FCC Test Report

FCC ID	:	**NKR-DAUKW12**
Equipment	:	**802.11a/b/g/n/ac Wireless LAN Module**
Model No.	:	**DAUK-W12**
Brand Name	:	**WNC**
Applicant	:	**Wistron NeWeb Corporation**
Address	:	**20 Park Avenue II, Hsinchu Science Park, Hsinchu 308,Taiwan,R.O.C.**
Standard	:	**47 CFR FCC Part 15.247**
Received Date	:	**Nov. 28, 2016**
Tested Date	:	**Dec. 08 ~ Dec. 20, 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.

Reviewed by: **Approved by:**

Along Chen / Assistant Manager **Gary Chang / Manager**

Testing Laboratory 2732

Table of Contents

Release Record

Report No.	Version	Description	Issued Date
FR6N2802AC	Rev. 01	Initial issue	Jan. 10, 2017

Summary of Test Results

FCC Rules	Test Items	Measured	Result
15.207	Conducted Emissions	[dBuV]: 0.234MHz 38.07 (Margin -14.23dB) - AV	Pass
15.247(d) 15.209	Radiated Emissions	[dBuV/m at 3m]: 2483.50MHz 52.98 (Margin -1.02dB) - AV	Pass
15.247(b)(3)	Maximum Output Power	Max Power [dBm]: 27.93	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	1-11 Mbps
2400-2483.5	g	2412-2462	1-11 [11]	1	6-54 Mbps
2400-2483.5	n (HT20)	2412-2462	1-11 [11]	2	MCS 0-15
2400-2483.5	n (HT40)	2422-2452	3-9 [7]	2	MCS 0-15
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.					

1.1.2 Antenna Details

Configuration	Model	Type	Connector	Operating Frequencies (MHz) / Antenna Gain (dBi)				
				2400~2483.5	5150~5250	5250~5350	5470~5725	5725~5850
1	ANT 0 (On-board ANT0)	PIFA	N/A	2.21	3.04	2.82	2.7	2.7
	ANT 1 (On-board ANT0)	PIFA	N/A	3.32	4.95	4.48	5.43	5.63
2	RFMTA340740IMLB701 (External-Amtran)	PIFA	IPEX	2.3	4.36	4.36	4.36	4.36
	ANT 1 (On-board ANT1)	PIFA	N/A	3.32	4.95	4.48	5.43	5.63
3	N/A (External-WNC Antenna)	PIFA	IPEX	-4.72	-5.22	-4.92	-4.69	-4.69
	N/A (External-WNC Antenna)	PIFA	IPEX	-4.72	-5.22	-4.92	-4.69	-4.69

1.1.3 Power Supply Type of Equipment under Test (EUT)

Power Supply Type	5Vdc from host

1.1.4 Accessories

N/A

1.1.5 Channel List

Frequency band (MHz)		2400~2483.5	
802.11 b / g / n HT20		802.11n HT40	
Channel	Frequency(MHz)	Channel	Frequency(MHz)
1	2412	3	2422
2	2417	4	2427
3	2422	5	2432
4	2427	6	2437
5	2432	7	2442
6	2437	8	2447
7	2442	9	2452
8	2447	---	---
9	2452	---	---
10	2457	---	---
11	2462	---	---

1.1.6 Test Tool and Duty Cycle

Test Tool	REALTEK 11ac 8812AU, Version: 0.0062.10.20151208		
Duty Cycle and Duty Factor	Mode	Duty cycle (%)	Duty factor (dB)
	11b	98.96%	0.05
	11g	93.24%	0.30
	HT20	94.76%	0.23
	HT40	86.87%	0.61

1.1.7 Power Setting

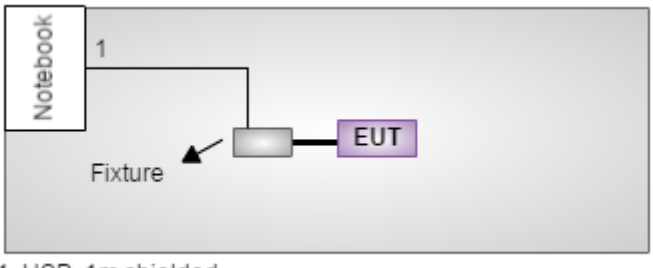
Modulation Mode	Test Frequency (MHz)	Power Set
11b	2412	41
11b	2437	39
11b	2462	40
11g	2412	45
11g	2437	52
11g	2462	43
HT20	2412	45/45
HT20	2437	53/53
HT20	2462	44/44
HT40	2422	44/44
HT40	2437	47/47
HT40	2452	45/45

1.2 Local Support Equipment List

Support Equipment List					
No.	Equipment	Brand	Model	FCC ID	Signal cable / Length (m)
1	Notebook	DELL	Latitude E6440	Doc	USB, 1m shielded

1.3 Test Setup Chart

Test Setup Diagram



1. USB, 1m shielded

1.4 The Equipment List

Test Item	Conducted Emission				
Test Site	Conduction room 1 / (CO01-WS)				
Instrument	**Manufacturer**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
Receiver	R&S	ESR3	101657	Jan. 12, 2016	Jan. 11, 2017
LISN	SCHWARZBECK	Schwarzbeck 8127	8127-667	Nov. 08, 2016	Nov. 07, 2017
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)				
Instrument	**Manufacturer**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
Spectrum Analyzer	Agilent	N9010A	MY53400091	Sep. 09, 2016	Sep. 08, 2017
Receiver	Agilent	N9038A	MY53290044	Oct. 06, 2016	Oct. 05, 2017
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-685	Apr. 26, 2016	Apr. 25, 2017
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	Oct. 25, 2016	Oct. 24, 2017
Loop Antenna	R&S	HFH2-Z2	100330	Nov. 10, 2016	Nov. 09, 2017
Preamplifier	EMC	EMC02325	980187	Sep. 08, 2016	Sep. 07, 2017
Preamplifier	Agilent	83017A	MY53270014	Aug. 22, 2016	Aug. 21, 2017
Preamplifier	EMC	EMC184045B	980192	Aug. 24, 2016	Aug. 23, 2017
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)				
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	Oct. 06, 2016	Oct. 05, 2017
Power Sensor	Anritsu	MA2411B	1207366	Oct. 06, 2016	Oct. 05, 2017
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 v03r05
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	19°C / 64%	Howard Huang
Radiated Emissions	03CH03-WS	22-24°C / 60-63%	Brad Wu , Aska Huang Kevin Lee, Vincent Yeh
RF Conducted	TH01-WS	21°C / 64%	Alex Huang

- FCC Designation No.: TW0009
- 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	HT20	2437	6 Mbps	3
Radiated Emissions ≤1GHz	HT20	2437	6 Mbps	1, 2, 3
Radiated Emissions >1GHz	11b 11g HT20 HT40	2412 / 2437 / 2462	1 Mbps	1, 2, 3
Maximum Output Power 6dB bandwidth Power spectral density	11b 11g HT20 HT40	2412 / 2437 / 2462 2412 / 2437 / 2462 2422 / 2437 / 2452	6 Mbps MCS 0 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 test configurations are listed as follows:
   Configuration 1: On-board ANT0 + On-board ANT1 mode
   Configuration 2: External-Amtran + On-board ANT1 mode
   Configuration 3: External-WNC Antenna (330mm) + External-WNC Antenna (330mm) mode

3 Transmitter Test Results

3.1 Conducted Emissions

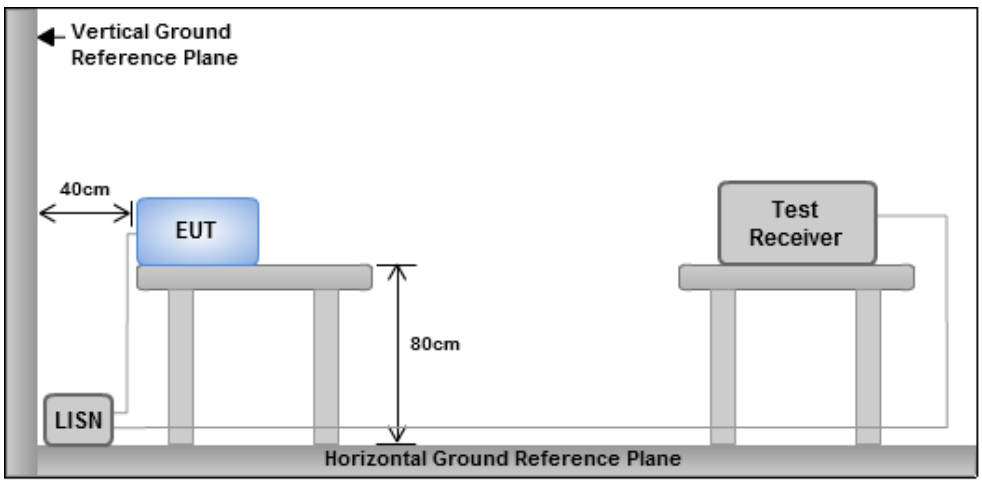
3.1.1 Limit of Conducted Emissions

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

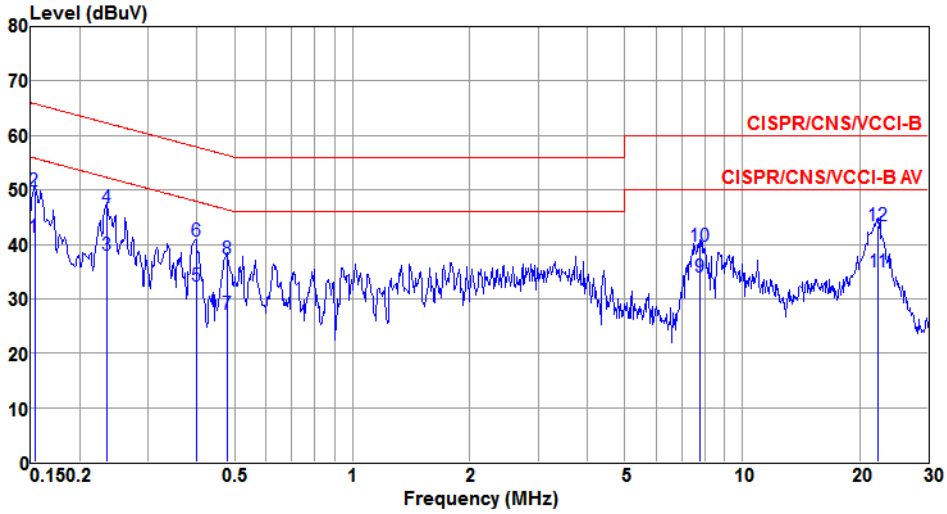


Note: 1. Support units were connected to second LISN.

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

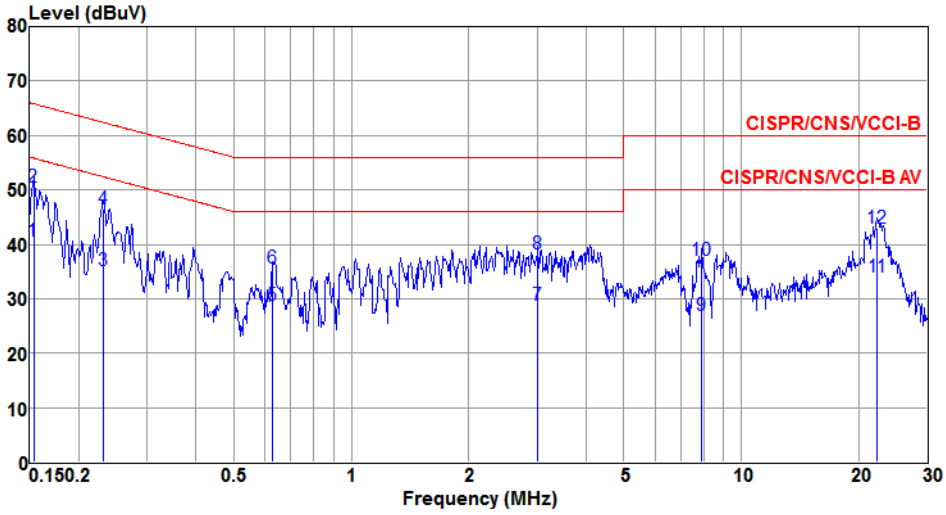
Modulation	HT20	Test Freq. (MHz)	2437
Power Phase	Line		



	Freq	Level	Limit Line	Over Limit	Read Level	LISN factor	cable loss	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB	dB	
1	0.153	41.24	55.82	-14.58	41.15	0.07	0.02	Average
2	0.153	49.73	65.82	-16.09	49.64	0.07	0.02	QP
3@	0.234	38.07	52.30	-14.23	37.96	0.09	0.02	Average
4	0.234	46.70	62.30	-15.60	46.59	0.09	0.02	QP
5	0.398	32.42	47.90	-15.48	32.33	0.06	0.03	Average
6	0.398	40.60	57.90	-17.30	40.51	0.06	0.03	QP
7	0.479	27.08	46.36	-19.28	26.98	0.06	0.04	Average
8	0.479	37.41	56.36	-18.95	37.31	0.06	0.04	QP
9	7.769	34.04	50.00	-15.96	33.70	0.19	0.15	Average
10	7.769	39.77	60.00	-20.23	39.43	0.19	0.15	QP
11	22.298	34.96	50.00	-15.04	34.34	0.41	0.21	Average
12	22.298	43.53	60.00	-16.47	42.91	0.41	0.21	QP

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

Modulation	HT20	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@	0.153	40.67	55.82	-15.15	40.55	0.10	0.02	Average
2	0.153	50.61	65.82	-15.21	50.49	0.10	0.02	QP
3	0.232	35.13	52.39	-17.26	35.01	0.10	0.02	Average
4	0.232	46.47	62.39	-15.92	46.35	0.10	0.02	QP
5	0.627	28.86	46.00	-17.14	28.71	0.11	0.04	Average
6	0.627	35.70	56.00	-20.30	35.55	0.11	0.04	QP
7	3.000	28.88	46.00	-17.12	28.63	0.15	0.10	Average
8	3.000	38.32	56.00	-17.68	38.07	0.15	0.10	QP
9	7.935	27.00	50.00	-23.00	26.58	0.27	0.15	Average
10	7.935	36.96	60.00	-23.04	36.54	0.27	0.15	QP
11	22.298	34.06	50.00	-15.94	33.42	0.43	0.21	Average
12	22.298	43.07	60.00	-16.93	42.43	0.43	0.21	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

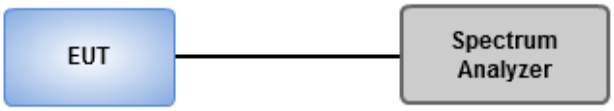
6dB Bandwidth

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) = 1 MHz, Video bandwidth = 3 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.

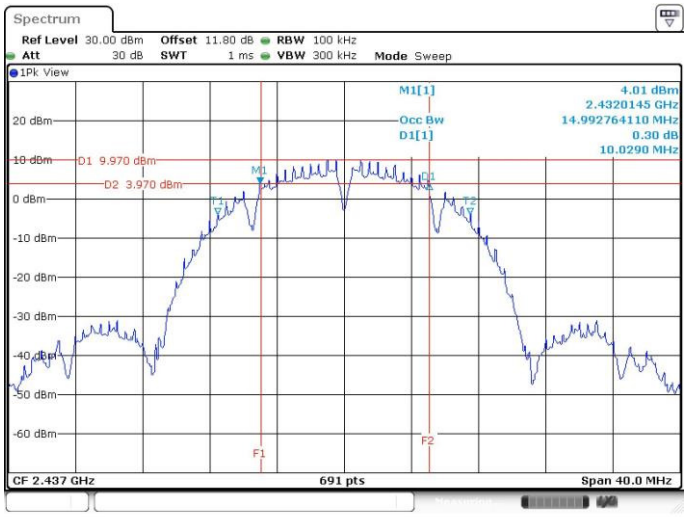
3.2.3 Test Setup



3.2.4 Test Result of 6dB and Occupied Bandwidth

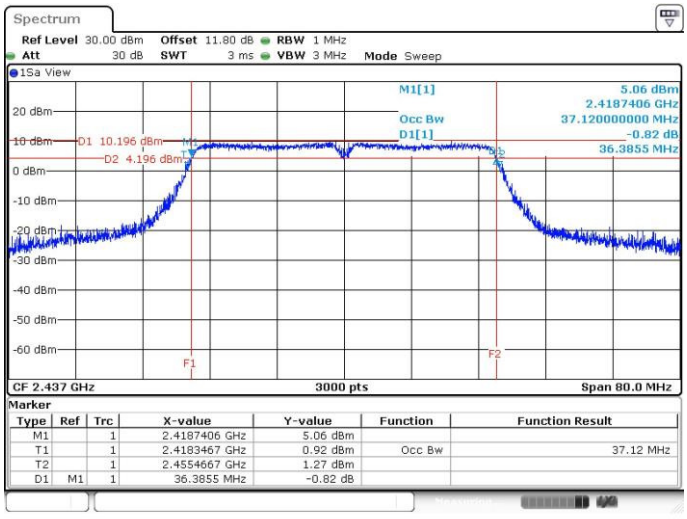
Modulation Mode	N_{TX}	Freq. (MHz)	6dB Bandwidth (MHz)				Limit (kHz)
			Chain 0	Chain 1	Chain 2	Chain 3	
11b	1	2412	10.09	---	---	---	500
11b	1	2437	10.03	---	---	---	500
11b	1	2462	10.09	---	---	---	500
11g	1	2412	16.35	---	---	---	500
11g	1	2437	16.35	---	---	---	500
11g	1	2462	16.35	---	---	---	500
HT20	2	2412	17.39	17.57	---	---	500
HT20	2	2437	17.57	17.57	---	---	500
HT20	2	2462	17.57	17.62	---	---	500
HT40	2	2422	36.17	36.41	---	---	500
HT40	2	2437	36.17	36.41	---	---	500
HT40	2	2452	36.17	36.41	---	---	500

Worst Plot



Modulation Mode	N_{TX}	Freq. (MHz)	99% Occupied Bandwidth (MHz)			
			Chain 0	Chain 1	Chain 2	Chain 3
11b	1	2412	15.04	---	---	---
11b	1	2437	15.01	---	---	---
11b	1	2462	15.04	---	---	---
11g	1	2412	16.83	---	---	---
11g	1	2437	17.63	---	---	---
11g	1	2462	16.91	---	---	---
HT20	2	2412	17.91	17.76	---	---
HT20	2	2437	18.29	18.40	---	---
HT20	2	2462	17.92	17.77	---	---
HT40	2	2422	36.93	36.75	---	---
HT40	2	2437	37.12	36.83	---	---
HT40	2	2452	37.09	36.80	---	---

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	1	2412	22.67	---	---	---	184.927	22.67	30.00	2.30	24.97	36.00
11b	1	2437	21.42	---	---	---	138.676	21.42	30.00	2.30	23.72	36.00
11b	1	2462	22.06	---	---	---	160.694	22.06	30.00	2.30	24.36	36.00
11g	1	2412	24.29	---	---	---	268.534	24.29	30.00	2.30	26.59	36.00
11g	1	2437	25.7	---	---	---	371.535	25.70	30.00	2.30	28.00	36.00
11g	1	2462	23.31	---	---	---	214.289	23.31	30.00	2.30	25.61	36.00
HT20	2	2412	23.84	24.11	---	---	499.735	26.99	30.00	3.32	30.31	36.00
HT20	2	2437	24.86	24.98	---	---	620.971	**27.93**	30.00	3.32	31.25	36.00
HT20	2	2462	23.34	23.98	---	---	465.809	26.68	30.00	3.32	30.00	36.00
HT40	2	2422	23.66	23.57	---	---	459.783	26.63	30.00	3.32	29.95	36.00
HT40	2	2437	23.97	24.49	---	---	530.650	27.25	30.00	3.32	30.57	36.00
HT40	2	2452	23.09	24.2	---	---	466.731	26.69	30.00	3.32	30.01	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	1	2412	20.42	---	---	---	110.154	20.42	---
11b	1	2437	19.09	---	---	---	81.096	19.09	---
11b	1	2462	19.71	---	---	---	93.541	19.71	---
11g	1	2412	16.4	---	---	---	43.652	16.40	---
11g	1	2437	19.85	---	---	---	96.605	19.85	---
11g	1	2462	15.48	---	---	---	35.318	15.48	---
HT20	2	2412	16.45	16.56	---	---	89.447	19.52	---
HT20	2	2437	19.35	19.23	---	---	169.852	22.30	---
HT20	2	2462	15.71	16.21	---	---	79.022	18.98	---
HT40	2	2422	15.33	15.32	---	---	68.160	18.34	---
HT40	2	2437	16.35	16.62	---	---	89.072	19.50	---
HT40	2	2452	15.29	15.93	---	---	72.981	18.63	---

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

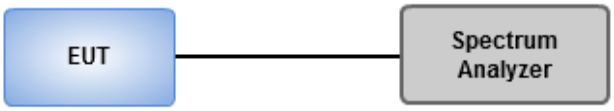
☒ Maximum peak conducted output power was used to demonstrate compliance to the fundamental output power limit.

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. Set the sweep time to: ≥ 10 x (number of measurement points in sweep) x (maximum data rate per stream).
4. Perform the measurement over a single sweep.
5. Use the peak marker function to determine the maximum amplitude level.

3.4.3 Test Setup

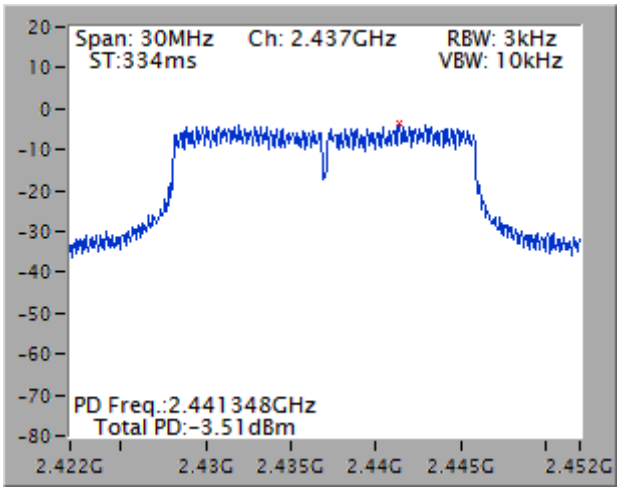


3.4.4 Test Result of Power Spectral Density

Modulation Mode	N_{TX}	Freq. (MHz)	Total Power Spectral Density (dBm/3kHz)	Limit (dBm/3kHz)
11b	1	2412	-4.09	8.00
11b	1	2437	-4.70	8.00
11b	1	2462	-4.36	8.00
11g	1	2412	-9.22	8.00
11g	1	2437	-6.31	8.00
11g	1	2462	-10.00	8.00
HT20	2	2412	-6.66	8.00
HT20	2	2437	-3.51	8.00
HT20	2	2462	-7.47	8.00
HT40	2	2422	-10.63	8.00
HT40	2	2437	-8.96	8.00
HT40	2	2452	-10.59	8.00

Note: Test result of HT20/HT40 lisbin-by-bin summing measured value of each TX port

Worst Plot



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

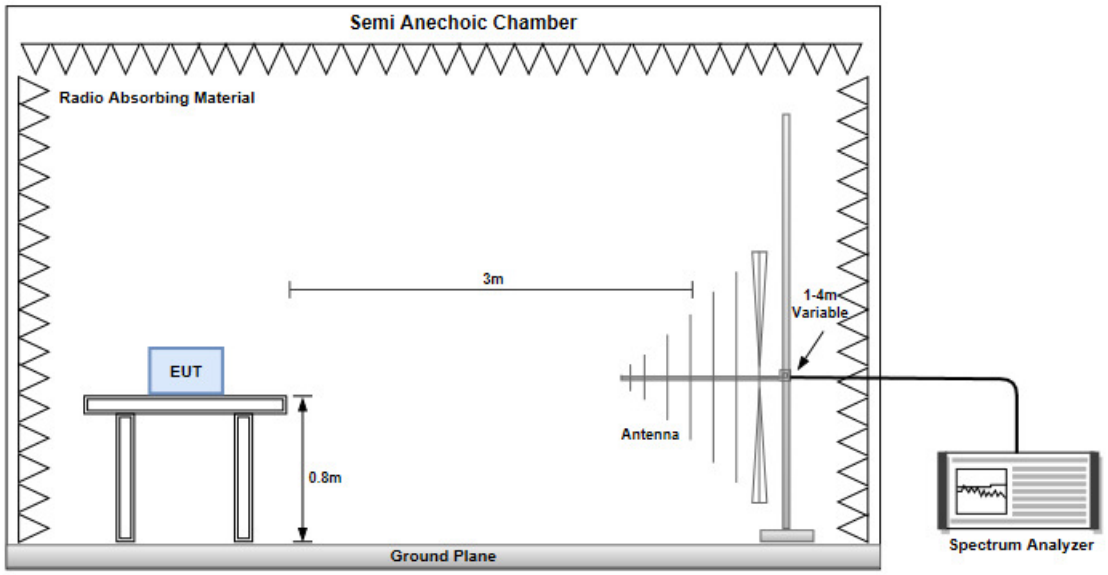
1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission 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:

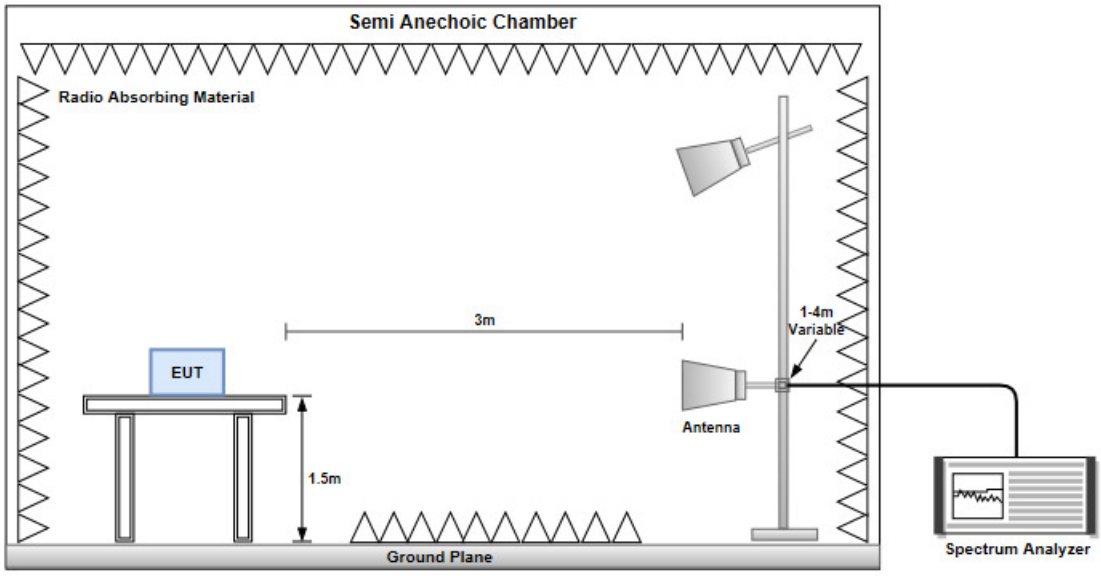
1. 120kHz measurement bandwidth of test receiver and Quasi-peak detector is for radiated emission below 1GHz.
2. RBW=1MHz, VBW=3MHz and Peak detector is for peak measured value of radiated emission above 1GHz.
3. RBW=1MHz, VBW=1/T and Peak detector is for average measured value of radiated emission above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

3.5.3 Test Setup

Radiated Emissions below 1 GHz



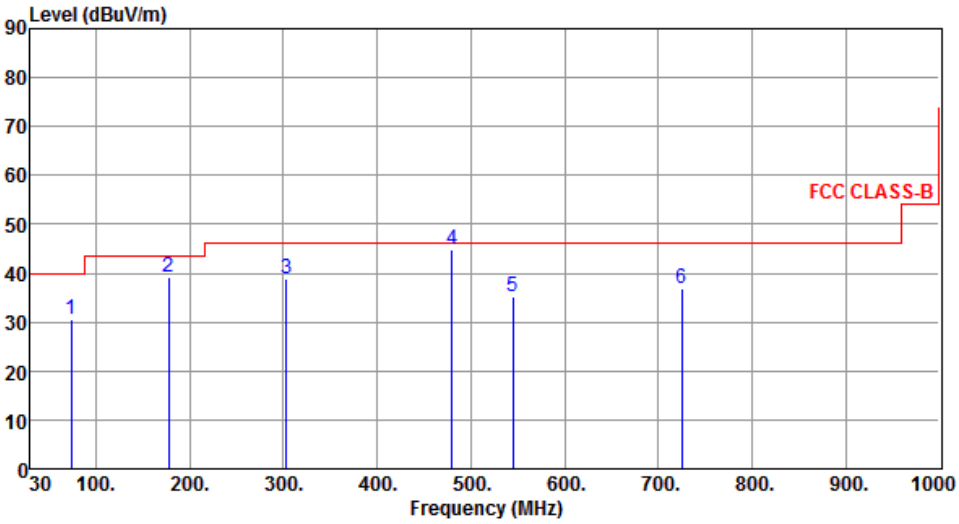
Radiated Emissions above 1 GHz



Configuration 1: On-board ANT0 + On-board ANT1 mode

3.5.4 Transmitter Radiated Unwanted Emissions (Below 1GHz)

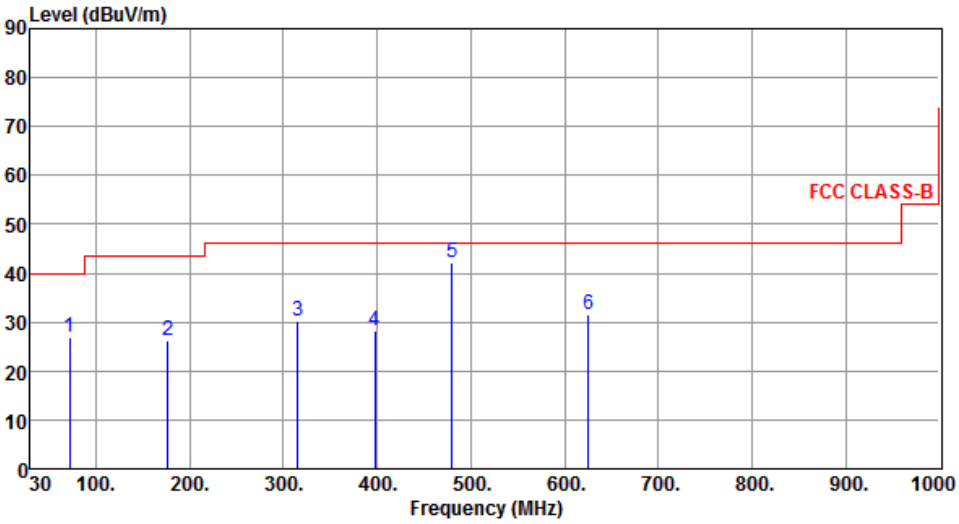
Modulation	HT20	**Test Freq. (MHz)**	2437
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	73.65	30.50	40.00	-9.50	41.87	-11.37	Peak	---	---
2	177.44	39.29	43.50	-4.21	48.65	-9.36	Peak	---	---
3	303.54	38.92	46.00	-7.08	46.53	-7.61	Peak	---	---
4	480.08	44.85	46.00	-1.15	48.06	-3.21	QP	178	75
5	545.07	35.10	46.00	-10.90	37.19	-2.09	Peak	---	---
6	725.49	36.82	46.00	-9.18	35.50	1.32	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	HT20	Test Freq. (MHz)	2437
Polarization	Vertical		

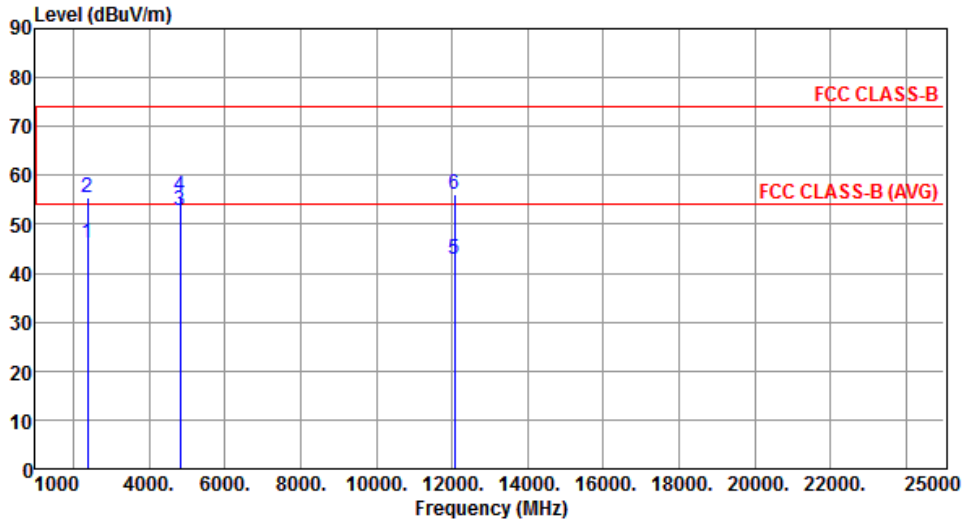


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	71.71	26.94	40.00	-13.06	37.86	-10.92	Peak	---	---
2	176.47	26.31	43.50	-17.19	35.56	-9.25	Peak	---	---
3	315.18	30.16	46.00	-15.84	37.45	-7.29	Peak	---	---
4	397.63	28.07	46.00	-17.93	33.13	-5.06	Peak	---	---
5	480.08	42.11	46.00	-3.89	45.32	-3.21	Peak	---	---
6	625.58	31.51	46.00	-14.49	31.88	-0.37	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

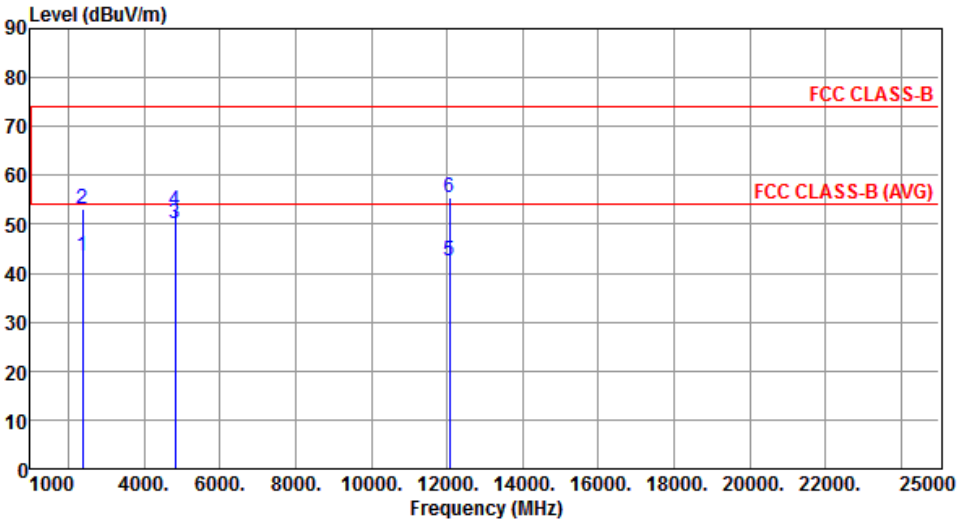
Modulation	11b	Test Freq. (MHz)	2412
Polarization	Horizontal		



	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	46.00	54.00	-8.00	47.11	-1.11	Average	235	153
2	2390.00	55.61	74.00	-18.39	56.72	-1.11	Peak	235	153
3	4824.00	52.92	54.00	-1.08	47.61	5.31	Average	286	6
4	4824.00	55.70	74.00	-18.30	50.39	5.31	Peak	286	6
5	12060.00	42.85	54.00	-11.15	27.82	15.03	Average	286	14
6	12060.00	56.25	74.00	-17.75	41.22	15.03	Peak	286	14

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).

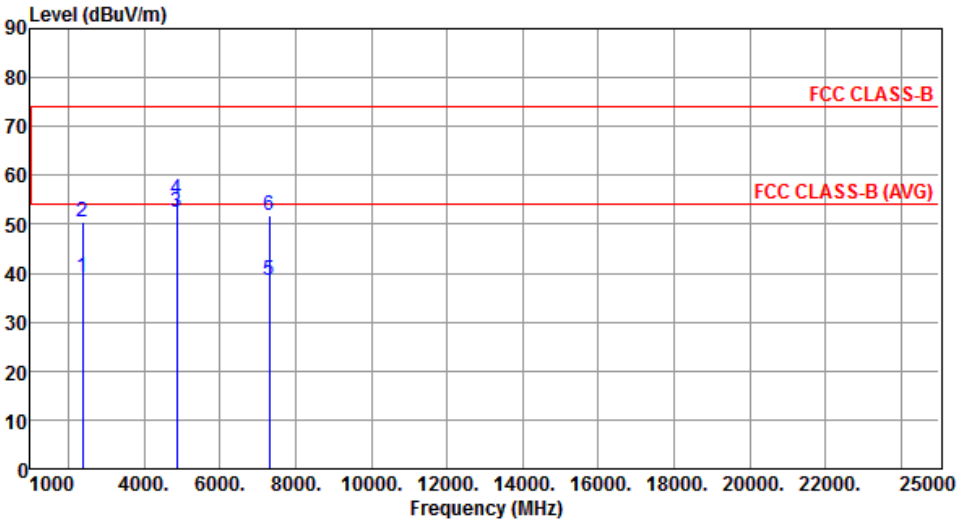
Modulation	11b	Test Freq. (MHz)	2412
Polarization	Vertical		



	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	43.52	54.00	-10.48	44.63	-1.11	Average	259	88
2	2390.00	53.04	74.00	-20.96	54.15	-1.11	Peak	259	88
3	4824.00	50.03	54.00	-3.97	44.72	5.31	Average	276	235
4	4824.00	52.80	74.00	-21.20	47.49	5.31	Peak	276	235
5	12060.00	42.50	54.00	-11.50	27.47	15.03	Average	276	241
6	12060.00	55.56	74.00	-18.44	40.53	15.03	Peak	276	241

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).

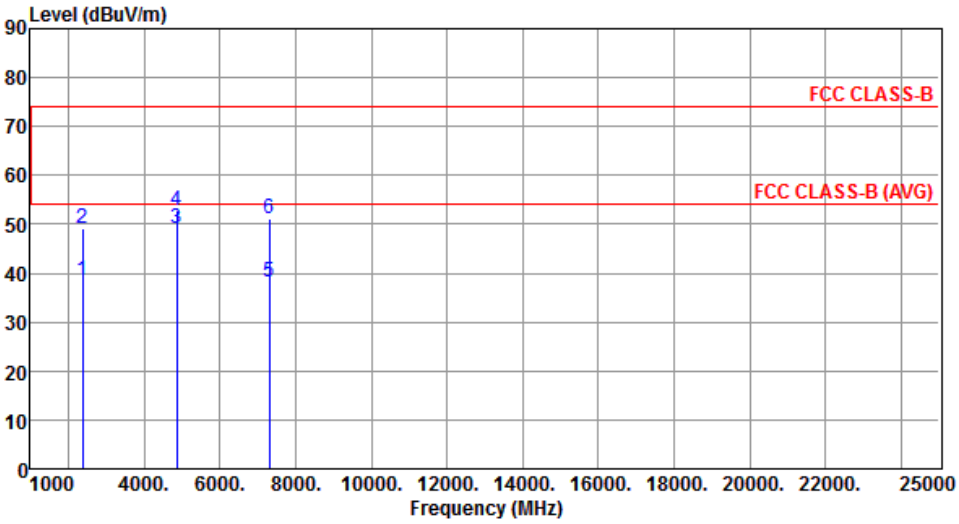
Modulation	11b	Test Freq. (MHz)	2437
Polarization	Horizontal		



	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	39.18	54.00	-14.82	40.29	-1.11	Average	226	153
2	2390.00	50.55	74.00	-23.45	51.66	-1.11	Peak	226	153
3	4874.00	52.54	54.00	-1.46	47.11	5.43	Average	279	6
4	4874.00	55.17	74.00	-18.83	49.74	5.43	Peak	279	6
5	7311.00	38.58	54.00	-15.42	28.32	10.26	Average	256	164
6	7311.00	51.65	74.00	-22.35	41.39	10.26	Peak	256	164

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).

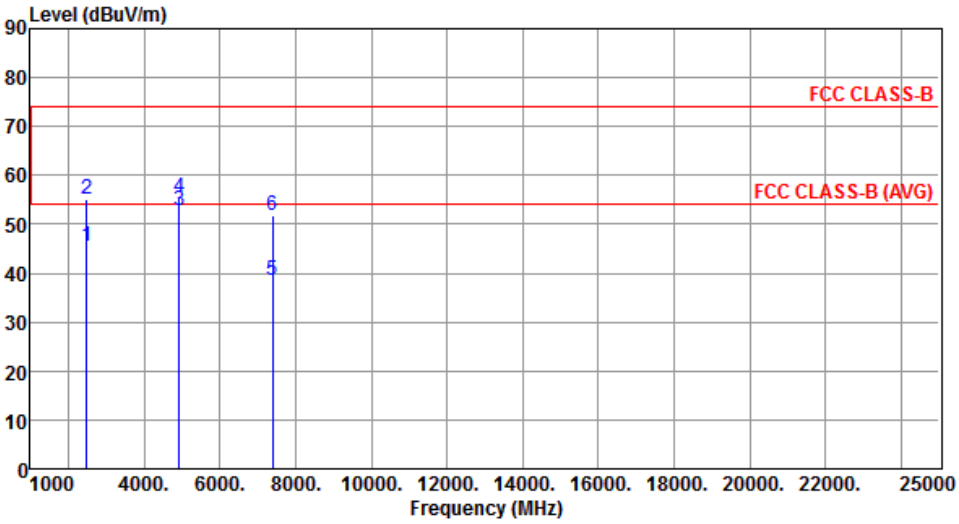
Modulation	11b	Test Freq. (MHz)	2437
Polarization	Vertical		



	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	38.56	54.00	-15.44	39.67	-1.11	Average	281	85
2	2390.00	49.24	74.00	-24.76	50.35	-1.11	Peak	281	85
3	4874.00	49.26	54.00	-4.74	43.83	5.43	Average	286	221
4	4874.00	52.65	74.00	-21.35	47.22	5.43	Peak	286	221
5	7311.00	38.29	54.00	-15.71	28.03	10.26	Average	286	219
6	7311.00	51.29	74.00	-22.71	41.03	10.26	Peak	286	219

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).

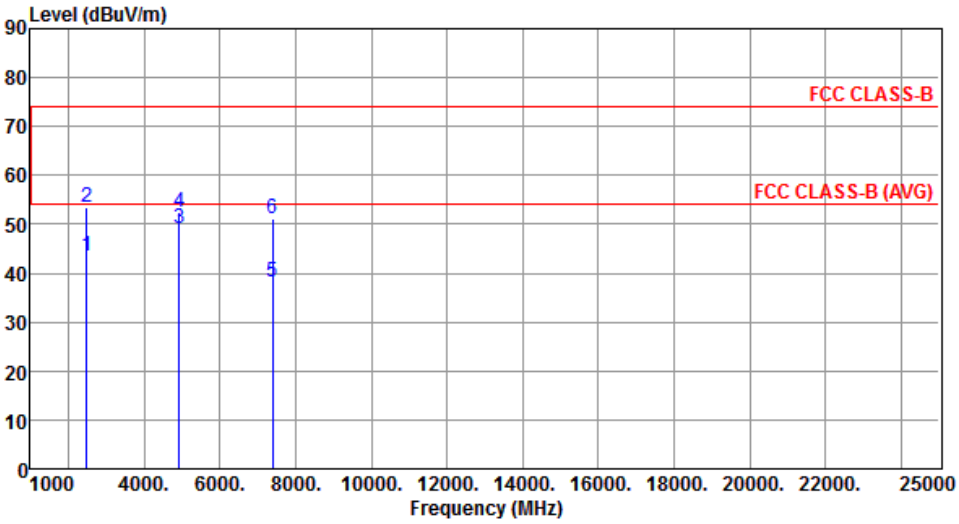
Modulation	11b	Test Freq. (MHz)	2462
Polarization	Horizontal		



	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	45.58	54.00	-8.42	46.20	-0.62	Average	221	148
2	2483.50	55.27	74.00	-18.73	55.89	-0.62	Peak	221	148
3	4924.00	52.70	54.00	-1.30	47.15	5.55	Average	292	10
4	4924.00	55.40	74.00	-18.60	49.85	5.55	Peak	292	10
5	7386.00	38.69	54.00	-15.31	28.30	10.39	Average	281	24
6	7386.00	51.82	74.00	-22.18	41.43	10.39	Peak	281	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	Vertical		

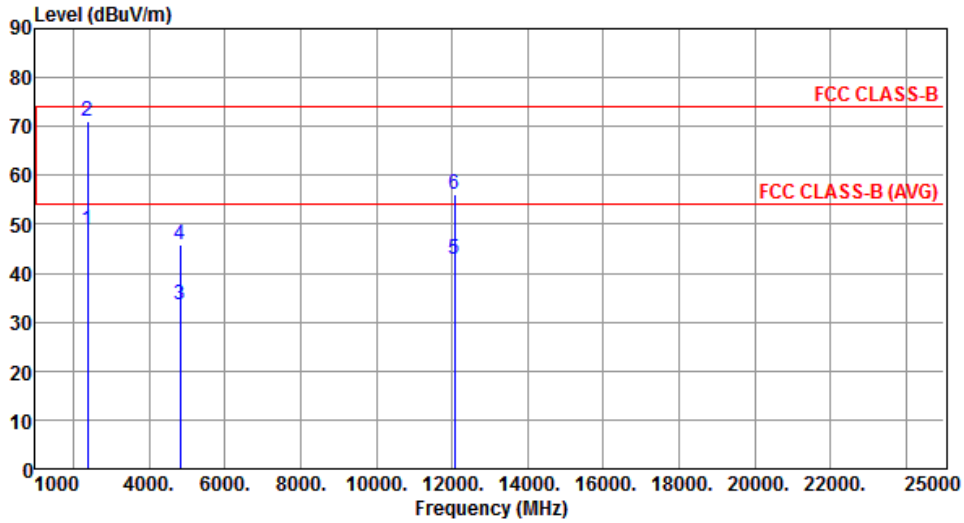


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2483.50	43.42	54.00	-10.58	44.04	-0.62	Average	281	91
2	2483.50	53.31	74.00	-20.69	53.93	-0.62	Peak	281	91
3	4924.00	49.15	54.00	-4.85	43.60	5.55	Average	283	224
4	4924.00	52.54	74.00	-21.46	46.99	5.55	Peak	283	224
5	7386.00	38.19	54.00	-15.81	27.80	10.39	Average	283	229
6	7386.00	51.12	74.00	-22.88	40.73	10.39	Peak	283	229

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

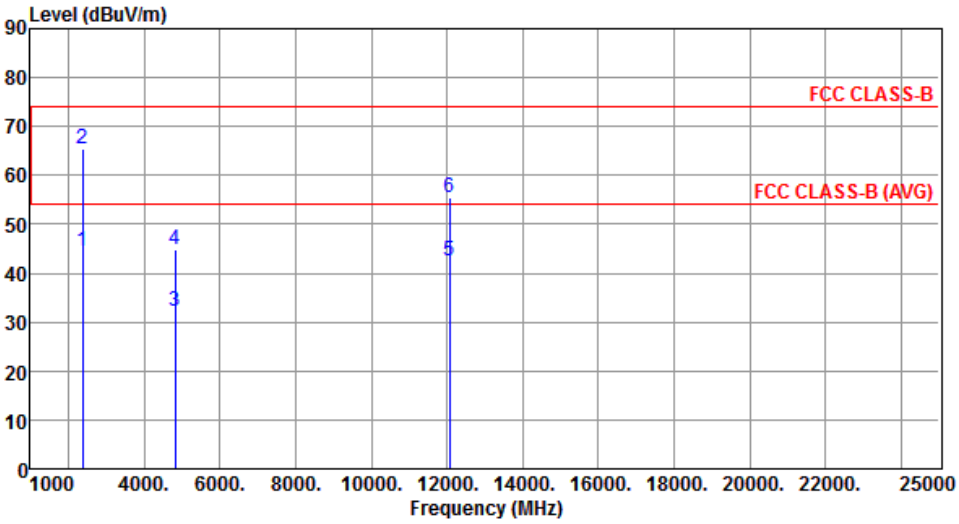
Modulation	11g	Test Freq. (MHz)	2412
Polarization	Horizontal		



	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	48.79	54.00	-5.21	49.90	-1.11	Average	235	152
2	2390.00	70.96	74.00	-3.04	72.07	-1.11	Peak	235	152
3	4824.00	33.43	54.00	-20.57	28.12	5.31	Average	286	9
4	4824.00	45.76	74.00	-28.24	40.45	5.31	Peak	286	9
5	12060.00	42.75	54.00	-11.25	27.72	15.03	Average	285	16
6	12060.00	56.18	74.00	-17.82	41.15	15.03	Peak	285	16

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).

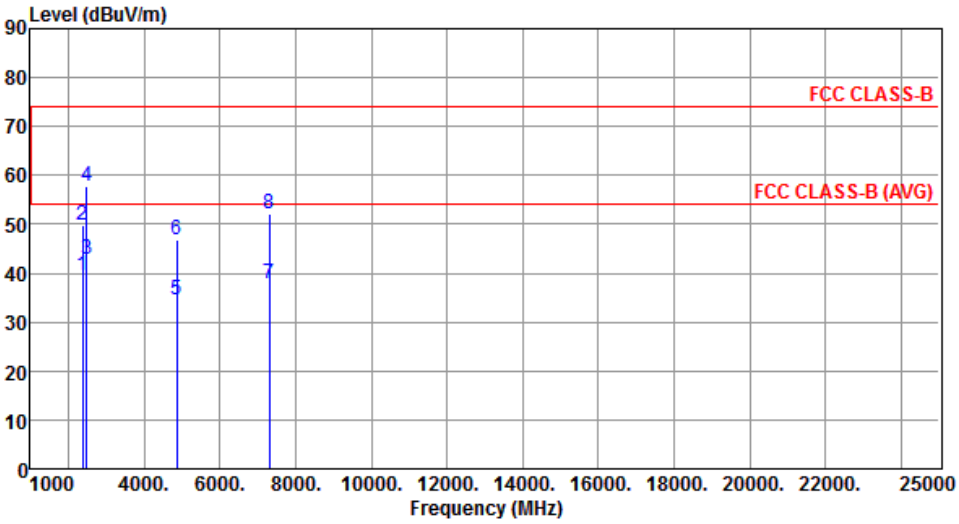
Modulation	11g	Test Freq. (MHz)	2412
Polarization	Vertical		



	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	44.55	54.00	-9.45	45.66	-1.11	Average	282	91
2	2390.00	65.35	74.00	-8.65	66.46	-1.11	Peak	282	91
3	4824.00	32.16	54.00	-21.84	26.85	5.31	Average	276	236
4	4824.00	44.77	74.00	-29.23	39.46	5.31	Peak	276	236
5	12060.00	42.35	54.00	-11.65	27.32	15.03	Average	275	243
6	12060.00	55.46	74.00	-18.54	40.43	15.03	Peak	275	243

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).

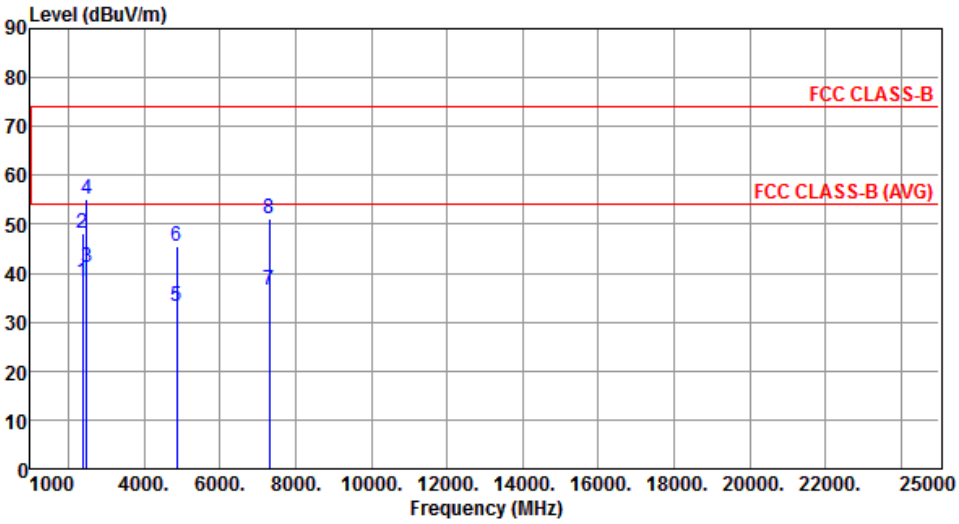
Modulation	11g	Test Freq. (MHz)	2437
Polarization	Horizontal		



	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	39.38	54.00	-14.62	40.49	-1.11	Average	222	149
2	2390.00	49.76	74.00	-24.24	50.87	-1.11	Peak	222	149
3	2483.50	42.87	54.00	-11.13	43.49	-0.62	Average	222	149
4	2483.50	57.86	74.00	-16.14	58.48	-0.62	Peak	222	149
5	4874.00	34.69	54.00	-19.31	29.26	5.43	Average	286	15
6	4874.00	46.82	74.00	-27.18	41.39	5.43	Peak	286	15
7	7311.00	37.81	54.00	-16.19	27.55	10.26	Average	289	21
8	7311.00	52.12	74.00	-21.88	41.86	10.26	Peak	289	21

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).

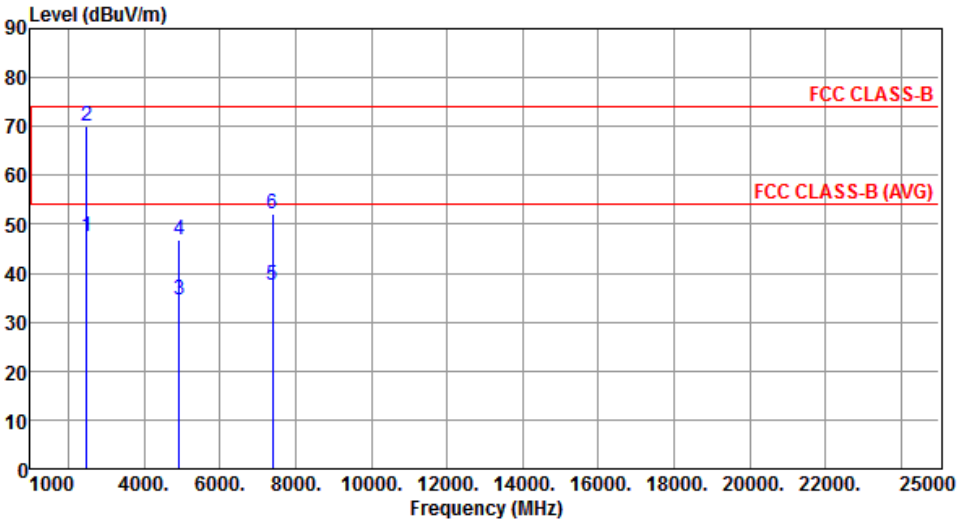
Modulation	11g	Test Freq. (MHz)	2437
Polarization	Vertical		



	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	38.16	54.00	-15.84	39.27	-1.11	Average	274	89
2	2390.00	48.24	74.00	-25.76	49.35	-1.11	Peak	274	89
3	2483.50	41.30	54.00	-12.70	41.92	-0.62	Average	274	89
4	2483.50	55.18	74.00	-18.82	55.80	-0.62	Peak	274	89
5	4874.00	33.21	54.00	-20.79	27.78	5.43	Average	279	244
6	4874.00	45.63	74.00	-28.37	40.20	5.43	Peak	279	244
7	7311.00	36.42	54.00	-17.58	26.16	10.26	Average	279	252
8	7311.00	51.24	74.00	-22.76	40.98	10.26	Peak	279	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).

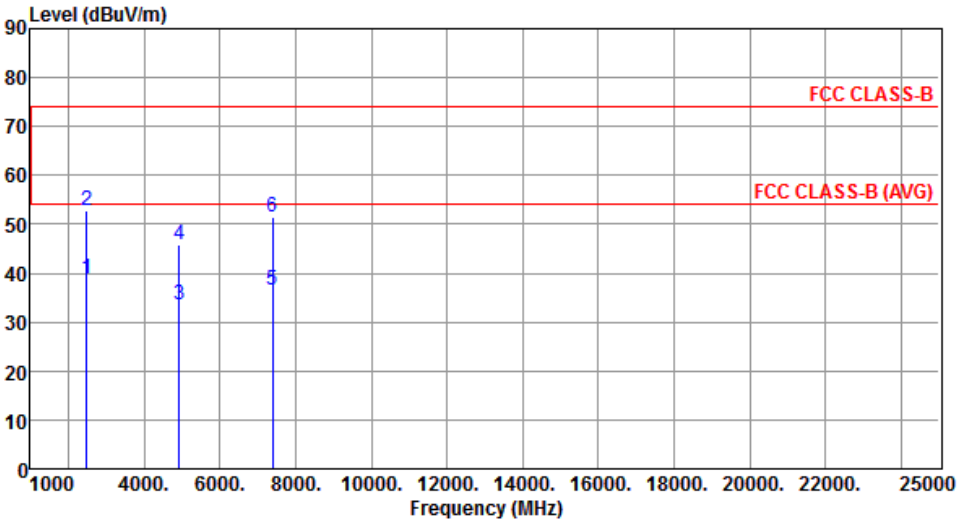
Modulation	11g	Test Freq. (MHz)	2462
Polarization	Horizontal		



	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	47.60	54.00	-6.40	48.22	-0.62	Average	222	149
2	2483.50	70.20	74.00	-3.80	70.82	-0.62	Peak	222	149
3	4924.00	34.58	54.00	-19.42	29.03	5.55	Average	286	24
4	4924.00	46.75	74.00	-27.25	41.20	5.55	Peak	286	24
5	7386.00	37.69	54.00	-16.31	27.30	10.39	Average	290	18
6	7386.00	52.04	74.00	-21.96	41.65	10.39	Peak	290	18

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		

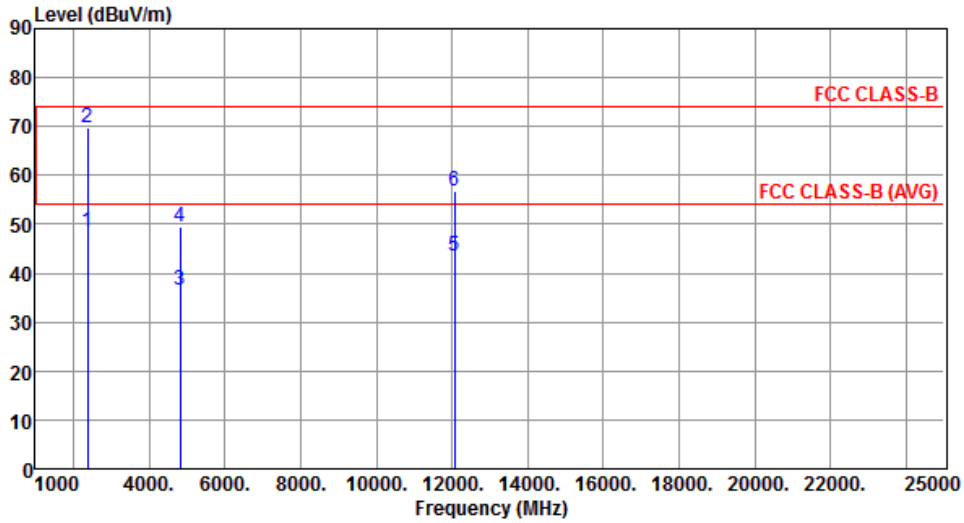


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2483.50	38.92	54.00	-15.08	39.54	-0.62	Average	275	92
2	2483.50	52.86	74.00	-21.14	53.48	-0.62	Peak	275	92
3	4924.00	33.45	54.00	-20.55	27.90	5.55	Average	281	252
4	4924.00	45.81	74.00	-28.19	40.26	5.55	Peak	281	252
5	7386.00	36.61	54.00	-17.39	26.22	10.39	Average	281	265
6	7386.00	51.35	74.00	-22.65	40.96	10.39	Peak	281	265

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

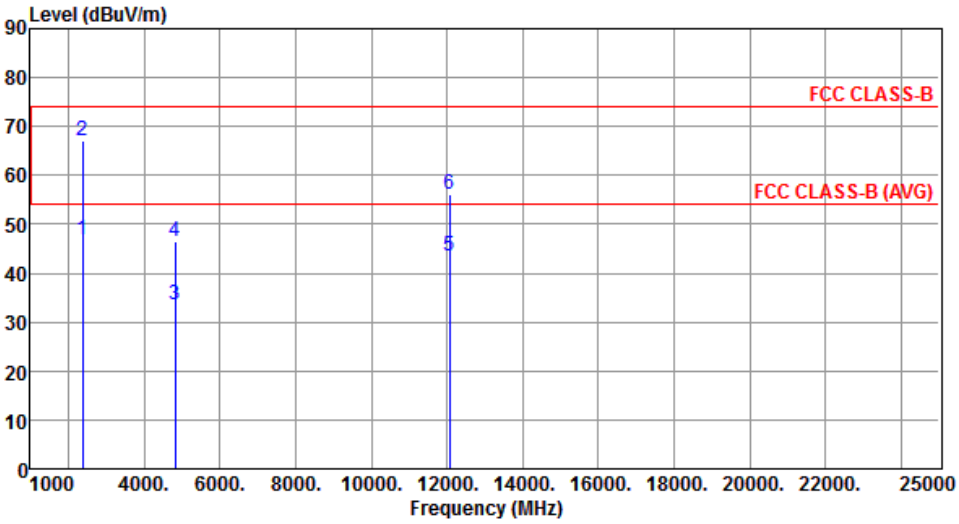
Modulation	HT20	**Test Freq. (MHz)**	2412
Polarization	Horizontal		



	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	48.40	54.00	-5.60	49.51	-1.11	Average	233	144
2	2390.00	69.77	74.00	-4.23	70.88	-1.11	Peak	233	144
3	4824.00	36.52	54.00	-17.48	31.21	5.31	Average	155	215
4	4824.00	49.62	74.00	-24.38	44.31	5.31	Peak	155	215
5	12060.00	43.57	54.00	-10.43	28.54	15.03	Average	166	271
6	12060.00	56.65	74.00	-17.35	41.62	15.03	Peak	166	271

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).

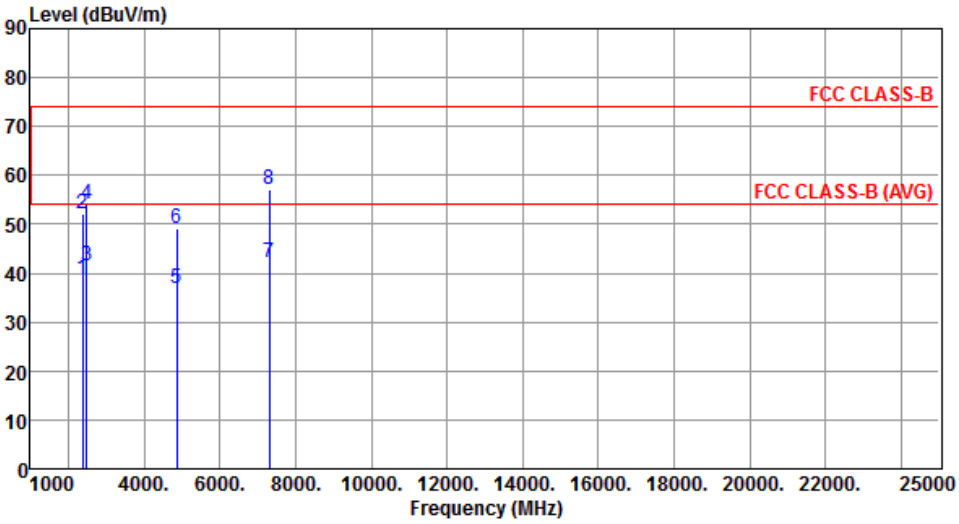
Modulation	HT20	Test Freq. (MHz)	2412
Polarization	Vertical		



	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	46.74	54.00	-7.26	47.85	-1.11	Average	316	265
2	2390.00	67.11	74.00	-6.89	68.22	-1.11	Peak	316	265
3	4824.00	33.65	54.00	-20.35	28.34	5.31	Average	100	153
4	4824.00	46.33	74.00	-27.67	41.02	5.31	Peak	100	153
5	12060.00	43.48	54.00	-10.52	28.45	15.03	Average	152	168
6	12060.00	56.28	74.00	-17.72	41.25	15.03	Peak	152	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).

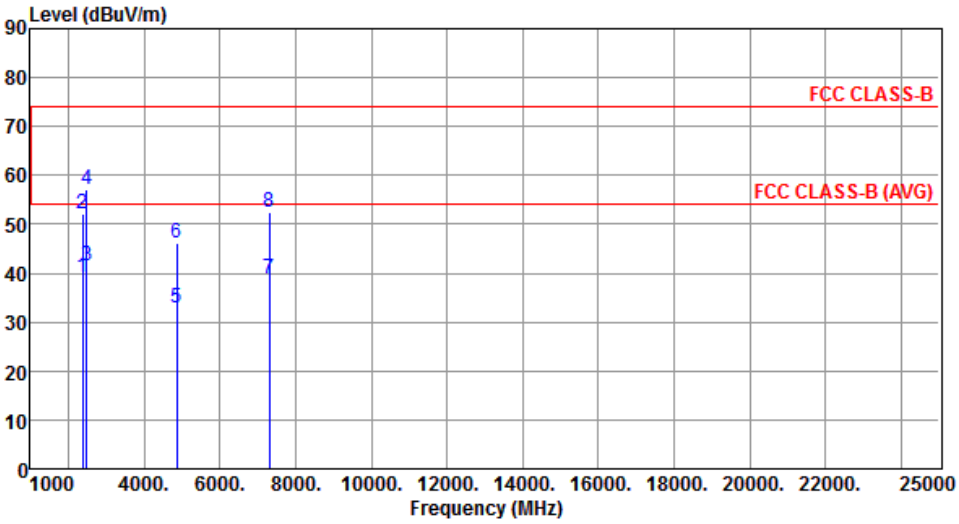
Modulation	HT20	Test Freq. (MHz)	2437
Polarization	Horizontal		



	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	39.02	54.00	-14.98	40.13	-1.11	Average	224	141
2	2390.00	52.21	74.00	-21.79	53.32	-1.11	Peak	224	141
3	2483.50	41.40	54.00	-12.60	42.02	-0.62	Average	224	141
4	2483.50	54.27	74.00	-19.73	54.89	-0.62	Peak	224	141
5	4874.00	36.75	54.00	-17.25	31.32	5.43	Average	182	9
6	4874.00	49.31	74.00	-24.69	43.88	5.43	Peak	182	9
7	7311.00	42.10	54.00	-11.90	31.84	10.26	Average	187	6
8	7311.00	57.25	74.00	-16.75	46.99	10.26	Peak	187	6

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).

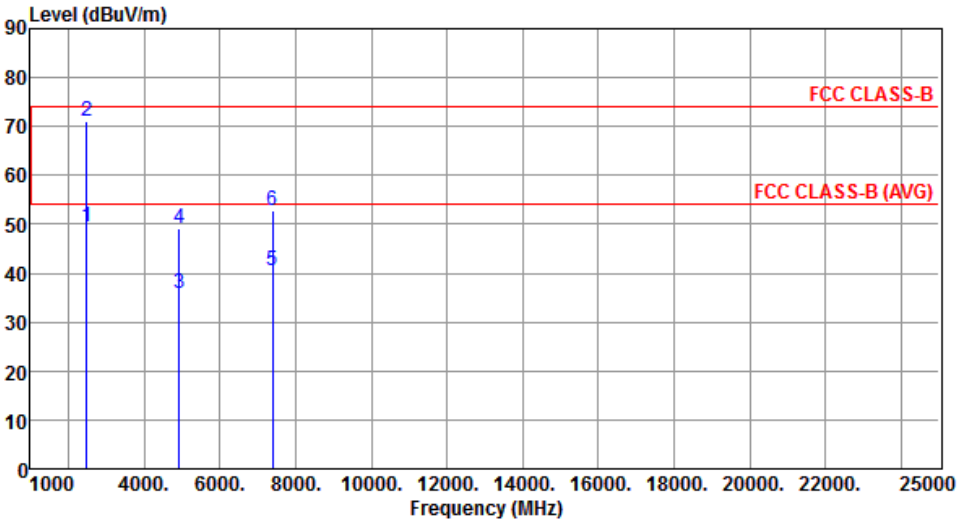
Modulation	HT20	Test Freq. (MHz)	2437
Polarization	Vertical		



	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	39.14	54.00	-14.86	40.25	-1.11	Average	306	267
2	2390.00	52.15	74.00	-21.85	53.26	-1.11	Peak	306	267
3	2483.50	41.47	54.00	-12.53	42.09	-0.62	Average	306	267
4	2483.50	57.08	74.00	-16.92	57.70	-0.62	Peak	306	267
5	4874.00	32.74	54.00	-21.26	27.31	5.43	Average	196	111
6	4874.00	46.00	74.00	-28.00	40.57	5.43	Peak	196	111
7	7311.00	38.98	54.00	-15.02	28.72	10.26	Average	156	218
8	7311.00	52.47	74.00	-21.53	42.21	10.26	Peak	156	218

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).

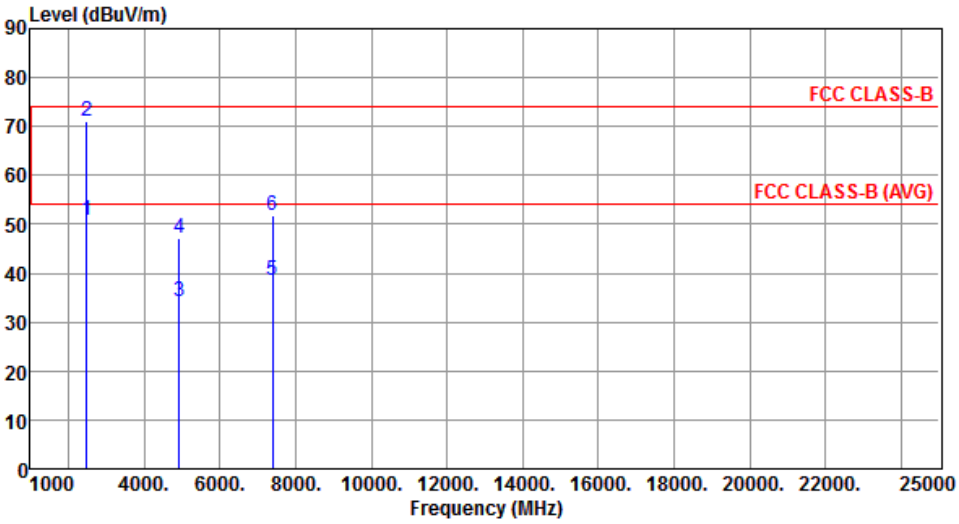
Modulation	HT20	Test Freq. (MHz)	2462
Polarization	Horizontal		



	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	49.44	54.00	-4.56	50.06	-0.62	Average	198	142
2	2483.50	70.99	74.00	-3.01	71.61	-0.62	Peak	198	142
3	4924.00	35.86	54.00	-18.14	30.31	5.55	Average	155	168
4	4924.00	49.08	74.00	-24.92	43.53	5.55	Peak	155	168
5	7386.00	40.41	54.00	-13.59	30.02	10.39	Average	162	185
6	7386.00	52.70	74.00	-21.30	42.31	10.39	Peak	162	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	HT20	Test Freq. (MHz)	2462
Polarization	Vertical		

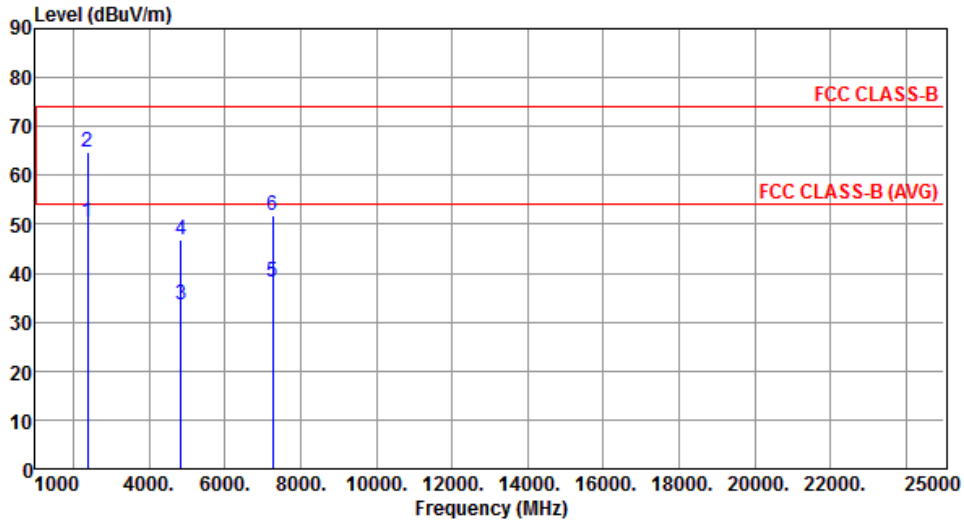


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2483.50	50.79	54.00	-3.21	51.41	-0.62	Average	293	267
2	2483.50	70.93	74.00	-3.07	71.55	-0.62	Peak	293	267
3	4924.00	34.18	54.00	-19.82	28.63	5.55	Average	183	212
4	4924.00	47.10	74.00	-26.90	41.55	5.55	Peak	183	212
5	7386.00	38.60	54.00	-15.40	28.21	10.39	Average	122	138
6	7386.00	51.74	74.00	-22.26	41.35	10.39	Peak	122	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).

3.5.8 Transmitter Radiated Unwanted Emissions (Above 1GHz) for HT40

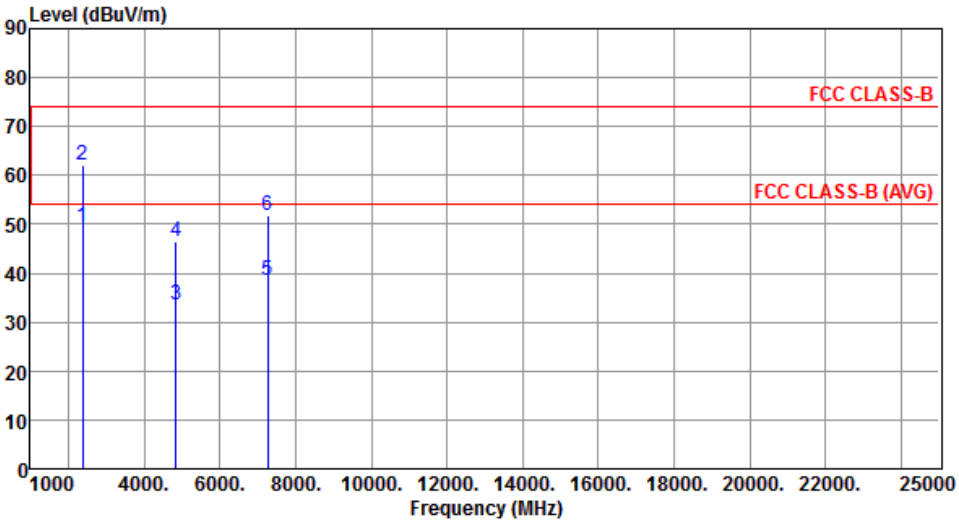
Modulation	HT40	**Test Freq. (MHz)**	2422
Polarization	Horizontal		



	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	50.58	54.00	-3.42	51.69	-1.11	Average	100	309
2	2390.00	64.71	74.00	-9.29	65.82	-1.11	Peak	100	309
3	4844.00	33.57	54.00	-20.43	28.21	5.36	Average	156	242
4	4844.00	46.89	74.00	-27.11	41.53	5.36	Peak	156	242
5	7266.00	38.30	54.00	-15.70	28.12	10.18	Average	138	163
6	7266.00	51.71	74.00	-22.29	41.53	10.18	Peak	138	163

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).

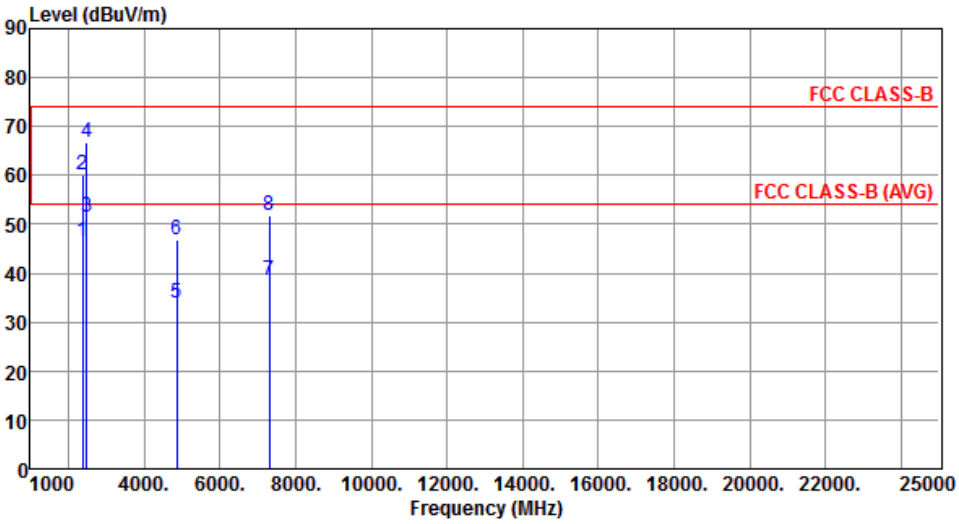
Modulation	HT40	Test Freq. (MHz)	2422
Polarization	Vertical		



	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	49.45	54.00	-4.55	50.56	-1.11	Average	325	278
2	2390.00	62.02	74.00	-11.98	63.13	-1.11	Peak	325	278
3	4844.00	33.67	54.00	-20.33	28.31	5.36	Average	155	136
4	4844.00	46.61	74.00	-27.39	41.25	5.36	Peak	155	136
5	7266.00	38.39	54.00	-15.61	28.21	10.18	Average	138	142
6	7266.00	51.71	74.00	-22.29	41.53	10.18	Peak	138	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).

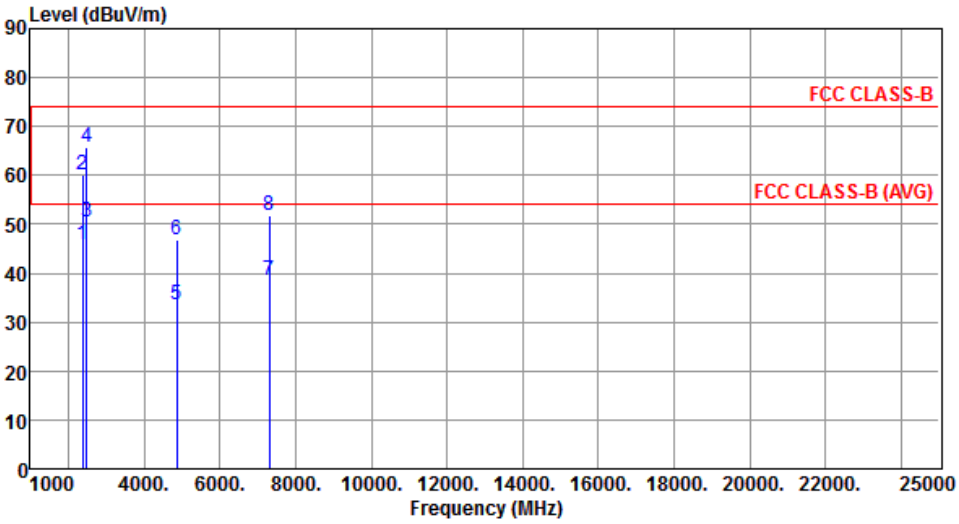
Modulation	HT40	Test Freq. (MHz)	2437
Polarization	Horizontal		



	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	46.52	54.00	-7.48	47.63	-1.11	Average	197	323
2	2390.00	60.21	74.00	-13.79	61.32	-1.11	Peak	197	323
3	2483.50	51.62	54.00	-2.38	52.24	-0.62	Average	197	323
4	2483.50	66.60	74.00	-7.40	67.22	-0.62	Peak	197	323
5	4874.00	33.96	54.00	-20.04	28.53	5.43	Average	156	218
6	4874.00	46.76	74.00	-27.24	41.33	5.43	Peak	156	218
7	7311.00	38.68	54.00	-15.32	28.42	10.26	Average	122	163
8	7311.00	51.79	74.00	-22.21	41.53	10.26	Peak	122	163

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).

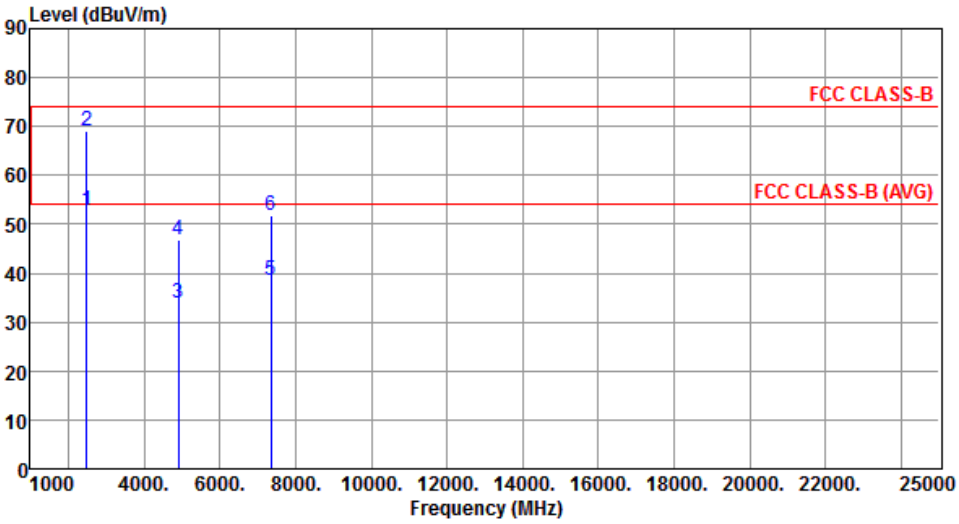
Modulation	HT40	Test Freq. (MHz)	2437
Polarization	Vertical		



	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	45.67	54.00	-8.33	46.78	-1.11	Average	297	270
2	2390.00	60.11	74.00	-13.89	61.22	-1.11	Peak	297	270
3	2483.50	50.60	54.00	-3.40	51.22	-0.62	Average	297	270
4	2483.50	65.90	74.00	-8.10	66.52	-0.62	Peak	297	270
5	4874.00	33.59	54.00	-20.41	28.16	5.43	Average	158	214
6	4874.00	46.74	74.00	-27.26	41.31	5.43	Peak	158	214
7	7311.00	38.50	54.00	-15.50	28.24	10.26	Average	162	133
8	7311.00	51.69	74.00	-22.31	41.43	10.26	Peak	162	133

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).

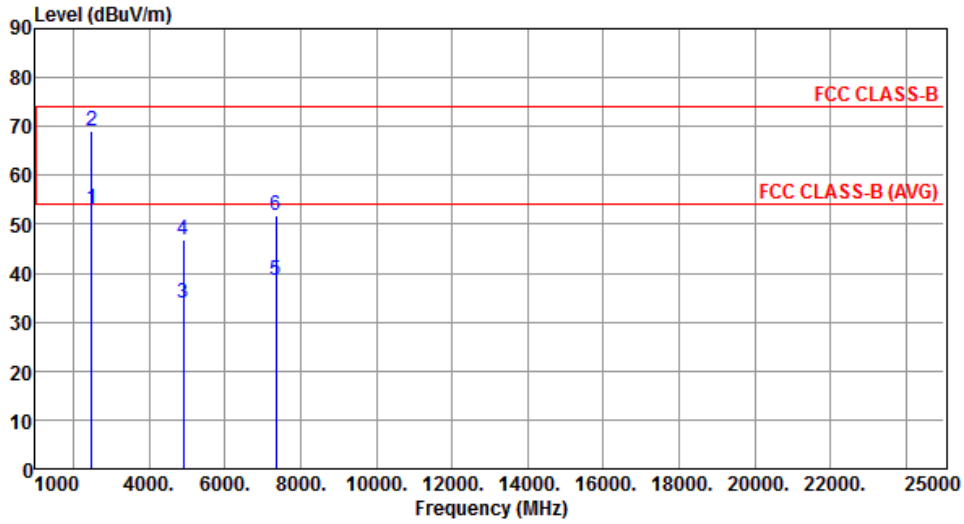
Modulation	HT40	Test Freq. (MHz)	2452
Polarization	Horizontal		



	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	52.95	54.00	-1.05	53.57	-0.62	Average	197	146
2	2483.50	69.04	74.00	-4.96	69.66	-0.62	Peak	197	146
3	4904.00	34.04	54.00	-19.96	28.53	5.51	Average	155	168
4	4904.00	46.89	74.00	-27.11	41.38	5.51	Peak	155	168
5	7356.00	38.56	54.00	-15.44	28.21	10.35	Average	144	131
6	7356.00	51.65	74.00	-22.35	41.30	10.35	Peak	144	131

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	HT40	Test Freq. (MHz)	2452
Polarization	Vertical		



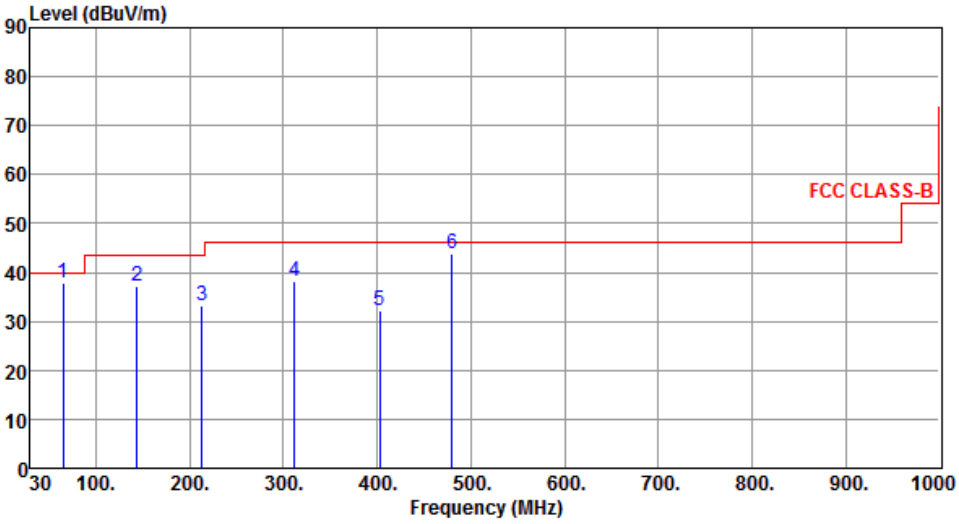
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2483.50	52.98	54.00	-1.02	53.60	-0.62	Average	295	267
2	2483.50	69.16	74.00	-4.84	69.78	-0.62	Peak	295	267
3	4904.00	33.93	54.00	-20.07	28.42	5.51	Average	156	217
4	4904.00	46.86	74.00	-27.14	41.35	5.51	Peak	156	217
5	7356.00	38.50	54.00	-15.50	28.15	10.35	Average	188	163
6	7356.00	51.77	74.00	-22.23	41.42	10.35	Peak	188	163

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).

Configuration 2: External-Amtran + On-board ANT1 mode

3.5.9 Transmitter Radiated Unwanted Emissions (Below 1GHz)

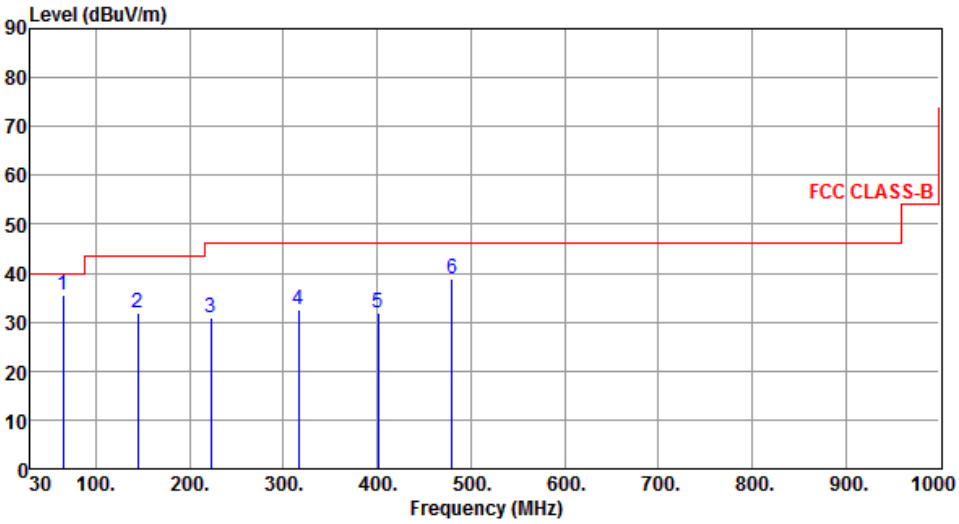
Modulation	HT20	**Test Freq. (MHz)**	2437
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	64.95	37.72	40.00	-2.28	48.06	-10.34	QP	385	148
2	143.49	37.36	43.50	-6.14	46.83	-9.47	Peak	---	---
3	213.33	33.13	43.50	-10.37	45.32	-12.19	QP	182	189
4	312.27	38.26	46.00	-7.74	47.10	-8.84	Peak	---	---
5	402.48	32.36	46.00	-13.64	38.97	-6.61	Peak	---	---
6	480.08	43.91	46.00	-2.09	48.99	-5.08	QP	182	72

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	HT20	Test Freq. (MHz)	2437
Polarization	Vertical		

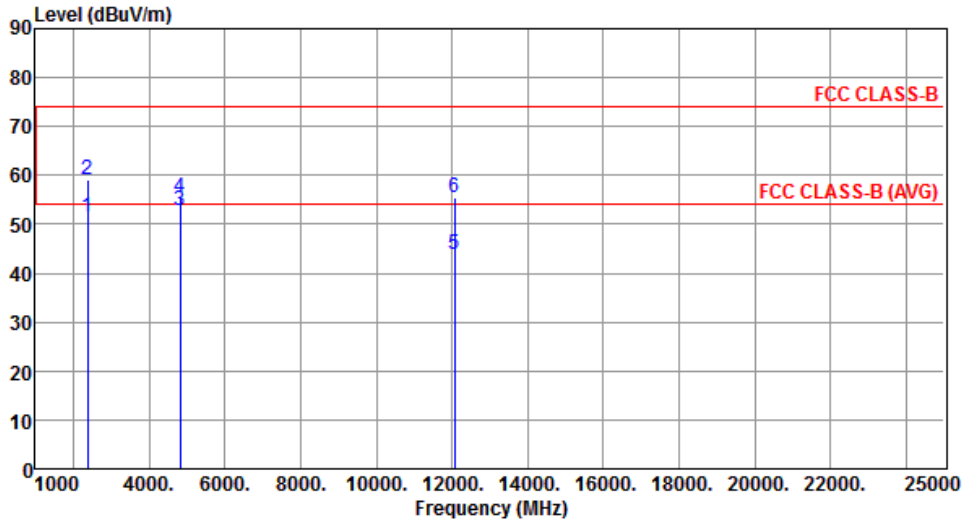


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	64.92	35.48	40.00	-4.52	45.81	-10.33	Peak	---	---
2	144.46	31.89	43.50	-11.61	41.33	-9.44	Peak	---	---
3	223.03	30.99	46.00	-15.01	42.95	-11.96	Peak	---	---
4	316.15	32.41	46.00	-13.59	41.15	-8.74	Peak	---	---
5	401.51	31.85	46.00	-14.15	38.48	-6.63	Peak	---	---
6	480.08	38.77	46.00	-7.23	43.85	-5.08	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.

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

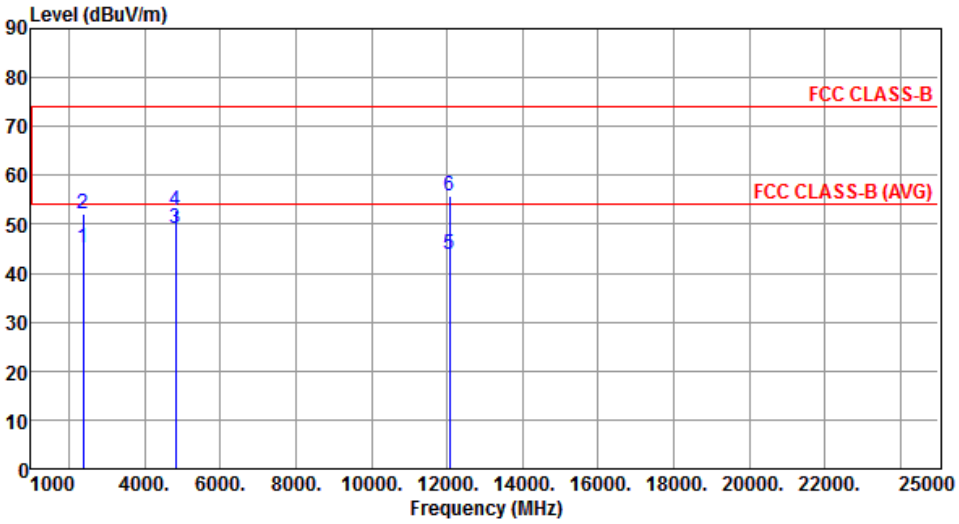
Modulation	11b	Test Freq. (MHz)	2412
Polarization	Horizontal		



	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	51.37	54.00	-2.63	52.48	-1.11	Average	131	40
2	2390.00	59.27	74.00	-14.73	60.38	-1.11	Peak	131	40
3	4824.00	52.74	54.00	-1.26	47.43	5.31	Average	140	353
4	4824.00	55.38	74.00	-18.62	50.07	5.31	Peak	140	353
5	12060.00	43.72	54.00	-10.28	28.69	15.03	Average	110	193
6	12060.00	55.62	74.00	-18.38	40.59	15.03	Peak	110	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).

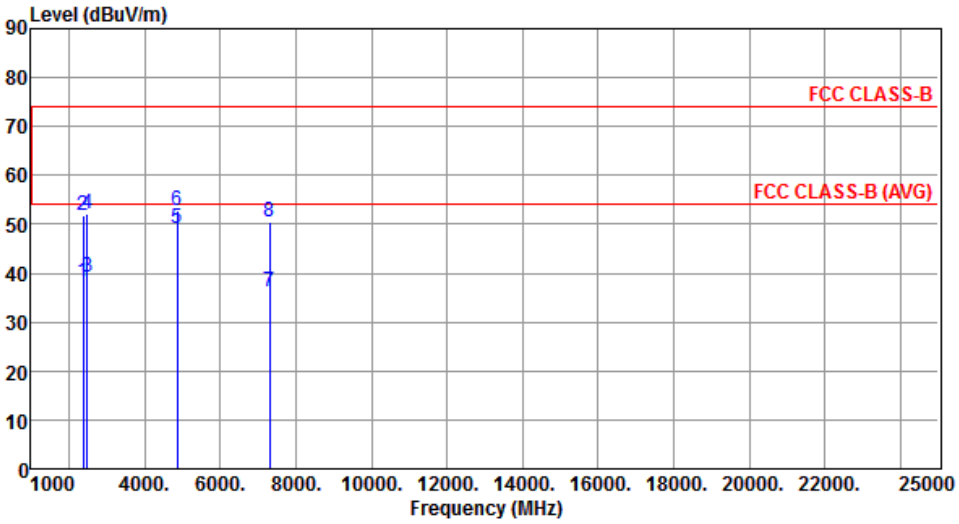
Modulation	11b	Test Freq. (MHz)	2412
Polarization	Vertical		



	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	45.07	54.00	-8.93	46.18	-1.11	Average	300	326
2	2390.00	52.23	74.00	-21.77	53.34	-1.11	Peak	300	326
3	4824.00	49.18	54.00	-4.82	43.87	5.31	Average	104	339
4	4824.00	52.71	74.00	-21.29	47.40	5.31	Peak	104	339
5	12060.00	43.70	54.00	-10.30	28.67	15.03	Average	192	105
6	12060.00	55.69	74.00	-18.31	40.66	15.03	Peak	192	105

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).

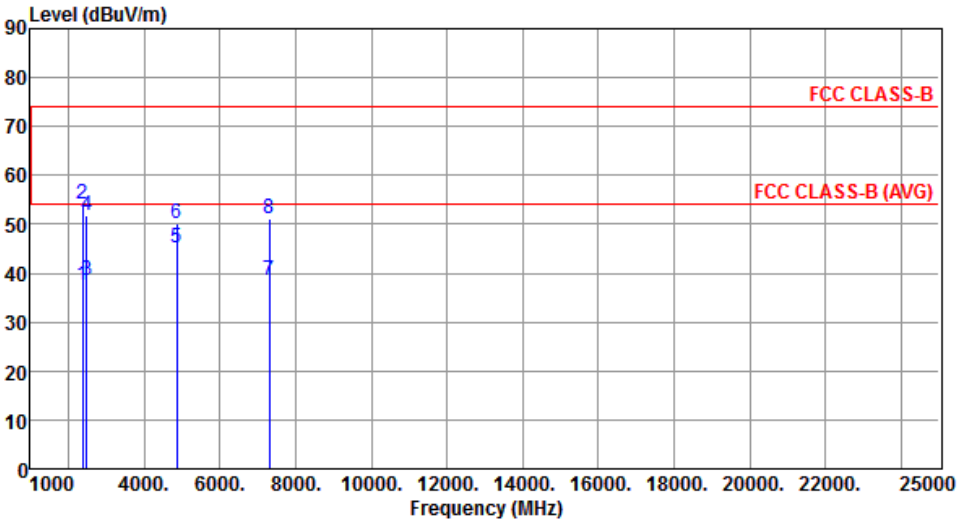
Modulation	11b	Test Freq. (MHz)	2437
Polarization	Horizontal		



	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	38.28	54.00	-15.72	39.39	-1.11	Average	203	39
2	2390.00	51.81	74.00	-22.19	52.92	-1.11	Peak	203	39
3	2483.50	39.24	54.00	-14.76	39.86	-0.62	Average	203	39
4	2483.50	52.18	74.00	-21.82	52.80	-0.62	Peak	203	39
5	4874.00	49.12	54.00	-4.88	43.69	5.43	Average	107	352
6	4874.00	52.77	74.00	-21.23	47.34	5.43	Peak	107	352
7	7311.00	36.33	54.00	-17.67	26.07	10.26	Average	115	183
8	7311.00	50.36	74.00	-23.64	40.10	10.26	Peak	115	183

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).

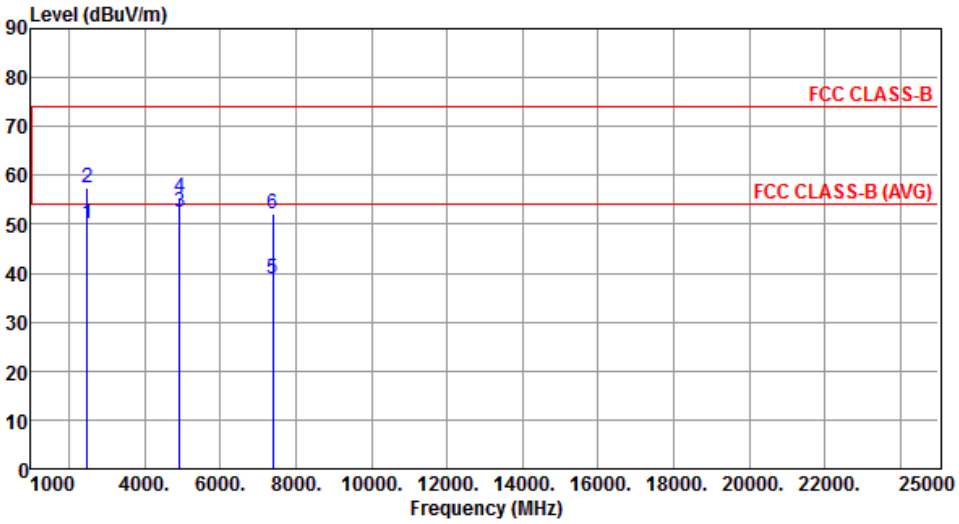
Modulation	11b	Test Freq. (MHz)	2437
Polarization	Vertical		



	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	37.68	54.00	-16.32	38.79	-1.11	Average	364	168
2	2390.00	53.98	74.00	-20.02	55.09	-1.11	Peak	364	168
3	2483.50	38.58	54.00	-15.42	39.20	-0.62	Average	364	168
4	2483.50	51.82	74.00	-22.18	52.44	-0.62	Peak	364	168
5	4874.00	45.10	54.00	-8.90	39.67	5.43	Average	100	13
6	4874.00	50.00	74.00	-24.00	44.57	5.43	Peak	100	13
7	7311.00	38.63	54.00	-15.37	28.37	10.26	Average	215	136
8	7311.00	51.00	74.00	-23.00	40.74	10.26	Peak	215	136

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).

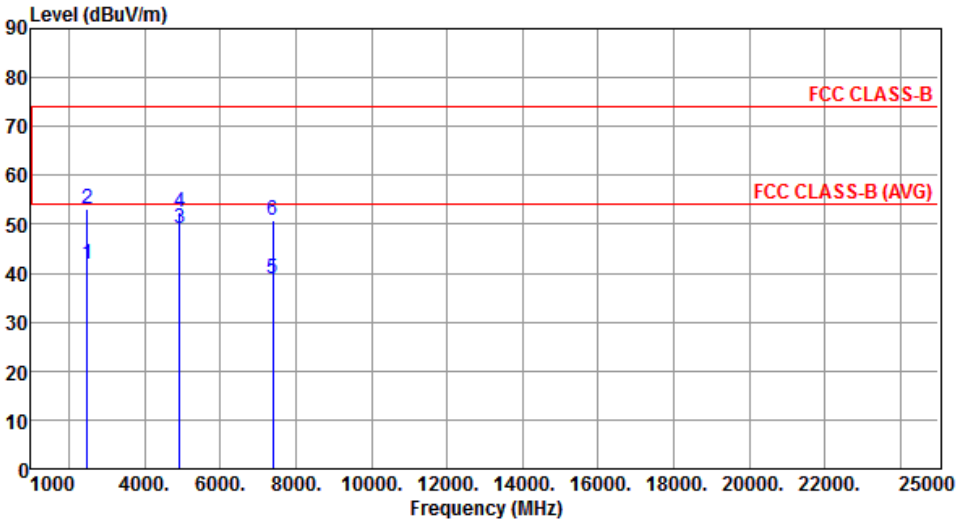
Modulation	11b	Test Freq. (MHz)	2462
Polarization	Horizontal		



	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	50.21	54.00	-3.79	50.83	-0.62	Average	227	226
2	2483.50	57.38	74.00	-16.62	58.00	-0.62	Peak	227	226
3	4924.00	52.60	54.00	-1.40	47.05	5.55	Average	100	352
4	4924.00	55.52	74.00	-18.48	49.97	5.55	Peak	100	352
5	7386.00	38.76	54.00	-15.24	28.37	10.39	Average	193	104
6	7386.00	52.12	74.00	-21.88	41.73	10.39	Peak	193	104

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		

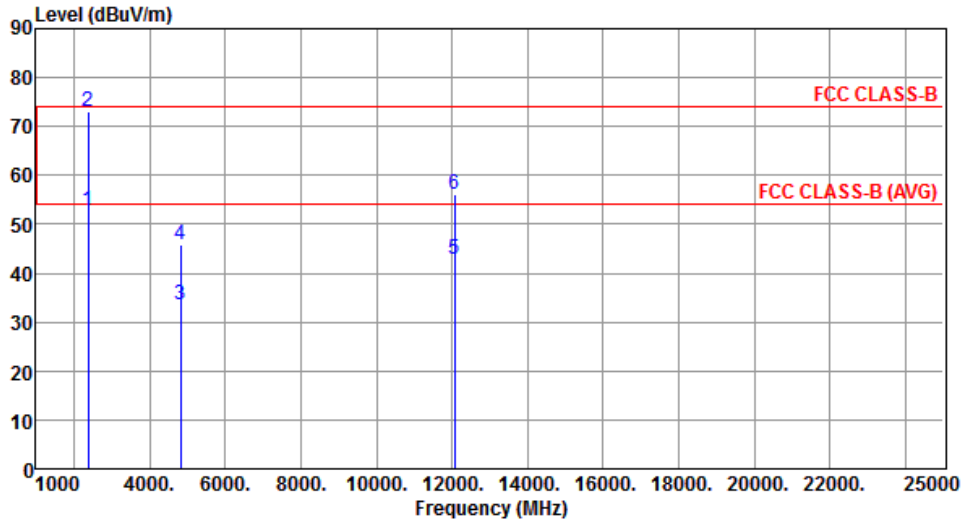


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2483.50	41.77	54.00	-12.23	42.39	-0.62	Average	313	306
2	2483.50	53.03	74.00	-20.97	53.65	-0.62	Peak	313	306
3	4924.00	49.31	54.00	-4.69	43.76	5.55	Average	105	11
4	4924.00	52.59	74.00	-21.41	47.04	5.55	Peak	105	11
5	7386.00	38.87	54.00	-15.13	28.48	10.39	Average	231	140
6	7386.00	50.76	74.00	-23.24	40.37	10.39	Peak	231	140

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 11g

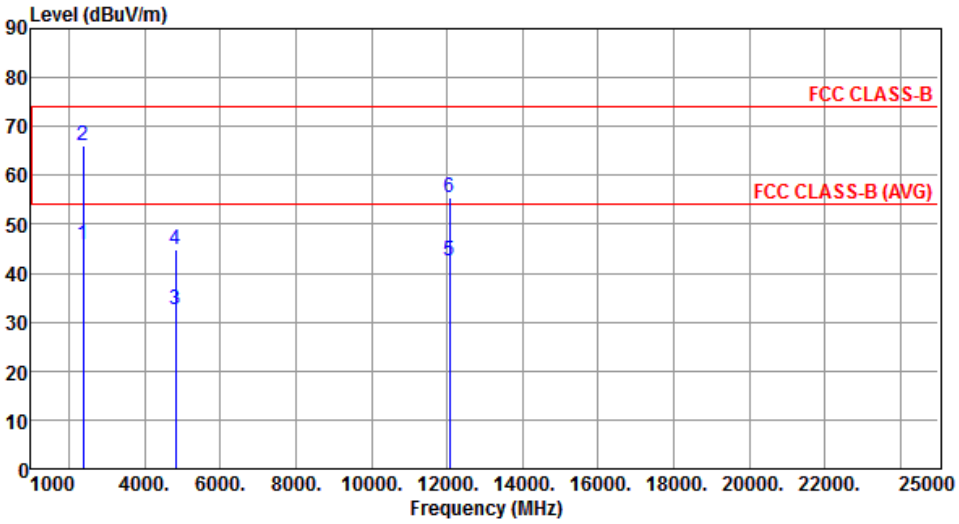
Modulation	11g	Test Freq. (MHz)	2412
Polarization	Horizontal		



	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	52.79	54.00	-1.21	53.90	-1.11	Average	218	219
2	2390.00	72.95	74.00	-1.05	74.06	-1.11	Peak	218	219
3	4824.00	33.46	54.00	-20.54	28.15	5.31	Average	205	234
4	4824.00	45.81	74.00	-28.19	40.50	5.31	Peak	205	234
5	12060.00	42.84	54.00	-11.16	27.81	15.03	Average	210	258
6	12060.00	56.21	74.00	-17.79	41.18	15.03	Peak	210	258

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).

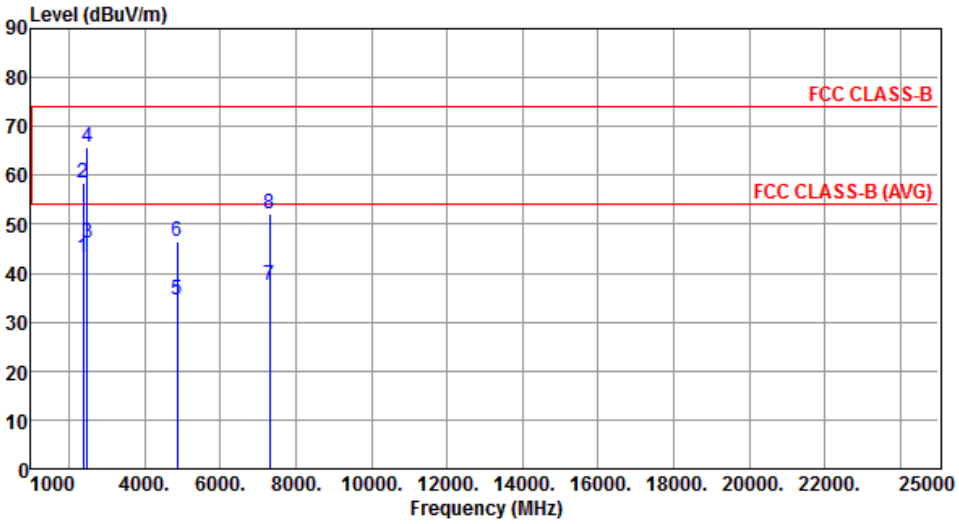
Modulation	11g	Test Freq. (MHz)	2412
Polarization	Vertical		



	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	45.92	54.00	-8.08	47.03	-1.11	Average	226	305
2	2390.00	66.14	74.00	-7.86	67.25	-1.11	Peak	226	305
3	4824.00	32.45	54.00	-21.55	27.14	5.31	Average	203	291
4	4824.00	44.89	74.00	-29.11	39.58	5.31	Peak	203	291
5	12060.00	42.48	54.00	-11.52	27.45	15.03	Average	205	294
6	12060.00	55.61	74.00	-18.39	40.58	15.03	Peak	205	294

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).

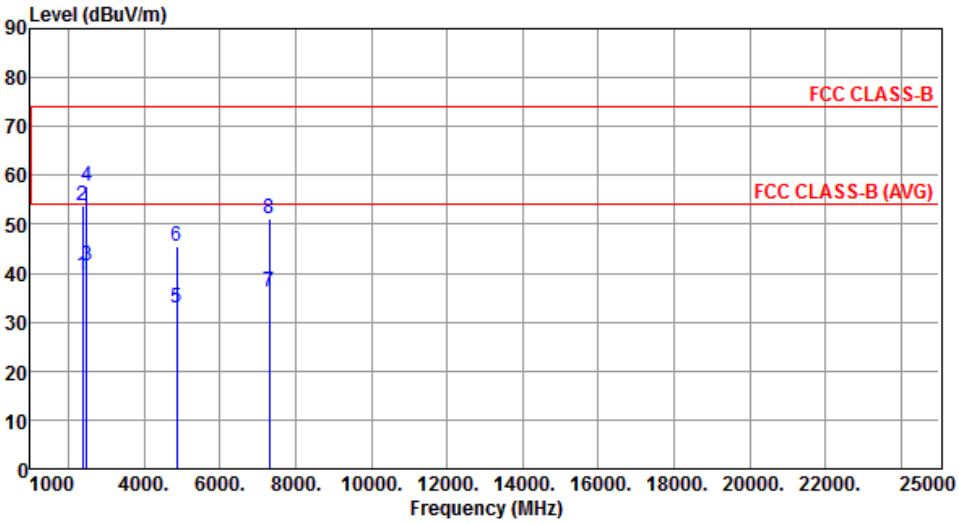
Modulation	11g	Test Freq. (MHz)	2437
Polarization	Horizontal		



	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	43.14	54.00	-10.86	44.25	-1.11	Average	218	216
2	2390.00	58.44	74.00	-15.56	59.55	-1.11	Peak	218	216
3	2483.50	46.25	54.00	-7.75	46.87	-0.62	Average	218	216
4	2483.50	65.91	74.00	-8.09	66.53	-0.62	Peak	218	216
5	4874.00	34.56	54.00	-19.44	29.13	5.43	Average	201	229
6	4874.00	46.62	74.00	-27.38	41.19	5.43	Peak	201	229
7	7311.00	37.66	54.00	-16.34	27.40	10.26	Average	203	234
8	7311.00	52.01	74.00	-21.99	41.75	10.26	Peak	203	234

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).

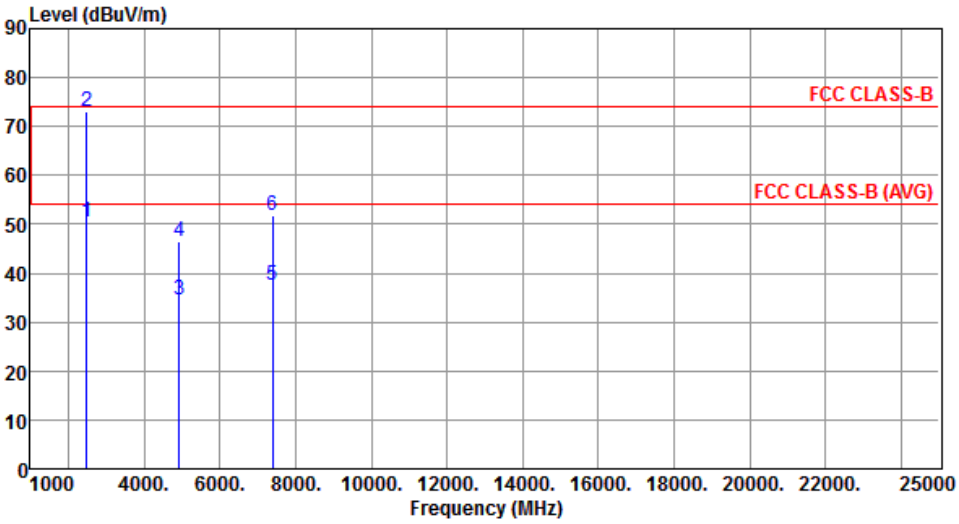
Modulation	11g	Test Freq. (MHz)	2437
Polarization	Vertical		



	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	39.55	54.00	-14.45	40.66	-1.11	Average	228	305
2	2390.00	53.68	74.00	-20.32	54.79	-1.11	Peak	228	305
3	2483.50	41.51	54.00	-12.49	42.13	-0.62	Average	228	305
4	2483.50	57.86	74.00	-16.14	58.48	-0.62	Peak	228	305
5	4874.00	32.95	54.00	-21.05	27.52	5.43	Average	205	301
6	4874.00	45.62	74.00	-28.38	40.19	5.43	Peak	205	301
7	7311.00	36.35	54.00	-17.65	26.09	10.26	Average	208	294
8	7311.00	51.08	74.00	-22.92	40.82	10.26	Peak	208	294

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).

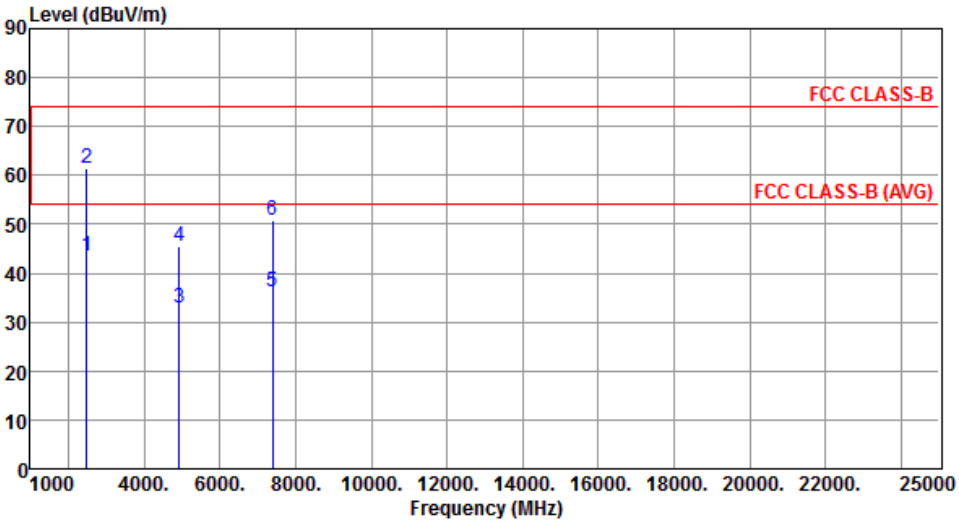
Modulation	11g	Test Freq. (MHz)	2462
Polarization	Horizontal		



	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	50.57	54.00	-3.43	51.19	-0.62	Average	211	215
2	2483.50	72.95	74.00	-1.05	73.57	-0.62	Peak	211	215
3	4924.00	34.45	54.00	-19.55	28.90	5.55	Average	203	231
4	4924.00	46.51	74.00	-27.49	40.96	5.55	Peak	203	231
5	7386.00	37.54	54.00	-16.46	27.15	10.39	Average	205	234
6	7386.00	51.92	74.00	-22.08	41.53	10.39	Peak	205	234

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		

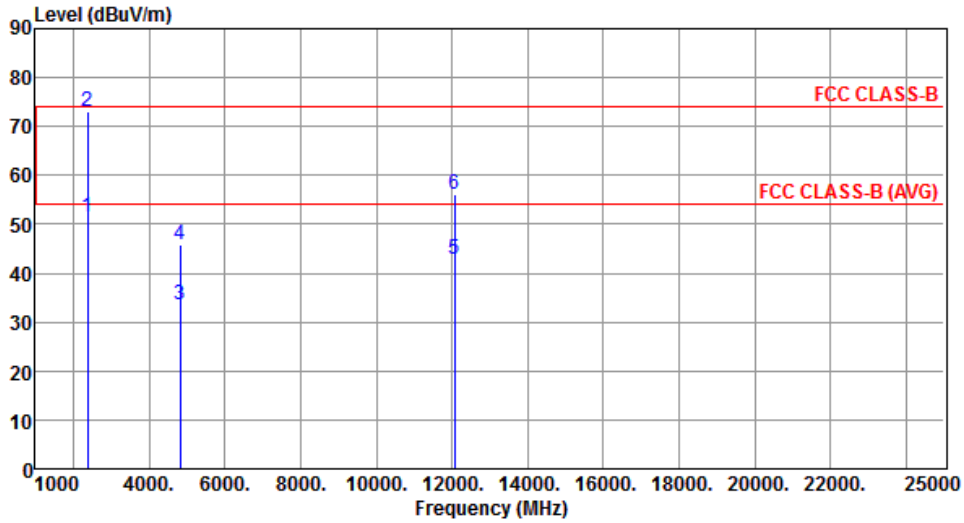


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2483.50	43.65	54.00	-10.35	44.27	-0.62	Average	226	309
2	2483.50	61.48	74.00	-12.52	62.10	-0.62	Peak	226	309
3	4924.00	32.81	54.00	-21.19	27.26	5.55	Average	208	303
4	4924.00	45.44	74.00	-28.56	39.89	5.55	Peak	208	303
5	7386.00	36.24	54.00	-17.76	25.85	10.39	Average	211	303
6	7386.00	50.91	74.00	-23.09	40.52	10.39	Peak	211	303

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).

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

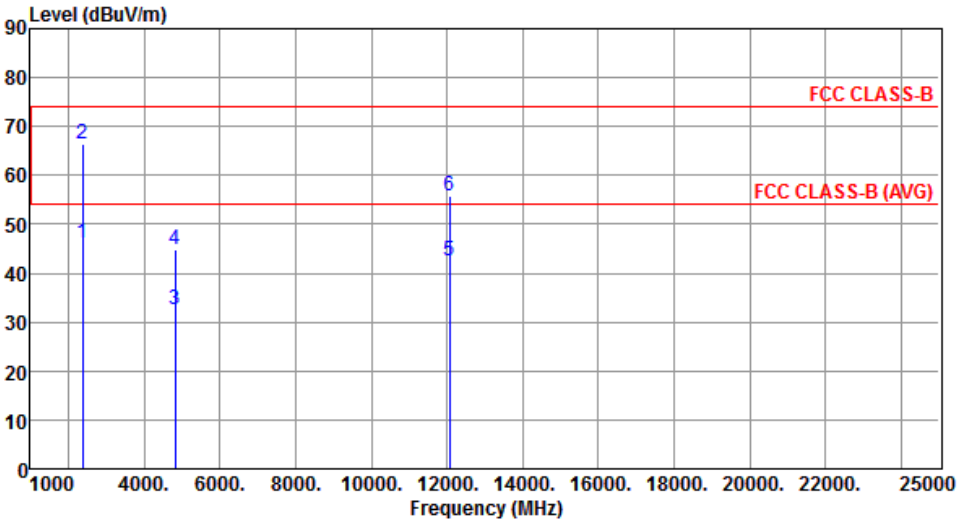
Modulation	HT20	**Test Freq. (MHz)**	2412
Polarization	Horizontal		



	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	51.36	54.00	-2.64	52.47	-1.11	Average	218	220
2	2390.00	72.94	74.00	-1.06	74.05	-1.11	Peak	218	220
3	4824.00	33.56	54.00	-20.44	28.25	5.31	Average	209	218
4	4824.00	45.96	74.00	-28.04	40.65	5.31	Peak	209	218
5	12060.00	42.91	54.00	-11.09	27.88	15.03	Average	201	223
6	12060.00	56.24	74.00	-17.76	41.21	15.03	Peak	201	223

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).

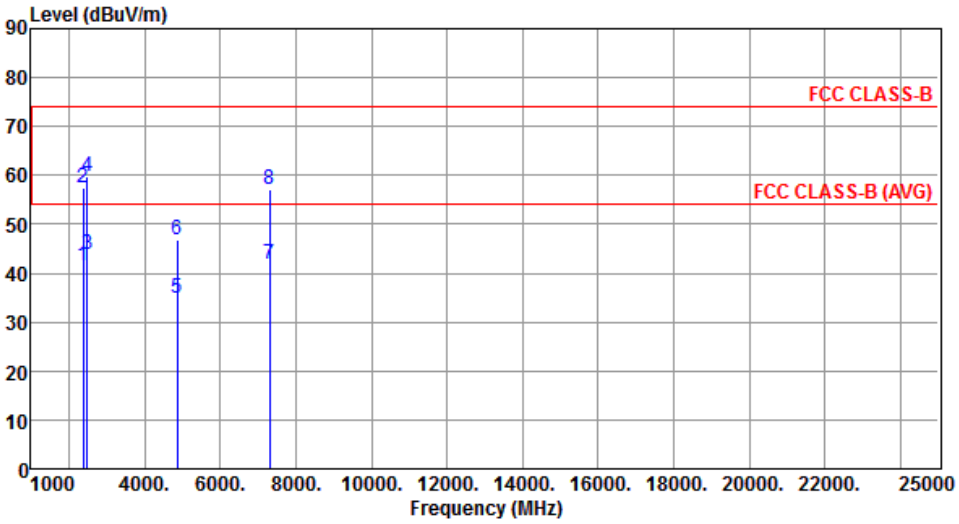
Modulation	HT20	Test Freq. (MHz)	2412
Polarization	Vertical		



	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	46.12	54.00	-7.88	47.23	-1.11	Average	229	306
2	2390.00	66.35	74.00	-7.65	67.46	-1.11	Peak	229	306
3	4824.00	32.65	54.00	-21.35	27.34	5.31	Average	205	301
4	4824.00	44.91	74.00	-29.09	39.60	5.31	Peak	205	301
5	12060.00	42.53	54.00	-11.47	27.50	15.03	Average	203	296
6	12060.00	55.84	74.00	-18.16	40.81	15.03	Peak	203	296

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).

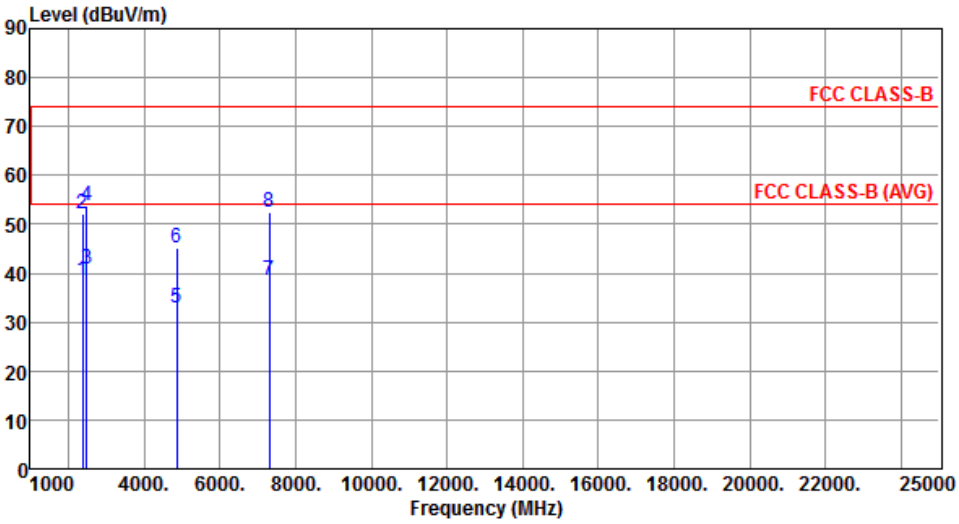
Modulation	HT20	Test Freq. (MHz)	2437
Polarization	Horizontal		



	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	41.60	54.00	-12.40	42.71	-1.11	Average	214	218
2	2390.00	57.54	74.00	-16.46	58.65	-1.11	Peak	214	218
3	2483.50	43.81	54.00	-10.19	44.43	-0.62	Average	214	218
4	2483.50	59.77	74.00	-14.23	60.39	-0.62	Peak	214	218
5	4874.00	34.86	54.00	-19.14	29.43	5.43	Average	211	219
6	4874.00	46.82	74.00	-27.18	41.39	5.43	Peak	211	219
7	7311.00	41.95	54.00	-12.05	31.69	10.26	Average	204	221
8	7311.00	57.04	74.00	-16.96	46.78	10.26	Peak	204	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).

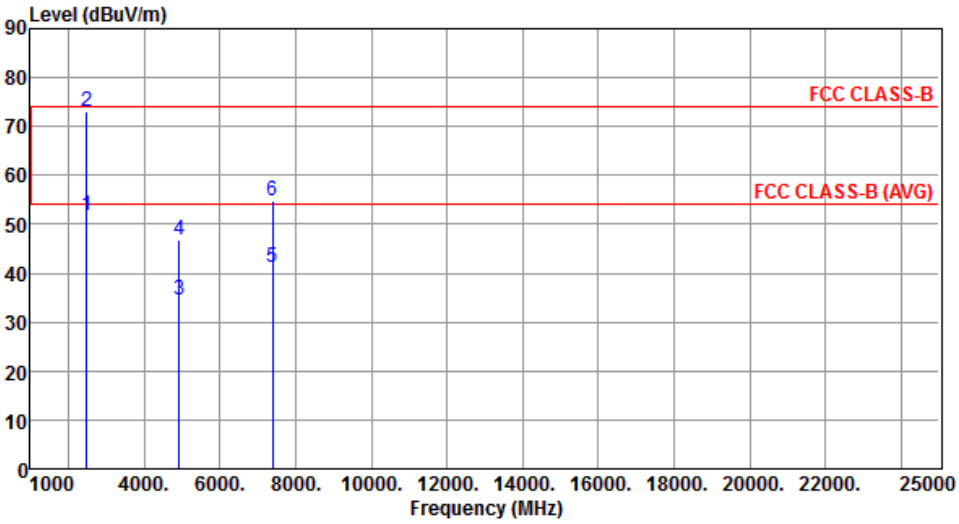
Modulation	HT20	Test Freq. (MHz)	2437
Polarization	Vertical		



	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	38.66	54.00	-15.34	39.77	-1.11	Average	224	302
2	2390.00	52.04	74.00	-21.96	53.15	-1.11	Peak	224	302
3	2483.50	40.95	54.00	-13.05	41.57	-0.62	Average	224	302
4	2483.50	53.86	74.00	-20.14	54.48	-0.62	Peak	224	302
5	4874.00	32.98	54.00	-21.02	27.55	5.43	Average	195	286
6	4874.00	45.19	74.00	-28.81	39.76	5.43	Peak	195	286
7	7311.00	38.64	54.00	-15.36	28.38	10.26	Average	209	316
8	7311.00	52.31	74.00	-21.69	42.05	10.26	Peak	209	316

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).

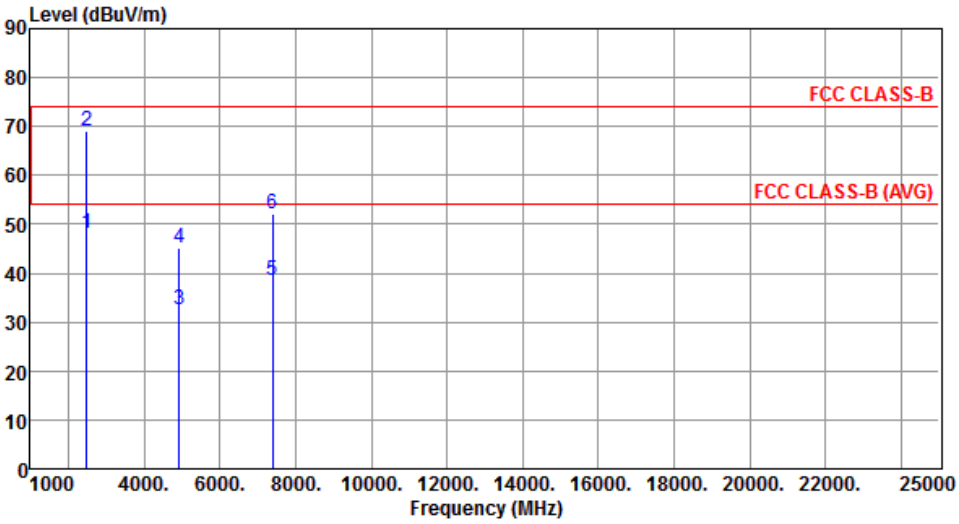
Modulation	HT20	Test Freq. (MHz)	2462
Polarization	Horizontal		



	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	51.74	54.00	-2.26	52.36	-0.62	Average	215	219
2	2483.50	72.92	74.00	-1.08	73.54	-0.62	Peak	215	219
3	4924.00	34.61	54.00	-19.39	29.06	5.55	Average	204	219
4	4924.00	46.71	74.00	-27.29	41.16	5.55	Peak	204	219
5	7386.00	41.24	54.00	-12.76	30.85	10.39	Average	209	220
6	7386.00	54.75	74.00	-19.25	44.36	10.39	Peak	209	220

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		

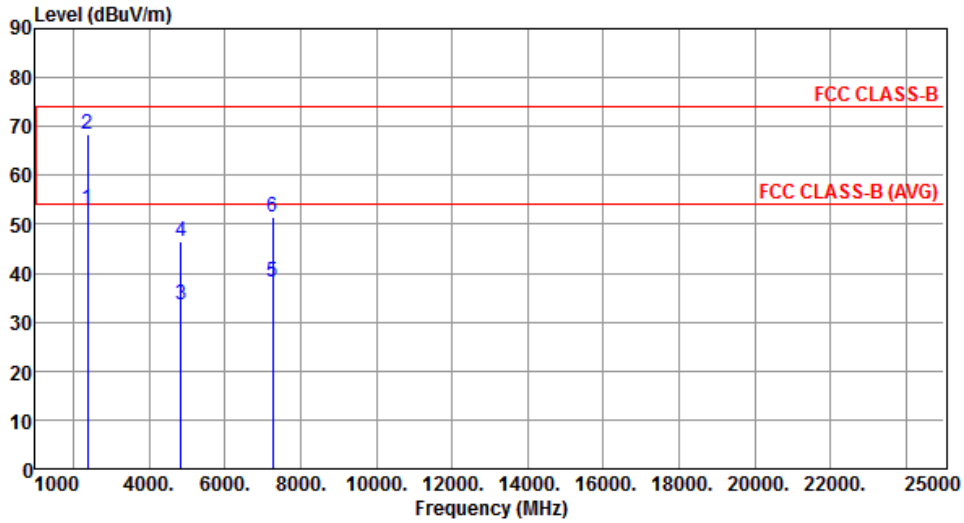


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2483.50	48.25	54.00	-5.75	48.87	-0.62	Average	225	302
2	2483.50	69.19	74.00	-4.81	69.81	-0.62	Peak	225	302
3	4924.00	32.65	54.00	-21.35	27.10	5.55	Average	204	291
4	4924.00	45.03	74.00	-28.97	39.48	5.55	Peak	204	291
5	7386.00	38.52	54.00	-15.48	28.13	10.39	Average	206	287
6	7386.00	52.17	74.00	-21.83	41.78	10.39	Peak	206	287

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).

3.5.13 Transmitter Radiated Unwanted Emissions (Above 1GHz) for HT40

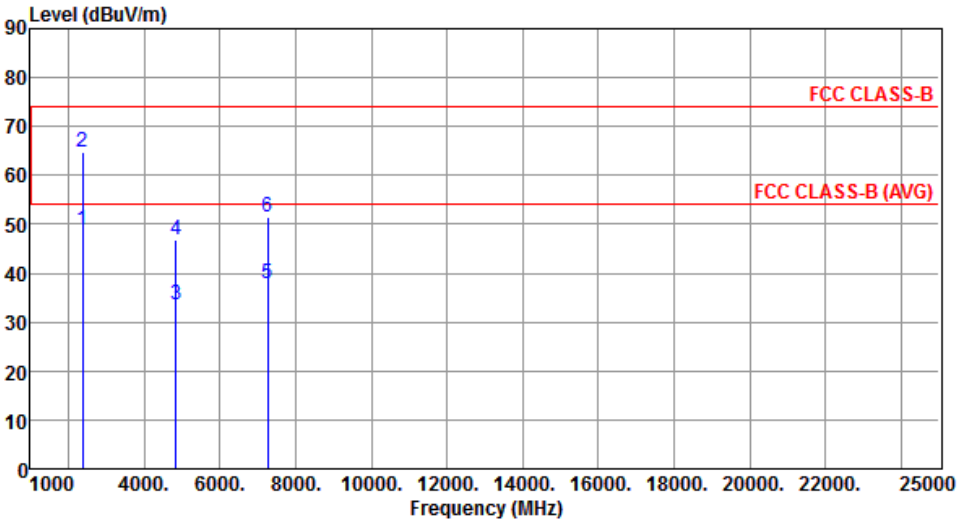
Modulation	HT40	**Test Freq. (MHz)**	2422
Polarization	Horizontal		



	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	52.99	54.00	-1.01	54.10	-1.11	Average	219	218
2	2390.00	68.45	74.00	-5.55	69.56	-1.11	Peak	219	218
3	4844.00	33.59	54.00	-20.41	28.23	5.36	Average	156	163
4	4844.00	46.38	74.00	-27.62	41.02	5.36	Peak	156	163
5	7266.00	38.30	54.00	-15.70	28.12	10.18	Average	138	215
6	7266.00	51.53	74.00	-22.47	41.35	10.18	Peak	138	215

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).

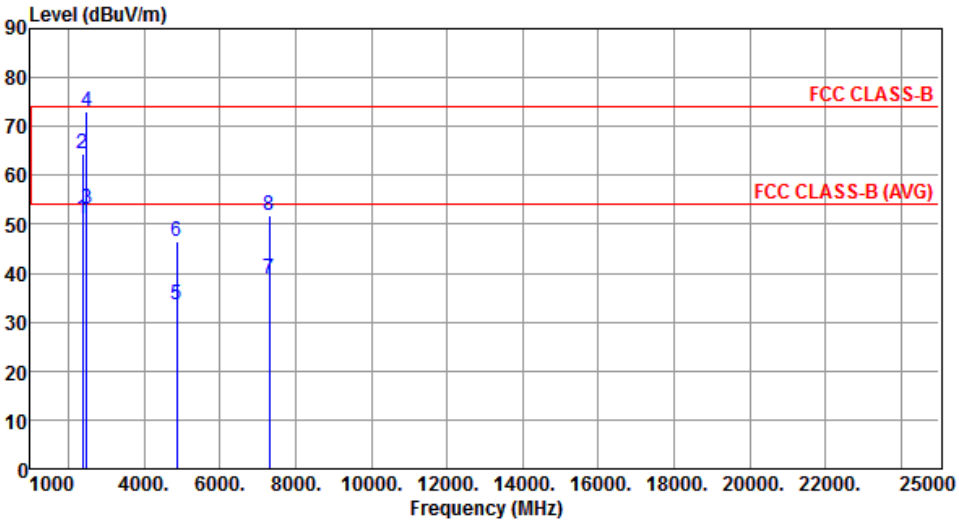
Modulation	HT40	Test Freq. (MHz)	2422
Polarization	Vertical		



	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	49.86	-1.11	Average	205	294
2	2390.00	64.65	74.00	-9.35	65.76	-1.11	Peak	205	294
3	4844.00	33.48	54.00	-20.52	28.12	5.36	Average	156	213
4	4844.00	46.80	74.00	-27.20	41.44	5.36	Peak	156	213
5	7266.00	37.71	54.00	-16.29	27.53	10.18	Average	182	164
6	7266.00	51.49	74.00	-22.51	41.31	10.18	Peak	182	164

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).

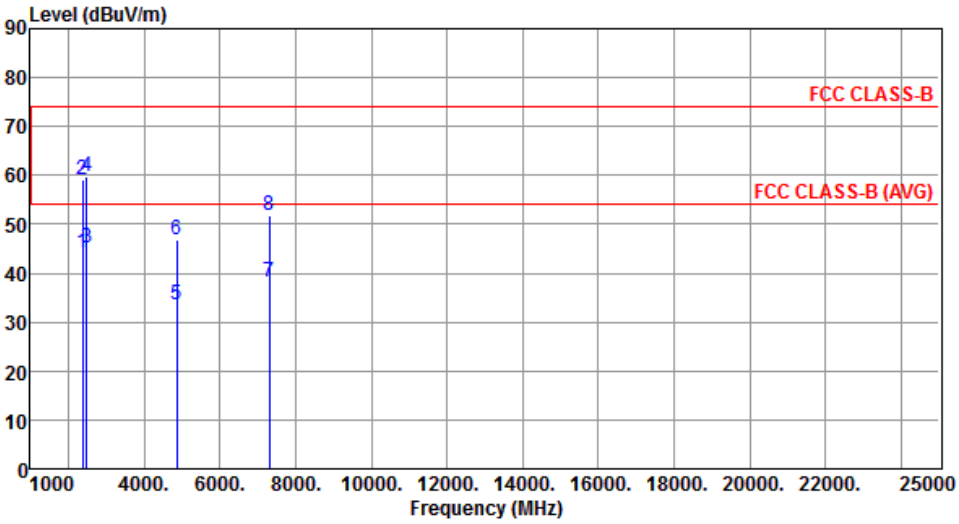
Modulation	HT40	Test Freq. (MHz)	2437
Polarization	Horizontal		



	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	51.11	54.00	-2.89	52.22	-1.11	Average	217	249
2	2390.00	64.31	74.00	-9.69	65.42	-1.11	Peak	217	249
3	2483.50	52.98	54.00	-1.02	53.60	-0.62	Average	217	249
4	2483.50	72.95	74.00	-1.05	73.57	-0.62	Peak	217	249
5	4874.00	33.67	54.00	-20.33	28.24	5.43	Average	156	211
6	4874.00	46.43	74.00	-27.57	41.00	5.43	Peak	156	211
7	7311.00	38.92	54.00	-15.08	28.66	10.26	Average	138	143
8	7311.00	51.79	74.00	-22.21	41.53	10.26	Peak	138	143

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).

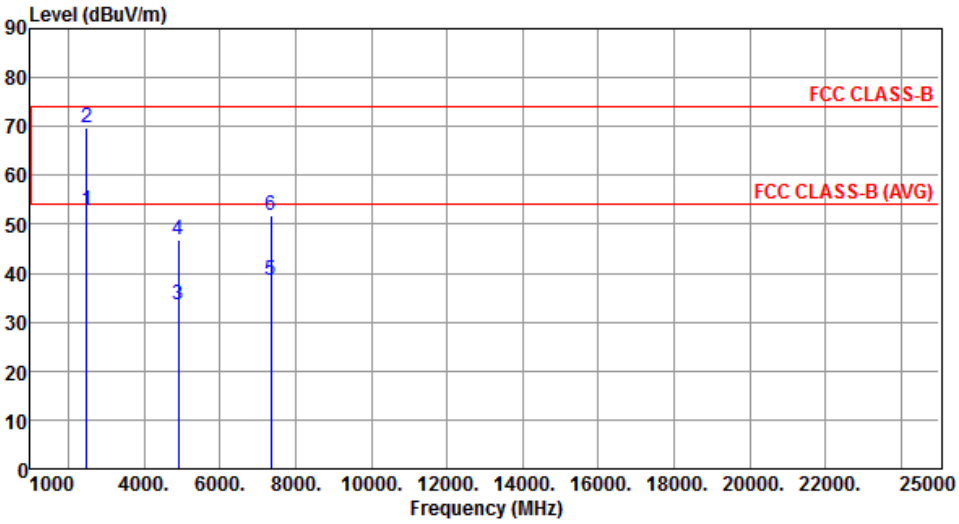
Modulation	HT40	Test Freq. (MHz)	2437
Polarization	Vertical		



	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	44.30	54.00	-9.70	45.41	-1.11	Average	227	295
2	2390.00	58.98	74.00	-15.02	60.09	-1.11	Peak	227	295
3	2483.50	45.19	54.00	-8.81	45.81	-0.62	Average	227	295
4	2483.50	59.81	74.00	-14.19	60.43	-0.62	Peak	227	295
5	4874.00	33.55	54.00	-20.45	28.12	5.43	Average	135	148
6	4874.00	46.76	74.00	-27.24	41.33	5.43	Peak	135	148
7	7311.00	38.28	54.00	-15.72	28.02	10.26	Average	163	175
8	7311.00	51.70	74.00	-22.30	41.44	10.26	Peak	163	175

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).

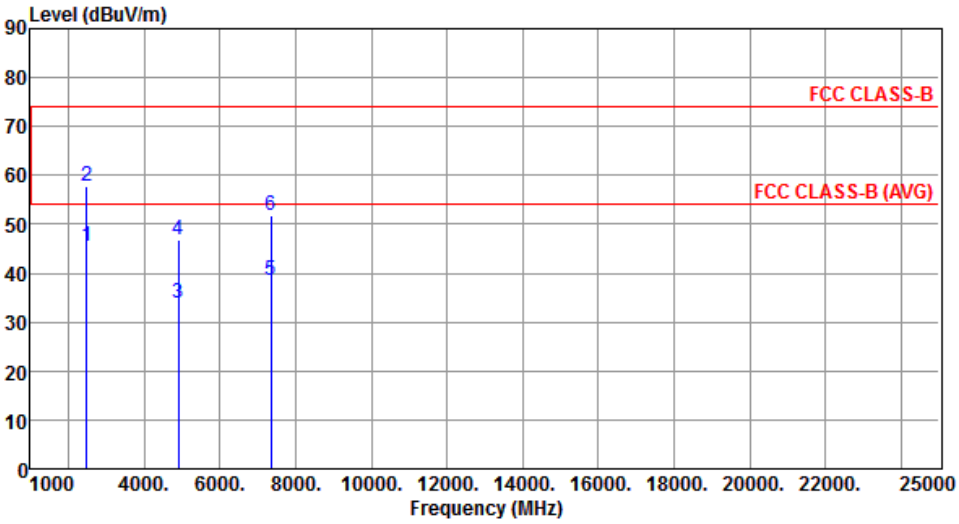
Modulation	HT40	Test Freq. (MHz)	2452
Polarization	Horizontal		



	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	52.97	54.00	-1.03	53.59	-0.62	Average	213	251
2	2483.50	69.60	74.00	-4.40	70.22	-0.62	Peak	213	251
3	4904.00	33.63	54.00	-20.37	28.12	5.51	Average	168	153
4	4904.00	46.94	74.00	-27.06	41.43	5.51	Peak	168	153
5	7356.00	38.36	54.00	-15.64	28.01	10.35	Average	182	213
6	7356.00	51.69	74.00	-22.31	41.34	10.35	Peak	182	213

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	HT40	Test Freq. (MHz)	2452
Polarization	Vertical		



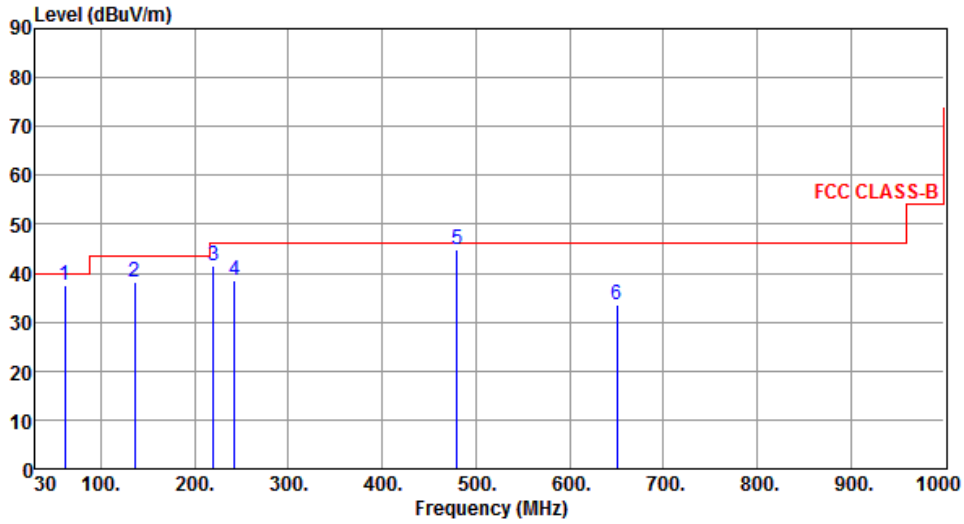
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2483.50	45.59	54.00	-8.41	46.21	-0.62	Average	232	216
2	2483.50	57.91	74.00	-16.09	58.53	-0.62	Peak	232	216
3	4904.00	33.82	54.00	-20.18	28.31	5.51	Average	156	138
4	4904.00	46.79	74.00	-27.21	41.28	5.51	Peak	156	138
5	7356.00	38.50	54.00	-15.50	28.15	10.35	Average	188	163
6	7356.00	51.67	74.00	-22.33	41.32	10.35	Peak	188	163

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).

Configuration 3: External-WNC Antenna (330mm) + External-WNC Antenna (330mm) mode

3.5.14 Transmitter Radiated Unwanted Emissions (Below 1GHz)

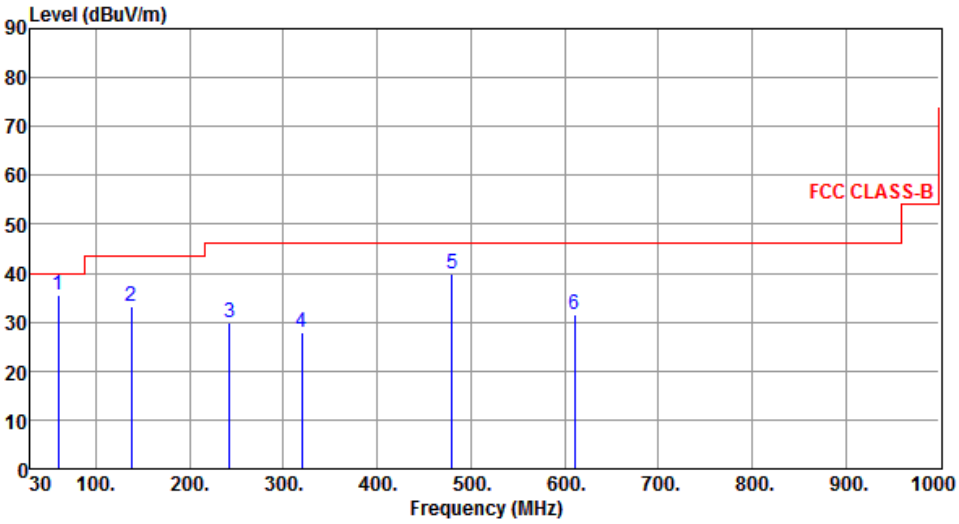
Modulation	HT20	**Test Freq. (MHz)**	2437
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	61.13	37.40	40.00	-2.60	46.17	-8.77	QP	391	151
2	135.73	38.34	43.50	-5.16	47.39	-9.05	Peak	---	---
3	220.12	41.44	46.00	-4.56	52.26	-10.82	Peak	---	---
4	242.43	38.48	46.00	-7.52	48.00	-9.52	Peak	---	---
5	480.00	44.75	46.00	-1.25	47.96	-3.21	QP	182	71
6	650.80	33.55	46.00	-12.45	33.64	-0.09	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	HT20	Test Freq. (MHz)	2437
Polarization	Vertical		

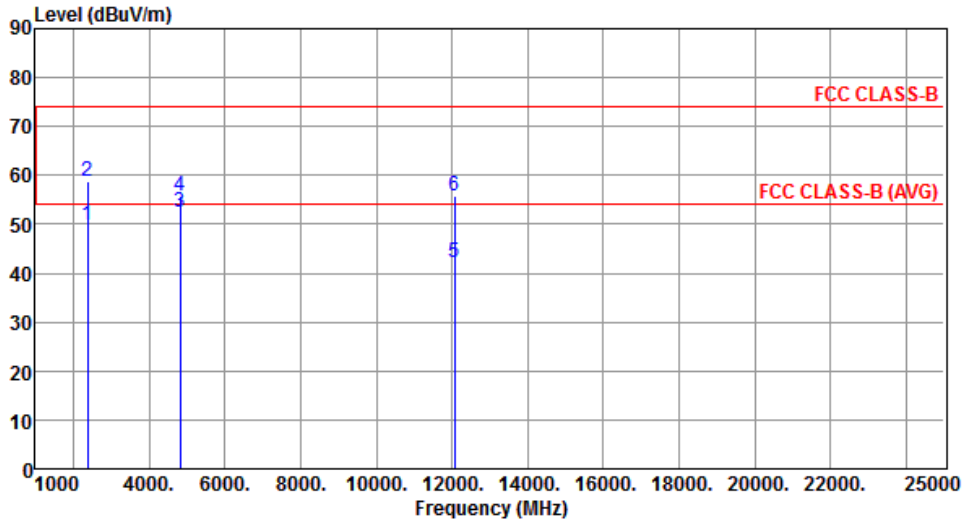


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	60.07	35.44	40.00	-4.56	43.98	-8.54	Peak	---	---
2	137.67	33.15	43.50	-10.35	41.96	-8.81	Peak	---	---
3	242.43	29.97	46.00	-16.03	39.49	-9.52	Peak	---	---
4	320.03	27.77	46.00	-18.23	34.92	-7.15	Peak	---	---
5	480.08	39.76	46.00	-6.24	42.97	-3.21	Peak	---	---
6	611.03	31.51	46.00	-14.49	32.04	-0.53	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.

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

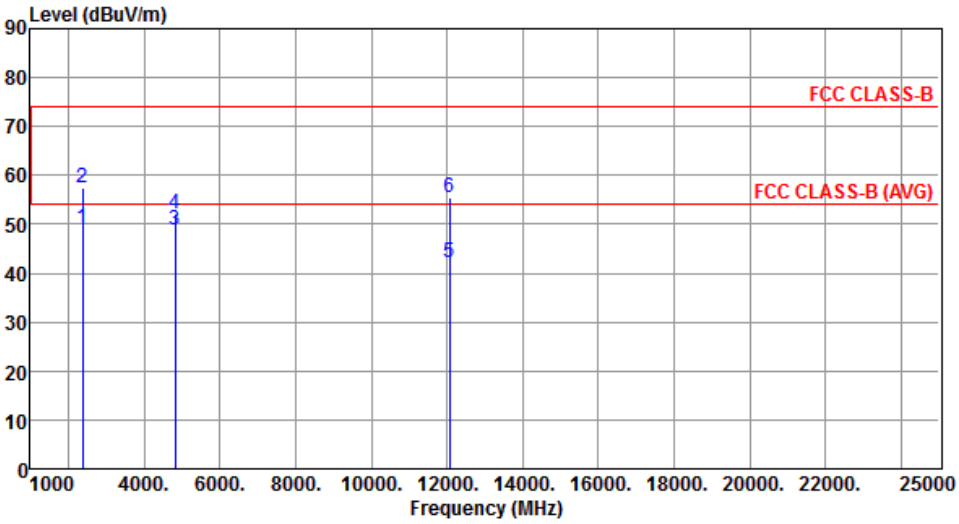
Modulation	11b	Test Freq. (MHz)	2412
Polarization	Horizontal		



	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	49.74	54.00	-4.26	50.85	-1.11	Average	234	269
2	2390.00	58.69	74.00	-15.31	59.80	-1.11	Peak	234	269
3	4824.00	52.46	54.00	-1.54	47.15	5.31	Average	277	4
4	4824.00	55.69	74.00	-18.31	50.38	5.31	Peak	277	4
5	12060.00	42.33	54.00	-11.67	27.30	15.03	Average	278	6
6	12060.00	55.75	74.00	-18.25	40.72	15.03	Peak	278	6

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).

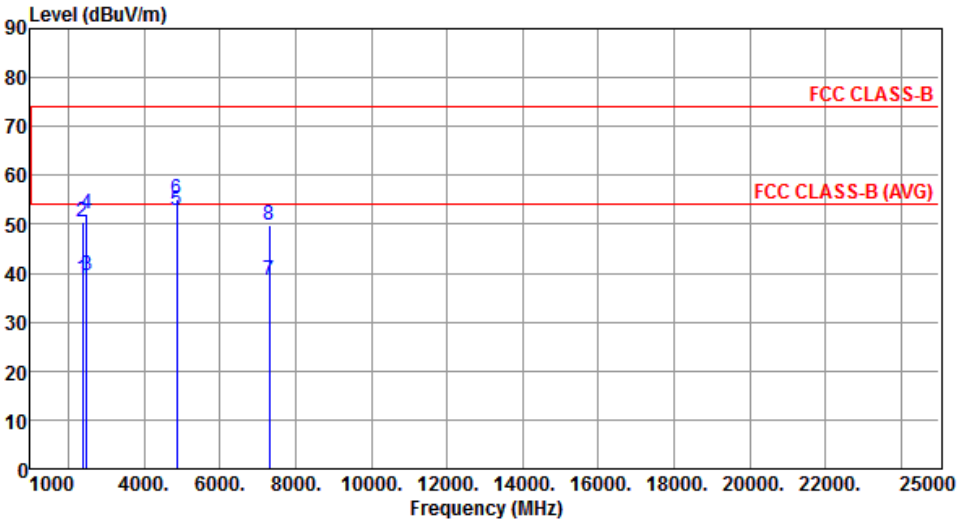
Modulation	11b	Test Freq. (MHz)	2412
Polarization	Vertical		



	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	49.24	54.00	-4.76	50.35	-1.11	Average	100	295
2	2390.00	57.37	74.00	-16.63	58.48	-1.11	Peak	100	295
3	4824.00	48.79	54.00	-5.21	43.48	5.31	Average	259	229
4	4824.00	52.22	74.00	-21.78	46.91	5.31	Peak	259	229
5	12060.00	42.20	54.00	-11.80	27.17	15.03	Average	260	231
6	12060.00	55.49	74.00	-18.51	40.46	15.03	Peak	260	231

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).

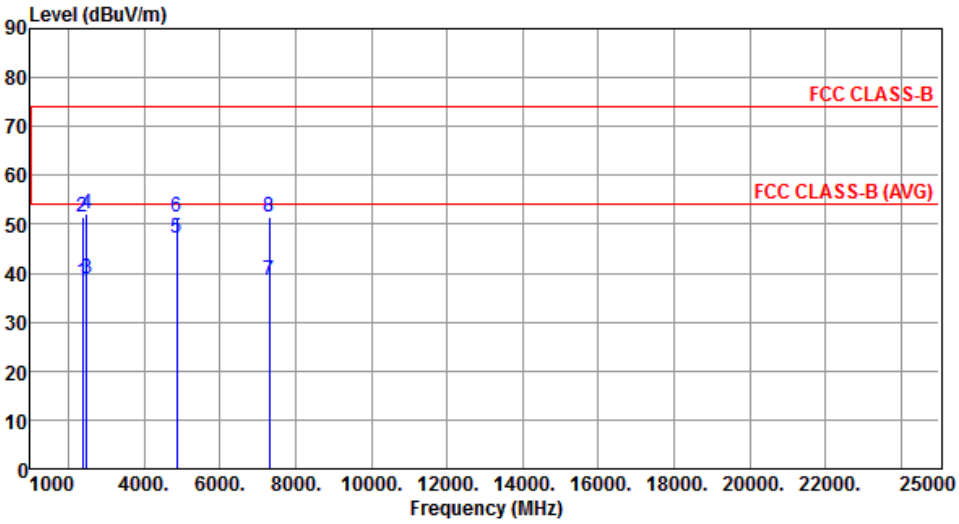
Modulation	11b	Test Freq. (MHz)	2437
Polarization	Horizontal		



	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	38.93	54.00	-15.07	40.04	-1.11	Average	228	265
2	2390.00	50.64	74.00	-23.36	51.75	-1.11	Peak	228	265
3	2483.50	39.40	54.00	-14.60	40.02	-0.62	Average	228	265
4	2483.50	52.08	74.00	-21.92	52.70	-0.62	Peak	228	265
5	4874.00	52.74	54.00	-1.26	47.31	5.43	Average	277	340
6	4874.00	55.14	74.00	-18.86	49.71	5.43	Peak	277	340
7	7311.00	38.63	54.00	-15.37	28.37	10.26	Average	267	159
8	7311.00	49.69	74.00	-24.31	39.43	10.26	Peak	267	159

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).

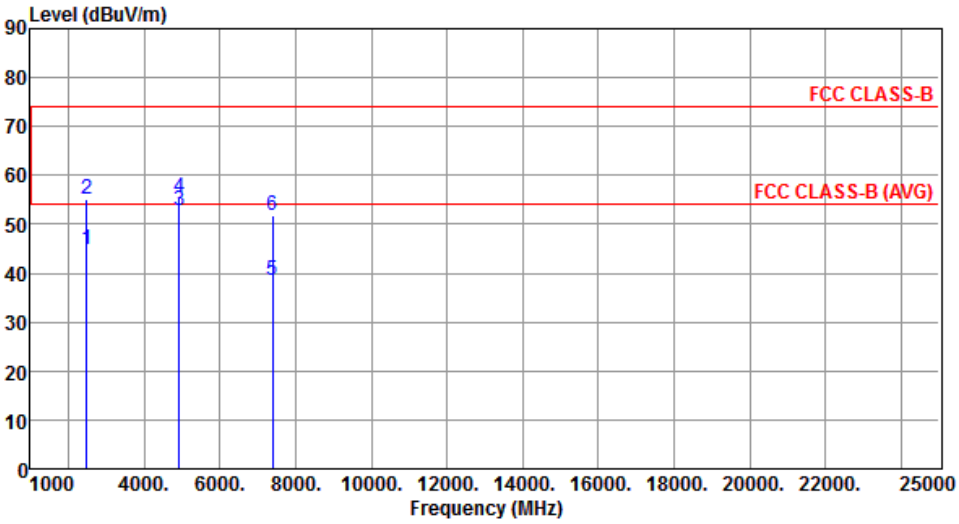
Modulation	11b	Test Freq. (MHz)	2437
Polarization	Vertical		



	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	38.29	54.00	-15.71	39.40	-1.11	Average	115	304
2	2390.00	51.52	74.00	-22.48	52.63	-1.11	Peak	115	304
3	2483.50	38.81	54.00	-15.19	39.43	-0.62	Average	115	304
4	2483.50	52.17	74.00	-21.83	52.79	-0.62	Peak	115	304
5	4874.00	47.30	54.00	-6.70	41.87	5.43	Average	100	337
6	4874.00	51.52	74.00	-22.48	46.09	5.43	Peak	100	337
7	7311.00	38.40	54.00	-15.60	28.14	10.26	Average	273	224
8	7311.00	51.50	74.00	-22.50	41.24	10.26	Peak	273	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).

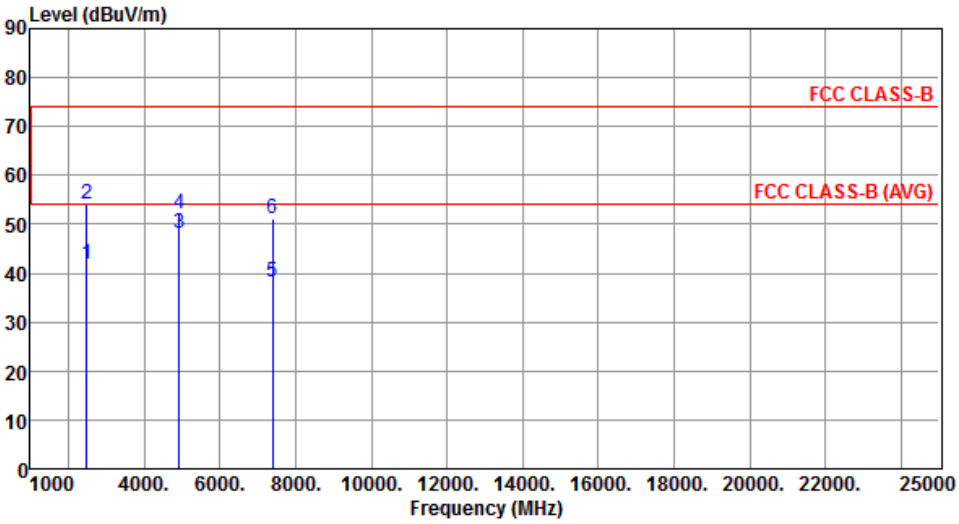
Modulation	11b	Test Freq. (MHz)	2462
Polarization	Horizontal		



	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	44.90	54.00	-9.10	45.52	-0.62	Average	100	336
2	2483.50	55.18	74.00	-18.82	55.80	-0.62	Peak	100	336
3	4924.00	52.95	54.00	-1.05	47.40	5.55	Average	267	341
4	4924.00	55.47	74.00	-18.53	49.92	5.55	Peak	267	341
5	7386.00	38.60	54.00	-15.40	28.21	10.39	Average	259	284
6	7386.00	51.95	74.00	-22.05	41.56	10.39	Peak	259	284

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		

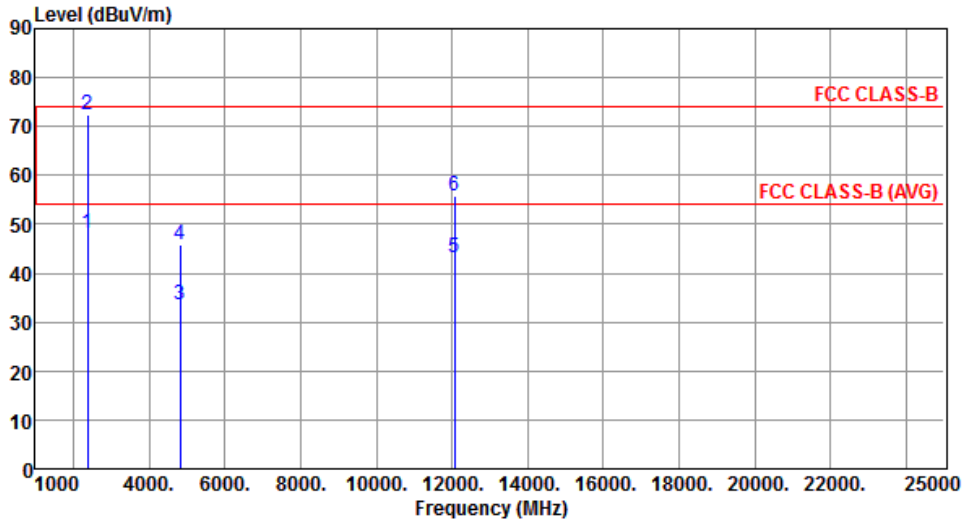


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2483.50	41.77	54.00	-12.23	42.39	-0.62	Average	100	305
2	2483.50	54.01	74.00	-19.99	54.63	-0.62	Peak	100	305
3	4924.00	48.04	54.00	-5.96	42.49	5.55	Average	100	341
4	4924.00	52.10	74.00	-21.90	46.55	5.55	Peak	100	341
5	7386.00	38.22	54.00	-15.78	27.83	10.39	Average	195	224
6	7386.00	51.23	74.00	-22.77	40.84	10.39	Peak	195	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).

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

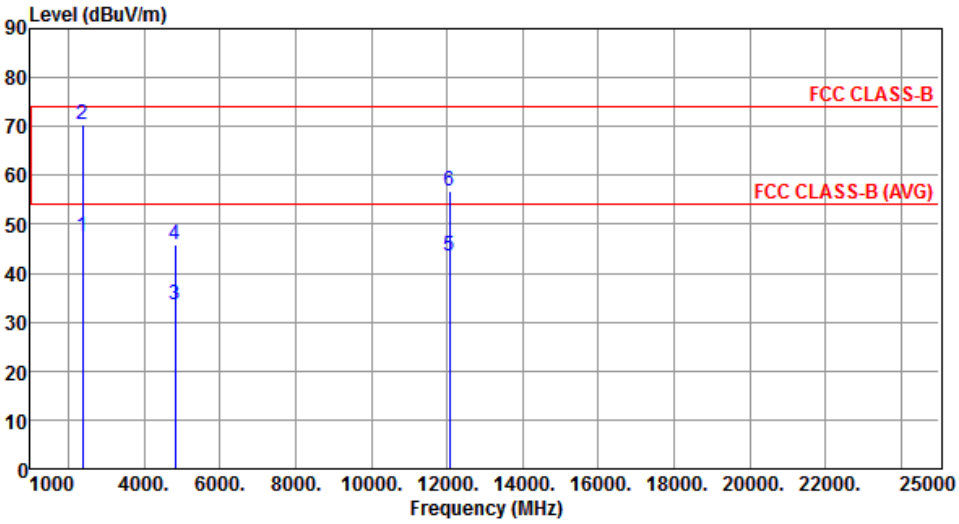
Modulation	11g	Test Freq. (MHz)	2412
Polarization	Horizontal		



	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	48.27	54.00	-5.73	49.38	-1.11	Average	100	69
2	2390.00	72.28	74.00	-1.72	73.39	-1.11	Peak	100	69
3	4824.00	33.62	54.00	-20.38	28.31	5.31	Average	161	130
4	4824.00	45.78	74.00	-28.22	40.47	5.31	Peak	161	130
5	12060.00	43.27	54.00	-10.73	28.24	15.03	Average	312	353
6	12060.00	55.90	74.00	-18.10	40.87	15.03	Peak	312	353

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).

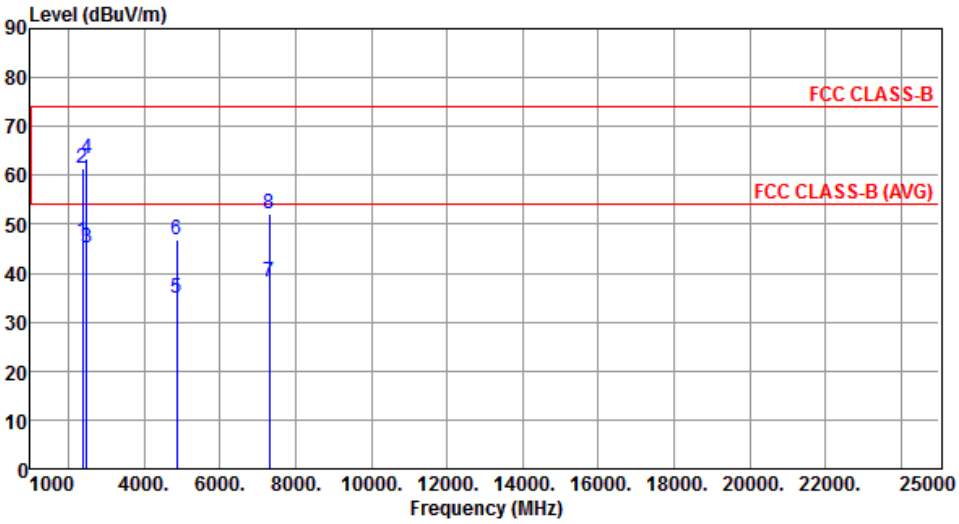
Modulation	11g	Test Freq. (MHz)	2412
Polarization	Vertical		



	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	47.61	54.00	-6.39	48.72	-1.11	Average	119	300
2	2390.00	70.26	74.00	-3.74	71.37	-1.11	Peak	119	300
3	4824.00	33.52	54.00	-20.48	28.21	5.31	Average	130	205
4	4824.00	45.87	74.00	-28.13	40.56	5.31	Peak	130	205
5	12060.00	43.43	54.00	-10.57	28.40	15.03	Average	174	103
6	12060.00	56.77	74.00	-17.23	41.74	15.03	Peak	174	103

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).

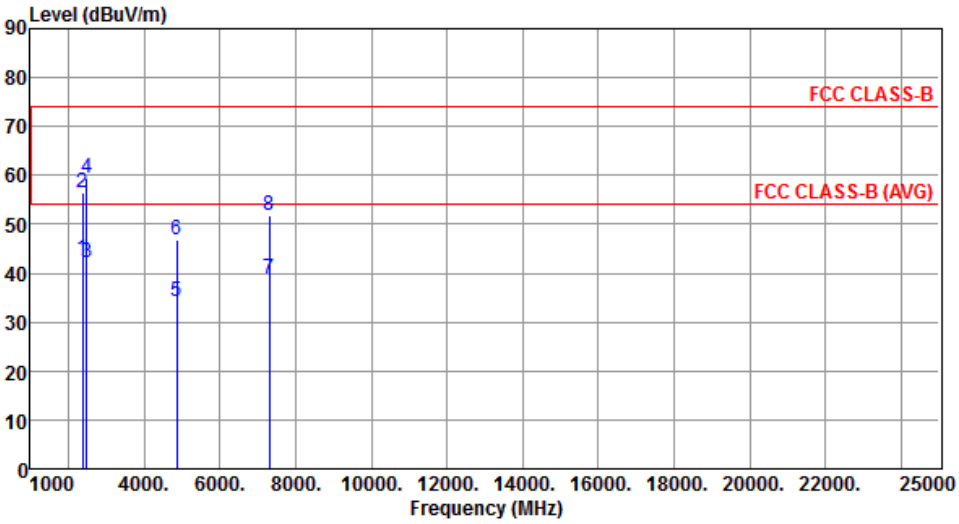
Modulation	11g	Test Freq. (MHz)	2437
Polarization	Horizontal		



	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	46.58	54.00	-7.42	47.69	-1.11	Average	100	64
2	2390.00	61.44	74.00	-12.56	62.55	-1.11	Peak	100	64
3	2483.50	45.14	54.00	-8.86	45.76	-0.62	Average	100	64
4	2483.50	63.58	74.00	-10.42	64.20	-0.62	Peak	100	64
5	4874.00	34.76	54.00	-19.24	29.33	5.43	Average	282	170
6	4874.00	46.94	74.00	-27.06	41.51	5.43	Peak	282	170
7	7311.00	38.30	54.00	-15.70	28.04	10.26	Average	315	118
8	7311.00	51.99	74.00	-22.01	41.73	10.26	Peak	315	118

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).

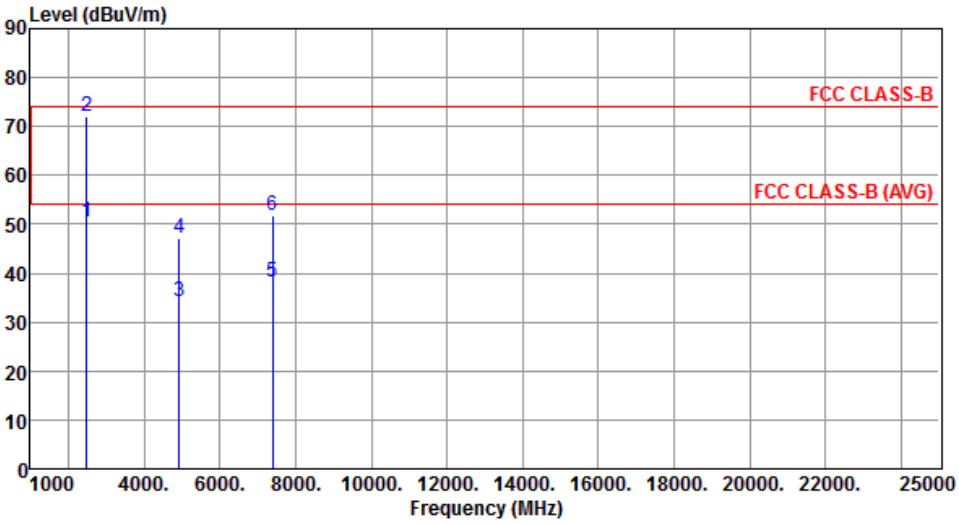
Modulation	11g	Test Freq. (MHz)	2437
Polarization	Vertical		



	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	42.70	54.00	-11.30	43.81	-1.11	Average	117	305
2	2390.00	56.39	74.00	-17.61	57.50	-1.11	Peak	117	305
3	2483.50	42.03	54.00	-11.97	42.65	-0.62	Average	117	305
4	2483.50	59.36	74.00	-14.64	59.98	-0.62	Peak	117	305
5	4874.00	34.26	54.00	-19.74	28.83	5.43	Average	192	214
6	4874.00	46.78	74.00	-27.22	41.35	5.43	Peak	192	214
7	7311.00	38.74	54.00	-15.26	28.48	10.26	Average	108	147
8	7311.00	51.84	74.00	-22.16	41.58	10.26	Peak	108	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).

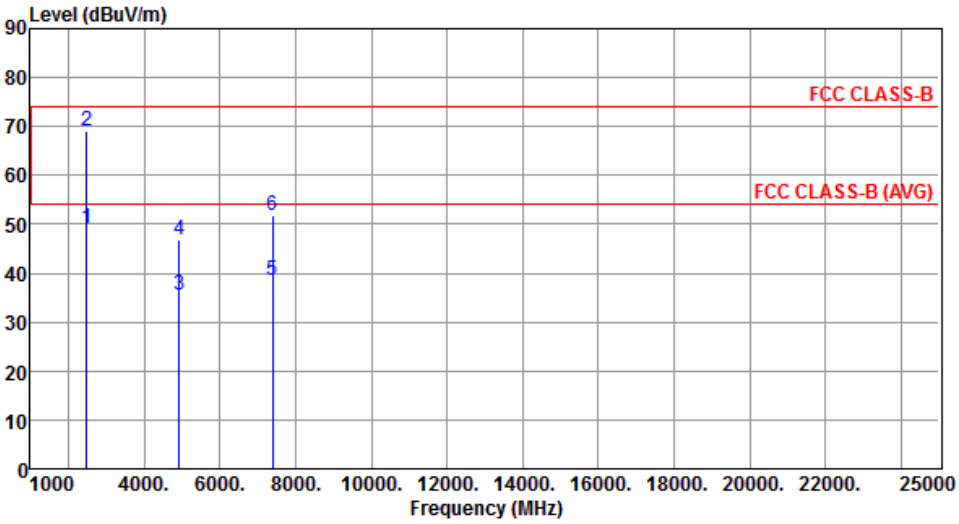
Modulation	11g	Test Freq. (MHz)	2462
Polarization	Horizontal		



	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	50.56	54.00	-3.44	51.18	-0.62	Average	100	65
2	2483.50	71.94	74.00	-2.06	72.56	-0.62	Peak	100	65
3	4924.00	34.08	54.00	-19.92	28.53	5.55	Average	193	165
4	4924.00	47.02	74.00	-26.98	41.47	5.55	Peak	193	165
5	7386.00	38.22	54.00	-15.78	27.83	10.39	Average	263	114
6	7386.00	51.68	74.00	-22.32	41.29	10.39	Peak	263	114

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		

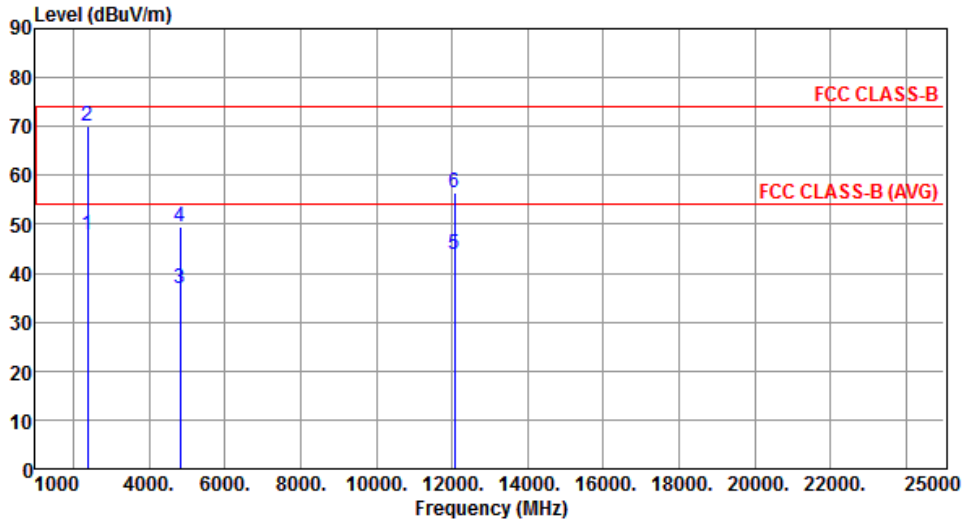


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2483.50	48.99	54.00	-5.01	49.61	-0.62	Average	100	307
2	2483.50	69.04	74.00	-4.96	69.66	-0.62	Peak	100	307
3	4924.00	35.47	54.00	-18.53	29.92	5.55	Average	152	241
4	4924.00	46.89	74.00	-27.11	41.34	5.55	Peak	152	241
5	7386.00	38.52	54.00	-15.48	28.13	10.39	Average	208	237
6	7386.00	51.76	74.00	-22.24	41.37	10.39	Peak	208	237

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).

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

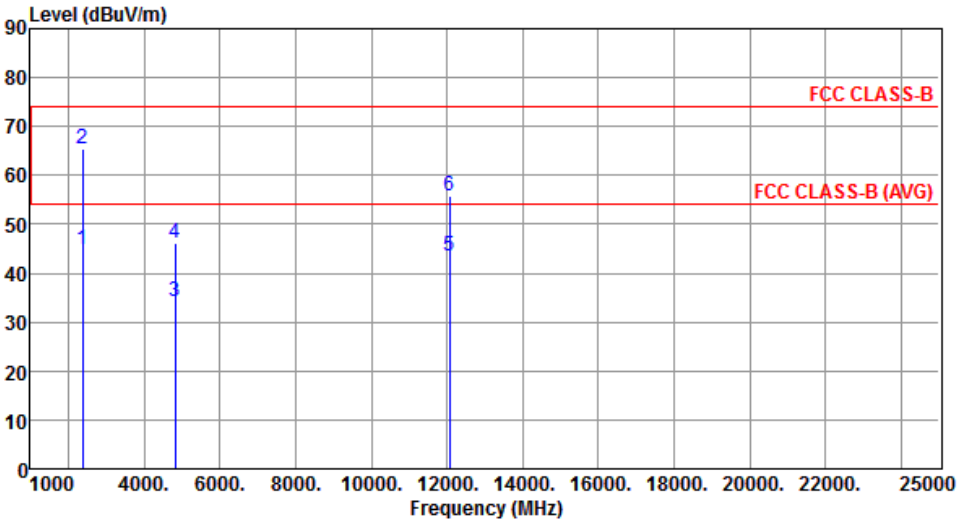
Modulation	HT20	**Test Freq. (MHz)**	2412
Polarization	Horizontal		



	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	47.69	54.00	-6.31	48.80	-1.11	Average	100	70
2	2390.00	70.14	74.00	-3.86	71.25	-1.11	Peak	100	70
3	4824.00	36.71	54.00	-17.29	31.40	5.31	Average	193	284
4	4824.00	49.50	74.00	-24.50	44.19	5.31	Peak	193	284
5	12060.00	43.95	54.00	-10.05	28.92	15.03	Average	241	167
6	12060.00	56.61	74.00	-17.39	41.58	15.03	Peak	241	167

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).

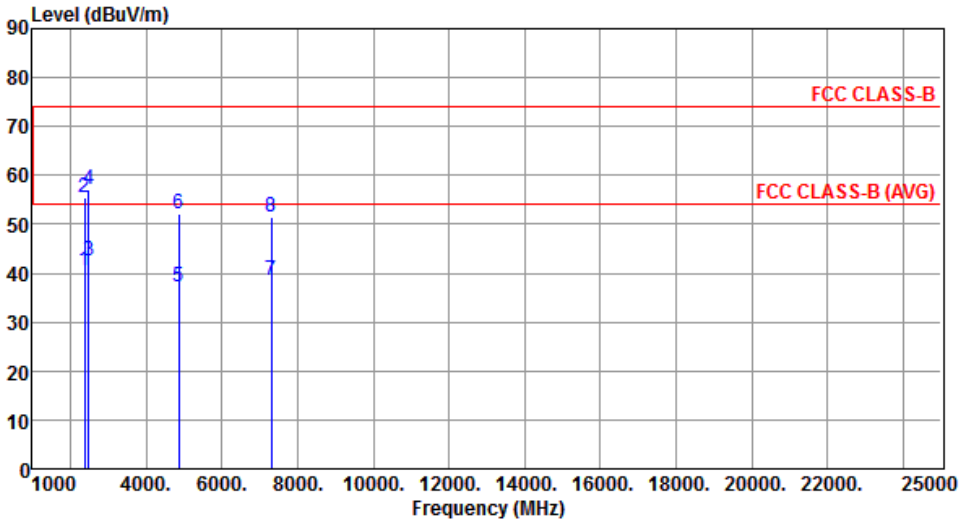
Modulation	HT20	Test Freq. (MHz)	2412
Polarization	Vertical		



	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	44.92	54.00	-9.08	46.03	-1.11	Average	132	300
2	2390.00	65.28	74.00	-8.72	66.39	-1.11	Peak	132	300
3	4824.00	34.14	54.00	-19.86	28.83	5.31	Average	123	82
4	4824.00	46.22	74.00	-27.78	40.91	5.31	Peak	123	82
5	12060.00	43.61	54.00	-10.39	28.58	15.03	Average	192	96
6	12060.00	55.82	74.00	-18.18	40.79	15.03	Peak	192	96

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).

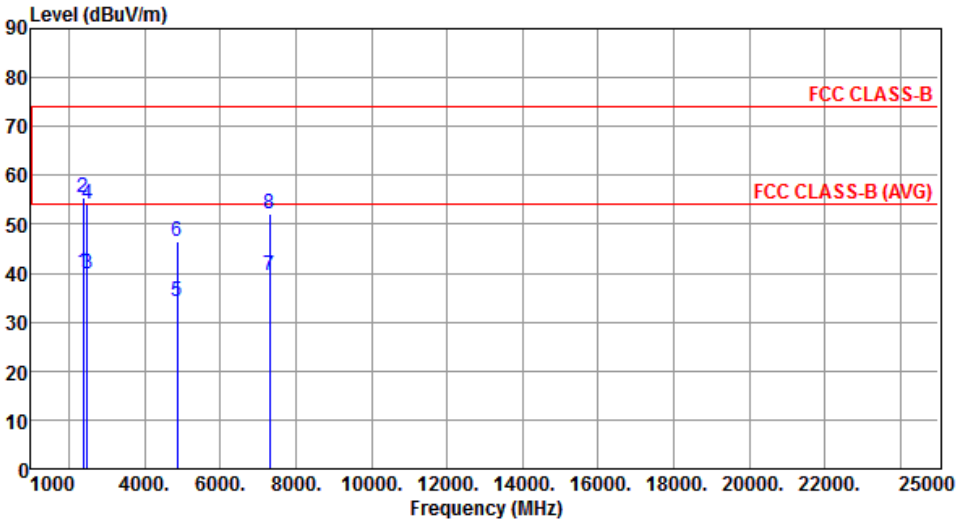
Modulation	HT20	Test Freq. (MHz)	2437
Polarization	Horizontal		



	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	40.64	54.00	-13.36	41.75	-1.11	Average	100	300
2	2390.00	55.36	74.00	-18.64	56.47	-1.11	Peak	100	300
3	2483.50	42.45	54.00	-11.55	43.07	-0.62	Average	100	300
4	2483.50	57.26	74.00	-16.74	57.88	-0.62	Peak	100	300
5	4874.00	37.06	54.00	-16.94	31.63	5.43	Average	100	338
6	4874.00	52.24	74.00	-21.76	46.81	5.43	Peak	100	338
7	7311.00	38.49	54.00	-15.51	28.23	10.26	Average	205	214
8	7311.00	51.47	74.00	-22.53	41.21	10.26	Peak	205	214

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).

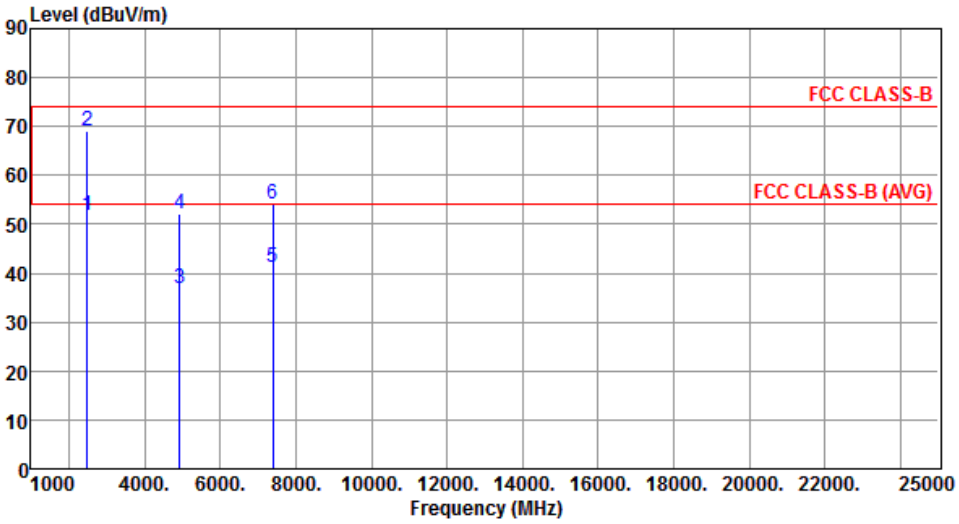
Modulation	HT20	Test Freq. (MHz)	2437
Polarization	Vertical		



	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	40.15	54.00	-13.85	41.26	-1.11	Average	117	303
2	2390.00	55.47	74.00	-18.53	56.58	-1.11	Peak	117	303
3	2483.50	40.01	54.00	-13.99	40.63	-0.62	Average	117	303
4	2483.50	54.18	74.00	-19.82	54.80	-0.62	Peak	117	303
5	4874.00	34.34	54.00	-19.66	28.91	5.43	Average	110	164
6	4874.00	46.37	74.00	-27.63	40.94	5.43	Peak	110	164
7	7311.00	39.47	54.00	-14.53	29.21	10.26	Average	192	108
8	7311.00	52.06	74.00	-21.94	41.80	10.26	Peak	192	108

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).

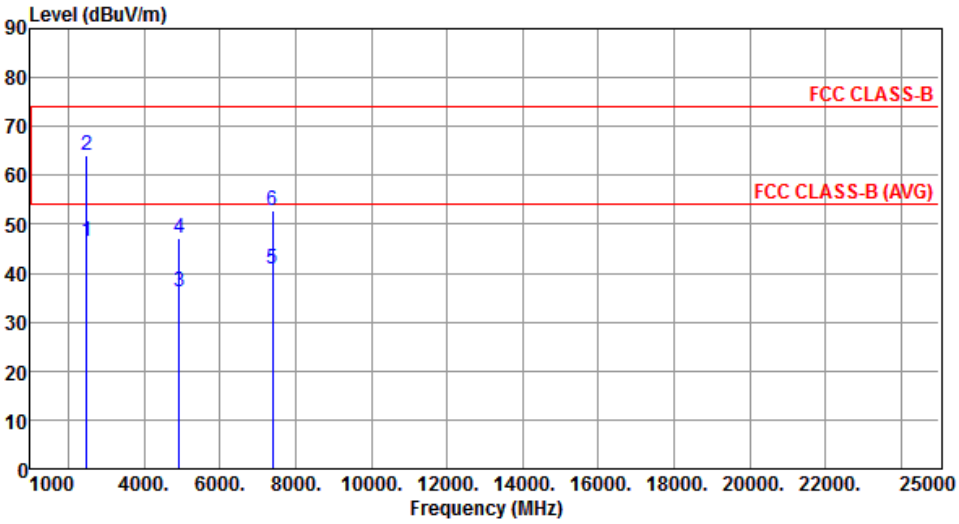
Modulation	HT20	Test Freq. (MHz)	2462
Polarization	Horizontal		



	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	51.77	54.00	-2.23	52.39	-0.62	Average	100	300
2	2483.50	69.19	74.00	-4.81	69.81	-0.62	Peak	100	300
3	4924.00	36.86	54.00	-17.14	31.31	5.55	Average	160	115
4	4924.00	52.08	74.00	-21.92	46.53	5.55	Peak	160	115
5	7386.00	41.17	54.00	-12.83	30.78	10.39	Average	120	65
6	7386.00	54.12	74.00	-19.88	43.73	10.39	Peak	120	65

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		

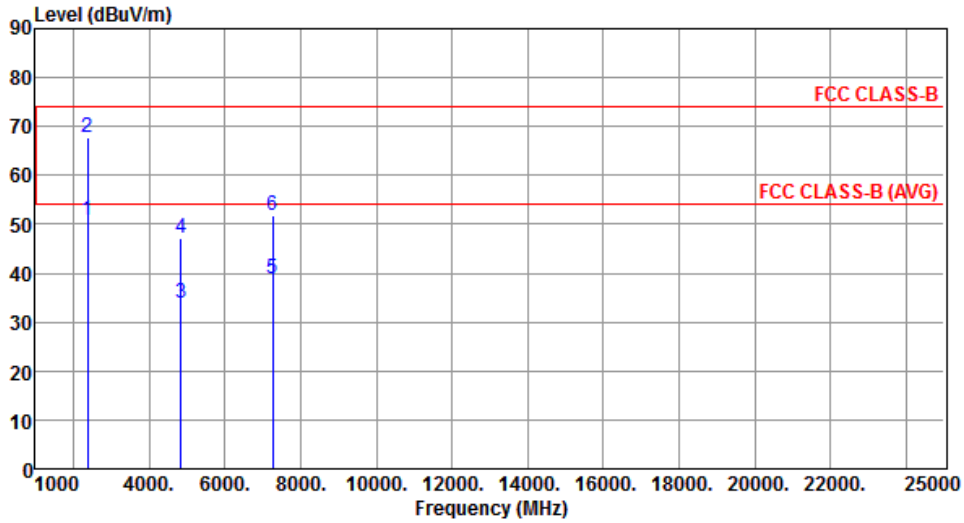


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2483.50	46.46	54.00	-7.54	47.08	-0.62	Average	130	298
2	2483.50	63.93	74.00	-10.07	64.55	-0.62	Peak	130	298
3	4924.00	36.30	54.00	-17.70	30.75	5.55	Average	112	241
4	4924.00	47.12	74.00	-26.88	41.57	5.55	Peak	112	241
5	7386.00	40.76	54.00	-13.24	30.37	10.39	Average	324	171
6	7386.00	52.66	74.00	-21.34	42.27	10.39	Peak	324	171

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).

3.5.18 Transmitter Radiated Unwanted Emissions (Above 1GHz) for HT40

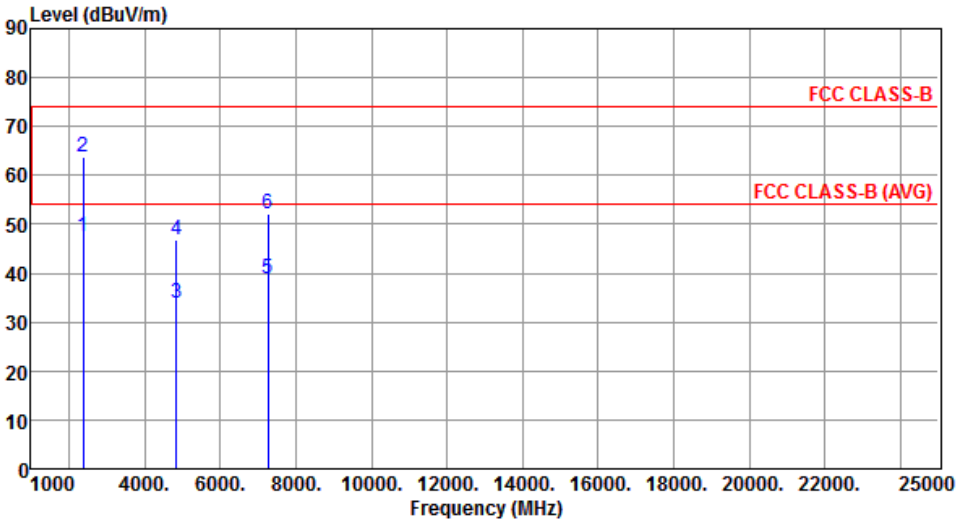
Modulation	HT40	**Test Freq. (MHz)**	2422
Polarization	Horizontal		



	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	50.95	54.00	-3.05	52.06	-1.11	Average	100	70
2	2390.00	67.81	74.00	-6.19	68.92	-1.11	Peak	100	70
3	4844.00	33.84	54.00	-20.16	28.48	5.36	Average	190	208
4	4844.00	47.11	74.00	-26.89	41.75	5.36	Peak	190	208
5	7266.00	38.82	54.00	-15.18	28.64	10.18	Average	231	207
6	7266.00	51.93	74.00	-22.07	41.75	10.18	Peak	231	207

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).

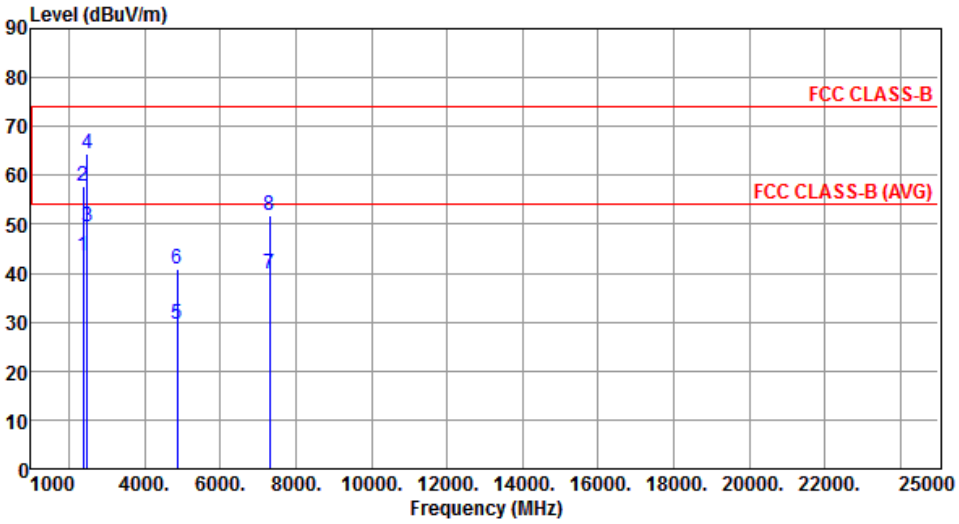
Modulation	HT40	Test Freq. (MHz)	2422
Polarization	Vertical		



	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	47.54	54.00	-6.46	48.65	-1.11	Average	115	295
2	2390.00	63.79	74.00	-10.21	64.90	-1.11	Peak	115	295
3	4844.00	33.77	54.00	-20.23	28.41	5.36	Average	108	76
4	4844.00	46.67	74.00	-27.33	41.31	5.36	Peak	108	76
5	7266.00	38.75	54.00	-15.25	28.57	10.18	Average	115	286
6	7266.00	52.01	74.00	-21.99	41.83	10.18	Peak	115	286

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).

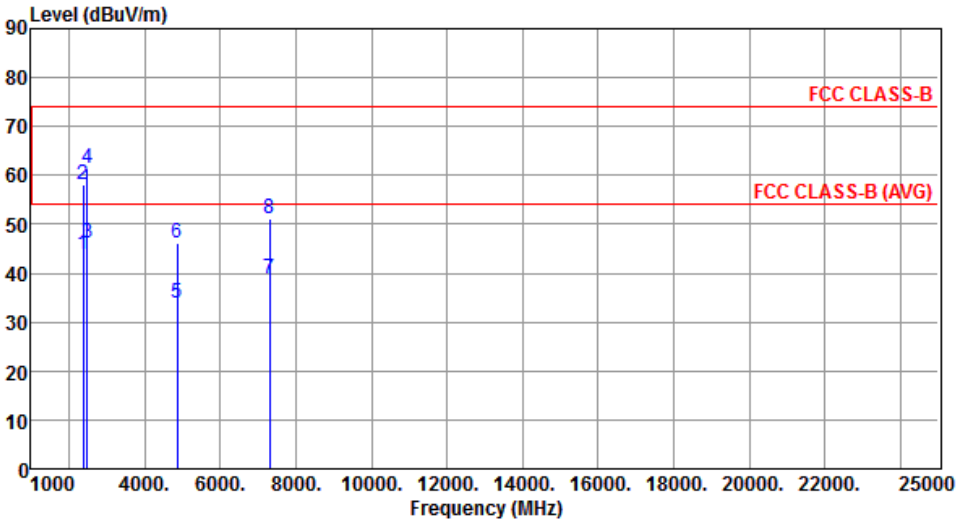
Modulation	HT40	Test Freq. (MHz)	2437
Polarization	Horizontal		



	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	43.67	54.00	-10.33	44.78	-1.11	Average	100	299
2	2390.00	57.91	74.00	-16.09	59.02	-1.11	Peak	100	299
3	2483.50	49.64	54.00	-4.36	50.26	-0.62	Average	100	299
4	2483.50	64.48	74.00	-9.52	65.10	-0.62	Peak	100	299
5	4874.00	29.65	54.00	-24.35	24.22	5.43	Average	251	208
6	4874.00	40.85	74.00	-33.15	35.42	5.43	Peak	251	208
7	7311.00	39.83	54.00	-14.17	29.57	10.26	Average	196	137
8	7311.00	51.74	74.00	-22.26	41.48	10.26	Peak	196	137

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).

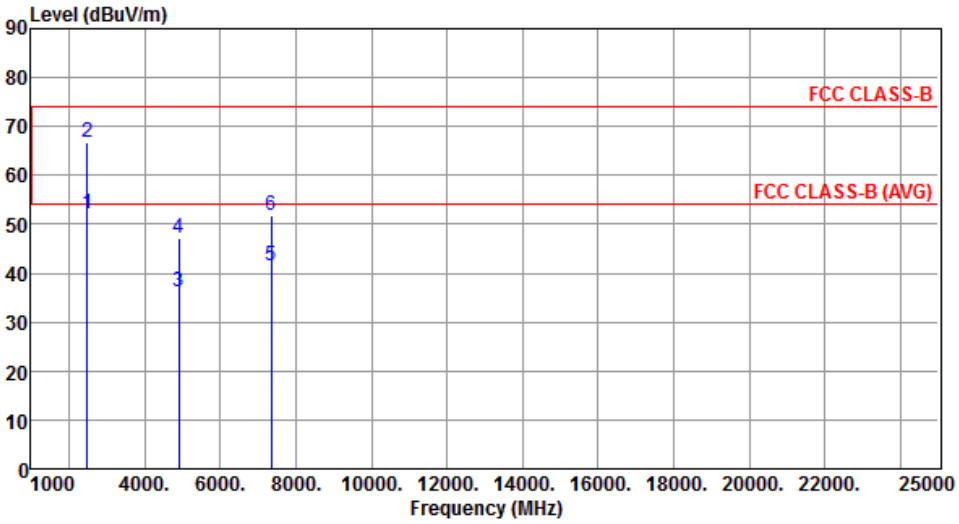
Modulation	HT40	Test Freq. (MHz)	2437
Polarization	Vertical		



	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	43.83	54.00	-10.17	44.94	-1.11	Average	110	301
2	2390.00	58.16	74.00	-15.84	59.27	-1.11	Peak	110	301
3	2483.50	46.15	54.00	-7.85	46.77	-0.62	Average	110	301
4	2483.50	61.45	74.00	-12.55	62.07	-0.62	Peak	110	301
5	4874.00	34.00	54.00	-20.00	28.57	5.43	Average	130	141
6	4874.00	46.18	74.00	-27.82	40.75	5.43	Peak	130	141
7	7311.00	39.00	54.00	-15.00	28.74	10.26	Average	241	193
8	7311.00	51.12	74.00	-22.88	40.86	10.26	Peak	241	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).

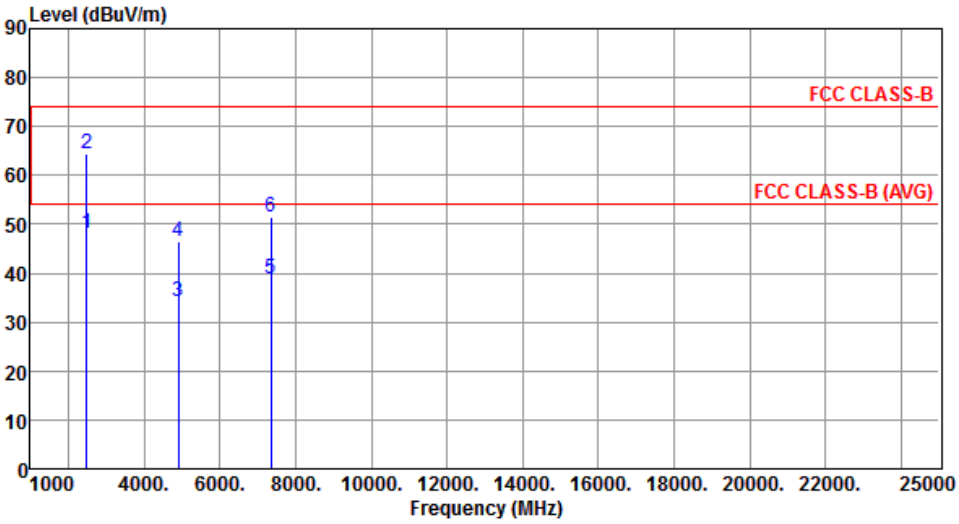
Modulation	HT40	Test Freq. (MHz)	2452
Polarization	Horizontal		



	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	52.28	54.00	-1.72	52.90	-0.62	Average	100	299
2	2483.50	66.63	74.00	-7.37	67.25	-0.62	Peak	100	299
3	4904.00	36.08	54.00	-17.92	30.57	5.51	Average	137	208
4	4904.00	47.04	74.00	-26.96	41.53	5.51	Peak	137	208
5	7356.00	41.51	54.00	-12.49	31.16	10.35	Average	141	84
6	7356.00	51.81	74.00	-22.19	41.46	10.35	Peak	141	84

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	HT40	Test Freq. (MHz)	2452
Polarization	Vertical		



	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	48.17	54.00	-5.83	48.79	-0.62	Average	122	300
2	2483.50	64.35	74.00	-9.65	64.97	-0.62	Peak	122	300
3	4904.00	34.16	54.00	-19.84	28.65	5.51	Average	175	131
4	4904.00	46.45	74.00	-27.55	40.94	5.51	Peak	175	131
5	7356.00	38.92	54.00	-15.08	28.57	10.35	Average	120	37
6	7356.00	51.41	74.00	-22.59	41.06	10.35	Peak	120	37

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

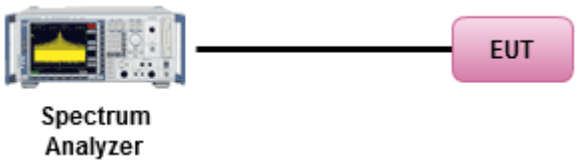
1. Set RBW=100kHz, VBW = 300kHz , Detector = Peak, Sweep time = Auto
2. Trace = max hold , Allow Trace to fully stabilize
3. Use the peak marker function to determine the maximum PSD level

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

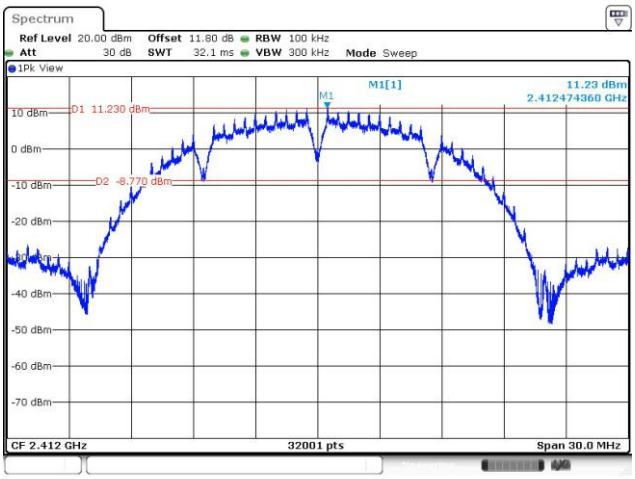
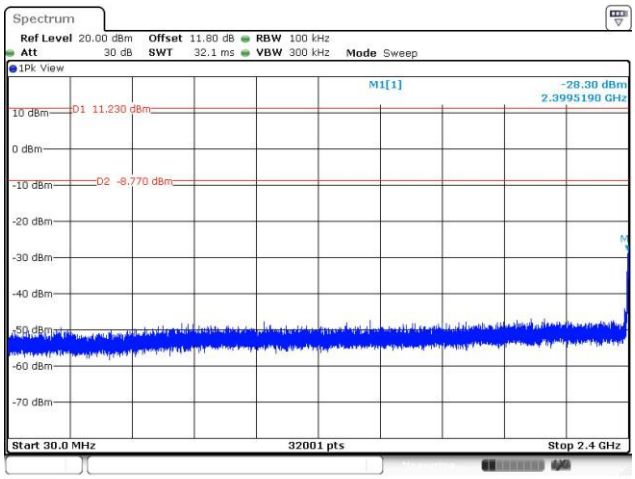
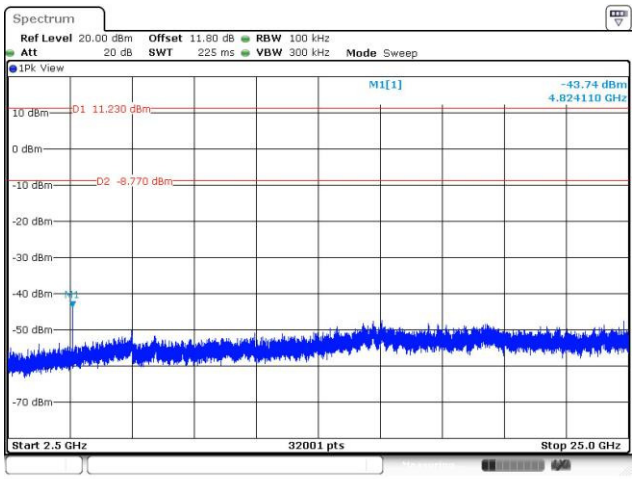
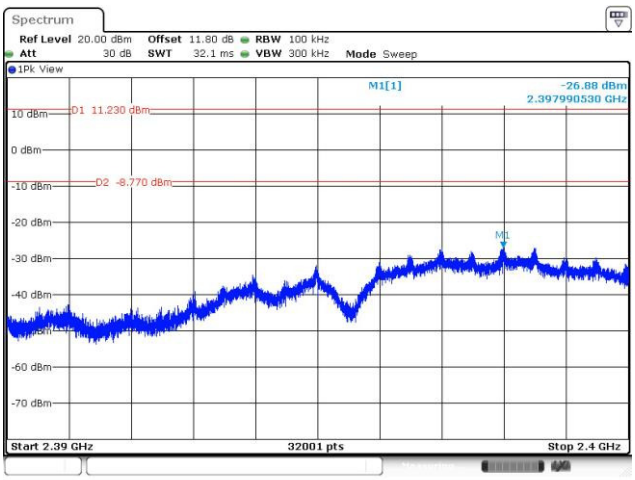


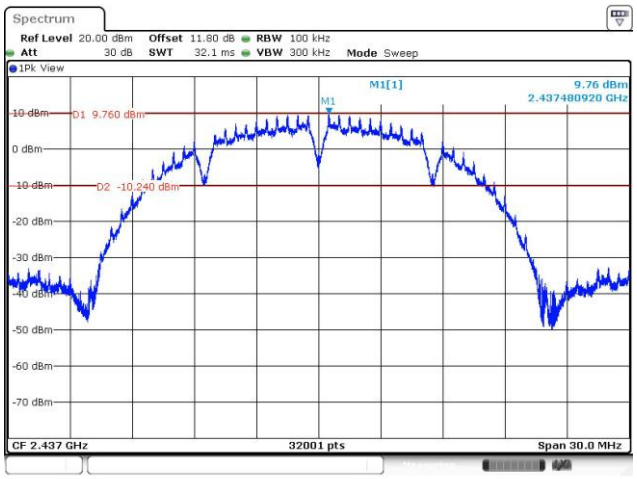
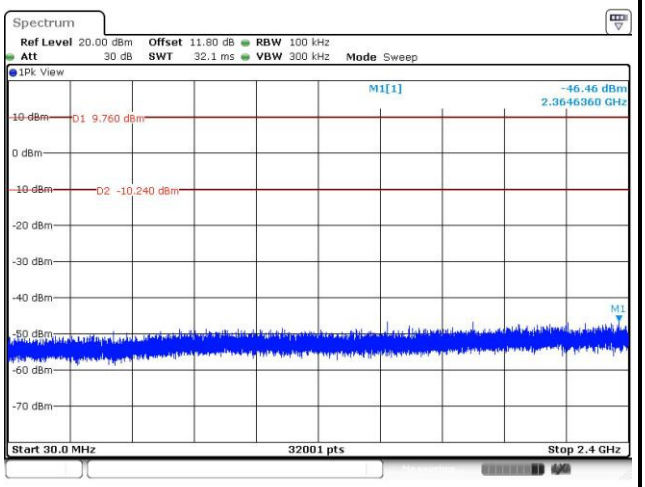
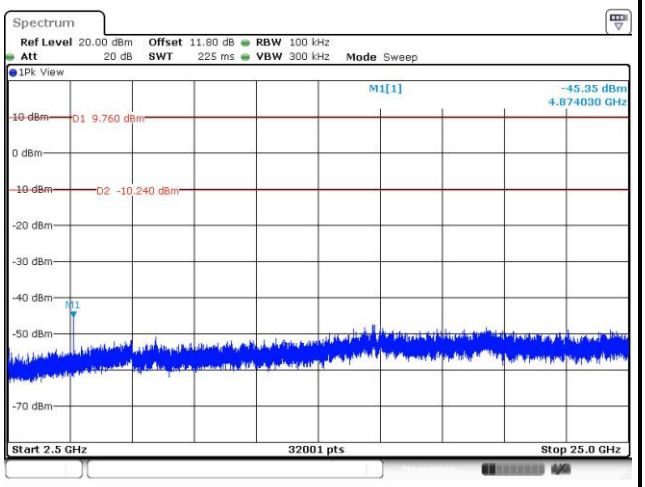
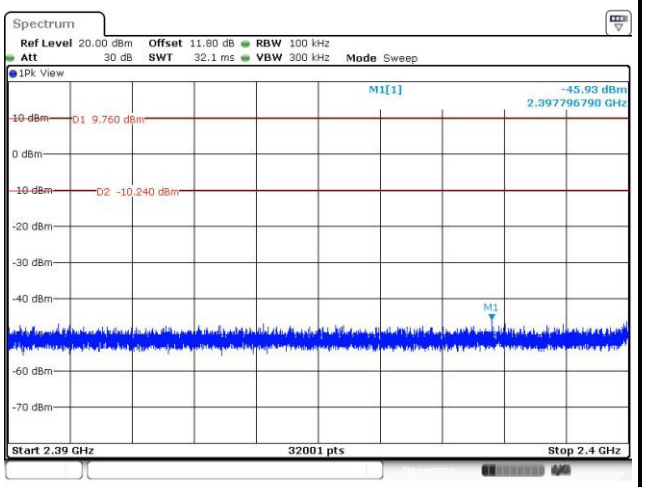
3.6.5 Test Result of Emissions in non-restricted frequency bands

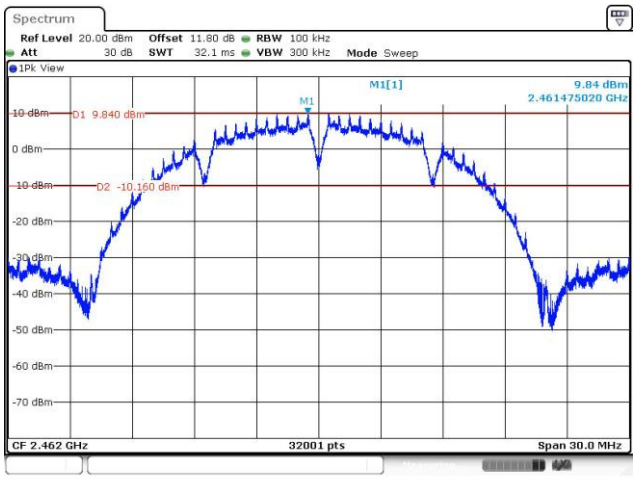
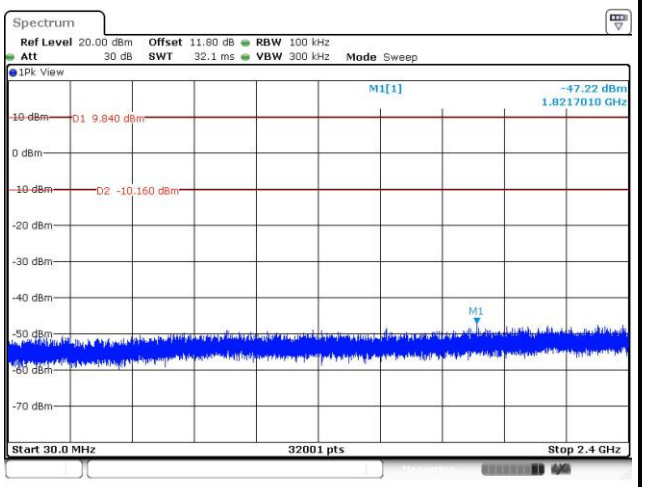
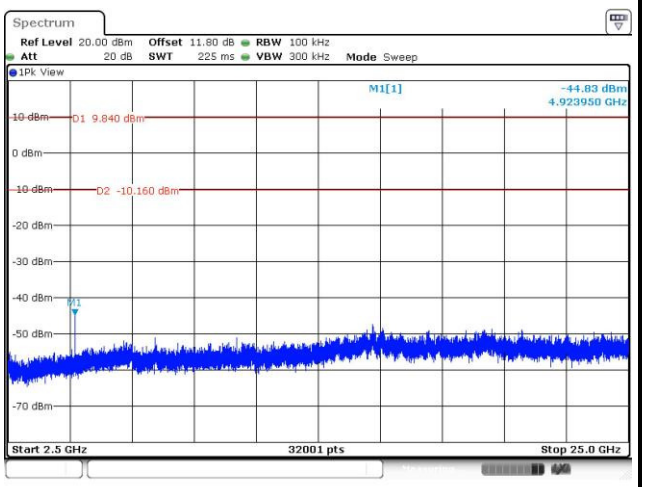
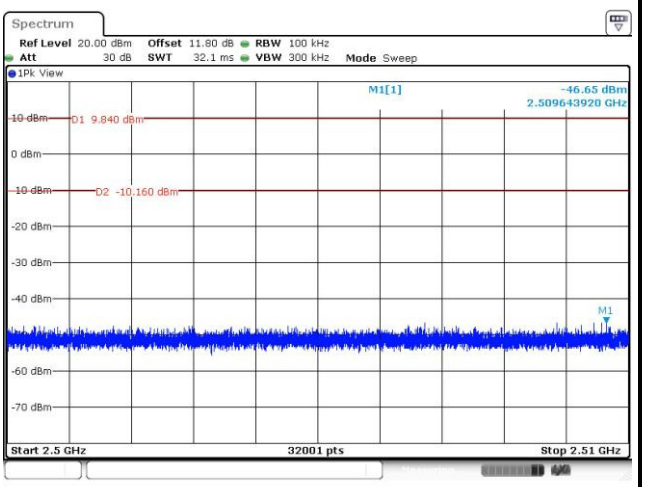
This test item is performed on each TX output individually without summing or adding 10 log(N_{ANT}) since measurements are made relative to the in-band emissions on the individual outputs. Only worst test result of each operating mode is presented.

3.6.6 Unwanted Emissions into Non-Restricted Frequency Bands

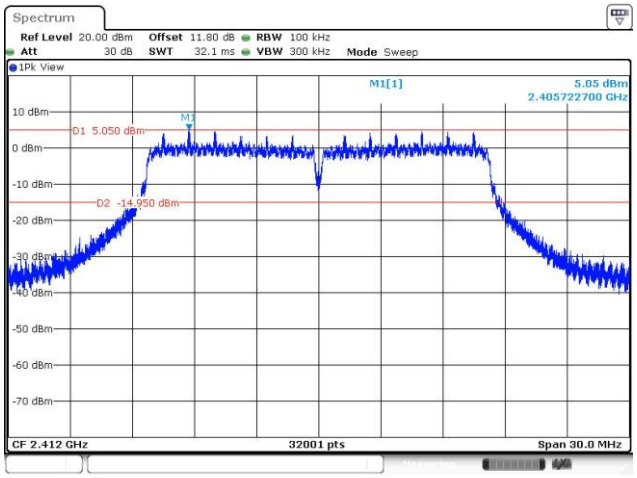
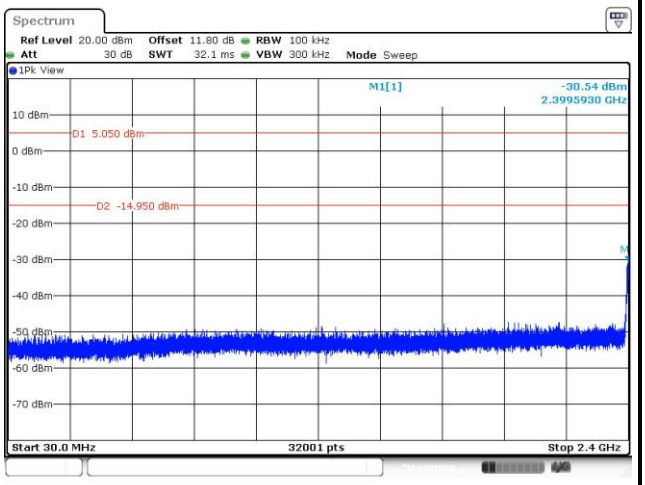
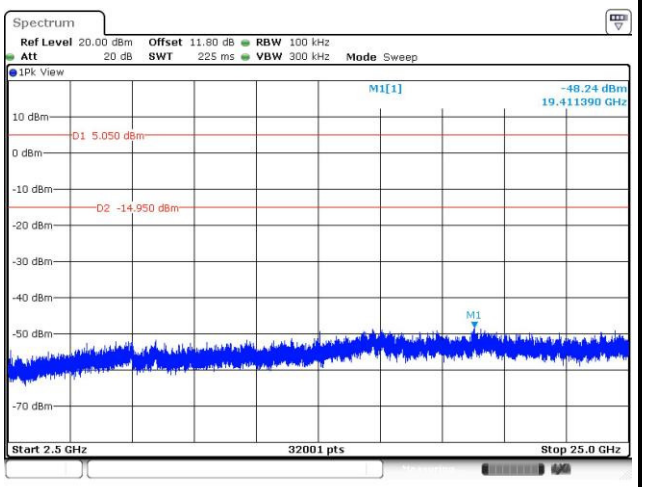
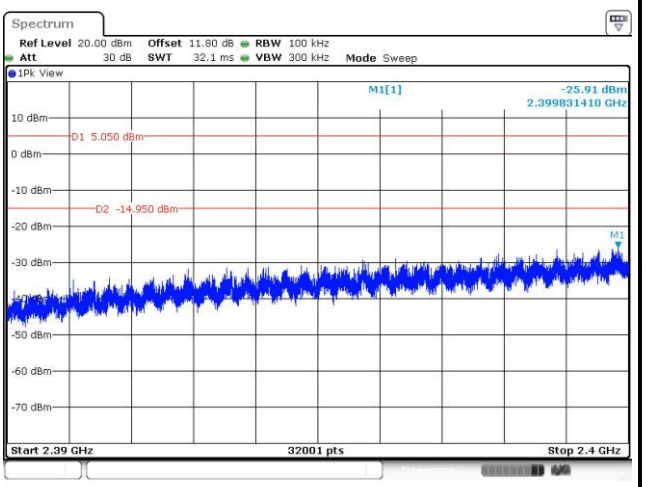
802.11b

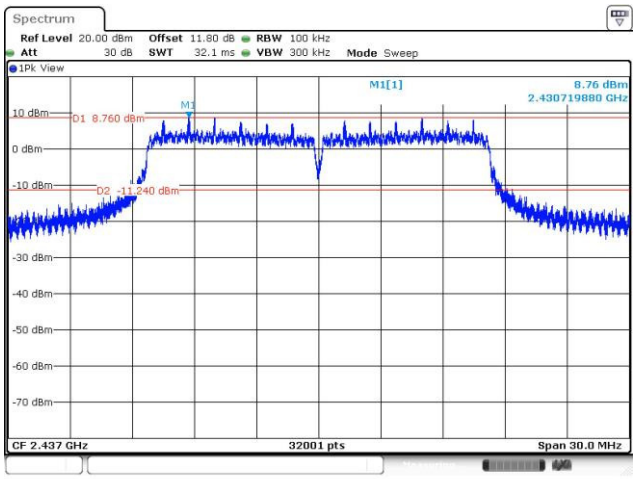
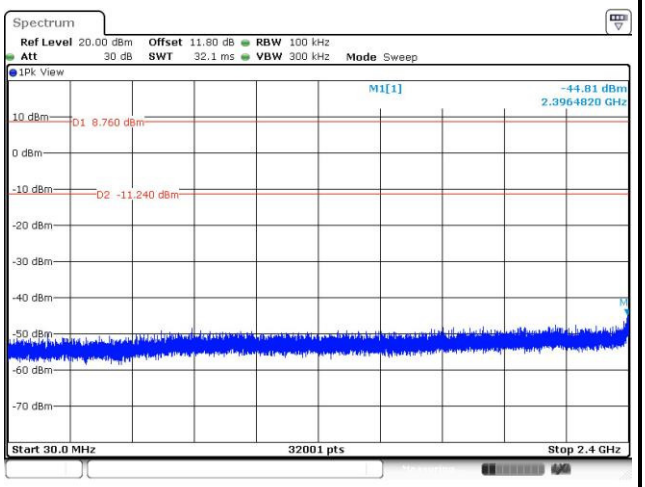
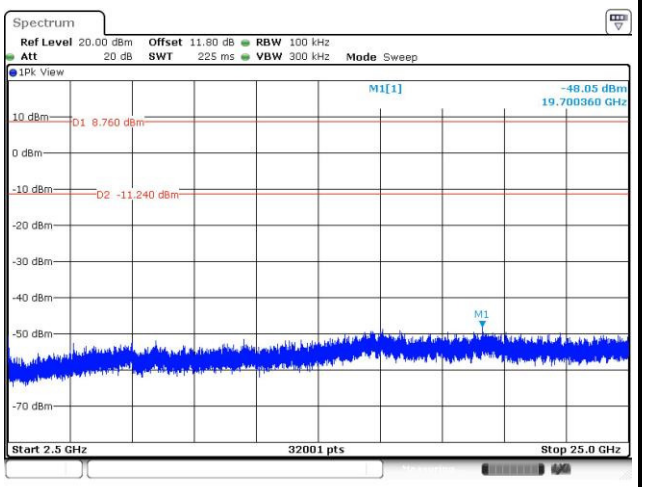
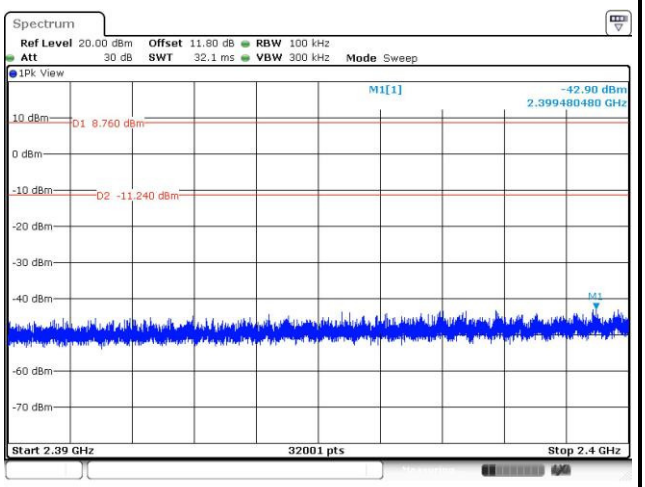
Reference Level	Tx 2412MHz / 30MHz~25GHz (down 20dBc)
	
---	
---	

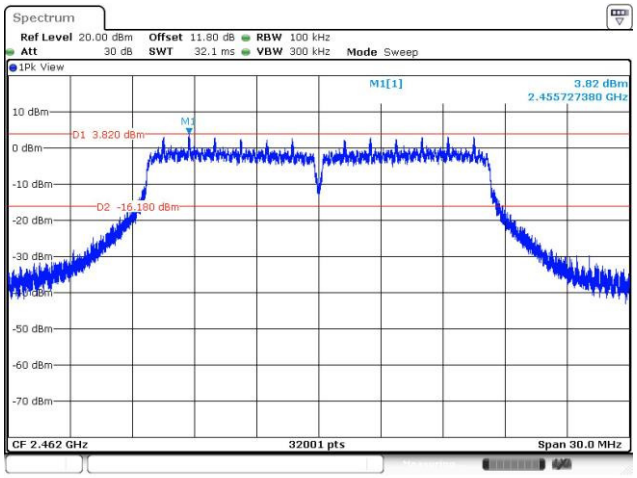
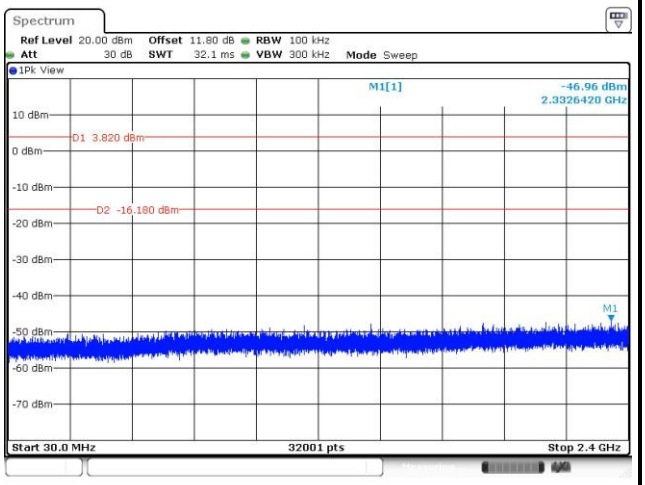
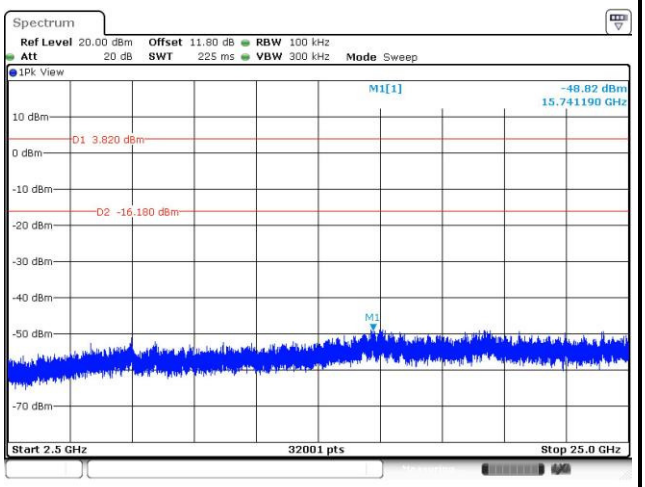
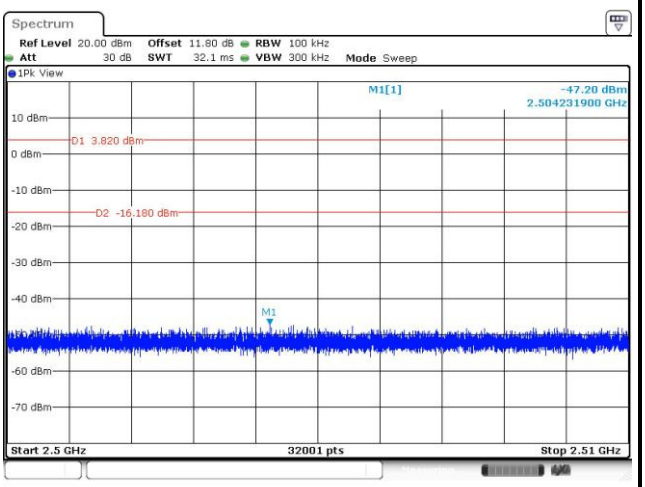
Reference Level	Tx 2437MHz / 30MHz~25GHz (down 20dBc)
	
---	
---	

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

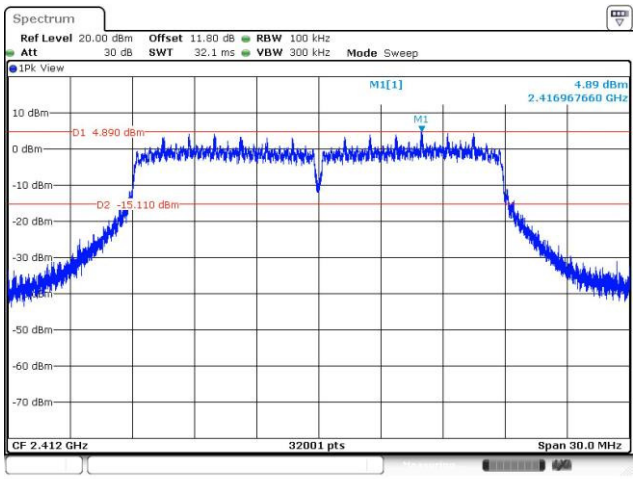
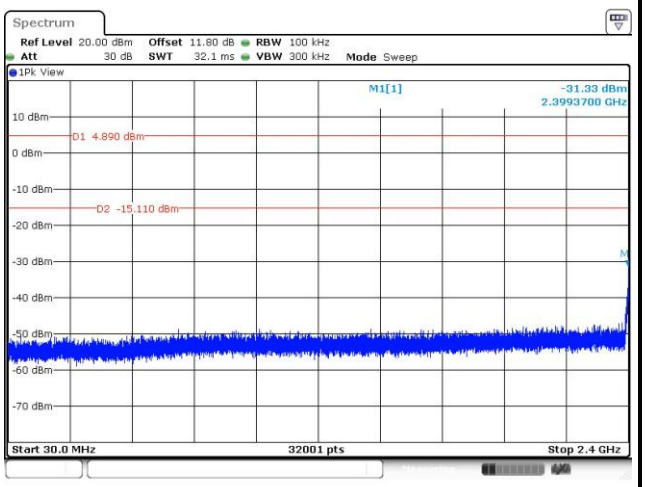
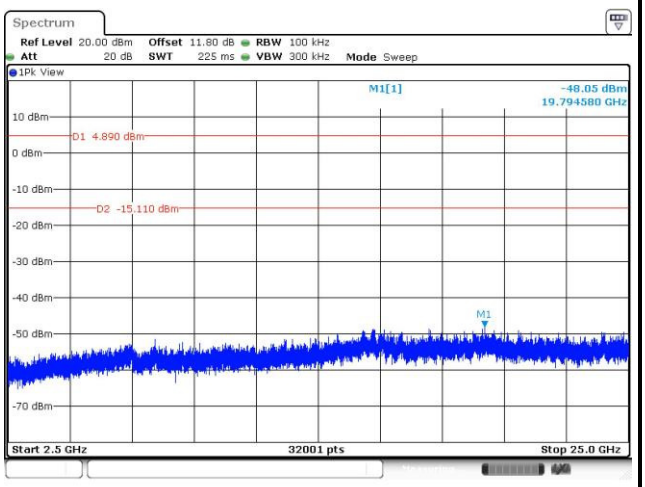
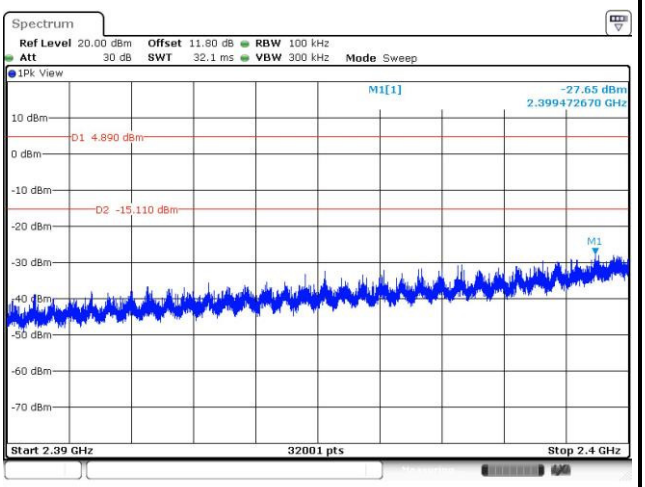
802.11g

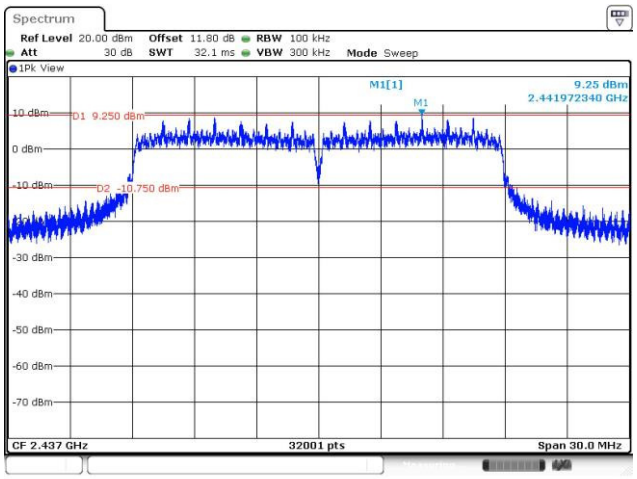
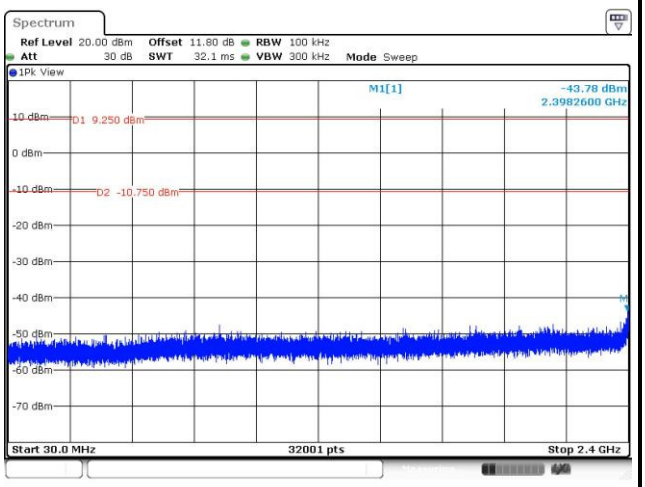
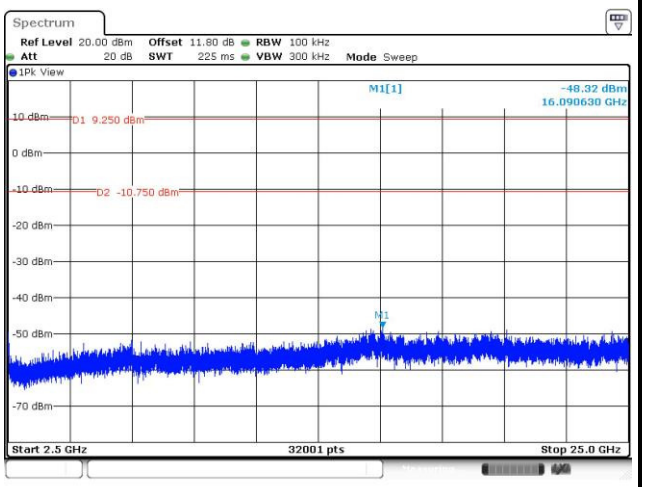
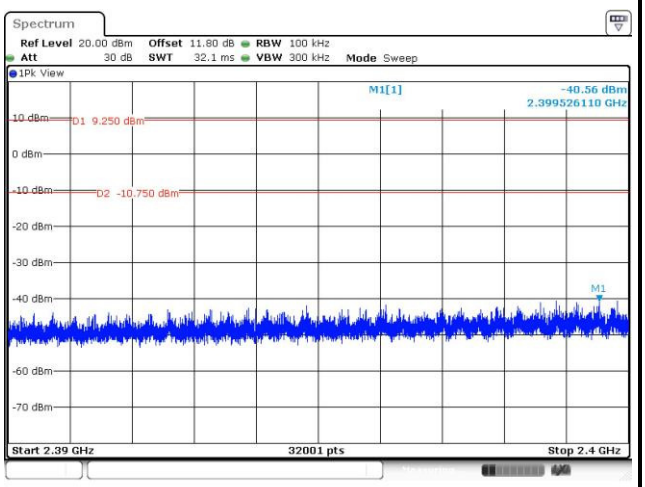
Reference Level	Tx 2412MHz / 30MHz~25GHz (down 20dBc)
	
---	
---	

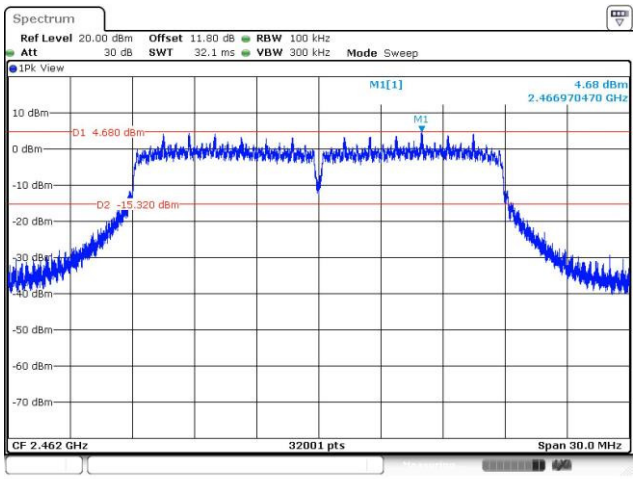
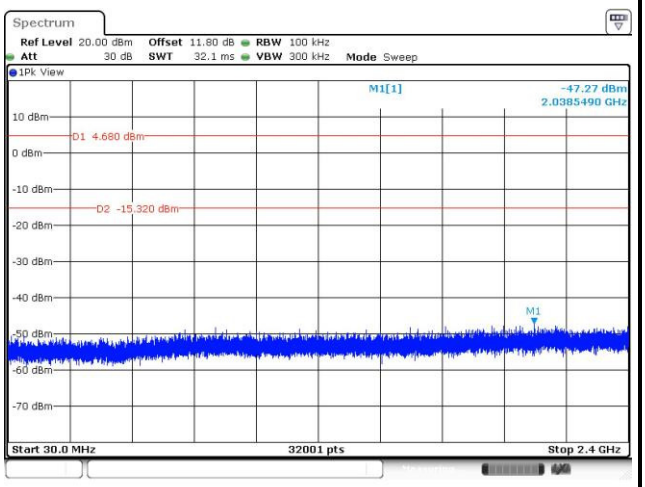
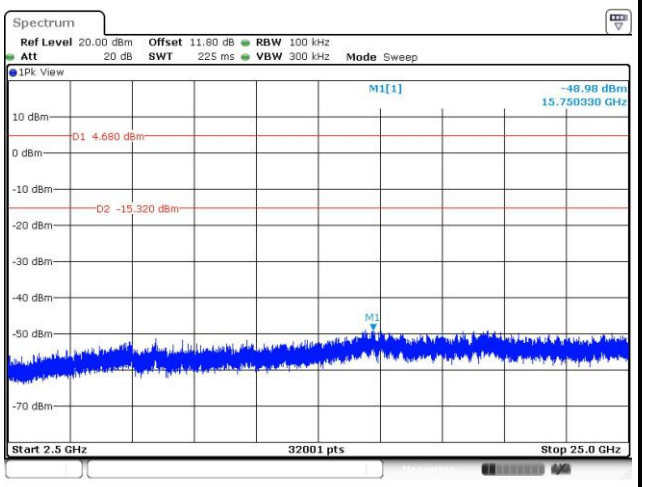
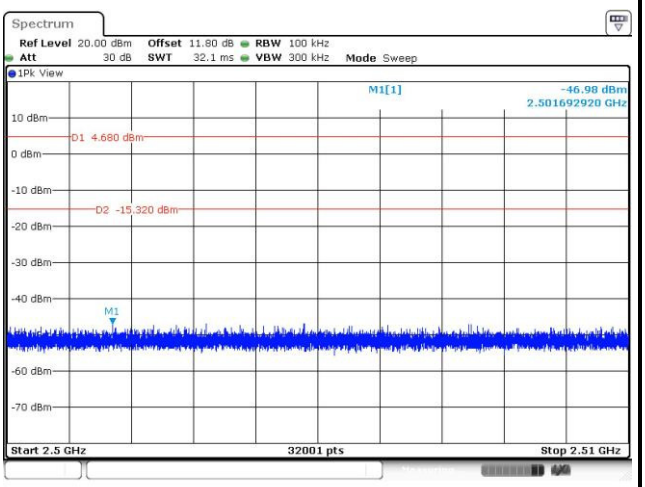
Reference Level	Tx 2437MHz / 30MHz~25GHz (down 20dBc)
	
---	
---	

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

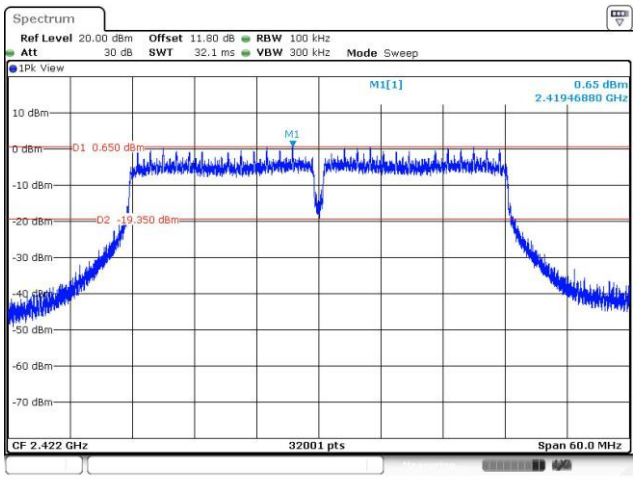
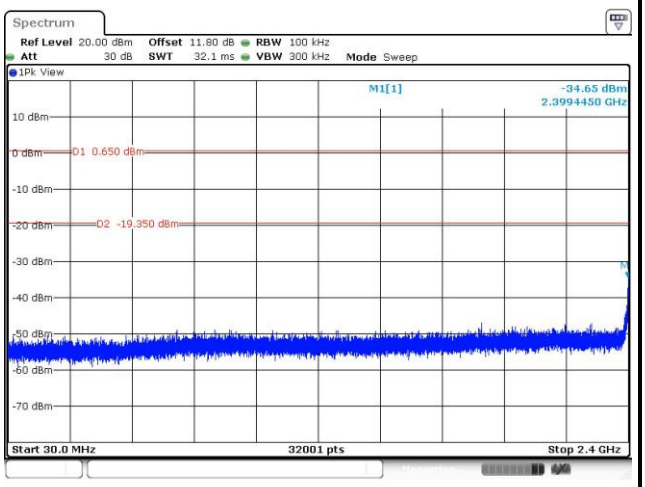
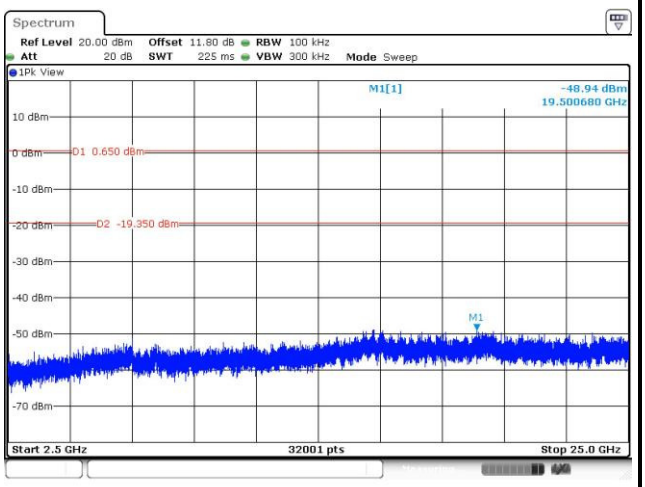
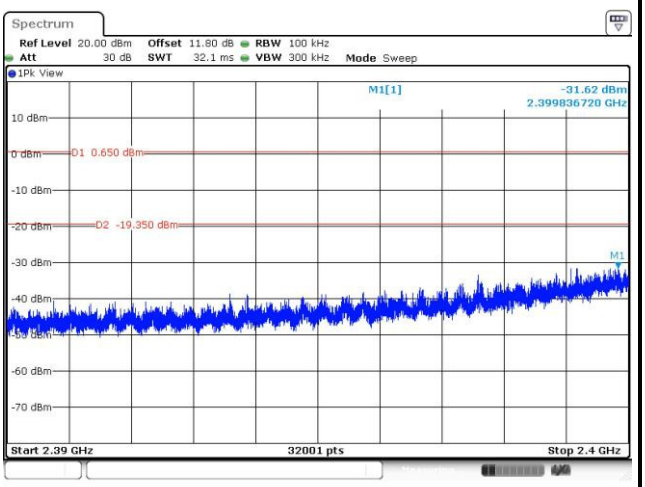
802.11n HT20

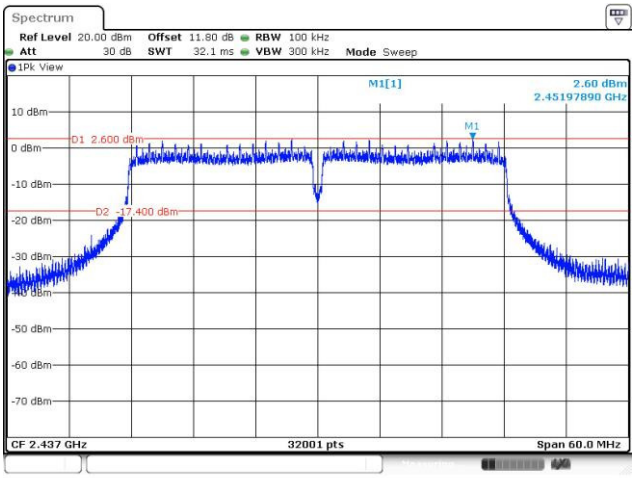
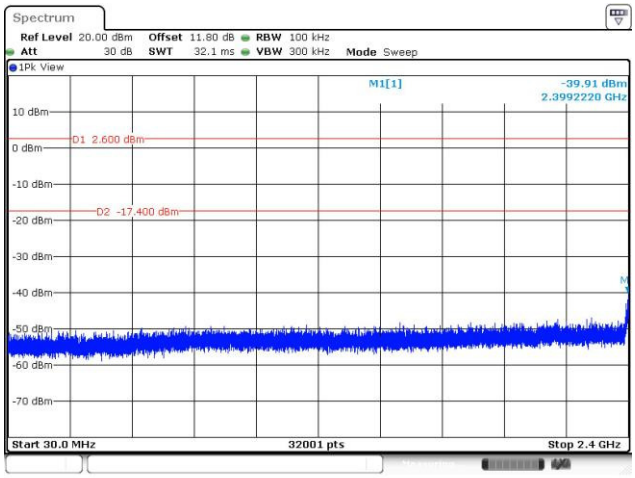
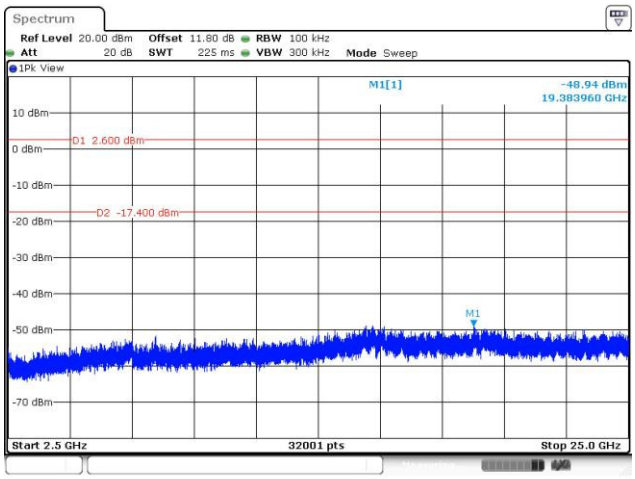
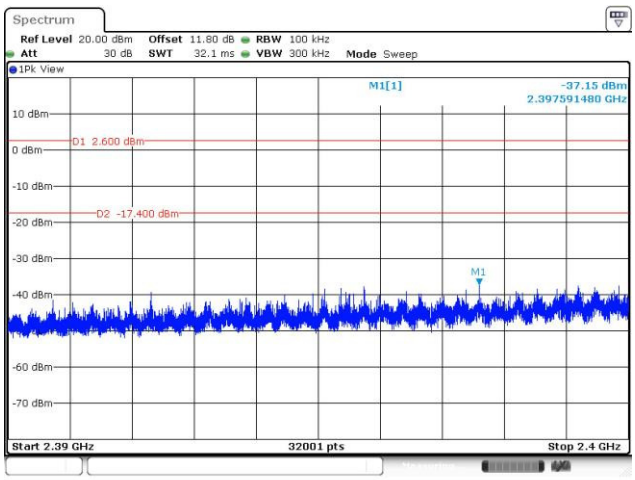
Reference Level	Tx 2412MHz / 30MHz~25GHz (down 20dBc)
	
---	
---	

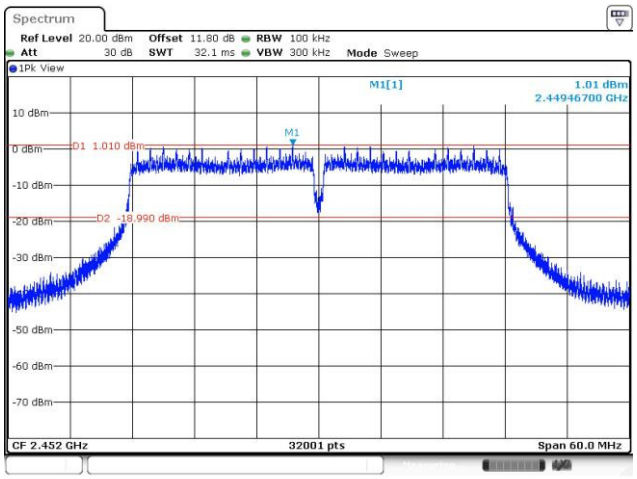
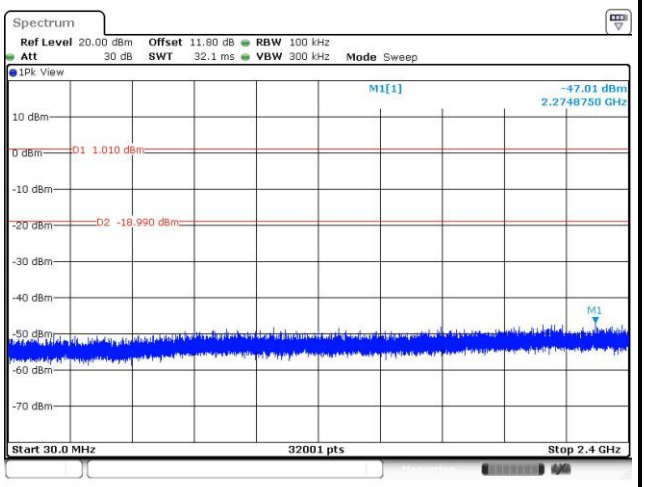
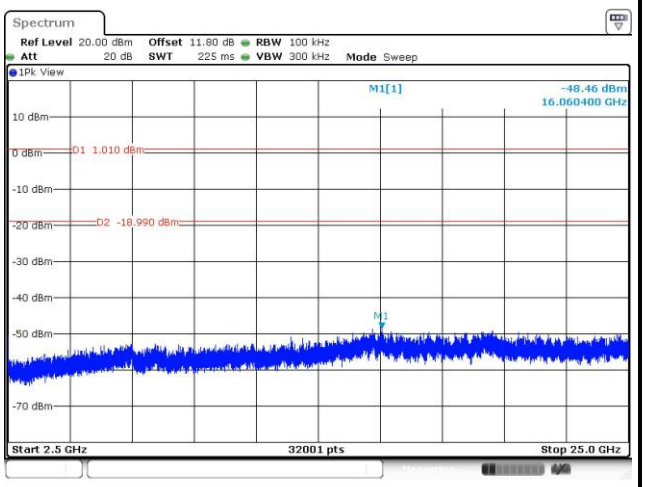
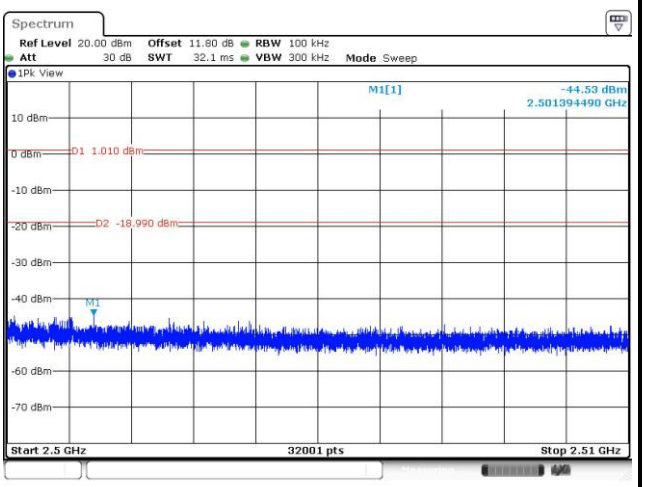
Reference Level	Tx 2437MHz / 30MHz~25GHz (down 20dBc)
	
---	
---	

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

802.11n HT40

Reference Level	Tx 2422MHz / 30MHz~25GHz (down 20dBc)
	
---	
---	

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

Reference Level	Tx 2452MHz / 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 (EMC and Wireless Communication Laboratory), 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 District. 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 District, Tao Yuan City 333, Taiwan, R.O.C.	No. 14-1, Lane 19, Wen San 3rd St., Kwei Shan District, Tao Yuan City 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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