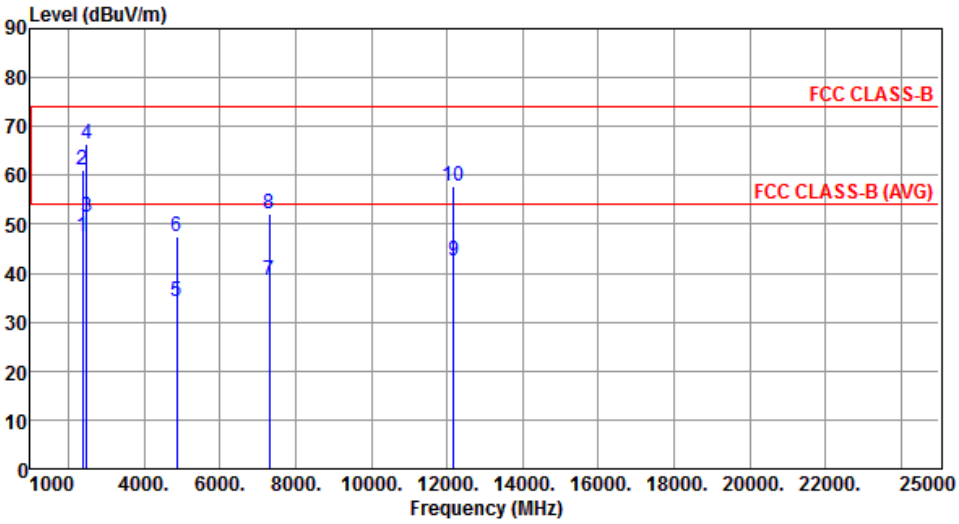
Modulation	HT20	Test Freq. (MHz)	2437
Polarization	Horizontal	Test Configuration	3



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	44.76	54.00	-9.24	46.12	-1.36	Average	239	31
2	2390.00	59.93	74.00	-14.07	61.29	-1.36	Peak	239	31
3	2483.50	46.76	54.00	-7.24	47.78	-1.02	Average	239	31
4	2483.50	62.50	74.00	-11.50	63.52	-1.02	Peak	239	31
5	4874.00	40.55	54.00	-13.45	34.58	5.97	Average	266	180
6	4874.00	53.17	74.00	-20.83	47.20	5.97	Peak	266	180
7	7311.00	40.85	54.00	-13.15	30.10	10.75	Average	154	166
8	7311.00	52.64	74.00	-21.36	41.89	10.75	Peak	154	166
9	12185.00	43.49	54.00	-10.51	27.65	15.84	Average	200	181
10	12185.00	57.43	74.00	-16.57	41.59	15.84	Peak	200	181

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

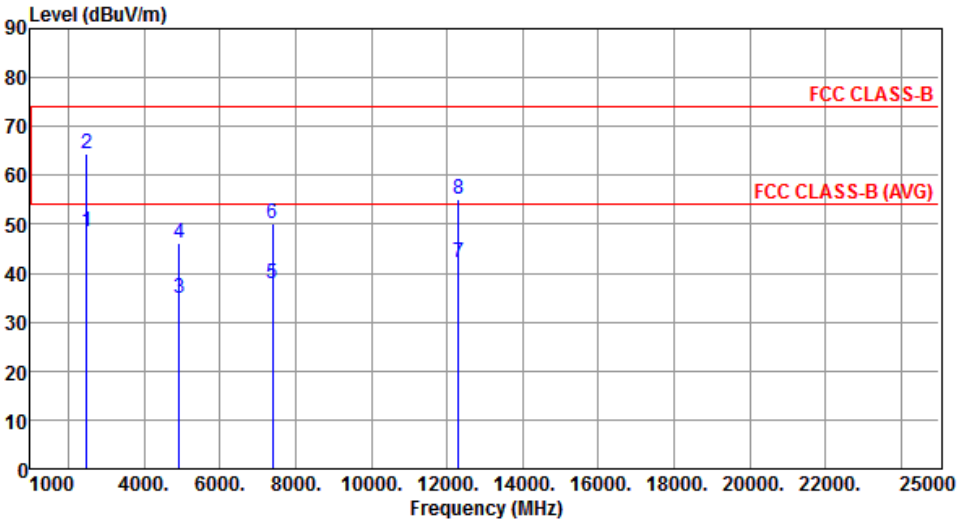
Modulation	HT20	Test Freq. (MHz)	2437
Polarization	Vertical	Test Configuration	3



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	47.53	54.00	-6.47	48.89	-1.36	Average	156	261
2	2390.00	61.17	74.00	-12.83	62.53	-1.36	Peak	156	261
3	2483.50	51.57	54.00	-2.43	52.59	-1.02	Average	156	261
4	2483.50	66.56	74.00	-7.44	67.58	-1.02	Peak	156	261
5	4874.00	34.08	54.00	-19.92	28.11	5.97	Average	281	200
6	4874.00	47.47	74.00	-26.53	41.50	5.97	Peak	281	200
7	7311.00	38.65	54.00	-15.35	27.90	10.75	Average	243	275
8	7311.00	52.01	74.00	-21.99	41.26	10.75	Peak	243	275
9	12185.00	42.63	54.00	-11.37	26.79	15.84	Average	203	198
10	12185.00	57.63	74.00	-16.37	41.79	15.84	Peak	203	198

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

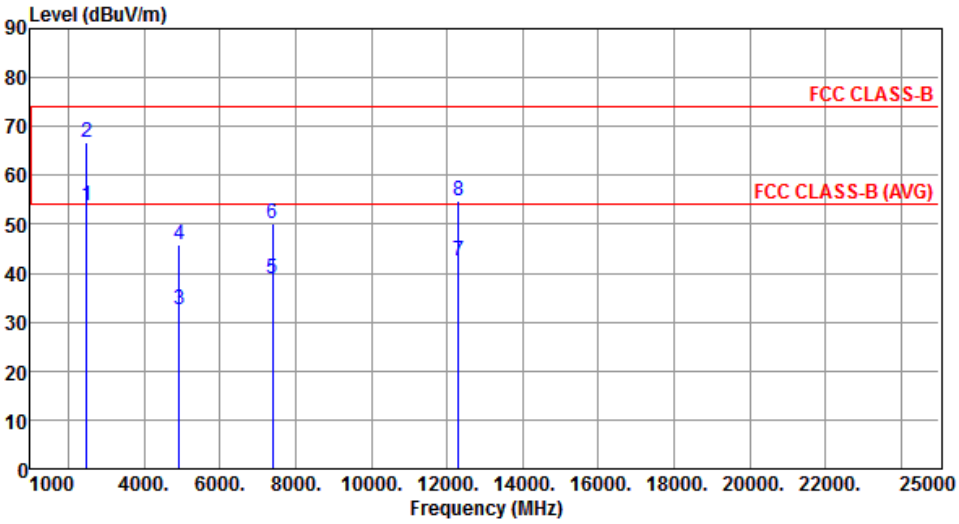
Modulation	HT20	Test Freq. (MHz)	2462
Polarization	Horizontal	Test Configuration	3



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2483.50	48.62	54.00	-5.38	49.64	-1.02	Average	214	17
2	2483.50	64.57	74.00	-9.43	65.59	-1.02	Peak	214	17
3	4924.00	34.72	54.00	-19.28	28.71	6.01	Average	300	202
4	4924.00	46.31	74.00	-27.69	40.30	6.01	Peak	300	202
5	7386.00	37.93	54.00	-16.07	27.03	10.90	Average	269	177
6	7386.00	50.04	74.00	-23.96	39.14	10.90	Peak	269	177
7	12310.00	42.25	54.00	-11.75	26.55	15.70	Average	248	193
8	12310.00	55.27	74.00	-18.73	39.57	15.70	Peak	248	193

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	HT20	Test Freq. (MHz)	2462
Polarization	Vertical	Test Configuration	3



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2483.50	53.79	54.00	-0.21	54.81	-1.02	Average	195	251
2	2483.50	66.86	74.00	-7.14	67.88	-1.02	Peak	195	251
3	4924.00	32.59	54.00	-21.41	26.58	6.01	Average	305	213
4	4924.00	45.83	74.00	-28.17	39.82	6.01	Peak	305	213
5	7386.00	38.79	54.00	-15.21	27.89	10.90	Average	144	187
6	7386.00	50.04	74.00	-23.96	39.14	10.90	Peak	144	187
7	12310.00	42.50	54.00	-11.50	26.80	15.70	Average	170	325
8	12310.00	54.68	74.00	-19.32	38.98	15.70	Peak	170	325

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

3.6 Emissions in Non-Restricted Frequency Bands

3.6.1 Emissions in Non-Restricted Frequency Bands Limit

Peak power in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz

3.6.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.6.3 Test Procedures

Reference level measurement

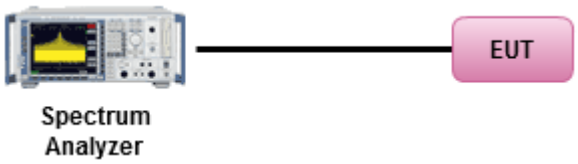
1. Set RBW=100kHz, VBW = 300kHz , Detector = Peak, Sweep time = Auto
2. Trace = max hold , Allow Trace to fully stabilize
3. Use the peak marker function to determine the maximum PSD level

Emission level measurement

1. Set RBW=100kHz, VBW = 300kHz , Detector = Peak, Sweep time = Auto
2. Trace = max hold , Allow Trace to fully stabilize
3. Scan Frequency range is up to 25GHz
4. Use the peak marker function to determine the maximum amplitude level

3.6.4 Test Setup

Transmitter Radiated Bandedge Emissions

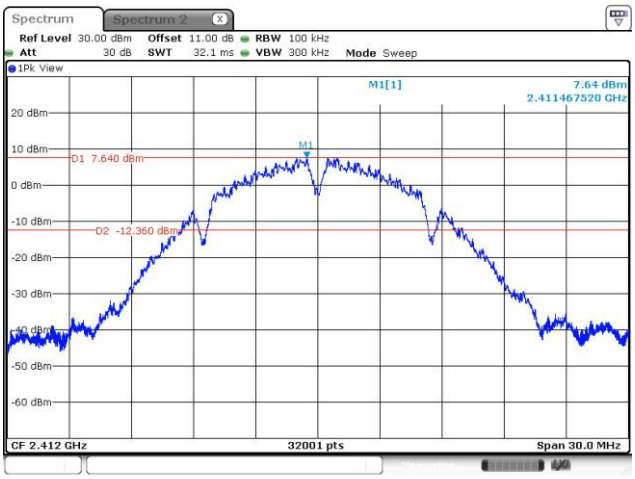
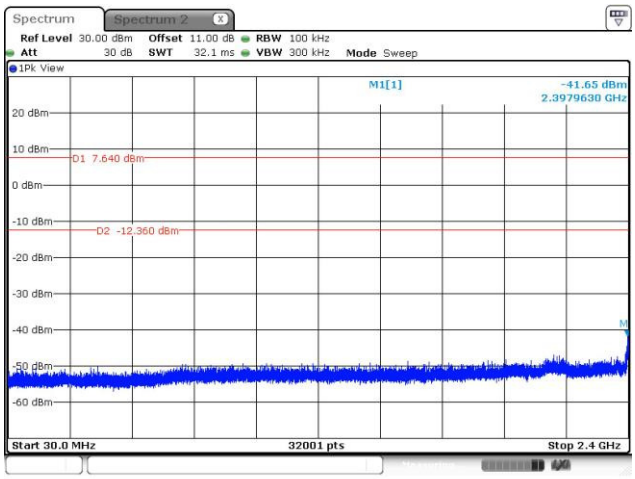
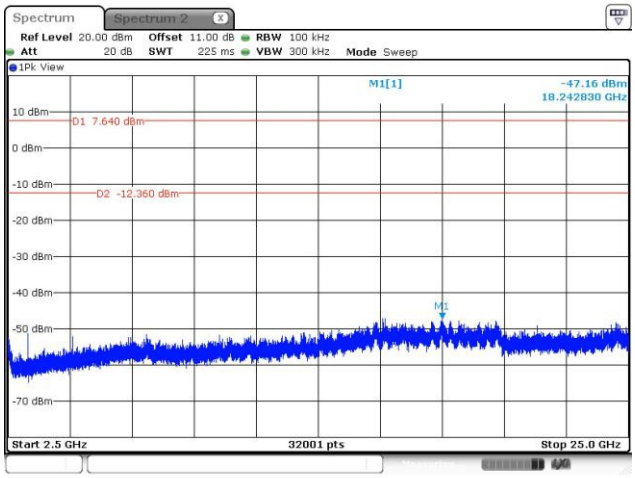
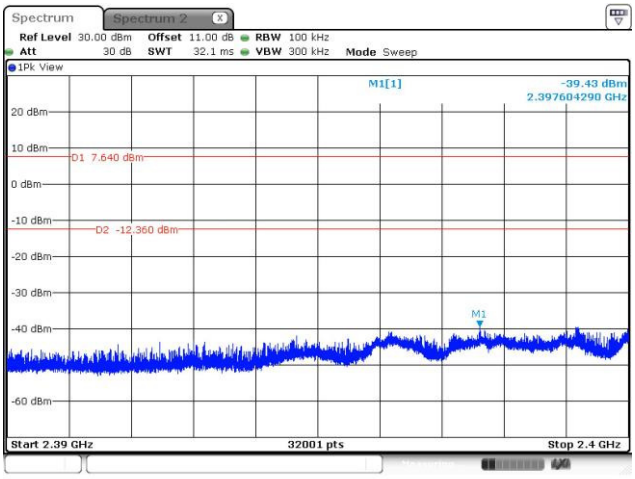


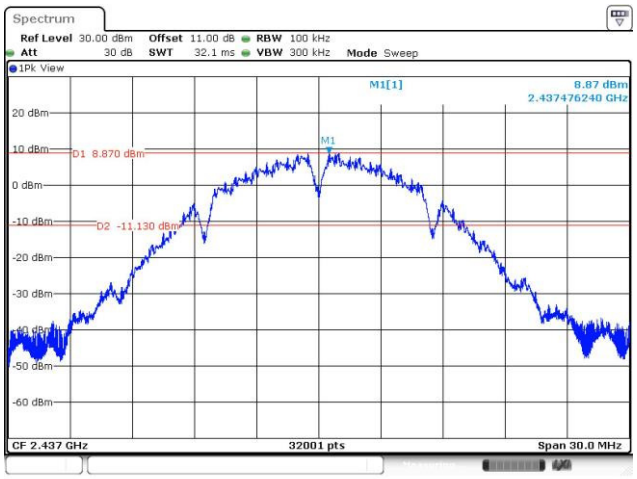
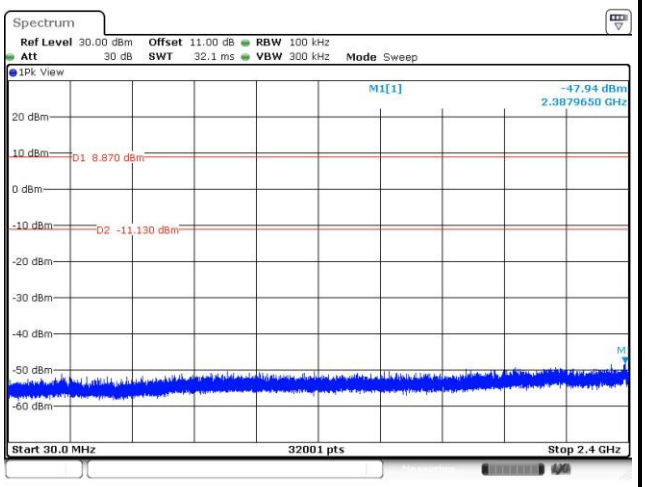
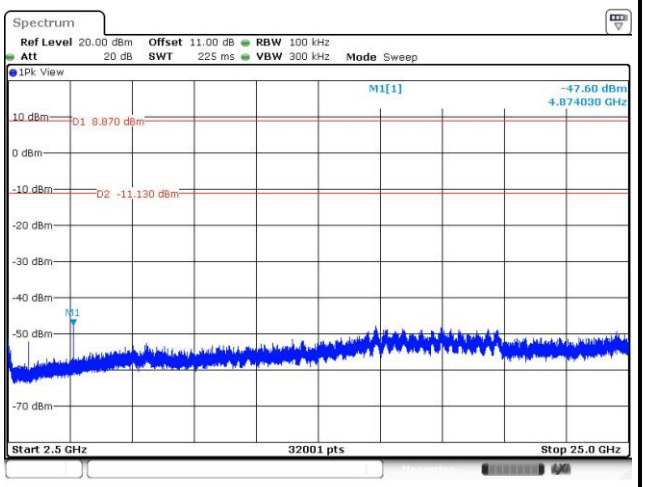
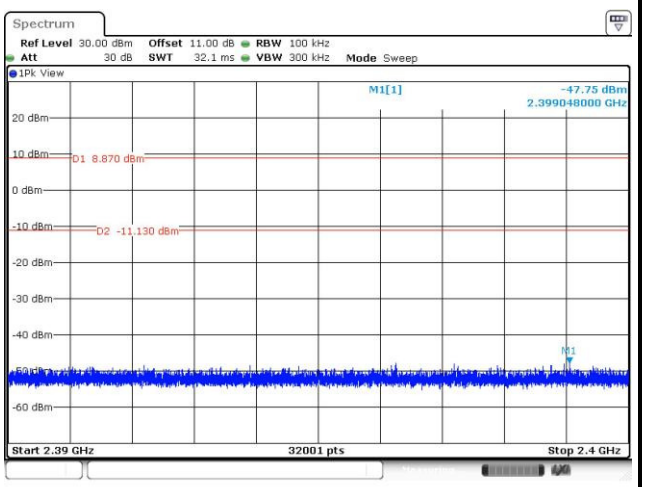
3.6.5 Test Result of Emissions in non-restricted frequency bands

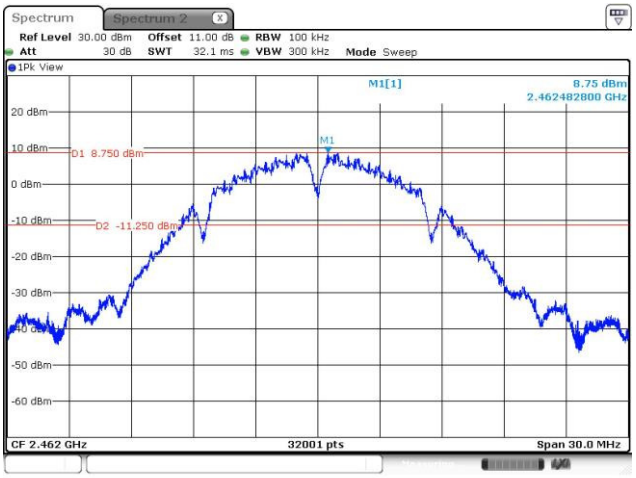
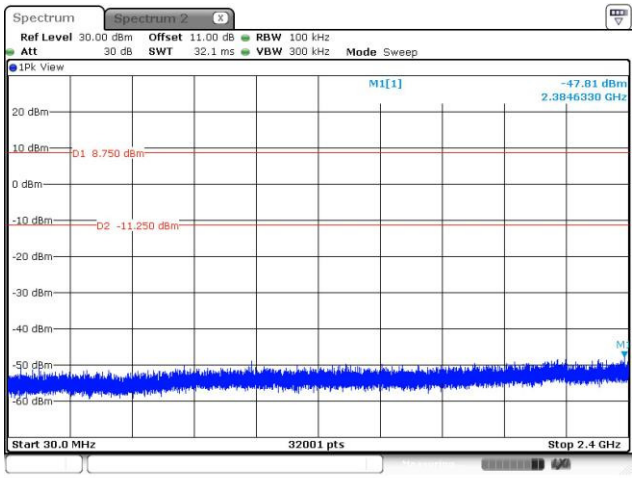
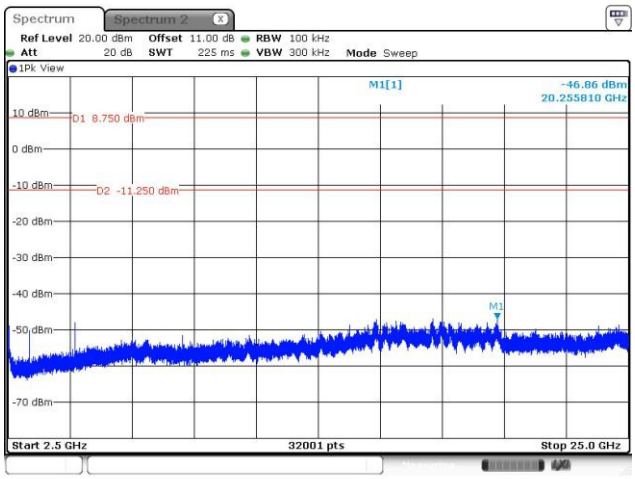
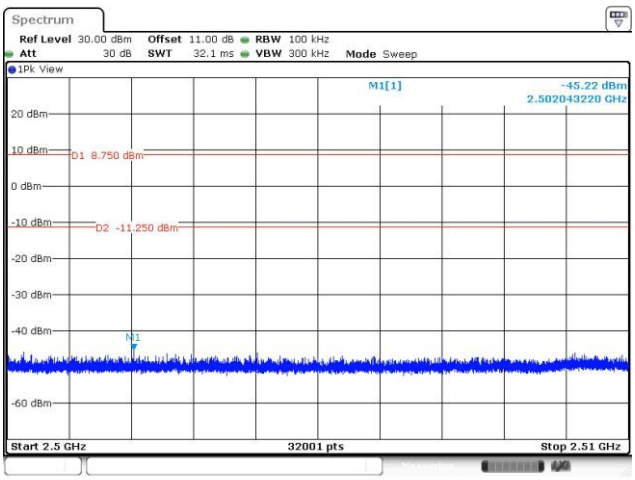
This test item is performed on each TX output individually without summing or adding 10 log(N_{ANT}) since measurements are made relative to the in-band emissions on the individual outputs. Only worst test result of each operating mode is presented.

3.6.6 Unwanted Emissions into Non-Restricted Frequency Bands

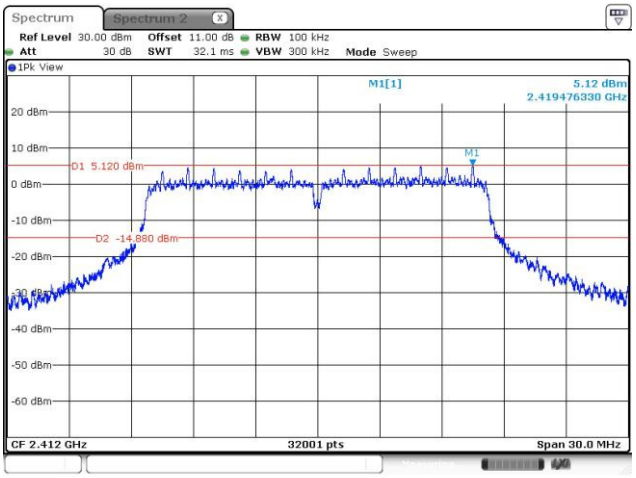
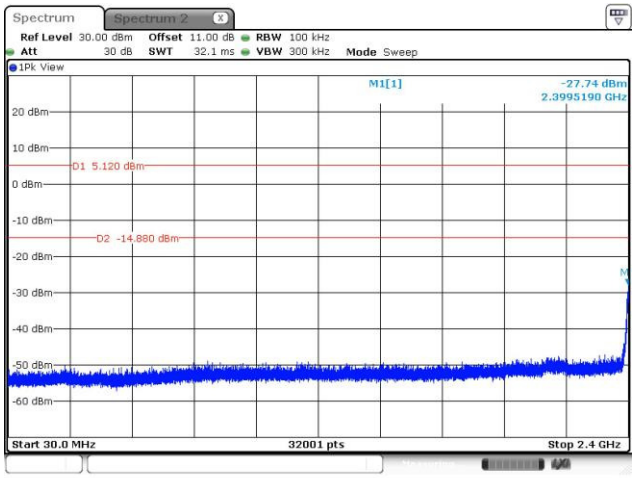
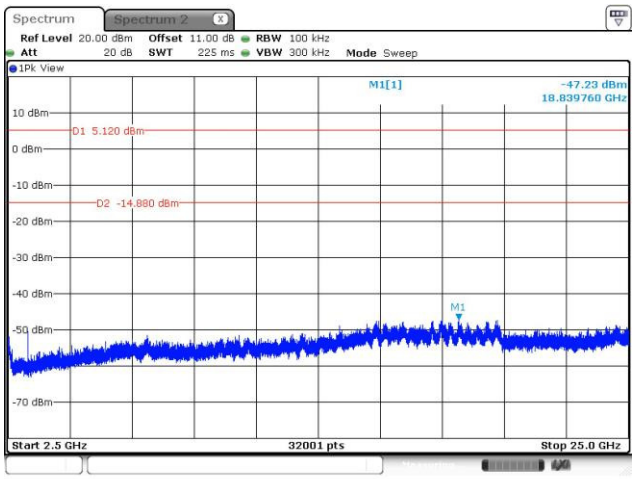
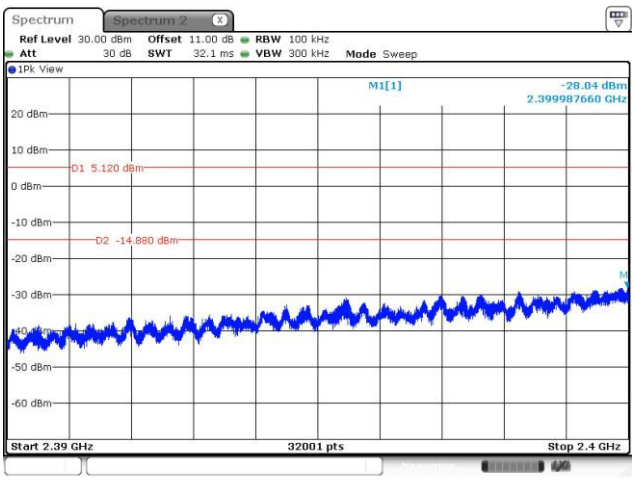
802.11b

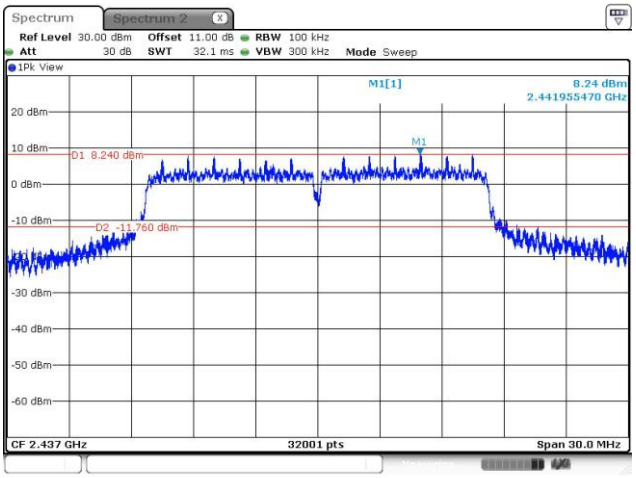
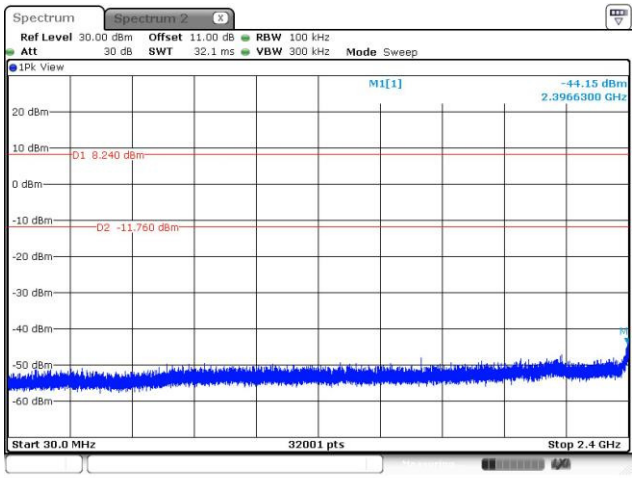
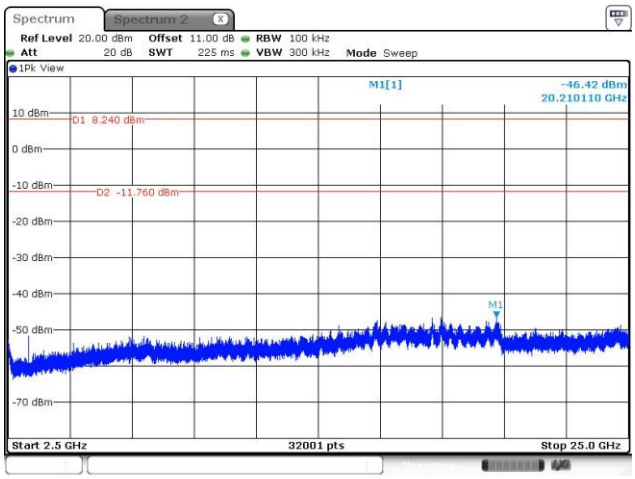
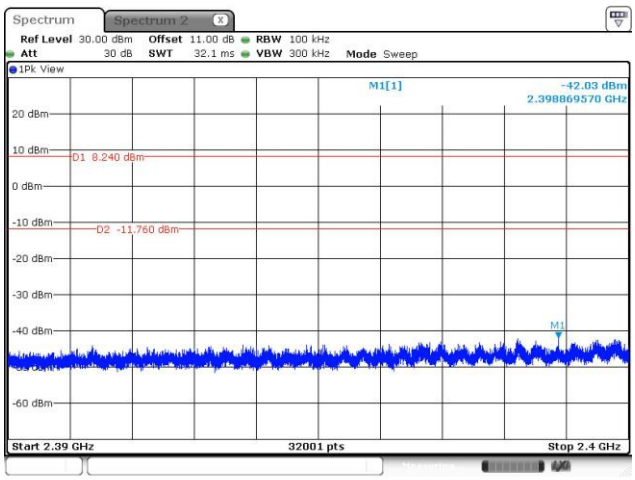
Reference Level	Tx 2412MHz / 30MHz~25GHz (down 20dBc)
	
---	
---	

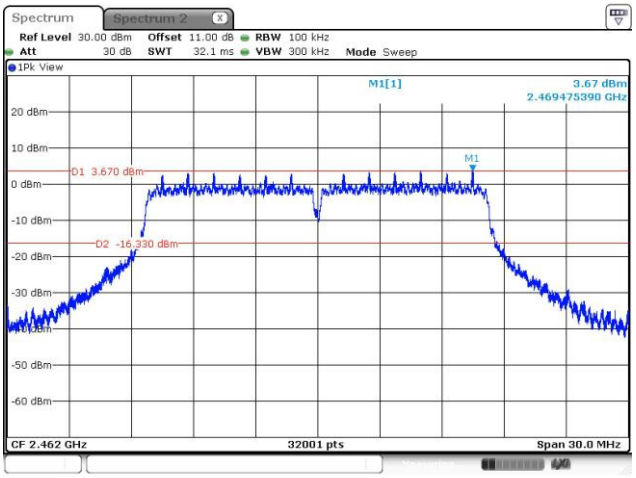
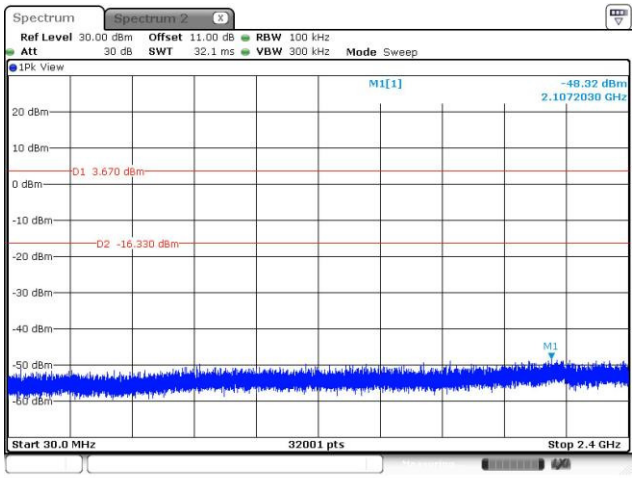
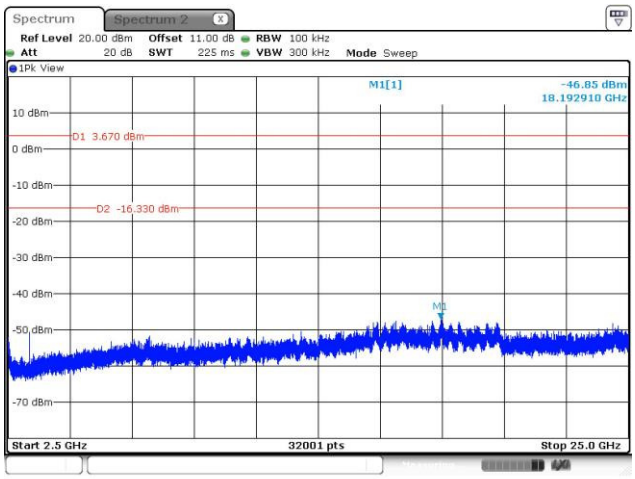
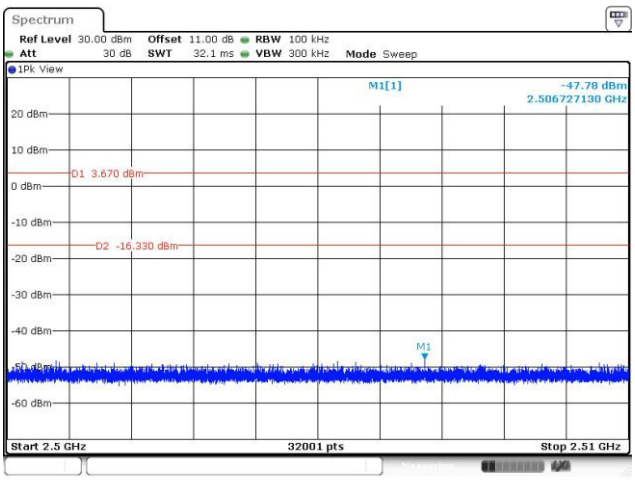
Reference Level	Tx 2437MHz / 30MHz~25GHz (down 20dBc)
	
---	
---	

Reference Level	Tx 2462MHz / 30MHz~25GHz (down 20dBc)
	
---	
---	

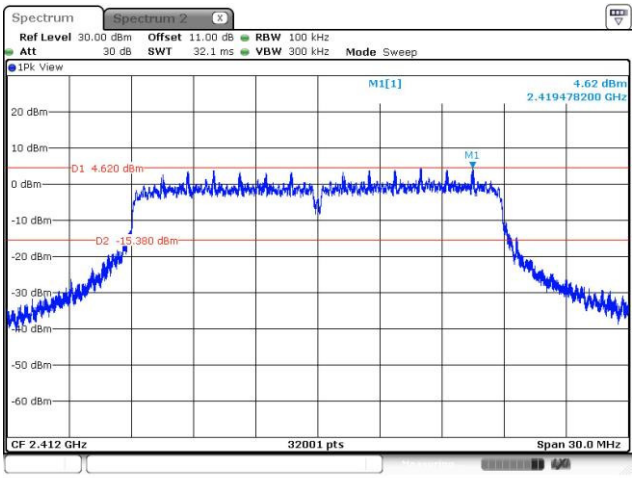
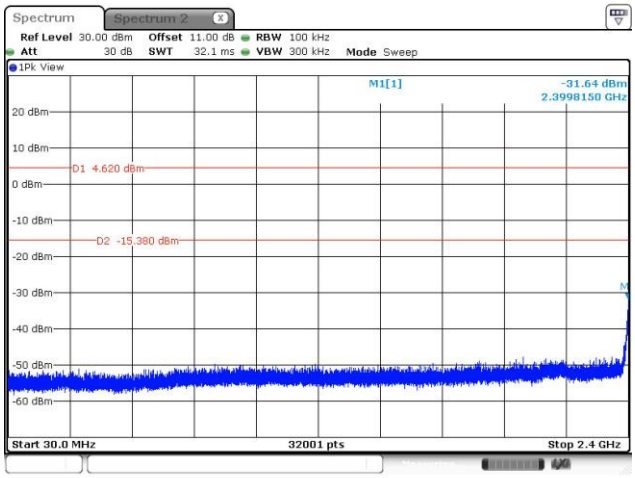
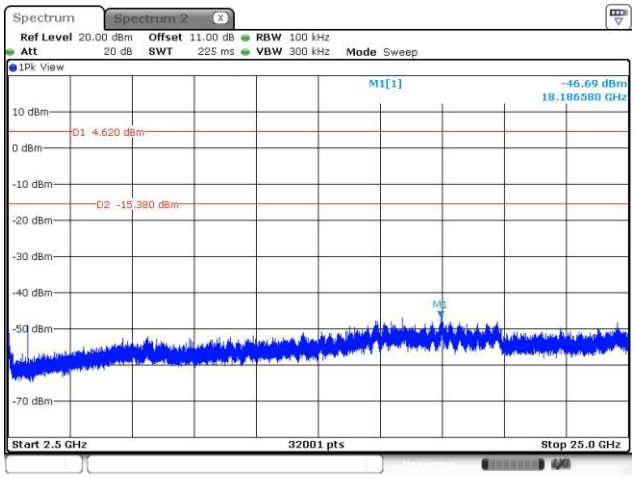
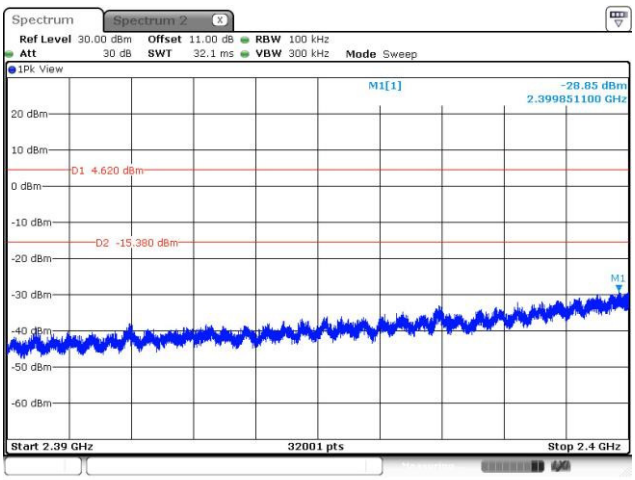
802.11g

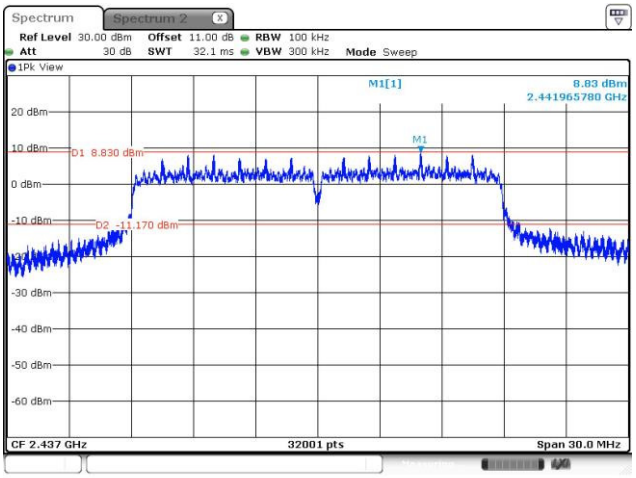
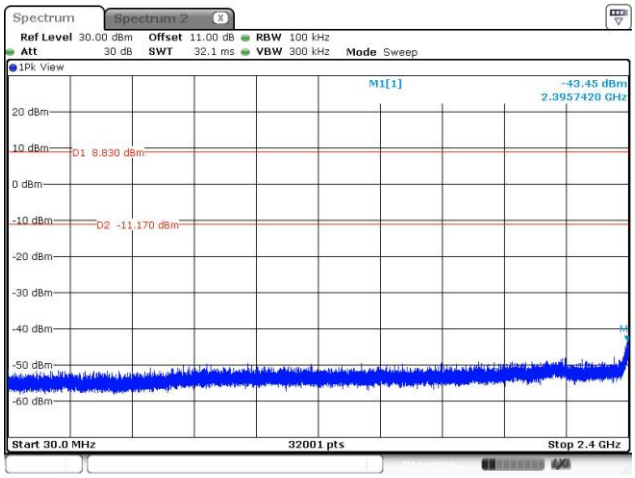
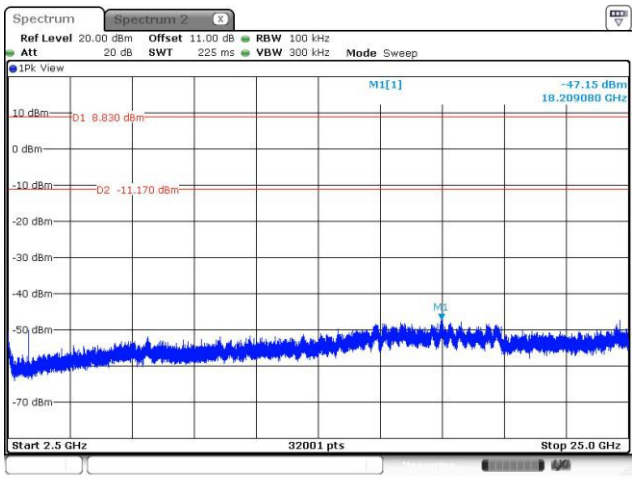
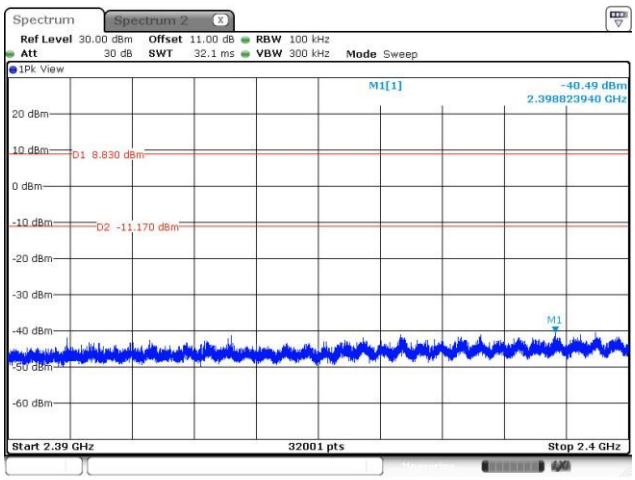
Reference Level	Tx 2412MHz / 30MHz~25GHz (down 20dBc)
	
---	
---	

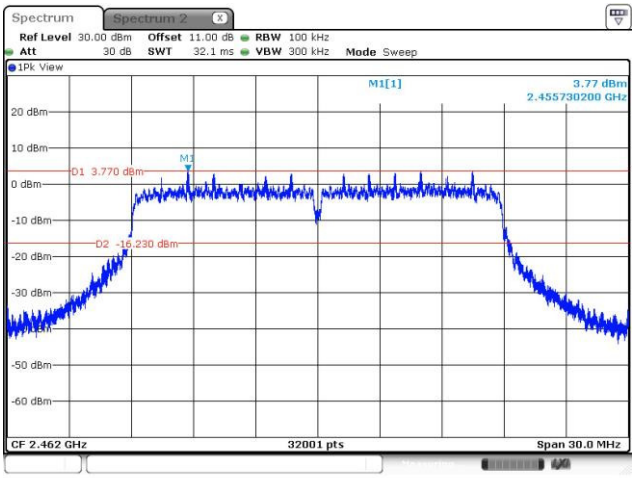
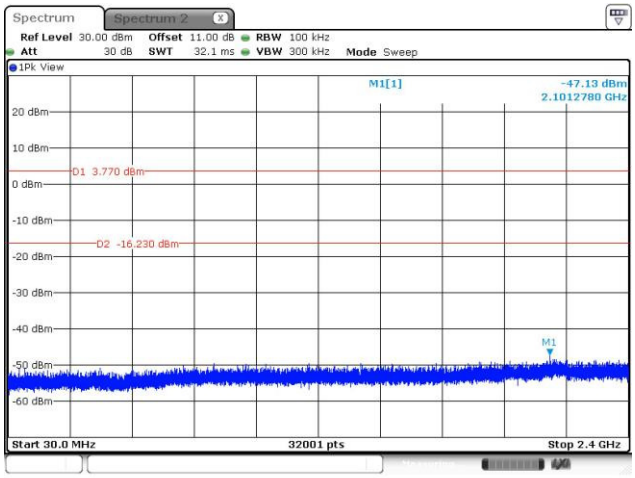
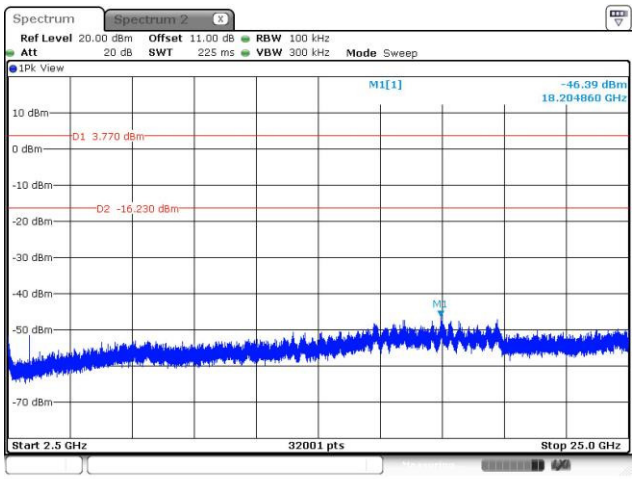
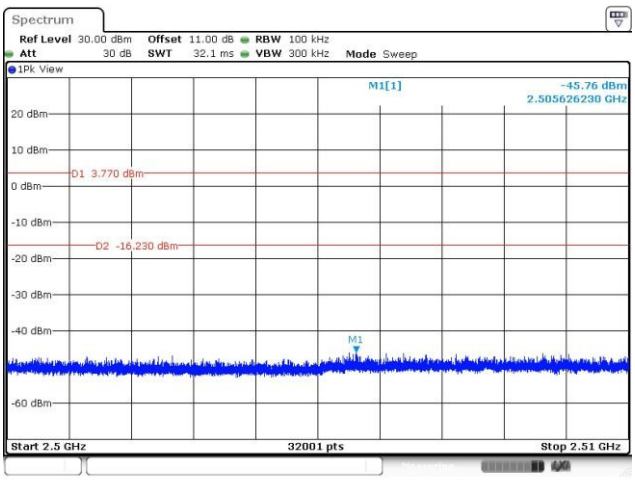
Reference Level	Tx 2437MHz / 30MHz~25GHz (down 20dBc)
	
---	
---	

Reference Level	Tx 2462MHz / 30MHz~25GHz (down 20dBc)
	
---	
---	

802.11n HT20

Reference Level	Tx 2412MHz / 30MHz~25GHz (down 20dBc)
	
---	
---	

Reference Level	Tx 2437MHz / 30MHz~25GHz (down 20dBc)
	
---	
---	

Reference Level	Tx 2462MHz / 30MHz~25GHz (down 20dBc)
	
---	
---	

4 Test laboratory information

Established in 2012, ICC provides foremost EMC & RF Testing and advisory consultation services by our skilled engineers and technicians. Our services employ a wide variety of advanced edge test equipment and one of the widest certification extents in the business.

International Certification Corp, it is our definitive objective is to institute long term, trust-based associations with our clients. The expectation we set up with our clients is based on outstanding service, practical expertise and devotion to a certified value structure. Our passion is to grant our clients with best EMC / RF services by oriented knowledgeable and accommodating staff.

Our Test sites are located at Linkou District and Kwei Shan Hsiang. Location map can be found on our website http://www.icertifi.com.tw.

Linkou	**Kwei Shan**	**Kwei Shan Site II**
Tel: 886-2-2601-1640	Tel: 886-3-271-8666	Tel: 886-3-271-8640
No. 30-2, Ding Fwu Tsuen, Lin Kou District, New Taipei City, Taiwan, R.O.C.	No. 3-1, Lane 6, Wen San 3rd St., Kwei Shan Hsiang, Tao Yuan Hsien 333, Taiwan, R.O.C.	No. 14-1, Lane 19, Wen San 3rd St., Kwei Shan Hsiang, Tao Yuan Hsien 333, Taiwan, R.O.C.

If you have any suggestion, please feel free to contact us as below information

Tel: 886-3-271-8666
Fax: 886-3-318-0155
Email: ICC_Service@icertifi.com.tw

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